NH 99(367)

ROCKWALL

FINAL PLANS

FINAL PLANS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-8	PROJECT LAYOUT
9-12	ESTIMATE AND QUANTITY
13-14	HORIZONTAL ALIGNMENT DATA
15-15W	SPECIFICATION DATA
16-27	SUMMARIES
28-32	TYPICAL SECTIONS
33-76	SEQUENCE OF WORK
77-79	REMOVAL SHEETS
80-86	STORM WATER POLLUTION PREVENTION
87-94	PAVING PLAN SHEETS
95-126	PAVING PROFILE SHEETS
127-130	CROSS-STREET PROFILES
131-142	DRIVEWAY PROFILES
143-150	PAVING CONTOURS
151-155	MISCELLANEOUS PAVING DETAILS
156-160	GRADING PLAN
161-163	RETAINING WALL LAYOUTS
164-249	BRIDGE LAYOUT AND DETAILS
250-257	DRAINAGE AREA MAP
258-269	DRAINAGE PLAN AND PROFILE
270-280	LATERAL PROFILES
281-289	COMPUTATION SHEET
290-297	DRAINAGE DETAILS
298	SLOTTED DRAIN DETAIL
299	MISCELLANEOUS DRAINAGE DETAILS
300-303	JUNCTION BOX DETAILS
304-310	PAVMENT MARKINGS
311-351	SIGNING AND SIGNALS
351A-351H	RIGHT OF WAY LAYOUT SHEETS

DALLAS DISTRICT STANDARDS

352	MH-TY II
353	DROP INLET TYPE C
354	INLET DETAILS (TY II CURB & GRATE, TY C)
355	SAFETY END TREATMENT
356	SRD-DALLAS MOD.
357	SIGNS (DAL)
358	TRAF SIG & PEDST HEAD IDENT (DAL)
359	SPAN WIRE MOUNTED SIGNALS (DAL)
360	SIG HEADS FOR SPAN WIRE INSTAL (DAL)
361	PAVAMENT MARKING DETAILS (DAL)
362	CONTROLLER FOUNDATION DETAILS (DAL)

STATE STANDARDS

363-364	SLOTTED DRAIN
365	OMITTED
366-377	BC(1)-BC(9), (BC 9A, B, C)-98
378-380	D&OM(1)-95, D&OM(2)-95, D&OM(VIA)-98
381-382	WZ (BRK-1&2)-98
383	WZ (SPIS)-98-A
384	WZ (BD)-97
385	WZ (CD)-94
386	WZ (TFDS)-98
387	TCP (NOTES)-98
388	SWW
389	CPCD-94
390	JS-94
391	BED-91
392-393	BAS-94
394	MBGF-94
395-396	LPCB(1), (2)-92
397	FW-N
398	TB(BMGF)-92
399	RW 1(L)C
400	RW 2
401	RW 4(LC)1
402	RW 4(MOD)
403-404	SGT (5), (6)-97
405-408	EC(1), (2), (4), (5)-93
409	RPM(1)-92
410	PM(1)-95
411	PM(2)-92
412-413	PC-(1), (5)
414	IBA
415	IBB
416	IBDO
417	IBMS
418	IBNS
419	IBTS
420	CRR
421	MEBR(C)-1

SHEET NO.	DESCRIPTION
422-424	PCP(C)
425	PMDF(C)
426	SEJ-A
427-428	T502
429-430	C202(MOD)
431	CTB (2)-92
432-441	OMITTED
442-443	R(1), (4)-98
444	R(2)-97
445	R(3)-95
446	M(1)-95
447	M(3)-97
448	W(3)-95
449	IM(5)-93
450-454	SMD(1-1), (1-2), (1-3), (1-4), (1-5)-98
455-456	SMD(2-1), (2-2)-98
457	SMD(2-3)-95
458	SMD(RM)-98
459	LD1-98
460-464	ED(1), (2), (3), (4), (7)-98
465-466	RID(2), (3)-98
467-468	SMA-80(1), (2)-96
469	MA-C-96
470	MA-C(ISLN)-96
471	MA-D-96
472	TS-FD-96
473	LUM-A-96
474	SNS-95
475-477	MB-96
478	EMRW-94

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

L. Wayne Elgin P.E. 3/26/99
DATE

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED
PROFESSIONAL ENGINEER

END PROJECT
CONTROL: 0009-04-039
EB STA. 495+80
WB STA. 496+26
TRM 606+1.55E

BEGIN PROJECT
CONTROL: 0009-04-039
EB STA. 314+14
WB STA. 314+14
TRM 602+.465

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT
NH 99 (367)

See Sheet 1A for Change Orders and Sheets Added

SH 66
ROCKWALL COUNTY

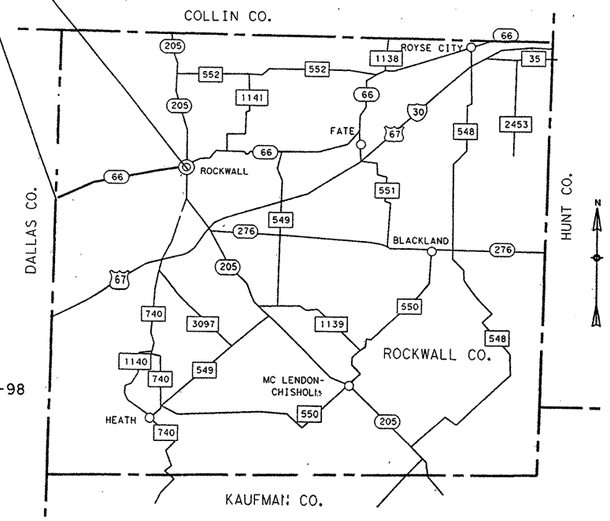
LIMITS : DALLAS COUNTY LINE (DALROCK ROAD) TO SH 205

Letting Date: 7-7-1999 Time Started: 3-6-2000 Work Began: 3-6-2000 Work Accepted: 10-29-2003

0009-04-039 WB ROADWAY = 7,920 LF = 1.50 MI.
WB BRIDGE = 10,296 LF = 1.95 MI.

NET LENGTH OF PROJECT = 18,216 LF = **3**.45 MI.

TYPE : FOR THE CONSTRUCTION OF THE UPGRADING OF A 2 LANE UNDIVIDED RURAL FACILITY INCLUDING GRADING, PAVING, STRUCTURES, BRIDGES AND DRAINAGE IMPROVEMENTS.



NO EQUATIONS
NO EXCEPTIONS

ROCKWALL COUNTY
SCALE 0 1 2 3 4 5 6 MILES
DISTRICT 18

DESIGN SPEED — 40 MPH (INSIDE CITY LIMITS OF ROWLETT AND ROCKWALL)
DESIGN SPEED — 50 MPH (ALL OTHER AREAS)

NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, MARCH 1, 1993 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273)

THE CONTRACTOR SHALL PROVIDE AND ERECT BARRICADES AND WARNING SIGNS IN ACCORDANCE WITH BC-(1) THRU (9C)-1998 AT POINTS INDICATED AND AT OTHER POINTS AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATION AND ARRANGEMENTS FOR RAIL DELIVERY POINTS AND TRACKAGE FACILITIES.

STATE OF TEXAS
PAUL E. WILLIAMS
73822
LICENSED
PROFESSIONAL ENGINEER

130

All work was performed in accordance with the plans and specifications

Paul E. Williams P.E. 5/11/04

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMEND FOR LETTING 3/26 19 99
Paul E. Williams, P.E.
AREA ENGINEER

RECOMMEND FOR LETTING 3-29 19 99
Charles R. Tucker, P.E.
DIRECTOR OF TRANSPORTATION PLANNING & DEVELOPMENT

RECOMMEND FOR LETTING 3/29 19 99
Jay Nelson P.E.
DISTRICT ENGINEER

APPROVED FOR LETTING April 8, 1999
Ramin L. Thomassian, P.E.
FOR DIRECTOR, DESIGN DIVISION

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Contractor: Traylor Bros., Inc.

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Revised 6-28-99 DI

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		1
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

Change Orders

1. Partnering Workshop
2. Installation of Bridge Trestle
3. Supply and Installation of Additional Signage
4. Drill Support for Core Samples
5. Storage Facility Fencing
6. Dallas Police Supervision
7. Additional Dredging Costs
8. Ground Granulated Blast Furnace Slag
9. Sealed Expansion Joints
10. Change in Pedestrian Rail
11. EB "Moving" Bridge Trestle
12. Deletes Surface Finish
13. Additional and Deletion of Manholes
14. Ground Granulated Blast Furnace Slag/Maturity Meters and Repairs
15. Additional Striping Items for Detour Construction
16. Furnish and Install Low Profile CTB
17. Addition of Plane Asphalt Concrete Paving Items
18. Adds Temporary Sign Posts/Credit Item for TxDot Signs
19. ***Void, This Change Order Number Was Never Used***
20. Substitutes Asphalt Binders from PG 70-22 to PG 64-22
21. Deletes the Tining and Sawcut on the EB Bridge Pavement
22. Adds Pre-Cast Caps in lieu of Cast-in-Place Caps/Allows for a CL SS Concrete in lieu of High-Performance (CL C) Concrete
23. Installation of Left Turn Signal Lights for North and Southbound Traffic at Lakeshore Drive and SH 66
24. Pavement Work and Traffic Control at SH 66 and Dalrock Road
25. Cap 2 Existing Grate Inlets and Additional Steel Strands for Pre-Cast I-Beams
26. Additional Mobilization for the Contractors Concrete Plant
27. Repair failures where Storm Sewer Backfill was placed
28. Reduces Quantity of Lime in the "Causeway"/Grading, Trim Work and Proof Rolling
29. Adds Plane Asph Conc Pav (12"-22") Item
30. Updates the SW3P Title Sheet
31. Paint the Tops of 50 Bridge Caps and 4 Abutments with Epoxy Coating
32. Adds a Traffic Signal at Kaufman Street and SH 205
33. Solves Discrepancies in Item Quantities as related toVarious Temporary Traffic Signals
34. Adds 800 lf of Pipe Underdrain for Unexplained Water Flow
35. Adds a 300" Chain Link Fence
36. Adds 2 TRACC Attenuators and 2 Pedestrian Traffic Heads
37. Adds 3 Terminal Anchor Sections
38. Adds Pavement Markings to A Bicycle Path
39. Adds 3 months of Item 502, Barricades, Signs and Traf Handle and 2 Refl Pav Mrk Items

The following plan sheets have been added:

1A 15A–W 20A

32A, 34A, 80A, 87A, 162A, 164A - 173A, 183A – 185A, 185B, 186A, 186B, 187A, 187B, 187C, 188A, 189A, 189B, 189C, 190A, 191A, 193A, 193B, 193C, 194A, 195A, 196A, 197A, 198A, 199A – 217A, 217B, 218A, 218B, 220A, 221A, 222A, 222B, 222C, 223A, 223B, 224A – 241A, 241B, 242A, 243A, 243B, 244A, 245A, 245B, 246A, 246B, 247A, 247B, 248A, 248B, 249A, 249B, 249C, 249D, 249E, 249F, 258A – 262A, 268A, 310A, 310B, 310C, 310D, 310E, 310F, 310G, 310H, 310I, 310J, 328A – 331A, 352A, 361A, 394A, 411A, 411B, 411C, 411D, 418A, 418B, 418C, 427A – 429A, 429B, 429C, 460A – 463A, 463B, 464A, 464B, 467A, 471A – 473A.

STATE OF TEXAS
PAUL E. WILLIAMS
73822
LICENSED
PROFESSIONAL ENGINEER

Paul E. Williams, P.E.
5/11/04

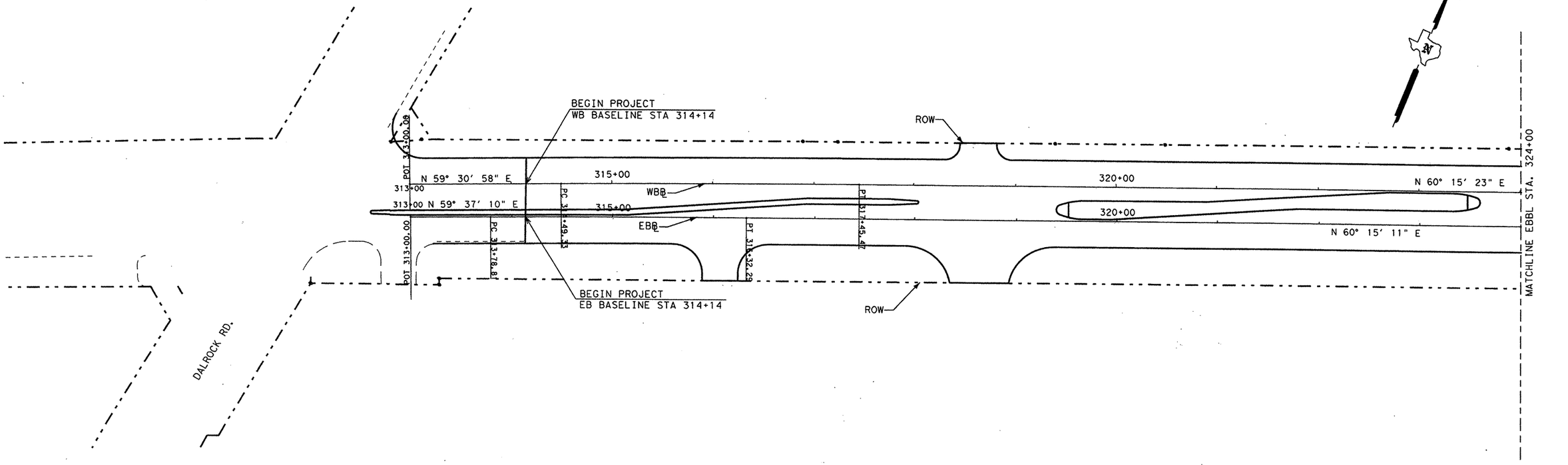
Sheet of Sheets

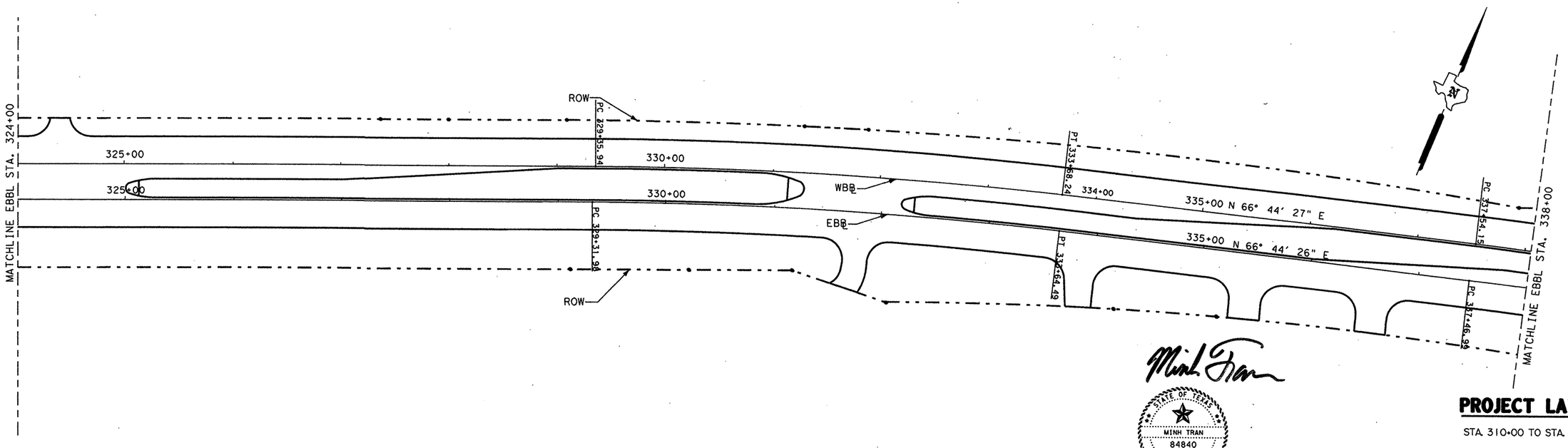
Texas Department of Transportation

CHANGE ORDERS 1-39

DN:	CK:	DW:	CK:		
		DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS		DAL	6	NH 99(367)	1A
		COUNTY		CONTROL SECT JOB	HIGHWAY
		ROCKWALL		0009 04 039	SH 66

EXT. 6673





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STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

5/7/99

REPLACED 6-28-99 DLP

PROJECT LAYOUT

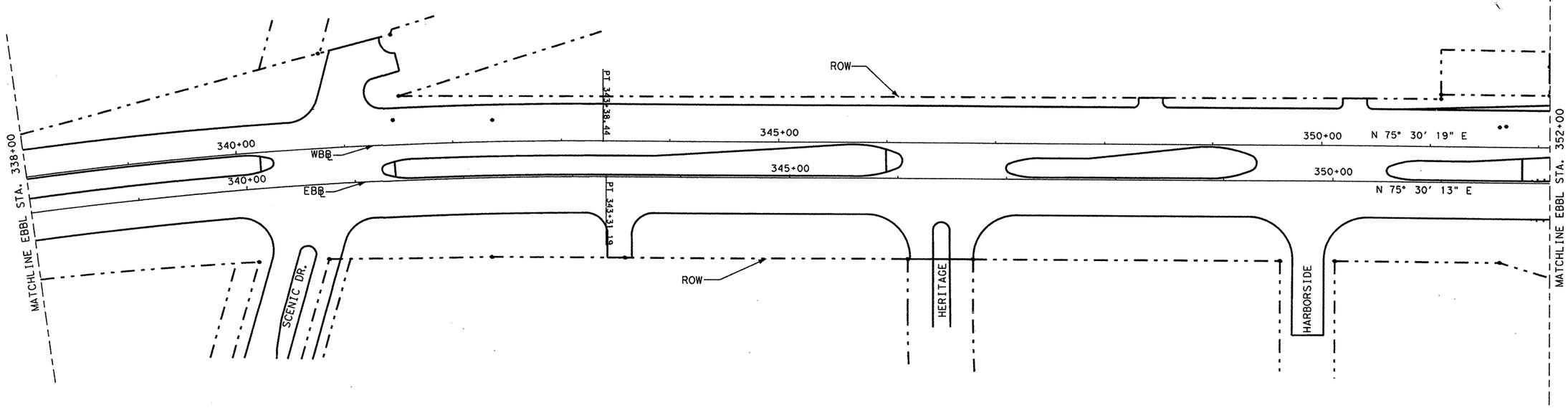
STA. 310+00 TO STA. 338+00

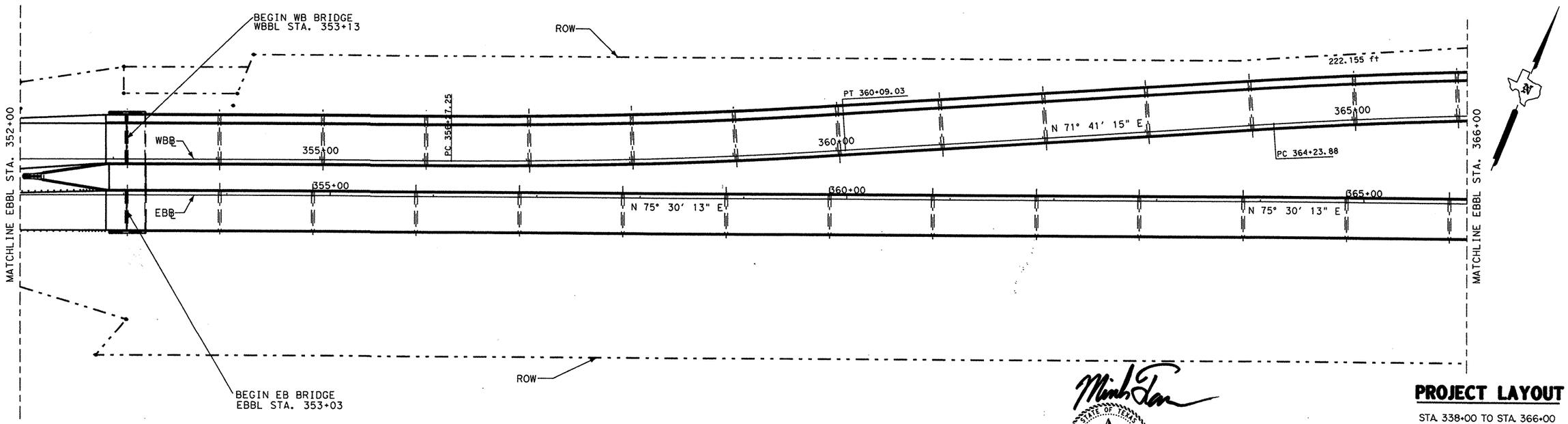
SHEET 1 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		2
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66

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SCALE: 1" = 100'





REPLACED 6-28-99 DLP

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LICENSED PROFESSIONAL ENGINEER

5/7/99

PROJECT LAYOUT

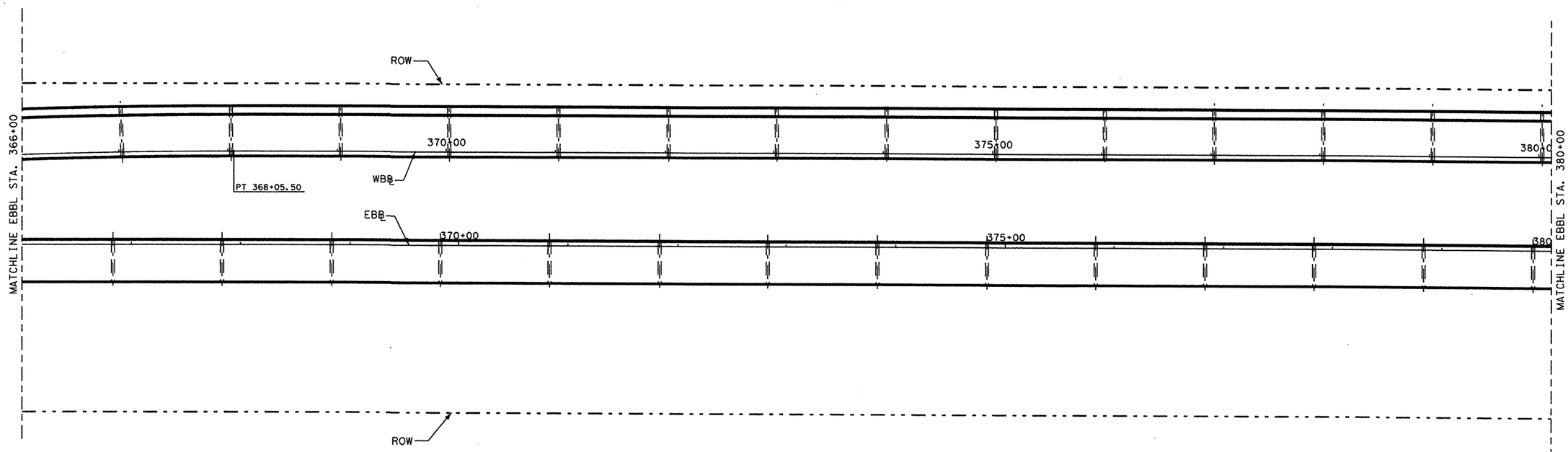
STA. 338+00 TO STA. 366+00

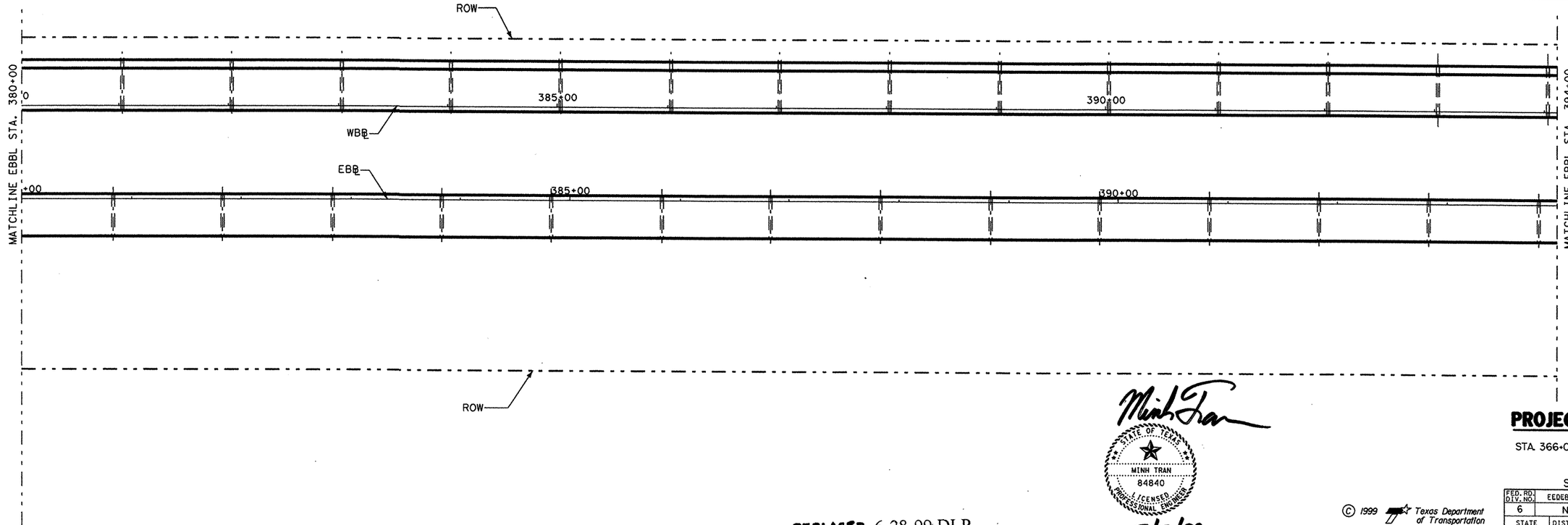
SHEET 2 OF 7 SHEETS

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SCALE: 1" = 100'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		3
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66





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STATE OF TEXAS
5/7/99

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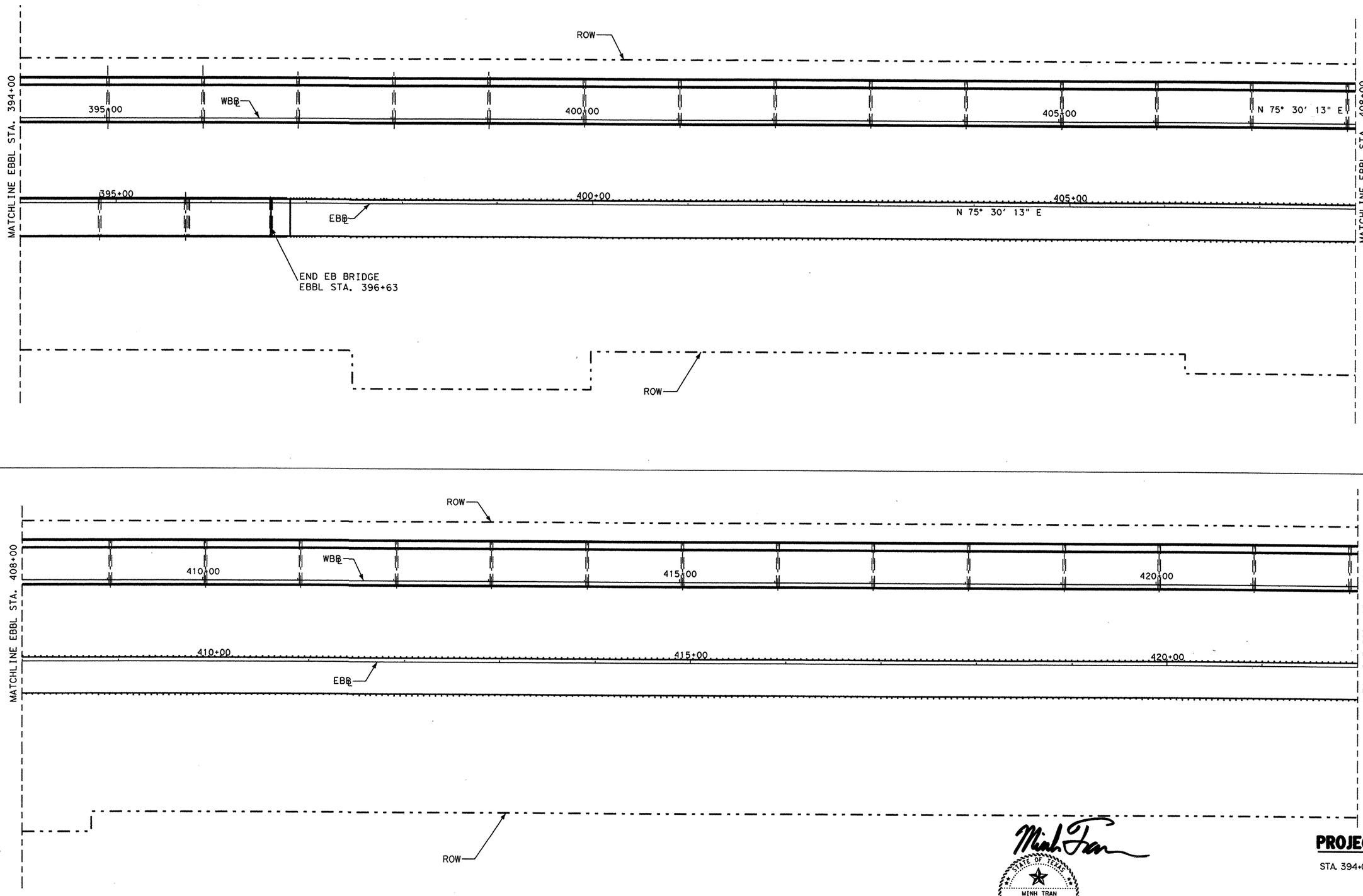
SCALE: 1" = 100'

PROJECT LAYOUT

STA. 366+00 TO STA. 394+00

SHEET 3 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		4
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66



REPLACED 6-28-99 DLP

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PROJECT LAYOUT

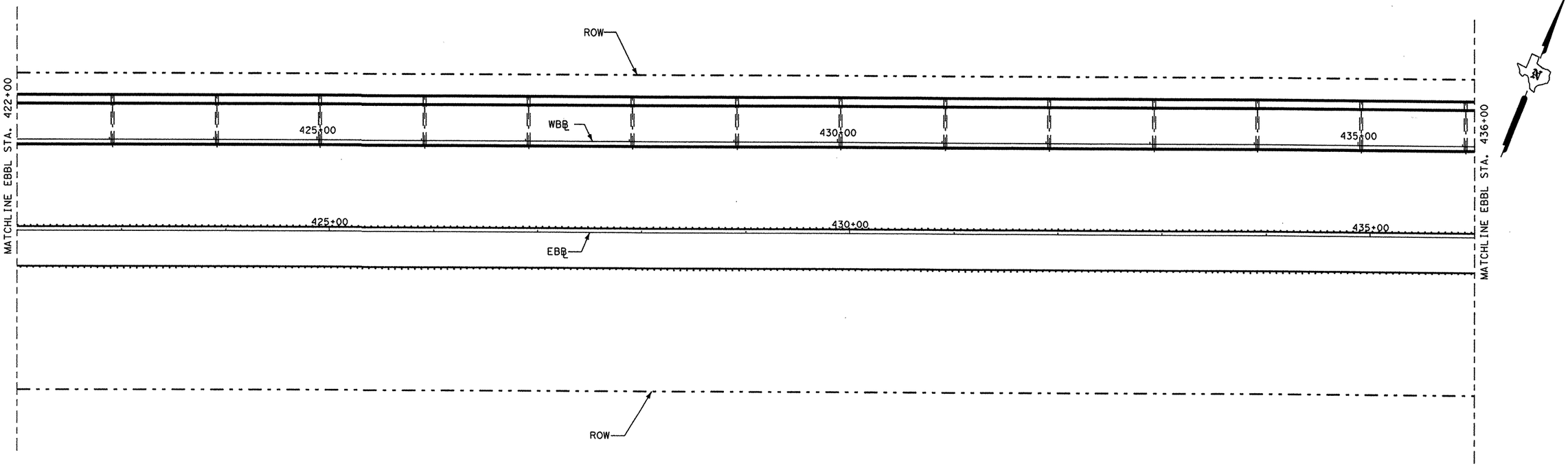
STA. 394+00 TO STA. 422+00

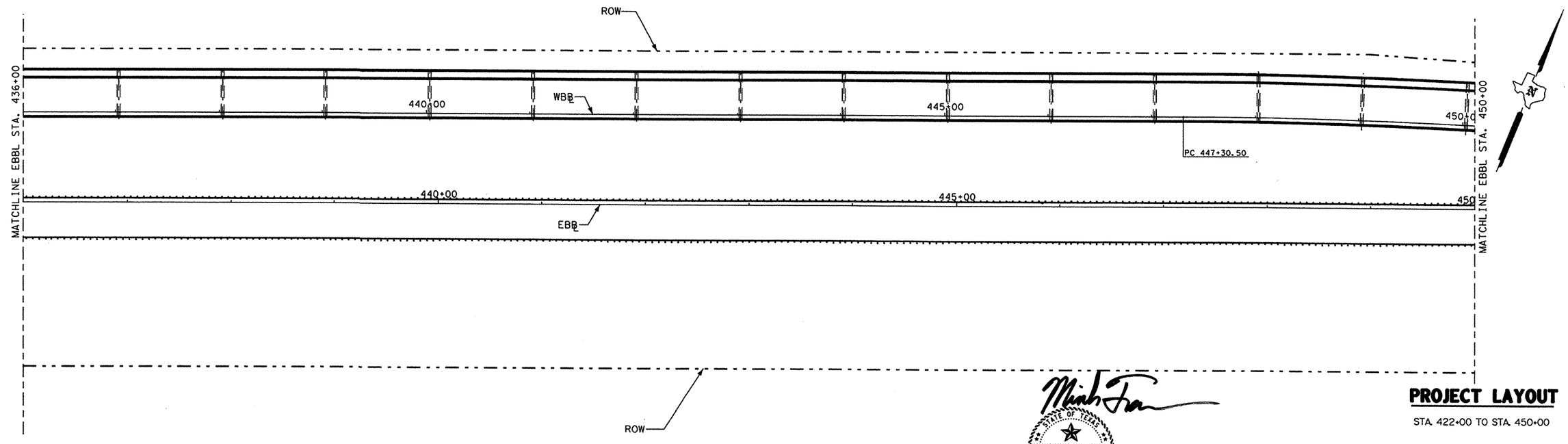
SCALE: 1" = 100'

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SHEET 4 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		5
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66





REPLACED 6-28-99 DLP

STATE OF TEXAS
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5/7/99

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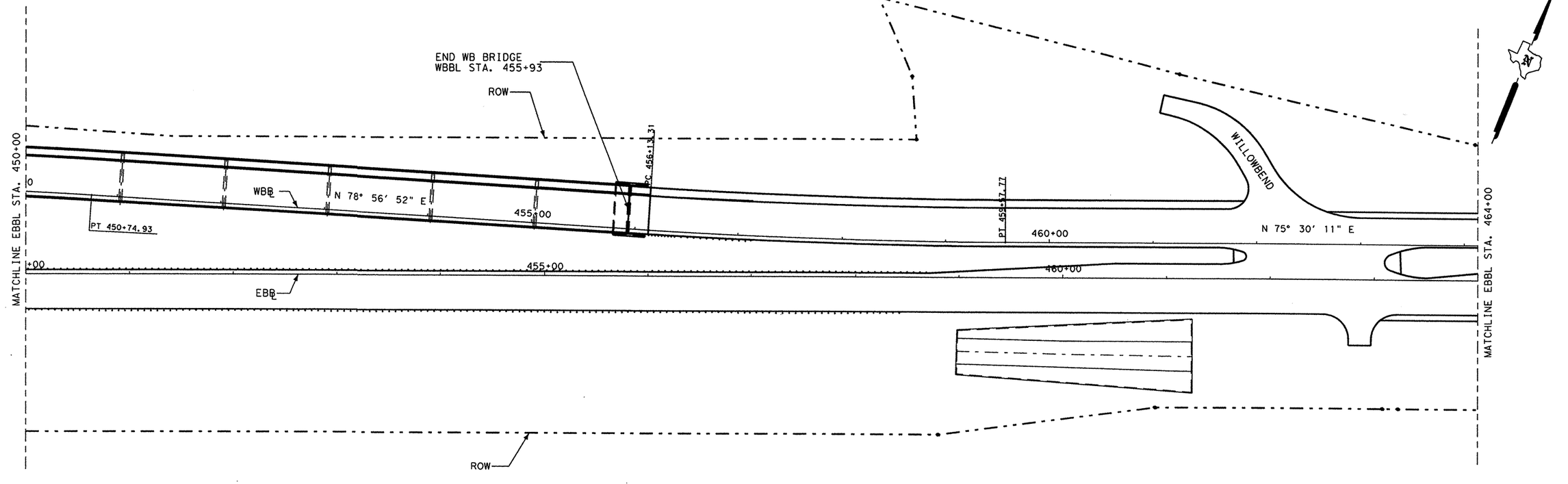
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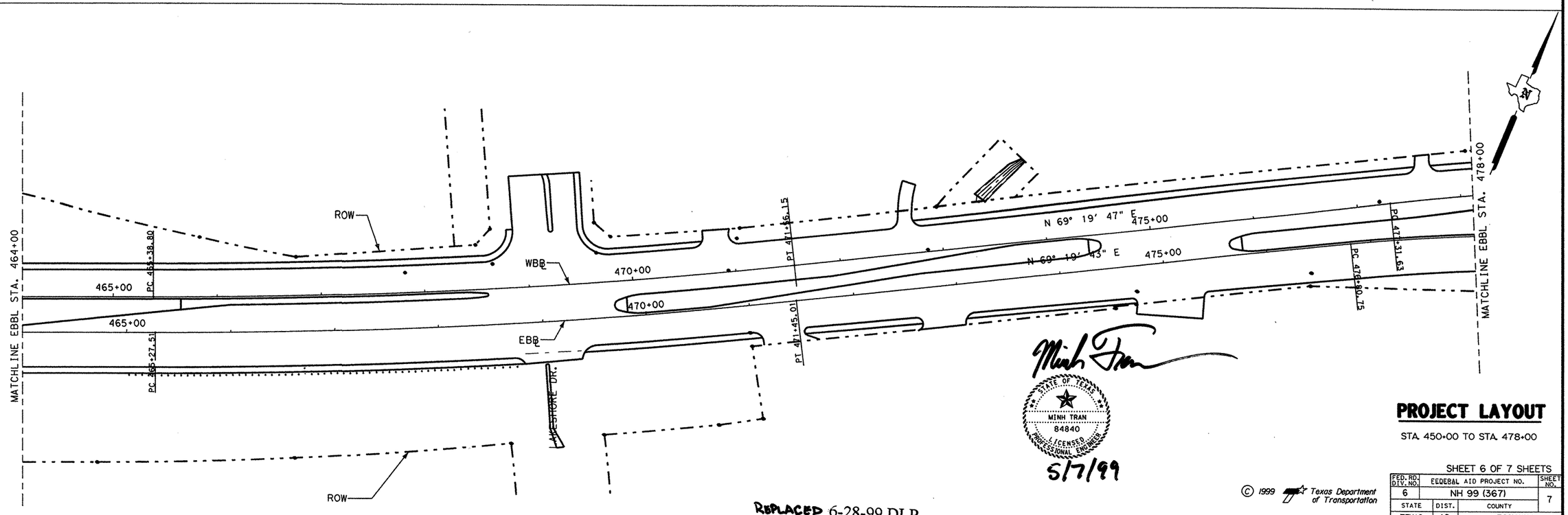
PROJECT LAYOUT

STA. 422+00 TO STA. 450+00

SHEET 5 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		6
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66





REPLACED 6-28-99 DLP

MINH TRAN
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LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
5/7/99

PROJECT LAYOUT

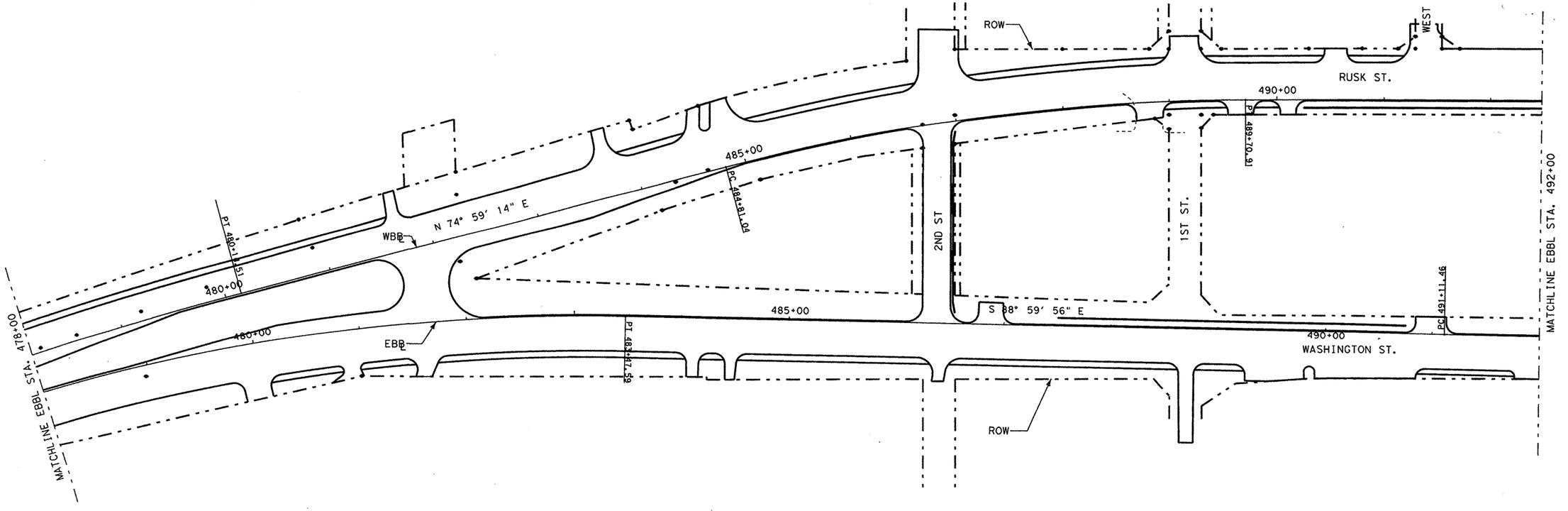
STA. 450+00 TO STA. 478+00

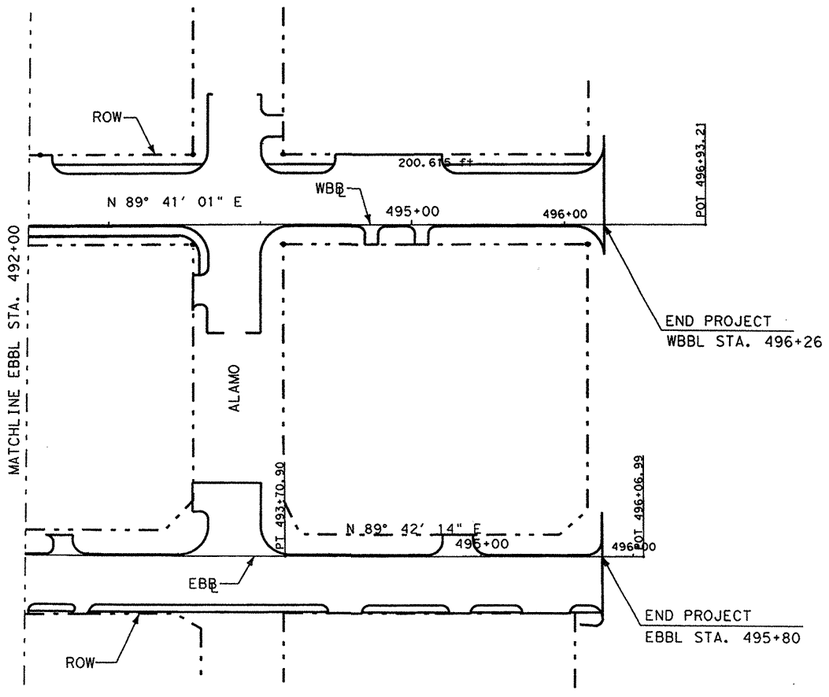
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SCALE: 1" = 100'

SHEET 6 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		7
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66





REPLACED 6-28-99 DLP

MINH TRAN
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LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
5/7/99

PROJECT LAYOUT

STA. 478+00 TO STA. 497+00

SHEET 7 OF 7 SHEETS

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SCALE: 1" = 100'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		8
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH66

ESTIMATE SUMMARY

EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	PROJECT NH 99(367) CONTROL 9-4-39 S.H. 66 ALL BID ITEMS EST.	FINAL	ALT.	ITEM-CODE ITEM NO	DESC CODE	SP NO	DESCRIPTION	UNIT	TOTAL EST.	FINAL
								183.000			100	0502		PREP ROW	STA	183.000	
								4094.000			104	0501		REMOV CONC (PAV)	SY	4094.000	
								135.000			104	0503		REMOV CONC (RIPRAP)	SY	135.000	
								727.200			104	0509		REMOV CONC (SDWLK)	SY	727.200	
								2793.000			104	0511		REMOV CONC (DRVWY)	SY	2793.000	
								282.700			104	0513		REMOV CONC (CURB & GUTTER)	LF	282.700	
								60.000			104	0524		REMOV CONC (FLUME)	SY	60.000	
								70846.000			110	0501		EXCAVATION (RDWY)	CY	70846.000	
								13076.000			132	0509		EMBANK (DENS CONT) (TY C) (CL 3)	CY	13076.000	
								46045.400			162	0502	001	BLOCK SODDING	SY	46045.400	
								5985.900			164	0529	002	HAY OR STRAW SEED (TEMP) (WARM)	SY	5985.900	
								3223.180			164	0531	002	HAY OR STRAW SEED (TEMP) (COOL)	SY	3223.180	
								387.500			168	0501		VEGETATIVE WATERING	MG	387.500	
								38.700			168	0502		VEG WATERING (TEMP EROSN CONTROL)	MG	38.700	
								47735.000			169	0501	002	SOIL RET BLNKT (CL 1) (TY A)	SY	47735.000	
								67.000			169	0514	002	SOIL RET BLNKT (CL 2) (TY H)	SY	67.000	
								69490.000			260	0505	001	LIME TREAT SUBGR (DC) (6 ")	SY	69490.000	
								3755.000			260	0517	001	LIME (TY A (SLRY), TY B OR TY C (SLRY)	TON	3755.000	
								34924.000			260	0539	001	LIME TREAT SUBGR (DC) (22 IN)	SY	34924.000	
								26104.000			314	0501		EMULS ASPH (MS-2)	GAL	26104.000	
								73621.000			354	0545		PLANE ASPH CONC PAV (6IN TO 8IN)	SY	73621.000	
								89063.000			360	0524	028	CONC PAV (CPCD) (8")	SY	89063.000	
								6468.000			360	0527	028	CONC PAV (CPCD) (8") (CL K)	SY	6468.000	
								24.172			360	0553		MONO CURB (TY I)	LF	24.172	
								88.830			400	0507		CEM STABIL BKFL	CY	88.830	
								299539.300			400	0513		STRUC EXCAV (SEWER)	CY	299539.300	
								15142.000			402	0501		TRENCH EXCAV PROTECTION	LF	15142.000	
								346.000			416	0503	001	DRILL SHAFT (18 ")	LF	346.000	
								17402.000			416	0506	001	DRILL SHAFT (36 IN)	LF	17402.000	
								12555.000			416	0508	001	DRILL SHAFT (48 IN)	LF	12555.000	
								7.000			416	0514	001	DRILL SHAFT (NON-REINF) (12IN) (SIGN MTS)	LF	7.000	
								137.400			420	0513	009	CL C CONC (ABUT)	CY	137.400	
								3234.000			420	0514	009	CL C CONC (BENT)	CY	3234.000	
								667894.600			422	0501		REINF CONC SLAB	SF	667894.600	
								4899.000			423	0508		RETAINING WALL (CAST-IN-PLACE)	SF	4899.000	
								83209.970			425	0507	001	PRESTR CONC BEAM (TY IV)	LF	83209.970	
								69387.100			428	0501	002	CONC SURF TREAT	SY	69387.100	
								464.950			432	0501		RIPRAP (CONC) (CL B)	CY	464.950	
								34.490			432	0518		RIPRAP (CONC) (CL B) (FLUME)	CY	34.490	
								29389.790			450	0506		RAIL (TY T502)	LF	29389.790	
								10318.570			450	0532		RAIL (TY C202) (MOD)	LF	10318.570	
								3318.880			454	0503		SEALED EXPANSION JOINTS (4 IN)	LF	3318.880	
								650.000			460	0503		CMP (GAL STL 18 IN)	LF	650.000	
								27.500			462	0538	003	CONC BOX SEWER (3 FT X 2 FT)	LF	27.500	
								210.000			462	0544	003	CONC BOX SEWER (5 FT X 3 FT)	LF	210.000	
								2012.000			462	0545	003	CONC BOX SEWER (5 FT X 4 FT)	LF	2012.000	
								817.500			462	0550	003	CONC BOX SEWER (6 FT X 3 FT)	LF	817.500	
								208.500			462	0554	003	CONC BOX SEWER (7 FT X 3 FT)	LF	208.500	
								5393.500			464	0519	003	RC PIPE (CL IV) (18 IN)	LF	5393.500	
								1451.000			464	0520	003	RC PIPE (CL IV) (24 IN)	LF	1451.000	

REVISED 6-28-99 VLW II

ESTIMATE & QUANTITY SHEET

STATE DIST. NO.	COUNTY	PROJECT NO.	SHEET NO.
18	ROCKWALL	NH 99(367)	9

ESTIMATE SUMMARY

PROJECT NH 99(367)
CONTROL 9-4-39
S.H. 66
ALL BID ITEMS

EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	ALT.	ITEM-CODE ITEM NO	DESC CODE	SP NO	DESCRIPTION	UNIT	TOTAL EST.	TOTAL FINAL
								2450.500			464	0521	003	RC PIPE (CL IV) (30 IN)	LF	2450.500	
								1491.000			464	0522	003	RC PIPE (CL IV) (36 IN)	LF	1491.000	
								490.000			464	0523	003	RC PIPE (CL IV) (42 IN)	LF	490.000	
								519.000			464	0524	003	RC PIPE (CL IV) (48 IN)	LF	519.000	
								4.000			465	0526		MANH (COMPL) (TY M)	EA	4.000	
								16.000			465	0587		MANH (COMPL) (TY II)	EA	16.000	
								50.000			465	0613		INLET (COMPL) (TY II)	EA	50.000	
								65.000			465	0704		INLET EXT (TY II)	EA	65.000	
								2.000			465	0805		MANH (COMPL) (SPL)	EA	2.000	
								7.000			465	0936		INLET (COMPL) (DROP) (TY C) (1 GRATE)	EA	7.000	
								1.000			465	0938		INLET (COMPL) (DROP) (TY C) (3 GRATE)	EA	1.000	
								1.000			466	0539	001	WINGWALL (FW-N) (H= 2 FT)	EA	1.000	
								1.000			466	0811	001	WINGWALL (SWW) (H=4FT)	EA	1.000	
								1.000			467	0580	003	SAFE END TRT (TY II) (18 IN) (RCP) (6: 1)	EA	1.000	
								1490.000			474	0505		SLOTTED DRAIN (18 IN)	LF	1490.000	
								600.000			474	0509		SLOTTED DRAIN (24 IN)	LF	600.000	
								965.000			474	0510		SLOTTED DRAIN OUTFALL (24 IN)	LF	965.000	
								1.000			496	0501		REMOV OLD STR (LARGE)	EA	1.000	
								9.000			496	0502		REMOV OLD STR (SMALL)	EA	9.000	
								4003.000			496	0504		REMOV OLD STR (PIPE)	LF	4003.000	
								1.000			497	0501		SALV MATRL (CREDIT ITEM)	LS	1.000	
								1.000			500	0501		MOBILIZATION	LS	1.000	
								38.000			502	0501	018	BARRICADES, SIGNS AND TRAF HANDLE	MO	38.000	
								9.000			508	0504		CONSTRUCT DETOURS (CL 4)	EA	9.000	
								6800.000			512	0513	001	PORT CONC TRAF BAR (INSTL FROM STKPL)	LF	6800.000	
								9380.000			512	0517	001	PORT CTB (LOW PRF) (MOVE & RESET)	LF	9380.000	
								6800.000			512	0518	001	PORT CONC TRAF BAR (LOW PRF) (REMOVE)	LF	6800.000	
								100.000			529	0573		CONC CURB (DOWEL) (TY 1)	LF	100.000	
								4693.000			530	0501		DRVWYS (CONC) (6 ")	SY	4693.000	
								3791.200			531	0502		CONCRETE SIDEWALKS	SY	3791.200	
								121.730			534	0501		STRUCT APPROACH SLABS	CY	121.730	
								1297.000			536	0502		CONC MEDIAN	SY	1297.000	
								397.000			540	0506	016	MTL BEAM GD FEN (12 GA) (TIM POST)	LF	397.000	
								12374.000			540	0508	016	MTL BM GD FEN (BLK OUT) (12GA) STL POST	LF	12374.000	
								12680.000			542	0501		REMOV METAL BEAM GUARD FENCE	LF	12680.000	
								4.000			560	0501		MAILBOX INSTAL (SINGLE)	EA	4.000	
								2477.000			618	0511		CONDUIT (PVC) (SCHD 40) (2 ")	LF	2477.000	
								830.000			618	0513		CONDUIT (PVC) (SCHD 40) (3 ")	LF	830.000	
								1130.000			618	0514		CONDUIT (PVC) (SCHD 40) (4 ")	LF	1130.000	
								77.000			618	0534		CONDUIT (PVC) (SCHD 40) (3 ") (BORE)	LF	77.000	
								548.000			618	0545		CONDUIT (PVC) (SCHD 40) (1 ")	LF	548.000	
								1121.000			620	0504		ELEC CONDUCTOR (NO. 6) BARE	LF	1121.000	
								880.000			620	0507		ELEC CONDUCTOR (NO. 12) INSULATED	LF	880.000	
								1495.000			620	0509		ELEC CONDUCTOR (NO. 8) INSULATED	LF	1495.000	
								174.000			620	0510		ELEC CONDUCTOR (NO. 6) INSULATED	LF	174.000	
								20.000			624	0501		GROUND BOX TY A (122311) W/APRON	EA	20.000	
								3.000			624	0503		GROUND BOX TY C (162911) W/APRON	EA	3.000	
								1.000			628	0681		ELEC SERV TYT (120/240) 000 (NS) GS (E) TP (O)	EA	1.000	
								1.000			629	0501		REMOV SERV POLE	EA	1.000	
								22.500			634	0501		PLYWOOD SIGNS (TY A)	SF	22.500	

ESTIMATE & QUANTITY SHEET

REVISED 6-28-99 VLWII

STATE DIST. NO.	COUNTY	PROJECT NO.	SHEET NO.
18	ROCKWALL	NH 99(367)	10

ESTIMATE SUMMARY

PROJECT NH 99(367)
CONTROL 9-4-39
S.H. 66
ALL BID ITEMS

EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	ALT.	ITEM-CODE ITEM NO	ITEM-CODE DESC CODE	ITEM-CODE SPC NO	DESCRIPTION	UNIT	TOTAL EST.	TOTAL FINAL
								88.000			644	0501		SMALL RDSD SGN ASSM (TY A)	EA	88.000	
								4.000			644	0503		SMALL RDSD SGN ASSM (TY B)	EA	4.000	
								2.000			644	0504		SMALL RDSD SGN ASSM (TY C)	EA	2.000	
								4.000			644	0505		SMALL RDSD SGN ASSM (TY D-1)	EA	4.000	
								6.000			644	0511		SMALL RDSD SGN ASSM (TY F)	EA	6.000	
								19.000			644	0521		SMALL RDSD SGN ASSM (TY F-SPL)	EA	19.000	
								1.000			644	0532		SMALL RDSD SGN ASSM (TY RM)	EA	1.000	
								171.800			647	0501		LG RDSD SGN SUPT (STRUCT STL)	LB	171.800	
								1.000			649	0501		REMOV LARGE RDSD SGN ASSMS	EA	1.000	
								7.000			656	0501		FND LG RDSD SGN SUPT (12 IN DRIL SHFT)	LF	7.000	
								79.100			656	0511		FND FOR TRAF SIG (30 IN DRIL SHFT)	LF	79.100	
								79.200			656	0512		FND FOR TRAF SIG (36 IN DRIL SHFT)	LF	79.200	
								4.000			656	0518		TRAF SIG CNTRL FND	CY	4.000	
								7.000			658	0562		OBJ MRK ASM TY 2 (OM-2SR) (A)	EA	7.000	
								2.000			658	0578		OBJ MRK ASM TY 3 (OM-3L)	EA	2.000	
								2.000			658	0579		OBJ MRK ASM TY 3 (OM-3R)	EA	2.000	
								4.000			659	0501		REMOV DELIN & OBJECT MARKER ASSMS	EA	4.000	
								92.000			662	0541	003	WRK ZN PAV MRK REMOV (CL B) TY I-A	EA	92.000	
								1282.000			662	0542	003	WRK ZN PAV MRK REMOV (CL B) TY I-C	EA	1282.000	
								3002.000			662	0543	003	WRK ZN PAV MRK REMOV (CL B) TY II-A-A	EA	3002.000	
								35585.000			666	0501	018	REFL PAV MRK TY I (W) (4") (SLD)	LF	35585.000	
								9430.000			666	0502	018	REFL PAV MRK TY I (W) (4") (BRK)	LF	9430.000	
								3719.000			666	0506	018	REFL PAV MRK TY I (W) (8") (SLD)	LF	3719.000	
								35771.000			666	0524	018	REFL PAV MRK TY I (Y) (4") (SLD)	LF	35771.000	
								35585.000			666	0535	018	REFL PAV MRK TY II (W) (4") (SLD)	LF	35585.000	
								9430.000			666	0536	018	REFL PAV MRK TY II (W) (4") (BRK)	LF	9430.000	
								3719.000			666	0539	018	REFL PAV MRK TY II (W) (8") (SLD)	LF	3719.000	
								35771.000			666	0556	018	REFL PAV MRK TY II (Y) (4") (SLD)	LF	35771.000	
								1367.000			668	0567		PREFAB PAV MRK TY C (W) (12") (SLD)	LF	1367.000	
								495.000			668	0570		PREFAB PAV MRK TY C (W) (24") (SLD)	LF	495.000	
								19.000			668	0571		PREFAB PAV MRK TY C (W) (ARROW)	EA	19.000	
								10.000			668	0575		PREFAB PAV MRK TY C (W) (WORD)	EA	10.000	
								471.000			672	0510	012	RAIS PAV MRKR CL B (REFL) TY II-C-R	EA	471.000	
								83084.000			678	0501		PAV SURF PREP FOR MRKS (4")	LF	83084.000	
								3719.000			678	0503		PAV SURF PREP FOR MRKS (8")	LF	3719.000	
								1367.000			678	0504		PAV SURF PREP FOR MRKS (12")	LF	1367.000	
								495.000			678	0506		PAV SURF PREP FOR MRKS (24")	LF	495.000	
								25.000			678	0507		PAV SURF PREP FOR MRKS (ARROW)	EA	25.000	
								1.000			680	0501		INSTAL OF HWY TRAF SIG (ISOLATED)	EA	1.000	
								1.000			681	0501		TEMP TRAF SIGNALS FOR CONSTRUCTION	EA	1.000	
								106.000			682	0502		VEH SIG SEC (12 IN)	EA	106.000	
								22.000			682	0505		PED SIG SEC (2 INDICATIONS IN 1 SEC)	EA	22.000	
								22.000			682	0509		BACK PLATE (3 SEC) (12 IN)	EA	22.000	
								8.000			682	0511		BACK PLATE (5 SEC) (12 IN)	EA	8.000	
								33.000			684	0505		TRAF SIG CBL (TY A) (5 CONDR) (12 AWG)	LF	33.000	
								765.000			684	0512		TRAF SIG CBL (TY A) (12 CONDR) (12 AWG)	LF	765.000	
								1020.000			684	0515		TRAF SIG CBL (TY A) (15 CONDR) (12 AWG)	LF	1020.000	
								12322.000			684	0546		TRAF SIG CBL (TY C) (2 CONDR) (18 AWG)	LF	12322.000	
								1136.000			684	0553		TRAF SIG CBL (TY A) (5 CONDR) (16 AWG)	LF	1136.000	
								496.000			684	0554		TRAF SIG CBL (TY A) (7 CONDR) (16 AWG)	LF	496.000	

ESTIMATE & QUANTITY SHEET

REVISED 6-28-99 VLWII

STATE DIST. NO.	COUNTY	PROJECT NO.	SHEET NO.
18	ROCKWALL	NH 99(367)	11

ESTIMATE SUMMARY

PROJECT NH 99(367)
CONTROL 9-4-39
S.H. 66
ALL BID ITEMS

EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	ALT.	ITEM NO	DESC CODE	SP NO	DESCRIPTION	UNIT	TOTAL EST.	TOTAL FINAL
								1.000			686	0510	001	TRAF SIG POLE ASM (STL) 1 ARM (28 FT)	EA	1.000	
								4.000			686	0511	001	TRAF SIG POLE ASM (STL) 1 ARM (32 FT)	EA	4.000	
								1.000			686	0569	001	TRAF SIG POLE ASM (STL) 1 ARM (32 FT) LUM	EA	1.000	
								2.000			686	0571	001	TRAF SIG POLE ASM (STL) 1 ARM (40 FT) LUM	EA	2.000	
								1.000			686	0572	001	TRAF SIG POLE ASM (STL) 1 ARM (44 FT) LUM	EA	1.000	
								1.000			686	0573	001	TRAF SIG POLE ASM (STL) 1 ARM (48 FT) LUM	EA	1.000	
								1.000			686	0596	001	TRF SIG POL ASM (STL) 1ARM (20FT) (ILSN)	EA	1.000	
								1.000			686	0597	001	TRF SIG POL ASM (STL) 1ARM (40FT) (ILSN)	EA	1.000	
								1.000			686	0598	001	TRF SIG POL ASM (STL) 1ARM (44FT) (ILSN)	EA	1.000	
								22.000			688	0501		PED DETECT (PUSH BTN)	EA	22.000	
								3751.000			688	0511		VEH DETECT (SAWCUT)	LF	3751.000	
								30789.980			3116	0503		HOT MIX (TY C)	TON	30789.980	
								400.000			5001	0501		TEMP METAL BM GD FENCE (12 GA)	LF	400.000	
								400.000			5001	0504		TEMP METAL BM GD FENCE (MOVE & RESET)	LF	400.000	
								525.000			5005	0501		ROCK FILTER DAMS (TY 1)	LF	525.000	
								525.000			5005	0503		ROCK FILTER DAMS (REMOV) (TY 1)	LF	525.000	
								18.000			5007	0501		BALED HAY FOR EROSN & SEDMT CONT	EA	18.000	
								9.000			5007	0502		BL HAY FOR ERSN & SED CONT (RMV & REPL)	EA	9.000	
								18.000			5007	0503		BALED HAY FOR EROSN & SED CONT (REMOV)	EA	18.000	
								14153.000			5012	0505		EARTHWORK (EROSN CONT) (CL 2)	CY	14153.000	
								1140.000			5249	0501		TEMP SEDMT CONT FENCE	LF	1140.000	
								570.000			5249	0502		TEMP SEDMT CONT FENCE (REMOVE & REPLAC)	LF	570.000	
								1140.000			5249	0503		TEMP SEDMT CONT FENCE (REMOV)	LF	1140.000	
								4.000			5469	0501		SINGLE GDRAIL TERM (TY I)	EA	4.000	
								262.200			5559	0501		COLORED-TEXTURIZED CONCRETE (4")	SY	262.200	
								566.700			5559	0503		COLORED-TEXTURIZED CONCRETE (8")	SY	566.700	
								1.000			6010	0501		SALV TRAF SIGNALS	EA	1.000	
								3.000			6210	0501		ILSN SIGN 6 S	EA	3.000	
								2.000			6210	0503		ILSN SIGN 8 S	EA	2.000	
								4.000			6996	0502		ANTENNA (UNIDIRECTIONAL)	EA	4.000	
								180.000			6996	0503		COAXIAL CABLE	LF	180.000	
								4.000			6996	0504		SPREAD SPECTRUM RADIO RECEIVER	EA	4.000	
														STATE FORCE ACCOUNT WORK (PART)			
														TRAFFIC SIGNAL EQUIPMENT	LS	1.000	
														CONTRACTOR FORCE ACCOUNT WORK (PART)			
														TRANSPORTABLE CELLULAR TELEPHONES	LS	1.000	

ESTIMATE & QUANTITY SHEET

REVISED 6-28-99 VLW II

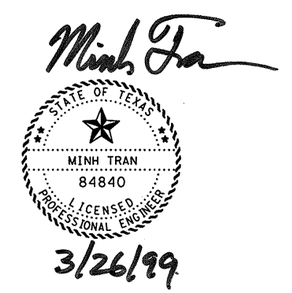
STATE DIST. NO.	COUNTY	PROJECT NO.	SHEET NO.
18	ROCKWALL	NH 99(367)	12

WESTBOUND MAINLANE

P.I.				N	E
1	313+00.00			456482.8800	2301810.8300
		N 59 30 57.58 E	297.3993 FT		
	314+49.3300 PC	0 15 00.00 D	148.0739 T	456558.6324	2301939.5142
2	315+97.4000 PI	0 44 25.29 RT	296.1437 L	456633.7500	2302067.1200
	317+45.4700 PT	22918.3118 R		456707.2125	2302195.6857
		N 60 15 22.87 E	1554.9255 FT		
	329+35.9400 PC	1 30 00.00 D	216.3822 T	457297.8284	2303229.3154
3	331+52.3200 PI	6 29 04.32 RT	432.3023 L	457405.1800	2303417.1900
	333+68.2400 PT	3819.7186 R		457490.6272	2303615.9865
		N 66 44 27.19 E	895.0088 FT		
	337+54.1500 PC	1 30 00.00 D	292.7144 T	457643.0200	2303970.5349
4	340+46.8700 PI	8 45 51.49 RT	584.2869 L	457758.6100	2304239.4600
	343+38.4400 PT	3819.7186 R		457831.8742	2304522.8574
		N 75 30 18.69 E	1772.4877 FT		
	356+27.2500 PC	1 00 00.00 D	190.9600 T	458154.4542	2305770.6482
5	358+18.2100 PI	3 49 04.03 LT	381.7786 L	458202.2500	2305955.5300
	360+09.0300 PT	5729.5780 R		458262.2498	2306136.8191
		N 71 41 14.66 E	796.6871 FT		
	364+23.8800 PC	1 00 00.00 D	190.8776 T	458392.5960	2306530.6591
6	366+14.7600 PI	3 48 58.11 RT	381.6142 L	458452.5700	2306711.8700
	368+05.5000 PT	5729.5780 R		458500.3505	2306896.6707
		N 75 30 12.77 E	8288.1486 FT		
	447+30.5000 PC	1 00 00.00 D	172.2636 T	460484.1390	2314569.3707
7	449+02.7700 PI	3 26 39.25 RT	344.4235 L	460527.2600	2314736.1500
	450+74.9300 PT	5729.5780 R		460560.2836	2314905.2186
		N 78 56 52.01 E	882.9257 FT		
	456+13.3100 PC	1 00 00.00 D	172.2832 T	460663.4927	2315433.6121
8	457+85.5900 PI	3 26 40.65 LT	344.4626 L	460696.5200	2315602.7000
	459+57.7700 PT	5729.5780 R		460739.6471	2315769.4980
		N 75 30 11.36 E	1062.2919 FT		
	465+38.8000 PC	1 00 00.00 D	308.9715 T	460885.0962	2316332.0358
9	468+47.7800 PI	6 10 24.42 LT	617.3450 L	460962.4400	2316631.1700
	471+56.1500 PT	5729.5780 R		461071.5038	2316920.2521
		N 69 19 46.94 E	1026.0071 FT		
	477+31.6300 PC	2 00 00.00 D	141.5556 T	461274.6423	2317458.6868
10	478+73.1900 PI	5 39 27.44 RT	282.8810 L	461324.6100	2317591.1300
	480+14.5100 PT	2864.7890 R		461361.2775	2317727.8541
		N 74 59 14.38 E	854.3710 FT		
	484+81.0400 PC	3 00 00.00 D	246.2884 T	461482.1233	2318178.4578
11	487+27.3300 PI	14 41 46.31 RT	489.8732 L	461545.9200	2318416.3400
	489+70.9100 PT	1909.8593 R		461547.2804	2318662.6246
12	496+93.2100	N 89 41 00.69 E	968.5848 FT	461551.2700	2319384.9100

EASTBOUND MAINLANE

P.I.				N	E
1	313+00.000			456455.1400	2301827.8500
		N 59 37 10.00 E	205.5533 FT		
	313+78.8100 PC	0 15 00.00 D	126.7433 T	456494.9975	2301895.8383
2	315+05.5500 PI	0 38 01.36 RT	253.4839 L	456559.0967	2302005.1778
	316+32.2900 PT	22918.3118 R		456621.9828	2302115.2196
		N 60 15 11.36 E	1642.9155 FT		
	329+31.9800 PC	1 30 00.00 D	216.4815 T	457266.8486	2303243.6451
3	331+48.4700 PI	6 29 15.02 RT	432.5004 L	457374.2600	2303431.6000
	333+64.4900 PT	3819.7186 R		457459.7472	2303630.4874
		N 66 44 26.38 E	891.6579 FT		
	337+46.9900 PC	1 30 00.00 D	292.6726 T	457610.7955	2303981.9039
4	340+39.6600 PI	8 45 47.00 RT	584.2036 L	457726.3700	2304250.7900
	343+31.1900 PT	3819.7186 R		457799.6310	2304534.1450
		N 75 30 13.37 E	12798.0400 FT		
	465+27.5100 PC	1 00 00.00 D	309.0530 T	460852.5787	2316342.1760
5	468+36.5600 PI	6 10 30.28 LT	617.5077 L	460929.9400	2316641.3900
	471+45.0100 PT	5729.5780 R		461039.0380	2316930.5464
		N 69 19 43.10 E	1182.2420 FT		
	476+80.7500 PC	3 15 00.00 D	337.4569 T	461228.1553	2317431.7884
6	480+18.2000 PI	21 40 21.13 RT	666.8473 L	461347.2800	2317747.5200
	483+47.5900 PT	1762.9471 R		461341.3836	2318084.9253
		S 88 59 55.77 E	1231.0480 FT		
	491+11.4600 PC	0 30 00.00 D	129.7254 T	461328.0367	2318848.6745
7	492+41.1900 PI	1 17 49.91 LT	259.4396 L	461325.7700	2318978.3800
	493+70.9000 PT	11459.1559 R		461326.4402	2319108.1036
8	496+06.9900	N 89 42 14.32 E	365.8149 FT	461327.6600	2319344.1900



3/26/99

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HORIZONTAL ALIGNMENT DATA

SHEET 1 OF 2 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		13
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

SCENIC DRIVE
(WBBL NORTH)

P.I.				N	E
1	0+00.0000			457759.4986	2304277.197
2	1+00.0000	N 00 05 27.00 W	100.0000 FT	457859.4985	2304277.038

SCENIC DRIVE
(EBBL SOUTH)

				N	E
1	0+00.0000			457726.8787	2304287.370
2	1+60.0000	S 00 12 51.00 W	160.0000 FT	457566.8798	2304286.772

HERITAGE DRIVE
(EBBL SOUTH)

				N	E
1	0+00.0000			457876.9064	2304833.027
2	1+40.0000	S 14 33 00.00 E	140.0000 FT	457741.3964	2304868.198

HARBORSIDE DRIVE
(EBBL SOUTH)

				N	E
1	0+00.0000			457961.3359	2305159.579
2	1+23.0000	S 14 35 57.00 E	123.0000 FT	457842.3072	2305190.582

WILLOWBEND DRIVE
(WBBL NORTH)

				N	E
1	0+00.0000			460811.2931	2316046.595
		N 45 14 49.00 W	137.5000 FT		
	0+89.1100 PC	50 15 34.04 D	48.3900 T	460874.0312	2315983.314
2	1+37.5000 PI	46 00 00.00 LT	91.5200 L	460908.1003	2315948.950
	1+80.6300 PT	114.0000 R		460907.0473	2315900.572
3	2+00.0000	S 88 45 11.00 W	67.7600 FT	460906.6257	2315881.206

LAKESHORE DRIVE
(WBBL NORTH)

				N	E
1	0+00.0000			460992.2174	2316696.124
2	1+05.0000	N 18 42 00.00 W	105.0000 FT	461091.6745	2316662.460

LAKESHORE DRIVE
(EBBL SOUTH)

P.I.				N	E
1	0+00.0000			460959.9601	2316707.063
2	0+40.0000	S 18 55 00.00 E	40.0000 FT	460922.1204	2316720.031

2ND STREET
(EBBL SOUTH)

				N	E
1	0+00.0000			461336.3528	2318372.801
		N 00 35 10.00 E	187.5000 FT		
2	1+87.5000			461523.8457	2318374.719
		N 00 35 10.00 E	86.5000 FT		
3	2+74.0000			461610.3412	2318375.604

1ST STREET
(WBBL NORTH)

				N	E
1	0+00.0000			461546.1560	2318606.804
2	0+60.0000	N 01 12 24.00 W	60.0000 FT	461606.1427	2318605.540

1ST STREET
(EBBL SOUTH)

				N	E
1	0+00.0000			461332.2523	2318607.445
2	1+24.0000	S 00 24 00.00 W	124.0000 FT	461208.2553	2318606.579

WEST STREET
(WBBL NORTH)

				N	E
1	0+00.0000			461548.2030	2318829.651
2	0+70.0000	N 02 00 00.00 E	70.0000 FT	461618.1604	2318832.094

ALAMO STREET
(EBBL NORTH)

				N	E
1	0+00.0000			461326.3181	2319075.464
		N 00 09 10.00 W	223.2400 FT		
2	2+23.2400			461549.5573	2319074.868
		N 00 09 10.00 W	86.7600 FT		
3	3+10.0000			461636.3170	2319074.637

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

3/26/99

HORIZONTAL ALIGNMENT DATA

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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		14
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

GENERAL NOTES AND SPECIFICATION DATA--

SPECIFICATION DATA
TEST TO BE IN ACCORDANCE WITH TEXAS DEPARTMENT OF TRANSPORTATION STANDARD TEST METHODS

ITEM	DESCRIPTION	GRADING REQUIREMENTS % RETAINED, SIEVES	CONSTANTS LL	PI	BALL MILL MAX	NOTE MAX	MIN	MAX
132	EMBK (DENS CONT) (TY C) (CL 1)			20	8			

NOTE: PI REQUIREMENTS ARE APPLICABLE TO UNDER ROADWAY ONLY.

MINIMUM COMPACTION REQUIREMENTS FOR BASE COURSES
% DENSITY AS DETERMINED BY COMPACTION RATIO (TEST METHOD TEX-113-E)

ITEM	MATERIAL	ROADWAY COURSE	ROADWAY DENSITY	RAMPS COURSE	RAMPS DENSITY
260	LIME TREAT SUBGR	ALL	95	ALL	95

REVISED 6-28-99 VLWII

F.R. DIV.6	TEXAS	NH 99(367)	SHEET 15
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

BASIS OF ESTIMATE FOR PERMANENT CONSTRUCTION

ITEM		DESCRIPTION	RATE	UNIT	QUANTITY
162		BLOCK SOD	4 INCH	-	46,045.40 SY
166	*	FERT (12-12-12)	400 LB/AC	9.51 AC	1.90 TON
168		VEGETATIVE WATERING	40.75 MG/AC	9.51 AC	387.50 MG
260		LIME (TY A SLURRY, TY B OR TY C SLURRY)	7 % BY WT.	104,414.20 SY	3,755.00 TON
314		SUBGRADE TRMT (MS-2)	0.25 GAL/SY	104,414.20 SY	26,104.00 GAL
3116		AGGR (TY C)	95 % BY WT.	27,287.00 TON	25,922.65 TON
3116		ASPH (AC)	5 % BY WT.	27,287.00 TON	1,364.35 TON

NOTES:
(1) BASE MATERIAL WEIGHT BASED ON 1.98 TON/CY (DRY-COMPACTED).
(2) SUBGRADE WEIGHT BASED ON 1.62 TON/CY (DRY-COMPACTED).
* FOR CONTRACTOR'S INFORMATION ONLY.

BASIS OF ESTIMATE FOR TEMPORARY EROSION CONTROL ITEMS

ITEM	DESCRIPTION	RATE	UNIT	QUANTITY
164	STRAW/HAY SEED (WARM)	30 LB/AC	-	5,985.90 SY
164	STRAW/HAY SEED (COOL)	4 LB/AC	-	3,223.18 SY
168	VEGETATIVE WATERING	20.36 MG/AC	1.90 AC	38.69 MG

GENERAL NOTES AND SPECIFICATION DATA--

GENERAL:

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THERE MAY HAVE BEEN CHANGES IN THE EXISTING SIGNING SINCE THE PLANS WERE PREPARED. THE ENGINEER WILL WORK WITH THE CONTRACTOR TO DETERMINE ANY REDUCTION OR ADDITION TO THE ESTIMATED WORK CAUSED BY THESE CHANGES. PAYMENT WILL BE MADE FOR THE ACTUAL WORK PERFORMED UNDER THE VARIOUS ITEMS OF WORK AT THEIR RESPECTIVE BID PRICES.

THE ERECTION OR REMOVAL OF SIGNS, POLES, LUMINARES OR STRUCTURES LOCATED NEAR ANY OVERHEAD OR UNDERGROUND UTILITIES SHALL BE ACCOMPLISHED USING ESTABLISHED INDUSTRY AND UTILITY SAFETY PRACTICES. THE CONTRACTOR SHALL CONSULT WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING SUCH WORK.

NO EXTRA COMPENSATION WILL BE ALLOWED FOR FULFILLING THE REQUIREMENTS STATED ABOVE.

BENCH MARKS WILL BE SET BY THE TEXAS DEPARTMENT OF TRANSPORTATION FORCES PRIOR TO BEGINNING CONSTRUCTION.

PRIOR TO CONTRACT LETTING, REPRODUCIBLE EARTHWORK CROSS SECTIONS WILL BE AVAILABLE AT THE DISTRICT OFFICE FOR BORROWING BY COPYING-SERVICE COMPANIES FOR THE PURPOSE OF MAKING COPIES FOR THE PROSPECTIVE BIDDERS, AT THE PROSPECTIVE BIDDER'S EXPENSE. IN ADDITION, A DOS FORMATTED DISKETTE CONTAINING THE FOLLOWING DATA FILES WITH DISCLAIMER WILL BE AVAILABLE AT THE DISTRICT OFFICE FOR THE PURPOSE OF MAKING COPIES FOR PROSPECTIVE BIDDERS, AT NO CHARGE.

- CROSS SECTION BASELINES
- ORIGINAL GROUND CROSS SECTIONS

THE DATA ON THIS DISKETTE IS FOR NON-CONSTRUCTION PURPOSES ONLY AND IT IS THE RESPONSIBILTY OF THE PROSPECTIVE BIDDER TO VALIDATE THE ENCLOSED DATA WITH THE APPROPRIATE PLANS, SPECIFICATIONS AND ESTIMATE FOR THE PROJECT.

THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THIS PROPOSED PROJECT SHALL BE CONSISTENT WITH THE STATE IMPLEMENTATION PLAN AS PREPARED BY THE TEXAS NATURAL RESOURCES CONSERVATION COMMISSION.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN, FROM THE OWNERS, THE LOCATION OF ALL UTILITIES WHETHER OR NOT SHOWN ON THE PLANS, AND SHALL BECOME COGNIZANT OF THEM AND COOPERATE WITH ANY PROPOSED ADJUSTMENTS TO BE MADE BY THE OWNERS. THE CONTRACTOR SHALL COORDINATE

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15A
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

GENERAL:, CONT'D

WITH ALL OTHER CONTRACTORS PERFORMING PROPOSED WORK WITHIN THE PROJECT LIMITS, INCLUDING ALL CROSS STREETS.

THE DETERMINATION OF THE LIQUID LIMIT OF SOILS SHALL BE IN ACCORDANCE WITH TEST METHOD TEX-104-E.

THE CONTRACTOR SHALL MAINTAIN AN ACCURATE VERTICAL AND HORIZONTAL CONTROL THROUGHOUT THE CONTRACT. SURVEY MONUMENTS, FURNISHED BY THE DEPARTMENT, SHALL BE PLACED BY THE CONTRACTOR AT POINTS INDICATED AND AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH THE AREA/PROJECT ENGINEER SURFACE COORDINATES AND THE ELEVATION OF THE SET MONUMENT AND AN AZIMUTH FROM THE MONUMENT TO SOME PROMINENT PHYSICAL FEATURE, PREFERABLY ANOTHER SURVEY MONUMENT ON THE PROJECT. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.

UPON REQUEST OF THE ENGINEER, THE CONTRACTOR SHALL FURNISH, TO THE ENGINEER, A TYPED NARRATIVE REPORT, SIGNED AND DATED BY THE CONTRACTOR, OUTLINING THE MANNER OF PROSECUTION OF WORK THAT HE INTENDS TO FOLLOW IN THE SUBSEQUENT THIRTY (30) DAY PERIOD.

IF, AT ANY TIME DURING THE CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR FALLS MORE THAN THIRTY (30) DAYS BEHIND HIS SCHEDULE SUBMITTED UNDER THE PROVISIONS OF ARTICLE 8.2, HE SHALL FURNISH THE ENGINEER WITH AN UPDATED REALISTIC CONSTRUCTION SCHEDULE.

EXISTING ROADS WITHIN THE LIMITS OF THE PROJECT THAT ARE TO REMAIN TEMPORARILY FOR THE PURPOSE OF HANDLING TRAFFIC THROUGH THE PROJECT SHALL BE MAINTAINED BY THE CONTRACTOR IN A MANNER THAT IS ACCEPTABLE TO THE ENGINEER. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.

THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PRESERVE EXISTING TREES DESIGNATED BY THE ENGINEER TO REMAIN FOLLOWING CONSTRUCTION. THE CONTRACTOR IS REQUESTED TO FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION'S PRUNING GUIDELINES AND OBSERVE RECOGNIZED TREE SURGERY PRACTICES. ADDITIONALLY, CARE SHALL BE TAKEN TO MINIMIZE DISRUPTION OR DAMAGE TO THE ROOT SYSTEM OF THESE DESIGNATED TREES.

THE CONTRACTOR SHALL STABILIZE ALL UNPAVED AREAS OF THE PROJECT WITH A MINIMUM SEVENTY (70) PERCENT DENSITY OF VEGETATIVE COVER. THIS SHALL BE ACCOMPLISHED UTILIZING THE ITEMS IN THIS CONTRACT.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE POSSIBLE PRESENCE OF UNDERGROUND UTILITIES OWNED BY THE TEXAS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND SPECIFICATION DATA--

GENERAL:, CONT'D
AND VARIOUS UTILITY COMPANIES (IRRIGATION, SIGNAL ILLUMINATION AND/OR SURVEILLANCE, COMMUNICATION AND CONTROL) ON THE RIGHT OF WAY OF THIS PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL FOR LOCATES AT THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) UTILITY SECTION AT 214-320-6270 FORTY EIGHT (48) HOURS IN ADVANCE OF EXCAVATION. PROBING FOR AND EXCAVATION OF UTILITIES SHALL BE CONSIDERED SUBSIDIARY TO ITEMS 400 AND 416 AND WILL NOT BE PAID FOR DIRECTLY.

THE CONTRACTOR SHALL TAKE EXTREME CARE WHEN EXCAVATING IN THE VICINITY OF UTILITIES. THE CONTRACTOR MAY BE REQUIRED TO PROBE OR EXPOSE THESE FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO THE STATE'S UTILITIES IF THE DAMAGE IS CAUSED BY NEGLIGENCE OR A FAILURE TO HAVE TXDOT LOCATES PERFORMED.

UPON COMPLETION OF THE WORK AND BEFORE ACCEPTANCE IS MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE SITE ALL SURPLUS AND DISCARDED MATERIALS AND DEBRIS OF EVERY KIND AND LEAVE THE ENTIRE PROJECT IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

THE CONTRACTOR SHALL PROVIDE ADEQUATE MOTORIZED TRANSPORTATION FOR TXDOT PERSONNEL TO ALL WORKSITES, AS DIRECTED BY THE ENGINEER.

OSHA REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES.

THE FOLLOWING STANDARD DETAIL SHEETS HAVE BEEN MODIFIED FOR THIS PROJECT:

C202 (MOD)
RW 4 (MOD)
(SRD - DALLAS) (MOD)

WHENEVER THE WORK PROVIDED FOR AND CONTEMPLATED UNDER THE CONTRACT HAS BEEN FOUND BY THE ENGINEER, BASED UPON AN INSPECTION MADE BY HIM, TO BE SATISFACTORILY COMPLETED ON ANY INDIVIDUAL SIGNALIZED INTERSECTION AND/OR EACH INTERCONNECTED OR COORDINATED SYSTEM OF SIGNALIZED INTERSECTIONS, AS SHOWN ON THE PLANS, FINAL CLEANING UP OF SAID SIGNALIZED INTERSECTION HAS BEEN PERFORMED AND THE TRAFFIC SIGNAL EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS OPERATED CONTINUOUSLY FOR A MINIMUM OF THIRTY (30) DAYS IN A SATISFACTORY MANNER, THE CONTRACTOR WILL BE RELEASED FROM FURTHER MAINTENANCE ON THAT PARTICULAR INTERSECTION. SUCH PARTIAL ACCEPTANCE WILL BE MADE IN WRITING AND SHALL IN NO WAY VOID OR ALTER ANY TERMS OF THE CONTRACT.

REVISED 4-28-99 VLW II

F.R. DIV.6 | TEXAS | NH 99 (367) | SHEET 15B
ROCKWALL COUNTY | HWY SH 66 | CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

GENERAL:, CONT'D
THE CONTRACTOR SHALL SUBMIT IN WRITING TO THE ENGINEER, AT LEAST TWO WEEKS IN ADVANCE, THE DATE AT WHICH HE INTENDS TO BEGIN CONSTRUCTION. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION UNTIL WRITTEN APPROVAL IS GIVEN BY THE ENGINEER. THIS EXCLUDES ANY UTILITY WORK, IF NECESSARY, TO BE PERFORMED BY THE CONTRACTOR.

ITEM 100:

THE LIMITS OF PREPARING RIGHT OF WAY WILL BE MEASURED FROM STATION 313+00 TO S.H. 205, ALONG THE BASELINES OF CONSTRUCTION.

REMOVAL AND DISPOSAL OF ALL OBSTRUCTIONS FROM THE RIGHT OF WAY, NOT SPECIFIED ON THE PLANS, SHALL BE PERFORMED AND WILL BE PAID FOR IN ACCORDANCE WITH ITEM 100.

ALL OF THE EXISTING DELINEATOR AND OBJECT MARKERS ON THIS PROJECT SHALL BE REMOVED BY AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 100.

ALL MAILBOXES WITHIN THE PROPOSED CONSTRUCTION LIMITS SHALL BE REMOVED AND RESET BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 100.

ALL EXISTING ROADWAY SIGNS SHALL BE REMOVED BY THE CONTRACTOR DURING CONSTRUCTION AND PLACED WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

ITEM 104:

EXISTING CONCRETE DRIVEWAYS, PAVEMENT OR CURB AND GUTTER TO BE REMOVED SHALL BE SAWED ALONG NEAT LINES WHERE PORTIONS ARE TO BE LEFT IN PLACE. SAWING WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 104.

ITEMS 104 AND 496:

GENERAL NOTES AND SPECIFICATION DATA--

ITEMS 104 AND 496:, CONT'D
CONCRETE PAVEMENT REMOVED AS A RESULT OF REMOVING THE INLETS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 496.

ITEM 110:

EXCAVATION FOR DRIVEWAYS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 110.

ITEM 132:

THIS MATERIAL SHALL CONSIST OF SUITABLE EARTH MATERIAL SUCH AS LOAM, CLAY OR OTHER MATERIALS THAT WILL FORM A STABLE EMBANKMENT AND BE FREE FROM VEGETATION OR OTHER OBJECTIONABLE MATTER, AND WHEN TESTED BY TEXAS DEPARTMENT OF TRANSPORTATION METHODS, SHALL MEET THE SOIL CONSTANT REQUIREMENTS ON SHEET "A" IN ITS NATURAL STATE.

WHEN THE MOISTURE CONTENT OF THE EMBANKMENT EXCEEDS THE SPECIFIED OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ENGINEER, IT SHALL BE AERATED BY DISKING, HARROWING, BLADING OR OTHER MEANS SATISFACTORY TO THE ENGINEER, TO REDUCE THE MOISTURE CONTENT TO THE OPTIUM CONDITION BEFORE ROLLING COMMENCES. THE CONTRACTOR WILL NOT BE PERMITTED TO AERATE WET MATERIAL WITH COMPACTION EQUIPMENT SUCH AS SHEEPSFOOT ROLLERS OR OTHER DEVICES THAT TEND TO OVER-COMPACT THE PREVIOUS LAYER OF MATERIAL. SUCH AERATION SHALL BE CONSIDERED SUBSIDIARY TO THIS ITEM AND WILL NOT BE PAID FOR DIRECTLY.

SHALE WILL NOT BE CONSIDERED AS SUITABLE MATERIAL. SHALEY CLAYS MAY NOT BE USED IN EMBANKMENTS UNLESS APPROVED IN WRITING BY THE ENGINEER.

ALL BACKFILL BEHIND CURB SHALL BE PLACED TO THE SATISFACTION OF THE ENGINEER.

ITEM 162:

BLOCK SOD SHALL BE PLACED IN STRIPS TWO (2) FEET WIDE ON EACH SIDE OF THE RIPRAP AT BRIDGE ENDS, CULVERT HEADWALLS AND OTHER DRAINAGE APPURTANCES.

REVISED 6-28-99 VLWII

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15C
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 162:, CONT'D
PRIOR TO PLACING FOUR (4) INCH BLOCK SOD, THE SIDE SLOPES MAY REQUIRE EMBANKMENT MATERIAL TO BE GRADED AND SHAPED. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 162.

ALL SODDING OPERATIONS, INCLUDING WATERING, SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER.

ITEMS 162, 164 AND 166:

BLOCK SOD, STRAW/HAY SEEDING AND/OR FERTILIZER SHALL BE PLACED ON ALL UNSURFACED DISTURBED AREAS WITHIN THE LIMITS OF THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ARRANGE HIS SEEDING OPERATION AFTER THE COMPLETION OF EACH CONSTRUCTION STAGE DEPENDENT UPON THE PLANTING DATE REQUIREMENTS STIPULATED BY THIS ITEM. NO ADDITIONAL COMPENSATION WILL BE GRANTED TO THE CONTRACTOR FOR ADDITIONAL MOVE-INS.

ITEM 168:

VEGETATIVE WATERING FOR BLOCK SOD SHALL BE PLACED AT A RATE OF 1/4 INCH PER ACRE EVERY TWO (2) WEEKS FOR A THREE (3) MONTH PERIOD. WATER SHALL BE APPLIED TO TEMPORARY STRAW/HAY SEED AT A RATE OF 1/8 INCH PER ACRE EVERY TWO (2) WEEKS FOR A THREE (3) MONTH PERIOD.

ITEM 204:

SPRINKLING, AS ORDERED BY THE ENGINEER TO CONTROL DUST ON THIS PROJECT, SHALL BE CONSIDERED SUBSIDIARY TO ITEM 168 AND WILL NOT BE PAID FOR DIRECTLY.

ITEM 260:

THE STANDARD PLATFORM TRUCK SCALES WILL BE REQUIRED FOR THIS PROJECT AND SHALL BE LOCATED AT A POINT APPROVED BY THE ENGINEER. CERTIFIED PUBLIC SCALES, WHEN APPROVED BY THE ENGINEER, MAY BE USED, PROVIDED THEY CONFORM TO THE REQUIREMENTS SET FORTH IN ARTICLE 520.3(1).

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 260:, CONT'D

THE LIMITS OF PAYMENT FOR THIS ITEM SHALL BE TO THE NEAT LINES AS SHOWN ON THE PLANS.

LIME SHALL BE PLACED BY THE "SLURRY PLACING" METHOD.

ITEMS 301 AND 3116:

AN APPROVED ANTISTRIPPING AGENT WILL BE REQUIRED.

ALL MIXTURES SHALL BE EVALUATED FOR SUSCEPTIBILITY TO MOISTURE.

WHEN LIME IS USED AS AN ANTISPRIPPING AGENT, ALL MOISTURE SUSCEPTIBILITY TESTING REQUIREMENTS FOR MIXTURE DESIGN WILL BE WAIVED. PRODUCTION TESTING, WHEN REQUIRED BY THE ENGINEER, WILL REMAIN IN EFFECT.

TEST METHOD TEX-530-C SHALL BE THE EVALUATION PROCEDURE DURING PRODUCTION. THE PRODUCED MIXTURE SHALL NOT STRIP MORE THAN TEN (10) PERCENT.

WHEN LIQUID ANTISTRIPPING AGENT IS USED, TEST METHOD TEX-531-C WILL BE THE EVALUATION PROCEDURE DURING MIXTURE DESIGN. THE PRODUCED MIXTURE SHALL NOT STRIP MORE THAN THE PERCENTAGE ESTABLISHED DURING MIXTURE DESIGN CORRELATION TESTING WITH TEST METHOD TEX-531-C.

EFFECTIVENESS OF THE ANTISTRIPPING AGENT WILL BE EVALUATED AT THE FOLLOWING RATE:

LIME AT 1.5 % OR 2 % BY MASS OF THE INDIVIDUAL AGGREGATE OR AGGREGATES SHALL BE PLACED IN SLURRY FORM,
OR
LIQUID AGENTS AT 0.5 % OR 1 % BY MASS OF THE ASPHALT IN THE MIXTURE SHALL BE PLACED, BUT SHALL NOT EXCEED THE AMOUNT RECOMMENDED BY THE MANUFACTURED.

THE MINIMUM TENSILE STRENGTH RATIO REQUIRED IS 0.7.

IF LIME IS CHOSEN AS AN ANTISTRIPPING AGENT, TESTING REQUIREMENTS SHALL NOT APPLY.

REVISED 6-28-99 VLW II

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15D
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 314:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN WRITING, LIME TREATED MATERIAL SHALL BE CURED WITH MS-2 ASPHALT APPLIED AT A RATE OF 0.25 GAL/SY.

ITEM 354:

EXISTING ASPHALT TO BE REMOVED SHALL BE SAWED ALONG NEAT LINES WHERE PORTIONS ARE TO BE LEFT IN PLACE TEMPORARILY OR PERMANENTLY. SAWING SHALL BE CONSIDERED SUBSIDIARY TO ITEM 354 AND WILL NOT BE PAID FOR DIRECTLY.

EXISTING ASPHALT PAVEMENT SHALL BE REMOVED SEPARATELY FROM THE BASE MATERIAL. THE ASPHALT PAVEMENT SHALL BE STOCKPILED AT A SITE LOCATED AT DALROCK ROAD AND I.H. 30 AND SHALL CONFORM TO THE DIMENSIONS AND REQUIREMENTS ESTABLISHED BY THE ENGINEER. ALL UNUSED MATERIAL SHALL BE STOCKPILED AT THE SAME LOCATION.

IF, IN THE OPINION OF THE ENGINEER, THE EXISTING CONCRETE PAVEMENT SURFACE IS CUT TO AN EXCESSIVE DEPTH DUE TO EQUIPMENT MALFUNCTIONS OR NEGLIGENCE ON THE PART OF THE CONTRACTOR, THE PAVEMENT SHALL BE PATCHED USING AN EPOXY MATERIAL ACCEPTABLE TO THE ENGINEER. THE AREA SHALL THEN BE REPLANED TO PROVIDE A PAVEMENT SURFACE ACCEPTABLE TO THE ENGINEER. THIS PATCHING AND REPLANING WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 354.

THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THAT NO CONTINUOUS RIDGES OR GROOVES EXCEEDING 1/4 INCH VERTICAL DIMENSION ARE PRODUCED DURING THE PLANING OPERATIONS ON CONCRETE PAVEMENT. THESE IMPERFECTIONS RESULT FROM VARIATIONS IN THE WEAR OF CUTTING TEETH OR, IN MANY CASES, TEETH THAT ARE MISSING. THE NEWLY PLANED SURFACES SHALL BE CONTINUOUSLY INSPECTED FOR VARIATIONS IN CUTTING DEPTH ACROSS THE TEXTURED SURFACE. WHEN THE ABOVE CONTROL DIMENSION IS EXCEEDED, THE PLANING DRUM WILL BE INSPECTED IMMEDIATELY AND ANY NECESSARY REPLACEMENTS SHALL BE MADE IN THE CUTTING TEETH. IF THE LENGTH OF DISTORTED PAVEMENT SURFACE EXCEEDS ONE HUNDRED (100) FEET, THE CONTRACTOR SHALL MAKE SURFACE CORRECTIONS AS DIRECTED BY THE ENGINEER.

FOR OPEN SHOULDER SECTIONS, THE SURFACE SHALL BE PLANED IN SUCH A MANNER THAT A FLUSH SHOULDER, WHICH WILL NOT BLOCK THE FLOW OF WATER ACROSS THE SURFACE, WILL RESULT. ADDITIONAL PLANING (UP TO A MAXIMUM

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 354:, CONT'D
WIDTH OF THREE FEET) NECESSARY TO ACCOMPLISH THIS WORK OUTSIDE OF THE NEAT LINES SHOWN ON THE PLANS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 354.

IF THE PLANING CLEAN-UP OPERATIONS RESULT IN DUST BECOMING AN ENVIRONMENTAL PROBLEM, THE ENGINEER MAY REQUIRE THE USE OF VACUUM-TYPE SWEEPER EQUIPMENT TO REPLACE CONVENTIONAL SWEEPERS.

ITEM 360:

CONCRETE FOR ALL CROSS STREETS SHALL BE CLASS "K" AND THE MIX DESIGN SHALL CONFORM TO THE REQUIREMENTS INDICATED IN ITEM 361.

CONCRETE AGGREGATES SHALL BE STOCKPILED AT THE PLANT SITE.

CURB TRANSITIONS WILL BE PAID FOR AS TYPE I CURB.

ALL CURBS, EXCEPT DOWEL CURBS, SHALL BE CONSTRUCTED MONOLITHICALLY WITH CONCRETE PAVEMENT.

CONSTRUCTION, SAWED AND CONTRACTION JOINTS SHALL BE PLACED IN ACCORDANCE WITH THE PAVEMENT DETAIL SHEET AND AS DIRECTED BY THE ENGINEER. JOINT LOCATIONS, OTHER THAN AS SHOWN ON THE PLANS, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL SAW TRANSVERSE JOINTS ACROSS PAVEMENT AND CURBS.

THE DOWEL SUPPORT ASSEMBLIES USED IN CONCRETE PAVEMENT SHALL BE CONSTRUCTED USING NO. 1/0 (0.306 INCH DIAMETER) WIRE IN THE MAIN VERTICAL MEMBERS. DOWELS SHALL BE RIGIDLY SUPPORTED IN PARALLEL POSITIONS AND SHALL BE WELDED ON ONE (1) END TO THE SUPPORT FRAME. THE WELD ATTACHMENT SHALL BE MADE ALTERNATELY ON OPPOSITE ENDS OF SUCCESSIVE DOWELS. THE SUPPORT ASSEMBLY SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR MAY BE ALLOWED TO USE A DOWEL INSERTER OF A DESIGN THAT HAS BEEN PROVEN EFFECTIVE AND PERFORMS IN A MANNER ACCEPTABLE TO THE ENGINEER. THE CONTRACTOR, IF HE ELECTS TO USE SUCH A DOWEL INSERTER, SHALL PROVIDE A DEVICE TO MEASURE THE DEPTH OF THE INSERTED DOWEL IN PLACE.

ANY AREA IN EXCESS OF THREE (3) SQUARE YARDS WITH GROOVES LESS THAN 1/8 INCH DEEP SHALL BE SAW GROOVED BY THE CONTRACTOR AT HIS EXPENSE.

REVISED 6-28-99 VLW

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15E
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 360:, CONT'D

THE CURING MACHINE SHALL BE PROVIDED WITH RUBBER TIRES OR ANOTHER ARRANGEMENT, APPROVED BY THE ENGINEER, SO THAT THE MACHINE WILL BRIDGE OVER OR SPAN THE PAVEMENT AND CURB OPERATIONS, IN A MANNER SATISFACTORY TO THE ENGINEER.

PAVEMENT LEAVOUTS SHALL BE USED ON THIS PROJECT, AS NECESSARY, TO PROVIDE FOR TRAFFIC AT DRIVEWAYS AND SIDE STREETS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THESE LEAVEOUTS, INCLUDING THE CONSTRUCTION OF A SUITABLE CROSSOVER CONNECTION AT EACH SITE, WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 360.

ITEMS 360, 421 AND 530:

THE ENGINEER WILL SAMPLE ALL CONCRETE AND MAKE AND TEST ALL TEST BEAMS AND CYLINDERS.

THE CONTRACTOR SHALL FURNISH PERSONNEL TO REMOVE THE TEST SPECIMENS FROM THE MOLDS AND TO TRANSPORT THEM TO THE PROPER CURING LOCATION AT THE SCHEDULE DESIGNATED BY THE ENGINEER AND IN ACCORDANCE WITH THE GOVERNING SPECIFICATION. FOR ALL CONCRETE ITEMS, THE CONTRACTOR SHALL HAVE A WHEELBARROW OR OTHER CONTAINER, ACCEPTABLE TO THE ENGINEER, AVAILABLE TO USE IN THE SAMPLING OF THE CONCRETE.

ITEM 400:

CONCRETE SEWER PIPE PLACED ON SLOPES OF GREATER THAN TEN (10) PERCENT SHALL BE BACKFILLED WITH CEMENT STABILIZED BACKFILL TO A DEPTH SHOWN ON THE PLANS. THE MIX SHALL CONFORM TO ITEM 400. THE AGGREGATE SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE 421.2(5).

ITEM 416:

COLUMNS SHALL BE FORMED TO A POINT ONE (1) FOOT BELOW THE PROPOSED FUTURE OR EXISTING BOTTOM OF CHANNEL ELEVATION INDICATED ON THE BRIDGE LAYOUTS BY A METHOD ACCEPTABLE TO THE ENGINEER. FORMING COLUMNS BELOW THE EXISTING OR PROPOSED GROUND LINE SHALL BE CONSIDERED SUBSIDIARY TO ITEM 416 AND WILL NOT BE PAID FOR DIRECTLY.

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 416:, CONT'D
THE TOP TWO (2) INCHES OF ALL DRILLED SHAFTS FOR FOUNDATIONS SHALL BE FORMED OR PROVIDED A SMOOTH FINISH SATISFACTORY TO THE ENGINEER. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO ITEM 416 AND WILL NOT BE PAID FOR DIRECTLY.

ITEMS 420 AND 427:

CONCRETE STRUCTURES SHALL RECEIVE A SURFACE AREA I, CLASS B, TYPE II SURFACE FINISH.

ITEM 421:

THE CLASS OF CONCRETE SHALL BE INDICATED IN THE BID ITEM, EXCEPT AS NOTED BELOW:

CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS "C", USING TYPE II CEMENT.

CONCRETE FOR BRIDGE SLABS SHALL BE CLASS "S", USING TYPE II CEMENT.

ITEMS 421 AND 522:

CONCRETE FOR BRIDGES AND RETAINING WALLS SHALL BE CENTRAL MIX CONCRETE CONFORMING TO ITEM 421, SECTIONS 5 AND 6, OR ITEM 522 FROM A CLASS 3A OR 3B PLANT.

ITEM 427:

RETAINING WALLS SHALL RECEIVE A SURFACE AREA I, CLALL B, TYPE II SURFACE FINISH. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 423.

ITEM 432:

REVISED 6-28-99 VLWT

F.R. DIV.6 | TEXAS | NH 99(367) | SHEET 15F
ROCKWALL COUNTY | HWY SH 66 | CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 432:, CONT'D
ALL CONCRETE RIPRAP SHALL BE REINFORCED.

ITEM 440:

ALL EPOXY COATED REINFORCING STEEL EXPOSED TO UV RAYS SHALL BE COVERED BY A TARP TO PROTECT THE EPOXY FROM DEGRADATION TO THE SATISFACTION OF THE ENGINEER.

ITEM 450:

METAL BEAM GUARD FENCE ANCHORS WILL BE REQUIRED.

ITEM 454:

SEALED EXPANSION JOINTS SHALL RECEIVE "PROTECTION SYSTEM I-PRIME COAT, EPOXY".

ITEM 462:

ALL CONCRETE BOX CULVERTS SHALL BE PRECAST UNLESS DIRECTED BY THE ENGINEER.

PC-3 AND PC-7 PRECAST BOX CULVERTS WILL NOT BE PERMITTED ON THIS PROJECT.

ITEMS 464 AND 465:

ANY ABANDONED UTILITIES OR DRAINAGE STRUCTURES THAT ARE ENCOUNTERED BY THE CONTRACTOR SHALL BE REMOVED TO A MINIMUM OF ONE (1) FOOT BELOW SUBGRADE AND PLUGGED WITH A CONCRETE PLUG OF A THICKNESS EQUAL TO 1-1/2 INCHES PER FOOT OF DIAMETER OF PIPE WITH A MINIMUM THICKNESS OF THREE (3) INCHES.

THE CONCRETE COLLARS AND THE CONNECTIONS OF PIPES TO EXISTING OR PROPOSED CONCRETE BOXES OR PIPE SHALL BE CONSTRUCTED AS SHOWN ON THE

GENERAL NOTES AND SPECIFICATION DATA--

ITEMS 464 AND 465:, CONT'D
PLANS OR AS DIRECTED BY THE ENGINEER.

ITEM 465:

PAYMENT FOR TY C (4 GRATE) DROP INLET SHALL BE COVERED UNDER BID ITEM "INLET (COMP) (DROP) (TY C) (1 GRATE)".

ITEM 471:

ALL INLET GRATES SHALL BE TACKWELDED TO THE FRAME WITH TWO (2) ONE (1) INCH WELDS. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO ITEM 465 AND WILL NOT BE PAID FOR DIRECTLY. NO PAINTING WILL BE REQUIRED FOR THE CAST IRON INLET GRATE AND FRAME OR FOR THE CAST IRON MANHOLE FRAME AND COVER.

ITEM 496:

MEASUREMENT AND PAYMENT FOR "REMOV OLD STR" SHALL INCLUDE ONLY THE STRUCTURES AND PIPES LISTED ON THE SUMMARY SHEET. THE REMOVAL OF ALL OTHER ENCOUNTERED STRUCTURES, NOT SHOWN ON THE PLANS, SHALL BE CONSIDERED SUBSIDIARY TO ITEM 100 AND WILL NOT BE PAID FOR DIRECTLY.

EXCEPT AS OTHERWISE PROVIDED ON THE PLANS, EXISTING STRUCTURES OR PARTS OF THE EXISTING STRUCTURE TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT HIS EXPENSE.

ALL PIPE TO BE REMOVED AND NOT REPLACED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE LIMITS OF THE RIGHT OF WAY.

BRIDGE DEMOLITION SHALL NOT INTERFERE WITH THE PROPOSED BRIDGE CONSTRUCTION AND SHALL MEET ALL APPLICAPBLE EPA REQUIREMENTS.

ITEM 497:

REVISED 6-28-99 VLW II

F.R. DIV.6 | TEXAS | NH 99(367) | SHEET 15G
ROCKWALL COUNTY | HWY SH 66 | CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 497:, CONT'D
THE AMOUNT OF STRUCTURAL STEEL TO BE SOLD TO THE CONTRACTOR IS 2,456,266 POUNDS.

ITEM 502:

THE CONTRACTOR SHALL MAINTAIN EXISTING LEFT TURN MOVEMENTS THROUGHOUT CONSTRUCTION, AS DIRECTED BY THE ENGINEER (EASTBOUND TO NORTHBOUND MOVEMENTS AND WESTBOUND TO SOUTHBOUND MOVEMENTS).

THE COMPLETION OF THE PROPOSED EASTBOUND AND WESTBOUND BRIDGES, ASSOCIATED DETOURS AND CAUSEWAY WORK SHALL BE ACCOMPLISHED BEFORE ALL OTHER CONSTRUCTION IS BEGUN OR AS DIRECTED BY THE ENGINEER. THIS STATEMENT DOES NOT APPLY TO UTILITY CONSTRUCTION. UTILITY ADJUSTMENTS OUTSIDE BRIDGE CONSTRUCTION (STATIONS 352+50 TO 457+50) SHALL BE AS DIRECTED BY THE ENGINEER.

FOR THIS PROJECT, REFLECTIVE SURFACES ON CHANNELIZING DEVICES SUCH AS CONES, VERTICAL PANELS, DRUMS AND BARRICADES SHALL BE THE HIGH SPECIFIC INTENSITY TYPE, FLAT SURFACE, REFLECTIVE SHEETING AND SHALL CONFORM WITH DEPARTMENTAL MATERIALS SPECIFICATION, "FLAT SURFACE REFLECTIVE SHEETING", D-9-8300, TYPE C. REFLECTIVE SURFACES ON SIGNS SHALL CONFORM WITH DEPARTMENTAL MATERIALS SPECIFICATION D-9-8300, TYPE C.

THE CONTRACTOR'S PARTICULAR ATTENTION IS DIRECTED TO THE REQUIREMENTS OF ITEM 7, "LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC", OF THE STANDARD SPECIFICATIONS. IN ADDITION TO ITEM 7, THE FOLLOWING REQUIREMENTS SHALL ALSO GOVERN ON THIS PROJECT:

THROUGHOUT THE CONSTRUCTION, ALL CROSS STREETS, DRIVEWAYS AND ALLEYS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES UNLESS SPECIFICALLY STATED OTHERWISE HEREIN OR DIRECTED BY THE ENGINEER. TEMPORARY LANE CLOSURES ARE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 3:00 P.M. OR AS DIRECTED BY THE ENGINEER.

ACCESS TO ABUTTING PROPERTY ALONG THE PROPOSED SERVICE ROADS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE ENTIRE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE FOR THE PASSAGE OF TRAFFIC IN COMFORT AND SAFETY AS SPECIFIED HEREIN OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL PLAN HIS WORK SEQUENCE IN A MANNER THAT WILL CAUSE THE MINIMUM INTERFERENCE WITH TRAFFIC DURING CONSTRUCTION OPERATIONS. BEFORE BEGINNING WORK ON THIS PROJECT, THE CONTRACTOR SHALL SUBMIT, FOR APPROVAL BY THE ENGINEER, A PLAN OF CONSTRUCTION OPERATIONS OUTLINING

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 502:, CONT'D
IN DETAIL A SEQUENCE OF WORK TO BE FOLLOWED, SETTING OUT THE METHOD OF HANDLING TRAFFIC ALONG, ACROSS AND ADJACENT TO THE WORK.

IF, AT ANY TIME DURING CONSTRUCTION, THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR SAFE, COMFORTABLE MOVEMENT, THE CONTRACTOR SHALL IMMEDIATELY CHANGE HIS OPERATION TO CORRECT THE UNSATISFACTORY CONDITION. THE CONTRACTOR SHALL CONDUCT THE CONSTRUCTION OPERATIONS SO AS TO CAUSE AS LITTLE INCONVENIENCE TO THE TRAVELLING PUBLIC AS POSSIBLE. THE SEQUENCE OF WORK, AS OUTLINED ON THE PLANS, SHALL BE USED AS A GUIDE ONLY AND MAY BE REVISED BY THE CONTRACTOR WITH APPROVAL OF THE ENGINEER.

CONSTRUCTION SHALL BE ACCOMPLISHED IN THREE (3) STAGES AS SHOWN ON THE SEQUENCE OF WORK SHEETS. ALL WORK IN ANY GIVEN STAGE SHALL BE COMPLETED PRIOR TO INITIATING CONSTRUCTION ON THE ENSUING STAGE UNLESS OTHERWISE APPROVED BY THE ENGINNER.

THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE DURING ALL STAGES OF CONSTRUCTION ON THIS PROJECT. DRAINAGE FACILITIES SHALL BE CONSTRUCTED WHEREVER AND WHENEVER POSSIBLE AS THEY RELATE TO EACH STAGE OF CONSTRUCTION.

PRIOR TO CONSTRUCTION, IN THE INTERIM BETWEEN CONSTRUCTION PHASES AND AFTER CONSTRUCTION WORK IS COMPLETED, THE CONTRACTOR SHALL REMOVE PAVEMENT MARKINGS THAT CONFLICT WITH TEMPORARY OR PERMANENT PAVEMENT MARKINGS. THESE PAVEMENT MARKINGS SHALL BE REMOVED TO THE FULLEST EXTENT POSSIBLE SO AS NOT TO LEAVE A DISCERNABLE MARK BY ANY METHOD THAT DOES NOT MATERIALLY DAMAGE THE SURFACE OR TEXTURE OF THE PAVEMENT. THE CONTRACTOR SHALL MAINTAIN ADEQUATE PAVEMENT MARKINGS DURING CONSTRUCTION.

DURING CONSTRUCTION, THE CONTRACTOR SHALL FURNISH, PLACE AND MAINTAIN, IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", ALL VERTICAL PANELS AND/OR DRUMS ALONG THE EDGE OF PAVEMENTS AND FILLS. THE VERTICAL PANELS AND/OR DRUMS SHALL BE SUPPLEMENTED WITH LIGHTS AS DIRECTED BY THE ENGINEER.

BARRICADES AND SIGNS SHALL BE PLACED IN SUCH A MANNER AS NOT TO INTERFERE WITH THE SIGHT DISTANCE OF DRIVERS ENTERING THE HIGHWAY FROM SIDE STREETS. TO FACILITATE SHIFTING, BARRICADES AND SIGNS USED IN LANE CLOSURES OR TRAFFIC STAGING MAY BE ERECTED AND MOUNTED ON PORTABLE SUPPORTS. THE DESIGN OF THESE SUPPORTS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15H
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 502:, CONT'D
BARRICADES AND WARNING SIGNS, AS APPROPRIATE, SHALL BE PLACED AT STOCKPILES TO ADEQUATELY WARN MOTORISTS. AT ALL STOCKPILE SITES THAT ARE LESS THAN THIRTY (30) FEET FROM THE EDGE OF ANY TRAVEL LANE, A TYPE III BARRICADE SHALL BE ERECTED IMMEDIATELY IN FRONT OF OR AT EACH END IF REQUIRED. WHEN A STOCKPILE SITE EQUALS OR EXCEEDS ONE HUNDRED (100) FEET IN LENGTH, ONE (1) OBJECT MARKER (OM-2HP) PER ONE HUNDRED (100) FEET SHALL BE PLACED ALONGSIDE THE STOCKPILE. THESE MARKERS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 502.

THE CONTRACTOR SHALL KEEP TRAVEL SURFACES USED IN HIS HAULING OPERATION CLEAR AND FREE OF DIRT, DEBRIS OR OTHER MATERIALS.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FLAGGERS, AT SUCH POINTS AND FOR SUCH PERIODS OF TIME AS MAY BE REQUIRED, TO PROVIDE FOR THE SAFETY AND CONVENIENCE OF PUBLIC TRAVEL AND CONTRACTOR PERSONNEL, AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR WILL NOT BE PERMITTED TO COMMENCE WORK ON THE ROAD BEFORE SUNRISE AND SHALL ARRANGE HIS WORK SO THAT NO MACHINERY OR EQUIPMENT WILL BE CLOSER THAN THRITY (30) FEET TO THE TRAVELLED ROADWAY AFTER SUNSET UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

YELLOW FLASHING WARNING LIGHTS SHALL BE PROVIDED FOR THESE WARNING (CW) SIGNS TO REMAIN IN PLACE DURING NIGHTIME HOURS. LIGHTS WILL NOT BE REQUIRED ON SIGNS OUTSIDE BARRICADED AREAS UNLESS SPECIFICALLY INDICATED ON BARRICADE AND CONSTRUCTION (BC) STANDARDS.

RUBBER-TIRED EQUIPMENT SHALL BE USED FOR MOVING DIRT OR OTHER MATERIALS ALONG OR ACROSS PAVED SURFACES.

WHERE THE CONTRACTOR DESIRES TO MOVE ANY EQUIPMENT, NOT LICENSED FOR OPERATION ON PUBLIC HIGHWAYS, ON OR ACROSS ANY PAVEMENT, HE SHALL PROTECT THE PAVEMENT FROM ALL DAMAGE AS DIRECTED BY THE ENGINEER.

THROUGHOUT CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL CONDUCT HIS HAULING OPERATIONS IN A MANNER SUCH THAT VEHICLES SHALL NOT HAUL OVER PREVIOUSLY RECOMPACTED SUBGRADE OR COMPACTED BASE MATERIAL, EXCEPT IN SHORT SECTIONS FOR DUMPING MANIPULATIONS.

UPON COMPLETION OF THE WORK AND BEFORE ACCEPTANCE IS MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE SITE ALL SURPLUS AND DISCARDED MATERIALS AND DEBRIS OF EVERY KIND AND LEAVE THE ENTIRE PROJECT IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 502:, CONT'D

WHEN EXCAVATION IS REQUIRED NEXT TO A PAVEMENT LANE CARRYING TRAFFIC AND WIDENING IS NOT COMPLETED WITHIN FORTY EIGHT (48) HOURS, SUFFICIENT BACKFILL SHALL BE PLACED AGAINST THE EDGE OF THE PAVEMENT TO PROVIDE A USUAL 3:1 SLOPE. THE BACKFILL USED BY THE CONTRACTOR SHALL BE A DURABLE CRUSHED STONE TYPE OF FLEXIBLE BASE. WHEN THE PAVEMENT IS TO BE CONSTRUCTED, THIS BACKFILL SHALL BE CAREFULLY REMOVED AND DISPOSED OF BY THE CONTRACTOR. MATERIALS AND LABOR FOR THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THIS ITEM.

TEMPORARY FLEXIBLE-REFLECTIVE TABS SHALL BE USED ON TOP OF THE PORTABLE CONCRETE TRAFFIC BARRIER USED DURING STAGE CONSTRUCTION TO IMPROVE NIGHTIME VISIBILITY. THE TABS SHALL BE PLACED AT ONE HUNDRED FOOT SPACINGS ON TANGENTS AND FIFTY (50) FOOT SPACINGS ON CURVES.

ITEM 504:

THE CONTRACTOR SHALL FURNISH ONE (1) TYPE "B" FIELD OFFICE AND ONE (1) TYPE "E" LABORATORY AT THE PROJECT SITE. THE FIELD OFFICE SHALL BE ADEQUATELY FURNISHED AND MAINTAINED TO PERFORM ALL OFFICE FUNCTIONS NECESSARY FOR A PROJECT OF THIS SIZE, DURATION AND STAFFING. THESE FURNISHINGS INCLUDE ELECTRONIC (I.E., FACSIMILE MACHINE, COPIER AND SUPPLIES, AND COMPUTER WITH INTERNET AND E-MAIL CAPABILITIES). THE OFFICE AND ITS CONTENTS WILL BE SUBJECT TO APPROVAL BY THE ENGINEER.

THE CONTRACTOR SHALL ALSO FURNISH ONE (1) TYPE "D" STRUCTURE AT THE ASPHALT MIXING PLANT AND ONE (1) TYPE "A" STRUCTURE AT THE CONCRETE PLANT. THE TYPE "D" STRUCTURE SHALL CONFORM TO TYPE "B" FIELD OFFICE AND LABORATORY AND SHALL INCLUDE TWO (2) DESKS, TWO (2) TABLES AND A MINIMUM OF FIVE (5) CHAIRS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MONTHLY PAYMENTS FOR TELEPHONE SERVICE AT EACH FIELD LABORATORY AND OFFICE. EACH FIELD OFFICE AND LABORATORY SHALL BE FURNISHED WITH COOL POTABLE WATER.

THE TYPE "B" FIELD OFFICE SHALL BE PROVIDED BEFORE WORK ON THE PROJECT HAS BEGUN AND SHALL REMAIN IN PLACE UNTIL THE PROJECT IS ACCEPTED BY THE STATE AS COMPLETE, INCLUDING ALL PAPERWORK, UNLESS EARLIER REMOVAL IS AUTHORIZED BY THE ENGINEER.

AN ALL WEATHER PAVED PARKING AREA FOR STATE VEHICLES SHALL BE PROVIDED ADJACENT TO THE FIELD OFFICE. THE ENTIRE AREA SHALL BE ENCLOSED IN A SIX (6) FOOT HIGH FENCE. A LOCKABLE VEHICLE GATE SHALL BE PROVIDED.

REVISED 6-28-99 VLW II

F.R. DIV.6 | TEXAS | NH 99(367) | SHEET 151
ROCKWALL COUNTY | HWY SH 66 | CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 504:, CONT'D

THE CONTRACTOR SHALL SUBMIT THE OFFICE LAYOUT PLAN TO THE ENGINEER FOR APPROVAL.

ALL BEAM TANKS SHALL BE ELEVATED A MINIMUM OF ONE (1) FOOT ABOVE THE GROUND.

ITEM 508:

THE VARIOUS MATERIALS USED IN THE CONSTRUCTION OF TEMPORARY DETOURS ON THIS PROJECT WILL NOT REQUIRE NORMAL TESTING PROCEDURES AS REQUIRED BY THE PERTINENT BID ITEMS THAT ARE USED IN PERMANENT CONSTRUCTION.

THE REMOVAL OF THE ASPHALTIC CONCRETE PAVEMENT AND LEVELING PADS FROM THE DETOURS SHALL BE IN ACCORDANCE WITH ITEM 354, "PLANING AND/OR TEXTURING PAVEMENT". THE MATERIAL SHALL THEN BE HAULED AND STOCKPILED BY THE CONTRACTOR AT THE MAINTENANCE YARD LOCATED AT 901 EAST I.H. 30, IN ROCKWALL, TEXAS, OR AT A LOCATION DESIGNATED BY THE ENGINEER.

ALL SIDE SLOPES ASSOCIATED WITH DETOURS SHALL BE INSTALLED TO THE SATISFACTION OF THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN DETOURS IN GOOD CONDITION (REPAIRING POTHOLES, ETC.), AS DIRECTED BY THE ENGINEER, AT HIS EXPENSE.

ITEM 512:

6,800 LINEAR FEET OF LOW PROFILE PORTABLE CONCRETE TRAFFIC BARRIER (PCTB) WILL BE FURNISHED BY THE DEPARTMENT FOR THIS PROJECT. THE BARRIER SECTIONS ARE STOCKPILED AT A SITE BENEATH THE S.L. & S.F. RAILROAD OVERPASS ON I.H. 635, WEST OF I.H. 35E IN FARMERS BRANCH, TEXAS, OR AT A LOCATION DESIGNATED BY THE ENGINEER.

ALL PCTB SHALL BE NUMBERED AND REPAIRED TO THE ENGINEER'S SATISFACTION PRIOR TO ITS RETURN TO THE STOCKPILE. ANY DAMAGE DONE IN TRANSIT SHALL BE REPAIRED BY THE CONTRACTOR AT THE STOCKPILE.

THE HARDWARE SHALL BE TAKEN TO THE NORTHSIDE MAINTENANCE YARD AT 12000 GREENVILLE AVENUE, DALLAS, TEXAS. THE HARDWARE SHALL BE CLEAN AND STRAIGHT, AS DETERMINED BY THE ENGINEER. THE HARDWARE SHALL BE STACKED AND SECURED TO PALLETS IN SUCH A MANNER TO ALLOW FOR EASY AND ACCURATE COUNTING. THE PROPER NUMBER OF NUTS AND WASHERS SHALL BE ATTACHED TO

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 512:, CONT'D
EACH BOLT IN THE STACK. EXCESS WASHERS AND NUTS, NOT ATTACHED TO BOLTS, SHALL BE RETURNED IN FIVE (5) GALLON PAILS THAT PROVIDE FOR DRAINAGE OF RAIN WATER.

ITEM 529:

THE DOWELED CURB SHALL HAVE GROOVED JOINTS PLACED AT TEN (10) FOOT INTERVALS AND 3/4-INCH EXPANSION JOINT MATERIAL PROVIDED AT THE SAME LOCATIONS AS ON THE EXISTING PAVEMENT.

ITEM 530:

CONCRETE FOR DRIVEWAYS SHALL BE CLASS "K" AND THE MIX DESIGN SHALL CONFORM TO THE REQUIREMENTS INDICATED IN ITEM 361. THE CONCRETE MIX SHALL ATTAIN A FLEXURAL STRENGTH OF THREE HUNDRED (300) POUNDS PER SQUARE INCH FOUR (4) HOURS AFTER PLACEMENT.

TYPICAL SECTIONS FOR ALL DRIVEWAYS AND TYPICAL SECTIONS FOR THE STREETS OF FIRST STREET, WEST STREET, WILLOWBEND STREET AND ALAMO STREET SHALL BE SIX (6) INCH CONCRETE PAVING WITH EMBANKMENT BASE AS DIRECTED BY THE ENGINEER.

ALL DRIVEWAYS SHALL BE OPENED AFTER THE FLEXURAL STRENGTH OF THREE HUNDRED (300) POUNDS PER SQUARE INCH HAS BEEN OBTAINED. ALL TEST SPECIMENS REPRESENTING TESTS FOR OPENING TRAFFIC SHALL BE CURED USING THE SAME TEST METHODS AND CONDITIONS AS THE CONCRETE REPRESENTS.

FOR CONCRETE DRIVEWAYS, EITHER TYPE 1-D OR TYPE 2 MEMBRANE CURING COMPOUND MAY BE USED. ONE-HALF (1/2) INCH TIMBER BOARD SHALL BE USED AS EXPANSION JOINT MATERIAL BETWEEN ROADWAY AND DRIVEWAY SURFACES AND SHALL CONFORM TO SPECIFICATIONS INDICATED IN ITEM 433.

THE MONOLITHIC CURB TO BE CONSTRUCTED ON DRIVEWAYS SHALL BE BUILT TO THE SAME DIMENSIONS AS "MONO CURB TY I". THIS CURB WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THIS ITEM.

CURBS FOR DRIVEWAYS, AS SHOWN ON MISCELLANEOUS DETAIL SHEETS, WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THIS ITEM.

DRIVEWAY LOCATIONS SHOWN ARE SUBJECT TO CHANGE TO SUIT ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND MAY BE SHIFTED AS DIRECTED

F.R. DIV.6	TEXAS	NH 99(367)	SHEET 15J
ROCKWALL	COUNTY	HWY SH 66	CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 530:, CONT'D
BY THE ENGINEER.

ITEM 531:

THE CONCRETE SURFACE FOR WHEELCHAIR RAMPS SHALL HAVE A ROUGH NON-SKID TYPE FINISH.

CURBS FOR WHEELCHAIR RAMPS, AS SHOWN ON MISCELLANEOUS PAVING DETAIL SHEETS, WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 531.

SIDEWALK RAMPS SHALL BE INSTALLED AT ALL SIDEWALK-CROSSING LOCATIONS TO THE SATISFACTION OF THE ENGINEER. THESE RAMPS SHALL BE IN CONFORMANCE TO THE DETAILS SHOWN ON THE PLANS. THE RAMPS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED SUBSIDARY TO ITEM 531.

ITEM 534:

SUPPORT SLABS AT APPROACH SLABS SHALL BE PAID FOR AS "STRUCT APPROACH SLABS". STRUCTURAL EXCAVATION FOR THE CONSTRUCTION OF SUPPORT SLABS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 534.

ITEM 536:

SPRINKLER CONTROL SYSTEMS ON LAKESHORE DRIVE, SOUTH OF S.H. 66, (IN (THE MEDIAN), SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND TO THE SATISFACTION OF THE CITY OF ROCKWALL. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 536.

CONCRETE MEDIANS AND DIRECTIONAL ISLANDS SHALL BE CLASS "B" CONCRETE. A 3/4 INCH ASPHALT BOARD EXPANSION JOINT MATERIAL SHALL BE PLACED AT FIFTEEN (15) FOOT SPACINGS AND ADJACENT TO ALL CURBS.

ITEM 540:

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 540:, CONT'D
THE TOPS OF THE TIMBER POSTS SHALL BE DOMED.

TIMBER POSTS FOR METAL BEAM GUARD FENCE SHALL BE UNPAINTED.

POSTS FOR RAIL ON THE BRIDGE STRUCTURES AND POSTS FOR RAIL ON THE BRIDGE CAUSEWAY SHALL BE STEEL.

ITEM 542:

ALL METAL BEAM GUARD FENCE REMOVED FROM THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT HIS EXPENSE.

ITEM 556:

THE FILTER MATERIAL INTENDED FOR USE WITH THE RETAINING WALL SHALL CONFORM TO THE REQUIREMENTS OF ITEM 421, TABLE 1, GRADES 3, 6 OR 7 AGGREGATE.

ITEM 610:

LUMINAIRE BALLASTS SHALL BE RATED FOR OPERATION AT TWO HUNDRED AND FORTY (240) VOLTS.

WHEN LUMINAIRES ARE TO BE INSTALLED ON STEEL MAST ARM POLES, A SEPARATE TERMINAL STRIP IN THE SIGNAL POLE ACCESS COMPARTMENT SHALL BE PROVIDED. THE TERMINAL STRIP SHALL BE FOUR (4) CIRCUIT BUCHANAN TYPE 104SN OR KULKA TYPE 985-GP-4 OR EQUIVALENT.

THE CONDUCTORS FROM THE SERVICE POLE TO THE TERMINAL STRIP SHALL BE NO. 8 XHHW WIRE. THE CONDUCTORS FROM THE TERMINAL STRIP TO THE LUMINAIRE SHALL BE NO. 12 XHHW WIRE.

ITEM 618:

THE CONTRACTOR SHALL SECURE PERMISSION FROM THE PROPER AUTHORITY AND THE APPROVAL OF THE ENGINEER BEFORE CUTTING INTO OR REMOVING ANY

REVISED 6-28-99 VLWJL

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15K
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 618:, CONT'D
SIDEWALKS OR CURBS, WHICH MIGHT BE REQUIRED IN MAKING THE INSTALLATION.

THE LOCATION OF CONDUITS AND GROUND BOXES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE ENGINEER TO ACCOMMODATE FIELD CONDITIONS.

CONDUIT SHALL BE PLACED UNDER EXISTING PAVEMENT BY AN APPROVED BORING METHOD UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PITS FOR BORING SHALL NOT BE CLOSER THAN TWO (2) FEET FROM THE EDGE OF THE PAVEMENT UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WATER JETTING WILL NOT BE PERMITTED.

WHEN BORING IS USED FOR UNDER PAVEMENT CONDUIT INSTALLATIONS, THE MAXIMUM ALLOWABLE OVERCUT SHALL BE ONE (1) INCH IN DIAMETER.

WHEN CONDUITS ARE BORED, THE VERTICAL AND HORIZONTAL TOLERANCES SHALL NOT EXCEED EIGHTEEN (18) INCHES AS MEASURED FROM THE INTENDED TARGET POINT.

THE USE OF A PNEUMATICALLY DRIVEN DEVICE FOR PUNCHING HOLES BENEATH THE PAVEMENT (COMMONLY KNOWN AS A "MISSILE") WILL NOT BE PERMITTED ON THIS PROJECT.

THE CONTRACTOR SHALL INSTALL A NON-METALLIC PULL ROPE IN CONDUIT RUNS IN EXCESS OF FIFTY (50) FEET.

A COLORED CLEANER-PRIMER SHALL BE USED ON ALL PVC TO PVC JOINTS BEFORE APPLICATION OF PVC CEMENT.

ALL PROPOSED CONDUIT SHALL BE PLACED BY THE OPEN TRENCH METHOD BELOW THE PROPOSED SUBGRADE, UNLESS OTHERWISE INDICATED ON THE PLANS. IF THE CONTRACTOR FAILS TO PLACE THE CONDUIT AS PROPOSED, THEN HE CAN CHOOSE OTHER METHODS SUCH AS BORING OR OPEN CUTTING NEW PAVEMENT AS APPROVED BY THE ENGINEER, AND AT NO ADDITIONAL COST TO THE STATE.

CONDUIT INSTALLED FOR FUTURE USE SHALL HAVE NON-METALLIC PULL ROPES INSTALLED AND SHALL BE CAPPED USING STANDARD WEATHER TIGHT CONDUIT CAPS, AS APPROVED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THIS ITEM.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT CERTAIN EXISTING CONDUIT IS PROPOSED FOR REUSE. IF THE EXISTING CONDUIT CANNOT BE USED, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE THIS CONDUIT, AS DIRECTED BY THE ENGINEER. REPAIR OF THIS CONDUIT WILL BE PAID FOR AS "EXTRA WORK" ON A "FORCE ACCOUNT BASIS". THE CONTRACTOR SHALL PROBE

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 618:, CONT'D
THE EXISTING CONDUIT WHEN LOCATING DRILL SHAFTS SO THAT ITS CONDITION WILL BE KNOWN BEFORE IT IS NEEDED.

WHEN USING EXISTING CONDUIT, THE CONTRACTOR SHALL ENSURE THAT ALL CONDUIT HAVE BUSHINGS AND ARE CLEANED OF MUD AND DEBRIS. CONDUIT THAT IS BEING RELOCATED TO NEW TIMBER POLES SHALL BE RESTRAPPED AS IF IT WERE A NEW INSTALLATION. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 618.

THE CONTRACTOR SHALL INSTALL CONDUIT FOR FUTURE LIGHTING AND IRRIGATION WORK IN THE FOLLOWING SIZES AND LOCATIONS:

2" SCHED 40 PVC CONDUIT CROSSING RUSK ST. FOR FUTURE STREET LIGHTS
50 LF 459+77
50 LF 463+80
50 LF 467+70
50 LF 470+30
50 LF 473+92
50 LF 478+35

4" SCHED 40 PVC RUNNING PARALLEL TO SH66 (RUSK ST., NORTH SIDE)
55 LF 461+75 TO 462+30 CROSSING WILLOWBEND PARK
80 LF 468+60 TO 469+40 CROSSING LAKE SHORE DRIVE NORTH
30 LF 470+55 TO 470+85 CROSSING 24' DRIVE
20 LF 481+65 TO 481+85 CROSSING 12' DRIVE
20 LF 483+65 TO 483+85 CROSSING 12' DRIVE
45 LF 484+60 TO 485+05 CROSSING 11' AND 14' DRIVE
40 LF 488+80 TO 489+20 CROSSING 1ST STREET
35 LF 490+40 TO 490+75 CROSSING 21' DRIVE

4" SCHED 40 PVC RUNNING PARALLEL TO SH66 (RUSK ST., SOUTH SIDE)
40 LF 486+60 TO 487+00 CROSSING 2ND STREET
30 LF 488+70 TO 489+00 CROSSING 26' DRIVE
30 LF 489+50 TO 489+80 CROSSING 15' DRIVE
20 LF 490+00 TO 490+20 CROSSING 15' DRIVE

4" SCHED 40 PVC RUNNING PARALLEL TO SH66 (WASHINGTON ST.NORTH SIDE)
30 LF 486+20 TO 486+50 CROSSING 2ND STREET
30 LF 486+75 TO 487+05 CROSSING 20' DRIVE
35 LF 490+80 TO 491+15 CROSSING 29' DRIVE
15 LF 492+20 TO 492+35 CROSSING 13' DRIVE

4" SCHED 40 PVC RUNNING PARALLEL TO SH66 (SOUTH SIDE)
30 LF 462+70 TO 463+00 CROSSING 21' DRIVE
75 LF 468+75 TO 469+50 CROSSING LAKE SHORE DRIVE SOUTH

REVISED 6-28-99 VLW II

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15L
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 618:, CONT'D
50 LF 471+05 TO 471+55 CROSSING 36' DRIVE
50 LF 472+60 TO 473+10 CROSSING 45' DRIVE
25 LF 480+70 TO 480+95 CROSSING 16' DRIVE
30 LF 481+40 TO 481+70 CROSSING 15' DRIVE
15 LF 483+95 TO 484+10 CROSSING 9' DRIVE

4" SCHED 40 PVC CONDUIT CROSSING RUSK ST. FOR FUTURE STREET LIGHTS
50 LF 460+00
50 LF 465+00
50 LF 470+10
50 LF 480+00
50 LF 486+10
50 LF 486+95

THE ABOVE QUANTITIES/LENGTHS ARE APPROXIMATE. THE SLEEVES SHALL EXTEND THREE TO FIVE FEET (3-5') BEYOND THE EDGE OF THE PAVEMENT UNDER WHICH THE SLEEVE RUNS.

ITEM 624:

WHEN USING EXISTING GROUND BOXES, THE CONTRACTOR SHALL ENSURE THAT THE GROUND BOXES ARE CLEAN, PROPERLY SECURED AND HAVE A MINIMUM OF NINE (9) INCHES OF GRAVEL AS A BASE. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 624.

ALL GROUND BOXES SHALL HAVE "SIGNALS" IMPRINTED ON THE COVER.

ITEM 627:

THE TIMBER POLE HEIGHTS SHOWN ON THE PLANS AND ON THE MATERIAL SUMMARY ARE TO BE USED FOR BIDDING PURPOSES ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR, IN COOPERATION WITH THE ENGINEER, SHALL MAKE FIELD MEASUREMENTS TO DETERMINE THE ACTUAL POLE HEIGHT NECESSARY TO ENSURE A VERTICAL CLEARANCE OF SEVENTEEN (17) FEET MINIMUM, NINETEEN (19) FEET MAXIMUM FROM THE HIGHEST POINT ON THE ROADWAY SURFACE TO THE SPAN. THESE FIELD MEASUREMENTS AND ELEVATIONS SHALL BE DETERMINED FROM THE ACTUAL FIELD LOCATION OF THE POLES, CONSIDERING ALL ABOVE AND BELOW GROUND UTILITIES AND THE EXISTING ROADWAY ELEVATIONS.

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 628:

CONCRETE FOR SERVICE POLE FOUNDATIONS, WHEN REQUIRED, SHALL BE CLASS A AND SHALL BE IN ACCORDANCE WITH ITEM 421, "PORTLAND CEMENT CONCRETE", EXCEPT THAT CONCRETE WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 628. REINFORCING STEEL FOR SERVICE POLE FOUNDATIONS, WHEN REQUIRED, SHALL BE IN ACCORDANCE WITH ITEM 440, "REINFORCING STEEL", EXCEPT THAT REINFORCING STEEL WILL NOT PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 628.

CONDUIT AND CONDUCTORS ATTACHED TO THE SERVICE POLE AND UNDERGROUND WITHIN TWELVE (12) INCHES OF THE SERVICE POLE WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUDSIDIARY TO THIS ITEM.

SERVICE ENCLOSURE SHALL BE ATTACHED WITH GALVANIZED CHANNEL (UNISTRUT, KINDORF OR EQUAL). THE POLE SHALL BE NOTCHED IN TWO (2) PLACES TO PROVIDE FLAT SURFACES. THE ENDS OF THE CHANNEL SHALL BE PAINTED WITH ZINC RICH PAINT.

THE ELECTRICAL SERVICE FOR THIS PROJECT SHALL BE BILLED IN THE NAME OF THE STATE.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THE SERVICES SPECIFIED AT THE INTERSECTIONS OF S.H. 66 WITH SCENIC DRIVE AND S.H. 66 WITH LAKESHORE DRIVE SHALL BE EQUIPPED WITH ONE (1) SPARE TWENTY (20) AMP BREAKER EACH. THIS IS TO ALLOW SWITCHOVER FROM TEMPORARY SIGNALS TO PERMANENT SIGNALS.

ITEM 644:

THE CONTRACTOR SHALL PROVIDE FIELD GALVANIZING AND METALLIZING EQUIPMENT, AS PER ITEM 445, AT ALL TIMES AND SHALL MAKE REPAIRS TO GALVANIZED SURFACES ACCORDING TO THE ABOVE SPECIFICATION ITEM AT INTERVALS AS DIRECTED BY THE ENGINEER.

ANY SIGNS REQUIRED THAT ARE NOT DETAILED ON THE PLAN SHEETS SHALL BE IN CONFORMANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND THE "STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS".

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THERE ARE SIGNS DESIGNATED AS TYPE "RM" AND "F-SPECIAL" IN THE ESTIMATE AND SIGNING SUMMARIES. THIS IS FOR ESTIMATE PURPOSES AND THE FOLLOWING IS THE

REVISED 6-28-99 VLW II

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 1SM
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 644:, CONT'D
NUMBER AND TYPE OF "F-SPECIAL" SIGN IN THIS PROJECT:

TWO (2) EACH - FOLDING SIGN ("ICE ON BRIDGE")
SEVENTEEN (17) EACH - RAIL MOUNTED SIGNS

THE FOLLOWING IS THE NUMBER AND TYPE OF "RM" SIGNS IN THIS PROJECT:

ONE (1) EACH - RAIL MOUNTED SIGN

INDIVIDUAL SIGNS REQUIRING CLEANING SHALL BE WASHED WITH AN APPROVED CLEANING SOLUTION TO REMOVE ALL GREASE, OIL, DIRT, SMEARS, STREAKS AND OTHER FOREIGN PARTICLES.

ITEM 656:

THE TOP TWO (2) INCHES OF DRILL SHAFTS SHALL BE FORMED OR PROVIDED A SMOOTH FINISH SATISFACTORY TO THE ENGINEER. ALL WORK AND MATERIALS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 656.

A 3/4 INCH CHAMFER SHALL BE FORMED ON THE TOP EDGE OF EACH SIGNAL POLE FOUNDATION.

THE CONTRACTOR SHALL PROBE BEFORE DRILLING FOUNDATIONS TO DETERMINE THE LOCATION OF UTILITIES AND STRUCTURES. FOUNDATIONS WILL BE PAID FOR ONCE REGARDLESS OF EXTRA WORK CAUSED BY OBSTRUCTIONS. THE CONTRACTOR SHALL CALL THE DISTRICT UTILITY SECTION AT 214-320-6270 FOR STATE MAINTAINED UTILITY LOCATIONS.

ITEM 662:

ALL ELIMINATION OF WORK ZONE PAVEMENT MARKINGS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 662.

ITEM 666:

THE CONTRACTOR SHALL USE TYPE B MATERIALS IN CONFORMANCE TO DEPARTMENTAL MATERIALS SPECIFICATIONS D-9-8220.

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 666:, CONT'D
ALL PAVEMENT MARKINGS SHALL BE APPLIED BY EXTRUSION.

ALL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).

ITEM 668:

AT S.H. 66 AND DALROCK ROAD AND AT S.H. 66 AND S.H. 205, PEDESTRIAN SIGNAL HEADS SHALL EITHER BE COVERED WITH BURLAP OR OTHER MATERIAL APPROVED BY THE ENGINEER OR BE REMOVED DURING CONSTRUCTION AND THEN UNCOVERED OR REINSTALLED AFTER CONSTRUCTION IS COMPLETE.

ITEM 680:

THIS PROJECT SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND EQUIPMENT NECESSARY FOR A COMPLETE SIGNAL SYSTEM AT THE PROPOSED LOCATION. IN ADDITION TO THESE ITEMS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:

1. FURNISHING AND INSTALLING ALL SIGNS FOR MOUNTING ON SIGNAL POLES AND MAST ARMS. THESE SIGNS SHALL BE FURNISHED IN ACCORDANCE WITH ITEM 636, WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 680. SIGNS SHALL BE MOUNTED WITH ASTRO-SIGN BRAC OR SIGNFIX ALUMINUM CHANNEL OR EQUAL AS APPROVED BY THE ENGINEER. FIVE (5) SETS OF SHOP DRAWINGS SHALL BE SUBMITTED FOR STREET NAME SIGNS.

2. SUBMITTAL LITERATURE SHALL BE PROVIDED FOR ALL CONTRACTOR SUPPLIED TRAFFIC SIGNAL EQUIPMENT PRIOR TO INSTALLATION.

3. THE CONTRACTOR SHALL HAVE A QUALIFIED TECHNICIAN ON THE PROJECT SITE TO PLACE THE TRAFFIC SIGNALS IN OPERATION.

4. DURING THE THIRTY (30) DAY TEST PERIOD, THE CONTRACTOR SHALL UTILIZE QUALIFIED PERSONNEL TO RESPOND TO AND DIAGNOSE ALL TROUBLE CALLS. HE SHALL REPAIR ANY MALFUNCTIONS TO SIGNAL EQUIPMENT HE SUPPLIED ON THE PROJECT. A LOCAL TELEPHONE NUMBER (NOT SUBJECT TO FREQUENT CHANGES) WHERE TROUBLE CALLS ARE TO BE RECEIVED ON A 24 HOUR BASIS SHALL BE PROVIDED TO THE ENGINEER BY THE CONTRACTOR. THE CONTRACTOR'S RESPONSE TIME TO REPORTED CALLS SHALL BE WITHIN A REASONABLE TRAVEL

REVISED 6-28-99 VLW

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15N
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 680:, CONT'D
TIME FROM A DALLAS ADDRESS, BUT NOT MORE THAN TWO (2) HOURS MAXIMUM. APPROPRIATE REPAIRS SHALL BE MADE WITHIN 24 HOURS. THE CONTRACTOR SHALL PLACE A LOG BOOK IN EACH CONTROLLER CABINET AND KEEP A RECORD OF EACH TROUBLE CALL REPORTED. HE SHALL NOTIFY THE ENGINEER OF EACH TROUBLE CALL. THE ERROR LOG IN THE CONFLICT MONITOR SHALL NOT BE CLEARED DURING THE THIRTY (30) DAY TEST PERIOD WITHOUT THE APPROVAL OF THE ENGINEER.

5. THE CONTRACTOR SHALL PLACE DUCT FOAM AT THE ENDS OF ALL CONDUIT WHERE CONDUCTORS AND/OR CABLES ARE PRESENT AND REQUIRED FOR THE INTENDED OPERATION OF THE TRAFFIC SIGNALS.

6. THE CONTRACTOR SHALL INSTALL THE OPTICOM EQUIPMENT PROVIDED BY THE CITY. NOTE THAT FOR THE INTERSECTIONS OF DALROCK ROAD AND S.H. 66 AND OF SCENIC DR. AND S.H. 66, THE CITY OF ROWLETT WILL SUPPLY ONLY THE CABLE. THE EXISTING OPTICOM EQUIPMENT OTHER THAN THE CABLE SHALL BE REMOVED AND REINSTALLED ON THE NEW TRAFFIC SIGNALS. ALSO NOTE THAT AT THE INTERSECTION OF RUSK STREET AND GOLIAD STREET, THE EXISTING OPTICOM CABINET AND OTHER EQUIPMENT SHALL BE REMOVED AND REINSTALLED.

7. THE NEW CONTROLLER UNIT AT SCENIC DRIVE SHALL BE COMPATIBLE WITH THE EXISTING CLOSED-LOOP SYSTEM MASTER CONTROLLER LOCATED AT KIRBY ROAD/LIBERTY GROVE ROAD AND S.H. 66.

8. THE NEW CONTROLLER UNITS AT LAKESHORE DRIVE AND S.H. 66, AT WASHINGTON STREET AND GOLIAD STREET AND AT RUSK STREET AND GOLIAD STREET SHALL BE COMPATIBLE WITH THE EXISTING CLOSED-LOOP SYSTEM MASTER CONTROLLER LOCATED AT I.H. 30 AND F.M. 740.

9. THE CONTRACTOR SHALL UPGRADE THE SOFTWARE TO THE LATEST RELEASED VERSION IN ALL THE EXISTING CONTROLLERS THAT ARE ON THE CLOSED LOOP SYSTEMS INVOLVED.

10. THE CONTRACTOR SHALL NOTIFY THE TXDOT TRAFFIC SIGNAL MAINTENANCE OFFICE AT 214-320-6682 ONE (1) WEEK PRIOR TO BEGINNING ANY WORK INVOLVING THE EXISTING TRAFFIC SIGNAL SYSTEM ON S.H. 66.

11. THE CONTRACTOR SHALL INSTALL LED SIGNAL LAMPS IN THE SIGNAL SECTIONS AS SHOWN ON THE PLANS. THE STATE WILL PROVIDE THE LED SIGNAL LAMPS. THE CONTRACTOR SHALL PICK UP THE LAMPS AT THE DALLAS DISTRICT SIGNAL SHOP, LOCATED

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 680:, CONT'D
AT 4777 EAST S.H. 80, MESQUITE, TEXAS.

12. THE SPARE TRAFFIC SIGNAL EQUIPMENT SHALL BE DELIVERED TO THE DALLAS DISTRICT SIGNAL SHOP, LOCATED AT 4777 EAST S.H. 80, MESQUITE, TEXAS.

13. THE STOP SIGNS AT WASHINGTON STREET AND S.H. 205 SHALL BE REMOVED ONCE THE SIGNALS AT THAT LOCATION ARE OPERATIONAL.

14. THE CONTRACTOR SHALL RELOCATE THE SIGNS SHOWN ON THE PLANS AS BEING RELOCATED AND WILL BE PAID UNDER THIS ITEM.

NO EXTRA COMPENSATION WILL BE ALLOWED FOR FULFILLING THE REQUIREMENTS STATED ABOVE.

REVISED 6-28-99 VLW II

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15 0
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

THE LIST OF MATERIAL BELOW IS FOR THE CONTRACTOR'S INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL ITEMS AND QUANTITIES LISTED BELOW.

LIST OF MATERIAL/LABOR
SUBSIDIARY TO ITEM 680

DESCRIPTION	UNIT	QUANTITY
250 WATT HPS LUMINAIRE	EA	5
2 CHANNEL DETECTOR CARDS	EA	19
INTERSECTION DISPLAY BOARD	EA	4
SIGN RELOCATED (MAST ARM SIGN)	EA	10
SIGN RELOCATED (TY A MOUNT)	EA	10
SIGN R10-12 "LEFT TURN YIELD ON GREEN BALL"	EA	4
STREET NAME SIGNS (TY "C" SHEETING)	EA	4
8 PHASE NEMA TS2 CONTROLLER COMPLETE WITH CABINET AND ACCESSORIES	EA	4
SPARE 8 PHASE NEMA TS2 CONTROLLER COMPLETE WITH CABINET AND ACCESSORIES	EA	2
SPARE SPREAD SPECTRUM RADIO RECEIVER	EA	4
SPARE SPREAD SPECTRUM RADIO ANTENNA (UNI-DRCTNL)	EA	2
SPARE SPREAD SPECTRUM RADIO ANTENNA (OMNI-DRCTNL)	EA	2
SPARE ON-STREET ARTERIAL MASTER	EA	1

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 681:

THIS PROJECT SHALL CONSIST OF FURNISHING AND INSTALLING ALL MATERIALS AND EQUIPMENT NECESSARY FOR THE COMPLETE SIGNAL SETUP AT THE PROPOSED LOCATION TO BE UTILIZED DURING ROADWAY CONSTRUCTION. IN ADDITION TO THESE ITEMS THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:

1. ADJUSTMENT AND MAINTENANCE OF THE TEMPORARY TRAFFIC SIGNALS IN ACCORDANCE WITH THE LAYOUT SHEETS AND TRAFFIC CONTROL PLAN DURING THE ROADWAY CONSTRUCTION. THIS INCLUDES MAINTAINING THE TRAFFIC SIGNAL TIMING FOR THIS SAME PERIOD.

2. CONTRACTOR MAINTENANCE SHALL BEGIN WHEN THE CONSTRUCTION PROJECT BEGINS AND CONTINUE UNTIL THE PROJECT IS COMPLETED.

3. ALL SIGNAL HEADS SHALL BE REGUYED AND THE CABLE RESTRAPPED AFTER ADJUSTMENTS TO HEAD LOCATIONS HAVE BEEN MADE.

4. ALL SIGNAL HEADS THAT ARE TO BE RELOCATED SHALL BE DONE SO DURING THE SAME DAY. PORTABLE STOP SIGNS AT ALL APPROACHES SHALL BE USED ANY TIME THE SIGNALS ARE INOPERABLE.

5. BOTTOM TETHER CABLE FOR SIGNAL HEADS AND SIGNS WILL NOT BE REQUIRED FOR THIS PROJECT.

6. SUBMITTAL LITERATURE SHALL BE PROVIDED FOR ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO INSTALLATION.

7. A NEW EIGHT PHASE NEMA CONTROLLER, MEETING THE REQUIREMENTS OF ITEM 6887, SHALL BE INSTALLED IN A POLE MOUNTED CABINET AT THESE INTERSECTIONS FOR TEMPORARY OPERATION. THIS CABINET SHALL BE APPROXIMATELY THIRTY EIGHT (38) INCHES WIDE, FIFTY FOUR (54) INCHES HIGH AND TWENTY SIX (26) INCHES DEEP AND SHALL HAVE THREE (3) BRACKETS FOR POLE MOUNTING. DISPLAY BOARDS WILL NOT BE REQUIRED FOR POLE MOUNTED CABINETS.

8. THE CONTRACTOR SHALL HAVE A QUALIFIED TECHNICIAN ON THE PROJECT SITE TO PLACE THE SIGNALS WITH NEW CONTROLLER CABINETS IN OPERATION.

9. DURING THE ROADWAY CONSTRUCTION PERIOD, THE CONTRACTOR SHALL UTILIZE QUALIFIED PERSONNEL TO RESPOND TO AND DIAGNOSE ALL TROUBLE CALLS (INCLUDING SIGNAL TIMING). HE SHALL REPAIR ANY MALFUNCTIONS TO SIGNAL EQUIPMENT HE SUPPLIED ON THE PROJECT AS WELL AS TO MAKE TIMING ADJUSTMENTS DUE TO ALL

F.R. DIV.6	TEXAS	NH 99(367)	SHEET 15P
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 681:, CONT'D

COMPLAINTS RECEIVED. A LOCAL TELEPHONE NUMBER (NOT SUBJECT TO FREQUENT CHANGES) WHERE TROUBLE CALLS ARE TO BE RECEIVED ON A 24 HOUR BASIS SHALL BE PROVIDED TO THE ENGINEER BY THE CONTRACTOR. THE CONTRACTOR'S RESPONSE TIME TO REPORTED CALLS SHALL BE WITHIN A REASONABLE TRAVEL TIME FROM A DALLAS ADDRESS, BUT NOT MORE THAN TWO (2) HOURS MAXIMUM. APPROPRIATE REPAIRS SHALL BE MADE WITHIN 24 HOURS. TIMING ADJUSTMENTS SHALL BE MADE BEFORE THE NEXT WEEKDAY PEAK PERIOD UNLESS DEEMED AN EMERGENCY BY THE ENGINEER. THE CONTRACTOR SHALL PLACE A LOG BOOK IN EACH CONTROLLER CABINET AND KEEP A RECORD OF EACH TROUBLE CALL REPORTED. HE SHALL NOTIFY THE ENGINEER OF EACH TROUBLE CALL. THE ERROR LOG IN THE CONFLICT MONITOR SHALL NOT BE CLEARED WITHOUT THE APPROVAL OF THE ENGINEER.

10. THE CONTRACTOR SHALL PICK UP THE MICROWAVE DETECTORS AND CABLE THAT ARE TO BE SUPPLIED BY THE STATE FROM THE DALLAS DISTRICT SIGNAL SHOP, LOCATED AT 4777 EAST S.H. 80, MESQUITE, TEXAS.

11. AT SH 66 AND DARLOCK RD. AND AT SH 66 (RUSK) AND SH 205, PEDESTRIAN SIGNAL HEADS SHALL BE EITHER COVERED WITH BURLAP OR OTHER MATERIAL APPROVED BY THE ENGINEER., OR BE REMOVED DURING CONSTRUCTION, AND UNCOVERED OR REINSTALLED AFTER CONSTRUCTION IS COMPLETE.

NO EXTRA COMPENSATION WILL BE ALLOWED FOR FULFILLING THE REQUIREMENTS STATED ABOVE.

GENERAL NOTES AND SPECIFICATION DATA--

LIST OF MATERIAL
SUBSIDIARY TO ITEM 681

DESCRIPTION	UNIT	QUANTITY
40 FOOT TIMBER POLE (CLASS 2 POLE)	EA	10
12 INCH SIGNAL HEAD SECTION	EA	74
3 SECTION SIGNAL HEAD BACKPLATE	EA	13
5 SECTION SIGNAL HEAD BACKPLATE	EA	7
8 FOOT LUMINAIRE MAST ARM FOR WOOD POLE MOUNTING WITH 250 WATT HPS LUMINAIRE	EA	4
12 CIRCUIT DISCONNECT HANGER	EA	18
CABLE STRAPS	EA	1,222
3/8 INCH STEEL GUY CABLE	LF	5,788
GROUND ANCHORS	EA	18
YELLOW PLASTIC GUY GUARD	EA	18
DOUBLE EYE ANCHOR ROD	EA	18
ELEC SERV, TYPE T(120/240)000(NS)GS(E)TP(O)	EA	1
ELEC SERV, TYPE T(120/240)000(NS)GS(E)EX(O)	EA	1
8 PHASE NEMA CONTROLLER COMPLETE WITH POLE MOUNTED CABINET AND ACCESSORIES	EA	2
2 CHANNEL DETECTOR CARDS	EA	5
5/8 INCH X 8 FOOT COPPERCLAD GND ROD/CLAMP	EA	2
1-1/2 INCH RM CONDUIT	LF	56
2 INCH RM CONDUIT	LF	70

SPECIFICATION DATA

REVISED 6-28-99 VLW

F.R. DIV.6 | TEXAS | NH 99(367) | SHEET 15Q
ROCKWALL COUNTY | HWY SH 66 | CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

3 INCH RM CONDUIT	LF	30
2 INCH PVC CONDUIT	LF	164
1-1/2 INCH WEATHERHEAD	EA	9
2 INCH WEATHERHEAD	EA	4
NO. 6 AWG BARE CNDR	LF	128
NO. 6 AWG TYPE XHHW CNDR	LF	152
NO. 8 AWG TYPE XHHW CNDR	LF	2,376
7 CNDR TRAFFIC SIGNAL CABLE (TYPE A)	LF	987
5 CNDR TRAFFIC SIGNAL CABLE (TYPE A)	LF	696
SIGN R10-12 "LEFT TURN YIELD ON GREEN BALL"	EA	5
STREET NAME SIGNS	EA	8

LIST OF MATERIAL
FURNISHED BY THE CITY OF ROWLETT

DESCRIPTION	UNIT	QUANTITY
OPTICOM CABLE	LF	1,921

LIST OF MATERIAL
FURNISHED BY THE CITY OF ROCKWALL

DESCRIPTION	UNIT	QUANTITY
OPTICOM CABLE	LF	1,255
OPTICOM DETECTORS W/MOUNTING BRACKETS	EA	8
OPTICOM MODULES (2 CHANNEL)	EA	4
OPTICOM CARD RACK AND HARNESS	EA	2

SPECIFICATION DATA

GENERAL NOTES AND SPECIFICATION DATA--

OPTICOM CONTROLLER ASSEMBLY COMPLETE WITH CABINET AND ACCESSORIES — EA — 2

LIST OF MATERIAL
FURNISHED BY THE STATE

DESCRIPTION	UNIT	QUANTITY
6 PAIR SIGNAL CABLE	LF	769
RED LED LAMP	EA	30
YELLOW LED LAMP	EA	30
GREEN LED LAMP	EA	30
YELLOW ARROW LED LAMP	EA	8
GREEN ARROW LED LAMP	EA	8
MICROWAVE DETECTORS	EA	5

ITEM 682:

ALL SIGNAL HEAD ATTACHMENTS SHALL BE DESIGNED SUCH THAT THE WIRING TO EACH SIGNAL HEAD SHALL PASS FROM THE MAST ARM THROUGH THE SIGNAL HEAD BRACING OR ATTACHMENT HARDWARE TO THE SIGNAL HEAD. NO EXPOSED CABLE OR WIRING WILL BE PERMITTED.

THE SIGNAL HEAD-TO-MAST ARM CONNECTION SHALL ALLOW FOR ADJUSTMENT ABOUT THE HORIZONTAL AND VERTICAL AXIS.

FOR THIS PROJECT, A PEDESTRIAN SIGNAL HEAD ASSEMBLY HAVING A ONE (1) PIECE REFLECTOR ASSEMBLY AND A FLUSH, "EGGCRATED" OR "Z" PATTERN VISOR WILL BE REQUIRED.

TRAFFIC SIGNAL HEADS FOR THIS PROJECT SHALL BE YELLOW ALUMINUM WITH BLACK POLYCARBONATE BACK PLATES. NON-LED SIGNAL LENSES SHALL BE GLASS.

REVISED 6-28-99 KLW

F.R. DIV.6 | TEXAS | NH 99(367) | SHEET 15R
ROCKWALL COUNTY | HWY SH 66 | CONT 9-4-39

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 682:, CONT'D
PEDESTRIAN SIGNAL LAMPS SHALL BE SIXTY NINE (69) WATT.

ALL MAST ARM MOUNTED SIGNAL HEADS SHALL BE TURNED DOWN AND ALL OTHER SIGNAL HEADS SHALL BE COVERED WITH BURLAP OR OTHER MATERIAL APPROVED BY THE ENGINEER UNTIL PLACED INTO OPERATION.

SIGNAL HEADS MOUNTED ON POLES AND MAST ARMS SHALL BE LEVEL AND PLUMB AND AIMED AS DIRECTED BY THE ENGINEER.

ITEM 684:

THE TYPE C CABLE FOR LOOP DETECTOR LEAD-IN SHALL BE NO. 18 AWG WIRE.

THE CONDUCTORS IN THE TRAFFIC SIGNAL CABLE SHALL BE STRANDED FOR THIS PROJECT. INDIVIDUAL CONDUCTORS SHALL BE NO. 12 AWG.

THE MULTICONDUCTOR SIGNAL CABLE SHOWN ON THE PLANS SHALL BE TERMINATED ON THE TERMINAL STRIP IN THE HAND HOLE OF MAST ARM SIGNAL POLES.

A SEPARATE MULTICONDUCTOR CABLE (16 AWG) SHALL BE USED INSIDE PEDESTAL POLES AND MAST ARM SIGNAL POLES FROM THE TERMINAL STRIP TO EACH SIGNAL HEAD AS FOLLOWS:

HEAD TYPE	CONDUCTOR SIZE
H3/V3	5 CNDR
H5LT	7 CNDR
143C	5 CNDR (2 EACH
152A	5 CNDR

SPLICES IN THE CONDUCTORS FROM THE TERMINAL STRIP AT THE HAND HOLE TO THE SIGNAL HEADS WILL NOT BE PERMITTED IN THE POLE SHAFT OR IN THE MAST ARM.

EACH CABLE SHALL BE IDENTIFIED, AS SHOWN ON THE PLANS (CABLE 1, ETC.), WITH PERMANENT MARKING LABELS (PANDUIT TYPE PLM STANDARD SINGLE MARKER TIE, THOMAS & BETTS TYPE 548M OR EQUIVALENT) AT EACH GROUND BOX, POLE BASE AND CONTROLLER.

ITEM 686:

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 686:, CONT'D

ALL POLE SHAFTS AND MAST ARMS FOR THIS PROJECT SHALL BE MARKED WITH THE IDENTIFICATION NUMBERS FROM THE LAYOUT SHEETS ON THE PLANS TO FACILITATE ASSEMBLY OF THESE ITEMS IN THE FIELD. THE IDENTIFICATION NUMBERS SHALL BE MARKED ON THE POLE SHAFTS AND MAST ARMS PRIOR TO SHIPMENT FROM THE FABRICATOR. FOR PROJECTS WITH MULTIPLE INTERSECTIONS, THE POLE SHAFTS AND MAST ARMS SHALL BE IDENTIFIED BY INTERSECTION.

POLES SHALL HAVE NUTS ON TOP AND BOTTOM (DOUBLE NUTS) OF THE BASE PLATE.

ANCHOR BOLTS FOR MAST ARM SIGNAL POLES SHALL BE SET SO THAT TWO (2) ARE IN TENSION AND TWO (2) ARE IN COMPRESSION.

THE TRAFFIC SIGNAL POLE HEIGHTS AND MAST ARM LENGTHS SHOWN ON THE PLANS AND IN THE MATERIAL SUMMARY ARE TO BE USED FOR BIDDING PURPOSES ONLY. PRIOR TO FABRICATION, THE CONTRACTOR, IN COOPERATION WITH THE ENGINEER, SHALL MAKE FIELD MEASUREMENTS TO DETERMINE THE ACTUAL POLE HEIGHT NECESSARY TO ENSURE A VERTICAL CLEARANCE OF SEVENTEEN (17) FEET MINIMUM AND NINETEEN (19) FEET MAXIMUM FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE LOWEST POINT ON THE SIGNAL HEAD ASSEMBLY OR MAST ARM AND TO DETERMINE THE MAST ARM LENGTHS REQUIRED TO MOUNT THE TRAFFIC SIGNAL HEADS OVER THE TRAFFIC LANES. THE MAST ARMS SHALL BE STRAIGHT AND LEVEL IN THE AREA WHERE THE SIGNAL HEADS ARE ATTACHED. THESE FIELD MEASUREMENTS AND ELEVATIONS SHALL BE DETERMINED FROM THE ACTUAL FIELD LOCATION OF THE POLE FOUNDATIONS, CONSIDERING ALL ABOVE AND BELOW GROUND UTILITIES AND THE EXISTING ROADWAY ELEVATIONS AND LANE WIDTHS.

ALL STEEL MAST ARMS RANGING FROM TWENTY EIGHT (28) FEET TO FORTY EIGHT (48) FEET IN LENGTH SHALL BE PROVIDED WITH VIBRATION DAMPERS. DAMPERS SHALL BE INSTALLED USING ASTRO-SIGN BRAC OR SIGNFIX ALUMINUM CHANNEL OR EQUAL, A MAXIMUM OF THREE (3) FEET FROM THE END OF THE MAST ARM.

ITEM 688:

THIS PROJECT REQUIRES THAT SEVERAL LOOPS IN THE STREET SHARE THE SAME GROUND BOX FOR CONNECTIONS TO THE LOOP LEAD-IN CABLE. THE LEAD-IN SAW CUTS FROM THE STREET TO THE GROUND BOX SHALL MAINTAIN A MINUMUM SEPARATION FROM OTHER LOOPS OF TWELVE (12) INCHES AND A MINIMUM SEPARATION OF SIX (6) INCHES FROM OTHER LEAD-IN SAW CUTS.

LOOP WIRE SHALL BE USED FOR CONCRETE PAVEMENT AND LOOP DUCT SHALL BE USED FOR HOT MIX ASPHALTIC CONCRETE PAVEMENTS.

REVISED 6-28-99 VLW

F.R. DIV.6	TEXAS	NH 99(367)	SHEET 15 S
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 688:, CONT'D

ALL LOOP WIRE FROM THE LOOP IN THE STREET TO THE GROUND BOX SHALL BE TIGHTLY TWISTED A MINIMUM OF FIVE (5) TIMES PER FOOT AS IT IS PLACED IN THE LEAD-IN SAW CUT.

THE LOOP DUCT FROM THE LOOP IN THE STREET TO THE GROUND BOX SHALL BE TIGHTLY TWISTED A MINIMUM OF TWO (2) TIMES PER FOOT AS IT IS PLACED IN THE LEAD-IN SAW CUT.

THE LOOP DUCT OUTER TUBE SHALL BE MADE OF FLEXIBLE VINYL AND LOOP DUCT CONDUCTOR SHALL CONFORM TO TYPE XHHW OR XLPE SPECIFICATIONS.

GROUNDED SHIELDS SHALL BE USED ON THE DETECTOR LEAD-IN CABLE AT THE CONTROLLER ONLY. DETECTOR LEAD-IN CABLES SHALL BE RUN CONTINUOUSLY WITHOUT SPLICES FROM THE CURBSIDE GROUND BOX TO THE CONTROLLER WHERE POSSIBLE. IF SPLICES MUST BE MADE, THEY SHOULD BE MADE IN A POLE BASE, IF POSSIBLE. SPLICES SHALL BE SOLDER CONNECTED (INCLUDING THE GROUND WIRE) AND THE SPLICE CONNECTION SHALL BE INSULATED WITH THERMO-SETTING MATERIALS. SPLICES AT THE CURB SIDE GROUND BOXES SHALL ALSO BE MADE IN THE SAME MANNER.

DETECTOR LEAD-IN CABLES SHALL BE IDENTIFIED AS SHOWN ON THE PLANS (PHASE 1, ETC.) WITH PERMANENT MARKING LABELS (PANDUIT TYPE PLM, THOMAS & BETTS TYPE 548M STANDARD SINGLE MARKER TIE OR EQUIVALENT) AT EACH GROUND BOX, POLE BASE AND CONTROLLER.

INSTALLATION OF THE LOOP DETECTORS SHALL BE MADE DURING OFF-PEAK TRAFFIC PERIODS.

PEDESTRIAN PUSH BUTTONS SHALL BE IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT.

PEDESTRIAN PUSH BUTTONS SHALL BE MOUNTED AT A HEIGHT OF 3' - 6" ABOVE THE SIDEWALK AND SHALL BE OF THE TYPE THAT HAVE PERMANENT-TYPE SIGNS WITHIN THE DETECTOR UNIT WHICH EXPLAINS THEIR PURPOSE AND INDICATES WHICH CROSSWALK SIGNAL IS ACTUATED.

THE PUSH BUTTON SHALL BE ACTIVATED BY A MINIMUM OF TWO (2) INCH CONVEX PLUNGER. A PROTECTIVE SHROUD SHALL ENCIRCLE THE PLUNGER TO DETER VANDALISM. THE SHROUD SHALL BE CAST AS PART OF THE HOUSING COVER. THE PLUNGER SHALL PROTRUDE BEYOND THE PROTECTIVE SHROUD A DISTANCE ADEQUATE TO ACCOMMODATE THE SWITCH TRAVEL.

WHILE STAKING THE POLE LOCATIONS, THE CONTRACTOR, ALONG WITH THE ENGINEER, SHALL VERIFY THE LOCATION OF THE PUSH BUTTONS AND THE

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 688:, CONT'D
DIRECTION OF THE ARROWS ON THE SIGNS PRIOR TO INSTALLATION.

PRIOR TO TERMINATION OF THE SHIELDED, TWISTED PAIR LOOP LEAD-IN CABLES AT THE CONTROLLER CABINET, INSULATION TESTS SHALL BE MADE WITH AN INSULATION TEST SET APPLYING NOT LESS THAN FIVE HUNDRED (500) VOLTS D.C. TO THE COMPLETED LOOP DETECTOR. A MINIMUM RESISTANCE OF FIFTY (50) MEGAOHM SHALL BE OBTAINED.

AFTER THE ABOVE INSULATION TESTS ARE COMPLETED AND THE LOOP LEAD-IN CABLE HAS BEEN TERMINATED IN THE CABINET, THE CONTRACTOR SHALL ASSIST THE ENGINEER IN DETERMINING THE LOOP INDUCTANCE OF EACH LOOP DETECTOR INSTALLATION. THE CONTRACTOR SHALL FURNISH A LOOP DETECTOR ANALYZER WHICH SHALL DETERMINE THE TOTAL INDUCTANCE OF THE LOOP IN THE PAVEMENT AND THE ASSOCIATED LEAD-IN CABLE AND SHALL ALSO BE USED IN DETERMINING THE PERCENTAGE SHIFT IN LOOP INDUCTANCE FOR VARIOUS SIZE VEHICLES THAT MAY BE ACTUATING THE DETECTOR.

ALL SIGNAL CABLES AND POWER CONDUCTORS SHALL BE CHECKED FOR INSULATION RESISTANCE UPON INSTALLATION AND PRIOR TO TERMINATION. THE TESTS SHALL BE MADE WITH A TEST SET OPERATING AT A MINIMUM OF FIVE HUNDRED (500) VOLTS D.C. APPLIED TO THE CONDUCTORS.

EACH CONDUCTOR IN THE MULTICONDUCTOR SIGNAL CABLES SHALL BE TESTED FOR INSULATION RESISTANCE RELATIVE TO EACH OTHER AND TO THE OUTER COVERING OF THE CABLE. THE MINIMUM ACCEPTABLE VALUE FOR INSULATION RESISTANCE SHALL BE FIFTY (50) MEGAOHMS.

ITEM 3116:

ASPHALTIC CONCRETE PAVEMENT SHALL BE USED IN LIEU OF LIME TREATED SUBGRADE AT ALL CROSS STREETS AS DIRECTED BY THE ENGINEER.

THE COMPLETED MIX SHALL BE EVALUATED AT THE DESIGN STAGE FOR MOISTURE DAMAGE BY TEST METHOD TEX-531-C. DURING PLANT PRODUCTION, THE COMPLETED MIX SHALL BE EVALUATED BY TEST METHOD TEX-530-C ON THE FIRST DAY AND WITH A MINIMUM OF ONE (1) TEST PER TEN (10) DAYS OF OPERATIONS THEREAFTER. IF THE PLANT MIX INDICATES STRIPPING BETWEEN TEN (10) PERCENT AND TWENTY (20) PERCENT, PRODUCTION MAY CONTINUE PROVIDED CORRECTIVE PROCEDURES ARE TAKEN TO REDUCE THE STRIPPING. WHEN THE TEST INDICATES THAT THE STRIPPING EXCEEDS TWENTY (20) PERCENT, PRODUCTION SHALL CEASE UNTIL THE PROBLEM IS CORRECTED.

REVISED 6-28-99 MWT

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 1ST
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 3116:, CONT'D
LAYDOWN OPERATIONS SHALL BE CONDUCTED IN SUCH SEQUENCE THAT VEHICLES TRANSPORTING ASPHALTIC CONCRETE MATERIAL TO THIS PROJECT SHALL NOT TRAVEL OVER THE COMPLETED PAVEMENT UNTIL A MINIMUM OF TWENTY FOUR (24) HOURS HAS ELAPSED OR AS DIRECTED BY THE ENGINEER.

STORAGE OF THE COMPLETED MIX UPON THE GROUND WILL NOT BE PERMITTED AT THE MIXING PLANT OR JOB SITE. ANY MIX THAT COMES INTO CONTACT WITH EARTH OR OTHER OBJECTIONABLE FOREIGN MATTER WILL BE REJECTED BY THE ENGINEER.

THE UTILIZATION OF RECLAIMED ASPHALT PAVEMENT (RAP) FROM OFF PROJECT, STATE OWNED NON-DESIGNATED SOURCES CAN BE PROPOSED BY THE CONTRACTOR. THIS WILL BE CONSIDERED A VALUE ENGINEERING PROPOSAL AND HANDLED AS SUCH BY THE ENGINEER.

THE FINE AGGREGATE SHALL BE PROCESSED SUFFICIENTLY, PRIOR TO ENTERING THE DRYER, SO THAT THE SLAKEABLE MATERIAL RETAINED ON THE NO. 4 SIEVE SHALL NOT EXCEED TWO (2) PERCENT.

REPRESENTATIVE SAMPLES FROM EACH COARSE AGGREGATE STOCKPILE AND SOURCE WILL BE SUBJECTED TO FIVE (5) CYCLES OF THE SULFATE SOUNDNESS TEST IN ACCORDANCE WITH TEST METHOD TEX-411-A. THE LOSS SHALL NOT BE GREATER THAN THIRTY (30) PERCENT WHEN MAGNESIUM SULFATE IS USED.

THE POLISH VALUE OF THE COARSE AGGREGATE FROM EACH SOURCE USED IN THE SURFACE COURSE SHALL NOT BE LESS THAN THIRTY TWO (32) WHEN TESTED IN ACCORDANCE WITH TEST METHOD TEX-438-A.

THE CONTRACTOR SHALL BE OBTAIN THE REQUIRED ROADWAY SPECIMENS, AT HIS EXPENSE, IN A MANNER AND AT LOCATIONS SATISFACTORY TO THE ENGINEER.

BLENDING OF COARSE AGGREGATES TO MEET THE POLISH VALUE REQUIREMENTS WILL NOT BE ALLOWED.

WHEN THE COARSE AGGREGATE FROM ANY ONE (1) SOURCE CONTAINS MATERIALS WITH SUBSTANTIALLY DIFFERENT MINERALOGY, EACH TYPE OF MATERIAL SHALL COMPLY WITH THE REQUIRED POLISH VALUE.

ASPHALT PAVEMENT TO BE REMOVED WITHIN THE LIMITS OF THE PROJECT AND ASPHALT PAVEMENT MATERIALS USED IN CONSTRUCTION OF DETOURS MAY BE USED AS RAP IN NON-SURFACE COURSES IF THE MATERIAL MEETS ALL THE PHYSICAL REQUIREMENTS OF THE APPROPRIATE ITEM. THERE WILL BE NO COST TO THE CONTRACTOR FOR THE USE OF THIS MATERIAL. THE SAME WILL HOLD TRUE OF SOURCES DESIGNATED ON THE PLANS.

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 3116:, CONT'D
FOR THIS PROJECT, THE ASPHALT BINDER SHALL BE PG 70-22.

ITEM 5001:

THE STEEL BARRELS REQUIRED FOR THIS ITEM SHALL BE PAINTED ORANGE.

THE CONTRACTOR SHALL INSTALL TEMPORARY ASPHALT CONCRETE PAVEMENT (ACP) AT LOCATIONS DEEMED NECESSARY BY THE ENGINEER, TO SERVE AS A LEVELING PAD FOR "TEMPORARY BARREL MOUNTED METAL BEAM GUARD FENCE". THIS TEMPORARY ACP SHALL BE CONSIDERED SUBSIDIARY TO ITEM 5001 AND WILL NOT BE PAID FOR DIRECTLY.

ITEM 5004:

DURING THE COURSE OF THIS PROJECT, THE CONTRACTOR SHALL USE USE PART OR ALL OF THE FOLLOWING ITEMS, AS DIRECTED BY THE ENGINEER, FOR THE TEMPORARY SEDIMENT CONTROL ON THIS PROJECT:

SLOPE RETENTION ITEMS:
ITEM 162 - SODDING FOR EROSION CONTROL
ITEM 164 - SEEDING FOR EROSION CONTROL
ITEM 166 - FERTILIZER
ITEM 168 - VEGETATIVE WATERING
ITEM 5005 - ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL
ITEM 5007 - BALED HAY FOR EROSION CONTROL
ITEM 5249 - TEMPORARY SEDIMENT CONTROL FENCE

ITEM 5237:

THE SURFACE FINISH SHALL BE TESTED BY THE CONTRACTOR IN ACCORDANCE WITH TYPE B TEST PROCEDURES.

ITEM 5519:

A MINIMUM OF TEN (10) TRANSPORTABLE CELLULAR TELEPHONES SHALL BE PROVIDED BY THE CONTRACTOR FOR USE BY THE STATE, UNLESS OTHERWISE DIRECTLY BY THE ENGINEER.

REVISED 6-28-99 VWW

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15 U
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 5519:, CONT'D

ITEM 5559:

COLORED TEXTURED CONCRETE FOR THIS PROJECT SHALL BE A RED COLOR TO COMPLEMENT THE EXISTING COLORED TEXTURED CONCRETE IN THE AREA. THE PATTERN SHALL BE A RUNNING BOND BRICK AS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL INSTALL A MIMIMUM 100 SQUARE FOOT TEST SECTION FOR APPROVAL BY THE ENGINEER. IF THE TEST SECTION IS ACCEPTABLE, IT MAY REMAIN IN PLACE, AND BE PAID FOR UNDER THIS ITEM. IF UNACCEPTABLE TO THE ENGINEER, IT SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE WITHOUT PAYMENT UNDER THIS ITEM.

THE IMPRESSION SHALL HAVE A UNIFORM DEPTH OF APPROXIMATELY 1/4" EXCEPT IN THOSE AREAS WHERE THE ENGINEER DETERMINES A SHALLOWER IMPRESSION MAY BE REQUIRED. IN ANY CASE, THE DEPTH IN ANY AREA SHALL NOT VARY MORE THAN 1/16".

THE COLOR INTENSITY SHALL BE UNIFORM THROUGH EACH SECTION. NOTICABLE VARIATIONS IN THIS INTENSITY SHALL BE REMOVED THROUGH ADDITIONAL COLOR TREATMENTS (COLOR HARDENER OR OTHER) OR THROUGH THE REMOVAL OF THE CONCRETE IF NECESSARY.

CONCRETE TO BE RUNNING BOND USED BRICK FORM WITH BROWN RED COLOR.

RUNNING BOND USED BRICK FORM TO BE STAMPED PERPENDICULAR TO THE CENTERLINE OF SH66.

DOWELS (SMOOTH BARS) 1"X 18" SPACED 12" CENTERS SHALL BE PALCED IN THE CONCRETE AT THE LEAVEOUTS FOR THE TEXTURED CONCRETE STREET CROSSWALK AREAS AT THE INTERSECTION OF LAKESHORE DRIVE.

ITEM 6010:

DALROCK ROAD AND S.H. 66:
EXISTING CONDUCTORS INSIDE THE SALVAGED MAST ARM ASSEMBLY SHALL BECOME THE PROPERTY OF THE CONTRACTOR. OPTICOM EQUIPMENT SHALL REMAIN THE PROPERTY OF ROWLETT AND SHALL BE REUSED AT THIS LOCATION. SIGNAL HEADS FROM THE SALVAGED MAST ARM SHALL REMAIN THE PROPERTY OF THE STATE.

SCENIC DRIVE AND S.H. 66:

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 6010:, CONT'D
THE EXISTING SIGNAL HEADS AND CABINET AND ALL CONTENTS OF THE CABINET SHALL REMAIN THE PROPERTY OF THE STATE. OPTICOM EQUIPMENT SHALL REMAIN THE PROPERTY OF ROWLETT AND SHALL BE REUSED AT THIS LOCATION. ALL OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR, INCLUDING THE EXISTING ELECTRICAL SERVICE POLE AND EQUIPMENT.

LAKESHORE DRIVE AND S.H. 66:
THE CABINET AND ALL CONTENTS OF THE CABINET SHALL REMAIN THE PROPERTY OF THE STATE. OPTICOM EQUIPMENT SHALL REMAIN THE THE PROPERTY OF ROCKWALL. ALL OTHER TRAFFIC SIGNAL EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR, INCLUDING THE EXISTING ELECTRIC SERVICE EQUIPMENT.

RUSK ROAD AND GOLIAD ROAD:
THE CABINET AND ALL CONTENTS OF THE CABINET SHALL REMAIN THE PROPERTY OF THE STATE. OPTICOM EQUIPMENT SHALL REMAIN THE THE PROPERTY OF ROCKWALL. THE SALVAGED MAST ARM ASSEMBLY SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

THE EXISTING TRAFFIC SIGNALS TO BE SALVAGED SHALL BE SALVAGED AFTER THE TEMPORARY SIGNALS ARE FULLY OPERATIONAL AND THE TEMPORARY SIGNALS SHALL BE SALVAGED AFTER THE PERMANENT SIGNALS ARE FULLY OPERATIONAL. EQUIPMENT TO BE SALVAGED SHALL CONSIST OF POLES, GROUND BOXES, EXPOSED CONDUIT AND ANY OTHER EQUIPMENT, AS DIRECTED BY THE ENGINEER.

CONTROLLER CABINET REMOVAL SHALL NOT DAMAGE EXISTING CONTROLLER FOUNDATIONS. IN THE EVENT THAT THE FOUNDATIONS ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THEM AT NO COST TO THE STATE.

TIMBER POLES, NOT SET IN CONCRETE, SHALL BE COMPLETELY REMOVED WITHOUT CUTTING OFF THE POLE AND SHALL REMAIN THE PROPERTY OF THE STATE. TIMBER POLES SET IN CONCRETE SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ALL EQUIPMENT REMAINING THE PROPERTY OF THE STATE SHALL BE TAKEN TO THE TXDOT MAINTENANCE YARD AT 592 EAST S.H. 121 IN LEWISVILLE, TEXAS.

ITEM 6996:

THE CONTRACTOR SHALL FURNISH, INSTALL AND MAKE FULLY OPERATIONAL A SPREAD SPECTRUM RADIO SYSTEM TO PROVIDE COMMUNICATIONS FOR THE PROPOSED

ADDED 6-28-99 VLW II

F.R. DIV.6	TEXAS	NH 99 (367)	SHEET 15 V
ROCKWALL COUNTY	HWY SH 66	CONT 9-4-39	

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 6996:, CONT'D
ISOLATED SYSTEMS AS DIRECTED BY THE ENGINEER.

THE COMMUNICATION BETWEEN THE EXISTING MASTER CONTROLLER UNIT AND ANY CONTROLLER LINKED BY HARDWIRED AND RADIO (WIRELESS) SHALL BE TRANSPARENT TO THE COMMUNICATION MEDIA.

THE CONTRACTOR SHALL CONTACT THE DALLAS DISTRICT SIGNAL SHOP AT 214-320-6682, FOR A DESCRIPTION OF EXISTING MASTER CONTROLLERS AT F.M. 740 AND I.H. 30 AND AT KIRBY ROAD AND S.H. 66.

THE LATEST VERSION OF THE CLOSED LOOP CENTRAL SOFTWARE SHALL BE PROVIDED TO THE STATE ON 3-1/2 INCH FLOPPY DISK(S). THIS SOFTWARE SHALL BE COMPATIBLE WITH THE STATE'S EXISTING LAPTOP AND DESKTOP COMPUTERS. THESE COMPUTERS HAVE THE FOLLOWING MINIMUM MAIN FEATURES AND ACCESSORIES:

A) 586 PROCESSOR, 133 MHZ
B) 1.34GB HARD DISK DRIVE
C) 1.44MB, 3-1/2 INCH FLOPPY DISK DRIVE
D) 1MB RAM VIDEO CARD
E) 8X INTERNAL CD-ROM
F) PARALLEL AND SERIAL PORTS
G) WINDOWS 95

THE CONTRACTOR SHALL INSTALL THE SOFTWARE IN ALL DESKTOP AND LAPTOP COMPUTERS IN THE DISTRICT SIGNAL SHOP, MAKE THE NECESSARY CONFIGURATION TO THE HARDWARE/SOFTWARE AND MAKE THE CLOSED LOOPS OPERATIONAL.

THE CONTRACTOR SHALL DEMONSTRATE THAT NEW SPREAD SPECTRUM LOCATIONS WILL PROPERLY COMMUNICATE WITH A RADIO MASTER AT THE PROPOSED MASTER LOCATIONS.

THE CONTRACTOR SHALL NOTIFY THE TXDOT SIGNAL SHOP AT 214-320-6682 ONE WEEK (1) PRIOR TO BEGINNING SPREAD SPECTRUM RADIO (SSR) WORK ON THIS PROJECT.

UP TO TWO (2) DAYS OF TRAINING SHALL BE PROVIDED TO PERSONNEL OF THE CONTRACTING AGENCY IN THE OPERATION, SETUP AND MAINTENANCE OF THE SPREAD SPECTRUM SYSTEM. INSTRUCTION AND MATERIALS SHALL BE PROVIDED FOR A MAXIMUM OF TWENTY (20) PERSONS AND SHALL BE CONDUCTED AT A LOCATION SELECTED BY THE CONTRACTING AGENCY. THE CONTRACTING AGENCY SHALL BE RESPONSIBLE FOR ANY TRAVEL, ROOM AND BOARD EXPENSES FOR ITS OWN PERSONNEL.

GENERAL NOTES AND SPECIFICATION DATA--

ITEM 6996:, CONT'D
INSTRUCTION PERSONNEL SHALL BE CERTIFIED BY THE EQUIPMENT MANUFACTURER. THE USER'S GUIDE IS NOT AN ADEQUATE SUBSTITUTE FOR PRACTICAL CLASSROOM TRAINING AND FORMAL CERTIFICATION BY AN APPROVED AGENCY.

FORMAL LEVELS OF FACTORY AUTHORIZED TRAINING SHALL BE PROVIDED FOR INSTALLERS, CONTRACTORS AND SYSTEM OPERATORS. ALL TRAINING SHALL BE CERTIFIED BY THE MANUFACTURER.

NO EXTRA COMPENSATION WILL BE ALLOWED FOR FULFILLING THE REQUIREMENTS STATED ABOVE.

ITEM 6887:

THE CONTROLLERS FOR THIS PROJECT SHALL BE NEMA TS2 TYPE 2, EACH WITH A "D" MODULE. THE CONTROLLER SHALL MEET ALL OF THE FUNCTIONAL REQUIREMENTS OF SPECIFICATION 6887 AND SHALL BE INTERCHANGEABLE WITH NEMA TS1 CONTROLLERS CURRENTLY IN OPERATION IN THE DALLAS DISTRICT.

THE LOAD SIDE OF THE MAIN CIRCUIT BREAKER SHALL BE PROTECTED BY AN EDCO MODEL SHA-1210-IRS LIGHTING SURGE SUPPRESSOR WITH LED INDICATION TO INDICATE PROPER OPERATION AND A SET OF DRY CONTACTS FOR ALARM CAPABILITIES. THE DRY CONTACTS SHALL BE WIRED TO ALARM INPUT 2 AND BE SET UP TO CALL THE CENTRAL OFFICE IF A FAILURE OCCURES.

ADDED 6-28-99 VLW

ITEM 100 PREPARING RIGHT OF WAY

LOCATION ℄ STA.	STA. 100-502
E.B. STA. 313+00 TO 496+00	183
PROJECT TOTAL	183

ITEM 104 SUMMARY OF REMOVE CONCRETE

LOCATION ℄ STA.	PAV (SY) 104-501	RIPRAP (SY) 104-503	SDWLK (SY) 104-509	DRVWY (SY) 104-511	CUR & GUTR (LF) 104-513	FLUME (SY) 104-524
EB STA. 314+14 TO 331+00				175		
EB STA. 331+00 TO 355+00	4094			1014	127	43
EB STA. 451+00 TO 476+00		135		586	17	
EB STA. 476+00 TO 496+26			727.2	1018	138.7	17
PROJECT TOTAL	4094	135	727.2	2793	282.7	60

SUMMARY OF SODDING AND SEEDING

LOCATION ℄ STA.	ITEM 162	ITEM 164		ITEM 168	
	BLOCK SOD (SY) 162-502	TEMP. SEED (WARM) (SY) 164-529	TEMP. SEED (COOL) (SY) 164-531	VEGETATIVE WATERING (MG) (SEED) 168-501	TEMP. VEG. WATERING (MG) (SEED) 168-502
EB STA. 314+14 TO 331+00	12336	1603.7	863.5	103.8	10.4
EB STA. 331+00 TO 355+00	15646.2	2034.0	1095.2	131.7	13.2
EB STA. 451+00 TO 476+00	6938.2	902.0	485.7	58.4	5.8
EB STA. 476+00 TO 495+80	11124.9	1446.2	778.7	93.7	9.4
PROJECT TOTAL	46,045.4	5,985.9	3,233.18	387.5	38.7

ITEM 354 SUMMARY OF PLANING ASPHALT

LOCATION ℄ STA.	PLANE ASPH CONC PAV 6" TO 8" (SY) 354-545
EB STA. 314+14 TO 331+00	10687
EB STA. 331+00 TO 353+00	10963
EB STA. 396+63 TO 403+00	3367
EB STA. 403+00 TO 427+00	12091
EB STA. 427+00 TO 451+00	11817
EB STA. 451+00 TO 476+00	12720
EB STA. 476+00 TO 496+26	11976
PROJECT TOTAL	73621

ITEM 110 & 132 EARTHWORK SUMMARY

LOCATION ℄ STA.	STATION EXCAV. (CU-YD) 110-501	STATION EMB. (CU-YD) 132-50	ACCUM. EXCAV. (CU-YD)	ACCUM. EMB. (CU-YD)	ADD QUANTITIES EXCAV. (CU-YD)	ADD QUANTITIES EMB. (CU-YD)	SELECT FILL * (CU-YD) STATION EMB.	SELECT FILL * (CU-YD) ACCUM. EMB	REMARKS
EB STA. 314+14 TO 331+00	12597	575	12597	575	0	0	0	0	
EB STA. 331+00 TO 353+00	15728	3721	28325	4296	0	0	0	0	
EB STA. 396+63 TO 403+00	49	1729	28374	6025	0	0	0	0	
EB STA. 403+00 TO 427+00	2098	486	30472	6511	0	0	0	0	
EB STA. 427+00 TO 451+00	2307	569	32779	7080	0	0	0	0	
EB STA. 451+00 TO 476+00	16126	5519	48905	12599	461	13	0	0	CHANNEL
EB STA. 476+00 TO 496+26	22402	477	70878	13076	63	0	0	0	CHANNEL
PROJECT TOTAL	70846	13076							

* THE AMOUNT OF SELECT FILL TO BE HAULED TO THE PROJECT IS INCLUDED IN THE EMBANKMENT QUANTITY.

SUMMARY OF BASE AND PAVEMENT

LOCATION ℄ STA.	ITEM 260			ITEM 314	ITEM 3116
	LIME (7%) (TY A, B OR C) (TONS) 260-517	LIME TREATED SUBGR(DC)(6") (SY) 260-505	LIME TREATED SUBGR(DC)(22") (SY) 260-539	SUBGRADE TREATMENT (MS-2) (GALS) 314-501	H.M.A.C. (TONS) 3116-503
EB STA. 314+14 TO 331+00	1074		15533	3883	3349
EB STA. 331+00 TO 353+00	1342		19391	4848	8168
EB STA. 396+63 TO 403+00	63	3290		823	694
EB STA. 403+00 TO 427+00	247	12800		3200	2699
EB STA. 427+00 TO 451+00	247	12800		3200	2699
EB STA. 451+00 TO 476+00	408	21192		5298	5512
EB STA. 476+00 TO 496+26	374	19408		4852	4166
PROJECT TOTAL	3755	69490	34924	26104	27287

SUMMARY OF CONCRETE PAVEMENT AND DRIVEWAYS

LOCATION ℄ STA.	ITEM 360		ITEM 530
	CONCRETE PAV (CPCD) (8") (SY) 360-524	CONCRETE PAV (CL K (8") (SY) 360-527	DRIVEWAYS CONCRETE (6") (SY) 530-501
WB STA. 312+80 TO 314+14	258		
EB&WB STA. 314+14 TO 331+00	13866		643
EB&WB STA. 331+00 TO 352+93	15595	2912	730
EB STA. 396+83 TO 403+00	2605	2078	
EB STA. 403+00 TO 427+00	10133		
EB STA. 427+00 TO 451+00	10134		
EB STA. 451+00 TO 461+60	4723		
WB STA. 456+13 TO 461+60	2423		
EB&WB STA. 461+60 TO 476+00	11794	1478	924
EB STA. 476+00 TO 495+80	8634		1069
WB STA 476+00 TO 496+26	8898		1327
PROJECT TOTAL	89063	6468	4693

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

5-13-99

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SHEET 1 OF 12 SHEETS

REPLACED ℄
⚠ Revised 6-28-99 DLP

SUMMARY SHEET

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		16
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	SH 66	SH 66

Trnf44491

ITEM 400 SUMMARY OF STRUCTURAL EXCAVATION	
LOCATION ℄ STA.	(CEMENT STAB. BACKFILL) (CY) 400-507
E.B. STA. 313+00 TO 496+00	88.83
PROJECT TOTAL	88.83

ITEM 402 SUMMARY OF EXCAVATION PROTECTION	
LOCATION ℄ STA.	*TRENCH EXCAVATION PROTECTION (FOR LATERALS AND LINES) (LF) 402-501
E.B. STA 313+00 TO 331+00	2620
E.B. STA 331+00 TO 355+00	4470
E.B. STA 451+00 TO 476+00	5370
** E.B. STA 476+00 TO 496+00	2682
PROJECT TOTAL	15,142

* FOR ALL LATERALS AND LINES WITHIN SPECIFIED LIMITS
** INCLUDES 325' T.E.P. FOR EAST BOUND RETAINING WALL

ITEM 423 SUMMARY OF RETAINING WALLS	
LOCATION ℄ STA.	RETAINING WALL, (SF) 423-508
EB STA. 490+25 TO 493+45	932
WB STA. 487+50 TO 490+75	2935
SECOND ST. (EB STA. 486+53.64)	1032
PROJECT TOTAL	4899

ITEM 432 SUMMARY OF RIPRAP		
LOCATION ℄ STA.	CONCRETE CLASS B (CY) 432-501	CONCRETE FLUMES CLASS B (CY) 432-518
EB STA. 353+03 TO 353+21	14.24	
EB STA. 395+79 TO 396+63	59.34	
EB STA. 487+50 TO 490+75		14.94
EB STA. 486+54		5.7
EB STA. 459+00 TO 461+25	230.73	
WB STA. 353+13 TO 353+31	16.95	
WB STA. 455+81 TO 455+93	12.08	
WB STA. 473+00	29.0	
WB STA. 473+33		13.85
PROJECT TOTAL	362.34	34.49

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

5-13-99

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SUMMARY SHEET

SHEET 2 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		17
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 464

SUMMARY OF STORM SEWER LINES

LAT #	TYPE	LOCATION		CLASS IV 18" 464-519	PC - 1 3X2 462-538	ITEM 400-513 SEWER EXCAV. (CU-YD)	ITEM 400-507 CEMENT STAB. BKFL. C.Y.	SLOPE %	INLET ℄ OR OUTFALL ℄	LAT ℄	TRUNK DIA IN	TRUNK ℄
		FROM	TO									
A1	CG II	CI - A1	EXIST. LINE	202		1071.1		0.36	472.72	472.0	18	-
B1	CG II	CI - B1	EXIST. LINE	5		26.6	0.32	11.20	471.93	471.37	18	470.62
B2	CG II	CI - B2	EXIST. LINE	5		22.3	0.32	11.40	472.51	471.94	18	471.69
B3	SD - A	SD - B3	LINE A	88		593.7		2.0	473.30	471.60	18	471.39
A3	CG II	CI - A3	MH - A3	4		22.8		10.0	472.80	472.40	18	-
B6	SD - A	SD - B6	LINE A	88		854.1		5.0	473.20	468.90	18	468.39
A4	CG II	CI - A4	LINE A	5		61.5	0.32	16.0	469.40	468.60	18	468.09
B7	CG II	CI - B7	CI - B8	46		398.1		1.1	472.90	472.40	18	-
B8	CG II	CI - B8	MH - B8	85		1114.2		5.0	472.40	467.90	18	-
B9	CG II	CI - B9	CI - B8	46		428.3		1.3	473.50	472.90	18	-
A5	CG II	CI - A5	LINE A	5		64.4	0.26	15.0	468.20	467.60	18	466.83
B10	SD - A	SD - B10	LINE A	88		1060.4		7.3	473.80	467.40	18	466.63
A6	CG II	CI - A6	MH - A6	4		18.7		10.0	473.80	473.40	18	-
B12	SD - A	SD - B12	LINE A	87		1294.7	5.56	10.0	474.10	465.40	18	464.38
A7	CG II	CI - A7	CI - A8	95		350.3		1.3	474.50	473.30	18	-
A8	CG II	CI - A8	MH - A8	4		18.2		10.0	473.30	472.90	18	-
B14	SD - A	SD - B14	LINE A	87		1485.9	5.56	10.0	473.30	464.30	18	463.28
A10	SD - A	SD - A10	MH - A10	20		65.2		1.5	473.40	473.10	18	-
B16	SD - A	SD - B16	LINE A	87		1673.2	5.56	10.8	472.60	463.20	18	461.92
A11	CG II	CI - A11	LINE A	22		499.4	1.41	20.0	467.30	463.00	18	461.72
B17	CG II	CI - B17	CI - B18	34		291.7		1.5	472.40	471.90	18	-
B18	CG II	CI - B18	LINE A	84		1670.0	5.37	10.8	471.90	462.80	18	461.52
B19	CG II	CI - B19	CI - B18	31		268.2		1.6	472.40	471.90	18	-
B20	SD - A	SD - B20	LINE A	87		1613.0	5.56	11.7	472.60	462.40	18	461.12
A13	SD - A	SD - A13	LINE A	34		890.8		10.0	465.80	462.30	18	461.02
A16	SD - A	SD - A16	MH - A16	24		52.9		2.9	473.40	472.70	18	-
B24	SD - A	SD - B24	LINE A	87		1586.9	5.56	14.5	472.70	460.10	18	458.80
A18	SD - A	SD - A18	LINE A	20		606.4		10.0	461.70	459.80	18	458.50
A19	CG II	CI - A1.	LINE A	17		227.7	1.10	45.0	467.30	459.60	18	458.30
B25	CG II	CI - B25	CI - B26	46		286.7		1.3	472.30	471.70	18	-
B26	CG II	CI - B26	LINE A	84		1675.0	5.37	14.6	471.70	459.40	18	458.10
B27	CG II	CI - B27	CI - B26	46		246.6		1.1	472.20	471.70	18	-
A20	SD - A	SD - A20	LINE A	20		594.4	1.28	1.3	461.80	459.30	18	458.00
B28	SD - A	SD - B28	LINE A	87		1891.3	5.56	15.9	472.50	458.70	18	457.40
A21	DI - C - 1 GRT	DI - A21	LINE A	32		970.2	2.04	34.4	469.40	458.40	18	456.60
A22	DI - C - 1 GRT	DI - A22	MH - A23	12		261.0	0.77	10.0	471.60	470.40	18	-
A23	SD - A	SD - A23	LINE A	43		164.5		6.0	474.20	471.60	18	-
B30	SD - A	SD - B30	LINE A	105		2933.9	6.71	15.5	473.60	457.30	18	456.00
B32	SD - A	SD - B32	LINE A	107		3106.5	6.84	16.3	472.60	455.20	18	453.90
B34	SD - A	SD - B34	LINE A	105		2448.0	6.71	15.9	470.60	453.90	18	452.60
B35	CG II	CI - B35	LINE A	219		4367.1		5.6	465.30	453.10	18	451.80
B36	SD - A	SD - B36	LINE A	105		1845.9	6.71	13.9	467.50	452.90	18	451.60
A25	CG II	CI - A25	LINE B	3		36.3		3.0	469.20	469.10	18	468.59
A26	CG II	CI - A26	LINE B	3		32.3		17.0	469.10	468.60	18	468.09
A27	CG II	CI - A27	LINE B	3		33.2		7.0	468.30	468.10	18	467.59
A28	CG II	CI - A28	LINE B	3		31.3		7.0	467.80	467.60	18	467.09
A29	CG II	CI - A29	LINE B	3		27.6		10.0	467.40	467.10	18	466.59
A30	CG II	CI - A30	LINE B	3		17.1		13.0	467.00	466.60	18	466.09
			TOTALS	2520	TOTALS	39299.6	78.89					

NOTE: SD - "X" ; X = CONNECTION TYPE

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SUMMARY SHEET

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		18
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 464

SUMMARY OF STORM SEWER LINES

LAT #	TYPE	LOCATION		CLASS IV 18" 464-519	PC - I 3X2 462-538	ITEM 400-513 SEWER EXCAV. (CU-YD)	ITEM 400-507 CEMENT STAB. BKFL. C.Y.	SLOPE %	INLET ℄ OR OUTFALL ℄	LAT ℄	TRUNK DIA IN	TRUNK ℄
		FROM	TO									
C2	CG II	CI - C2	LINE C	5.5		43.7		2.0	589.68	589.57	18	589.57
C3	CG II	CI - C3	LINE C	5.5		57.2		5.6	588.07	587.76	18	587.76
C4	CG II	CI - C4	LINE C	5.5		45.0		8.5	586.62	586.15	18	586.15
C5	CG II	CI - C5	LINE C	5.5		35.3		9.6	585.38	584.85	18	584.85
C6	SD - A	CI - C6	MH - C6	29.5		62.2		1.9	575.06	574.54	18	-
C7 (EXIST.)	EXISTING	CI - C7	LINE C	45		238.2		4.0	574.89	573.09	18	573.09
C8 (EXIST.)	EXISTING	CI - C8	LINE C	49		114.2	3.73	5.0, 12.75	575.47	571.47	18	571.47
C9	SD - A	SD - C9	LINE C	31.5		208.2		3.9	568.29	567.15	18	567.15
C10	SD - A	SD - C10	LINE C	30		184.4		3.8	560.87	559.80	18	559.80
C11	SD - A	CI - C11	MH - C11	29.5		221.1		4.6	554.26	552.96	18	-
C12	SD - A	SD - C12	LINE C	32		183.5		4.1	544.33	543.07	18	542.57
C13	SD - A	SD - C13	LINE C	36		235.7		3.1	536.44	535.38	18	534.88
C14	SD - A	SD - C14	LINE C	44		408.6		4.6	529.67	527.75	18	527.25
C15	SD - A	SD - C15	LINE C	42		461.3		6.0	523.54	521.15	18	520.65
C16	DI-C-3 GRATES	DI - C16	MH - C16	21		310.3		2.9	520.14	519.64	18	-
C17	SD - A	SD - C17	LINE C	23		300.0		6.0	509.47	508.22	18	507.22
C18	SD - A	SD - C18	LINE C	37		279.1		2.3	493.20	492.38	18	491.88
C19	SD - A	SD - C19	MH - C19	7.5		53.8	0.57	10	481.21	480.61	18	-
C20	RCB PC-1	RCB-C20	MH - C20		27.5	193.5	4.05	10	478.50	475.74	18	-
C21	SD - A	SD - C21	LINE C	8.5		124.4		3.5	474.19	473.98	18	472.48
C22	DI-C-4 GRATES	DI - C22	MH - C22	9		82.4		7.6	470.70	470.02	18	-
C23	SD - A	SD - C23	LINE C	7.5		68.7		7.4	467.00	466.63	18	465.13
C24	SD - A	SD - C24	LINE C	7		52.9		9.0	460.18	459.73	18	458.23
C25	SD - A	SD - C25	LINE C	6.5		50		9.2	454.92	454.46	18	452.96
D2	CG II	CI - D2	LINE D	5.5		41.4		9.1	586.71	586.21	18	586.21
D3	CG II	CI - D3	LINE D	5.5		41.4		3.6	581.70	581.50	18	581.50
D4	SD - A	SD - D4	LINE D	10.5		54.7		8.5	577.24	576.56	18	576.56
D5	SD - A	SD - D5	MH - D5	29		125.1		8.7	576.73	574.37	18	-
D6	SD - A	SD - D6	LINE D	10.5		123.9	0.8	11.8	563.57	562.63	18	562.63
D7	SD - A	SD - D7	LINE D	10.5		173.9		8.0	558.40	557.76	18	557.76
D8	SD - A	SD - D8	MH - D8	9		94.4		6.4	551.13	550.68	18	-
D9	SD - A	SD - D9	LINE D	9.5		64.5		8.5	544.92	544.24	18	543.74
D10	SD - A	SD - D10	LINE D	9.5		56.4		9.4	534.75	534.00	18	533.50
D11	SD - A	SD - D11	MH - D11	10		87.8		1.6	528.36	528.25	18	-
D12	DI-C-1 GRATES	DI - D12	LINE D	24		152.4		2.7	528.25	527.60	18	527.10
D13	CG II	CI - D13	LINE D	5		29.3		3.6	524.32	524.14	18	523.64
D14	CG II	CI - D14	LINE D	5		35.3		5.6	519.62	519.34	18	519.09
D15	CG II	CI - D15	MH - D15	4.5		45.3	0.34	10.7	514.69	514.21	18	-
D16	CG II	CI - D16	LINE D	5		50.4		7.8	508.18	507.79	18	506.79
D17	CG II	CI - D17	LINE D	5		54.4		6.0	502.64	502.34	18	501.34
D18	CG II	CI - D18	LINE D	5		58.9		6.0	496.64	496.34	18	495.34
D19	CG II	CI - D19	MH - D19	4		69.2	0.30	10.8	490.01	489.58	18	-
D20	CG II	CI - D20	LINE D	5		46.6		7.4	485.19	484.82	18	483.82
D21	CG II	CI - D21	LINE D	5		33.8		3.6	481.60	481.42	18	480.42
D22	CG II	CI - D22	MH - D22	4		20.6		3.0	477.96	477.84	18	-
D23	SD - A	SD - D23	LINE D	22		174.2		5.7	469.65	468.52	18	467.02
D24	SD - A	SD - D24	LINE D	59.5		343.3		2.6	458.22	456.74	18	455.24
D25	SD - A	SD - D25	LINE D	8.5		63.7		8.0	450.42	449.86	18	448.36
D26	SD - A	SD - D26	LINE D	92.5		454.4		0.6	447.60	447.05	18	446.81
E2	CG II	CI - E2	LINE E	5.5		2.0		1.3	442.98	442.91	18	442.91
E3	CG II	CI - E3	LINE E	5		0.6		7.8	442.58	442.19	18	442.19
			TOTALS	891.5	27.5	6511.6	9.79					

NOTE: SD - "X" ; X = CONNECTION TYPE

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SUMMARY SHEET

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		19
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 465	SUMMARY OF INLETS							
INLET NUMBER	INLET LOCATION	INLET HEIGHT	CURB & GRATE INLET (TY II) 465-613			GRATE INLET (TY C)		REMARKS
			5'	10'	15'	1 GR. 465-936	3 GR. 465-938	
CI - A1	23' LT. WB STA. 315+00	4.5'			1			CONNECT TO EXIST. SYSTEM
CI - A2	23' LT. WB STA. 316+00	5.0'		1				
CI - A3	23' LT. WB STA. 320+00	5.0'		1				
CI - A4	23' LT. WB STA. 321+51	8.0'		1				
CI - A5	23' LT. WB STA. 322+98	10.0'		1				
CI - A6	23' LT. WB STA. 325+50	5.0'	1					
CI - A7	23' LT. WB STA. 326+50	4.0'		1				
CI - A8	23' LT. WB STA. 327+50	5.0'	1					
CI - A11	4' RT. WB STA. 330+40	10.0'		1				
CI - A19	2' RT. WB STA. 337+80	10.0'		1				
CI - A21	49.5' LT. WB STA. 340+00	6.5'				1		
CI - A22	39' LT. WB STA. 342+00	6.5'				1		
CI - A24	34' LT. WB STA. 344+50	9.0'		1				
CI - A25	34' LT. WB STA. 345+71	8.0'		1				
CI - A26	34' LT. WB STA. 346+71	7.5'		1				
CI - A27	34' LT. WB STA. 347+70	7.5'		1				
CI - A28	34' LT. WB STA. 348+69	7.0'		1				
CI - A29	34' LT. WB STA. 349+69	6.0'			1			
CI - A30	34' LT. WB STA. 350+69	4.5'			1			
CI - B1	23' RT. EB STA. 315+00	5.5'		1				CONNECT TO EXIST. SYSTEM
CI - B2	23' RT. EB STA. 315+30	5.0'	1					CONNECT TO EXIST. SYSTEM
CI - B7	26' RT. EB STA. 321+00	4.5'		1				
CI - B8	26' RT. EB STA. 321+50	5.0'		1				
CI - B9	26' RT. EB STA. 322+50	4.5'		1				
CI - B17	26' RT. EB STA. 330+60	4.5'	1					
CI - B18	26' RT. EB STA. 331+00	5.0'		1				
CI - B19	26' RT. EB STA. 331+35	4.5'		1				
CI - B25	26' RT. EB STA. 337+30	4.5'		1				
CI - B26	26' RT. EB STA. 337+80	5.0'		1				
CI - B27	26' RT. EB STA. 338+30	4.5'		1				
CI - B35	128' RT. EB STA. 349+63	5.0'		1				
CI - C1	34' LT. WB STA. 495+68	4.0'		1				
CI - C2	34' LT. WB STA. 495+33	4.5'		1				
CI - C3	34' LT. WB STA. 494+32	5.0'			1			
CI - C4	34' LT. WB STA. 493+42	4.5'			1			
CI - C5	34' LT. WB STA. 492+84	4.0'			1			
CI - C16	46' LT. WB STA. 482+09	3.5'					1	
CI - C22	32.6' LT. WB STA. 471+10	4.5'				4		4 GRATE INLET
CI - D1	34' RT. EB STA. 494+58	4.0'			1			
CI - D2	34' RT. EB STA. 493+30	5.0'			1			
CI - D3	34' RT. EB STA. 492+19	6.0'			1			
CI - D12	48' RT. EB STA. 484+65	3.5'				1		
CI - D13	34' RT. EB STA. 483+88	3.5'			1			
CI - D14	34' RT. EB STA. 483+00	3.0'			1			
CI - D15	34' RT. EB STA. 481+98	3.0'			1			
CI - D16	34' RT. EB STA. 480+68	3.5'			1			
CI - D17	34' RT. EB STA. 479+59	4.0'			1			
CI - D18	34' RT. EB STA. 478+40	4.5'			1			
CI - D19	34' RT. EB STA. 477+03	5.0'			1			
CI - D20	32' RT. EB STA. 475+50	4.0'			1			
CI - D21	30' RT. EB STA. 474+40	4.0'			1			
CI - D22	28.7' RT. EB STA. 473+26	4.5'			1			
CI - E1	34' LT. WB STA. 461+00	3.0'			1			
CI - E2	34' LT. WB STA. 459+72	3.0'	1					
CI - E3	34' LT. WB STA. 458+50	4.0'		1				
PROJECT TOTAL			5	25	20	7	1	

ITEM 465	SUMMARY OF MANHOLES						
MANHOLE NUMBER	MANHOLE LOCATION	MANHOLE HEIGHT FT.	MANHOLE DIMENSIONS		MANHOLE TYPE		
			X FT.	Y FT.	465-536 TY SPL	TY II 465-587	TY M 465-526
MH - A3	17 LT. WB STA. 320+02	10'	3'	3'		1	
MH - A6	19 LT. WB STA. 325+52	15.1'	3'	3'		1	
MH - A8	19 LT. WB STA. 327+52	15.2'	3'	3'		1	
MH - A10	16 LT. WB STA. 330+50	17.1'	3'	3'		1	
MH - A16	16 LT. WB STA. 335+73	20.1'	3'	3'		1	
MH - A23	28 LT. WB STA. 342+00	24.6'	3'	3'		1	
MH - LINE B	28 LT. WB STA. 351+00	19.9'	3'	3'		1	
MH - B8	17 LT. WB STA. 321+94	11.1'	3'	3'		1	
MH - C6	26 LT. WB STA. 490+24	4.8'	3'	3'		1	
MH - C11	26 LT. WB STA. 487+04	6.8'	3'	3'		1	
MH - C16	21.5 LT. WB STA. 482+02	7.1'	3'	3'		1	
MH - C19	18 LT. WB STA. 474+48	7.3'	4'	4'			1
MH - C20	18 LT. WB STA. 473+20	8.1'	4'	4'			1
MH - C22	18 LT. WB STA. 471+06	8.0'	4.67'	10.67'	1		
MH - D1	26 RT. EB STA. 468+24	7.4'	4'	4'			1
MH - D2	26 RT. EB STA. 463+00	6.1'	10.83'	11.83'	1		
MH - D5	26 RT. EB STA. 490+61	5.6'	3'	3'		1	
MH - D8	26 RT. EB STA. 487+49	5.8'	3'	3'		1	
MH - D11	26 RT. EB STA. 484+71	6.6'	3'	3'		1	
MH - D15	26 RT. EB STA. 481+96	6.2'	3'	3'		1	
MH - D19	26 RT. EB STA. 477+01	7.6'	3'	3'		1	
MH - D22	20 RT. EB STA. 473+24	6.6'	4'	4'			1
				PROJECT TOTALS	2	16	4

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LICENSED PROFESSIONAL ENGINEER
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5-13-99

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SUMMARY SHEET

SHEET 5 OF 12 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		20
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 465	SUMMARY OF INLETS							
INLET NUMBER	INLET LOCATION	INLET HEIGHT	CURB & GRATE INLET (TY II) 465-613			GRATE INLET (TY C)		REMARKS
			5'	10'	15'	1 GR. 465-936	3 GR. 465-938	
CI - A1	23' LT. WB STA. 315+00	4.5'			1			CONNECT TO EXIST. SYSTEM
CI - A2	23' LT. WB STA. 316+00	5.0'		1				
CI - A3	23' LT. WB STA. 320+00	5.0'		1				
CI - A4	23' LT. WB STA. 321+51	8.0'		1				
CI - A5	23' LT. WB STA. 322+98	10.0'		1				
CI - A6	23' LT. WB STA. 325+50	5.0'	1					
CI - A7	23' LT. WB STA. 326+50	4.0'		1				
CI - A8	23' LT. WB STA. 327+50	5.0'	1					
CI - A11	4' RT. WB STA. 330+40	10.0'		1				
CI - A19	2' RT. WB STA. 337+80	10.0'		1				
CI - A21	49.5' LT. WB STA. 340+00	6.5'				1		
CI - A22	39' LT. WB STA. 342+00	6.5'				1		
CI - A24	34' LT. WB STA. 344+50	9.0'		1				
CI - A25	34' LT. WB STA. 345+71	8.0'		1				
CI - A26	34' LT. WB STA. 346+71	7.5'		1				
CI - A27	34' LT. WB STA. 347+70	7.5'		1				
CI - A28	34' LT. WB STA. 348+69	7.0'		1				
CI - A29	34' LT. WB STA. 349+69	6.0'			1			
CI - A30	34' LT. WB STA. 350+69	4.5'			1			
CI - B1	23' RT. EB STA. 315+00	5.5'		1				CONNECT TO EXIST. SYSTEM
CI - B2	23' RT. EB STA. 315+30	5.0'	1					CONNECT TO EXIST. SYSTEM
CI - B7	26' RT. EB STA. 321+00	4.5'		1				
CI - B8	26' RT. EB STA. 321+50	5.0'		1				
CI - B9	26' RT. EB STA. 322+50	4.5'		1				
CI - B17	26' RT. EB STA. 330+60	4.5'	1					
CI - B18	26' RT. EB STA. 331+00	5.0'		1				
CI - B19	26' RT. EB STA. 331+35	4.5'		1				
CI - B25	26' RT. EB STA. 337+30	4.5'		1				
CI - B26	26' RT. EB STA. 337+80	5.0'		1				
CI - B27	26' RT. EB STA. 338+30	4.5'		1				
CI - B35	128' RT. EB STA. 349+63	5.0'		1				
CI - C1	34' LT. WB STA. 495+68	4.0'		1				
CI - C2	34' LT. WB STA. 495+33	4.5'		1				
CI - C3	34' LT. WB STA. 494+32	5.0'			1			
CI - C4	34' LT. WB STA. 493+42	4.5'			1			
CI - C5	34' LT. WB STA. 492+84	4.0'			1			
CI - C16	46' LT. WB STA. 482+09	3.5'					1	
CI - C22	32.6' LT. WB STA. 471+10	4.5'				4		4 GRATE INLET
CI - D1	34' RT. EB STA. 494+58	4.0'			1			
CI - D2	34' RT. EB STA. 493+30	5.0'			1			
CI - D3	34' RT. EB STA. 492+19	6.0'			1			
CI - D12	48' RT. EB STA. 484+65	3.5'				1		
CI - D13	34' RT. EB STA. 483+88	3.5'			1			
CI - D14	34' RT. EB STA. 483+00	3.0'			1			
CI - D15	34' RT. EB STA. 481+98	3.0'			1			
CI - D16	34' RT. EB STA. 480+68	3.5'			1			
CI - D17	34' RT. EB STA. 479+59	4.0'			1			
CI - D18	34' RT. EB STA. 478+40	4.5'			1			
CI - D19	34' RT. EB STA. 477+03	5.0'			1			
CI - D20	32' RT. EB STA. 475+50	4.0'			1			
CI - D21	30' RT. EB STA. 474+40	4.0'			1			
CI - D22	28.7' RT. EB STA. 473+26	4.5'			1			
CI - E1	34' LT. WB STA. 461+00	3.0'			1			
CI - E2	34' LT. WB STA. 459+72	3.0'	1					
CI - E3	34' LT. WB STA. 458+50	4.0'		1				
PROJECT TOTAL			5	25	20	7	1	

ITEM 465	SUMMARY OF MANHOLES						
MANHOLE NUMBER	MANHOLE LOCATION	MANHOLE HEIGHT FT.	MANHOLE DIMENSIONS X FT.	MANHOLE DIMENSIONS Y FT.	MANHOLE TYPE 465-536 TY SPL	MANHOLE TYPE TY II 465-587	MANHOLE TYPE TY M 465-526
MH - A3	17 LT. WB STA. 320+02	10'	3'	3'		1	
MH - A6	19 LT. WB STA. 325+52	15.1'	3'	3'		1	
MH - A8	19 LT. WB STA. 327+52	15.2'	3'	3'		1	
MH - A10	16 LT. WB STA. 330+50	17.1'	3'	3'		1	
MH - A16	16 LT. WB STA. 335+73	20.1'	3'	3'		1	
MH - A23	28 LT. WB STA. 342+00	24.6'	3'	3'		1	
MH - LINE B	28 LT. WB STA. 351+00	19.9'	3'	3'		1	
MH - B8	17 LT. WB STA. 321+94	11.1'	3'	3'		1	
MH - C6	26 LT. WB STA. 490+24	4.8'	3'	3'		1	
MH - C11	26 LT. WB STA. 487+04	6.8'	3'	3'		1	
MH - C16	21.5 LT. WB STA. 482+02	7.1'	3'	3'		1	
MH - C19	18 LT. WB STA. 474+48	7.3'	4'	4'			1
MH - C20	18 LT. WB STA. 473+20	8.1'	4'	4'			1
MH - C22	18 LT. WB STA. 471+06	8.0'	4.67'	10.67'	1		
MH - D1	26 RT. EB STA. 468+24	7.4'	4'	4'			1
MH - D2	26 RT. EB STA. 463+00	6.1'	10.83'	11.83'	1		
MH - D5	26 RT. EB STA. 490+61	5.6'	3'	3'		1	
MH - D8	26 RT. EB STA. 487+49	5.8'	3'	3'		1	
MH - D11	26 RT. EB STA. 484+71	6.6'	3'	3'		1	
MH - D15	26 RT. EB STA. 481+96	6.2'	3'	3'		1	
MH - D19	26 RT. EB STA. 477+01	7.6'	3'	3'		1	
MH - D22	20 RT. EB STA. 473+24	6.6'	4'	4'			1
				PROJECT TOTALS	2	9 16	4

13 C.O. No. 13. Change M.H TYP.

STATE OF TEXAS
MAKRAM BATAINEH
82298
REGISTERED PROFESSIONAL ENGINEER

Makram Bataineh
8-14-01

Minh Tran

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MINH TRAN
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SUMMARY SHEET

SHEET 5 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		20A
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 465	SUMMARY OF STORM SEWER LINES								
LINE	LOCATION		ITEM 465 LINEAR FT. OF CLASS IV PIPE						ITEM 400-513 SEWER EXCAV. (CU-YD)
	FROM	TO	18" 464-519	24" 464-520	30" 464-521	36" 464-522	42" 464-523	48" 464-524	
A	CI - A2	MH - A3		405					4103.1
A	MH - A3	MH - B8			188				2788.3
A	MH - B8	MH - A6				354			7225.8
A	MH - A6	MH - A10					490		14113.0
A	MH - A10	MH - A16						519	19912.3
A	MH - A16	MH - A23	REFER TO REINFORCED BOX CULVERT SUMMARY						
B	CI - A24	MH - LINE B			645.5				32491.1
C	CI - C1	GB - C1	275						1894.6
C	GB - C1	MH - C6	270.5						1461.7
C	MH - C6	MH - C11	317						1892.3
C	MH - C11	MH - C16		499					7246.5
C	MH - C16	MH - C19			751				12438.2
C	MH - C19	MH - C20				123			1822.1
C	MH - C20	MH - C22	REFER TO REINFORCED BOX CULVERT SUMMARY						
D	CI - D1	MH - D5	398.5						1849.4
D	MH - D5	MH - D8	309						2621.5
D	MH - D8	MH - D11		275					3128.8
D	MH - D11	MH - D15		272					2927.1
D	MH - D15	MH - D19			492				9119.9
D	MH - D19	MH - D22			374				5604.6
D	MH - D22	MH - D1				496.5			5992.5
D	MH - D1	MH - D2				517.5			7599.3
D	MH - D2	OUTFALL	REFER TO REINFORCED BOX CULVERT SUMMARY						
E	CI - E1	OUTFALL	412						486.1
		PROJECT TOTALS	1982	1451	2450.5	1491	490	519	146718.2

SUMMARY OF STORM SEWER LINES								
LINE	LOCATION		ITEM 462 LINEAR FT. OF REINFORCED BOX CULVERT					ITEM 400-513 SEWER EXCAV. (CU-YD)
	FROM	TO	3X2 462-538	5X3 462-544	6X3 462-550	7X3 462-554	5X4 462-545	
A	MH - A16	MH - A23					623	32491.1
A	MH - A23	MH - LN B					896	46626.8
A	MH - LN B	OUTFALL					493	9134.5
C	MH - C20	MH - C22		210				3835.3
C	MH - C22	MH - D2			817.5			14728.7
								193.5
D	MH - D2	OUTFALL				208.5		2617.1
		PROJECT TOTALS	-	210	817.5	208.5	2012	107009.9

ITEM 474	SUMMARY OF SLOTTED DRAINS		
SLOT DRAIN NUMBER	UPSTREAM END LOCATION	LINEAR FT. OF SLOTTED DRAIN 18" 474-505	24" 474-509
SD - A9	1' RT. WB STA. 328+80		40
SD - A10	1' RT. WB STA. 330+20		20
SD - A13	14' RT. WB STA. 332+60		20
SD - A16	5' RT. WB STA. 335+40		20
SD - A18	1' RT. WB STA. 337+10		20
SD - A20	1' RT. WB STA. 338+55		30
SD - A23	14' RT. WB STA. 342+00	20	
SD - B3	25' RT. EB STA. 316+00		20
SD - B4	25' RT. EB STA. 317+20		20
SD - B5	25' RT. EB STA. 319+30		20
SD - B6	25' RT. EB STA. 320+30		20
SD - B10	25' RT. EB STA. 323+30	30	
SD - B11	25' RT. EB STA. 325+30		20
SD - B12	25' RT. EB STA. 326+30		20
SD - B13	25' RT. EB STA. 327+40		20
SD - B14	25' RT. EB STA. 328+40		20
SD - B15	25' RT. EB STA. 329+25		15
SD - B16	25' RT. EB STA. 330+05		15
SD - B20	25' RT. EB STA. 332+05		15
SD - B21	25' RT. EB STA. 332+75		15
SD - B22	25' RT. EB STA. 333+47		15
SD - B23	25' RT. EB STA. 334+80		20
SD - B24	25' RT. EB STA. 336+10		20
SD - B28	25' RT. EB STA. 339+20		20
SD - B30	33' RT. EB STA. 342+00	20	
SD - B31	33' RT. EB STA. 344+16		25
SD - B32	33' RT. EB STA. 345+70		30
SD - B33	33' RT. EB STA. 347+07		25
SD - B34	33' RT. EB STA. 348+36		25
SD - B36	33' RT. EB STA. 350+02		50
SD - C6	1' RT. WB STA. 491+17	80	
SD - C9	1' RT. WB STA. 489+96	70	
SD - C10	1' RT. WB STA. 488+46	30	
SD - C11	1' RT. WB STA. 487+58	40	
SD - C12	1' RT. WB STA. 486+01	30	
SD - C13	3.8' RT. WB STA. 484+98	40	
SD - C14	14' RT. WB STA. 483+90	40	
SD - C15	14' RT. WB STA. 482+97	30	
SD - C17	2' RT. WB STA. 480+43	40	
SD - C18	14' RT. WB STA. 477+90	60	
SD - C19	26' LT. WB STA. 475+10	60	
SD - C21	26' LT. WB STA. 472+98	50	
SD - C23	26' LT. WB STA. 470+42	50	
SD - C24	26' LT. WB STA. 468+00	50	
SD - C25	26' LT. WB STA. 466+00	50	
SD - D4	34' RT. EB STA. 491+54	50	
SD - D5	EB STA. 491+25	50	
SD - D6	34' RT. EB STA. 489+78	70	
SD - D7	34' RT. EB STA. 488+95	50	
SD - D8	34' RT. EB STA. 488+22	70	
SD - D9	34' RT. EB STA. 487+41	70	
SD - D10	34' RT. EB STA. 486+13	70	
SD - D11	34' RT. EB STA. 485+33	60	
SD - D23	2' LT. EB STA. 470+61	60	
SD - D24	14' LT. EB STA. 466+50	50	
SD - D25	34' RT. EB STA. 463+77	50	
SD - D26	26' LT. WB STA. 463+60	50	
	PROJECT TOTALS	1490	600

ITEM 466	SUMMARY OF HEADWALLS AND WINGWALLS		
LINE	LOCATION ℄ STA.	TY FW-N H=2' 466-539 ⚠1	TY SWW H=4' 466-811 ⚠1
A	WB 355+27 90' RT		1
C	WB 473+40 42' LT	1	
	PROJECT TOTALS	1	1

ITEM 467	SUMMARY OF SAFETY END TREATMENTS	
LINE	LOCATION ℄ STA.	TY II 18 IN RCP, 6:1 467-580
E	WB 457+00 69' LT	1
	PROJECT TOTALS	1

ITEM 474	SUMMARY OF SLOT. DRAIN CONNECTIONS	
FROM	TO	LINEAR FT. OF SLOT. DRAIN CONNECTION 24" 474-510
SD - A10	SD - A9	100
SD - B3	SD - B4	100
SD - B6	SD - B5	80
SD - B12	SD - B11	80
SD - B14	SD - B13	80
SD - B16	SD - B15	70
SD - B20	SD - B21	55
SD - B21	SD - B22	57
SD - B24	SD - B23	110
SD - B32	SD - B31	129
SD - B34	SD - B33	104
	PROJECT TOTALS	965

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SUMMARY SHEET

SHEET 6 OF 12 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		21
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 496 SUMMARY OF REMOVE OLD STRUCTURES

LOCATION ℄ STA.	LARGE (EA) 496-501	SMALL (EA) 496-502			PIPE (LF) 496-504				
		INLET	CULVERT	BOX	18"	21"	24"	27"	30"
EXISTING BRIDGE	1								
WEST OF BRIDGE									
STA 324+50				5'X2'X36'					
STA 331+80							55		
STA 333+80					56				
STA 335+50							57		
STA 336+50							55		
STA 340+50, N. OF SH66							1160	30	
STA 340+50, S. OF SH66		4			30		582	390	53
STA 348+20							55		
STA 350+20							55		
EAST OF BRIDGE									
STA 462+00							82		
STA 473+25					40				
STA 475+00					52				
STA 477+50					26				
STA 478+25					31				
EAST OF BRIDGE									
RUSK STREET									
STA 479+80					21				
STA 482+00					37				
STA 483+80					20				
STA 484+75					49				
STA 486+80 (N. OF RUSK)							58		
STA 486+80 (S. OF RUSK)					45				
STA 489+10 (N. OF RUSK)					34				
STA 489+10 (S. OF RUSK)					141	50	100		
STA 490+50		2							
WASHINGTON STREET									
STA 480+00							30		
STA 481+00							30		
STA 481+45							33		
STA 481+55							40		
STA 481+60							37		
STA 484+10					25				
STA 484+40					19				
STA 486+30 (N. OF WASH.)					30				
STA 486+30 (S. OF WASH.)					21				
STA 486+90							45		
STA 488+80					34				
STA 490+00		2			65				
STA 490+50					65				
STA 491+30					65				
STA 492+00					65				
STA 492+30					35				
PROJECT TOTALS	1	8	-	1	1006	50	2474	420	53

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SHEET 7 OF 12 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		22
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

SUMMARY SHEET

REPLACED 6-28-99 DLP

TFF445

ITEM 508 SUMMARY OF CONSTRUCTION DETOURS

DETOUR	STAGE/PHASE	LOCATION ℄ STA.	CONSTRUCT DETOURS (CL 4) (EA) 508-504	DETOUR WIDTH (LF)	⚠ 8" TEMP. ACP (TONS)
1	STAGE 1 PHASE 1	WB STA. 347+00 TO 353+00	1	38	800
2	STAGE 1 PHASE 1	WB STA. 456+00 TO 462+00	1	38	1002
3	STAGE 1 PHASE 2	S.W. QUADRANT (SCENIC DR.)	1	22	163.5
4	STAGE 1 PHASE 2	N.W. QUADRANT (SCENIC DR.)	1	22	223
5	STAGE 1 PHASE 2	WB STA. 460+50	1	20	184
6	STAGE 1 PHASE 2	N.W. QUADRANT (LAKESHORE DR.)	1	22	179.4
7	STAGE 2 PHASE 1	WB STA. 478+00 TO 483+50	1	VARIES	560
8	STAGE 2 PHASE 1	EB STA. 478+00 TO 481+40	1	VARIES	300
9	STAGE 2 PHASE 1	EB 486+20 (SECOND STREET)	1	10	91.08
		PROJECT TOTAL	9	-	-

ITEM 512 SUMMARY OF PORTABLE CONCRETE TRAFFIC BARRIER

STAGE/PHASE	LOCATION ℄ STA. SEQUENCE OF WORKSHEETS	INSTALL (LF) 512-513	MOVE AND RESET (LF) 512-517	REMOVE (LF) 512-518
STAGE 1 PHASE 1	EB STA. 343+00 TO 355+00	440		
STAGE 1 PHASE 1	EB STA. 451+00 TO 464+00	280		
STAGE 1 PHASE 2	EB STA. 343+00 TO 355+00		200	
STAGE 2 PHASE 1	EB STA. 313+00 TO 331+00	1640		
STAGE 2 PHASE 1	EB STA. 331+00 TO 355+00	1930		
STAGE 2 PHASE 1	EB STA. 455+00 TO 476+00	1770		
STAGE 2 PHASE 1	EB STA. 476+00 TO 496+00	740		
STAGE 2 PHASE 2	EB STA. 313+00 TO 331+00		160	
STAGE 2 PHASE 2	EB STA. 331+00 TO 355+00		750	
STAGE 2 PHASE 2	EB STA. 455+00 TO 476+00		640	
STAGE 2 PHASE 2	EB STA. 476+00 TO 496+00		200	
STAGE 2 PHASE 3	EB STA. 331+00 TO 355+00		570	
STAGE 2 PHASE 3	EB STA. 455+00 TO 476+00		80	
STAGE 2 PHASE 4	EB STA. 331+00 TO 355+00		420	
STAGE 2 PHASE 4	EB STA. 455+00 TO 476+00		100	
STAGE 2 PHASE 4	EB STA. 476+00 TO 496+00		3300	
STAGE 3 PHASE 1	EB STA. 476+00 TO 496+00		2960	
STAGE 3 PHASE 1	EB STA. 313+00 TO 496+00			6800
	PROJECT TOTAL	6800	9380	6800

ITEM 529 SUMMARY OF CURB AND GUTTER

LOCATION ℄ STA.	DOWEL (TY 1) (LF) 529-551
EB STA. 340+10 TO 341+00	100
PROJECT TOTAL	100

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SUMMARY SHEET

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		23
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

$$$$$$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$$$$$$ $$$$date$$$$

ITEM 534 SUMMARY OF STRUCTURAL APPROACH SLAB	
LOCATION ℄ STA.	CONCRETE (CY) 534-501
WB STA. 352+93 TO STA. 353+13	33.20
WB STA. 455+93 TO STA. 456+13	33.20
EB STA. 352+83 TO STA. 353+03	27.67
EB STA. 396+63 TO STA. 396+83	27.67
PROJECT TOTAL	121.73

ITEM 536 SUMMARY OF CONCRETE MEDIAN	
LOCATION ℄ STA.	MEDIAN (SY) 536-502
WB STA. 313+00 TO STA. 318+04	258.5
WB STA. 465+65 TO STA. 468+60	175.1
WB STA. 469+23 29' LT.	31.1
EB STA. 347+00 TO STA. 349+30	560.0
EB STA. 350+50 TO STA. 351+75	249.0
EB STA. 469+00 40' RT.	23.3
PROJECT TOTAL	1297.0

ITEM 540 SUMMARY OF METAL BEAM GUARD FENCE		
* LOCATION ℄ STA.	12 GA. TIMBER POST (LF) 540-506	12 GA. STEEL POST (LF) 540-508
EB STA. 351+96 TO 352+93	197	
EB STA. 396+83 TO 458+70		12374
WB STA. 456+13 TO 457+13	200	
PROJECT TOTAL	397	12374

* STATIONING EXCLUDES LENGTH OF S.G.T.S.

ITEM 542 SUMMARY OF REMOVING METAL BEAM GUARD FENCE	
LOCATION ℄ STA.	(LF) 542-501
EB&WB STA. 351+40 TO 352+93	306
EB&WB STA. 396+83 TO 458+70	12374
PROJECT TOTAL	12680

** ITEM 658 SUMMARY OF DELIN. & OBJECT MARKERS			
LOCATION ℄ STA.	TY 3, OM-3L (EA) 658-578	TY 3, OM-3R (EA) 658-579	TY 2, OM-2SR (A) (EA) 658-562
WB STA. 340+00 49.5' LT.			1
WB STA. 342+00 39.0' LT.			1
WB STA. 482+09 46.0' LT.			1
WB STA. 471+10 32.6' LT.			1
WB STA. 484+65 48.0' RT.			1
WB STA. 473+40 26.0' LT.			1
WB STA. 457+00 70.0' LT.			1
EB STA. 353+00	2	2	
PROJECT TOTAL	2	2	7

**SEE PAVEMENT MARKINGS SHEETS FOR FURTHER INFORMATION.

ITEM 560 SUMMARY OF MAILBOXES	
LOCATION ℄ STA.	SINGLE (EA) 560-501
WB STA. 477+61	1
WB STA. 481+68	1
WB STA. 483+68	1
WB STA. 484+73	1
PROJECT TOTAL	4

ITEM 662 SUMMARY OF WORK ZONE PAVT. MARKING				
STAGE/PHASE	LOCATION ℄ STA.	WRK ZN PAV MRK RAISED (TY I-A) (EA) 662-541	WRK ZN PAV MRK RAISED (TY I-C) (EA) 662-542	WRK ZN PAV MRK RAISED (TY II A-A) (EA) 662-543
STAGE 1 PHASE 2	EB STA. 343+00 TO 353+00		23	40
STAGE 1 PHASE 2	EB STA. 353+00 TO 456+00		518	1032
STAGE 1 PHASE 2	EB STA. 436+00 TO 464+00		25	52
STAGE 2 PHASE 1	EB STA. 314+00 TO 353+00		198	392
STAGE 2 PHASE 1	EB STA. 456+00 TO 476+00		102	202
STAGE 2 PHASE 2	EB STA. 314+00 TO 353+00		99	392
STAGE 2 PHASE 2	EB STA. 456+00 TO 483+50		70	278
STAGE 2 PHASE 4	EB STA. 314+00 TO 353+00		99	392
STAGE 2 PHASE 4	EB STA. 456+00 TO 478+00		56	222
STAGE 2 PHASE 4	EB STA. 478+00 TO 496+00	46	46	
STAGE 3 PHASE 1	EB STA. 478+00 TO 496+00	46	46	4
	PROJECT TOTAL	92	1282	3002

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SUMMARY SHEET

SHEET 9 OF 12 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		24
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ITEM 666	PAVEMENT MARKINGS													
LOCATION	FROM STATION ℄ STA.	TO STATION ℄ STA.	PAV MARK TYPE I 4" (WHT SLD) (LF) 666 - 501	PAV MARK TYPE I 4" (WHT BRK) (LF) 666 - 502	PAV MARK TYPE I 8" (WHT SLD) (LF) 666 - 506	PAV MARK TYPE I 4" (YLW SLD) (LF) 666 - 524	PAV MARK TYPE I 4" (YLW BRK) (LF) 666 - 525	PAV MARK TYPE II 4" (WHT SLD) (LF) 666 - 535	PAV MARK TYPE II 4" (WHT BRK) (LF) 666 - 536	PAV MARK TYPE II 8" (WHT SLD) (LF) 666 - 539	PAV MARK TYPE II 4" (YLW SLD) (LF) 666 - 556	PAV MARK TYPE II 4" (YLW BRK) (LF) 666 - 557	PAV MARK TYPE I 12" (YLW SLD) (LF) 666 - 530	PAV MARK TYPE II 12" (YLW SLD) (LF) 666 - 561
SHEET 1 OF 7	313+13	325+35	2281.0	624.0	715.0	1740.0		2281.0	624.0	715.0	1740.0			
SHEET 1 OF 7	325+35	339+68	2715.0	560.0	567.0	2735.0		2715.0	560.0	567.0	2735.0			
SHEET 2 OF 7	339+68	354+18	2579.0	680.0	291.0	2717.0		2579.0	680.0	291.0	2717.0			
SHEET 2 OF 7	354+18	368+71	3037.0	720.0		2906.0		3037.0	720.0		2906.0			
SHEET 3 OF 7	368+71	383+23	2904.0	720.0		2904.0		2904.0	720.0		2904.0			
SHEET 3 OF 7	383+23	397+76	2906.0	720.0		2906.0		2906.0	720.0		2906.0			
SHEET 4 OF 7	397+76	412+28	2904.0	720.0		2904.0		2904.0	720.0		2904.0			
SHEET 4 OF 7	412+28	426+80	2904.0	720.0		2904.0		2904.0	720.0		2904.0			
SHEET 5 OF 7	426+80	441+33	2906.0	720.0		2906.0		2906.0	720.0		2906.0			
SHEET 5 OF 7	441+33	455+85	2904.0	720.0		2904.0		2904.0	720.0		2904.0			
SHEET 6 OF 7	455+85	470+40	2712.0	634.0	676.0	2455.0		2712.0	634.0	676.0	2455.0			
SHEET 6 OF 7	470+40	483+49	2424.0	824.0	705.0	2391.0		2424.0	824.0	705.0	2391.0			
SHEET 7 OF 7	483+49	496+26	2409.0	1068.0	560.0	3399.0		2409.0	1068.0	560.0	3399.0		295.0	295.0
PROJECT TOTALS			35585.0	9430.0	3514.0	35771.0	-	35585.0	9430.0	3514.0	35771.0	-	295.0	295.0

ITEM 531	SUMMARY OF SIDEWALK		
LOCATION	FROM STATION EB ℄ STA.	TO STATION EB ℄ STA.	SIDE-WALK (SY) 531 - 502
* SHEET 7 OF 8	451+00	476+00	1897.5
* SHEET 8 OF 8	476+00	495+80	1893.7
PROJECT TOTALS			3791.2

* SEE PAVING PLAN

ITEM 678	PAVEMENT SURFACE PREPARATION FOR MARKINGS						
LOCATION	FROM STATION ℄ STA.	TO STATION ℄ STA.	PAV SURF PREP FOR MRKS (4") (LF) 678 - 501	PAV SURF PREP FOR MRKS (8") (LF) 678 - 503	PAV SURF PREP FOR MRKS (12") (LF) 678 - 504	PAV SURF PREP FOR MRKS (24") (LF) 678 - 506	* PAV SURF PREP FOR MRKS (ARROW) (EA) 678 - 507
SHEET 1 OF 7	313+13	325+35	4645.0	715.0		64.0	1.0
SHEET 1 OF 7	325+35	339+68	6010.0	567.0		-	1.0
SHEET 2 OF 7	339+68	354+18	5976.0	291.0	614.0	130.0	3.0
SHEET 2 OF 7	354+18	368+71	6663.0				
SHEET 3 OF 7	368+71	383+23	6528.0				
SHEET 3 OF 7	383+23	397+76	6532.0				
SHEET 4 OF 7	397+76	412+28	6528.0				
SHEET 4 OF 7	412+28	426+80	6528.0				
SHEET 5 OF 7	426+80	441+33	6532.0				
SHEET 5 OF 7	441+33	455+85	6528.0				
SHEET 6 OF 7	455+85	470+40	5801.0	676.0	124.0	169.0	11.0
SHEET 6 OF 7	470+40	483+49	5639.0	705.0			
SHEET 7 OF 7	483+49	496+26	6876.0	560.0	924.0	132.0	9.0
PROJECT TOTALS			80786.0	3514.0	1662.0	495.0	25.0

* THIS ITEM INCLUDES 15.0 PAVMENT SURFACE PREP FOR MARKS (ARROW) AND 10.0 PAVEMENT SURFACE PREP FOR MARKS FOR WORD (ONLY)

SUMMARY OF PREFAB AND RAISED PAVMENT MARKINGS								
			ITEM 668				ITEM 672	
LOCATION	FROM STATION ℄ STA.	TO STATION ℄ STA.	PREFAB TY C (WHT) (ARROW) (EA) 668-571	PREFAB TYPE C 12" (WHT SLD) (LF) 668-567	PREFAB TYPE C 24" (WHT SLD) (LF) 668-570	PREFAB TY C (WHT) (WORD) (EA) 668-575	RAISED PAV MARK TYPE I-C-R (EA) 672 - 510	RAISED PAV MARK TYPE II-A-A (EA) 672 - 509
SHEET 1 OF 7	313+13	325+35			64.0	1.0	30.0	
SHEET 1 OF 7	325+35	339+68				1.0	28.0	
SHEET 2 OF 7	339+68	354+18	2.0	614.0	130.0	1.0	34.0	
SHEET 2 OF 7	354+18	368+71					36.0	
SHEET 3 OF 7	368+71	383+23					36.0	
SHEET 3 OF 7	383+23	397+76					36.0	
SHEET 4 OF 7	397+76	412+28					36.0	
SHEET 4 OF 7	412+28	426+80					36.0	
SHEET 5 OF 7	426+80	441+33					36.0	
SHEET 5 OF 7	441+33	455+85					36.0	
SHEET 6 OF 7	455+85	470+40	7.0		169.0	4.0	32.0	
SHEET 6 OF 7	470+40	483+49					41.0	
SHEET 7 OF 7	483+49	496+26	6.0	629.0	132.0	3.0	54.0	
PROJECT TOTALS			19.0	1243.0	495.0	10.0	471.0	-

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SHEET 10 OF 12 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.			SHEET NO.
	NH 99 (367)			25
STATE	STATE DIST.NO.	COUNTY		
TEXAS	18	ROCKWALL		
CONT.	SECT.	JOB	HIGHWAY NO.	
0009	04	039	SH 66	

SUMMARY SHEET

REPLACED 6-28-99 DLP

$$$$$$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$$$$$$$$ $$$$date$$$$

ITEM 5001 TEMPORARY METAL BEAM GUARD FENCE			
STAGE/PHASE	LOCATION ℄ STA.	(12 GA) (LF) 5001-501	(MOVE & RESET) (LF) 5001-504
STAGE I PHASE II	WB STA. 351+93 TO 352+93	200	200
STAGE I PHASE II	WB STA. 456+13 TO 457+13	200	200
	PROJECT TOTAL	400	400

ITEM 5005 SUMMARY OF ROCK FILTER DAMS (TY I)		
LOCATION	DAM (LF) 5005-501	REMOVE (LF) 5005-503
SW3P SHEET4	525	525
PROJECT TOTAL	525	525

ITEM 5007 SUMMARY OF BALED HAY			
LOCATION	INSTALL (EA) 5007-501	(REMOVE & REPLACE) (EA) 5007-502	(REMOVE) (EA) 5007-503
WB STA. 471+00 AT 4 Grate Inlet	14	7	14
EB STA. 484+60 AT Single Grate Inlet	4	2	4
PROJECT TOTAL	18	9	18

ITEM 5249 TEMPORARY SEDIMENT CONTROL FENCE				ITEM 5012 EARTHWORK (EROSN CONT) (CL 2)	ITEM 169 SOIL RETENTION BLANKET	
LOCATION	INSTALL (LF) 5249-501	REMOVE & REPLACE (LF) 5249-502	REMOVE (LF) 5249-503	(CY) 5012-505	CLASS I TY A (SY) 169-501	CLASS 2 TY H (SY) 169-514
SW3P SHEET 1	120	60	120	1020	7009	
SW3P SHEET2	240	120	240	2040	8024	
SW3P SHEET3	150	75	150	1275	8578	
SW3P SHEET 4	90	45	90	5228	10061	
SW3P SHEET 5	240	120	240	2040	3878	67
SW3P SHEET 6	300	150	300	2550	10185	
PROJECT TOTAL	1140	570	1140	14153	47735	67

ITEM 5469 SUMMARY OF SINGLE GUARDRAIL TERMINAL		
STAGE/PHASE	LOCATION ℄ STA.	SINGLE (EA) 5469-501
	EB STA. 351+96	2
	EB&WB STA. 457+13	2
	PROJECT TOTAL	4

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SUMMARY SHEET

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
	NH 99 (367)		26
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

$$$$$$$$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$$$$$$$$ $$$$date$$$$

SIGNAL AND SIGNING SUMMARY

ITEM DESCRIPTION	UNIT	QUANTITY
ITEM 618		
CONDUIT (PVC)(2")	LF	2177
CONDUIT (PVC)(3")	LF	830
CONDUIT (PVC)(3")(BORE)	LF	77
CONDUIT (PVC)(1")	LF	548
ITEM 620		
ELEC COND (NO. 6) BARE	LF	1121
ELEC COND (NO.12) XHHW	LF	880
ELEC COND (NO. 8) XHHW	LF	1495
ELEC COND (NO. 6) XHHW	LF	174
ITEM 624		
GROUND BOX TY A (122311) W/APRON	EA	20
GROUND BOX TY C (162911) W/APRON	EA	3
ITEM 628		
ELEC SERV TY T(120/240)000(NS)GS(E)TP(O)	EA	1
ITEM 634		
PLYWOOD SIGNS (TY A)	SF	22.5
ITEM 644		
SMALL RDSD SGN ASSM (TY A)	EA	88
SMALL RDSD SGN ASSM (TY A-RM)	EA	1
SMALL RDSD SGN ASSM (TY B)	EA	4
SMALL RDSD SGN ASSM (TY C)	EA	2
SMALL RDSD SGN ASSM (TY D-1)	EA	4
SMALL RDSD SGN ASSM (TY F)	EA	6
SMALL RDSD SGN ASSM (TY F-SPL)	EA	19
ITEM 647		
LG RDSD SGN SUPT (STRUCT STL)	LB	171.8
ITEM 649		
REMOV LARGE RDSD SGN ASSM	EA	1
ITEM 656		
FND LG RDSD SGN SUPT (12" DRIL SHFT)	LF	7
FND FOR TRAF SIG (30" DRIL SHFT)	LF	79.1
FND FOR TRAF SIG (36" DRIL SHFT)	LF	79.2
TRAF SIG CNTRL FND	CY	4.0
ITEM 680		
INSTALL TRAF SIGNAL (ISOLATED)	EA	1
ITEM 681		
INSTAL TEMP TRAF SIGNAL	EA	1

ITEM DESCRIPTION	UNIT	QUANTITY
ITEM 682		
VEH SIG SEC (12")	EA	106
PED SIG SEC (2 INDICATIONS IN 1 SEC)	EA	22
BACKPLATE (3 SEC)(12")	EA	22
BACKPLATE (5 SEC)(12")	EA	8
ITEM 684		
TRAF SIG CBL(TY A)(5 CONDR)(12 AWG)	LF	33
TRAF SIG CBL(TY A)(12 CONDR)(12 AWG)	LF	765
TRAF SIG CBL(TY A)(15 CONDR)(12 AWG)	LF	1020
TRAF SIG CBL(TY C)(2 CONDR)(18 AWG)	LF	12322
TRAF SIG CBL(TY A)(5 CONDR)(16 AWG)	LF	1136
TRAF SIG CBL(TY A)(7 CONDR)(16 AWG)	LF	496
ITEM 686		
TRAF SIG POLE ASM (STL)1 ARM (28 FT)	EA	1
TRAF SIG POLE ASM (STL)1 ARM (32 FT)	EA	4
TRAF SIG POLE ASM (STL)1 ARM (32 FT)LUM	EA	1
TRAF SIG POLE ASM (STL)1 ARM (40 FT)LUM	EA	2
TRAF SIG POLE ASM (STL)1 ARM (44 FT)LUM	EA	1
TRAF SIG POLE ASM (STL)1 ARM (48 FT)LUM	EA	1
TRAF SIG POLE ASM (STL)1 ARM (20 FT)ILSN	EA	1
TRAF SIG POLE ASM (STL)1 ARM (40 FT)ILSN	EA	1
TRAF SIG POLE ASM (STL)1 ARM (44 FT)ILSN	EA	1
ITEM 688		
PED DETECT (PUSH BTN)	EA	22
VEH DETECT (SAWCUT)	LF	3751
ITEM 6010		
SALV TRAF SIG	EA	1
ITEM 6210		
INTER LIGHT STR NAME SGN (6') (TY S)	EA	3
INTER LIGHT STR NAME SGN (8') (TY S)	EA	2
ITEM 6996		
COAX CBL	LF	180
UNI-DRL ANTENNA	EA	4
SPREAD SPECTRUM RADIO RECEIVER	EA	4

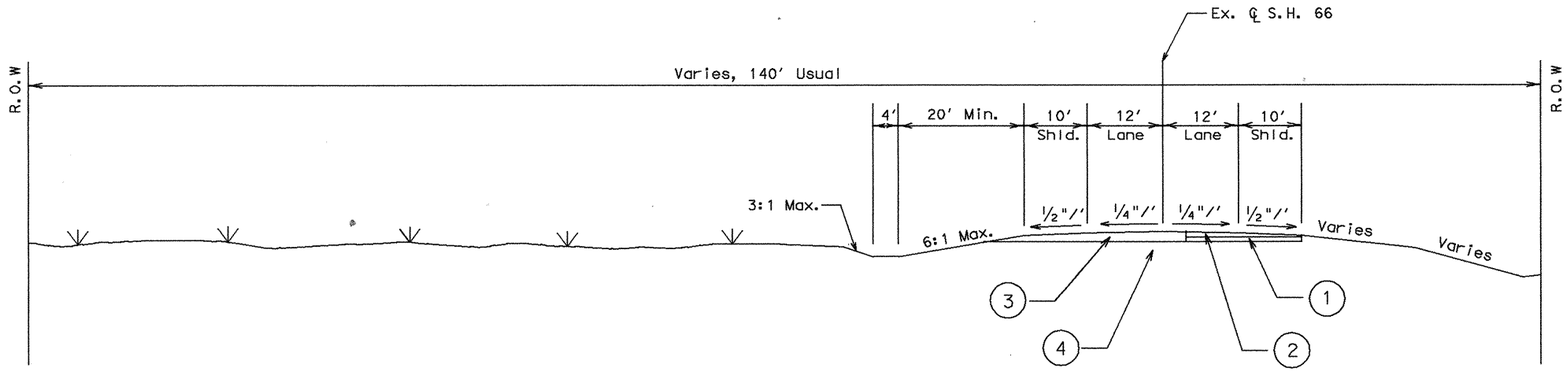
REPLACED 6-28-99 DLP

PROJECT SUMMARY
SIGNAL AND SIGNING

SHEET 12 of 12

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		27
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$



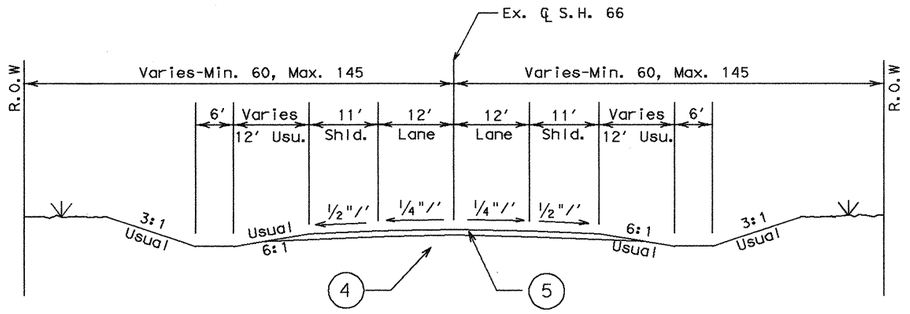
W.B. Sta. 312+40 to W.B. Sta. 329+90

E.B. Sta. 312+40 to E.B. Sta. 329+90

EXISTING S.H. 66 TYPICAL SECTION

LEGEND

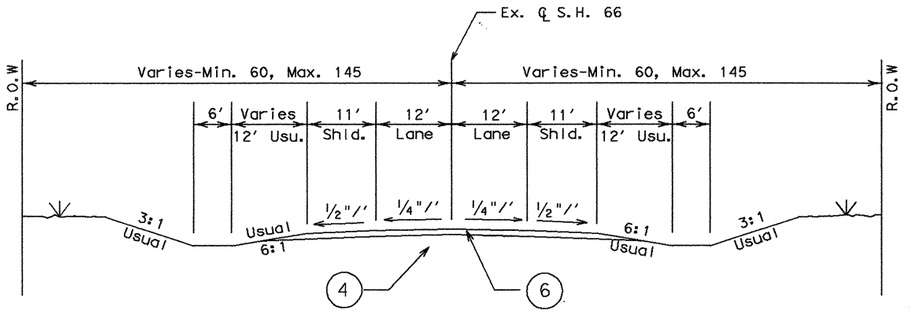
(1)	6.75" CONCRETE PAVEMENT (AVERAGE)
(2)	8.75" ASPHALT PAVEMENT (AVERAGE)
(3)	12" ASPHALT PAVEMENT (AVERAGE)
(4)	SUBGRADE
(5)	8" ASPHALT PAVEMENT (AVERAGE)
(6)	6" ASPHALT PAVEMENT (AVERAGE)
(7)	6.5" ASPHALT PAVEMENT (AVERAGE)
(8)	6.25" ASPHALT PAVEMENT (AVERAGE)
(9)	2" ASPHALT PAVEMENT (AVERAGE)
(10)	5" CONCRETE PAVEMENT (AVERAGE)



W.B. Sta. 329+90 to W.B. Sta. 353+20

E.B. Sta. 329+40 to E.B. Sta. 353+00

EXISTING S.H. 66 TYPICAL SECTION



W.B. Sta. 458+60 to E.B. Sta. 471+60

E.B. Sta. 458+50 to E.B. Sta. 471+50

EXISTING S.H. 66 TYPICAL SECTION

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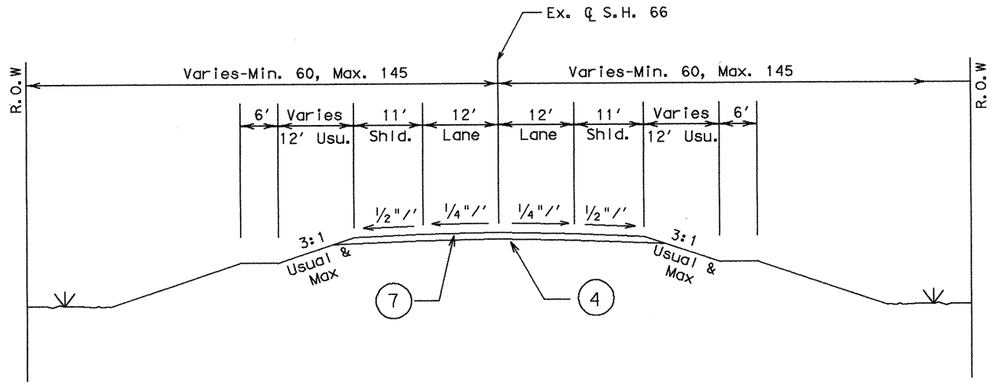
TYPICAL SECTIONS

NOT TO SCALE

SHEET 1 OF 5 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		28
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	039	SH 66

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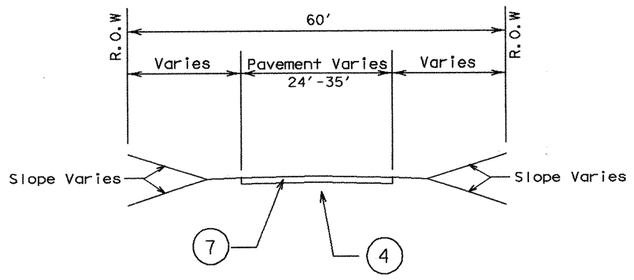


W.B. Sta. 396+50 to W.B. Sta. 458+60

E.B. Sta. 396+40 to E.B. Sta. 458+50

EXISTING S.H. 66 TYPICAL SECTION

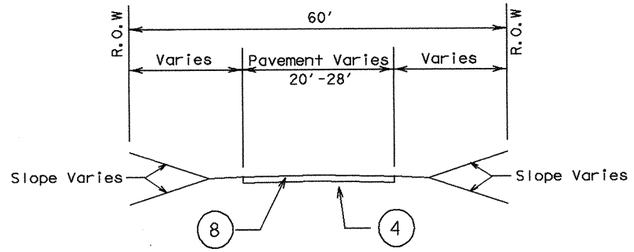
FILL SECTION ACROSS LAKE RAY HUBBARD



W.B. Sta. 479+30 to W.B. Sta. 496+30

EXISTING S.H. 66 TYPICAL SECTION

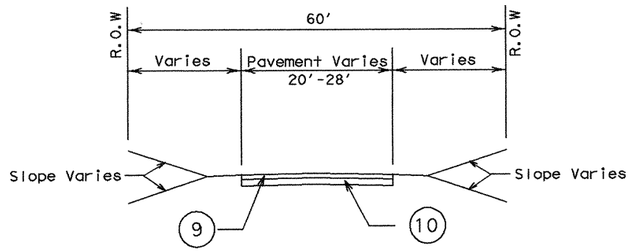
RUSK STREET



E.B. Sta. 479+20 to E.B. Sta. 488+50

EXISTING TYPICAL SECTION

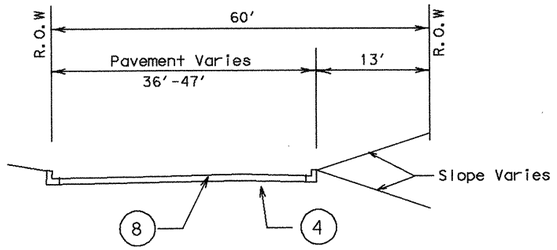
WASHINGTON STREET



E.B. Sta. 488+50 to E.B. Sta. 495+80

EXISTING TYPICAL SECTION

WASHINGTON STREET



EXISTING TYPICAL SECTION

ALAMO STREET

LEGEND

(1)	6.75" CONCRETE PAVEMENT (AVERAGE)
(2)	8.75" ASPHALT PAVEMENT (AVERAGE)
(3)	12" ASPHALT PAVEMENT (AVERAGE)
(4)	SUBGRADE
(5)	8" ASPHALT PAVEMENT (AVERAGE)
(6)	6" ASPHALT PAVEMENT (AVERAGE)
(7)	6.5" ASPHALT PAVEMENT (AVERAGE)
(8)	6.25" ASPHALT PAVEMENT (AVERAGE)
(9)	2" ASPHALT PAVEMENT (AVERAGE)
(10)	5" CONCRETE PAVEMENT (AVERAGE)

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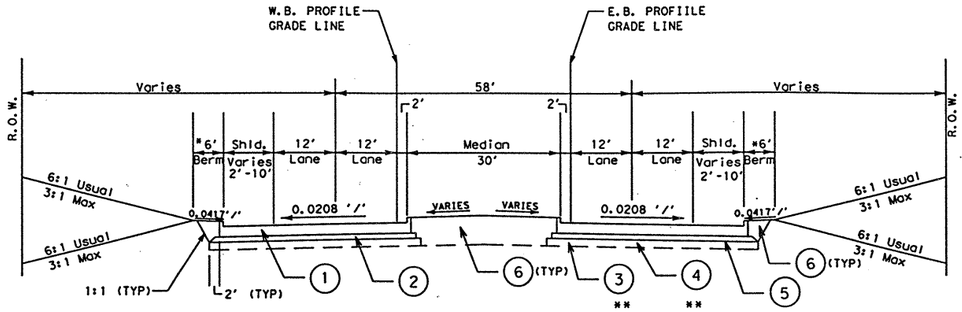
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TYPICAL SECTIONS

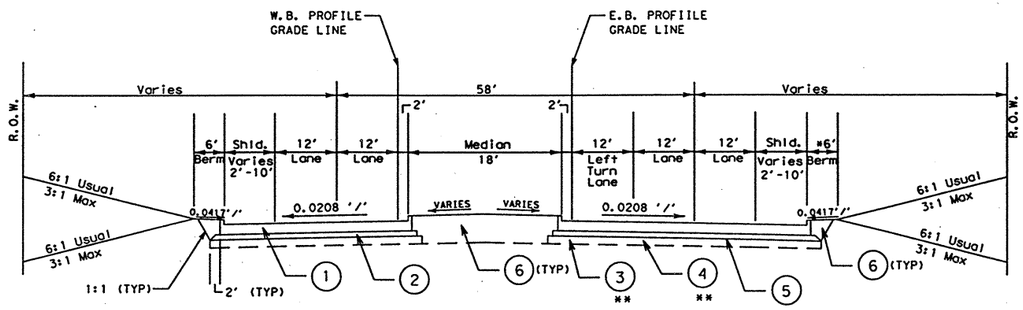
NOT TO SCALE

SHEET 2 OF 5 SHEETS

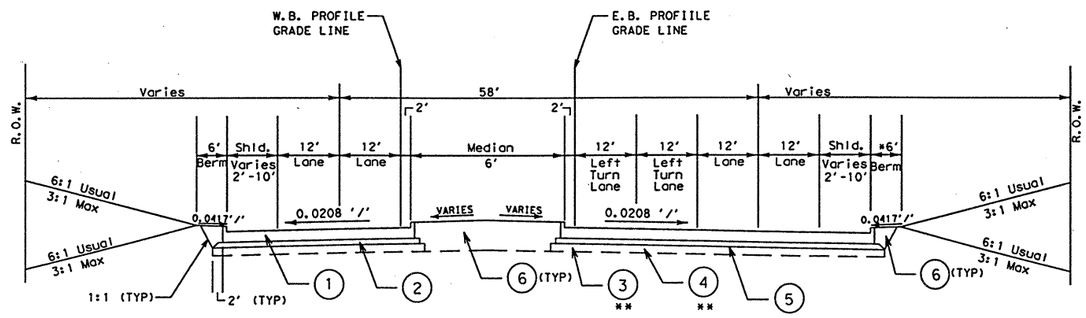
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		29
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66



PROPOSED S.H.66 NORMAL TYPICAL SECTION



PROPOSED S.H.66 SINGLE LEFT TURN TYPICAL SECTION



PROPOSED S.H.66 DOUBLE LEFT TURN TYPICAL SECTION

LEGEND

1. 8" CPCD
2. 4" HMAC
3. 22" LIME TREATED SUBGRADE (7% LIME)
4. 6" LIME TREATED SUBGRADE (7% LIME)
5. 0.25 GAL/SY SUBGRADE TREATMENT
6. Backfill

* CROSS-SLOPE IS 0.0208 '/' WHEN SIDEWALK IS IN EFFECT (SEE PAVING PLAN)

** (3) EBBL STA. 314+14 TO STA. 353+00

(4) EBBL STA. 456+00 TO STA. 482+00

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5/17/99

TYPICAL SECTIONS

NOT TO SCALE

SHEET 3 OF 5 SHEETS

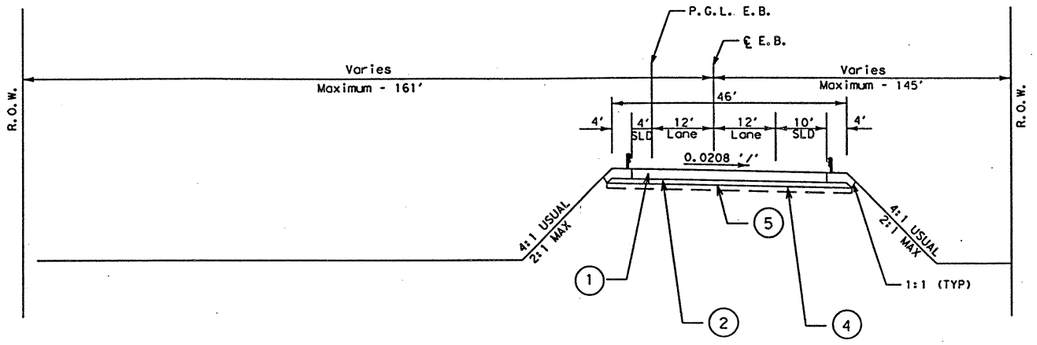
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		30
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	039	SH 66

REPLACED 6-28-99 DLP

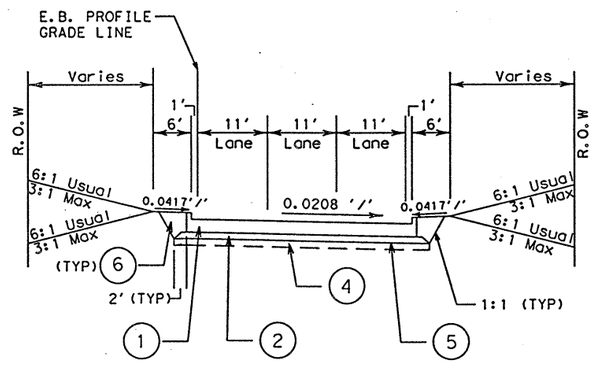
© 1999 Texas Department of Transportation

LEGEND

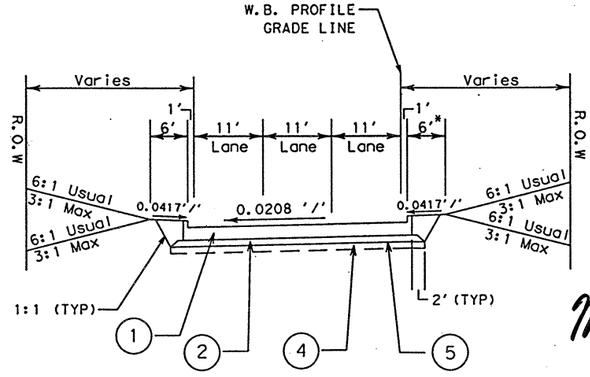
1. 8" CPCD
2. 4" HMAC
3. 22" LIME TREATED SUBGRADE (7% LIME)
4. 6" LIME TREATED SUBGRADE (7% LIME)
5. 0.25 GAL/SY SUBGRADE TREATMENT
6. BACKFILL



PROPOSED S.H.66 EMBANKMENT TYPICAL SECTION



PROPOSED WASHINGTON STREET



PROPOSED RUSK STREET

* CROSS-SLOPE IS 0.0208 '/' WHEN SIDEWALK IS IN EFFECT (SEE PAVING PLAN)

TYPICAL SECTIONS

NOT TO SCALE

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STATE OF TEXAS
5/17/99

REPLACED 6-28-99 DLP

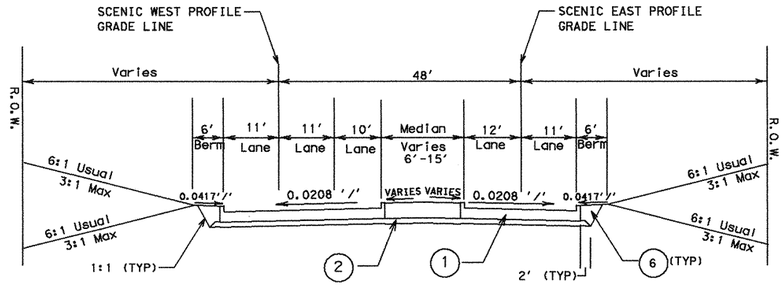
© 1999 Texas Department of Transportation

SHEET 4 OF 5 SHEETS

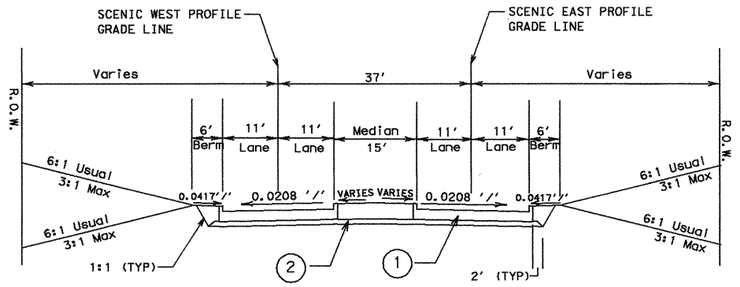
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
6	NH 99(367)			31
STATE	STATE DIST. NO.	COUNTY		
TEXAS	18	ROCKWALL		
CONTROL	SECTION	JOB	HIGHWAY NO.	
0009	04	039	SH 66	

LEGEND

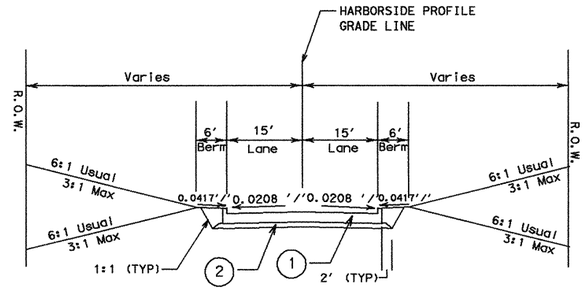
1. 8" CPCD CL K
2. 14" HMAC
3. 8" HMAC
4. 8" CPCD
5. 4" HMAC
6. BACKFILL



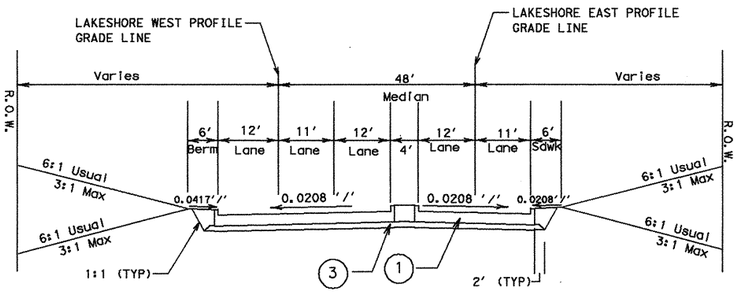
SCENIC DR.



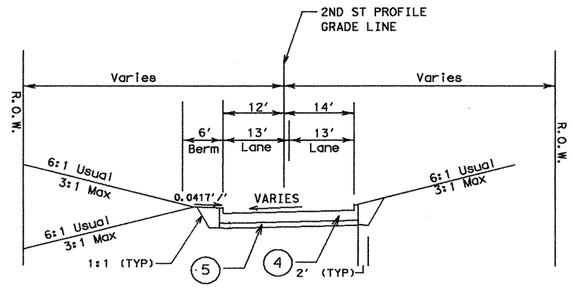
HERITAGE



HARBORSIDE



LAKESHORE DR.



2ND STREET

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MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

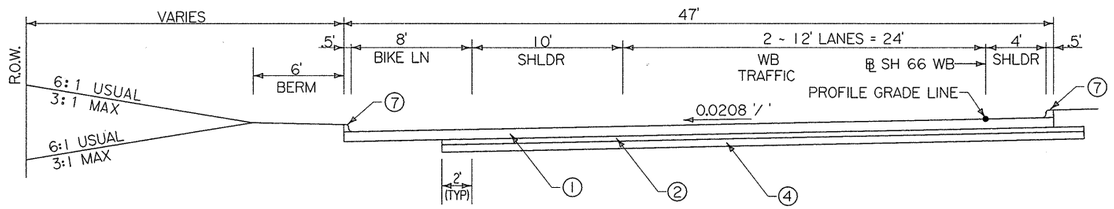
TYPICAL SECTIONS

NOT TO SCALE

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SHEET 5 OF 5 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		32
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	039	SH 66



PROPOSED SH 66 WB TYPICAL SECTION

STA. 456+00 TO STA. 461+87

SCALE: 1" = 10'

LEGEND

1. 8" CPCD
2. 4" HMAC
3. 22" LIME TREATED SUBGRADE (7% LIME)
4. 6" LIME TREATED SUBGRADE (7% LIME)
5. .25 GAL/SY SUBGRADE TREATMENT
6. BACKFILL
7. CURB

STATE OF TEXAS
TRACEY L. FRIGGLE
73467
REGISTERED PROFESSIONAL ENGINEER

Signature of Registrant & Date , P.E. 3/25/03

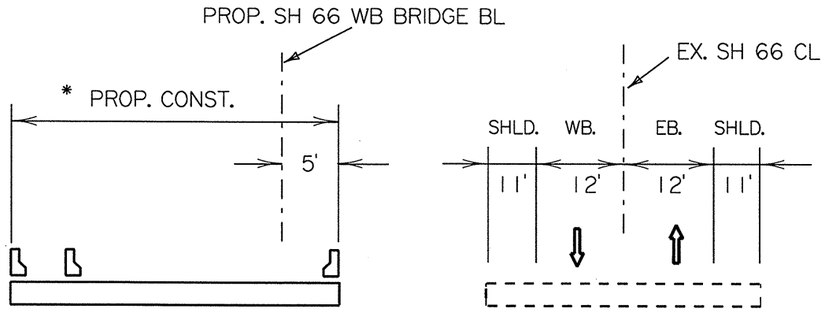
38 CHANGE ORDER NO. 38

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SH 66
TYPICAL SECTIONS

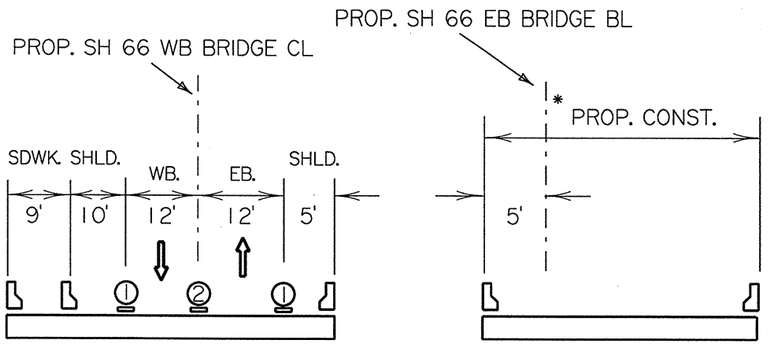
SCALE: 1"=10' SHEET 6 OF 6

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
WF	6	(See Title Sheet)		SH 66
GRAPHICS WF	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK TF	TEXAS	DALLAS	ROCKWALL	32A
CHECK TF	CONTROL 0009	SECTION 04	JOB 039	



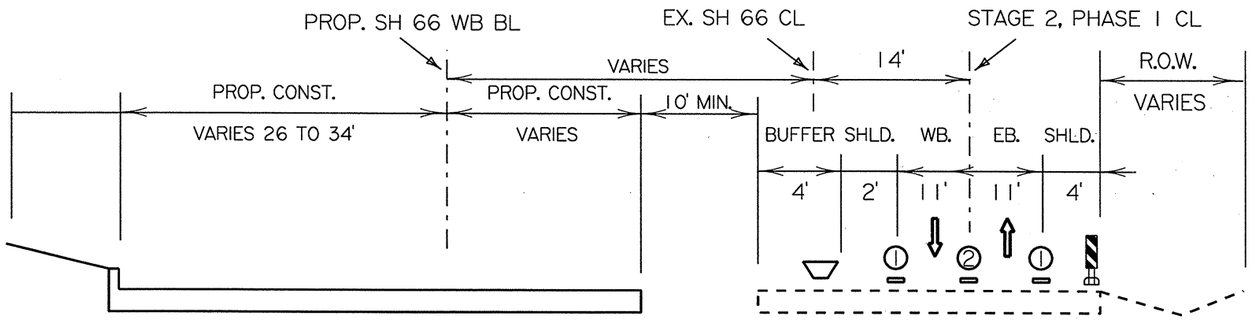
* SEE BRIDGE LAYOUTS FOR FURTHER DETAILS

STAGE 1 , PHASE 1

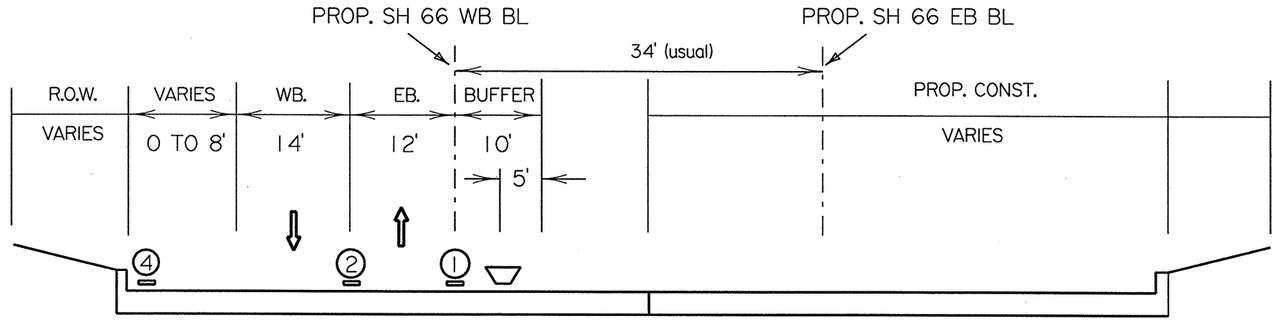


* SEE BRIDGE LAYOUTS FOR FURTHER DETAILS

STAGE 1 , PHASE 2



STAGE 2 , PHASE 1



STAGE 2 , PHASE 2, 3

WORK ZONE PAVEMENT MARKER AND TRAFFIC DEVICE LEGEND

(1)	WORK ZONE PAVEMENT MARKERS (RAISED, TY I-C)
(2)	WORK ZONE PAVEMENT MARKERS (RAISED, TY II A-A, DOUBLE ROW)
(3)	WORK ZONE PAVEMENT MARKERS (RAISED, TY I-A)
(4)	4" SOLID WHITE PERMANENT PAVEMENT MARKERS
▽	LOW PROFILE TRAFFIC BARRIER
	DRUMS
	TEMPORARY MOUNTED METAL BEAM GUARD FENCE
	VERTICAL PANEL

NOTE:

1. TYPICAL SECTIONS ARE NOT TO SCALE
2. STAGE 1 PHASE 1-2, AND STAGE 2 PHASE 1-3 SHALL APPLY FROM DALROCK ROAD TO STA. 480+00 (Eastbound and Westbound)

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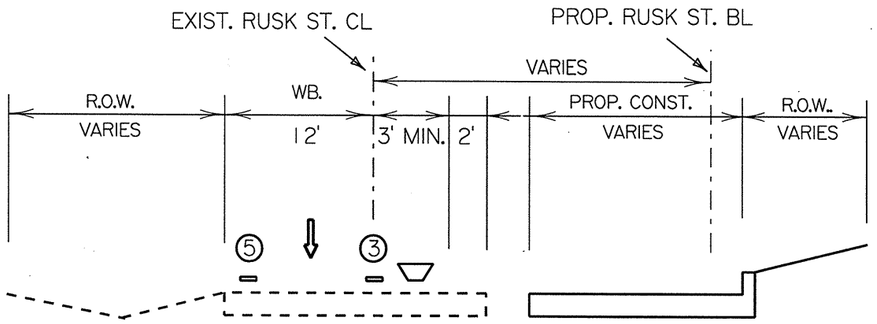
STAGE CONSTRUCTION TYPICAL SECTIONS

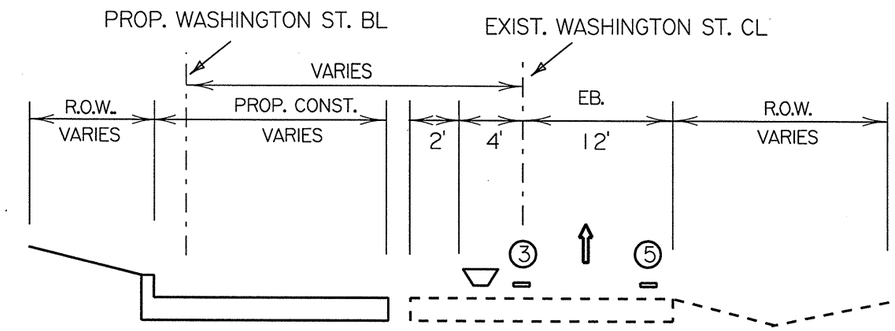
© 1999 Texas Department of Transportation

SEQUENCE OF WORK

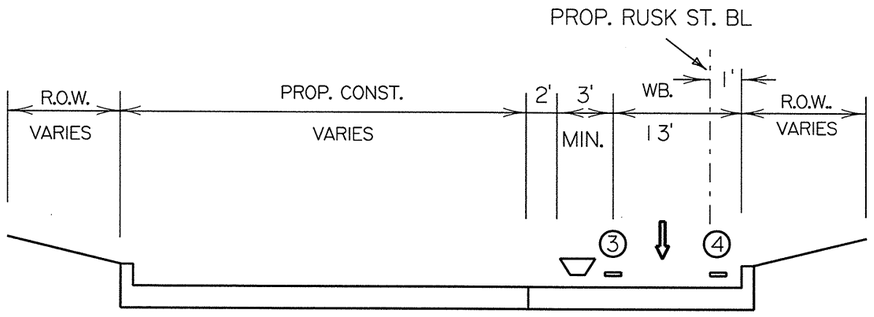
SHEET 1 OF 44 SHEETS.

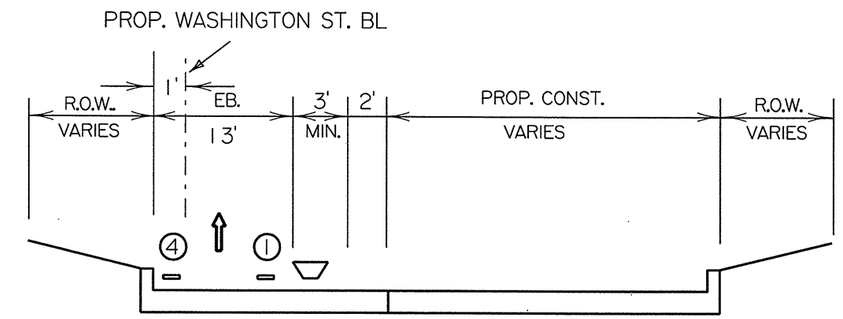
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		33
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





STAGE 2 , PHASE 4





STAGE 3 , PHASE 1

WORK ZONE PAVEMENT MARKER AND TRAFFIC DEVICE LEGEND

(1) WORK ZONE PAVEMENT MARKERS (RAISED, TY I-C)

(2) WORK ZONE PAVEMENT MARKERS (RAISED, TY II A-A, DOUBLE ROW)

(3) WORK ZONE PAVEMENT MARKERS (RAISED, TY I-A)

(4) 4" SOLID PERMANENT PAVEMENT MARKERS

(5) EXISTING EDGE STRIPE

LOW PROFILE TRAFFIC BARRIER

DRUMS

TEMPORARY MOUNTED METAL BEAM GUARD FENCE

VERTICAL PANEL

NOTE:

1. TYPICAL SECTIONS ARE NOT TO SCALE
2. STAGE 1 PHASE 1-2, AND STAGE 2 PHASE 1-3 SHALL APPLY FROM DALROCK ROAD TO STA. 480+00 (Eastbound and Westbound)

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STAGE CONSTRUCTION TYPICAL SECTIONS

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SEQUENCE OF WORK

SHEET 2 OF 44 SHEETS.

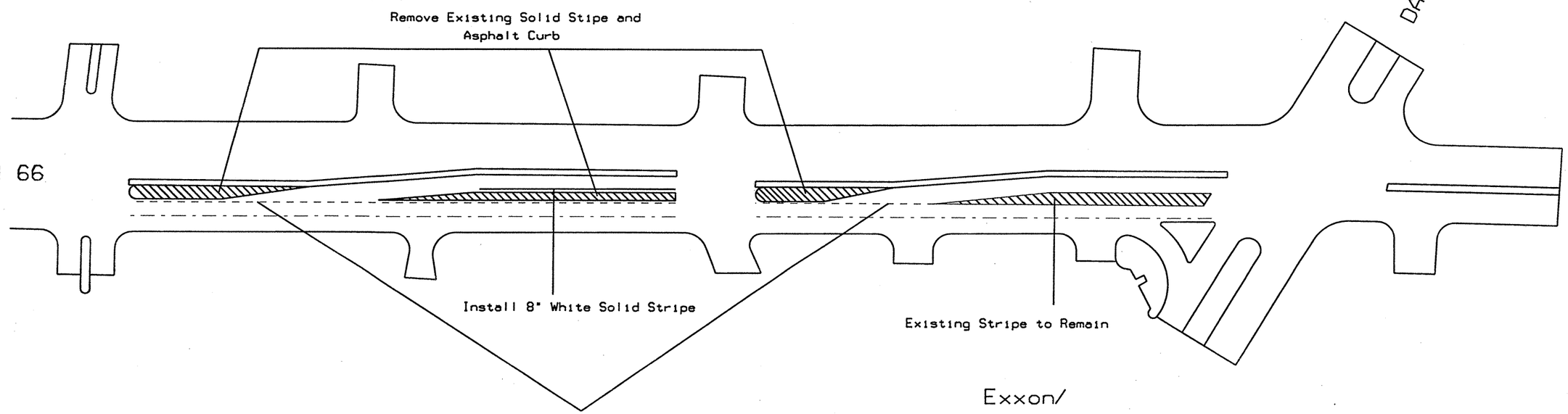
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		34
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

Lakewood Point

McDonalds

McDonalds/Albertson

7-11



Exxon/
One Stop

Video Village

Western Bank
& Trust

File: As_Built

.DGN

STATE OF TEXAS
PAUL E. WILLIAMS
73822
REGISTERED PROFESSIONAL ENGINEER

Paul E. Williams, P.E. 1/23/02
Signature of Registrant & Date

Texas Department of Transportation
©2002

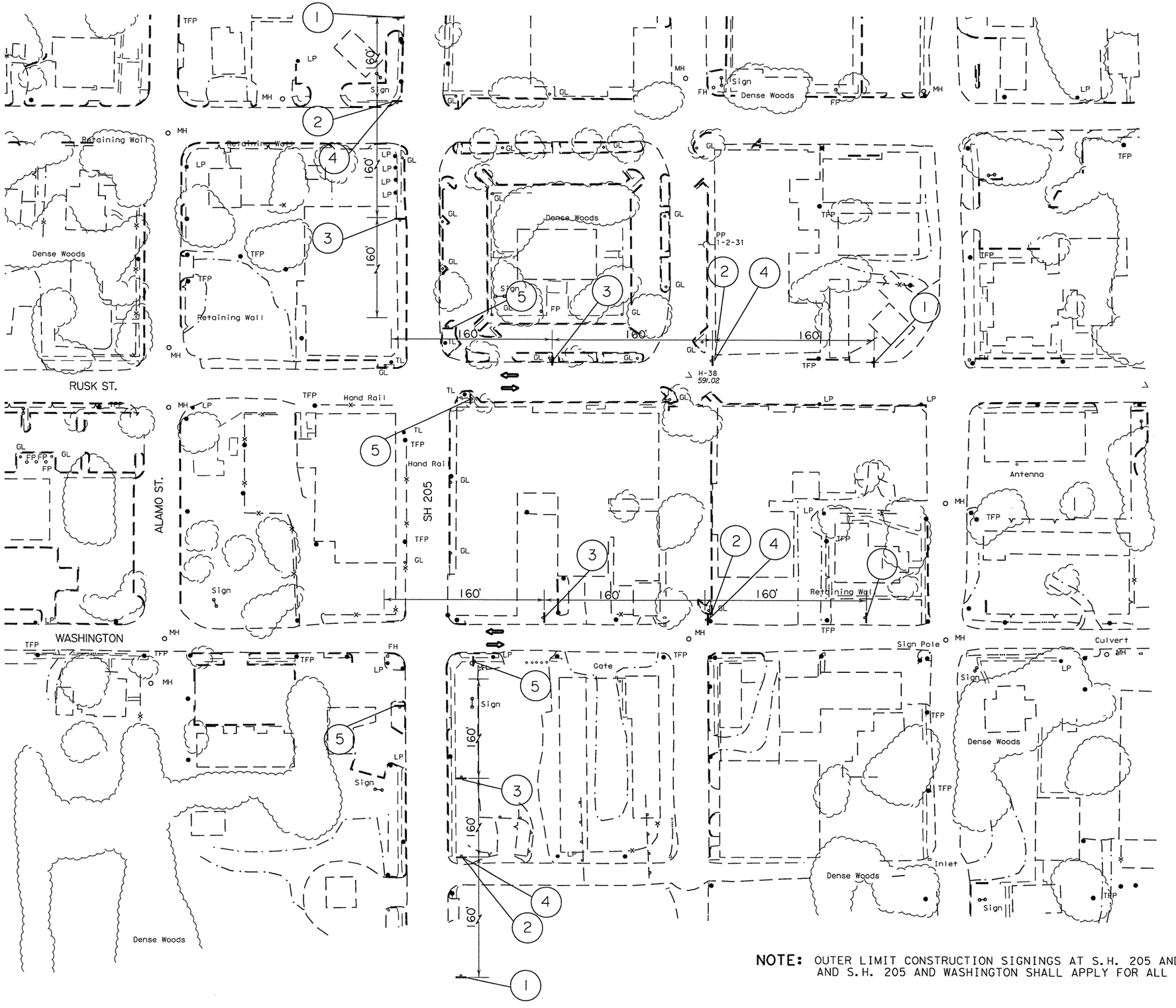
WORK ZONE PAVEMENT MARKINGS

DALROCK ROAD

SCALE: NTS

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	NH 99 (367)		SH 66
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS	DALLAS	ROCKWALL	34A
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

SH66DALROCKSTRIPE.dgn



NOTE: OUTER LIMIT CONSTRUCTION SIGNINGS AT S.H. 205 AND RUSK, AND S.H. 205 AND WASHINGTON SHALL APPLY FOR ALL STAGES

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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SEQUENCE OF WORK

SH66 AND DALROCK RD.

SCALE:
1"=100' HORZ.

SHEET 3 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	35

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

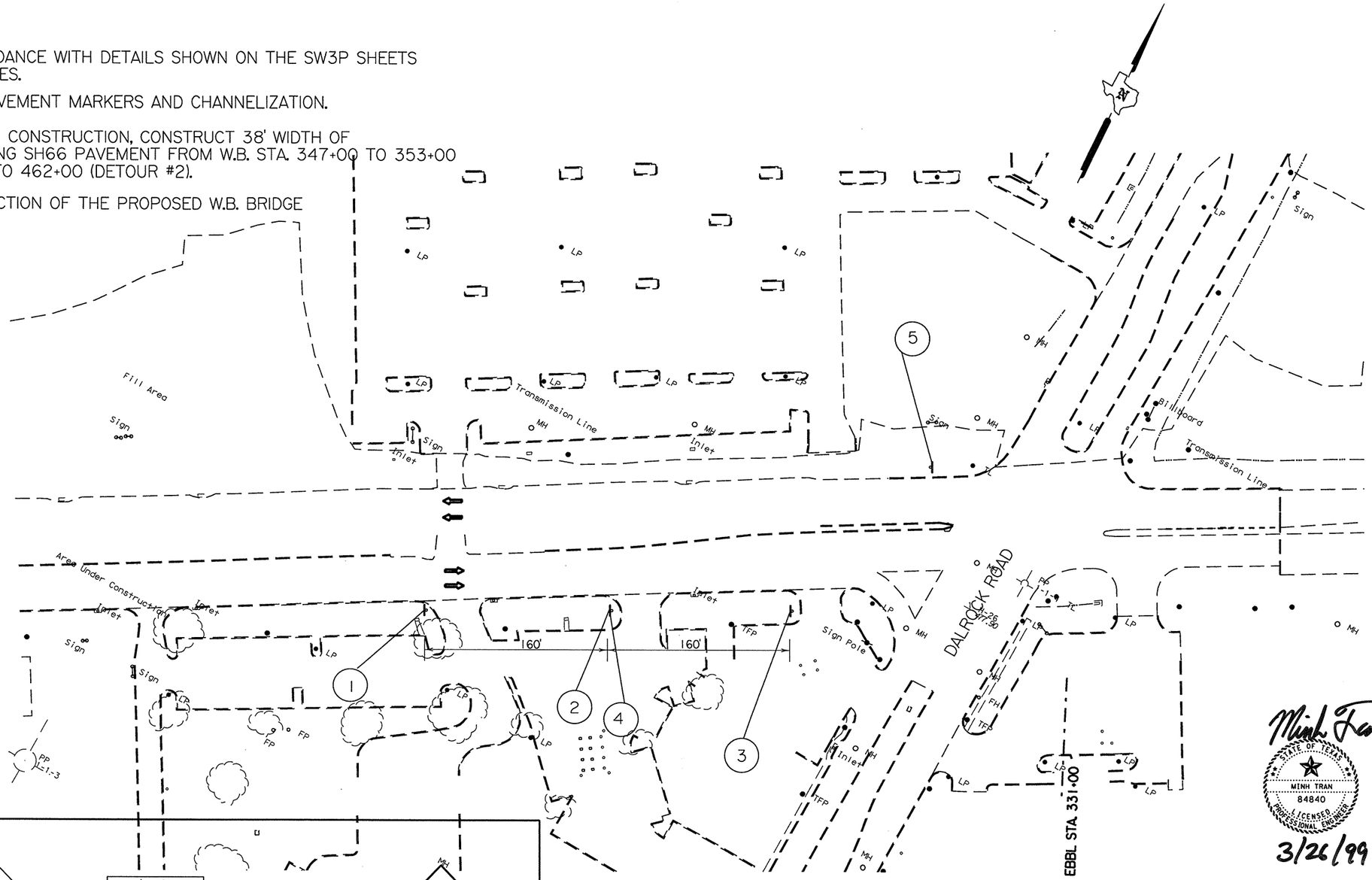
NOTES (STAGE I PHASE I):

1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.

2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.

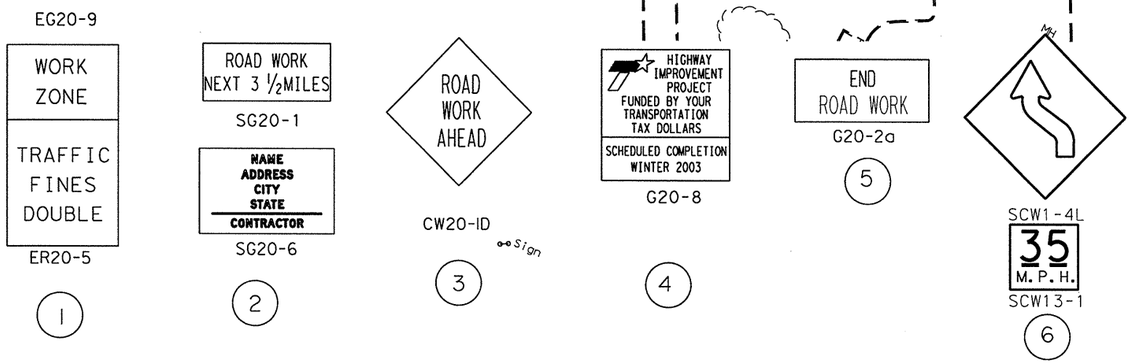
3. IN PREPARATION FOR STAGE I PHASE 2 CONSTRUCTION, CONSTRUCT 38' WIDTH OF TEMPORARY ASPHALT ADJACENT TO EXISTING SH66 PAVEMENT FROM W.B. STA. 347+00 TO 353+00 (DETOUR #1) AND FROM W.B. STA. 456+00 TO 462+00 (DETOUR #2).

4. COMPLETE STAGE I PHASE I CONSTRUCTION OF THE PROPOSED W.B. BRIDGE



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



CONSTRUCTION SIGN LEGEND

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STAGE I PHASE I

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SEQUENCE OF WORK

DALROCK ROAD

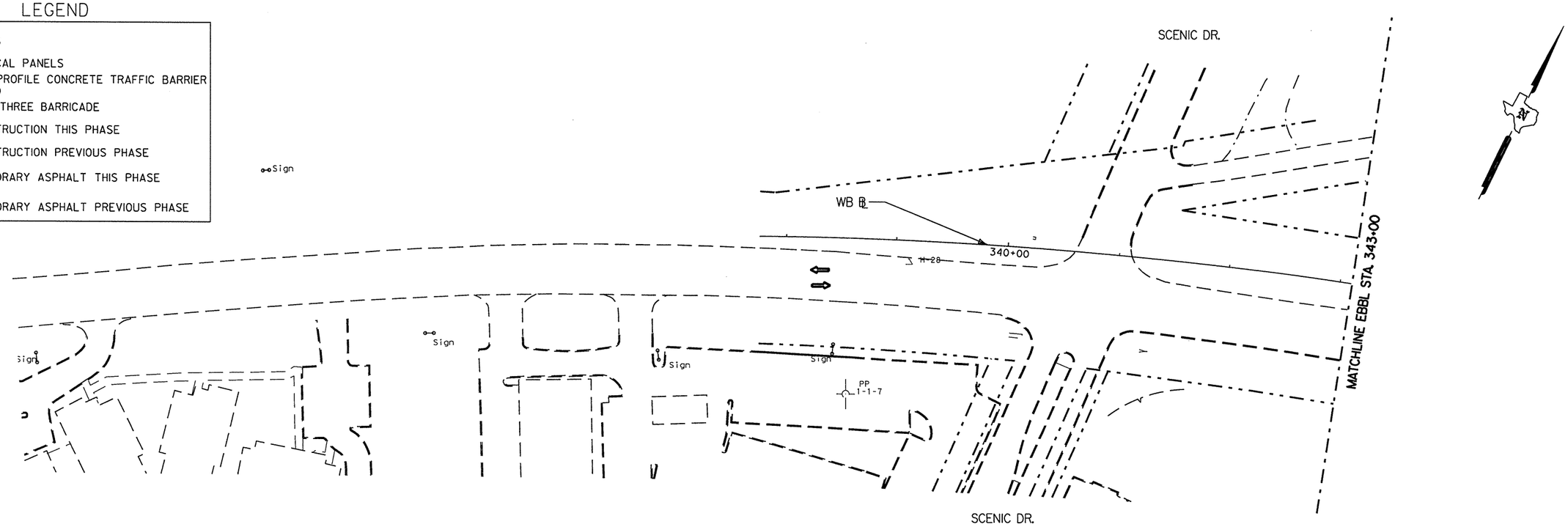
SCALE:
1"=100' HORZ.

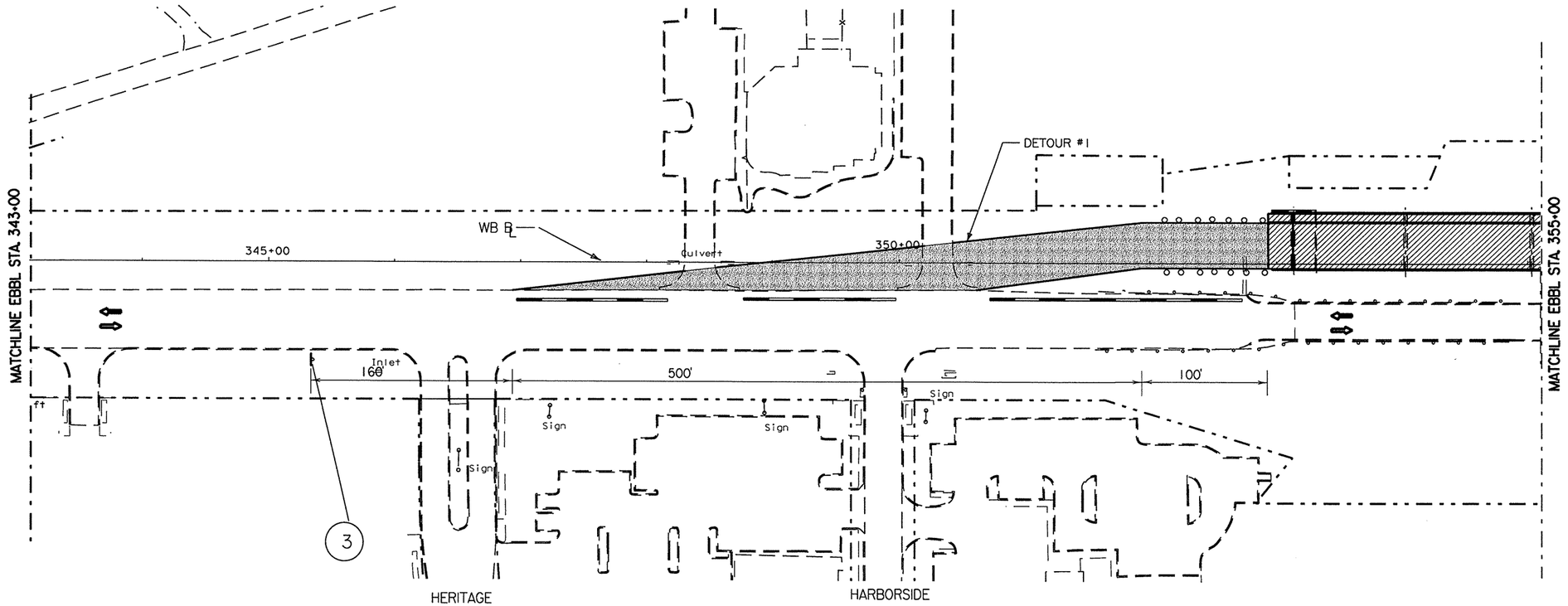
SHEET 4 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		36
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE





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STAGE 1 PHASE 1

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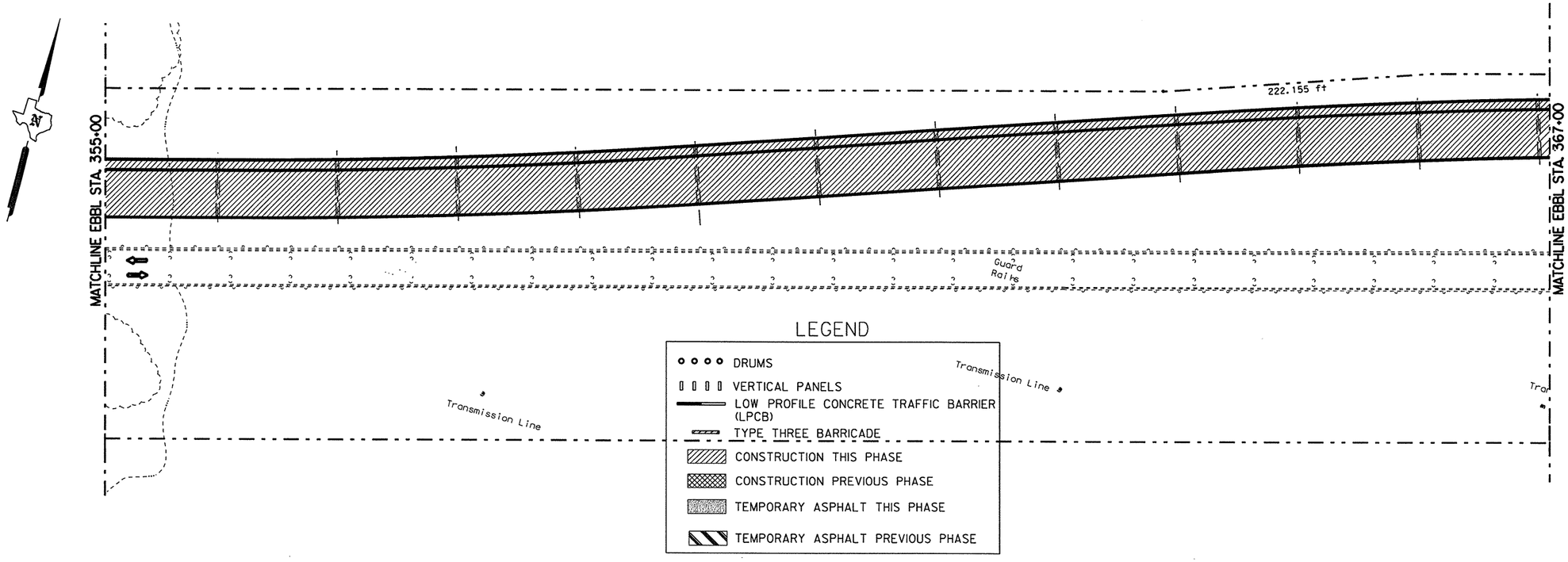
SEQUENCE OF WORK

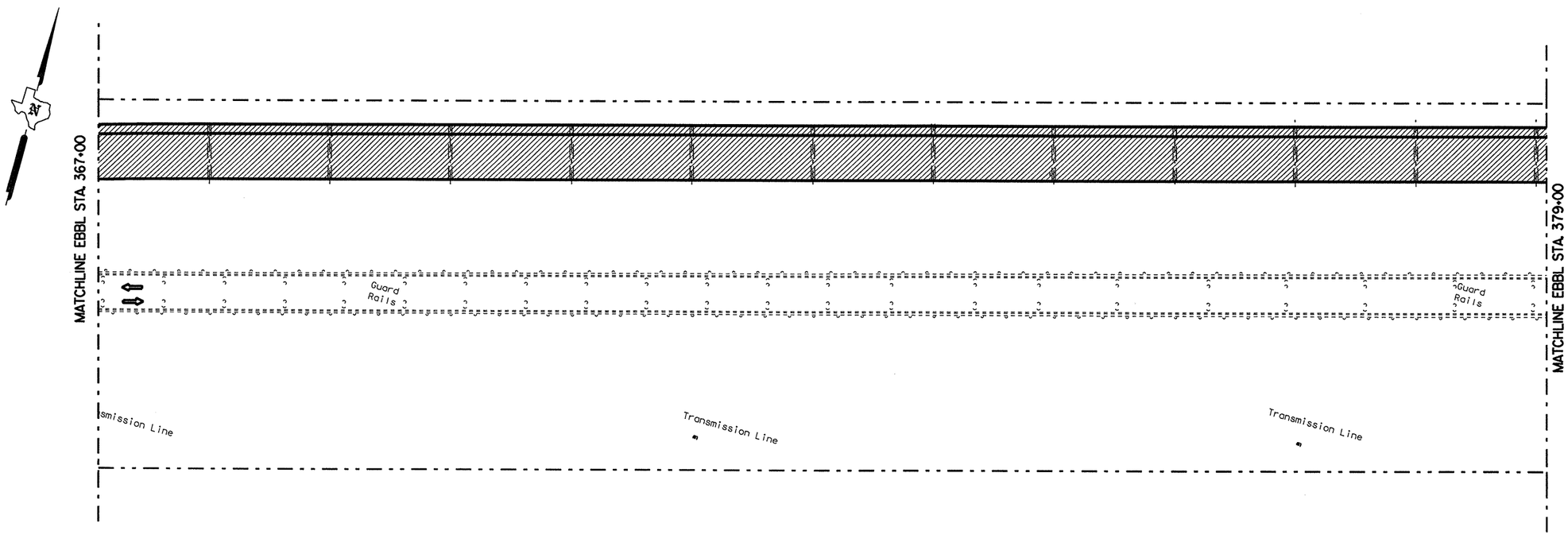
STA. 331+00 TO STA. 355+00

SCALE: 1"=100' HORZ.

SHEET 5 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		37
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE 1 PHASE 1

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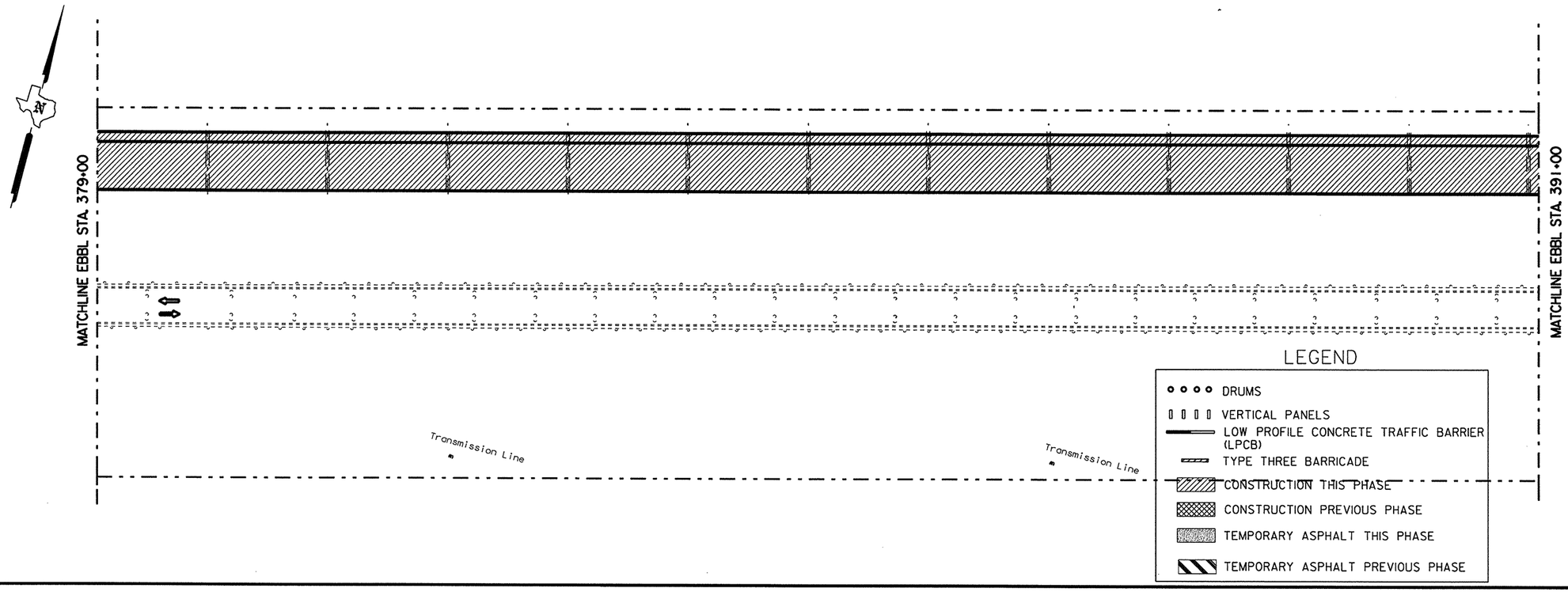
SEQUENCE OF WORK

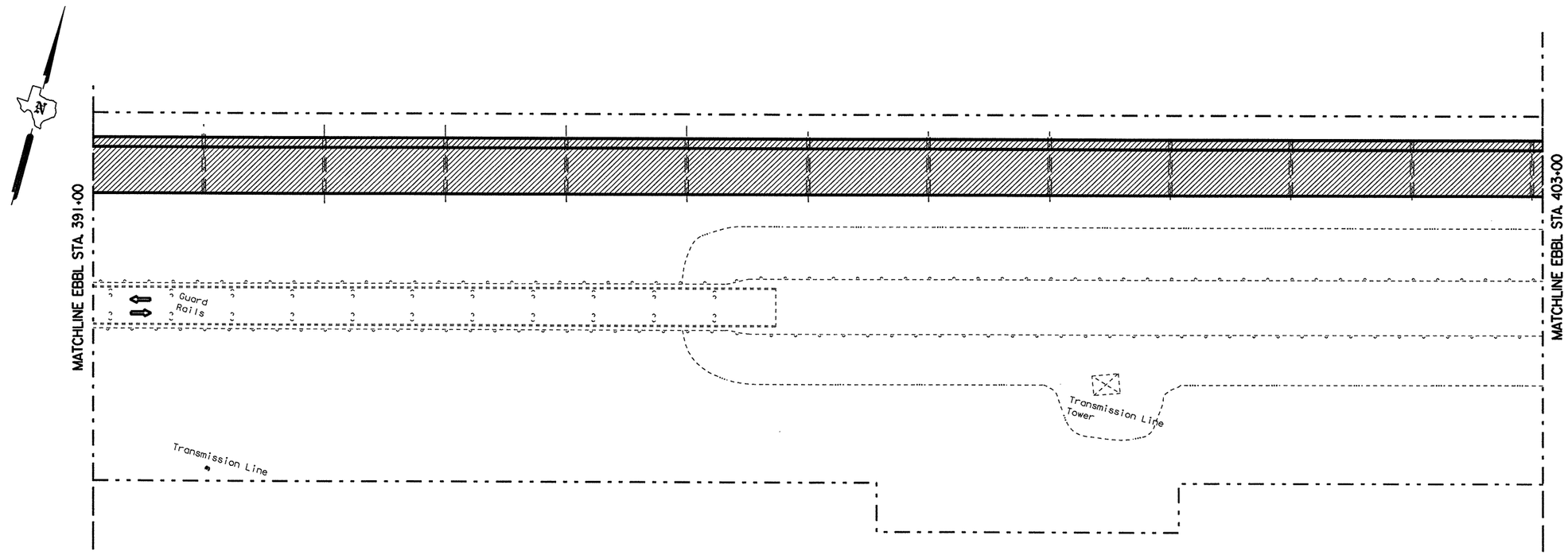
STA. 355+00 TO STA. 379+00

SCALE:
1"=100' HORZ.
SHEET 6 OF 44 SHEETS.

FED. RD. DIV. NO.	EEDEBAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	38

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE I PHASE I

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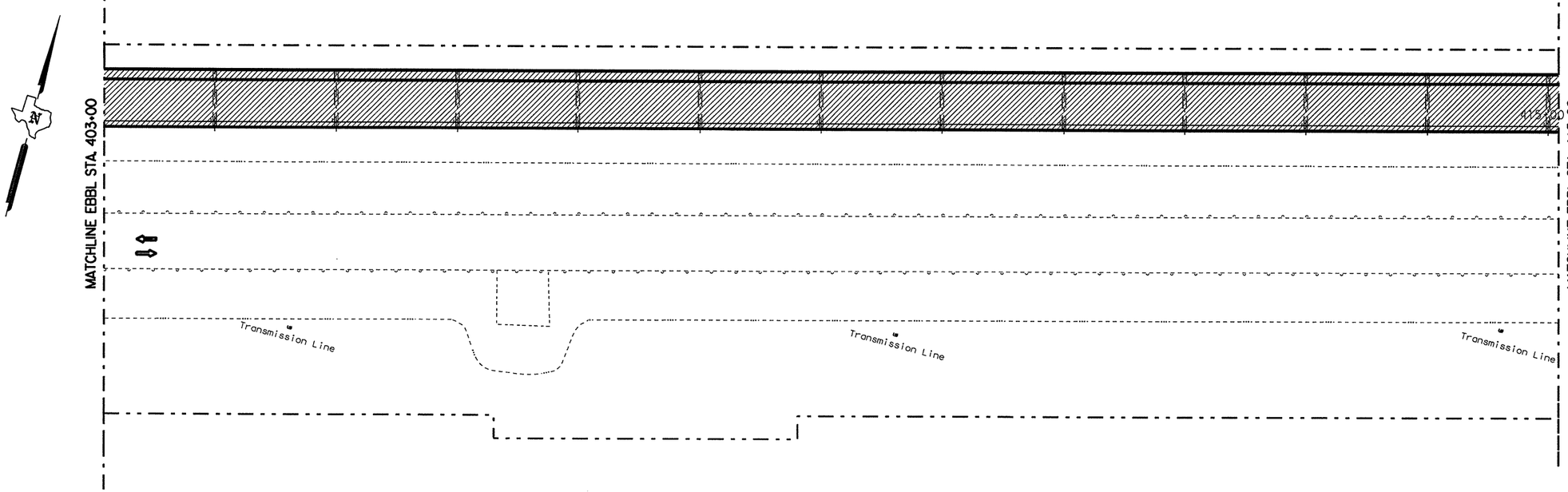
SEQUENCE OF WORK

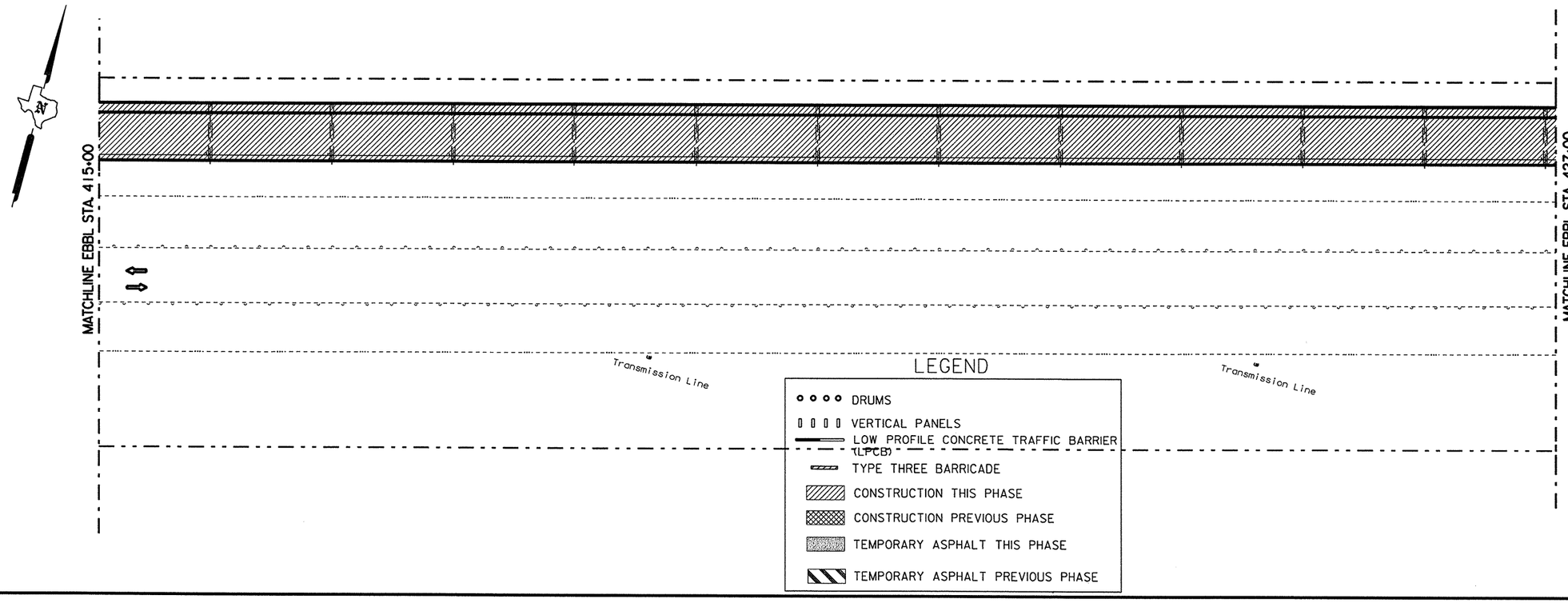
STA. 379+00 TO STA. 403+00

SCALE:
1"=100' HORZ.
SHEET 7 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	39

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE I PHASE I

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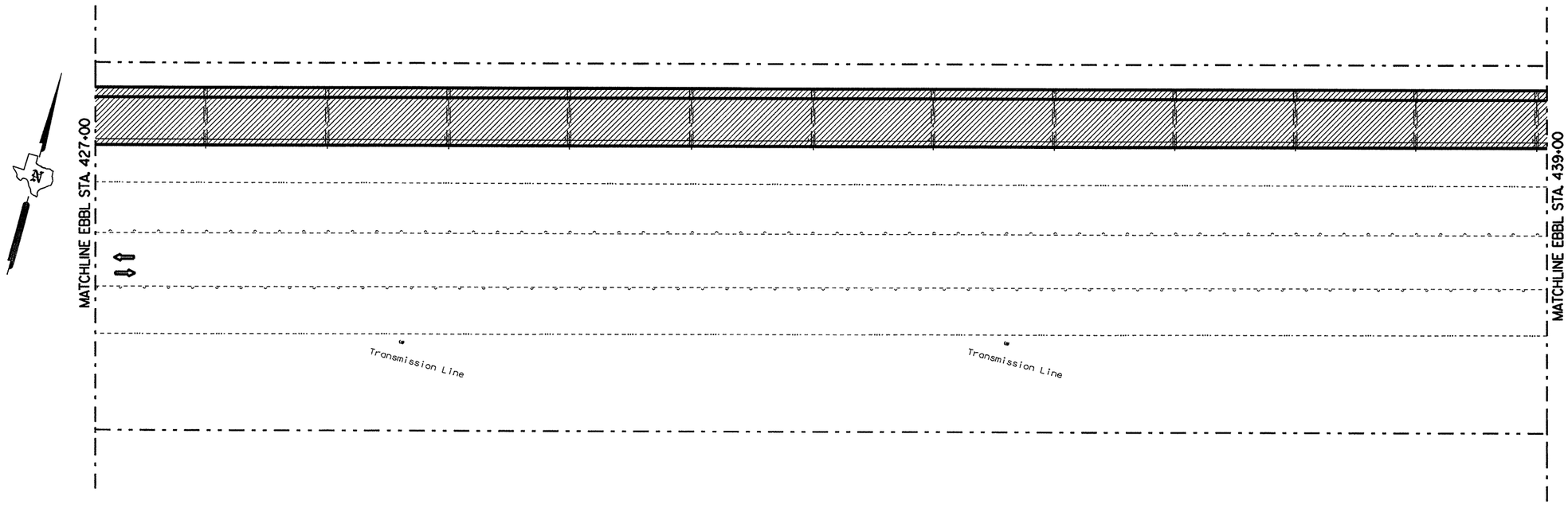
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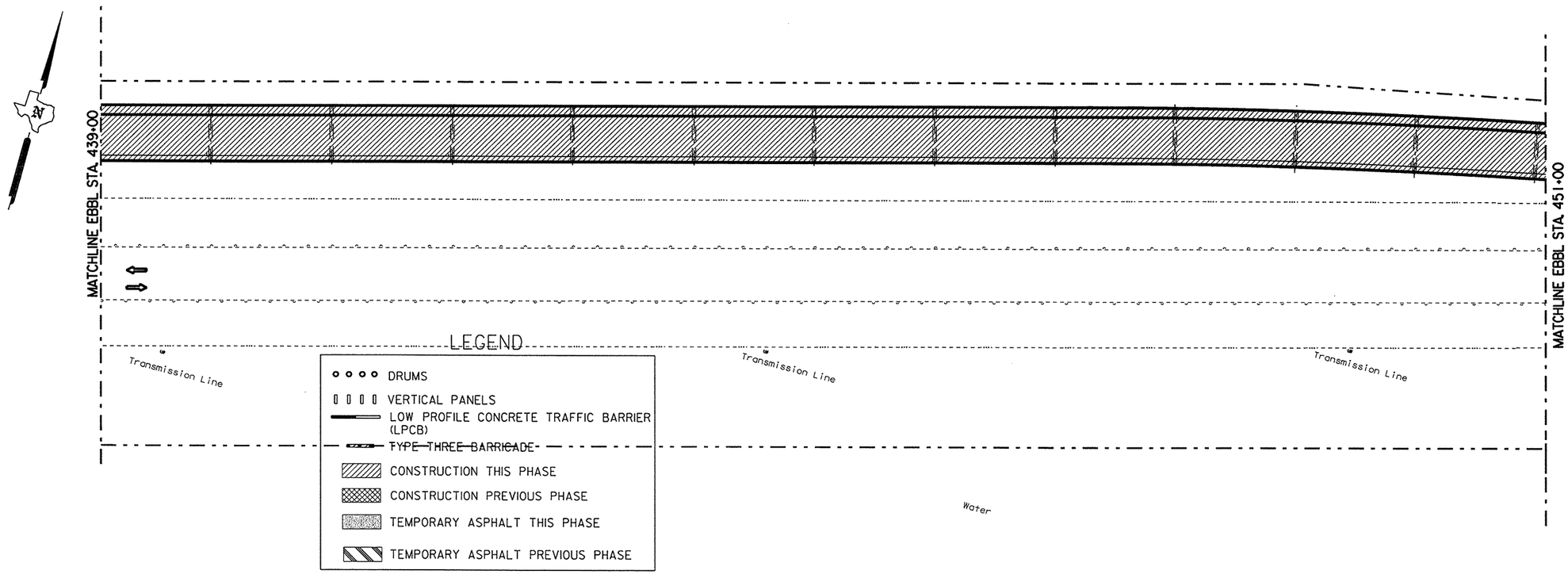
STA 403+00 TO STA 427+00

SCALE:
1"=100' HORZ.

SHEET 8 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		40
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE I PHASE I

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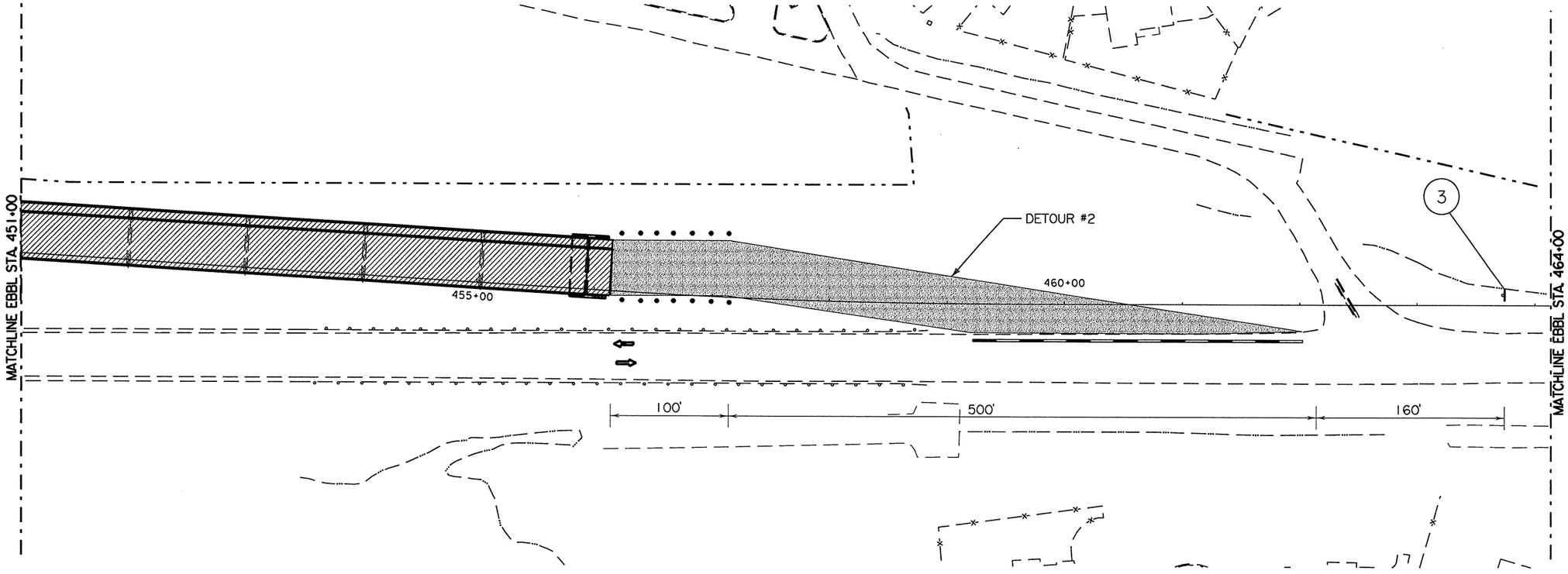
SEQUENCE OF WORK

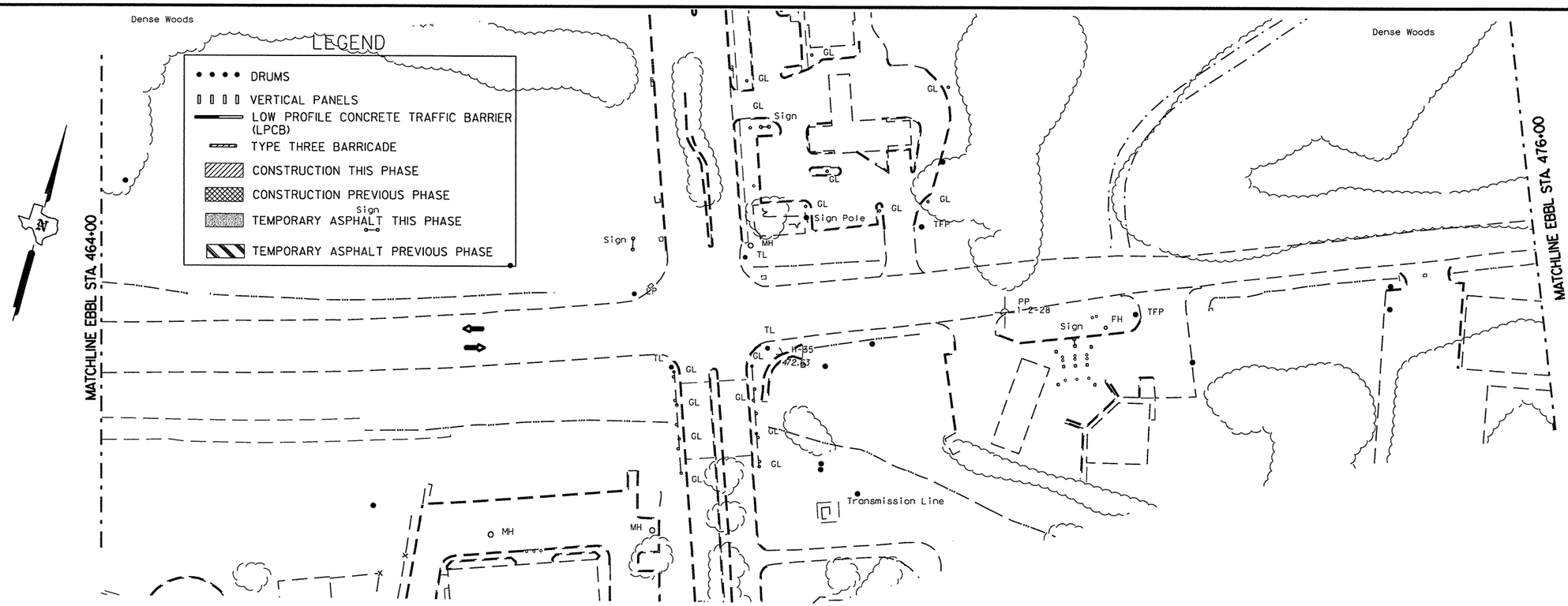
STA 427+00 TO STA 451+00

SCALE:
1"=100' HORZ.

SHEET 9 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		41
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE I PHASE I

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SEQUENCE OF WORK

STA. 451+00 TO STA. 476+00

SCALE:
1"=100' HORZ.

SHEET 10 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		42
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

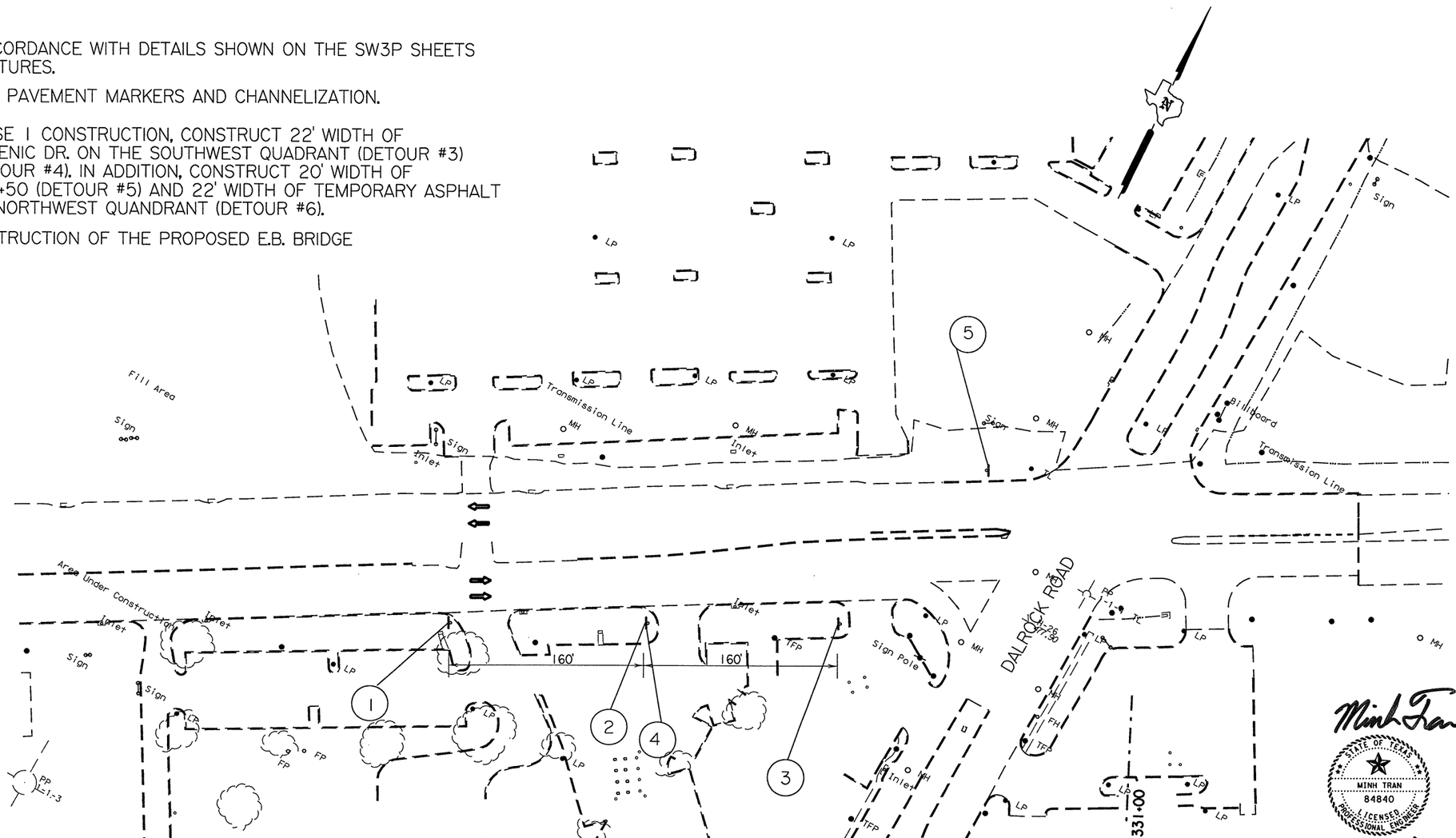
NOTES (STAGE I PHASE 2):

1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.

2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.

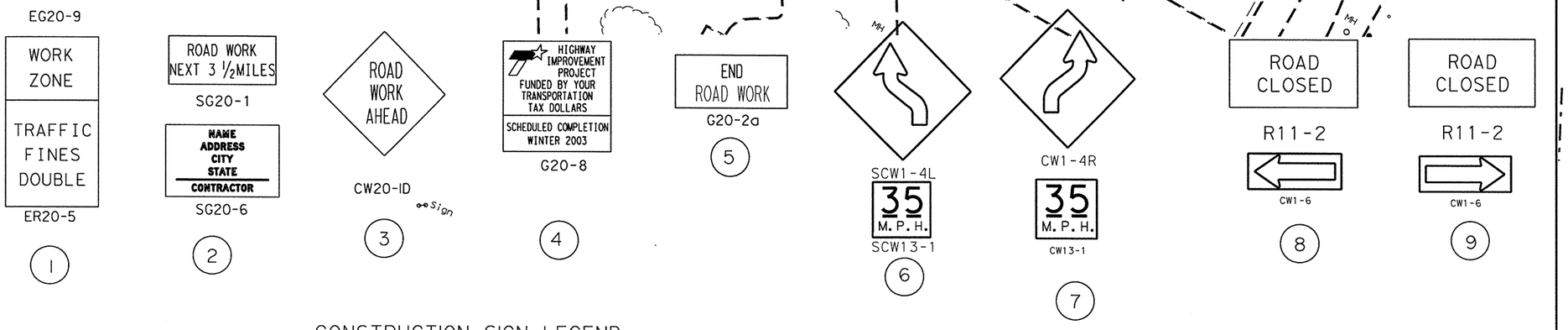
3. IN PREPARATION FOR STAGE 2 PHASE I CONSTRUCTION, CONSTRUCT 22' WIDTH OF TEMPORARY ASPHALT ADJACENT TO SCENIC DR. ON THE SOUTHWEST QUADRANT (DETOUR #3) AND THE NORTHWEST QUANDRANT (DETOUR #4). IN ADDITION, CONSTRUCT 20' WIDTH OF TEMPORARY ASPHALT AT W.B. STA. 460+50 (DETOUR #5) AND 22' WIDTH OF TEMPORARY ASPHALT ADJACENT TO LAKESHORE DR. ON THE NORTHWEST QUANDRANT (DETOUR #6).

4. COMPLETE STAGE I PHASE 2 CONSTRUCTION OF THE PROPOSED E.B. BRIDGE



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



CONSTRUCTION SIGN LEGEND

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STAGE I PHASE 2

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SEQUENCE OF WORK

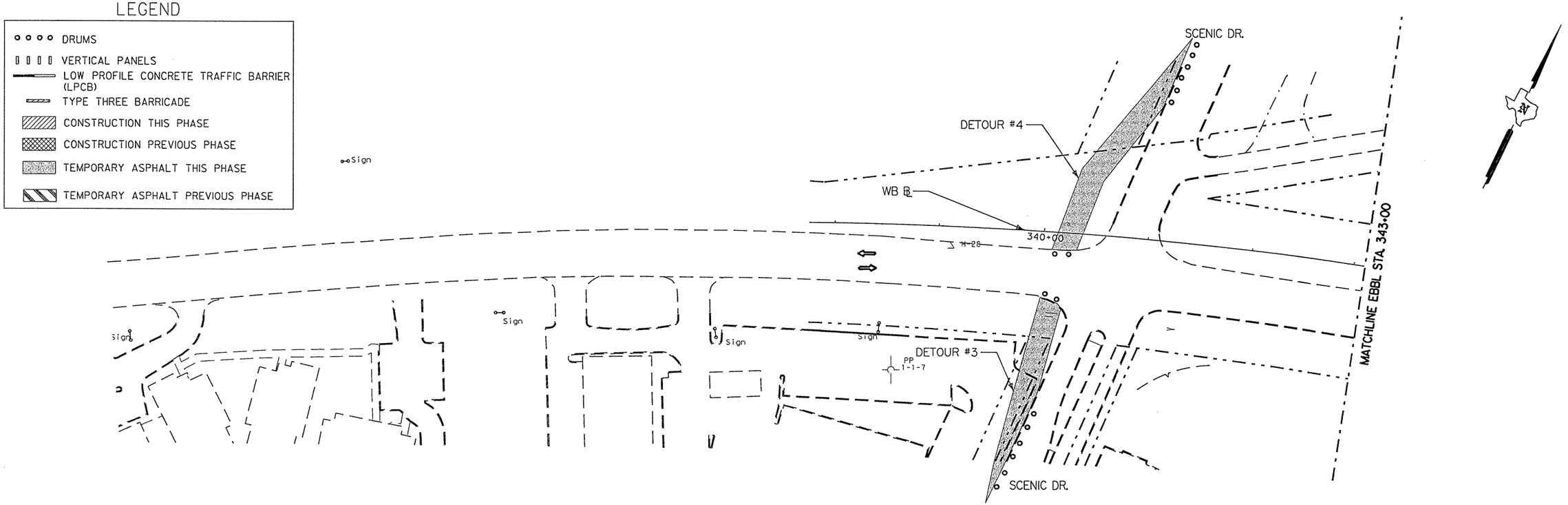
DALROCK ROAD

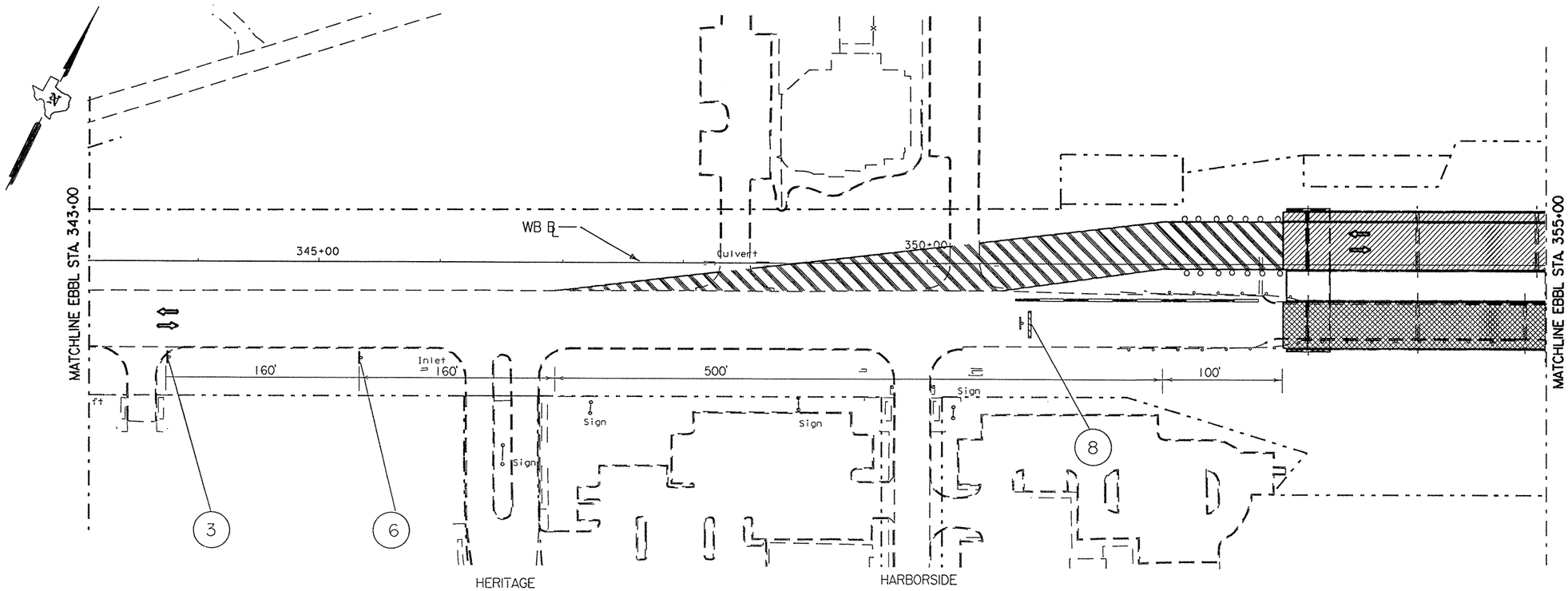
SCALE:
1"=100' HORZ.
SHEET 11 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		43
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE





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STAGE 1 PHASE 2

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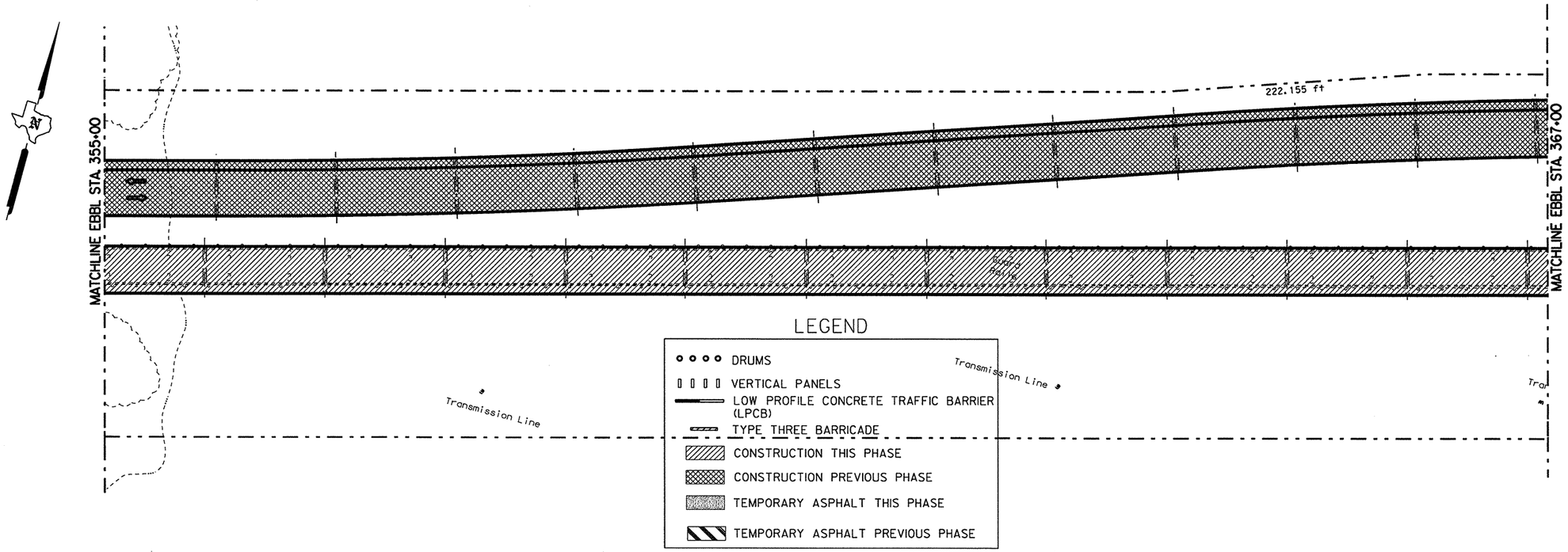
SEQUENCE OF WORK

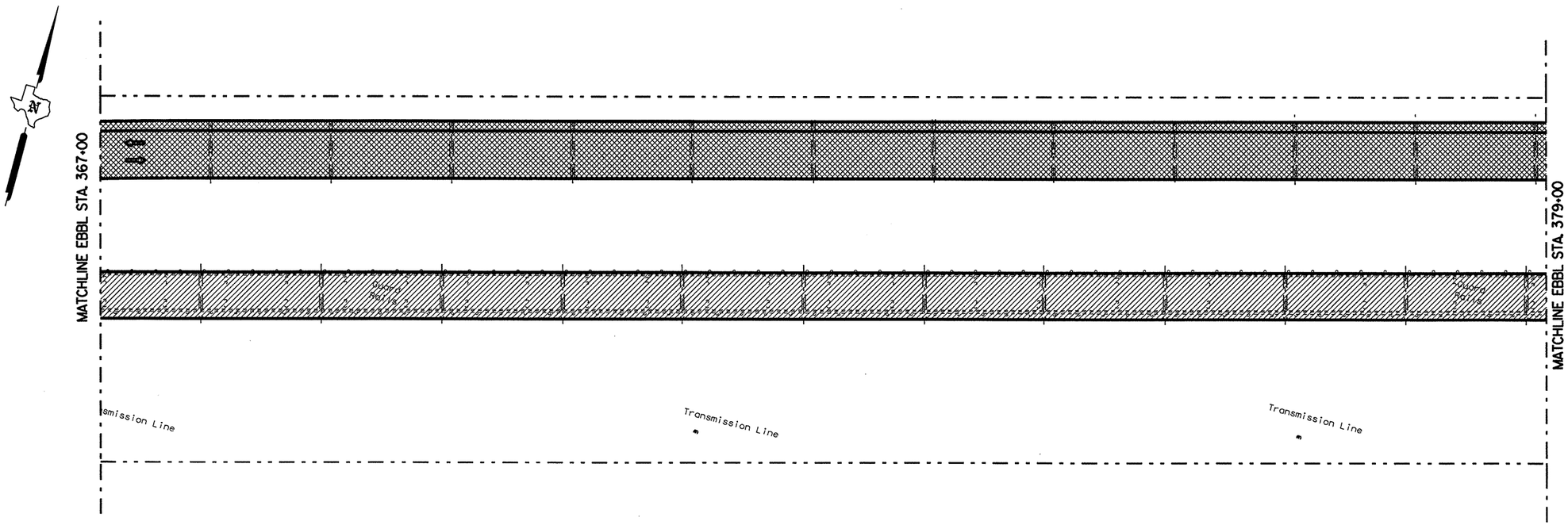
STA. 331+00 TO STA. 355+00

SCALE: 1"=100' HORZ.

SHEET 12 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		44
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE I PHASE 2

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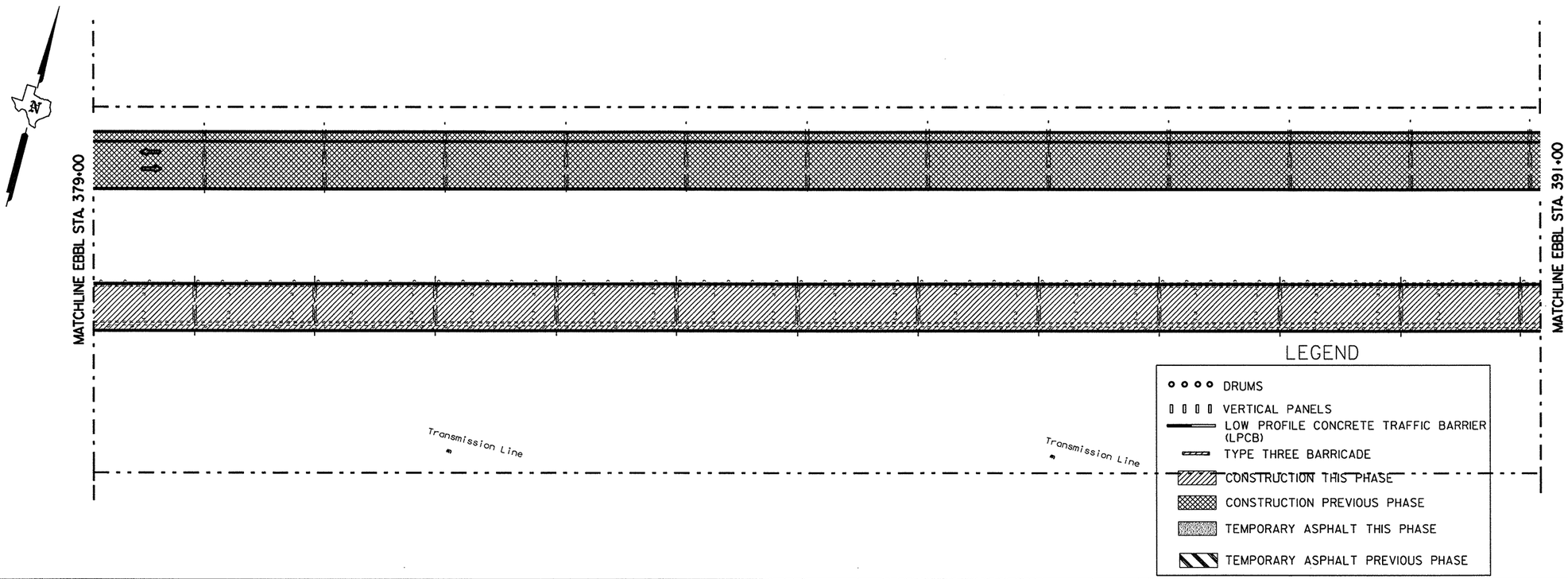
SEQUENCE OF WORK

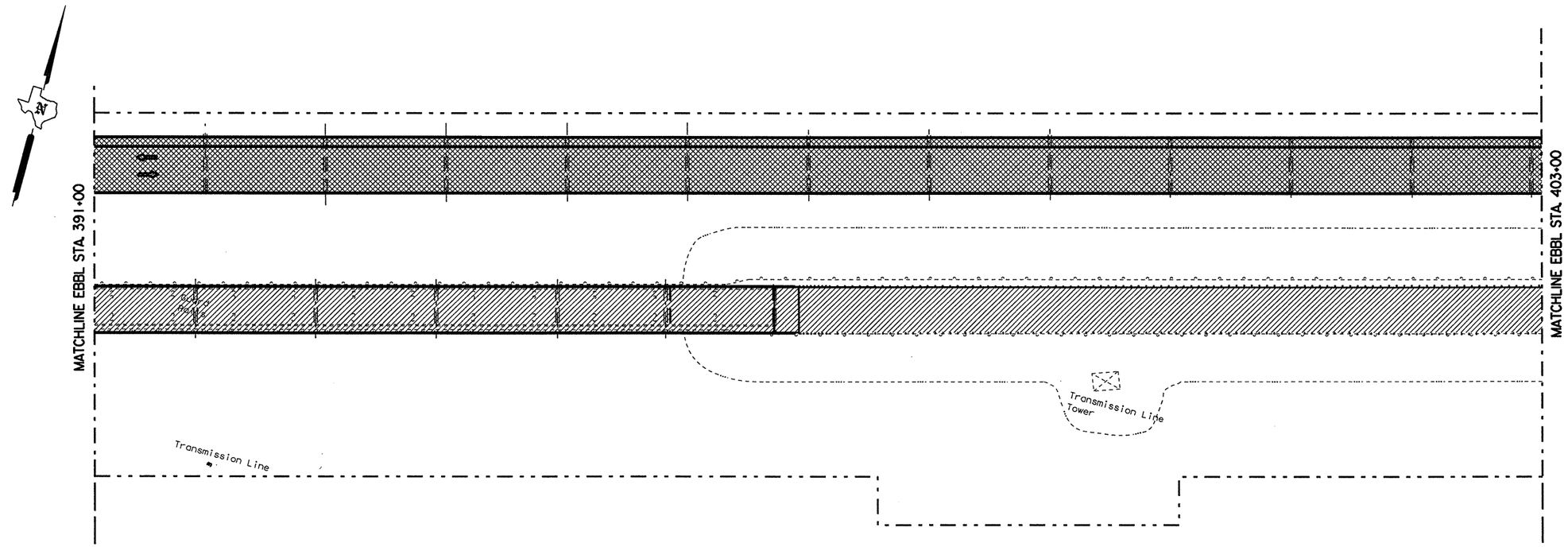
STA. 355+00 TO STA. 379+00

SCALE:
1"=100' HORZ.

SHEET 13 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		45
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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SEQUENCE OF WORK

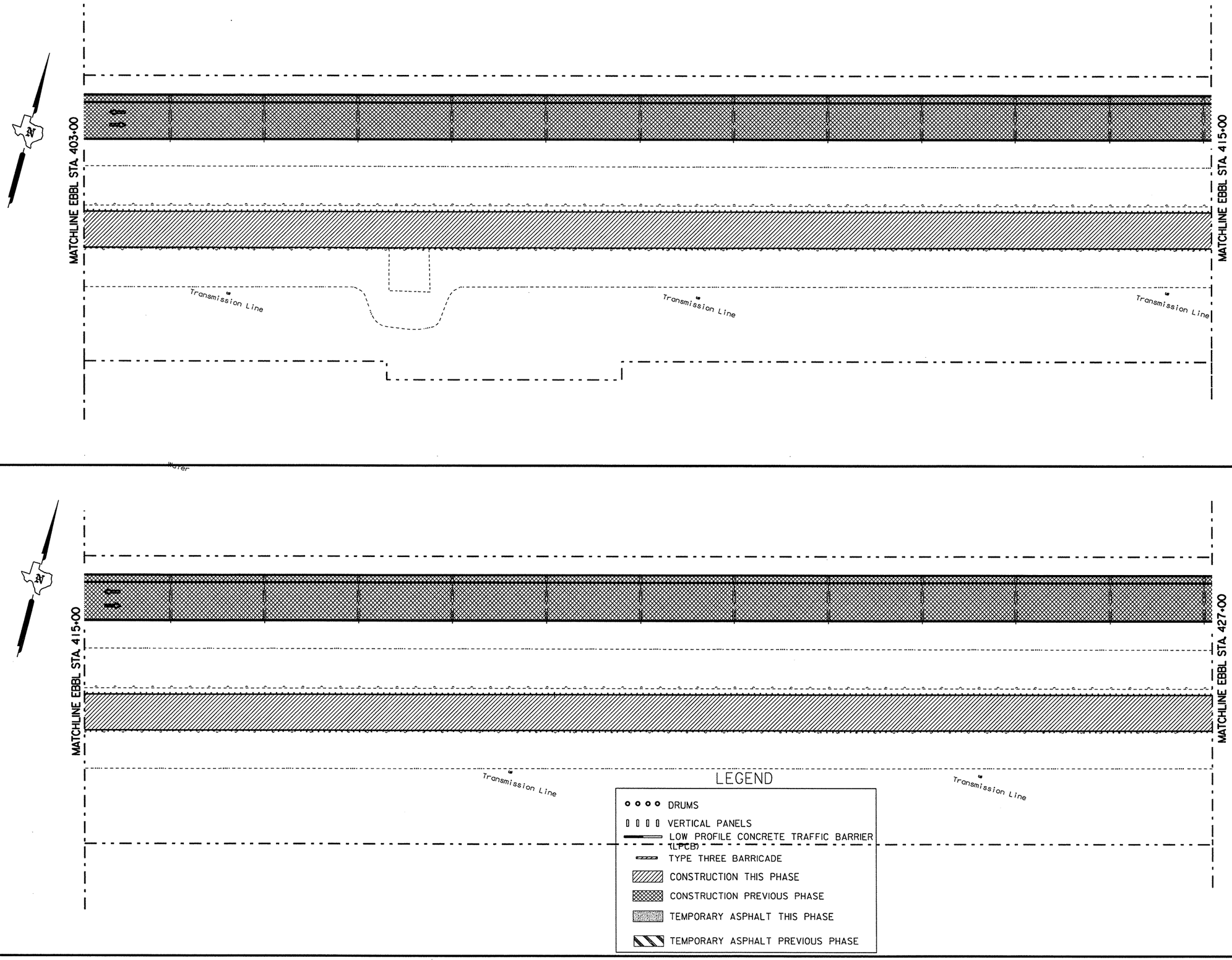
STA. 379+00 TO STA. 403+00

SCALE:
1"=100' HORZ.

SHEET 14 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	46

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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STAGE I PHASE 2

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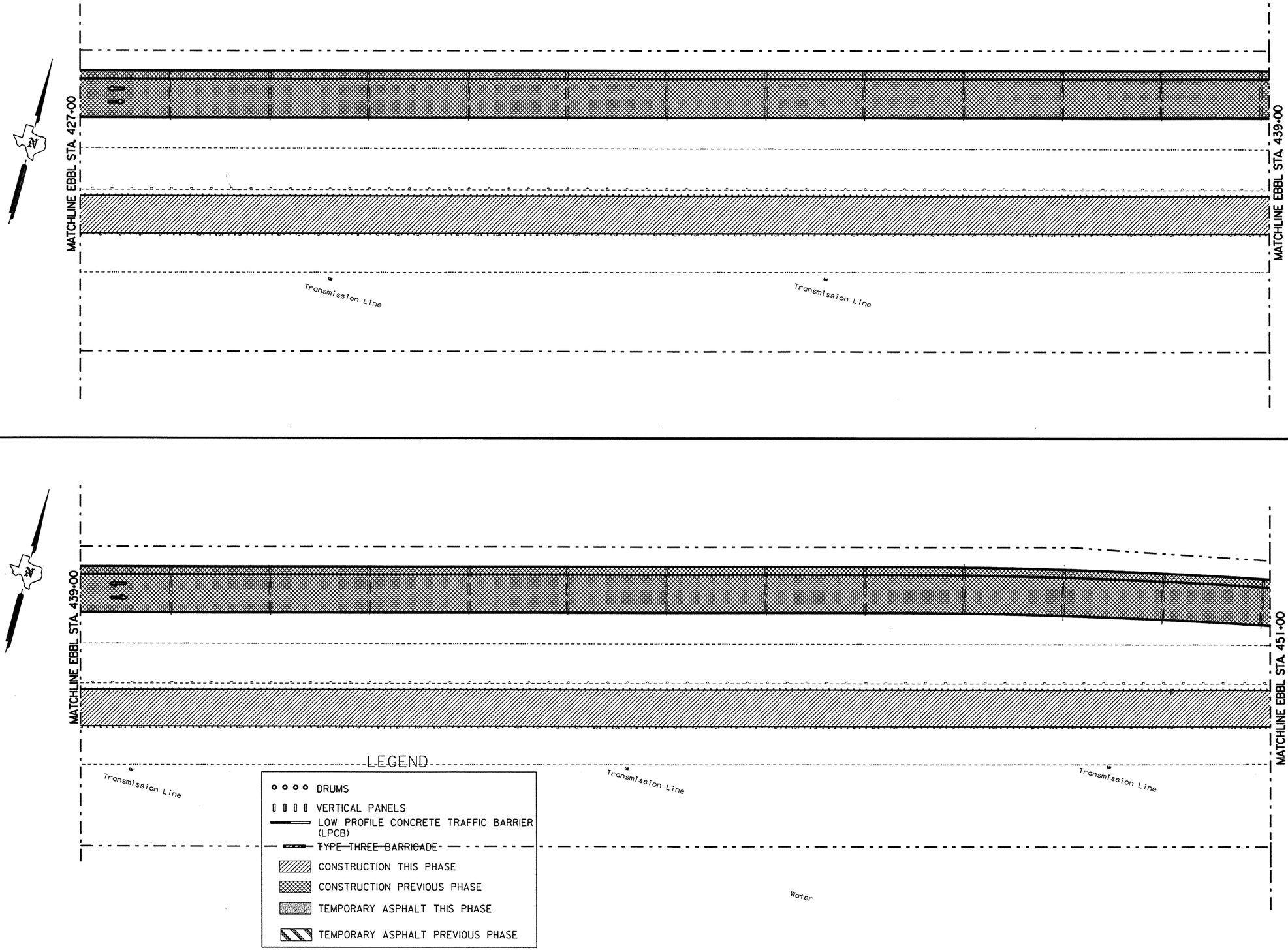
SEQUENCE OF WORK

STA 403+00 TO STA 427+00

SCALE:
1"=100' HORZ.

SHEET 15 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		47
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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STAGE 1 PHASE 2

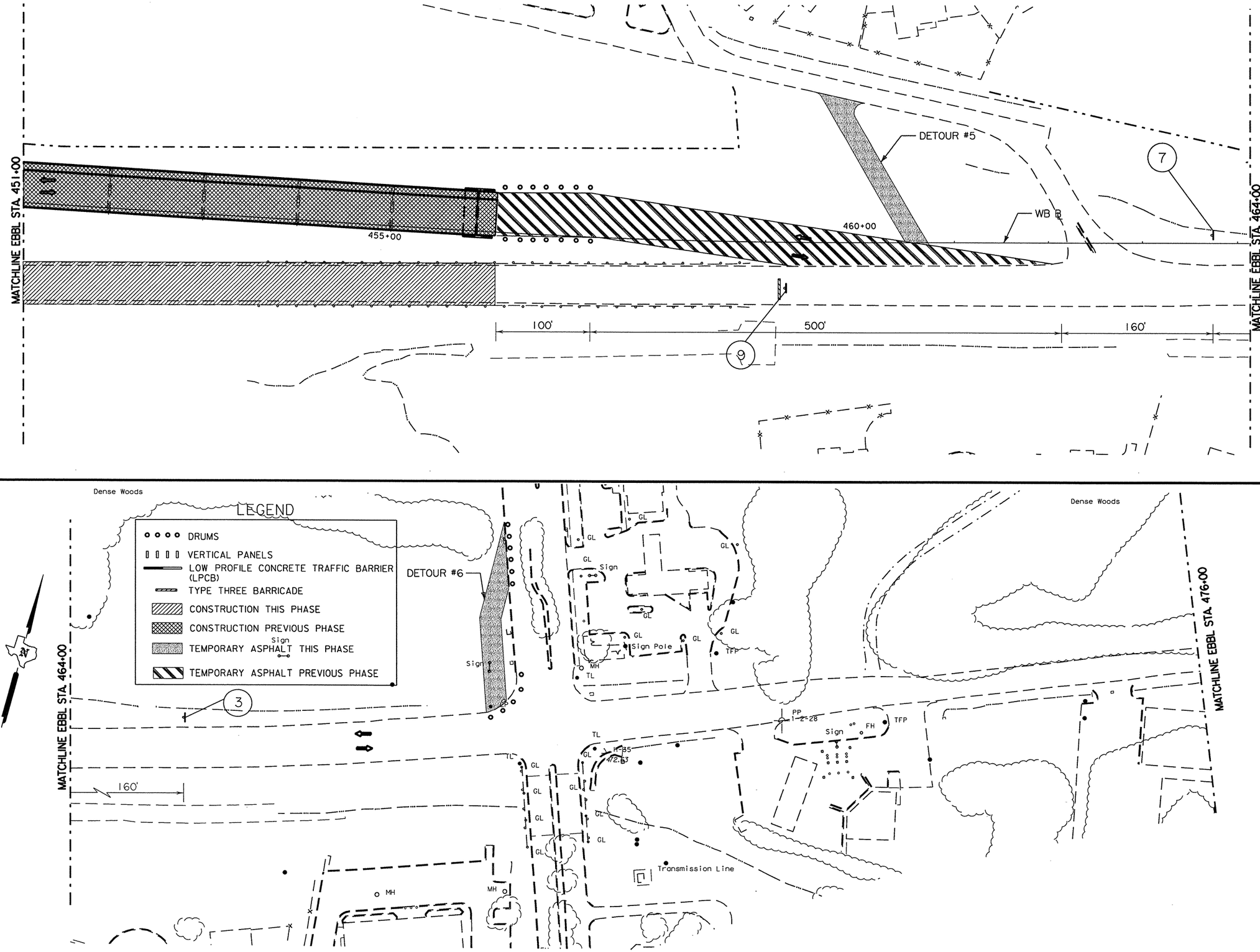
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SEQUENCE OF WORK

STA. 427+00 TO STA. 451+00

SCALE:
1"=100' HORZ.
SHEET 16 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		48
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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STAGE I PHASE 2

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SEQUENCE OF WORK

STA 451+00 TO STA 476+00

SCALE:
1"=100' HORZ.

SHEET 17 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		49
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

NOTES (STAGE 2 PHASE 1):

1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.

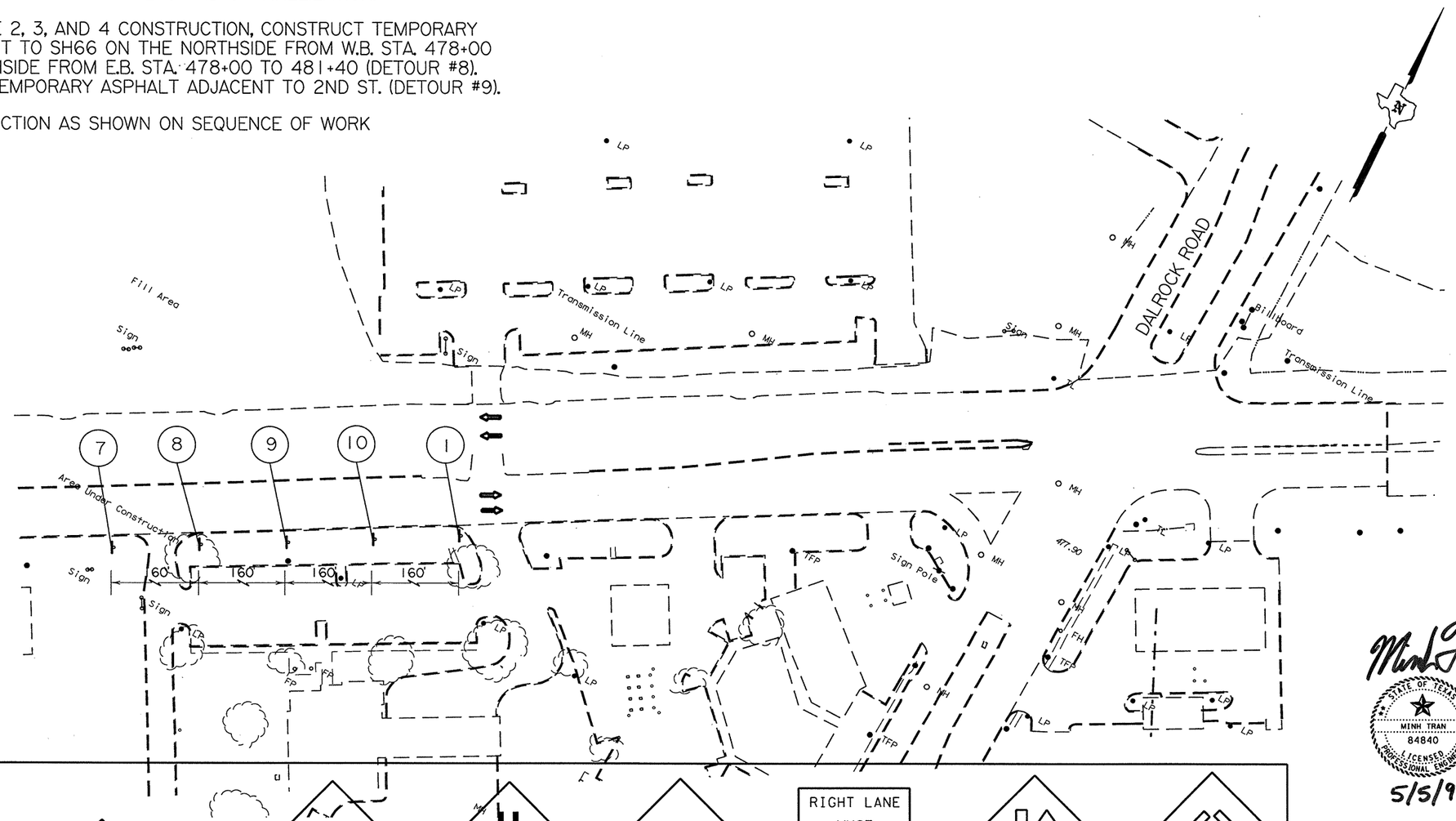
2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.

3. IN PREPARATION FOR STAGE 2 PHASE 2, 3, AND 4 CONSTRUCTION, CONSTRUCT TEMPORARY ASPHALT WITH VARIABLE WIDTH ADJACENT TO SH66 ON THE NORTHSIDE FROM W.B. STA. 478+00 TO 483+50 (DETOUR #7) AND THE SOUTHSIDE FROM E.B. STA. 478+00 TO 481+40 (DETOUR #8). IN ADDITION, CONSTRUCT 10' WIDTH OF TEMPORARY ASPHALT ADJACENT TO 2ND ST. (DETOUR #9).

4. COMPLETE STAGE 2 PHASE 1 CONSTRUCTION AS SHOWN ON SEQUENCE OF WORK

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



CONSTRUCTION SIGN LEGEND

EG20-9
WORK ZONE
TRAFFIC FINES DOUBLE
ER20-5
1

ROAD WORK NEXT 3 ½MILES
SG20-1

NAME
ADDRESS
CITY
STATE
CONTRACTOR
SG20-6
2

ROAD WORK AHEAD
CW20-1D
3

HIGHWAY IMPROVEMENT PROJECT FUNDED BY YOUR TRANSPORTATION TAX DOLLARS
SCHEDULED COMPLETION WINTER 2003
G20-8
4

END ROAD WORK
G20-2a
5

SCW1-4L
35 M.P.H.
SCW13-1
6

LEFT LANE CLOSED AHEAD
CW20-5DL
7

CW4-2L
8

ROAD NARROWS
CW5-1
9

RIGHT LANE MUST TURN RIGHT
R3-7R
10

CW6-3
11

CW12-1
12

ROAD CLOSED
R11-2
13

RIGHT LANE CLOSED AHEAD
CW20-5DR
14

CW4-2R
15

SCW1-4L
30 M.P.H.
SCW13-1
16

CW1-4R
30 M.P.H.
CW13-1
17

REPLACED 6-28-99 VLWII.

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5/5/99

STAGE 2 PHASE 1

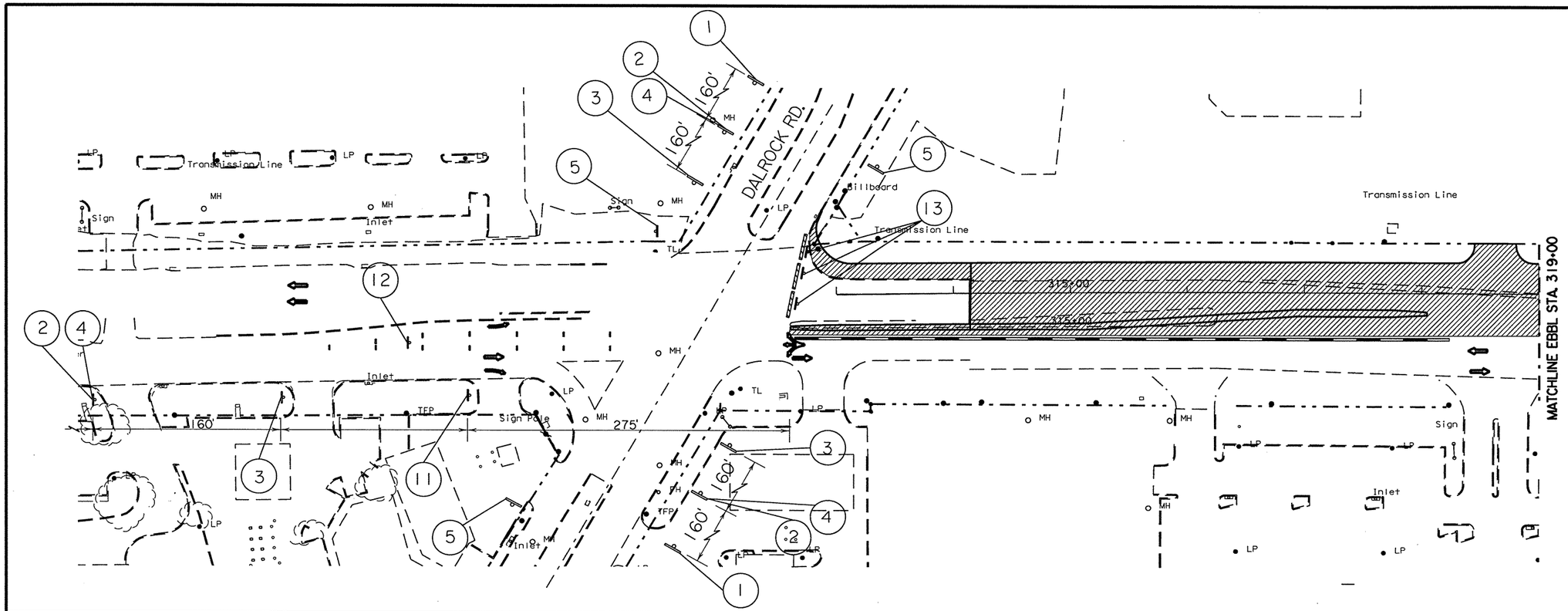
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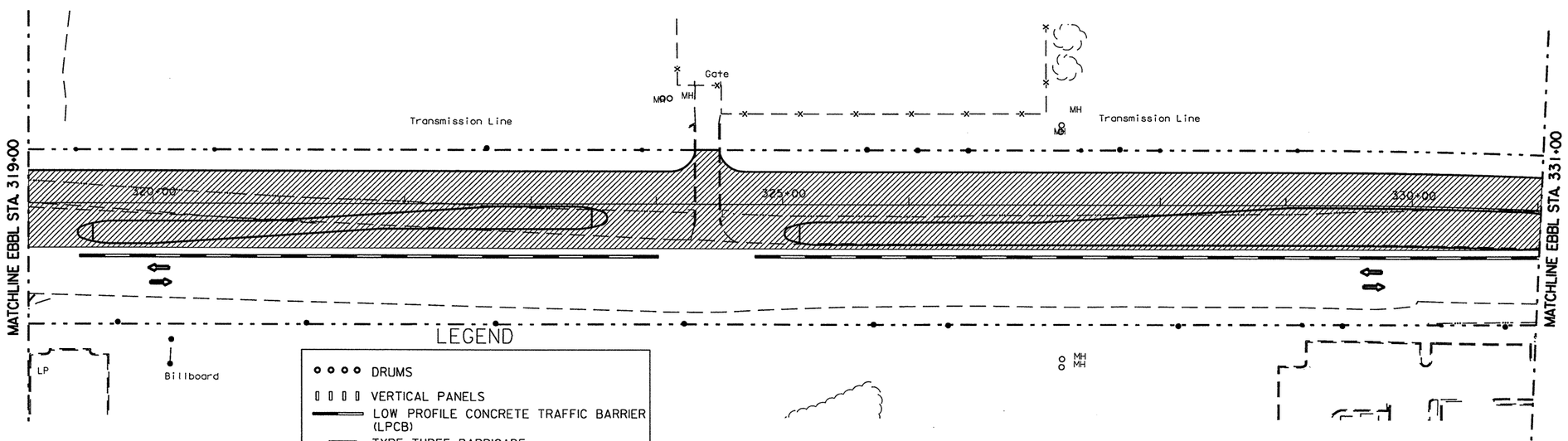
SEQUENCE OF WORK

DALROCK ROAD

SCALE:
1"=100' HORZ.
SHEET 18 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		50
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





REPLACED 6-28-99 DLP

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STAGE 2 PHASE 1

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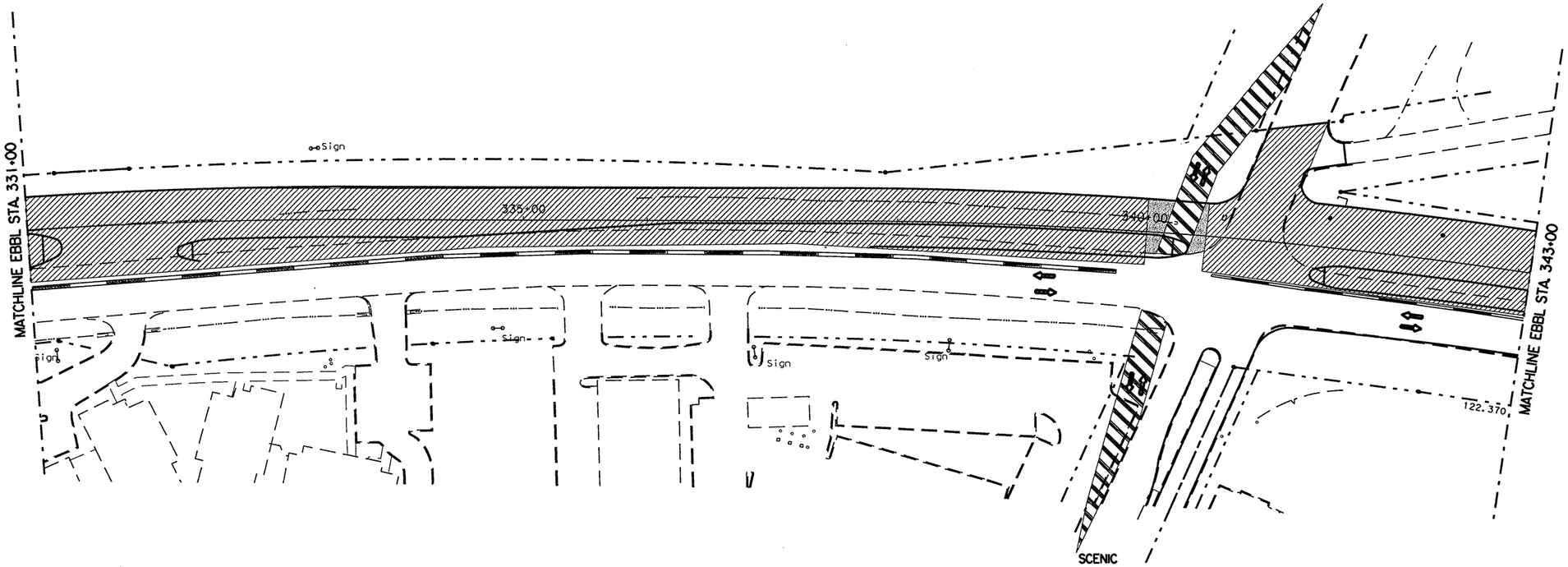
SEQUENCE OF WORK

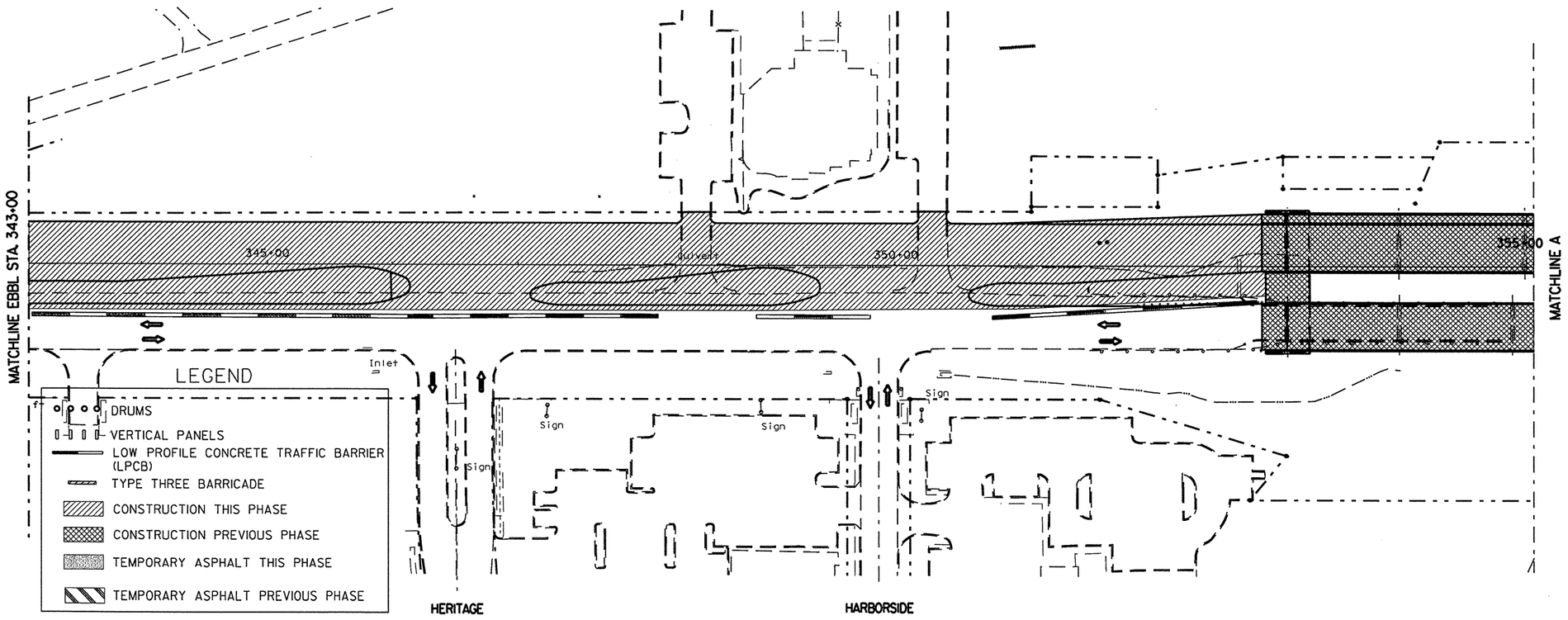
DALROCK TO STA. 331+00

SCALE:
1"=100' HORZ.

SHEET 19 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		51
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE 2 PHASE 1

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PAVING PLAN

STA. 331+00 TO STA. 355+00

SCALE:
1"=100' HORZ.

SHEET 20 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		52
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 2 PHASE 1

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SEQUENCE OF WORK

SCENIC DR.

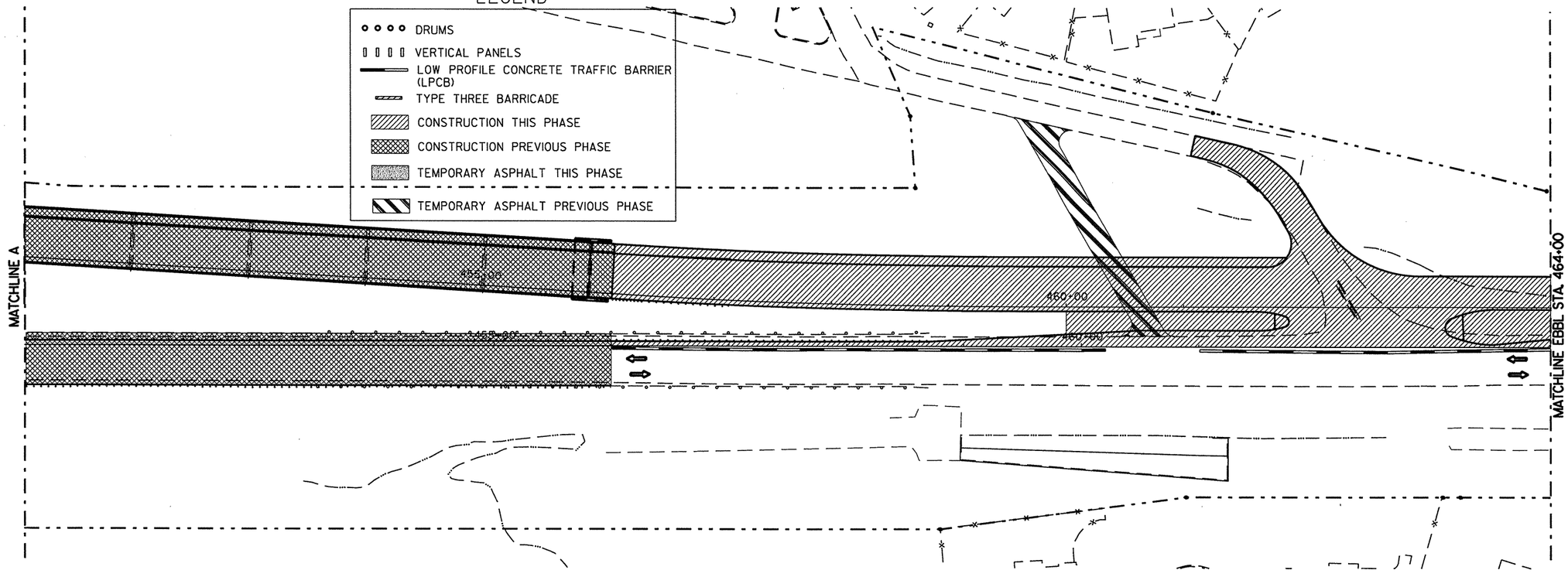
SCALE:
1"=100' HORZ.

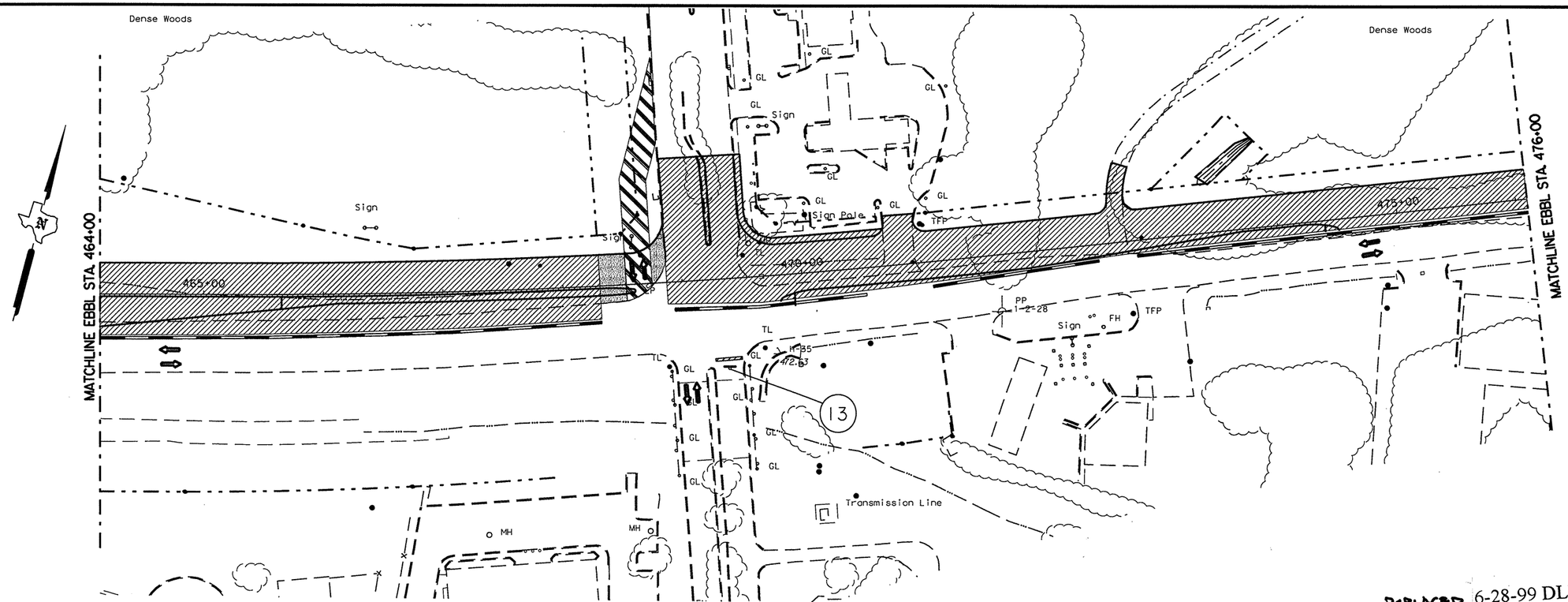
SHEET 21 OF 44 SHEETS.

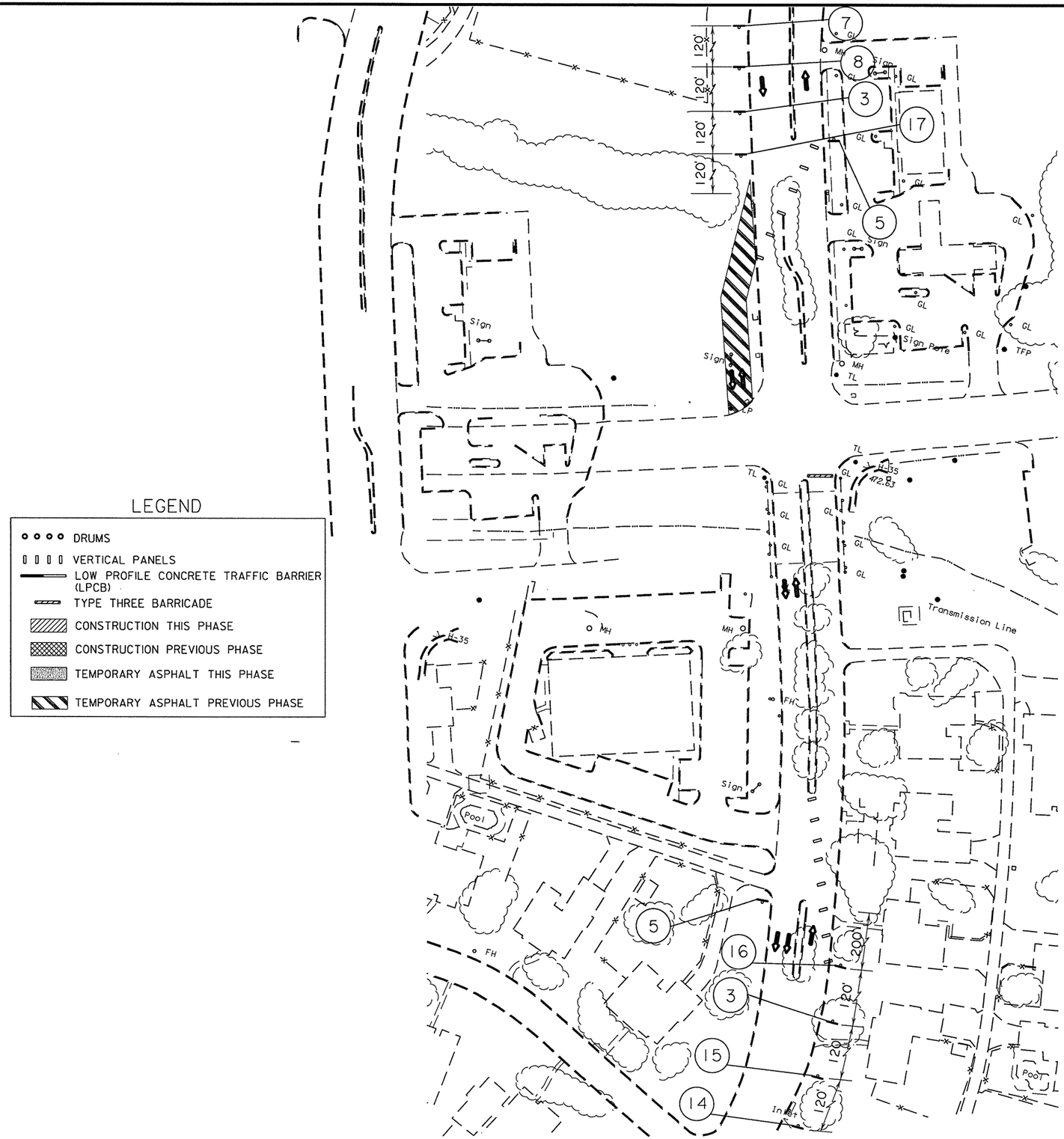
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		53
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE




Dense Woods
Dense Woods
Sign
Sign
Sign Pole
TFP
TFP
PP
Sign
FH
TL
TL
TL
GL
GL
G



LAKESHORE DR.

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 2 PHASE I

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SEQUENCE OF WORK

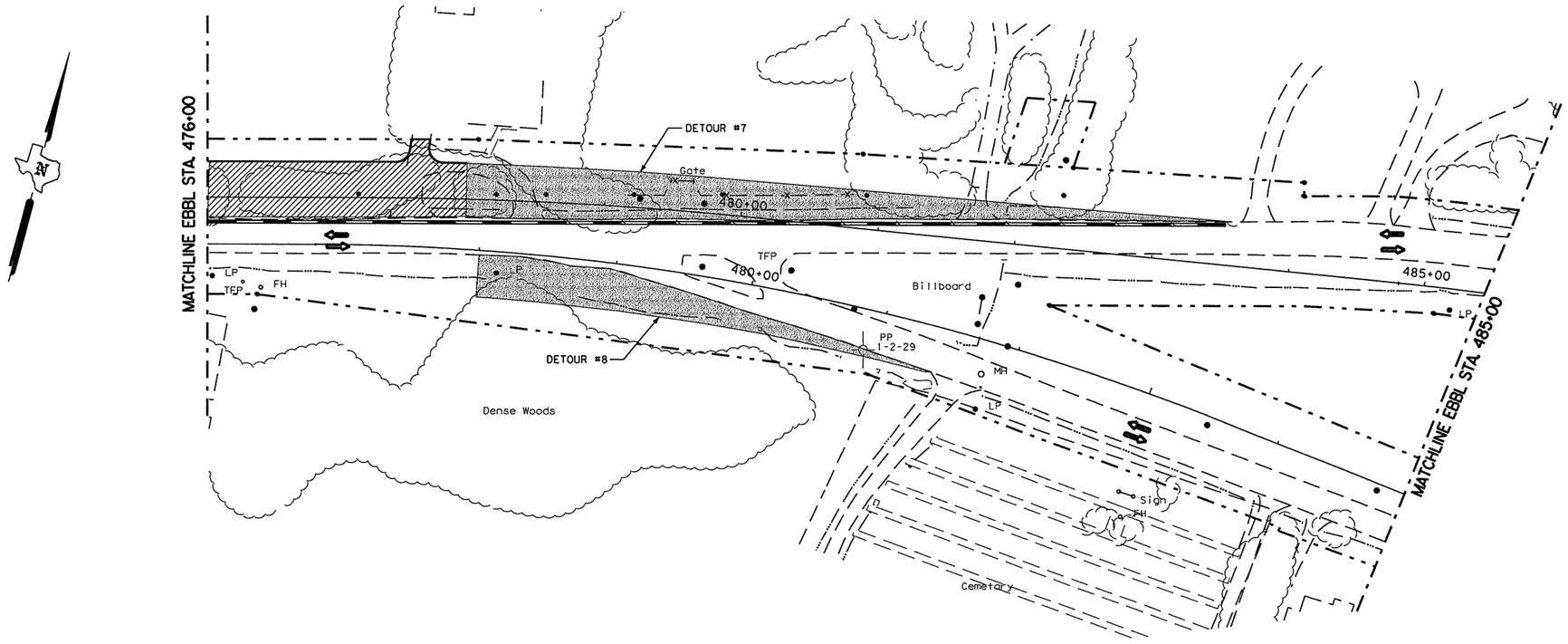
LAKESHORE DR.

SCALE:
1"=100' HORZ.

SHEET 23 OF 44 SHEETS.

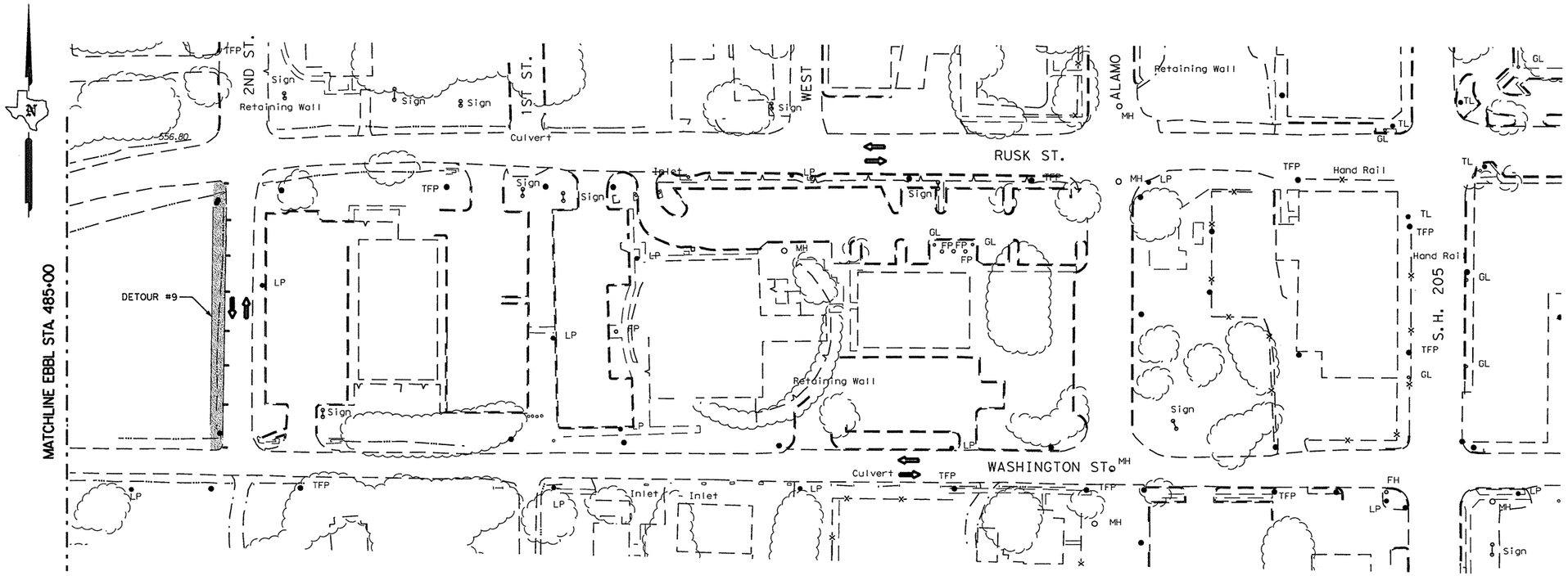
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	55

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



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STAGE 2 PHASE I

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SEQUENCE OF WORK

STA. 476+00 TO SH 205

SCALE: 1"=100' HORZ.

SHEET 24 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	56

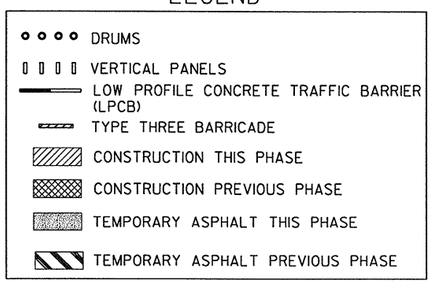
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

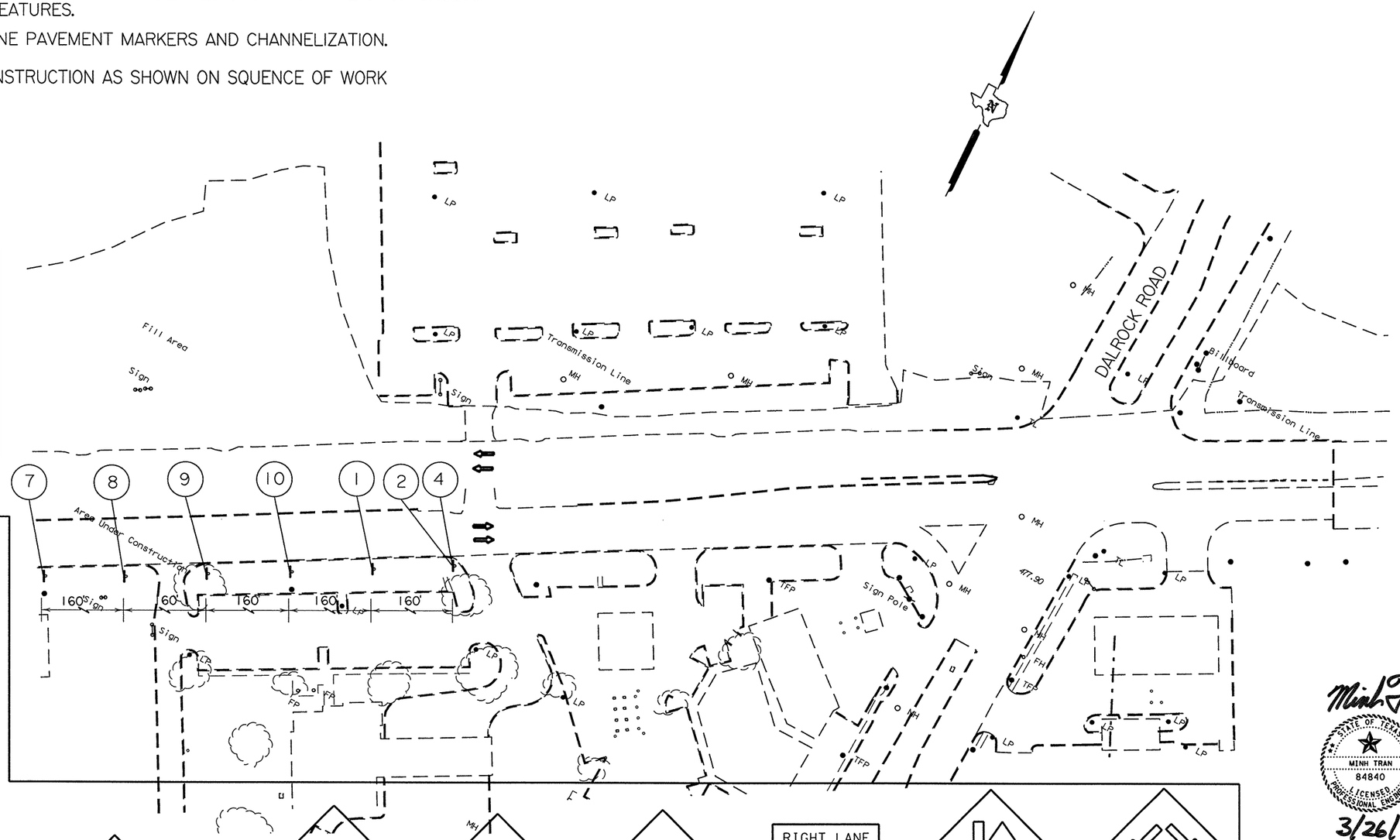
NOTES (STAGE 2 PHASE 2):

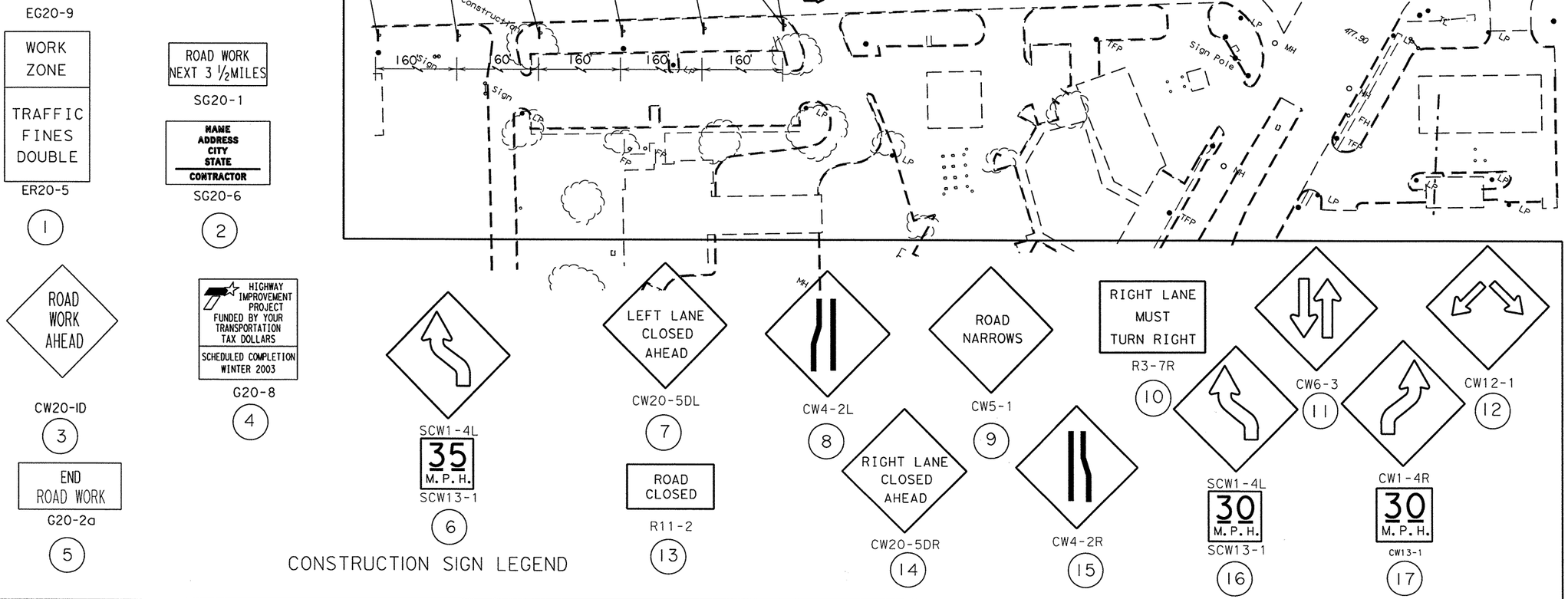
1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.

2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.

3. COMPLETE STAGE 2 PHASE 2 CONSTRUCTION AS SHOWN ON SQUENCE OF WORK







CONSTRUCTION SIGN LEGEND

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STATE OF TEXAS
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84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

STAGE 2 PHASE 2

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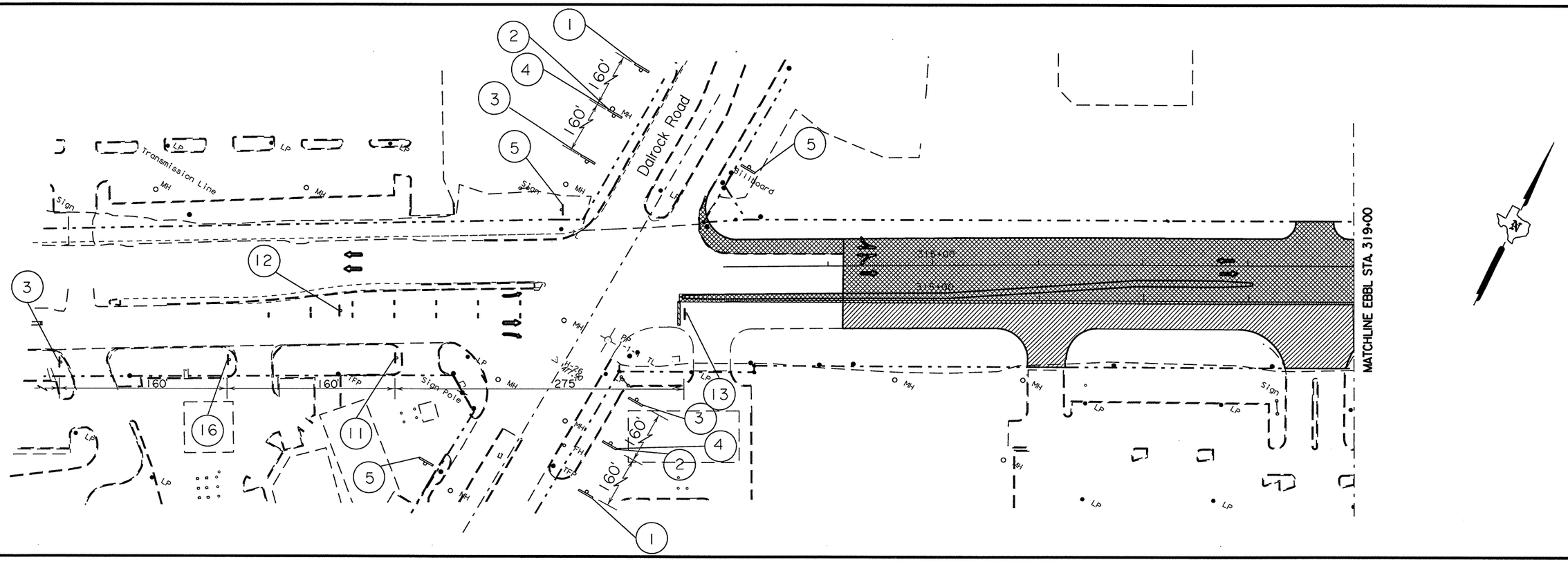
SEQUENCE OF WORK

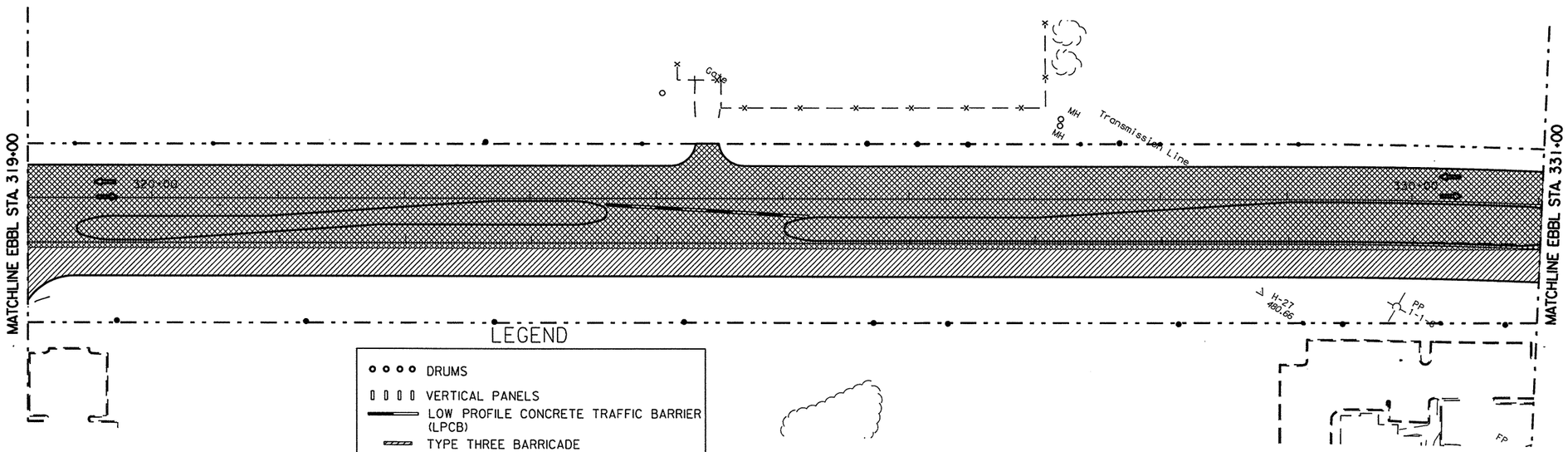
DALROCK ROAD

SCALE:
1"=100' HORZ.

SHEET 25 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		57
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





REPLACED 6-28-99 DLP

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LICENSED PROFESSIONAL ENGINEER

5/5/99

STAGE 2 PHASE 2

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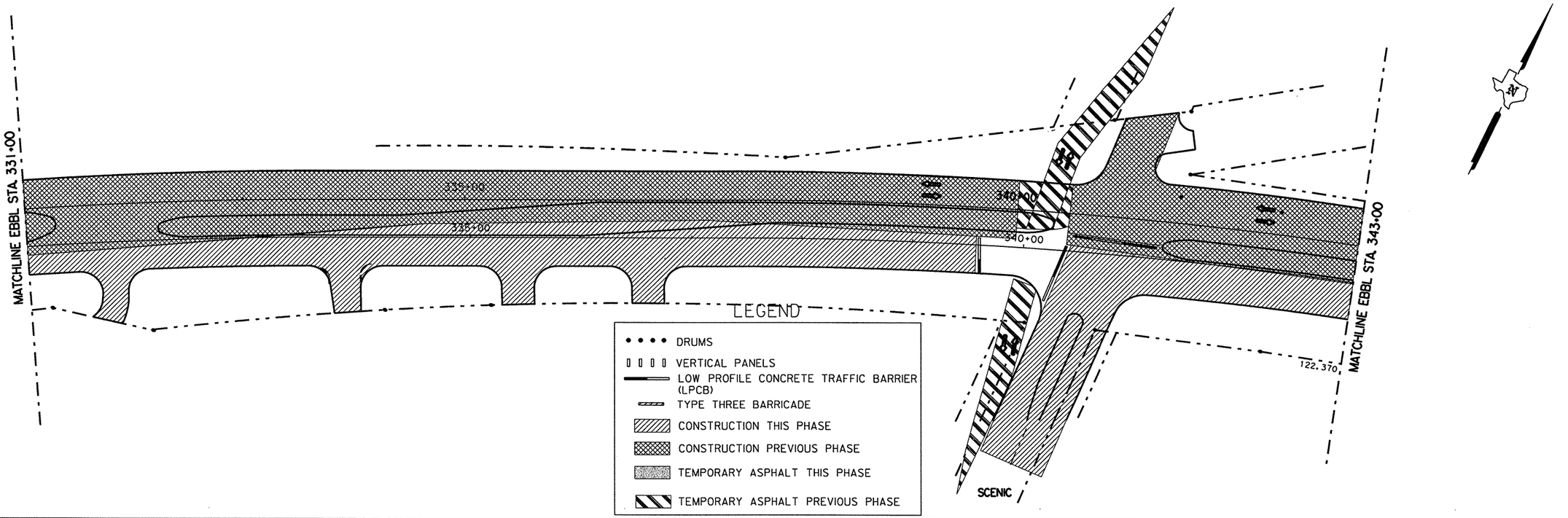
SEQUENCE OF WORK

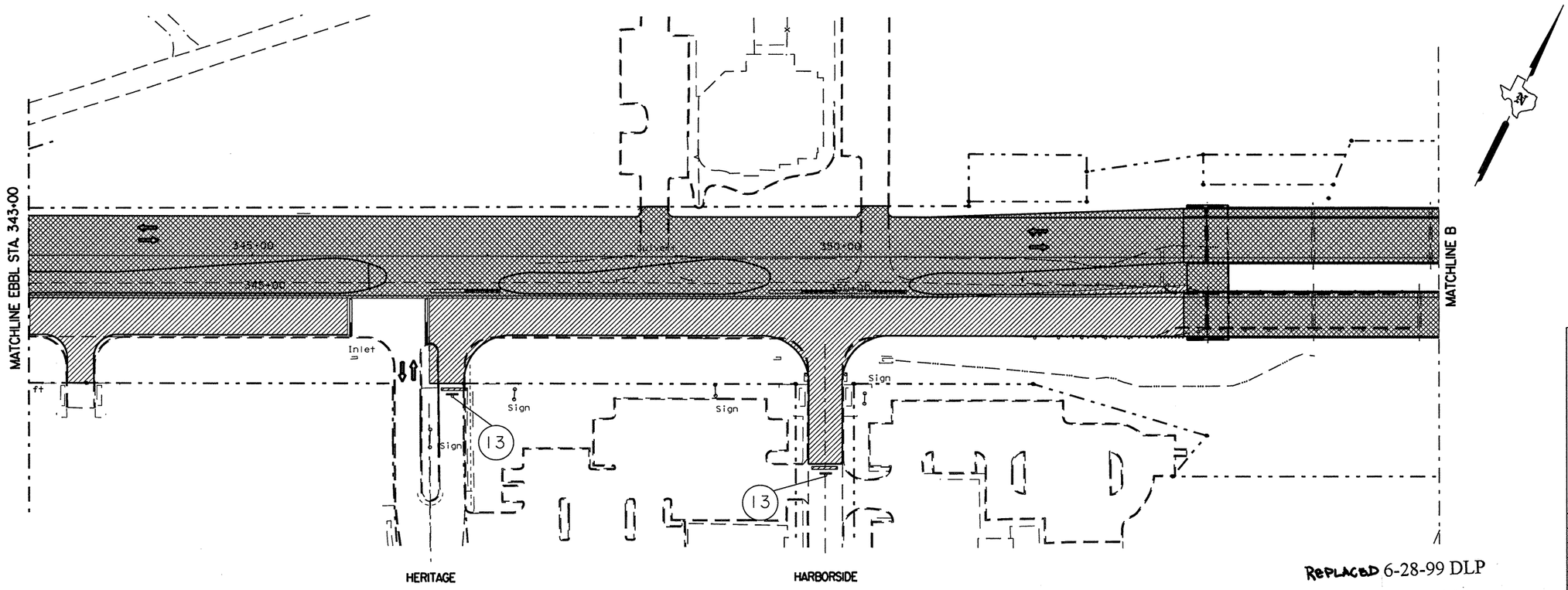
DALROCK RD. TO STA. 331+00

SCALE:
1"=100' HORZ.

SHEET 26 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		58
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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SEQUENCE OF WORK

STA. 331+00 TO STA. 355+00

SCALE:
1"=100' HORZ.

SHEET 27 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		59
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 2 PHASE 2

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SEQUENCE OF WORK

SCENIC DR.

SCALE:
1"=100' HORZ.

SHEET 28 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	60

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

MATCHLINE B

MATCHLINE EBBL STA 464+00

Dense Woods

Sign

Sign Pole

GL

TFP

PP

TL

Transmission Line

MH

LAKESHORE

MATCHLINE EBBL STA 476+00

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STAGE 2 PHASE 2

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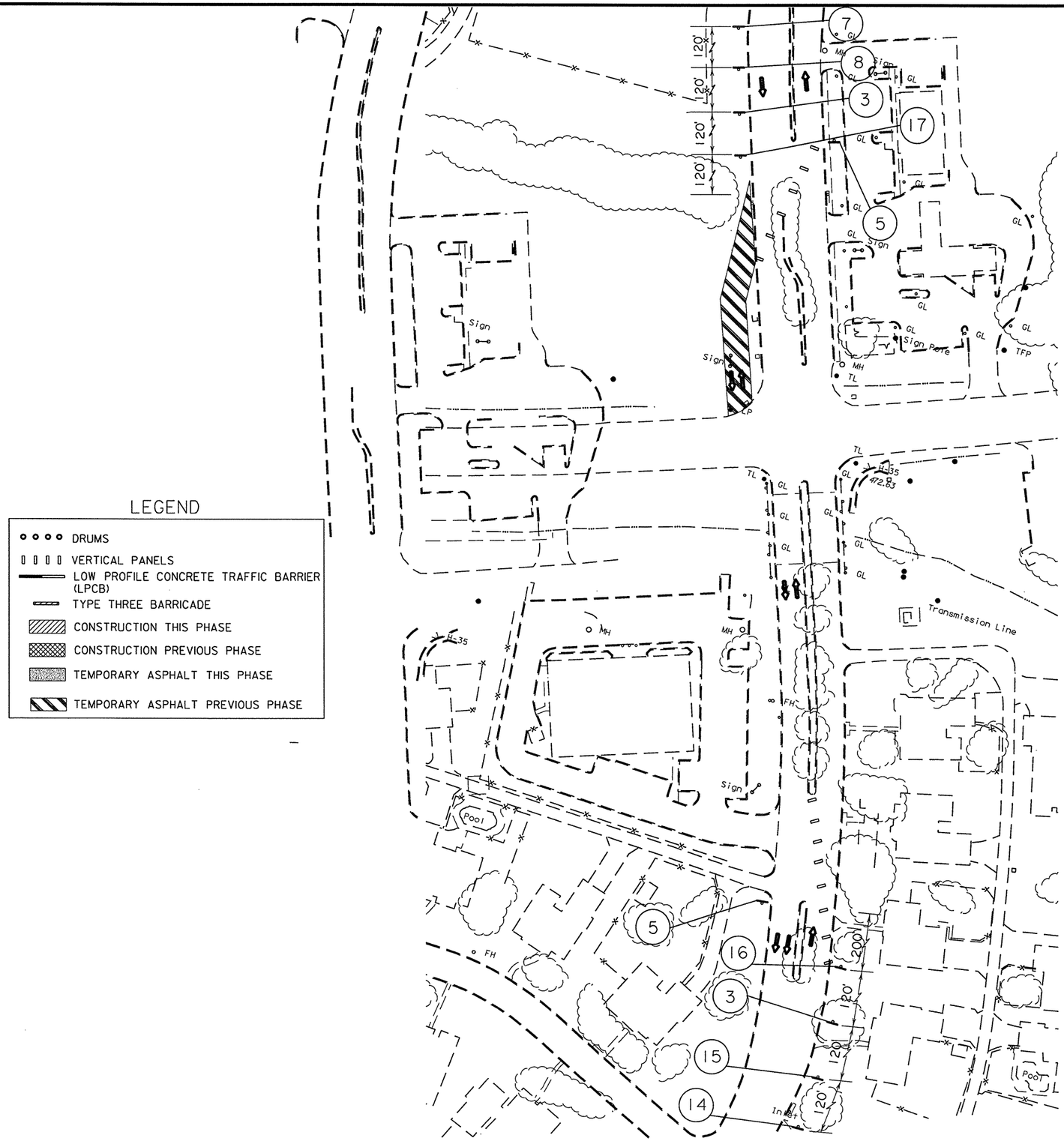
SEQUENCE OF WORK

STA. 451+00 TO STA. 476+00

SCALE:
1"=100' HORZ.

SHEET 29 OF 44 SHEETS.

FED. RD. DIV. NO.	EEDEBAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		61
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LAKESHORE DR.

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 2 PHASE 2

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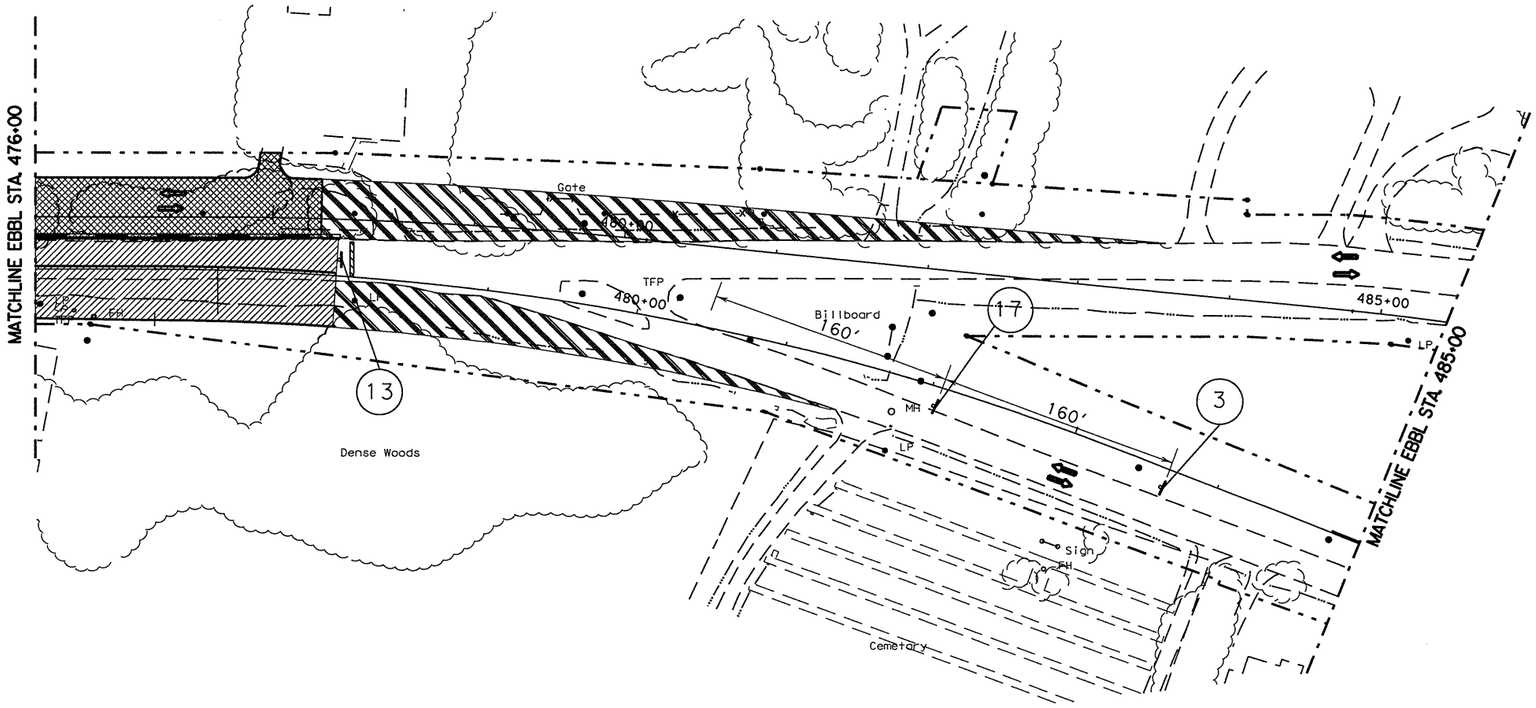
SEQUENCE OF WORK

LAKESHORE DR.

SCALE:
1"=100' HORZ.

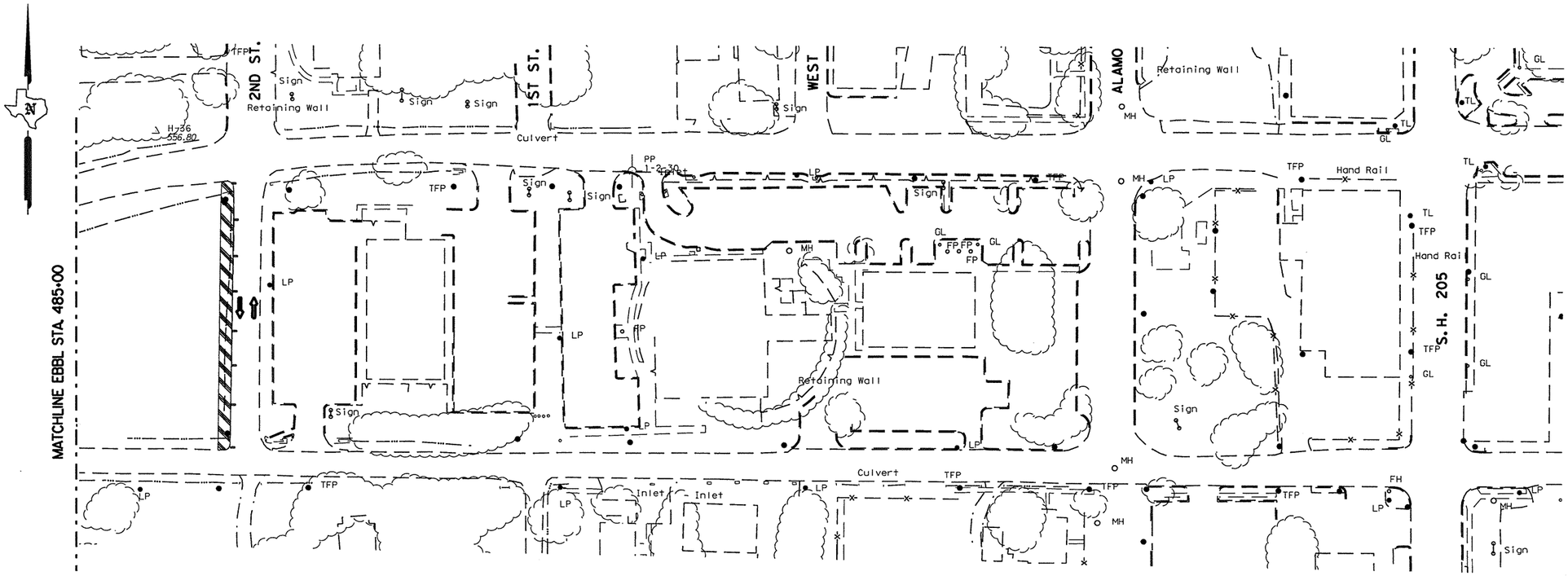
SHEET 30 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		62
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



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STAGE 2 PHASE 2

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SEQUENCE OF WORK

STA. 476+00 TO SH 205

SCALE:
1"=100' HORZ.

SHEET 31 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	63

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REPLACED 6-28-99 DLP

NOTES (STAGE 2 PHASE 3):

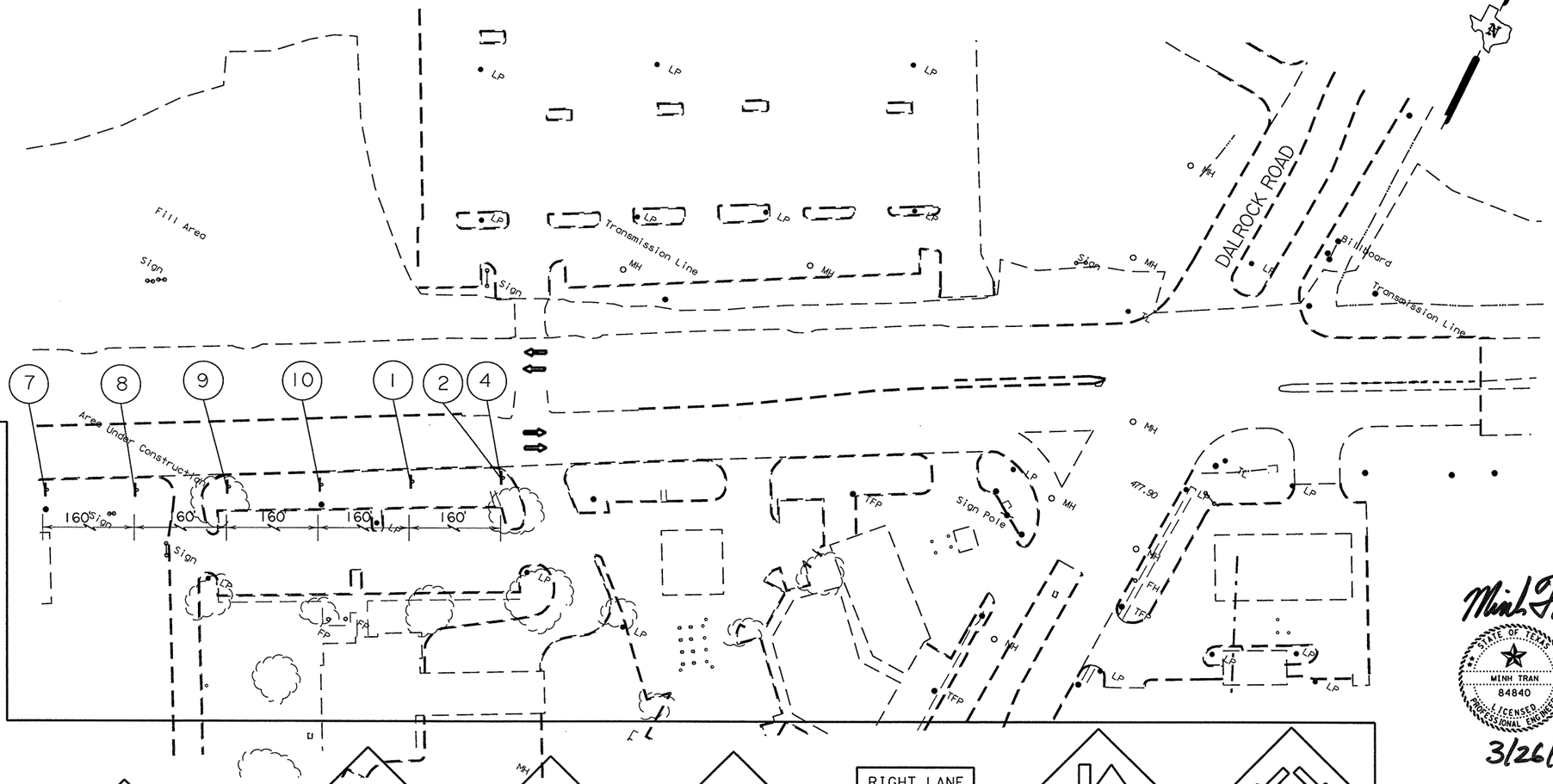
1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.

2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.

3. COMPLETE STAGE 2 PHASE 3 CONSTRUCTION AS SHOWN ON SQUENCE OF WORK

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



CONSTRUCTION SIGN LEGEND

EG20-9
WORK ZONE
TRAFFIC FINES DOUBLE
ER20-5
1

ROAD WORK NEXT 3 1/2 MILES
SG20-1

NAME
ADDRESS
CITY
STATE
CONTRACTOR
SG20-6
2

ROAD WORK AHEAD
CW20-ID
3

HIGHWAY IMPROVEMENT PROJECT
FUNDED BY YOUR TRANSPORTATION TAX DOLLARS
SCHEDULED COMPLETION WINTER 2003
G20-8
4

END ROAD WORK
G20-2a
5

SCW1-4L
35 M.P.H.
SCW13-1
6

LEFT LANE CLOSED AHEAD
CW20-5DL
7

ROAD WORK
CW4-2L
8

ROAD NARROWS
CW5-1
9

RIGHT LANE MUST TURN RIGHT
R3-7R
10

CW6-3
11

CW12-1
12

ROAD CLOSED
R11-2
13

RIGHT LANE CLOSED AHEAD
CW20-5DR
14

CW4-2R
15

SCW1-4L
30 M.P.H.
SCW13-1
16

CW1-4R
30 M.P.H.
CW13-1
17

Mark Fran

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STAGE 2 PHASE 3

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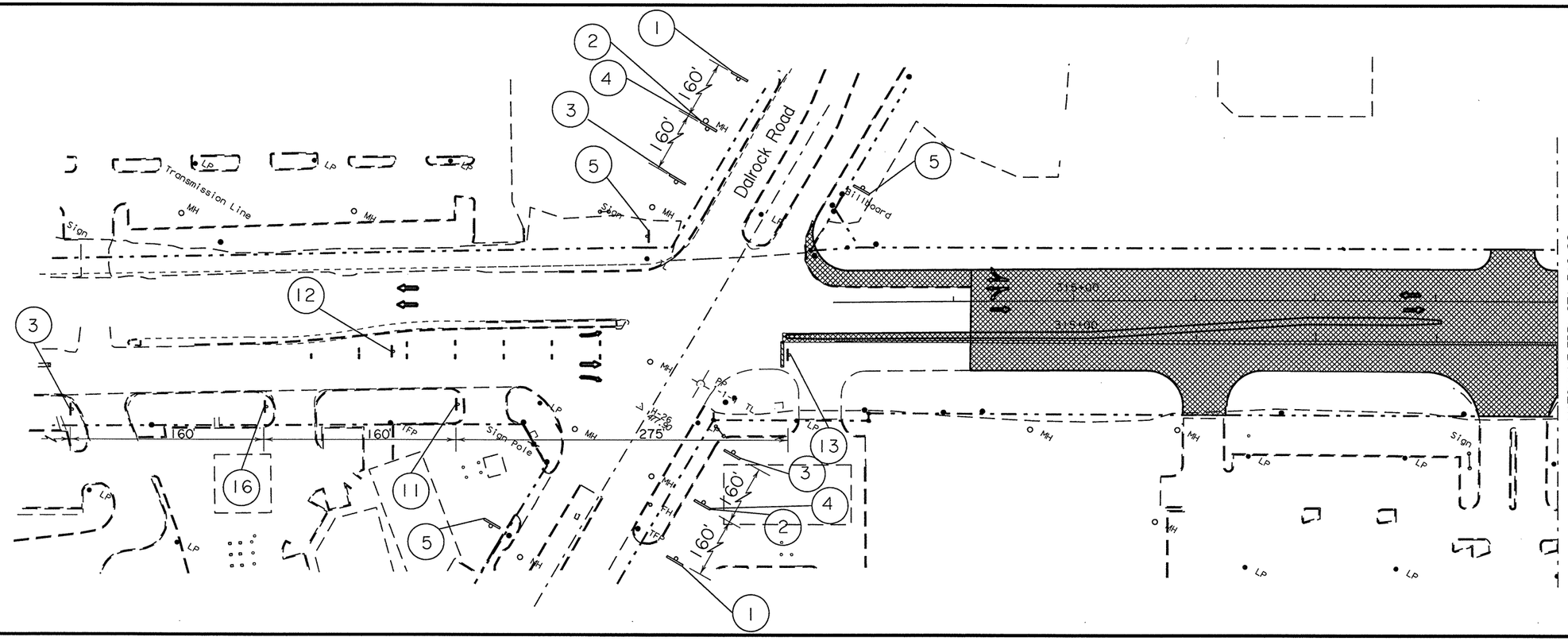
SEQUENCE OF WORK

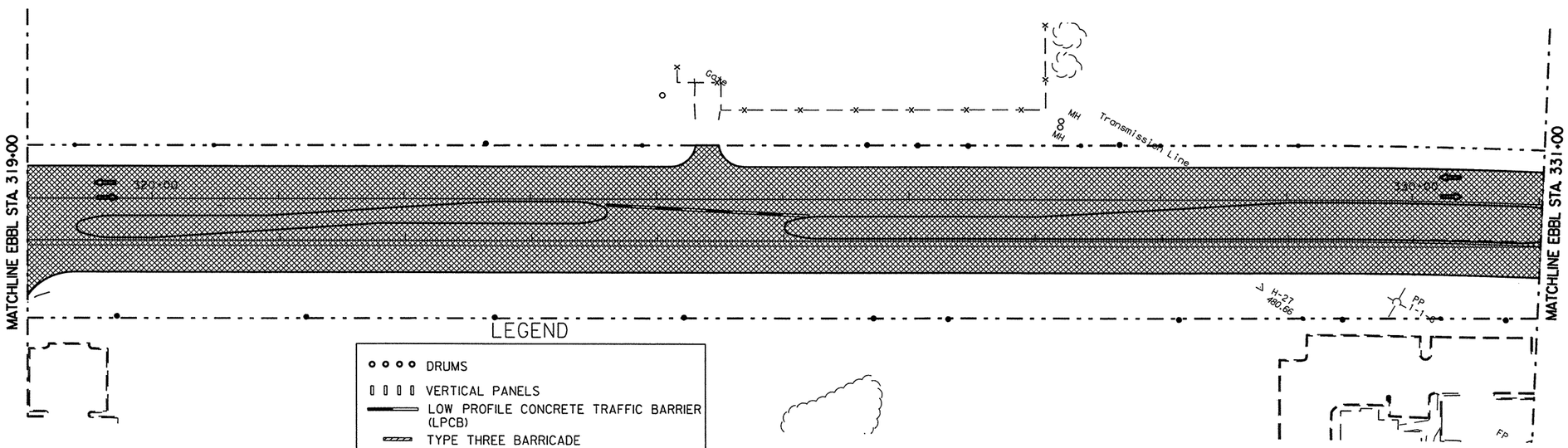
DALROCK ROAD

SCALE:
1"=100' HORZ.

SHEET 32 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		64
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STATE OF TEXAS

5/5/99

STAGE 2 PHASE 3

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SEQUENCE OF WORK

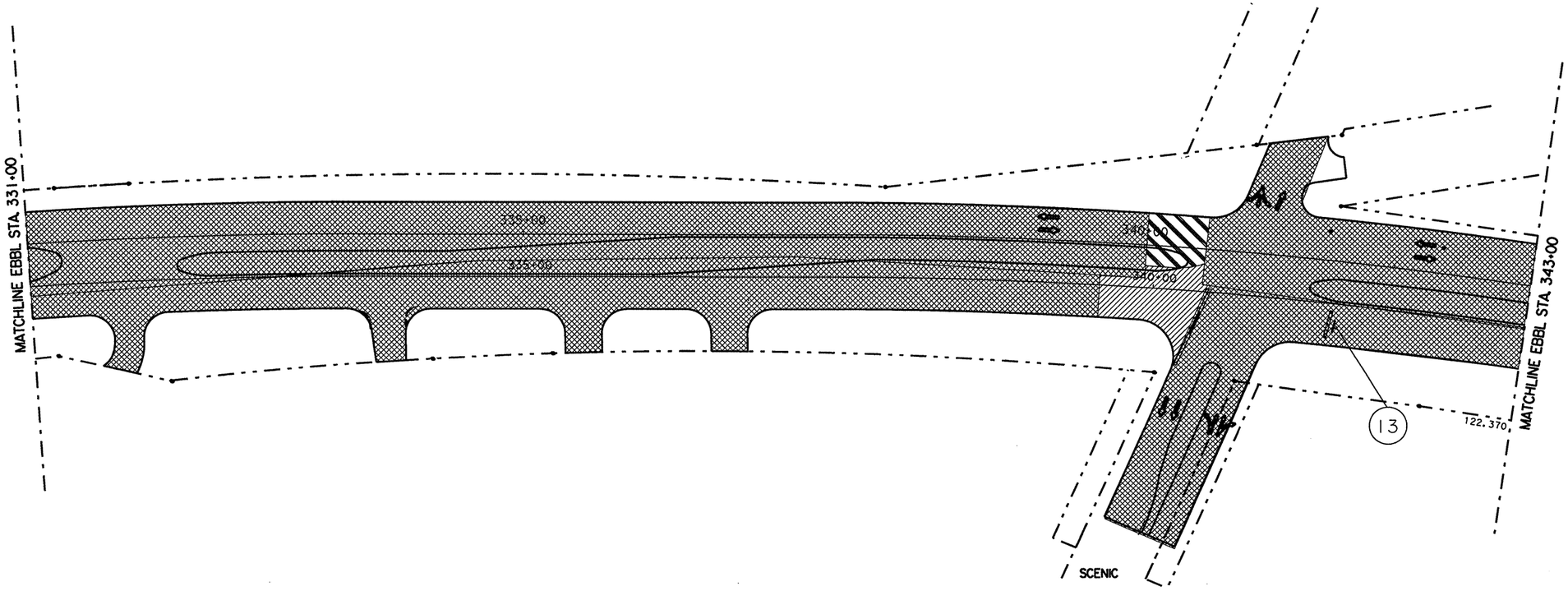
DALROCK RD. TO STA. 331+00

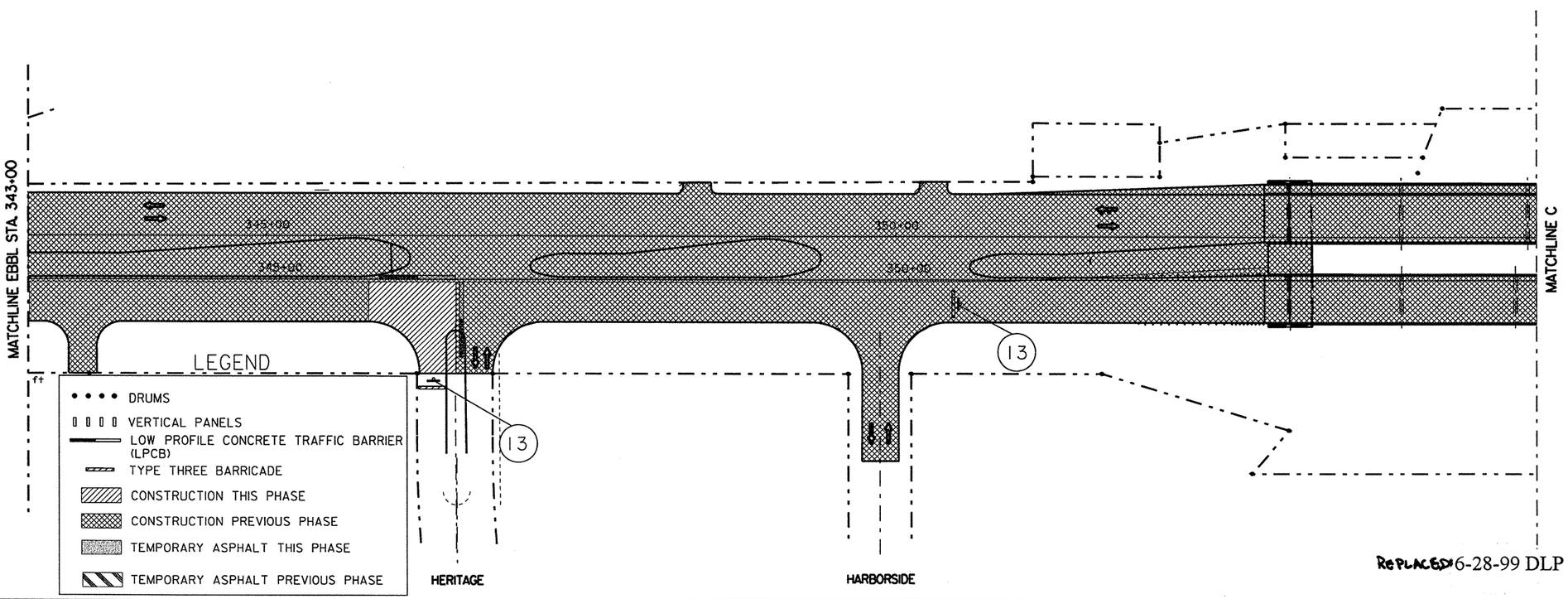
SCALE:
1"=100' HORZ.

SHEET 33 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	65

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE 2 PHASE 3

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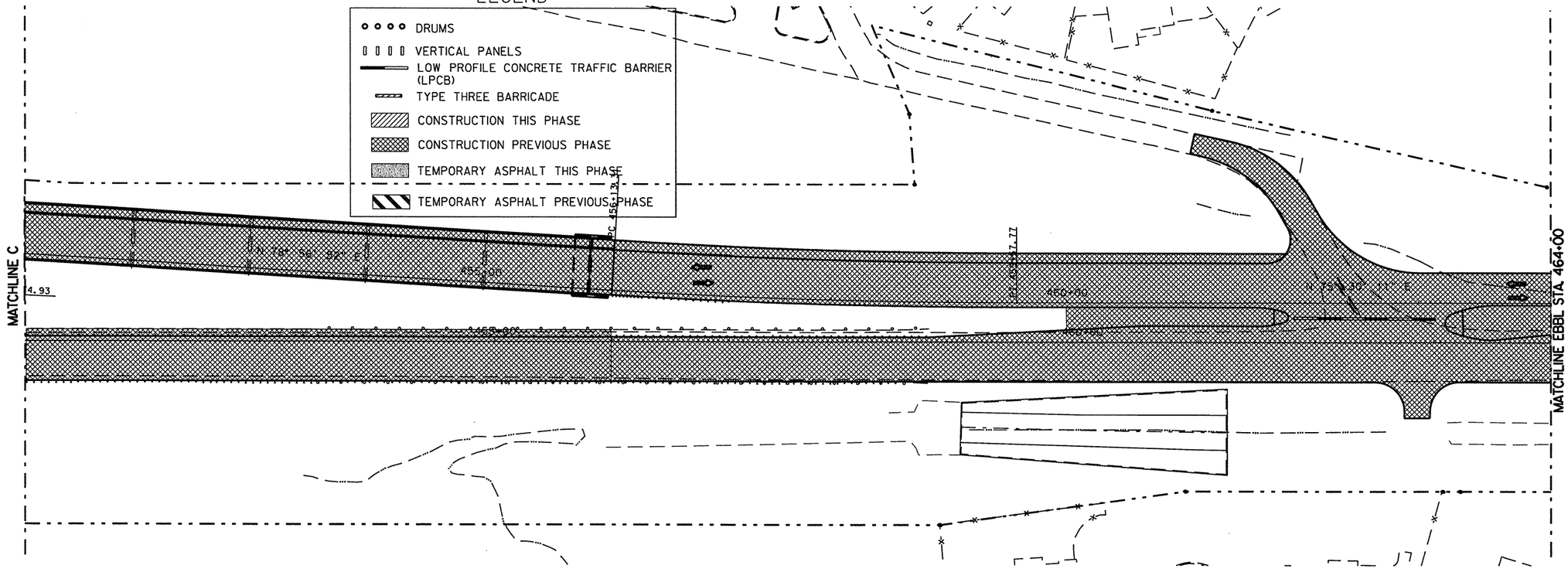
SEQUENCE OF WORK

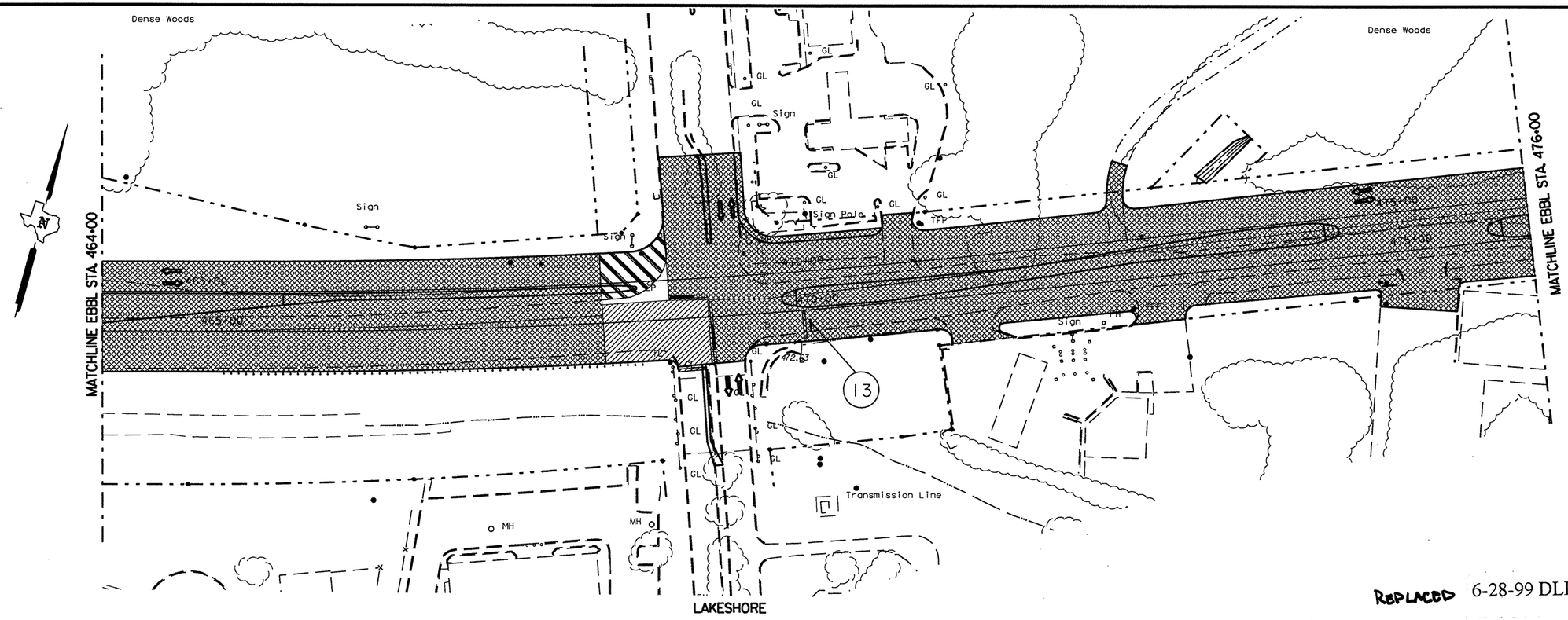
STA. 331+00 TO STA. 355+00

SCALE:
1"=100' HORZ.
SHEET 34 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	66

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE 2 PHASE 3

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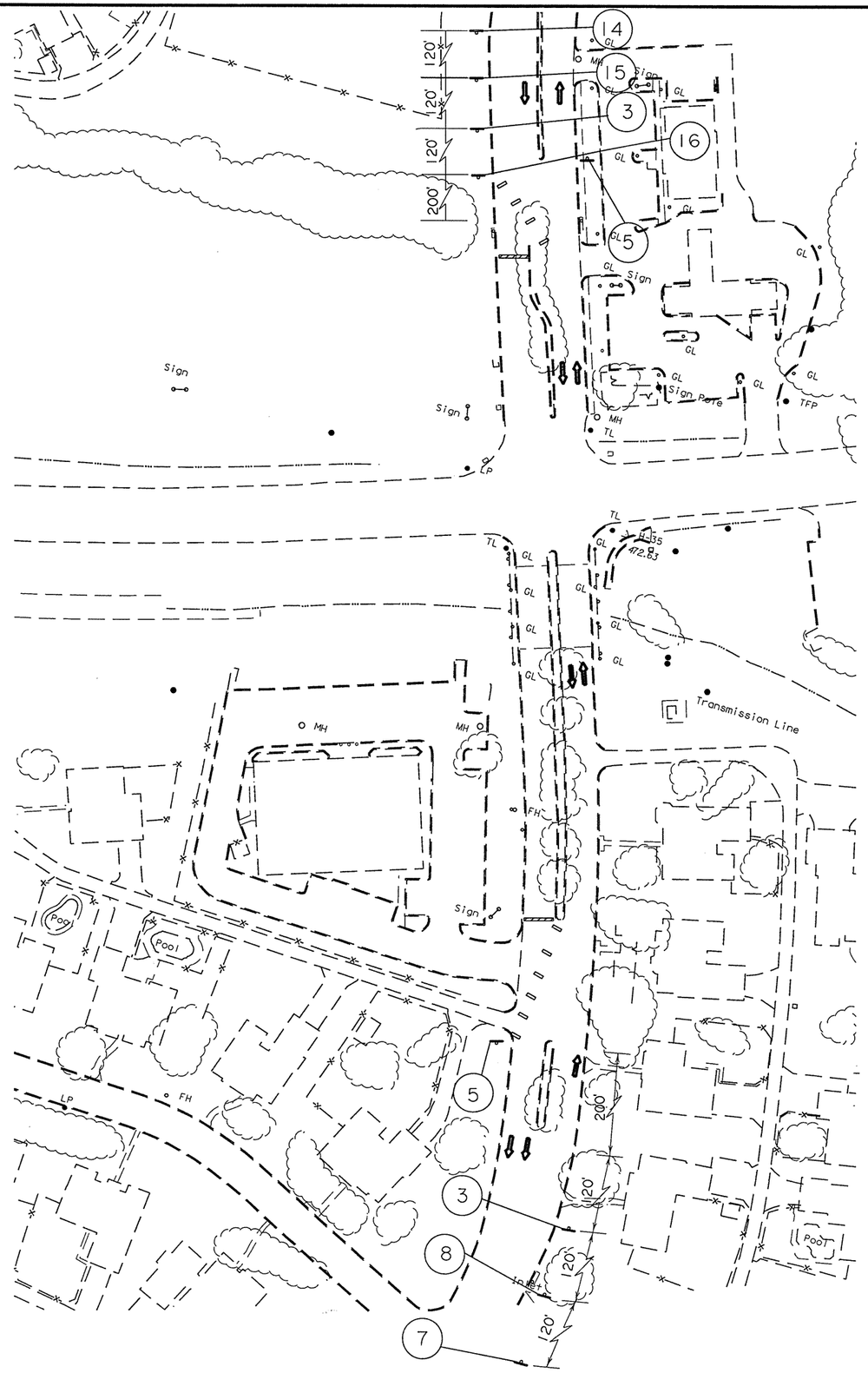
SEQUENCE OF WORK

STA. 451+00 TO STA. 476+00

SCALE:
1"=100' HORZ.

SHEET 35 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		67
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



STAGE 2 PHASE 3

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SEQUENCE OF WORK

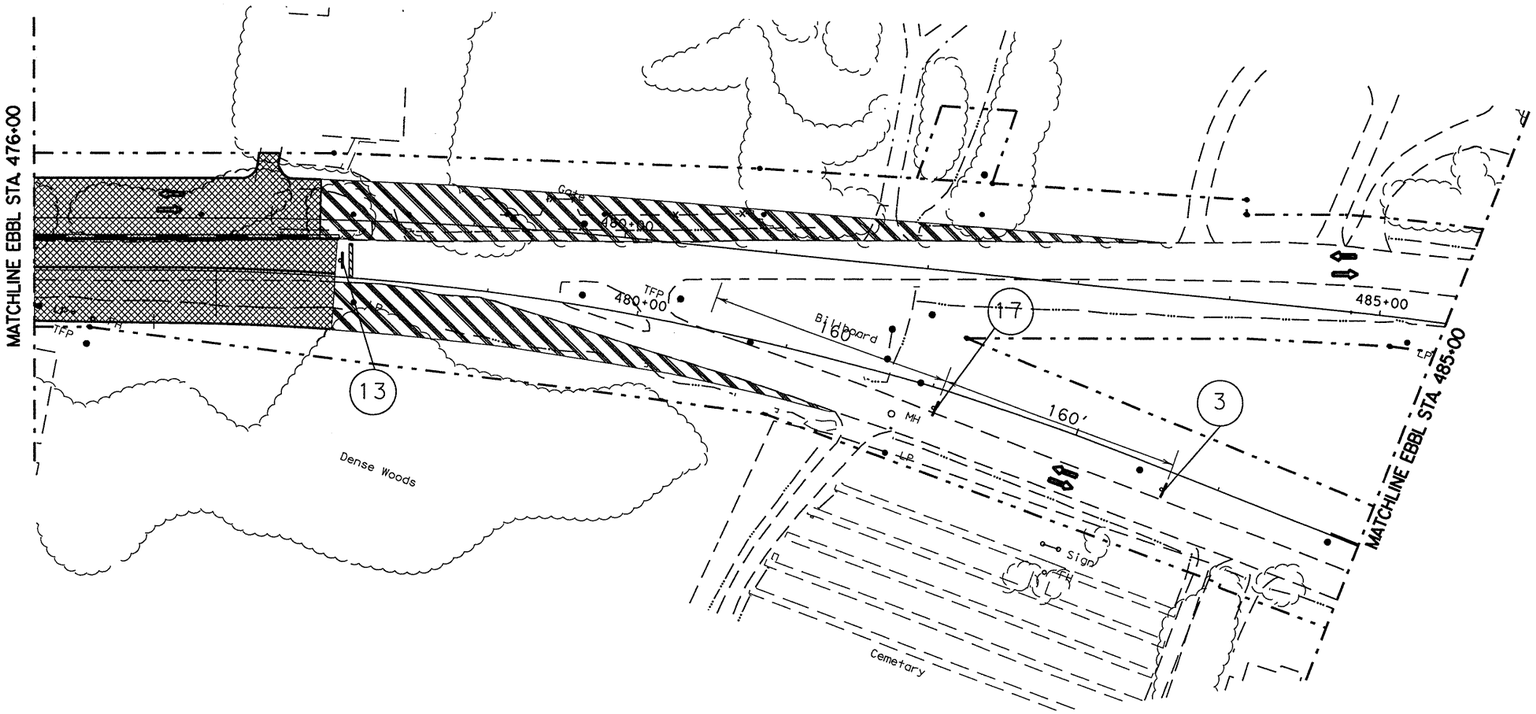
LAKESHORE DR.

SCALE:
1"=100' HORZ.

SHEET 36 OF 44 SHEETS.

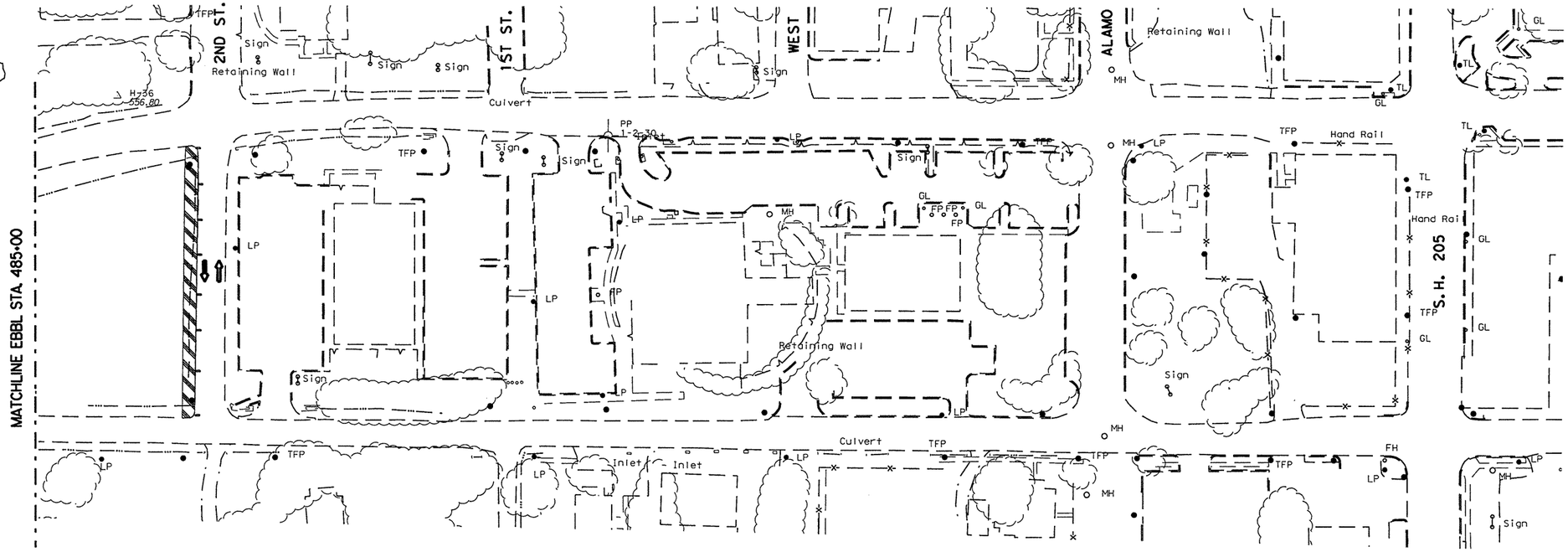
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	68

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



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STAGE 2 PHASE 3

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SEQUENCE OF WORK

STA. 476+00 TO SH 205

SCALE: 1"=100' HORZ.

SHEET 37 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	69

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

NOTES (STAGE 2 PHASE 4):

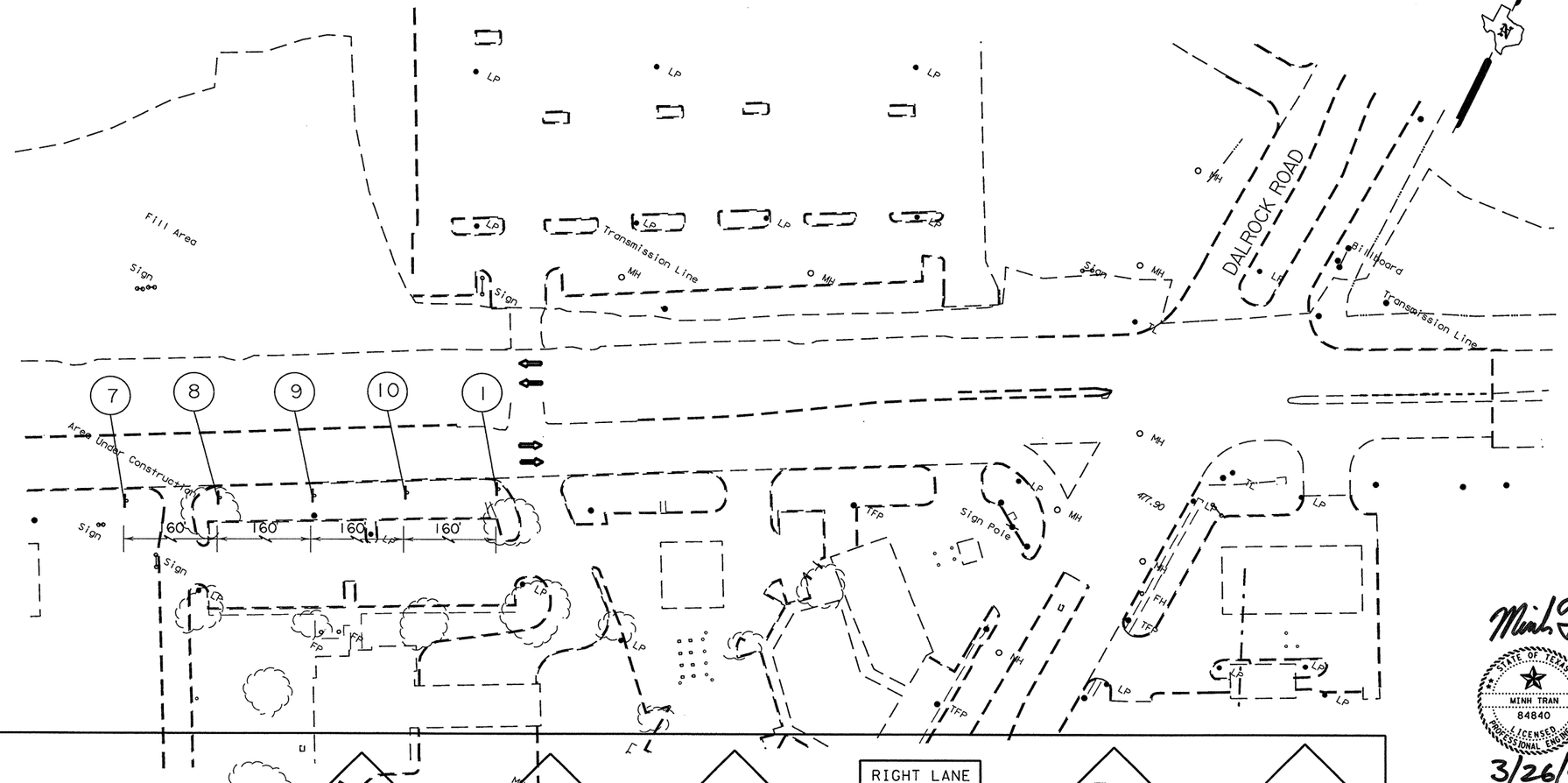
1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.

2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.

3. COMPLETE STAGE 2 PHASE 4 CONSTRUCTION AS SHOWN ON SQUENCE OF WORK

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



CONSTRUCTION SIGN LEGEND

EG20-9
WORK ZONE
TRAFFIC FINES DOUBLE
ER20-5
1

ROAD WORK NEXT 3 1/2 MILES
SG20-1

NAME
ADDRESS
CITY
STATE
CONTRACTOR
SG20-6
2

ROAD WORK AHEAD
CW20-1D
3

HIGHWAY IMPROVEMENT PROJECT FUNDED BY YOUR TRANSPORTATION TAX DOLLARS
SCHEDULED COMPLETION WINTER 2003
G20-8
4

END ROAD WORK
G20-2a
5

SCW1-4L
35 M.P.H.
SCW13-1
6

LEFT LANE CLOSED AHEAD
CW20-5DL
7

CW4-2L
8

ROAD NARROWS
CW5-1
9

RIGHT LANE MUST TURN RIGHT
R3-7R
10

CW6-3
11

CW12-1
12

ROAD CLOSED
R11-2
13

DETOUR
M4-8
CW1-7
18

RIGHT LANE CLOSED AHEAD
CW20-5DR
14

CW4-2R
15

SCW1-4L
30 M.P.H.
SCW13-1
16

CW1-4R
30 M.P.H.
CW13-1
17

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STAGE 2 PHASE 4

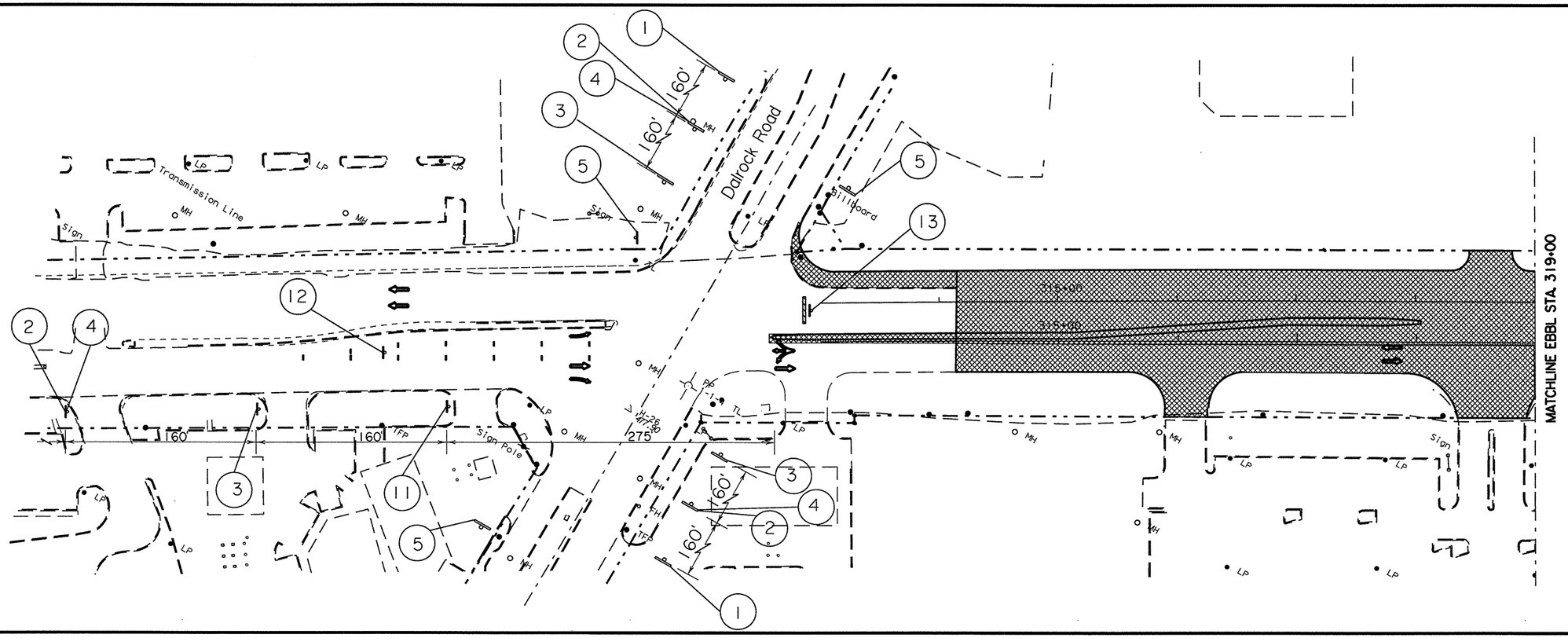
© 1999 Texas Department of Transportation

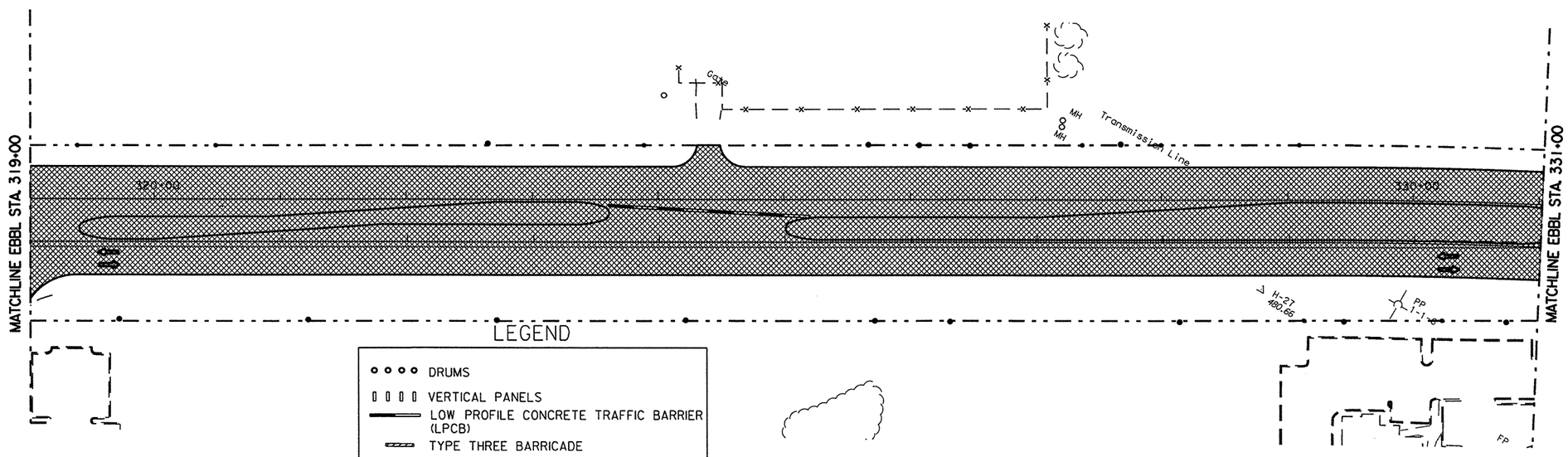
SEQUENCE OF WORK

DALROCK ROAD

SCALE:
1"=100' HORZ.
SHEET 38 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		70
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 2 PHASE 4

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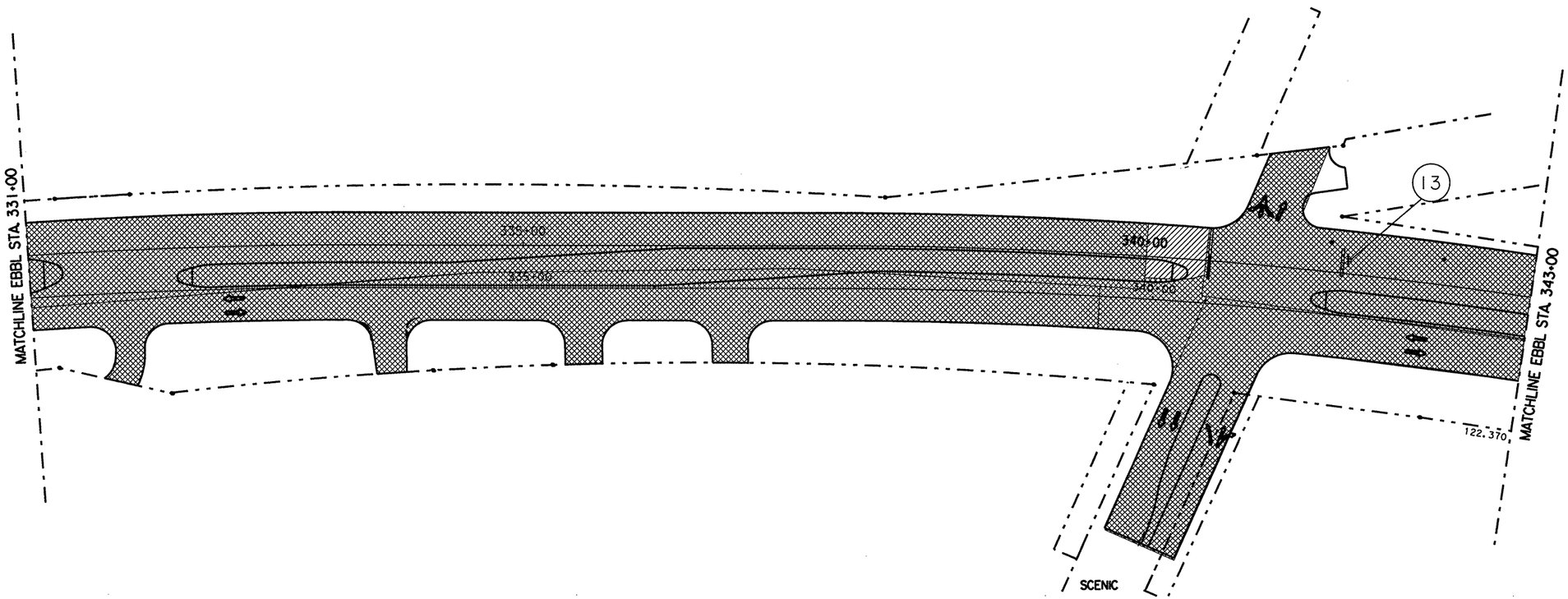
SEQUENCE OF WORK

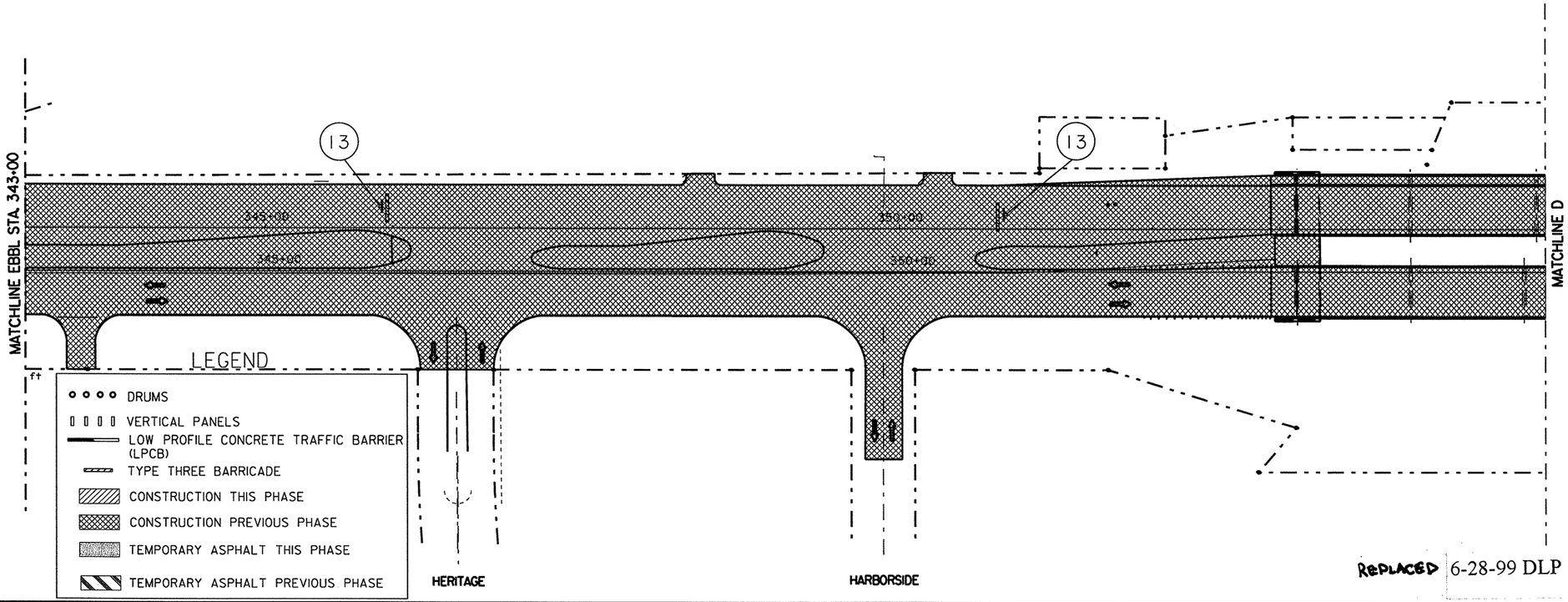
DALROCK RD. TO STA. 331+00

SCALE:
1"=100' HORZ.

SHEET 39 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		71
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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STAGE 2 PHASE 4

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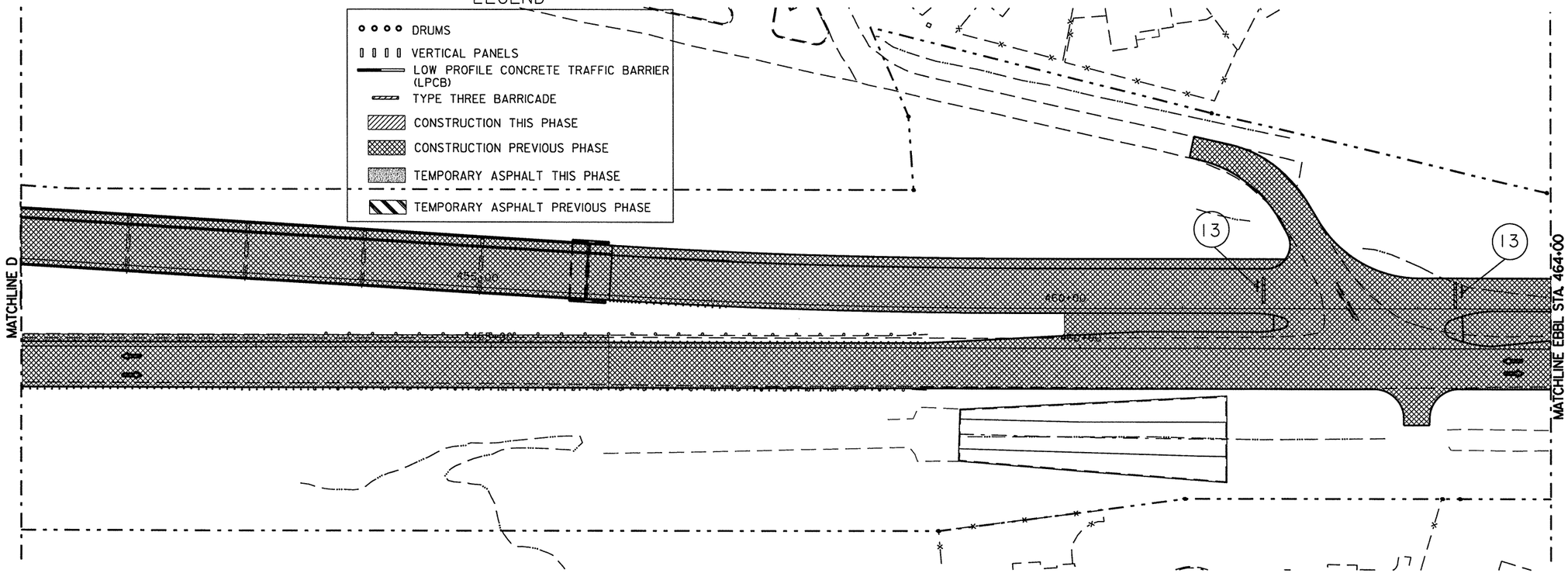
SEQUENCE OF WORK

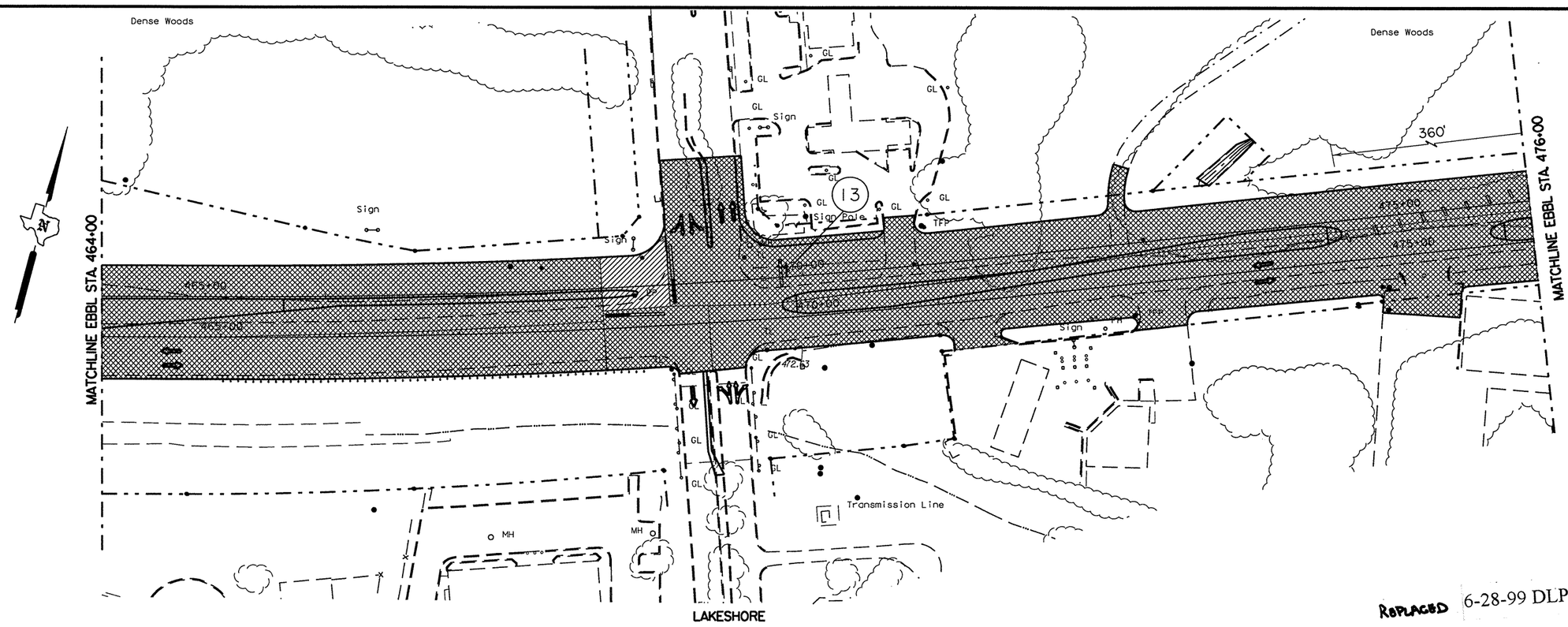
STA. 331+00 TO STA. 355+00

SCALE:
1"=100' HORZ.

SHEET 40 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		72
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





REPLACED 6-28-99 DLP

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MINH TRAN
84840
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5/5/99

STAGE 2 PHASE 4

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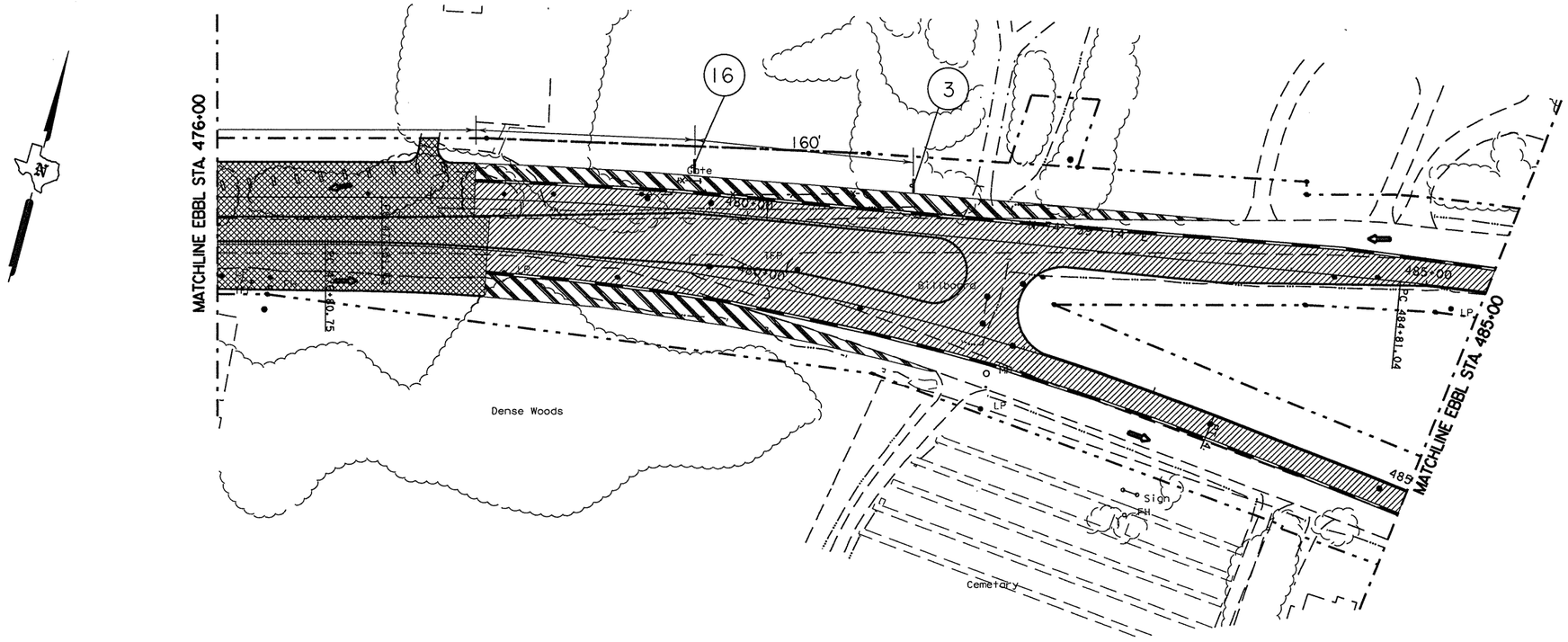
SEQUENCE OF WORK

STA. 451+00 TO STA. 476+00

SCALE:
1"=100' HORZ.

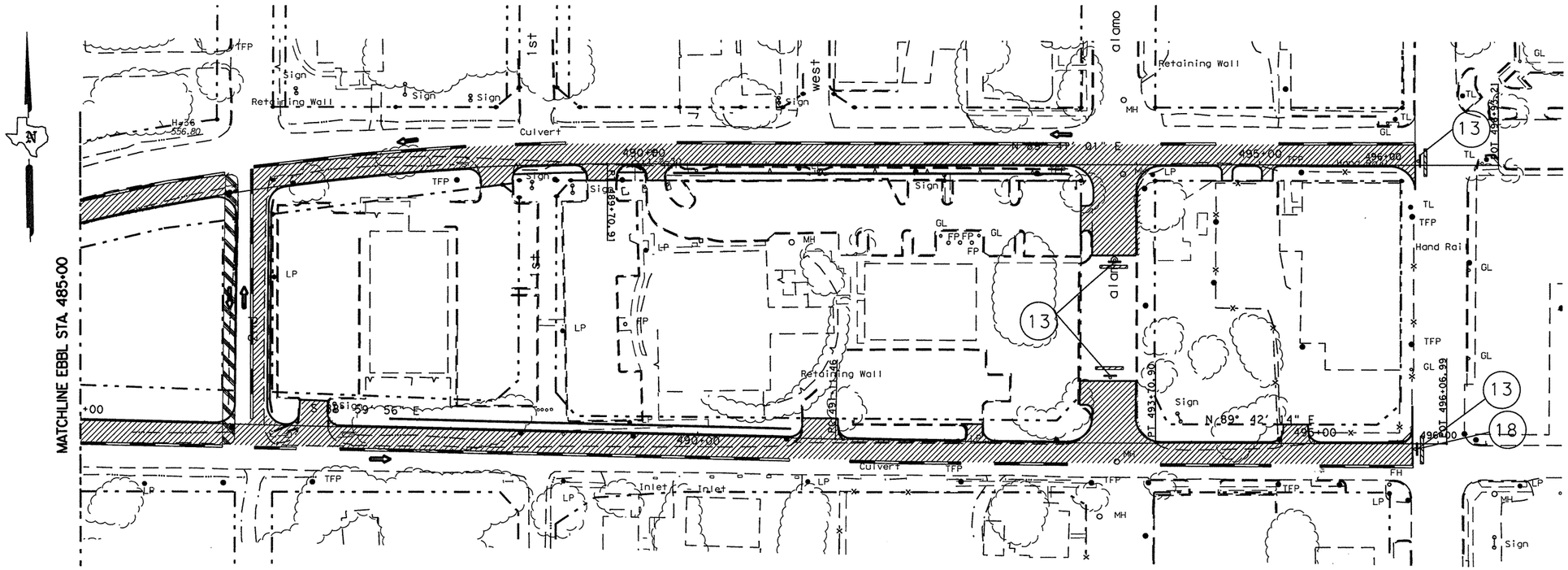
SHEET 41 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		73
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRICADE (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE



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STAGE 2 PHASE 4

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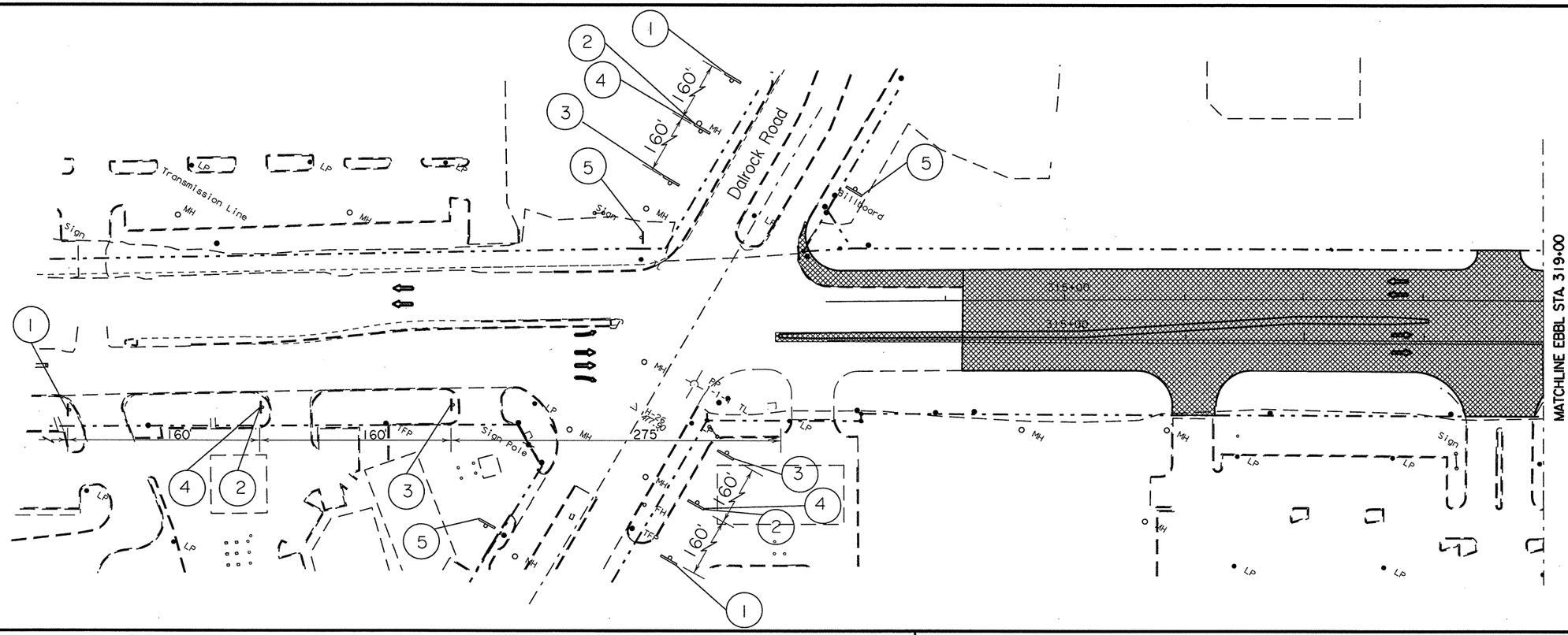
SEQUENCE OF WORK

STA. 476+00 TO SH 205

SCALE:
1"=100' HORZ.

SHEET 42 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		74
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



EG20-9

WORK ZONE
TRAFFIC FINES DOUBLE

ER20-5

1

ROAD WORK NEXT 3 ½MILES

SG20-1

NAME
ADDRESS
CITY
STATE
CONTRACTOR

SG20-6

2

END ROAD WORK

G20-2a

5

DETOUR

M4-8

CWI-7

7

ROAD WORK AHEAD

CW20-ID

3

HIGHWAY IMPROVEMENT PROJECT
FUNDED BY YOUR TRANSPORTATION TAX DOLLARS
SCHEDULED COMPLETION WINTER 2003

G20-8

4

SCW1-4L

35
M. P. H.

SCW13-1

6

RIGHT LANE CLOSED AHEAD

CW20-5DR

8

CW4-2R

9

ROAD CLOSED

R11-2

10

CONSTRUCTION SIGN LEGEND

NOTES (STAGE 3 PHASE 1):

1. IMPLEMENT SW3P MEASURES IN ACCORDANCE WITH DETAILS SHOWN ON THE SW3P SHEETS AND INSTALL PERTINENT DRAINAGE FEATURES.
2. INSTALL ALL PERTINENT WORK ZONE PAVEMENT MARKERS AND CHANNELIZATION.
3. COMPLETE STAGE 3 PHASE 1 CONSTRUCTION AS SHOWN ON SQUENCE OF WORK

LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 3 PHASE 1

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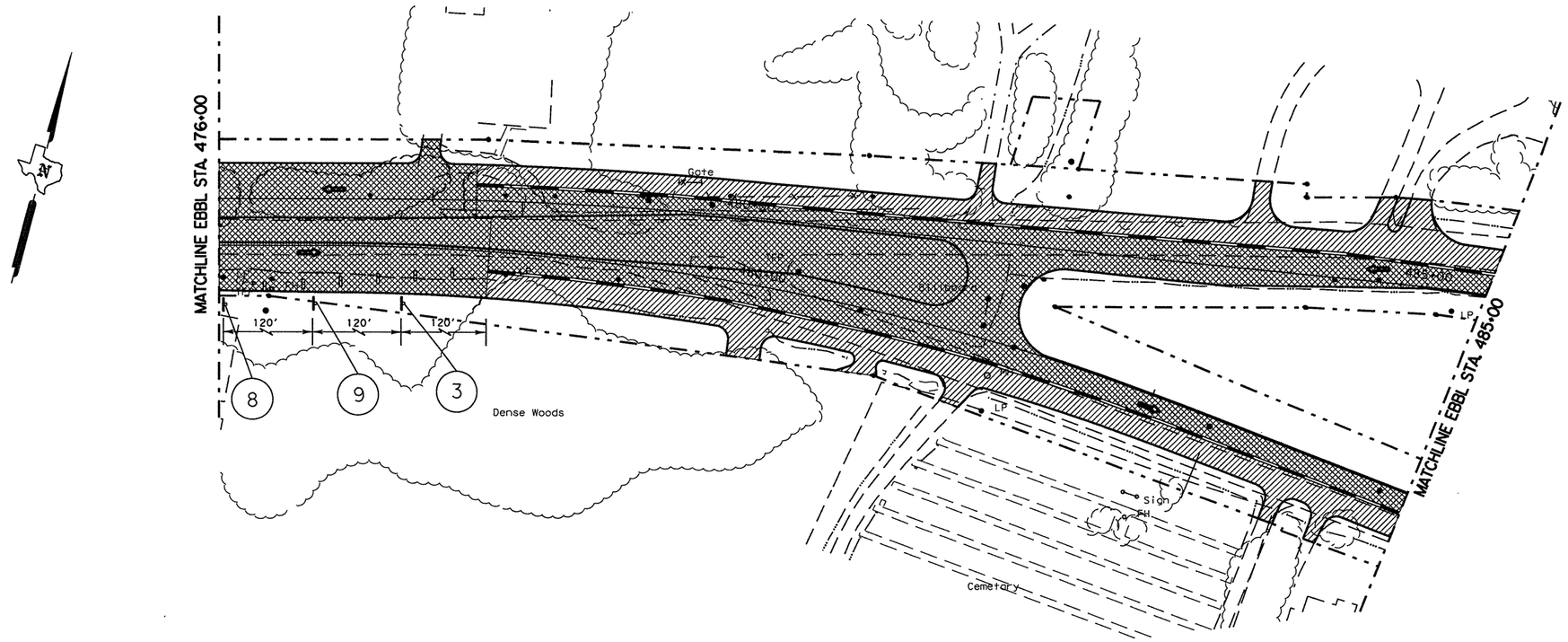
SEQUENCE OF WORK

DALROCK RD. TO STA. 331+00

SCALE:
1"=100' HORZ.

SHEET 43 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		75
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



LEGEND

- DRUMS
- VERTICAL PANELS
- LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCB)
- TYPE THREE BARRICADE
- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASE
- TEMPORARY ASPHALT THIS PHASE
- TEMPORARY ASPHALT PREVIOUS PHASE

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STAGE 3 PHASE 1

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SEQUENCE OF WORK

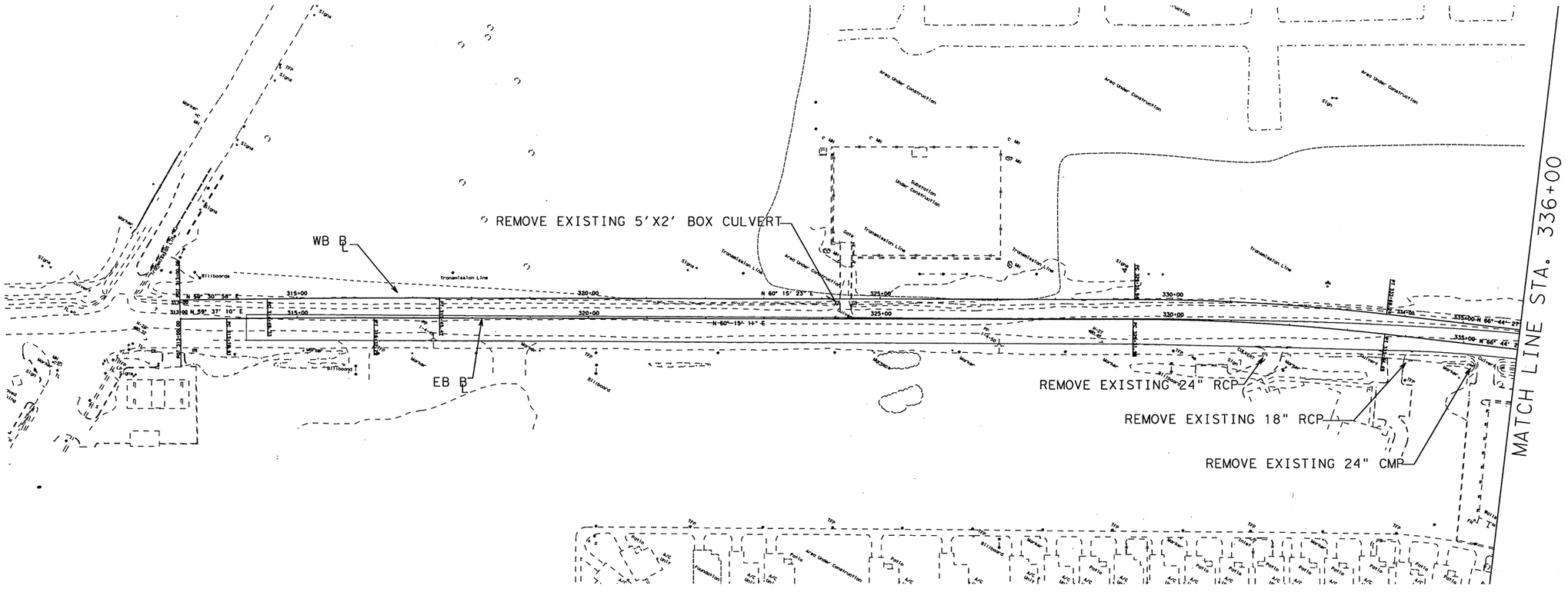
STA. 476+00 TO SH 205

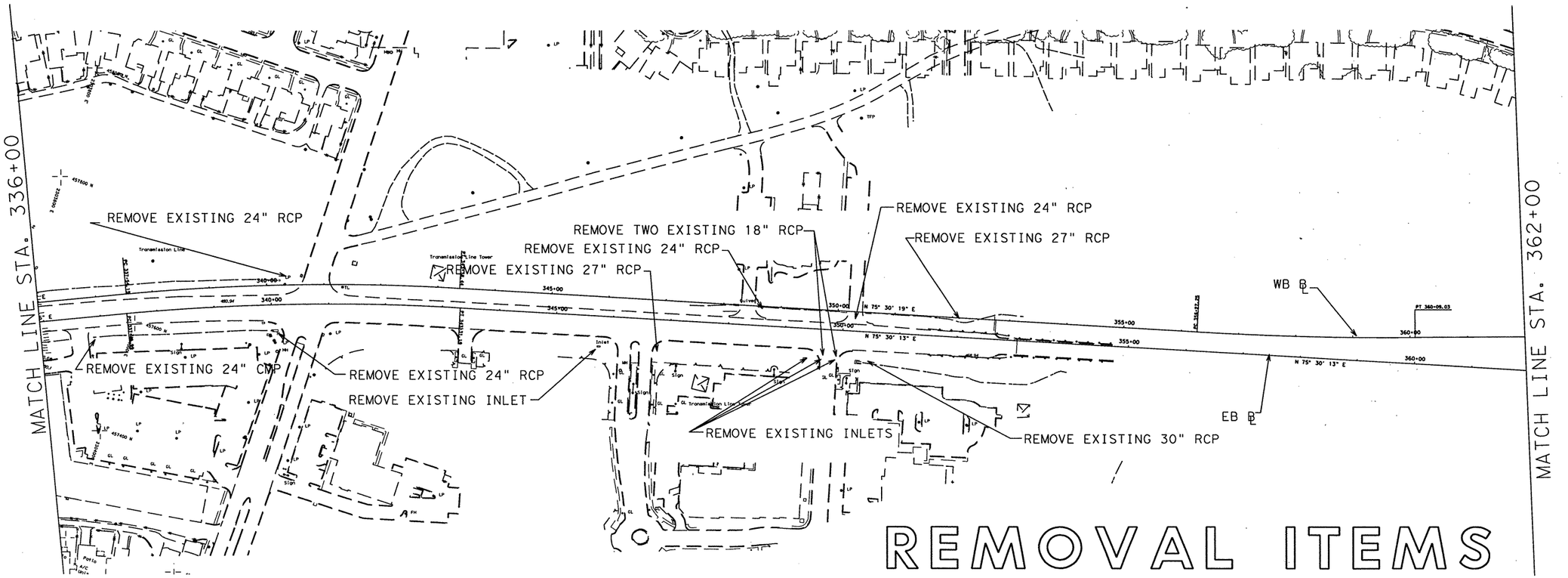
SCALE:
1"=100' HORZ.

SHEET 44 OF 44 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		76
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REPLACED 6-28-99 DLP





REMOVAL ITEMS

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

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SCALE: 1"=100'

SHEET 1 OF 3 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		77
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

MATCH LINE STA. 414+00

415+00 420+00 425+00 430+00 435+00

415+00 420+00 425+00 430+00 435+00

MATCH LINE STA. 440+00

N

MATCH LINE STA. 440+00

0+00 445+00 450+00 455+00 460+00 465+00

440+00 445+00 450+00 455+00 460+00 465+00

WB ℄

EB ℄

PC 447+30.50

PT 450+74.93

N 78° 56' 52" E

N 75° 30' 11" E

REMOVE EXISTING 24" RCP

Transmission Line Tower

Transmission Line

Transmission Line

Dense Woods

MATCH LINE STA. 466+00

REMOVAL ITEMS

L. Wayne Edgar

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L. WAYNE EDGAR
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LICENSED PROFESSIONAL ENGINEER

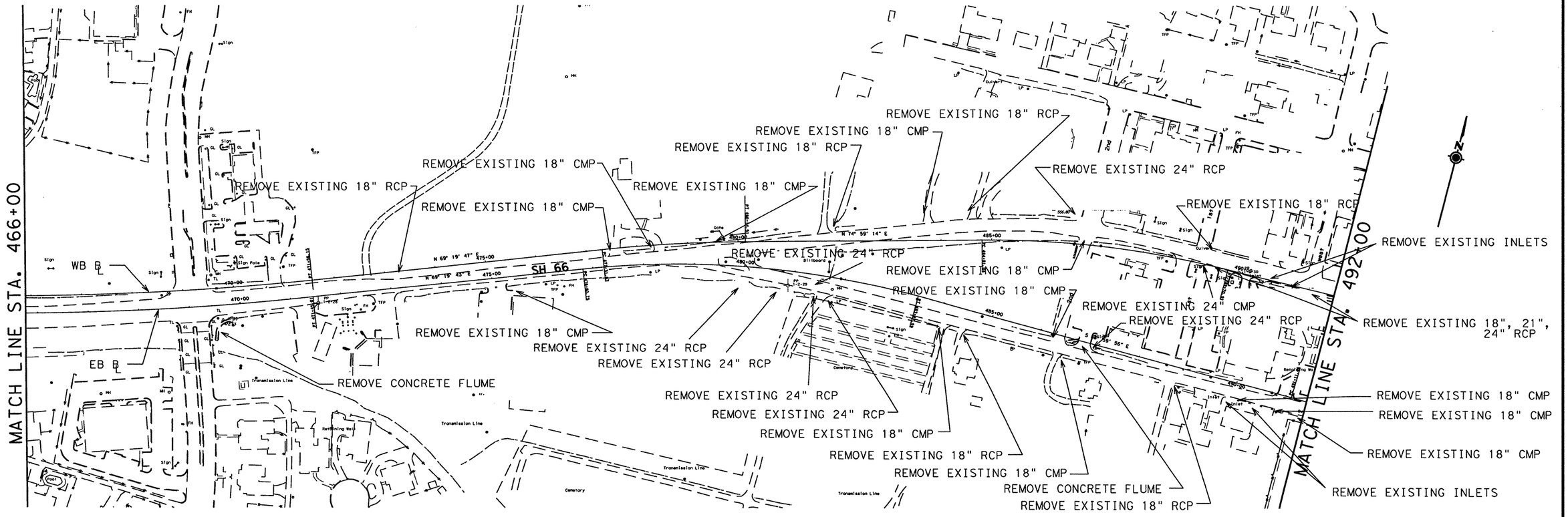
3/25/99

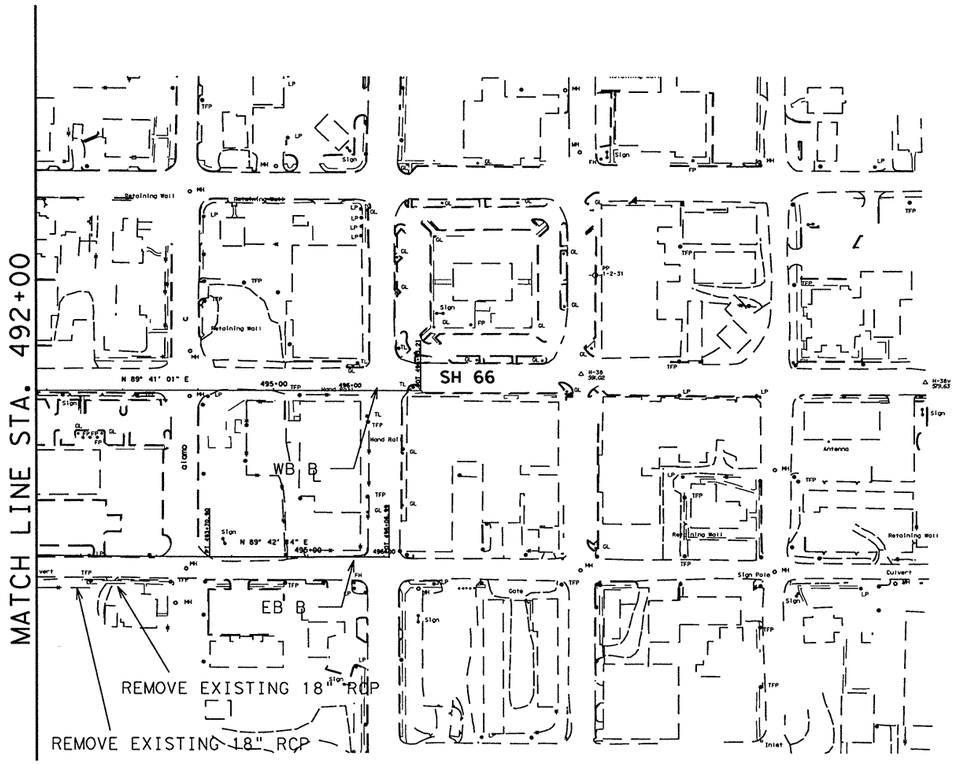
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SCALE: 1"=100'

SHEET 2 OF 3 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		78
STATE	DIST.	COUNTY	
TEXAS	6	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





REMOVAL ITEMS

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SCALE: 1"=100'

SHEET 3 OF 3 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		79
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

SITE DESCRIPTION

PROJECT LIMITS: *Dallas County Line (Dalrock Rd.) to SH 205*

PROJECT DESCRIPTION: *Construct a 4 lane divided urban facility consisting of grading, bridges, storm sewer, concrete, and retaining walls*

MAJOR SOIL DISTURBING ACTIVITIES: *Soil disturbing activites will include preparation of right of way, excavation and embankment for roadway, flumes, storm sewer and bridge construction, erosion and sediment control, and utility adjustments. (If required)*

TOTAL PROJECT AREA: *74.92 AC.*

TOTAL AREA TO BE DISTURBED: *74.92 AC.*

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): *0.70*

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: *Throughout the project the soil ranges from soft dark brownish gray clay to dark brown and orange silty clay.*

NAME OF RECEIVING WATERS: *Lake Ray Hubbard, which is the east fork of the Trinity river recieves 100% of the runoff flow in this area.*

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- [X] TEMPORARY SEEDING
- [X] PERMANENT PLANTING, SODDING, OR SEEDING
- [ ] MULCHING
- [X] SOIL RETENTION BLANKET
- [ ] BUFFER ZONES
- [X] PRESERVATION OF NATURAL RESOURCES

OTHER: *Disturbed areas on which construction activity has ceased (temporarily or permanently) shall be stabilized within 14 days unless activities are scheduled to resume and do within 21 days. Soil stabilization practices listed above will be maintained by the contractor for the duration of the project, or as directed by the engineer.*

STRUCTURAL PRACTICES:

- [X] SILT FENCES
- [X] HAY BALES
- [X] ROCK BERMS
- [ ] DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- [ ] DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- [ ] DIVERSION DIKE AND SWALE COMBINATIONS
- [ ] PIPE SLOPE DRAINS
- [X] PAVED FLUMES
- [ ] ROCK BEDDING AT CONSTRUCTION EXIT
- [ ] TIMBER MATTING AT CONSTRUCTION EXIT
- [ ] CHANNEL LINERS
- [ ] SEDIMENT TRAPS
- [ ] SEDIMENT BASINS
- [ ] STORM INLET SEDIMENT TRAP
- [ ] STONE OUTLET STRUCTURES
- [X] CURBS AND GUTTERS
- [X] STORM SEWERS
- [ ] VELOCITY CONTROL DEVICES

OTHER:

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

The order of activities will be as follows:

1. *Implement all pertinant SW3P measures and perform stage I construction.*
2. *Implement all pertinant SW3P measures and perform stage II construction.*
3. *Implement all pertinant SW3P measures and perform stage III construction.*
4. *Perform final cleanup.*

Note : See remaining SW3p sheets for further details

STORM WATER MANAGEMENT: *Storm water runoff will be provided for by V-bottomed ditches and concrete flumes, having side slopes ranging from 3:1 to 6:1. These ditches in conjunction with cross drainage structures convey the runoff across the R.O.W. and away from the project.*

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: *All erosion and sediment controls will be maintained in good working order. If a repair is necessary, it will be done at the earliest date possible, but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from heavy equipment. The areas adjacent to creeks and drainageways shall have priority followed by devices protecting storm sewer inlets. The contractor will maintain all erosion and sediment controls for the duration of the project, or as directed by the engineer.*

INSPECTION: *An inspection will be performed by a TxDOT Inspector every week as well as after every half inch or more of rain (as recorded on a non-freezing rain gauge to be located at the Project Site). An Inspection and Maintenance Report will be made per each inspection. Based on the inspection results, the controls shall be revised per the inspection report.*

WASTE MATERIALS: *All waste materials will be collected and stored in a securely lidded metal dumpster. The dumpster will meet all state, county and local city solid waste management regulations. All trash and construction debris will be deposited in the dumster. The dumster will be emptied as necessary or as required by local regulation, and the trash will be hauled to a local dump. no construction waste material will be buried on site. All state, county and local city regulations will be provided by the contractor at the engineer's request.*

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): *At a minimum, any products in the following categories are considered to be hazardous: paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, chemical additives for soil stabilization, or concrete curing compounds and additives. In the event of a spill which may be hazardous, or the discovery of any hazardous material, the district environmental section shall be notified immediately.*

SANITARY WASTE: *All sanitary waste will be collected from the portable units as necessary or as required by local regulation by a licensed sanitary waste management contractor.*

OFFSITE VEHICLE TRACKING:

- [X] HAUL ROADS DAMPENED FOR DUST CONTROL
- [ ] LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- [X] EXCESS DIRT ON ROAD REMOVED DAILY
- [ ] STABILIZED CONSTRUCTION ENTRANCE

OTHER:

REMARKS: *Disposal areas, stockpiles, and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed.*

Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants.

All waterways shall be cleared as soon as practicable of temporary embankment, temporary bridges, matting, falsework, piling, debris or other obstructions placed during construction operations that are not a part of the finished work.

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

TxDOT STORM WATER POLLUTION PREVENTION PLAN (SW3P)

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SHEET 1 OF 7 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		80
STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

A. GENERAL SITE DATA

1. PROJECT LIMITS: *IH 30 From: 0.4 MILES WEST OF DALROCK ROAD*
TO: 0.4 MILES EAST OF DALROCK ROAD

2. PROJECT SITE MAPS:

- *Project Location Map: Title Sheet (Sheet 1)*
- *Drainage Patterns: Drainage Area Maps Sheets 63*
- *Approx. Slopes Anticipated After Major Gradings and Areas of Soil Disturbance: Typ Sects Sheets 5 & 6*
- *Major Controls and Locations of Stabilization Practices: SW3P Site Map Sheets Sheets 116 thru 117*
- *Project Specific Locations: To be specified by Project Field Office and located in the Project SW3P File*
- *Surface Waters and Discharge Locations: Drainage and Culvert Layout Sheets Sheets 65 thru 67*

3. PROJECT DESCRIPTION:

For the reonstruction of an Interchange consisting of: Grading, Structures, Concrete Pavement, Asphalt Base, Lime-Treated Subgrade, Storm Sewers, Pavement Markings and Signing.

4. MAJOR SOIL DISTURBING ACTIVITIES:

Soil disturbing activities will include preparing Right of Way, grading, excavation and embankment for the roadway and erosion and sediment controls and topsoil work for the final planting.

5. EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:

The existing soil is mostly a combination of Altoga Clay, Houston Black Clay with Lake Ray Hubbard around it. The permeability ranges from moderate of very slow.
The existing roadway system has approximatly 90% vegitation cosisting mostly of grass and small trees and shrubs. This will be reduced by 5% oncwe the roadway is completed.

6. TOTAL PROJECT AREA: *58.2* *Acres*

7. TOTAL AREA TO BE DISTURBED: *11.2 Acres* Acres (19%)

8. WEIGHTED RUNOFF COEFFICIENT

BEFORE CONSTRUCTION: *0.70*
AFTER CONSTRUCTION: *0.73*

9. NAME OF RECEIVING WATERS:

The system drains into a storm sewer system then proceeds to Lake Ray Hubbard.

10. ENDANGERED SPECIES, DESIGNATED CRITICAL HABITAT AND HISTORIC PROPERTY:

A. *No Endangered Species, Designated Critical Habitat or Historic Property has been found on this project site.*

The documentation satisfying NPDES Construction General Permit eligibility pertaining to the existance or of any protective action taken with regards to endangered species or designated critical habitat or historical property in this project area is contained in the project's Enviromental Impact Study and can be viewed under the State Open Records Act at the address shown below:

TEXAS DEPARTMENT OF TRANSPORTATION
DALLAS DISTRICT HEADQUARTERS
ADVANCE PLANNING SECTION
4777 US HWY 80-EAST
MESQUITE, TX 75150
PHONE: 214-320-6100

Revised 6-25-02

B. EROSION AND SEDIMENT CONTROLS

1. SOIL STABILIZATION PRACTICES: (Select T = Temporary or P = Permanent, as applicable)

___	TEMPORARY SEEDING	___	PRESERVATION OF NATURAL RESOURCES
T	MULCHING (Hay or Straw)	___	FLEXIBLE CHANNEL LINER
___	BUFFER ZONES	___	RIGID CHANNEL LINER
P	PLANTING	___	SOIL RETENTION BLANKET
___	SEEDING	___	COMPOST MANUFACTURED TOPSOIL
P	SODDING	T/P	OTHER: Disturbed areas on which construction activities have ceased, temporarily or permenantly, shall be stabilized within 14 calender days unless they are scheduled to and do resume within 21 calender days.

2. STRUCTURAL PARACTICES: (Select T = Temporary or P = Permanent, as applicable)

T	SILT FENCES
___	HAY BALES
___	ROCK FILTER DAMS
___	DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
___	DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
___	DIVERSION DIKE AND SWALE COMBINATIONS
___	PIPE SLOPE DRAINS
P	PAVED FLUMES
___	ROCK BEDDING AT CONSTRUCTION EXIT
___	TIMBER MATTING AT CONSTRUCTION EXIT
___	CHANNEL LINERS
___	SEDIMENT TRAPS
	SEDIMENT BASINS
___	STORM INLET SEDIMENT TRAP
___	STONE OUTLET STRUCTURES
___	CURBS AND GUTTERS
P	STORM SEWERS
___	VELOCITY CONTROL DEVICES
___	OTHER: *(Specify Practice)*

3. STORM WATER MANAGEMENT:

1. Storm water drainage will be provided by the ditches, inlets and storm water systems which will carry drainage within the R.O.W. to the lows within the roadway and project site which drains to natural facilities.

2. Other permanent erosion controls include hydraulic design to limit structure outlet velocities and gradingdesign generally consisting of 4:1 or flatter slopes with permanent vegetative cover.

4. STORM WATER MANAGEMENT ACTIVITIES: (Sequence of Construction)

Phase1. Install erosion control devices as required to fill areas where runoff from construction activities will leave the site. Place temporary paving as required by plan.

Phase 2. Excavate and install all of drainage structures Lines B and C and the downstream section of drainafge line A. perform earthwork construction and install SW3P structures as needed to maintain storm water control.
Phase 3. Maintain SW3P controls from prior phase and install new structures as needed.
Phase 4. Excavate and install upsream section of drainage structure line A. Perform earthwork construction and install SW3P structures as needed to maintain storm water control.
Phase 5. Maintain SW3P controls from prior phase and install new structures as needed.

Post-constuction activities. Remove SW3P structures after disturbed areas has been stabilized.

5. NON-STORM WATER DISCHARGES:

Non-storm water discharges should be filtered, or held in retention basins, before being allowed to mix with storm water. These discharges consist of non-polluted ground water, spring water, foundation and/or footing drain water; and water used for dust control, pavement washing and vehicle washwater containing no detergents.

C. OTHER REQUIREMENTS & PRACTICES

1. MAINTENANCE:

All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed at the earliest date possible but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from heavy equipment. Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within 14 calendar days unless they are scheduled to and do resume within 21 calendar days. The areas adjacent to creeks and drainageways shall have priority followed by devices protecting storm sewer inlets.

2. INSPECTION:

An inspection shall be performed by a TxDOT inspector every 14 calendar days as well as after every half inch or more rain as recorded on a non-freezing rain gauge to be located at the project site. An inspection and Maintenance Report shall be filed for each inspection. Based on the inspection results, the controls shall be revised as per the inspection report.

3. WASTE MATERIALS:

All waste materials shall be collected in a metal dumpster having a secure cover. The dumpster shall meet all state and local city solid waste management regulations. All trash and debris from construction shall be deposited in the dumpster. The dumpster shall be emptied, as necessary or as required by local regulation, and hauled to a local approved land fill site. The burying of construction waste on the project site shall not be permitted.

4. HAZARDOUS WASTE (INCLUDING SPILL REPORTING):

As a minimum, any products in the following categories are considered to be hazardous: paints, acids, solvents, asphalt products, chemical additives for soil stabilization and concrete curing compounds or additives. In the event of a spill which may be hazardous, the spill coordinator shall be contacted immediately.

5. SANITARY WASTE:

All sanitary waste shall be collected from the portable units, as necessary or as required by local regulation, by a licensed sanitary waste management contractor.

6. OFFSITE VEHICLE TRACKING:

The Contractor shall be required, on a regular basis or as may be directed by the Engineer, to dampen haul roads for dust control, stabilize construction entrances and to remove excess dirt from the roadway.

7. MANAGEMENT PRACTICES:

1. Disposal areas, stockpiles and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed.

2. Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants.

3. All waterways shall be cleared as soon as practicable of temporary embankment, temporary bridges, matting, falsework, piling, debris or other obstructions placed during construction operations that are not a part of the finished work.

8. OTHER:

1. A list of construction materials stored on site, including protective controls, will be provided by TxDOT.

2. The Project SW3P File located at the Project Field Office shall contain the N.O.I., Signiture Authorization, EPA NPDES Storm Water Program , CGP Coverage Notice, Certification & Qualification Statements, Inspection/Maintenance Reports, Required Location Maps, Stored Material List, and the NPDES General Permit, Part II.

2 CHANGE ORDER No. 2

STATE OF TEXAS
MAKRAM BATAINEH
82298
REGISTERED PROFESSIONAL ENGINEER

Mak Batt , P.E. 02.11.03
Signature of Registrant & Date

Texas Department of Transportation
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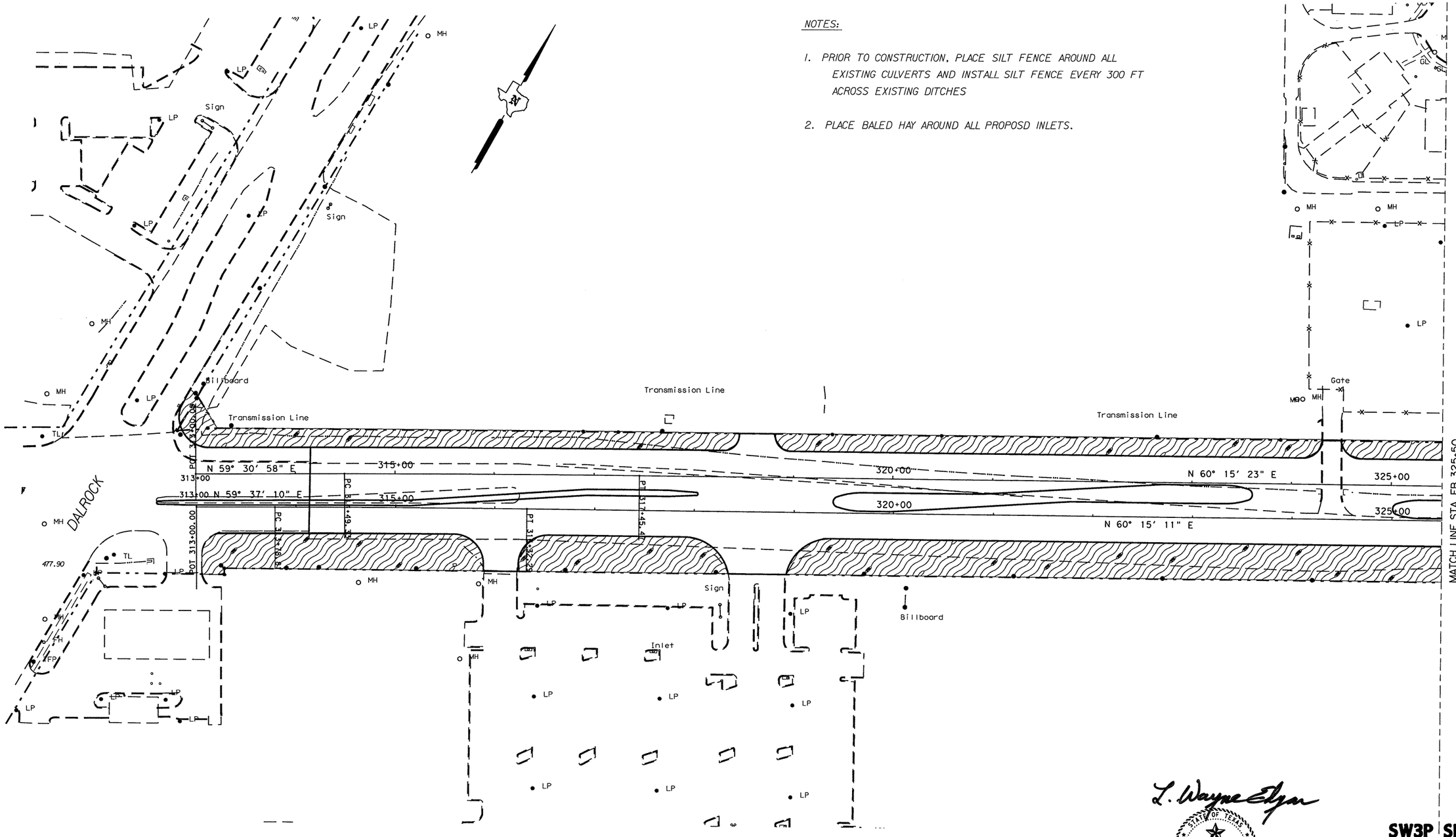
STORM WATER POLLUTION PREVENTION PLAN (SW3P)

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
GRAPHICS	6	IM 30-5(70)		IH 30
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK	TEXAS	DALLAS	DALLAS	80A ~~115A~~
CHECK	CONTROL	SECTION	JOB	
	0009	11	189, ETC.	

NOTES:

1. PRIOR TO CONSTRUCTION, PLACE SILT FENCE AROUND ALL EXISTING CULVERTS AND INSTALL SILT FENCE EVERY 300 FT ACROSS EXISTING DITCHES

2. PLACE BALED HAY AROUND ALL PROPOSD INLETS.



SOIL RETENTION BLANKET CLASS I TYPE A

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

SW3P SHEET

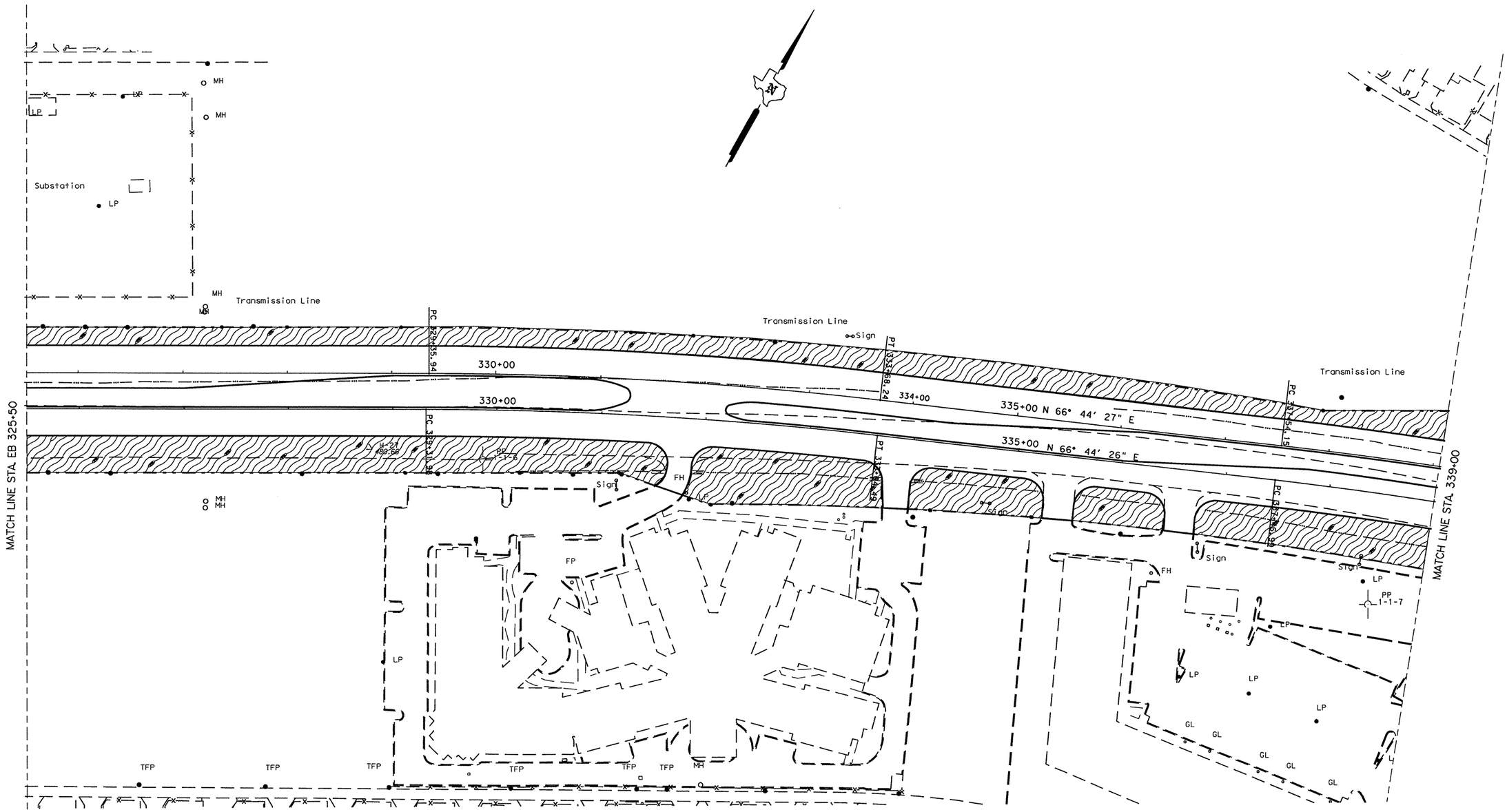
DALROCK TO EB STA. 325+50

© 1999 Texas Department of Transportation

SCALE: 1"=100'
SHEET 2 OF 7 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		2
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TFF4445 SW3P1DGN 11-24-98



SOIL RETENTION BLANKET CLASS I TYPE A

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

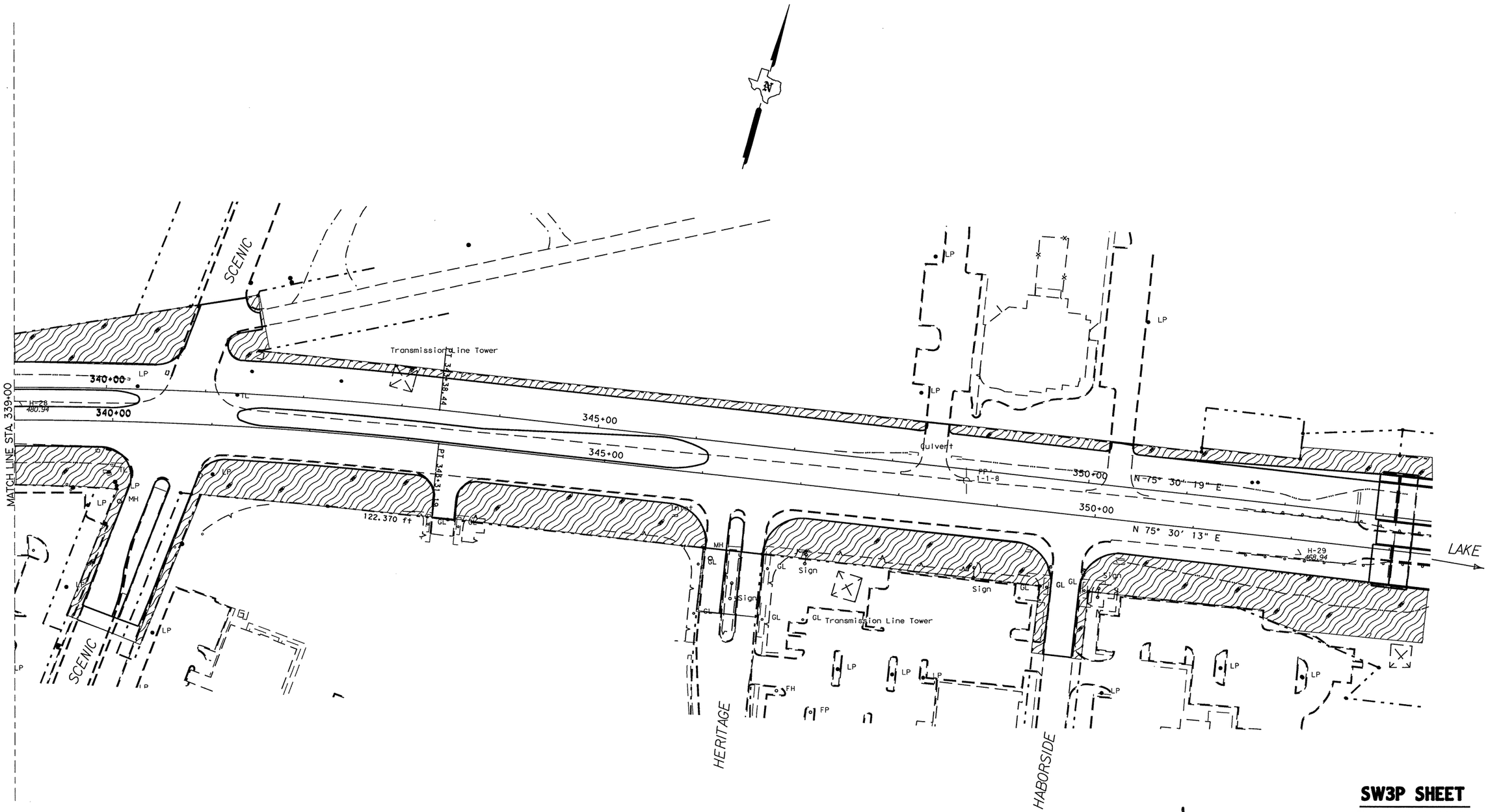
SW3P SHEET

EB STA. 325+50 TO EB STA. 339+00

© 1999 Texas Department of Transportation

SCALE: 1"=100'
SHEET 3 OF 7 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		82
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



SOIL RETENTION BLANKET CLASS I TYPE A

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

SW3P SHEET

EB STA. 339+00 TO LAKE

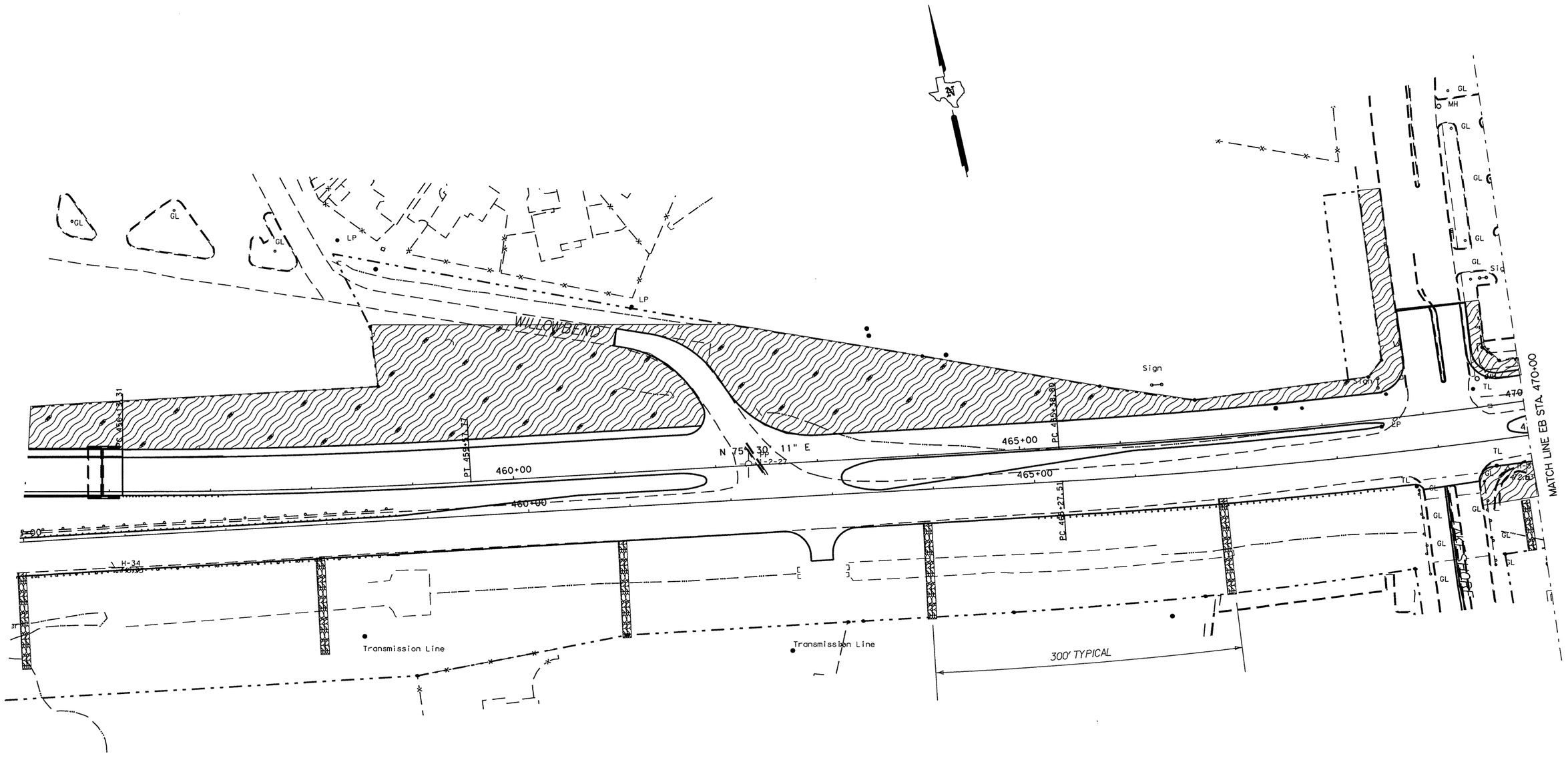
© 1999 Texas Department of Transportation

SCALE: 1"=100'

SHEET 4 OF 7 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		83
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TFF4445 SW3P1.DGN 11-24-98



SOIL RETENTION BLANKET CLASS I TYPE A

ROCK FILTER DAM

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

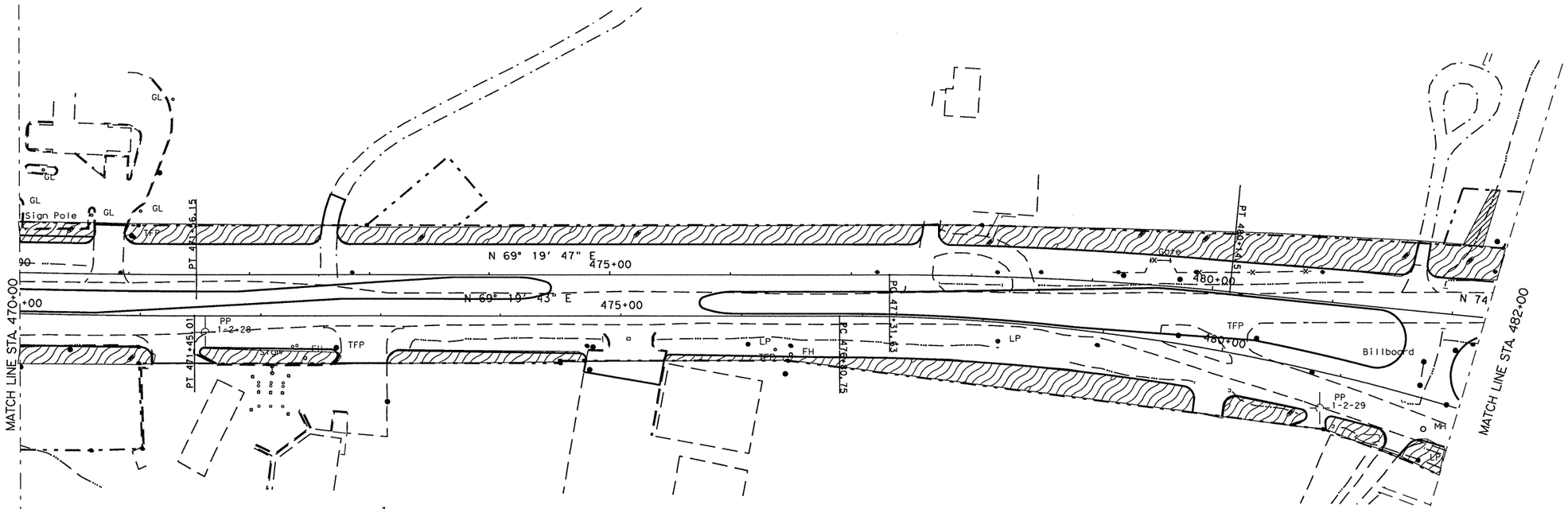
SW3P SHEET

LAKE TO EB STA. 470+00

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SCALE: 1"=100'
SHEET 5 OF 7 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		84
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



SOIL RETENTION BLANKET CLASS 1 TYPE A

SOIL RETENTION BLANKET CLASS 2 TYPE H

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

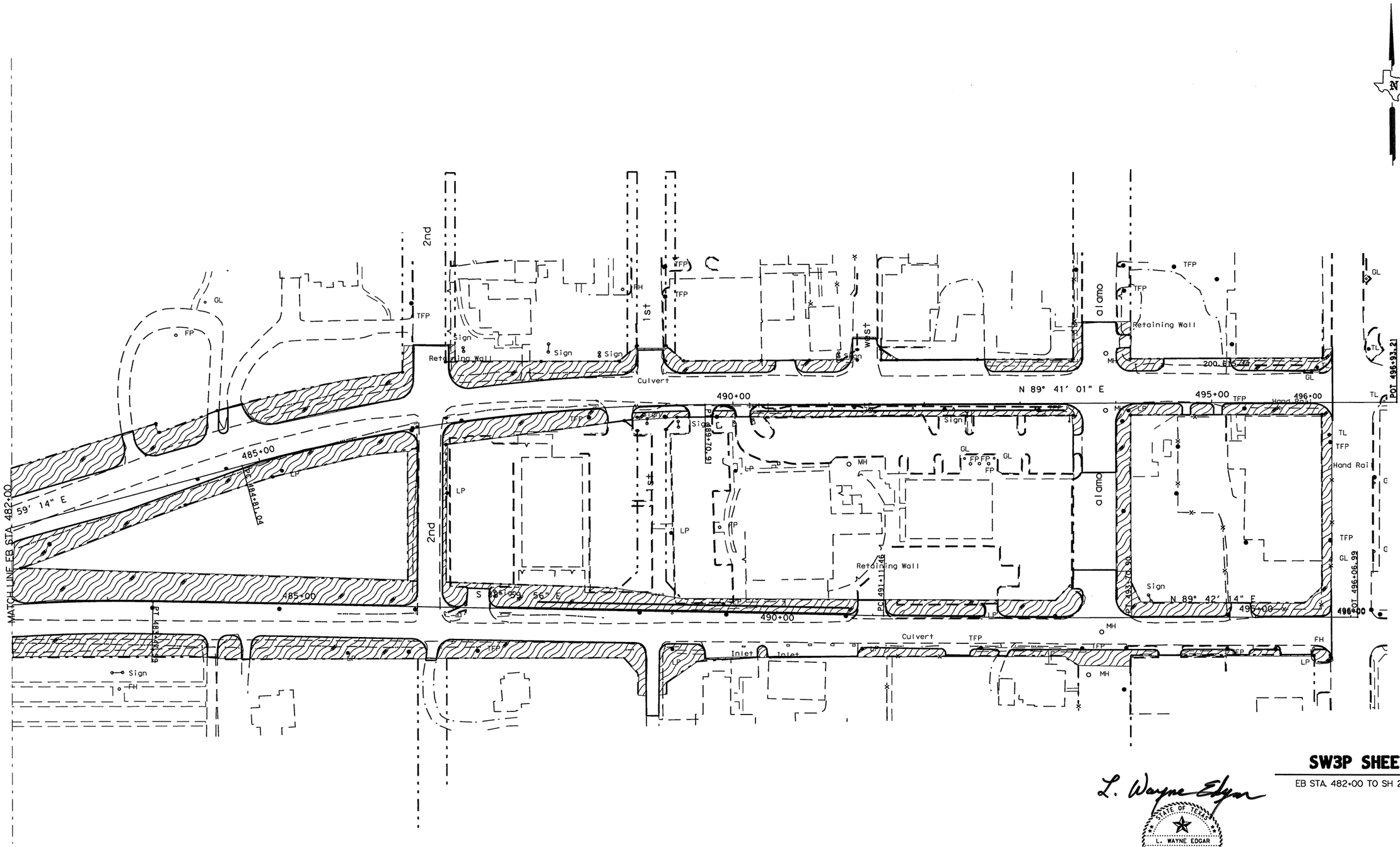
SW3P SHEET

EB STA. 470+00 TO EB STA. 482+00

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SCALE: 1"=100'
SHEET 6 OF 7 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		[illegible]
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



SOIL RETENTION BLANKET CLASS I TYPE A

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/25/99

SW3P SHEET

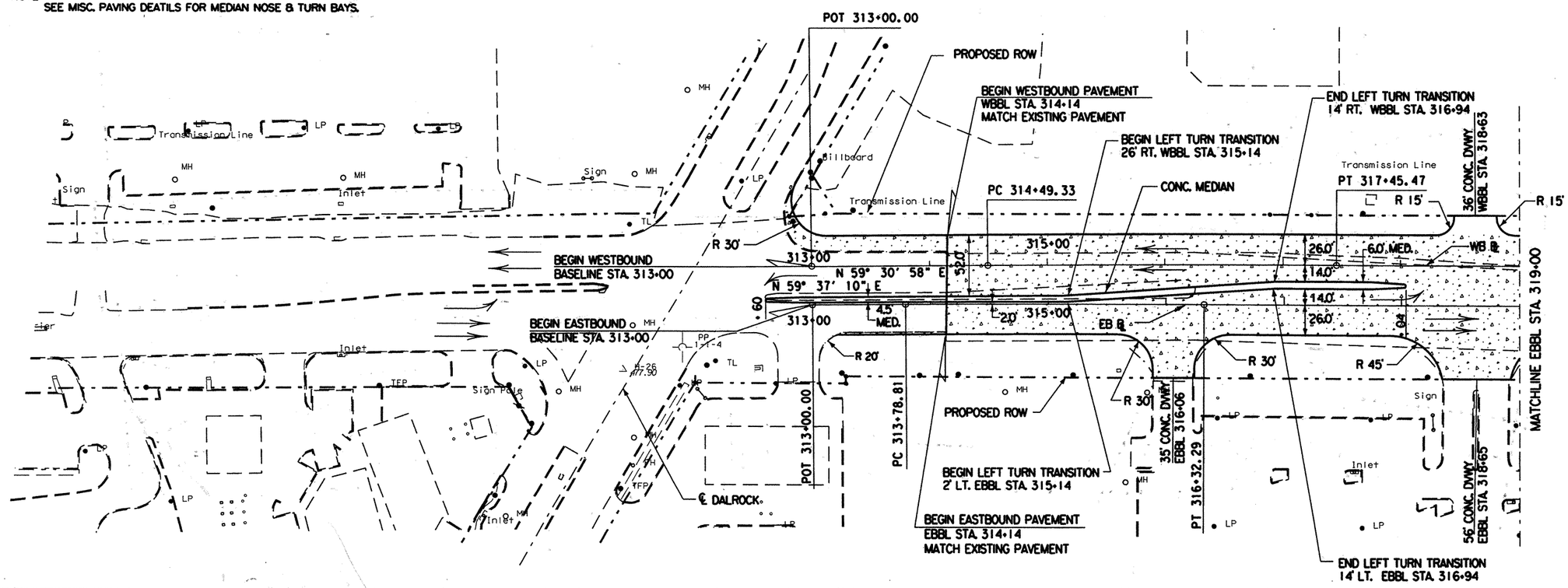
EB STA. 482+00 TO SH 205

© 1999 Texas Department of Transportation

SCALE: 1"=100'
SHEET 7 OF 7 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		86
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

NOTE:
SEE MISC. PAVING DEATILS FOR MEDIAN NOSE & TURN BAYS.



WB CURVE DATA

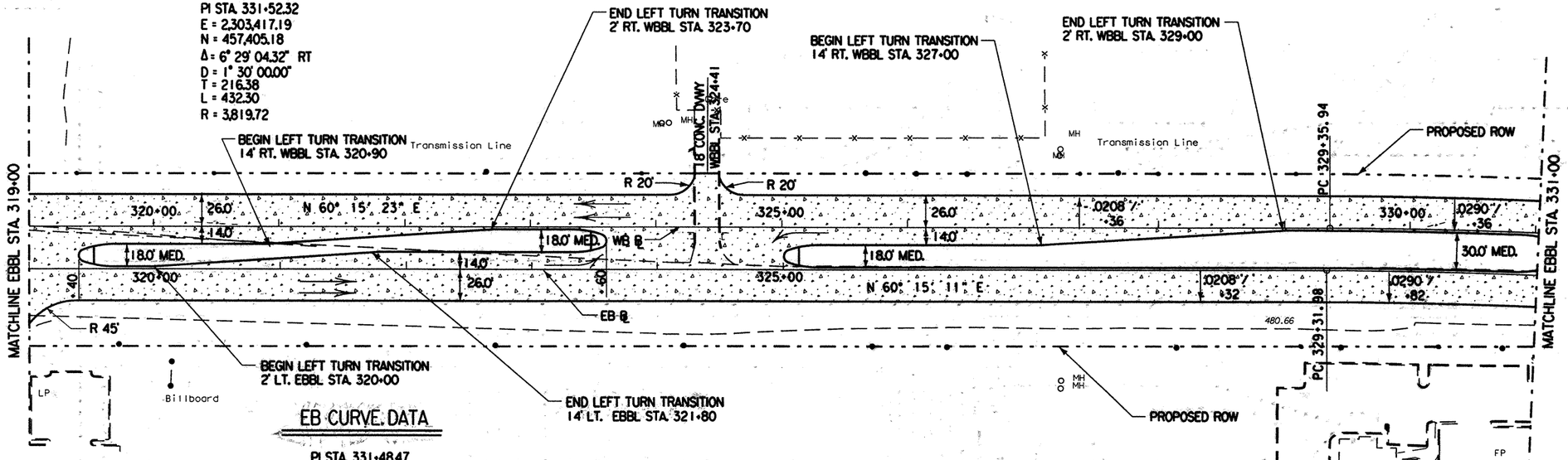
PI STA. 315+97.40
E = 2,302,067.12
N = 456,633.75
Δ = 0° 44' 25.29" RT
D = 0° 15' 00.00"
T = 148.07
L = 296.14
R = 22,918.31

EB CURVE DATA

PI STA. 315+05.55
E = 2,302,005.18
N = 456,559.10
Δ = 0° 38' 01.36" RT
D = 0° 15' 00.00"
T = 126.74
L = 253.48
R = 22,918.31

WB CURVE DATA

PI STA. 331+52.32
E = 2,303,417.19
N = 457,405.18
Δ = 6° 29' 04.32" RT
D = 1° 30' 00.00"
T = 216.38
L = 432.30
R = 3,819.72



EB CURVE DATA

PI STA. 331+48.47
E = 2,303,431.60
N = 457,374.26
Δ = 6° 29' 15.02" RT
D = 1° 30' 00.00"
T = 216.48
L = 432.50
R = 3,819.72

PROPOSED CONCRETE PAVEMENT

© 1999 Texas Department of Transportation

PAVING PLAN

DALROCK TO STA. 331+00

SCALE:
1"=100' HORZ.

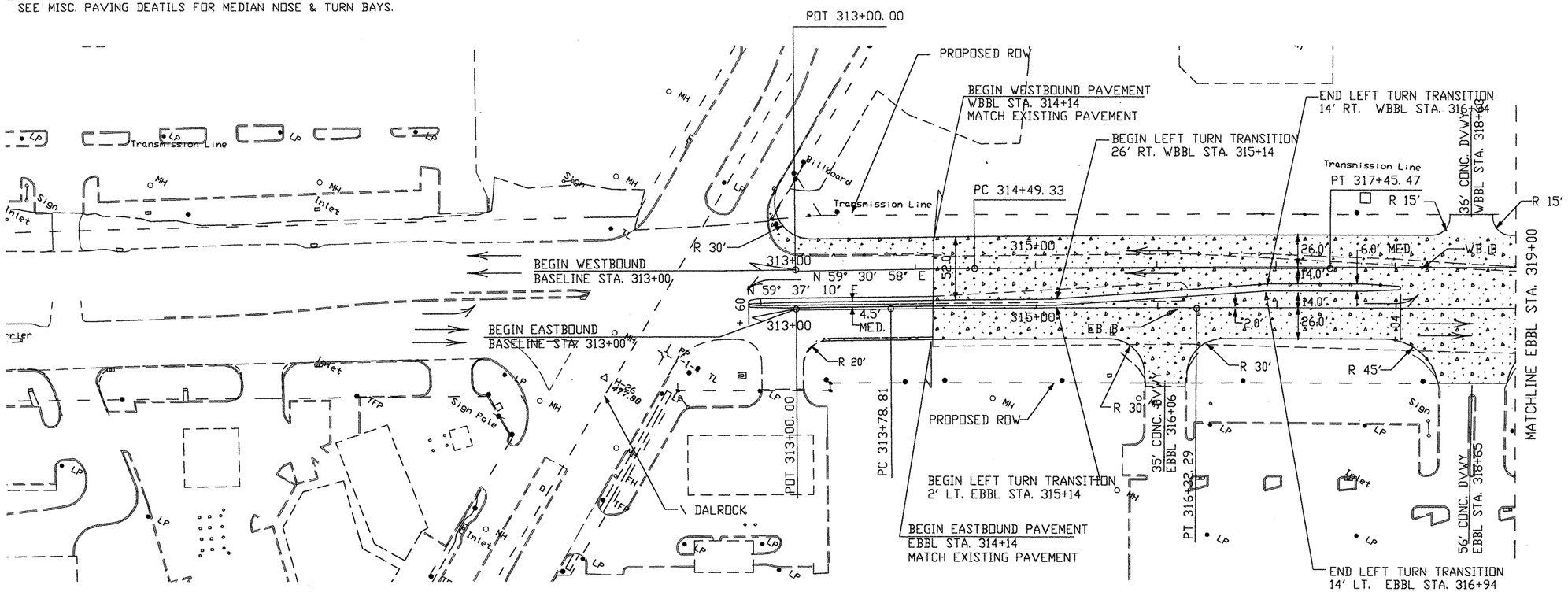
SHEET 1 OF 8 SHEETS.

FED. RD. DIV. NO.	EEDEBAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		87
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
3/26/99

sh66bm1.dgn 1-25-99 x4445 TEE

NOTE:
SEE MISC. PAVING DEATILS FOR MEDIAN NOSE & TURN BAYS.



WB CURVE DATA

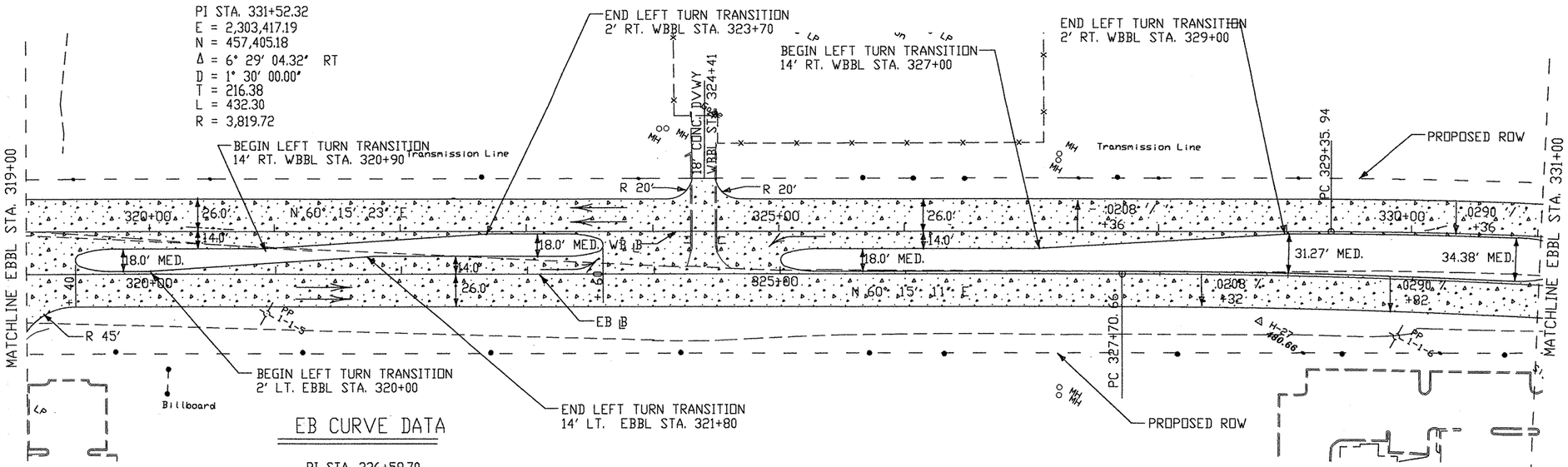
PI STA. 315+97.40
E = 2,302,067.12
N = 456,633.75
Δ = 0° 44' 25.29" RT
D = 0° 15' 00.00"
T = 148.07
L = 296.14
R = 22,918.31

EB CURVE DATA

PI STA. 315+05.55
E = 2,302,005.18
N = 456,559.10
Δ = 0° 38' 01.36" RT
D = 0° 15' 00.00"
T = 126.74
L = 253.48
R = 22,918.31

WB CURVE DATA

PI STA. 331+52.32
E = 2,303,417.19
N = 457,405.18
Δ = 6° 29' 04.32" RT
D = 1° 30' 00.00"
T = 216.38
L = 432.30
R = 3,819.72



EB CURVE DATA

PI STA. 336+59.70
E = 2,303,880.0263
N = 457,630.5178
Δ = 15° 15' 01" RT
D = 0° 51' 27.80"
T = 894.29
L = 1778.00
R = 6680.00

PROPOSED CONCRETE PAVEMENT

© 1998 Texas Department of Transportation

PAVING PLAN

DALROCK TO STA. 331+00

SCALE:
1"=100' HORZ.

SHEET 1 OF 8 SHEET

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		87
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS
DONALD F. WARNKE JR.
66671
REGISTERED
PROFESSIONAL ENGINEER

Donald F. Warnke Jr.
9-18-02

sh66plnl.dgn 9-23-99 x4445 TEE

A

WB CURVE DATA

PI STA. 331+52.32
E = 2,303,417.19
N = 457,405.18
Δ = 6° 29' 04.32" RT
D = 1° 30' 00.00"
T = 216.38
L = 432.30
R = 3,819.72

WB CURVE DATA

PI STA. 340+46.87
E = 2,304,239.46
N = 457,758.61
Δ = 8° 45' 51.49" RT
D = 1° 30' 00.00"
T = 292.71
L = 584.29
R = 3,819.72

EB CURVE DATA

PI STA. 331+48.47
E = 2,303,250.97
N = 457,374.26
Δ = 6° 29' 15.02" RT
D = 1° 30' 00.00"
T = 216.48
L = 432.50
R = 3,819.72

EB CURVE DATA

PI STA. 340+39.66
E = 2,304,250.79
N = 457,726.37
Δ = 8° 45' 47.00" RT
D = 1° 30' 00.00"
T = 292.67
L = 584.20
R = 3,819.72

PROPOSED CONSTRUCTION EASEMENT
BEGIN LEFT TURN TRANSITION 14' RT. WBBL STA. 334+40
END LEFT TURN TRANSITION 2' RT. WBBL STA. 336+20
END LEFT TURN TRANSITION 14' LT. EBBL STA. 337+80
SH 66 WBBL STA. 340+82.92 = ℄ SCENIC DR. (NORTH) STA. 0+00
PROPOSED ROW
Transmission Line
Sign
PT 333+68.24
PC 337+54.15
WB ℄
335+00
N 66° 44' 27" E
340+00
MATCHLINE EBBL STA. 331+00
MATCHLINE EBBL STA. 343+00
26.0'
14.0'
18.0' MED.
28.0'
34.0'
.0290 ⟋ .68
.0290 ⟋ .14
.0208 ⟋ .64
.0208 ⟋ .47
.0290 ⟋ .97
.0290 ⟋ .38
.0290 ⟋ .81
R 20'
R 55' EB ℄
R 30'
R 15'
R 10'
R 13'
R 8'
FH
LP
TL
MH
Sign
24 CONC. DWY EBBL STA. 331+76
PT 333+64.49
24 CONC DWY EBBL STA. 333+87
PROPOSED ROW
29' CONC. DWY EBBL STA. 335+44
29' CONC. DWY EBBL STA. 336+60
PC 337+46.99
BEGIN LEFT TURN TRANSITION 2' LT. EBBL STA. 336+00
122.370'
SH 66 EBBL STA. 340+73.87 = ℄ SCENIC DR. (SOUTH) STA. 0+00
PROPOSED CONSTRUCTION EASEMENT

PROPOSED CONCRETE PAVEMENT
24 CONC. DWY WBBL STA. 348+43
BEGIN BIKE LN. TRANSITION 34' RT. WBBL 350+75
BEGIN LEFT TURN TRANSITION 14' RT. WBBL STA. 351+35
END BIKE LN. TRANSITION 42' RT. STA. 352+93
PROPOSED DRAINAGE EASEMENT
PROPOSED ROW
BEGIN E. FORK OF TRINITY RIVER BRIDGE WBBL STA. 353+13
END LEFT TURN TRANSITION 2' RT. WBBL STA. 345+65
BEGIN LEFT TURN TRANSITION 14' RT. WBBL STA. 343+85
BEGIN LEFT TURN TRANSITION 14' RT. WBBL STA. 347+85
END LEFT TURN TRANSITION 2' RT. WBBL STA. 348+90
END LEFT TURN TRANSITION 2' RT. WBBL STA. 352+93
24 CONC. DWY WBBL STA. 350+30
PT 343+38.44
Transmission Line Tower
WB ℄
N 75° 30' 19" E
345+00
350+00
355+00
MATCHLINE EBBL STA. 343+00
MATCHLINE EBBL STA. 355+00
30.0' MED.
8.0' BIKE LANE
4.0'
.0208 ⟋ .38
.0208 ⟋ .31
EB ℄
N 75° 30' 13" E
R 5'
R 40'
R 20'
Culvert
PP
Inlet
H-29
MH
GL
Sign
PT 343+31.19
23 CONC. DWY EBBL 343+44
SH 66 EBBL STA. 346+39.90 = ℄ HERITAGE STA. 0+00
GL Transmission Line Tower
SH 66 EBBL STA. 349+77.96 = ℄ HARBORSIDE STA. 0+00
BEGIN MBGF EBBL STA. 351+86
CONCRETE MEDIAN EBBL STA. 350+50 TO STA. 351+75
BEGIN TAPER TRANSITION 2' RT. EBBL STA. 351+86
BEGIN E. FORK OF TRINITY RIVER BRIDGE EBBL STA. 353+03
PROPOSED ROW

NOTE:
SEE MISC. PAVING DETAILS FOR MEDIAN NOSE & TURN BAYS.

Minh Tran
STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER
3/26/99

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PAVING PLAN

STA. 331+00 TO STA. 355+00

SCALE:
1"=100' HORZ.

SHEET 2 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	88

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

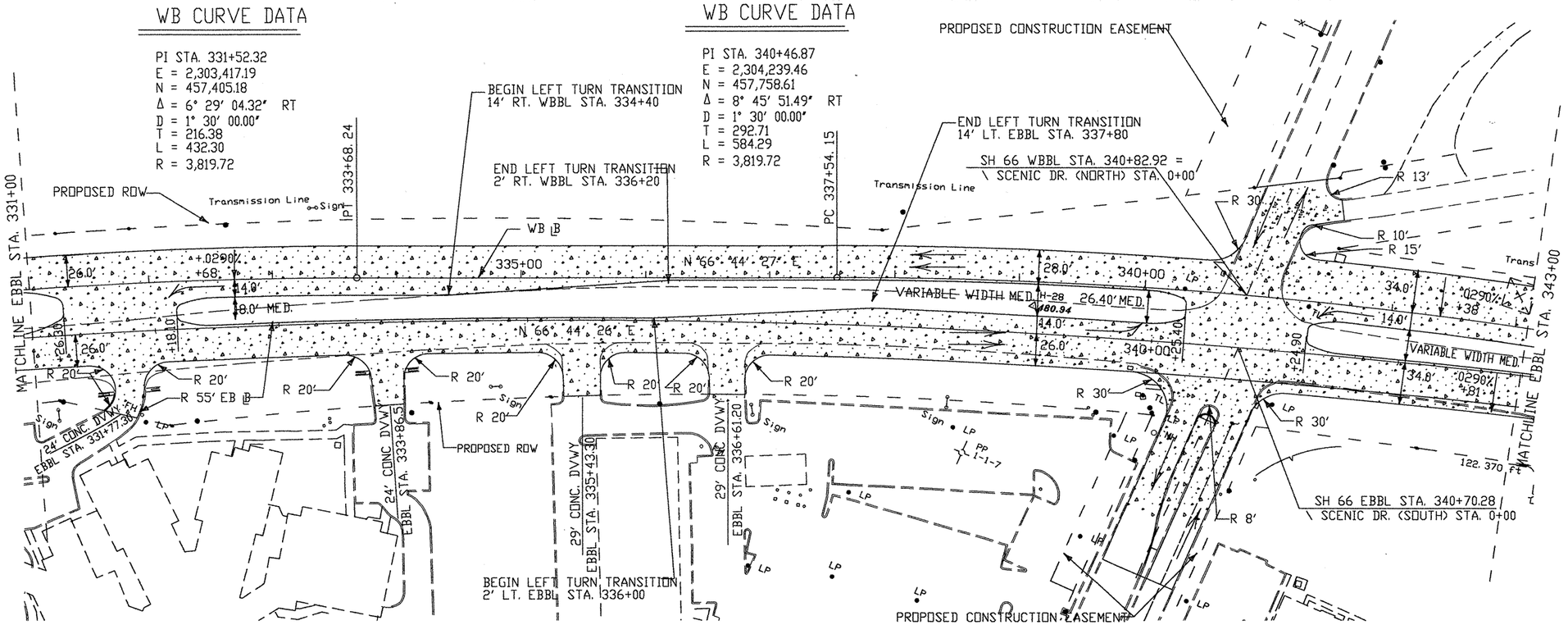
sh66sht2.dgn 1-22-99 X4445 TEE

WB CURVE DATA

PI STA. 331+52.32
E = 2,303,417.19
N = 457,405.18
Δ = 6° 29′ 04.32″ RT
D = 1° 30′ 00.00″
T = 216.38
L = 432.30
R = 3,819.72

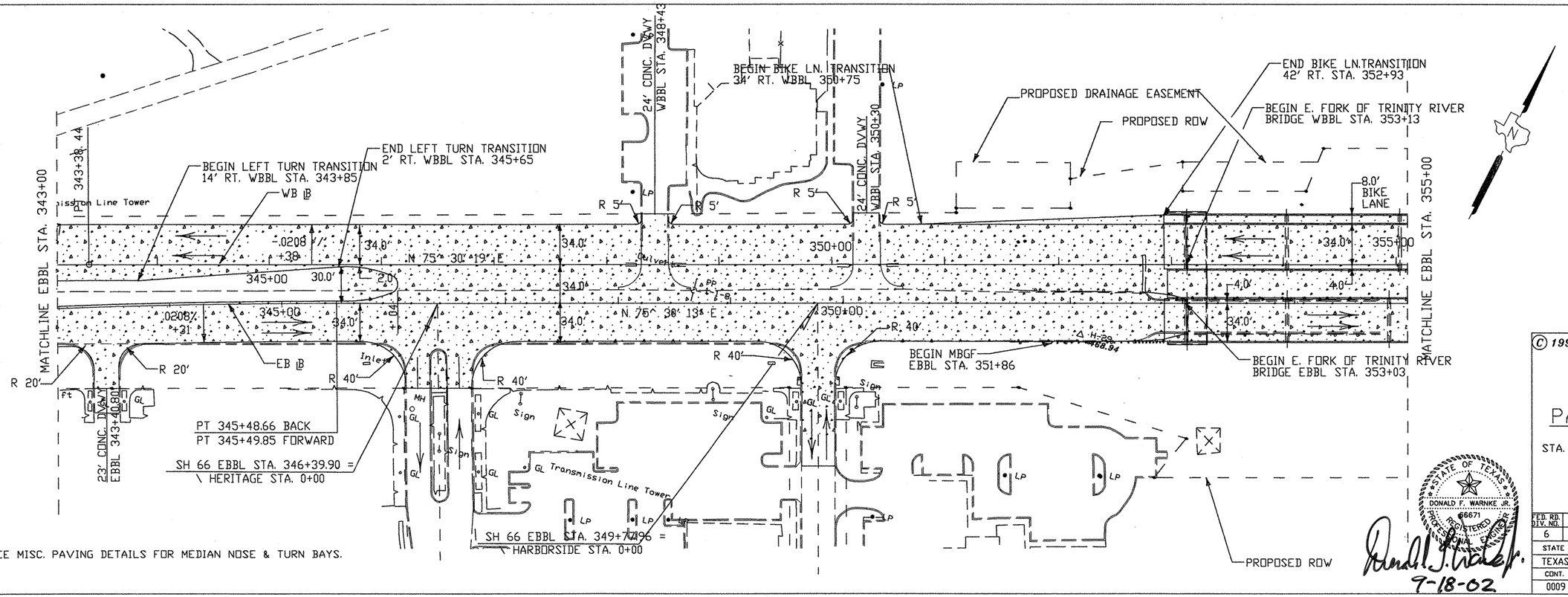
WB CURVE DATA

PI STA. 340+46.87
E = 2,304,239.46
N = 457,758.61
Δ = 8° 45′ 51.49″ RT
D = 1° 30′ 00.00″
T = 292.71
L = 584.29
R = 3,819.72



EB CURVE DATA

PI STA. 336+59.70
E = 2,303,880.0263
N = 457,630.5178
Δ = 15° 15′ 01″ RT
D = 0° 51′ 27.80″
T = 894.29
L = 1,778.00
R = 6,680.00



NOTE:
SEE MISC. PAVING DETAILS FOR MEDIAN NOSE & TURN BAYS.

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PAVING PLAN

STA. 331+00 TO STA. 355+00

SCALE:
1"=100' HORZ.

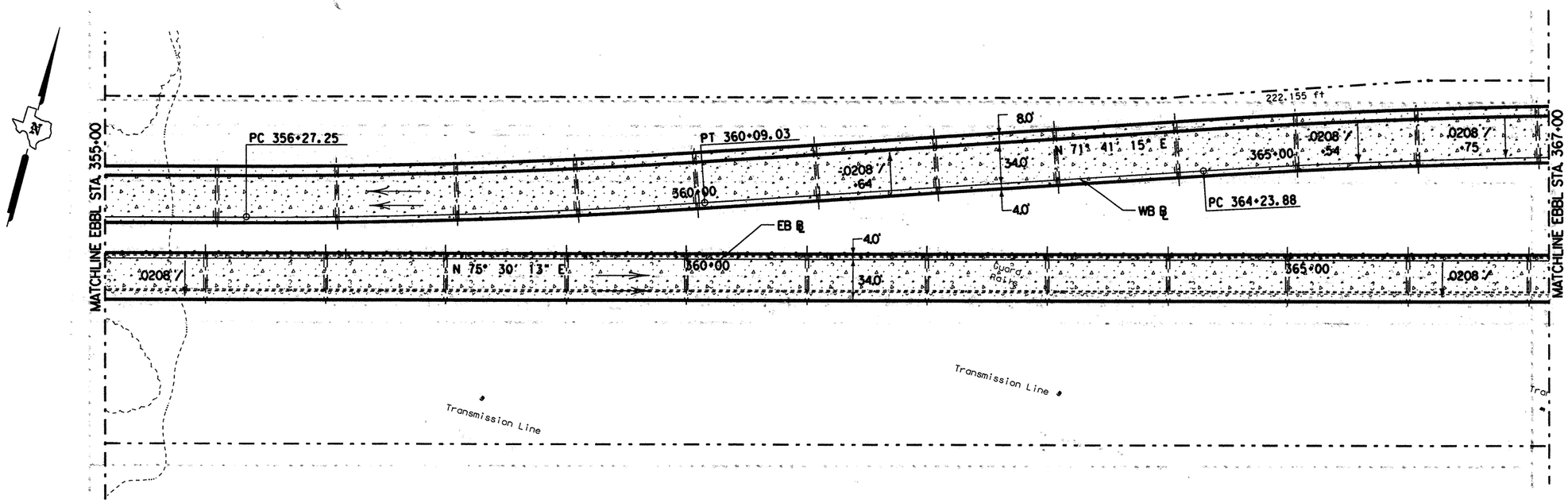
SHEET 2 OF 8 SHEETS

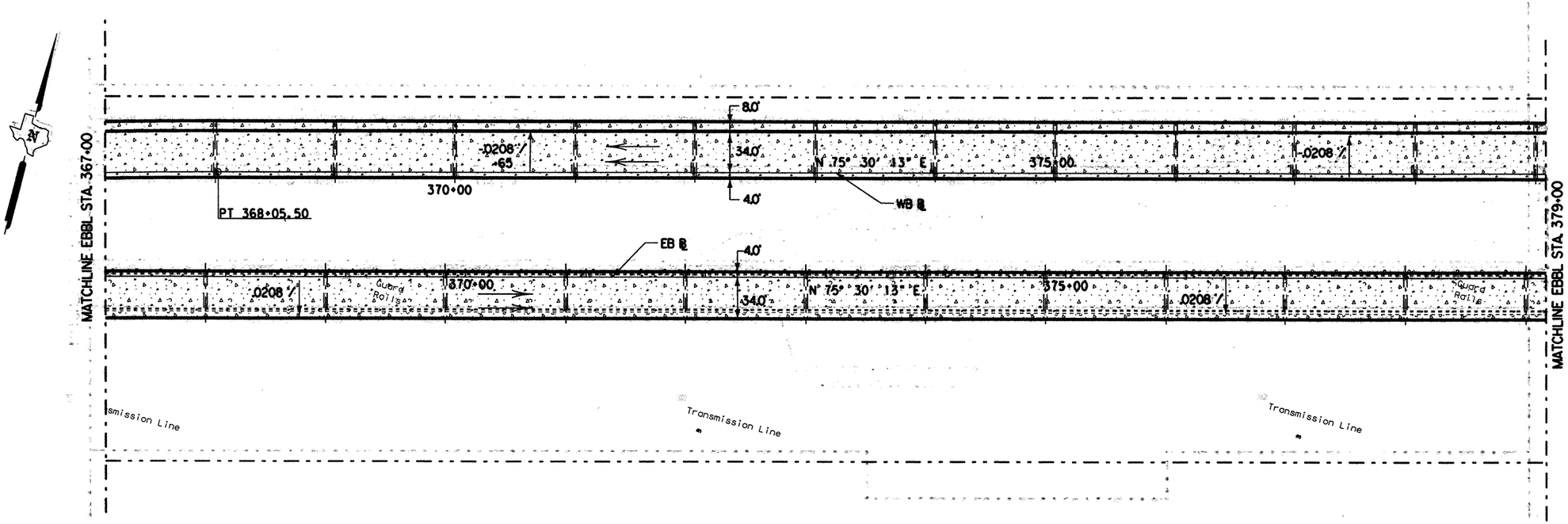
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		88
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS
DONALD F. WARNKE JR.
66671
REGISTERED PROFESSIONAL ENGINEER

9-18-02

1-22-99 X4445 TEE
sh66pln2.dgn





WB CURVE DATA

PI STA. 358+18.21
E = 2,305,955.53
N = 458,202.25
Δ = 3° 49' 04.03" LT
D = 1° 00' 00.00"
T = 190.96
L = 381.78
R = 5,729.58

WB CURVE DATA

PI STA. 366+14.76
E = 2,306,711.87
N = 458,452.57
Δ = 3° 48' 58.11" RT
D = 1° 00' 00.00"
T = 190.88
L = 381.61
R = 5,729.58

PROPOSED CONCRETE PAVEMENT

Mink Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

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PAVING PLAN

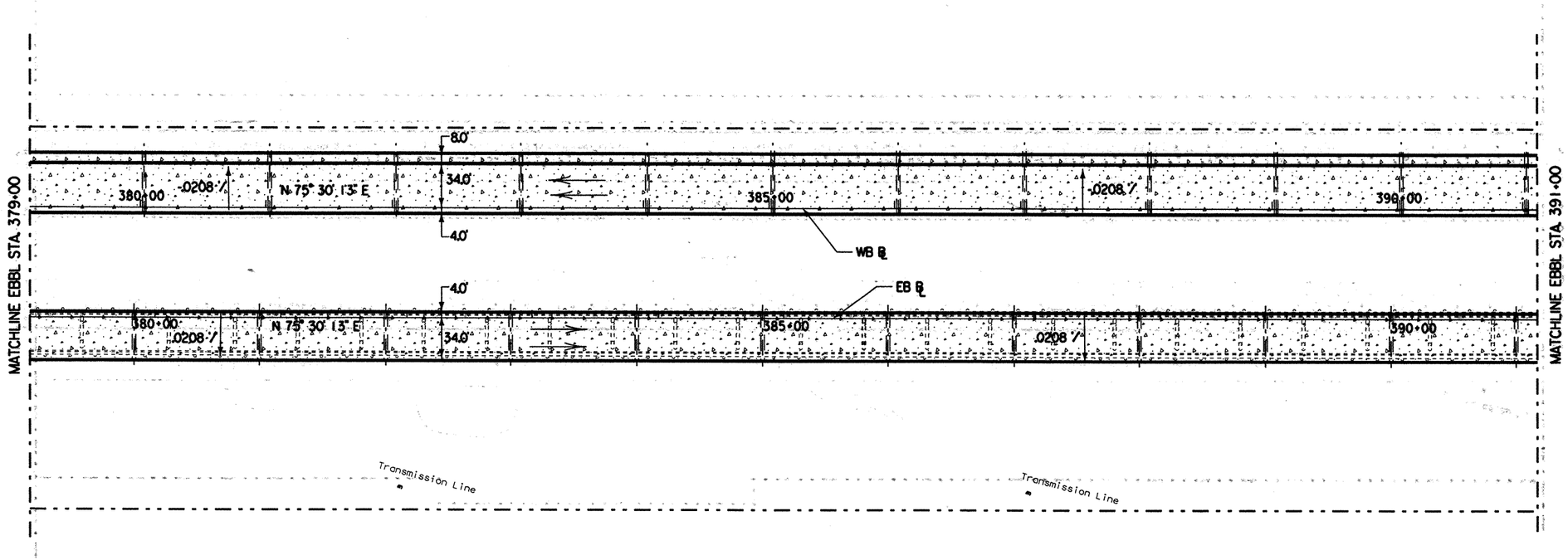
STA. 355+00 TO STA. 379+00

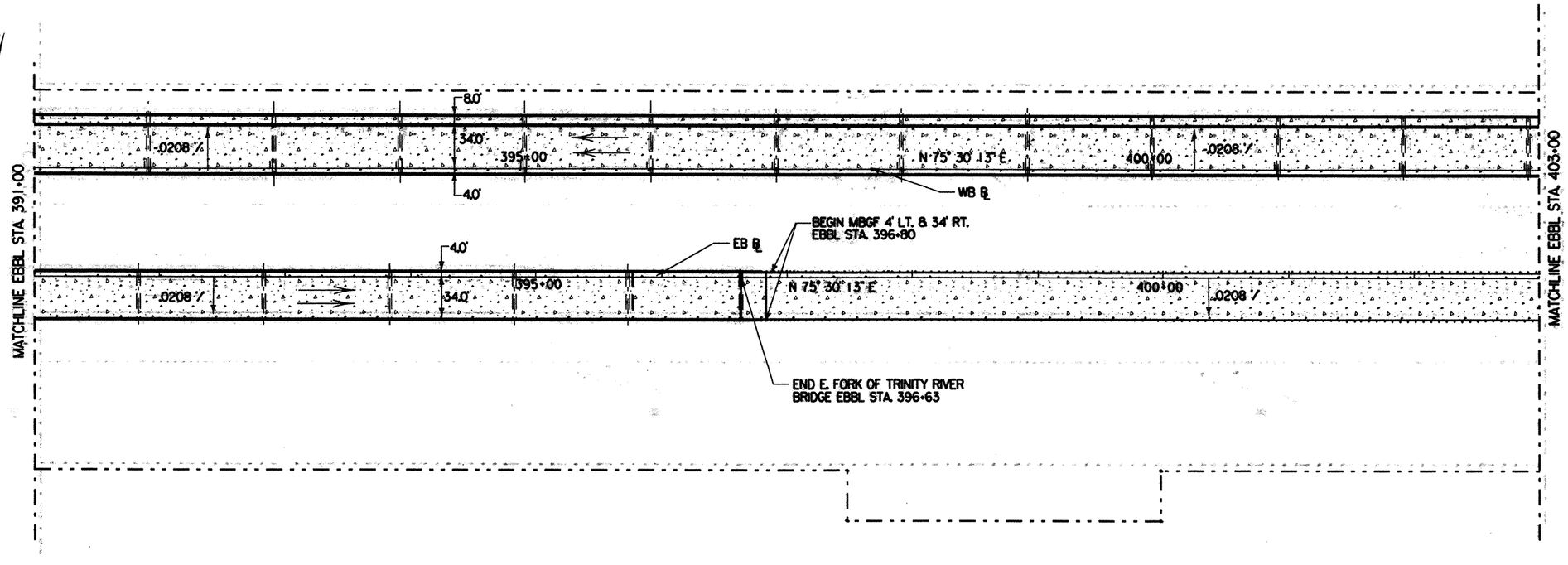
SCALE:
1"=100' HORZ.

SHEET 3 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		89
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

1-22-99 VAME TEF





Minh Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

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PAVING PLAN

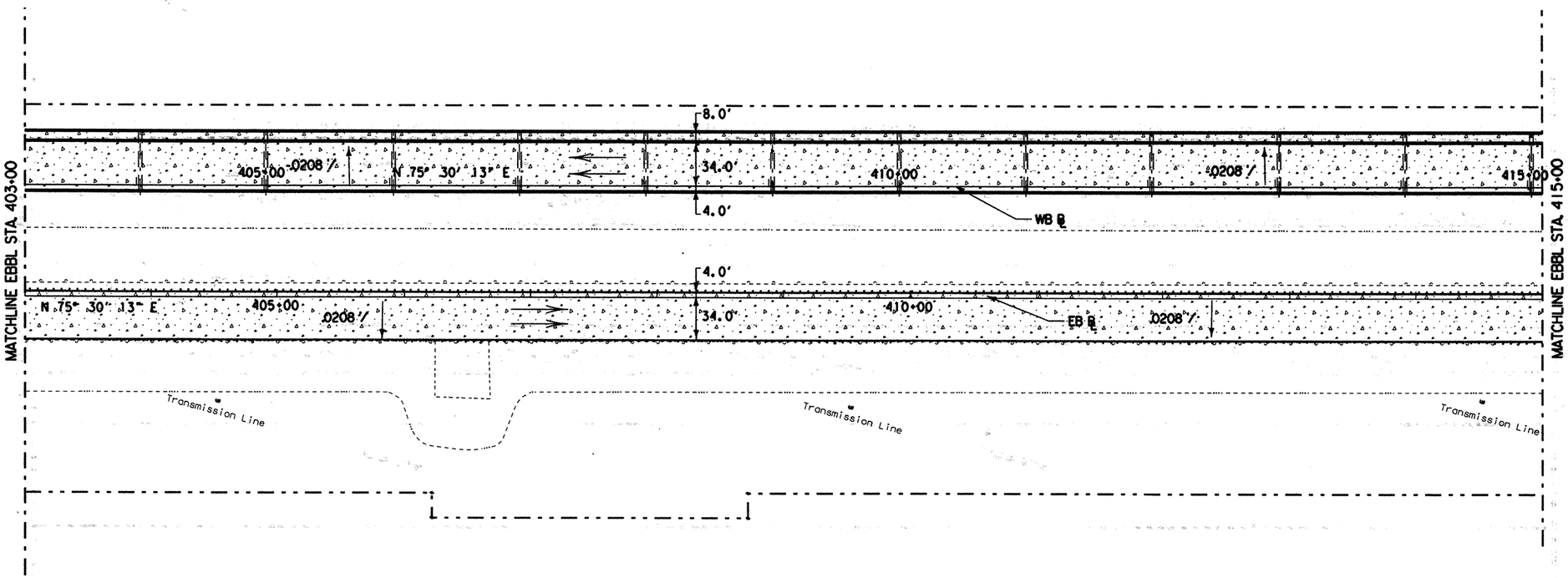
STA. 379+00 TO STA. 403+00

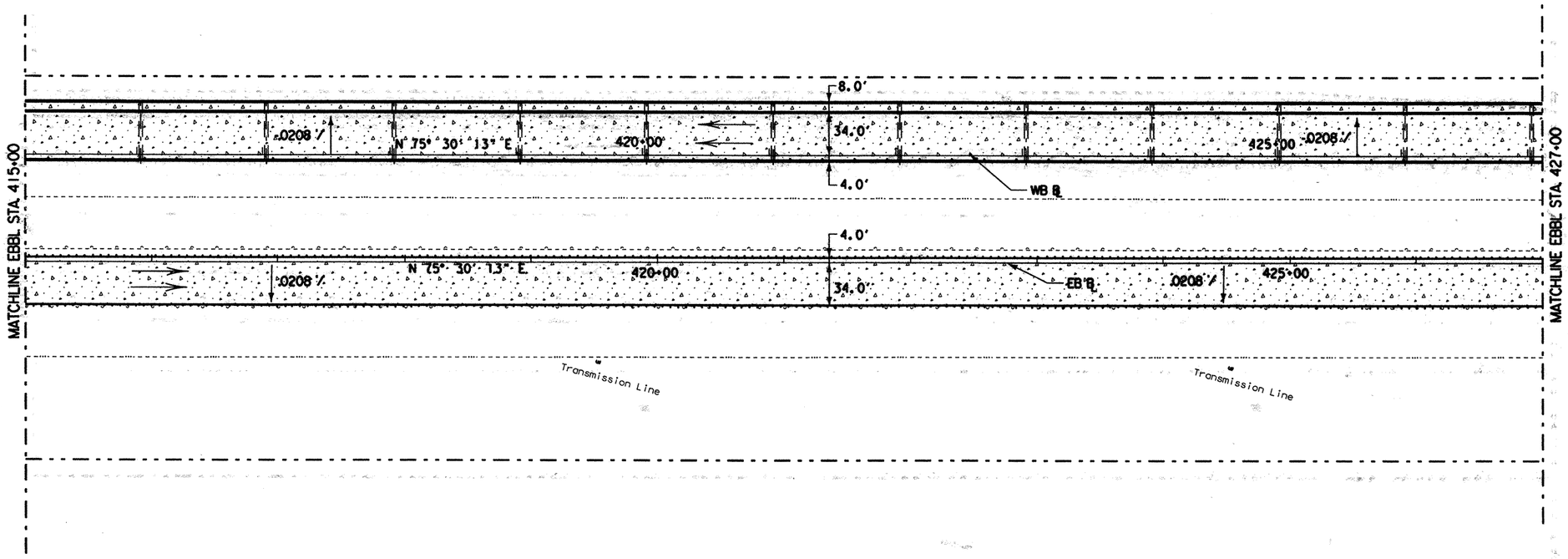
SCALE:
1"=100' HORZ.

SHEET 4 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		90
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

sh6pln04.dgn 1-22-99 VAGAS TRF





PROPOSED CONCRETE PAVEMENT

Minh Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

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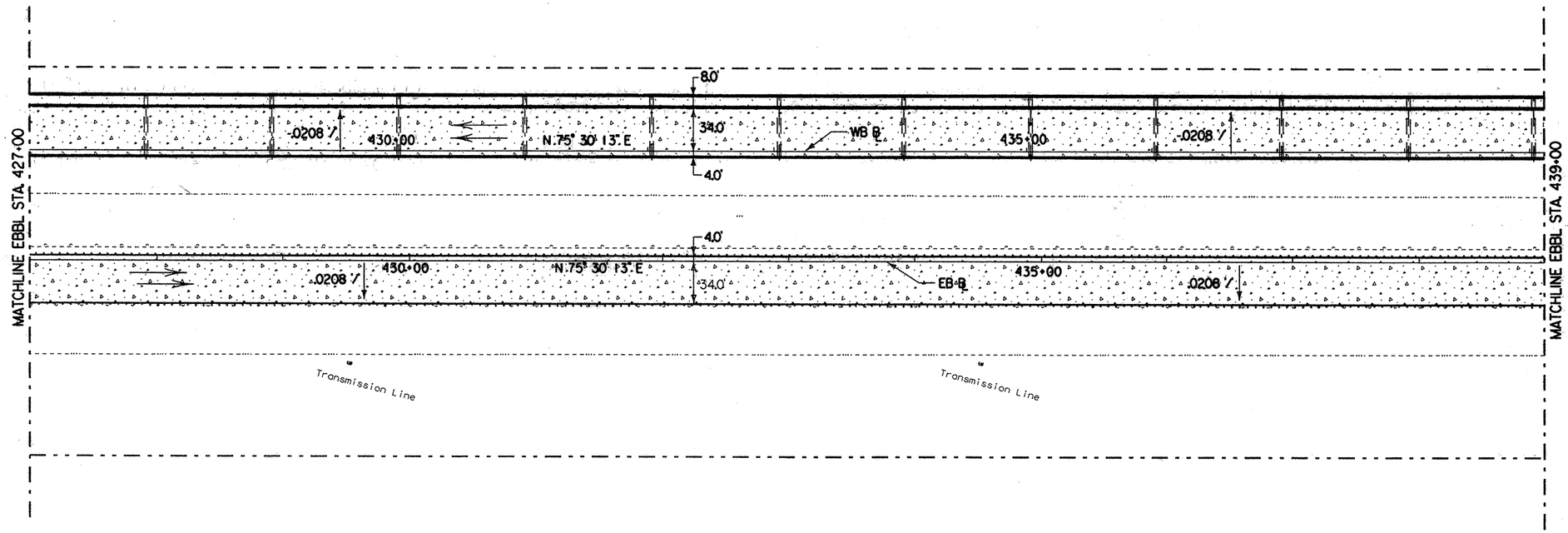
PAVING PLAN

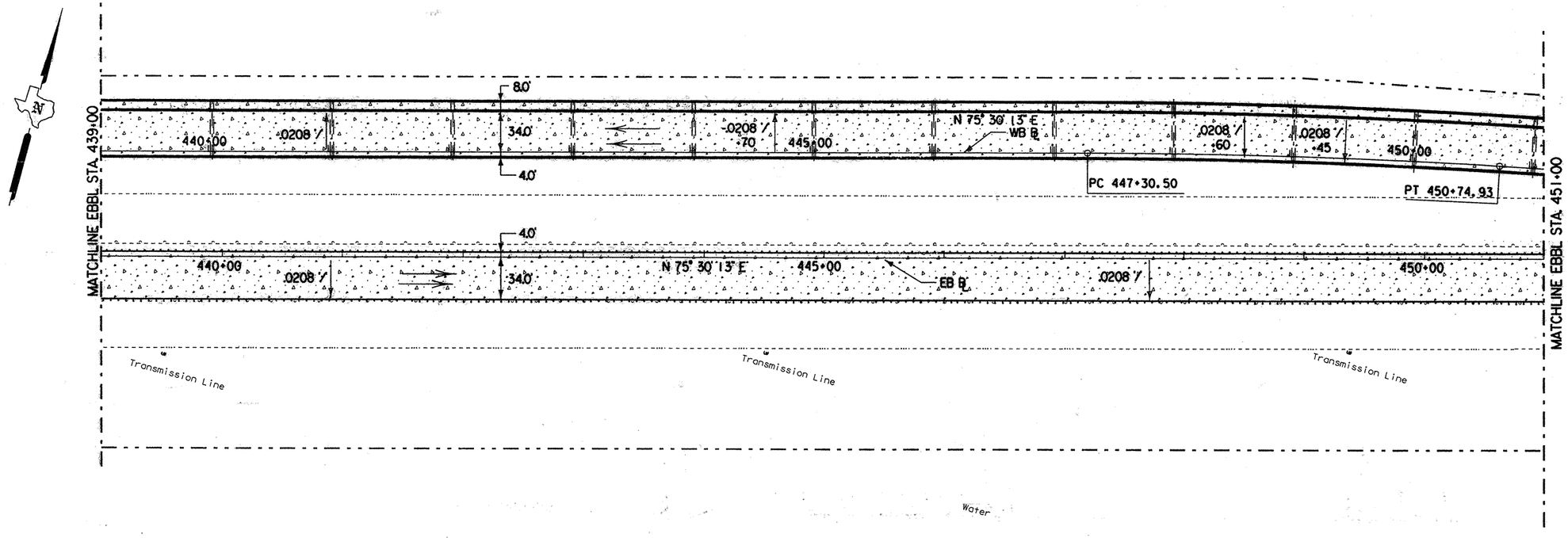
STA 403+00 TO STA 427+00

SCALE:
1"=100' HORZ.

SHEET 5 OF 8 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		91
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





WB CURVE DATA

PI STA. 449+02.77
E = 2,314,736.15
N = 460,527.26
Δ = 3° 26' 39.25" RT
D = 1° 00' 00.00"
T = 172.26
L = 344.42
R = 5,729.58

PROPOSED CONCRETE PAVEMENT

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PAVING PLAN

STA. 427+00 TO STA. 451+00

SCALE:
1"=100' HORZ.

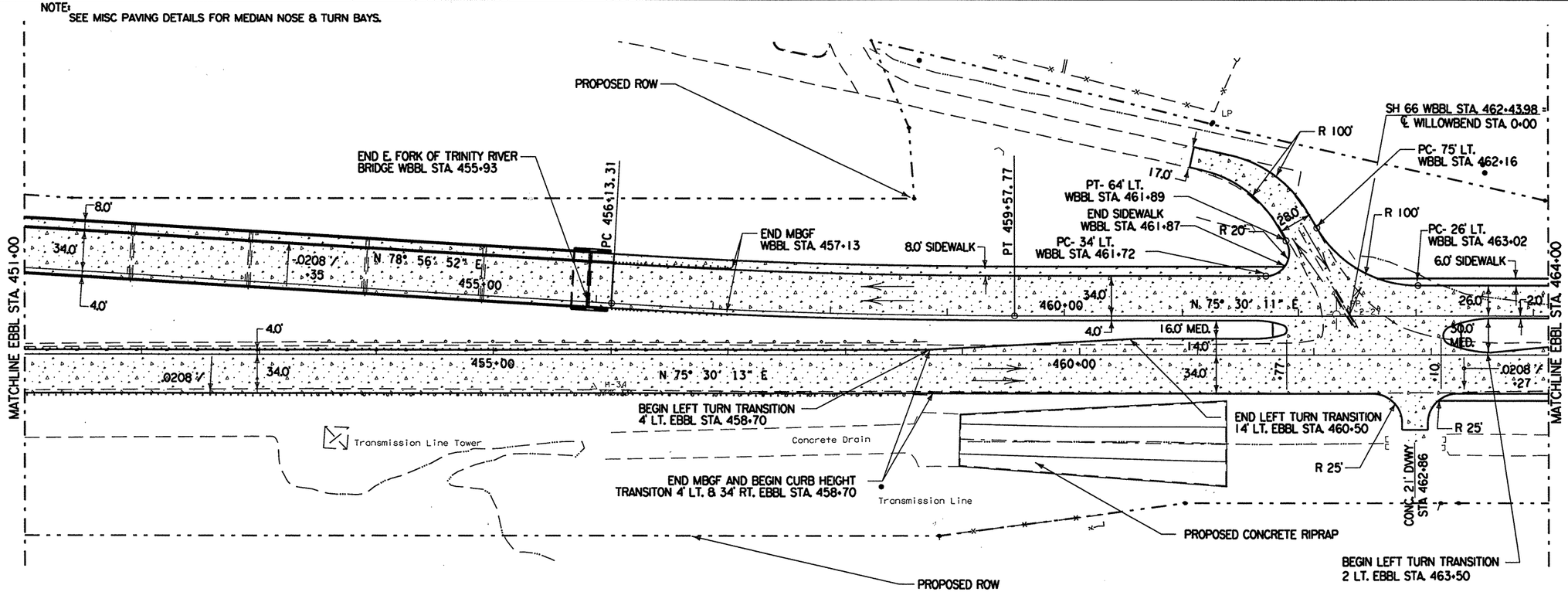
SHEET 6 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		92
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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3/26/99

VA445.TEE
1-22-00

NOTE:
SEE MISC PAVING DETAILS FOR MEDIAN NOSE & TURN BAYS.



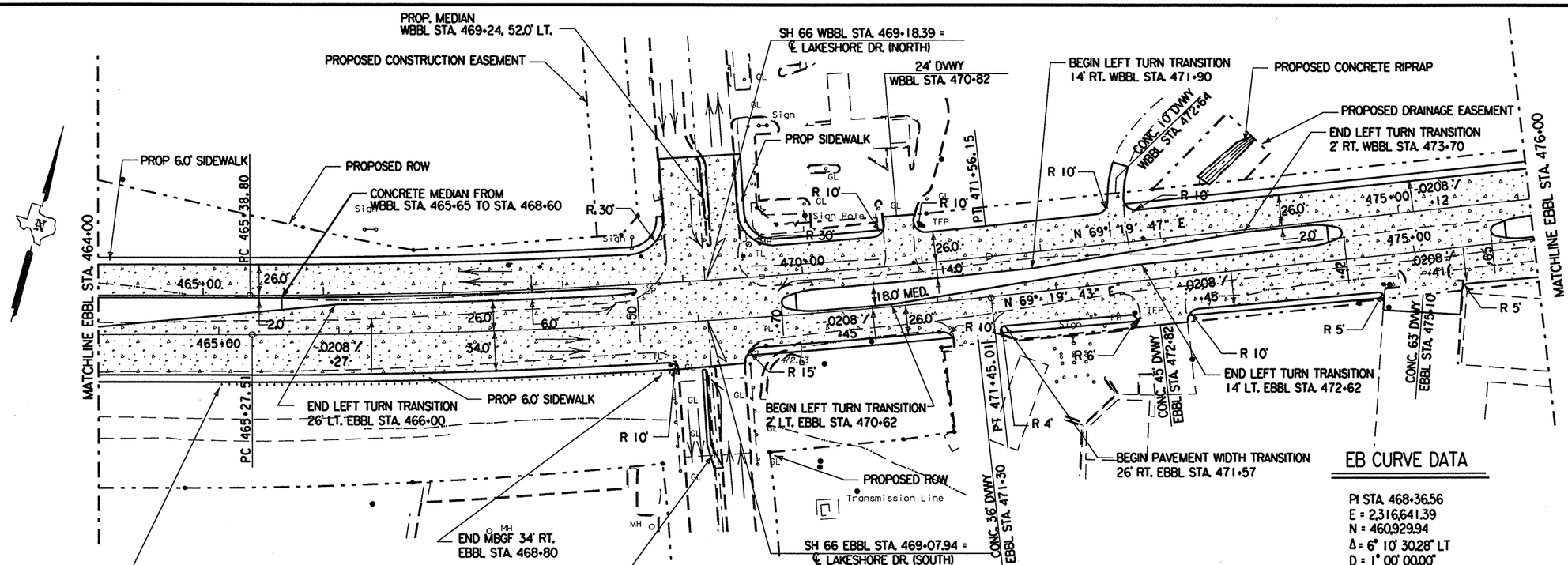
WB CURVE DATA

PI STA. 457+85.59
E = 2,315,602.70
N = 460,696.52
Δ = 3° 26' 40.65" LT
D = 1° 00' 00.00"
T = 172.28
L = 344.46
R = 5,729.58

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WB CURVE DATA

PI STA. 468+47.78
E = 2,316,631.17
N = 460,962.44
Δ = 6° 10' 24.42" LT
D = 1° 00' 00.00"
T = 308.97
L = 617.35
R = 5,729.58

EB CURVE DATA

PI STA. 468+36.56
E = 2,316,641.39
N = 460,929.94
Δ = 6° 10' 30.28" LT
D = 1° 00' 00.00"
T = 309.05
L = 617.51
R = 5,729.58

REPLACED 6-28-99 DLP

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PAVING PLAN

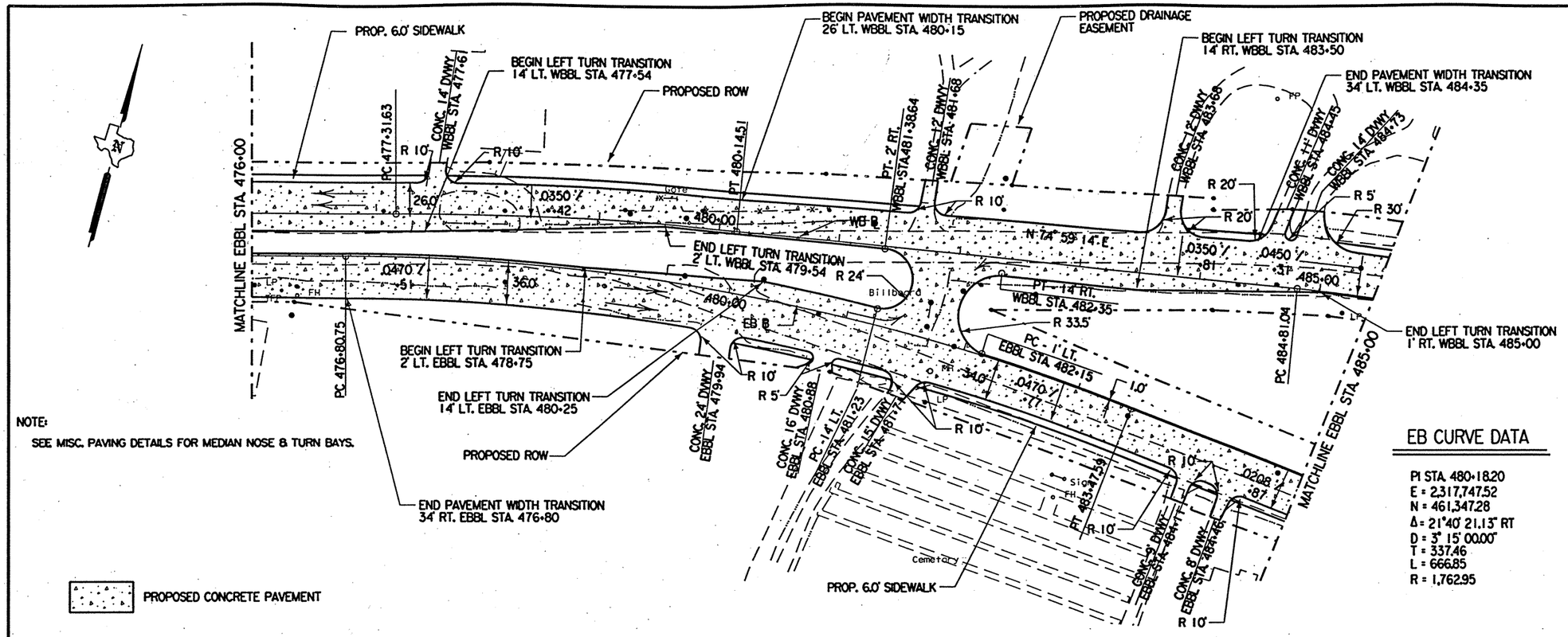
STA. 451+00 TO STA. 476+00

SCALE: 1"=100' HORZ.

SHEET 7 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		93
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

sh66nh7.dgn 1-22-99 X4445 TFF



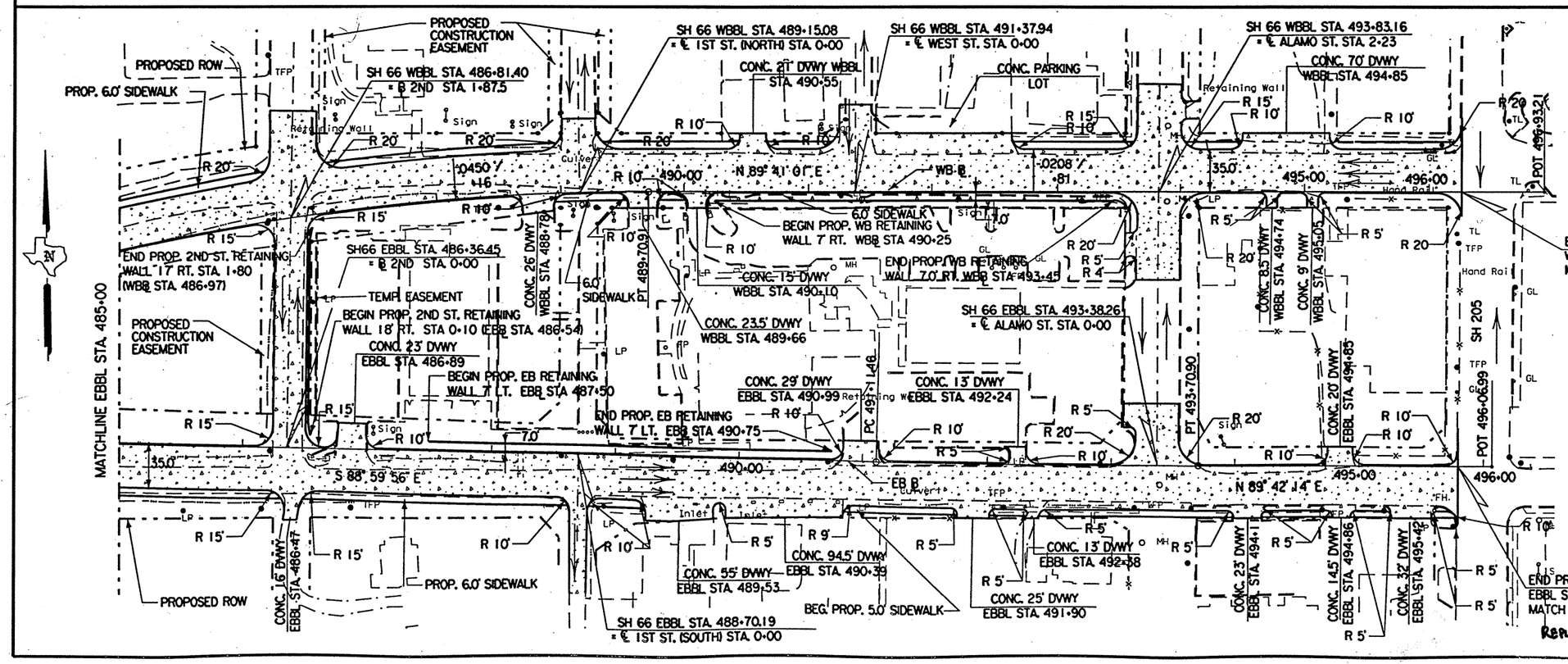
WB CURVE DATA

PI STA. 478+73.19
E = 2,317,591.13
N = 461,324.61
Δ = 5° 39' 27.44" RT
D = 2° 00' 00.00"
T = 141.56
L = 282.88
R = 2,864.79

EB CURVE DATA

PI STA. 480+18.20
E = 2,317,747.52
N = 461,347.28
Δ = 21° 40' 21.13" RT
D = 3° 15' 00.00"
T = 337.46
L = 666.85
R = 1,762.95

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WB CURVE DATA

PI STA. 487+27.33
E = 2,318,416.34
N = 461,545.92
Δ = 14° 41' 46.31" RT
D = 3° 00' 00.00"
T = 246.29
L = 489.87
R = 1,909.86

EB CURVE DATA

PI STA. 492+41.19
E = 2,318,978.38
N = 461,325.77
Δ = 1° 17' 49.91" LT
D = 0° 30' 00.00"
T = 129.72
L = 259.44
R = 11,459.15

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PAVING PLAN

STA. 476+00 TO SH 205

SCALE: 1"=100' HORZ.

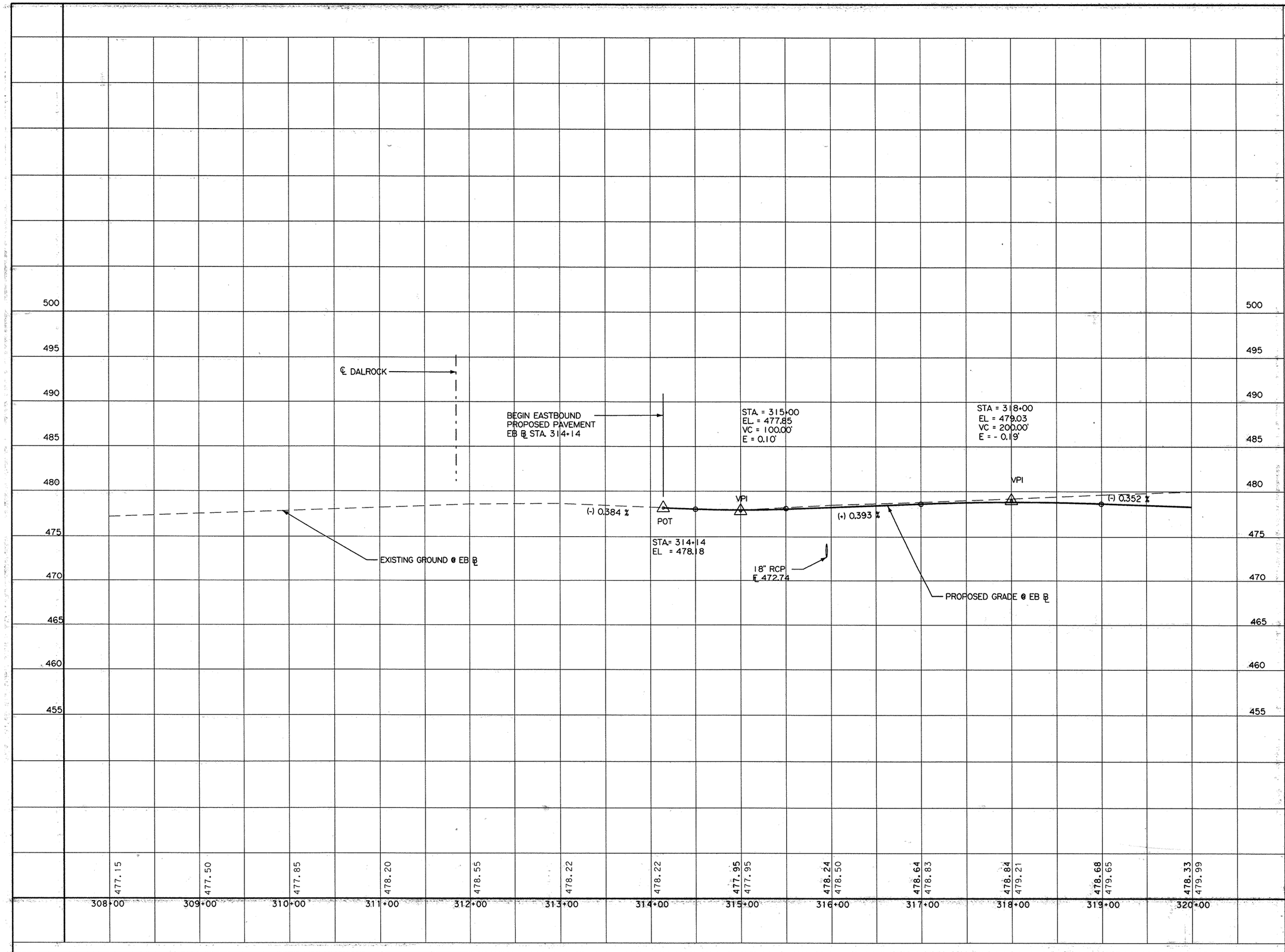
SHEET 8 OF 8 SHEETS.

FED. RD. DIV. NO.	EEDEBAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		94
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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PAVING PROFILE

EASTBOUND
STA. 308+00 TO STA. 320+00

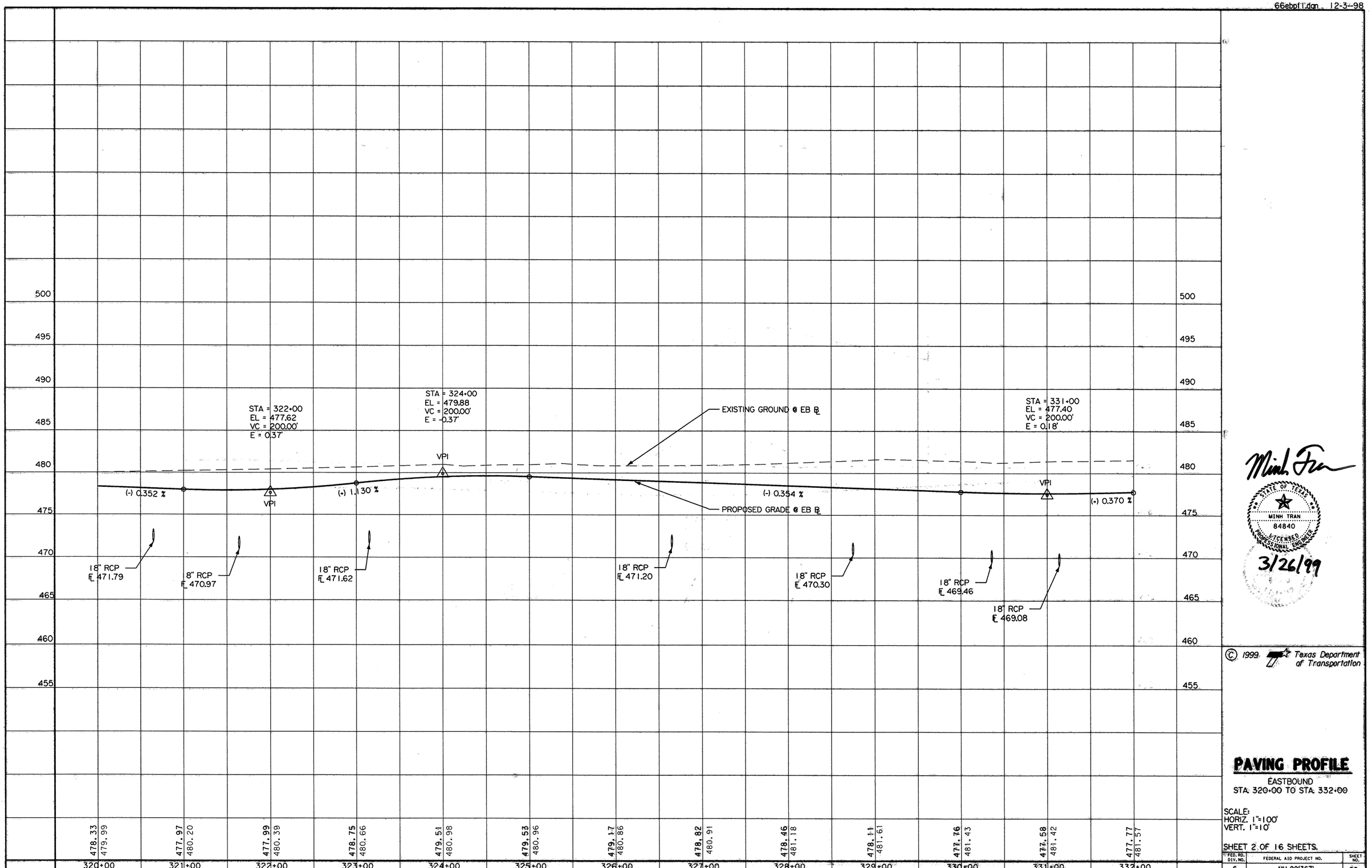
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 1 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		95
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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PAVING PROFILE

EASTBOUND
STA. 320+00 TO STA. 332+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

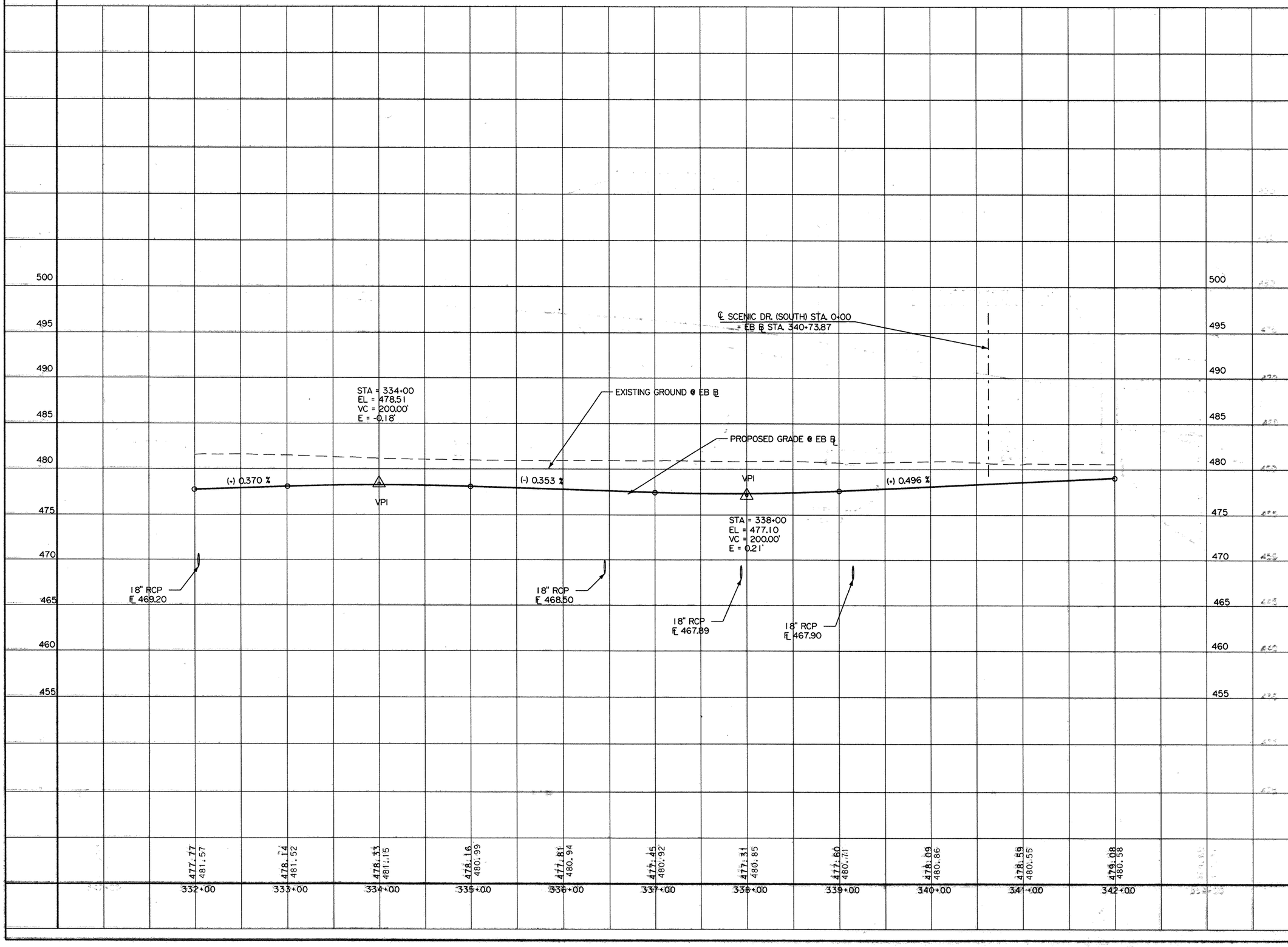
SHEET 2 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	96

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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PAVING PROFILE

EASTBOUND
STA. 332+00 TO STA. 342+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

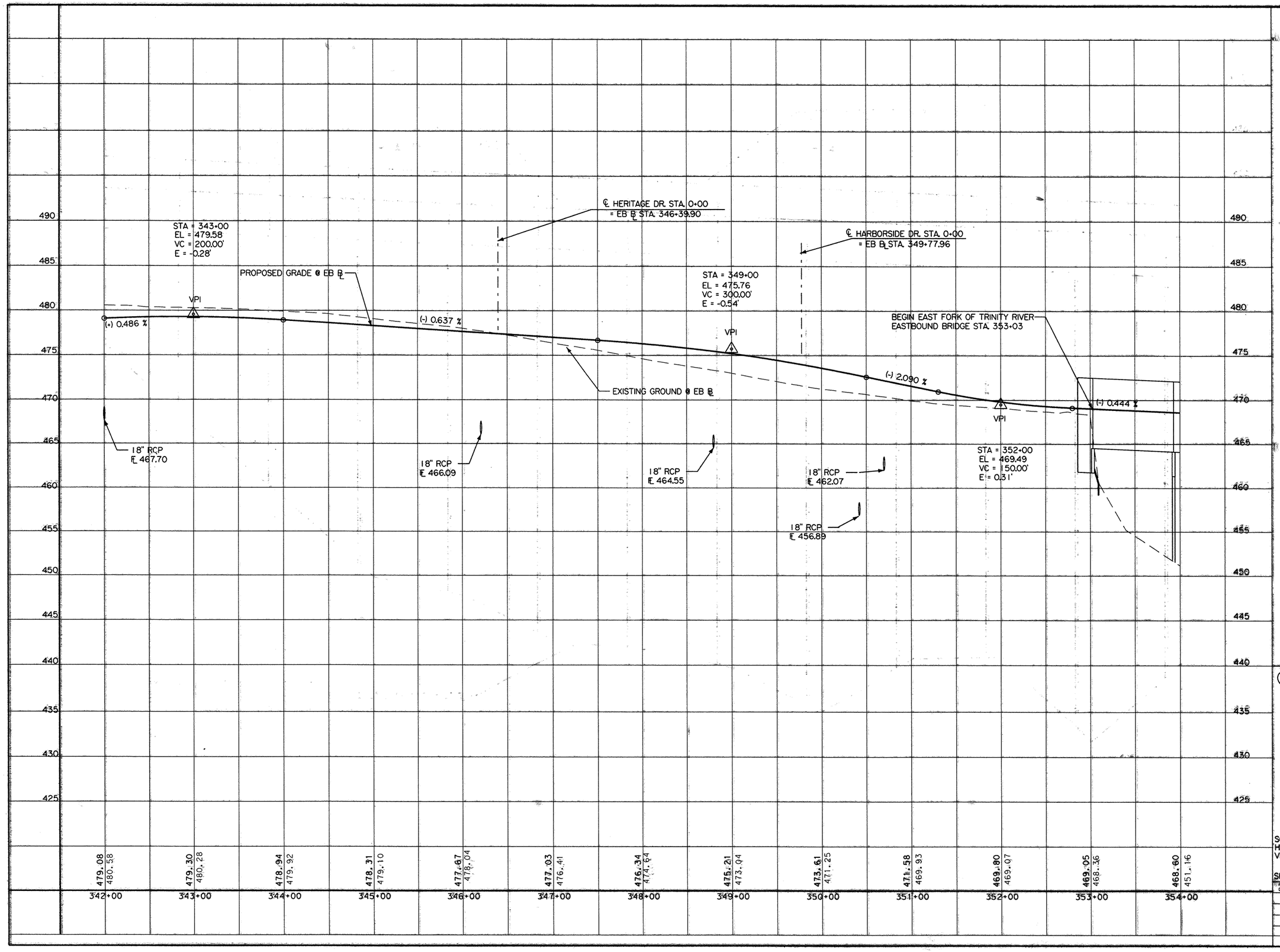
SHEET 3 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	97

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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PAVING PROFILE

EASTBOUND
STA. 342+00 TO STA. 354+00

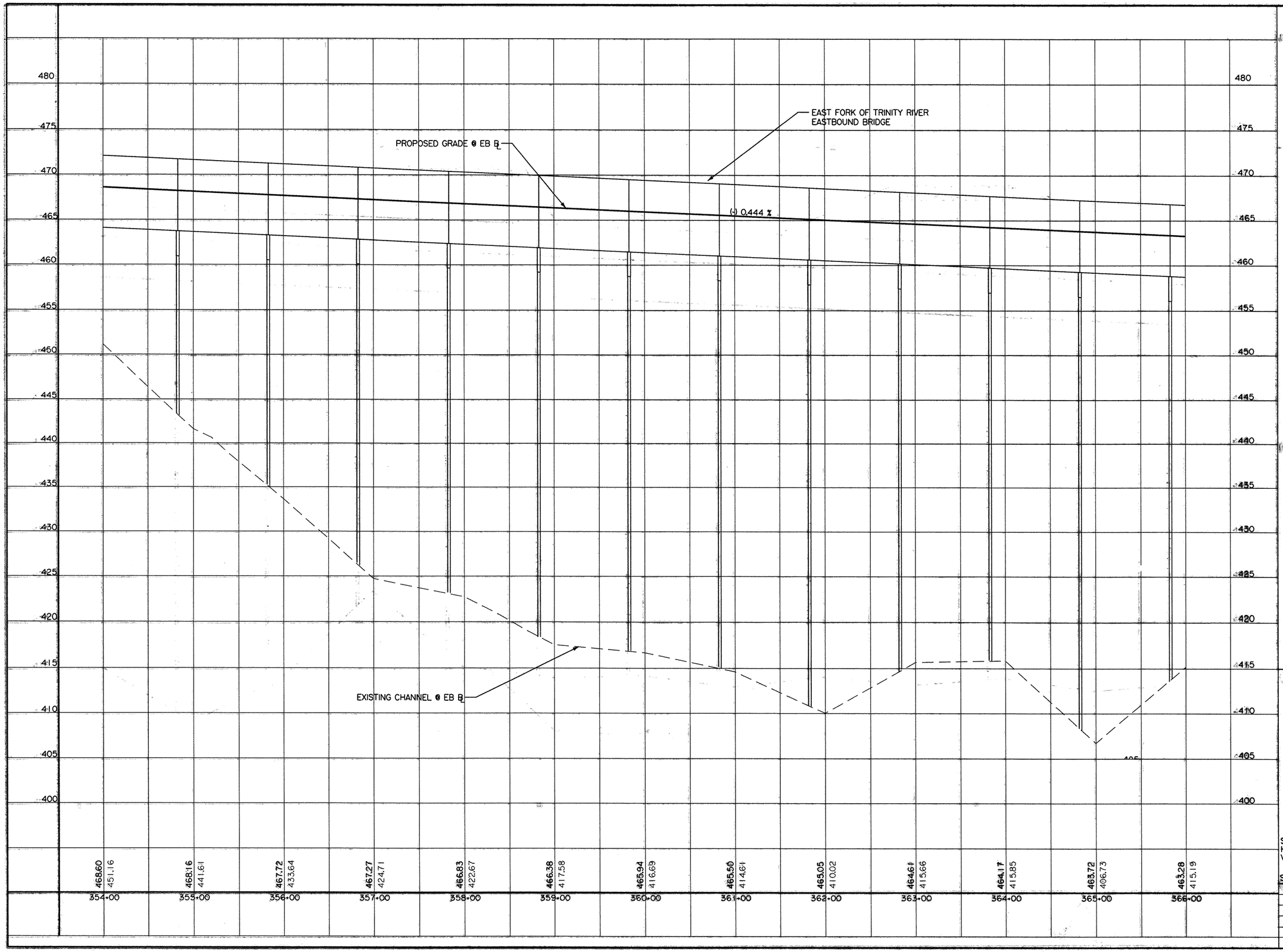
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 4 OF 16 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		98
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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PAVING PROFILE

EASTBOUND
STA. 354+00 TO STA. 366+00

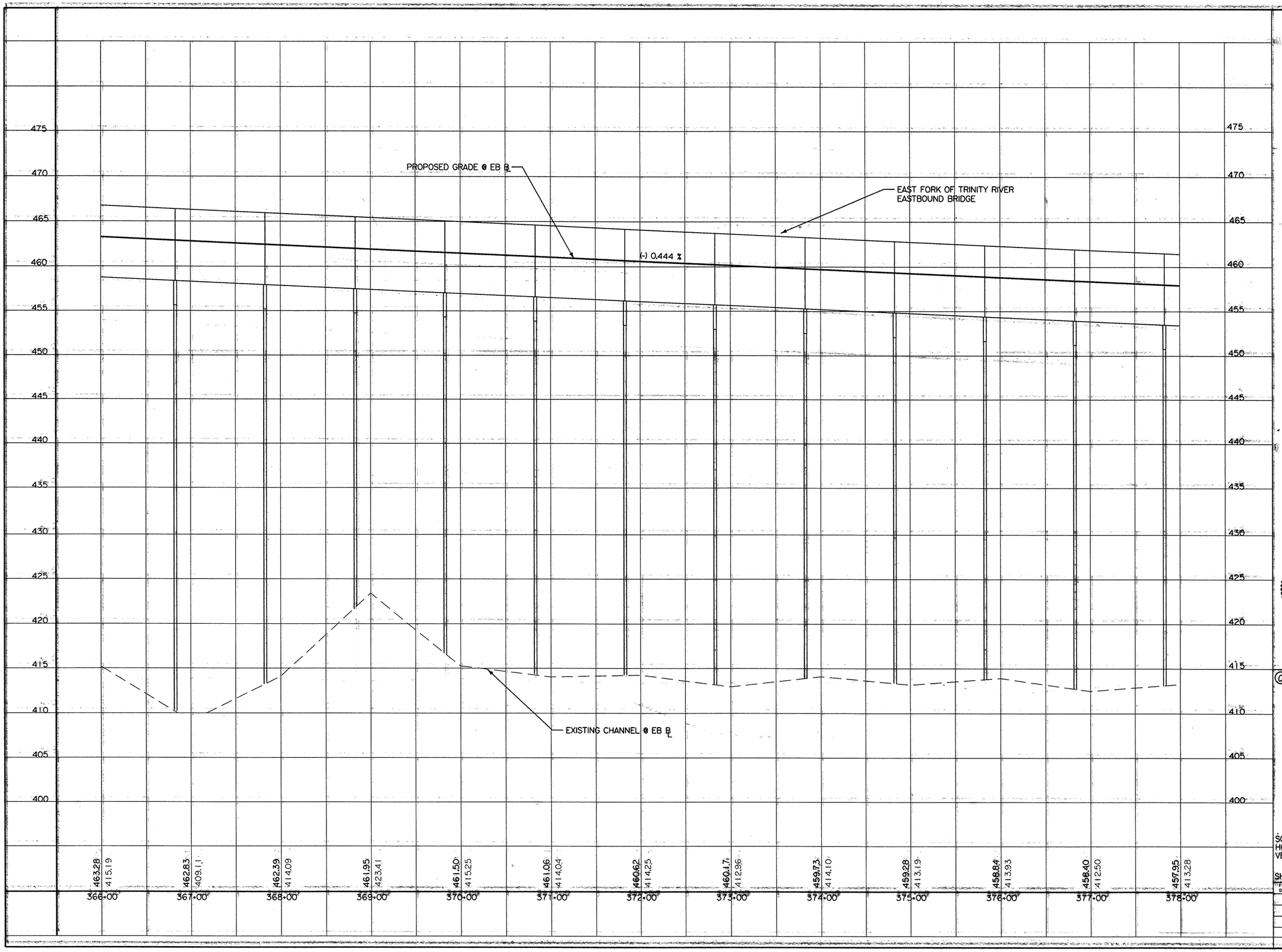
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 5 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		99
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE V1.6.6

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PAVING PROFILE

EASTBOUND
STA. 366+00 TO STA. 378+00

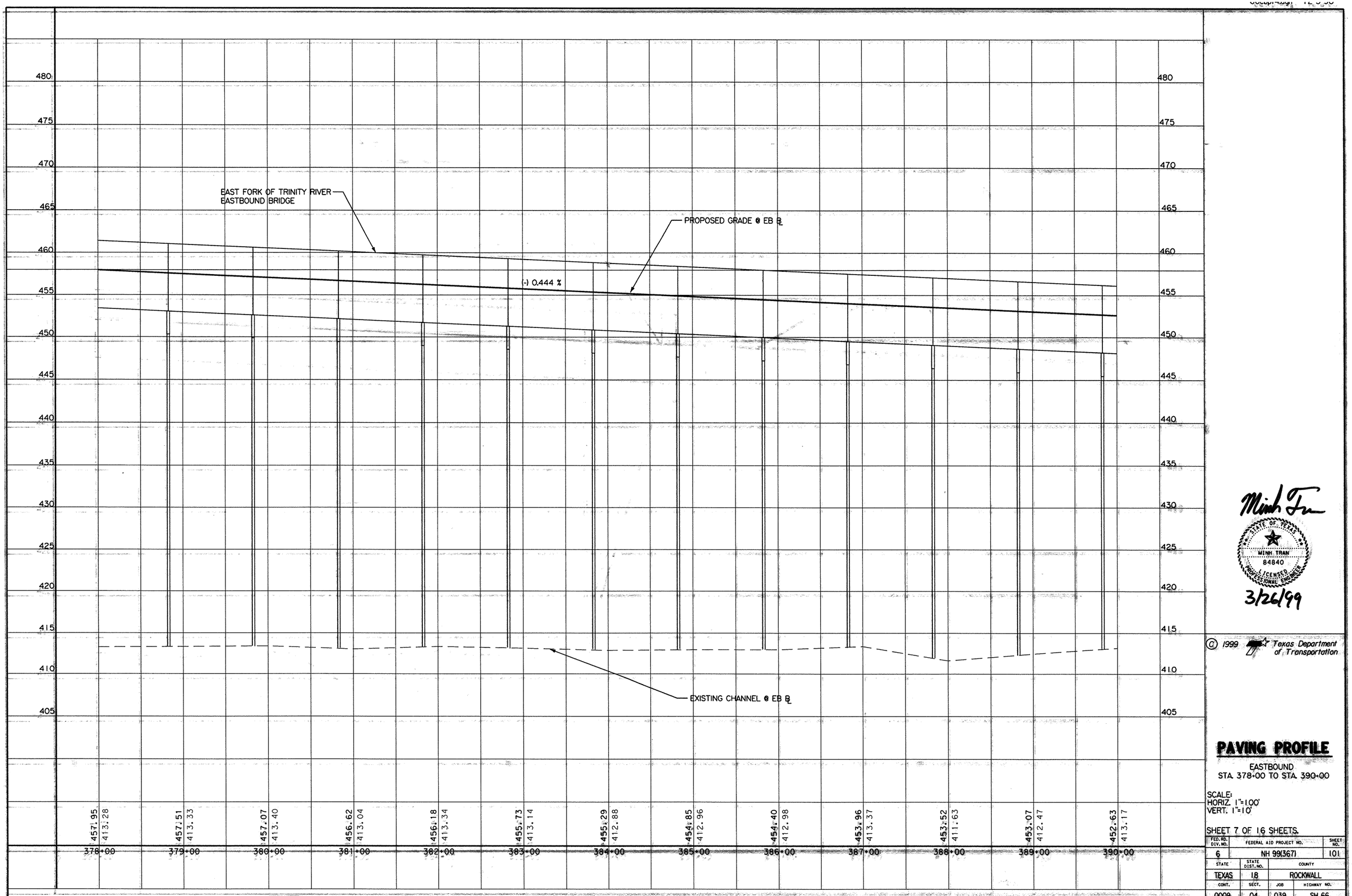
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 6 OF 16 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	100

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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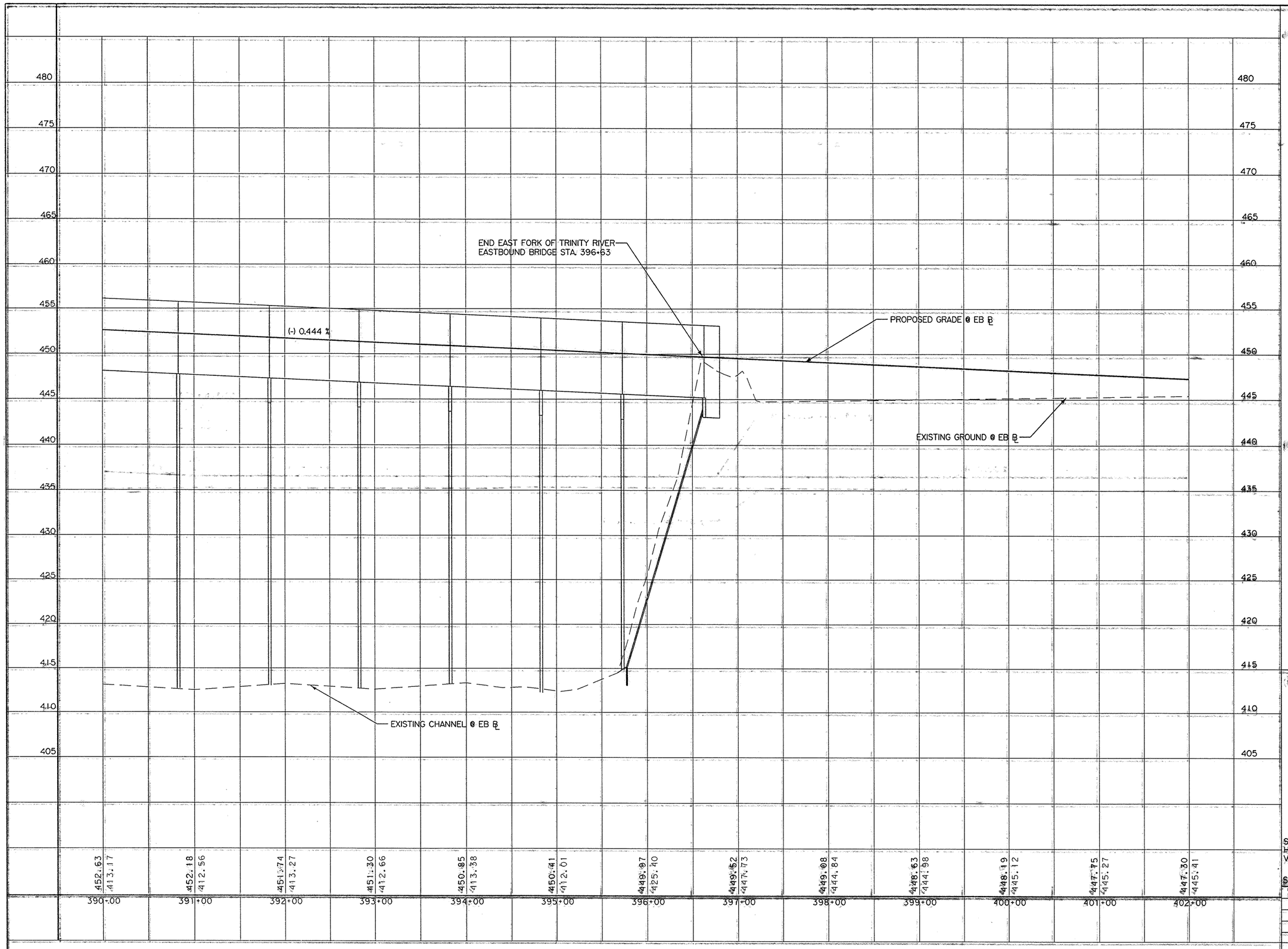
EASTBOUND
STA. 378+00 TO STA. 390+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 7 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	101

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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PAVING PROFILE

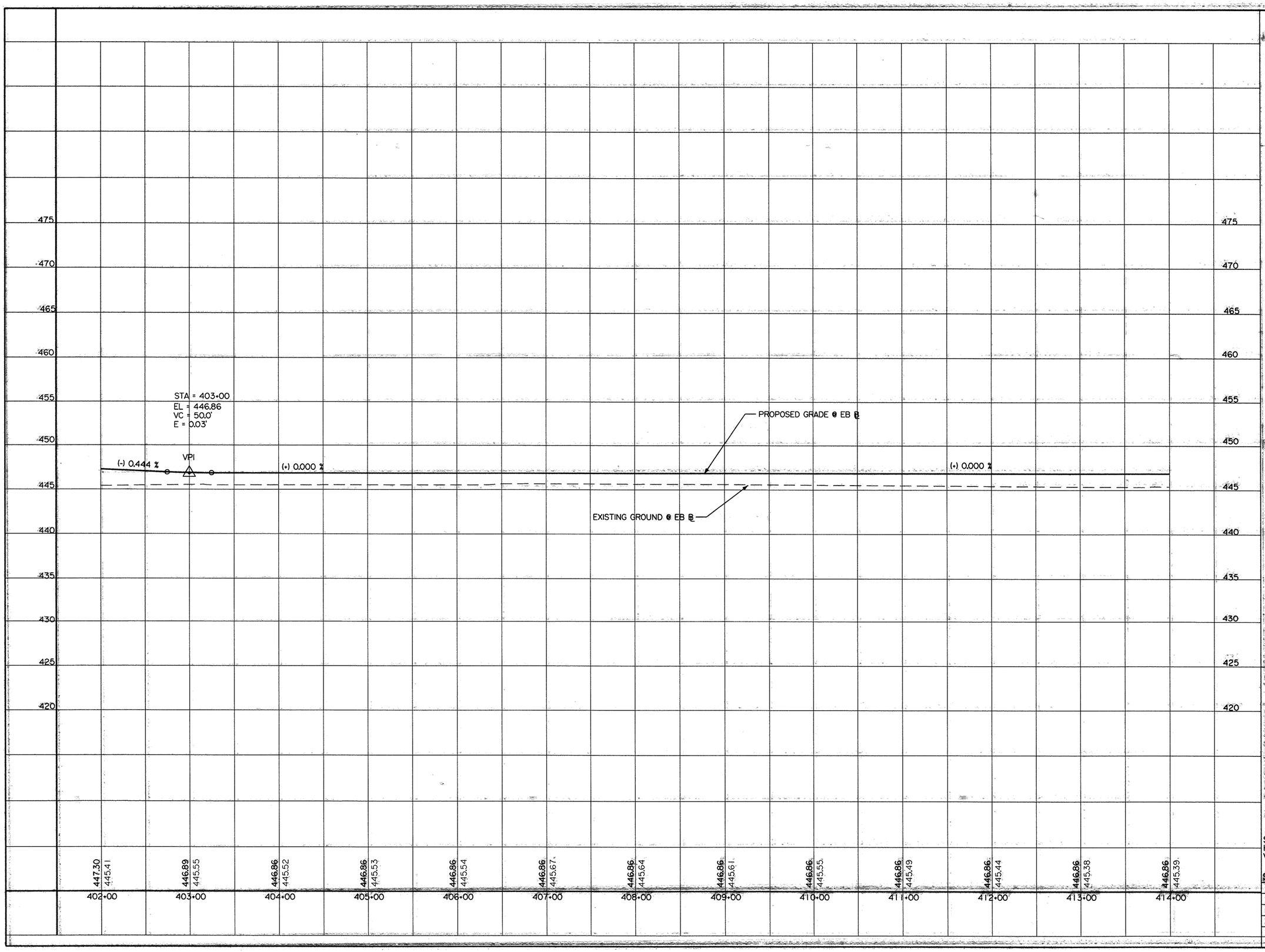
EASTBOUND
STA. 390+00 TO STA. 402+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 18 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	102

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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PAVING PROFILE

EASTBOUND
STA. 402+00 TO STA. 414+00

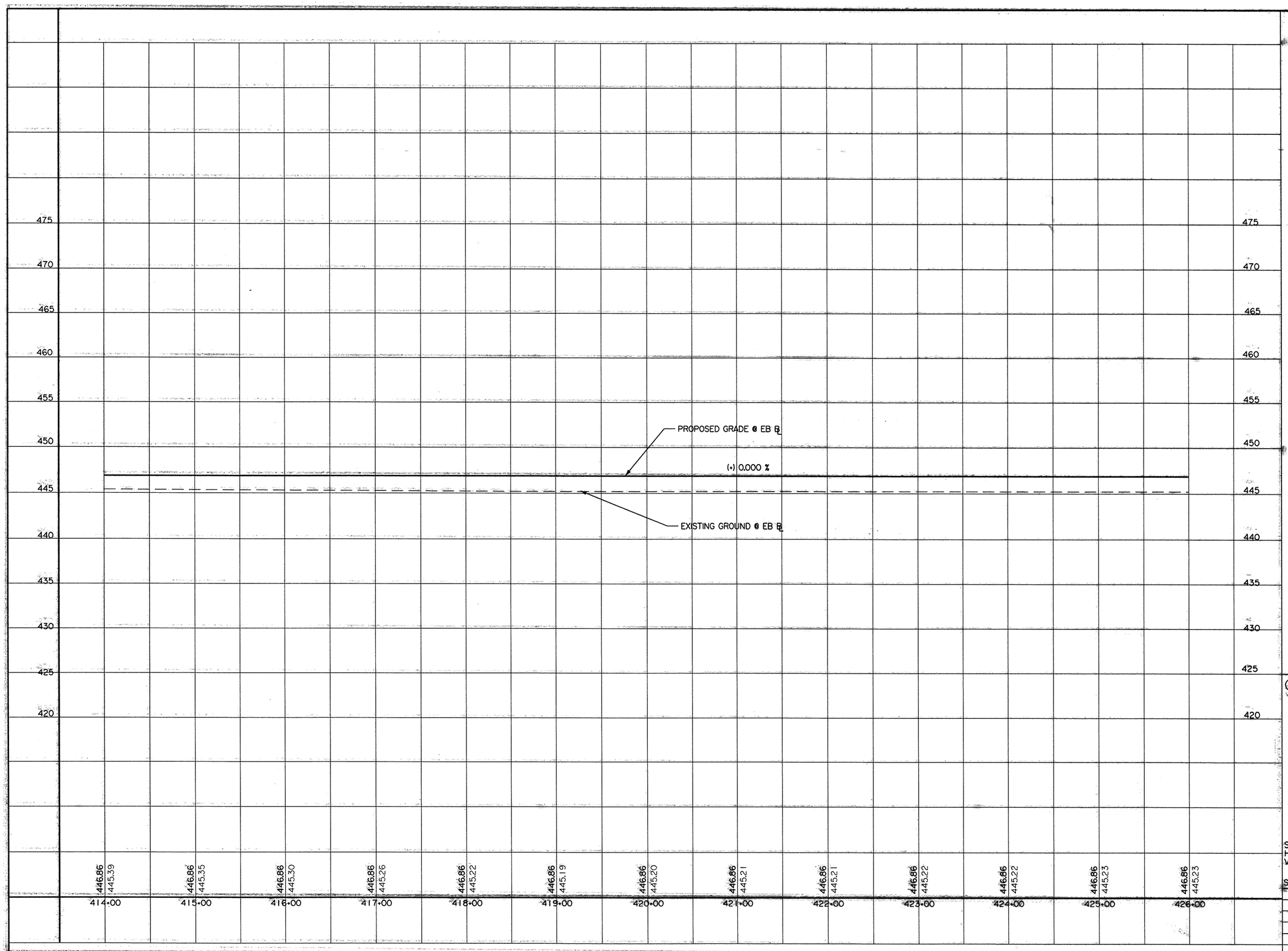
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 9 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	103

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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EASTBOUND
STA. 414+00 TO STA. 426+00

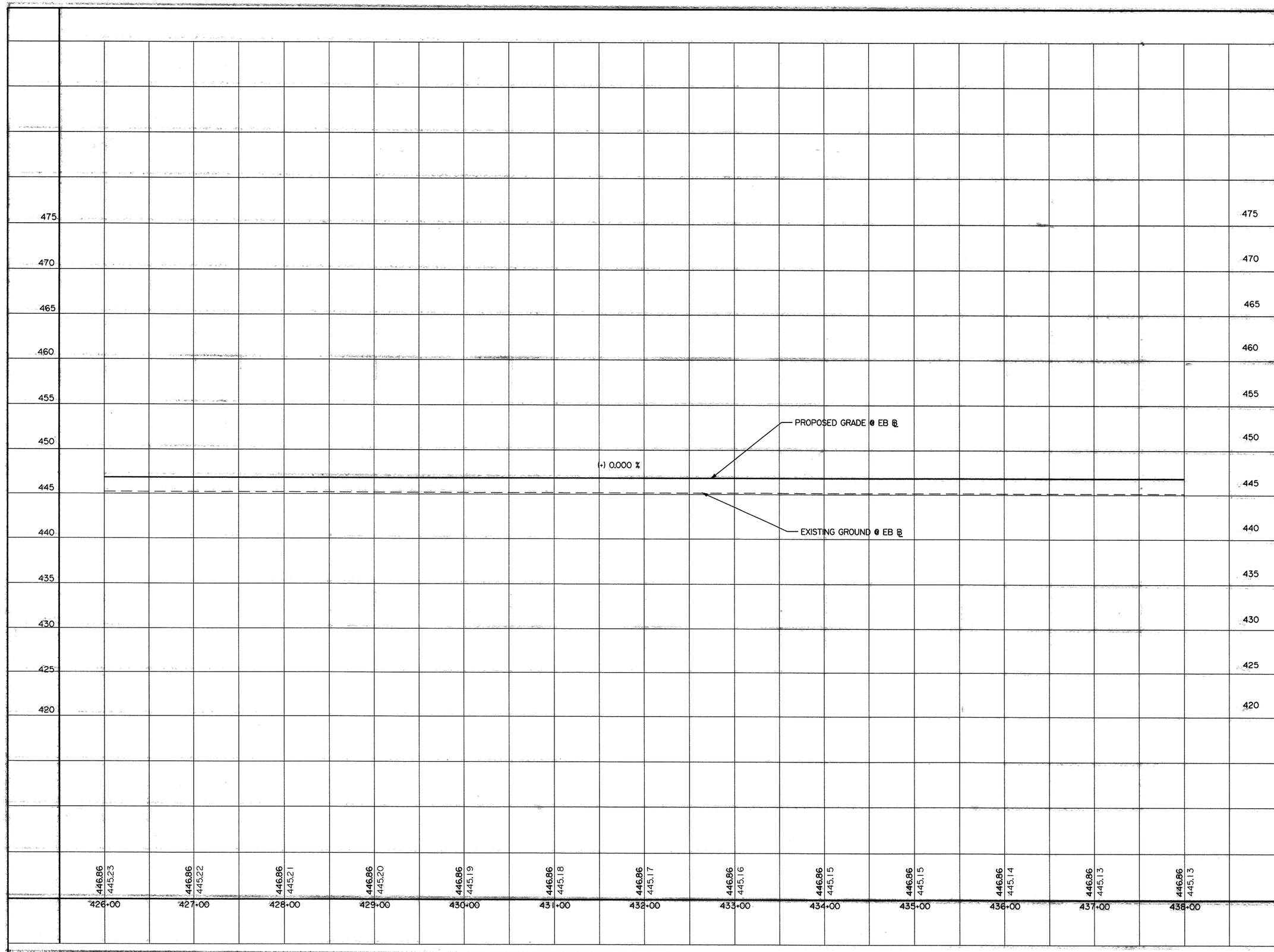
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 10 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	104

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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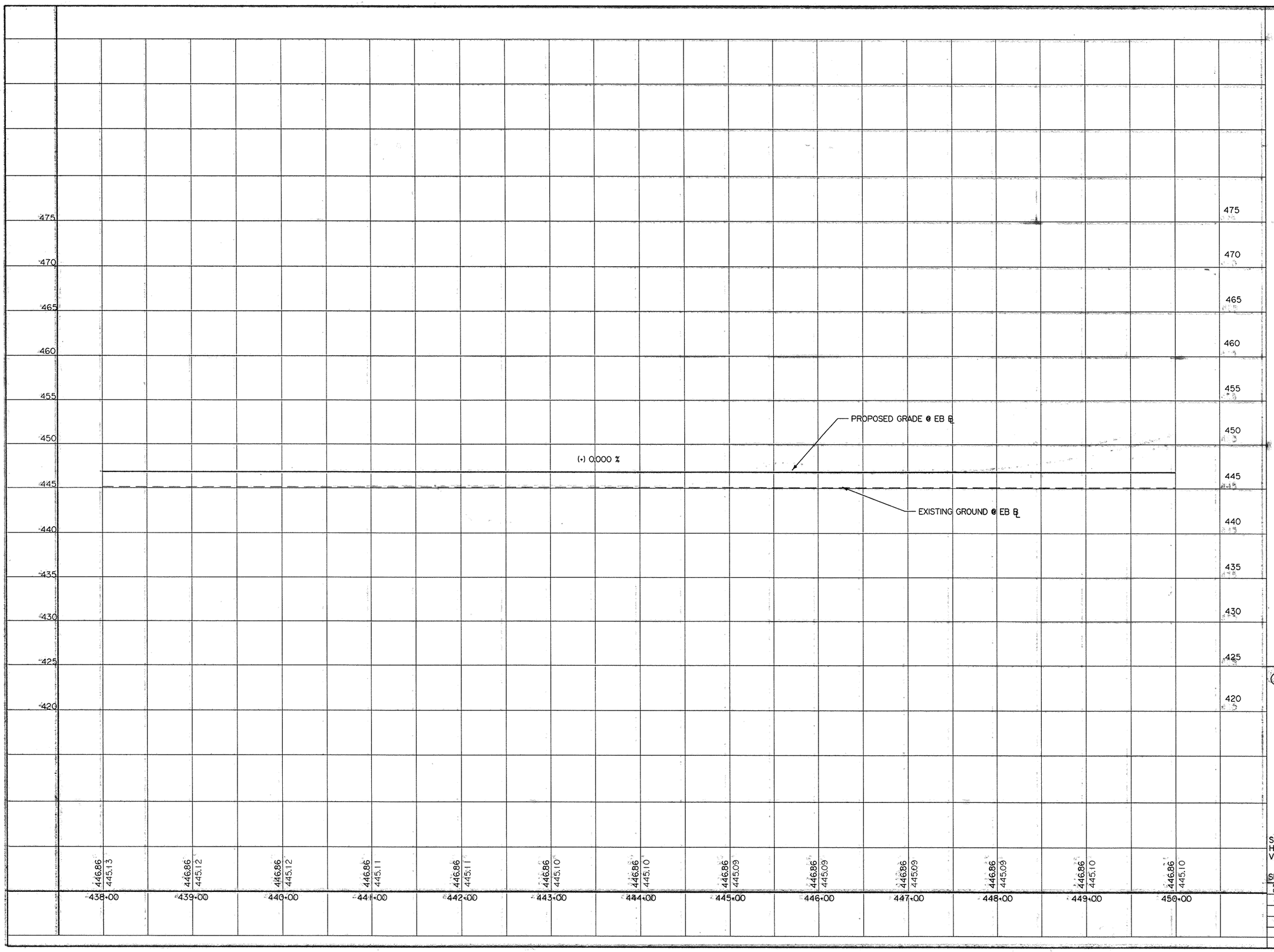
PAVING PROFILE

EASTBOUND
STA. 426+00 TO STA. 438+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 11 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		105
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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PAVING PROFILE

EASTBOUND
STA. 438+00 TO STA. 450+00

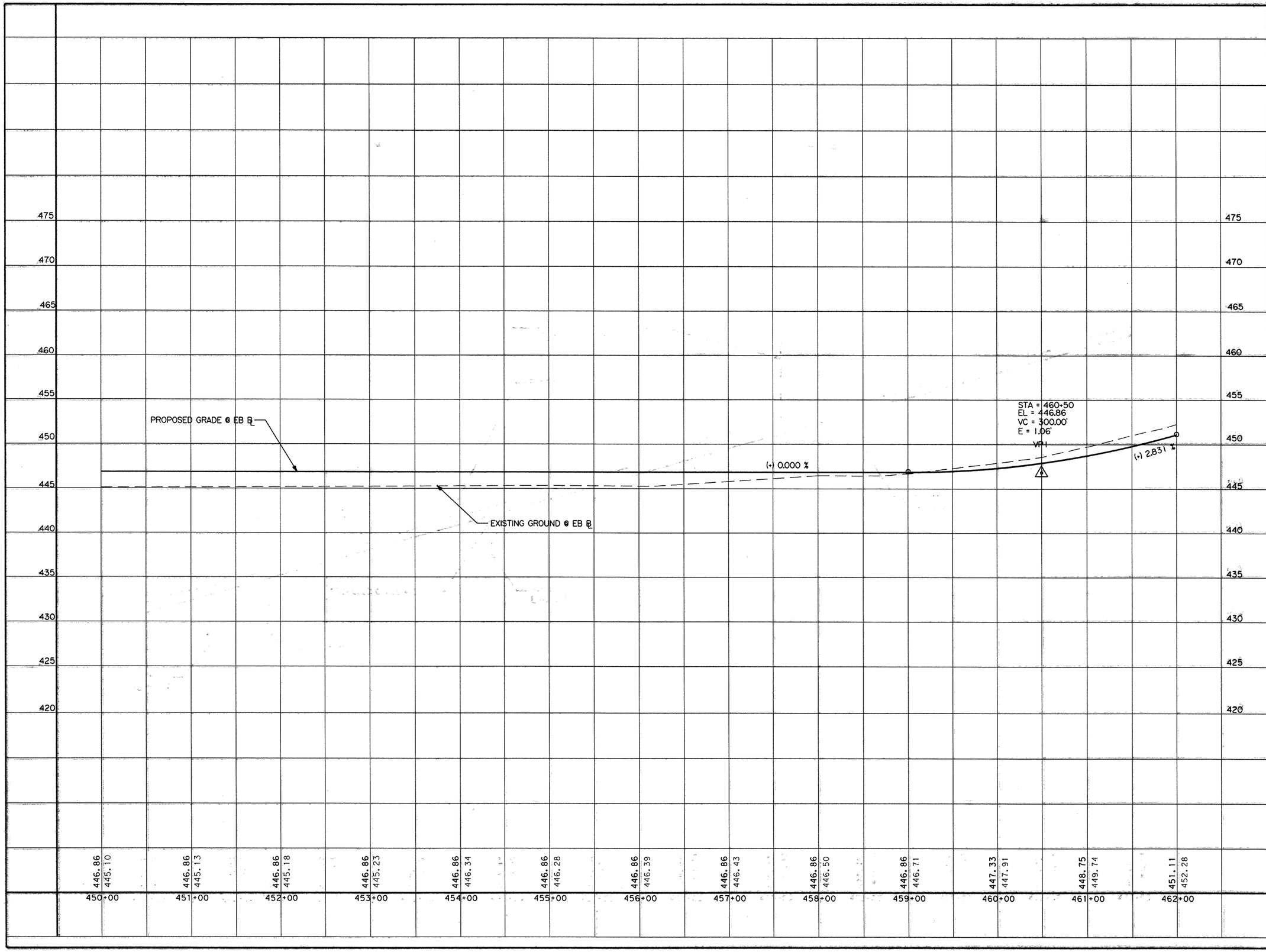
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 12 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	106

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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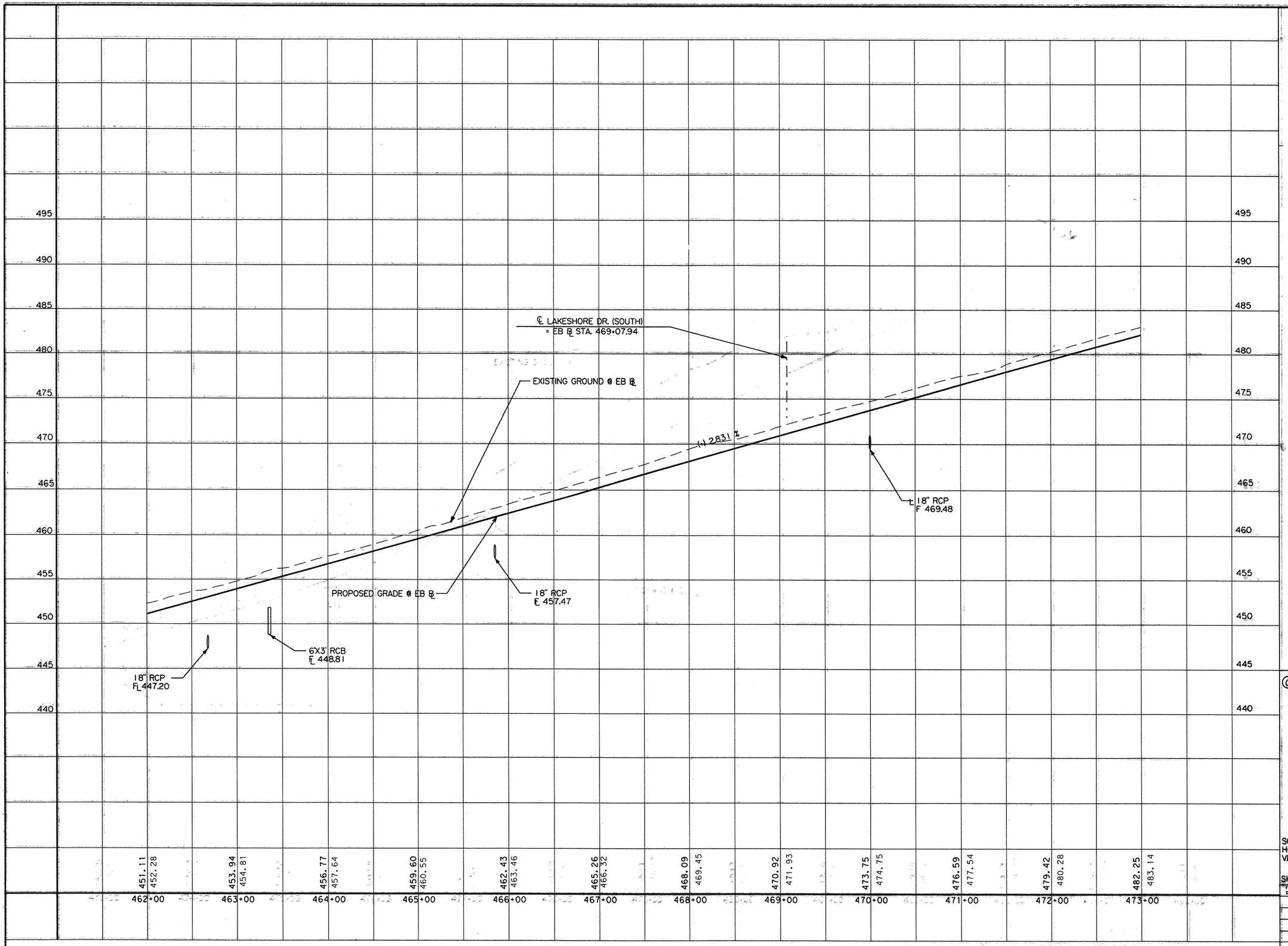
EASTBOUND
STA. 450+00 TO STA. 462+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 13 OF 16 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		107
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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PAVING PROFILE

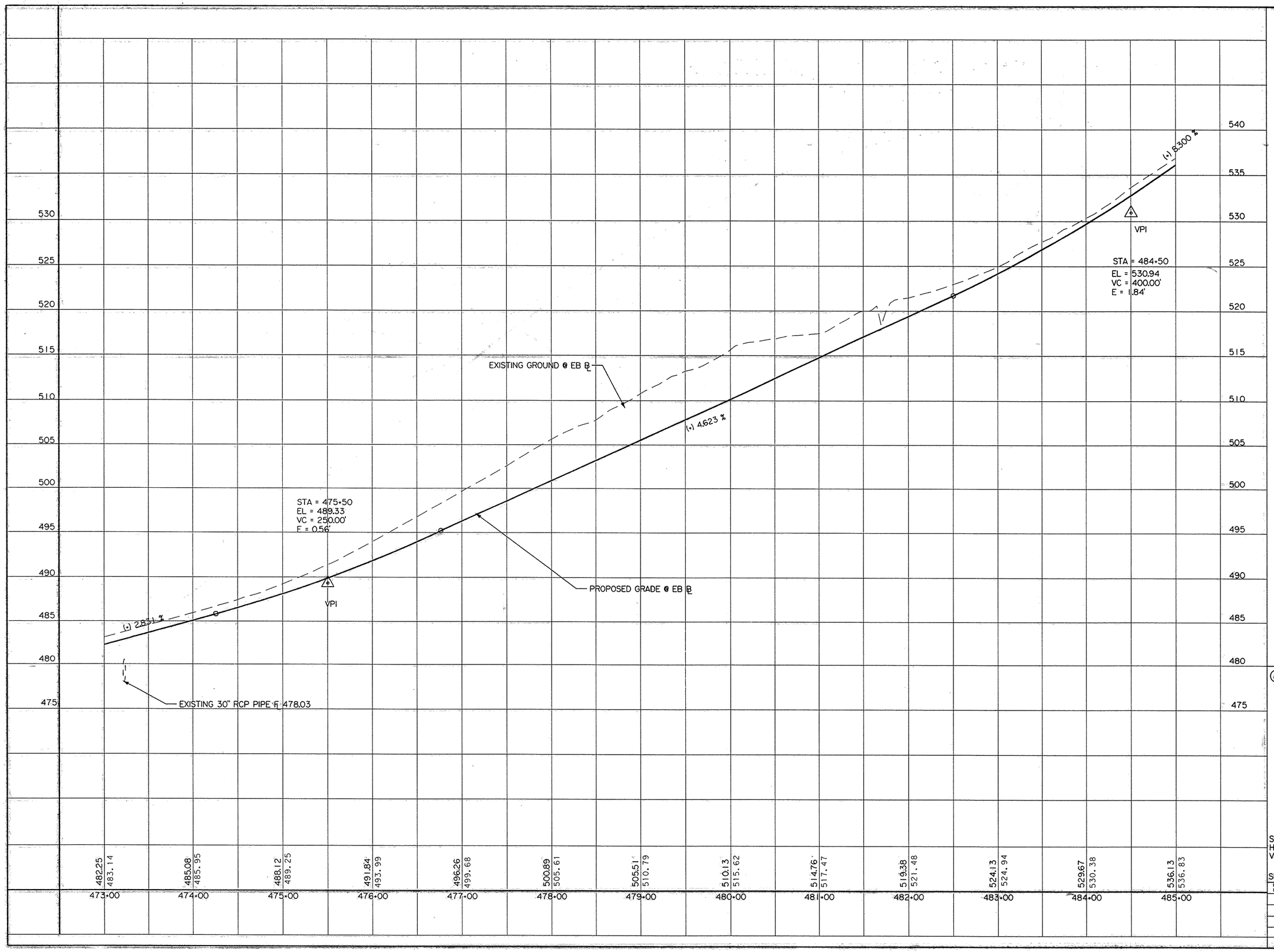
EASTBOUND
STA. 462+00 TO STA. 473+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 14 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		108
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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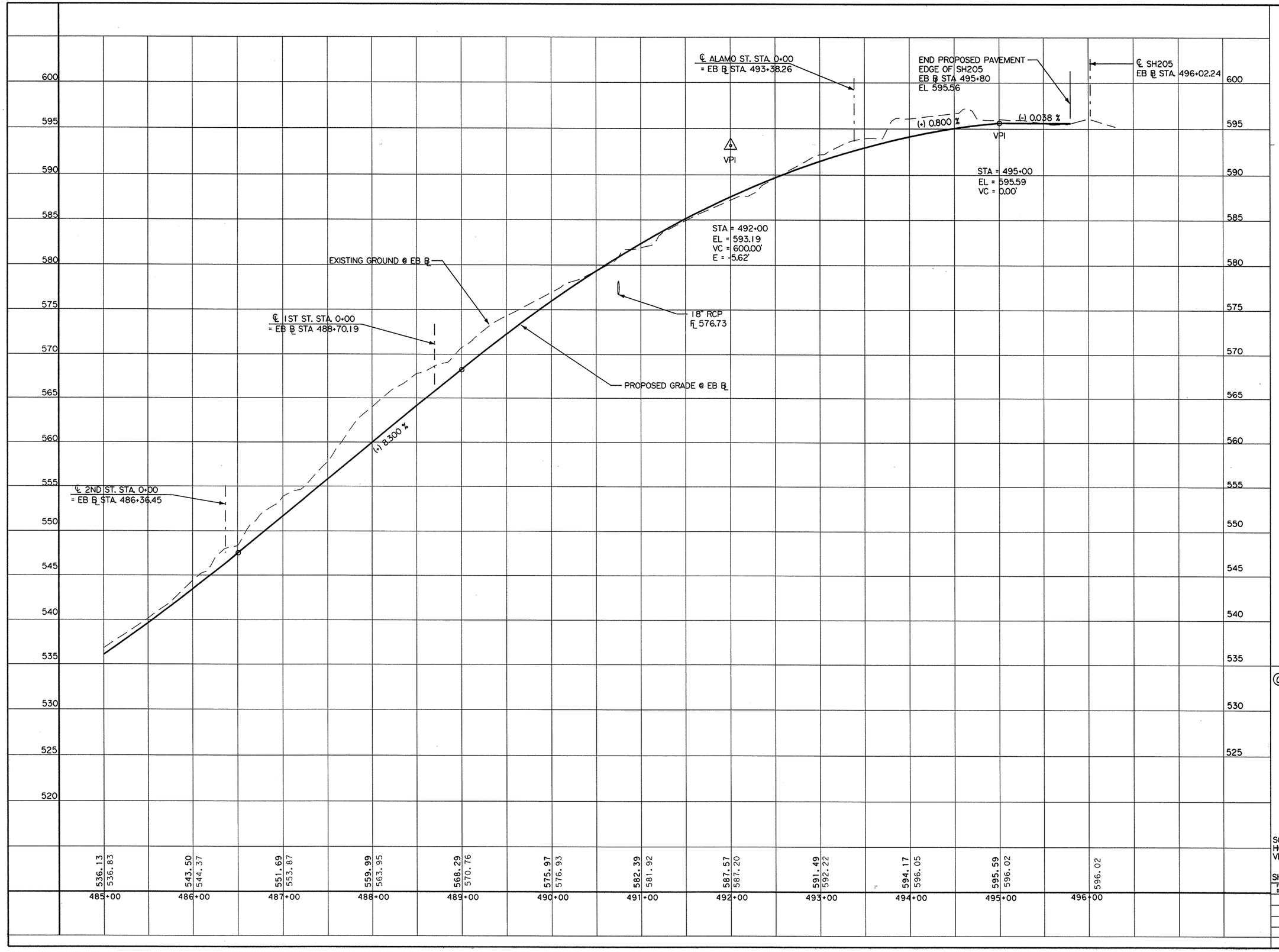
PAVING PROFILE

EASTBOUND
STA. 473+00 TO STA. 485+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 15 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		109
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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PAVING PROFILE

EASTBOUND
STA. 485+00 TO STA. 496+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

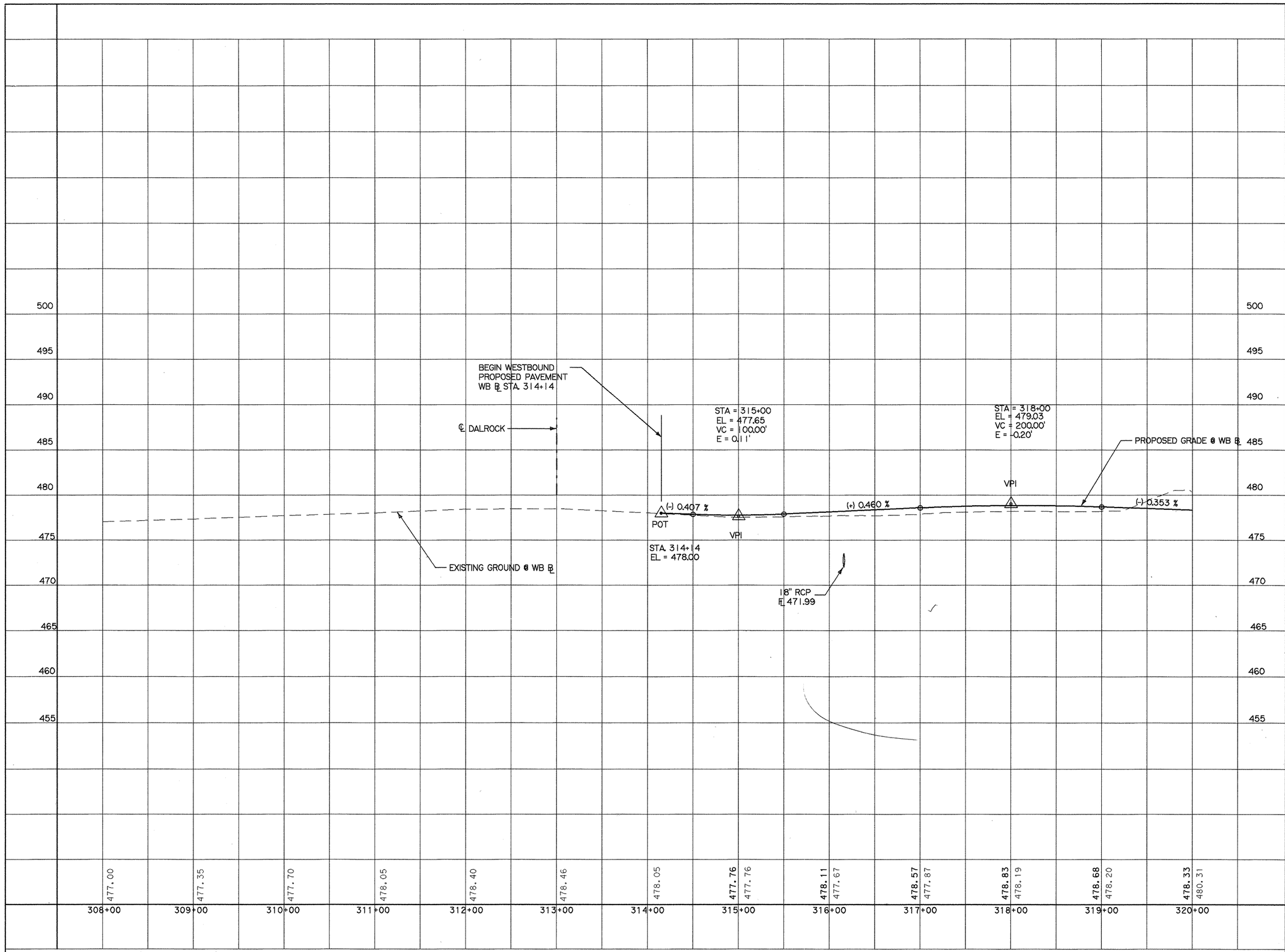
SHEET 16 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	110

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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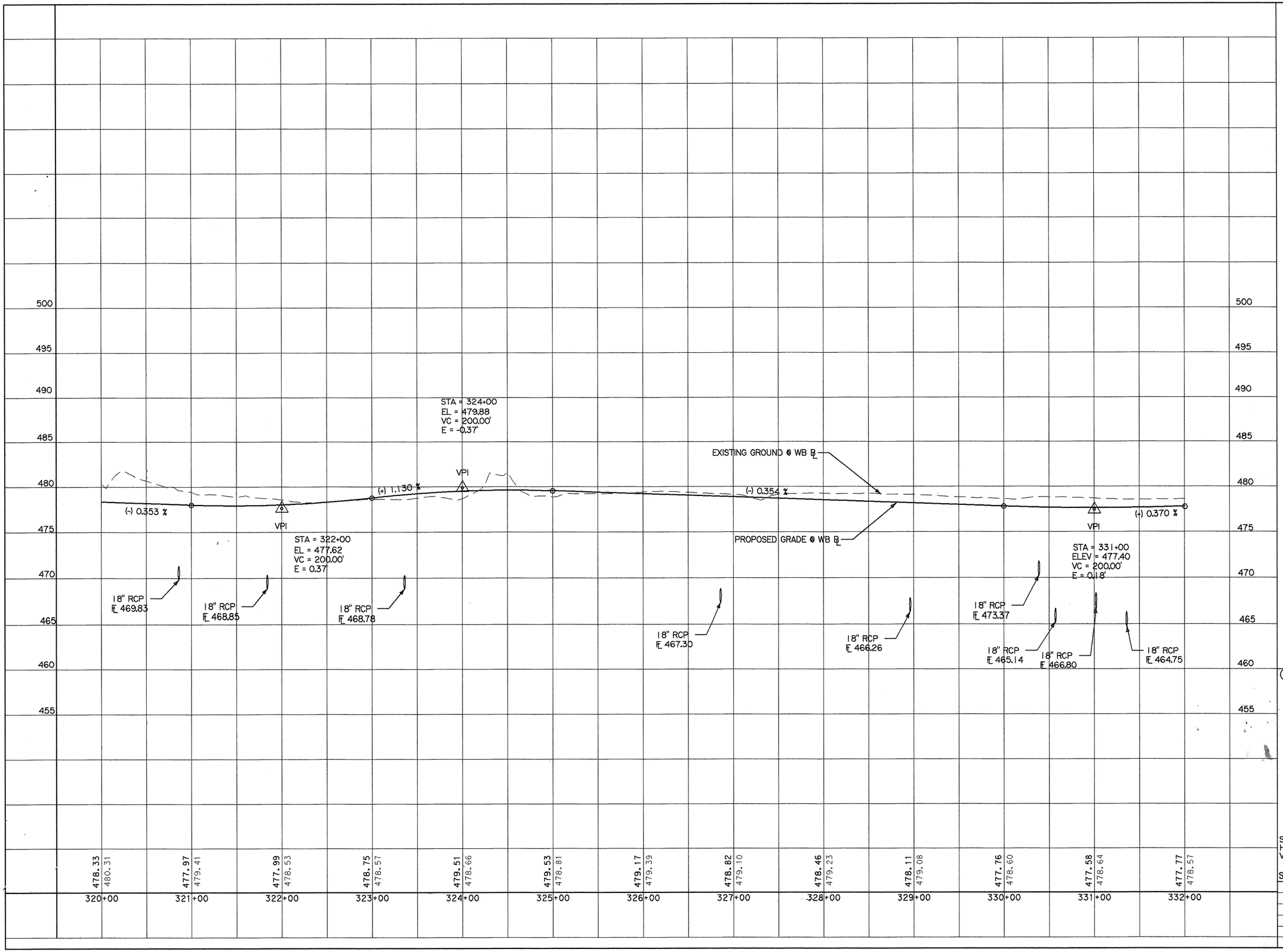
PAVING PROFILE

WESTBOUND
STA. 308+00 TO STA. 320+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 1 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		111
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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PAVING PROFILE

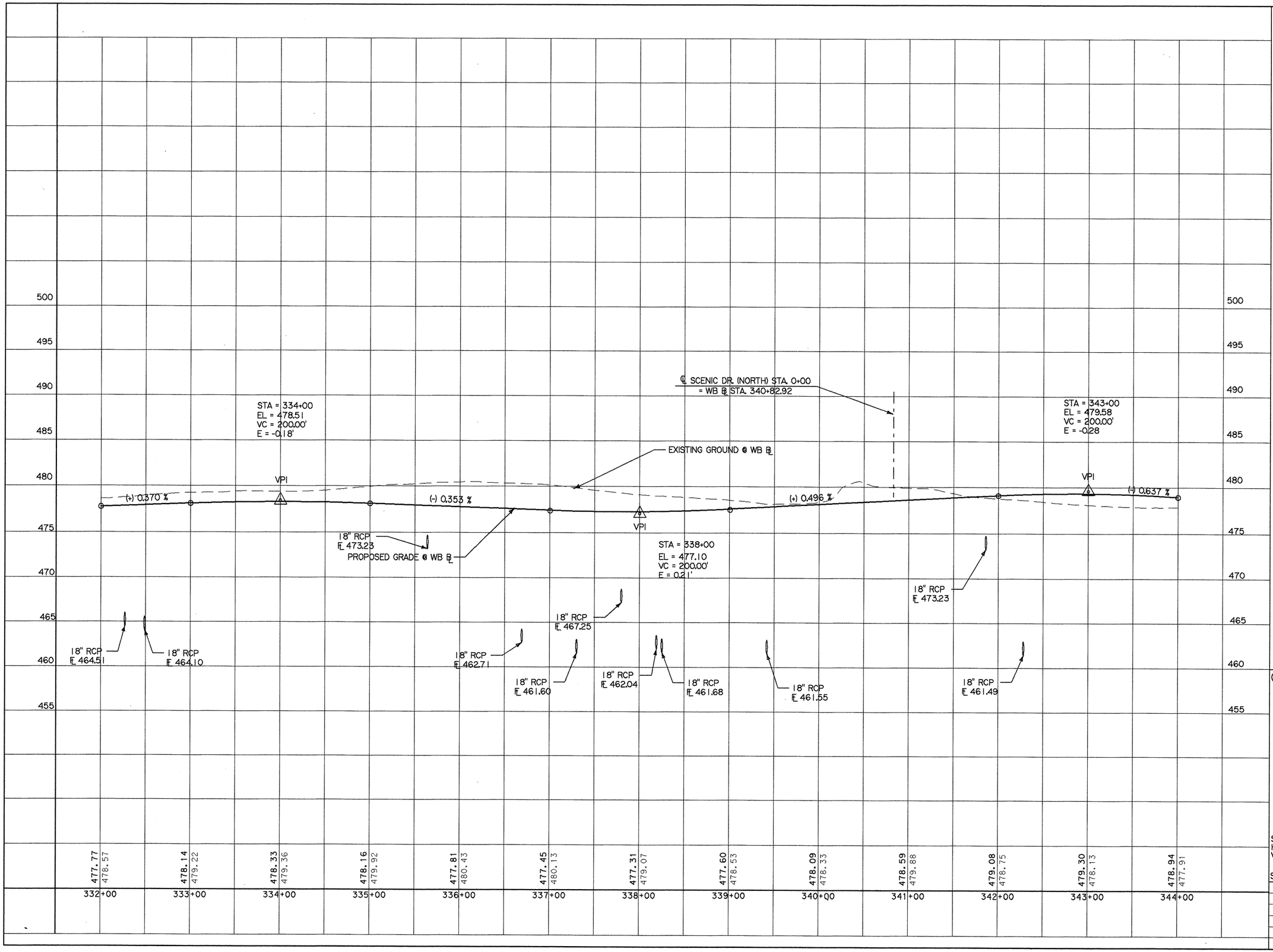
WESTBOUND
STA. 320+00 TO STA. 332+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 2 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		112
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

66wbpf2.dgn 12-3-98



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PAVING PROFILE

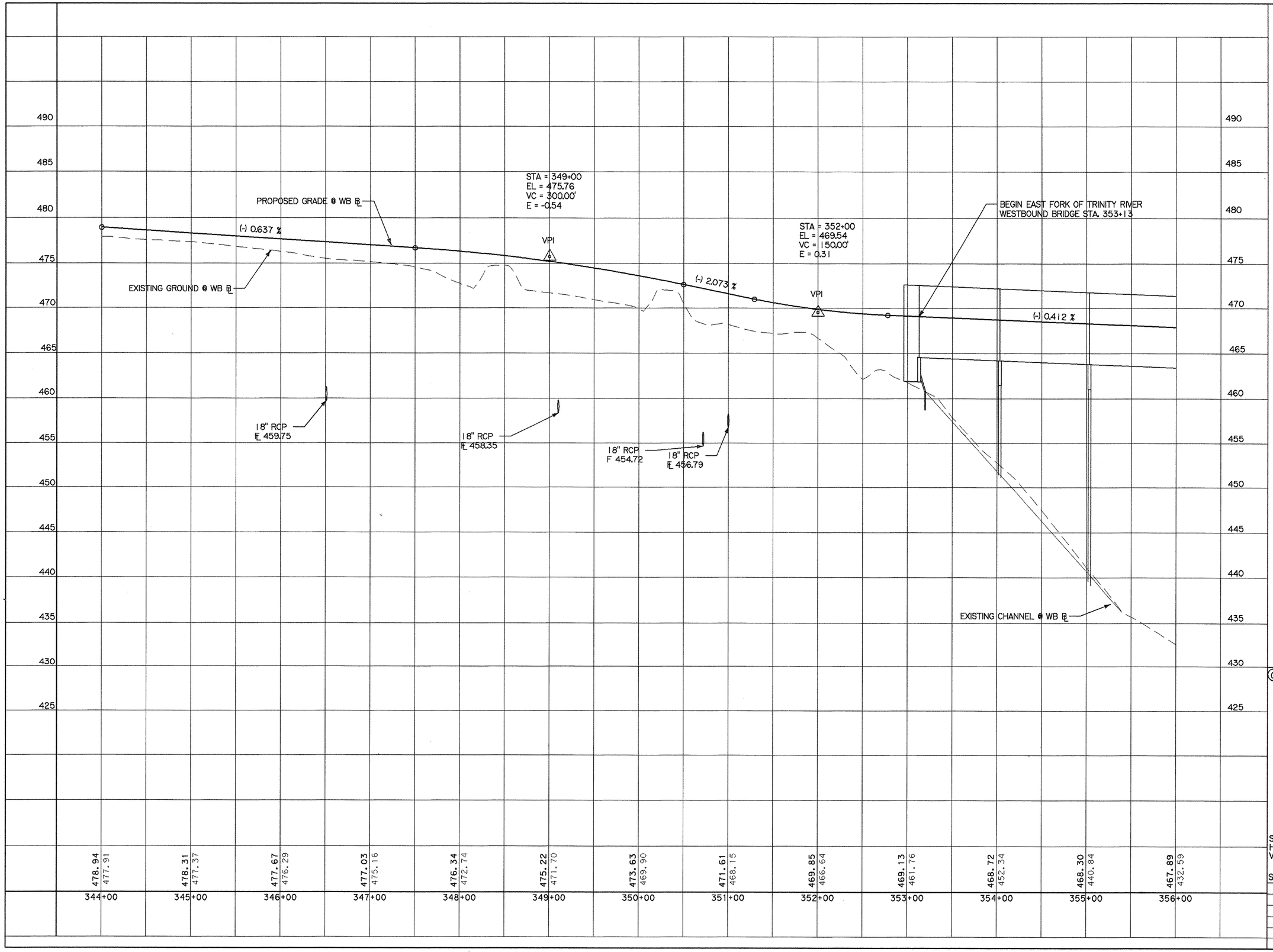
WESTBOUND
STA. 332+00 TO STA. 344+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 3 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		113
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445



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WESTBOUND
STA. 344+00 TO STA. 356+00

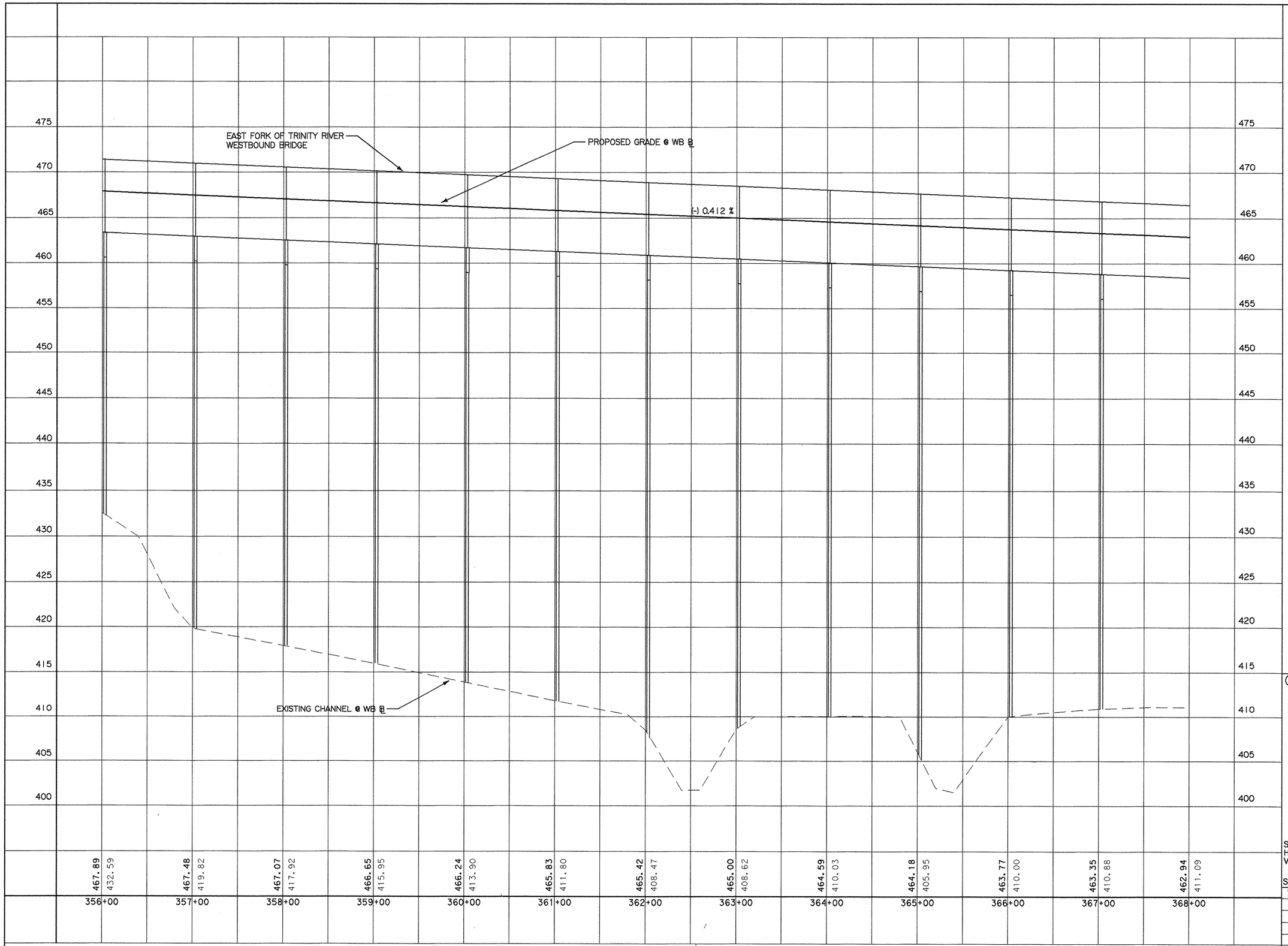
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 4 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		114
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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WESTBOUND
STA. 356+00 TO STA. 368+00

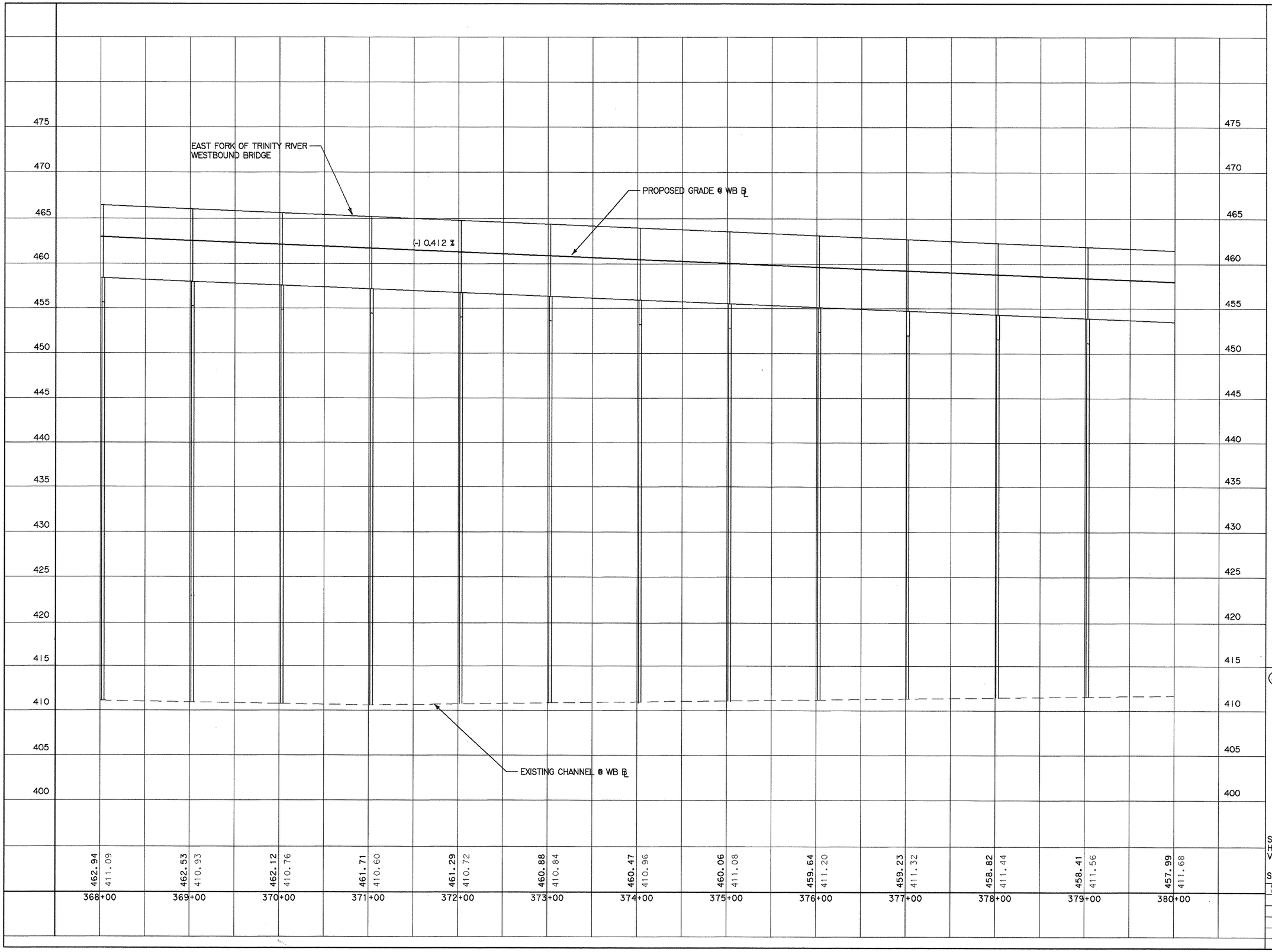
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 5 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		115
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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PAVING PROFILE

WESTBOUND
STA. 368+00 TO STA. 380+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

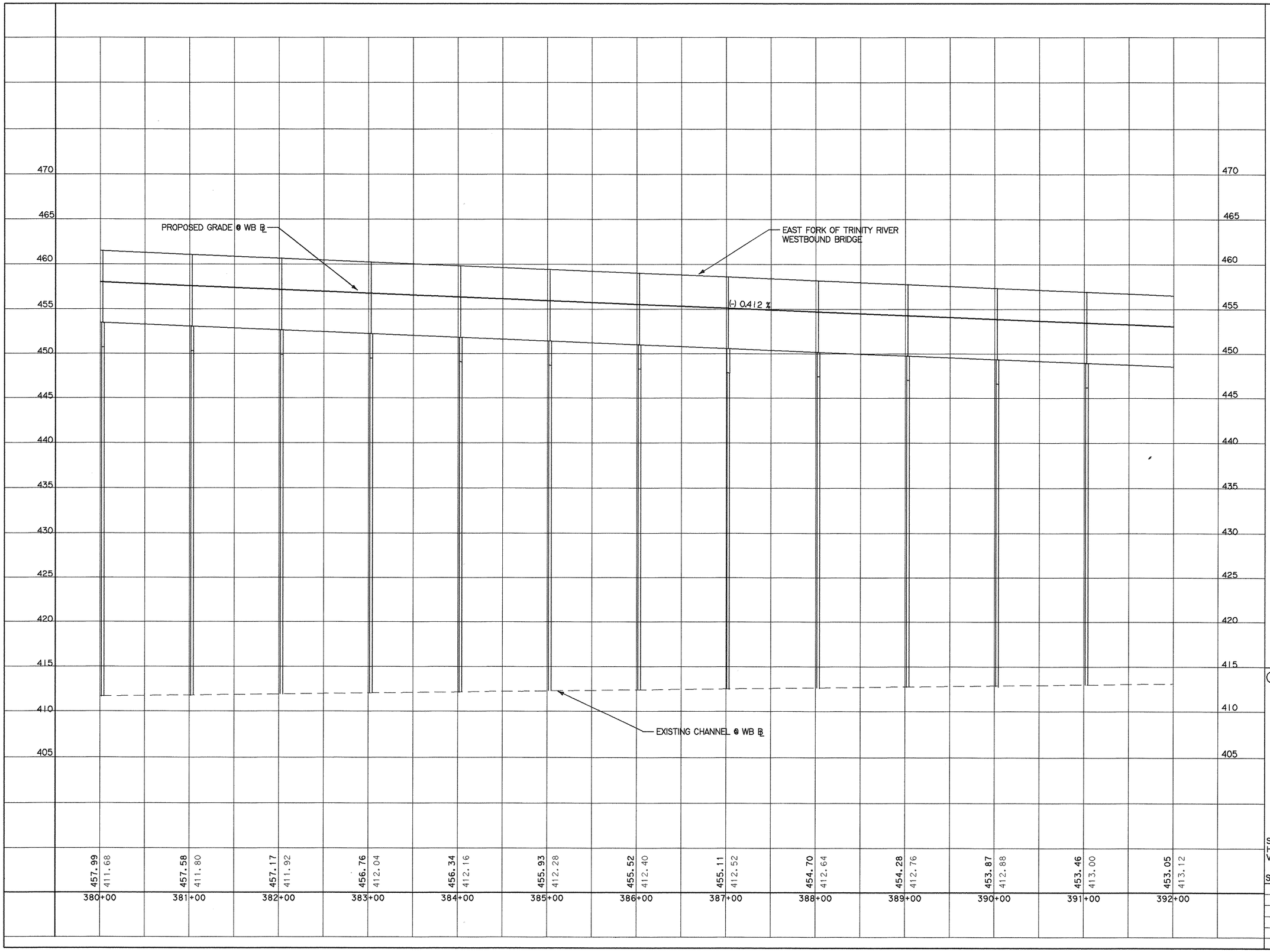
SHEET 6 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	116

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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PAVING PROFILE

WESTBOUND
STA. 380+00 TO STA. 392+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

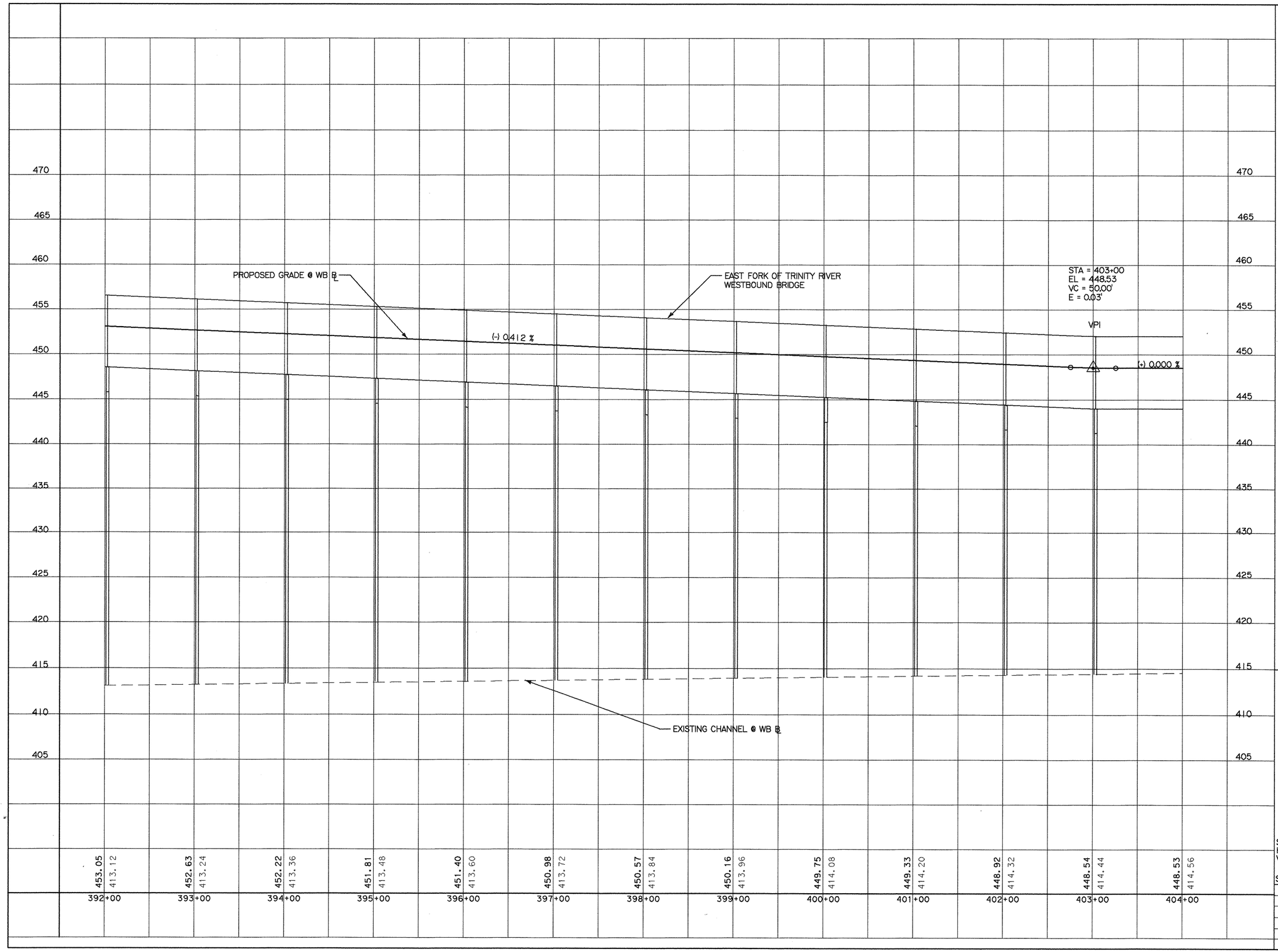
SHEET 7 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	117

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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PAVING PROFILE

WESTBOUND
STA. 392+00 TO STA. 404+00

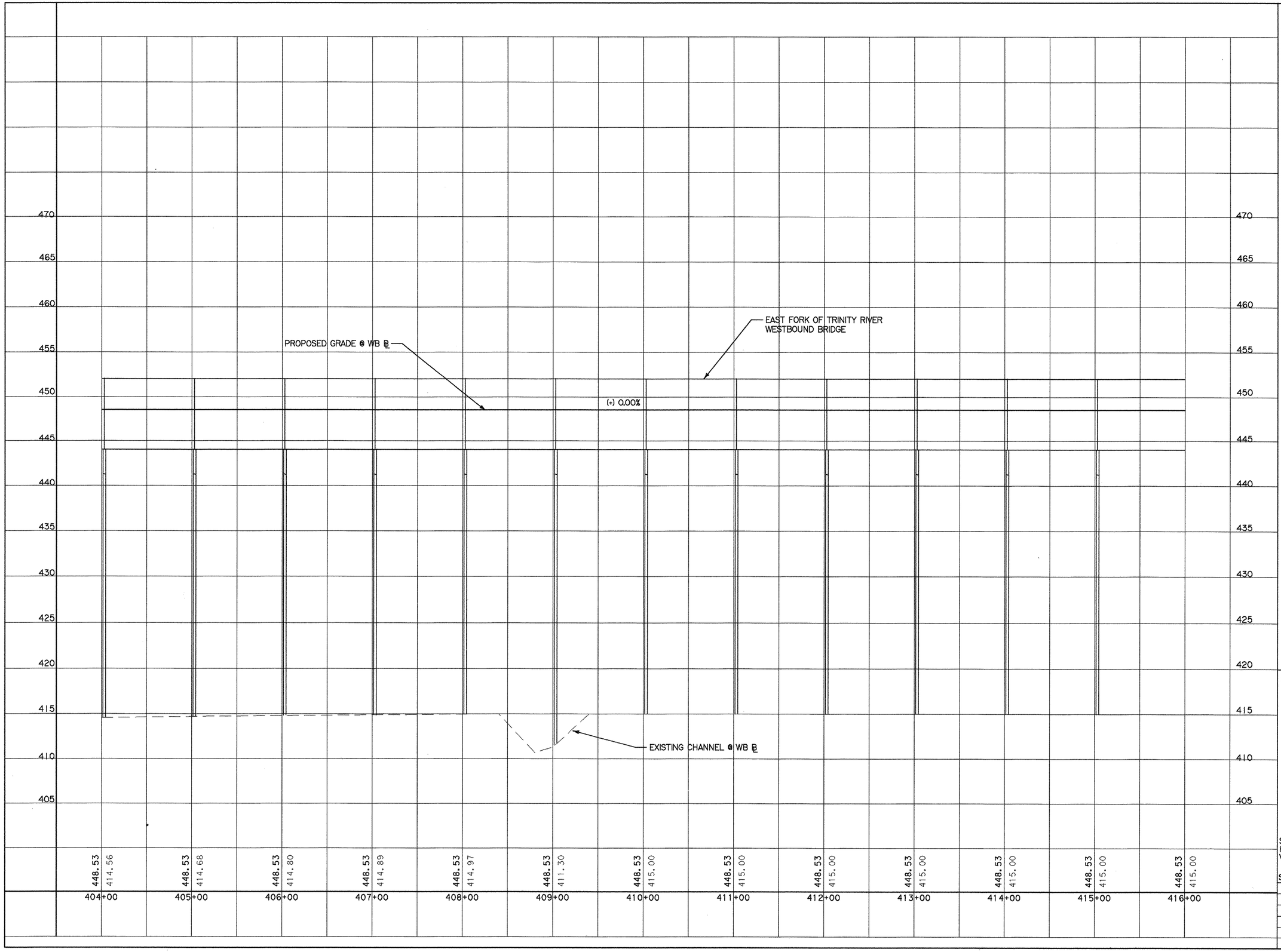
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 8 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		118
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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PAVING PROFILE

WESTBOUND
STA. 404+00 TO STA. 416+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

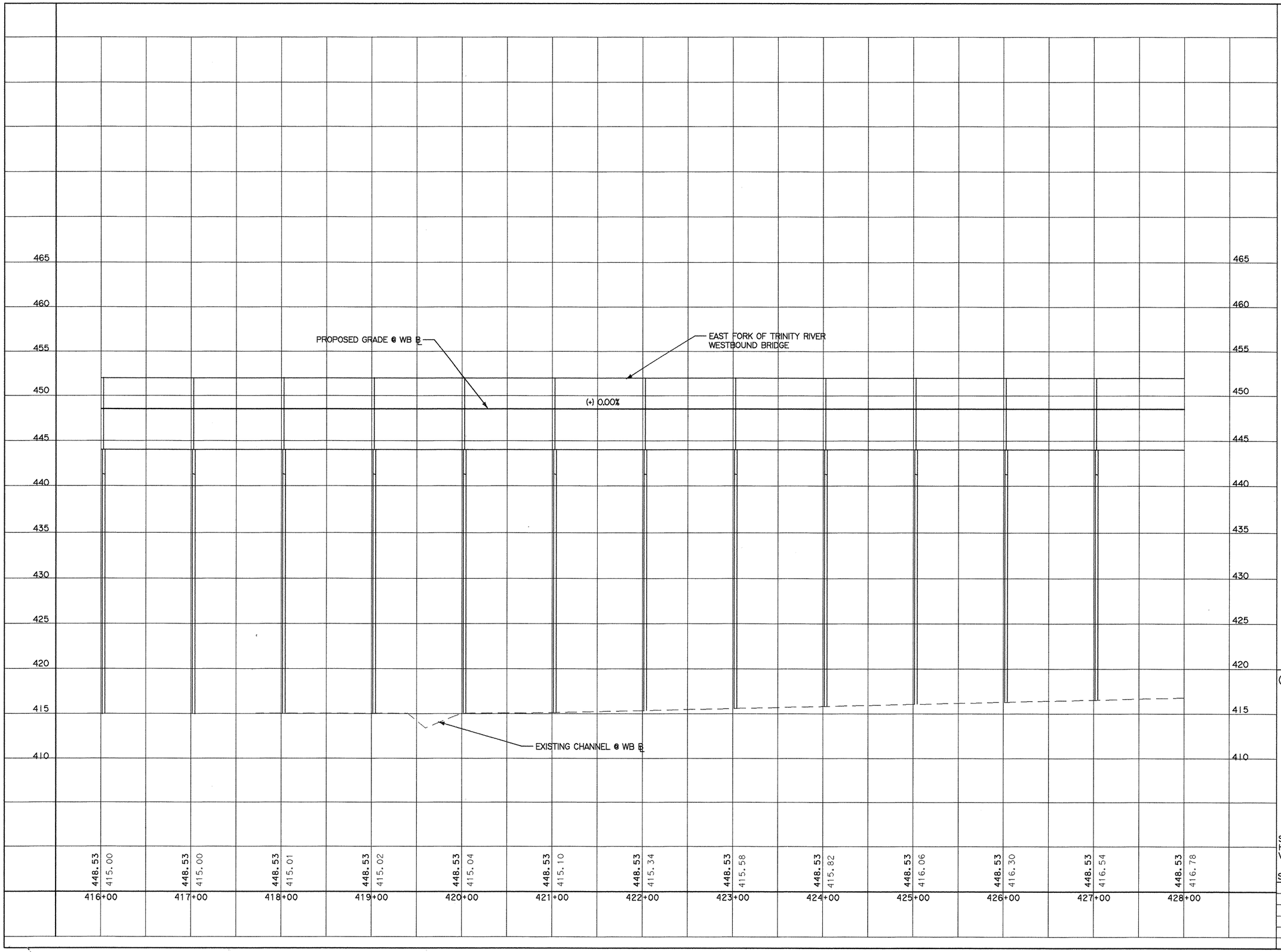
SHEET 9 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	119

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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WESTBOUND
STA. 416+00 TO STA. 428+00

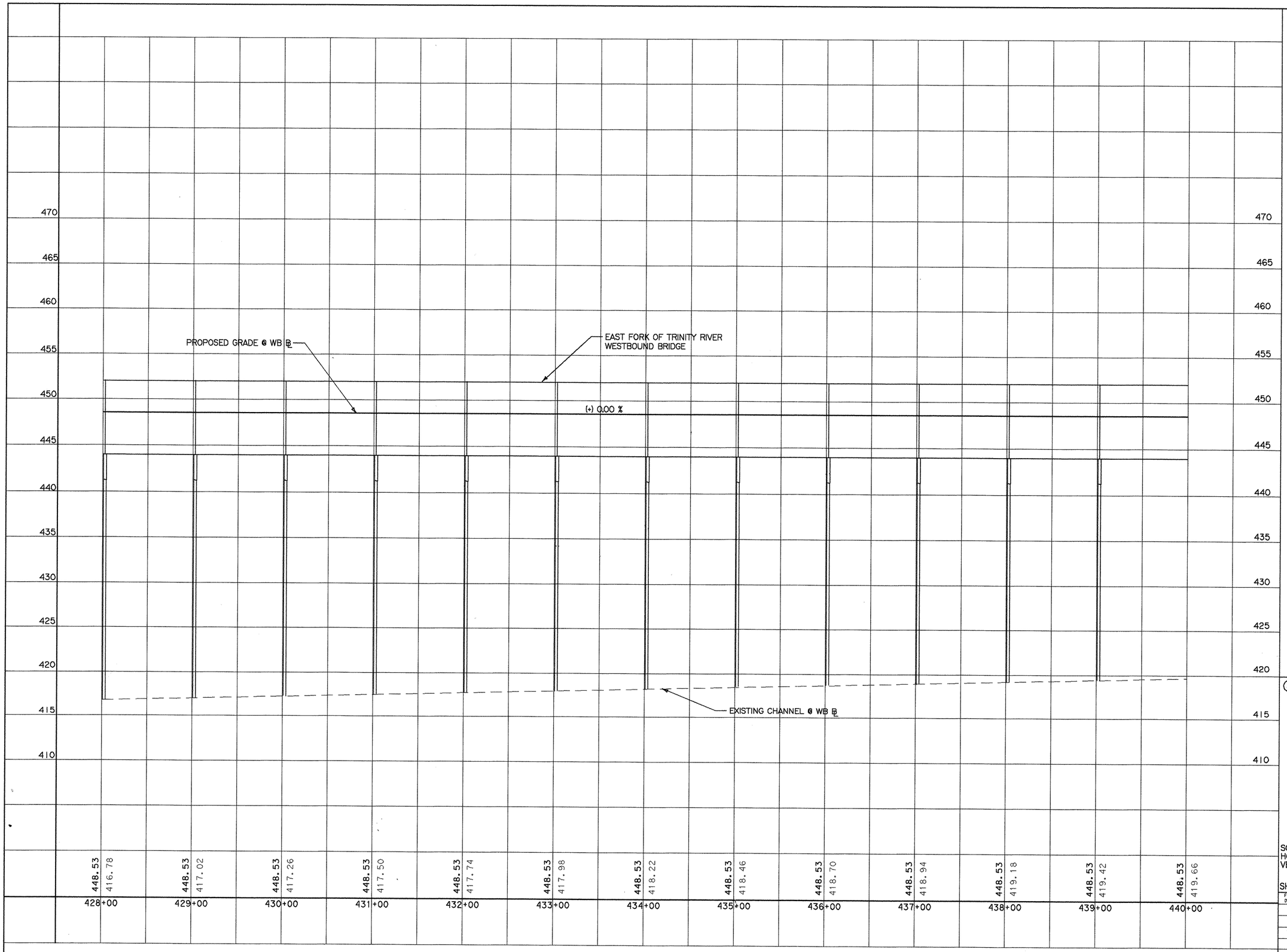
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 10 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		120
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TFF X4445

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WESTBOUND
STA. 428+00 TO STA. 440+00

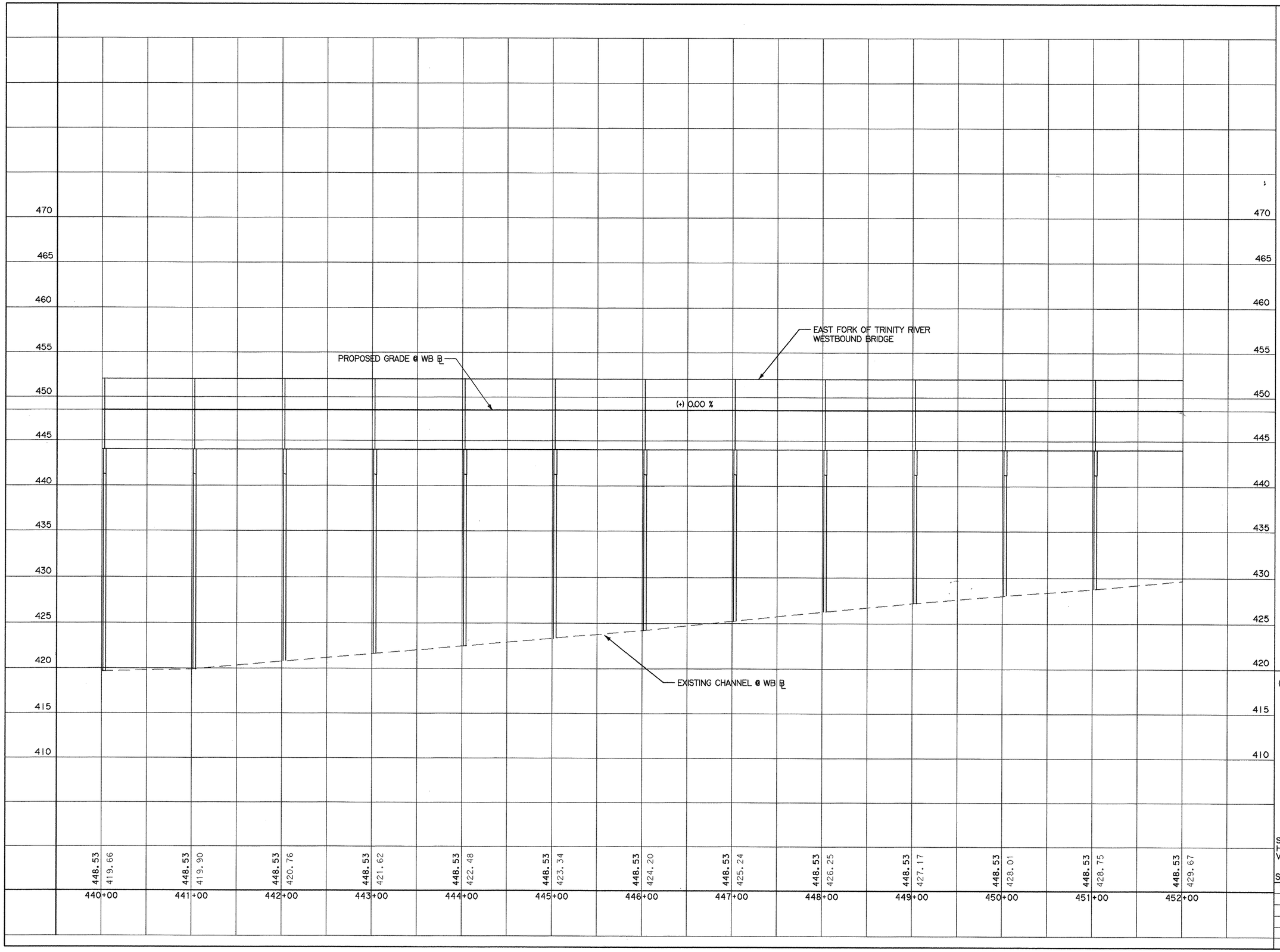
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 11 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		121
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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WESTBOUND
STA. 440+00 TO STA. 452+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

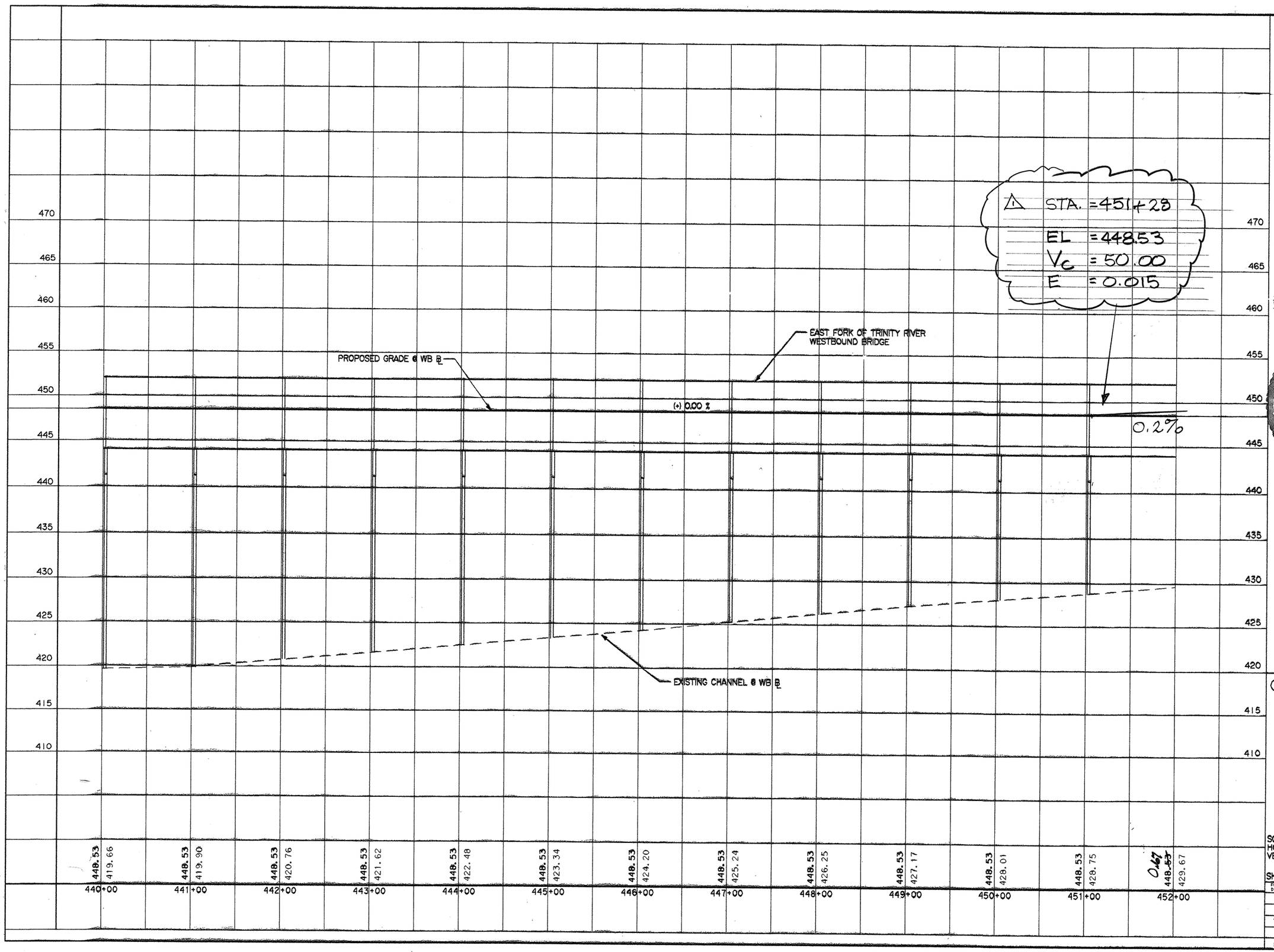
SHEET 12 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	122

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

66wpp16.dgn 8-28-98



⚠1 REVISION 1
REVISE VERTICAL CURVE
5/17/01

STATE OF TEXAS
WILLIAM R. FULTON
23521
REGISTERED PROFESSIONAL ENGINEER

William R. Fulton

Mink Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

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PAVING PROFILE

WESTBOUND
STA 440+00 TO STA 452+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 12 OF 16 SHEETS

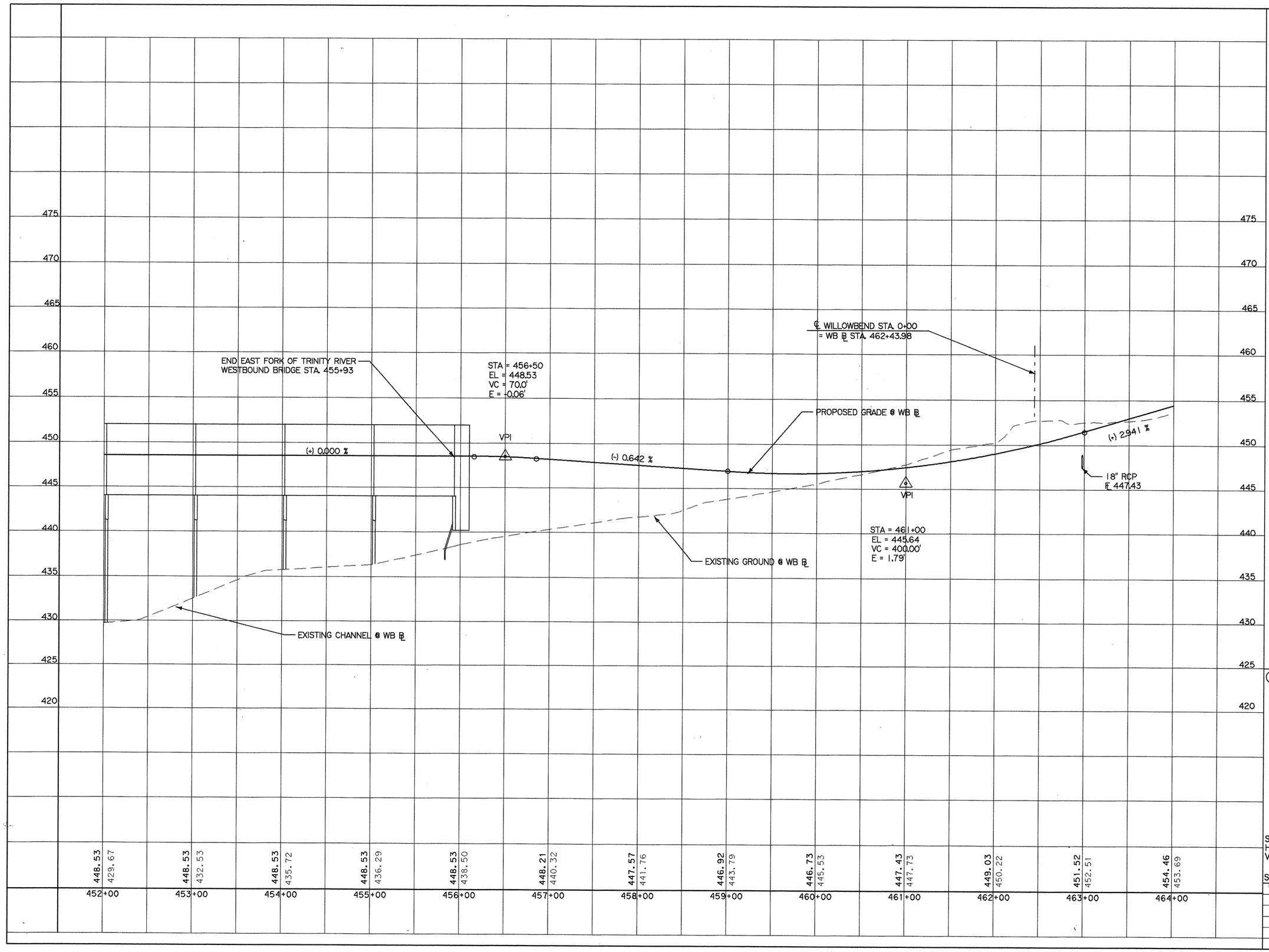
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	122A

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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448.53 / 429.67	448.53 / 432.53	448.53 / 435.72	448.53 / 436.29	448.53 / 438.50	448.21 / 440.32	447.57 / 441.76	446.92 / 443.79	446.73 / 445.53	447.43 / 447.73	449.03 / 450.22	451.52 / 452.51	454.46 / 453.69
452+00	453+00	454+00	455+00	456+00	457+00	458+00	459+00	460+00	461+00	462+00	463+00	464+00

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PAVING PROFILE

WESTBOUND
STA. 452+00 TO STA. 464+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 13 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		123
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

△1 REVISION 1
REVISE VERTICAL CURVE

△1 STA. 455+23
EL.=449.32
VC = 50.0'
E = 0.02

△1 STA = 456+75
EL = 449.32
VC = 100.0
E = -0.11

END EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE STA 455+93

STA = 456+50
EL = 448.53
VC = 70.0'
E = -0.06'

℄ WILLOWBEND STA 0+00
= WB ℄ STA 462+43.98

PROPOSED GRADE @ WB ℄

EXISTING GROUND @ WB ℄

EXISTING CHANNEL @ WB ℄

18" RCP
E 447.43

VPI

△1 STA = 461+00
EL = 445.64
VC = 400.00'
E = ~~1.79~~ 1.90

+0.20%

(+) 0.000 %

-10.00%

VPI

(+) 0.642 %

-.867%

(+) 2.941 %

5/17/01

STATE OF TEXAS
WILLIAM R. FULTON
23521
REGISTERED PROFESSIONAL ENGINEER

William R. Fulton

Minh Tran

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452+00	453+00	454+00	455+00	456+00	457+00	458+00	459+00	460+00	461+00	462+00	463+00	464+00
.67 ~~448.53~~ 429.67	.87 ~~448.53~~ 432.53	449.07 ~~448.53~~ 435.72	449.27 ~~448.53~~ 436.29	449.32 ~~448.53~~ 438.50	449.08 ~~448.53~~ 440.32	448.24 ~~447.53~~ 441.76	447.37 ~~446.90~~ 443.79	.98 ~~446.75~~ 445.53	.54 ~~447.15~~ 447.73	.06 ~~449.03~~ 450.22	451.52 452.51	454.46 453.69

PAVING PROFILE

WESTBOUND
STA 452+00 TO STA 464+00

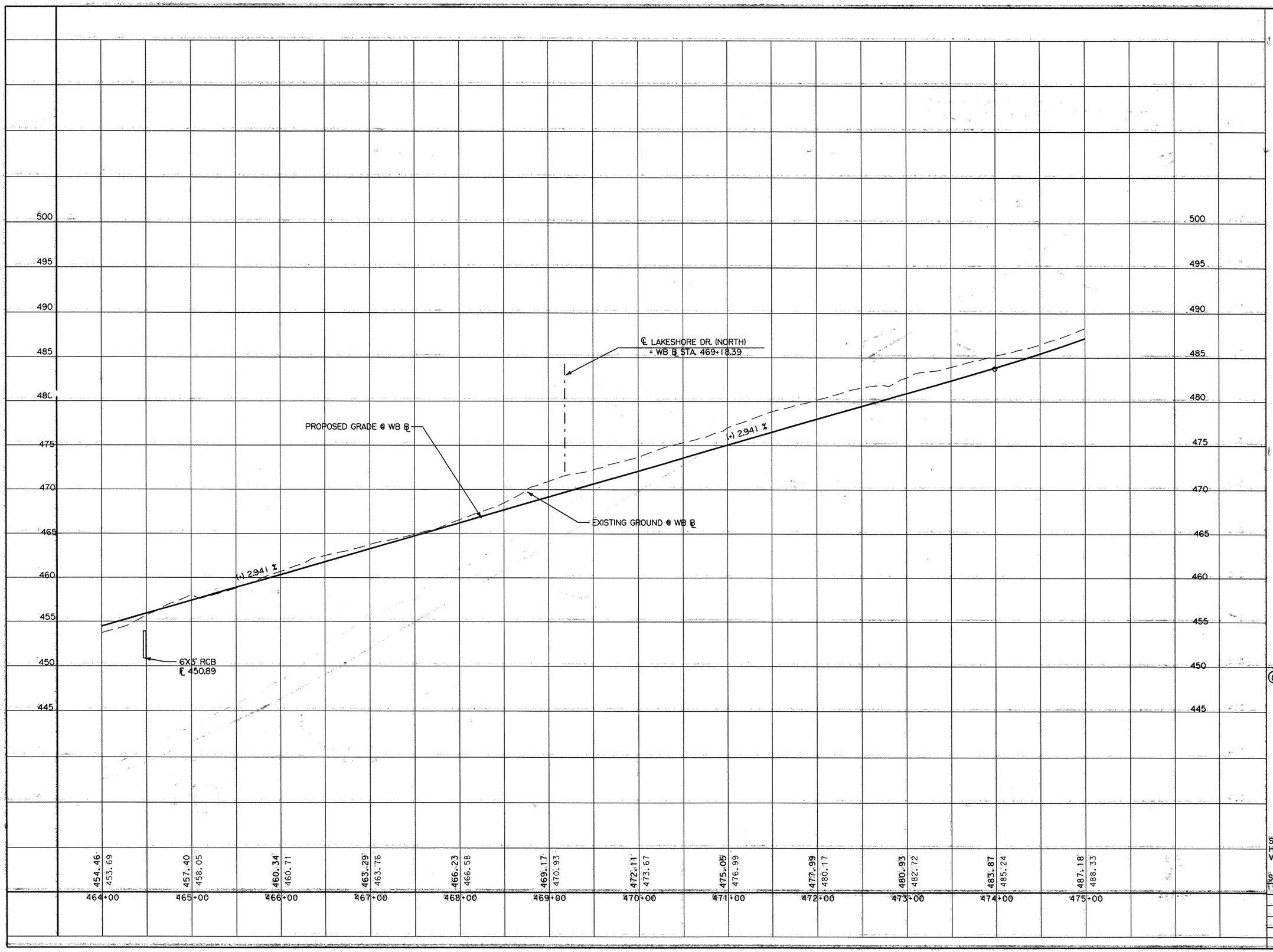
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 13 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		123A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE X4445

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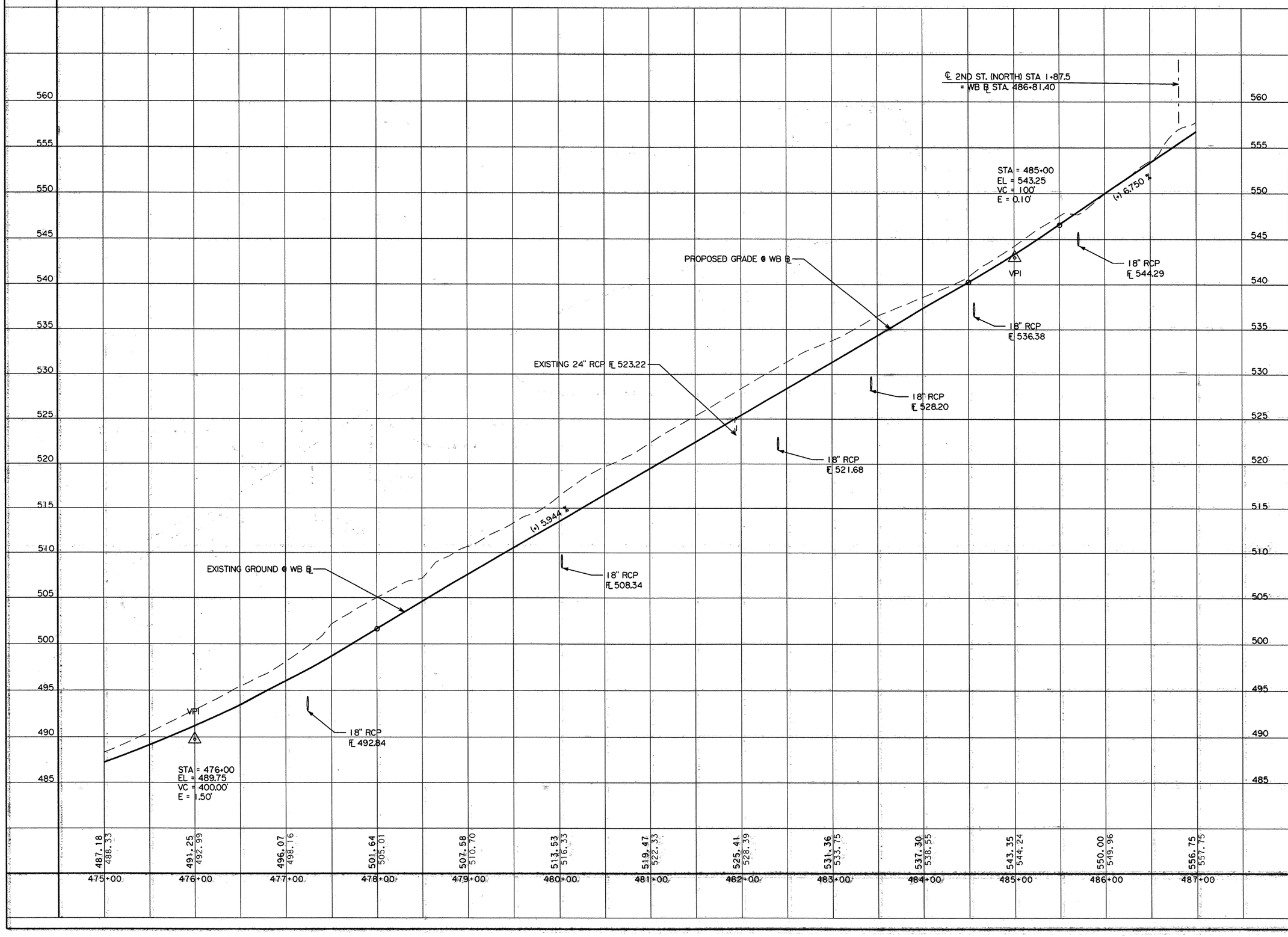
PAVING PROFILE

WESTBOUND
STA. 464+00 TO STA. 475+00

SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 14 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		124
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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PAVING PROFILE

WESTBOUND
STA. 475+00 TO STA. 487+00

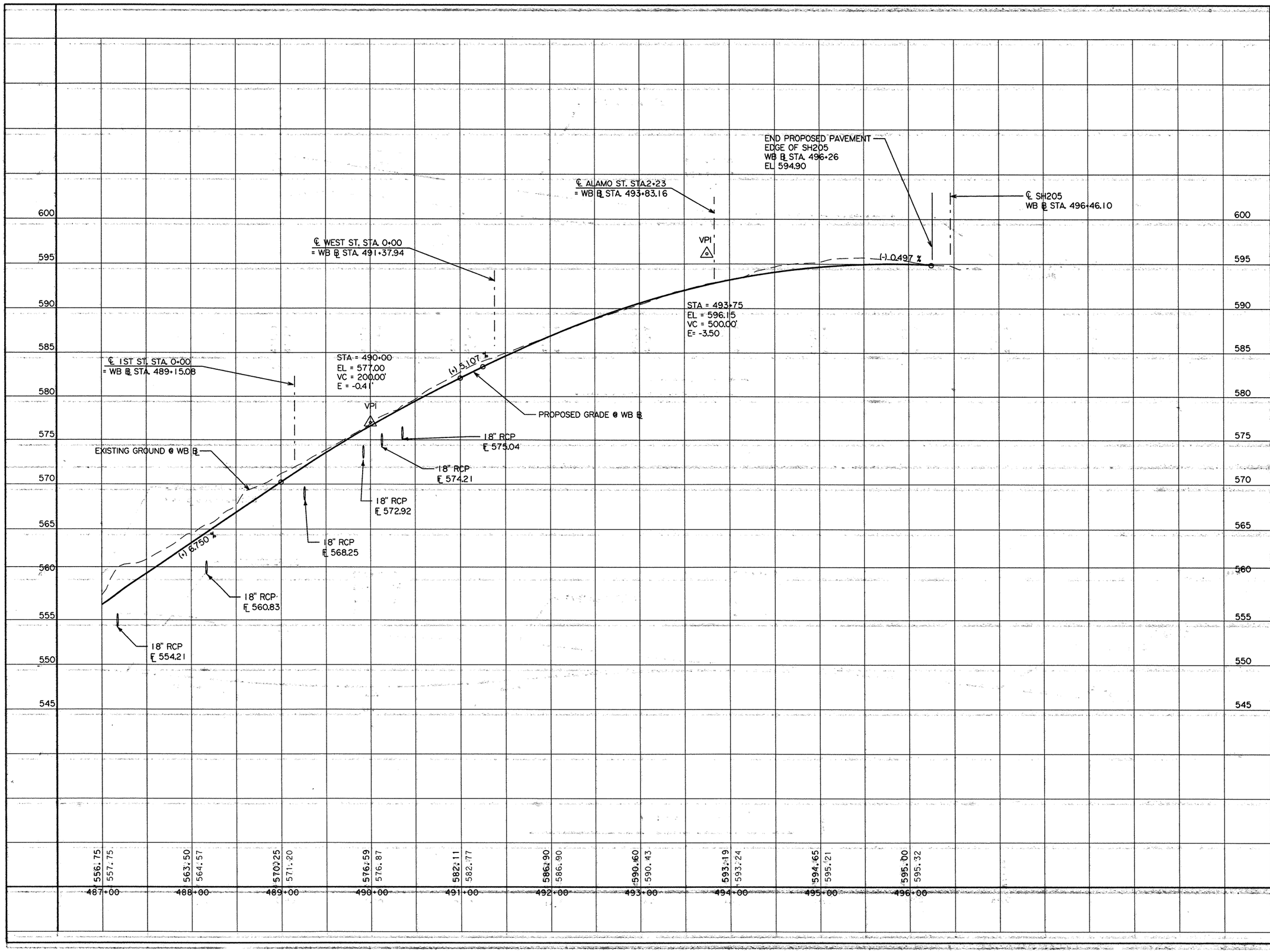
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 15 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	125

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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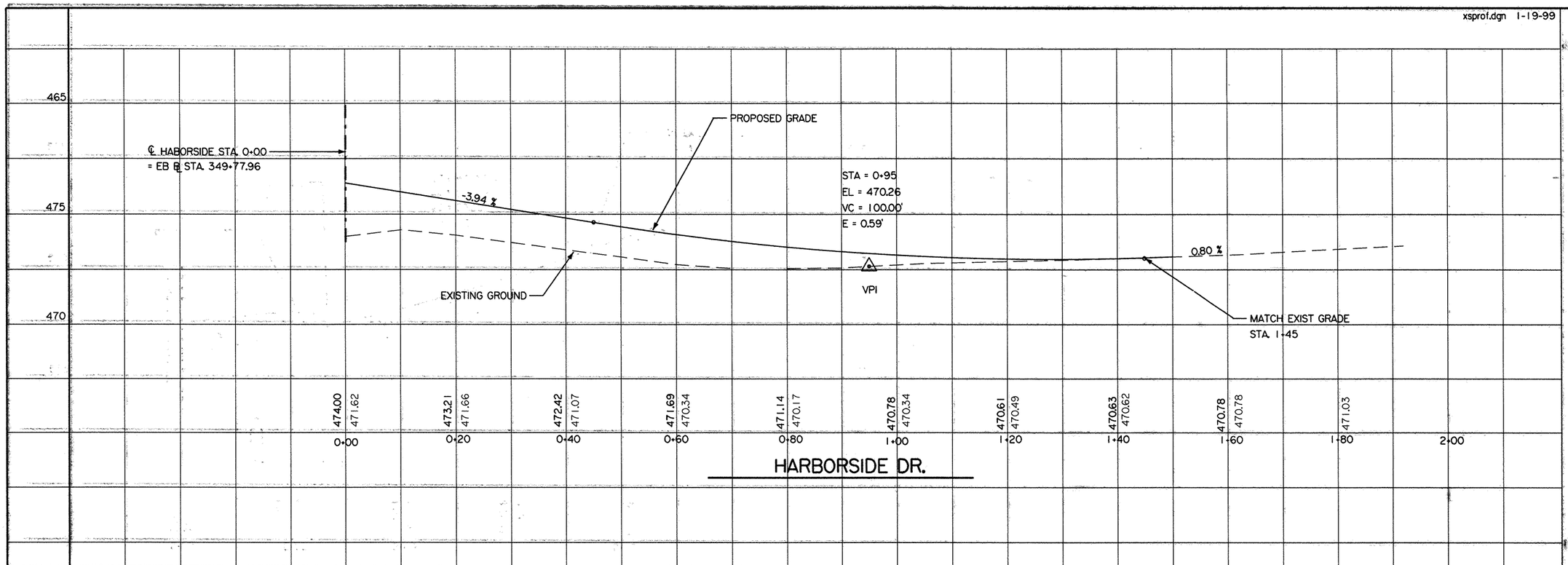
WESTBOUND
STA. 487+00 TO STA. 496+00

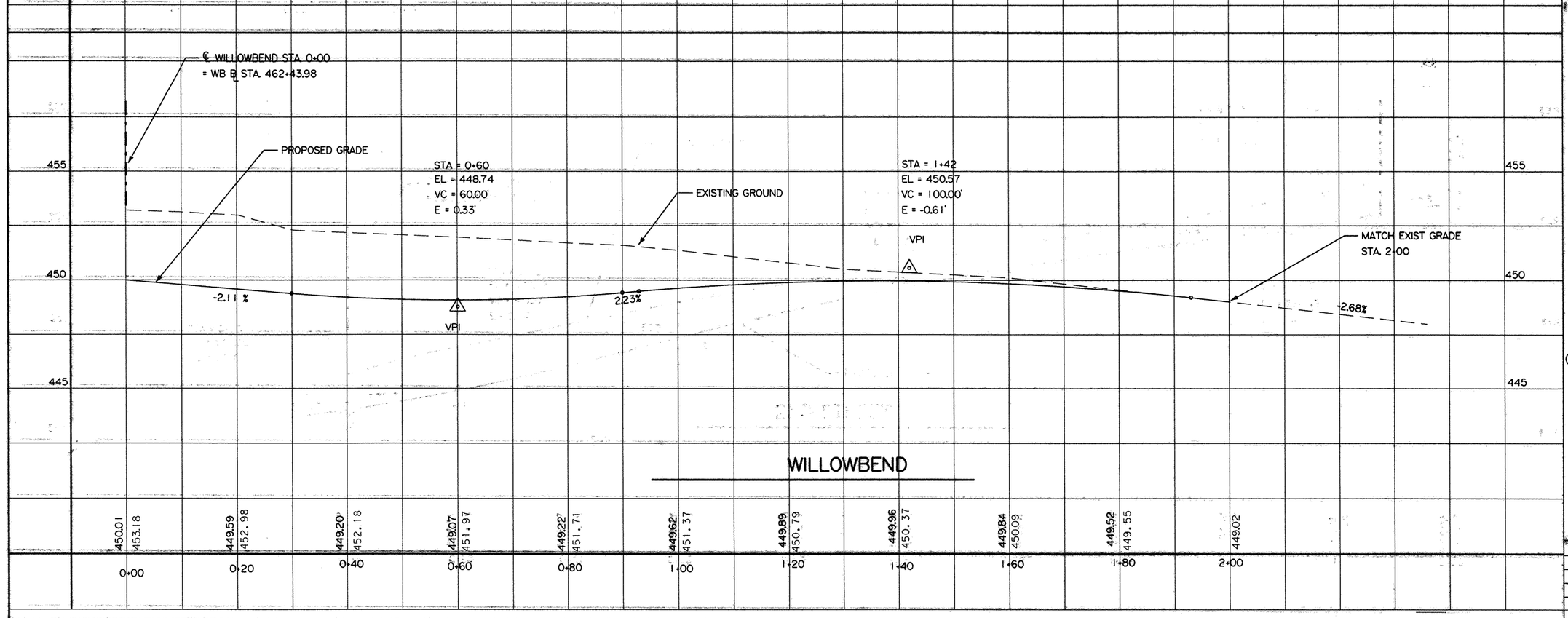
SCALE:
HORIZ. 1"=100'
VERT. 1"=10'

SHEET 16 OF 16 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		126
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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CROSS STREET PROFILE

SCALE:
HORIZ. 1"=20'
VERT. 1"=5'

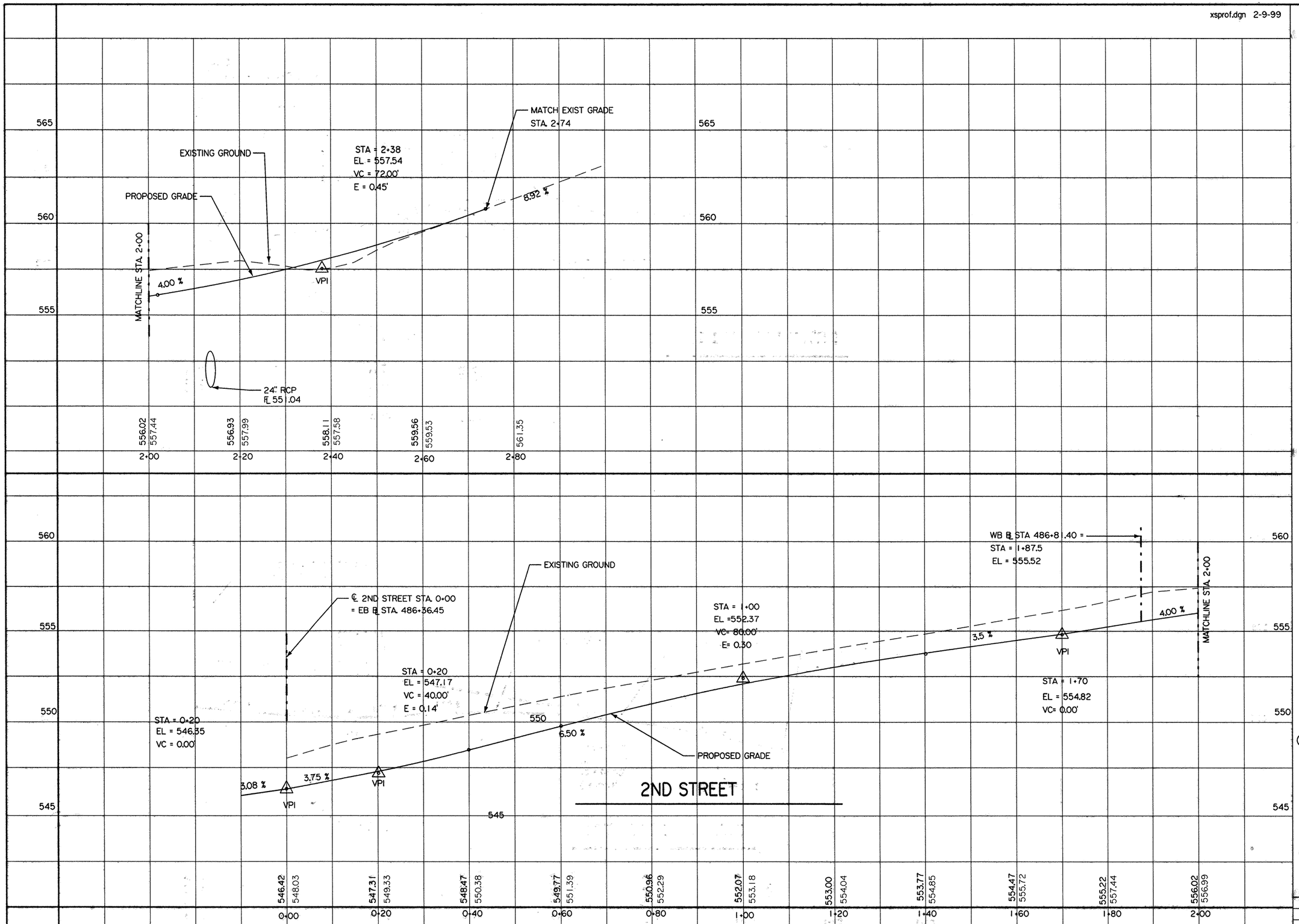
SHEET 1 OF 4 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	127

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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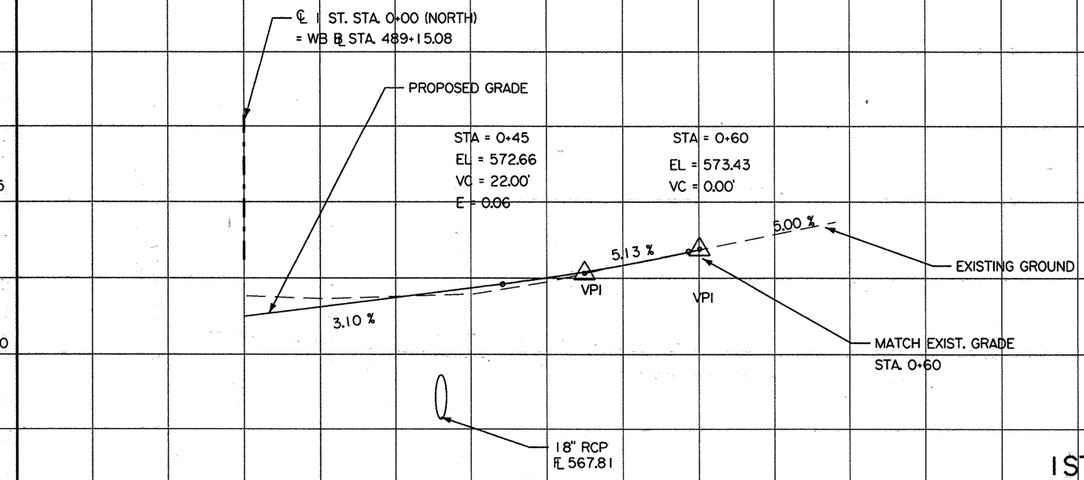
CROSS STREET PROFILE

SCALE:
HORIZ. 1"=20'
VERT. 1"=5'

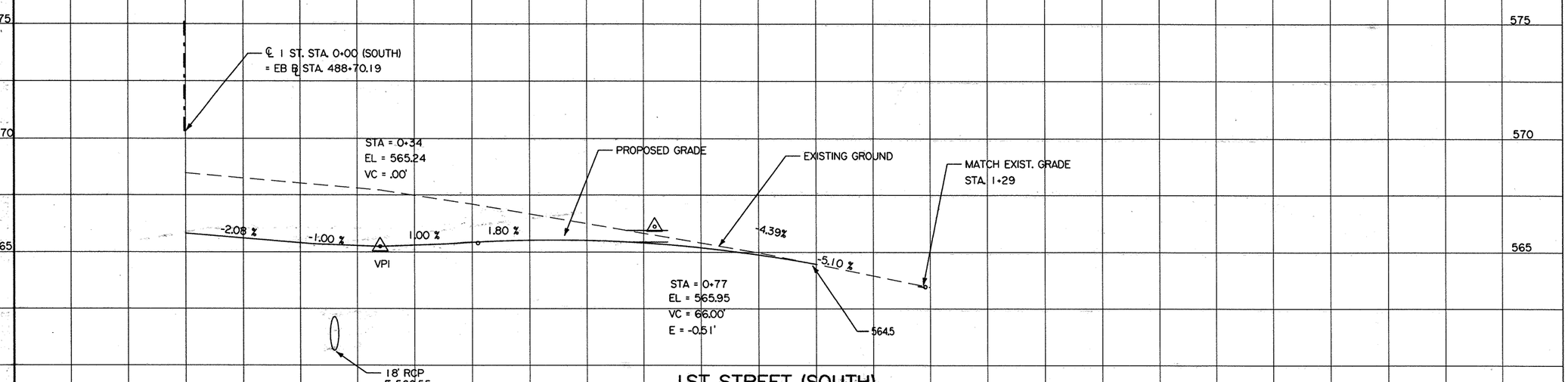
SHEET 2 OF 4 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		128
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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1ST STREET (NORTH)



1ST STREET (SOUTH)

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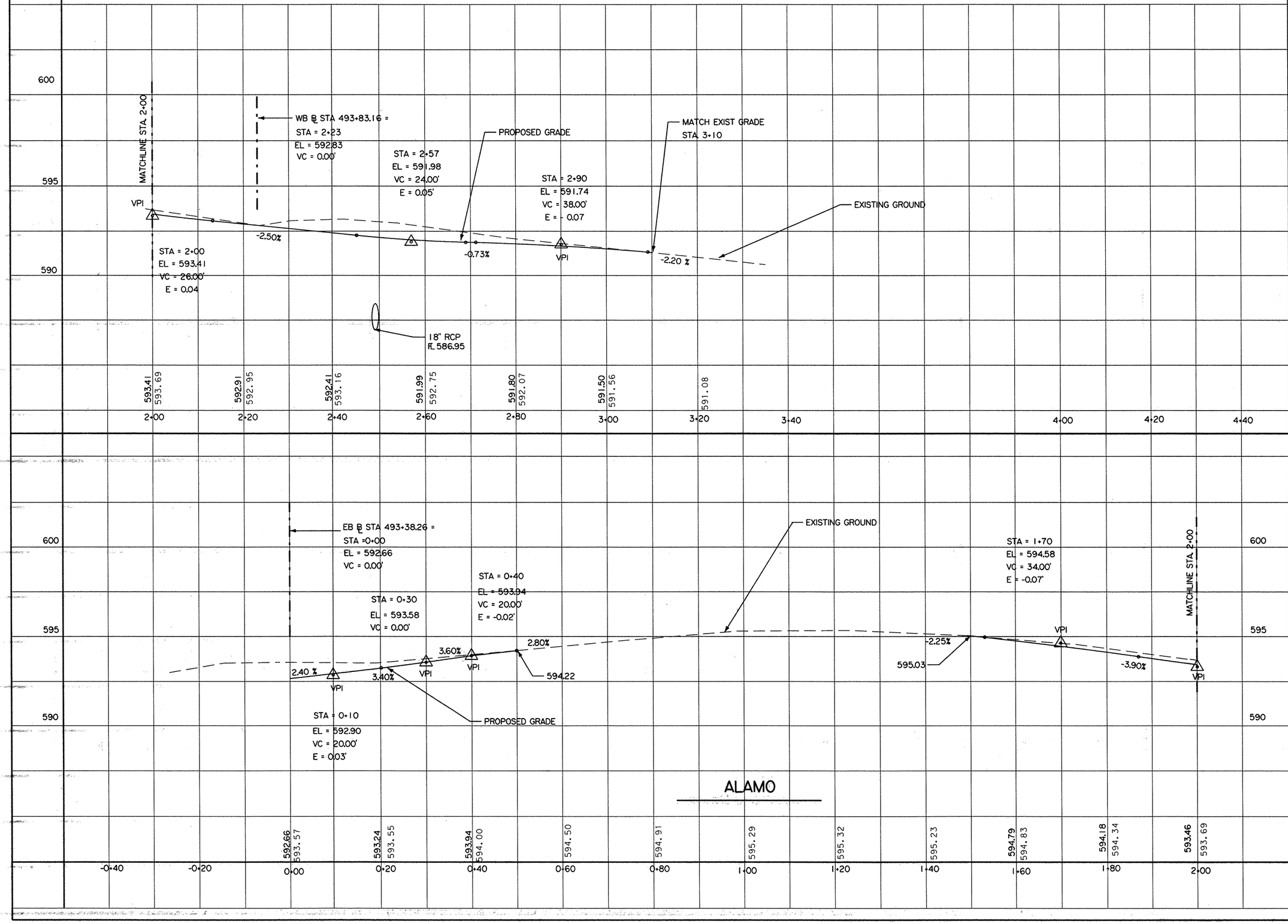
CROSS STREET PROFILE

SCALE:
HORIZ. 1"=20'
VERT. 1"=5'

SHEET 3 OF 4 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		129
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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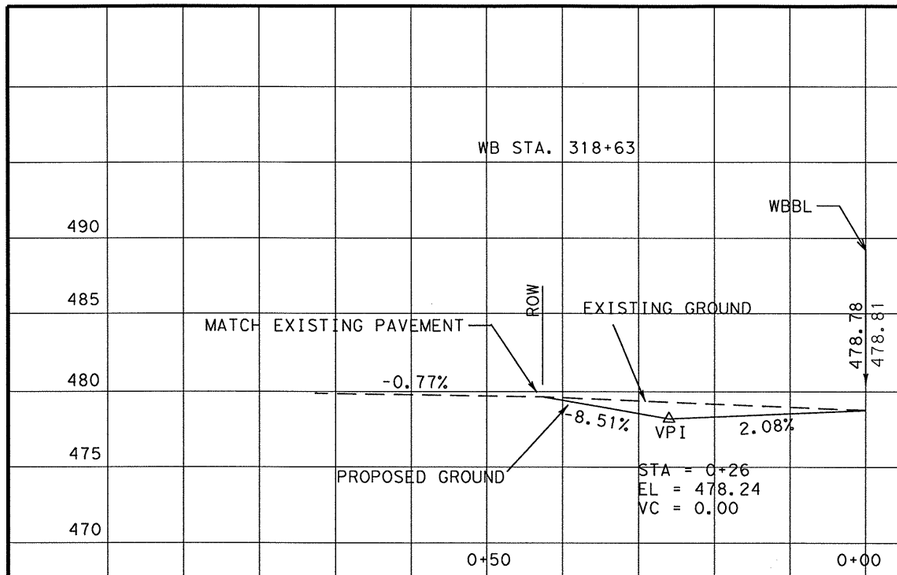
CROSS STREET PROFILE

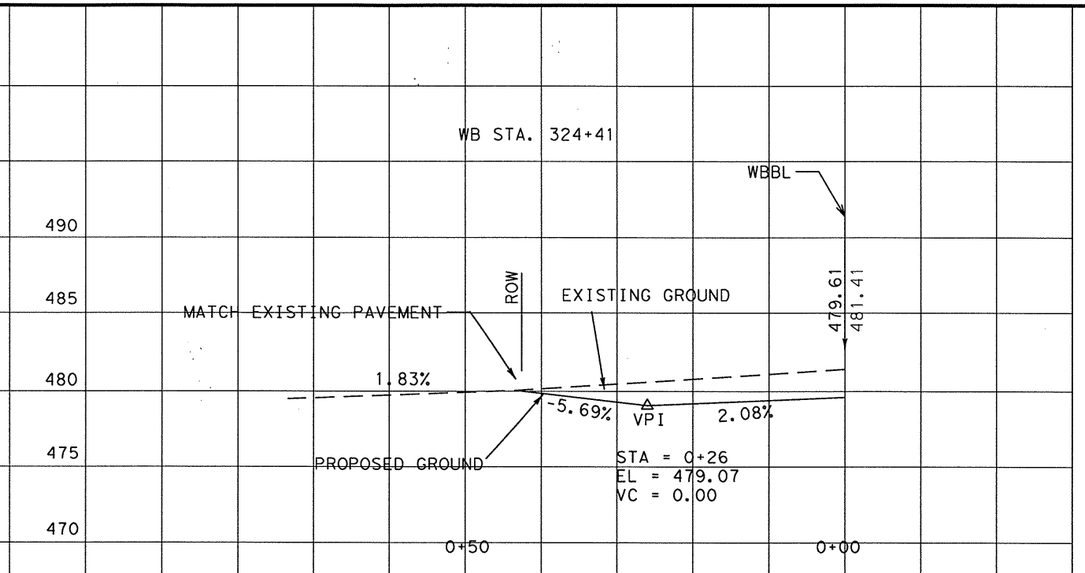
SCALE:
HORIZ. 1"=20'
VERT. 1"=5'

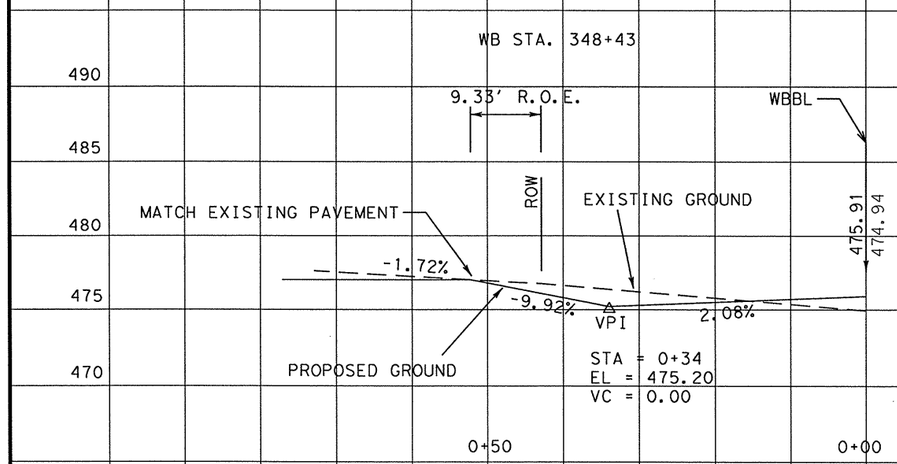
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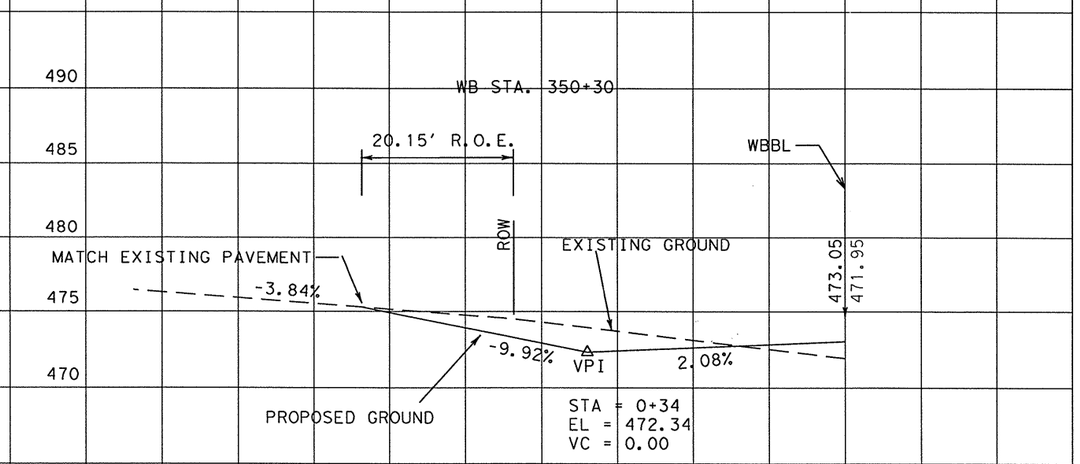
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	130

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66









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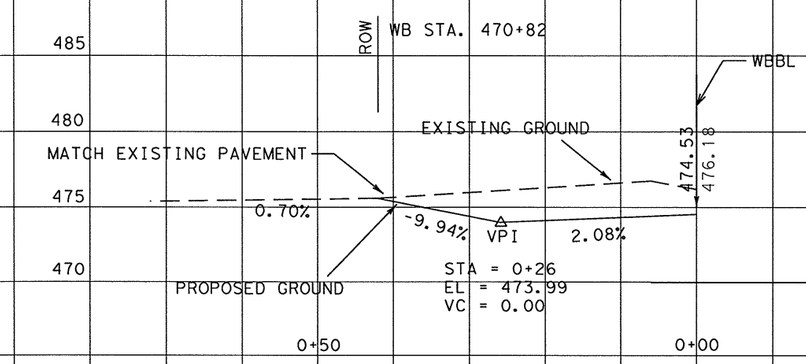
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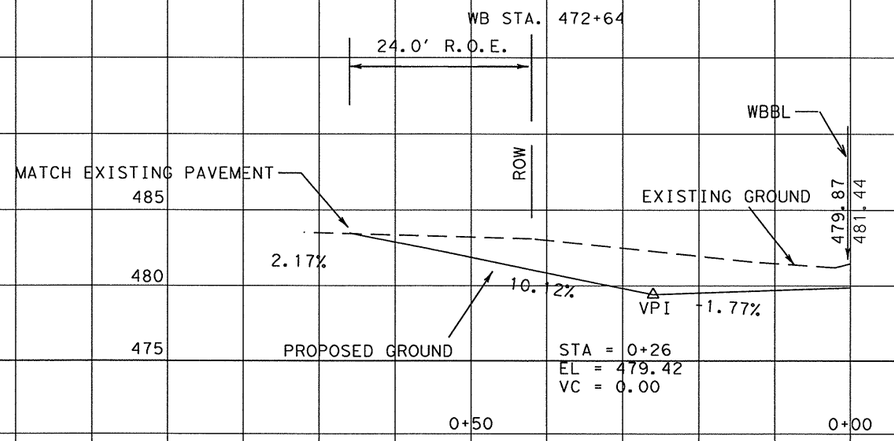
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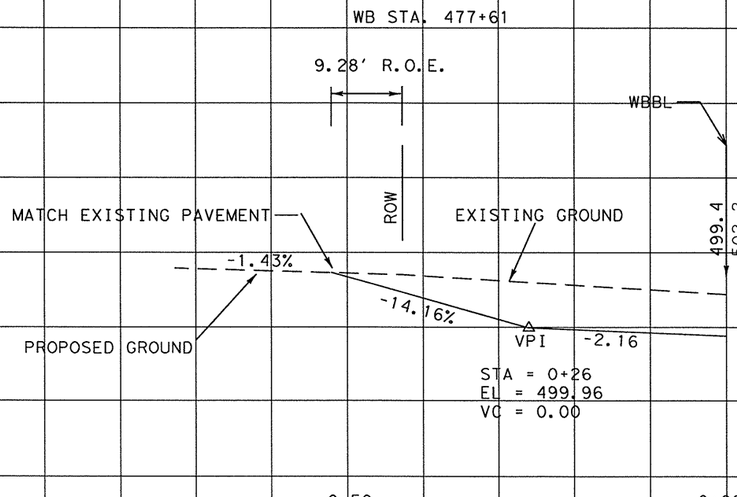
SHEET 1 OF 12 SHEETS

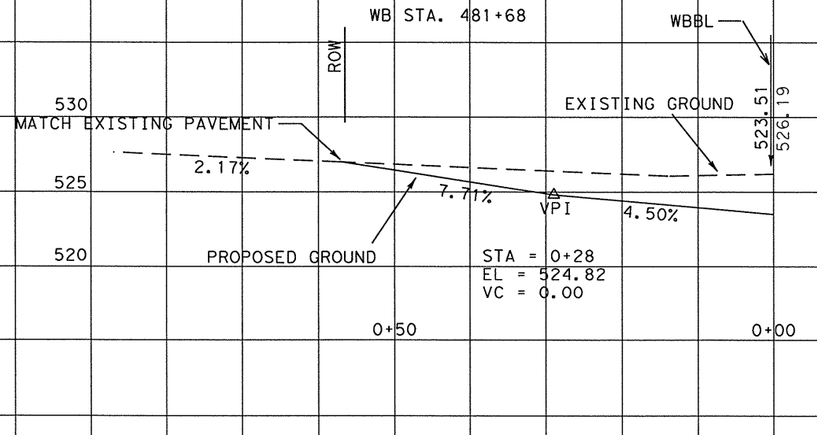
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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		131
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66









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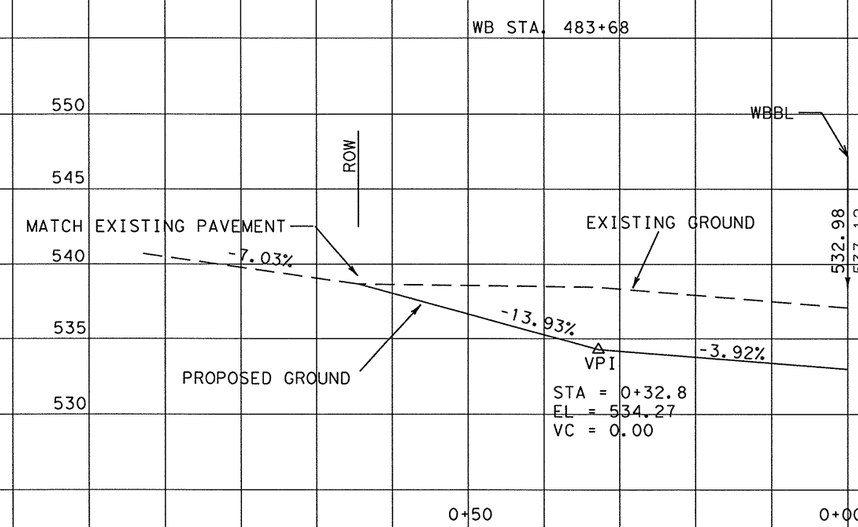
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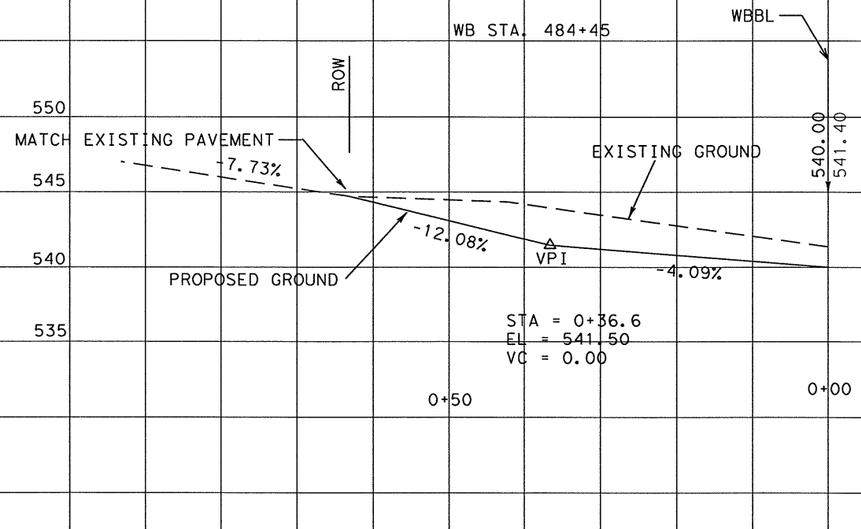
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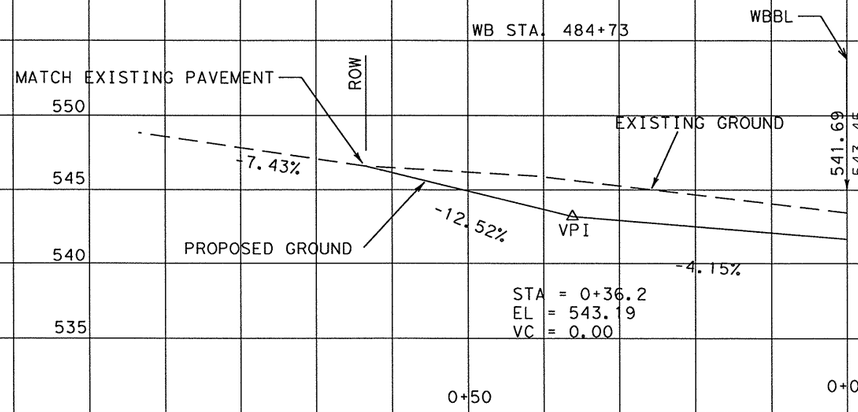
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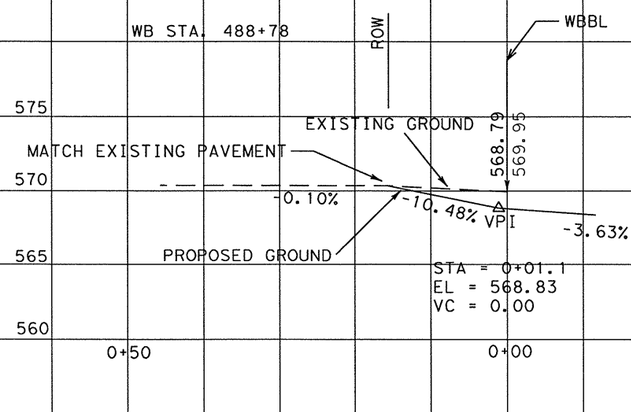
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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		132
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66









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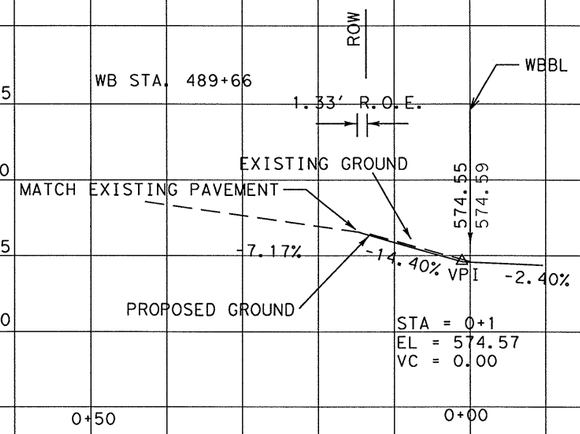
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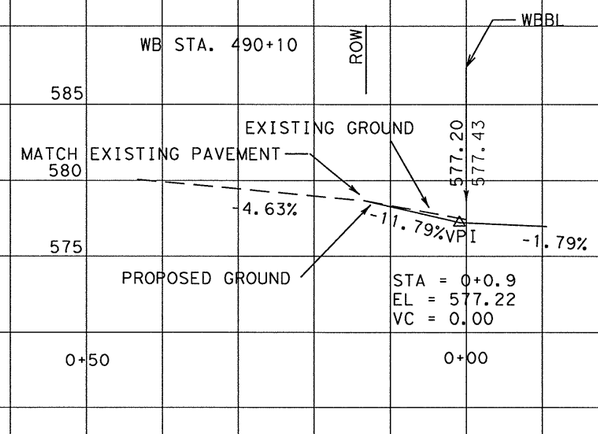
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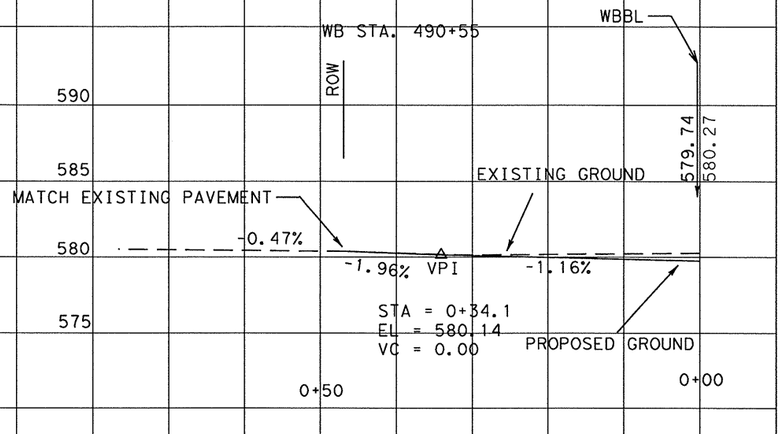
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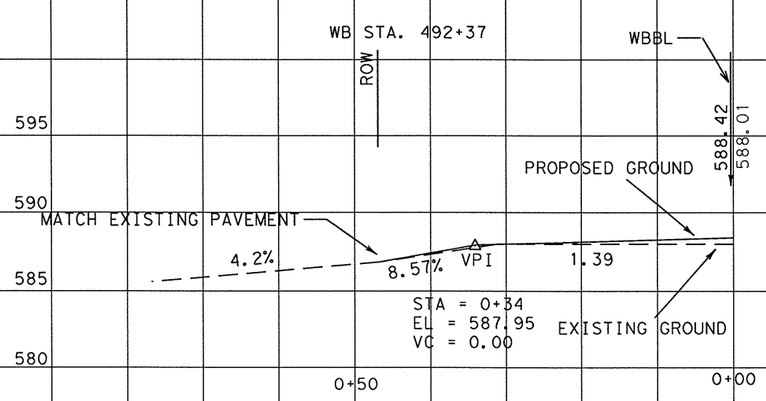
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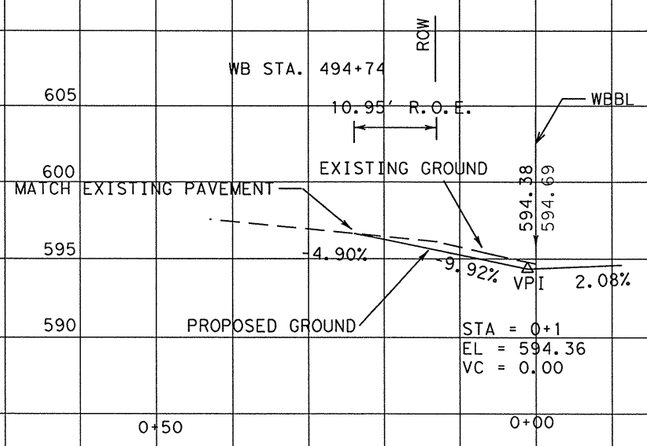
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6	NH 99 (367)		133
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66











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WESTBOUND DRIVEWAY PROFILES

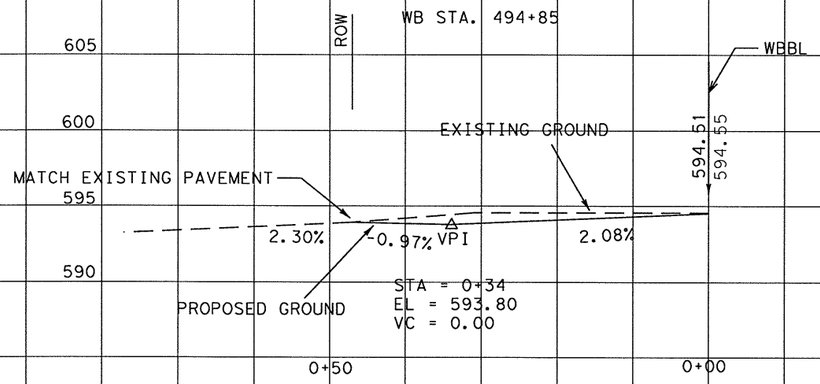
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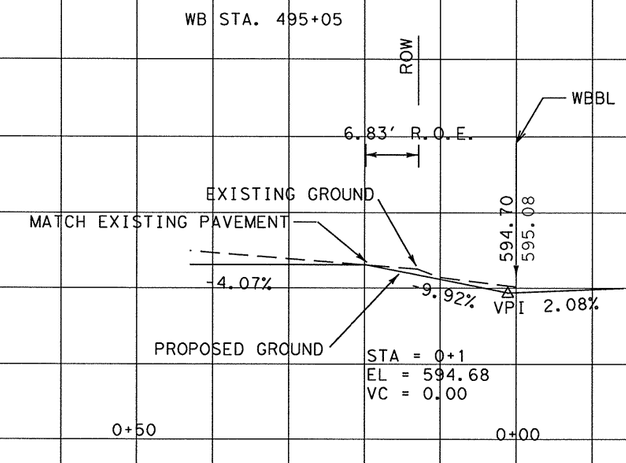
SHEET 4 OF 12 SHEETS

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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99 (367)	134

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





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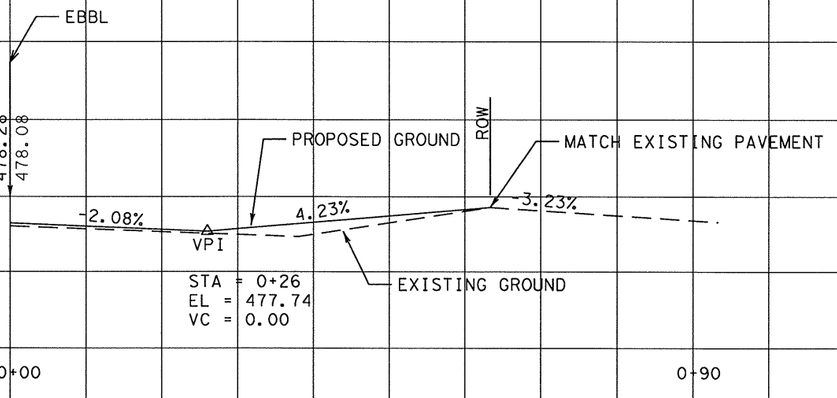
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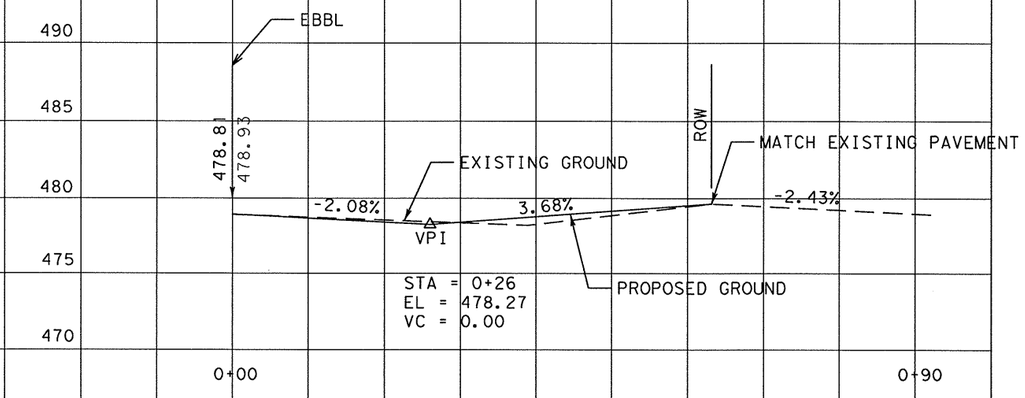
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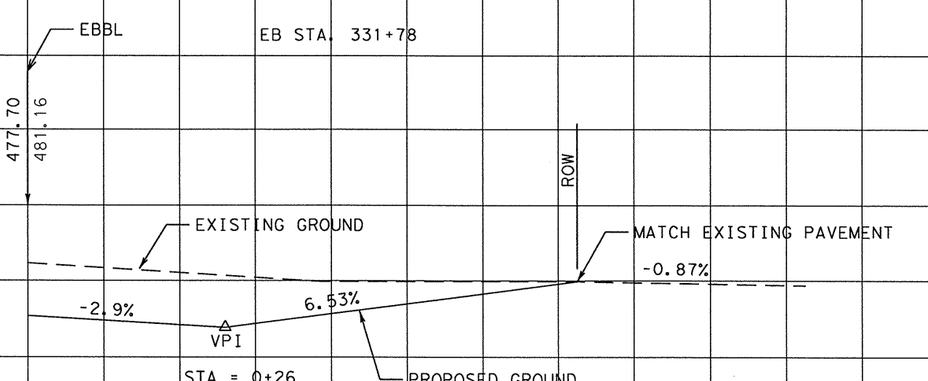
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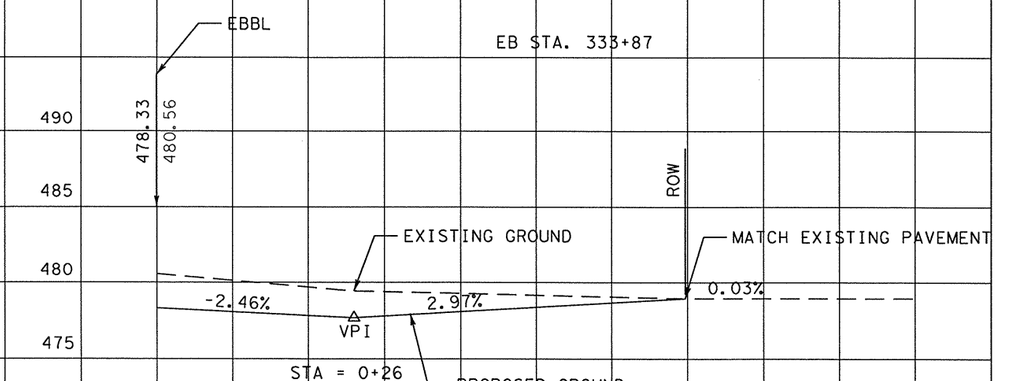
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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		135
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66









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EASTBOUND DRIVEWAY PROFILES

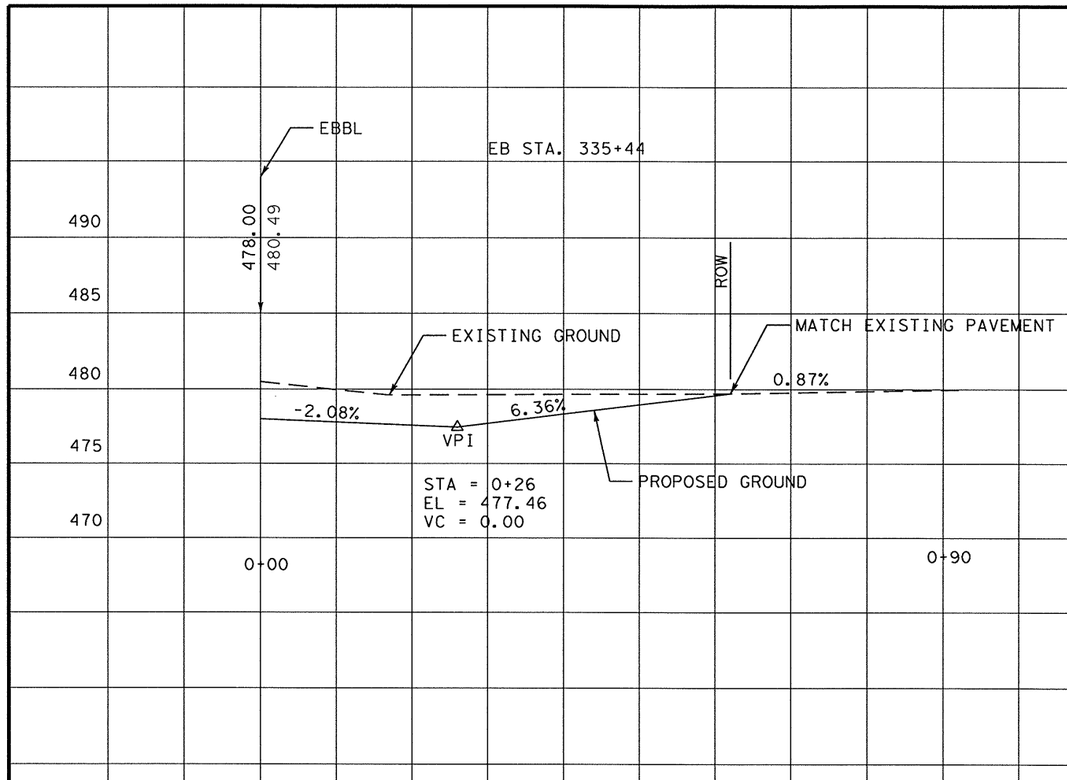
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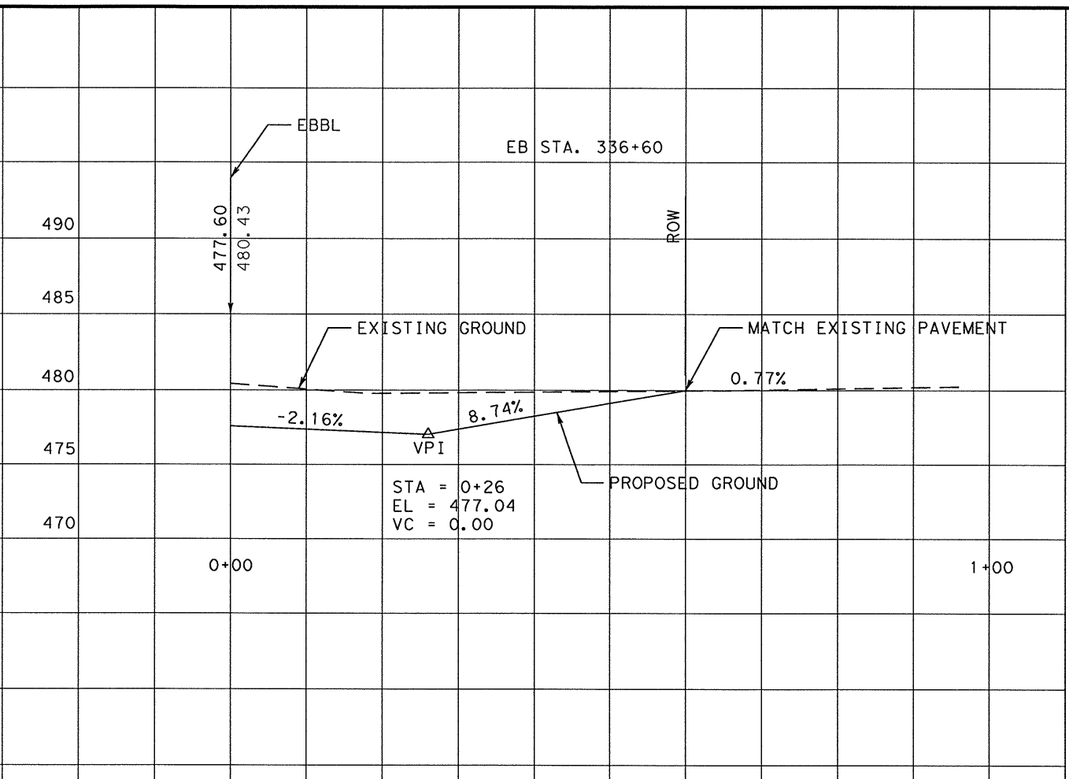
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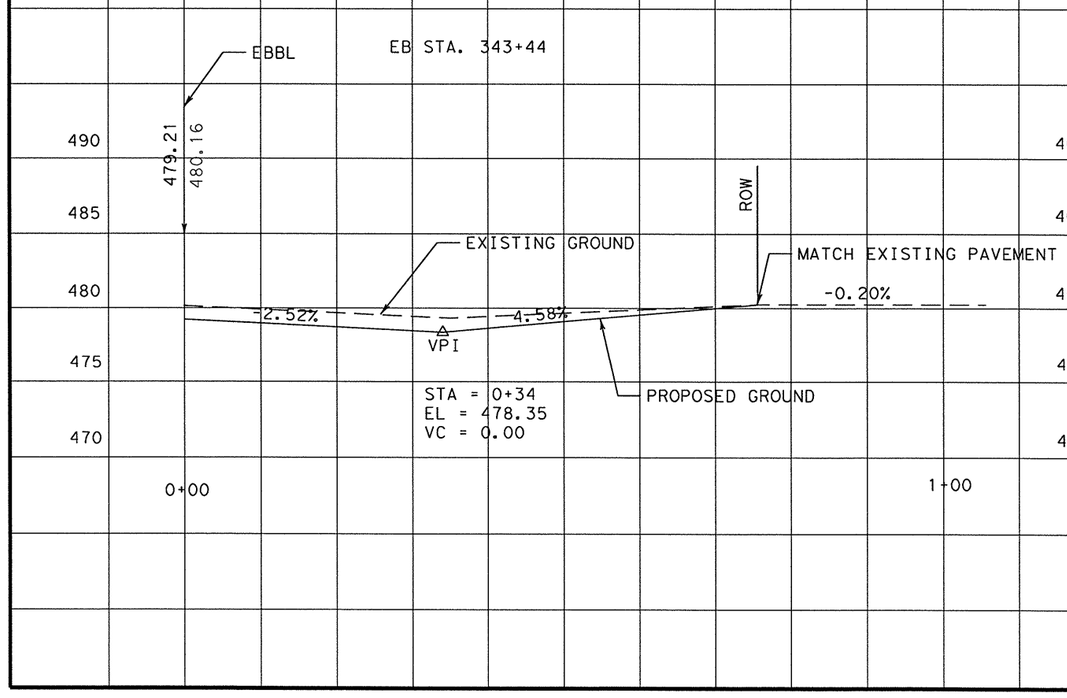
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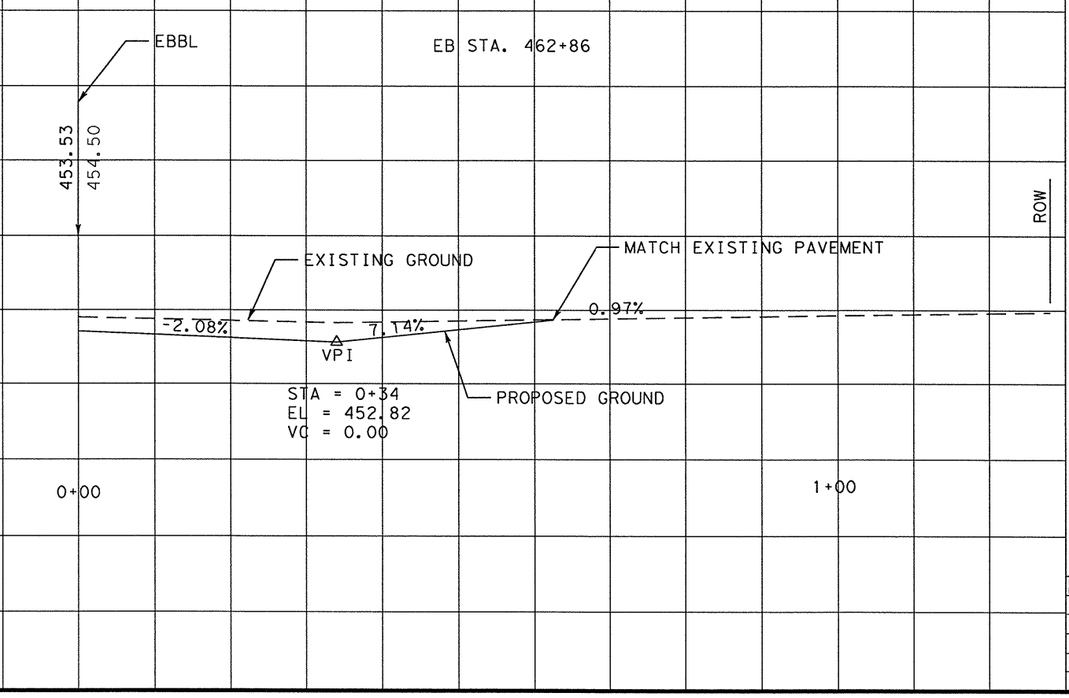
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6	NH 99 (367)		136
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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EASTBOUND DRIVEWAY PROFILES

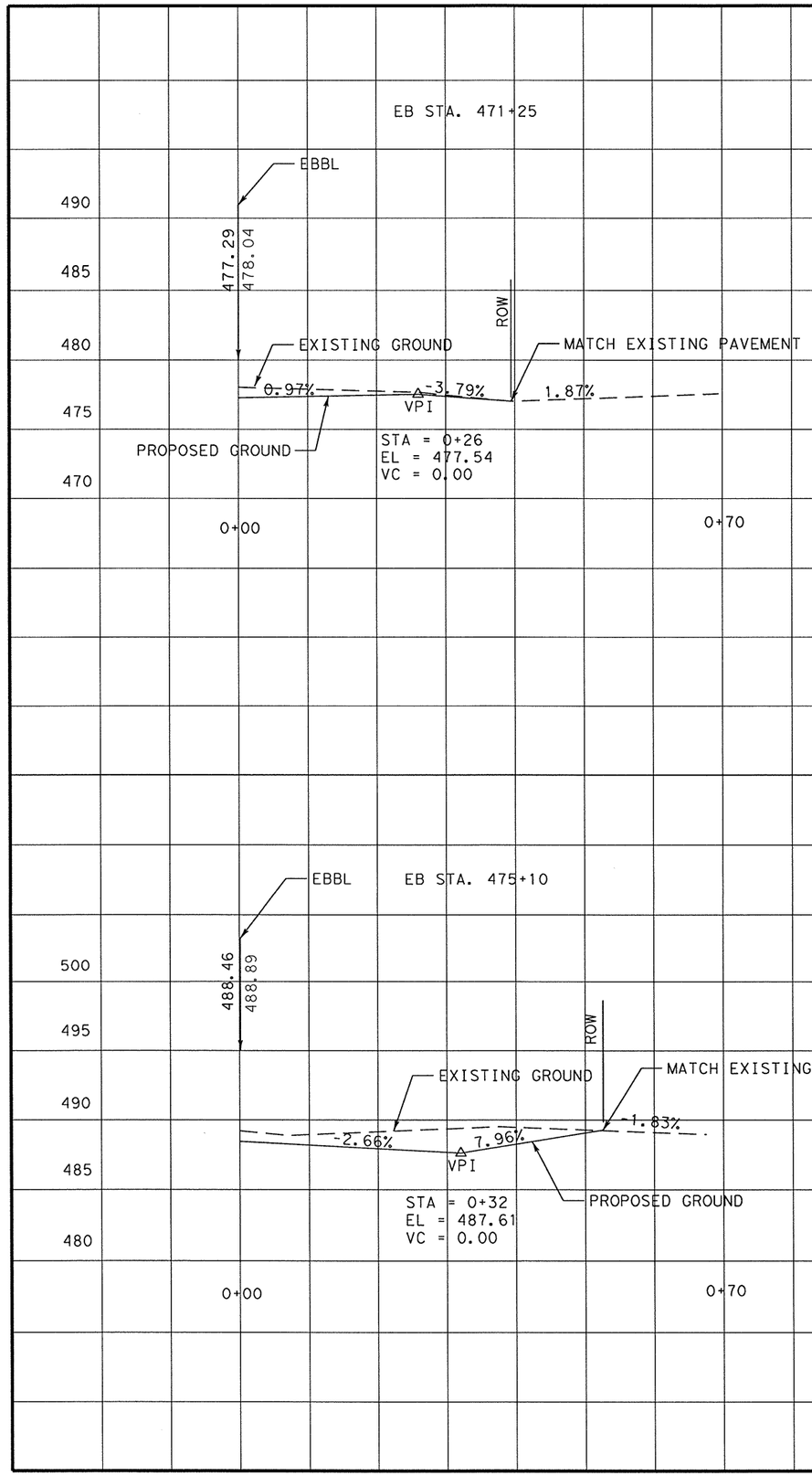
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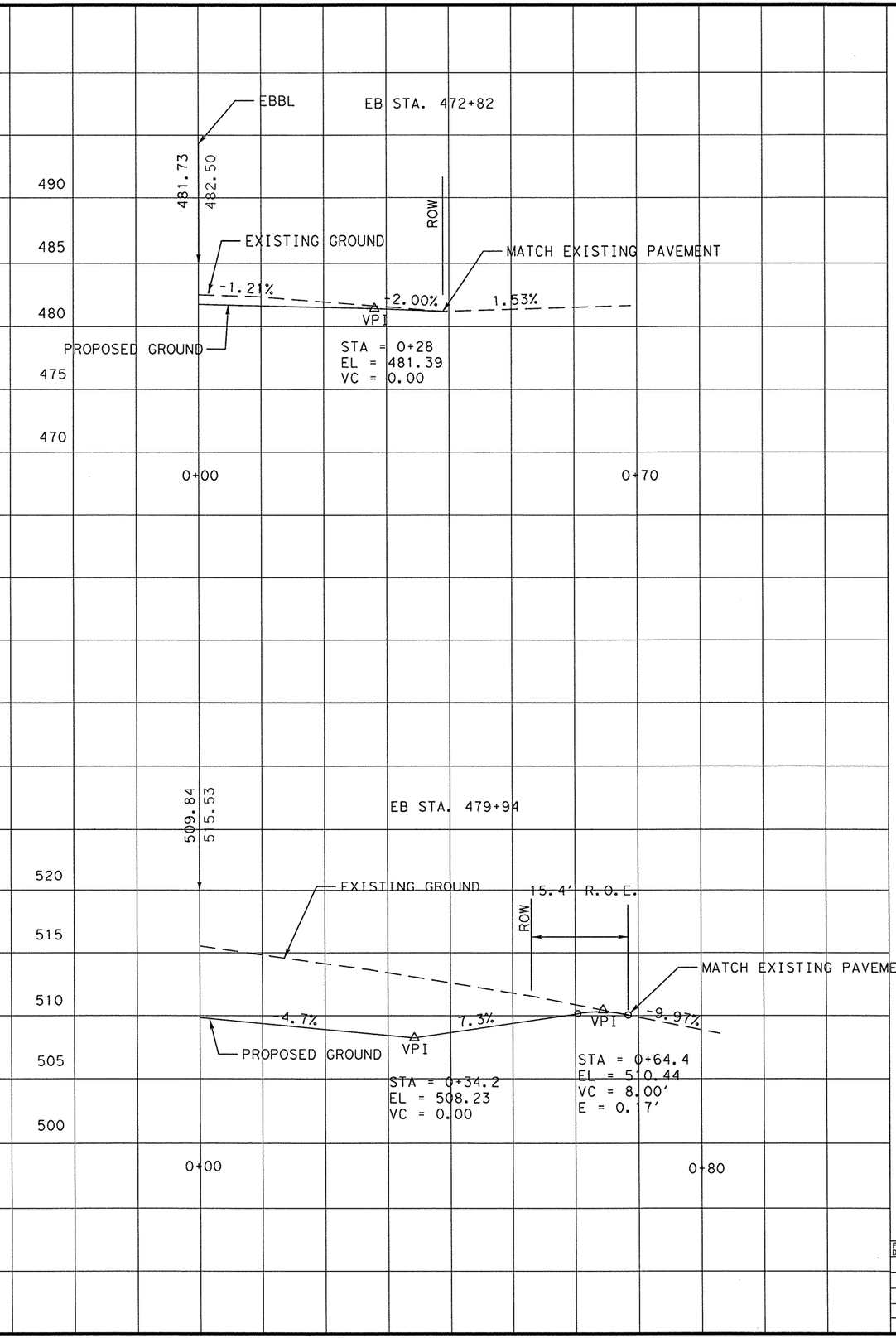
SHEET 7 OF 12 SHEETS

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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		137
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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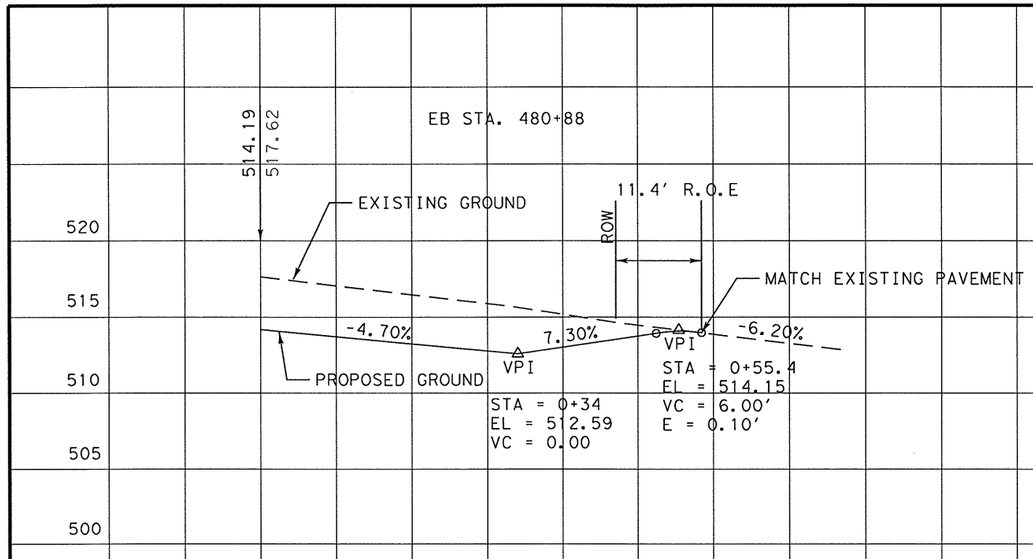
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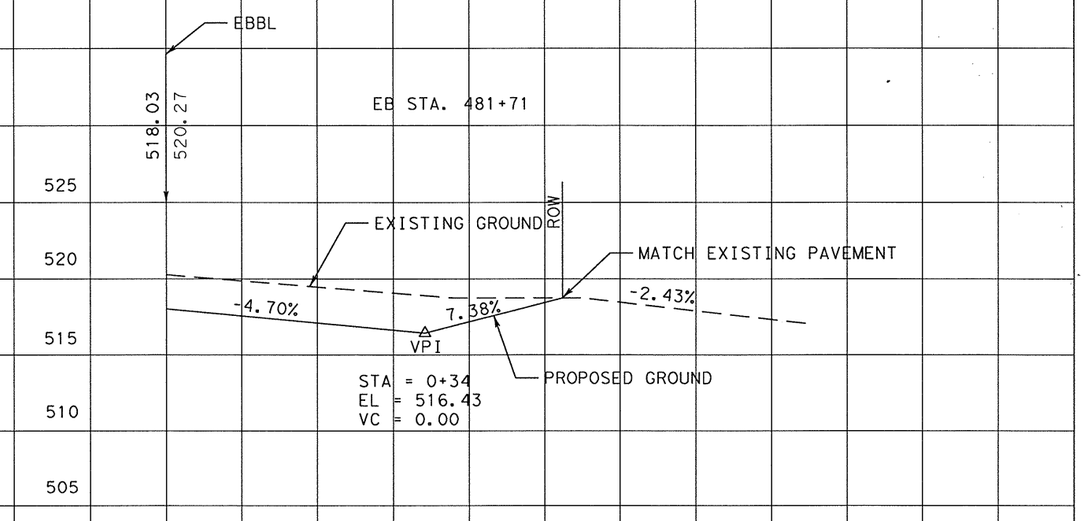
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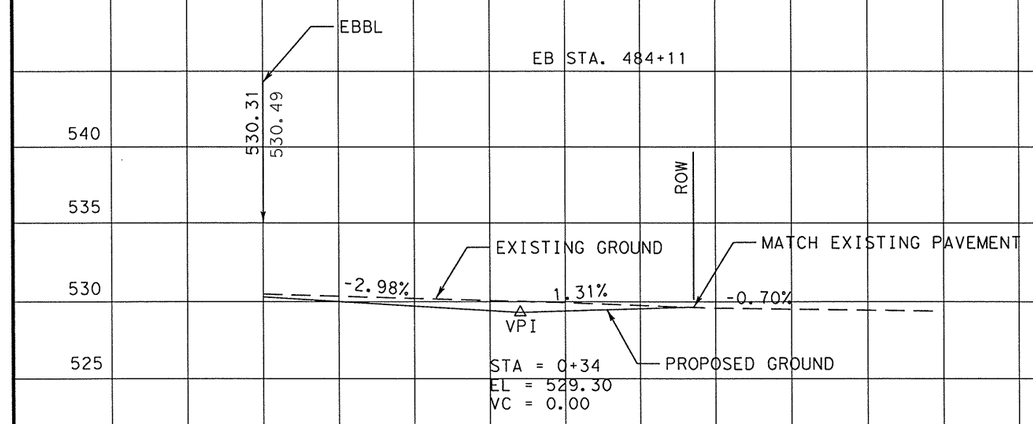
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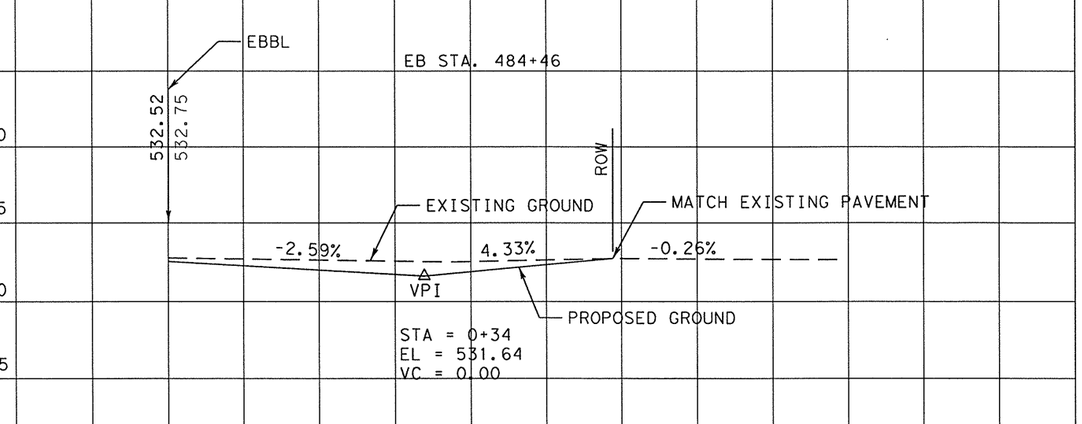
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FED. RD. DIV. NO.	EEDEBAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		138
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66









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EASTBOUND DRIVEWAY PROFILES

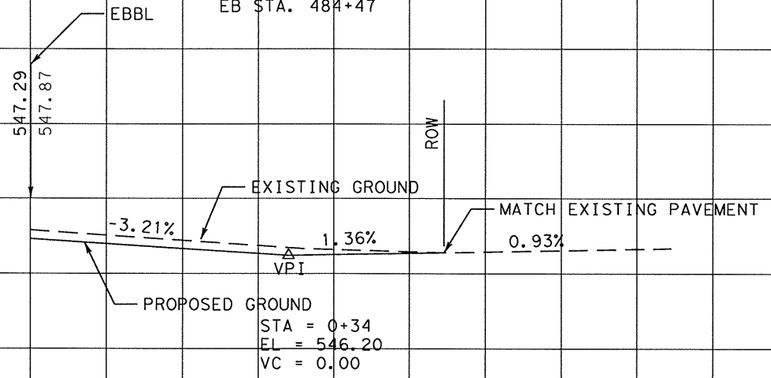
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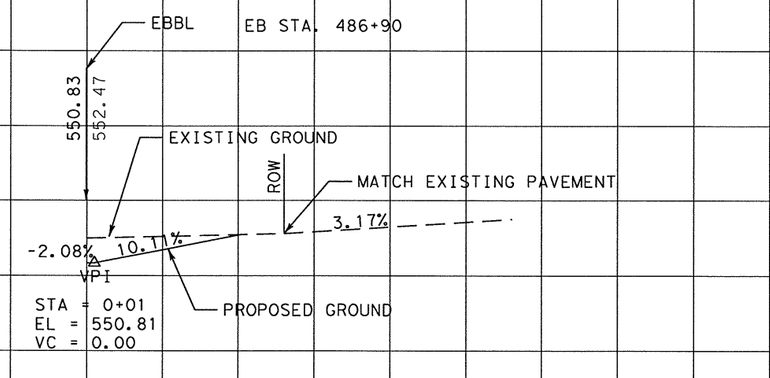
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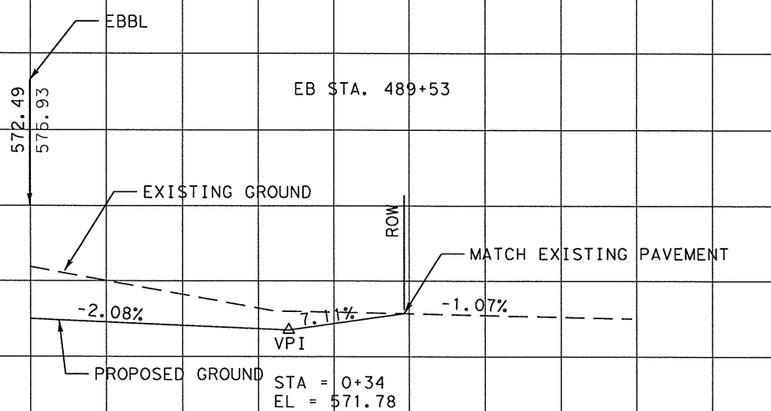
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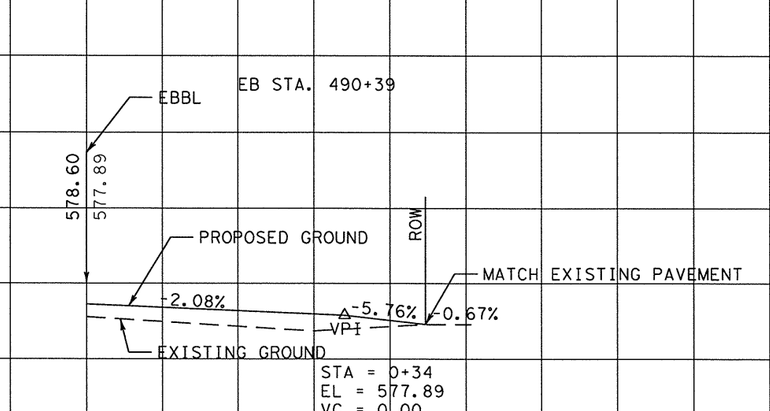
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6	NH 99 (367)		139
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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EASTBOUND DRIVEWAY PROFILES

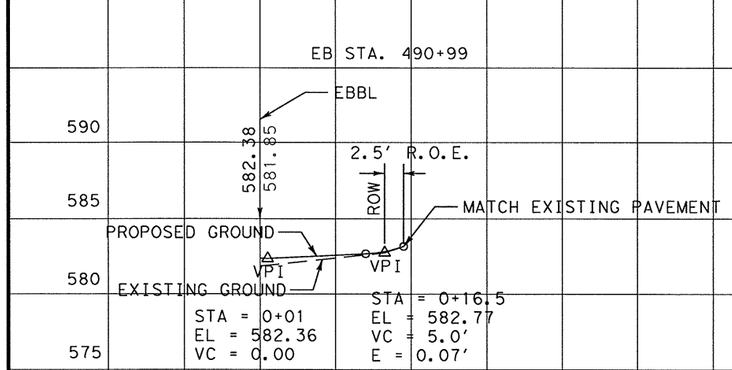
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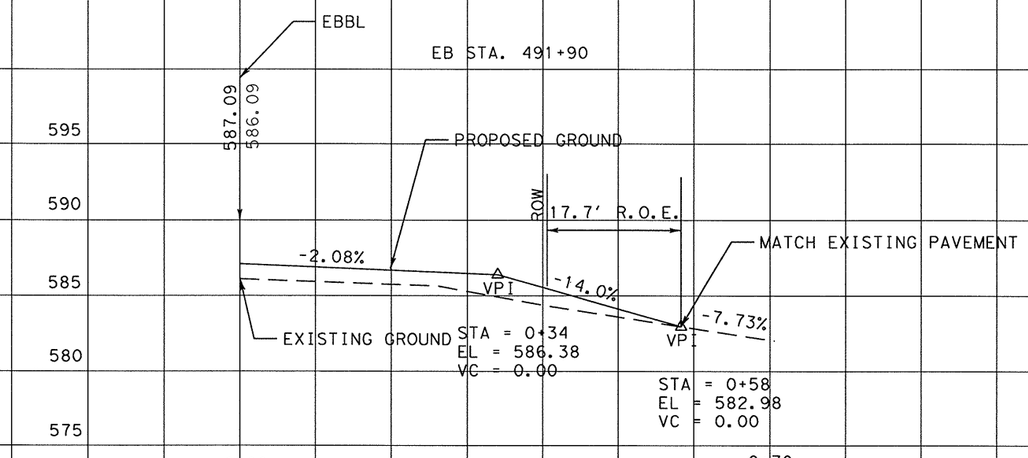
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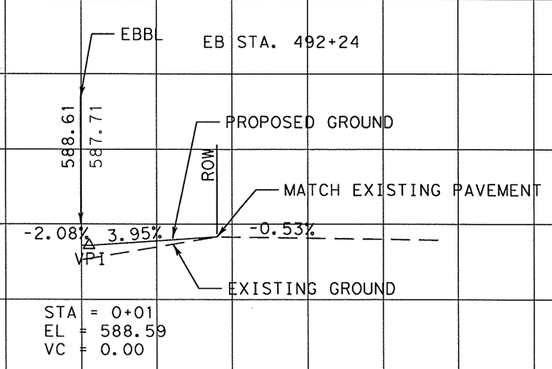
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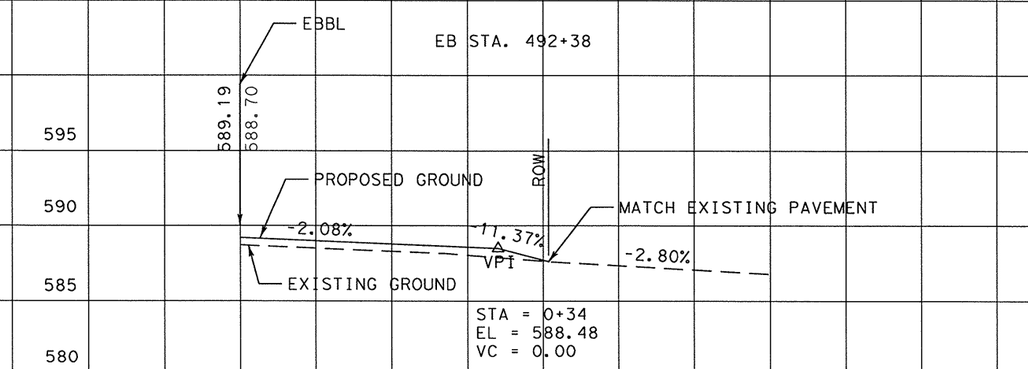
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6	NH 99 (367)		140
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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EASTBOUND DRIVEWAY PROFILES

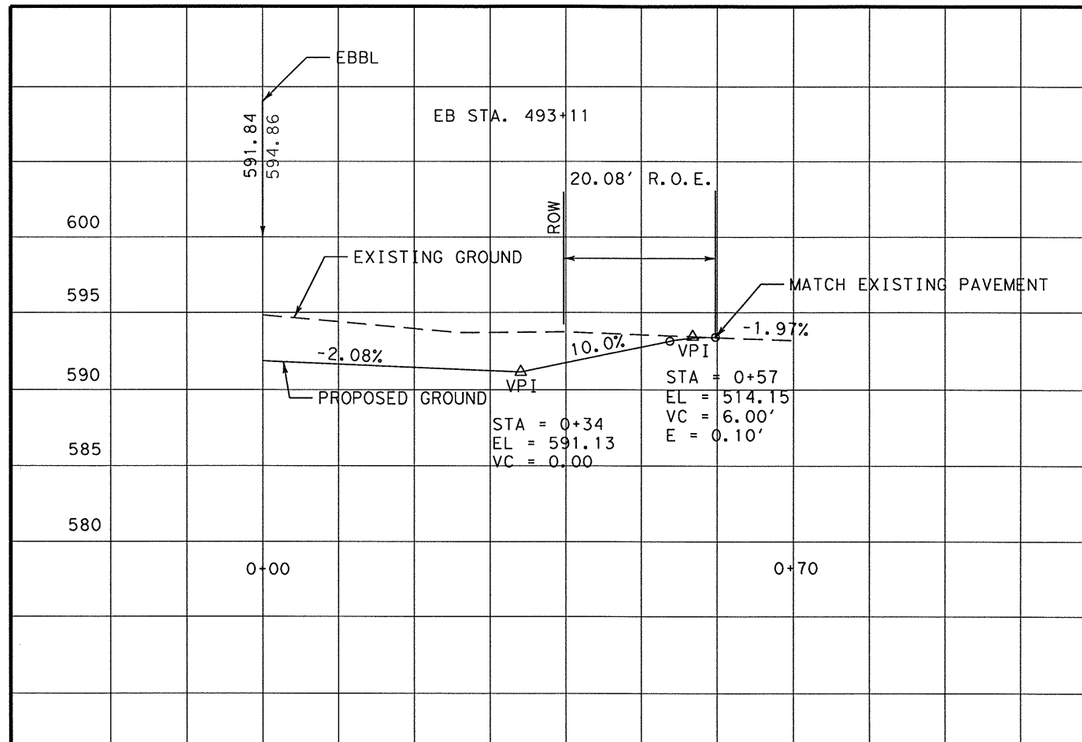
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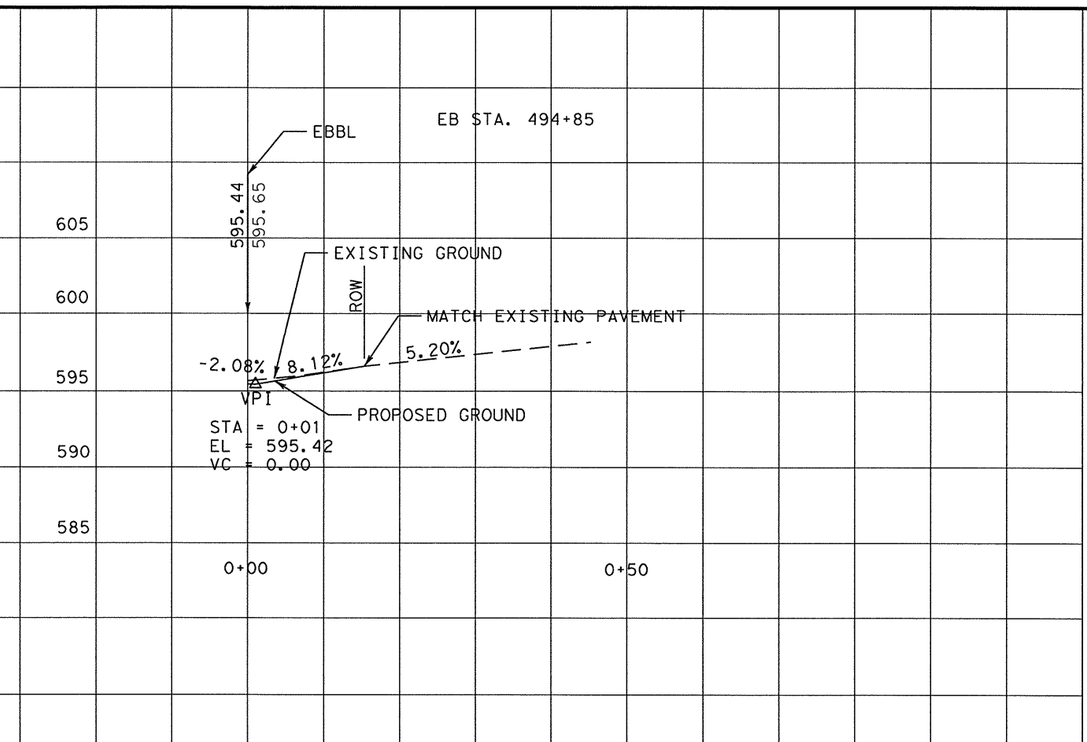
SHEET 11 OF 12 SHEETS

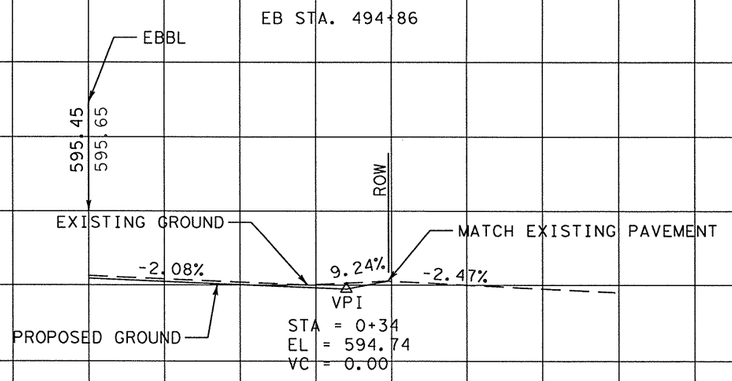
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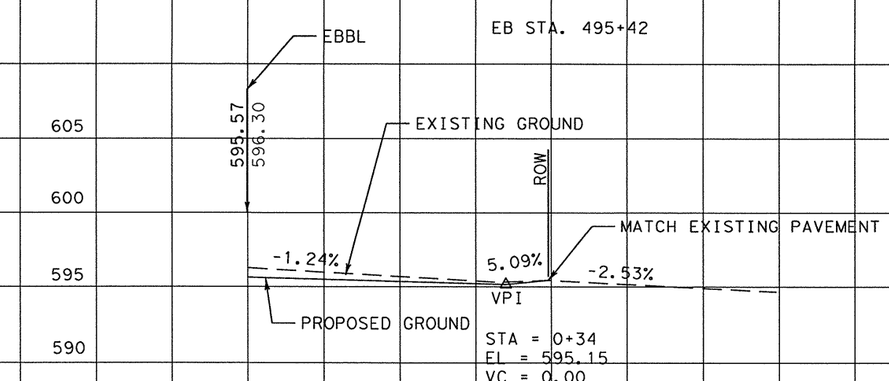
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6	NH 99 (367)		141
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
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EASTBOUND DRIVEWAY PROFILES

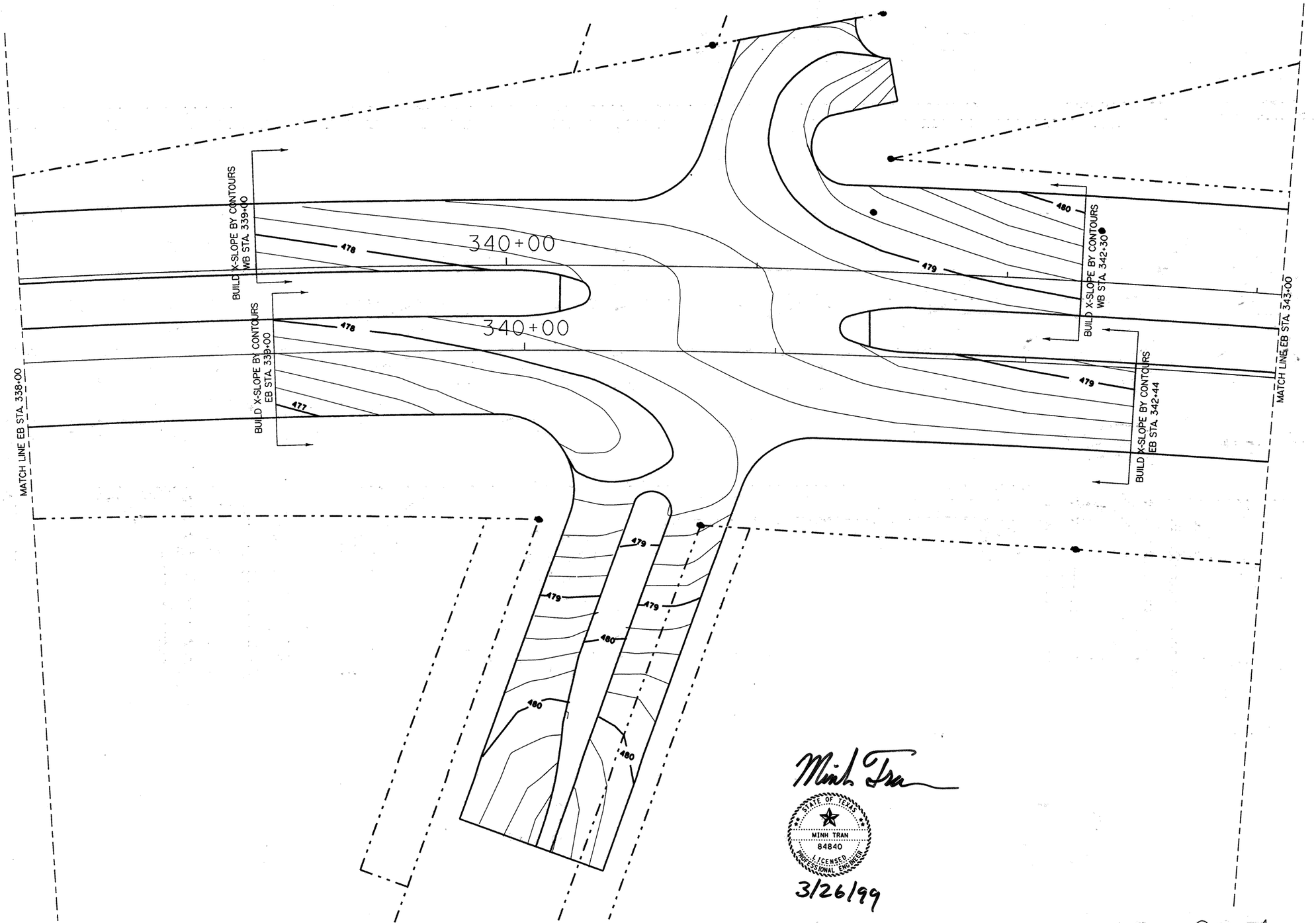
1"=10' VERT.
1"=20' HORIZ.

SHEET 12 OF 12 SHEETS

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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		142
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

MINH6456



Minh Tran

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MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

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PAVING CONTOURS

EB STA. 338+00 TO STA. 343+00

SCALE 1" = 40

SHEET 1 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		143
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

T=4445

66cntl.dan 2-15-99

LP

Culvert

350+00

PP
1-1-8

350+00

MATCHLINE EB STA. 345+40

BUILD X-SLOPE BY CONTOURS STA. 345+50

BUILD X-SLOPE BY CONTOURS STA. 347+50

BUILD X-SLOPE BY CONTOURS STA. 348+28

BUILD X-SLOPE BY CONTOURS STA. 351+28

MATCHLINE STA. EB 351+40

477

476

475

474

473

472

471

Inlet

MH

GL

GL

Sign

Sign

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Sign

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GL

GL Transmission Line Tower

GL

Sign

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PROFESSIONAL ENGINEER
STATE OF TEXAS

5/4/99

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PAVING CONTOURS

EB STA. 345+40 TO EB STA. 351+40

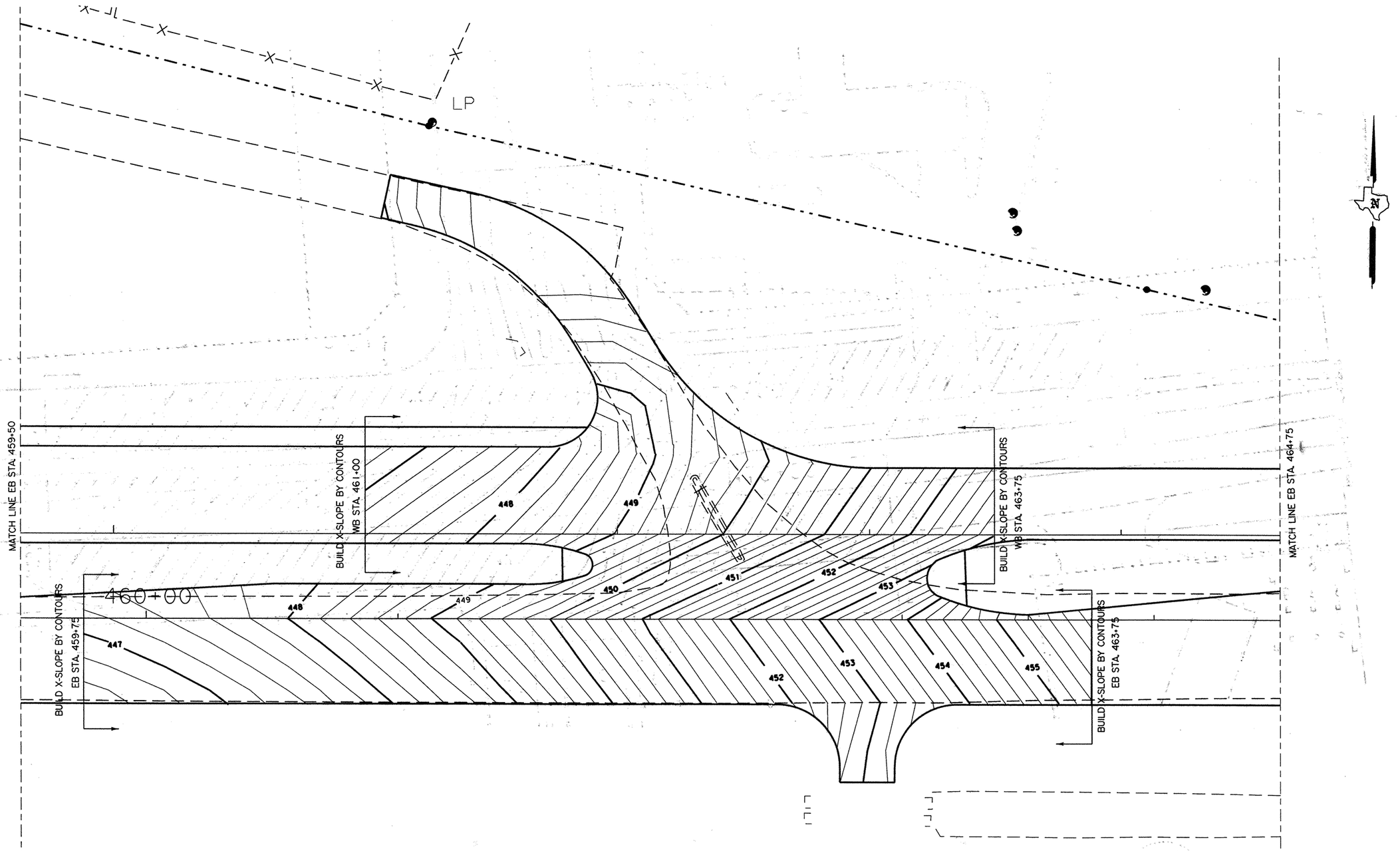
SCALE: 1" = 40'

SHEET 2 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		144
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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PAVING CONTOURS

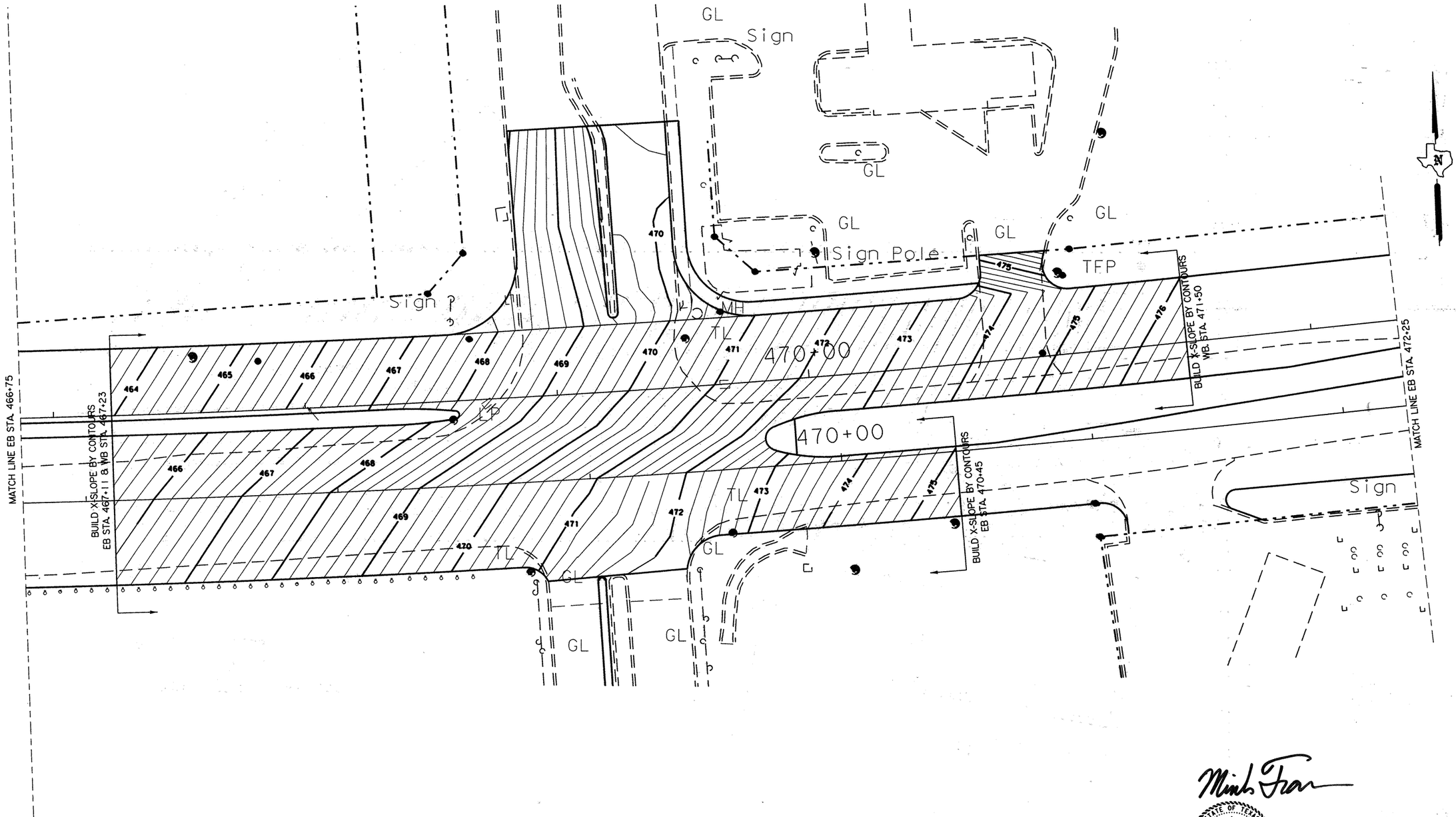
STA. 459+50 TO STA. 464+75
SCALE: 1" = 40'

SHEET 3 OF 8 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		145
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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LICENSED PROFESSIONAL ENGINEER

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PAVING CONTOURS

STA. EB 466+75 TO EB STA. 472+25

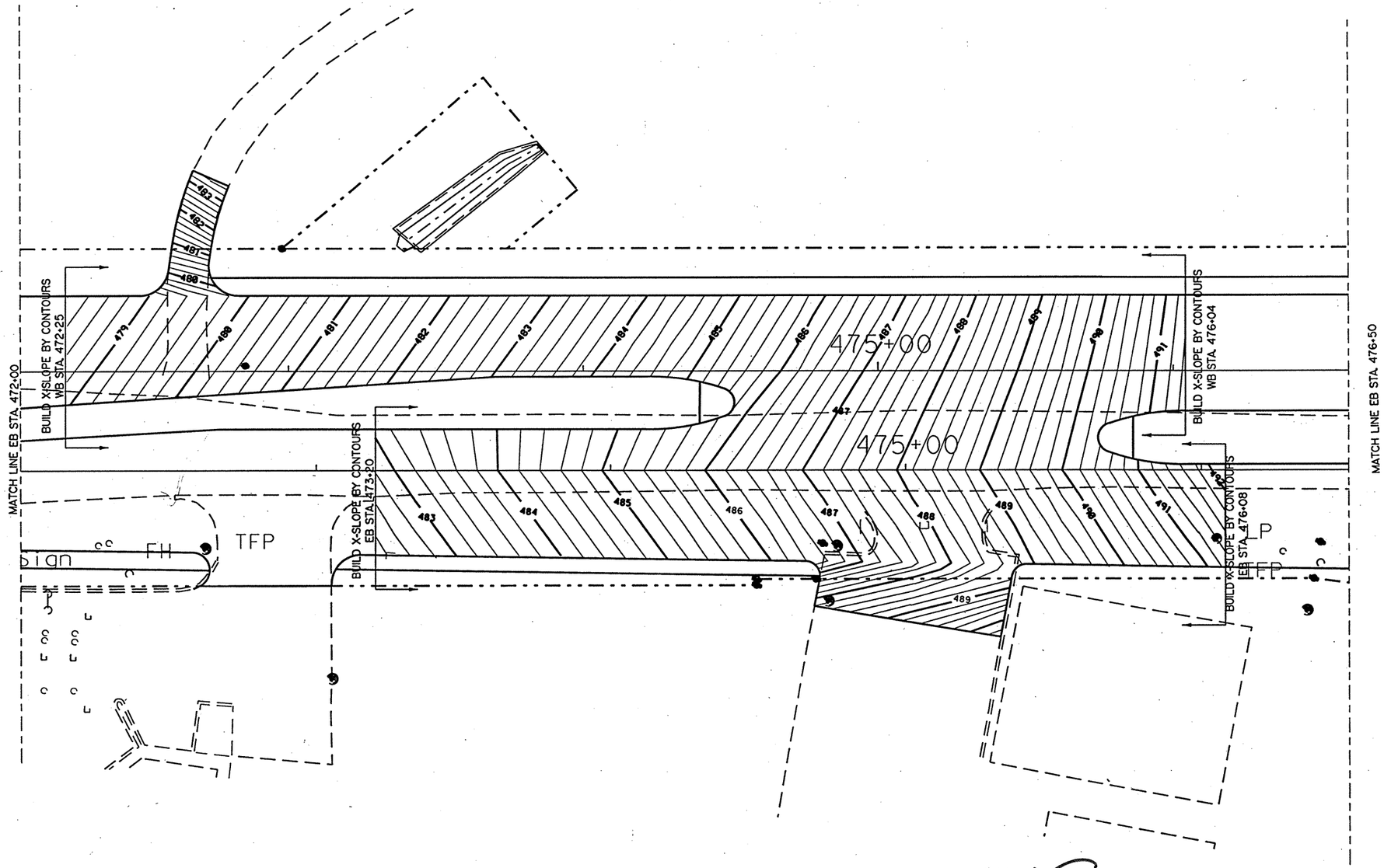
SCALE: 1" = 40'

SHEET 4 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		146
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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PAVING CONTOURS

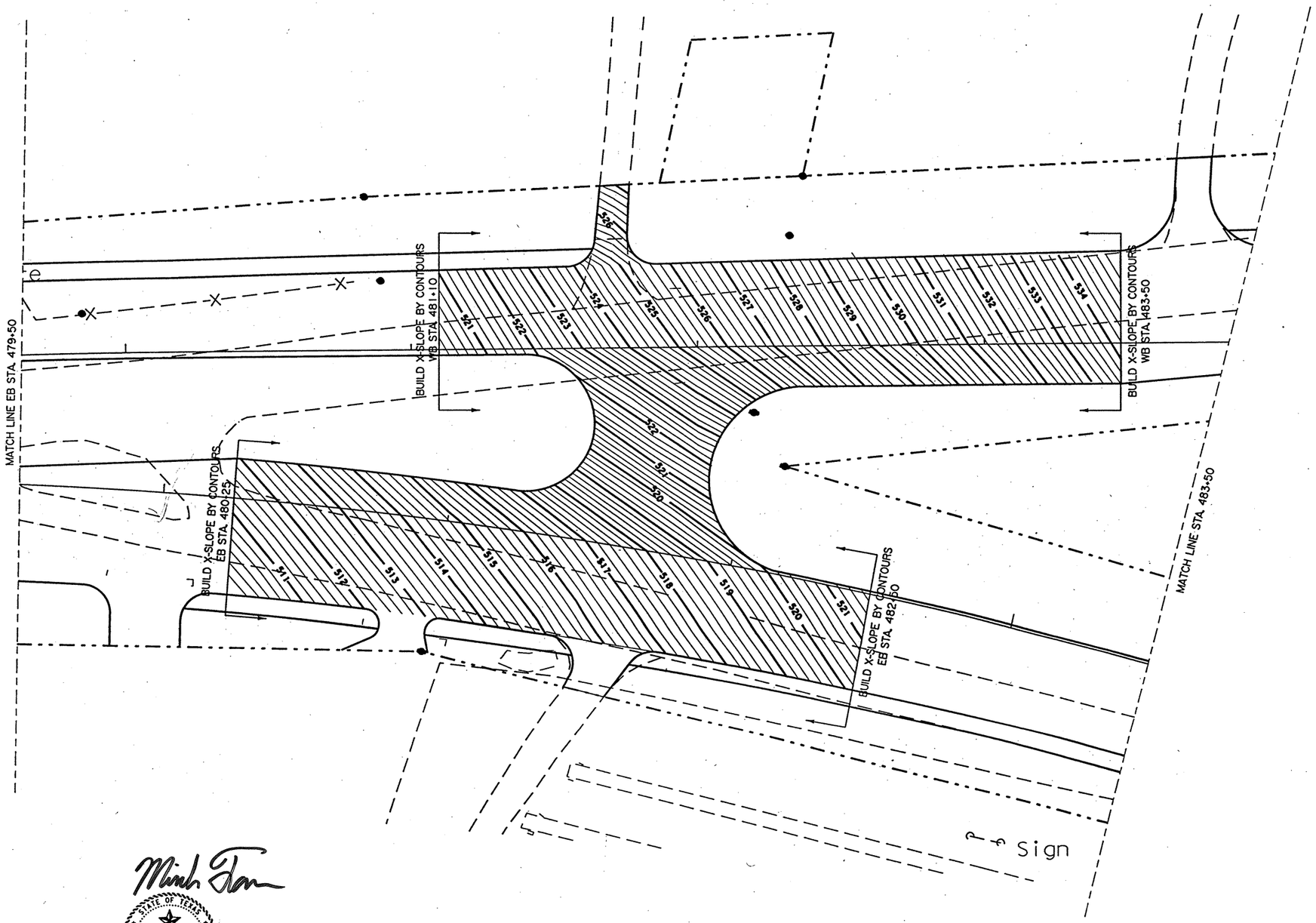
STA. 472+00 TO STA. 476+50

SCALE: 1"= 40'

SHEET 5 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		147
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
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PAVING CONTOURS

EB STA. 479+50 TO EB STA. 483+50

SCALE: 1"=40'
SHEET 6 OF 8 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		148
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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Sign
Retaining Wall
Sign
Sign
Curve
490
TFP
Sign
Sign
485+00
LP
LP
LP
LP
TFP
Sign
485+00
LP
BUILD X-SLOPE BY CONTOURS WB STA 486+47
BUILD X-SLOPE BY CONTOURS WB STA 487+18
BUILD X-SLOPE BY CONTOURS WB STA 488+75
BUILD X-SLOPE BY CONTOURS WB STA 489+50
MATCH LINE EB STA 484+15
MATCH LINE STA 489+50
BUILD X-SLOPE BY CONTOURS EB STA 484+25
BUILD X-SLOPE BY CONTOURS
BUILD X-SLOPE BY CONTOURS EB STA 486+06
BUILD X-SLOPE BY CONTOURS EB STA 486+80
BUILD X-SLOPE BY CONTOURS EB STA 488+00
BUILD X-SLOPE BY CONTOURS EB STA. 489+00
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PAVING CONTOURS

EB STA. 490+40 TO SH 205

SCALE: 1"=40'

SHEET 8 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		150
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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Retaining Wall

Retaining Wall

200.615 ft

495+00

496+00

TFP

TL

TL

TFP

Hand Rai

TFP

GL

Sign

Sign

MH

MH

MH

MH

GL

FP FP

FP

LP

LP

LP

Culvert

TFP

TFP

FH

FH

595.56

595.38

BUILD X-SLOPE BY CONTOURS WB STA 491+00

BUILD X-SLOPE BY CONTOURS WB STA 492+75

BUILD X-SLOPE BY CONTOURS WB STA 493+40

BUILD X-SLOPE BY CONTOURS WB STA 494+20

BUILD X-SLOPE BY CONTOURS WB STA 495+75

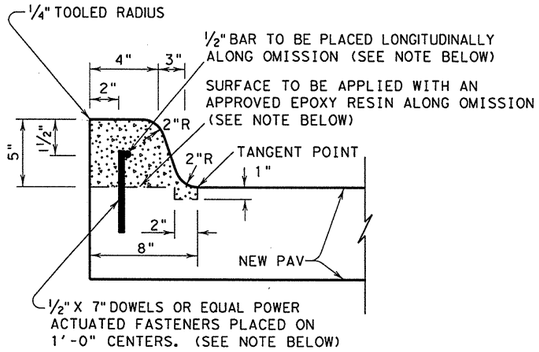
BUILD X-SLOPE BY CONTOURS EB STA 492+97

BUILD X-SLOPE BY CONTOURS EB STA 494+00

BUILD X-SLOPE BY CONTOURS EB STA 495+00

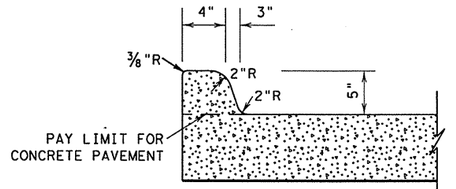
MATCH LINE EB STA 490+40

583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598

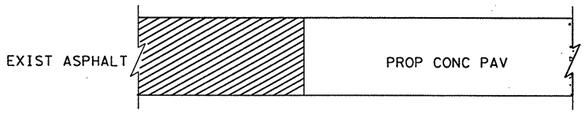


NOTE:
IF CONTINUOUS MONOLITHIC CURB HAS TO BE OMITTED FOR ANY REASON, THE CURB SHALL BE DOWELED AS SHOWN ABOVE.

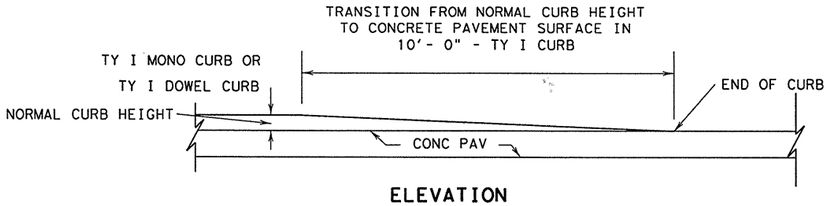
TYPE I DOWEL CURB



TYPE I MONOLITHIC CURB

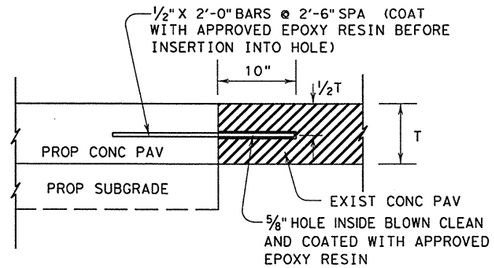


ASPHALT TO CONCRETE DETAIL



ELEVATION

CURB END TRANSITION



CONCRETE TO CONCRETE DETAIL

TO BE USED WHERE PROPOSED CONCRETE PAVEMENT MEETS EXISTING CONCRETE PAVEMENT

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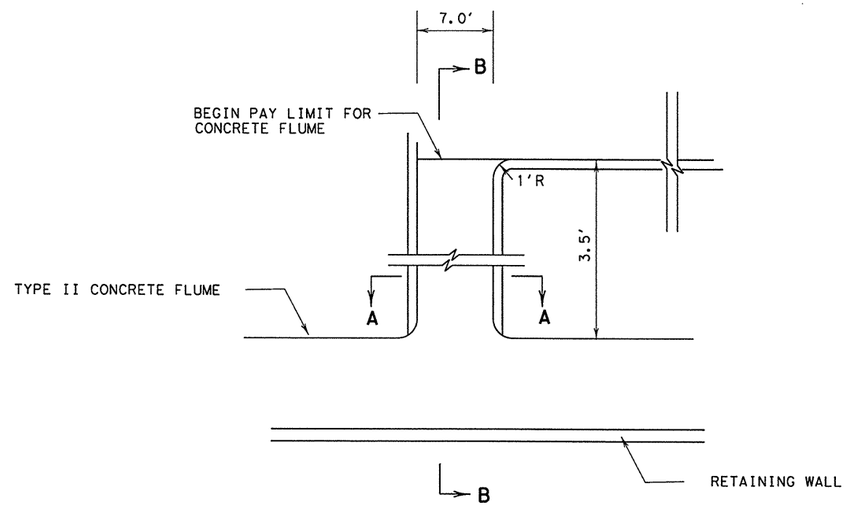
MISCELLANEOUS PAVING DETAILS

SHEET 1 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		151
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

REPLACED 6-28-99 DLP

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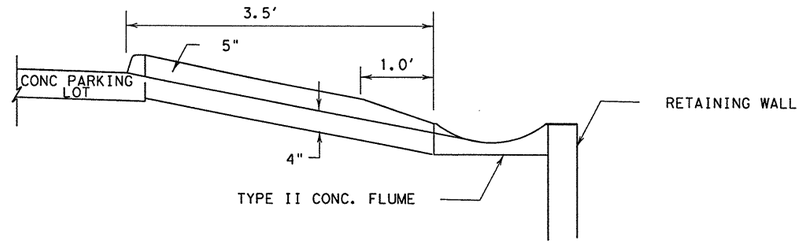


PLAN

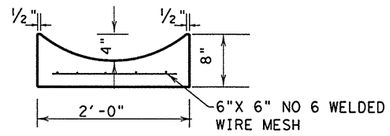
RIPRAP CONCRETE FLUME DETAILS

EB STA. 488+98

NOTE: TO BE PAID FOR AS CL B RIPRAP FLUME

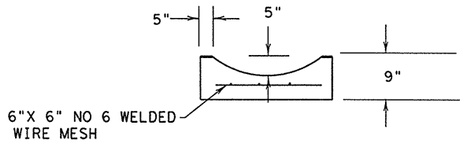


SECTION B-B



TYPE II CONCRETE FLUME DETAIL

NOTE: TO BE PAID FOR AS CL B RIPRAP FLUME



SECTION A-A

REPLACED 6-28-99 DLP

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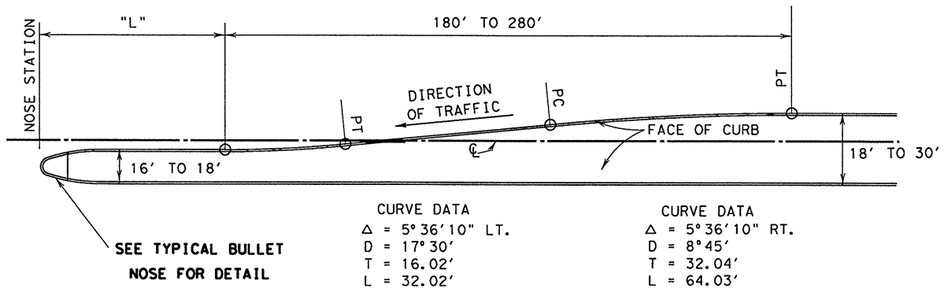
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MISCELLANEOUS PAVING DETAILS

SHEET 2 OF 7 SHEETS

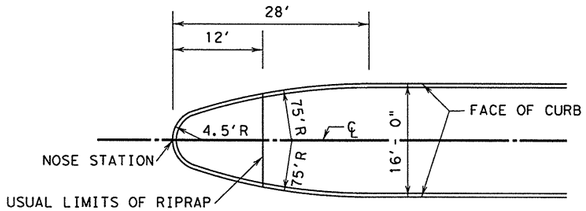
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		152
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

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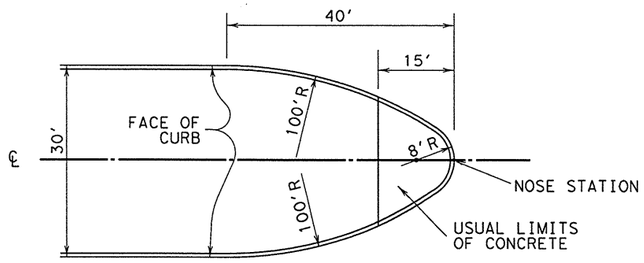


TYPICAL LEFT TURN LANE DETAIL

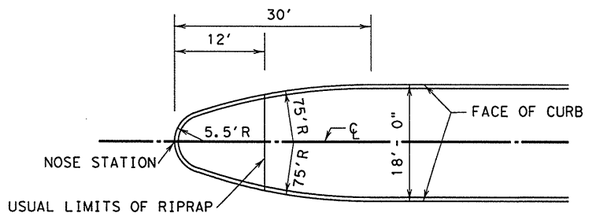
(CURVE DATA ALSO APPLIES TO 4.5' & 6.0' MEDIAN TURN BAYS)



TYPICAL BULLET NOSE FOR 16' MEDIAN



TYPICAL BULLET NOSE FOR 30' MEDIAN



TYPICAL BULLET NOSE FOR 18' MEDIAN

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STATE OF TEXAS
5/4/99

REPLACES 6-28-99 DLP

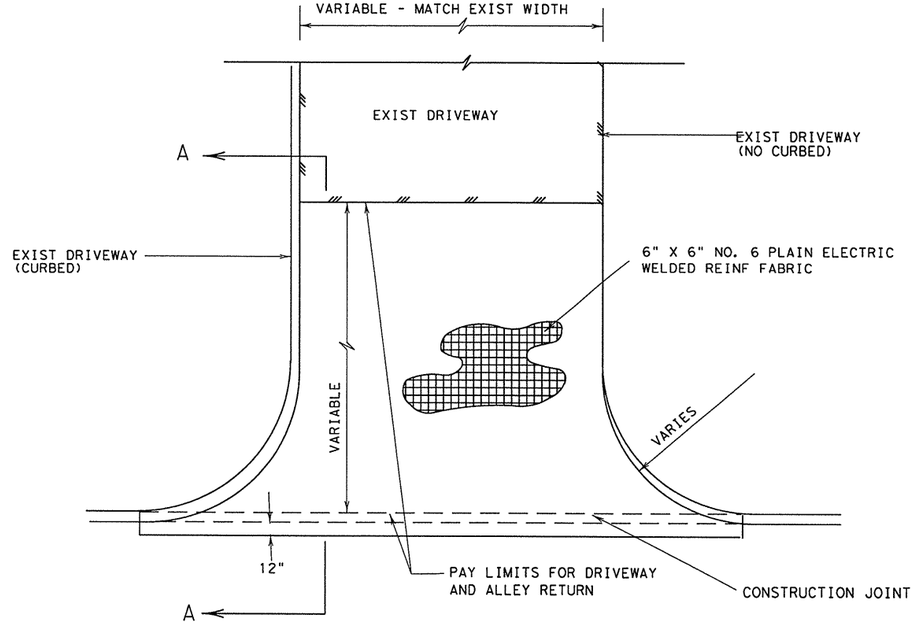
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MISCELLANEOUS PAVING DETAILS

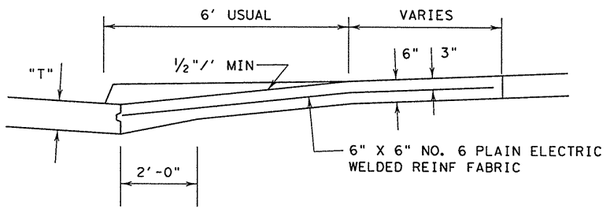
SHEET 3 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		153
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

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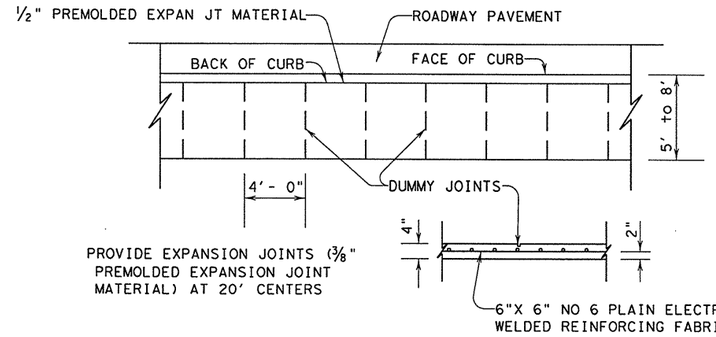


PLAN



SECTION A-A

DRIVEWAY AND ALLEY RETURNS



SIDEWALK DETAILS

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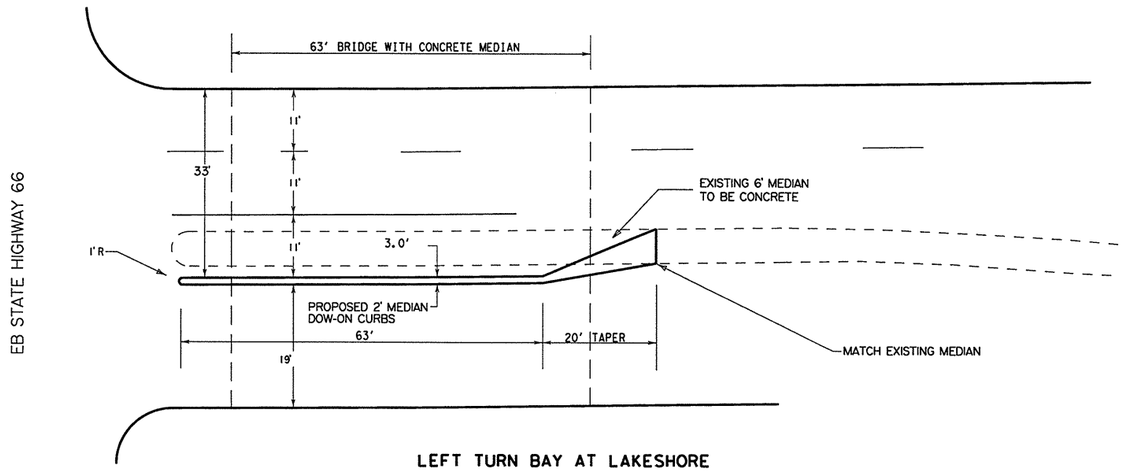
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MISCELLANEOUS PAVING DETAILS

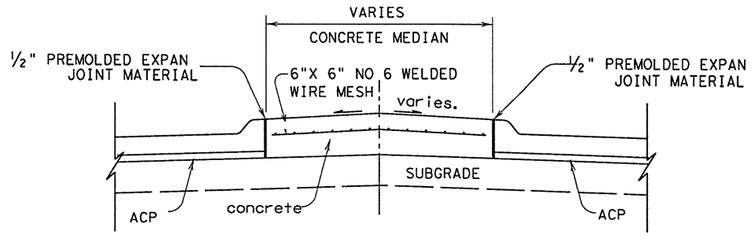
SHEET 4 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		154
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

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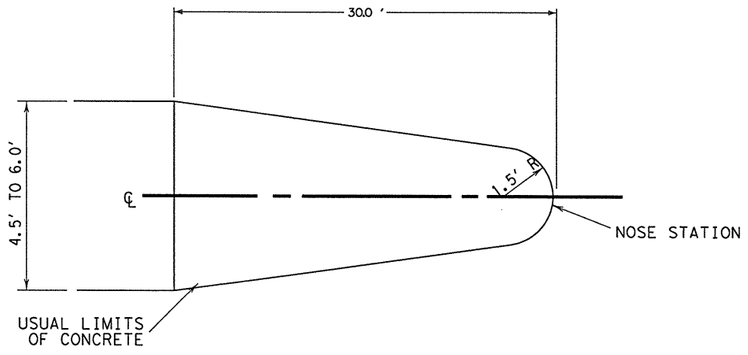


LEFT TURN BAY AT LAKESHORE

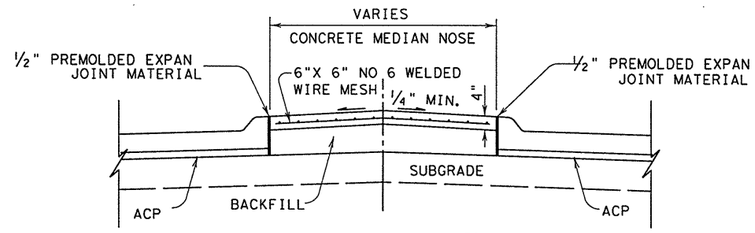


PROVIDE SAWED CONTRACTION JOINTS ⅜" WIDE BY 1" DEEP AT 15' INTERVALS. PLACE JOINT SEALING COMPOUND IN ACCORDANCE WITH JS- 94

TYPICAL ROADWAY MEDIAN SECTION (CONCRETE)



TYPICAL 4.5' OR 6.0' MEDIAN NOSE



PROVIDE SAWED CONTRACTION JOINTS ⅜" WIDE BY 1" DEEP AT 15' INTERVALS. PLACE JOINT SEALING COMPOUND IN ACCORDANCE WITH JS- 94

TYPICAL ROADWAY MEDIAN NOSE SECTION (CONCRETE)

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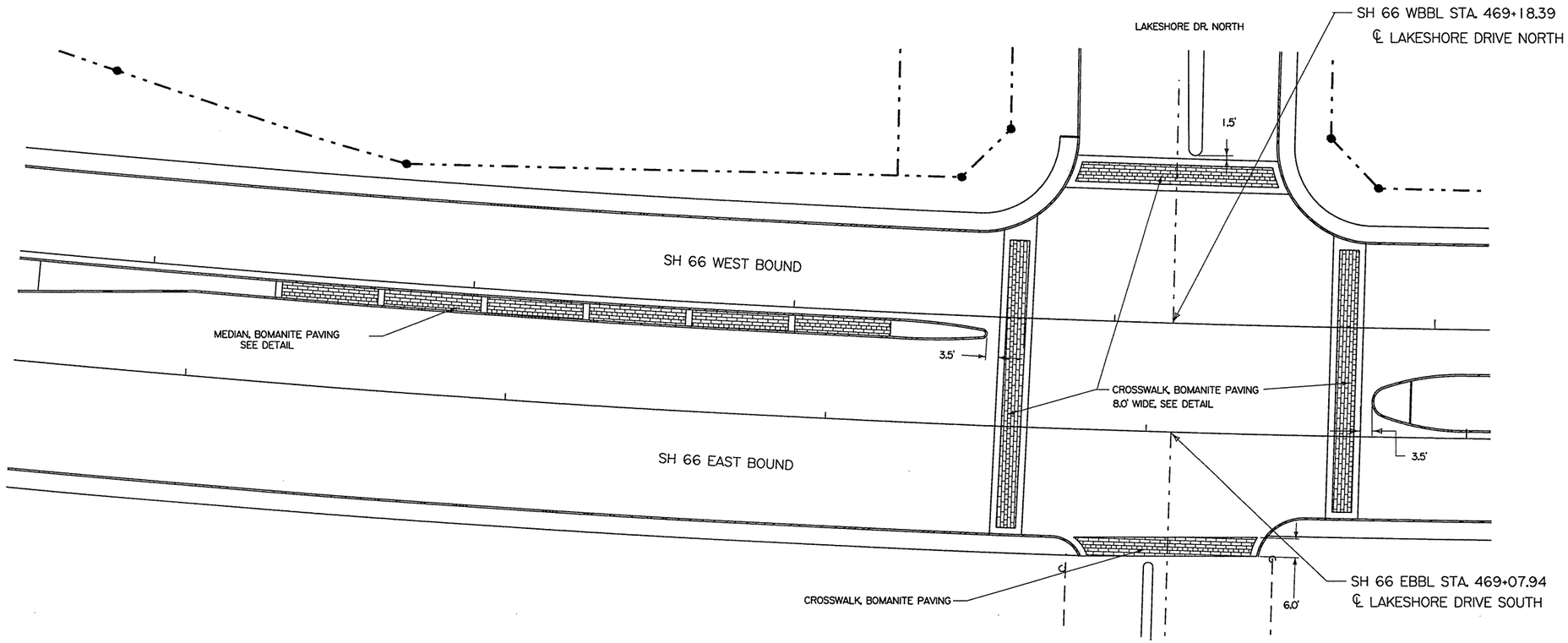
MISCELLANEOUS PAVING DETAILS

SHEET 5 OF 7 SHEETS

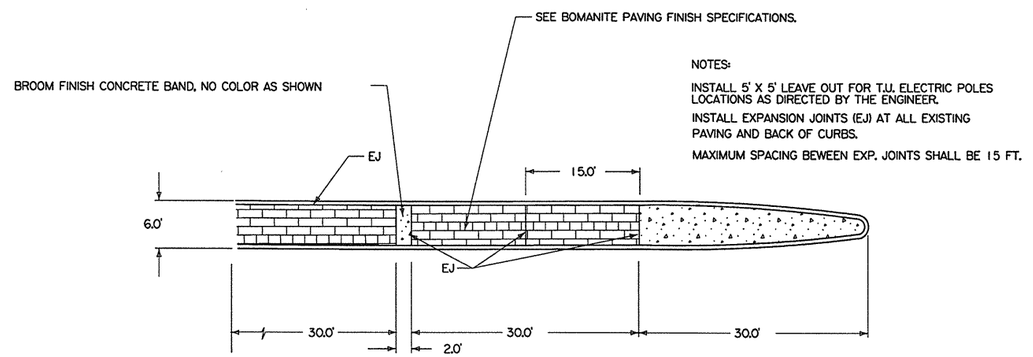
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		155
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

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LAKESHORE DRIVE BOMANITE PAVING



MEDIAN DETAIL, BOMANITE PAVING

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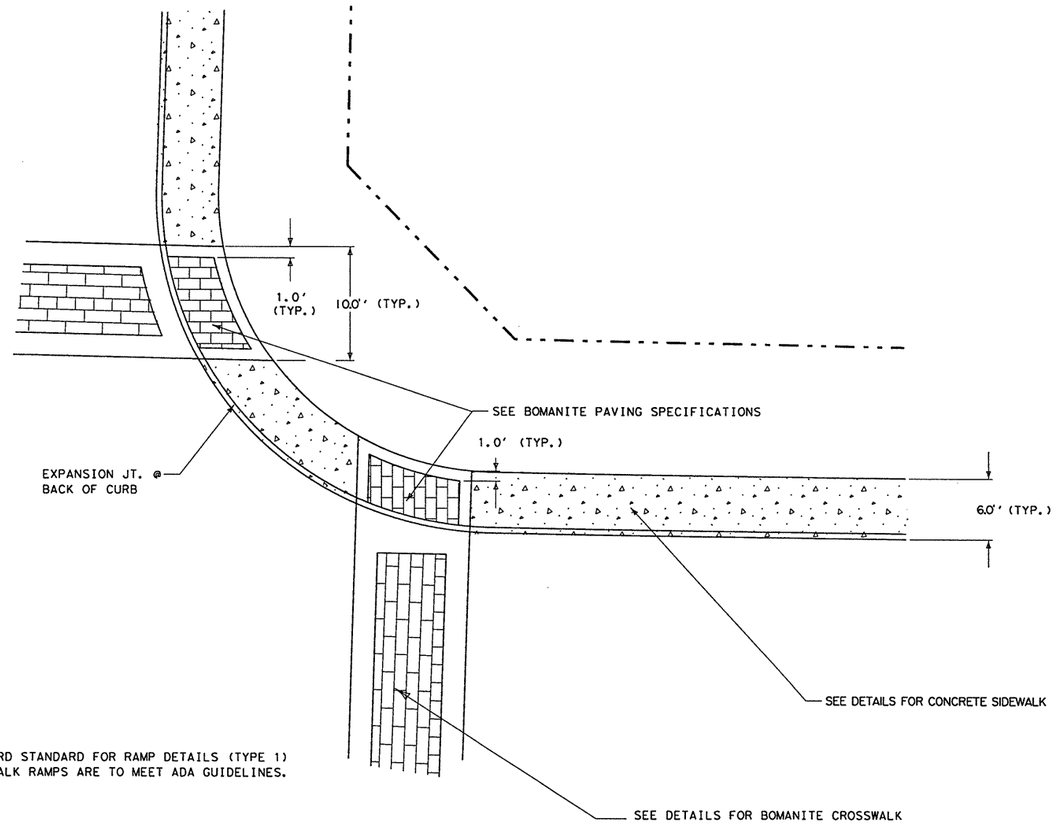
MISCELLANEOUS PAVING DETAILS

SHEET 6 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		155A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

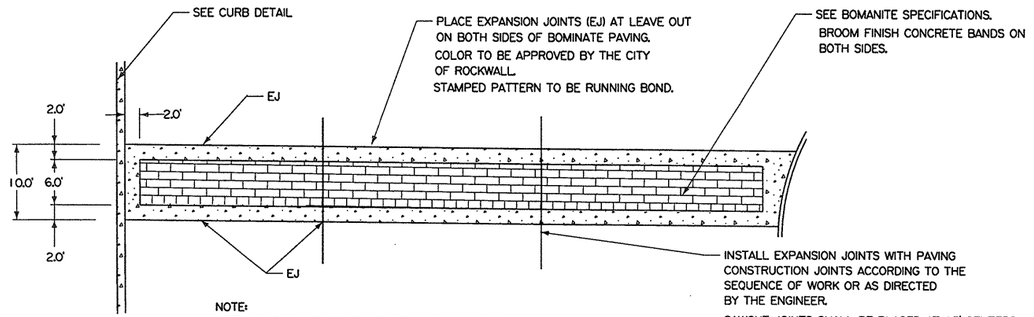
ADDED 6-28-99 DLP

66mmpaydgn 5-4-99



NOTE:
SEE SRD STANDARD FOR RAMP DETAILS (TYPE 1)
SIDEWALK RAMPS ARE TO MEET ADA GUIDELINES.

LAKESHORE SIDEWALK RAMP , BOMANITE PAVING



NOTE:
INSTALL ADA HANDICAP RAMPS AT ALL CROSWALKS.
SEE SRD STANDARD FOR FURTHER DETAILS.

LAKESHORE CROSSWALK DETAIL, BOMANITE PAVING

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5/4/99

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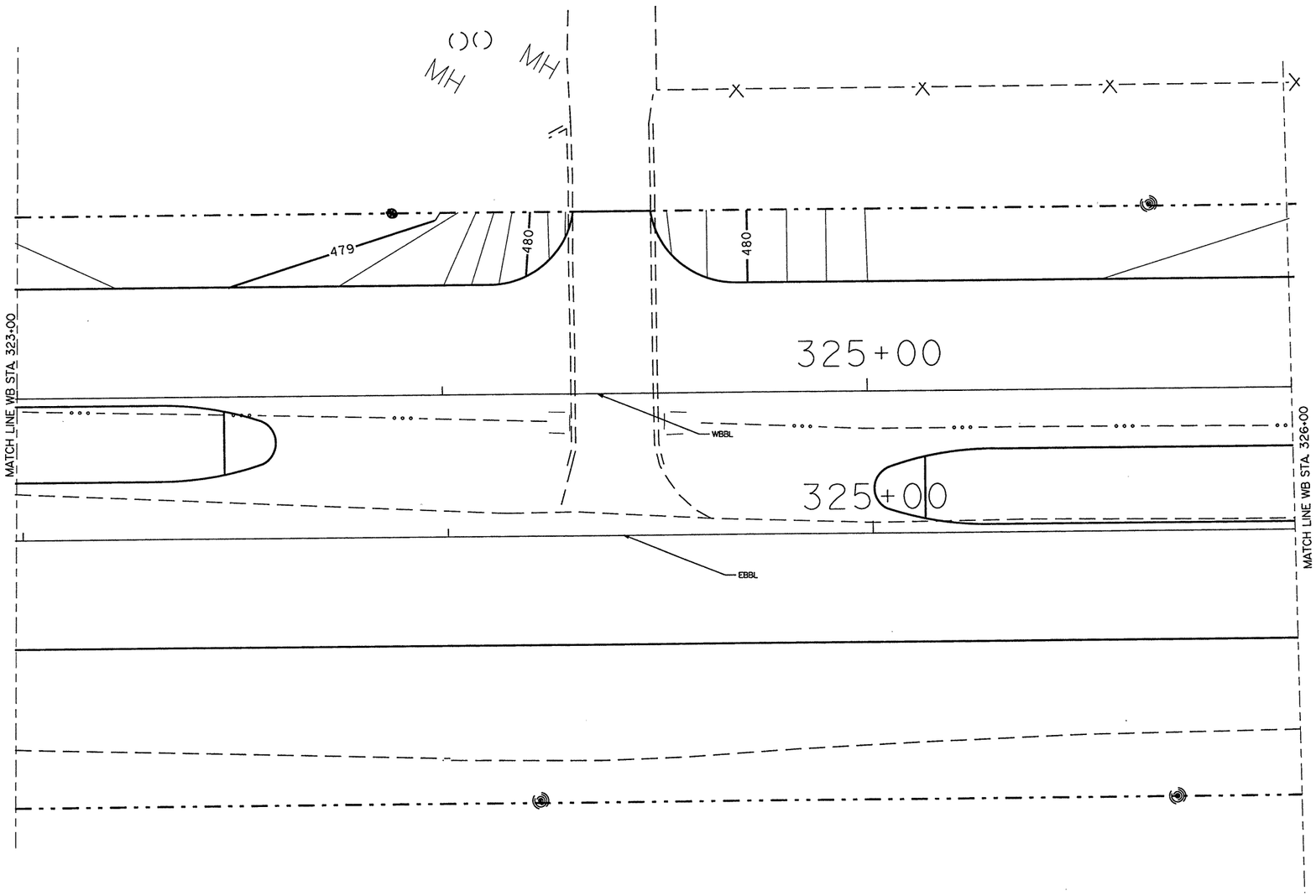
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MISCELLANEOUS PAVING DETAILS

SHEET 7 OF 7 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		155B
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

66mspav.dgn 5-4-99



MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
5/17/99

GRADING PLAN

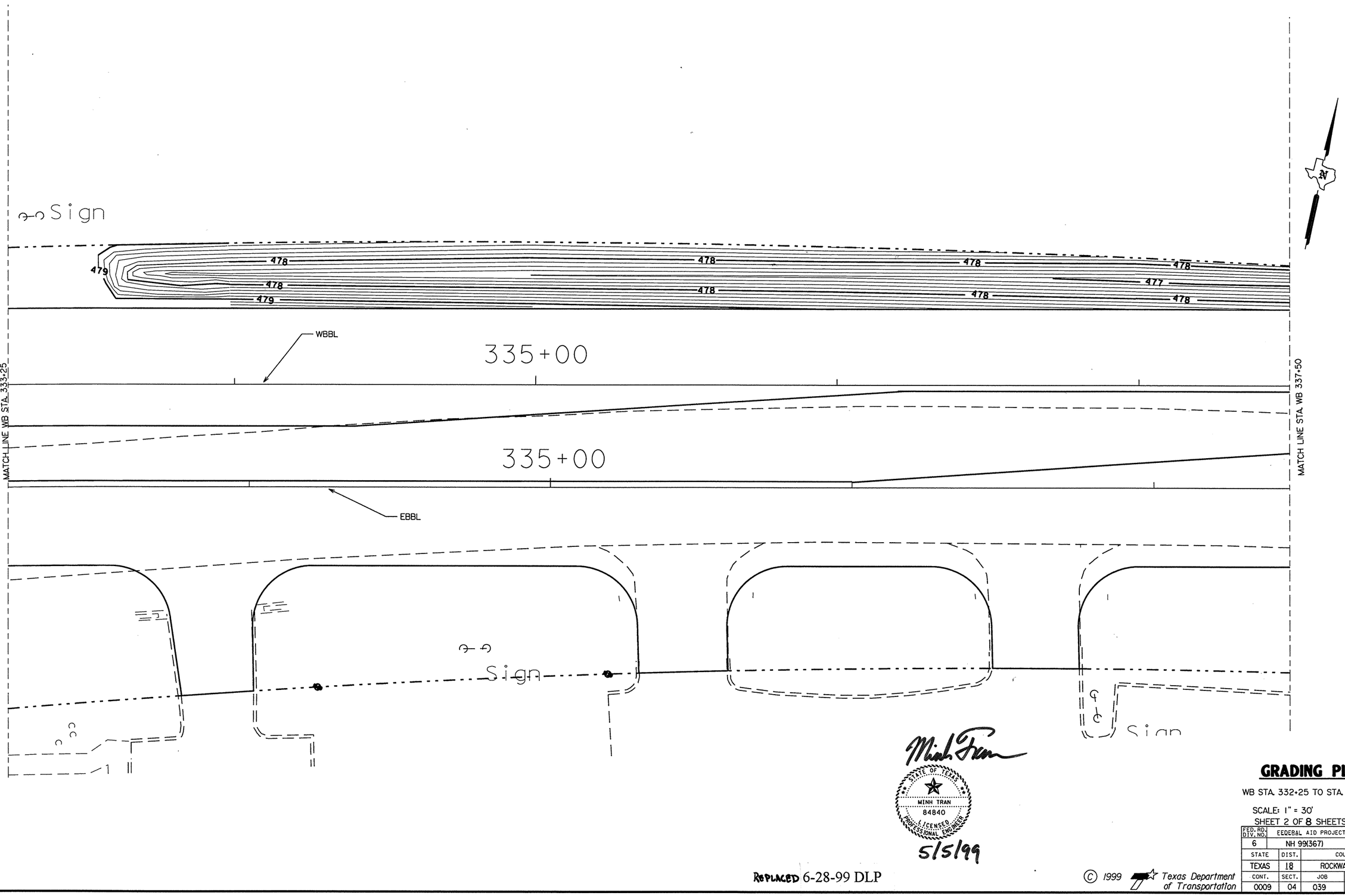
WB STA. 323+00 TO WB STA. 326+00
SCALE: 1"=30'

SHEET 1 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		156
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REPLACED 6-28-99 DLP

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STATE OF TEXAS
5/5/99

REPLACED 6-28-99 DLP

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GRADING PLAN

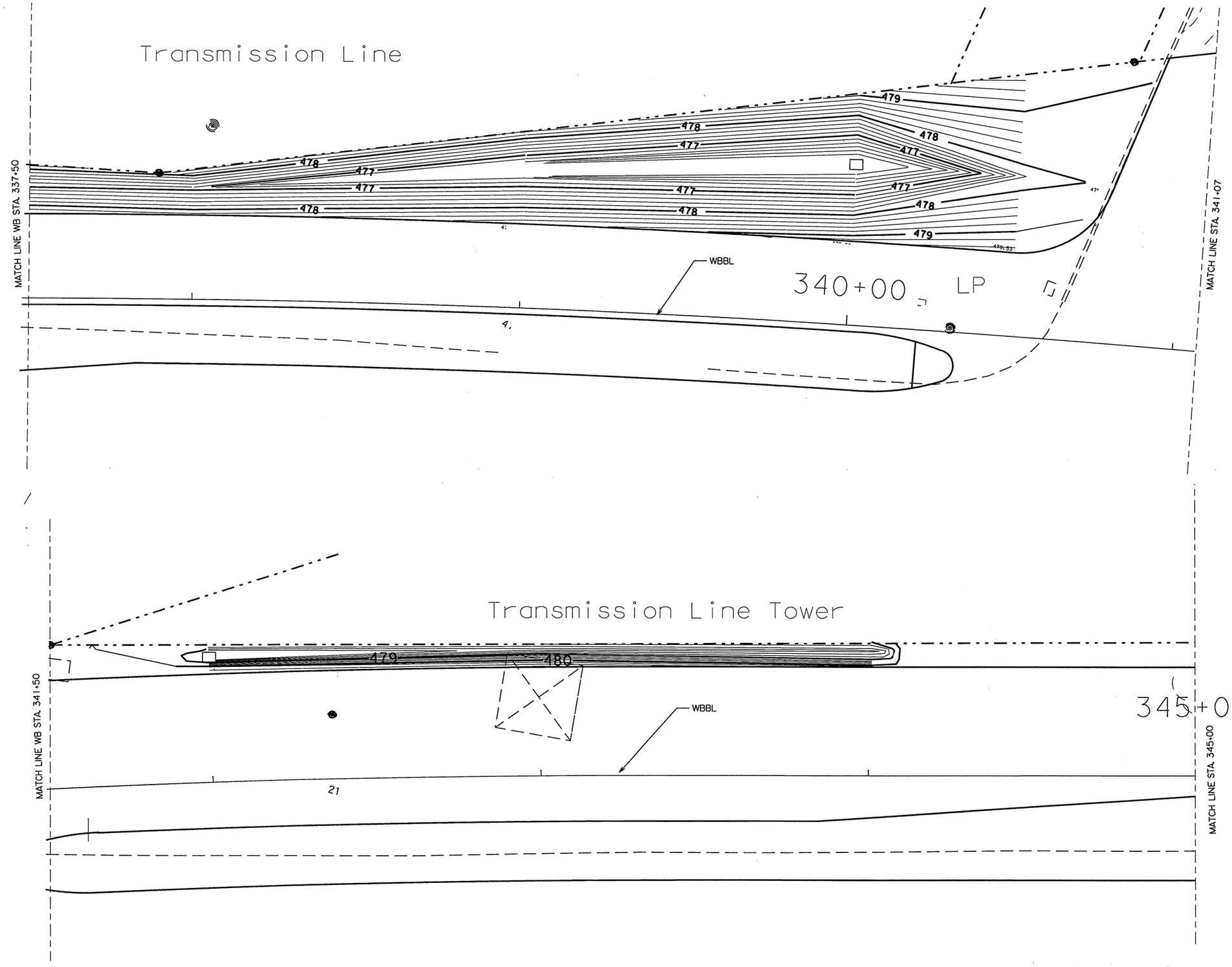
WB STA. 332+25 TO STA. 337+50

SCALE: 1" = 30'

SHEET 2 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		157
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

GGRADF1.DGN TFF 4445



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MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER
5/5/99

GRADING PLAN

WB STA. 337+50 TO WB STA. 345+00

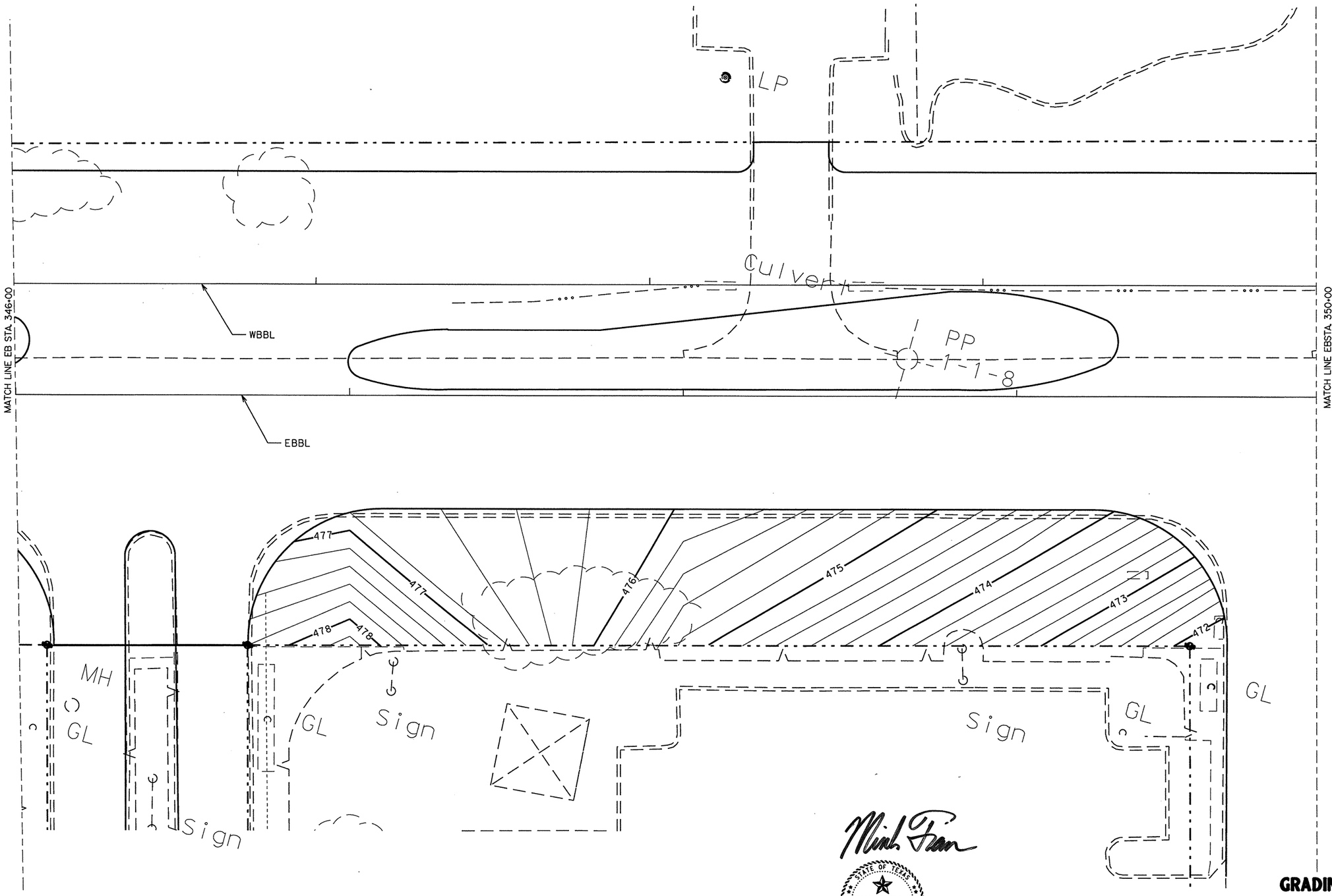
SCALE: 1"=30'
SHEET 3 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		158
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REPLACED 6-28-99 DLP

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TODD4491



Minh Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

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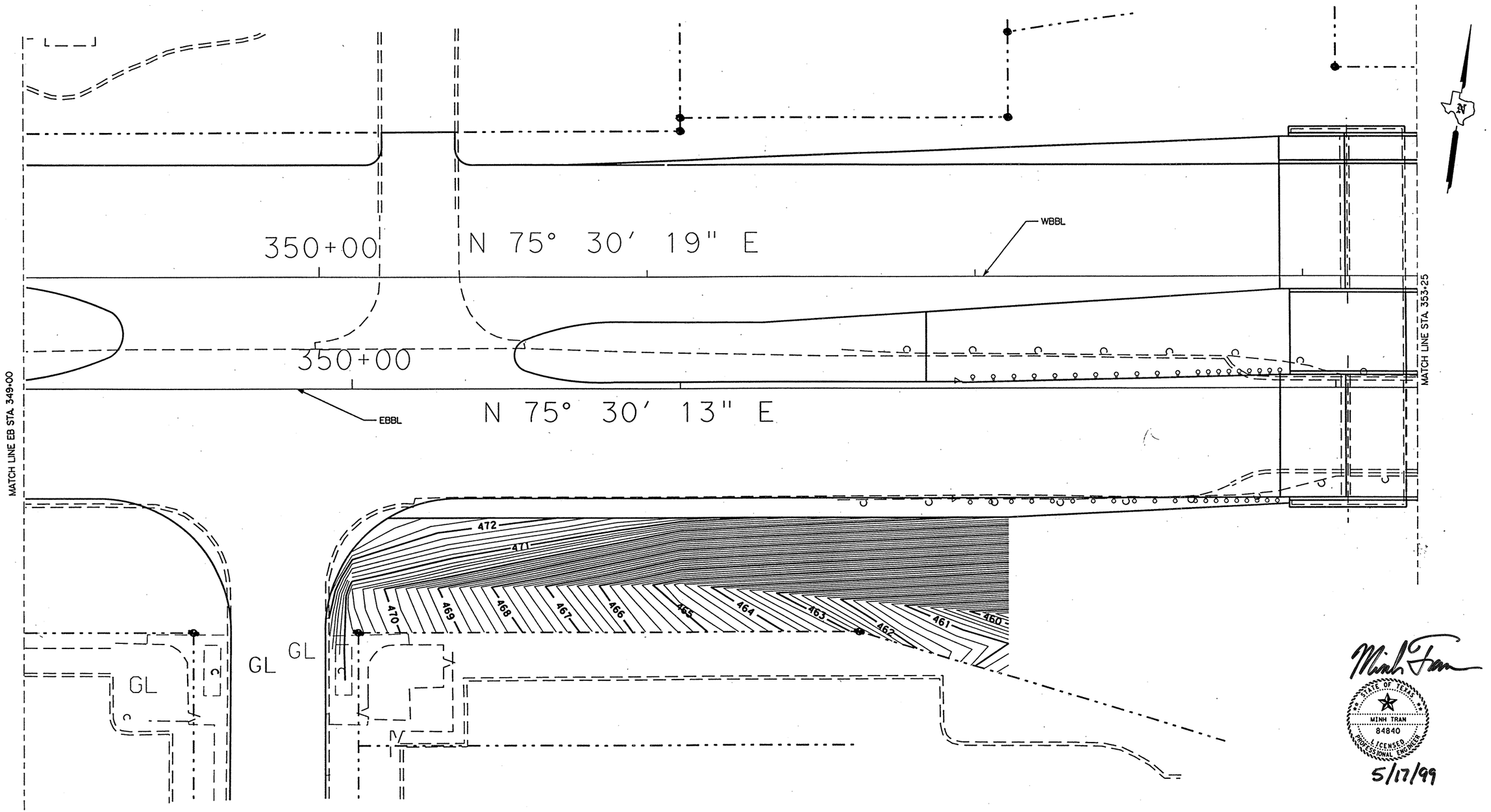
GRADING PLAN

EB STA. 346+00 TO EB STA. 350+00
SCALE: 1"=30'

SHEET 4 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		159
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

5/17/99

GRADING PLAN

WB STA. 337+50 TO WB STA. 345+00

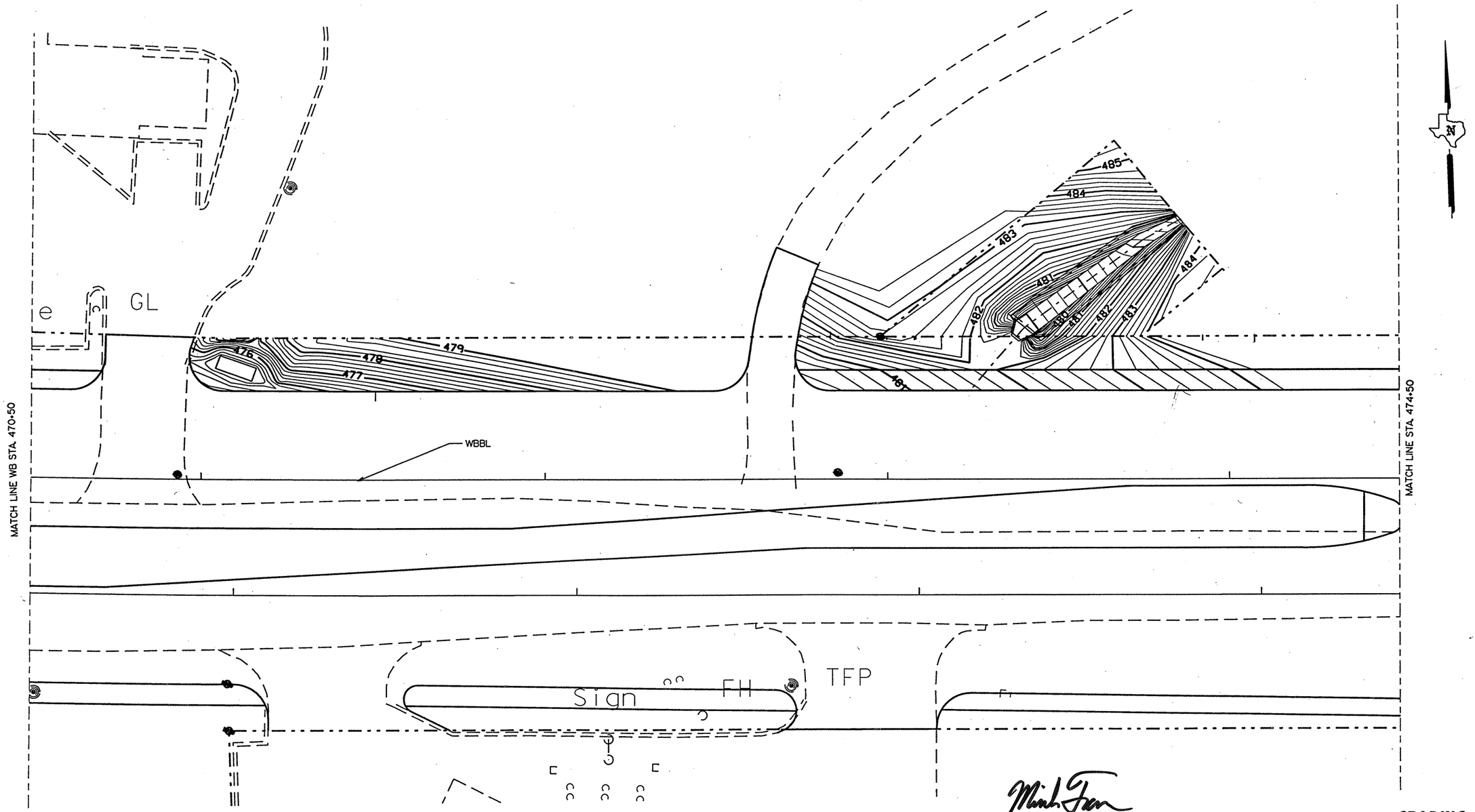
SCALE: 1"=30'

SHEET 5 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		160
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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LICENSED PROFESSIONAL ENGINEER
5/17/99

ADDED 6-28-99 DLP

GRADING PLAN

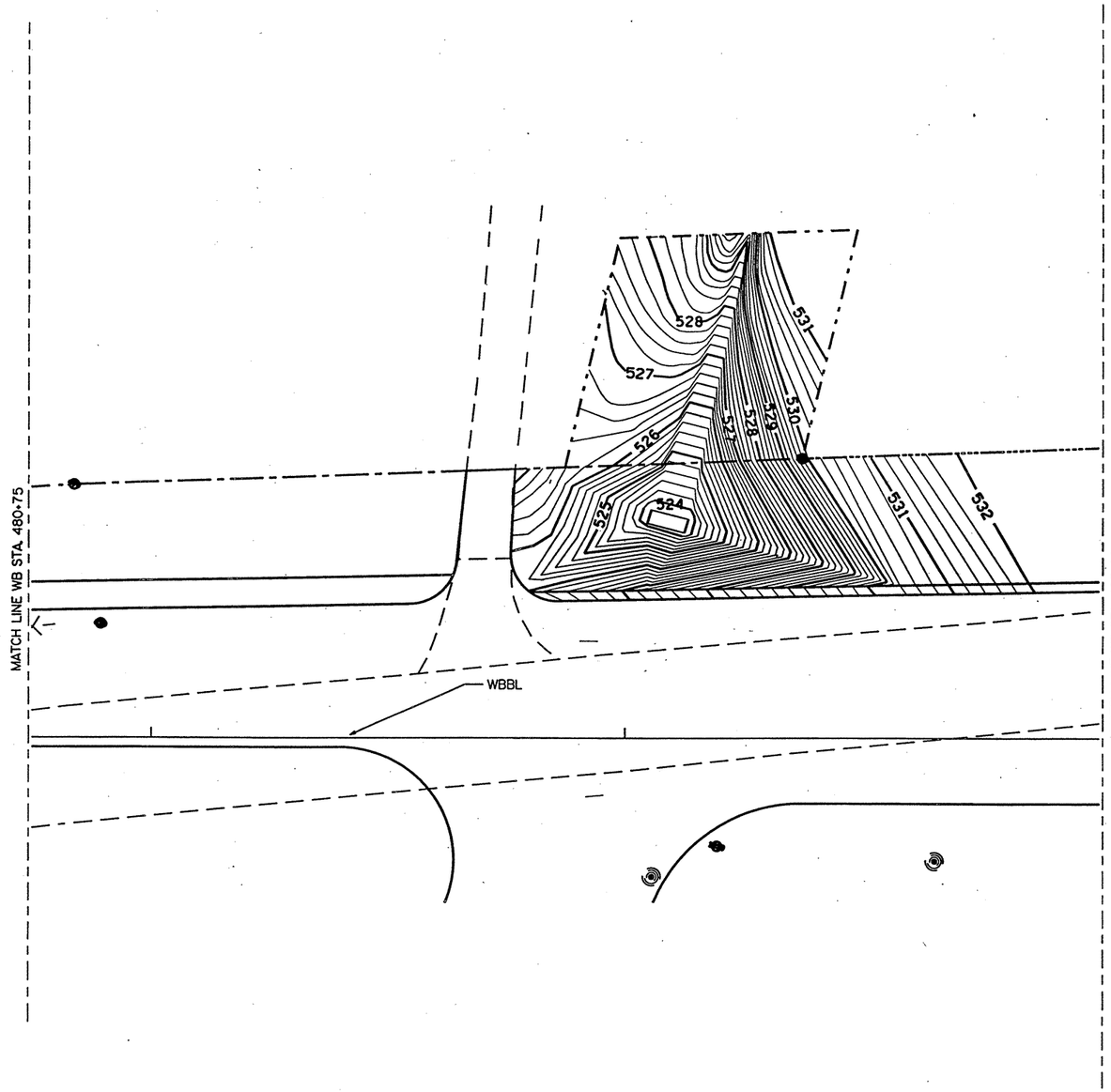
WB STA. 470+50 TO WB STA. 474+50
SCALE: 1"=30'

SHEET 6 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		160A
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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tmn4491







5/17/99

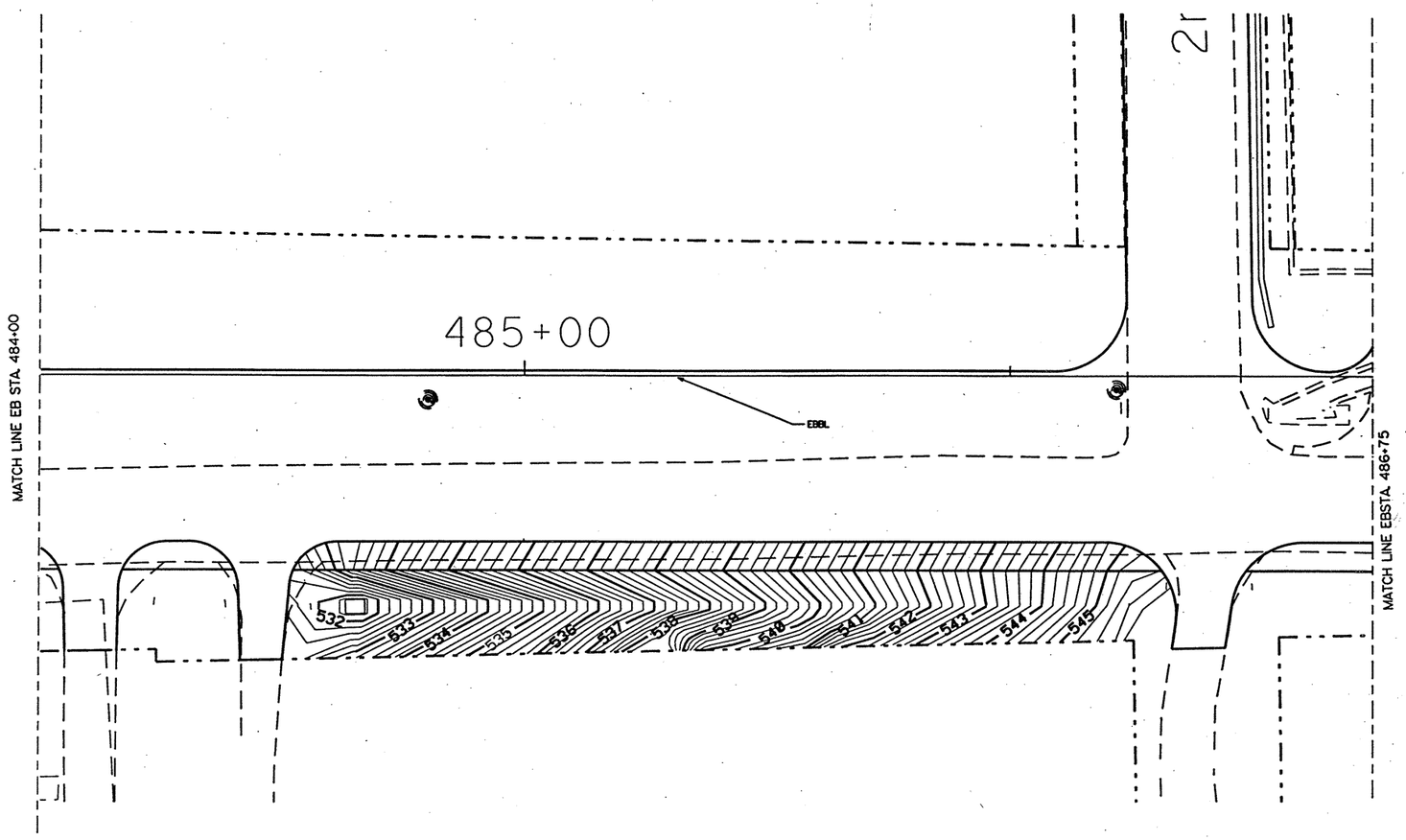
GRADING PLAN

WB STA. 480+75 TO WB STA. 483+00
SCALE: 1"=30'
SHEET 7 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		1608
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

ADDED 6-28-99 DLP

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LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
5/17/99

GRADING PLAN

EB STA. 484+00 TO EB STA. 486+75
SCALE: 1"=30'

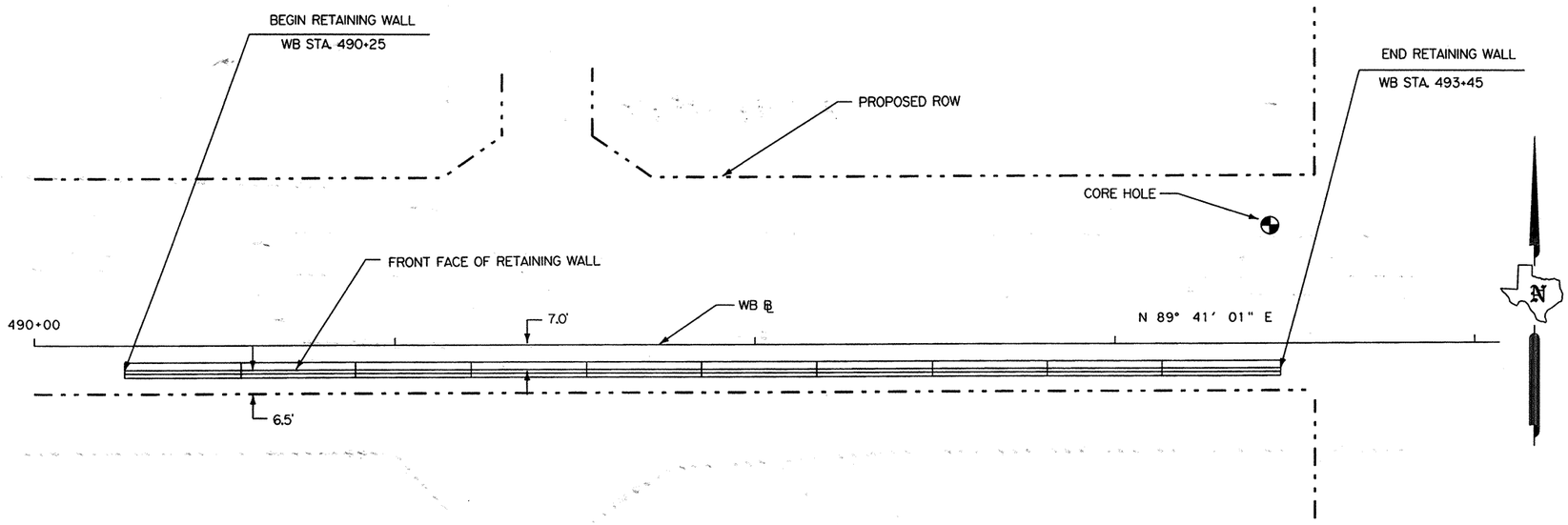
SHEET 8 OF 8 SHEETS.

FED. RD. DIV. NO.	EEDEBAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		160C
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

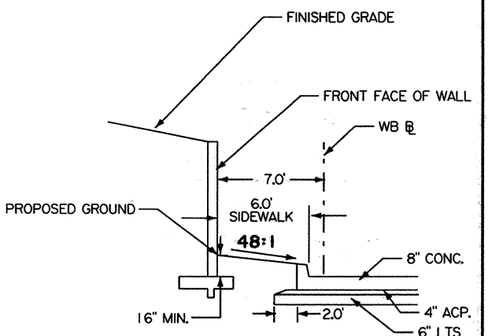
ADDED 6-28-99 DLP

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TXDOT2491



PLAN



TYPICAL SECTION
N.T.S.

ESTIMATED QUANTITIES

	ITEM	UNIT	QUANTITY
	RETAINING WALL	SF	932
*	STR EXCAV (RET WALL)	CY	182
Δ*	CL C CONC (RET WALL)	CY	104.7
*	REINF STL	LB	8,800
*	WATPRF (TY 10)	SY	106.7
*	FILTER MATL (TY F)(RET WALL)	CY	47

*~Quantities for contractor's information only.
Δ~Includes quantities for steps in footings.

GENERAL NOTES:

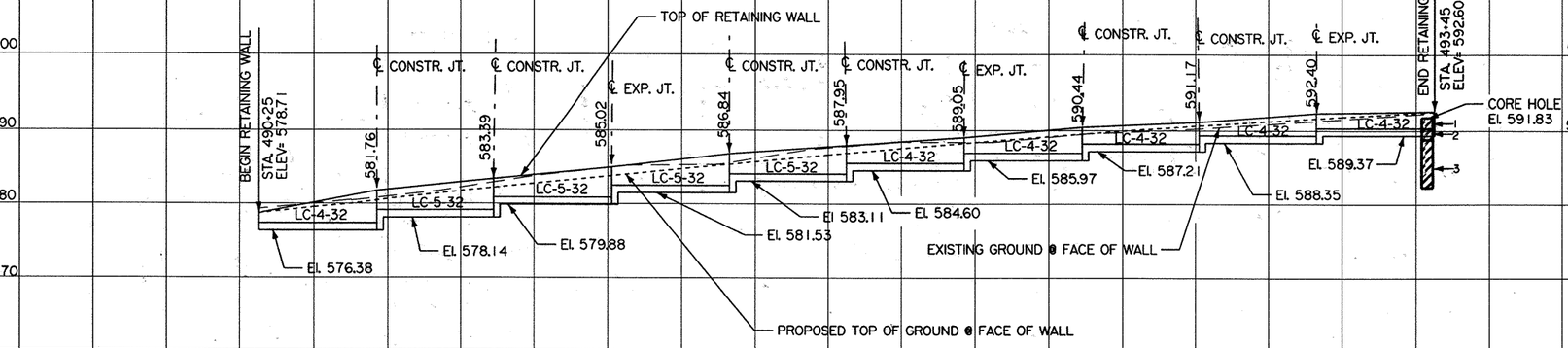
For details and notes not shown see RW1 (L) C and RW 2.

For Bar Schedules see RW 4 (LC) 1.

Two weep holes per panel as detailed on RW2 unless otherwise shown.

CORE HOLE LEGEND

1. DARK BROWN, SILTY CLAY W/ ROADBED MATERIAL
2. TAN, SILTY AND SANDY CLAY W/ TRACES SHELL FRAGMENTS & SMALL PEBBLES
3. TAN & GREY, CALCAREOUS SILTY CLAY W/ TRACES OF CALICHE & SHELL FRAGMENTS, SHALEY W/ INCREASING DEPTH



WESTBOUND RETAINING WALL

ELEVATION

Proposed Ground Elev. / Existing Ground Elev.	490+00	491+00	492+00	493+00
	579.55 / 580.02	580.66 / 580.79	581.73 / 582.19	582.78 / 583.81
	583.80 / 584.96	584.81 / 585.34	585.77 / 586.22	586.70 / 587.66
	587.58 / 588.45	588.41 / 578.40	589.19 / 589.06	589.95 / 589.78
	590.64 / 590.26	591.29 / 590.90	591.90 / 591.58	592.46 / 592.26

STATE OF TEXAS
MONNIE H. MATTHEWS
15721
REGISTERED
PROFESSIONAL ENGINEER

1-29-99

Monnie H. Matthews

WESTBOUND RETAINING WALL LAYOUT

SCALE:
HORIZ: 1"= 40'
VERT: 1"= 20'

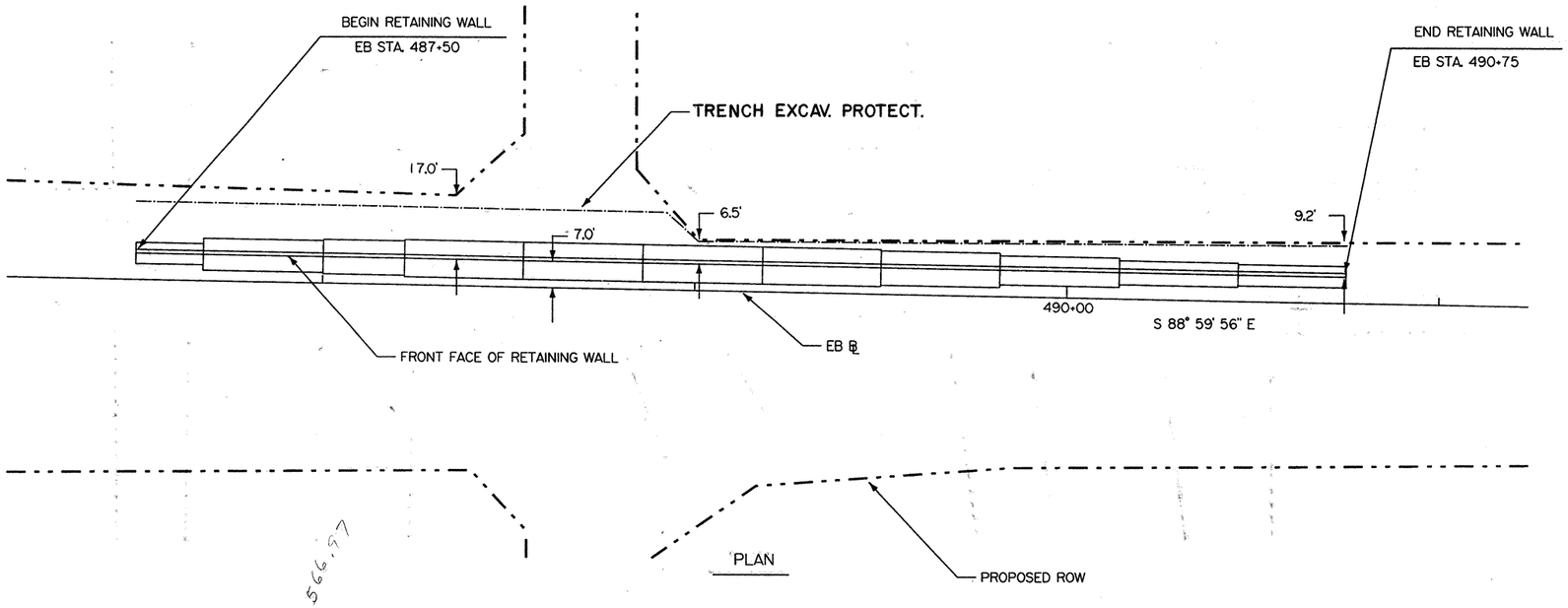
SHEET 1 OF 3 SHEETS

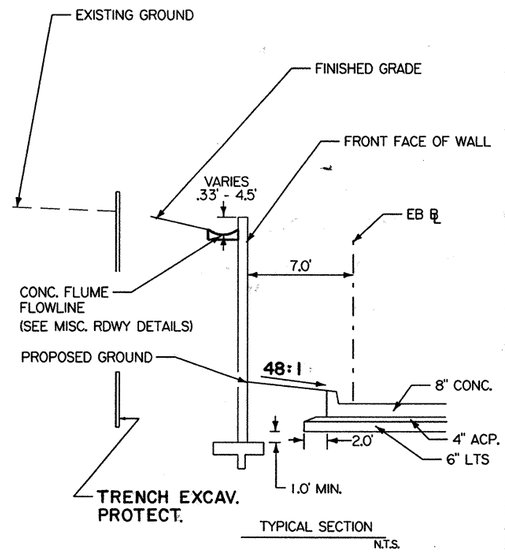
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6			161
STATE	STATE DIST. NO.	COUNTY	
TEXAS	DAL	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

28 JAN 99 11:05:08

DAL-BRDG-WS4_ut\enpdata\sh66\sh66retainpwall\sh66rw1.dgn

EXT 6204





ESTIMATED QUANTITIES

	ITEM	UNIT	QUANTITY
	RETAINING WALL	SF	2,935
*	STR EXCAV (RET WALL)	CY	1,028
△*	CL C CONC (RET WALL)	CY	237.9
*	REINF STL	LB	27,116
*	WATPRF (TY 10)	SY	108.3
*	FILTER MATL (TY F) (RET WALL)	CY	147

*~Quantities for contractor's information only.
△~Includes quantities for steps in footings.

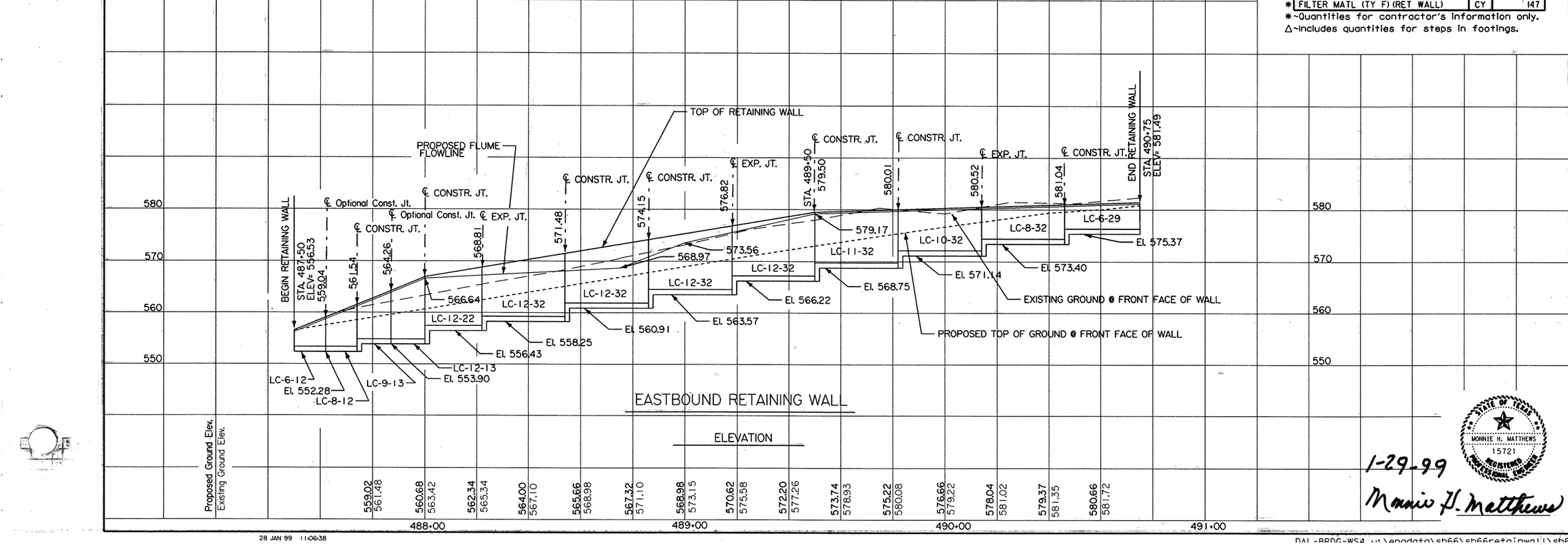
GENERAL NOTES:

For details and notes not shown see RW1 (L) C and RW2 .

For Bar Schedules see Rw 4 (LC) 1 and RW 4 (MOD).

Two weep holes per panel as detailed on RW2 unless otherwise shown.

See Rdwy. plans for Shoring and Flume details and pay quantities.



EASTBOUND RETAINING WALL LAYOUT

SCALE:
HORIZ: 1"= 40'
VERT: 1"= 20'

SHEET 2 OF 3 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6			162
STATE	STATE DIST. NO.	COUNTY	
TEXAS	DAL	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

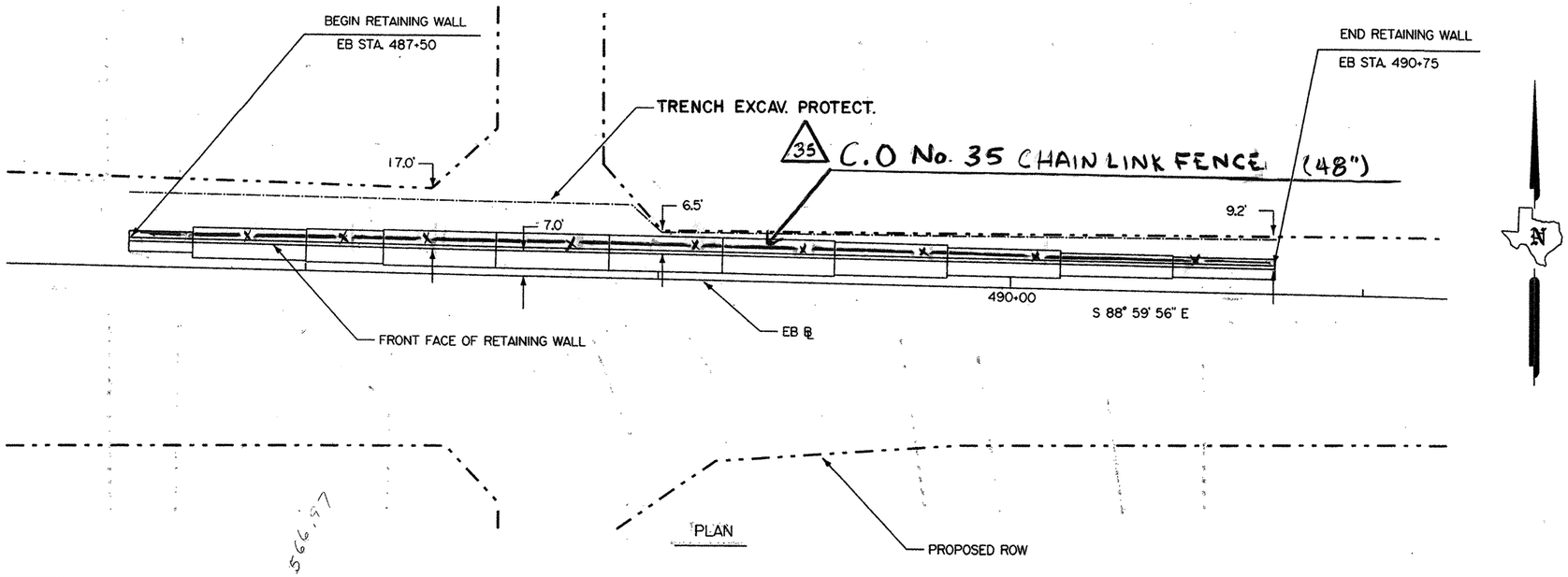
STATE OF TEXAS
MONNIE H. MATTHEWS
15721
REGISTERED
PROFESSIONAL ENGINEER

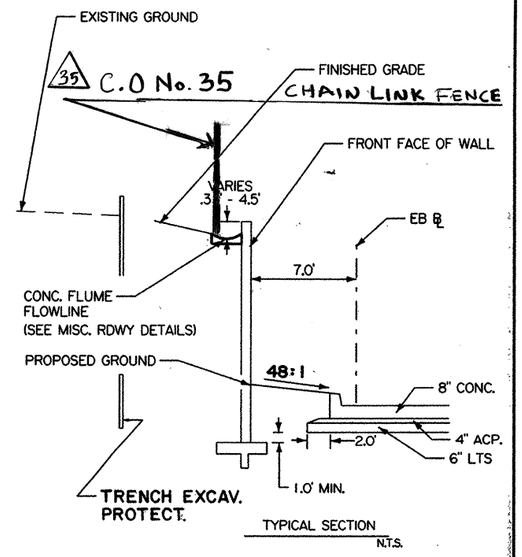
1-29-99
Monnie H. Matthews

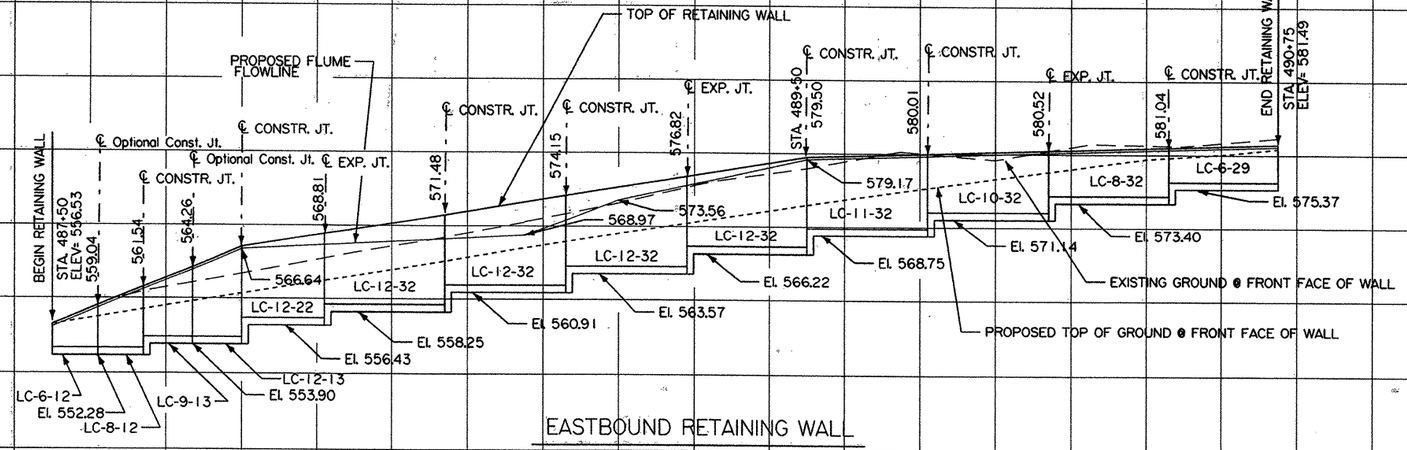
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EXT 6204







EASTBOUND RETAINING WALL

ELEVATION

ESTIMATED QUANTITIES

	ITEM	UNIT	QUANTITY
	RETAINING WALL	SF	2,935
*	STR EXCAV (RET WALL)	CY	1,028
Δ*	CL C CONC (RET WALL)	CY	237.9
*	REINF STL	LB	27,116
*	WATPRF (TY 10)	SY	108.3
*	FILTER MATL (TY F) (RET WALL)	CY	147

*~Quantities for contractor's information only.
Δ~Includes quantities for steps in footings.

GENERAL NOTES:

For details and notes not shown see RW1 (L) C and RW2.

For Bar Schedules see Rw 4 (LC) 1 and RW 4 (MOD).

Two weep holes per panel as detailed on RW2 unless otherwise shown.

See Rdwy. plans for Shoring and Flume details and pay quantities.

EASTBOUND RETAINING WALL LAYOUT

SCALE: HORIZ: 1"= 40' VERT: 1"= 20'

SHEET 2 OF 3 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6			12A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	DAL	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS
MONNIE H. MATTHEWS
15721
REGISTERED
PROFESSIONAL ENGINEER

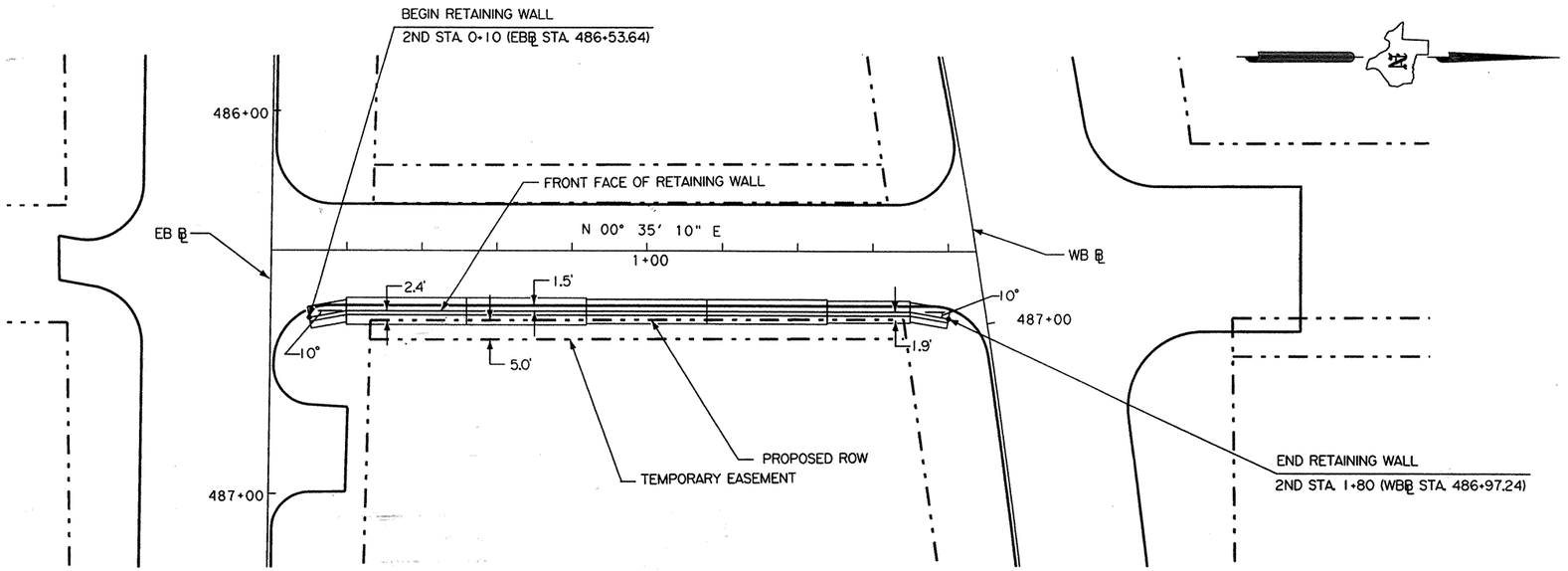
1-29-99

Monnie H. Matthews

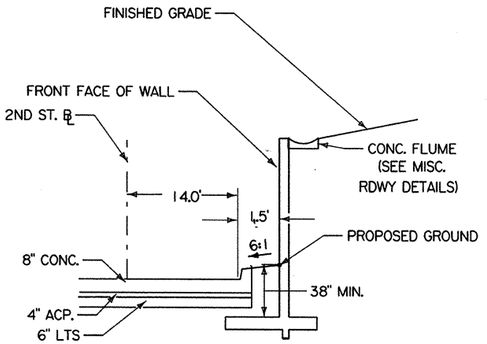
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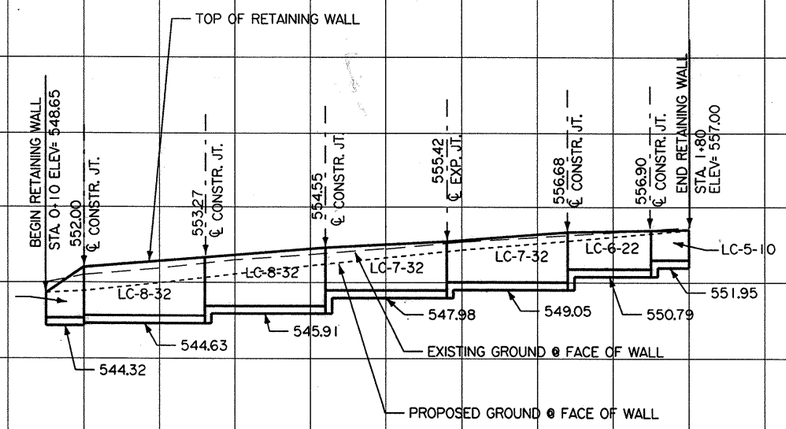
FXT 6704



PLAN



TYPICAL SECTION
N.T.S.



2ND STREET RETAINING WALL

ELEVATION

Proposed Ground Elevation	548.91	549.95	551.13	552.21	553.23	554.25	555.10	555.89	557.00
Existing Ground Elevation	551.00	551.88	552.95	553.65	554.46	555.33	556.00	556.55	557.33

0+00 1+00 1+80

ESTIMATED QUANTITIES

	ITEM	UNIT	QUANTITY
	RETAINING WALL	SF	1,032
*	STR EXCAV (RET WALL)	CY	312.4
△*	CL C CONC (RET WALL)	CY	84.8
*	REINF STL	LB	7633
*	WATPRF (TY 10)	SY	56.7
*	FILTER MATL (TY F)RET WALL)	CY	39.0

*-Quantities for contractor's information only.
△-Includes quantities for steps in footings.

GENERAL NOTES:

1. For details and notes not shown see RW 1 (L) C and RW 2.
2. For Bar Schedules see RW 4 (LC) 1 and RW 4 (MOD).
3. Two weep holes per panel as detailed on RW 2 unless otherwise shown.
4. Construction Joints and Expansion Joints to be placed as shown.

STATE OF TEXAS
MONNIE H. MATTHEWS
15721
REGISTERED PROFESSIONAL ENGINEER

3-16-99

Monnie H. Matthews

2ND STREET RETAINING WALL LAYOUT

SCALE:
HORIZ: 1"= 40'
VERT: 1"= 20'

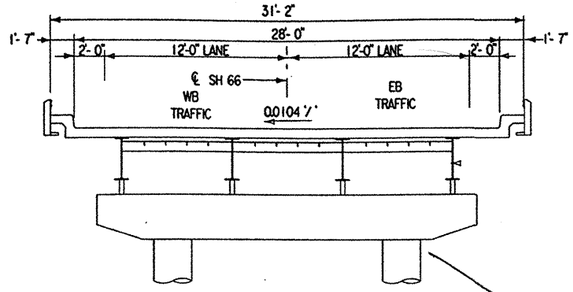
SHEET 3 OF 3 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6			163
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

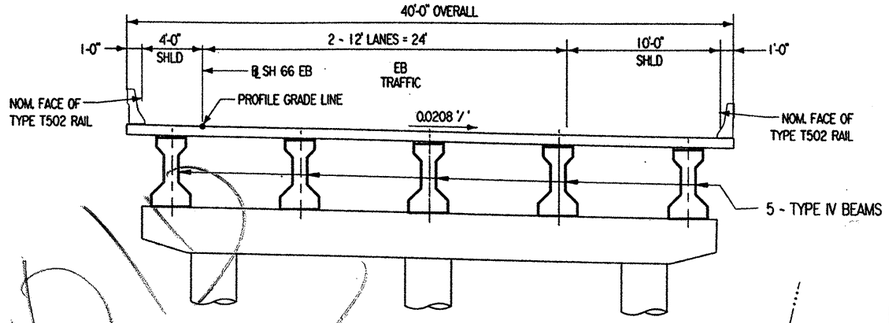
FYT 6411

16 MAR 99 15:11:23

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EXISTING SH 66 BRIDGE
SCALE: 1" = 10'



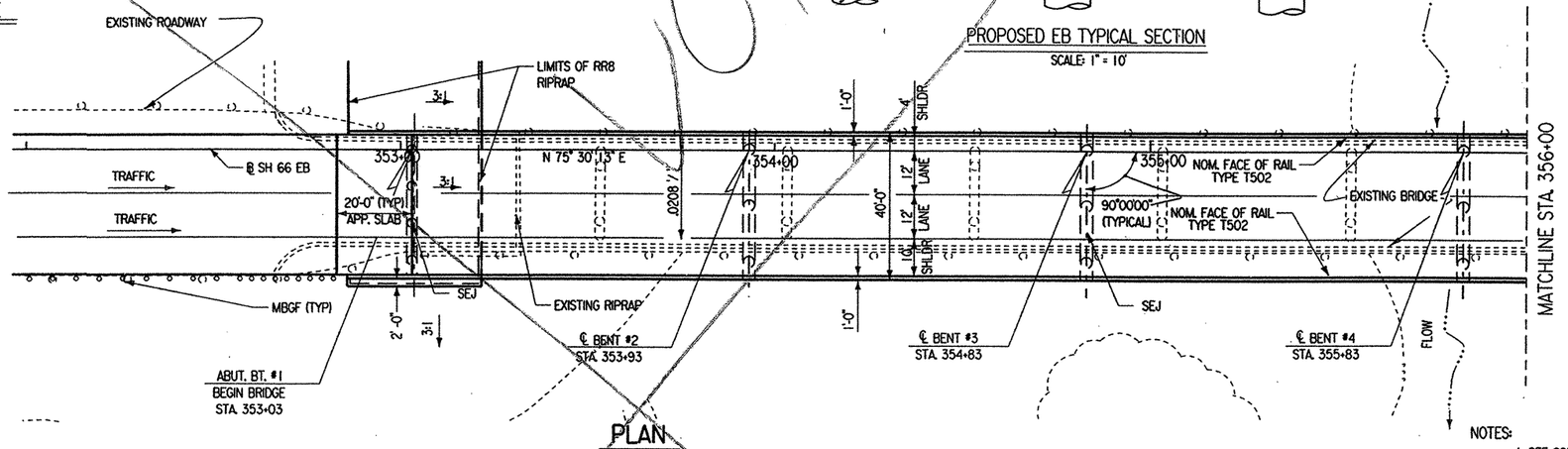
PROPOSED EB TYPICAL SECTION
SCALE: 1" = 10'

DESIGN SPEED = 45 MPH
ADT (2020) = 21,900
FUNC. CLASS. = URBAN ARTERIAL

HYDRAULIC DATA

NORMAL LAKE ELEV. = 435.50

Q_{50} = 40,000 cfs V_{50} = 0.45 fps TxDOT HW_{50} = 437.60
Q_{100} = 48,000 cfs V_{100} = 0.53 fps TxDOT HW_{100} = 437.70



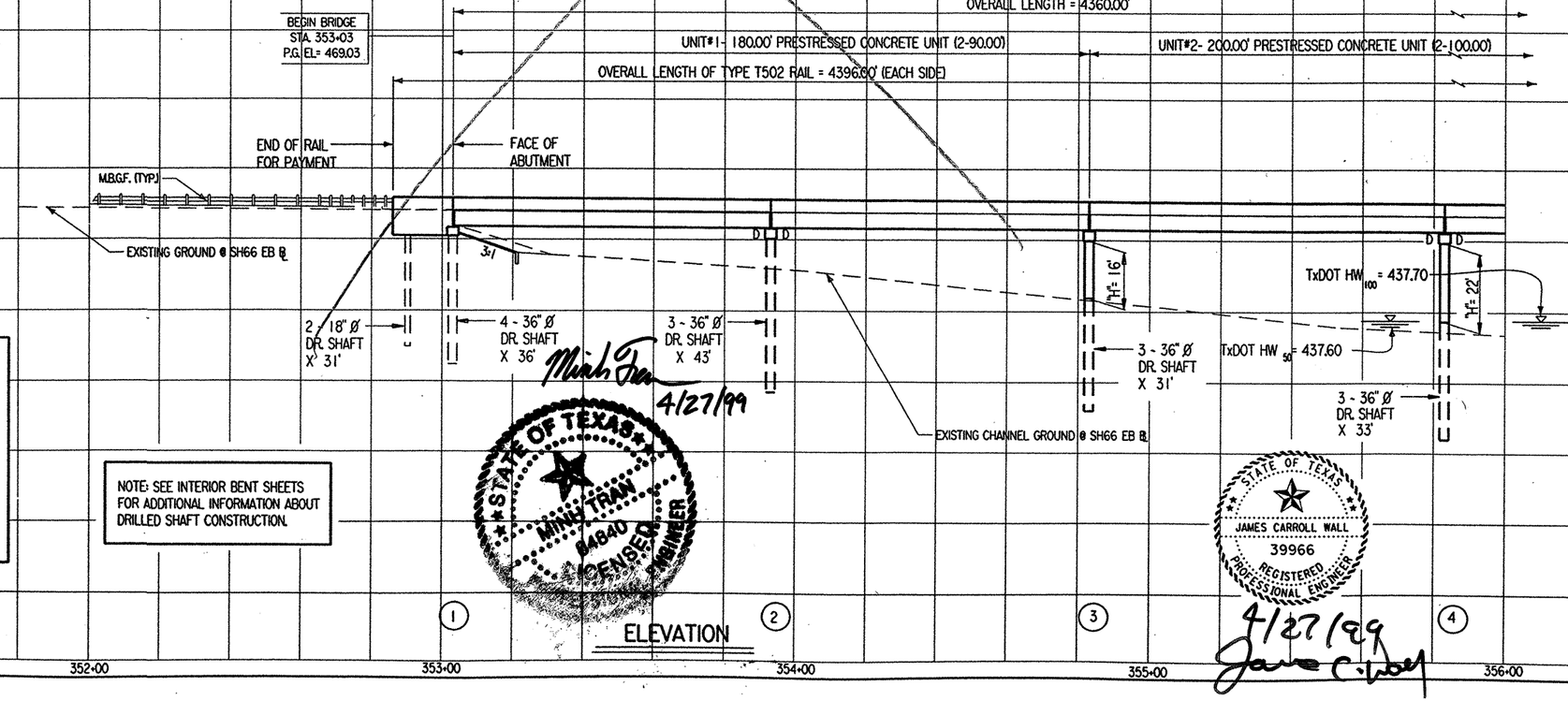
PLAN

NOTES:
1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE



DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2, 3 & 44 = 6'-0"
BENTS 4, 5 & 32 THRU 43 = 7'-0"
BENTS 6 THRU 31 = 4'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

ELEVATION

STATE OF TEXAS
MINU TRAN
84840
LICENSED ENGINEER
Mark Tran
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
4/29/99

STRUCTURE NO: 423

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

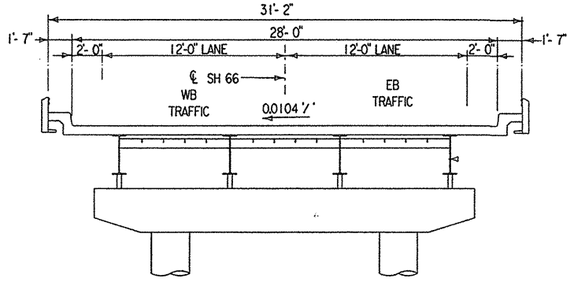
SHEET 1 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		164
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

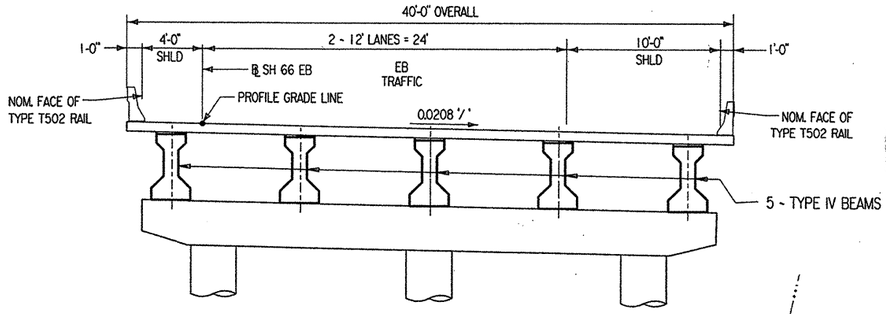
DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

ACTIVE FILE LEVELS USED
1 2 3 4 5 6 7 8 9 10 11 12 31 41 51 61
7 18 19 20 21 22 23 24 25 26 29 30 43 152
33 45 55 56 57 58 59 60 61 62 63 64 94 148
95 96 125 253 254 255 65 66 67 68 69 96 161 163



EXISTING SH 66 BRIDGE

SCALE: 1" = 10'



PROPOSED EB TYPICAL SECTION

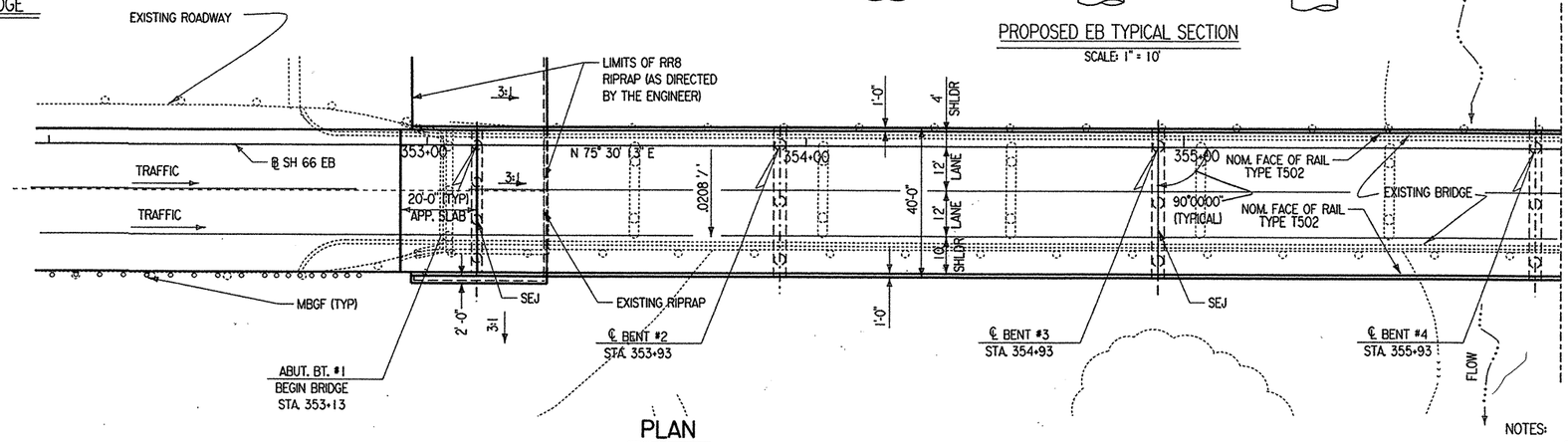
SCALE: 1" = 10'

DESIGN SPEED = 45 MPH
ADT (2020) = 21,900
FUNC. CLASS. = URBAN ARTERIAL

HYDRAULIC DATA

NORMAL LAKE ELEV. = 435.50

Q_{50} = 40,000 cfs	V_{50} = 0.45 fps	TxDOT HW_{50} = 437.60
Q_{100} = 48,000 cfs	V_{100} = 0.53 fps	TxDOT HW_{100} = 437.70



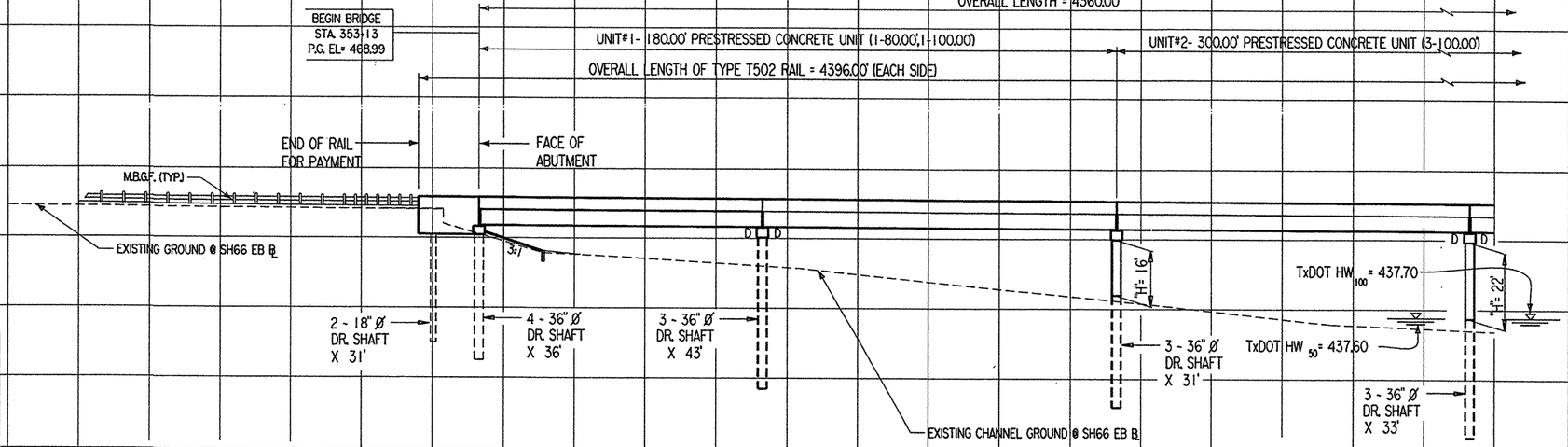
PLAN

NOTES:
1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE



ELEVATION

DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2, 3 & 44 = 6'-0"
BENTS 4, 5 & 32 THRU 43 = 7'-0"
BENTS 6 THRU 31 = 4'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

REVISIONS:
7/01 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS. MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC30
FILE: 5691LY01.DGN

DISPLAYED
ACTIVE FILE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
8/29/01

Mahn Batch
8-29-01
(For C.O #9 only)

CHANGE ORDER NO. 9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

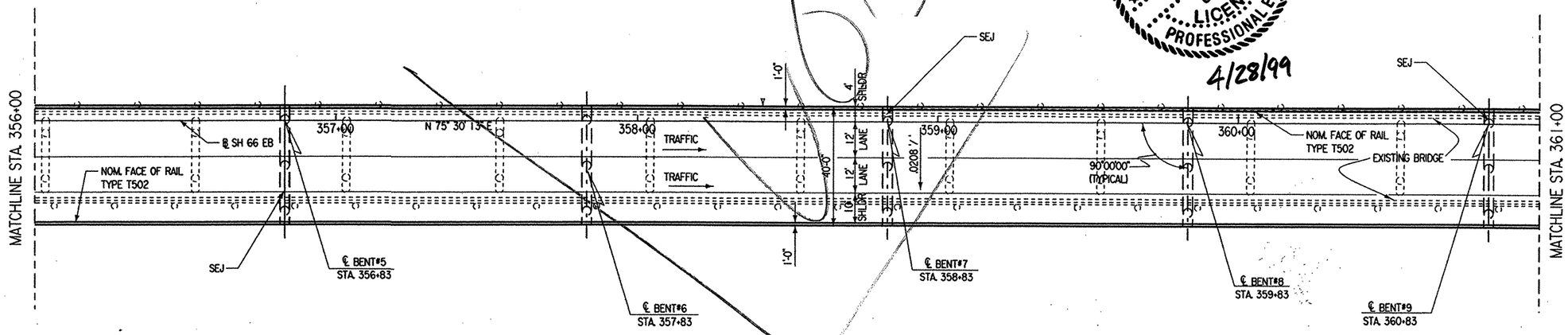
LAYOUT

SHEET 1 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	164 A

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

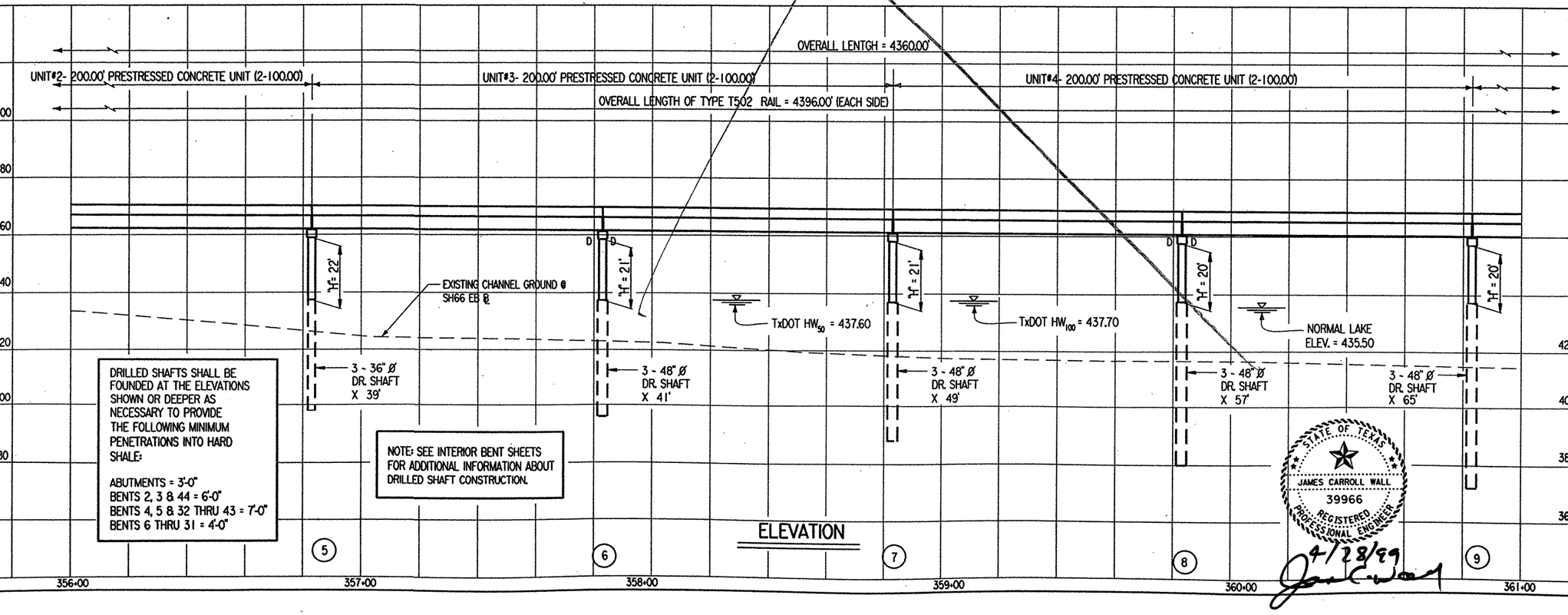
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 2 OF 10 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	165

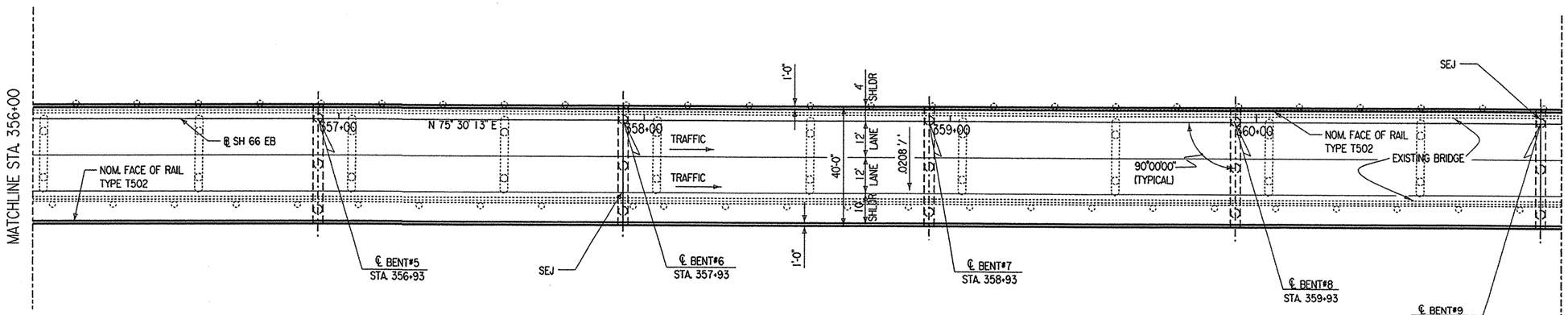
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH
DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN
ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/28/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/28/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/28/99



PLAN

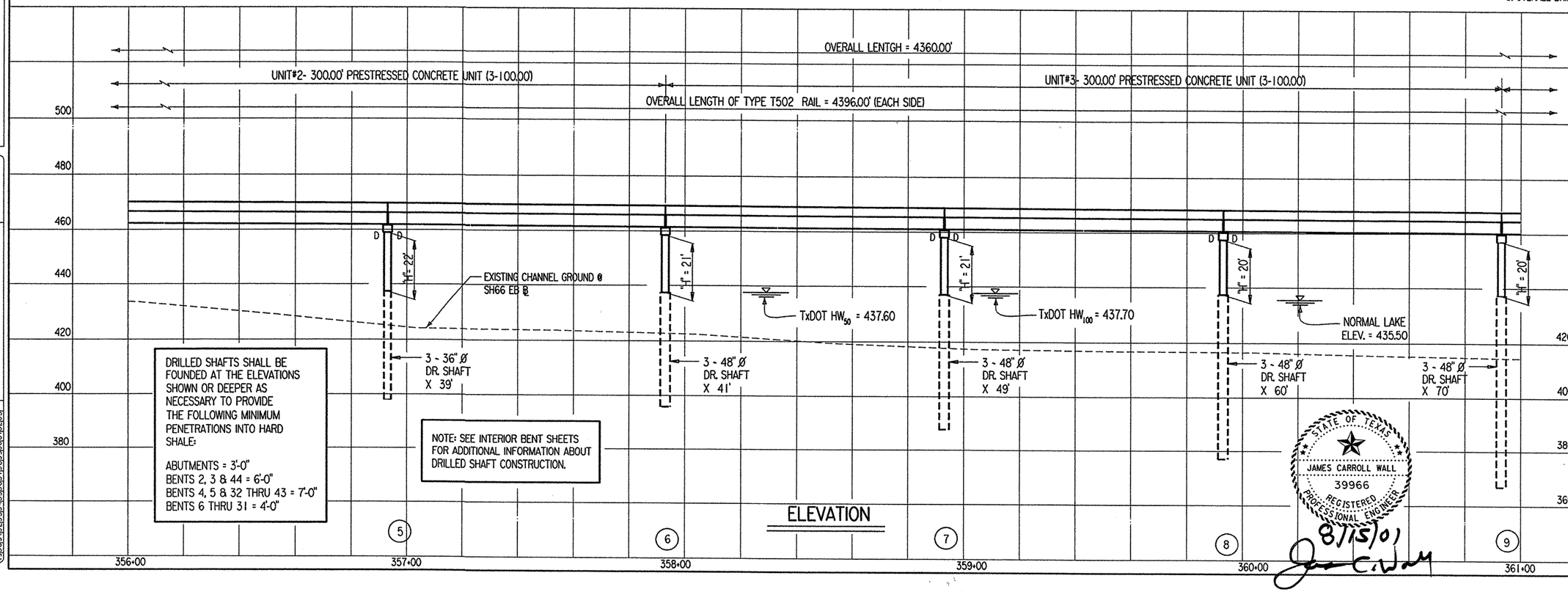
NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

STATE OF TEXAS
MAKRAM DATAINEH
82298
REGISTERED PROFESSIONAL ENGINEER

8-29-01
(For C.O.#9 only)

CHANGE ORDER NO. 9



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

8/24/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 2 OF 10 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	165 P

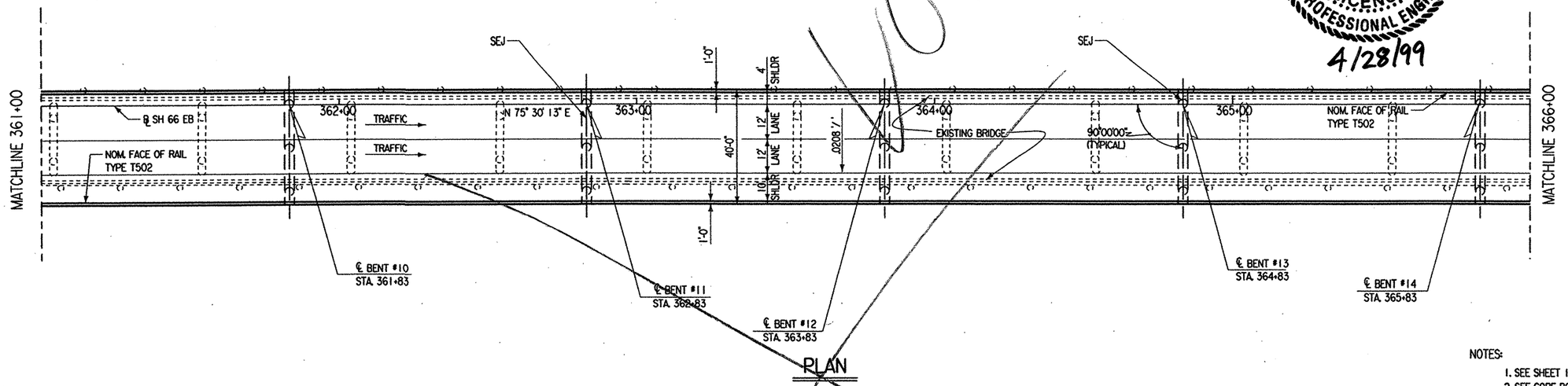
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REVISIONS:
7/01 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC30
FILE: 5691LY01.DGN

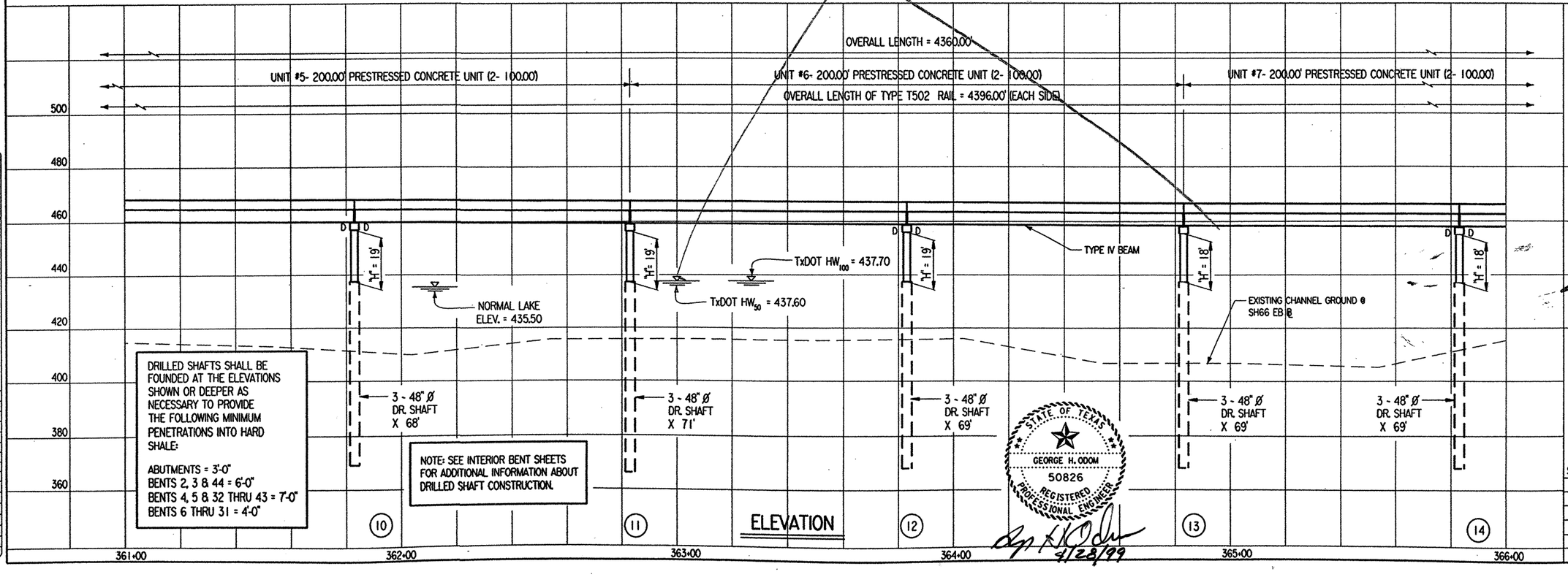
PLOTTED
ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGHT MEASURED ALONG SH66 EB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 3 OF 10 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	166

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

FILE: 5691LY01.DGN

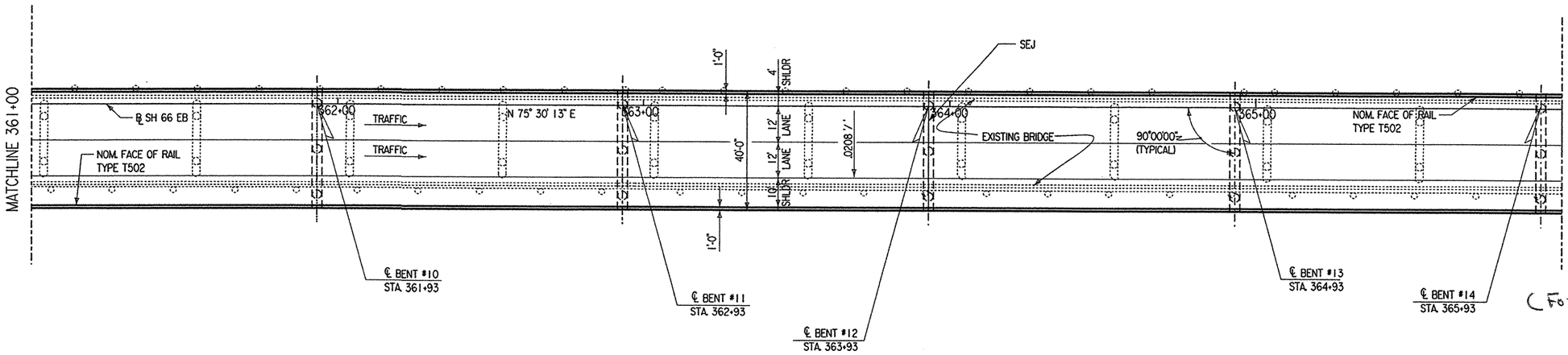
DISPLAYED ACTIVE FILE

VOID

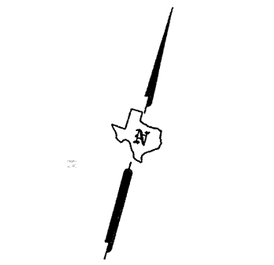
STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/28/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/28/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/28/99



PLAN



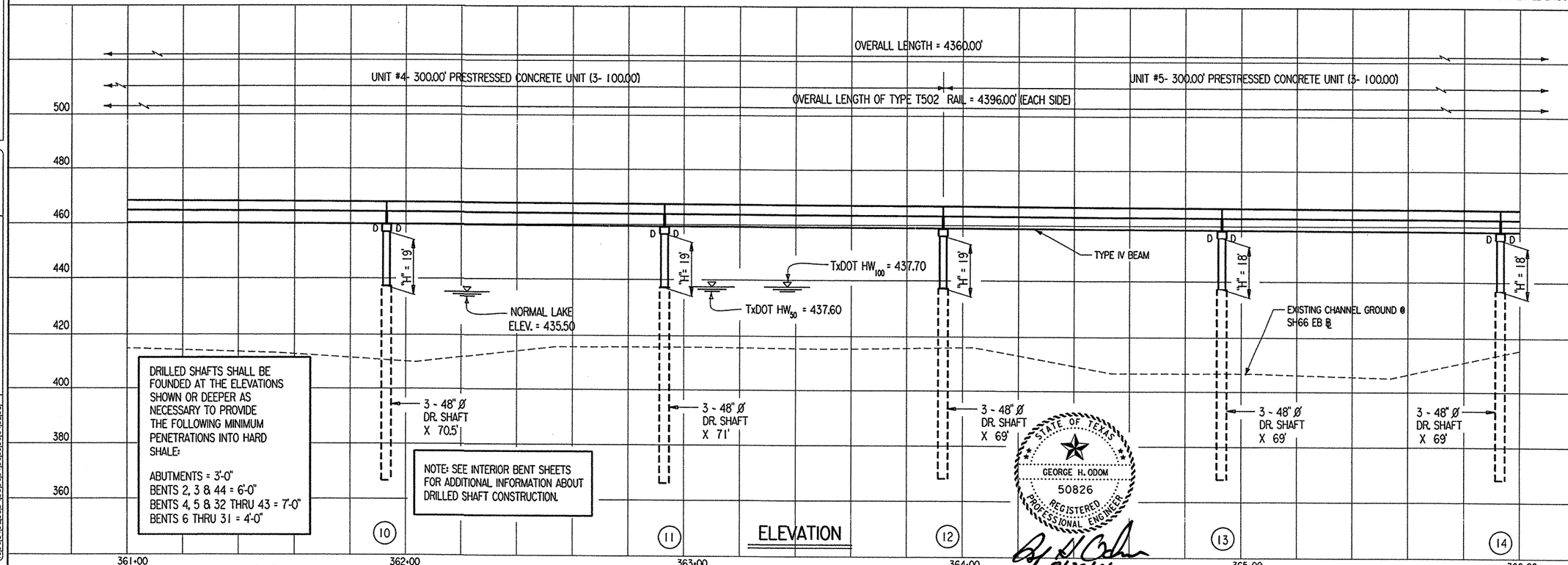
8-29-01

(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGHT MEASURED ALONG SH66 EB ℄.



ELEVATION

8/20/01

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE



8/15/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 3 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		166 A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

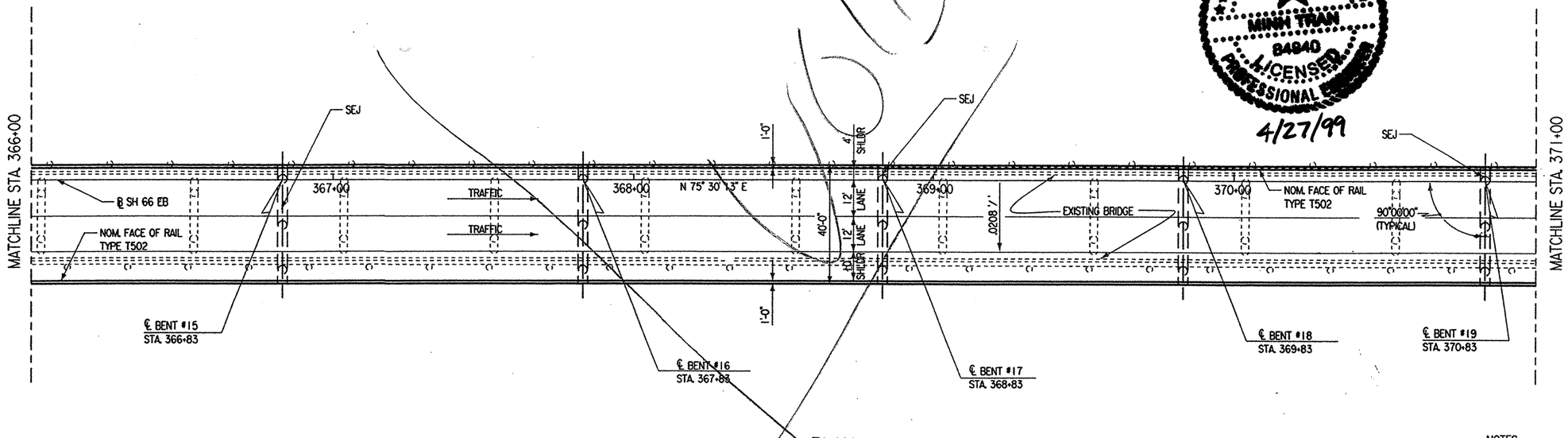
REVISIONS:
7/01 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

DPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

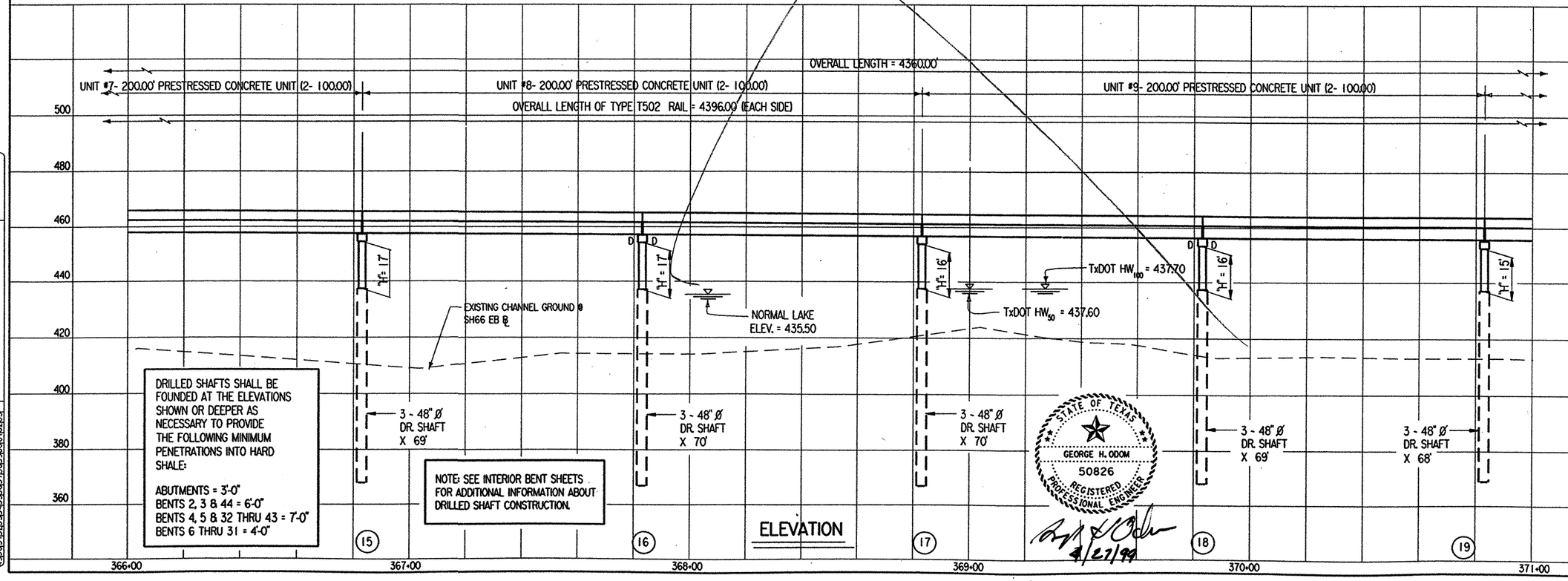
ACTIVE FIL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2, 3 & 44 = 6'-0"
BENTS 4, 5 & 32 THRU 43 = 7'-0"
BENTS 6 THRU 31 = 4'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

ELEVATION

VERTICAL CURVE DATA

-0.444 %
NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE LAYOUT

SHEET 4 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	167

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

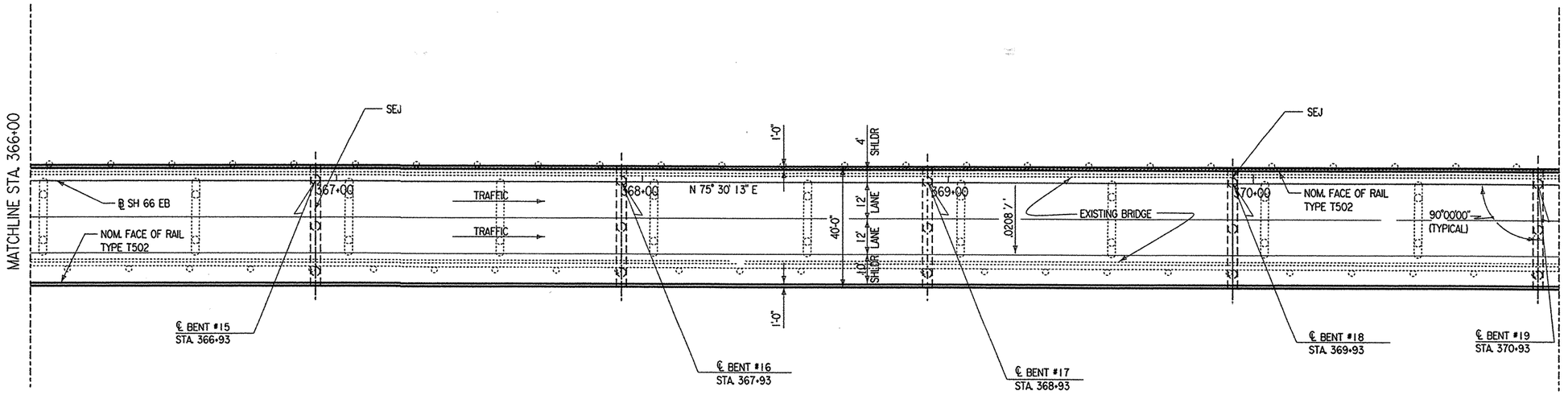
DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

ACTIVE FILE (Levels used)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

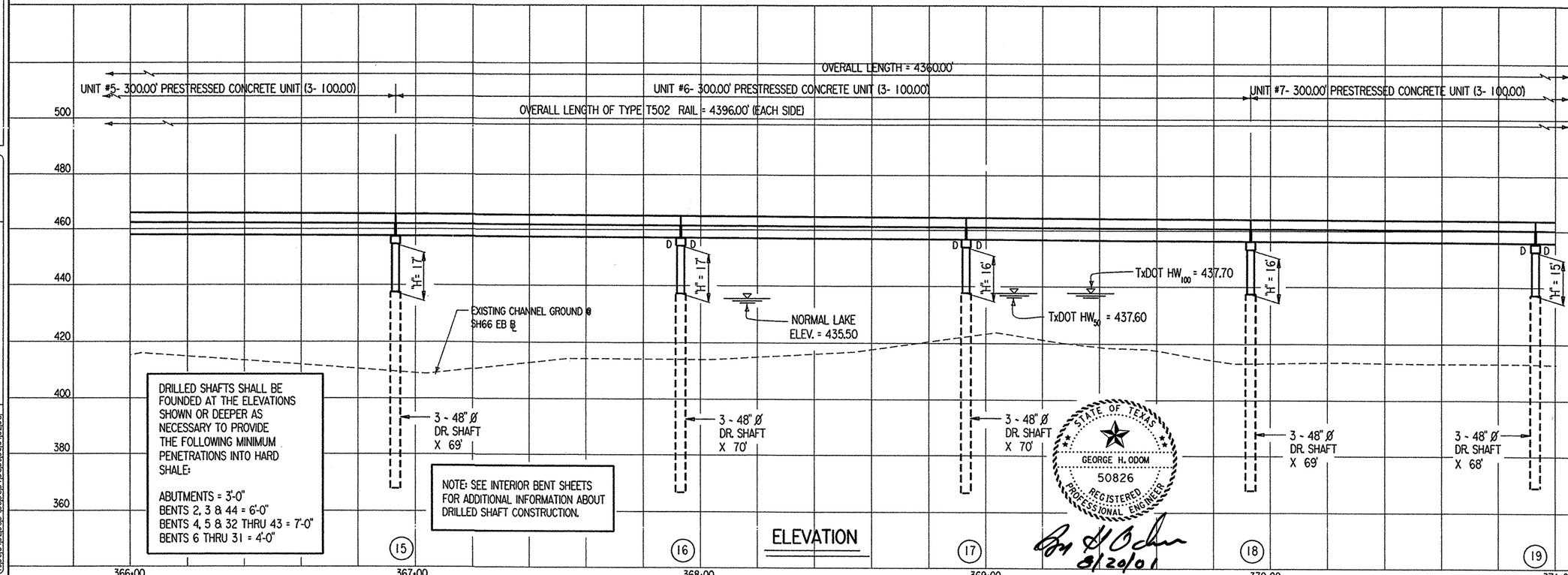
MINH TRAN 84940 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
4/27/99

JAMES CARROLL WALL 39966 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
4/27/99

GEORGE H. ODOM 50826 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
4/27/99



PLAN



ELEVATION

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
MAKRAM DATAINEH
82268
REGISTERED PROFESSIONAL ENGINEER

8-29-01
(For C.O #9 only)

CHANGE ORDER NO. 9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

8/20/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 4 OF 10 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		167 A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

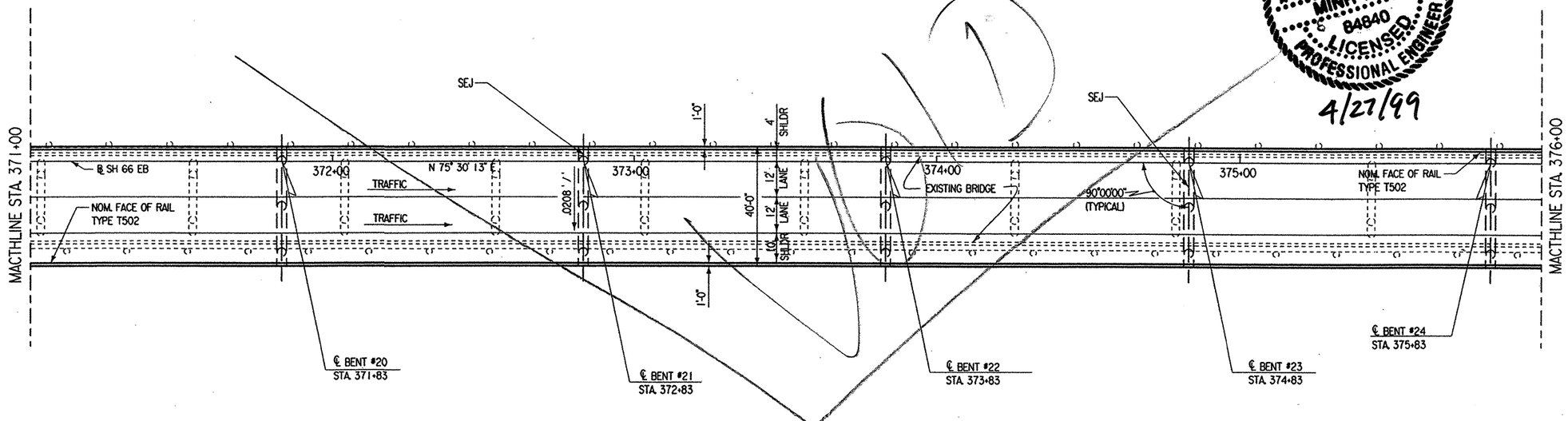
REVISIONS:
7/01 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS. MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

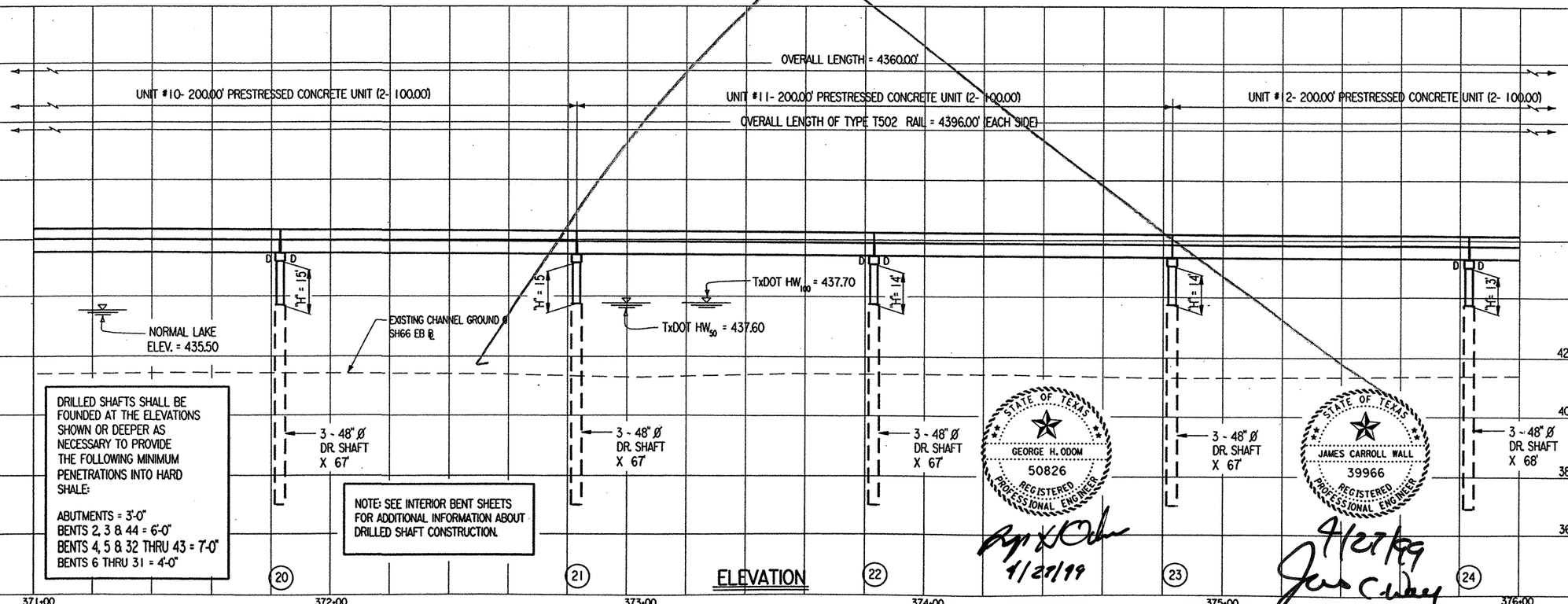
PLOTTED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



PLAN

NOTES:
1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE LAYOUT

SHEET 5 OF 10 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	168

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

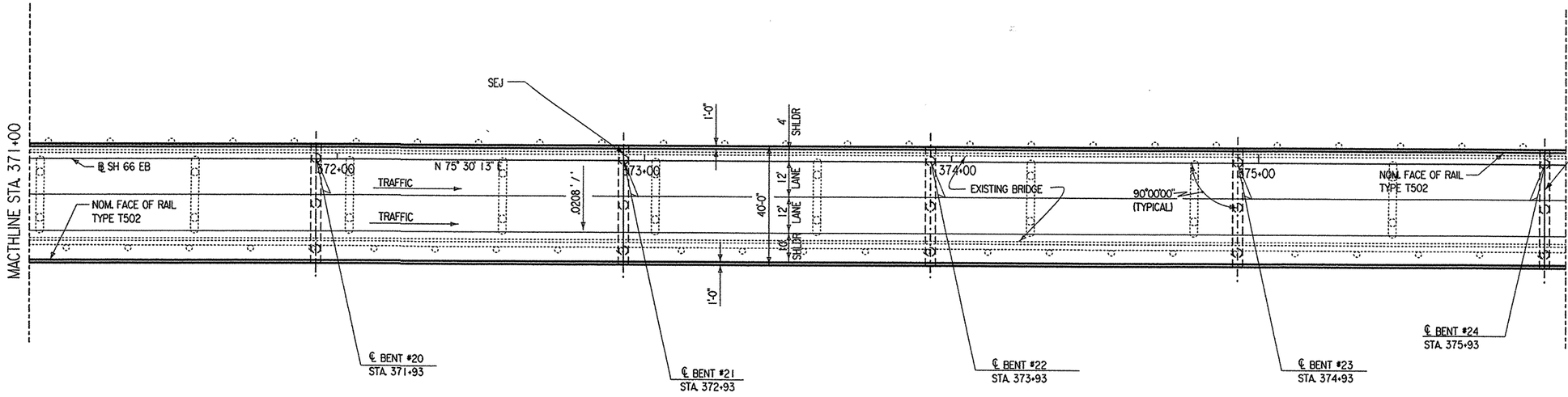
STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

DN: MDH
CK: JBH
DW: TKW
CK: MDH

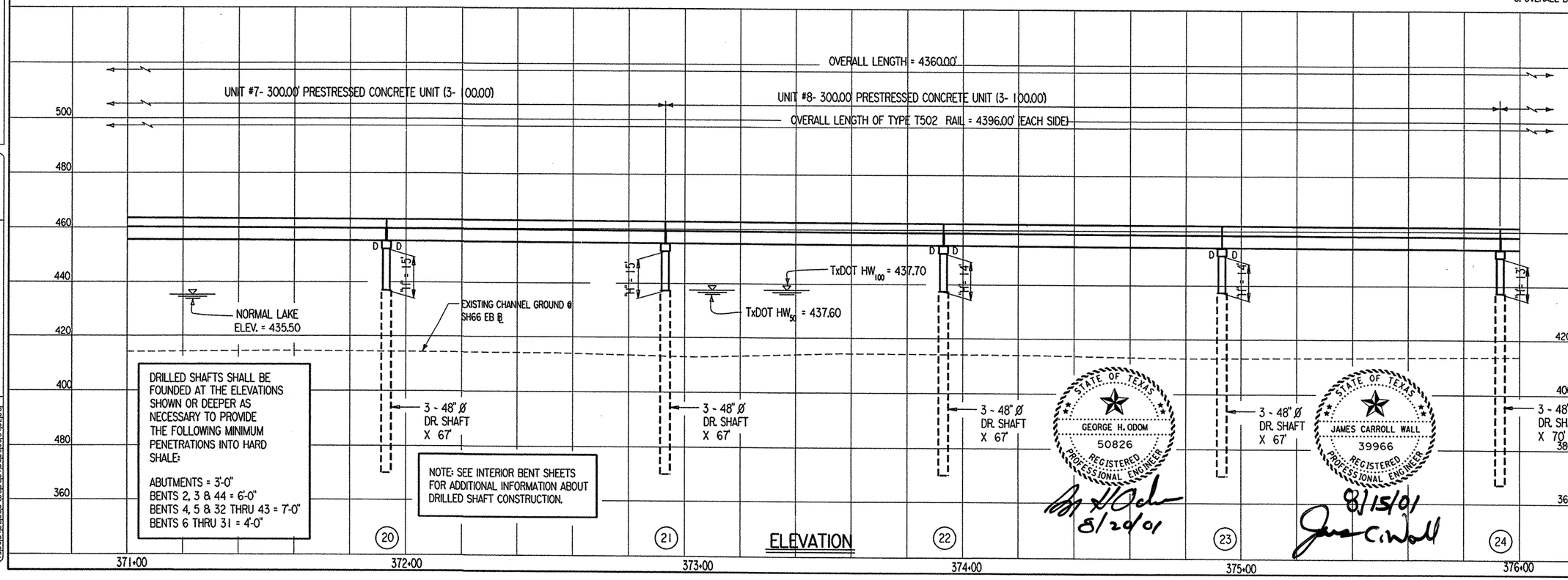
DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

ACTIVE FILE LEVELS (unPLANED)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTES:
1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

STATE OF TEXAS
MAKRAM BATAINEH
82298
REGISTERED PROFESSIONAL ENGINEER
8-29-01
(For C.O #9 only)

CHANGE ORDER NO. 9

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
8/24/01

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE LAYOUT

SHEET 5 OF 10 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	168 A

STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REVISIONS:
7/01 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS. MDH/RNP

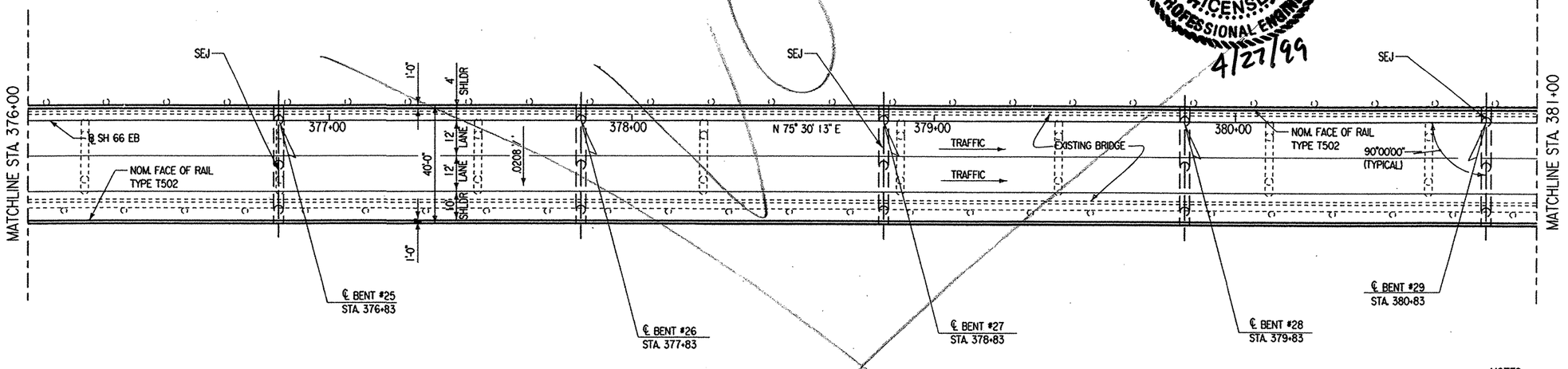
DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

DGN: 5691LY01.DGN

ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
1 7 8 9 20 21 22 23 24 25 26 27 28 29 30 31 32 33
3 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

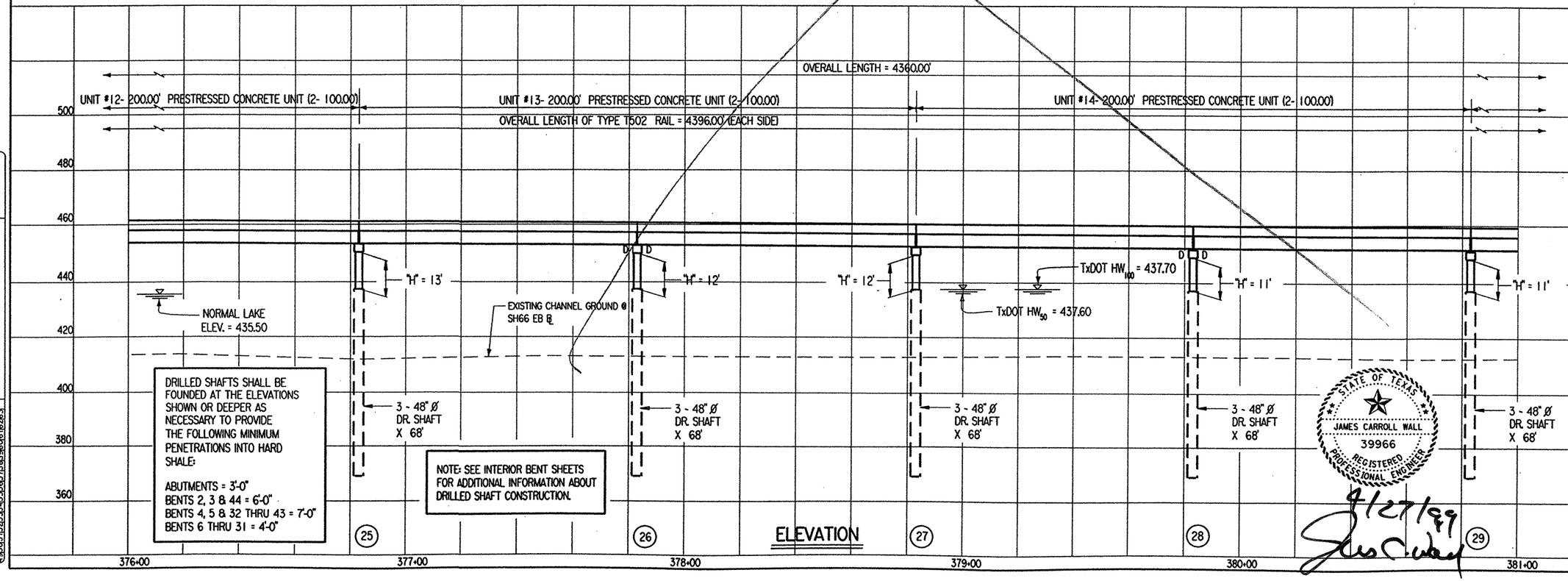
DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
1 7 8 9 20 21 22 23 24 25 26 27 28 29 30 31 32 33
3 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 6 OF 10 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	169

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

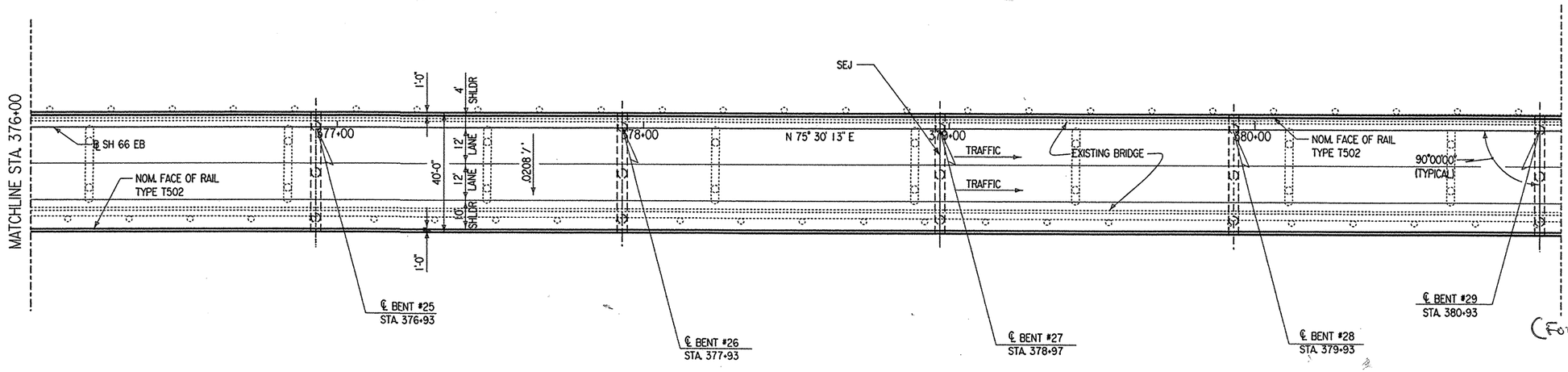
DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

ACTIVE FILE LEVELS DISPLAYED
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17 18 19 20 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

STATE OF TEXAS
MAKRAM BATAINEH
82798
REGISTERED PROFESSIONAL ENGINEER

8-29-01

(For C.O #9 only)

CHANGE ORDER NO. 9

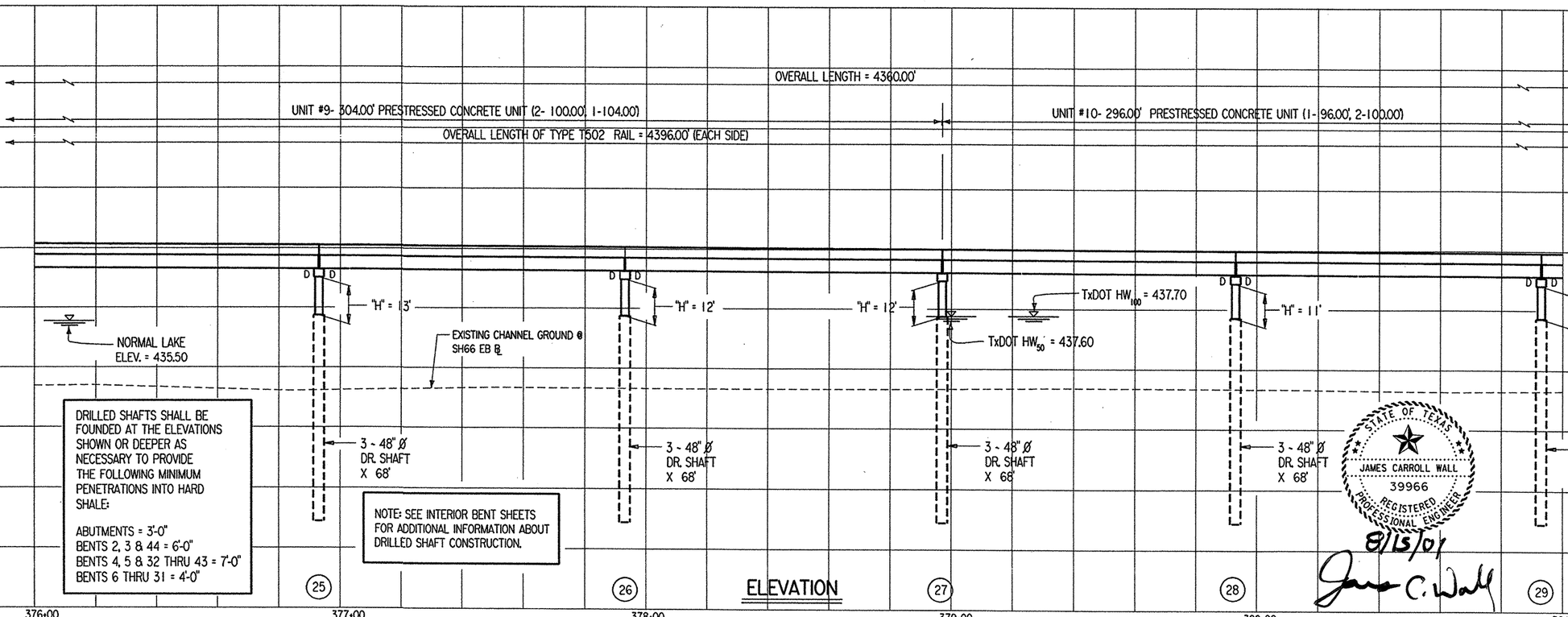
REVISIONS:
8/00 - CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 569ILY01.DGN

DISPLAYED
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17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



ELEVATION

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

8/20/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

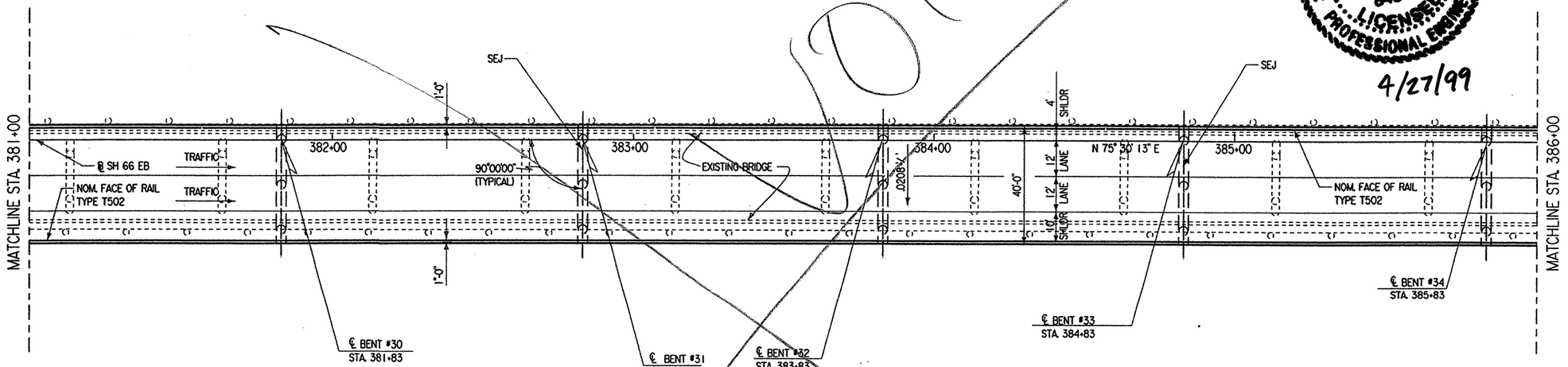
LAYOUT

SHEET 6 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	169A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

OLD



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

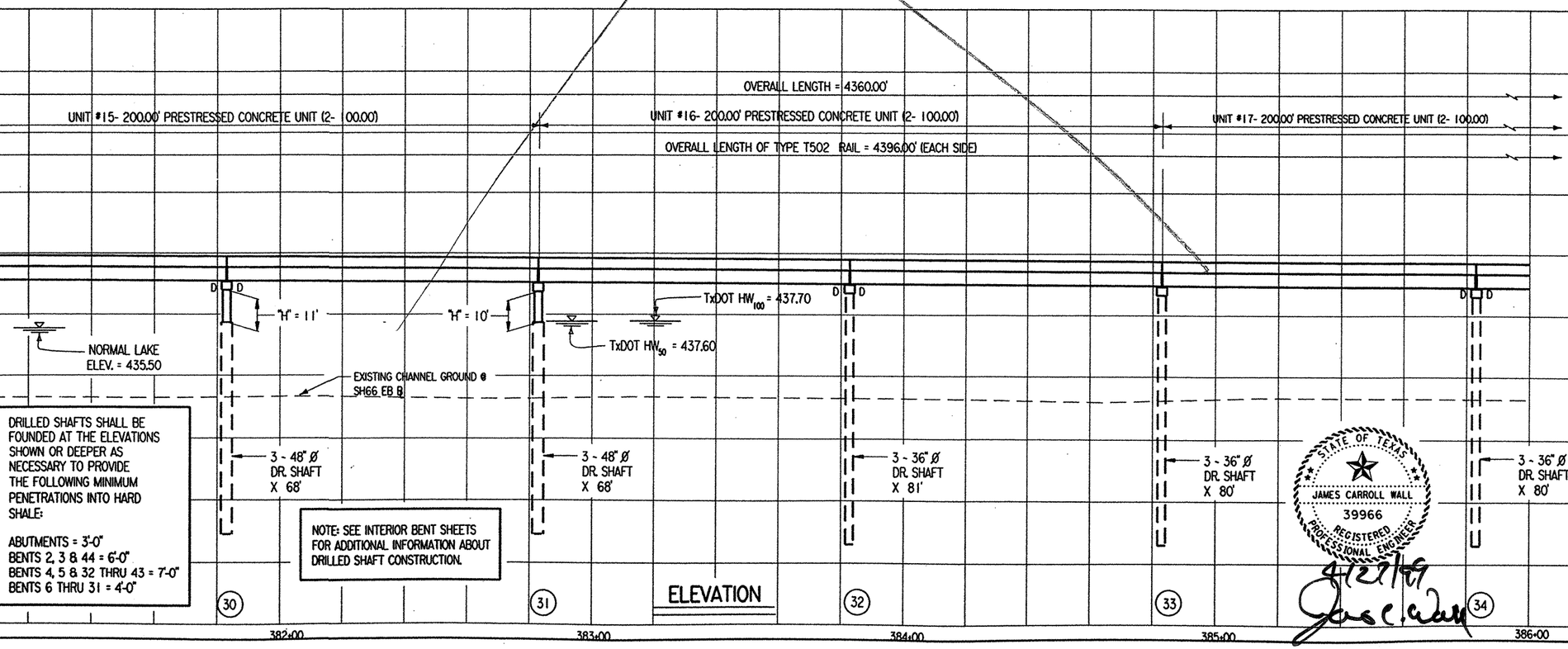
OVERALL LENGTH = 4360.00'

UNIT #15- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

UNIT #16- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

UNIT #17- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

OVERALL LENGTH OF TYPE T502 RAIL = 4396.00' (EACH SIDE)



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 7 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		170
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

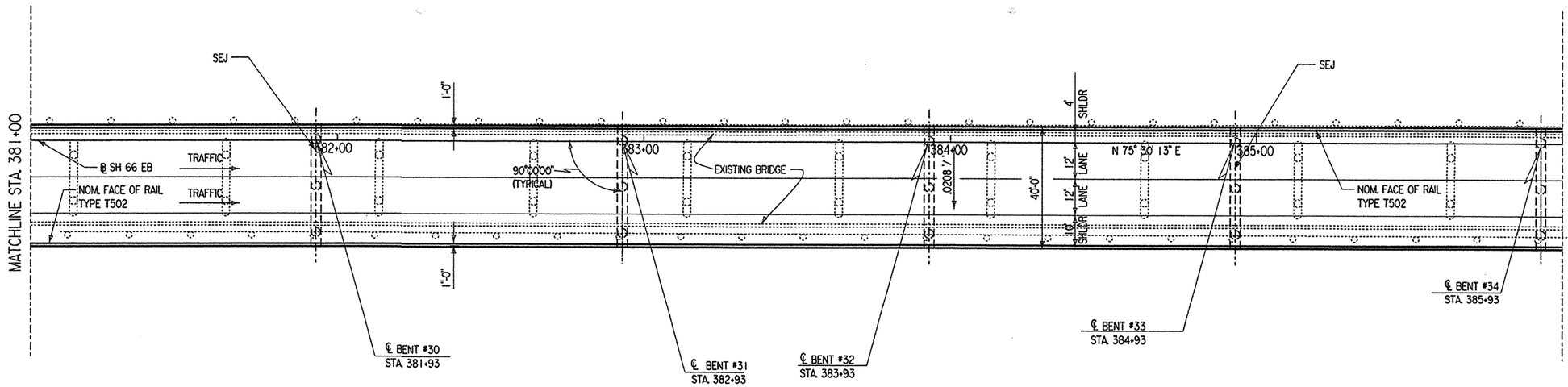
DATE: JAN 99 NODE: D48PC3Q
FILE: 569ILY01.DGN

ACTIVE FILE LEVELS DISPLAYED
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95 05 15 25 35 45 55 65 75 85 95 06 16 26 36

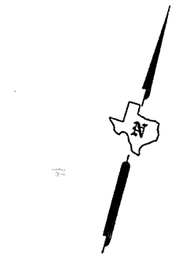
STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99



PLAN



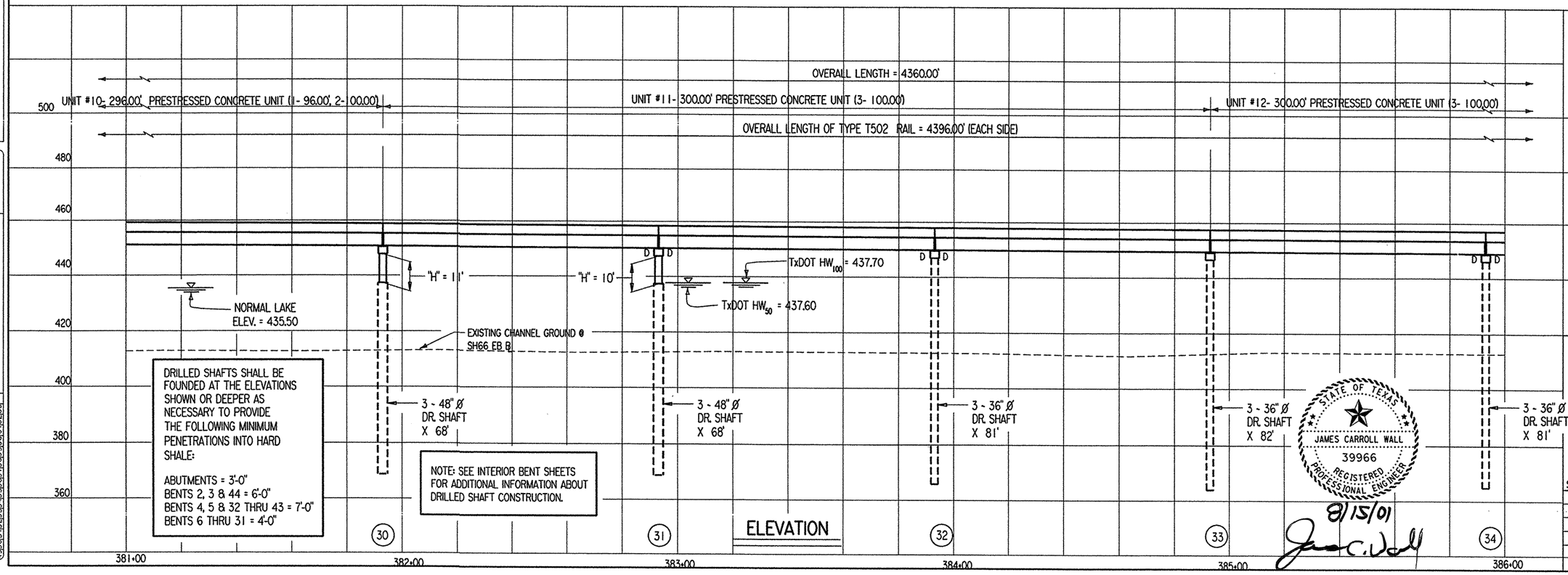
STATE OF TEXAS
MAKRAM SATAINEH
02258
REGISTERED PROFESSIONAL ENGINEER

8-29-01
(For C.O.#9 Only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2, 3 & 44 = 6'-0"
BENTS 4, 5 & 32 THRU 43 = 7'-0"
BENTS 6 THRU 31 = 4'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

8/20/01

STRUCTURE NO: 423

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 7 OF 10 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	170 A

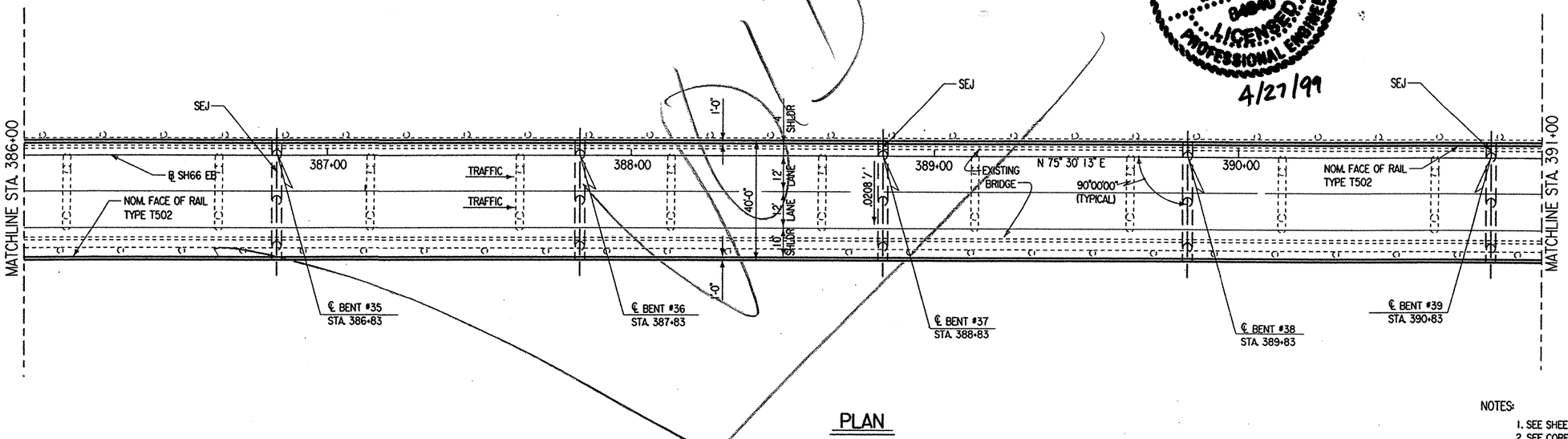
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

REVISIONS:
8/00 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

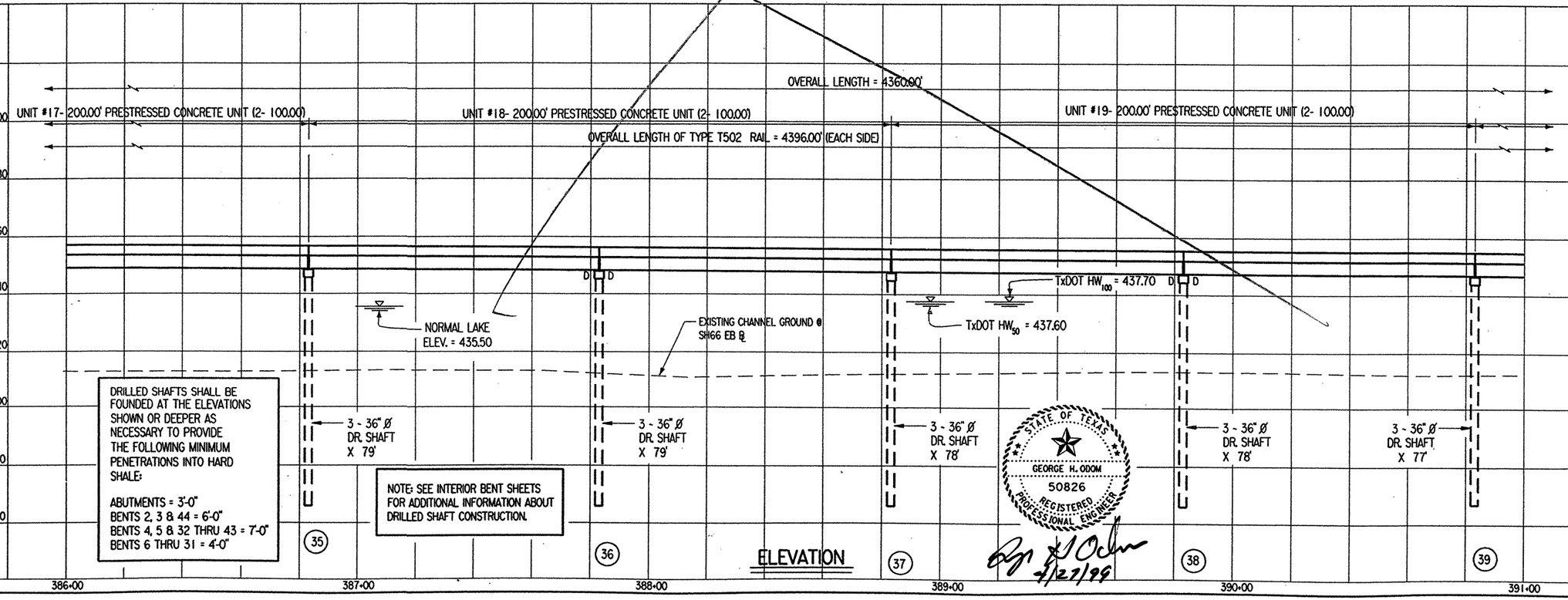
PLOTTED
ACTIVE FILE



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 8 OF 10 SCALE: 1"= 40'

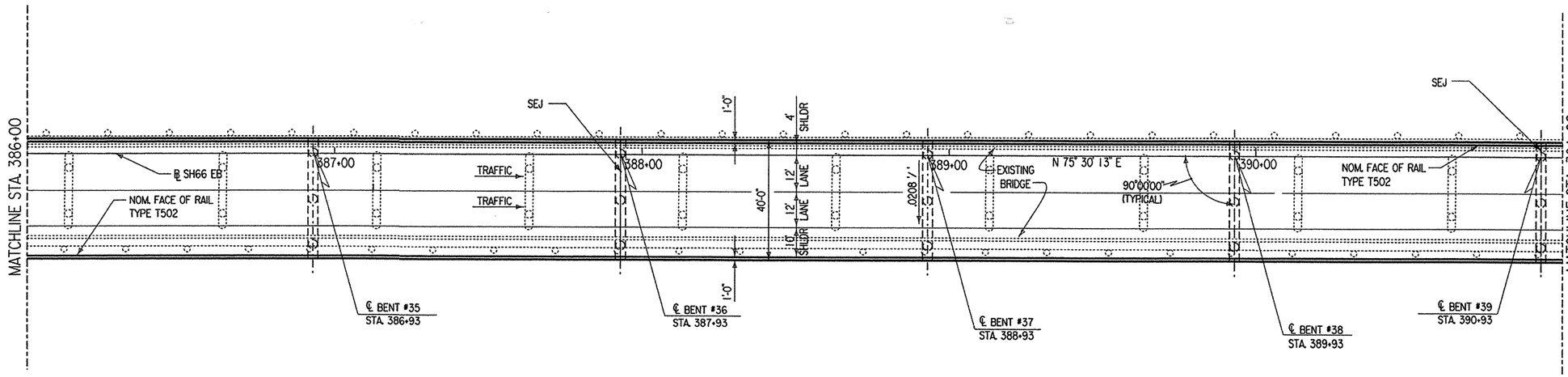
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		171
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JCW DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5691LY01.DGN

ACTIVE FILE LEVELS / LAYED

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33	43	45	53	63	73	85	94	104	124	234	244	454	464	748		
95	105	125	235	455	665	765	895	906	1626	3						



PLAN

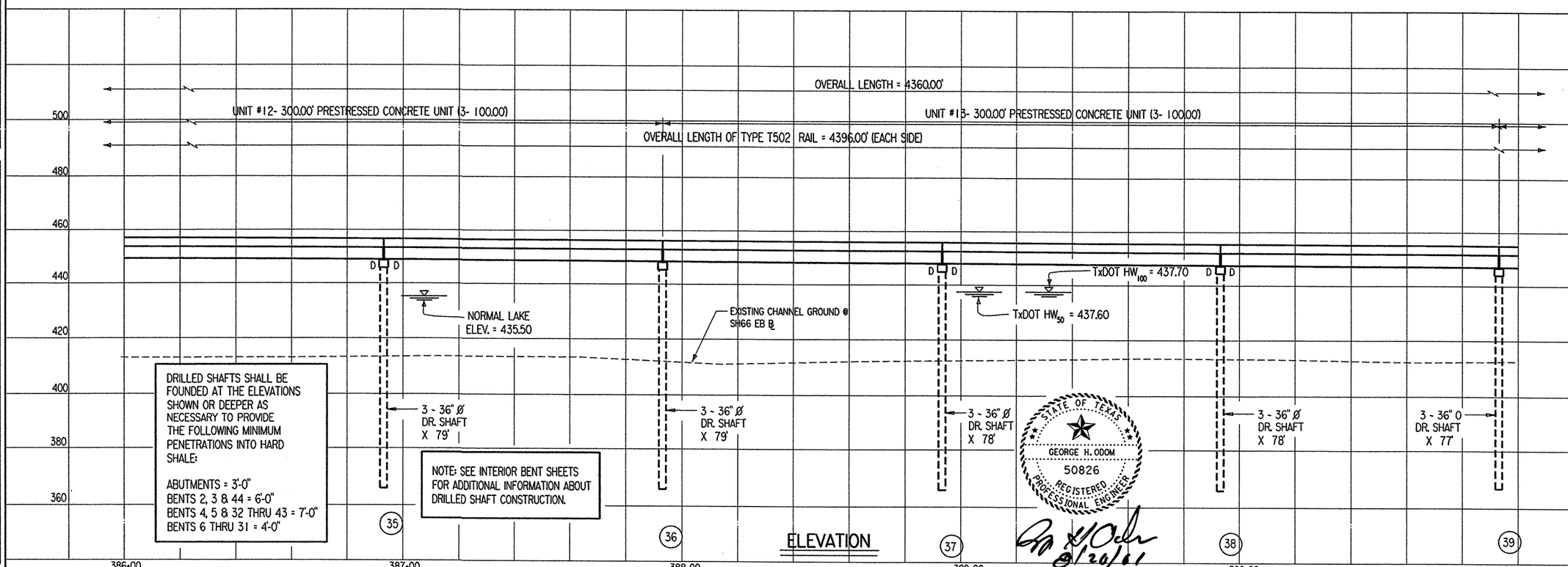
STATE OF TEXAS
MAKRAM BATAINEH
83233
REGISTERED PROFESSIONAL ENGINEER

8-29-01
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

8/20/01

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 8 OF 10 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		171 A
STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REVISIONS:
8/00 ~ CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

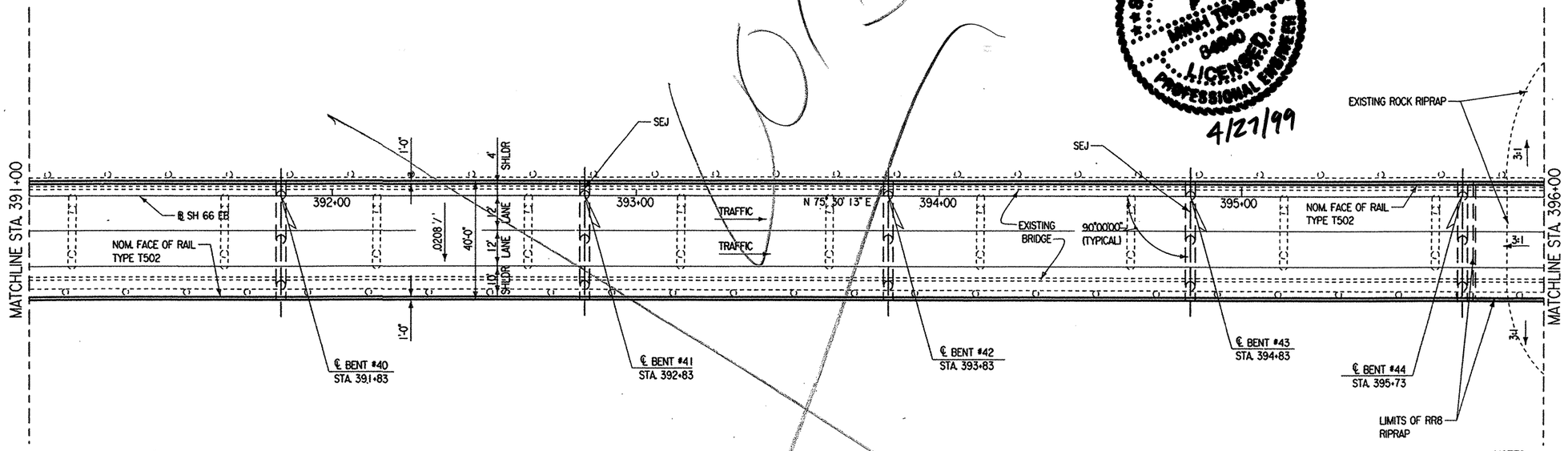
DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC30
FILE: 5691LY01.DGN

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ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

VOID



PLAN

NOTES:

1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

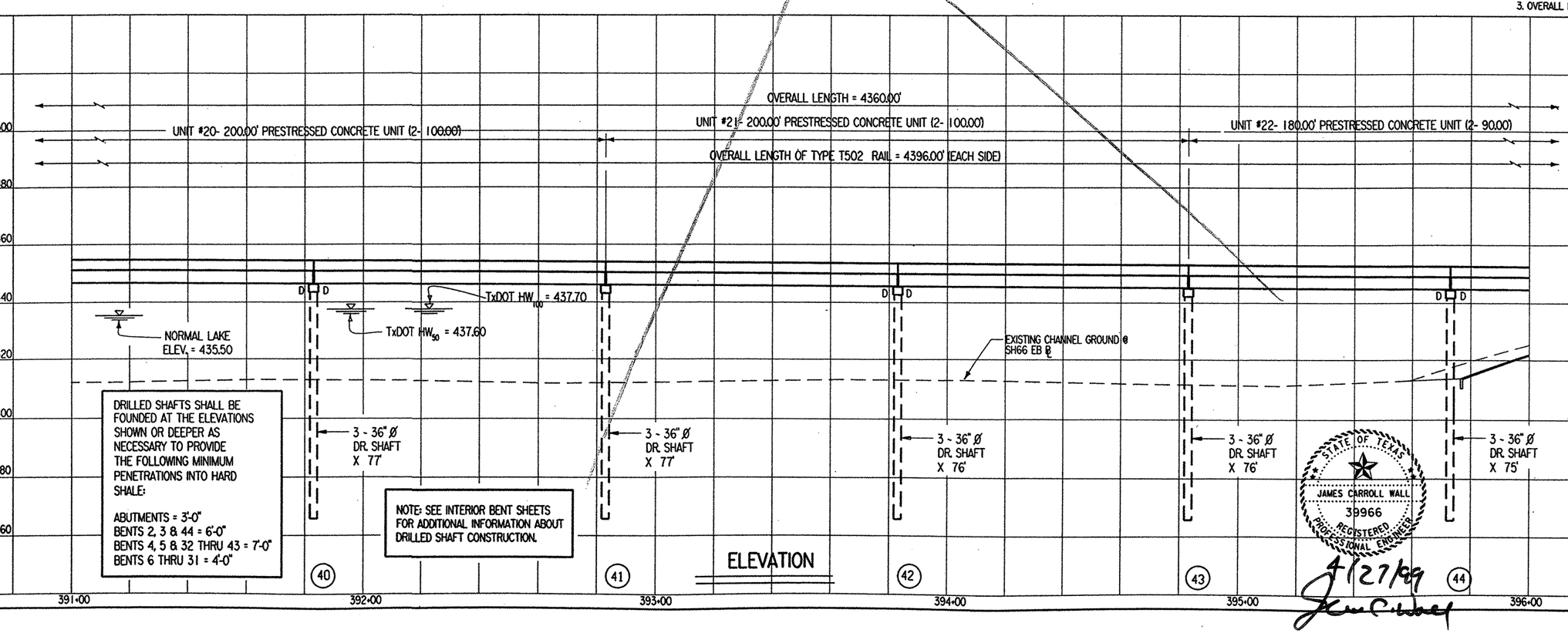
OVERALL LENGTH = 4360.00'

UNIT #20- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00)

UNIT #21- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00)

UNIT #22- 180.00' PRESTRESSED CONCRETE UNIT (2- 90.00)

OVERALL LENGTH OF TYPE T502 RAIL = 4396.00' (EACH SIDE)



ELEVATION

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

SHEET 9 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		172
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

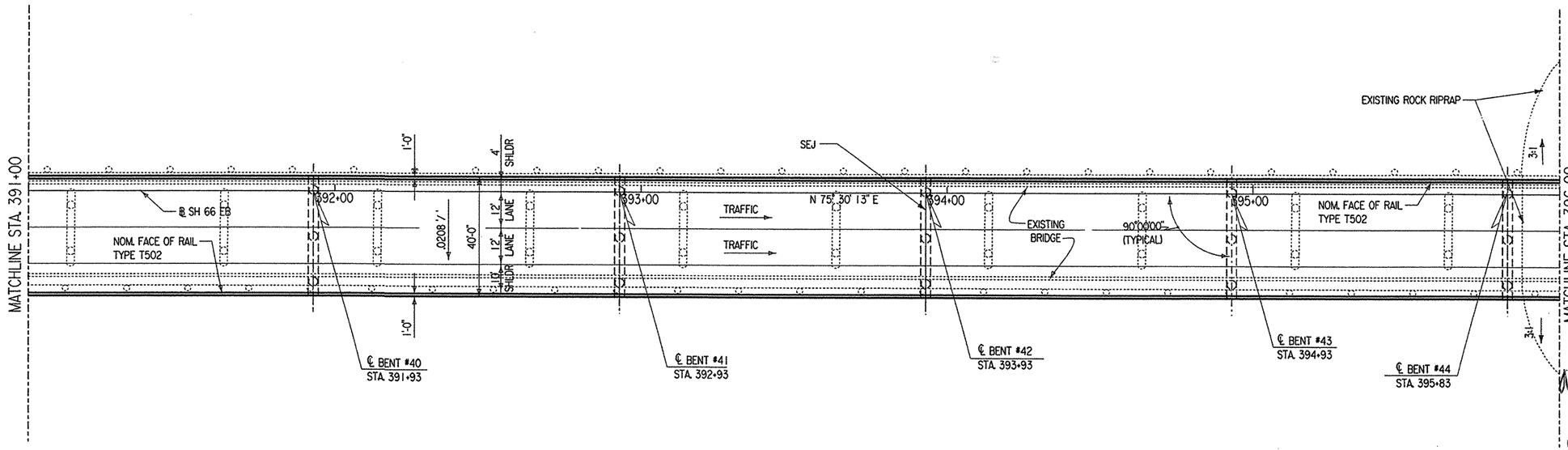
DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

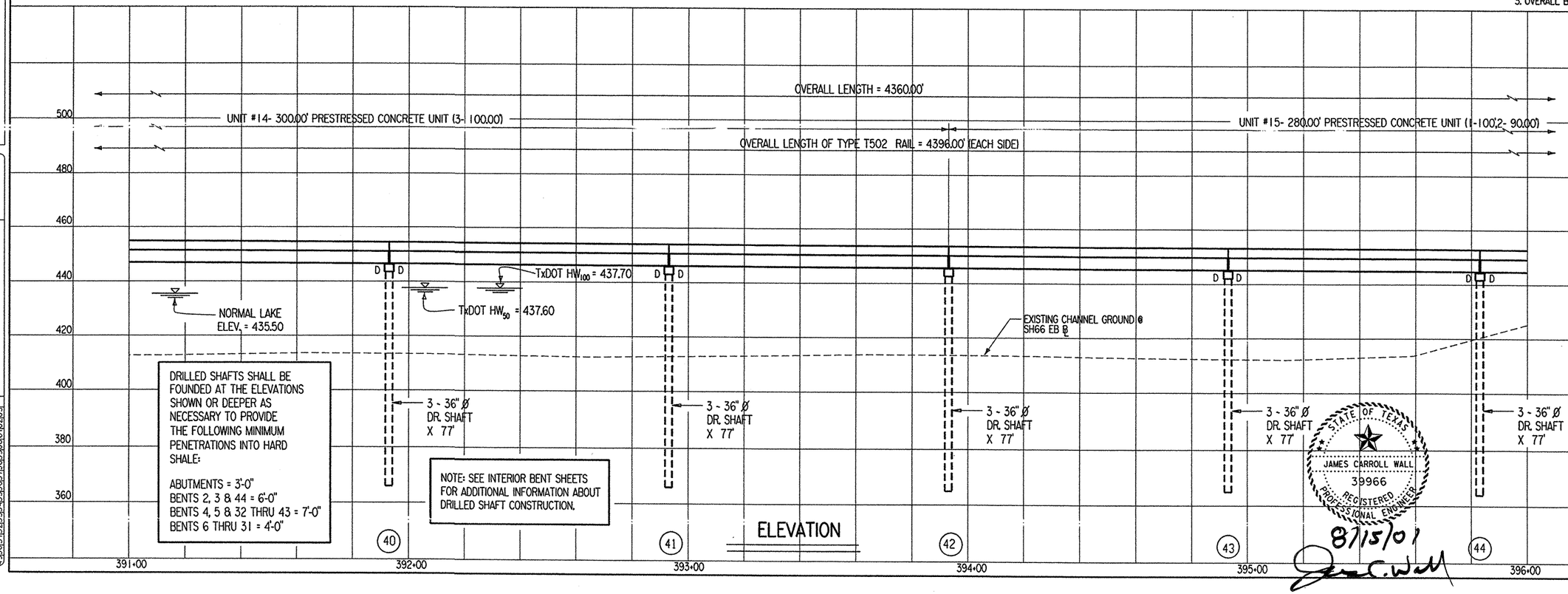
FILE: 5691LY01.DGN

ACTIVE FILE LEVELS overlayed

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17 18 19 20 21 22 23 24 25 26 28 29 30 31 32 33
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



ELEVATION

NOTES:
1. SEE SHEET 1 OF 10 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.

CHANGE ORDER NO. 9
(For C.O # 9 only)

8-29-01

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
8/20/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

LAYOUT

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

SHEET 9 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	172

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

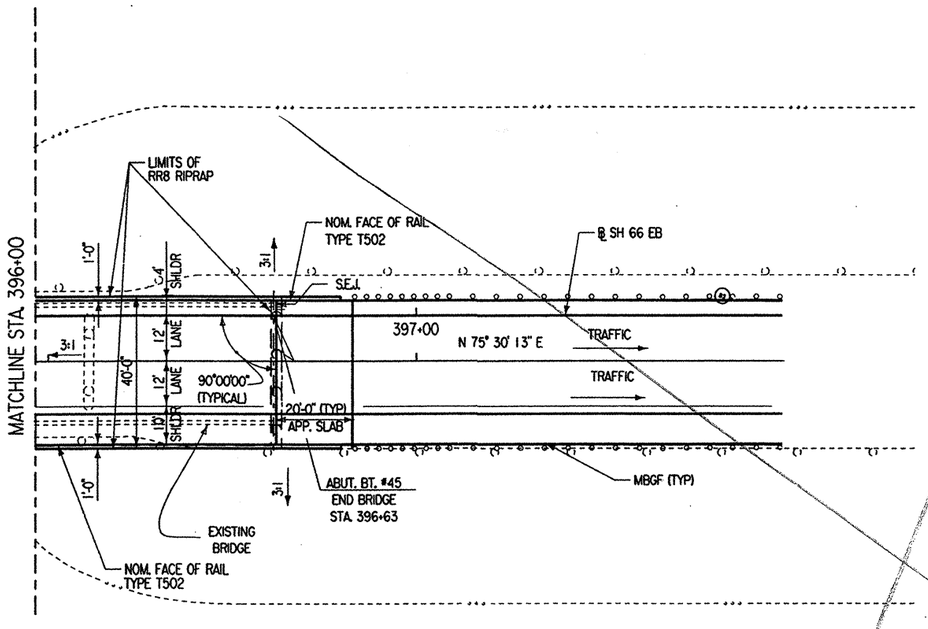
RE/ISIONS:
8/00 - CHANGED UNIT LENGTHS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

ACTIVE FILE LEVELS DISPLAYED

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33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
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PLAN

HYDRAULIC DATA

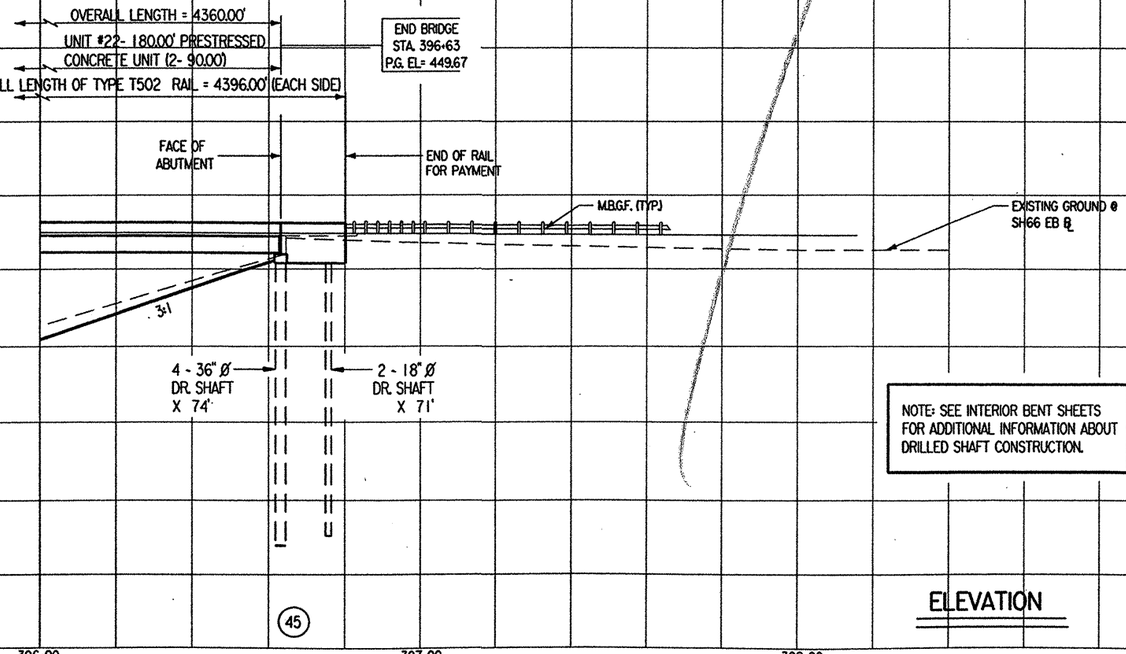
NORMAL LAKE ELEV. = 435.50

Q_{50} = 40,000 cfs V_{50} = 0.45 fps TxDOT HW_{50} = 437.60

Q_{100} = 48,000 cfs V_{100} = 0.53 fps TxDOT HW_{100} = 437.70

NOTES:

1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2, 3 & 44 = 6'-0"
BENTS 4, 5 & 32 THRU 43 = 7'-0"
BENTS 6 THRU 31 = 4'-0"

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS — MARK TRAM — 81660 — LICENSED — PROFESSIONAL ENGINEER

4/27/99

STATE OF TEXAS — GEORGE H. ODOM — 50826 — REGISTERED — PROFESSIONAL ENGINEER

4/27/99

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE LAYOUT

STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED — PROFESSIONAL ENGINEER

4/27/99

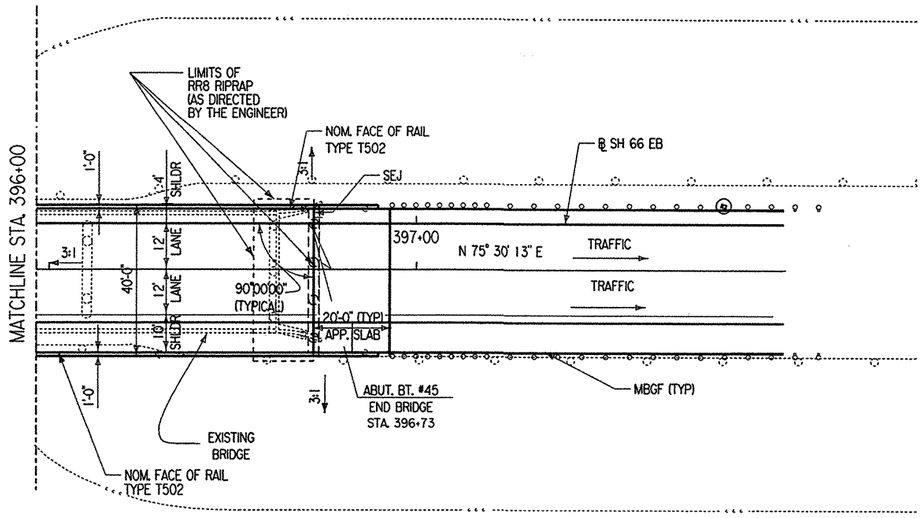
SHEET 10 OF 10 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		173
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

ACTIVE FILE LEVELS DISPLAYED
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PLAN

HYDRAULIC DATA

NORMAL LAKE ELEV. = 435.50

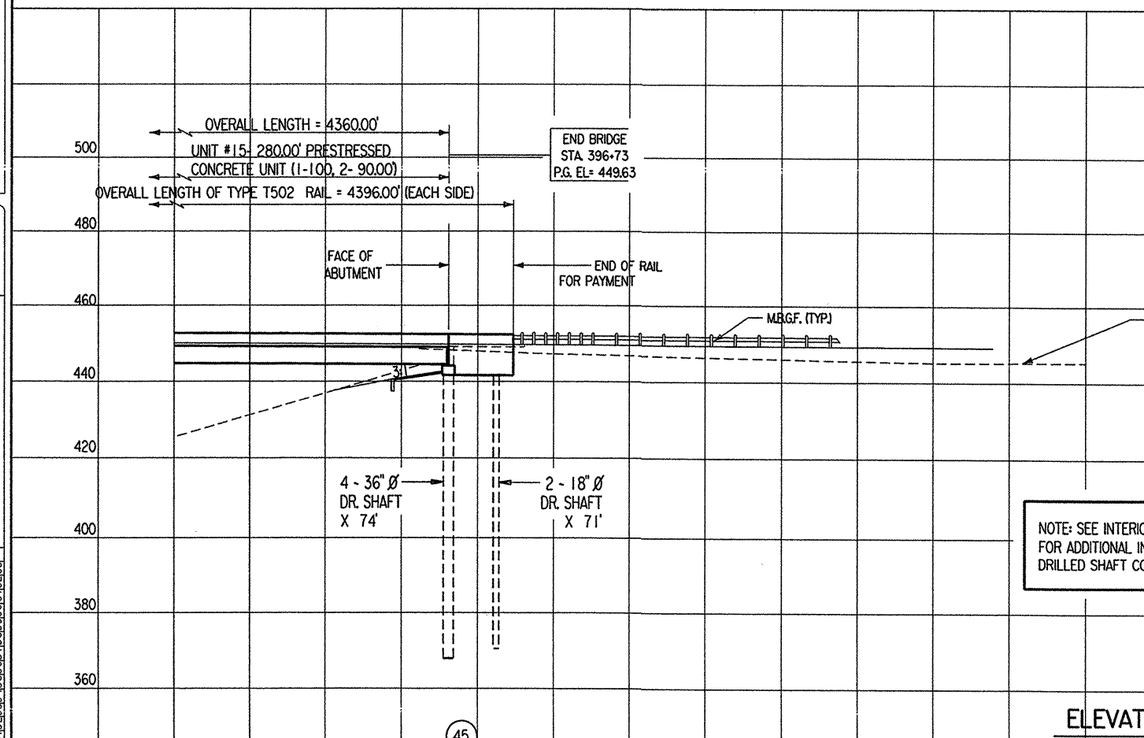
Q_{50} = 40,000 cfs V_{50} = 0.45 fps TxDOT HW_{50} = 437.60

Q_{100} = 48,000 cfs V_{100} = 0.53 fps TxDOT HW_{100} = 437.70

CHANGE ORDER NO. 9

NOTES:

1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 EB ℄.



ELEVATION

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2, 3 & 44 = 6'-0"
BENTS 4, 5 & 32 THRU 43 = 7'-0"
BENTS 6 THRU 31 = 4'-0"

VERTICAL CURVE DATA

-0.444 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
8/20/01

STRUCTURE NO: 423

© 1998 Texas Department of Transportation

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE LAYOUT

SHEET 10 OF 10 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	173

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

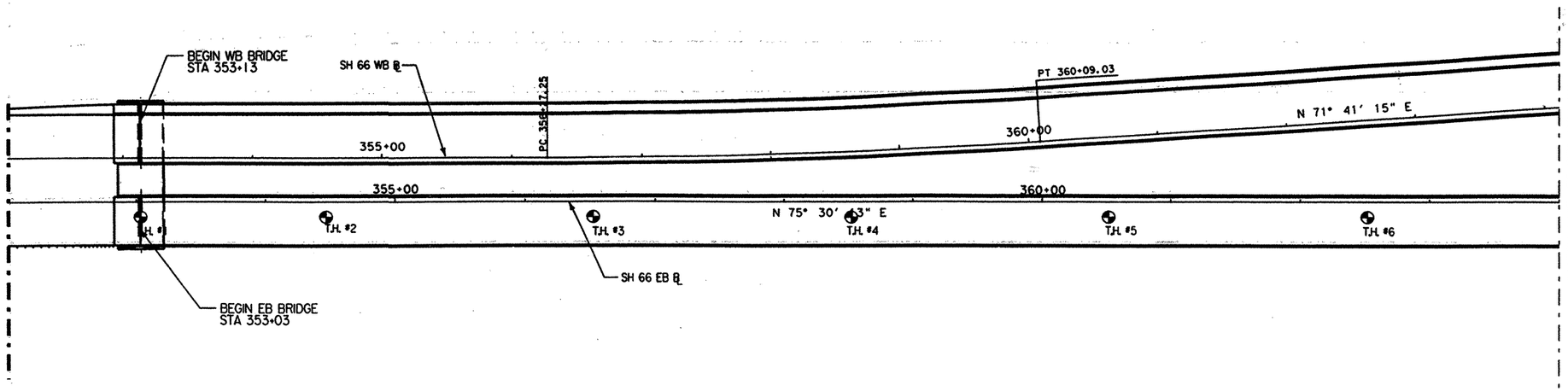
REVISIONS:
8/00 - CHANGED UNIT L... /HS, BENT LOCATIONS & DOWEL LOCATIONS.
MDH/RNP

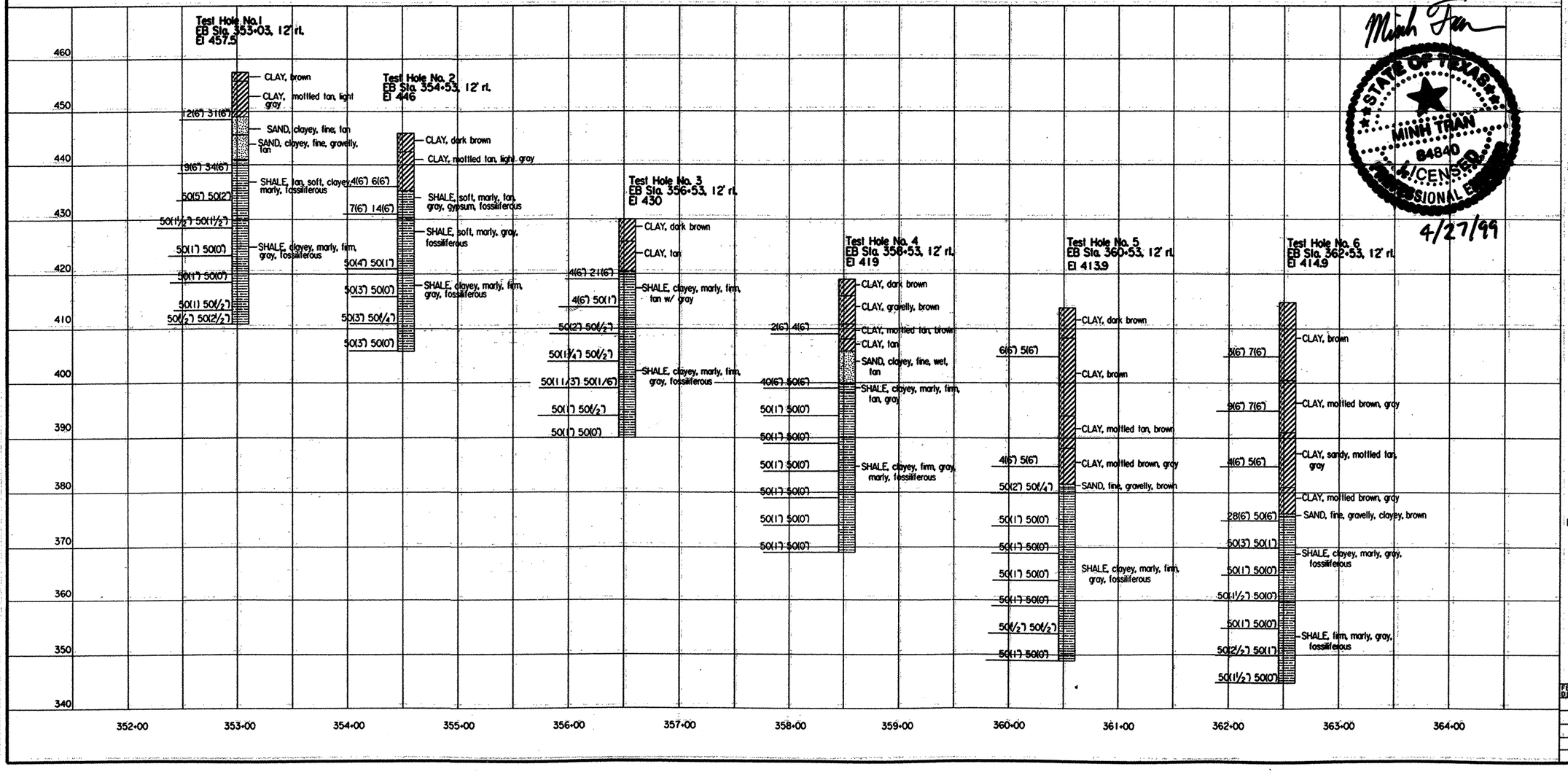
DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY01.DGN

PLAYED
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
9 10 21 22 23 24 25 26
27 28 29 30 31 32
27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE L'
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
9 10 11 12 13 14 15 16
9 10 21 22 23 24 25 26
27 28 29 30 31 32
27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

STATE OF TEXAS
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84840
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PROFESSIONAL ENGINEER
4/27/99

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 352+00 TO 364+00

SCALE:
1"=100' HORZ
1"= 20' VERT.

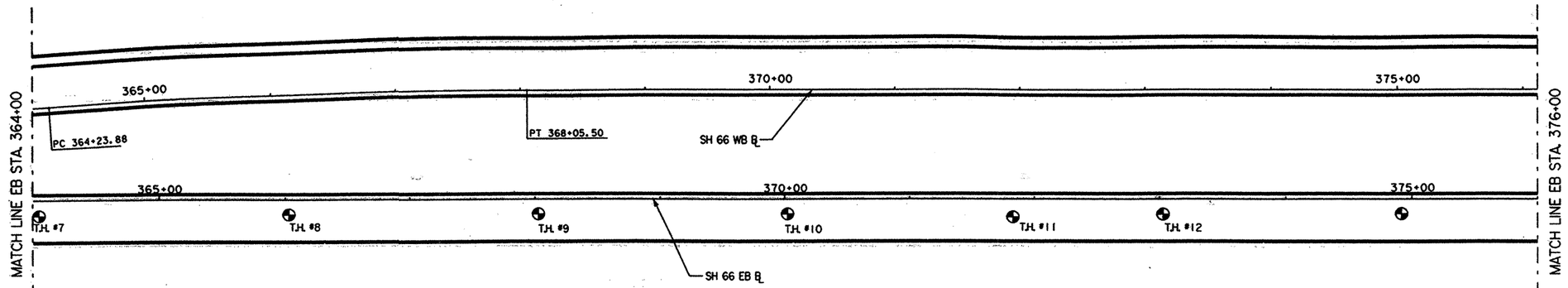
SHEET 1 OF 9 SHEETS.

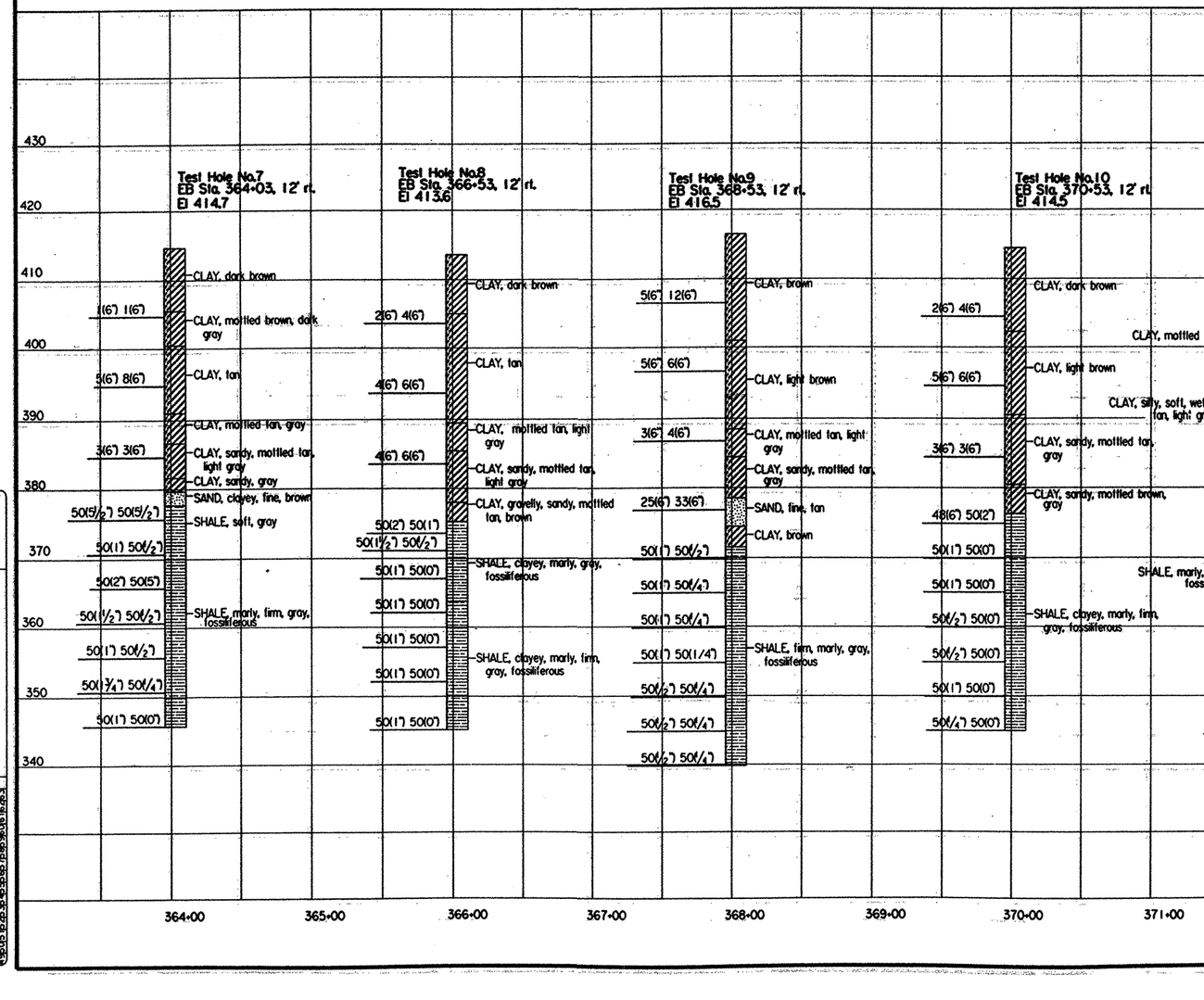
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	174

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

ACTIVE FILE LEVELS USED
1 2 3 4 15 16 17 18 19 10 11 12 29 30 31 32 36
33 34 92 62 22 32 42 52 62 28 29 30 31 32
35 36 45 56 63 64 65 66 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LLY02.DGN
DN: MDH
CK: TKW
DW: MDH
CK: MDH





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

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4/28/99

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 364+00 TO STA. 376+00

SCALE:
1"=100' HORZ.
1"= 20' VERT.

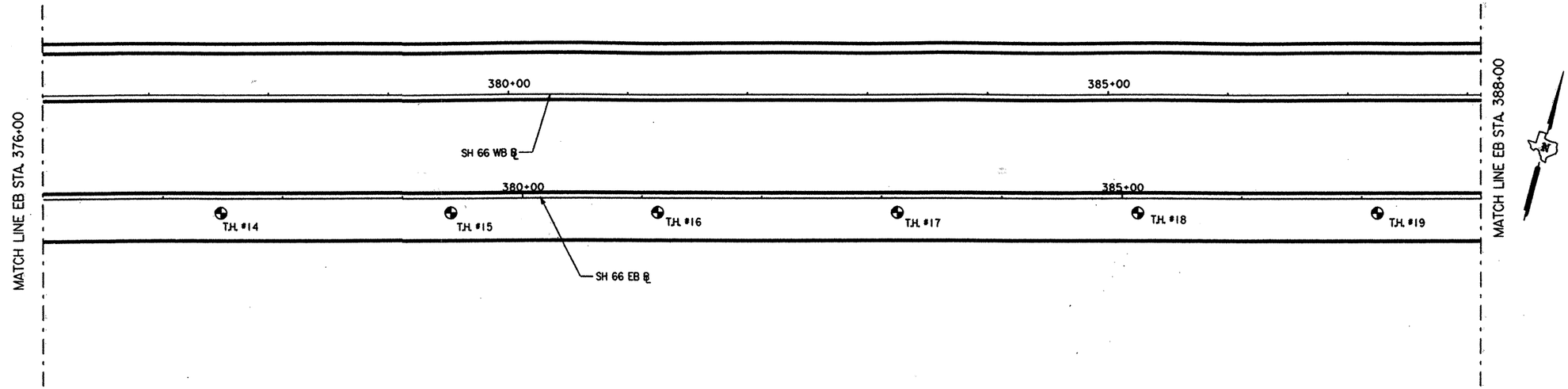
SHEET 2 OF 9 SHEETS.

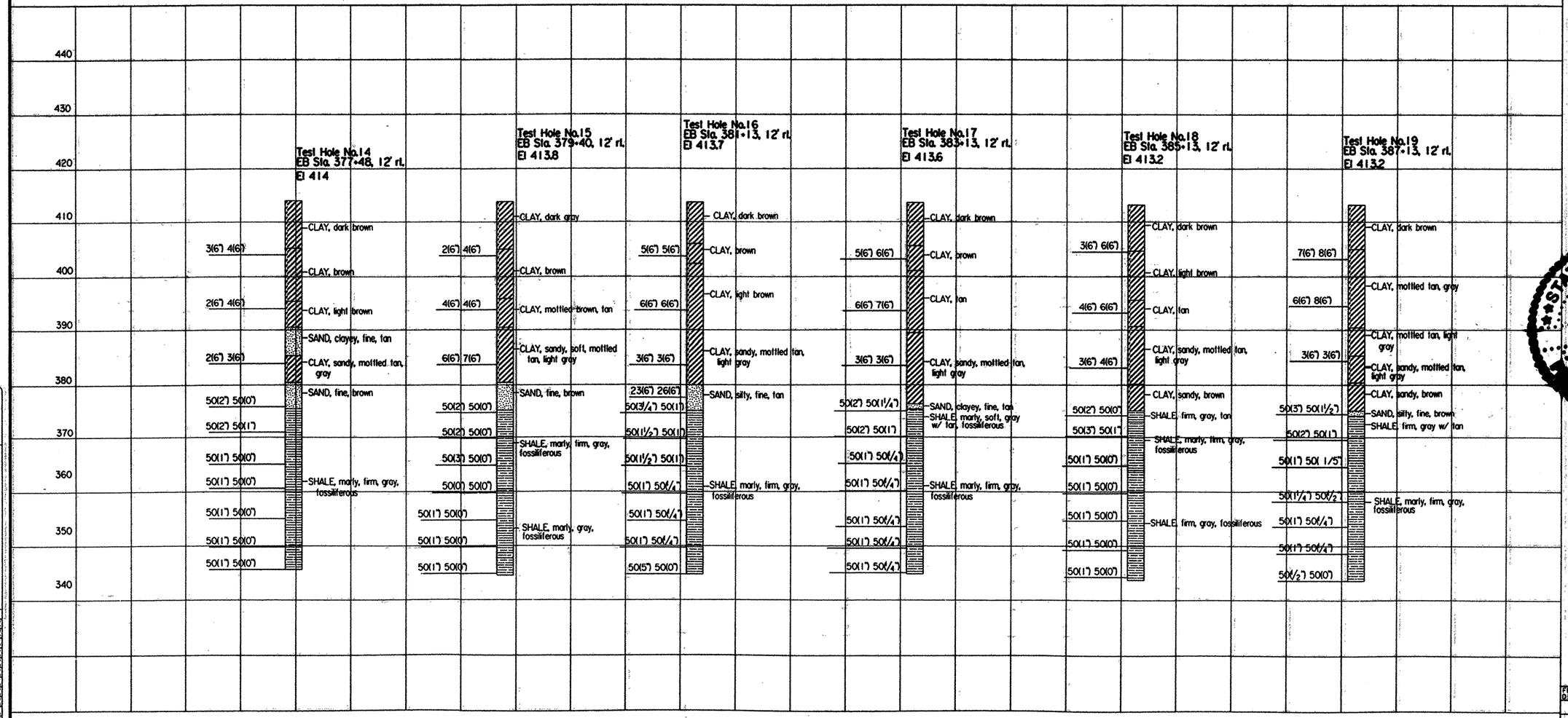
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	175

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

DN: MDH
CK: TKW
DW: MDH
CK: MDH
DATE: JAN '99 NODE: D48PG30
FILE: 5691LY02.DGN

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

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EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 376+00 TO STA. 388+00

SCALE:
1"=100' HORZ.
1"= 20' VERT.

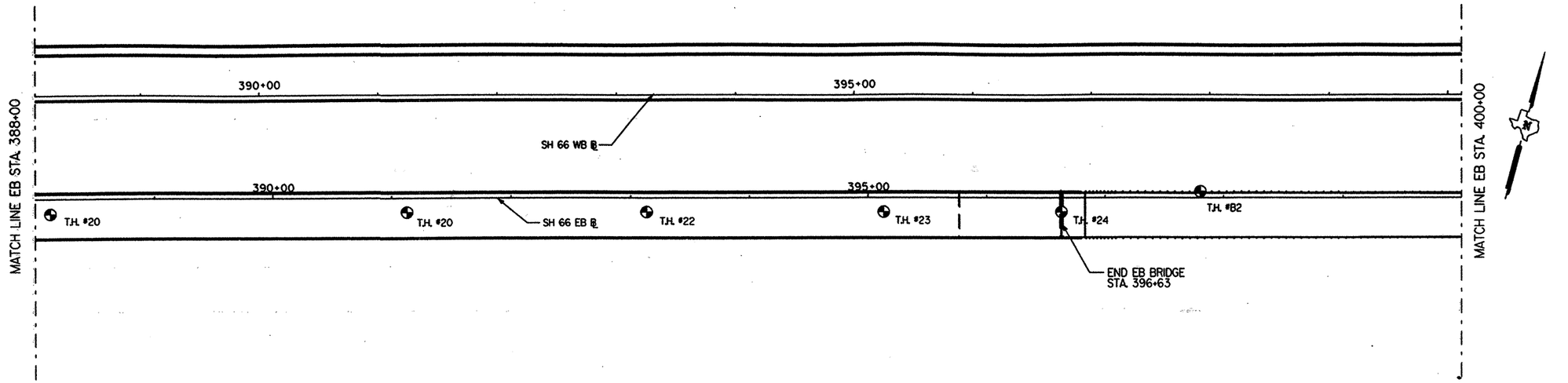
SHEET 3 OF 9 SHEETS.

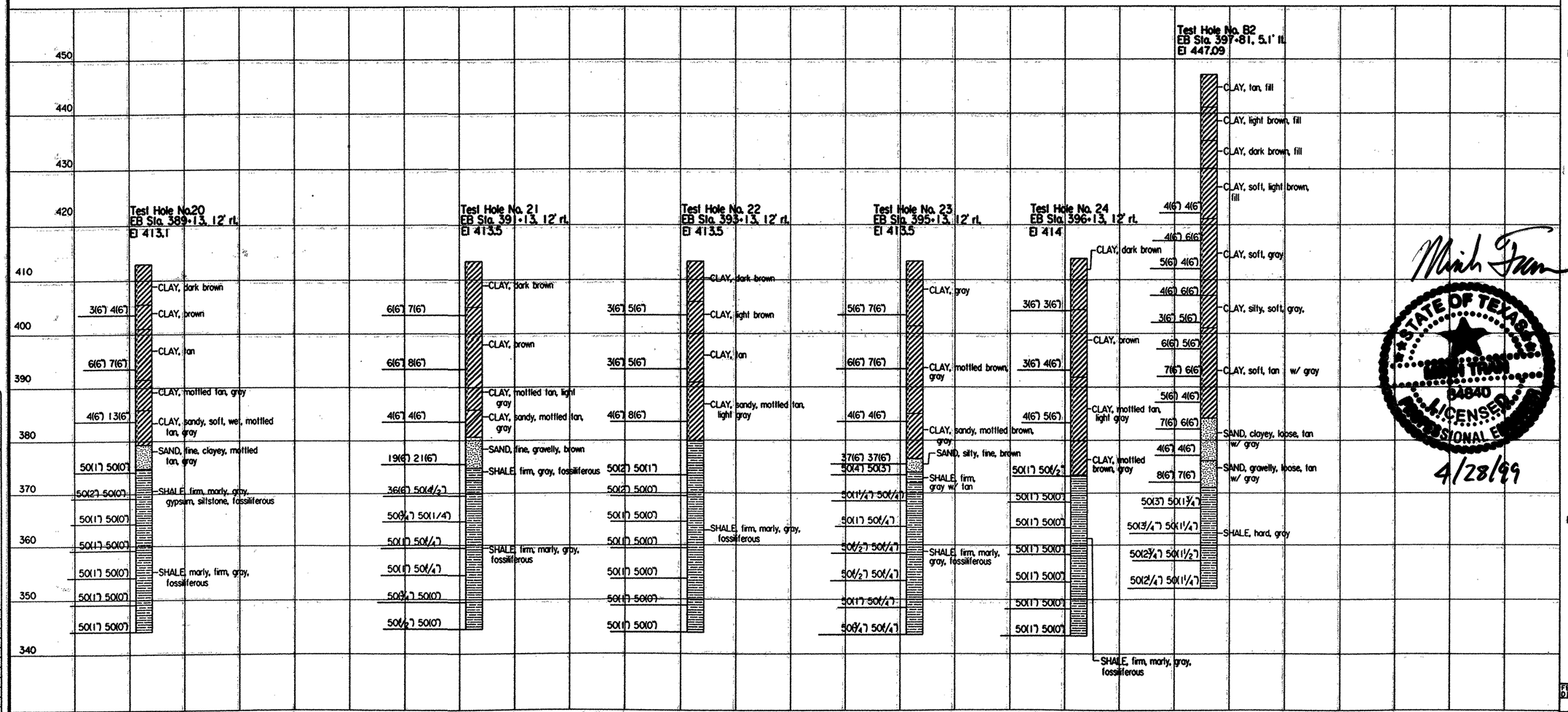
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	176

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

ACTIVE FILE LEVELS PLOTTED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

DATE: JAN 99 NODE: D48PC30 DN: MDH
FILE: 56912L1Y02.DGN CK: DW: TKW
CK: MDH





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

Mark Frans

STATE OF TEXAS
MARK FRANS
84840
LICENSED
PROFESSIONAL E

4/28/99

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 388+00 TO STA. 400+00

SCALE:
1"=100' HORZ
1"= 20' VERT.

SHEET 4 OF 9 SHEETS.

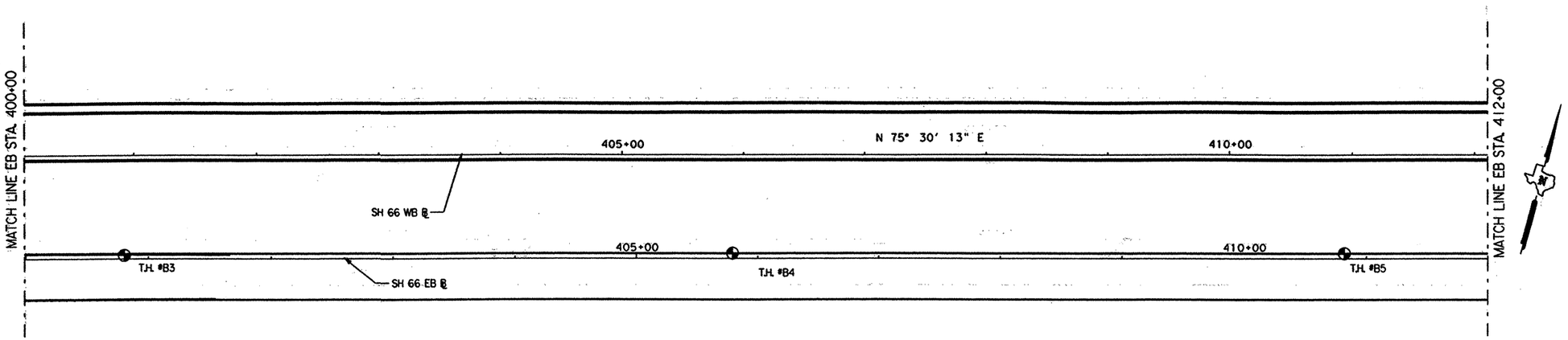
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	177

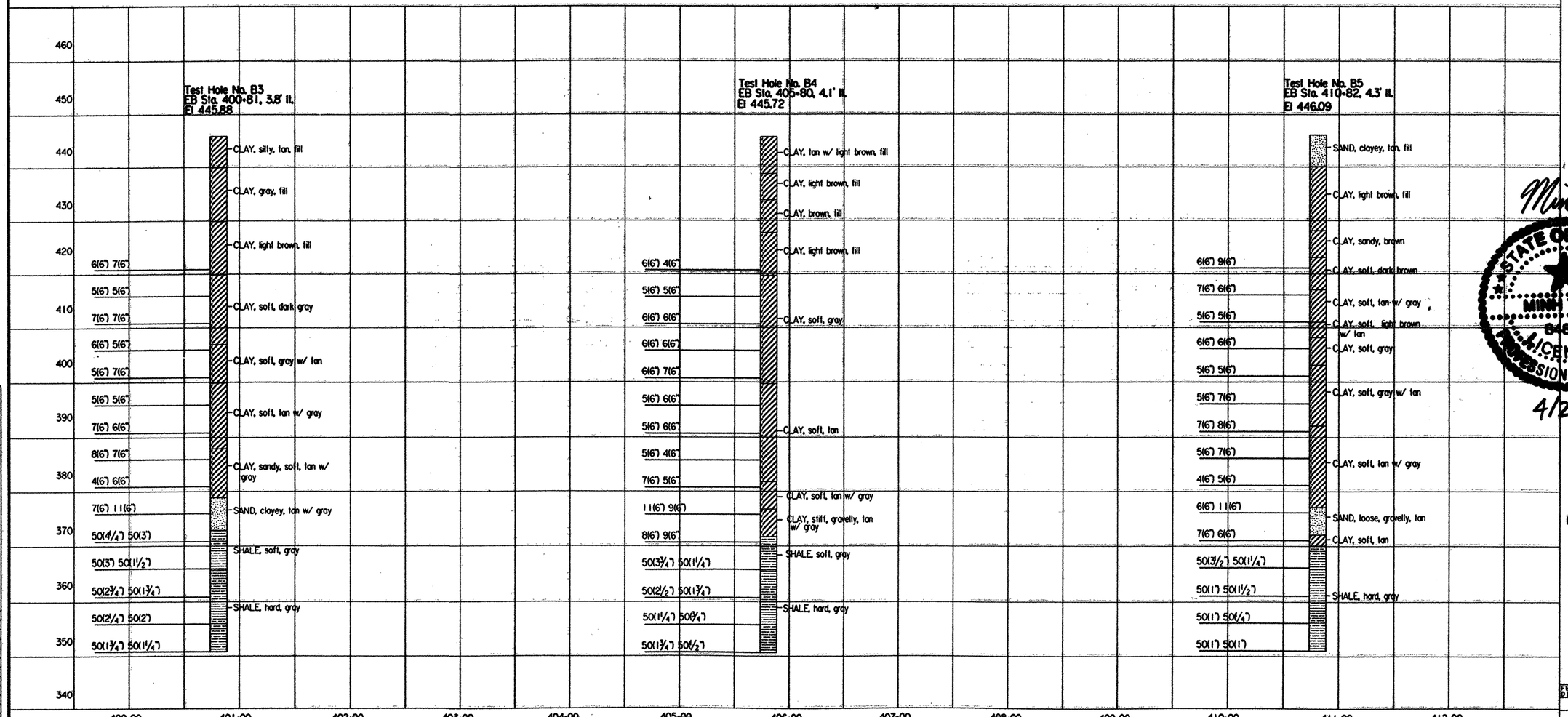
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

DN: MDH
CK: TKW
DW: MDH
CK: MDH

DATE: JAN 99 NODE: D48PC30
FILE: 569121.Y02.DGN

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 30 41 51 61
71 81 92 102 122 132 142 252 262 502 1002
1503 2503 2513 2523 2533 2543 2553 2563 2573 2583
2593 2603 2613 2623 2633 2643 2653 2663 2673 2683





DN: MDH
CK:
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5691LY02. DGN

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

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EAST FORK OF TRINITY RIVER
EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

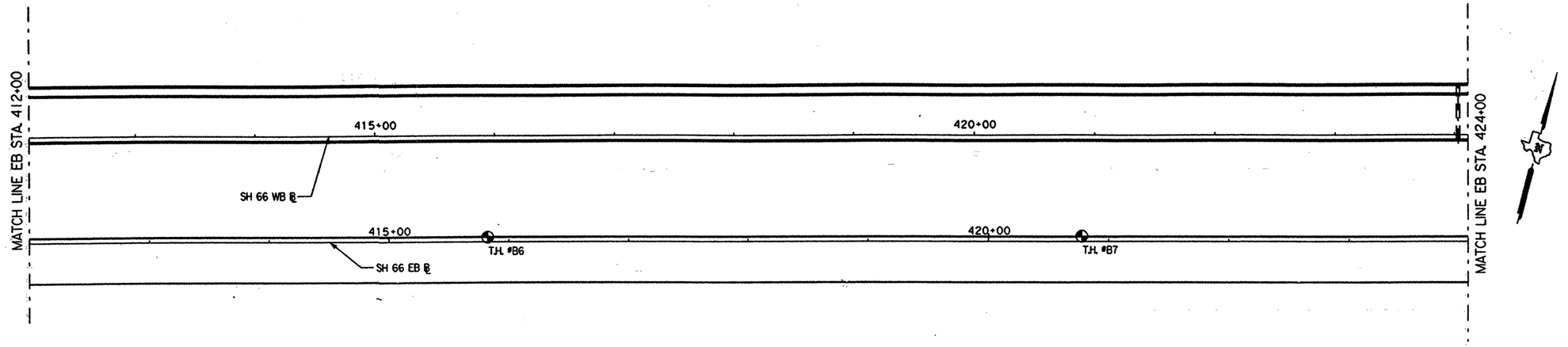
STA. 400+00 TO STA. 412+00

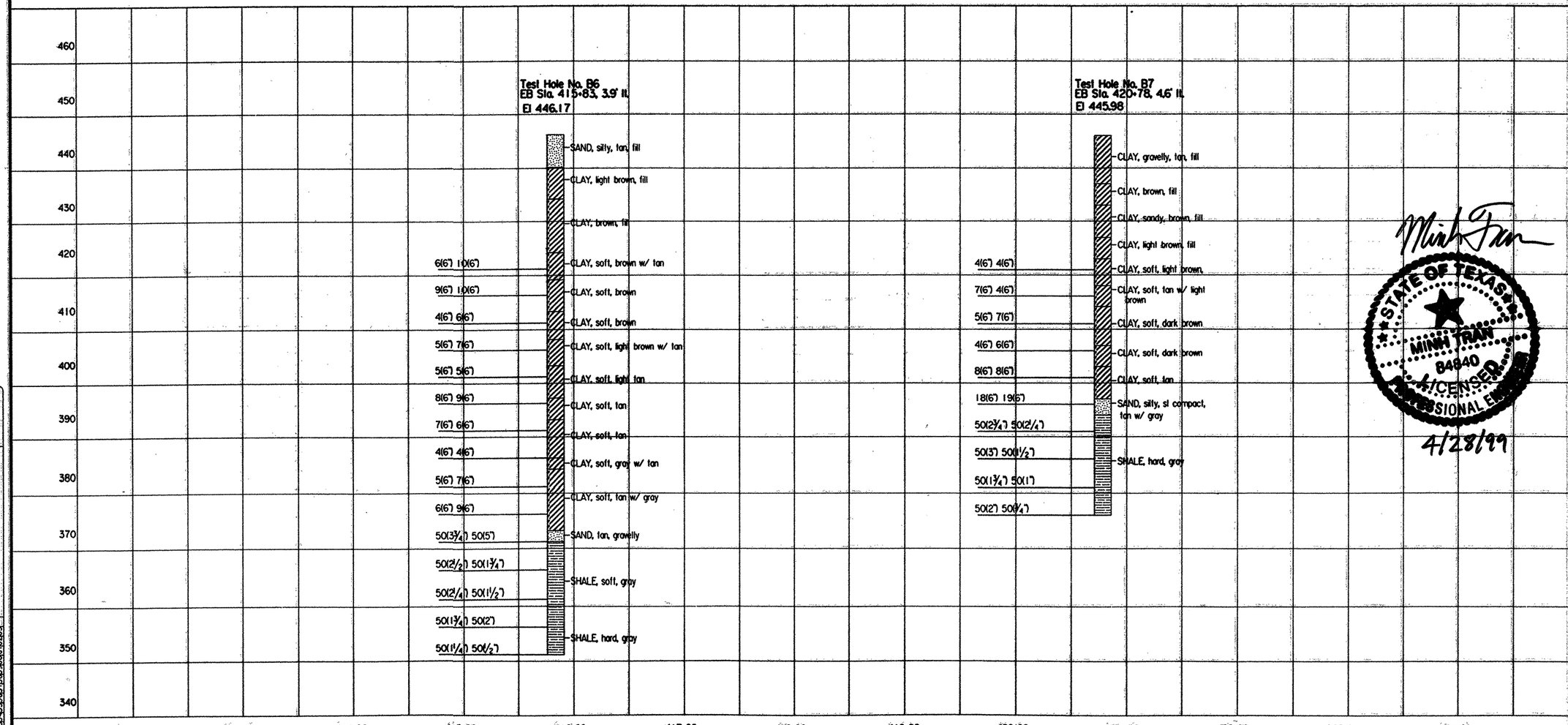
SCALE:
1"=100' HORZ
1"= 20' VERT.

SHEET 5 OF 9 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	178

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS CSJ: 9-3-12 & CSJ: 9-4-26.

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4/28/99

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 41 51 61
1 7 18 19 21 22 23 32 42 62 63 64 236 503 513
13 45 49 50 57 58 59 60 61 62 64 65 66 67 68
85 86 87 88 89 90 91 92 93 94 95 96 97 98

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DN: MDH
CK: TKW
DW: MDH
CK: MDH

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

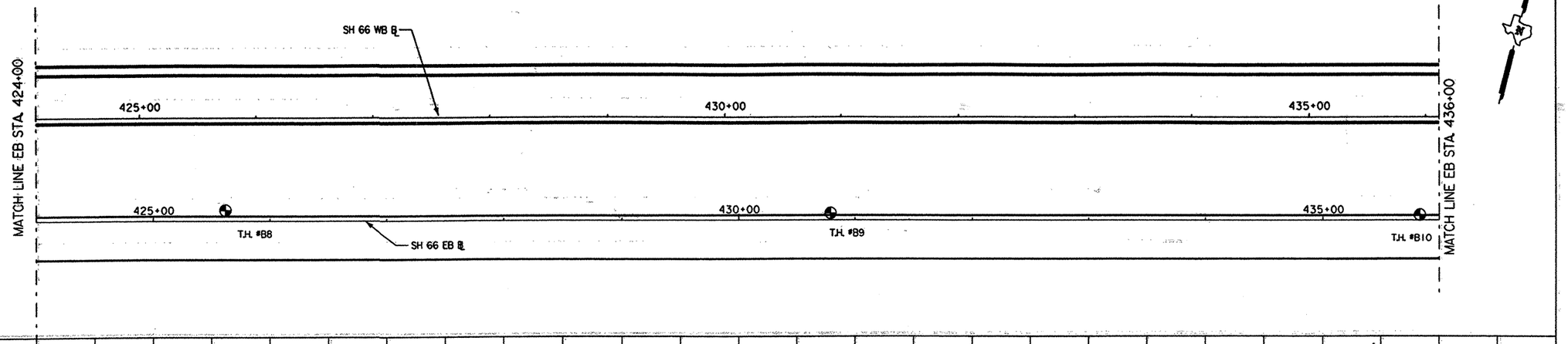
BORING LOGS

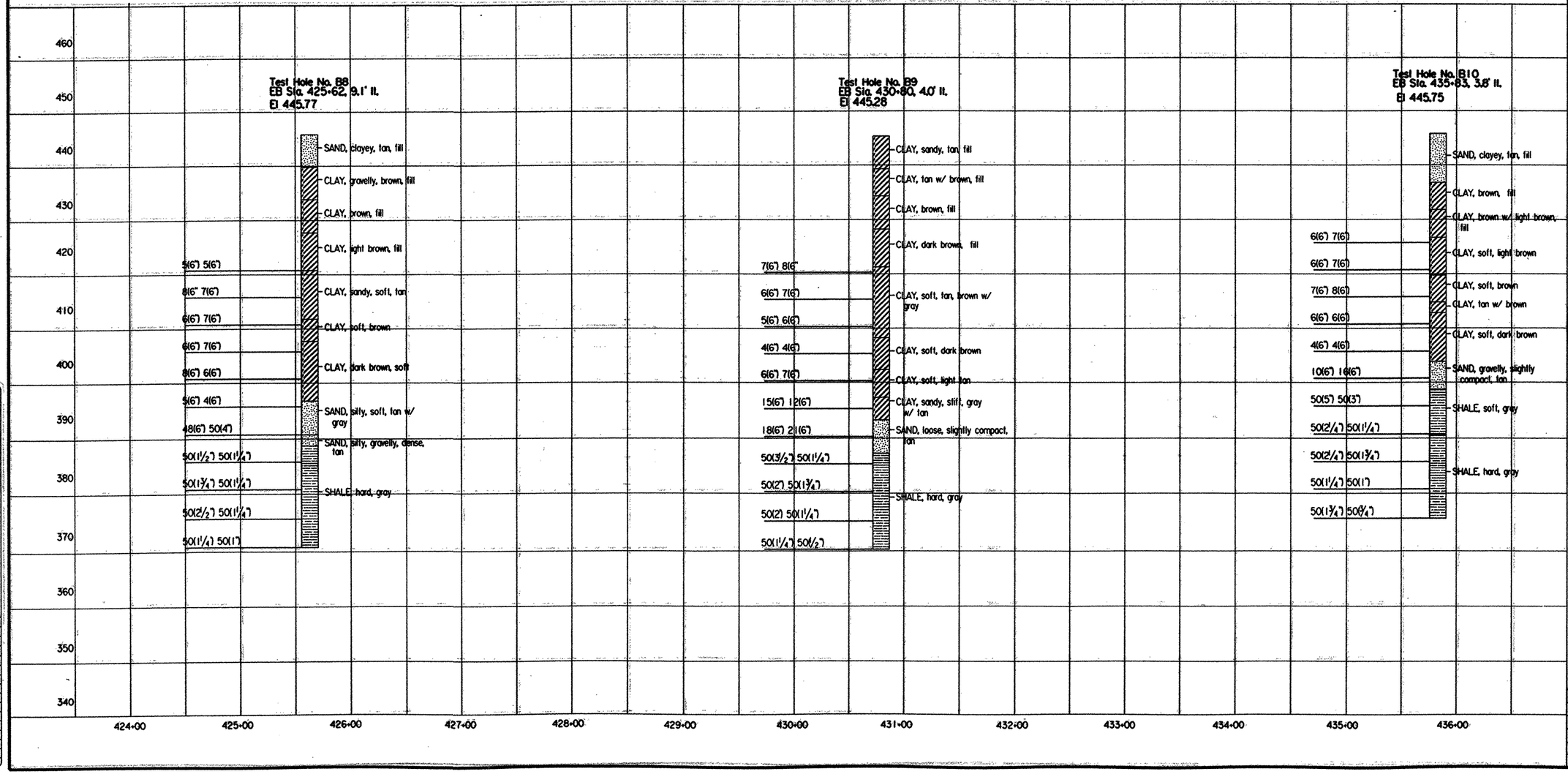
STA. 412+00 TO STA. 424+00

SCALE:
1"=100' HORZ
1"= 20' VERT.

SHEET 6 OF 9 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		179
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

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4/28/99

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 412+00 TO STA. 436+00

SCALE:
1"=100' HORZ
1"= 20' VERT.

SHEET 7 OF 9 SHEETS.

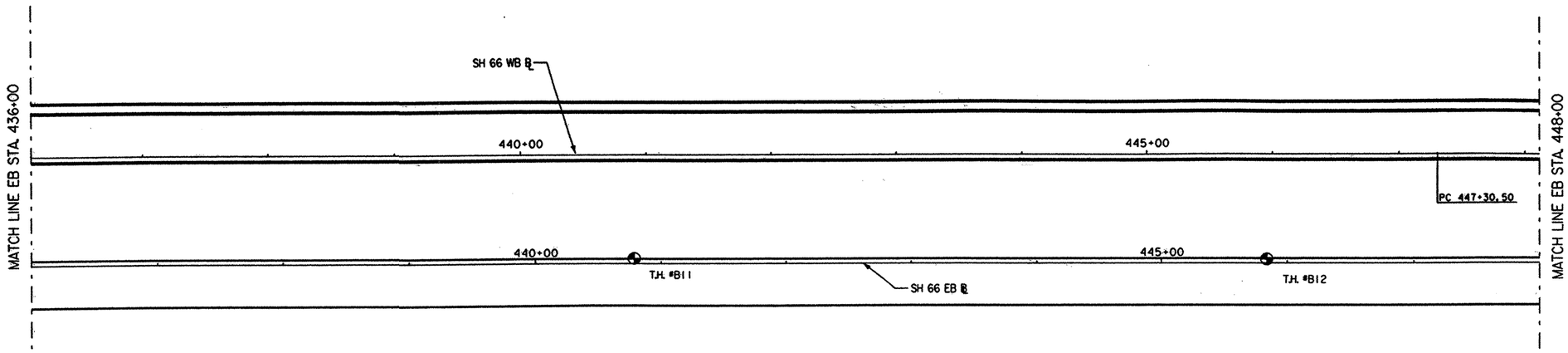
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	180

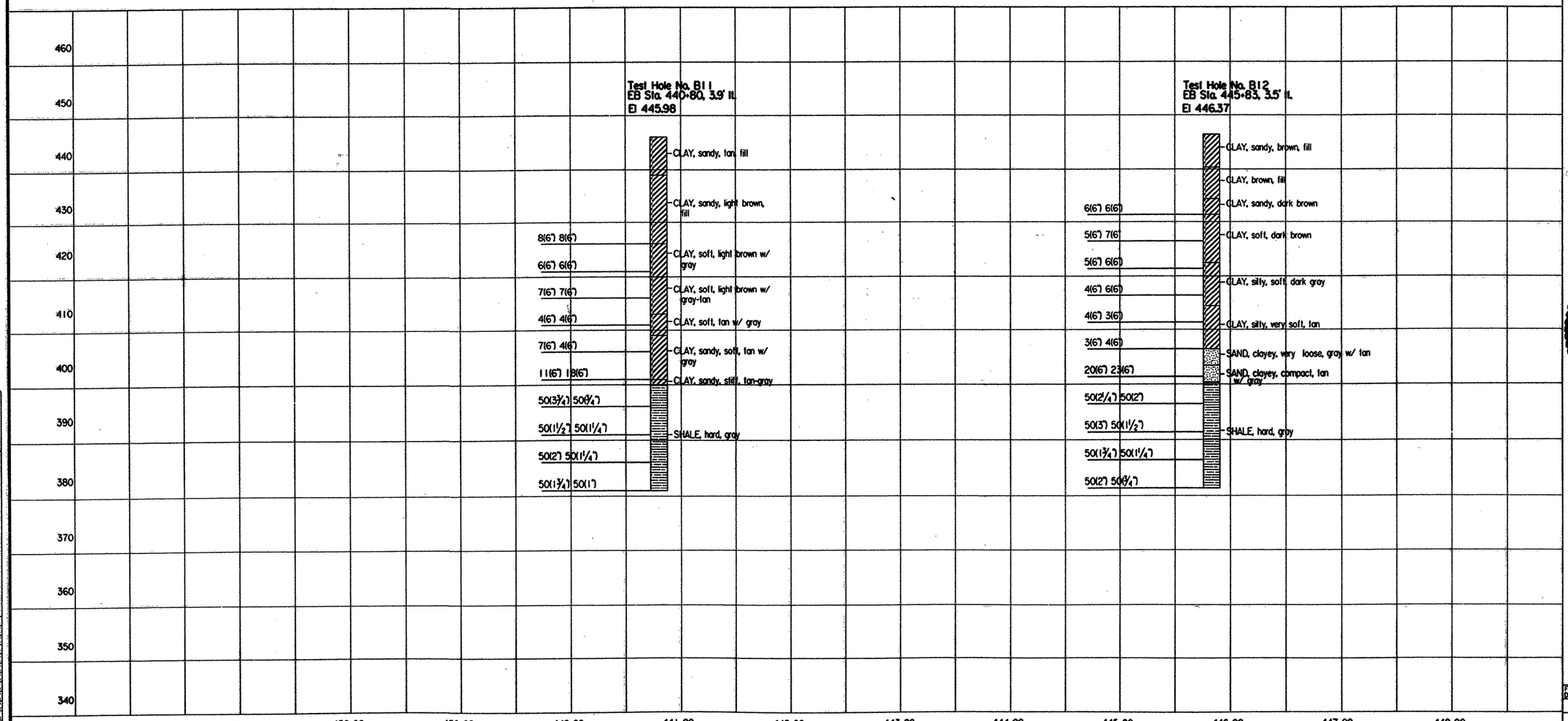
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

DN: MDH
CK: TKW
DW: MDH
CK: MDH

DATE: JAN. 99 NODE: D48PC3Q
FILE: 5691LY02.DGN

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63





NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.



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4/28/99

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 436+00 TO STA. 448+00

SCALE:
1"=100' HORZ
1"= 20' VERT.

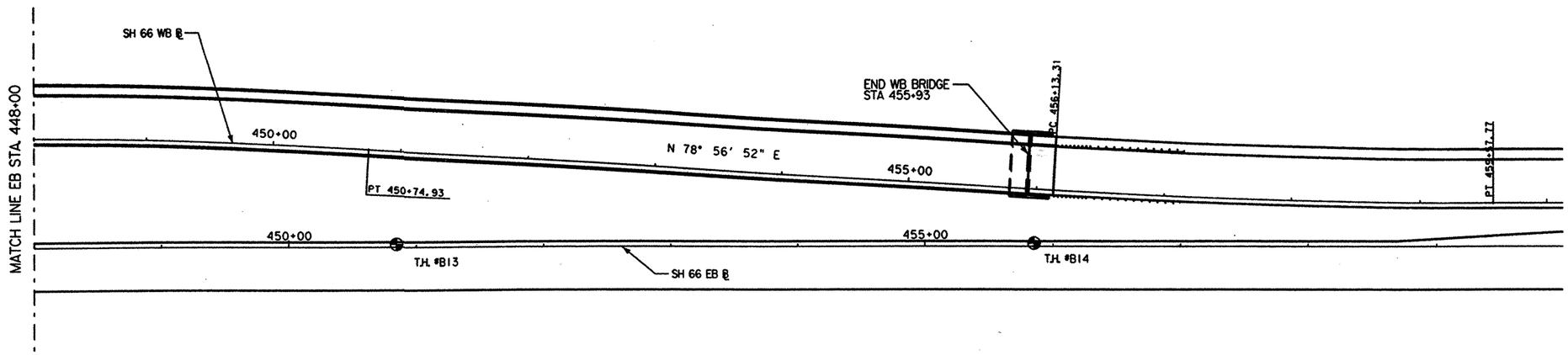
SHEET 8 OF 9 SHEETS.

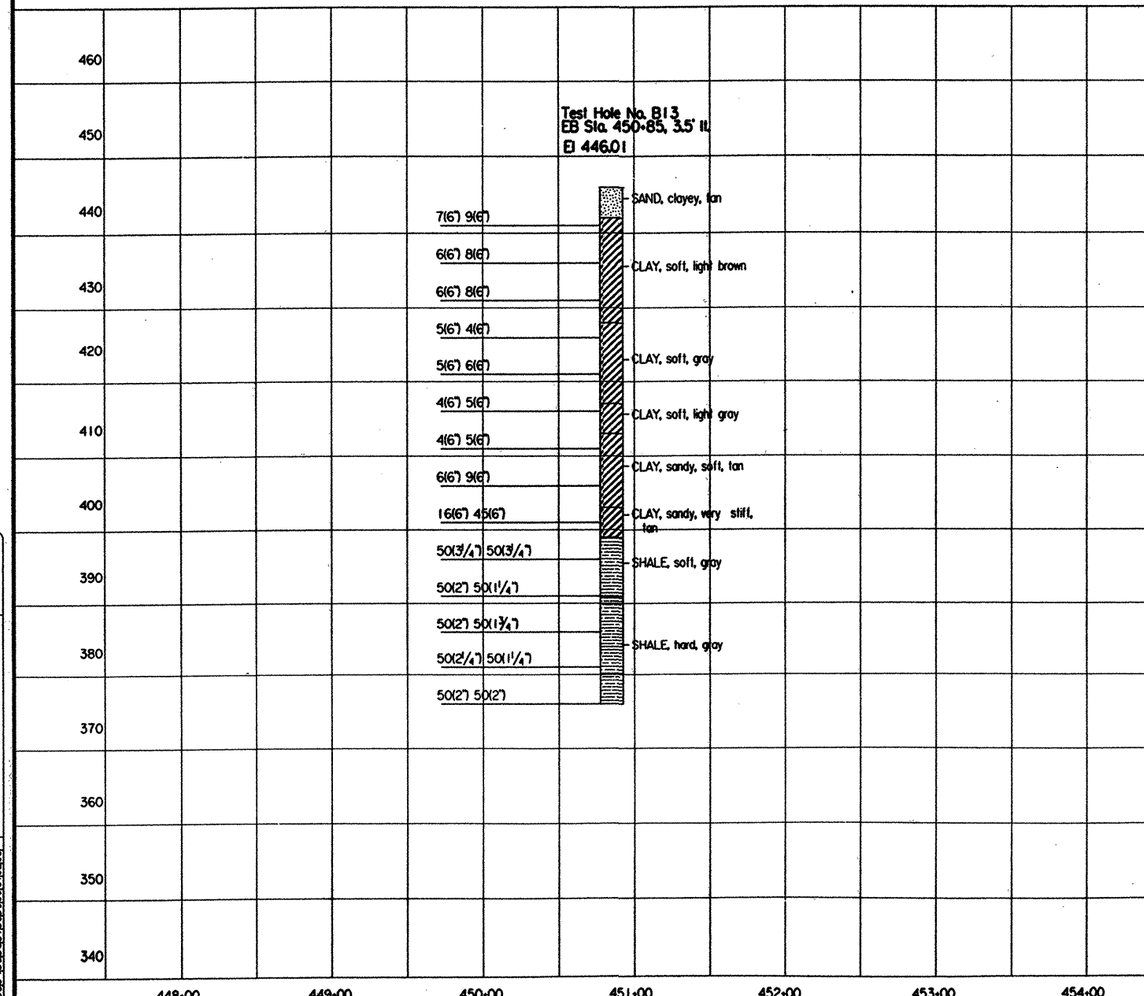
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	181

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

DATE: JAN 99 NODE: D48PC30 DN: MDH CK: TKW
FILE: 5691LY02.DGN DW: MDH CK:





ACTIVE FILE LEVELS DISPLAYED
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17 18 20 22 24 26 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46
50 51 52 53 55 56 57 58 59 60 61 62 63 64

DATE: JAN 99 NODE: D48PC30
FILE: 5691LY02.DGN

DN: MDH
CK:
DW: TKW
CK: MDH

NOTE:
CORE BORINGS 1 THRU 24 WERE OBTAIN FROM AS-BUILTS, CSJ: 9-3-12 & CSJ: 9-4-26.

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4/28/99

EAST FORK OF TRINITY RIVER EASTBOUND AND WESTBOUND BRIDGES

BORING LOGS

STA. 448+00 TO STA. 460+00

SCALE:
1"=100' HORZ
1"= 20' VERT.

SHEET 9 OF 9 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	182

STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	03	049	SH 66

SUMMARY OF ESTIMATED QUANTITIES

ITEM / DESCRIPTION	Drilled Shafts			Class "C" Concrete		Reinforced Concrete Slab	Prestressed Concrete Beams	Concrete Surface Treatment	Riprap Concrete Class "B"	Sealed Expansion Joint	Railing
	36"	48"	18"	Abutment	Bent		Type IV			Type A (4")	Ty T502
	LF	LF	LF	CY	CY	SF	LF	SY	CY	LF	LF
2-ABUTMENTS	440		204	64.8							72.0
43-INTERIOR BENTS	3477	5148			990.3						
1-180.000' PRESTR. CONC BM UNIT #1						7200.0	896.70	743.3			360.0
20-200.000' PRESTR CONC BM UNIT #2-21						160000.0	19934.00	16518.5			8000.0
1-180.000' PRESTR. CONC BM UNIT #22						7200.0	896.70	743.3			360.0
TOTAL	3917	5148	204	64.8	990.3	174400.0	21727.40	18005.1	73.58	865.38 *	8792.0

* Quantity includes 37.63' for each joint

BEARING SEAT ELEVATIONS

	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
BENT 1 (FWD)	463.485	463.308	463.131	462.954	462.778
BENT 2 (BK)	463.092	462.915	462.738	462.561	462.384
(FWD)	463.085	462.908	462.732	462.555	462.378
BENT 3 (BK)	462.692	462.515	462.338	462.161	461.985
(FWD)	462.686	462.509	462.332	462.155	461.978
BENT 4 (BK)	462.248	462.071	461.894	461.717	461.541
(FWD)	462.242	462.065	461.888	461.711	461.534
BENT 5 (BK)	461.804	461.627	461.450	461.273	461.097
(FWD)	461.798	461.621	461.444	461.267	461.090
BENT 6 (BK)	461.360	461.183	461.006	460.829	460.653
(FWD)	461.353	461.177	461.000	460.823	460.646
BENT 7 (BK)	460.916	460.739	460.562	460.385	460.209
(FWD)	460.909	460.733	460.556	460.379	460.202
BENT 8 (BK)	460.472	460.295	460.118	459.941	459.765
(FWD)	460.465	460.289	460.112	459.935	459.758
BENT 9 (BK)	460.028	459.851	459.674	459.497	459.320
(FWD)	460.021	459.845	459.668	459.491	459.314
BENT 10 (BK)	459.584	459.407	459.230	459.053	458.876
(FWD)	459.577	459.401	459.224	459.047	458.870
BENT 11 (BK)	459.140	458.963	458.786	458.609	458.432
(FWD)	459.133	458.957	458.780	458.603	458.426
BENT 12 (BK)	458.696	458.519	458.342	458.165	457.988
(FWD)	458.689	458.513	458.336	458.159	457.982
BENT 13 (BK)	458.252	458.075	457.898	457.721	457.544
(FWD)	458.245	458.068	457.892	457.715	457.538
BENT 14 (BK)	457.808	457.631	457.454	457.277	457.100
(FWD)	457.801	457.624	457.448	457.271	457.094
BENT 15 (BK)	457.364	457.187	457.010	456.833	456.656
(FWD)	457.357	457.180	457.004	456.827	456.650
BENT 16 (BK)	456.919	456.743	456.566	456.389	456.212
(FWD)	456.913	456.736	456.560	456.383	456.206
BENT 17 (BK)	456.475	456.299	456.122	455.945	455.768
(FWD)	456.469	456.292	456.116	455.939	455.762
BENT 18 (BK)	456.031	455.855	455.678	455.501	455.324
(FWD)	456.025	455.848	455.672	455.495	455.318
BENT 19 (BK)	455.587	455.411	455.234	455.057	454.880
(FWD)	455.581	455.404	455.228	455.051	454.874
BENT 20 (BK)	455.143	454.967	454.790	454.613	454.436
(FWD)	455.137	454.960	454.783	454.607	454.430
BENT 21 (BK)	454.699	454.523	454.346	454.169	453.992
(FWD)	454.693	454.516	454.339	454.163	453.986
BENT 22 (BK)	454.255	454.079	453.902	453.725	453.548
(FWD)	454.249	454.072	453.895	453.719	453.542
BENT 23 (BK)	453.811	453.634	453.458	453.281	453.104
(FWD)	453.805	453.628	453.451	453.275	453.098

	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
BENT 24 (BK)	453.367	453.190	453.014	452.837	452.660
(FWD)	453.361	453.184	453.007	452.831	452.654
BENT 25 (BK)	452.923	452.746	452.570	452.393	452.216
(FWD)	452.917	452.740	452.563	452.387	452.210
BENT 26 (BK)	452.479	452.302	452.126	451.949	451.772
(FWD)	452.473	452.296	452.119	451.943	451.766
BENT 27 (BK)	452.035	451.858	451.682	451.505	451.328
(FWD)	452.029	451.852	451.675	451.498	451.322
BENT 28 (BK)	451.591	451.414	451.238	451.061	450.884
(FWD)	451.585	451.408	451.231	451.054	450.878
BENT 29 (BK)	451.147	450.970	450.794	450.617	450.440
(FWD)	451.141	450.964	450.787	450.610	450.434
BENT 30 (BK)	450.703	450.526	450.349	450.173	449.996
(FWD)	450.697	450.520	450.343	450.166	449.990
BENT 31 (BK)	450.259	450.082	449.905	449.729	449.552
(FWD)	450.253	450.076	449.899	449.722	449.546
BENT 32 (BK)	449.815	449.638	449.461	449.285	449.108
(FWD)	449.809	449.632	449.455	449.278	449.102
BENT 33 (BK)	449.371	449.194	449.017	448.841	448.664
(FWD)	449.365	449.188	449.011	448.834	448.658
BENT 34 (BK)	448.927	448.750	448.573	448.397	448.220
(FWD)	448.921	448.744	448.567	448.390	448.213
BENT 35 (BK)	448.483	448.306	448.129	447.953	447.776
(FWD)	448.477	448.300	448.123	447.946	447.769
BENT 36 (BK)	448.039	447.862	447.685	447.509	447.332
(FWD)	448.033	447.856	447.679	447.502	447.325
BENT 37 (BK)	447.595	447.418	447.241	447.064	446.888
(FWD)	447.589	447.412	447.235	447.058	446.881
BENT 38 (BK)	447.151	446.974	446.797	446.620	446.444
(FWD)	447.145	446.968	446.791	446.614	446.437
BENT 39 (BK)	446.707	446.530	446.353	446.176	446.000
(FWD)	446.701	446.524	446.347	446.170	445.993
BENT 40 (BK)	446.263	446.086	445.909	445.732	445.556
(FWD)	446.257	446.080	445.903	445.726	445.549
BENT 41 (BK)	445.819	445.642	445.465	445.288	445.112
(FWD)	445.812	445.636	445.459	445.282	445.105
BENT 42 (BK)	445.375	445.198	445.021	444.844	444.668
(FWD)	445.368	445.192	445.015	444.838	444.661
BENT 43 (BK)	444.931	444.754	444.577	444.400	444.224
(FWD)	444.924	444.748	444.571	444.394	444.217
BENT 44 (BK)	444.531	444.354	444.177	444.001	443.824
(FWD)	444.525	444.348	444.171	443.994	443.818
BENT 45 (BK)	444.131	443.955	443.778	443.601	443.424

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

HS 20 LOADING

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER BRIDGE EASTBOUND LANES

ORIG DRAW DATE: FEB 99	DN - MDH	CK - JBH	DW - TKW	CK - MDH	MCG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	18	6	NH 99(367)		183
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

LEVELS DIS_ED
ACC: D48PC3Q: TWHALEY
FILE: 5691TL01.DGN

SUMMARY OF ESTIMATED QUANTITIES

ITEM / DESCRIPTION	Drilled Shafts			Class "C" Concrete		Reinforced Concrete Slab	Prestressed Concrete Beams	Concrete Surface Treatment	Riprap Concrete Class "B"	Sealed Expansion Joint	Railing
	36"	48"	18"	Abutment	Bent		Type IV				Ty T502
	LF	LF	LF	CY	CY	SF	LF	SY	CY	LF	LF
2-ABUTMENTS	440		204	64.8							72.0
43-INTERIOR BENTS	3504	5185.5			990.3						
1-180.000' PRESTR. CONC BM UNIT #1						7200.0	896.70	743.3			360.0
11-300.000' PRESTR CONC BM UNIT #2-8,11-14						132000.0	16445.55	13627.7			6600.0
1-304.000' PRESTR. CONC BM UNIT #9						12160.0	1515.05	1255.4			608.0
1-296.000' PRESTR. CONC BM UNIT #10						11840.0	1475.05	1222.4			592.0
1-280.000' PRESTR. CONC BM UNIT #15						11200.0	1395.05	1156.3			560.0
TOTAL	3944	5185.5	204	64.8	990.3	174400.0	21727.40	18005.1	73.58	602.08	8792.0

* Quantity includes 37.63' for each joint

BEARING SEAT ELEVATIONS

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5
BENT 1	(FWD)	463.440	463.264	463.087	462.910	462.733
BENT 2	(BK)	463.092	462.915	462.738	462.561	462.384
	(FWD)	463.085	462.908	462.732	462.555	462.378
BENT 3	(BK)	462.647	462.471	462.294	462.117	461.940
	(FWD)	462.641	462.464	462.288	462.111	461.934
BENT 4	(BK)	462.203	462.027	461.850	461.673	461.496
	(FWD)	462.197	462.020	461.844	461.667	461.490
BENT 5	(BK)	461.759	461.583	461.406	461.229	461.052
	(FWD)	461.753	461.576	461.400	461.223	461.046
BENT 6	(BK)	461.315	461.139	460.962	460.785	460.608
	(FWD)	461.309	461.132	460.955	460.779	460.602
BENT 7	(BK)	460.871	460.695	460.518	460.341	460.164
	(FWD)	460.865	460.688	460.511	460.335	460.158
BENT 8	(BK)	460.427	460.251	460.074	459.897	459.720
	(FWD)	460.421	460.244	460.067	459.891	459.714
BENT 9	(BK)	459.983	459.807	459.630	459.453	459.276
	(FWD)	459.977	459.800	459.623	459.447	459.270
BENT 10	(BK)	459.539	459.362	459.186	459.009	458.832
	(FWD)	459.533	459.356	459.179	459.003	458.826
BENT 11	(BK)	459.095	458.918	458.742	458.565	458.388
	(FWD)	459.089	458.912	458.735	458.559	458.382
BENT 12	(BK)	458.651	458.474	458.298	458.121	457.944
	(FWD)	458.645	458.468	458.291	458.115	457.938
BENT 13	(BK)	458.207	458.030	457.854	457.677	457.500
	(FWD)	458.201	458.024	457.847	457.670	457.494
BENT 14	(BK)	457.763	457.586	457.410	457.233	457.056
	(FWD)	457.757	457.580	457.403	457.226	457.050
BENT 15	(BK)	457.319	457.142	456.966	456.789	456.612
	(FWD)	457.313	457.136	456.959	456.782	456.606
BENT 16	(BK)	456.875	456.698	456.521	456.345	456.168
	(FWD)	456.869	456.692	456.515	456.338	456.162
BENT 17	(BK)	456.431	456.254	456.077	455.901	455.724
	(FWD)	456.425	456.248	456.071	455.894	455.718
BENT 18	(BK)	455.987	455.810	455.633	455.457	455.280
	(FWD)	455.981	455.804	455.627	455.450	455.274
BENT 19	(BK)	455.543	455.366	455.189	455.013	454.836
	(FWD)	455.537	455.360	455.183	455.006	454.829
BENT 20	(BK)	455.099	454.922	454.745	454.569	454.392
	(FWD)	455.093	454.916	454.739	454.562	454.385
BENT 21	(BK)	454.655	454.478	454.301	454.125	453.948
	(FWD)	454.649	454.472	454.295	454.118	453.941
BENT 22	(BK)	454.211	454.034	453.857	453.681	453.504
	(FWD)	454.205	454.028	453.851	453.674	453.497
BENT 23	(BK)	453.767	453.590	453.413	453.236	453.060
	(FWD)	453.761	453.584	453.407	453.230	453.053
BENT 24	(BK)	453.323	453.146	452.969	452.792	452.616
	(FWD)	453.317	453.140	452.963	452.786	452.609
BENT 25	(BK)	452.879	452.702	452.525	452.348	452.172
	(FWD)	452.873	452.696	452.519	452.342	452.165
BENT 26	(BK)	452.435	452.258	452.081	451.904	451.728
	(FWD)	452.408	452.231	452.054	451.877	451.700
BENT 27	(BK)	451.952	451.775	451.599	451.422	451.245
	(FWD)	451.967	451.790	451.613	451.436	451.260
BENT 28	(BK)	451.547	451.370	451.193	451.016	450.840
	(FWD)	451.540	451.364	451.187	451.010	450.833
BENT 29	(BK)	451.103	450.926	450.749	450.572	450.396
	(FWD)	451.096	450.920	450.743	450.566	450.389
BENT 30	(BK)	450.659	450.482	450.305	450.128	449.951
	(FWD)	450.652	450.476	450.299	450.122	449.945
BENT 31	(BK)	450.215	450.038	449.861	449.684	449.507
	(FWD)	450.208	450.032	449.855	449.678	449.501
BENT 32	(BK)	449.771	449.594	449.417	449.240	449.063
	(FWD)	449.764	449.588	449.411	449.234	449.057
BENT 33	(BK)	449.327	449.150	448.973	448.796	448.619
	(FWD)	449.320	449.143	448.967	448.790	448.613
BENT 34	(BK)	448.883	448.706	448.529	448.352	448.175
	(FWD)	448.876	448.699	448.523	448.346	448.169
BENT 35	(BK)	448.439	448.262	448.085	447.908	447.731
	(FWD)	448.432	448.255	448.079	447.902	447.725
BENT 36	(BK)	447.995	447.818	447.641	447.464	447.287
	(FWD)	447.988	447.811	447.635	447.458	447.281
BENT 37	(BK)	447.550	447.374	447.197	447.020	446.843
	(FWD)	447.544	447.367	447.191	447.014	446.837
BENT 38	(BK)	447.106	446.930	446.753	446.576	446.399
	(FWD)	447.100	446.923	446.747	446.570	446.393
BENT 39	(BK)	446.662	446.486	446.309	446.132	445.955
	(FWD)	446.656	446.479	446.303	446.126	445.949
BENT 40	(BK)	446.218	446.042	445.865	445.688	445.511
	(FWD)	446.212	446.035	445.858	445.682	445.505
BENT 41	(BK)	445.774	445.598	445.421	445.244	445.067
	(FWD)	445.768	445.591	445.414	445.238	445.061
BENT 42	(BK)	445.330	445.154	444.977	444.800	444.623
	(FWD)	445.324	445.147	444.970	444.794	444.617
BENT 43	(BK)	444.886	444.710	444.533	444.356	444.179
	(FWD)	444.880	444.703	444.526	444.350	444.173
BENT 44	(BK)	444.487	444.310	444.133	443.956	443.779
	(FWD)	444.480	444.304	444.127	443.950	443.773
BENT 45	(BK)	444.087	443.910	443.733	443.557	443.380

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

CHANGE ORDER NO. 9

HS 20 LOADING

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER BRIDGE EASTBOUND LANES

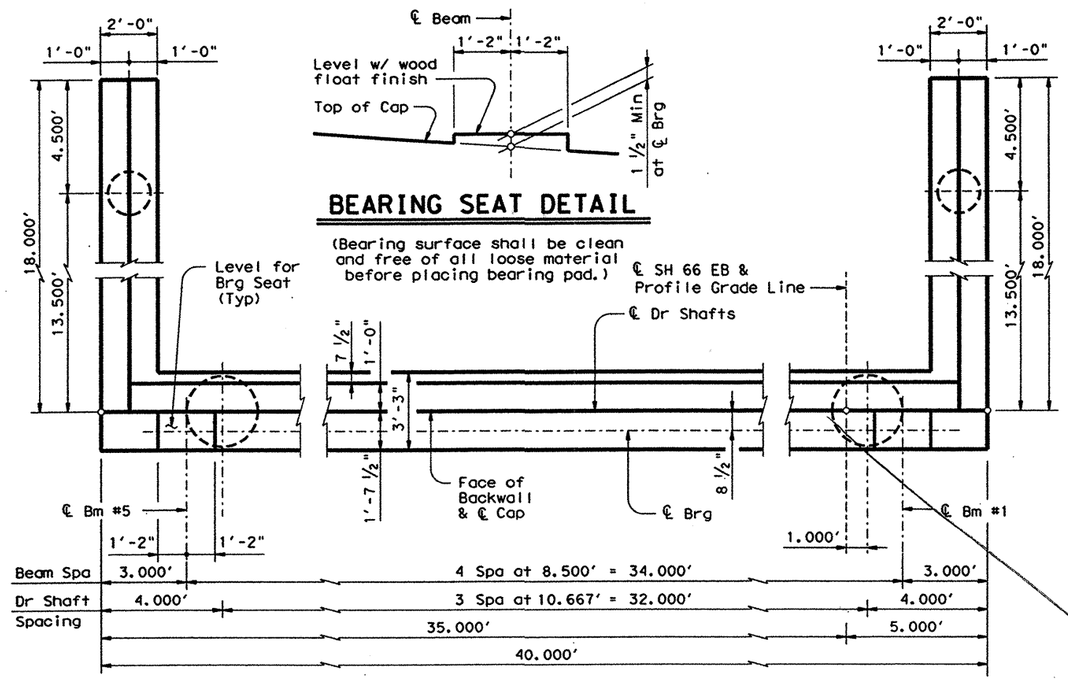
ORIG DRAW DATE: FEB 99	DN:- MDH	CK:- JBH	DW:- TKW	CK:- MDH	REG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
7/01 - Changed unit lengths and bent locations. MDH/RNP	18	6	NH 99(367)		183 A
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

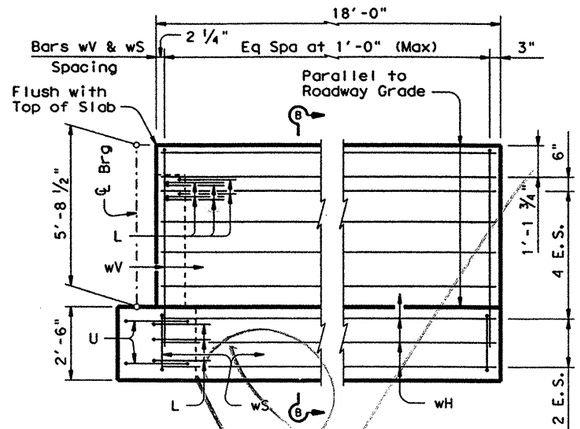
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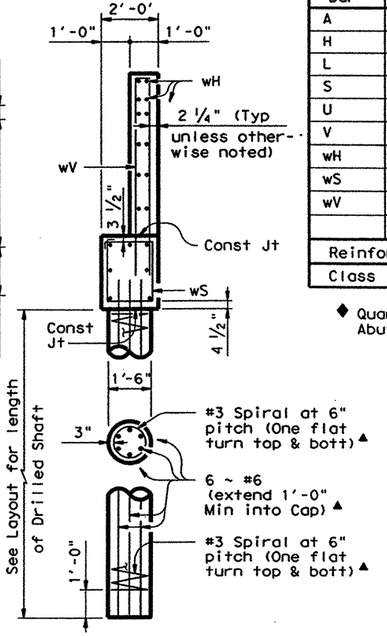
◆ TABLE OF ESTIMATED QUANTITIES

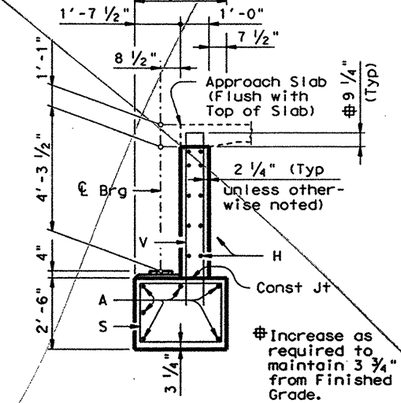
Bar	No.	Size	Length	Weight
A	6	#11	39'- 0"	1243
H	10	#5	39'- 8"	414
L	18	#6	4'- 0"	108
S	33	#4	10'- 8"	235
U	4	#6	7'- 9"	47
V	39	#5	13'-11"	566
wH	38	#6	17'- 8"	1008
wS	38	#4	7'- 9"	197
wV	38	#5	14'- 2"	561
Reinforcing Steel			Lb	4379
Class "C" Concrete			CY	32.4

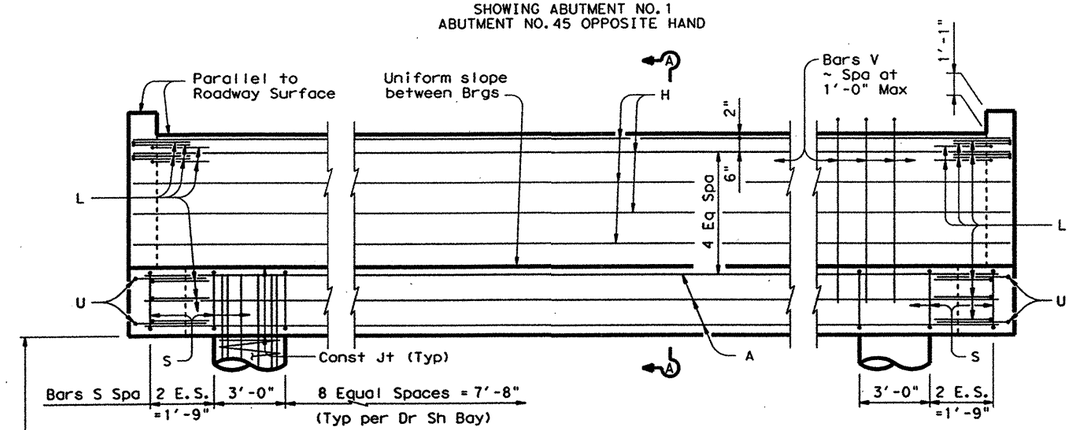
◆ Quantities shown are for one Abutment only.

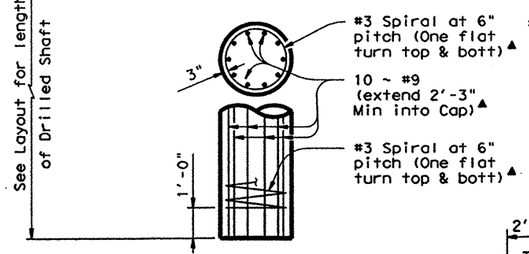


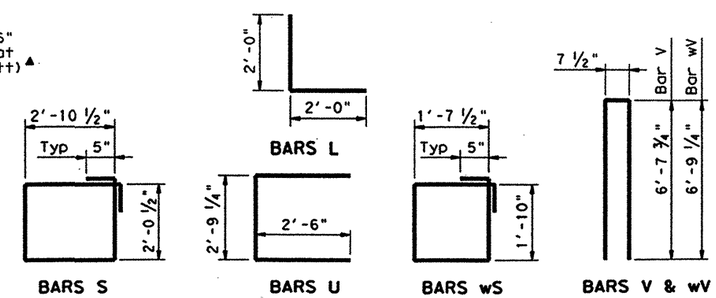


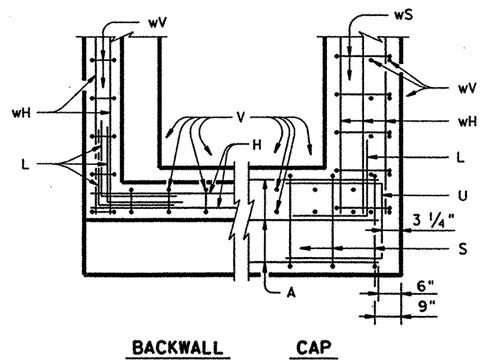












GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

All cap and wall reinforcing shall be Grade 60.

Drilled Shaft reinforcing may be Grade 40.

Calculated Foundation Loads ~

Cap Drilled Shafts = 90 Tons/Drilled Shaft

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

ABUTMENT NOS. 1 AND 45 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

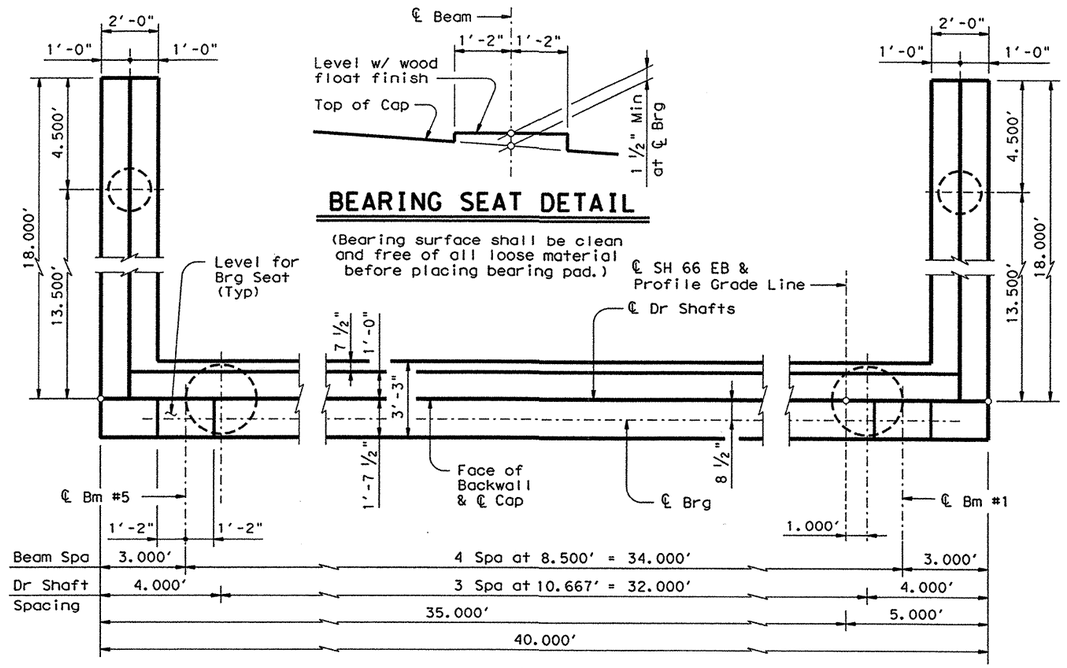
STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED PROFESSIONAL ENGINEER

4/27/99

FILE: 5691ab01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
© TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT ◆	SHEET
REVISIONS	18	6	NH 99(367)	184
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5691ab01.dgn

LEVELS DISPLAY: 1 | 2 | 4 | 1.5 | 2.5 | 2.7 | 6.0

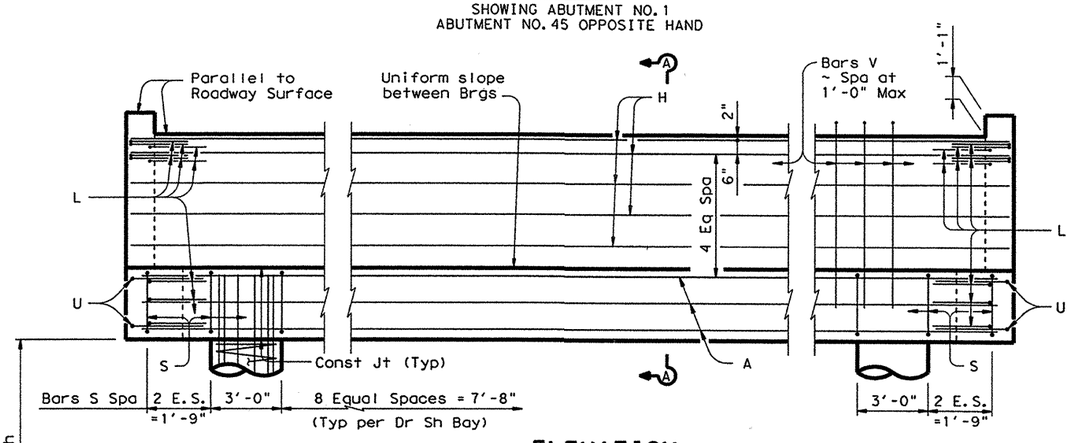


BEARING SEAT DETAIL

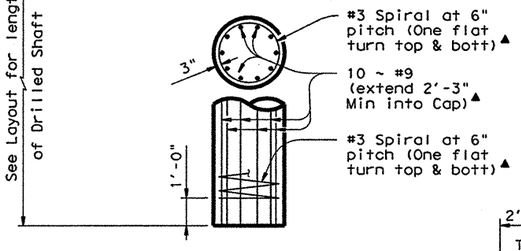
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

PLAN

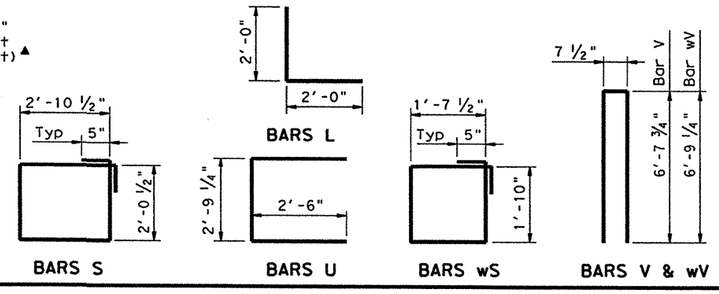
SHOWING ABUTMENT NO. 1
ABUTMENT NO. 45 OPPOSITE HAND

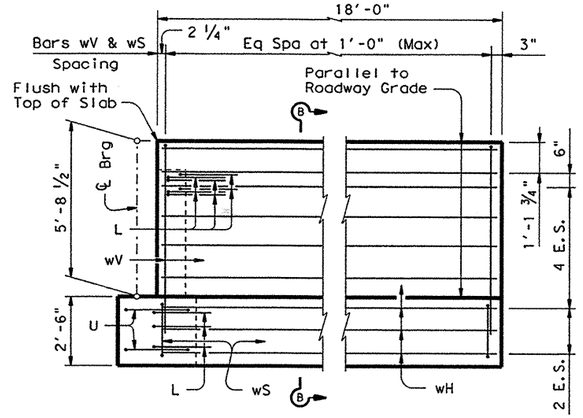


ELEVATION

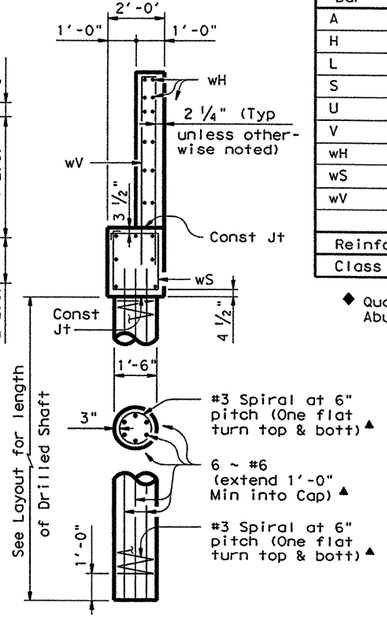


▲Included in price bid for Drilled Shafts.

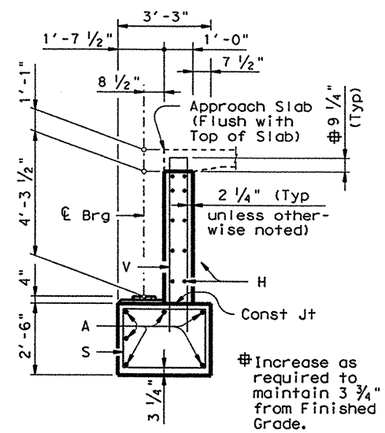




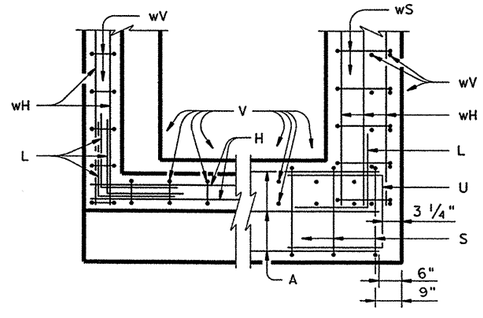
WINGWALL ELEVATION



SECTION B-B



SECTION A-A



BACKWALL CAP

CORNER DETAILS

Contractor shall locate existing drilled shafts prior to drilled shaft construction. Contractor may move wingwall drilled shafts 2'± along the centerline of the wingwall cap to avoid existing wingwall drilled shafts.

◆ TABLE OF ESTIMATED QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	39'- 0"	1243
H	10	#5	39'- 8"	414
L	18	#6	4'- 0"	108
S	33	#4	10'- 8"	235
U	4	#6	7'- 9"	47
V	39	#5	13'-11"	566
wH	38	#6	17'- 8"	1008
wS	38	#4	7'- 9"	197
wV	38	#5	14'- 2"	561
Reinforcing Steel			Lb	4379
Class "C" Concrete			CY	32.4

◆ Quantities shown are for one Abutment only.

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

All cap and wall reinforcing shall be Grade 60.

Drilled Shaft reinforcing may be Grade 40.

Calculated Foundation Loads ~

Cap Drilled Shafts = 90 Tons/Drilled Shaft

CHANGE ORDER NO. 9

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

ABUTMENT NOS. 1 AND 45 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 5691ab01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	184
7/01 ~ Added note for drilled shaft conflicts. MDH/RNP	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

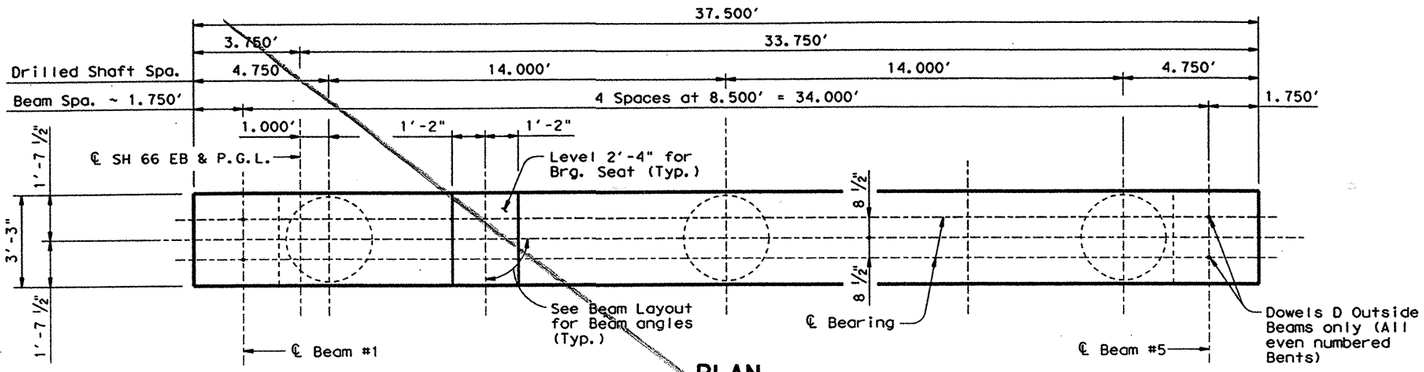
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

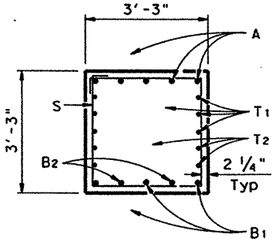
James C. Wall

ACC: d48pc3b 5691ab01.dgn

LE: 1 2 4 5 14 15 23 27 60



PLAN

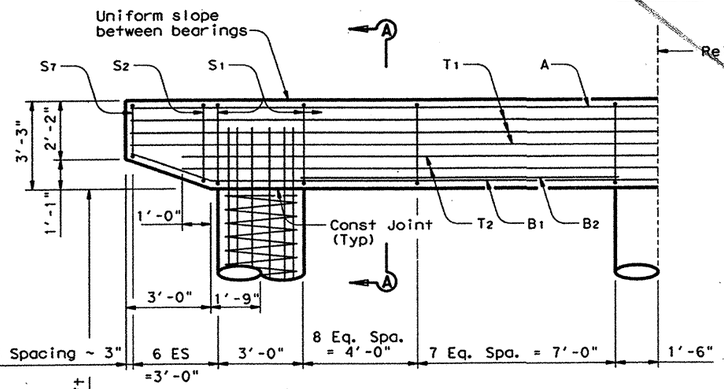


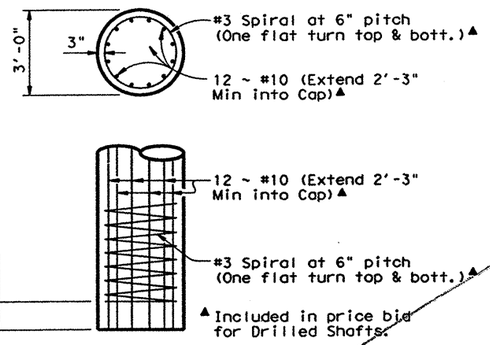
SECTION A-A

①TABLE OF CONSTANT ② QUANTITIES				
Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
D	4	1 1/4"D	1'-8"	28
S1	34	#5	12'-6"	443
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2807
Class "C" Concrete			CY	14.5

① Quantities shown are for one bent only.

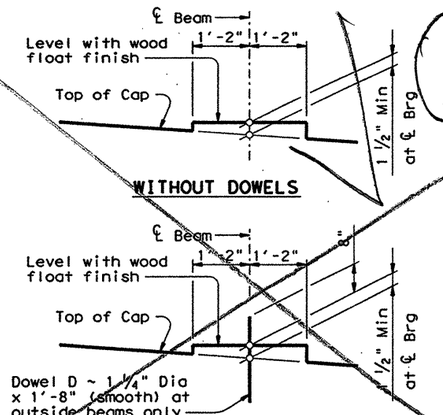
② Omit Dowels D at odd numbered bents, Deduct 28 lbs. reinforcing steel.





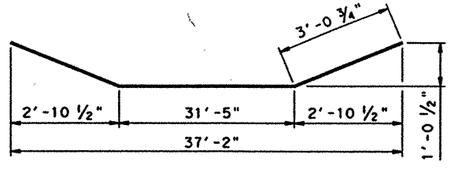
NOTE:
Drilled Shafts shall be formed from 1' below ground to bottom of cap.

HALF ELEVATION

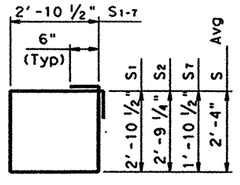


BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S1-7

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load
Bent 2 & 44 = 191 Tons/Dr Sh
Bents 32 thru 43 = 214 Tons/Dr Sh

HS20 LOADING

VOID

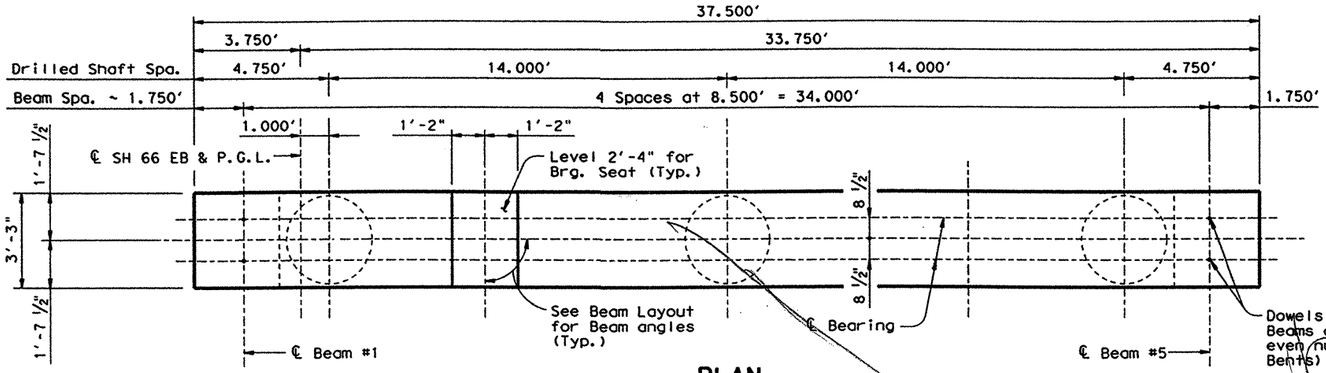
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/89
James C. Wall

Texas Department of Transportation
Design Division (Bridge)

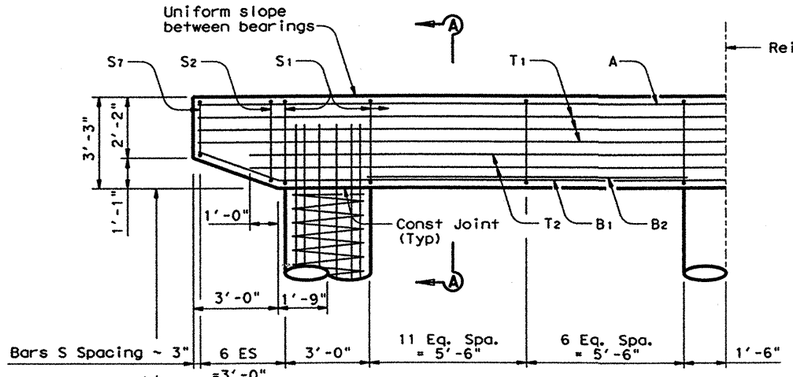
INTERIOR BENT NOS. 2 & 32 THRU 44 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

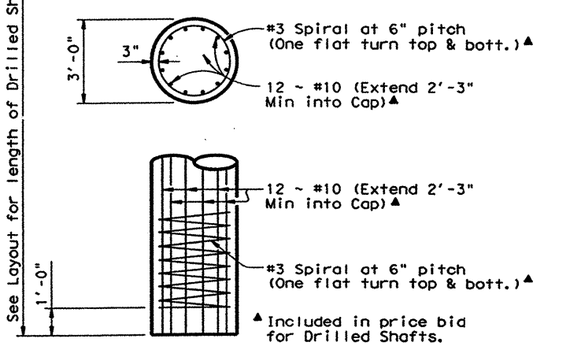
FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	18	6	NH 99(367)	185
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5691ib01.dgn
LEVELS DISPLAY



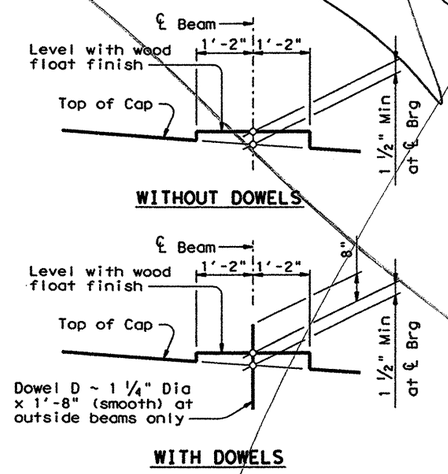
PLAN





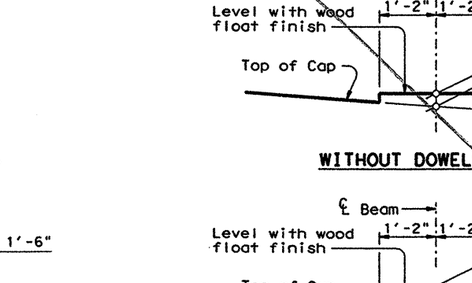
NOTE:
Drilled Shafts shall be formed from 1' below ground to bottom of cap.

HALF ELEVATION

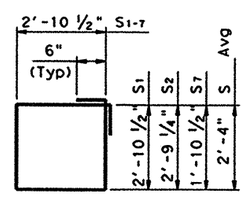


BEARING SEAT DETAIL

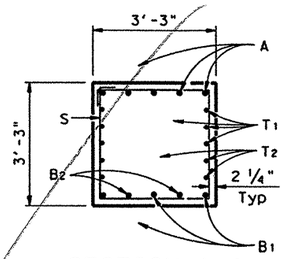
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B_1



BARS S_{1-7}



SECTION A-A

①TABLE OF CONSTANT ② QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37' 2"	987
B_1	3	#11	37'-7"	599
B_2	4	#11	11'-0"	234
D	4	1¼"D	1'-8"	28
S_1	38	#5	12'-6"	496
S_{2-7}	12	#5	11'-5" Av	143
T_1	6	#5	37'-2"	233
T_2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2860
Class "C" Concrete			CY	14.5

① Quantities shown are for one bent only.

② Omit Dowels D at odd numbered bents, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load
Bent 2 & 44 = 191 Tons/Dr Sh
Bents 32 thru 43 = 214 Tons/Dr Sh

CHANGE ORDER NO. _____

HS20 LOADING

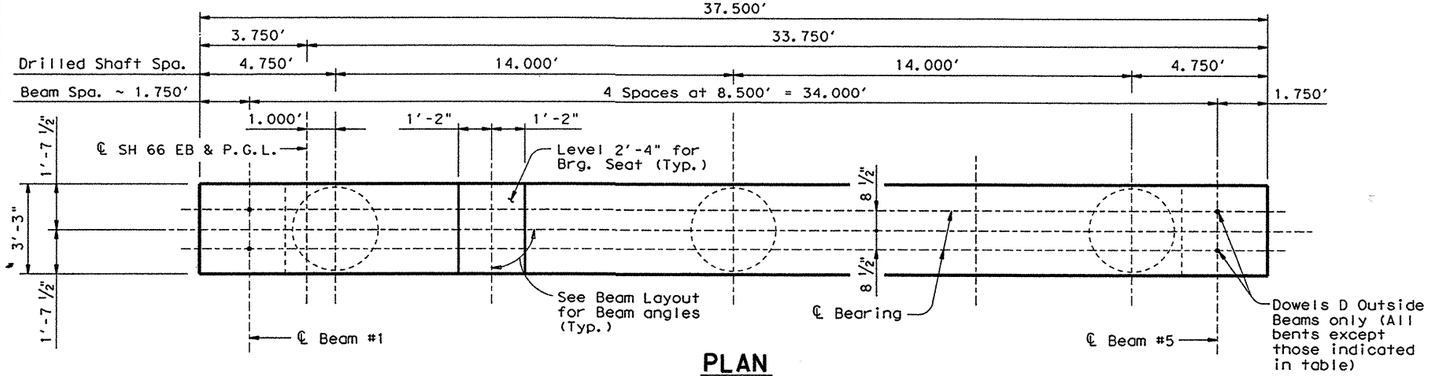
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/16/99

Texas Department of Transportation
Design Division (Bridge)

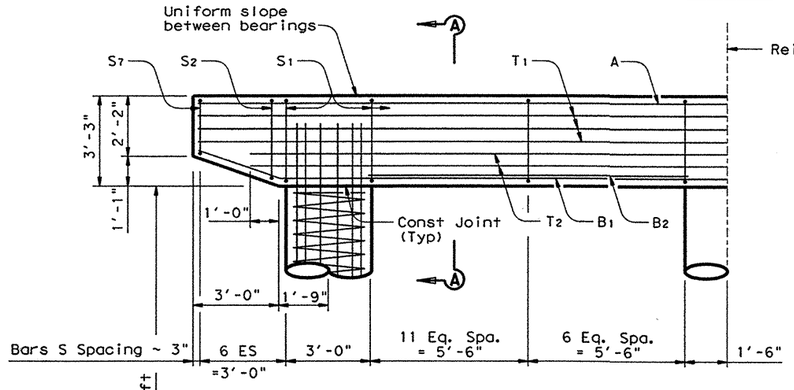
INTERIOR BENT NOS. 2 & 32 THRU 44 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

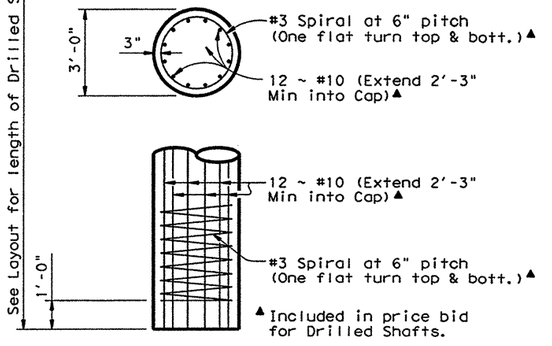
FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 8/99 - Increased number of stirrups. MDH	18	6	NH 99(367)	185A
	COUNTY		CONTROL SECT	JOB HIGHWAY
	ROCKWALL		0009 04	039 SH 66

LEVELS 1-10
ACC: d48pc3b 5691ib01.dgn



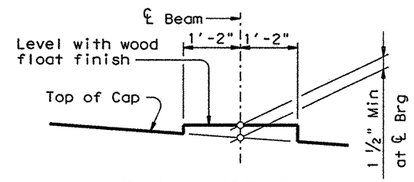
PLAN



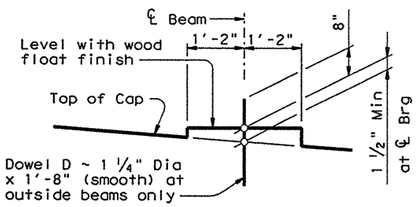


NOTE:
Drilled Shafts shall be formed from 1' below ground to bottom of cap.

HALF ELEVATION



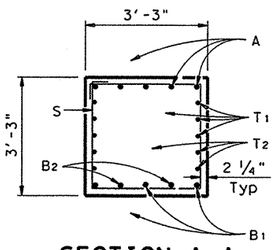
WITHOUT DOWELS



WITH DOWELS

BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



SECTION A-A

①TABLE OF CONSTANT ② QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
D	4	1¼"D	1'-8"	28
S1	38	#5	12'-6"	496
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2860
Class "C" Concrete			CY	14.5

① Quantities shown are for one bent only.

② Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.

BENT LOCATIONS WITHOUT DOWELS D

Bent No.	
33	39
36	42

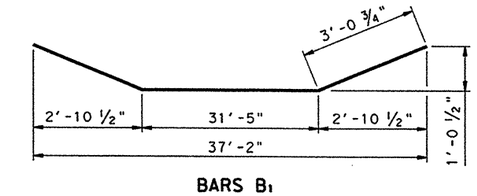
Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load
Bent 2 & 44 = 191 Tons/Dr Sh
Bents 32 thru 43 = 214 Tons/Dr Sh

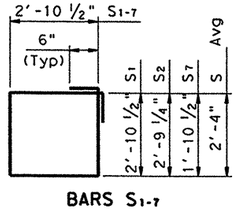
CHANGE ORDER NO. 4

CHANGE ORDER NO. _____

HS20 LOADING



BARS B1



BARS S1-7

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

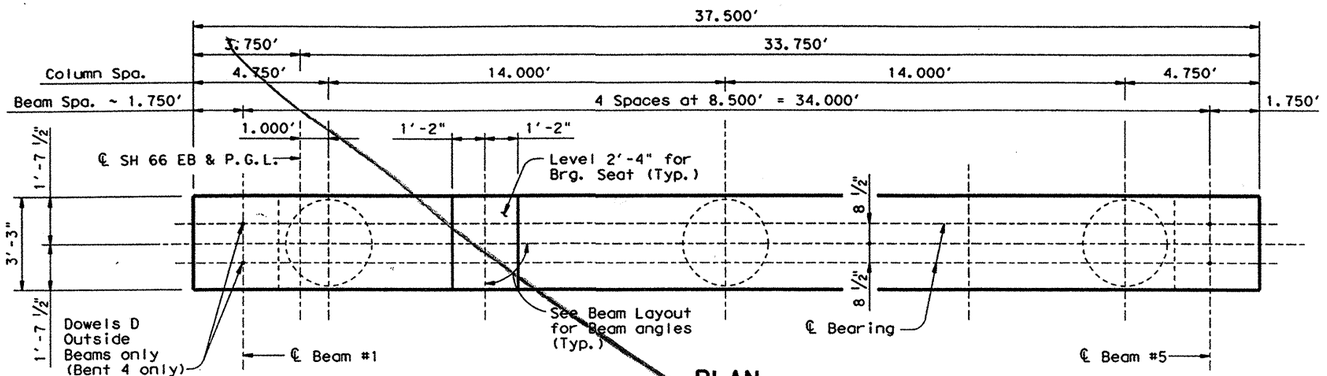
7/01 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP

Texas Department of Transportation
Design Division (Bridge)

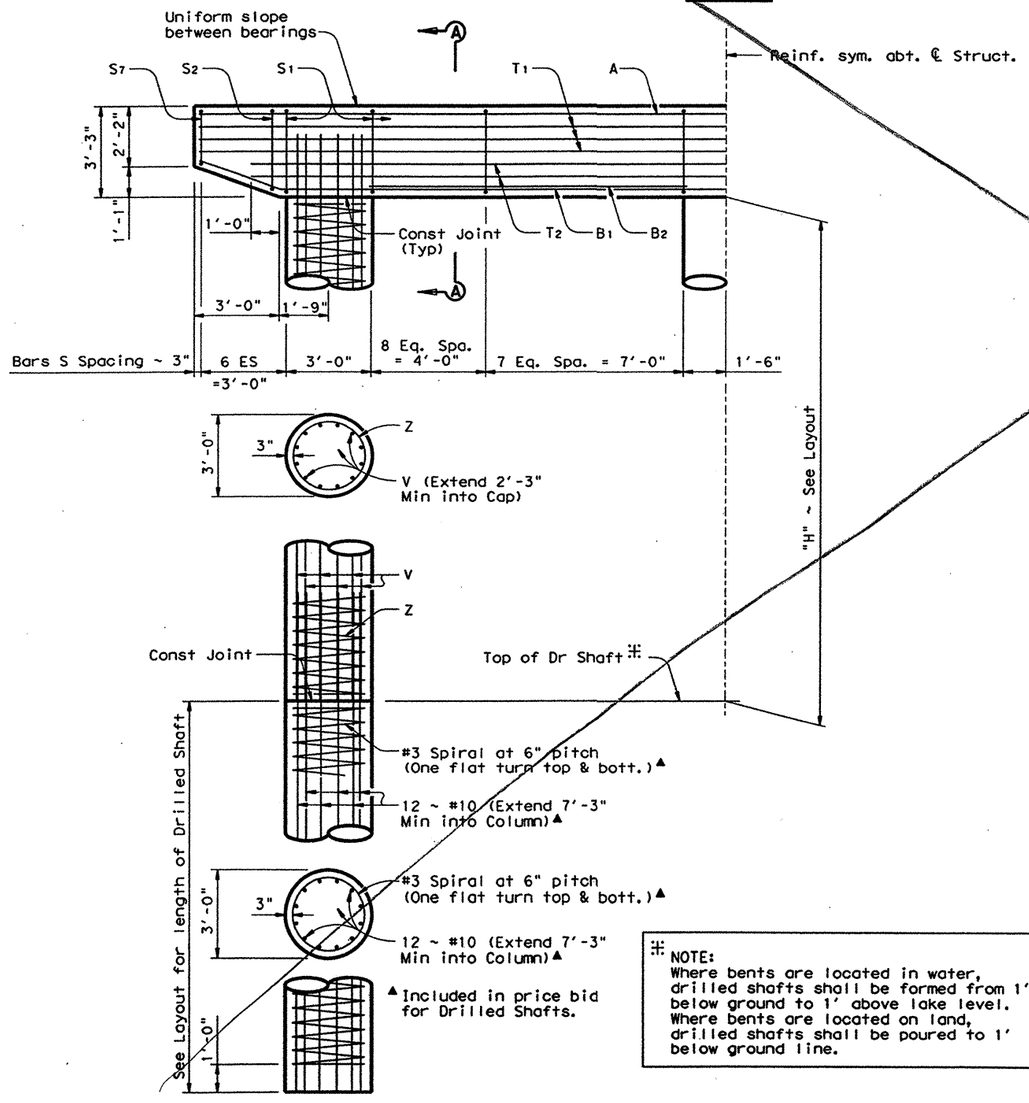
INTERIOR BENT NOS. 2 & 32 THRU 44 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT •	SHEET
REVISIONS 8/99 ~ Increased number of stirrups. MDH	18	6	NH 99(367)	1851
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5691ib01.dgn
ED
LEVEL

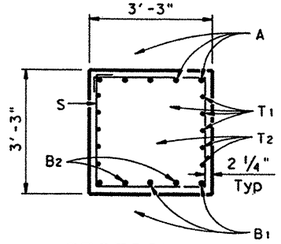


PLAN

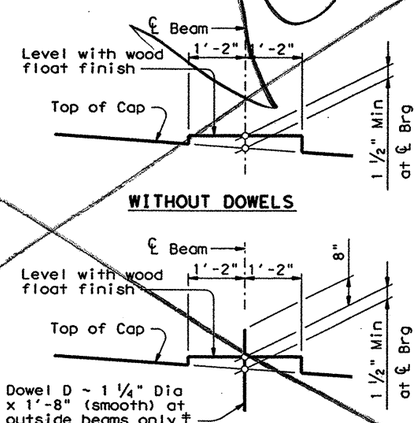


⌗ NOTE:
Where bents are located in water, drilled shafts shall be formed from 1' below ground to 1' above lake level. Where bents are located on land, drilled shafts shall be poured to 1' below ground line.

HALF ELEVATION



SECTION A-A

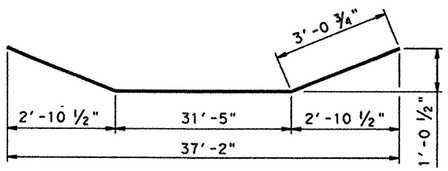


WITHOUT DOWELS

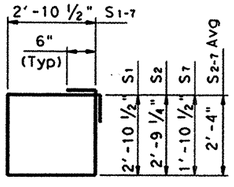
WITH DOWELS

BEARING SEAT DETAIL

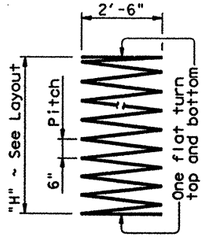
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S1-7



BARS Z

①④ TABLE OF CONSTANT QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
D	4	1¼"D	1'-8"	28
S1	34	#5	12'-6"	443
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2807
Class "C" Concrete			CY	14.5

①② TABLE OF VARIABLE QUANTITIES

①③④ TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 36 ~ #10		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
3	16	12.6	18'-3"	2827	268	302	5936	27.1
4,5	22	17.3	24'-3"	3757	362	408	6972	31.8

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 173 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bents 3 & 5, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 213 Tons/Dr Sh

HS20 LOADING

VOID

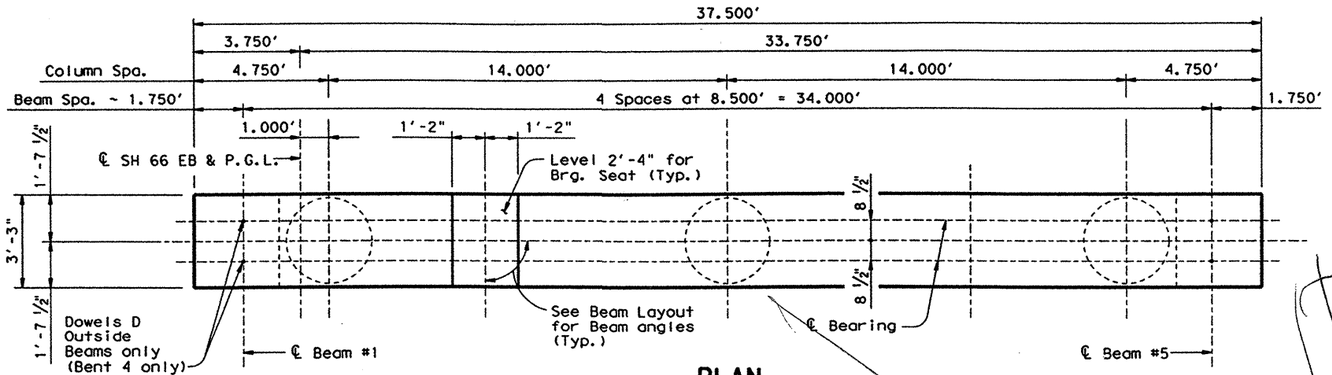
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

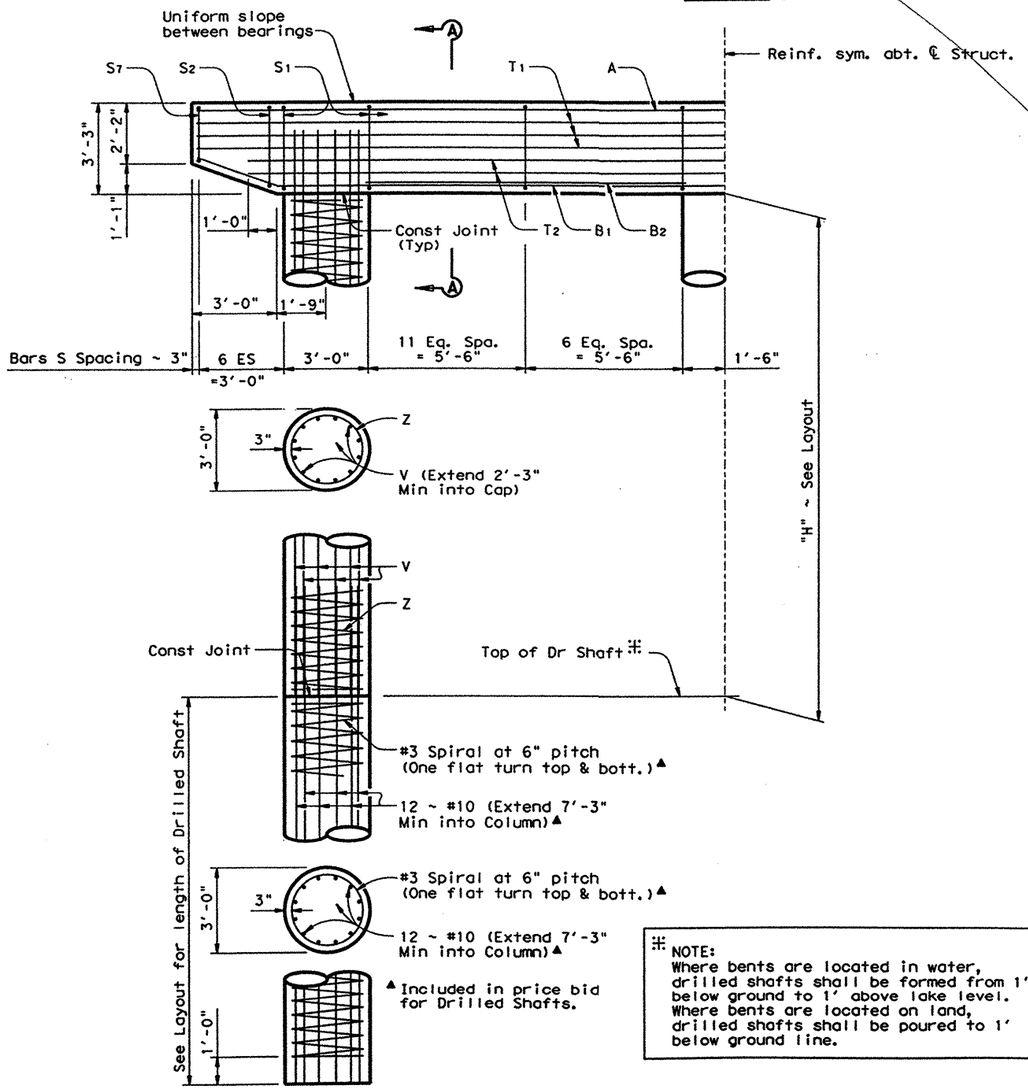
INTERIOR BENT NOS. 3 THRU 5 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	186
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5691ib01.dgn
LEVELS on/off



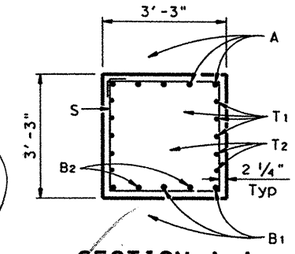
PLAN



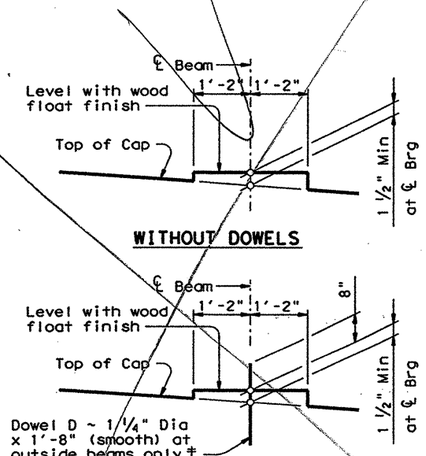
HALF ELEVATION

▲ Included in price bid for Drilled Shafts.

‡ NOTE:
Where bents are located in water, drilled shafts shall be formed from 1' below ground to 1' above lake level. Where bents are located on land, drilled shafts shall be poured to 1' below ground line.



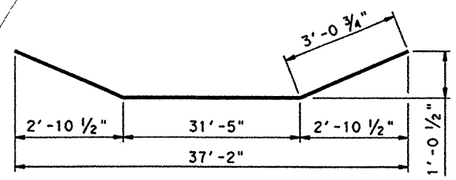
SECTION A-A



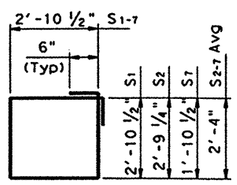
WITH DOWELS

BEARING SEAT DETAIL

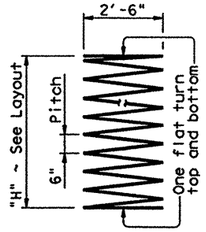
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S1-7



BARS Z

①TABLE OF CONSTANT ④ QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
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S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2860
Class "C" Concrete			CY	14.5

①②TABLE OF VARIABLE QUANTITIES

①③ TOTAL ④ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 36 ~ #10		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
3	16	12.6	18'-3"	2827	268	302	5989	27.1
4,5	22	17.3	24'-3"	3757	362	408	7025	31.8

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 173 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bents 3 & 5, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 213 Tons/Dr Sh

CHANGE ORDER NO._____

HS20 LOADING

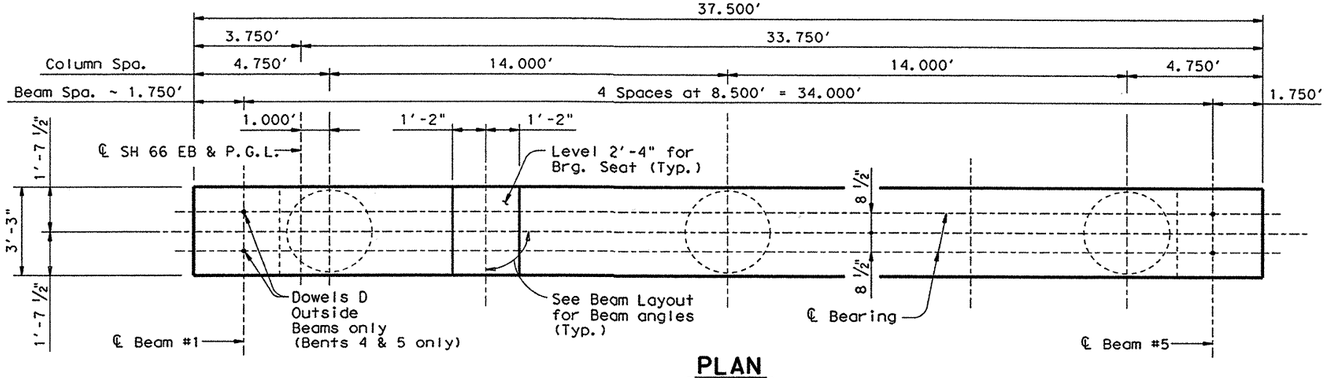
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/16/99

Texas Department of Transportation
Design Division (Bridge)

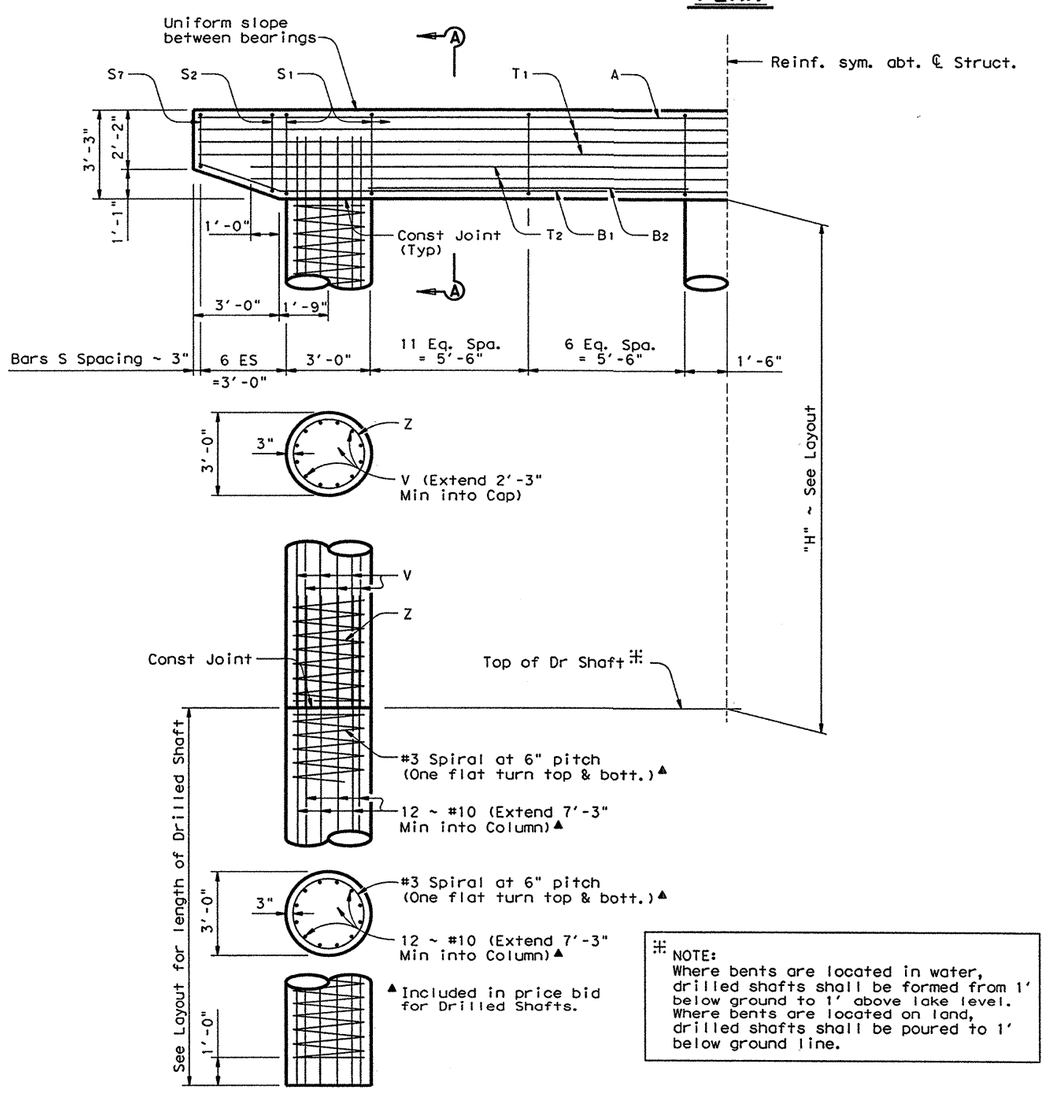
INTERIOR BENT NOS. 3 THRU 5 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH	
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT		SHEET
REVISIONS 8/99 ~ Increased number of stirrups. MDH	18	6	NH 99(367)		186A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		.0009	04	039	SH 66

ACC: d48pc3b 5691ib01.dgn
LEVELS DISPLAYED

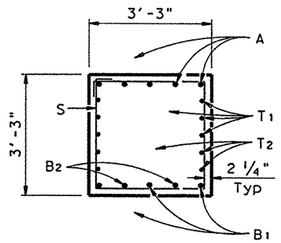


PLAN

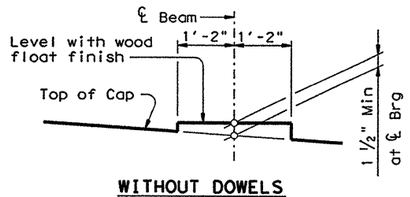


⌗ NOTE:
Where bents are located in water, drilled shafts shall be formed from 1' below ground to 1' above lake level. Where bents are located on land, drilled shafts shall be poured to 1' below ground line.

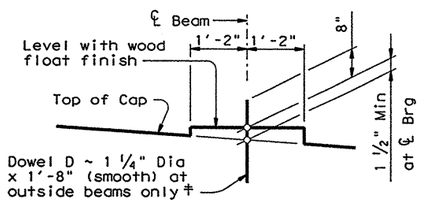
HALF ELEVATION



SECTION A-A



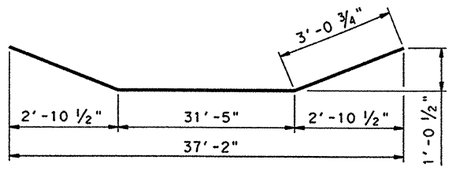
WITHOUT DOWELS



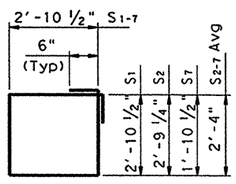
WITH DOWELS

BEARING SEAT DETAIL

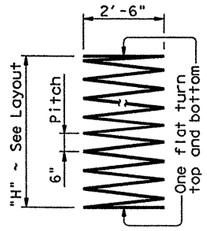
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S1-7



BARS Z

①TABLE OF CONSTANT ④ QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
D	4	1 1/4"D	1'-8"	28
S1	38	#5	12'-6"	496
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2860
Class "C" Concrete			CY	14.5

①②TABLE OF VARIABLE QUANTITIES

①③④ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 36 ~ #10		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
3	16	12.6	18'-3"	2827	268	302	5989	27.1
4,5	22	17.3	24'-3"	3757	362	408	7025	31.8

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 173 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bent 3, Deduct 28 lbs. reinforcing steel.

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 213 Tons/Dr Sh

CHANGE ORDER NO. 9

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

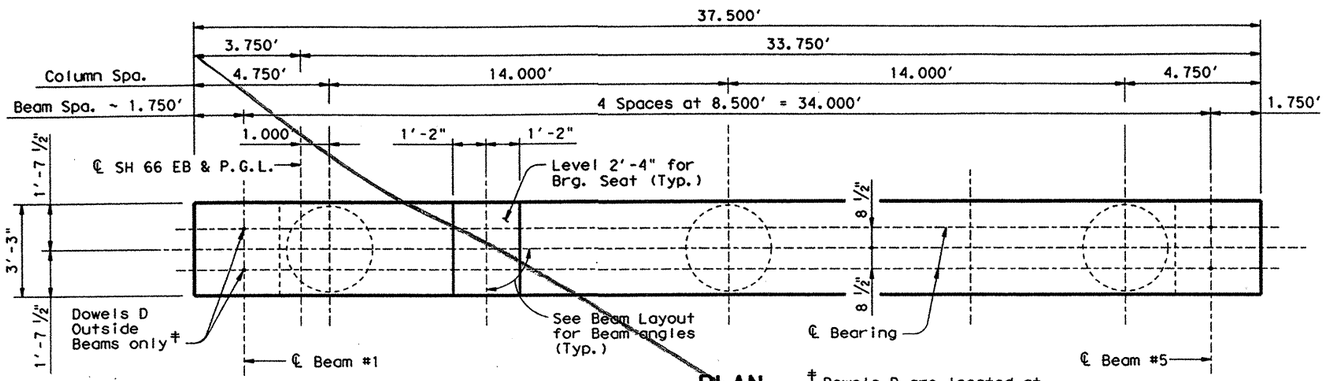
7/01 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP

Texas Department of Transportation
Design Division (Bridge)

INTERIOR BENT NOS. 3 THRU 5 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

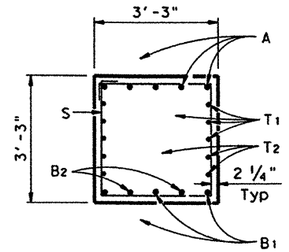
FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 8/99 ~ Increased number of stirrups. MDH	18	6	NH 99(367)	186
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

ACC: d48pc3b 5691ib01.dgn
ED



PLAN

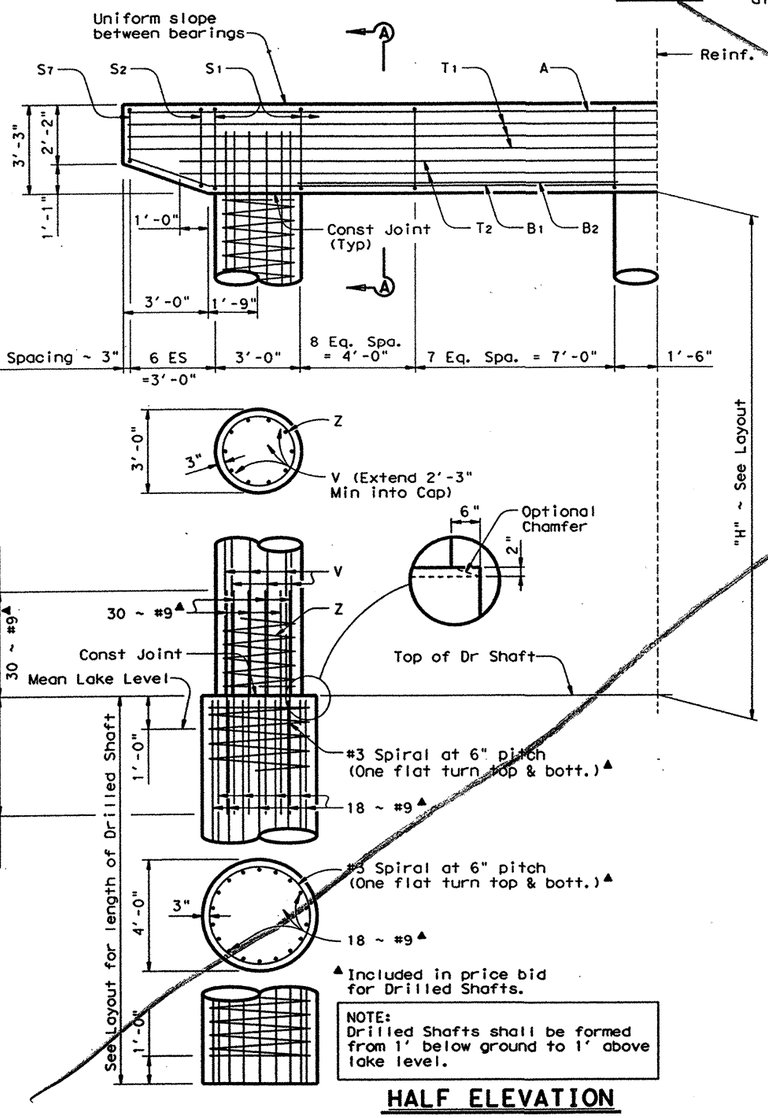
ǂ Dowels D are located at all even numbered bents



SECTION A-A

①④ TABLE OF CONSTANT QUANTITIES

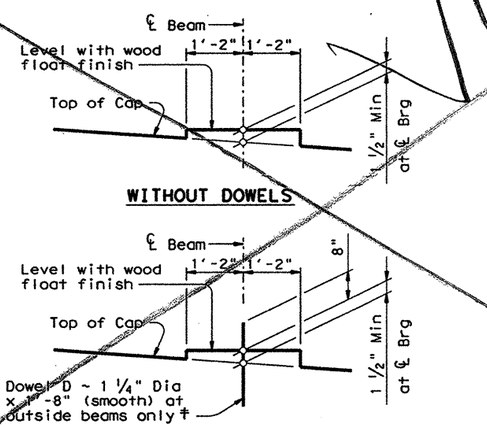
Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	1	#11	11'-0"	234
D	4	1¼"D	1'-8"	28
S1	34	#5	12'-6"	443
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2807
Class "C" Concrete			CY	14.5



▲Included in price bid for Drilled Shafts.

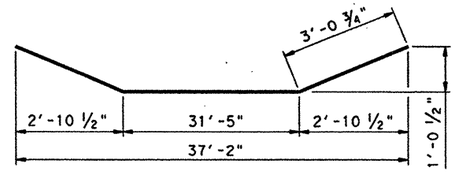
NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION

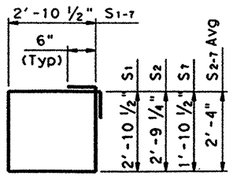


BEARING SEAT DETAIL

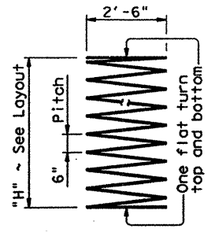
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S1-7



BARS Z

①② TABLE OF VARIABLE QUANTITIES

①③④ TOTAL ESTIMATED QUANTITIES

Bent No.	"H" Ft	Class "C" Conc. (Col.) C.Y.	Bars V 30 ~ #9 Length	Bars V 30 ~ #9 Weight	Bars Z 3 ~ #3 Spiral Length	Bars Z 3 ~ #3 Spiral Weight	Reinf Steel Lb	Class "C" Conc CY
6,7	21	16.5	23'-3"	2372	346	391	5570	31.0
8,9	20	15.7	22'-3"	2270	331	373	5450	30.2
10,11,12	19	14.9	21'-3"	2168	315	355	5330	29.4
13,14	18	14.1	20'-3"	2066	299	337	5210	28.6
15,16	17	13.4	19'-3"	1964	283	320	5091	27.9
17,18	16	12.6	18'-3"	1862	268	302	4971	27.1
19,20,21	15	11.8	17'-3"	1760	252	284	4851	26.3
22,23	14	11.0	16'-3"	1658	236	266	4731	25.5
24,25	13	10.2	15'-3"	1556	220	249	4612	24.7
26,27	12	9.4	14'-3"	1454	205	231	4492	23.9
28,29,30	11	8.6	13'-3"	1352	189	213	4372	23.1
31	10	7.9	12'-3"	1250	173	195	4252	22.4

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at odd numbered bents, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 234 Tons/Dr Sh

HS20 LOADING

VOID

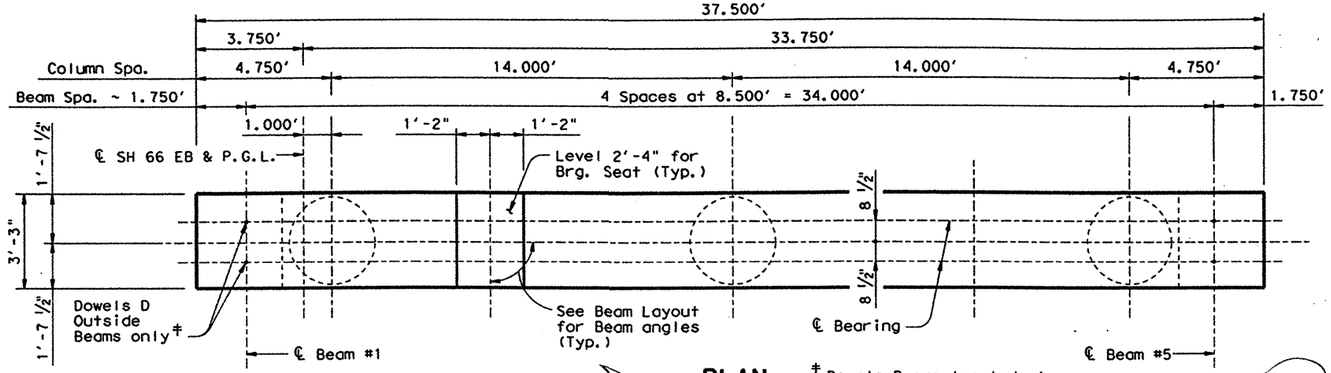
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

INTERIOR BENT NOS. 6 THRU 31 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

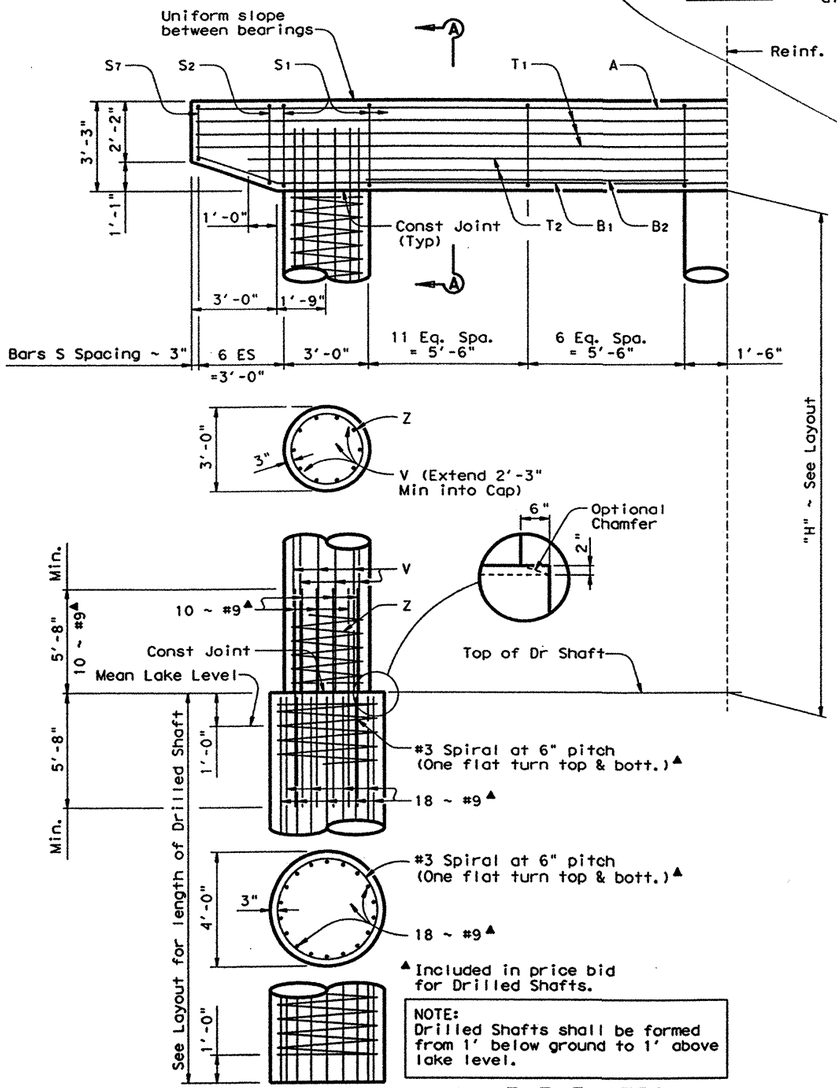
FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH	
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT		SHEET
REVISIONS	18	6	NH 99(367)		187
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

ACC: d48ac3b 5691ib01.dgn
LEVELS DISPLAY



PLAN

‡ Dowels D are located at all even numbered bents

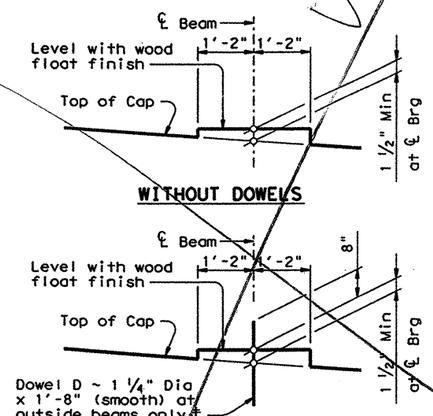


HALF ELEVATION

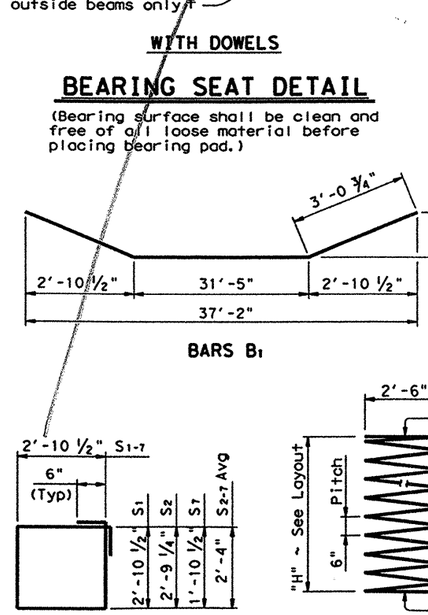
Reinf. sym. abt. ℄ Struct

"H" ~ See Layout

VOID



WITHOUT DOWELS

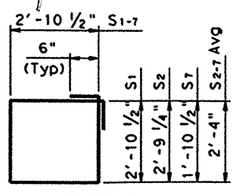


WITH DOWELS

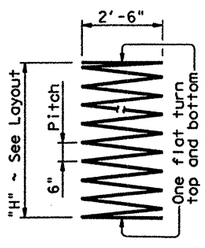
BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

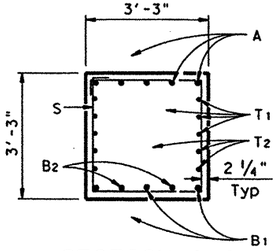
BARS B1



BARS S1-7



BARS Z



SECTION A-A

①④ TABLE OF CONSTANT QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
D	4	1¼"D	1'-8"	28
S1	38	#5	12'-6"	496
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2860
Class "C" Concrete			CY	14.5

①② TABLE OF VARIABLE QUANTITIES

①③④ TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
6,7	21	16.5	23'-3"	2372	346	391	5623	31.0
8,9	20	15.7	22'-3"	2270	331	373	5503	30.2
10,11,12	19	14.9	21'-3"	2168	315	355	5383	29.4
13,14	18	14.1	20'-3"	2066	299	337	5263	28.6
15,16	17	13.4	19'-3"	1964	283	320	5144	27.9
17,18	16	12.6	18'-3"	1862	268	302	5024	27.1
19,20,21	15	11.8	17'-3"	1760	252	284	4904	26.3
22,23	14	11.0	16'-3"	1658	236	266	4784	25.5
24,25	13	10.2	15'-3"	1556	220	249	4665	24.7
26,27	12	9.4	14'-3"	1454	205	231	4545	23.9
28,29,30	11	8.6	13'-3"	1352	189	213	4425	23.1
31	10	7.9	12'-3"	1250	173	195	4305	22.4

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at odd numbered bents, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 234 Tons/Dr Sh

CHANGE ORDER NO._____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

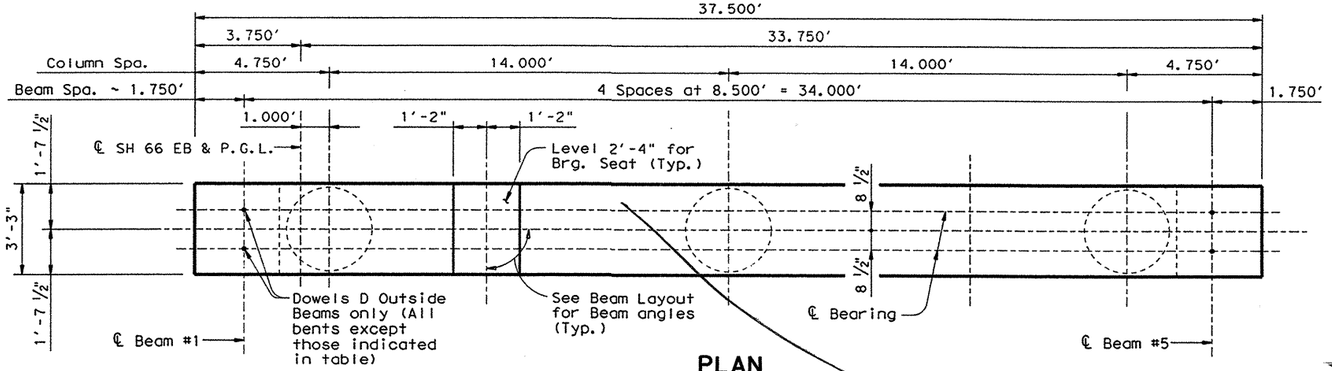
8/16/99

Texas Department of Transportation
Design Division (Bridge)

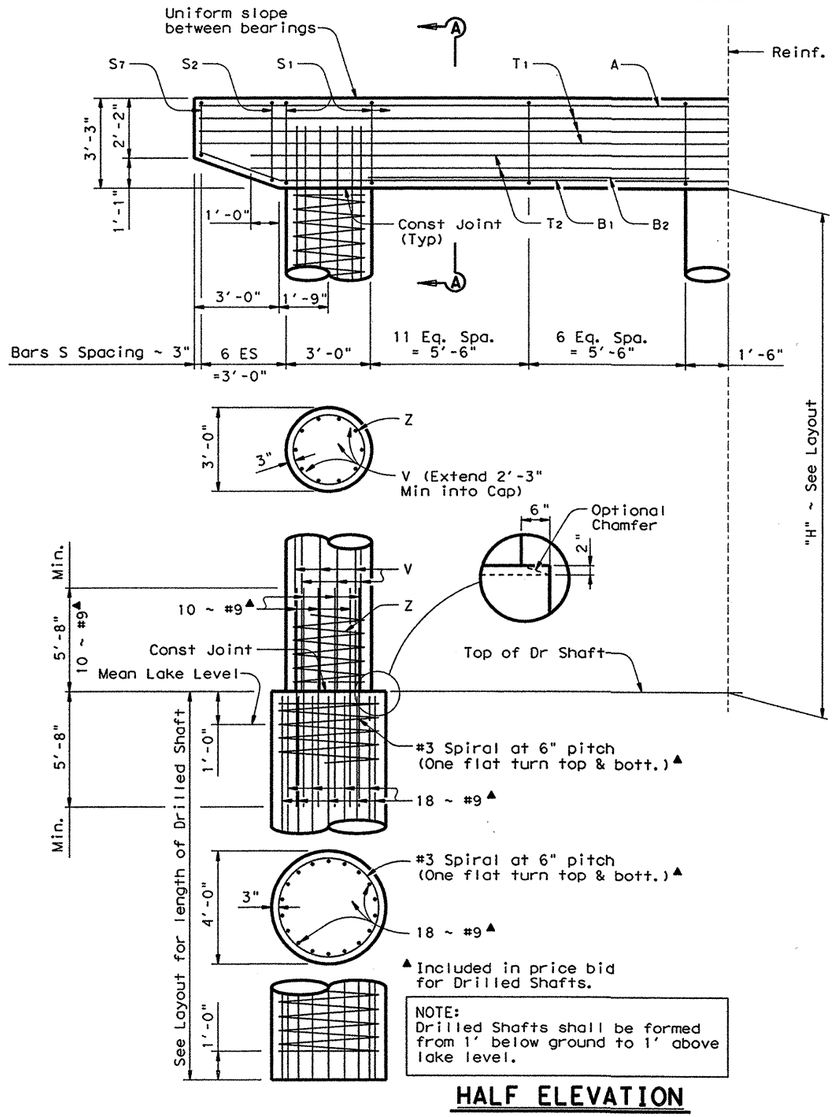
INTERIOR BENT NOS. 6 THRU 31
EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 56911b01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REC	FEDERAL AID PROJECT #	SHEET
REVISIONS 8/99 ~ Increased number of stirrups and corrected number of Col. to D.S bars. MDH	18	6	NH 99(367)	187A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

ACC: d48pc3b 56911b01.dgn
LEVELS 1



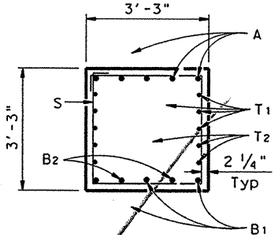
PLAN



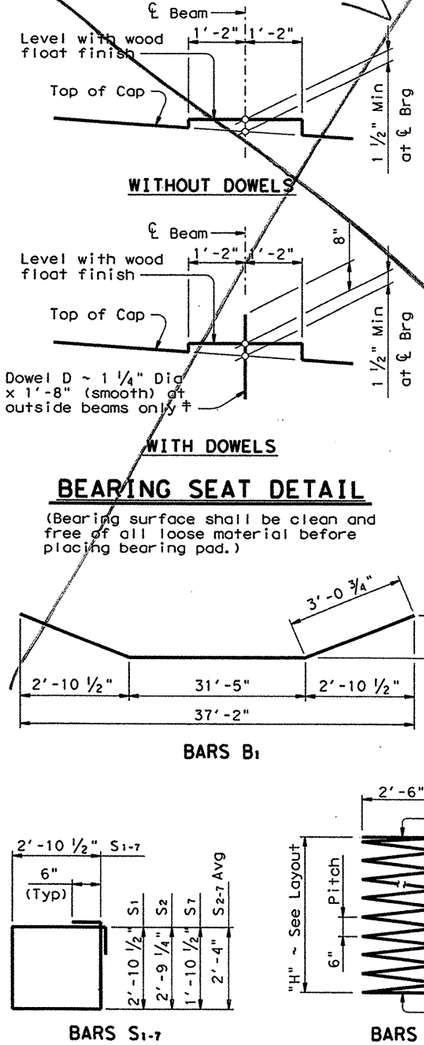
▲Included in price bid for Drilled Shafts.

NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION



SECTION A-A

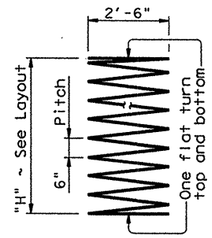


BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

BARS B1

BARS S1-7



BARS Z

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

VOID

BENT LOCATIONS WITHOUT DOWELS D

Bent No.	
6	21
9	24
12	27
15	30
18	

①④ TABLE OF CONSTANT QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
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Class "C" Concrete			CY	14.5

①② TABLE OF VARIABLE QUANTITIES

①③④ TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
6,7	21	16.5	23'-3"	2372	346	391	5623	31.0
8,9	20	15.7	22'-3"	2270	331	373	5503	30.2
10,11,12	19	14.9	21'-3"	2168	315	355	5383	29.4
13,14	18	14.1	20'-3"	2066	299	337	5263	28.6
15,16	17	13.4	19'-3"	1964	283	320	5144	27.9
17,18	16	12.6	18'-3"	1862	268	302	5024	27.1
19,20,21	15	11.8	17'-3"	1760	252	284	4904	26.3
22,23	14	11.0	16'-3"	1658	236	266	4784	25.5
24,25	13	10.2	15'-3"	1556	220	249	4665	24.7
26,27	12	9.4	14'-3"	1454	205	231	4545	23.9
28,29,30	11	8.6	13'-3"	1352	189	213	4425	23.1
31	10	7.9	12'-3"	1250	173	195	4305	22.4

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 234 Tons/Dr Sh

CHANGE ORDER NO. 9

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

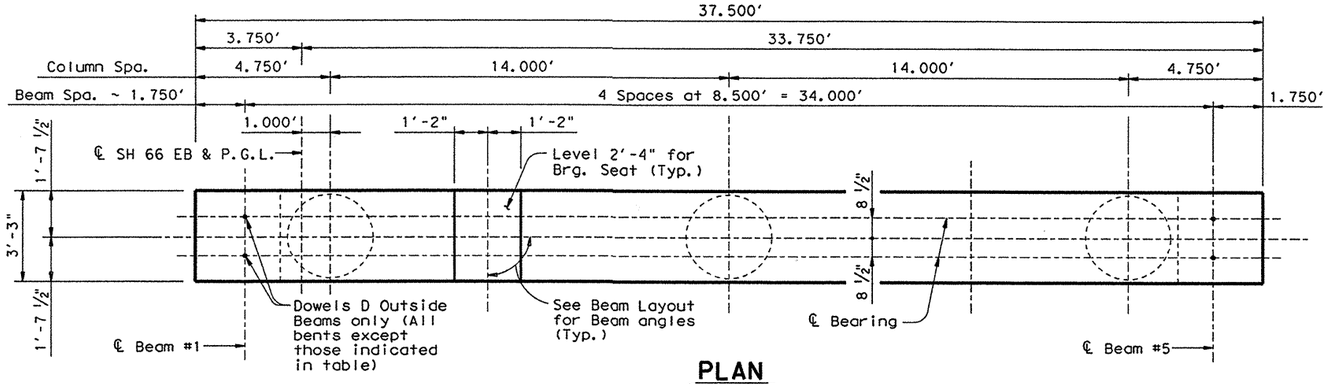
7/01 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP

Texas Department of Transportation
Design Division (Bridge)

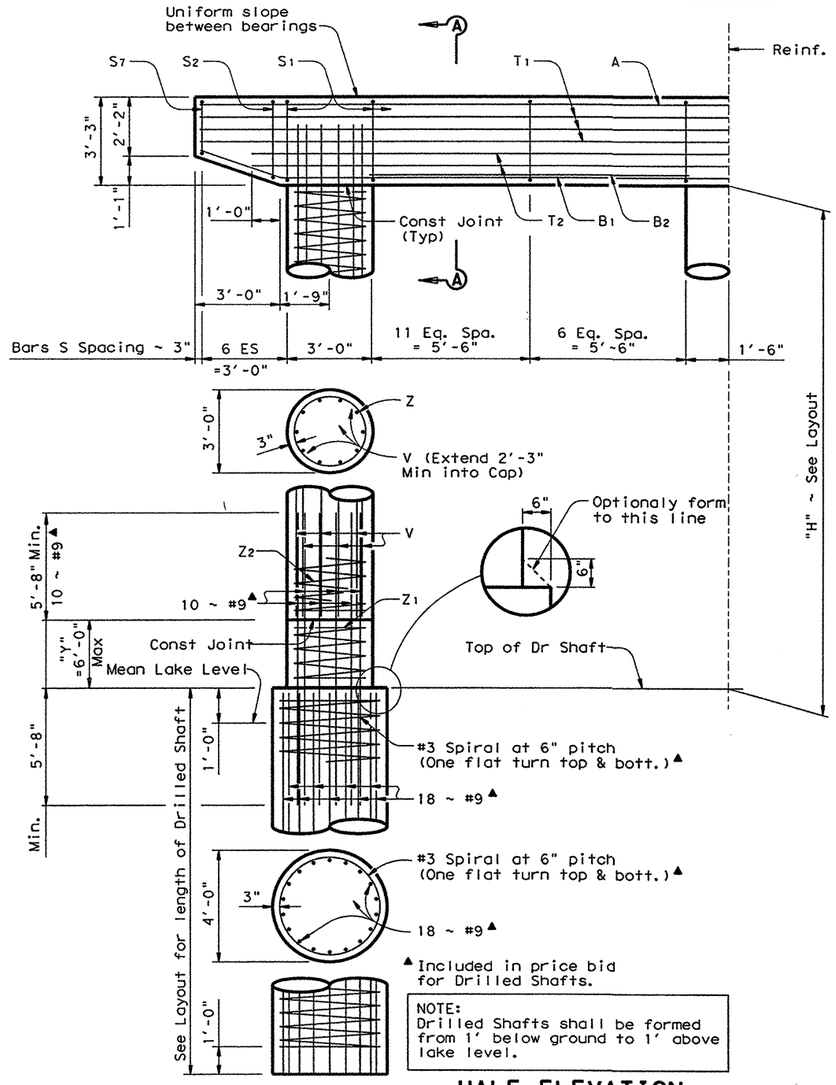
INTERIOR BENT NOS. 6 THRU 31 EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT •	SHEET
REVISIONS 8/99 ~ Increased number of stirrups and corrected number of Col. to D.S bars. MDH	18	6	NH 99(367)	187
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5691ib01.dgn
WED
LEVE

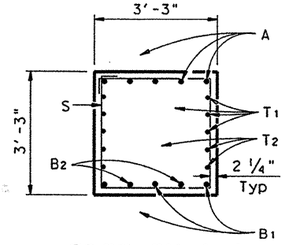


PLAN

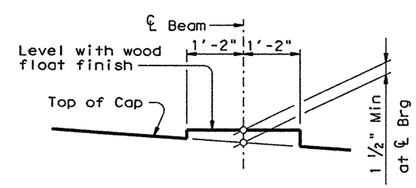


NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

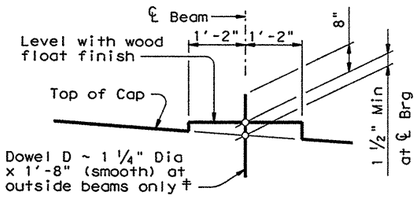
HALF ELEVATION



SECTION A-A



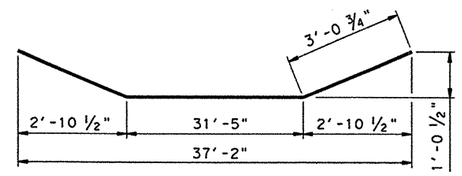
WITHOUT DOWELS



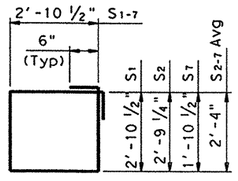
WITH DOWELS

BEARING SEAT DETAIL

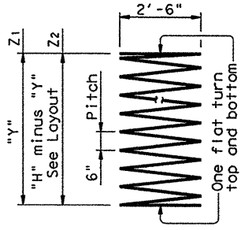
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S1-7



BARS Z

BENT LOCATIONS WITHOUT DOWELS D	
Bent No.	
6	21
9	24
12	27
15	30
18	

①④ TABLE OF CONSTANT QUANTITIES

Bar	No.	Size	Length	Weight
A	5	#11	37'-2"	987
B1	3	#11	37'-7"	599
B2	4	#11	11'-0"	234
D	4	1¼"D	1'-8"	28
S1	38	#5	12'-6"	496
S2-7	12	#5	11'-5" Av	143
T1	6	#5	37'-2"	233
T2	4	#5	33'-6"	140
Reinforcing Steel			Lb	2860
Class "C" Concrete			CY	14.5

①②⑤ TABLE OF VARIABLE QUANTITIES

①③⑤④ TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z1 3 ~ #3 Spiral		Bars Z2 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Length	Weight	Lb	CY
6,7	21	16.5	17'-3"	1760	252	284	110	124	5028	31.0
8,9	20	15.7	16'-3"	1658	236	267	110	124	4908	30.2
10,11,12	19	14.9	15'-3"	1556	221	249	110	124	4788	29.4
13,14	18	14.1	14'-3"	1454	205	231	110	124	4669	28.6
15,16	17	13.4	13'-3"	1352	189	213	110	124	4549	27.9
17,18	16	12.6	12'-3"	1250	173	195	110	124	4429	27.1
19,20,21	15	11.8	11'-3"	1148	158	178	110	124	4309	26.3
22,23	14	11.0	10'-3"	1046	142	160	110	124	4190	25.5
24,25	13	10.2	9'-3"	944	126	142	110	124	4070	24.7
26,27	12	9.4	8'-3"	842	110	124	110	124	3950	23.9
28,29,30	11	8.6	7'-3"	740	95	107	110	124	3830	23.1
31	10	7.9	6'-3"	638	79	89	110	124	3711	22.4

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" or "Y" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" or "Y" value.

④ Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.

⑤ Quantities are based on "Y" = 6'-0". Where "H" minus "Y" falls below 10'-0" the Contractor may extend the 10 ~ #9 splice bars 2'-3" min into the cap in lieu of Bars V. In this case a single column spiral shall be provided for the "H" height.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 234 Tons/Dr Sh

CHANGE ORDER NO. 9

HS20 LOADING

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

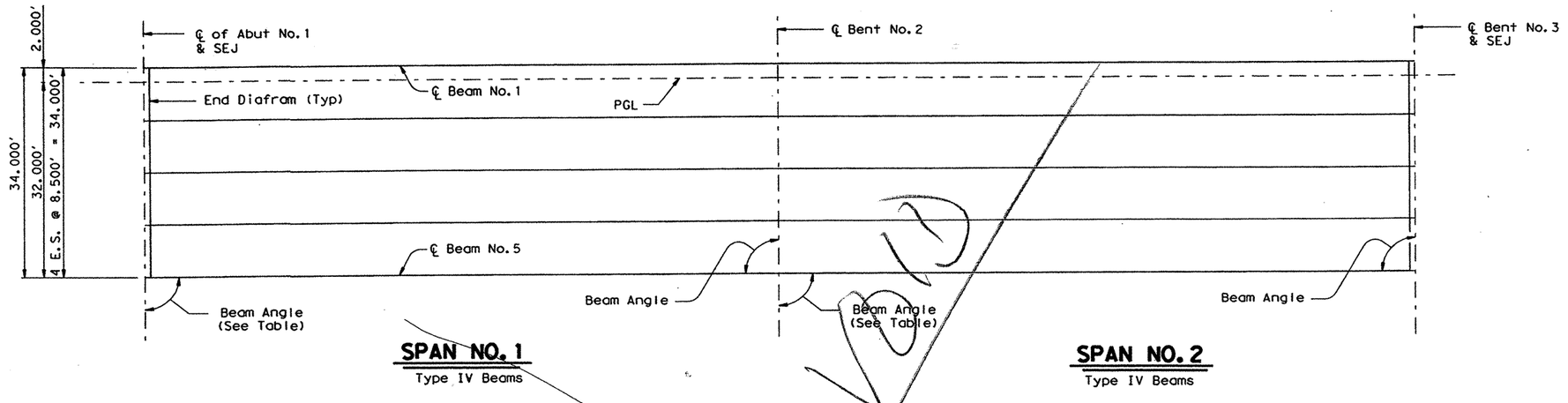
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

Texas Department of Transportation
Design Division (Bridge)

INTERIOR BENT NOS. 6 THRU 31 (OPTIONAL) EAST FORK TRINITY RIVER BRIDGE EASTBOUND LANES

FILE: 5691ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 8/01 ~ MDH/RNP Optional bent with revised colum const. lt. location and allowable direct extension of splice bars.	18	6	NH 99(367)	187
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

ACC: d48pc3b 5691ib01.dgn
ED
LEI



SPAN NO. 1
Type IV Beams

SPAN NO. 2
Type IV Beams

180.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

ABUT NO. 1, BENT NO. 2 & 3 (S 14 29 47.00)
DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM	1	.000	90	0	0
	BEAM	2	8.500	90	0	0
	BEAM	3	8.500	90	0	0
	BEAM	4	8.500	90	0	0
	BEAM	5	8.500	90	0	0
	TOTAL		34.000			

BEAM REPORT (SPAN NOS. 1 & 2)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	90.000	88.583	89.67
BEAM 2	90.000	88.583	89.67
BEAM 3	90.000	88.583	89.67
BEAM 4	90.000	88.583	89.67
BEAM 5	90.000	88.583	89.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

HS20 LOADING

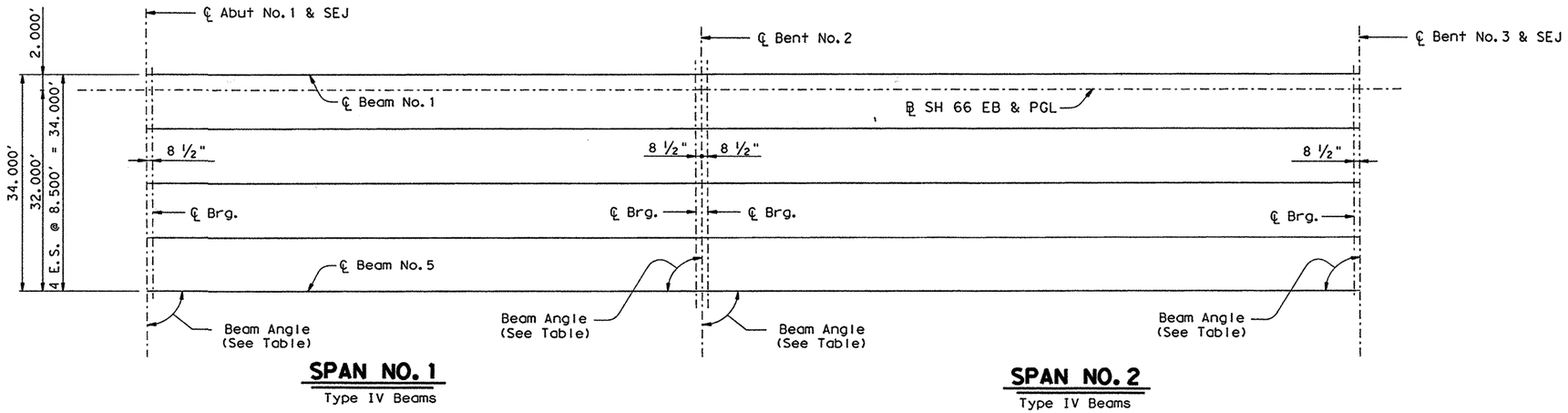
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 1
EAST FORK OF TRINITY RIVER
EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		188
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS DISPLAY
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 1 8 9 20 21 22 23 24 25 26 27 28 29 30 31 32
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
95 05 15 25 35 45 55 65 75 85 95 06 16 26 36 46

PATH: D48PC3Q: TWHALEY



SPAN NO. 1
Type IV Beams

SPAN NO. 2
Type IV Beams

180.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

ABUT NO. 1, BENT NOS. 2 & 3 (S 14 29 47.00)

DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
BEAM 1	.000	90	0	0
BEAM 2	8.500	90	0	0
BEAM 3	8.500	90	0	0
BEAM 4	8.500	90	0	0
BEAM 5	8.500	90	0	0
TOTAL	34.000			

BEAM REPORT (SPAN NO. 1)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	80.000	78.583	79.67
BEAM 2	80.000	78.583	79.67
BEAM 3	80.000	78.583	79.67
BEAM 4	80.000	78.583	79.67
BEAM 5	80.000	78.583	79.67

BEAM REPORT (SPAN NO. 2)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/13/01

C.O No. 9

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

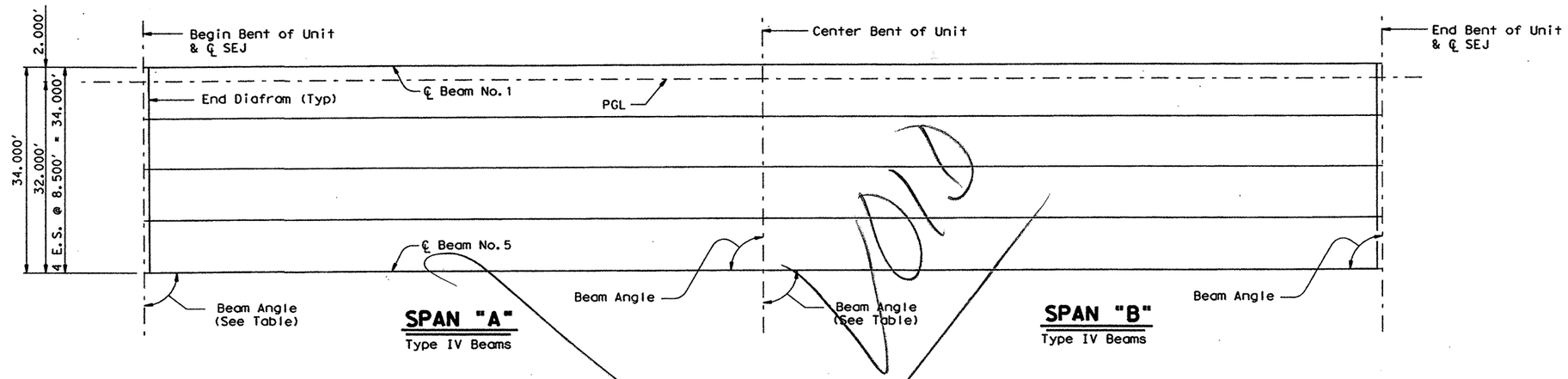
BEAM LAYOUT UNIT NO. 1

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH		
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET	
REVISIONS 7/01 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS MDH/TKW	18	NH 99(367)			188	
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



200.000' PRESTRESSED CONCRETE BEAM UNIT

Unit No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Span "A"	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
Span "B"	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42

BENT REPORT

BENT NOS. 3-43 (S 14 29 47.00 E)

DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	.000	90	0	0
	BEAM 2	8.500	90	0	0
	BEAM 3	8.500	90	0	0
	BEAM 4	8.500	90	0	0
	BEAM 5	8.500	90	0	0
	TOTAL	34.000			

BEAM REPORT (SPAN NOS. 3-42)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

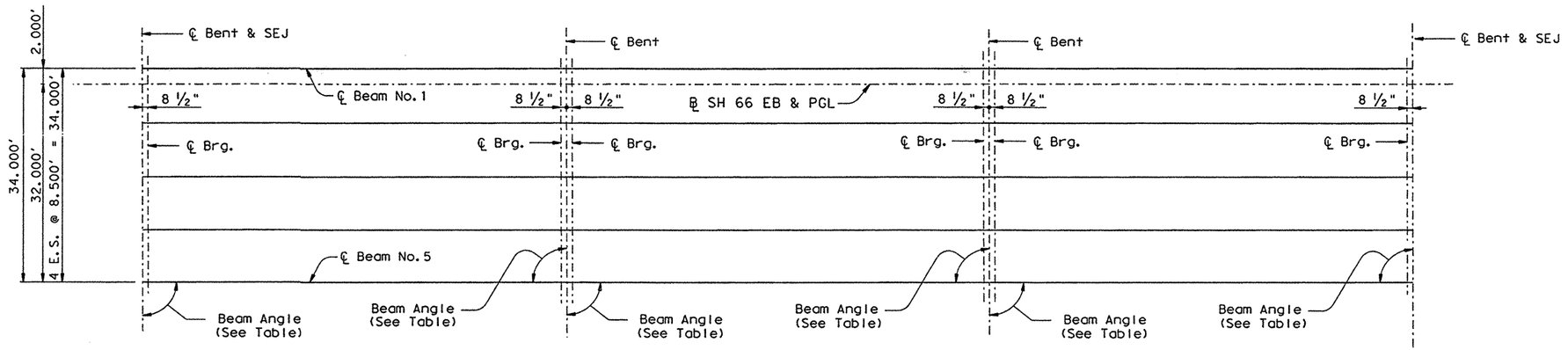
BEAM LAYOUT
UNIT NOS. 2-21

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		189
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



300.000' PRESTRESSED CONCRETE BEAM UNIT

Unit No.	2	3	4	5	6	7	8	11	12	13	14
Span "A"	3	6	9	12	15	18	21	30	33	36	39
Span "B"	4	7	10	13	16	19	22	31	34	37	40
Span "C"	5	8	11	14	17	20	23	32	35	38	41

BENT REPORT

BENT NOS. 3-23, 30-41 (S 14 29 47.00 E)

DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
BEAM 1	.000	90 0 0
BEAM 2	8.500	90 0 0
BEAM 3	8.500	90 0 0
BEAM 4	8.500	90 0 0
BEAM 5	8.500	90 0 0
TOTAL	34.000	

BEAM REPORT (SPAN NOS. 3-23, 30-41)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

C. Wall

C.O No. 9

HS20 LOADING

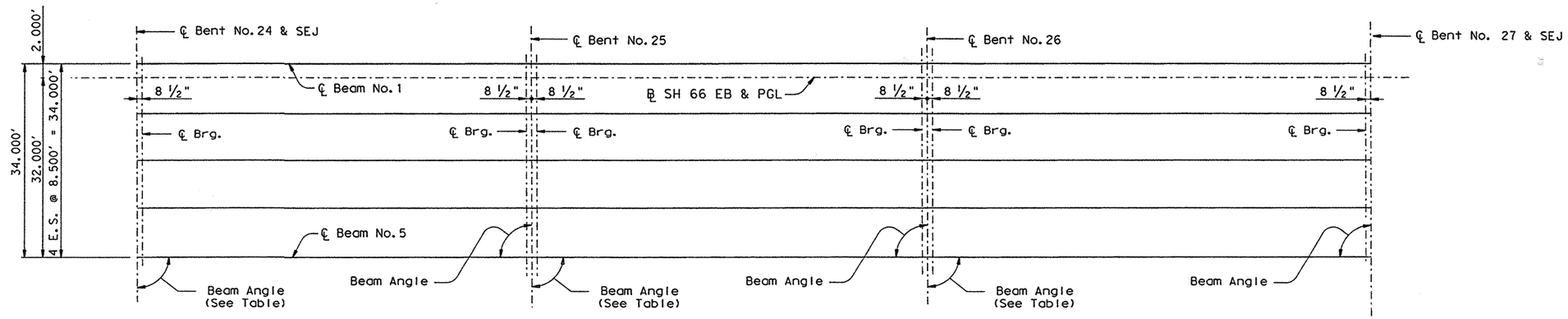
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NOS. 2-8, 11-14
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS ~ MDH/TKW	18	NH 99(367)		189
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

A

LEVELS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
PATH: D48PC3Q: TWHALEY



SPAN NO. 24
Type IV Beams

SPAN NO. 25
Type IV Beams

SPAN NO. 26
Type IV Beams

304.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NOS. 24-27 (S 14 29 47.00 E)

DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
BEAM 1	.000	90	0	0
BEAM 2	8.500	90	0	0
BEAM 3	8.500	90	0	0
BEAM 4	8.500	90	0	0
BEAM 5	8.500	90	0	0
TOTAL	34.000			

BEAM REPORT (SPAN NOS. 24 & 25)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67

BEAM REPORT (SPAN NO. 26)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	104.000	102.583	103.67
BEAM 2	104.000	102.583	103.67
BEAM 3	104.000	102.583	103.67
BEAM 4	104.000	102.583	103.67
BEAM 5	104.000	102.583	103.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

C. O No. 9

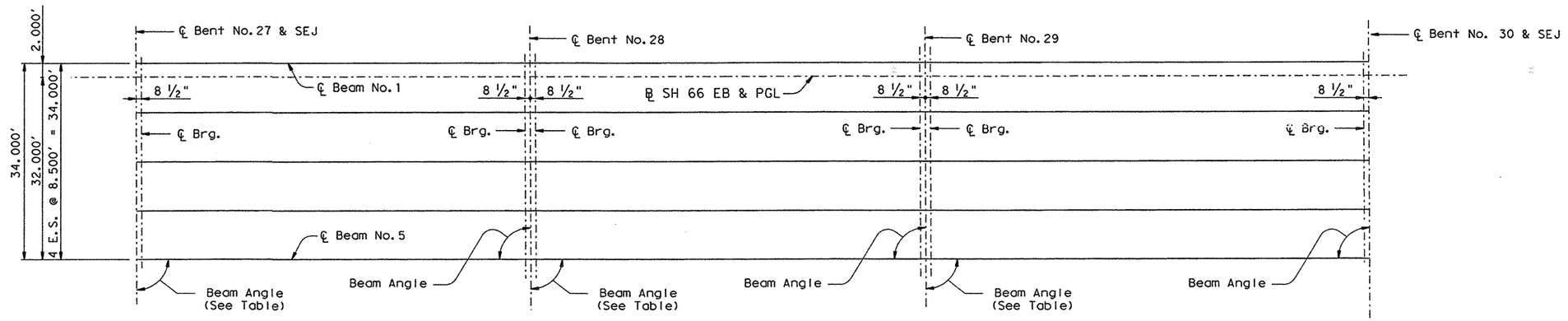
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 9
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		189
7/01 - CHANGED UNIT LENGTHS AND BENT LOCATIONS - MDH/RNP	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS USED
PATH: D48PC30: TWHALEY



SPAN NO. 27
Type IV Beams

SPAN NO. 28
Type IV Beams

SPAN NO. 29
Type IV Beams

296.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NOS. 27-29 (S 14 29 47.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
BEAM 1	.000	90	0	0
BEAM 2	8.500	90	0	0
BEAM 3	8.500	90	0	0
BEAM 4	8.500	90	0	0
BEAM 5	8.500	90	0	0
TOTAL	34.000			

BEAM REPORT (SPAN NO. 27)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	96.000	94.583	95.67
BEAM 2	96.000	94.583	95.67
BEAM 3	96.000	94.583	95.67
BEAM 4	96.000	94.583	95.67
BEAM 5	96.000	94.583	95.67

BEAM REPORT (SPAN NOS. 28 & 29)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

James C. Wall

C.O No. 9

HS20 LOADING

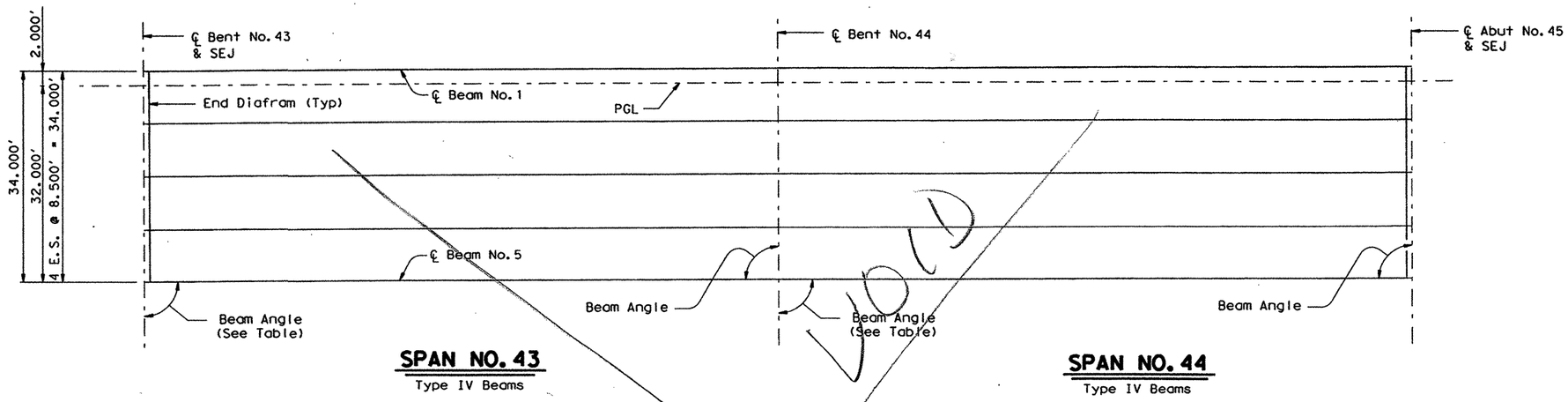
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 10
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		189
7/01 - CHANGED UNIT LENGTHS AND BENT LOCATIONS - MDH/RNP	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

PATH: D48PC30: TWHALEY



VOID

180.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 43-45 (S 14 29 47.00 E)

DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	.000	90	0	0
	BEAM 2	8.500	90	0	0
	BEAM 3	8.500	90	0	0
	BEAM 4	8.500	90	0	0
	BEAM 5	8.500	90	0	0
	TOTAL	34.000			

BEAM REPORT (SPAN NOS. 43 & 44)

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	90.000	88.583	89.67
BEAM 2	90.000	88.583	89.67
BEAM 3	90.000	88.583	89.67
BEAM 4	90.000	88.583	89.67
BEAM 5	90.000	88.583	89.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER

9/27/99

HS20 LOADING

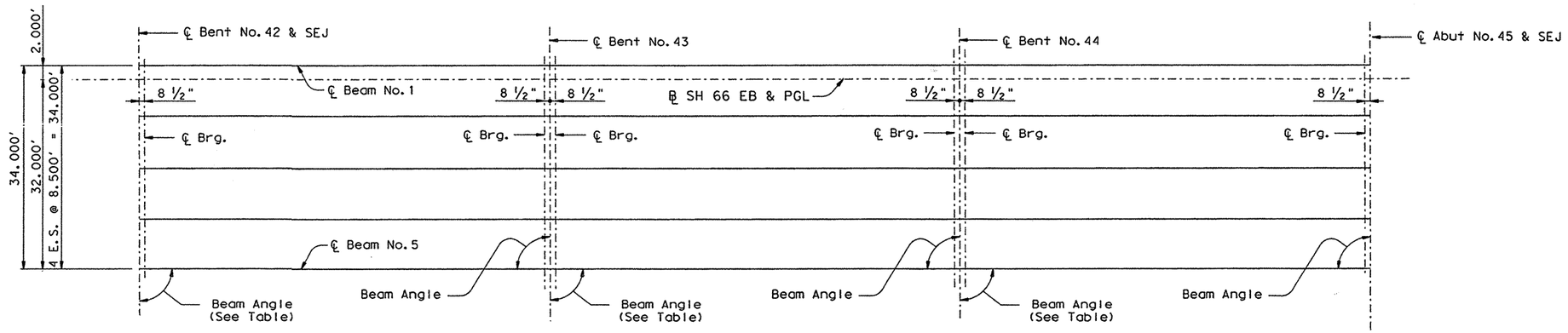
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 22
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		190
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



SPAN NO. 42
Type IV Beams

SPAN NO. 43
Type IV Beams

SPAN NO. 44
Type IV Beams

280.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NOS. 42-43 & ABUT NO. 45 (S 14 29 47.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 2.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
BEAM	1	.000	90	0	0
BEAM	2	8.500	90	0	0
BEAM	3	8.500	90	0	0
BEAM	4	8.500	90	0	0
BEAM	5	8.500	90	0	0
TOTAL		34.000			

BEAM REPORT (SPAN NO. 42)

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.000	98.583	99.67
BEAM	2	100.000	98.583	99.67
BEAM	3	100.000	98.583	99.67
BEAM	4	100.000	98.583	99.67
BEAM	5	100.000	98.583	99.67

BEAM REPORT (SPAN NOS. 43 & 44)

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	90.000	88.583	89.67
BEAM	2	90.000	88.583	89.67
BEAM	3	90.000	88.583	89.67
BEAM	4	90.000	88.583	89.67
BEAM	5	90.000	88.583	89.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

C.O No. 9

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Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 15

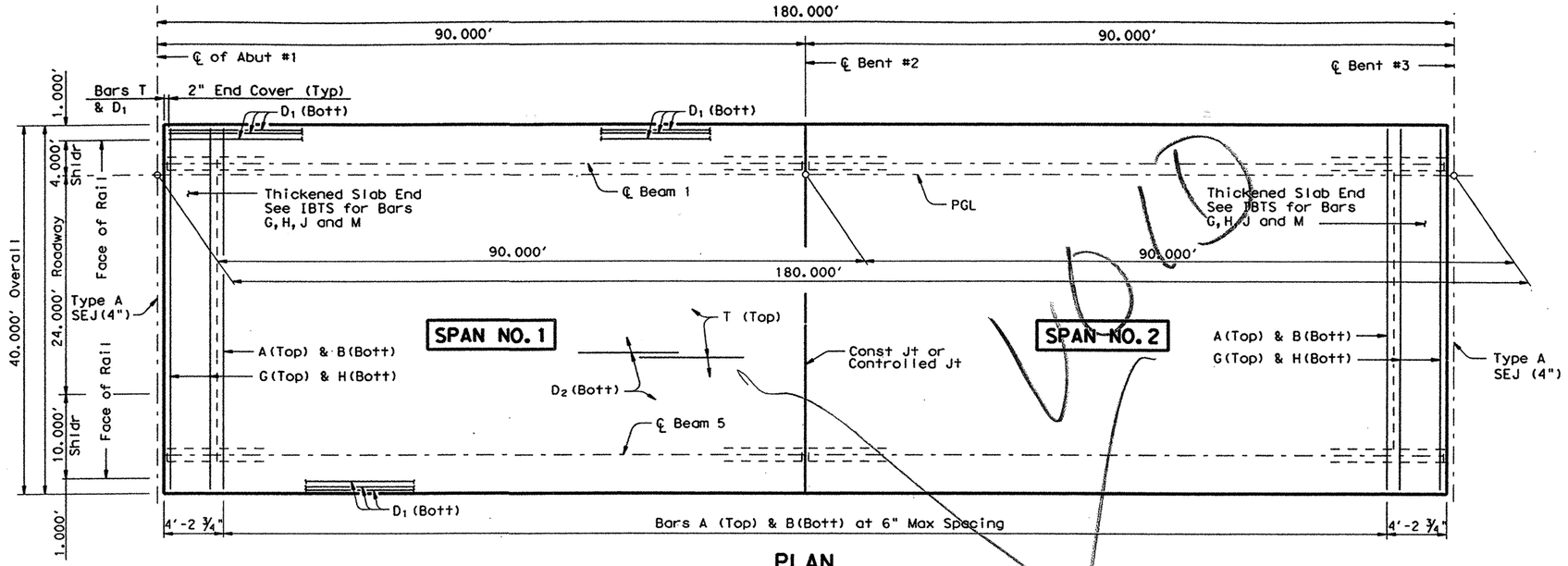
EAST FORK OF TRINITY RIVER
EASTBOUND BRIDGE

FILE: 5691BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		190
7/01 - CHANGED UNIT LENGTHS AND BENT LOCATIONS - MDH/TKW	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

A

LEVEL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
1	3600.0	448.35	93.4	23400
2	3600.0	448.35	93.4	23400
Total	7200.0	896.70	186.8	▬ 46800

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Spans 1 & 2 ~ 89.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

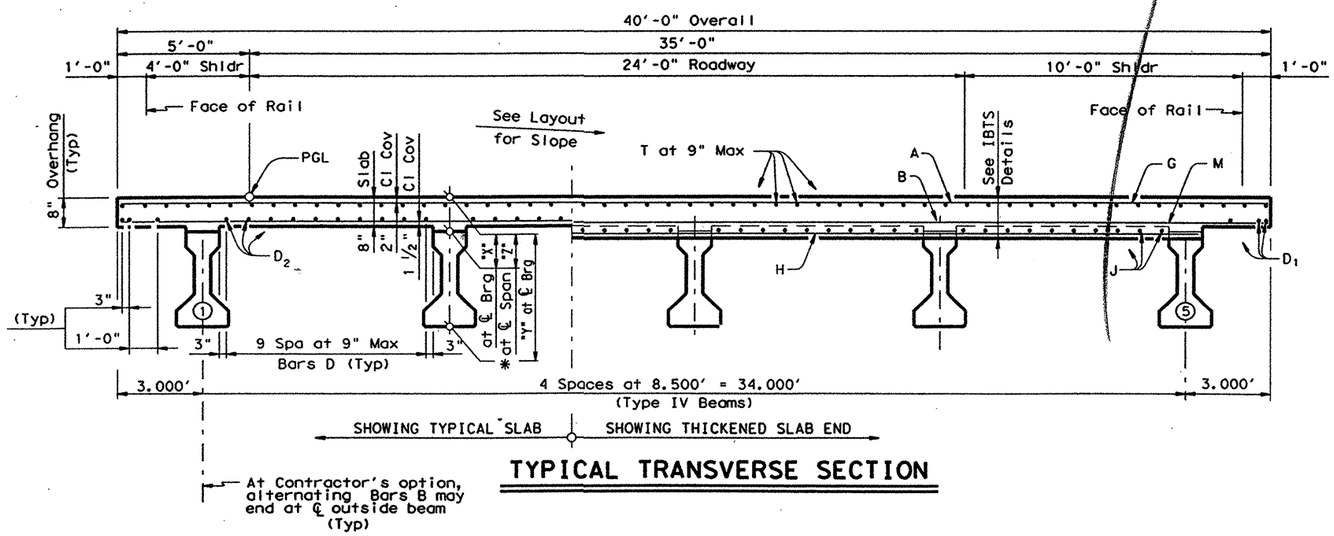
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF SECTION DEPTHS

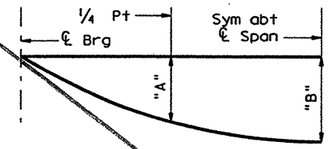
Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
1 & 2	ALL	10 1/2"	5'-4 1/2"	9 1/4"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION

Span No.	Beam No.	"A"	"B"
1 & 2	1 & 5	0.046	0.064
	2 - 4	0.054	0.075



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

Texas Department of Transportation
Design Division (Bridge)

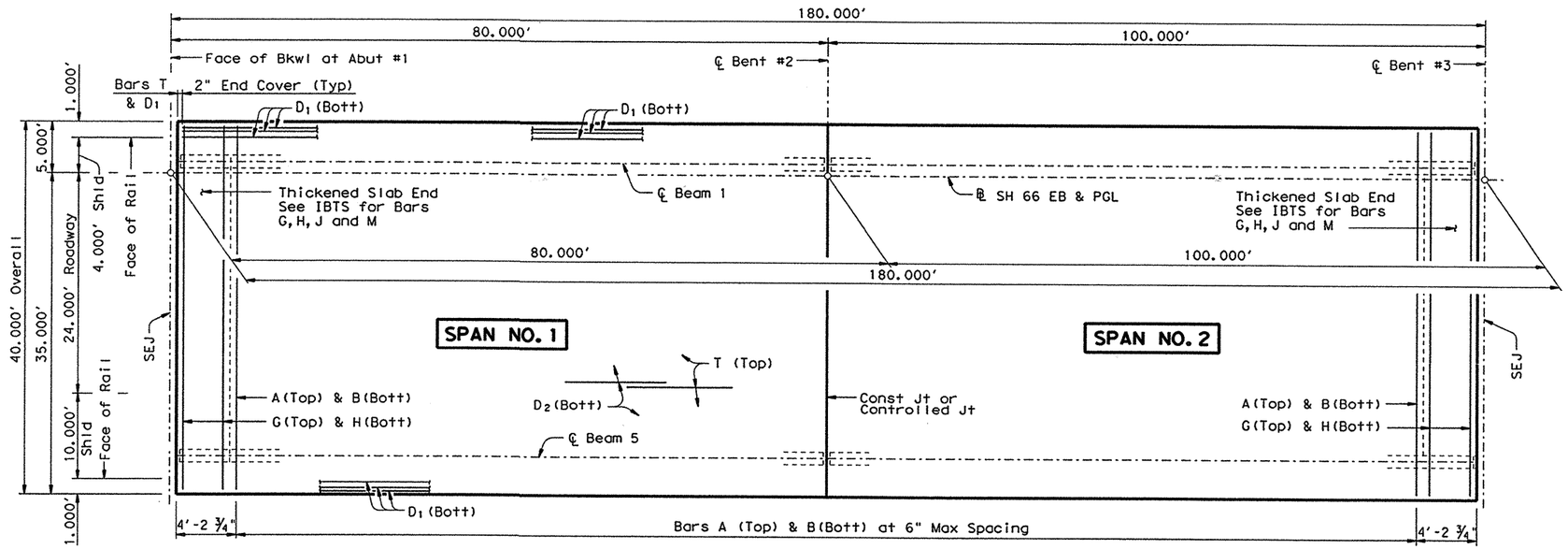
180.00' PRESTRESSED CONCRETE BEAM UNIT #1

(90.00'-90.00')

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb02.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	191
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

LEVELS DISP
PATH: D48PC3Q: TWHALEY



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬
	SF	LF	CY	Lb
1	3200.0	398.35	83.6	20800
2	4000.0	498.35	103.2	26000
Total	7200.0	896.70	186.8	46800

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 1~ 79.67'
Span 2 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

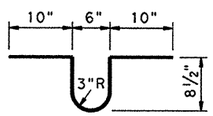
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
1	ALL	10 1/2"	5'-4 1/2"	9 5/8"
2	1 & 5	10 1/2"	5'-4 1/2"	8 7/8"
2	2 - 4	10 1/2"	5'-4 1/2"	9"

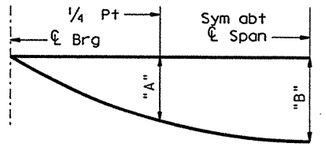
*Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

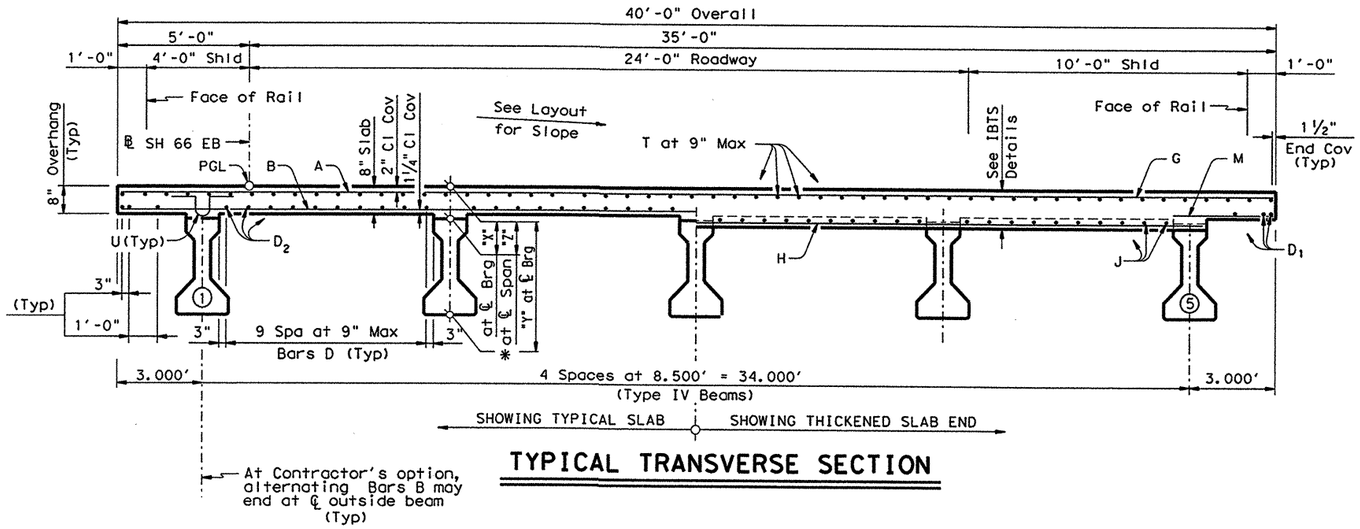
Span No.	Beam No.	"A"	"B"
1	1 & 5	0.028'	0.040'
	2 - 4	0.033'	0.047'
2	1 & 5	0.070'	0.099'
	2 - 4	0.082'	0.166'



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

James C. Wall

Texas Department of Transportation
Bridge Division

180.00' PRESTRESSED CONCRETE BEAM UNIT #1
(80.00'-100.00')

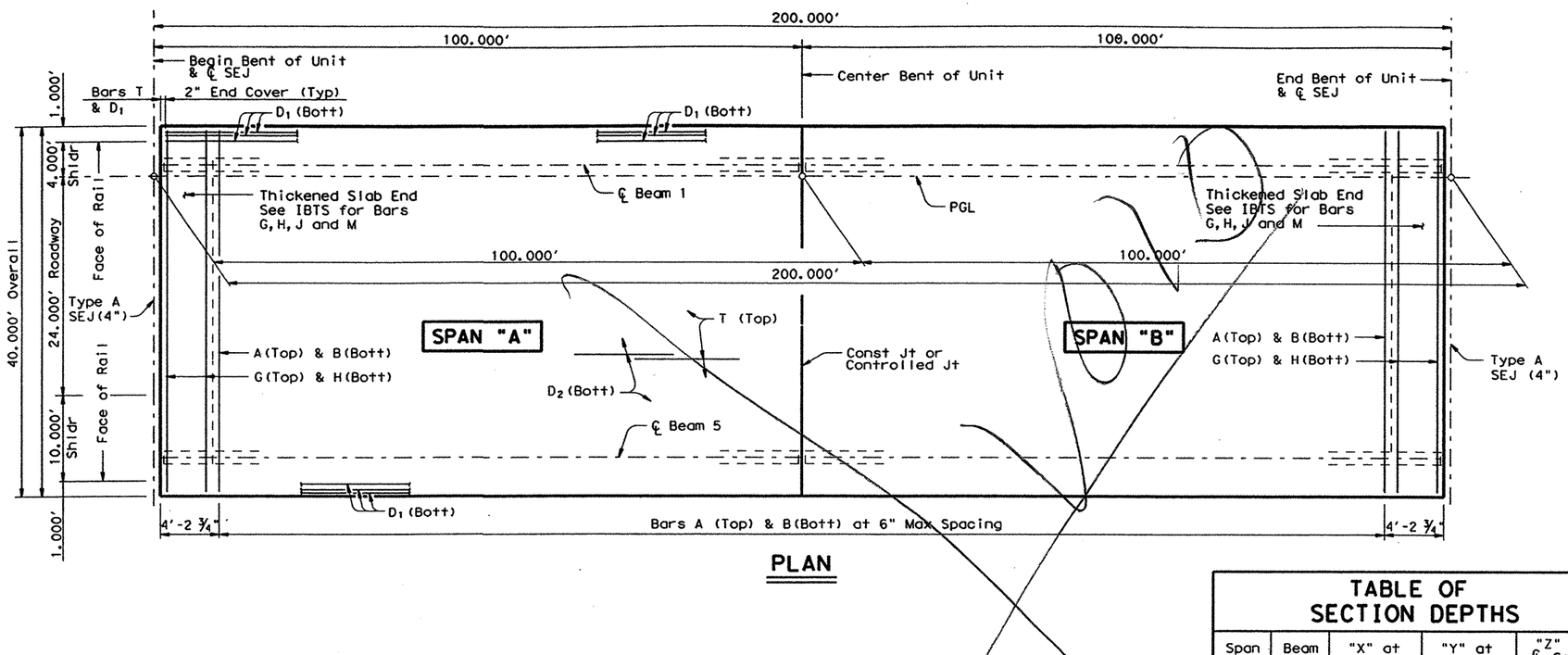
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb02.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 7/01 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS ~ MDH/KC	18	NH 99(367)		191
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

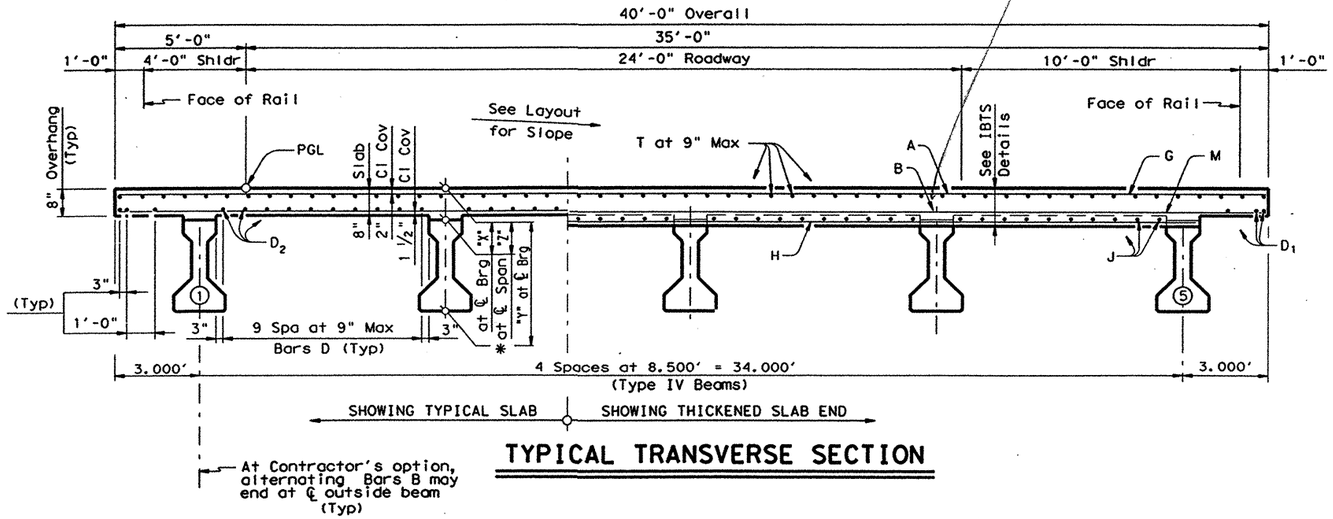
LEVELS & ED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63		



PLAN

Unit No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Span "A"	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
Span "B"	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
"A"	4000.0	498.35	103.2	26000
"B"	4000.0	498.35	103.2	26000
Total	8000.0	996.70	206.4	◪ 52000

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Spans 3-42 ~ 99.67'

◪ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

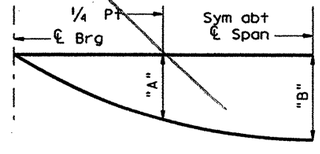
BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
3-42	1 & 5	10 1/2"	5'-4 1/2"	8 7/8"
	2 - 4	10 1/2"	5'-4 1/2"	9"

*Theoretical dimension

Span No.	Beam No.	"A"	"B"
3-42	1 & 5	0.070	0.099
	2 - 4	0.082	0.116



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

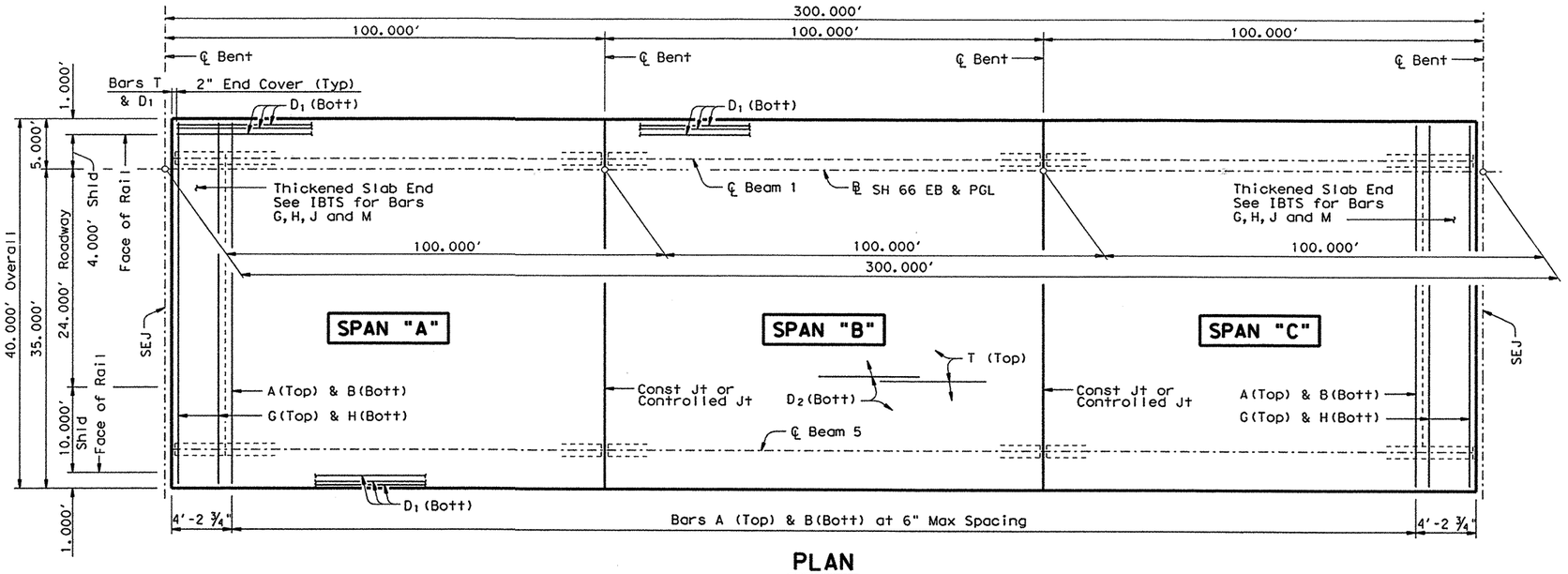
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #2-21
(100.00'-100.00')
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb01.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	18	6	NH 99(367)	192
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



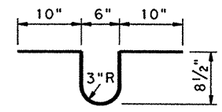
PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ⬓
	SF	LF	CY	Lb
"A"	4000.0	498.35	103.2	26000
"B"	4000.0	498.35	102.5	26000
"C"	4000.0	498.35	103.2	26000
Total	12000.0	1495.05	308.9	78000

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Spans 3-41 ~ 99.67'

⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

BAR TABLE

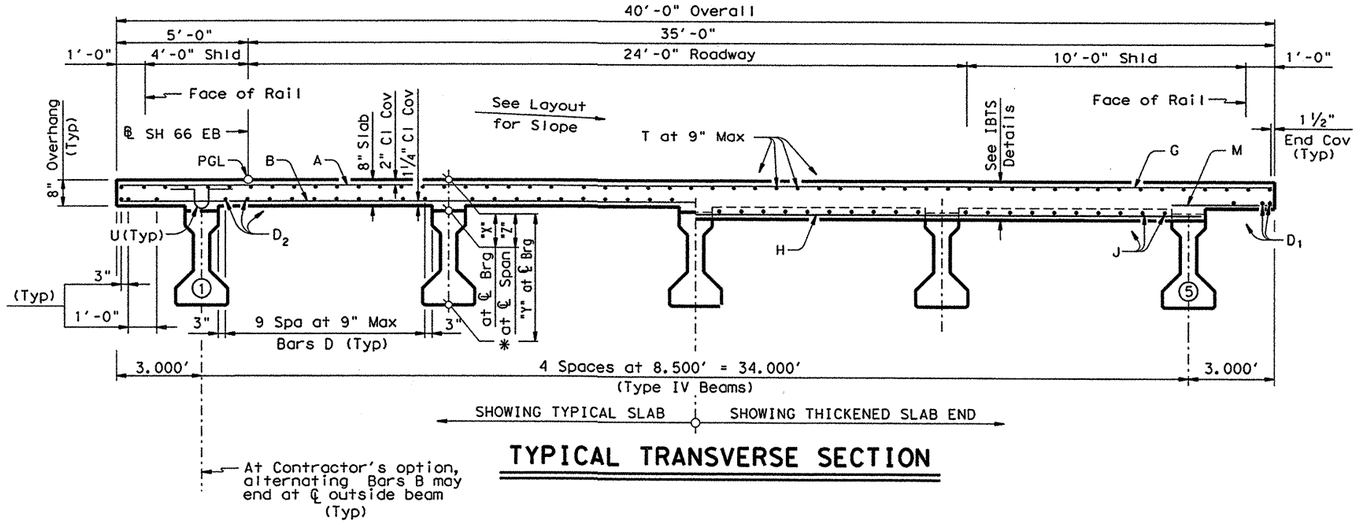
BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
3-41	1 & 5	10 ½"	5'-4 ½"	8 ⅞"
	2 - 4	10 ½"	5'-4 ½"	9"

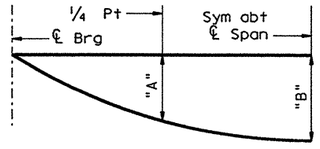
*Theoretical dimension

Unit No.	2	3	4	5	6	7	8	11	12	13	14
Span "A"	3	6	9	12	15	18	21	30	33	36	39
Span "B"	4	7	10	13	16	19	22	31	34	37	40
Span "C"	5	8	11	14	17	20	23	32	35	38	41



TYPICAL TRANSVERSE SECTION

Span No.	Beam No.	"A"	"B"
3-41	1 & 5	0.070'	0.099'
	2 - 4	0.082'	0.116'



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

James C. Wall

Texas Department of Transportation
Bridge Division

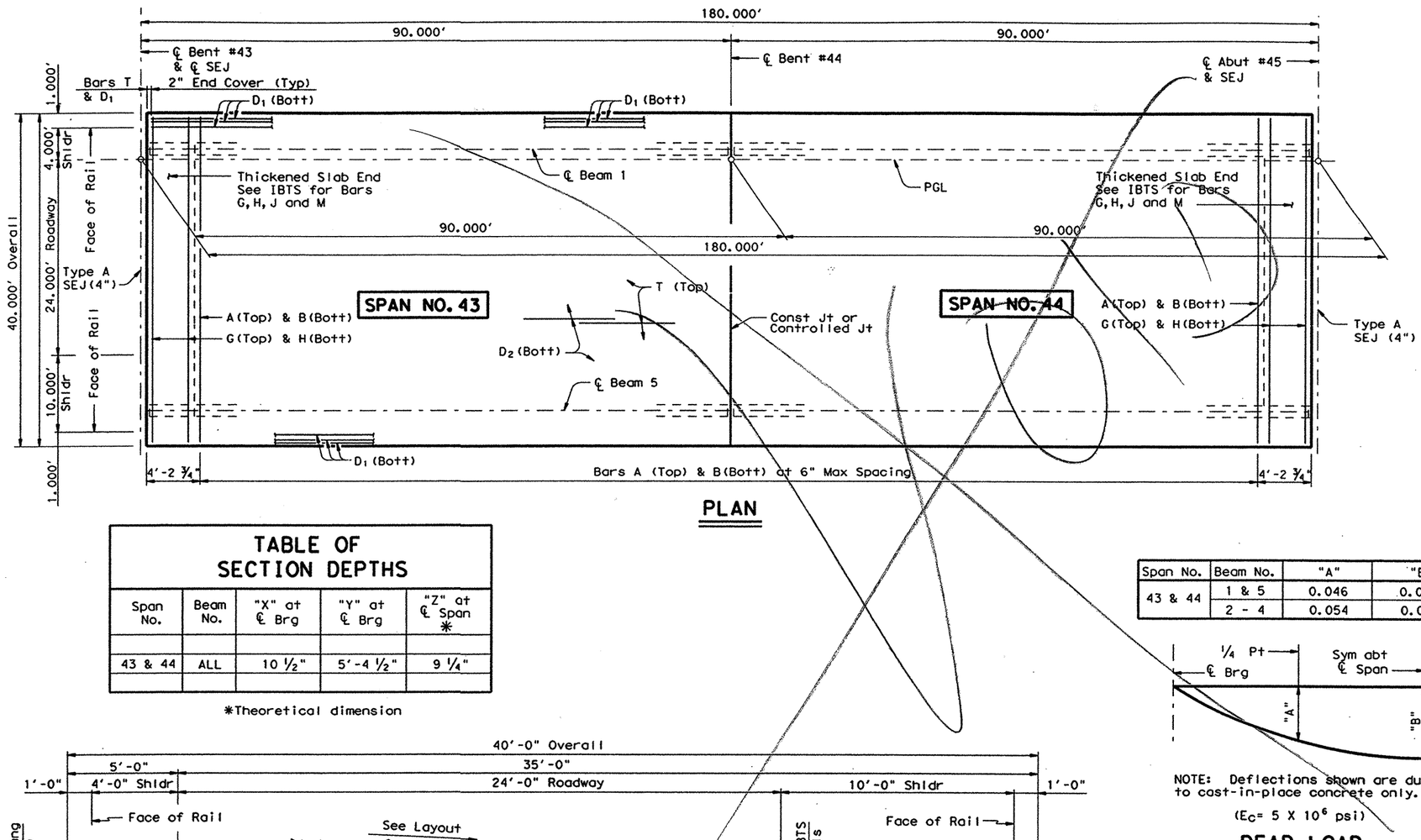
300.00' PRESTRESSED CONC BEAM UNITS #2-8, 11-14

(100.00'-100.00'-100.00')

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb01.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 7/01 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS ~ MDH/KC	18	NH 99(367)		192
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

LEVELS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
43	3600.0	448.35	93.4	23400
44	3600.0	448.35	93.4	23400
Total	7200.0	896.70	186.8	⬓ 46800

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Spans 43 & 44 ~ 89.67'

⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

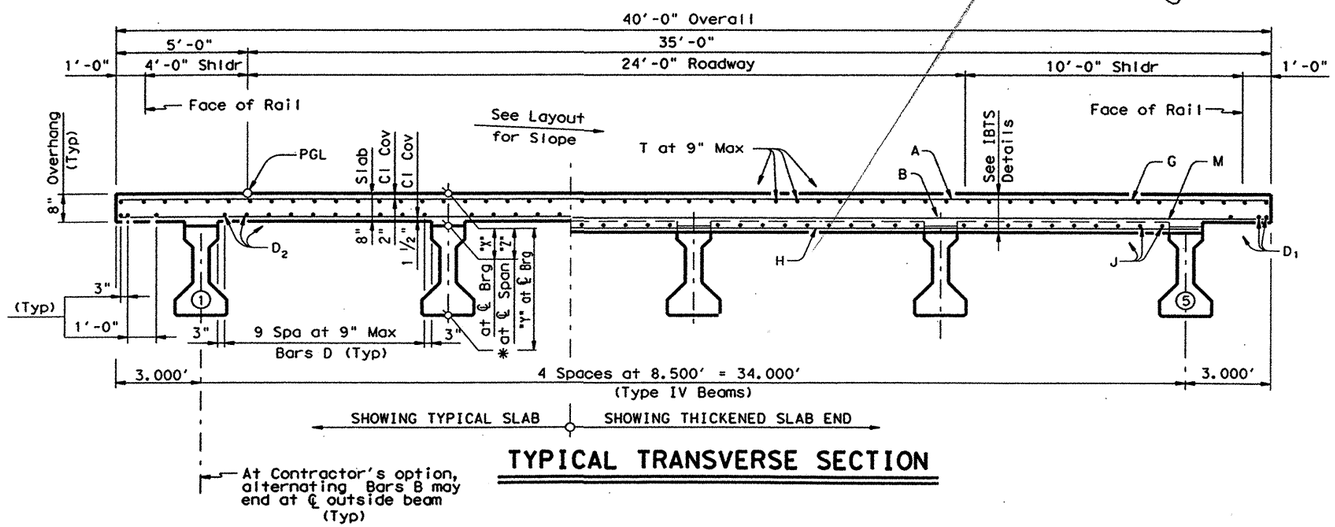
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
43 & 44	ALL	10 1/2"	5'-4 1/2"	9 1/4"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION

Span No.	Beam No.	"A"	"B"
43 & 44	1 & 5	0.046	0.064
	2 - 4	0.054	0.075

NOTE: Deflections shown are due to cast-in-place concrete only.

(E_C= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and Interim Specifications.
See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.
See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.
All reinforcing steel shall be Epoxy Coated.
Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

180.00' PRESTRESSED CONCRETE BEAM UNIT #22

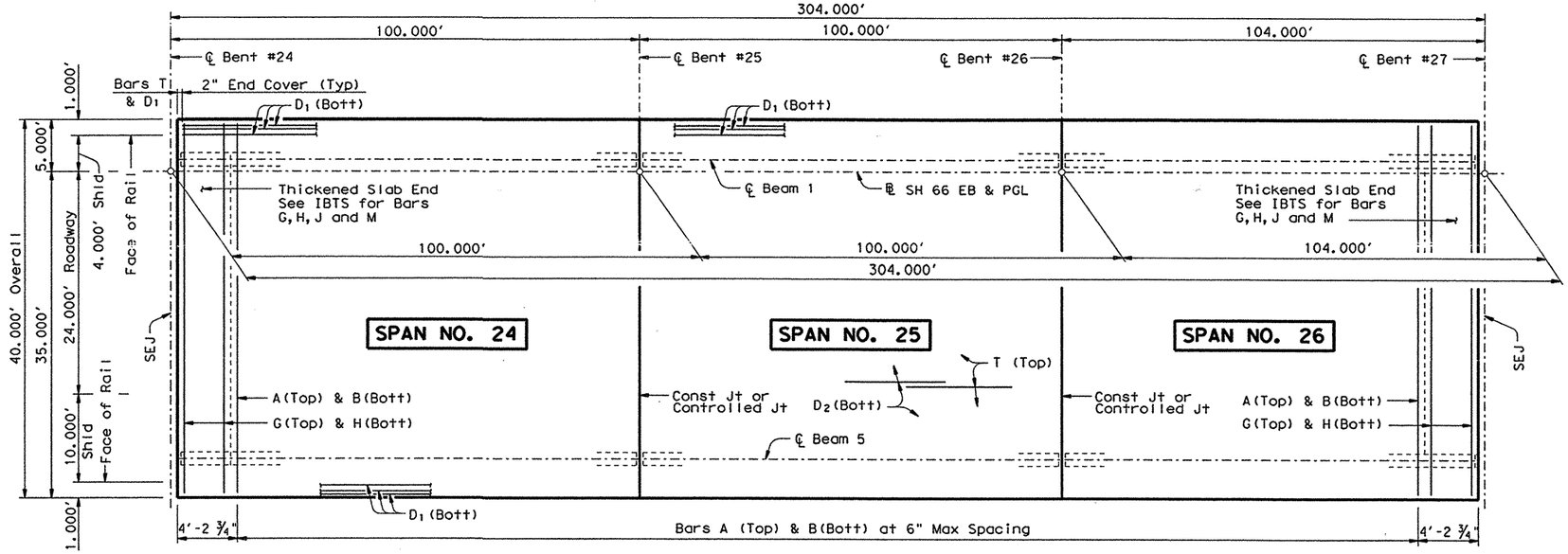
(90.00'-90.00')

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb02.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	193
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

LEVELS Disk
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬
	SF	LF	CY	Lb
24	4000.0	498.35	103.2	26000
25	4000.0	498.35	102.5	26000
26	4160.0	518.35	107.5	27040
Total	12160.0	1515.05	313.2	79040

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Spans 24 & 25 ~ 99.67'
Span 26 ~ 103.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

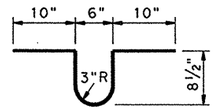
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
24 & 25	1 & 5	10 1/2"	5'-4 1/2"	8 7/8"
	2 - 4	10 1/2"	5'-4 1/2"	9"
26	1 & 5	10 3/4"	5'-4 3/4"	8 3/4"
	2 - 4	10 3/4"	5'-4 3/4"	9"

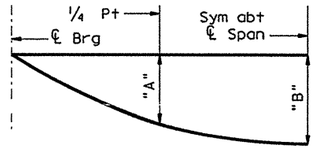
*Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

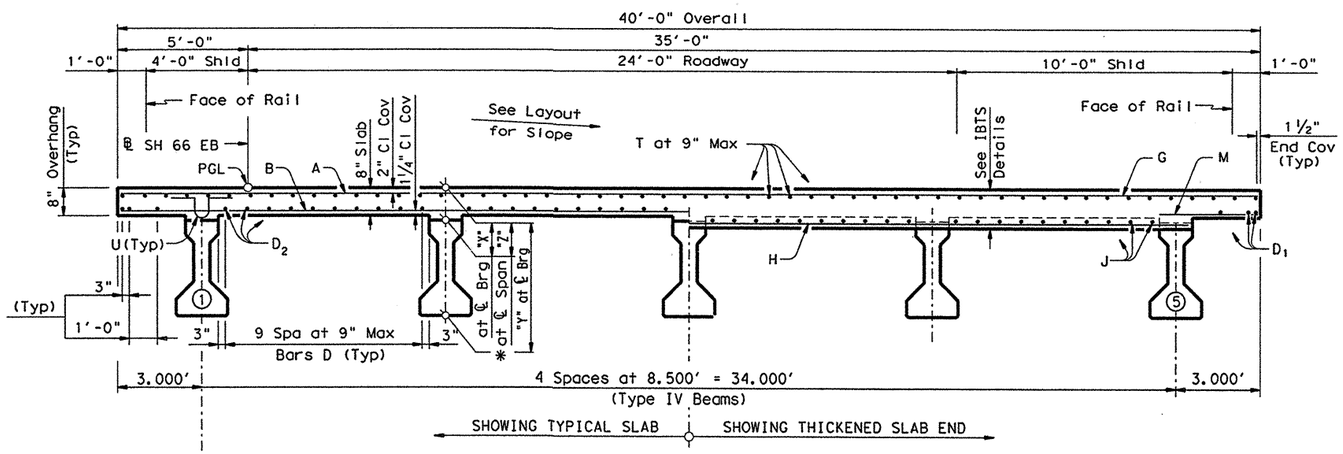
Span No.	Beam No.	"A"	"B"
24 & 25	1 & 5	0.070'	0.099'
	2 - 4	0.082'	0.116'
26	1 & 5	0.082'	0.116'
	2 - 4	0.097'	0.136'



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

PATH: D48PC3Q: TWHALEY

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

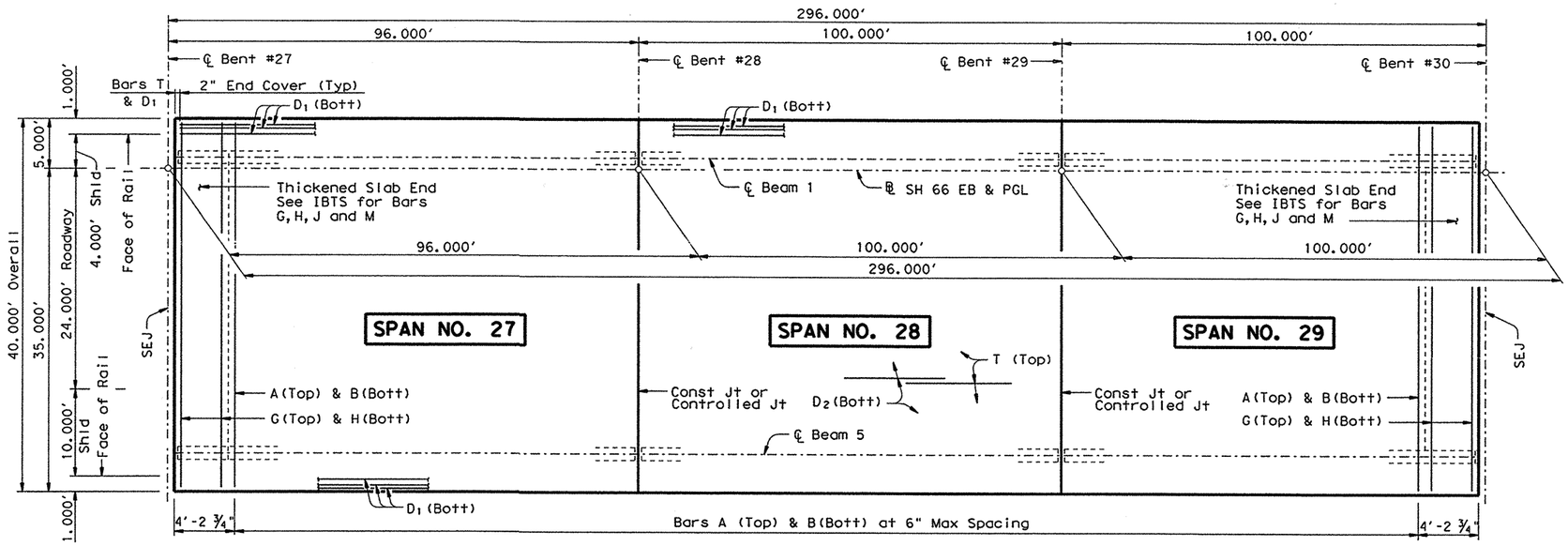
Texas Department of Transportation
Bridge Division

304.00' PRESTRESSED CONCRETE BEAM UNIT #9

(100.00'-90.00'-90.00')

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb02.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 7/01 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS ~ MDH/RNP	18	NH 99(367)		193A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬
	SF	LF	CY	Lb
27	3840.0	478.35	99.3	24960
28	4000.0	498.35	102.5	26000
29	4000.0	498.35	103.2	26000
Total	11840.0	1475.05	305.0	76960

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 27 ~ 99.67'
Spans 28 & 29 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

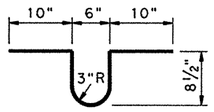
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
27	1 & 5	10 1/2"	5'-4 1/2"	9"
	2 - 4	10 1/2"	5'-4 1/2"	9 1/8"
28 & 29	1 & 5	10 1/2"	5'-4 1/2"	8 7/8"
	2 - 4	10 1/2"	5'-4 1/2"	9"

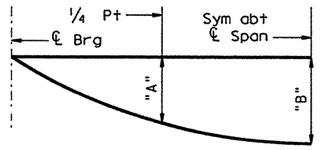
*Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

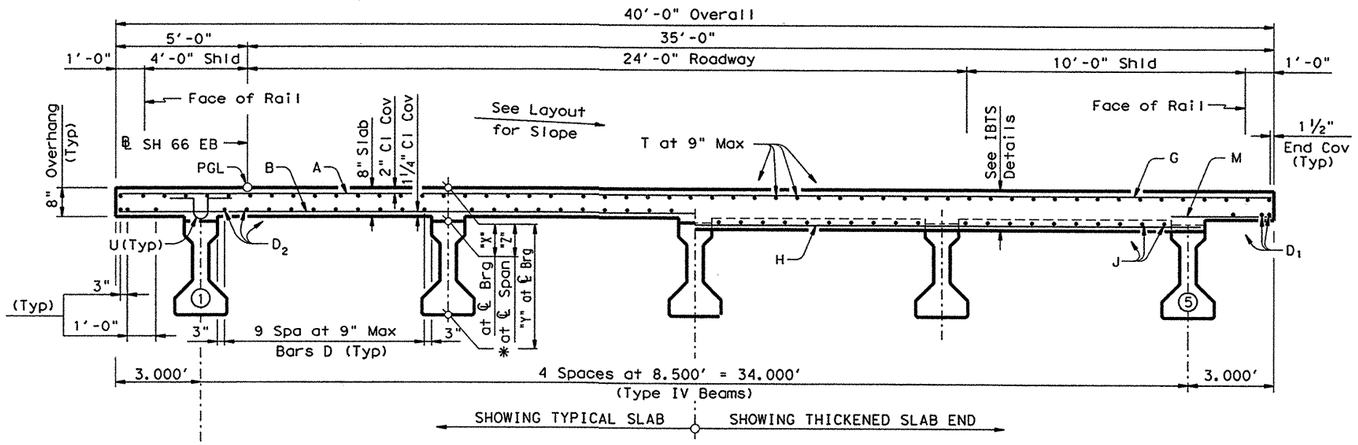
Span No.	Beam No.	"A"	"B"
27	1 & 5	0.060'	0.084'
	2 - 4	0.070'	0.098'
28 & 29	1 & 5	0.070'	0.099'
	2 - 4	0.082'	0.116'



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_C= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

James C. Wall

Texas Department of Transportation
Bridge Division

296.00' PRESTRESSED CONCRETE BEAM UNIT #10

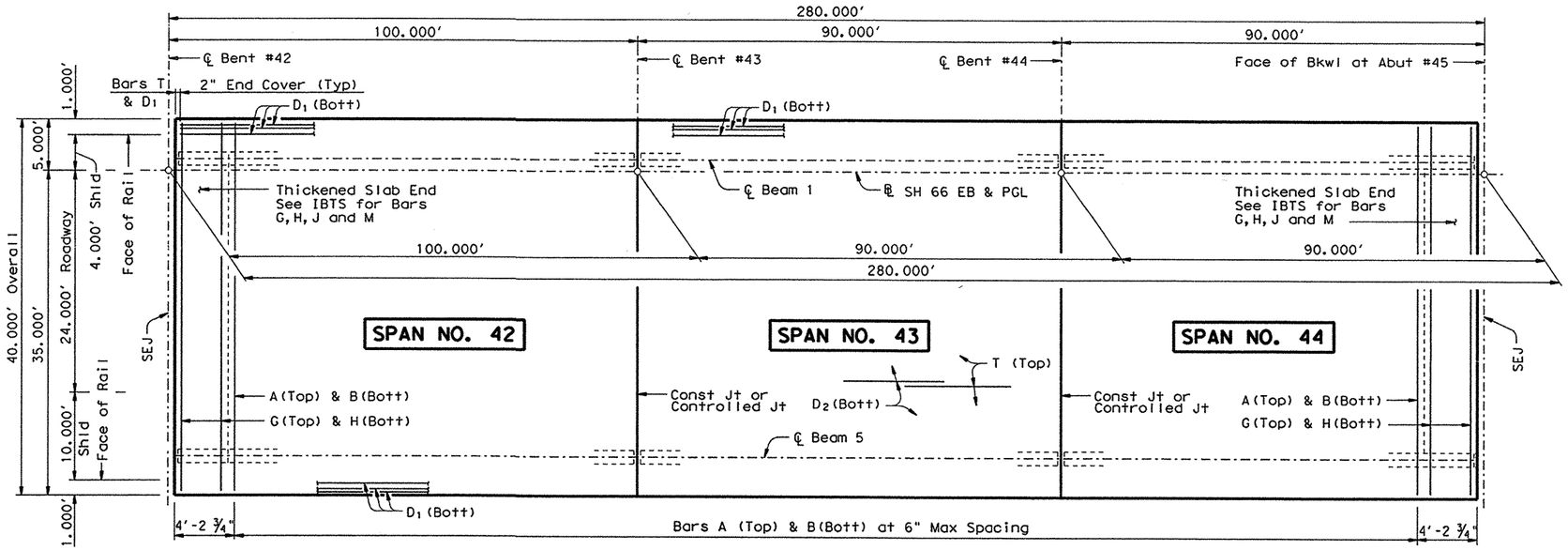
(100.00'-90.00'-90.00')

EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb02.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 7/01 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS ~ MDH/RNP	18	NH 99(367)		193 B
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVEL
1 2 3 4 5 6 7
11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬
	SF	LF	CY	Lb
42	4000.0	498.35	103.2	26000
43	3600.0	448.35	92.7	23400
44	3600.0	448.35	93.4	23400
Total	11200.0	1395.05	289.3	72800

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 42 ~ 99.67'
Spans 43 & 44 ~ 89.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

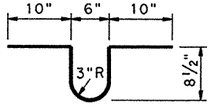
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
42	1 & 5	10 1/2"	5'-4 1/2"	8 7/8"
	2 - 4	10 1/2"	5'-4 1/2"	9"
43 & 44	ALL	10 1/2"	5'-4 1/2"	9 1/4"

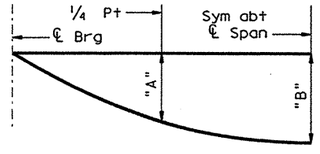
*Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

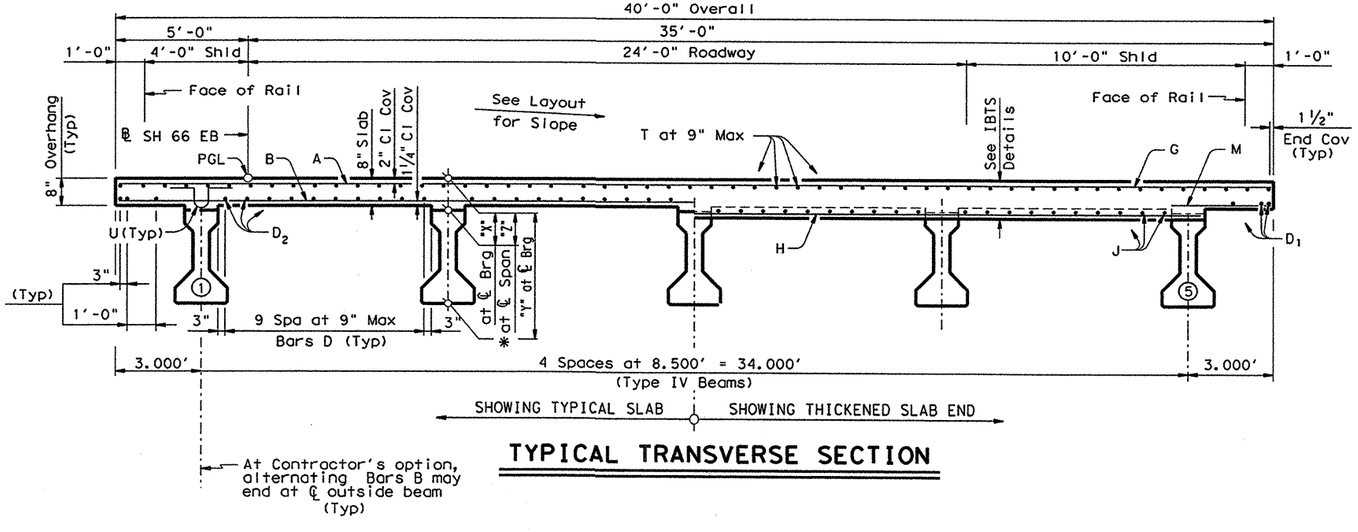
Span No.	Beam No.	"A"	"B"
42	1 & 5	0.070'	0.099'
	2 - 4	0.082'	0.116'
43 & 44	1 & 5	0.046'	0.064'
	2 - 4	0.054'	0.075'



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_C= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

8/15/01

Texas Department of Transportation
Bridge Division

280.00' PRESTRESSED CONCRETE BEAM UNIT #15

(100.00'-90.00'-90.00')

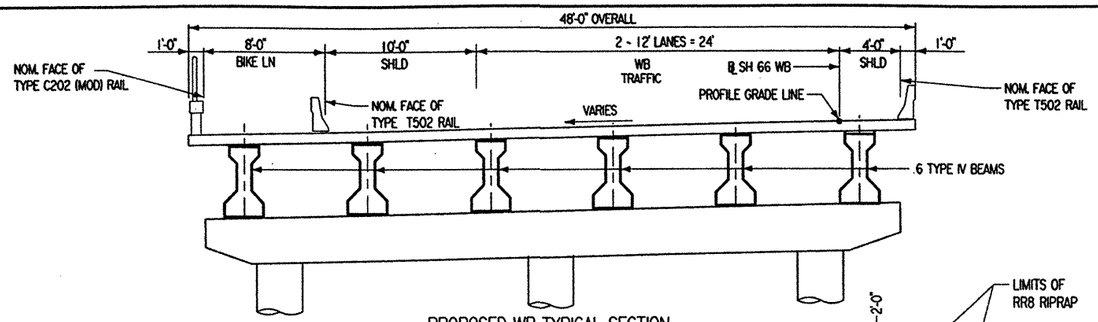
EAST FORK OF TRINITY RIVER EASTBOUND BRIDGE

FILE: 5691pb02.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 7/01 ~ CHANGED UNIT LENGTHS AND BENT LOCATIONS ~ MDH/RNP	18	NH 99(367)		193 C
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS

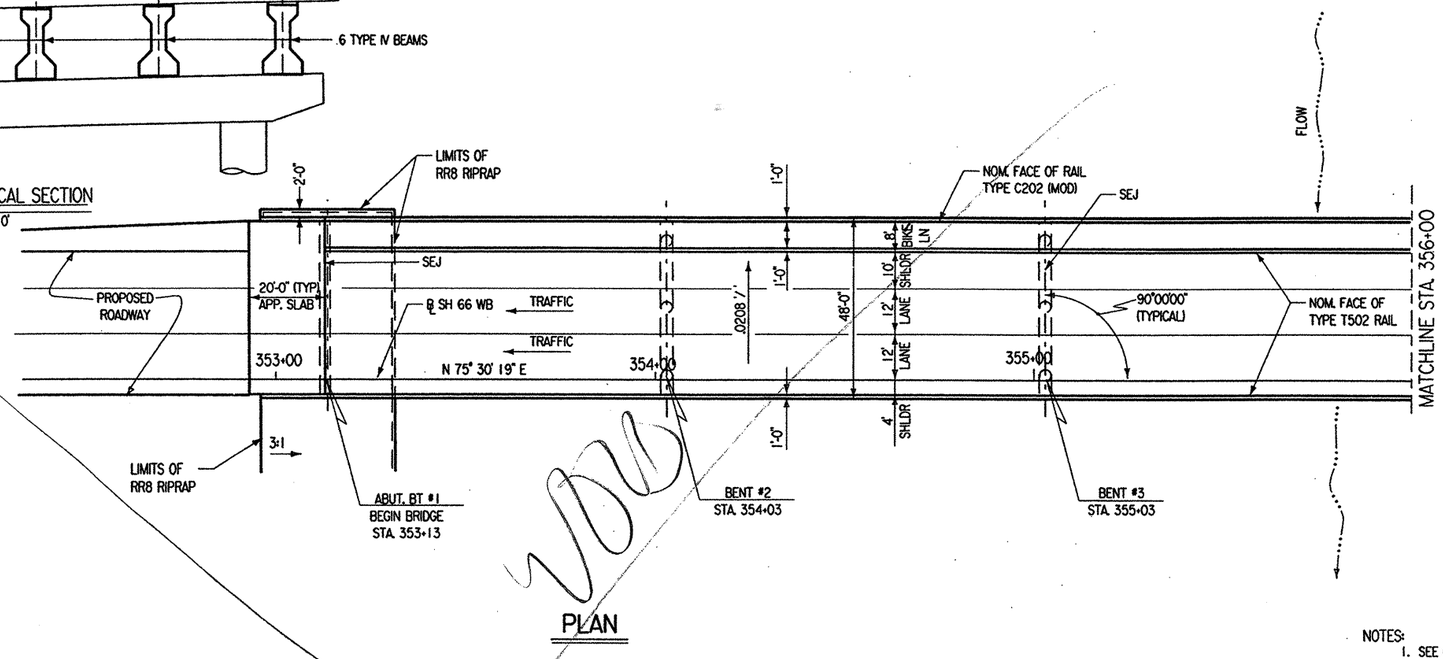
| | | | |



PROPOSED WB TYPICAL SECTION

SCALE: 1" = 10'

DESIGN SPEED = 45 MPH
ADT (2020) = 21,900
FUNC. CLASS. = URBAN ARTERIAL



PLAN

HYDRAULIC DATA

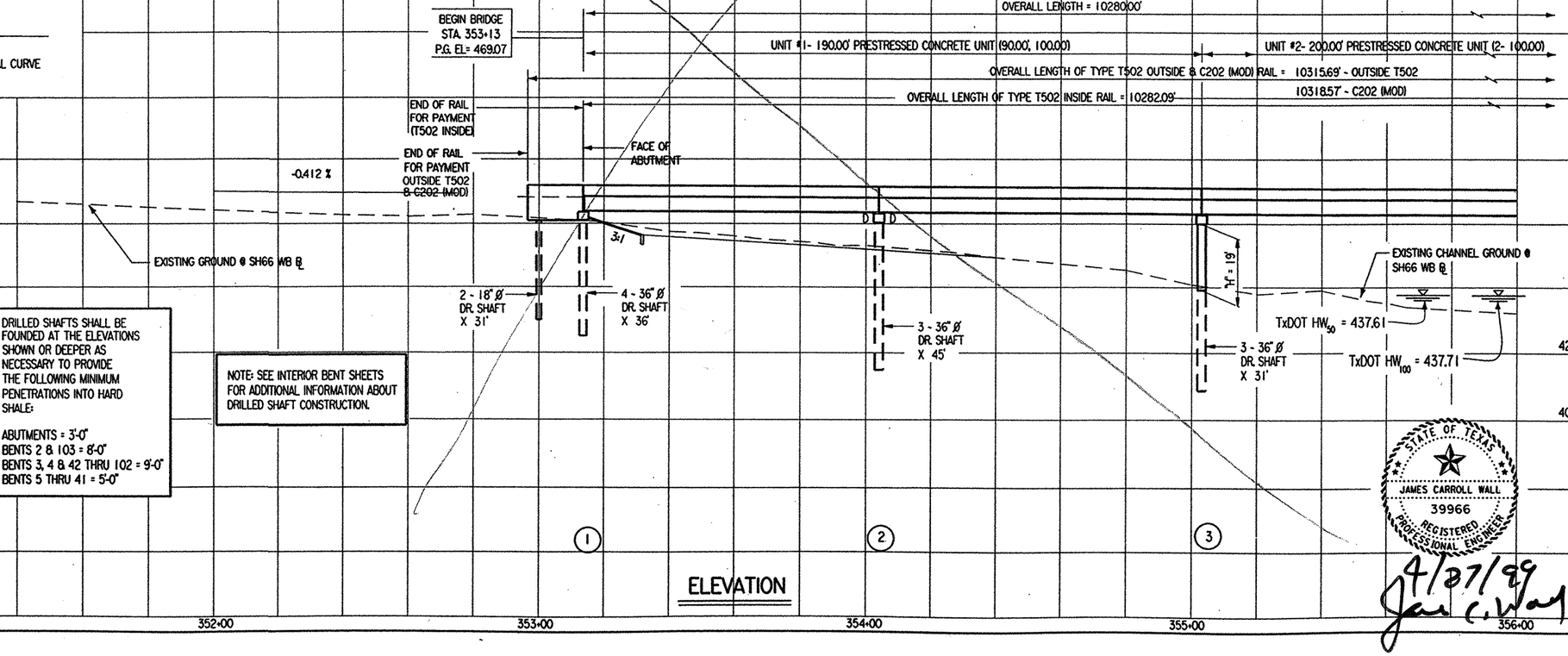
NORMAL LAKE ELEV. = 435.50

Q_{50} = 40,000 cfs	V_{50} = 0.39 fps	TxDOT HW_{50} = 437.61
Q_{100} = 48,000 cfs	V_{100} = 0.46 fps	TxDOT HW_{100} = 437.71

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE



ELEVATION

DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2 & 103 = 8'-0"
BENTS 3, 4 & 42 THRU 102 = 9'-0"
BENTS 5 THRU 41 = 5'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

NOTES:
1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

STATE OF TEXAS
MINH VAN
84844
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

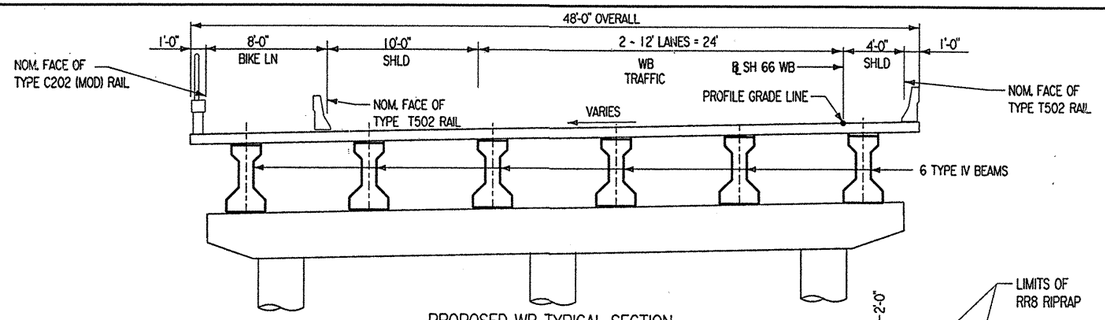
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 1 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	194

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

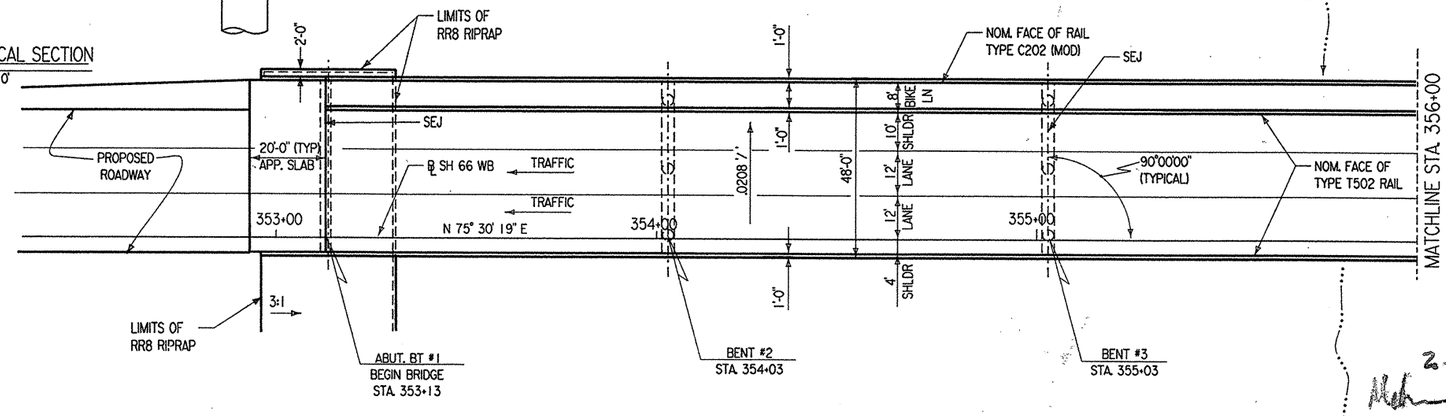
DN: MDH CK: JBH DW: TKW CK: MDH
DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN
ACTIVE FILE
PLAYED



PROPOSED WB TYPICAL SECTION

SCALE: 1" = 10'

DESIGN SPEED = 45 MPH
ADT (2020) = 21,900
FUNC. CLASS. = URBAN ARTERIAL



HYDRAULIC DATA

NORMAL LAKE ELEV. = 435.50

Q_{50} = 40,000 cfs V_{50} = 0.39 fps TxDOT HW_{50} = 437.61
Q_{100} = 43,000 cfs V_{100} = 0.46 fps TxDOT HW_{100} = 437.71

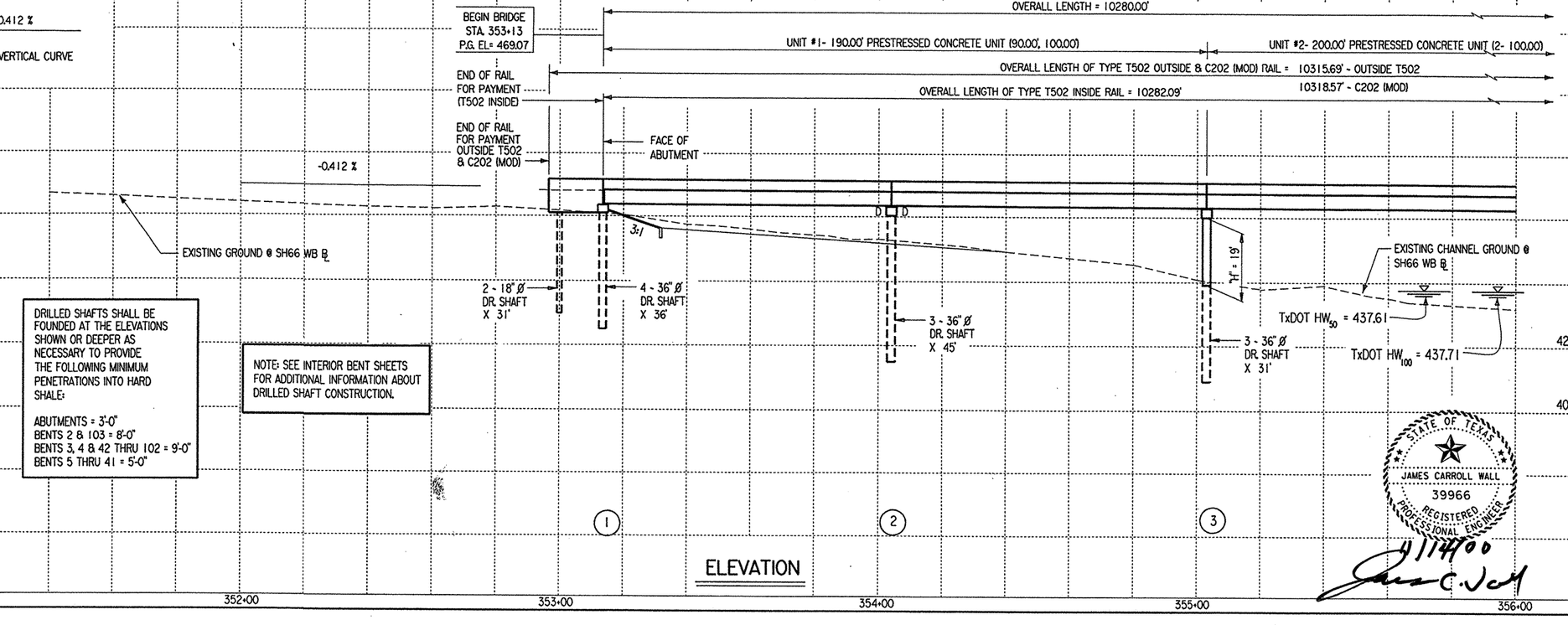
PLAN

NOTES:
1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE



DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2 & 103 = 8'-0"
BENTS 3, 4 & 42 THRU 102 = 9'-0"
BENTS 5 THRU 41 = 5'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

ELEVATION

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/22/00

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

2-14-01
CHANGE ORDER NO. 9
(For C.O #9 only)

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 1 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	194 A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REVISIONS ~ MDH/KC
8/00 ~ CHANGE UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH
CK: JBH
DW: TKW
CK: MDH

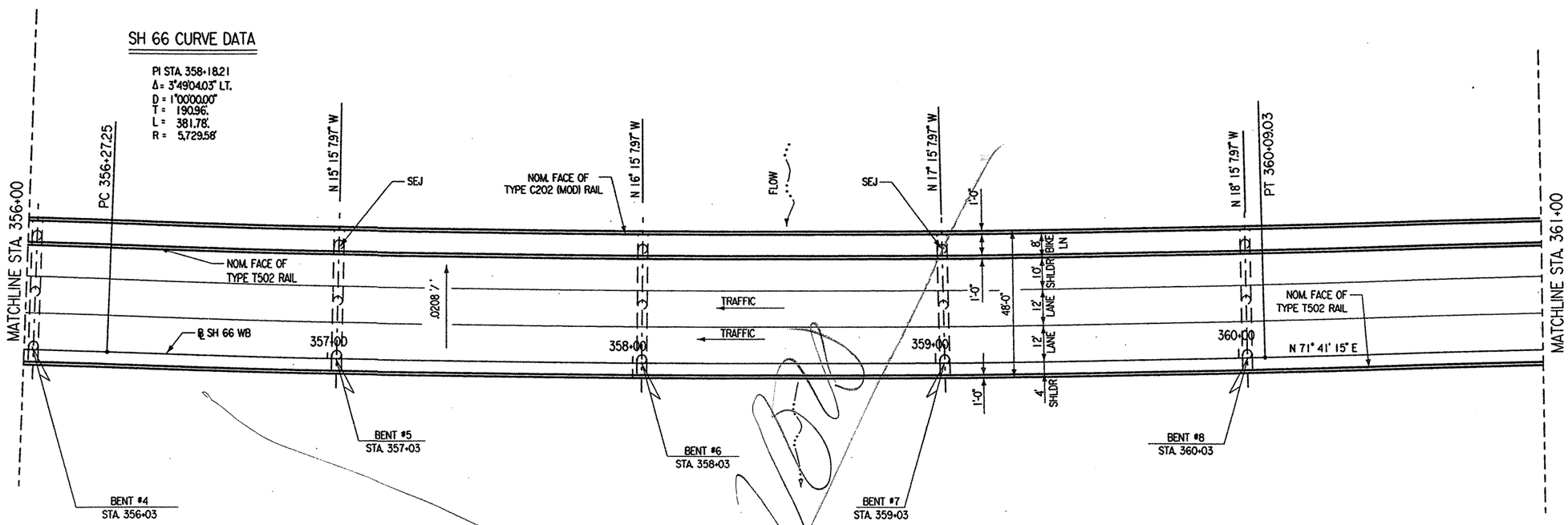
DATE: JAN 99
NODE: D48PC3Q
FILE: 5692LY01.DGN

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17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE
1 2 3 4 5 6 7 8
17 18 19 20 21 22 23 24 25
33 34 35 36 37 38 39 40 41
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

SH 66 CURVE DATA

PI STA. 358+18.21
Δ = 3°49'04.03" LT.
D = 1°00'00.00"
T = 190.96'
L = 381.78'
R = 5,729.58'



NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

PLAN

OVERALL LENGTH = 10280.00'

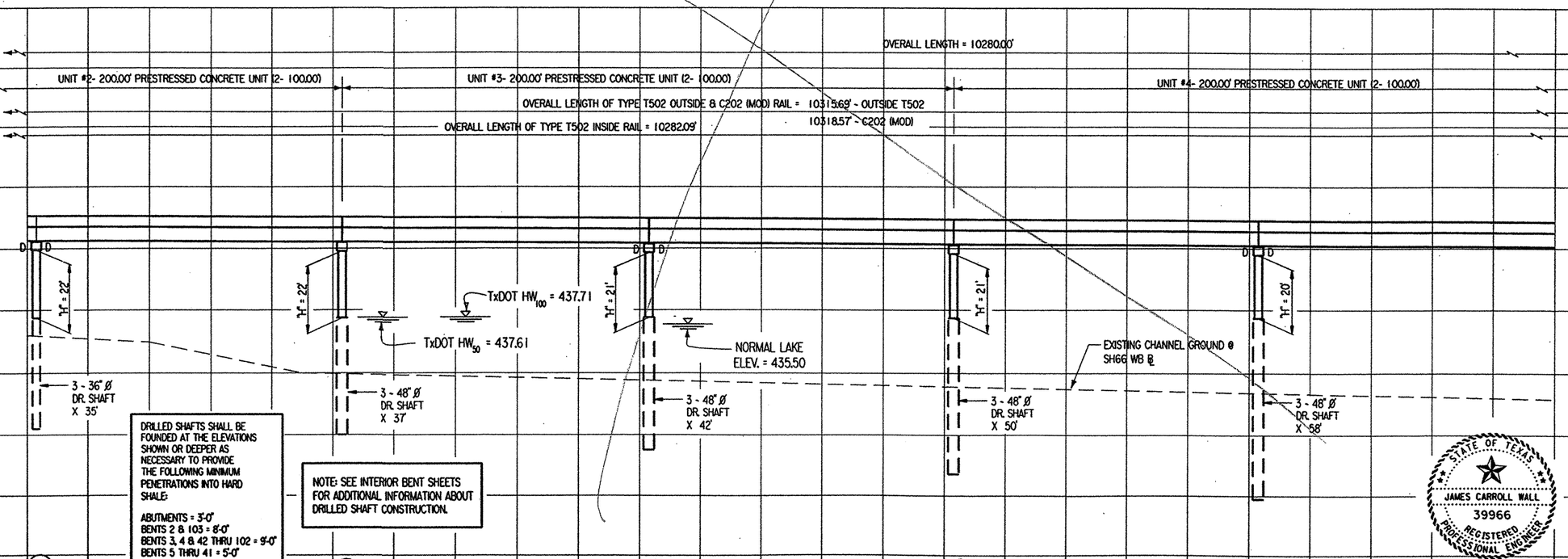
UNIT #2- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

UNIT #3- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

UNIT #4- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

OVERALL LENGTH OF TYPE T502 OUTSIDE & C202 (MOD) RAIL = 10315.69' ~ OUTSIDE T502
10318.57' ~ C202 (MOD)

OVERALL LENGTH OF TYPE T502 INSIDE RAIL = 10282.09'



DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2 & 103 = 8'-0"
BENTS 3, 4 & 42 THRU 102 = 9'-0"
BENTS 5 THRU 41 = 5'-0"

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 2 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		195
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS — MINH TRAN — 84840 — LICENSED PROFESSIONAL ENGINEER — 4/27/99

STATE OF TEXAS — GEORGE H. ODOM — 50826 — REGISTERED PROFESSIONAL ENGINEER — 4/27/99

STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED PROFESSIONAL ENGINEER — 4/27/99

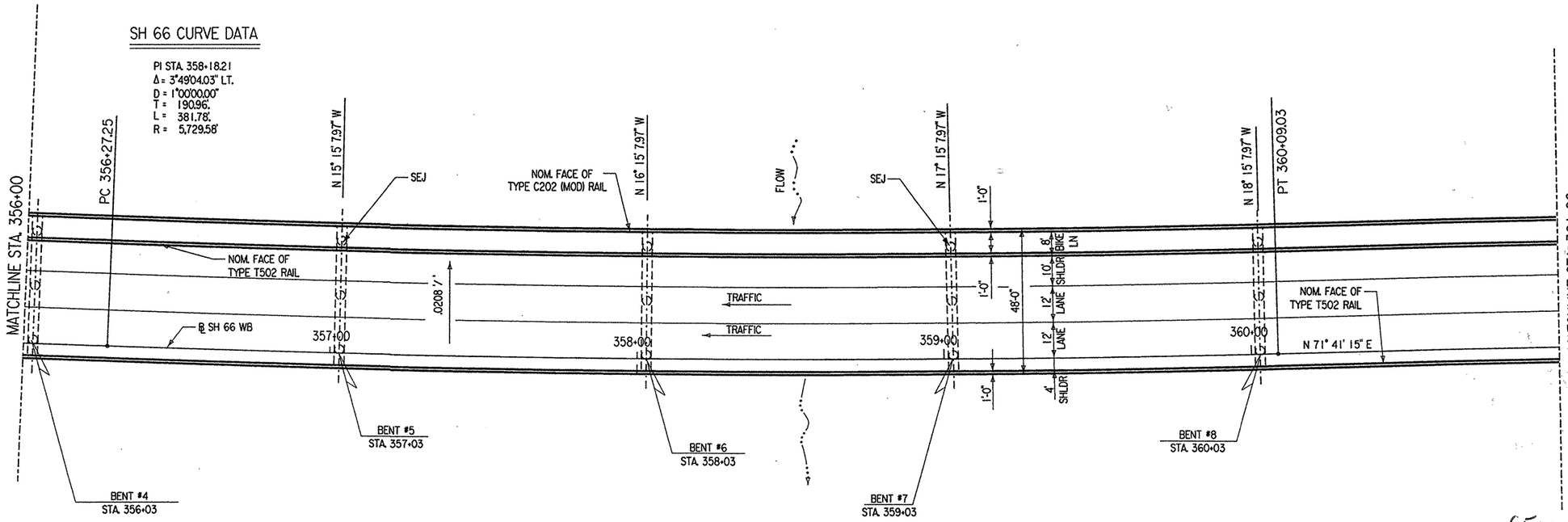
DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

ACTIVE FILE LEVELS PLOTTED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

SH 66 CURVE DATA

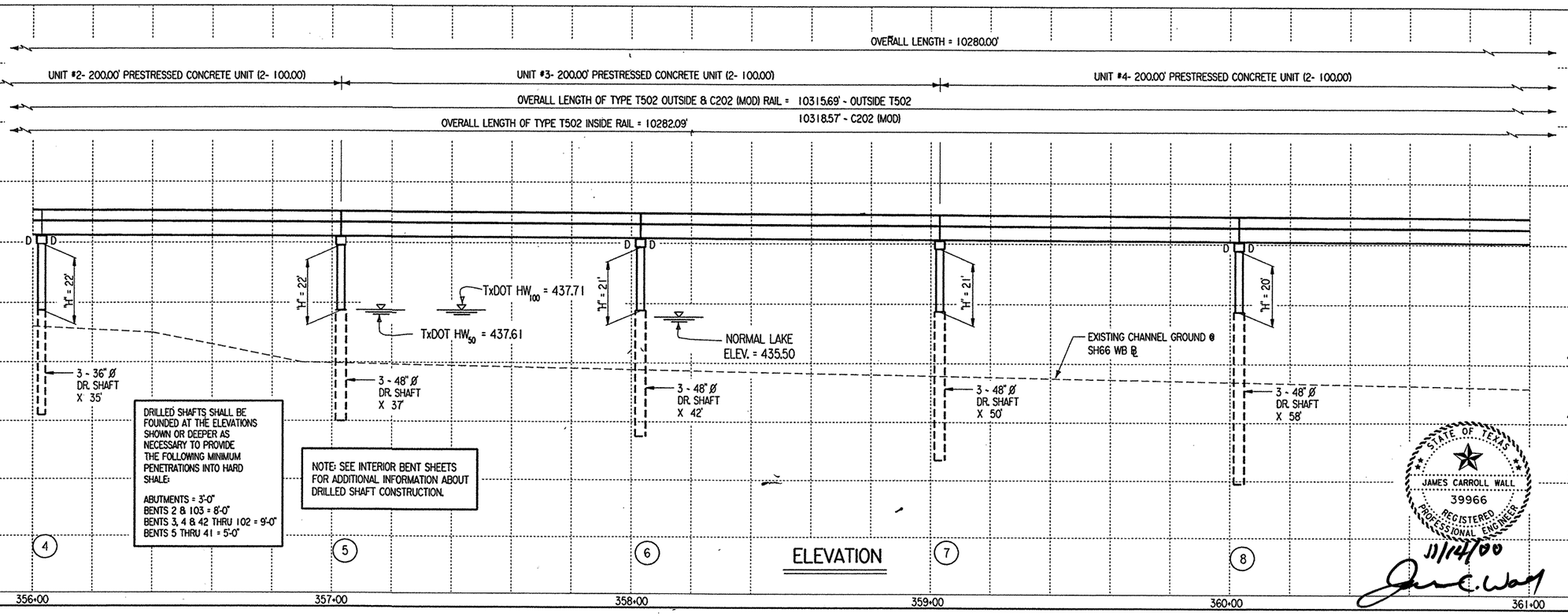
PI STA. 358+18.21
Δ = 3°49'04.03" LT.
D = 1°00'00.00"
T = 190.96'
L = 381.78'
R = 5,729.58'



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %
NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

SHEET 2 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	195

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

2-14-01
Mahin Behbahani
(For C.O #9 only)
CHANGE ORDER NO. 9

9

RE 8/00 ~ CH LENGTHS LOCATIONS ~ MDH/KC
DU UNIT & DOWEL MDH/KC

DN: MDH
CK: JBH
DW: TKW
CK: MDH

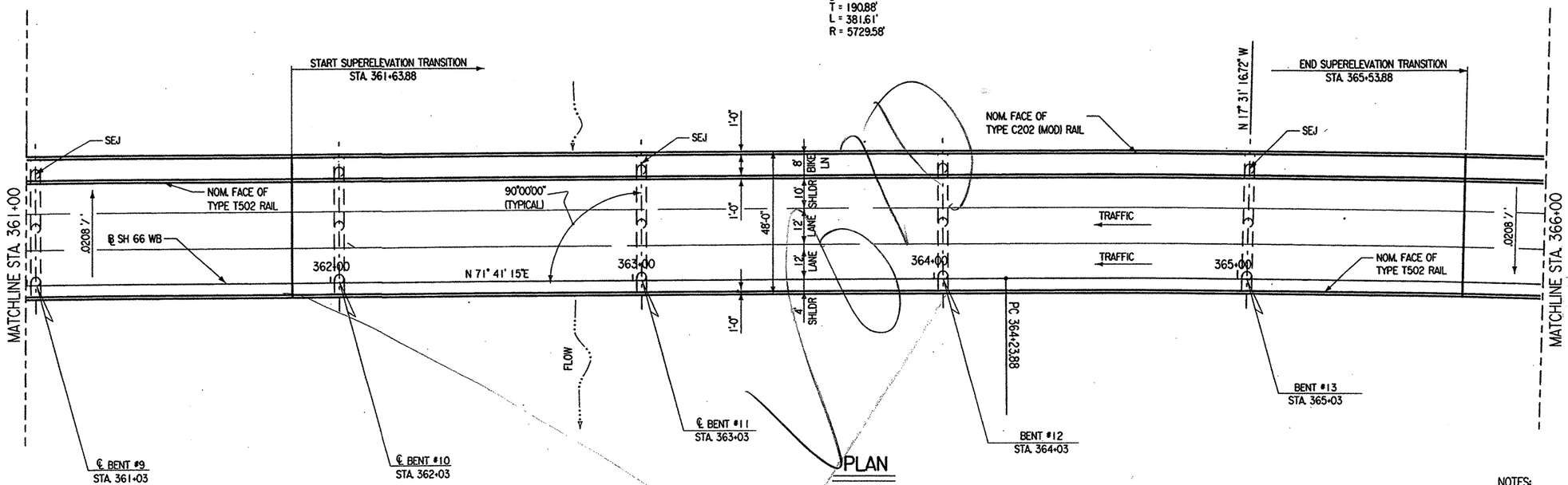
DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DISPLAYED
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27 28 29 30 31 32
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE
1 2 3 4 5 6 7 8
17 18 19 20 21 22 23 24
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

SH 66 CURVE DATA

PI STA. 366+14.76
Δ = 3°48'58.11" (RT)
D = 1°00'00.00"
T = 190.88'
L = 381.61'
R = 5729.58'



PLAN

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

OVERALL LENGTH = 10280.00'

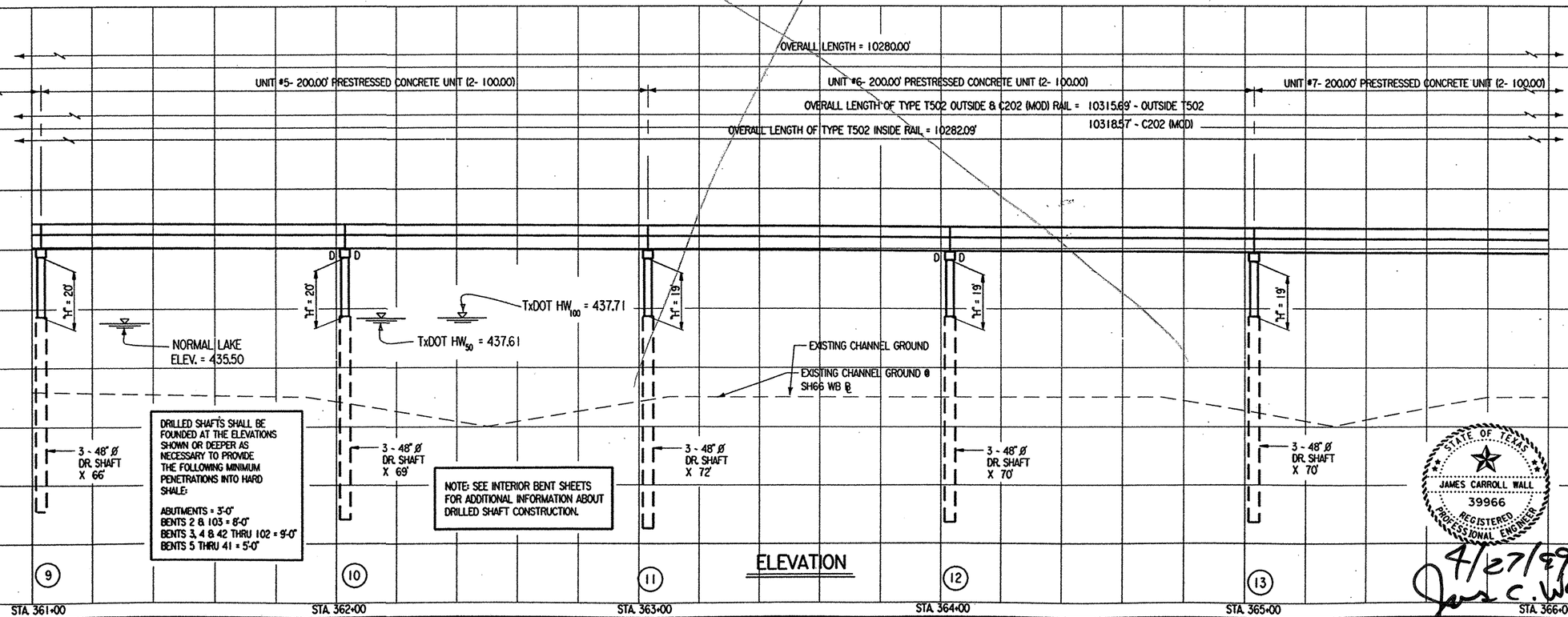
UNIT #5- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00)

UNIT #6- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00)

UNIT #7- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00)

OVERALL LENGTH OF TYPE T502 OUTSIDE & C202 (MOD) RAIL = 10315.69' - OUTSIDE T502
10318.57' - C202 (MOD)

OVERALL LENGTH OF TYPE T502 INSIDE RAIL = 10282.09'



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 3 OF 22 SCALE: 1"= 40'

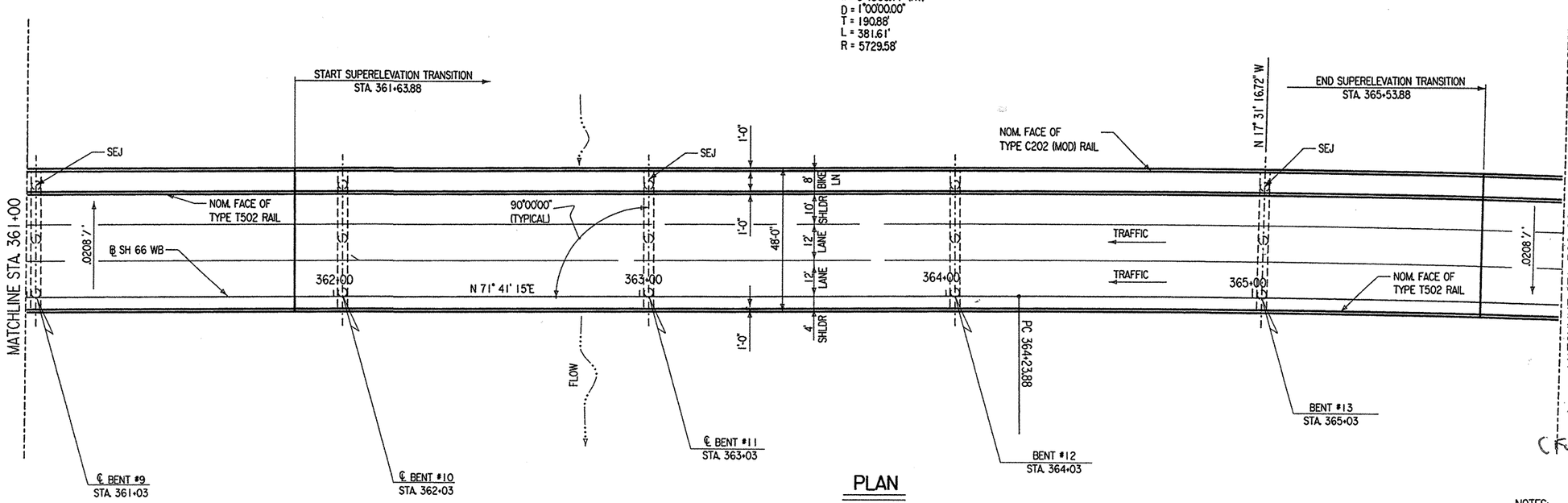
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		196
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH
DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

SH 66 CURVE DATA

PI STA. 366+14.76
Δ = 3°48'58.11" (RT)
D = 1°00'00.00"
T = 190.88'
L = 381.61'
R = 5729.58'



PLAN

2-14-01
Mah Batish
(For C.O #9 only)

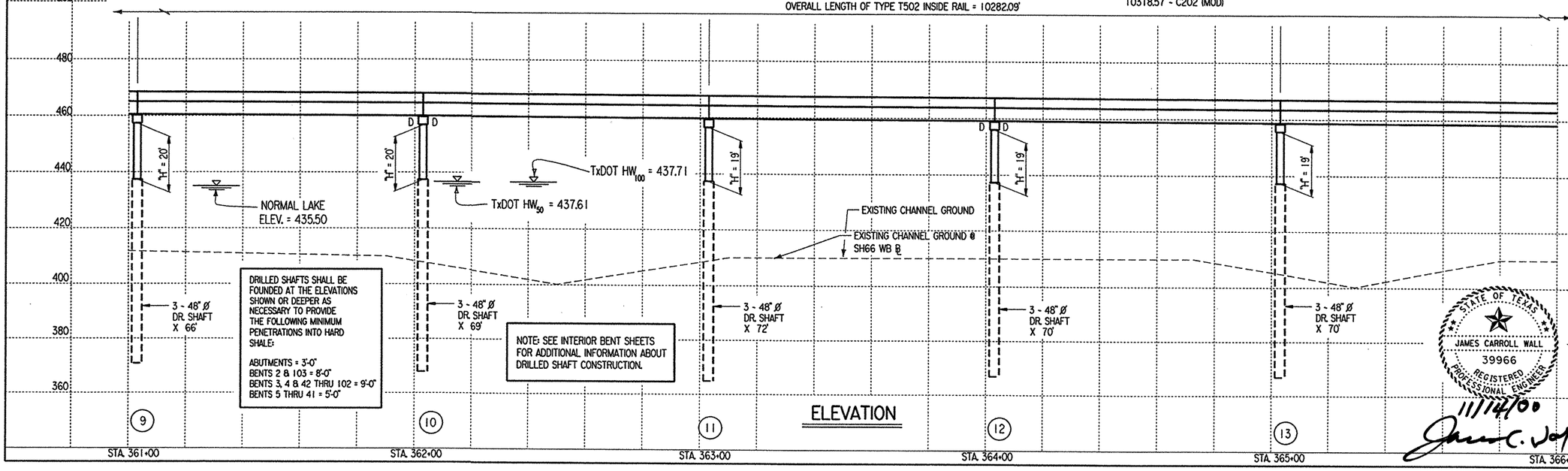
CHANGE ORDER NO. 9

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH 66 WB ℄.

OVERALL LENGTH = 10280.00'

UNIT #5- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')
UNIT #6- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')
UNIT #7- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00')

OVERALL LENGTH OF TYPE T502 OUTSIDE & C202 (MOD) RAIL = 10315.69' - OUTSIDE T502
10318.57' - C202 (MOD)
OVERALL LENGTH OF TYPE T502 INSIDE RAIL = 10282.09'



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE
LAYOUT

SHEET 3 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		196
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

D: JAN 99 NODE: D48PC3Q
F: 5692LY01.DGN

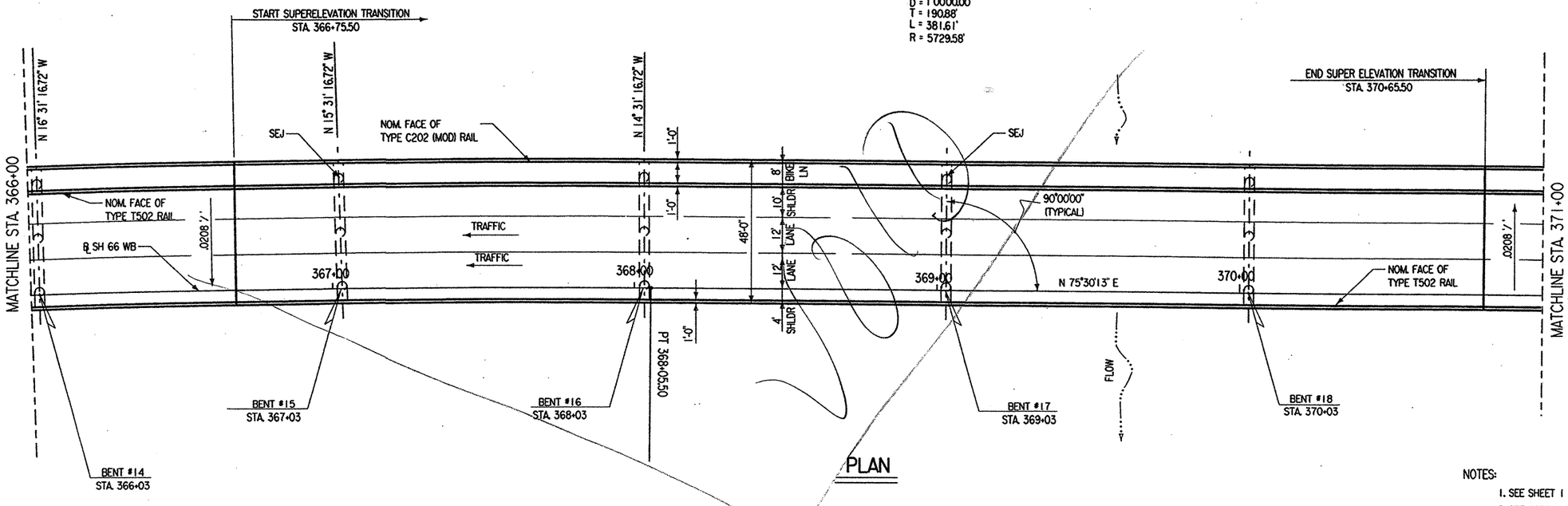
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ACTIVE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

8/00 - UNIT
LENGTHS & DOWEL
LOCATIONS - MDH/KC

SH 66 CURVE DATA

PI STA. 366+14.76
Δ = 3°48'58.11" (RT)
D = 1°00'00.00"
T = 190.88'
L = 381.61'
R = 5729.58'

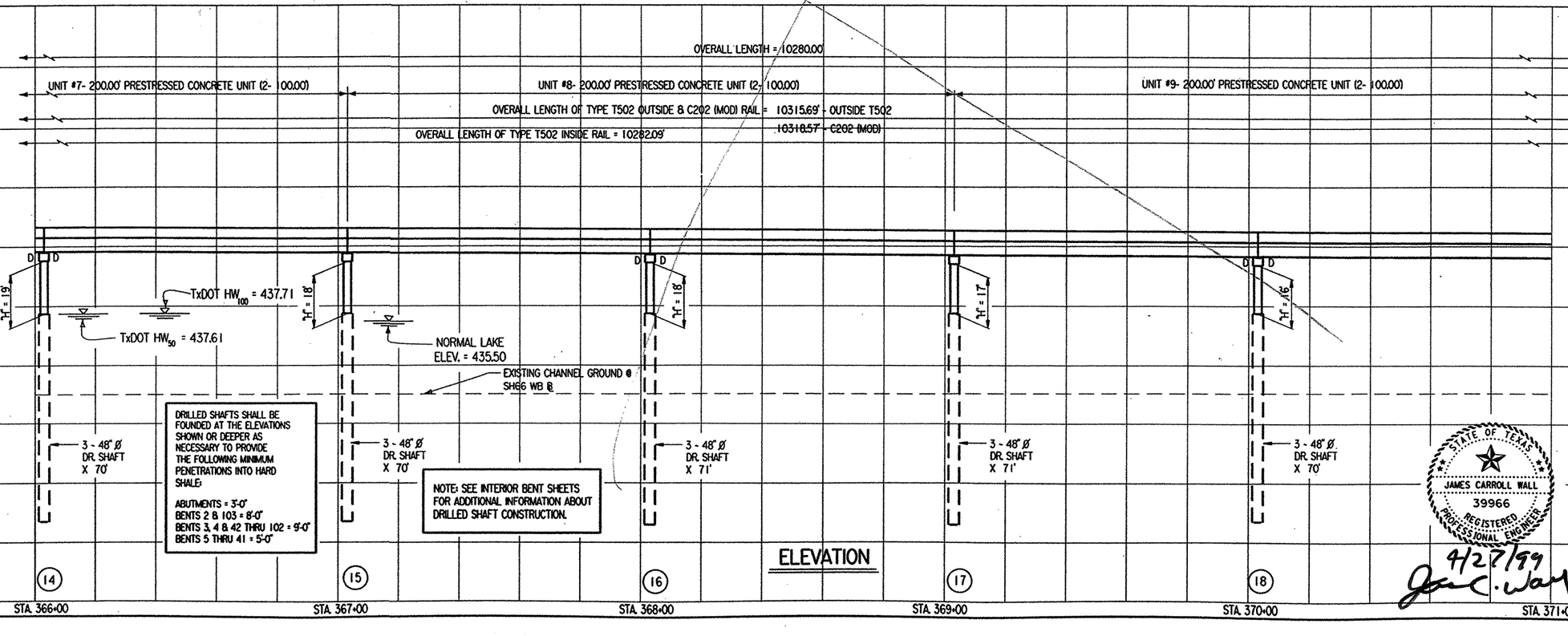


PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

Minh Tran
STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 4 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	197

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

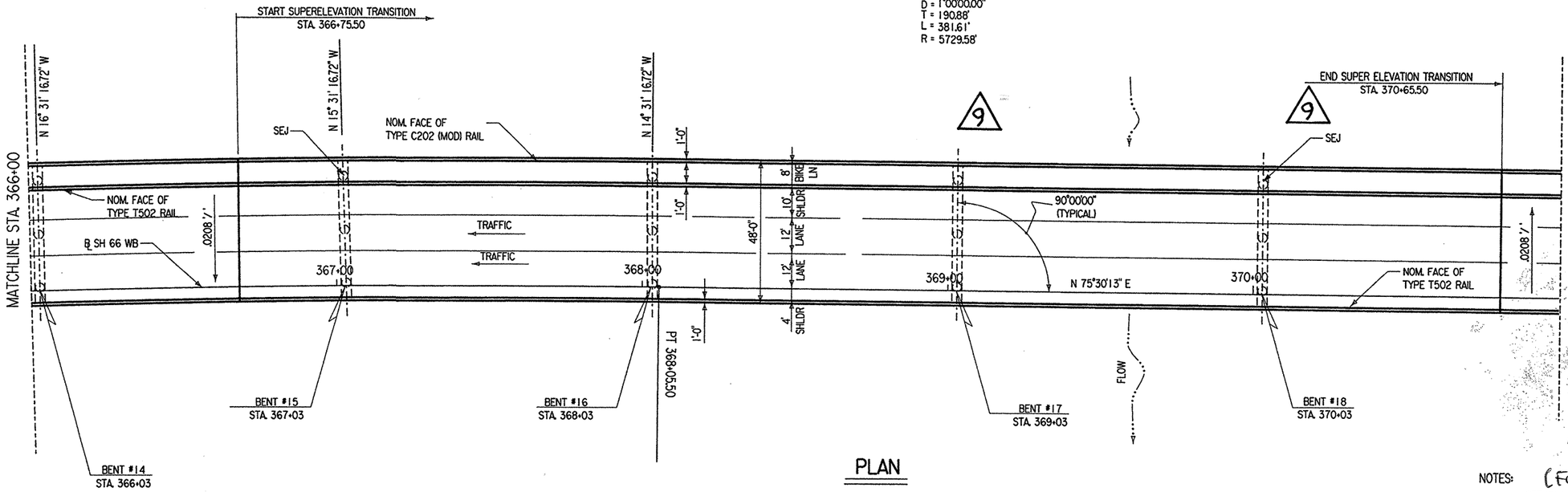
DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

PLOTTED
ACTIVE FILE LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

SH 66 CURVE DATA

PI STA. 366+14.76
Δ = 3°48'58.11" (RT)
D = 1°00'00.00"
T = 190.88'
L = 381.61'
R = 5729.58'

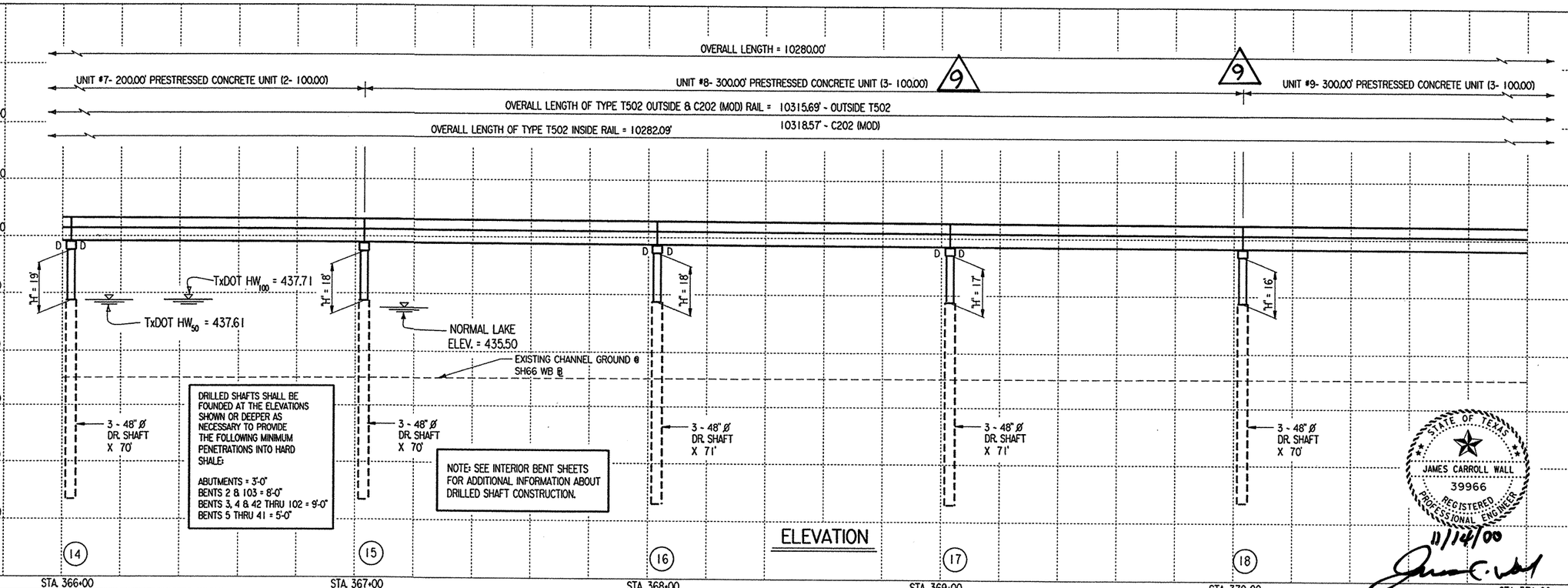


PLAN

Mohan Z-14-01 Baker
CHANGE ORDER NO. (For C.O #9 only)

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

OVERALL LENGTH = 10280.00'
UNIT #7- 200.00' PRESTRESSED CONCRETE UNIT (2- 100.00)
UNIT #8- 300.00' PRESTRESSED CONCRETE UNIT (3- 100.00)
UNIT #9- 300.00' PRESTRESSED CONCRETE UNIT (3- 100.00)
OVERALL LENGTH OF TYPE T502 OUTSIDE & C202 (MOD) RAIL = 10315.69' ~ OUTSIDE T502
10318.57' ~ C202 (MOD)
OVERALL LENGTH OF TYPE T502 INSIDE RAIL = 10282.09'



ELEVATION

VERTICAL CURVE DATA

-0.412 %
NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE
LAYOUT

SHEET 4 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		197
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

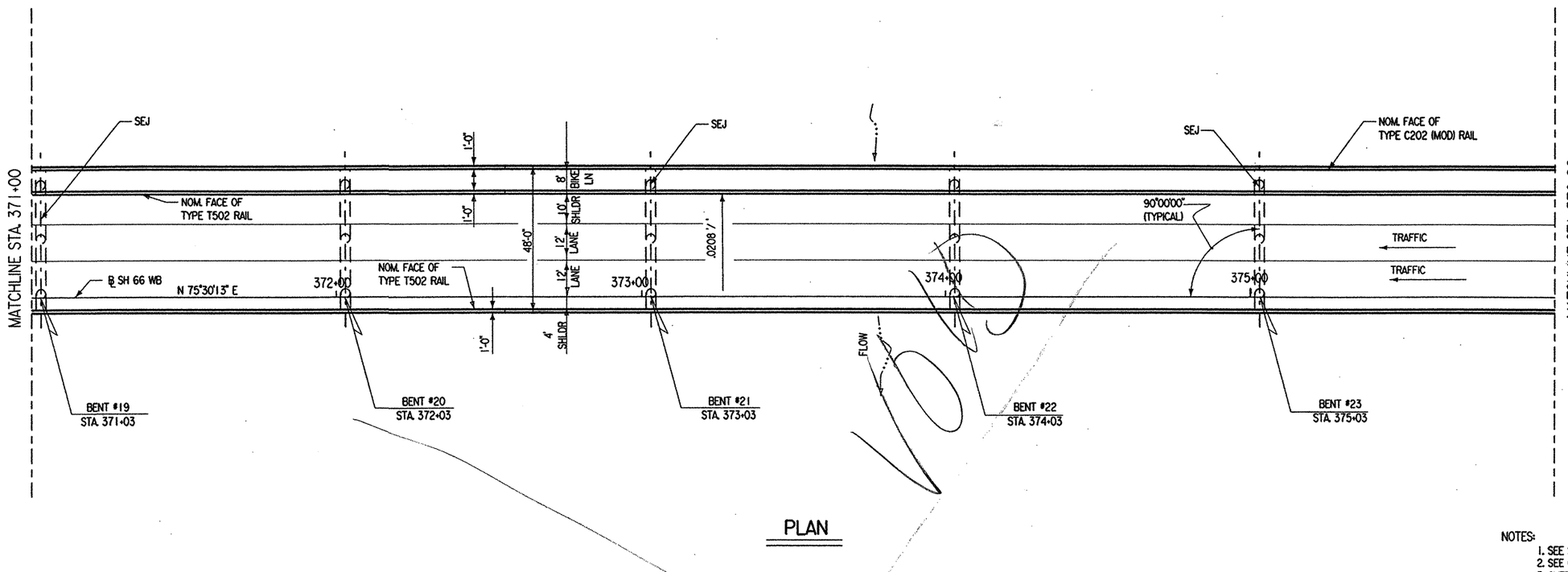
RE: 8/00 ~ Ln. D UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

ACTIVE FILL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

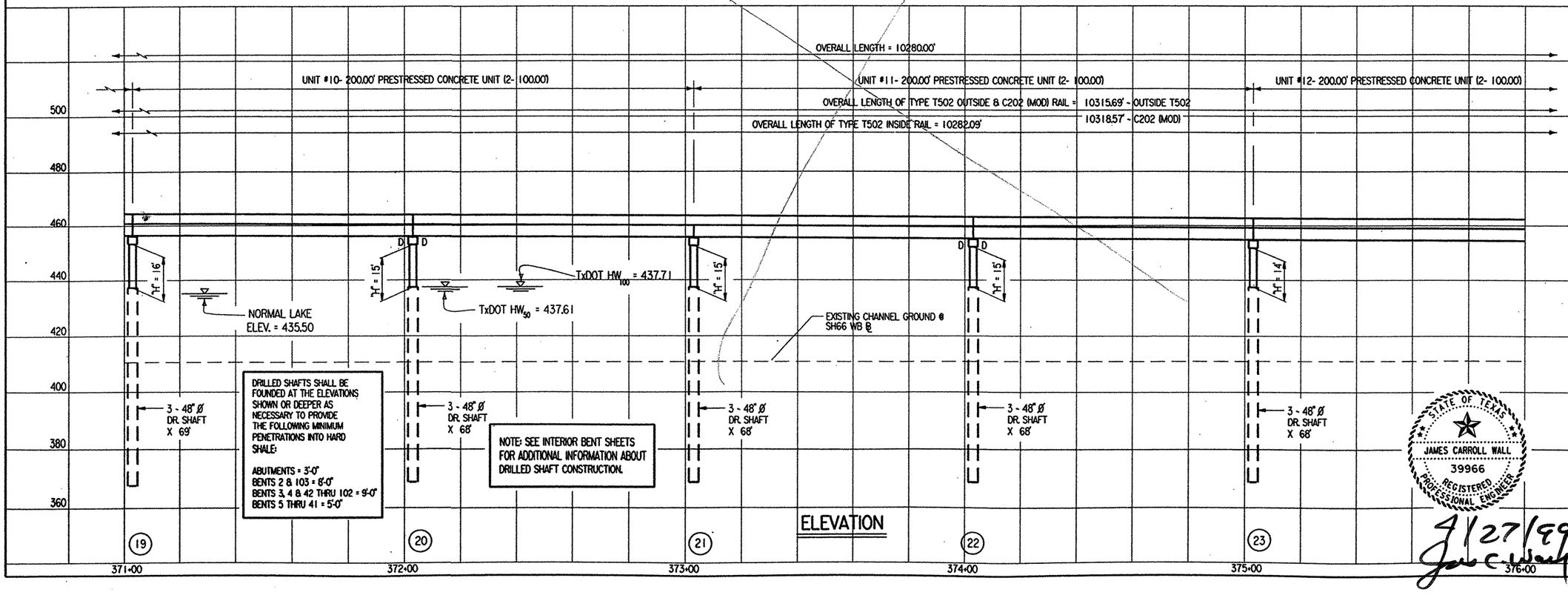
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PLAN

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 5 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	198

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

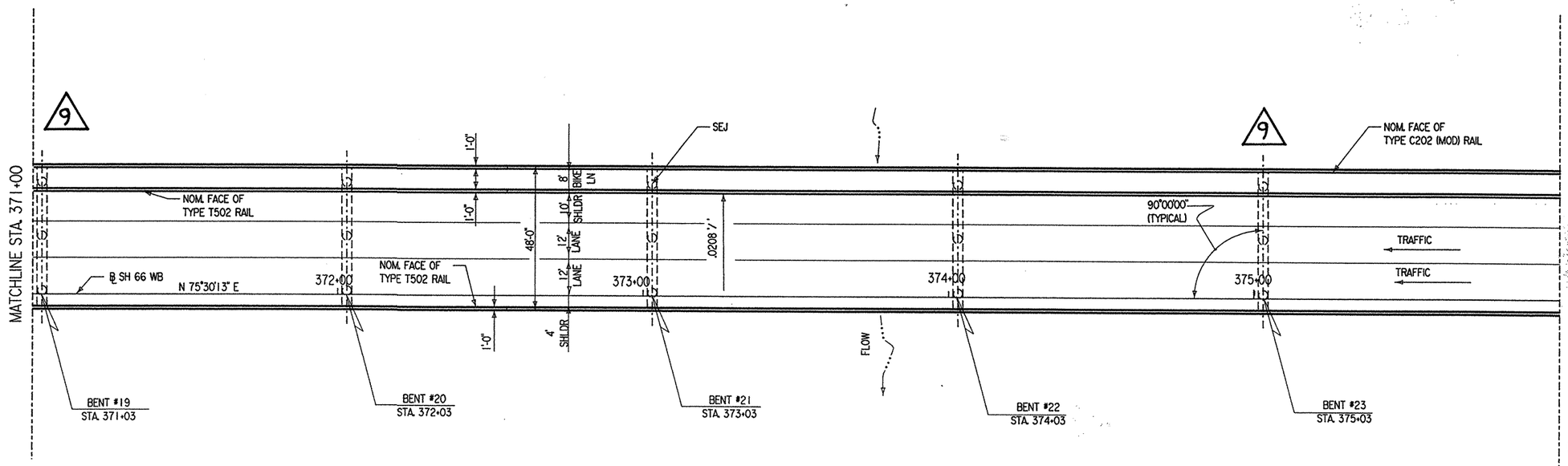
DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

PLAYED

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33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
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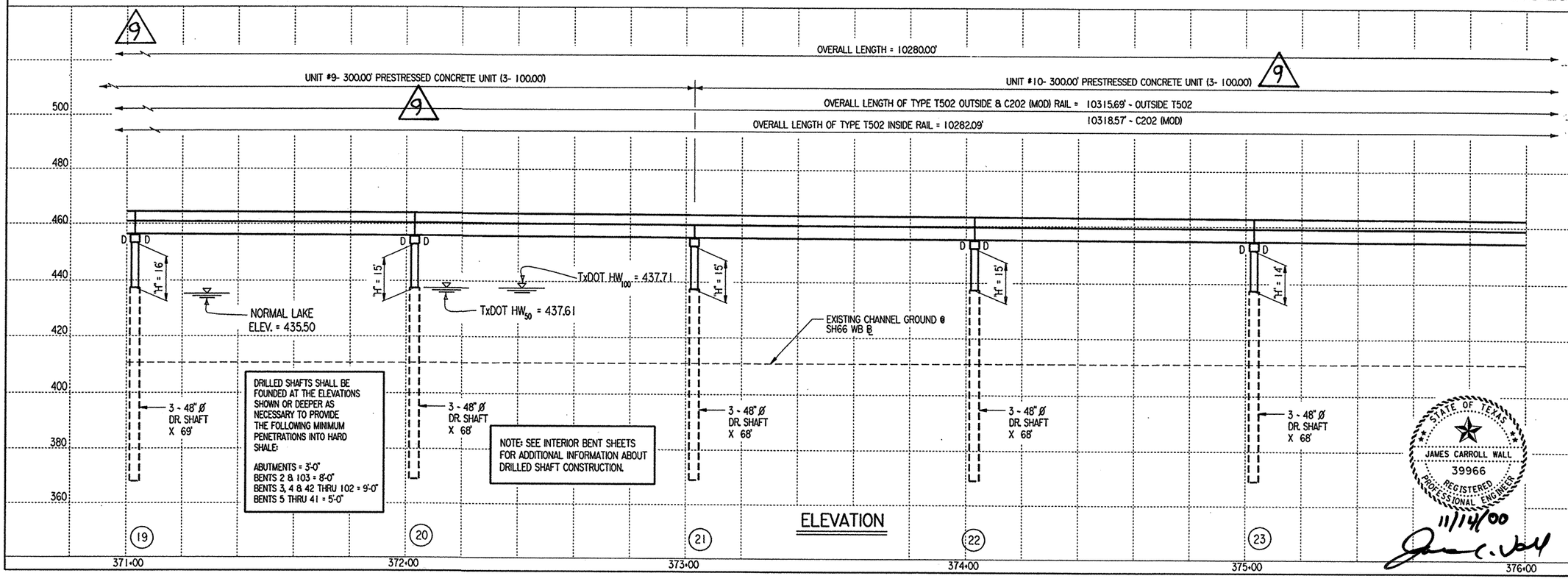
ACTIVE FILE

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33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	



PLAN

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %
NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 5 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		198 A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

2-14-01
(For C.O. #9 only)
CHANGE ORDER NO. 9

9

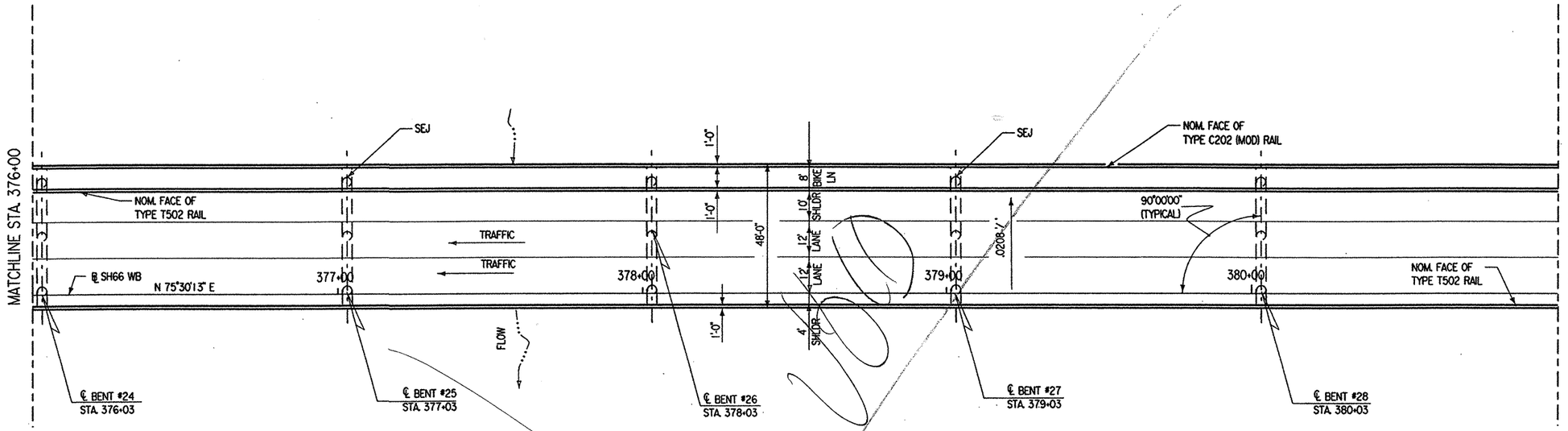
REVS: 8/00 ~ CHG. D UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DISPLAYED: 1 11 21 31 41 51 61 2 12 22 32 42 52 62 3 13 23 33 43 53 63 4 14 24 34 44 54 64 7 17 27 28 29 30 31 32 35 36 45 55 56 57 58 59 60 61 62 63 48

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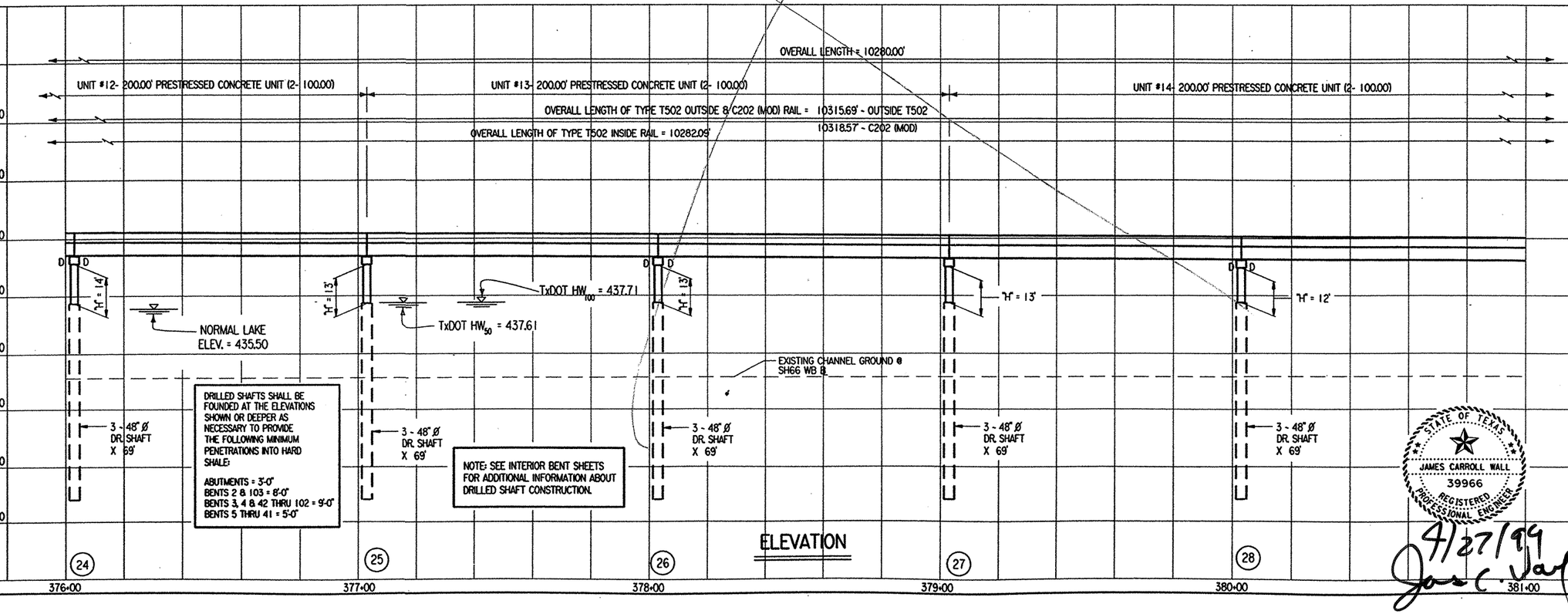


PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

Minh Tran
STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

SHEET 6 OF 22 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		199
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

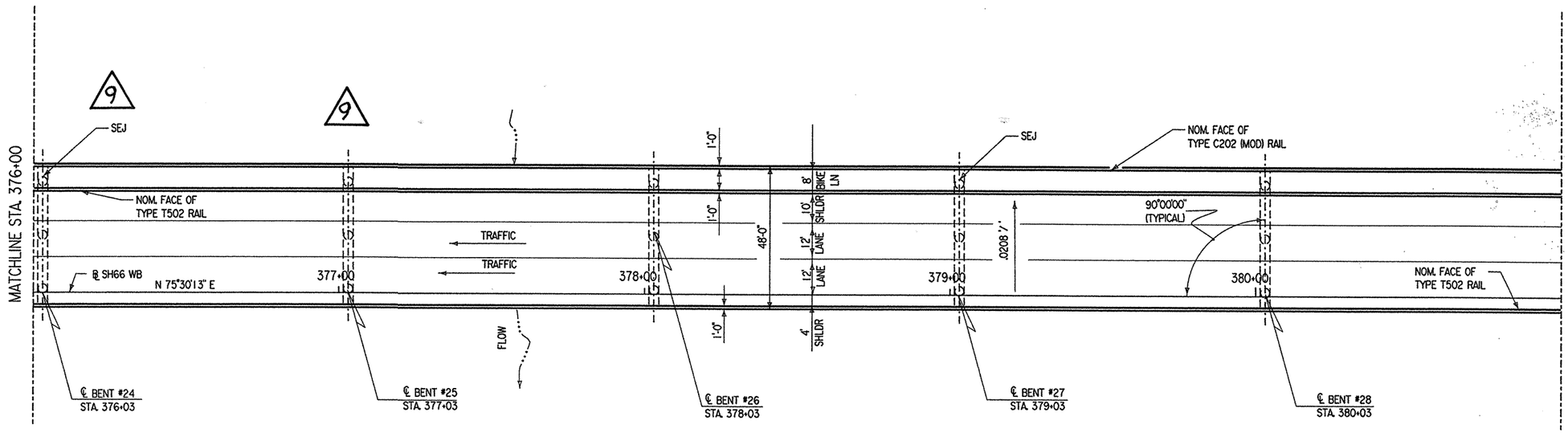
DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

FILE: 5692LY01.DGN

ACTIVE FILE LAYERS PLAYED

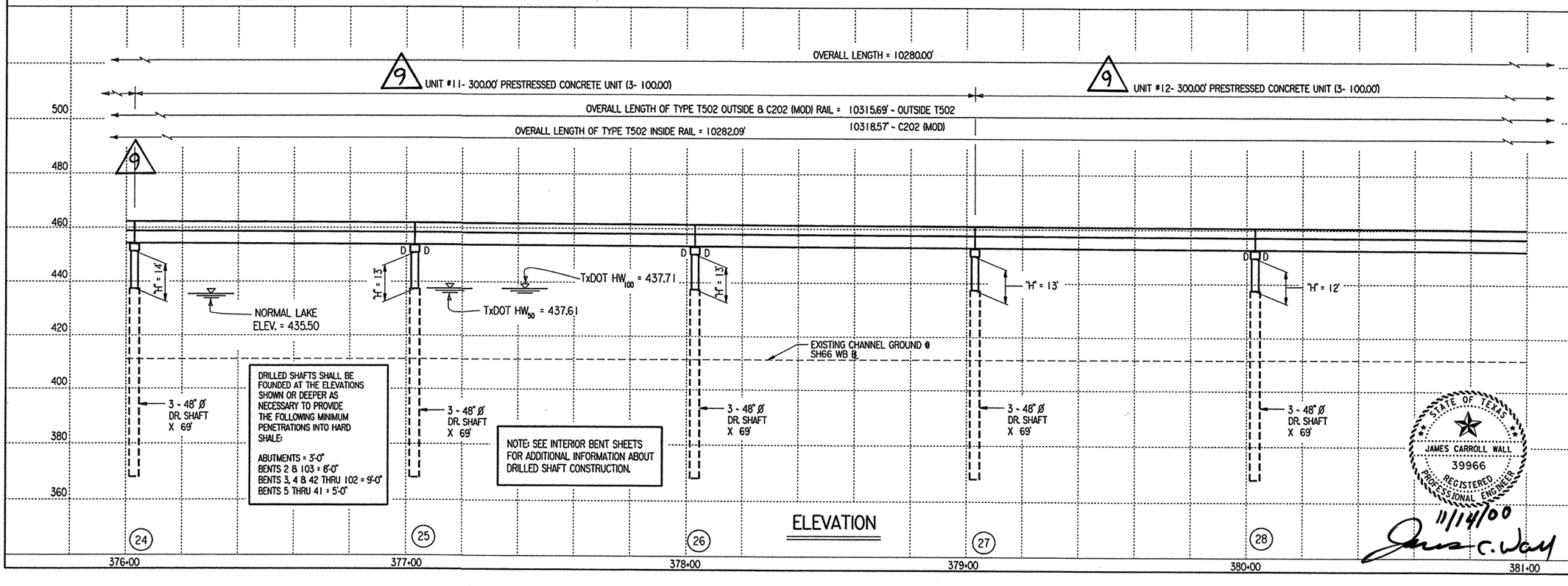
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 1



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

SHEET 6 OF 22 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		199
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

CHANGE ORDER NO. 9

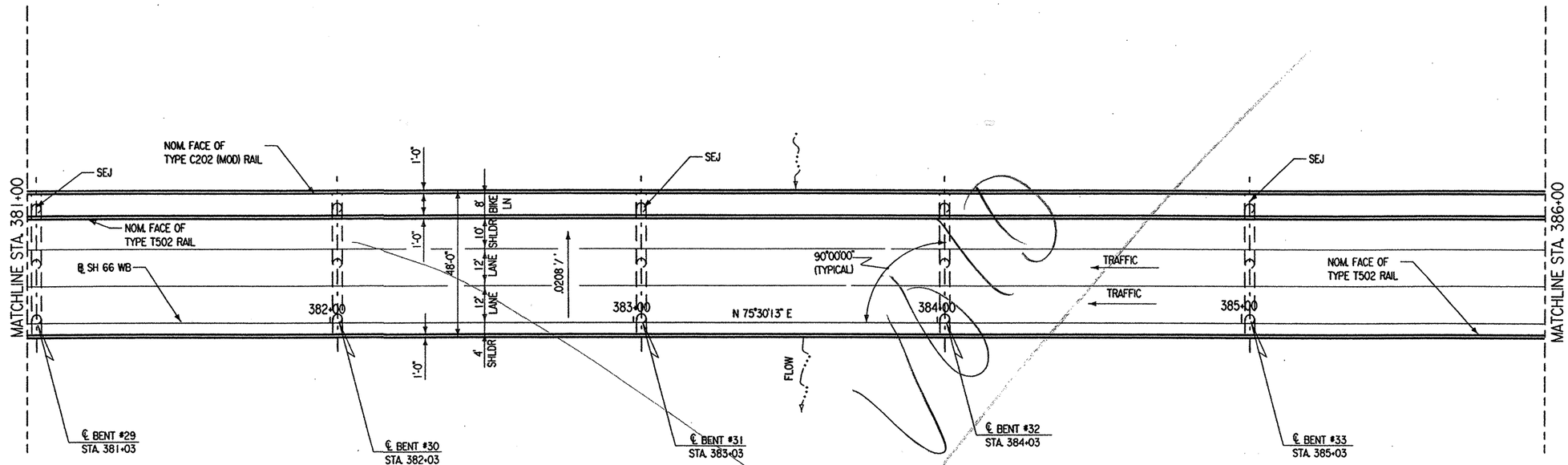
Mdh Batsch 2-14-01 (For C.O #9 only)

9 8/00 ~ UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

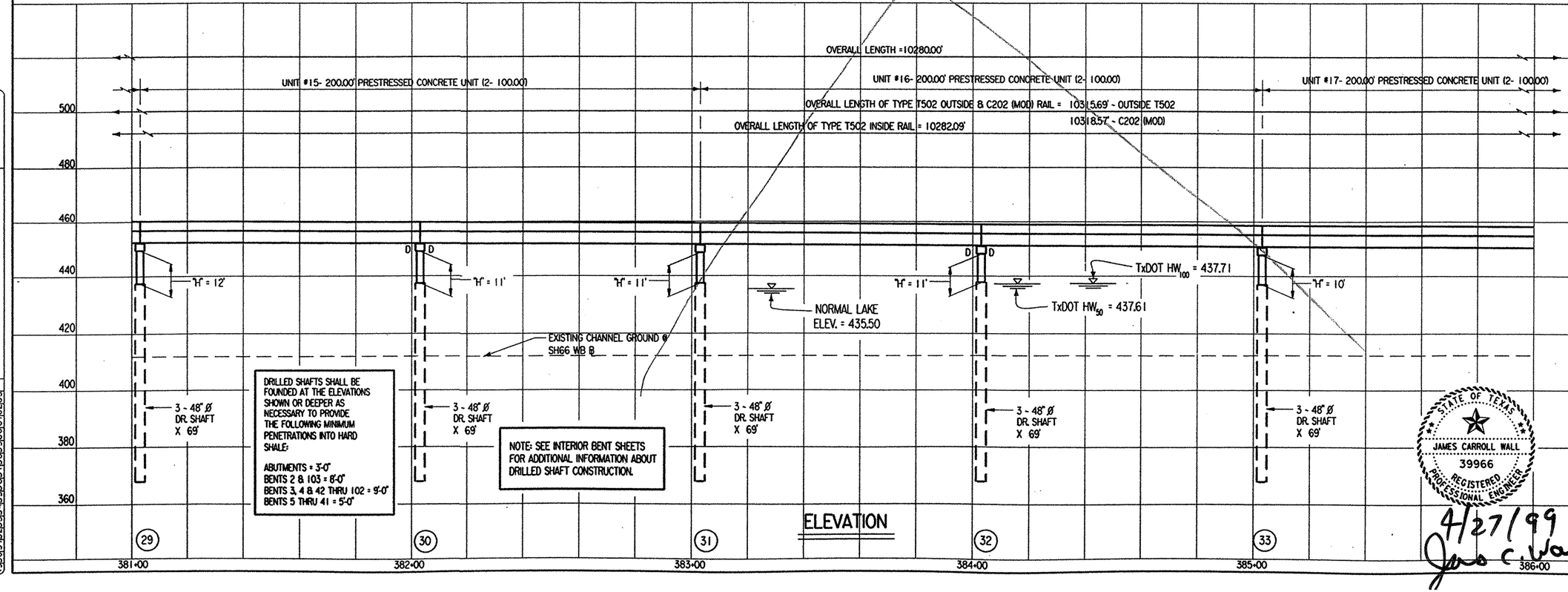
ACTIVE FI DISPLAYED



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 7 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	200

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS — MINH TRAN — 84840 — LICENSED PROFESSIONAL ENGINEER — 4/27/99

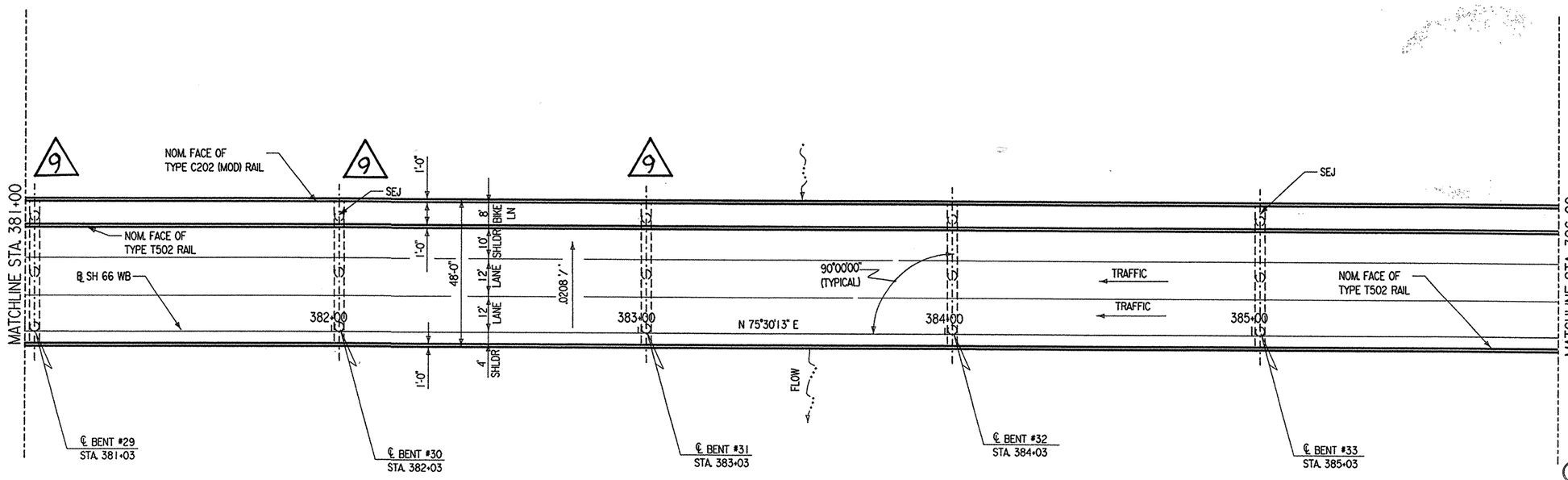
STATE OF TEXAS — GEORGE H. ODOM — 50826 — REGISTERED PROFESSIONAL ENGINEER — 4/22/99

STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED PROFESSIONAL ENGINEER — 4/27/99

ACTIVE FILE LEVELS PLOTTED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

DN: MDH CK: JBH DW: TKW CK: MDH



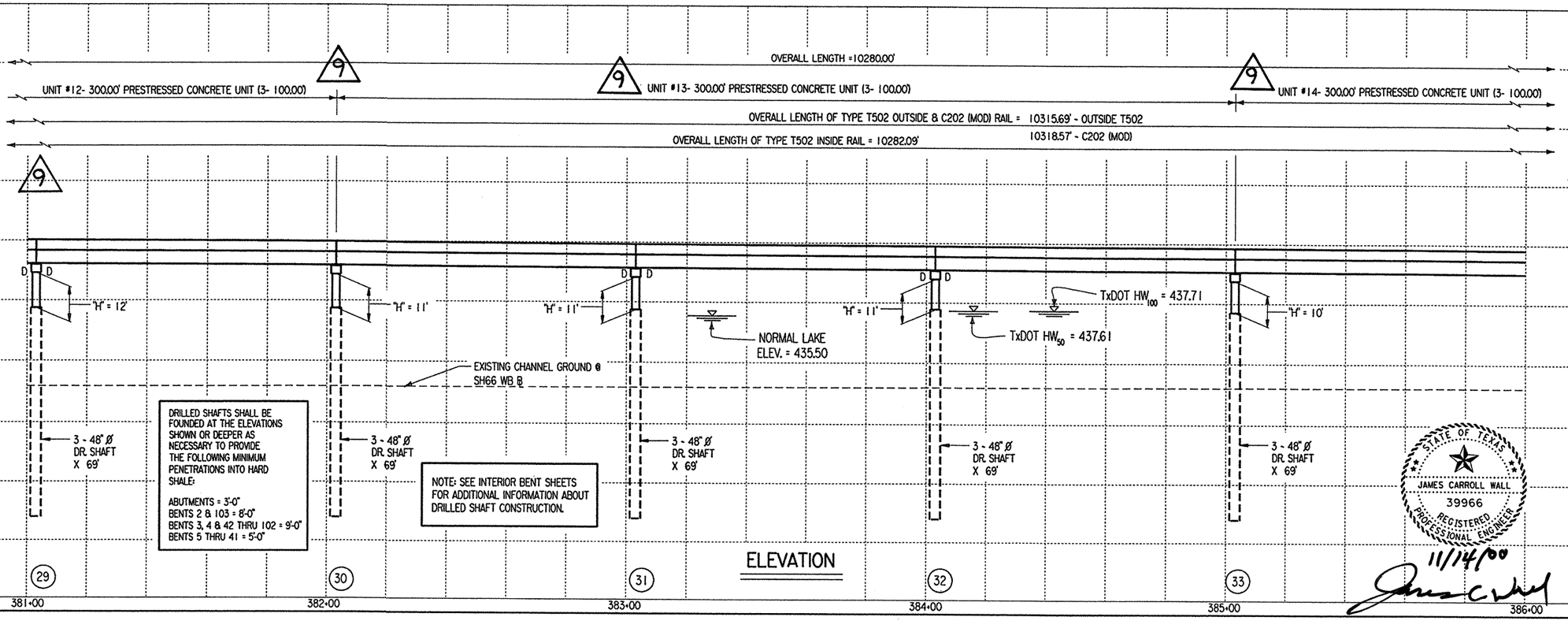
PLAN

2-14-01
Mel Bahl
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 7 OF 22 SCALE: 1" = 40'

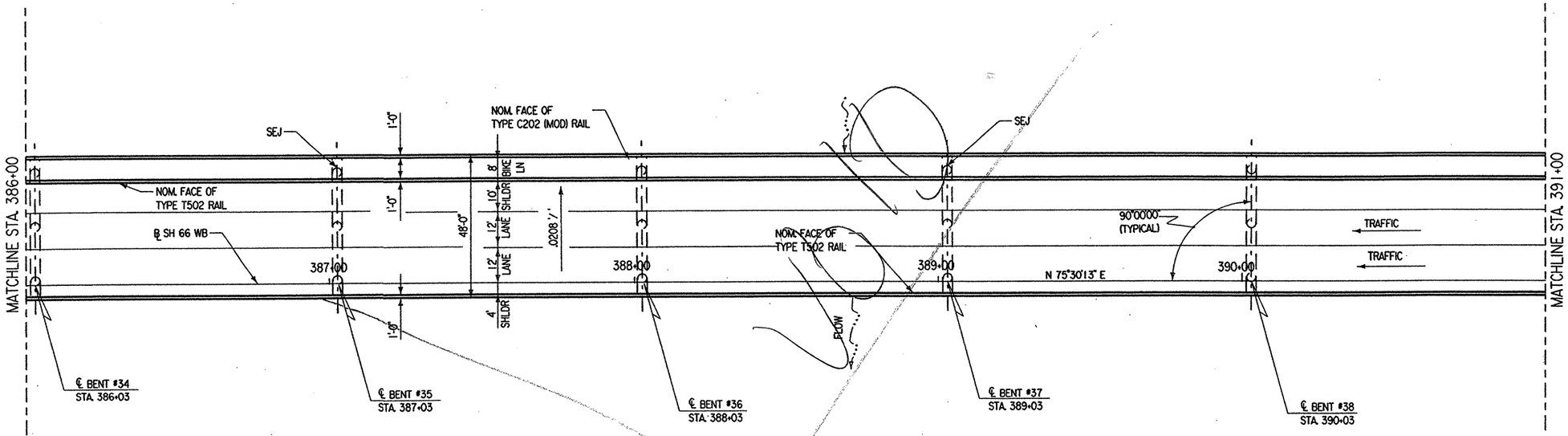
FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		200 A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

9 5: 8/00 D UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

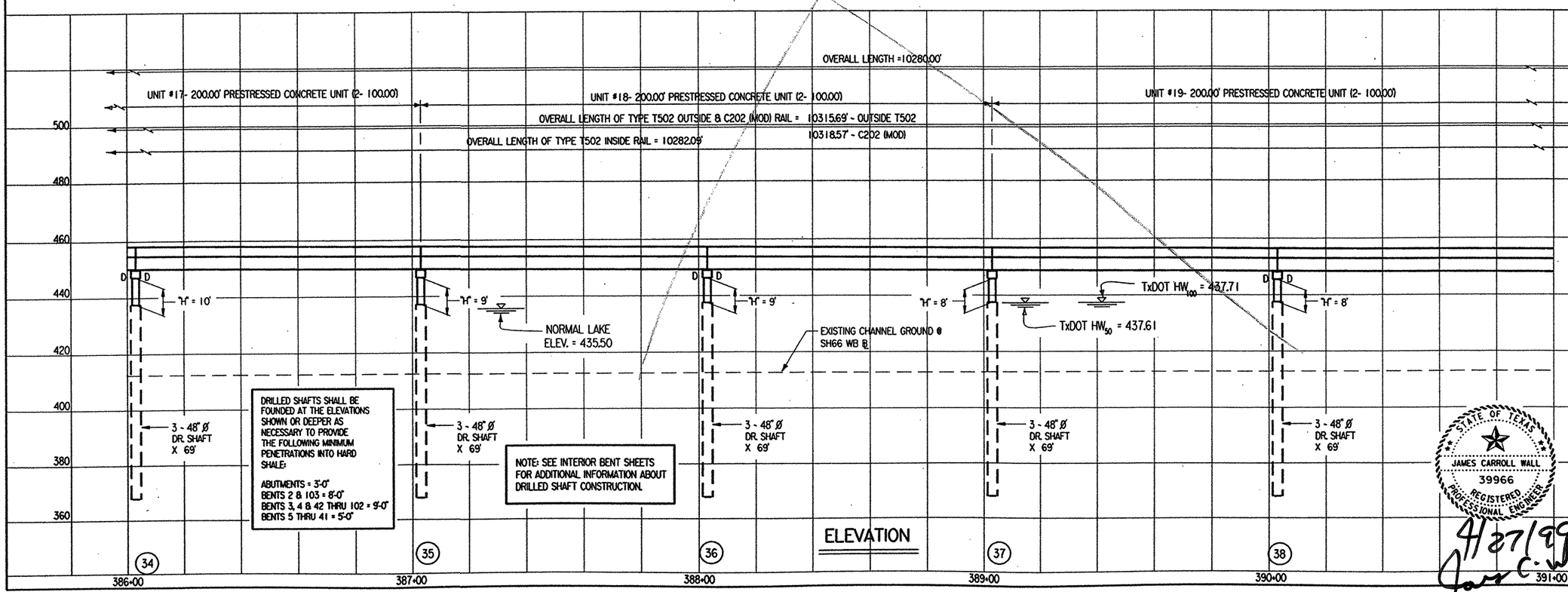
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ACTIVE 1 2 3 4 5 6 ... 17 18 19 20 21 22 23 24 ... 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 ... 95 05 15 25 35 45 55 65 75 85 95 06 16 26 36



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 8 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	201

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

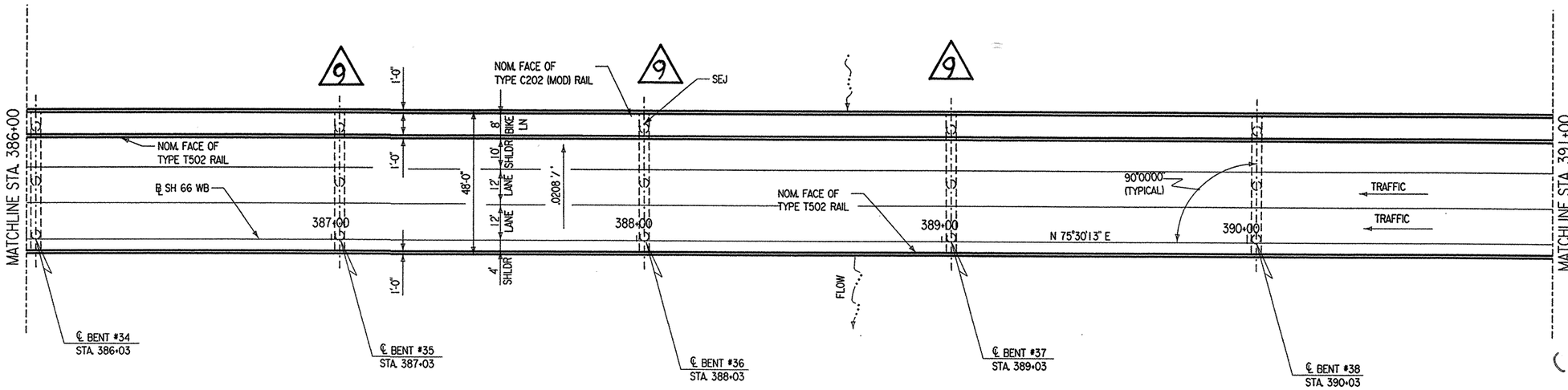
ACTIVE FILE PLAYED

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33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63		

MINH TRAN 84840 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
4/27/99

GEORGE H. ODOM 50826 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
4/22/99

JAMES CARROLL WALL 39966 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
4/27/99



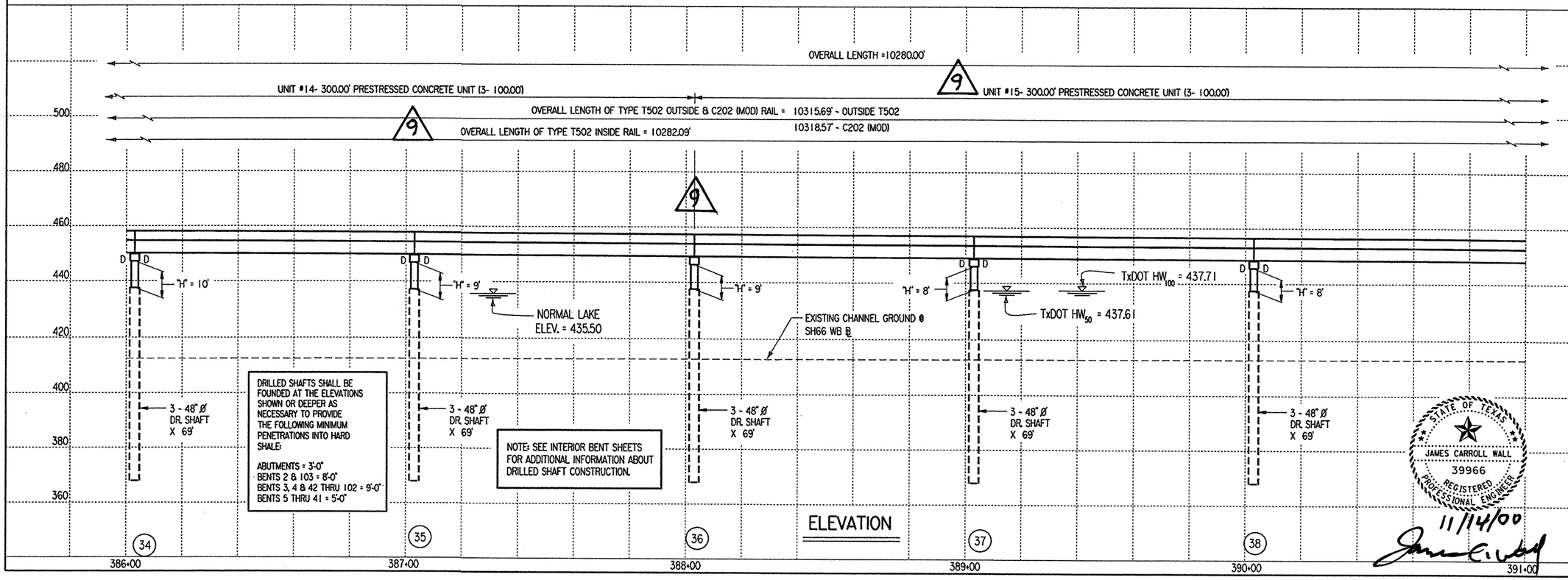
PLAN

2-14-01
Mahn Bodaih
(For C.O #9 Only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 8 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		201
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

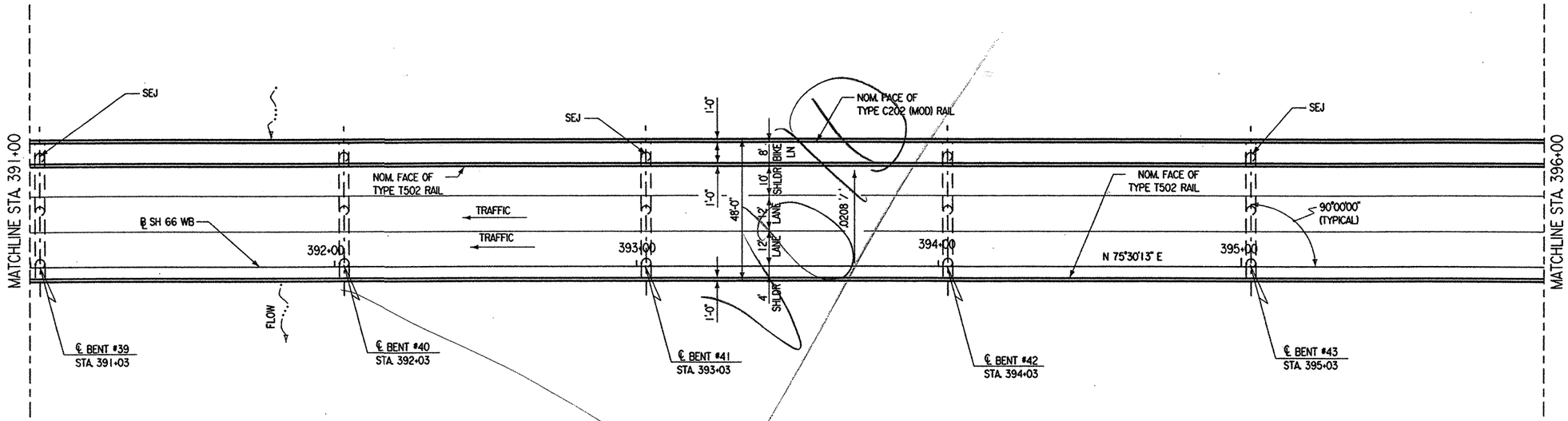
8/00 CH: J UNIT
LENGTHS & DOWEL
LOCATIONS ~ MDH/KC

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DISPLAYED
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1 7 2 8 2 9 3 0 3 1 3 2
3 3 4 3 5 3 6 3 7 3 8 3 9 4 0 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8
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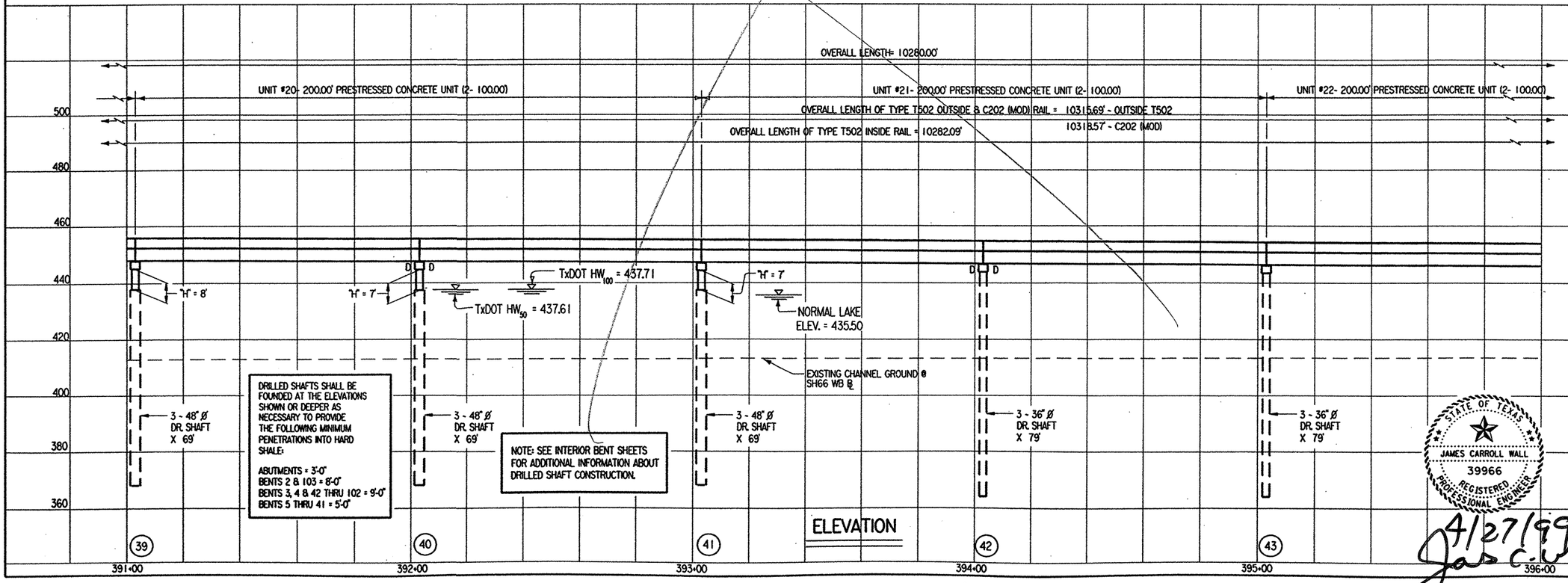
ACTIVE
1 2 3 4 5
1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4
3 3 4 3 5 3 6 3 7 3 8 3 9 4 0 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8
4 9 5 0 5 1 5 2 5 3 5 4 5 5 5 6 5 7 5 8 5 9 6 0 6 1 6 2 6 3



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 9 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		202
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS — MINH TRAN — 84840 — LICENSED PROFESSIONAL ENGINEER — 4/27/99

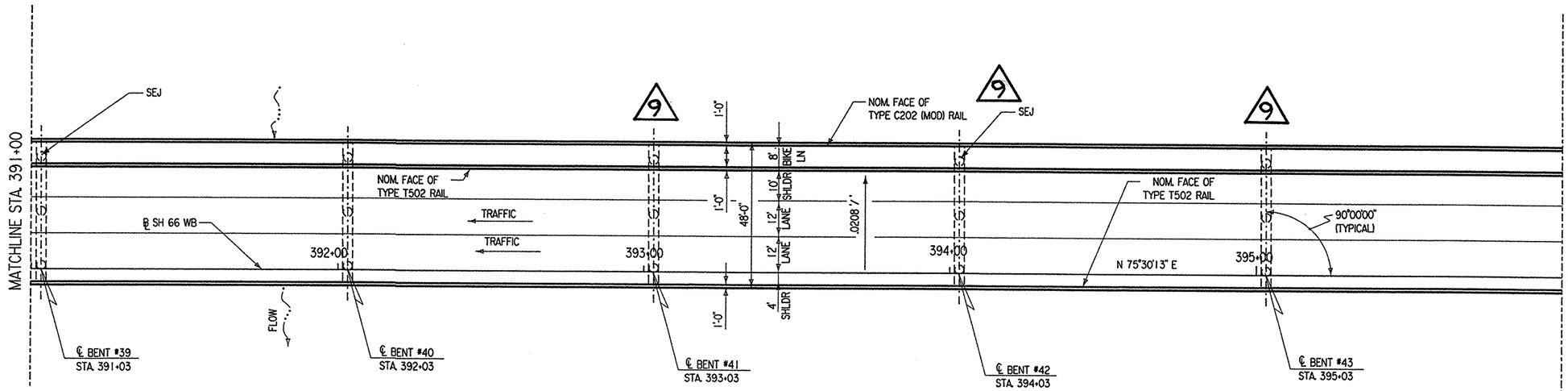
STATE OF TEXAS — GEORGE H. ODOM — 50826 — REGISTERED PROFESSIONAL ENGINEER — 4/27/99

STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED PROFESSIONAL ENGINEER — 4/27/99

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

LAYED ACTIVE FILE



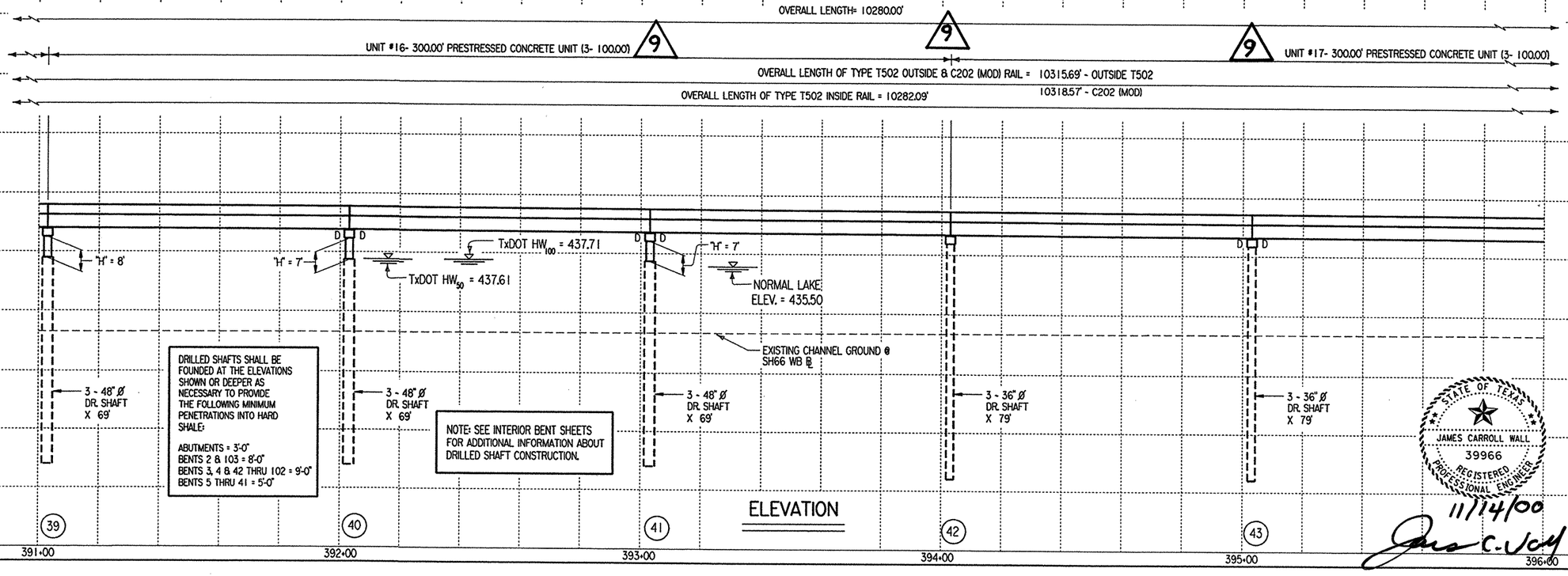
PLAN

2-14-01
Mahn Baluch
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

11/2/00

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 9 OF 22 SCALE: 1"= 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		202 P
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

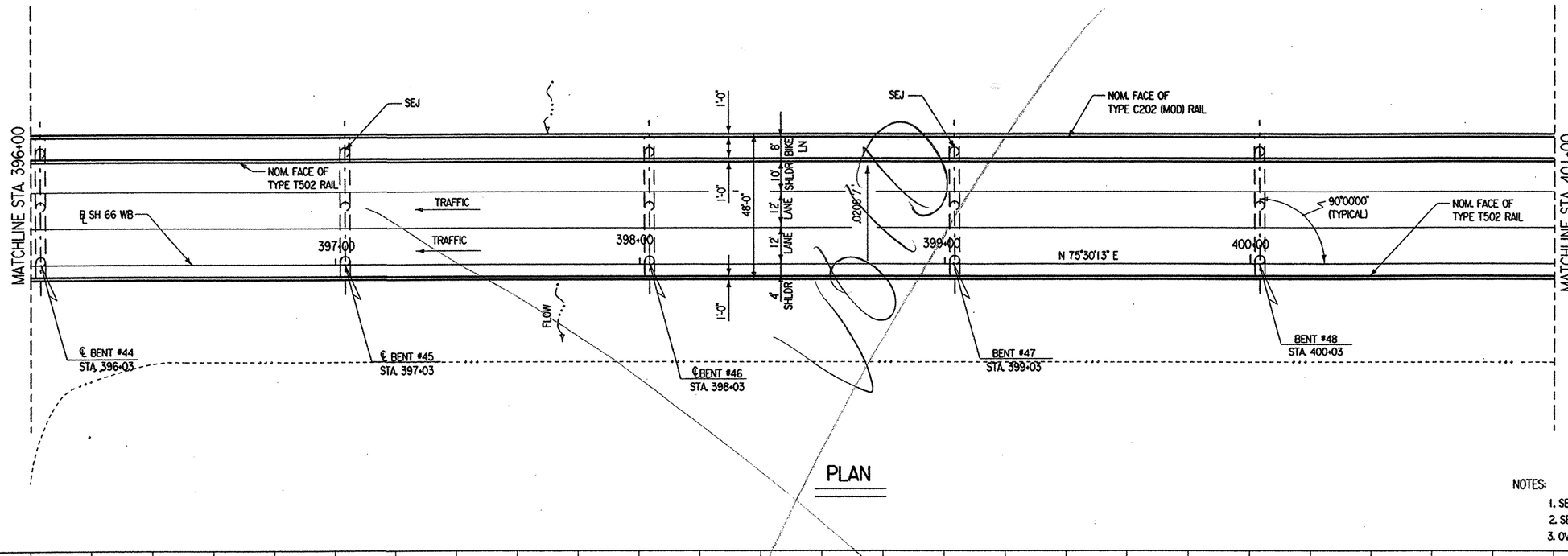
REVISIONS ~ MDH/KC
8/00 - Ch. D UNIT LENGTHS & DOWEL LOCATIONS

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

DISPLAYED 1 11 21 31 41 51 6 | 2 7 12 18 23 30 31 32 | 42 43 44 45 46 47 48

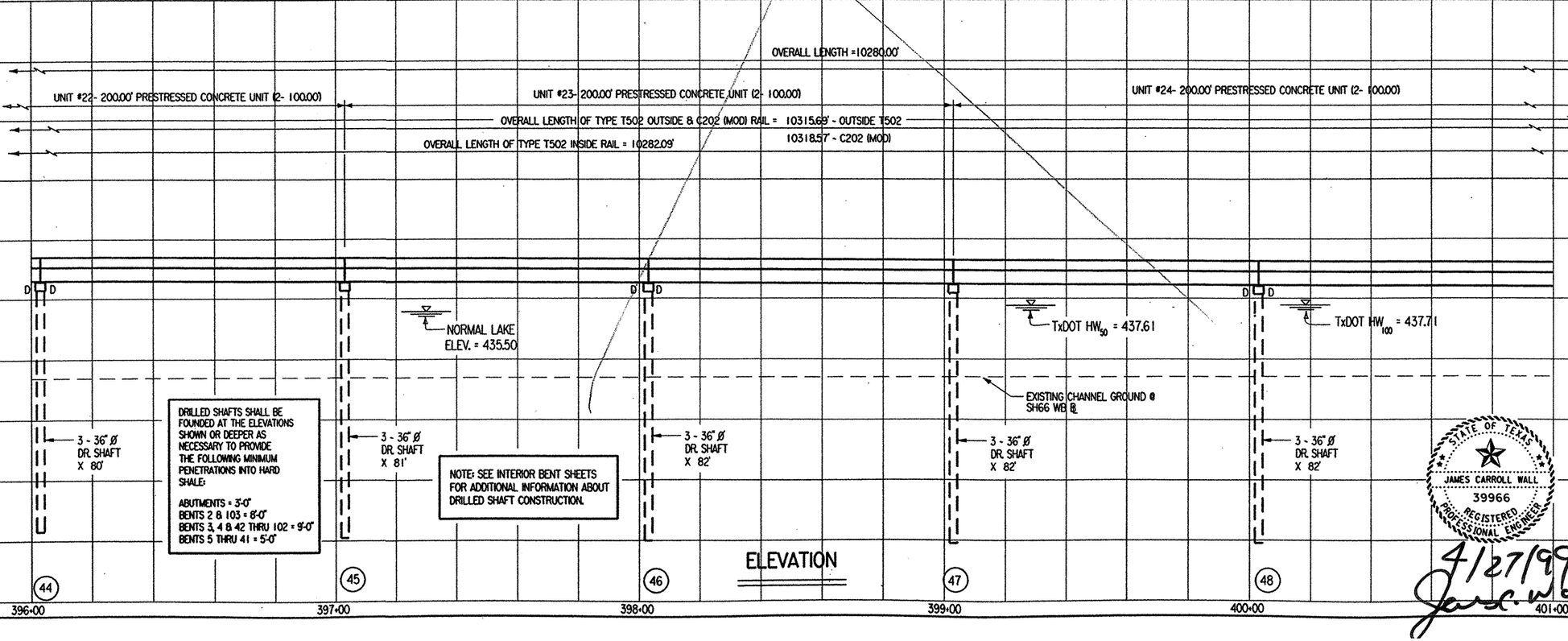
ACTIVE FILE 1 2 3 4 5 6 7 8 | 17 18 19 20 21 22 23 24 | 33 34 35 36 37 38 39 40 41 42 43 44 | 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412%

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 10 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		203
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

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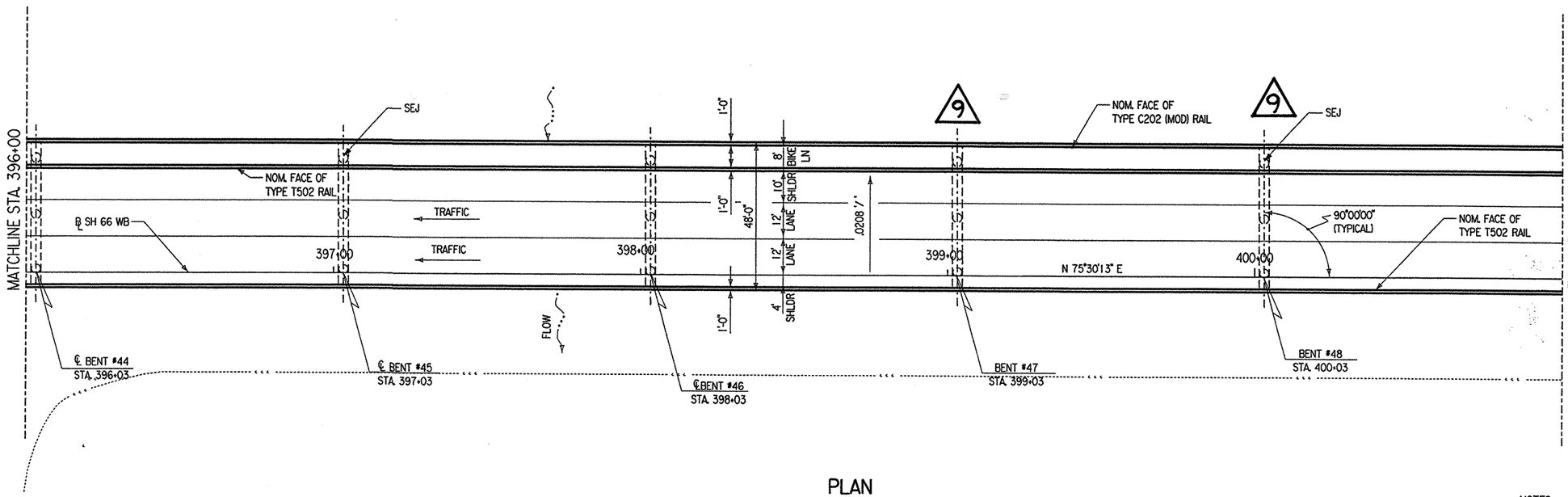
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99



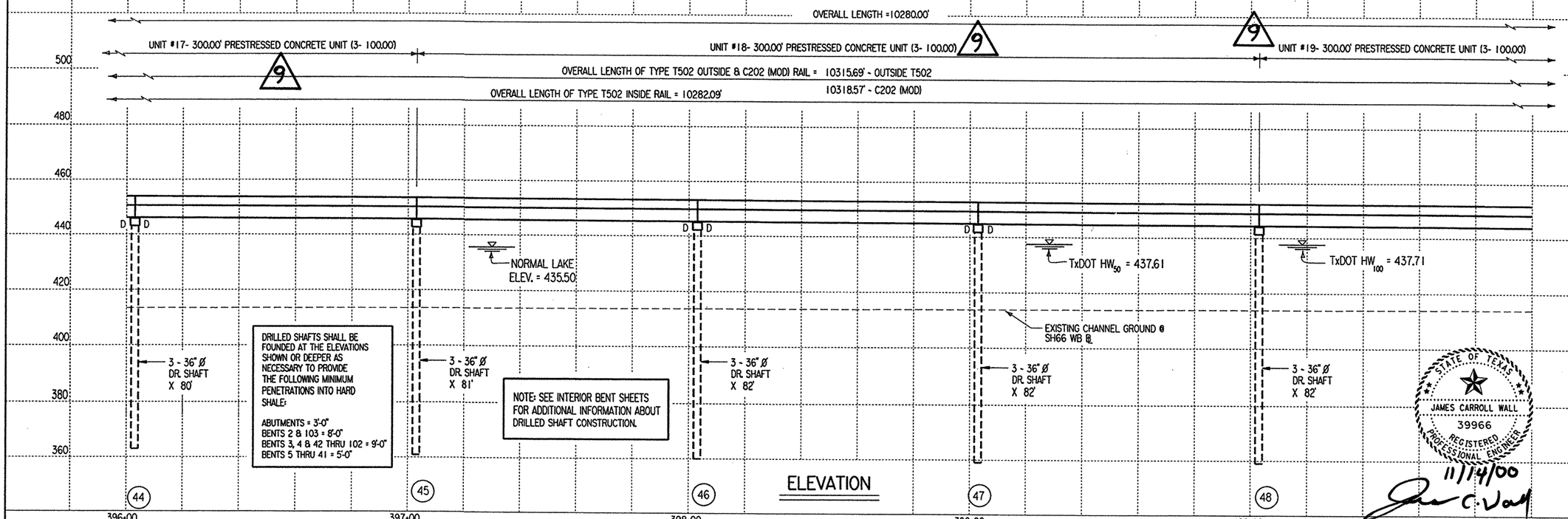
PLAN

2-14-01
Mahn Bastain
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412%

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

11/27/00

STRUCTURE NO: 422

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 10 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	203 A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

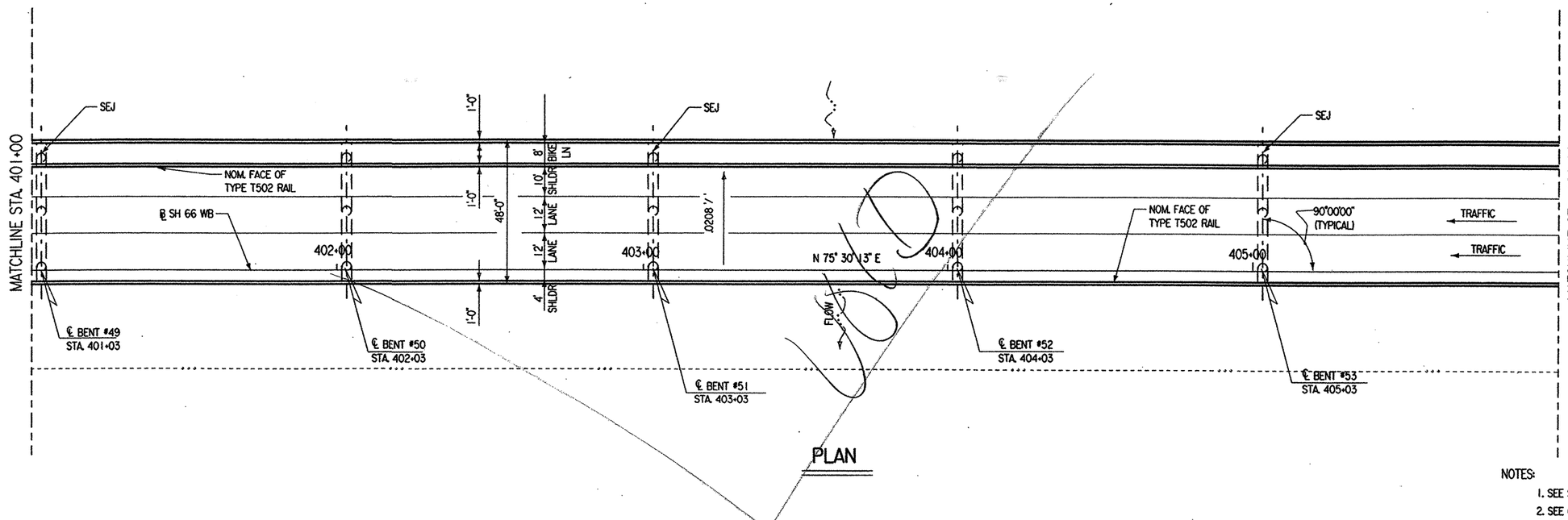
FILE: 5692LY01.DGN

R 8/00 ~ LENGTHS & DOWEL LOCATIONS ~ MDH/KC

S: D UNIT

ACTIVE FIL: 1 2 3 4 5 6 7 17 18 19 20 21 22 23 24 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103

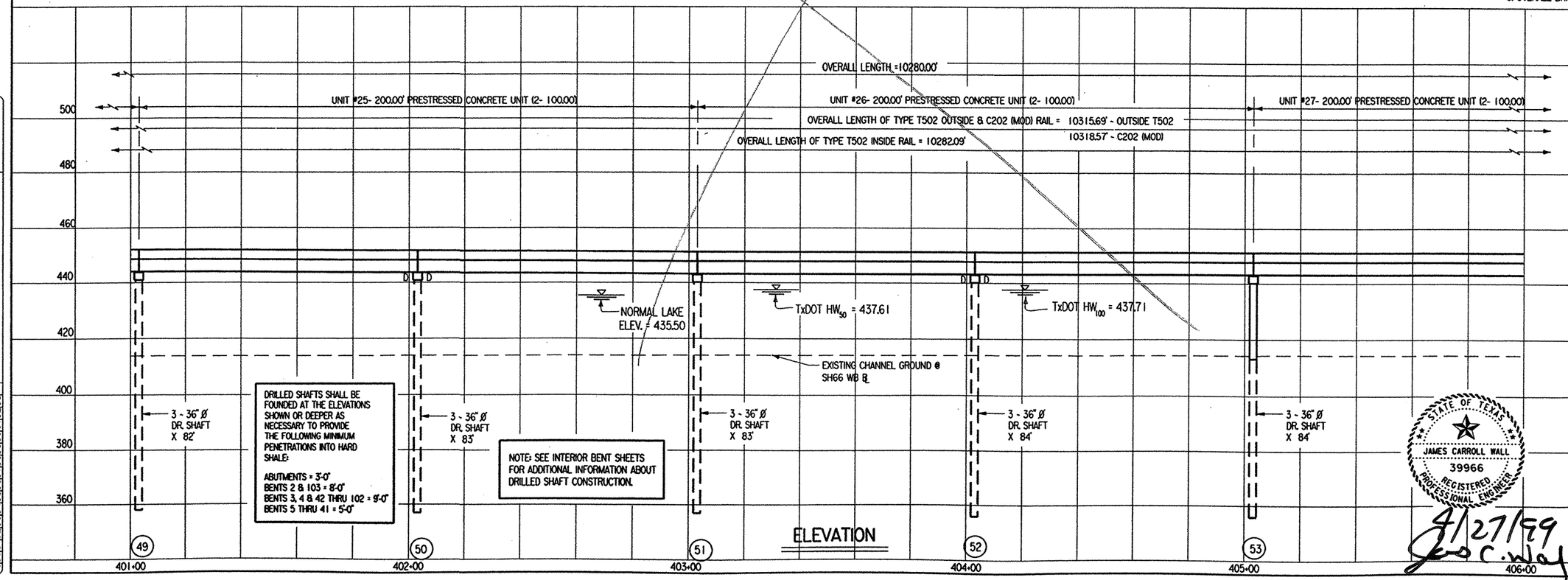
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PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412% +0.000%

PI STA= 403+00
ELEV= 448.53
VC= 50.0'
E= 0.03'

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 11 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	204

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

FILE: 5692LY01.DGN

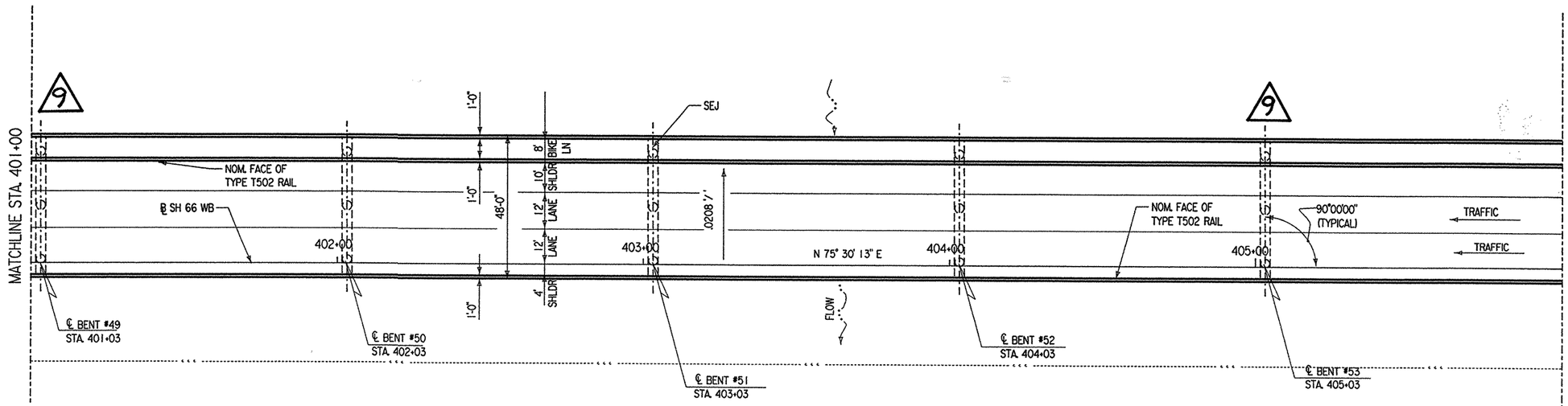
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17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

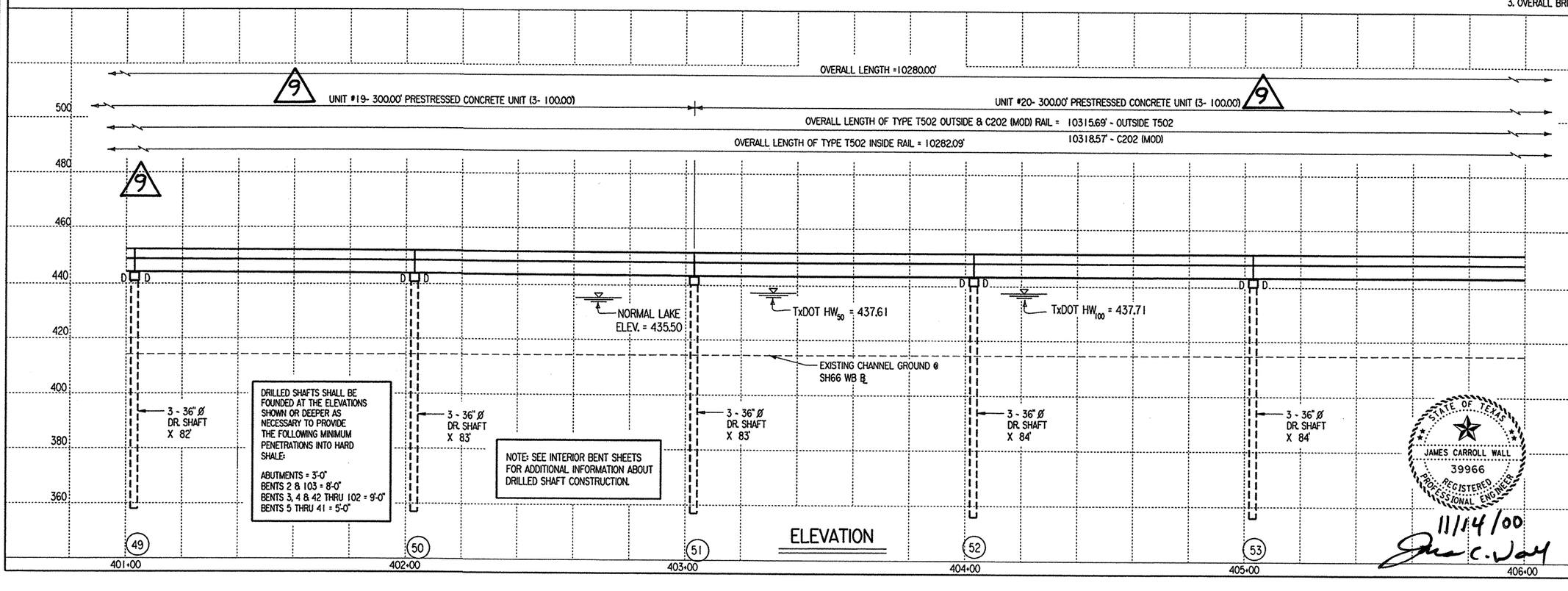


PLAN

CHANGE ORDER NO. 9

NOTES: (For C.O.#9 Only)

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

-0.412% +0.000%

PI STA= 403+00
ELEV= 448.53
VC= 50.0'
E= 0.03

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 11 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	204

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS — GEORGE H. ODOM — 50826 — REGISTERED PROFESSIONAL ENGINEER — 11/27/00

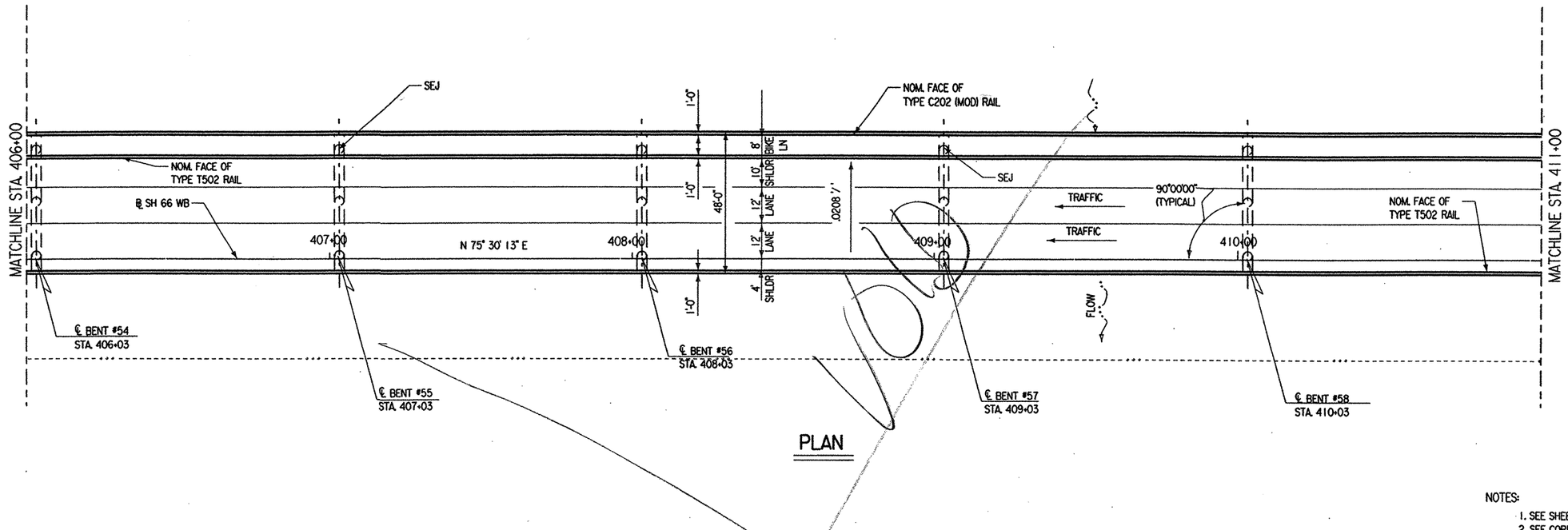
STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED PROFESSIONAL ENGINEER — 11/14/00

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

8/00 ~ S: D UNIT
LENGTHS & DOWEL
LOCATIONS ~ MDH/KC

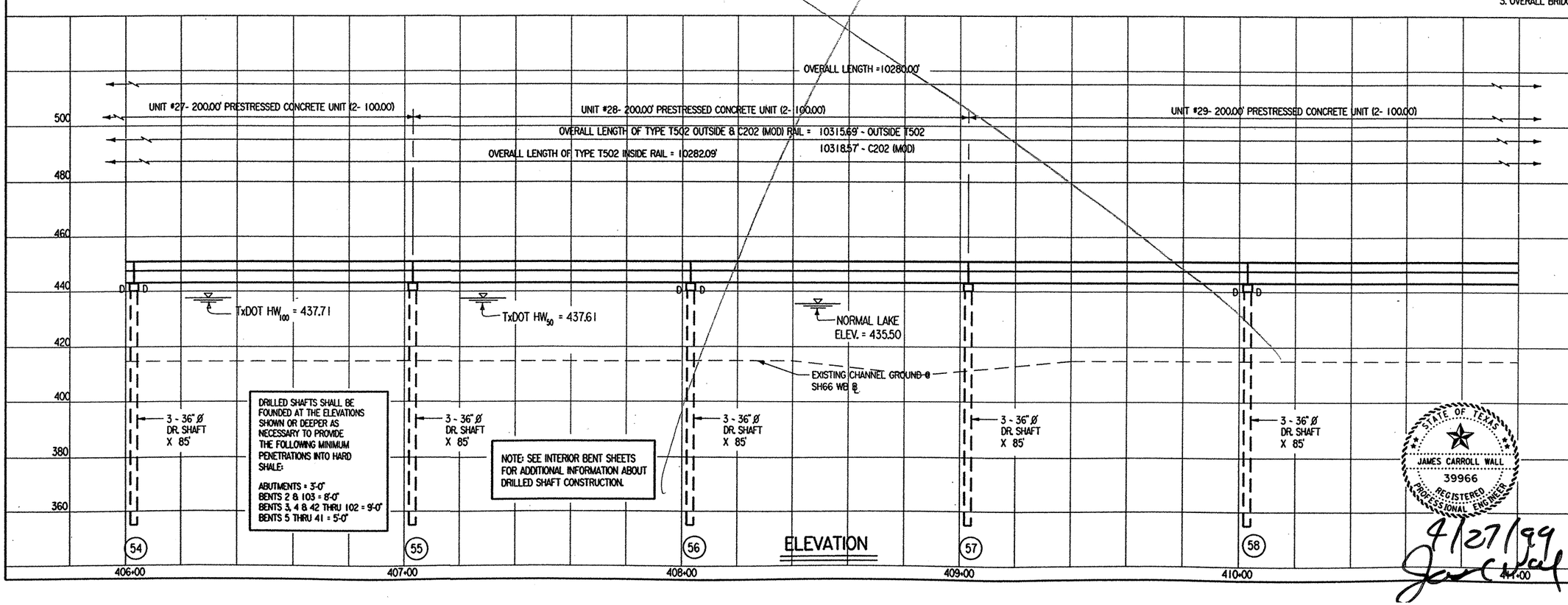
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1 2 3 4 5 6
7 8 9 20 21 22 23 24
27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 12 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	205

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

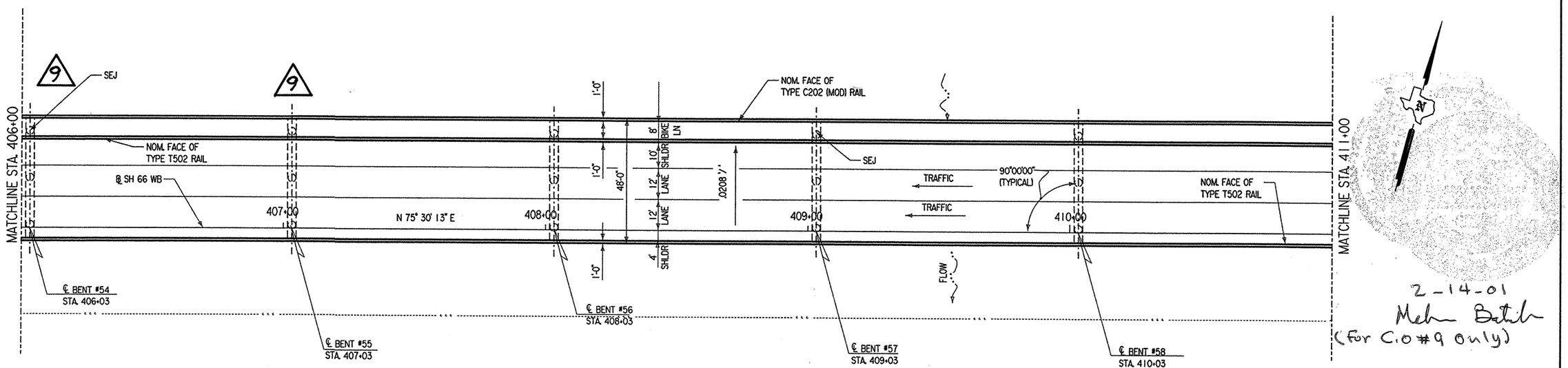
DATE: JAN 99
NODE: D48PC3Q
FILE: 5692LY01.DGN

ACTIVE FILE
PLAYED

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99



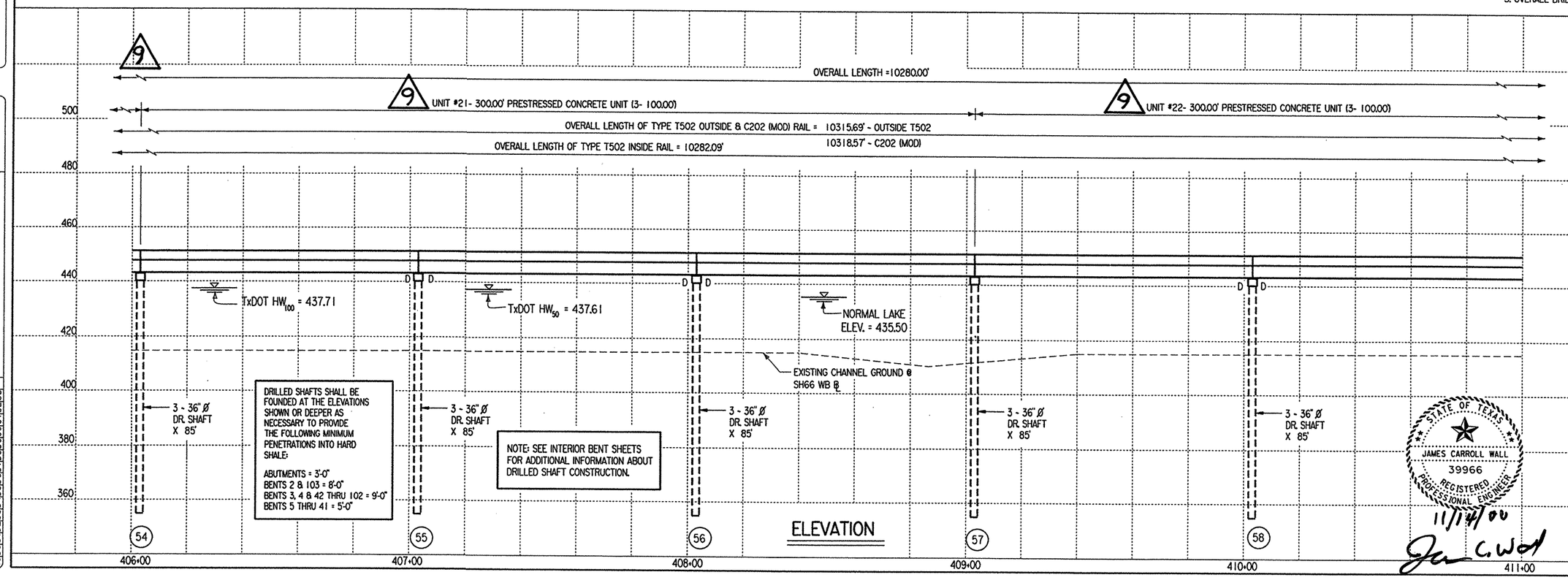
PLAN

2-14-01
Mehr Batla
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.000 %
NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

TEXAS DEPARTMENT OF TRANSPORTATION
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE
LAYOUT

SHEET 12 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	205 A

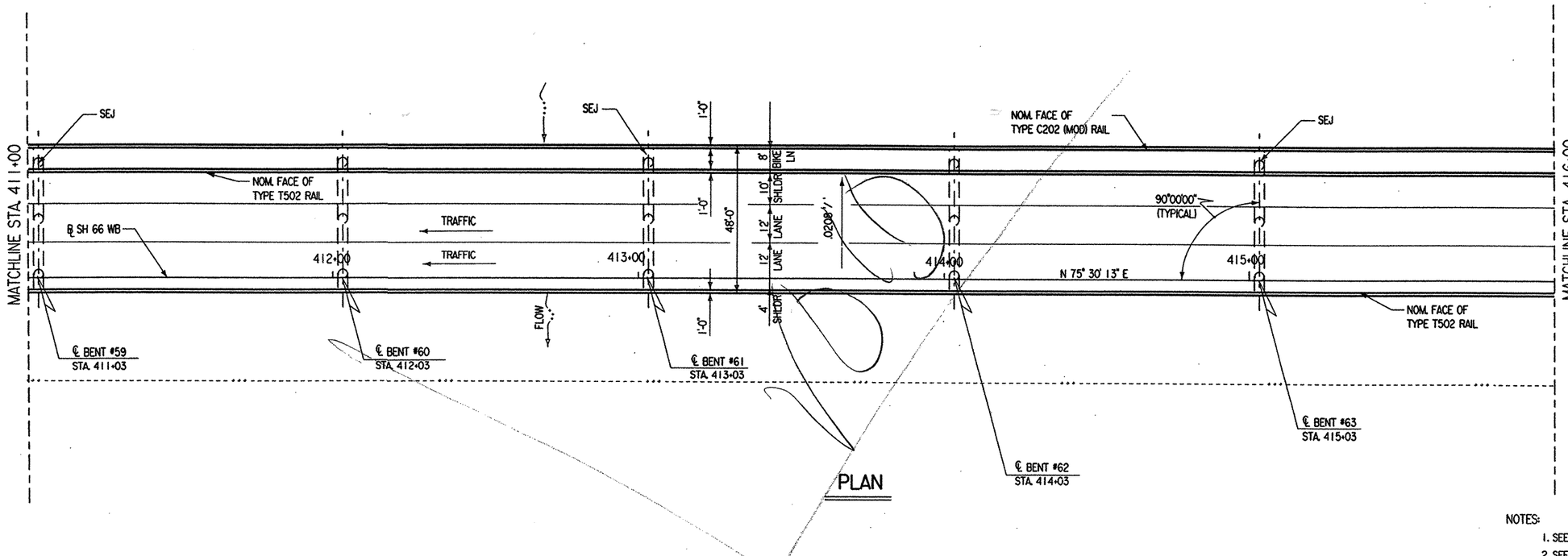
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REV. 8/00 ~ CH. LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

ACTIVE FILE DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



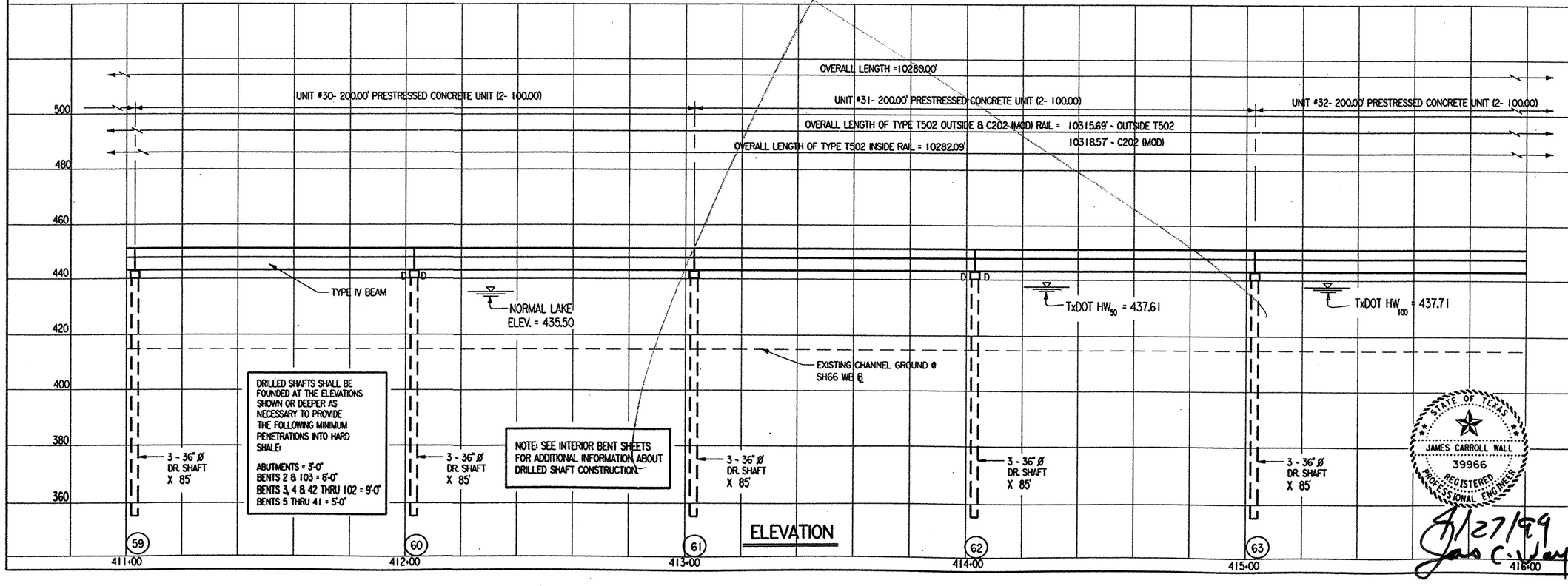
PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

Minh Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 13 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		206
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

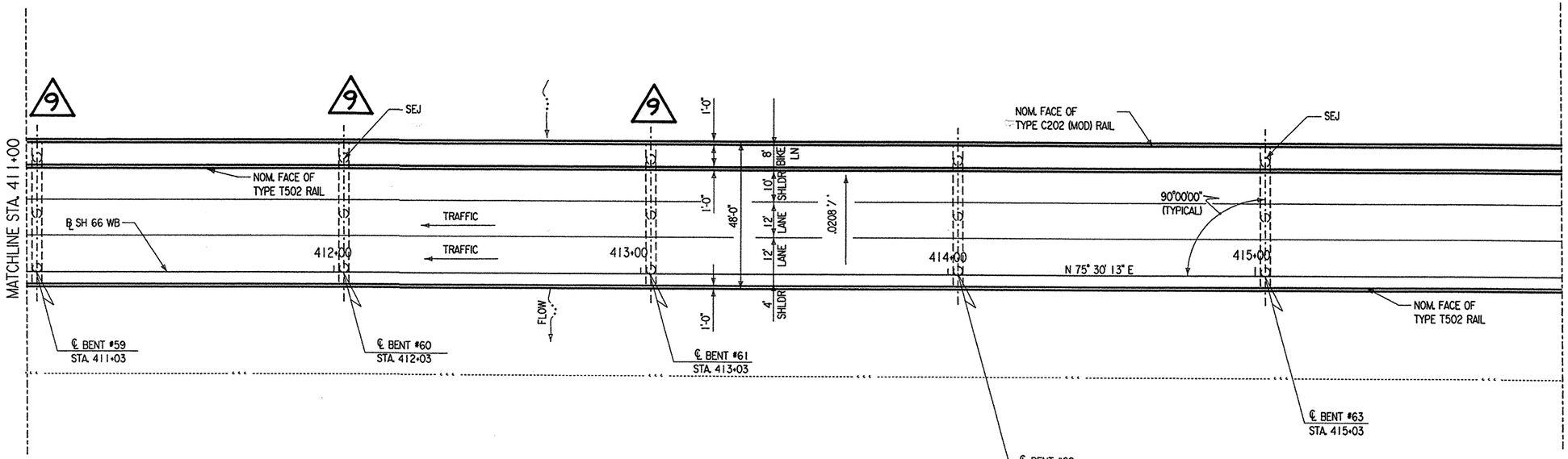
DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

FILE: 5692LY01.DGN

ACTIVE FILE

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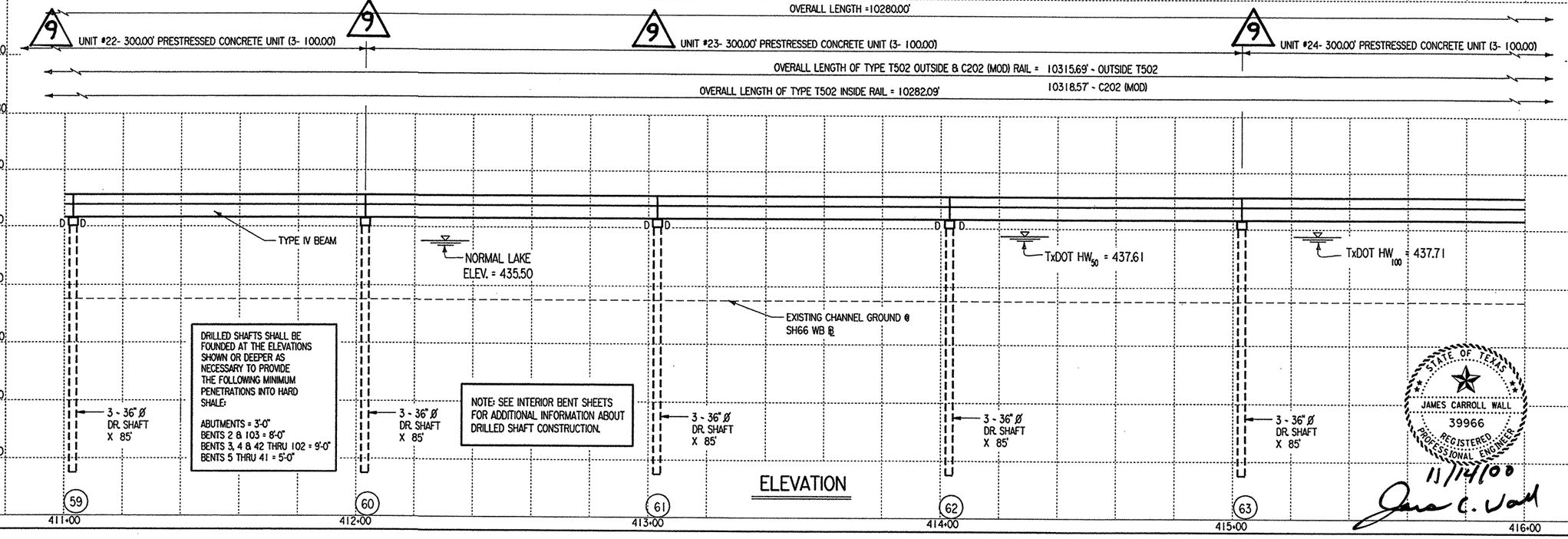
PLAN

2-14-01
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

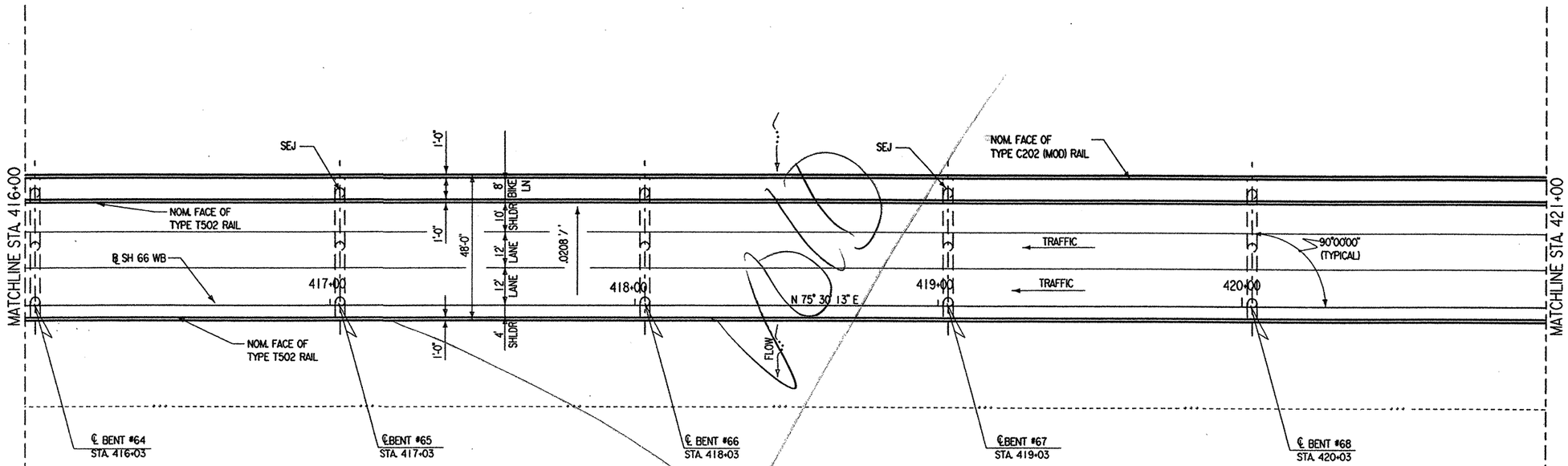
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

SHEET 13 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	206A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

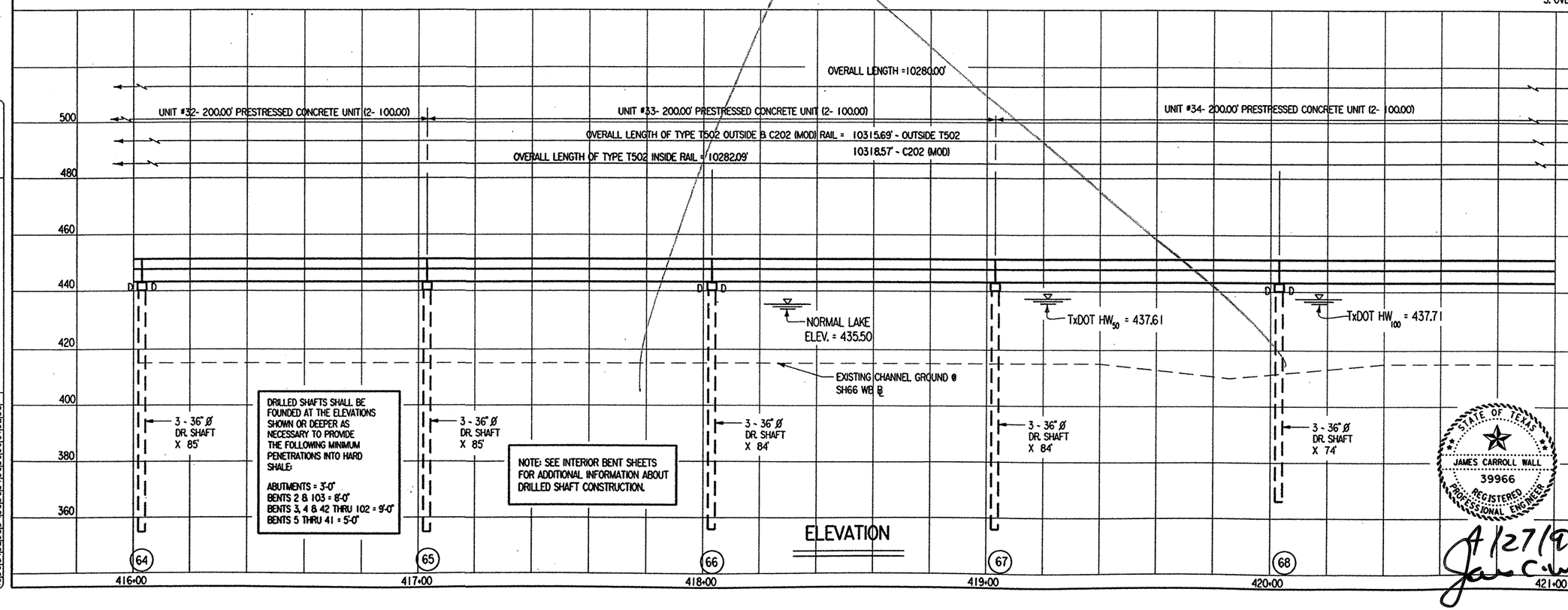
ACTIVE FILE: 5692LY01.DGN DATE: JAN 99 NODE: D48PC3Q
DN: MDH CK: JBH DW: TKW CK: MDH
LEVELS DISPLAYED 1 2 3 4 5 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
9 8/00 ADDED UNIT LENGTHS & DOWEL LOCATIONS - MDH/KC



PLAN

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

Minh Tran
STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

+0.0000 %
NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 14 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	207

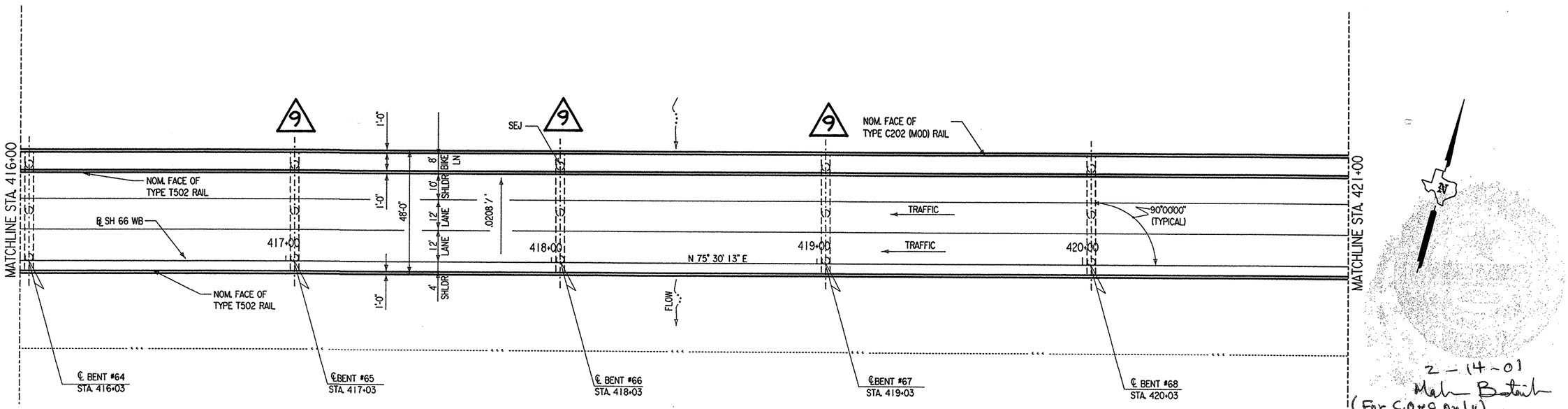
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

PLOTTED

| ACTIVE FILE | | |



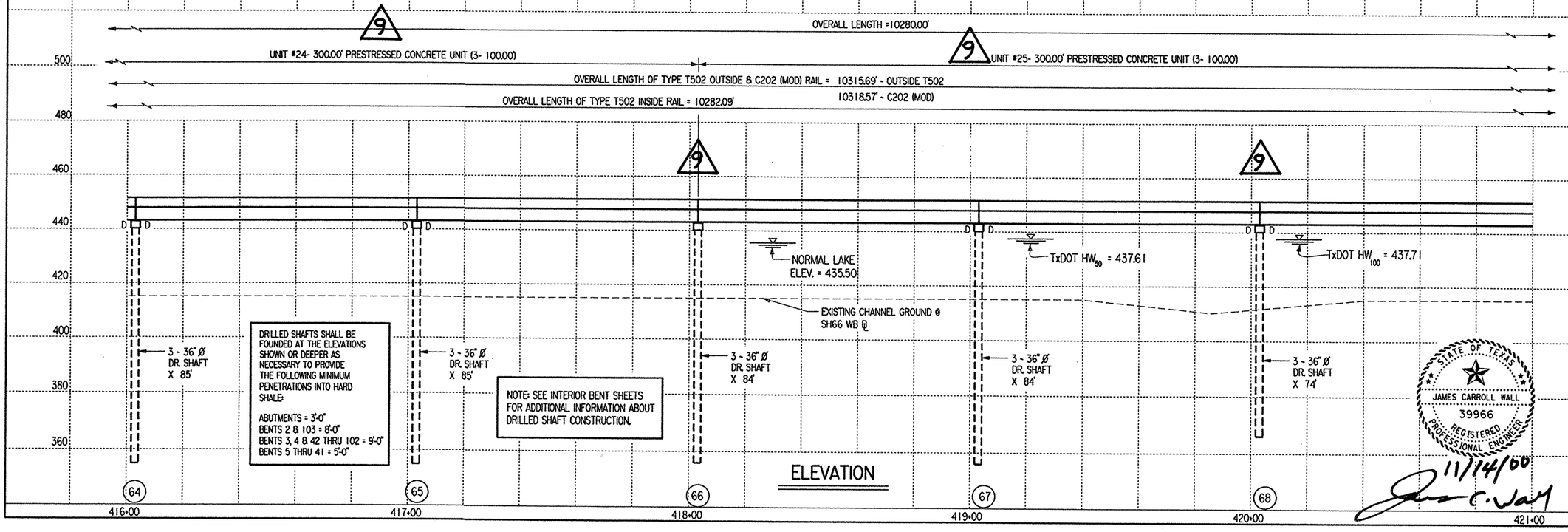
PLAN

2-14-01
Mahn Botsch
(For C.O.#9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 14 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		207 A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

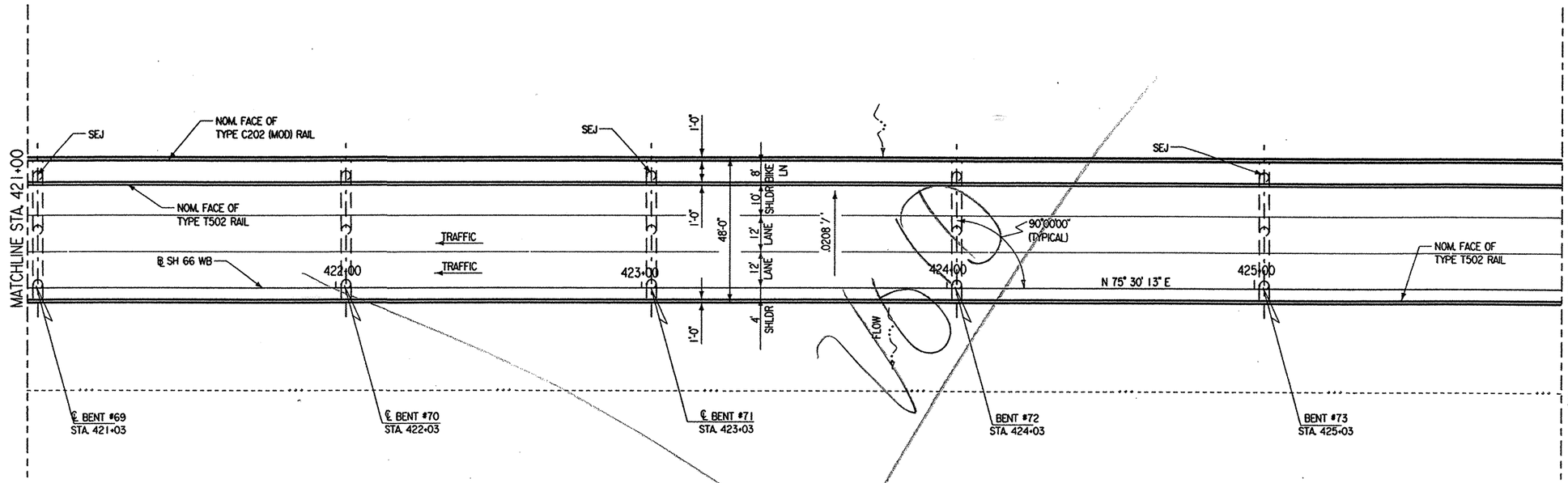
RE 8/00 ~ Cm's D UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

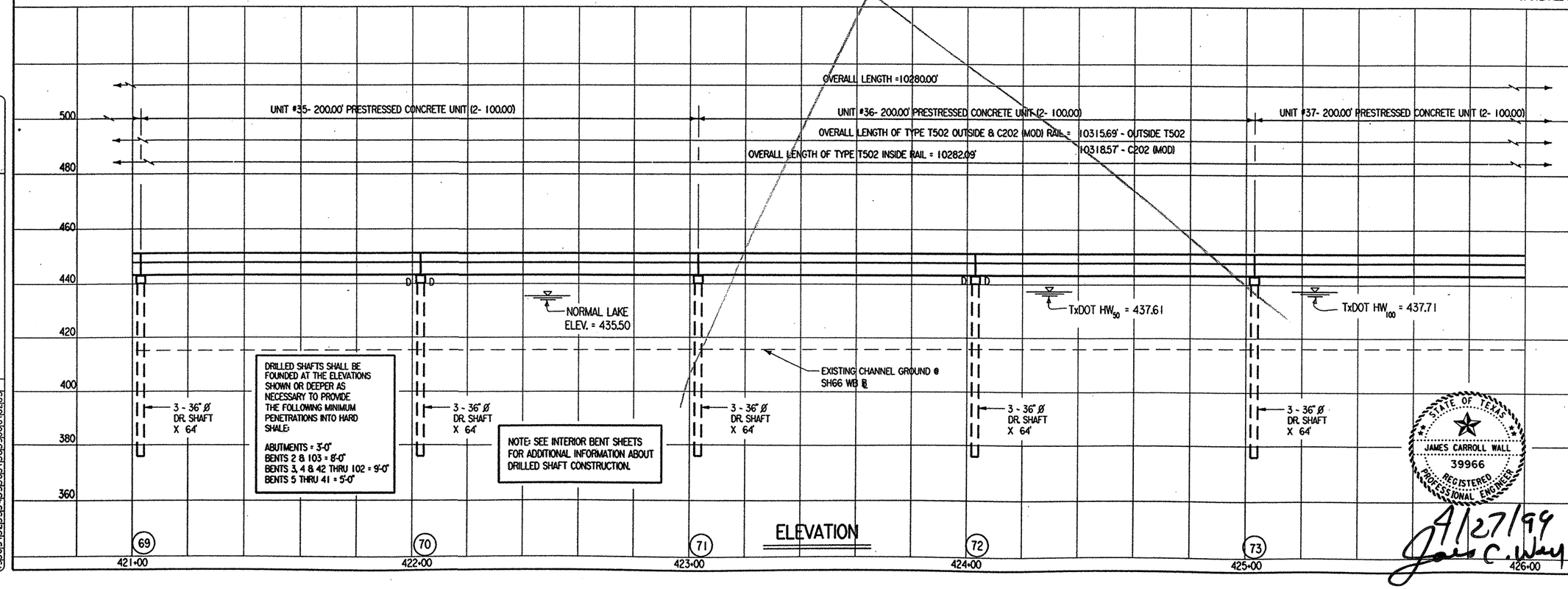
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ACTIVE FILE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

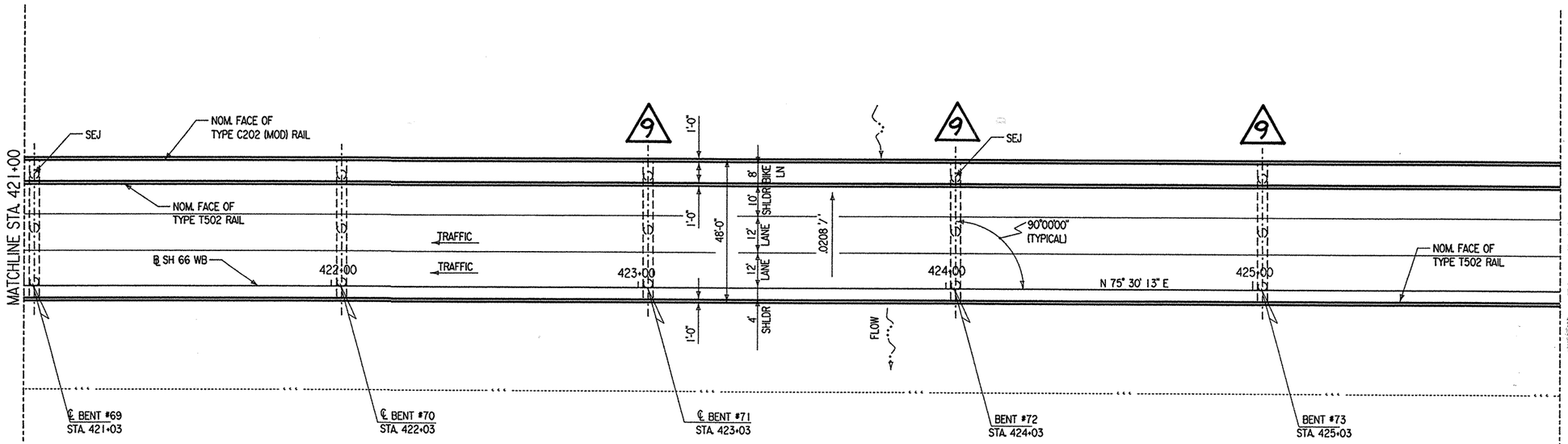
SHEET 15 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	208

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH CK: JBH DW: TKW CK: MDH
DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

ACTIVE FILE LEVELS PLOTTED
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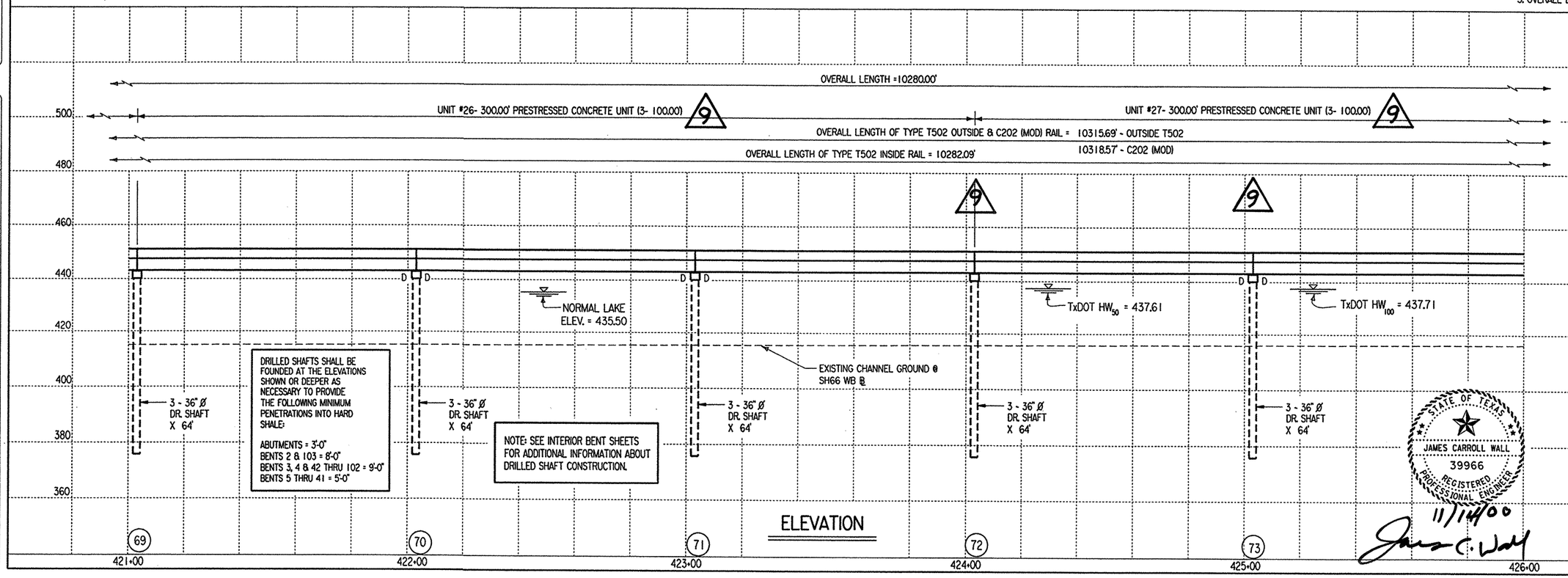


PLAN

2-14-01
Mehr Batah
(For C.O.#9 only)
CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

SHEET 15 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		208
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

REV. 8/00 ~ CH. D UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

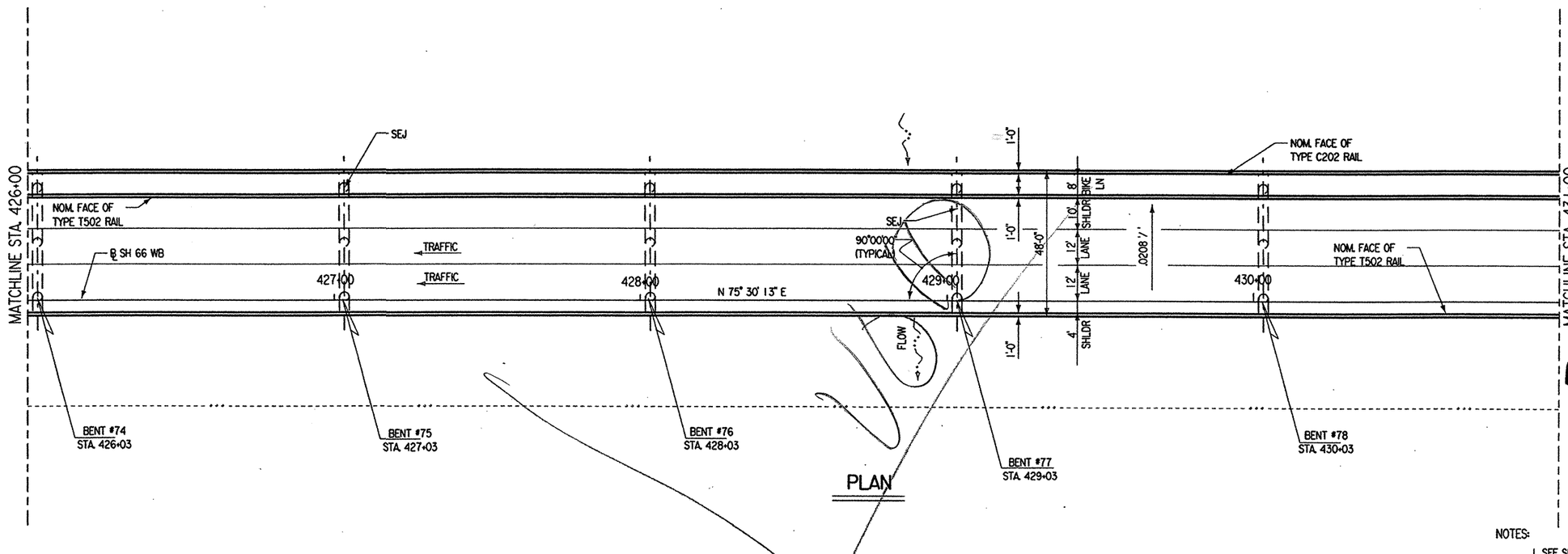
DN: MDH CK: JBH DW: TKW CK: MDH

ACTIVE FILE: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DISPLAYED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

DATE: JAN 99 NODE: D48PC3Q

FILE: 5692LY01.DGN

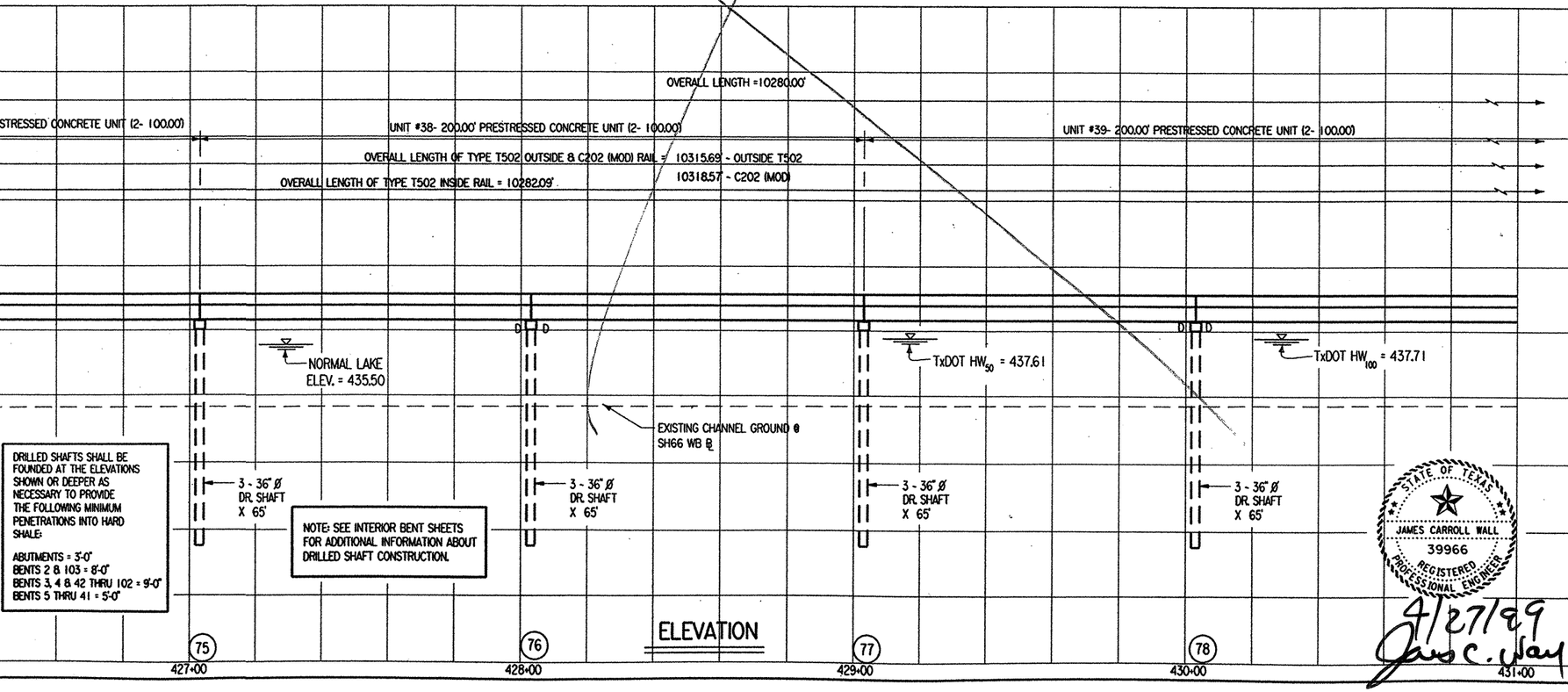


PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

Minh Tran
STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

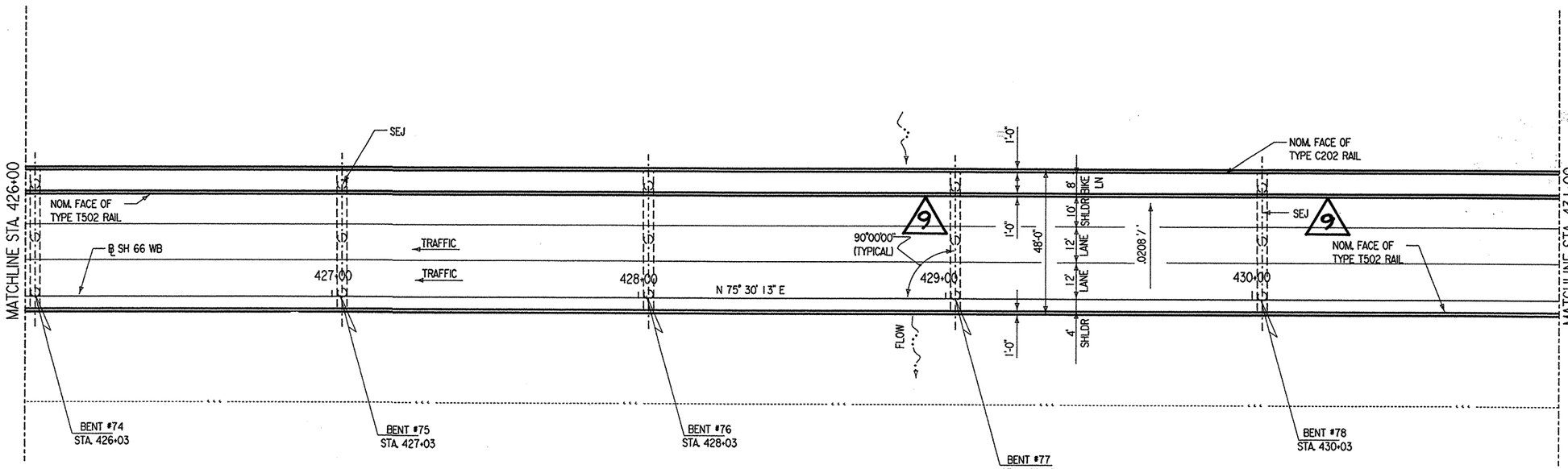
SHEET 16 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		209
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

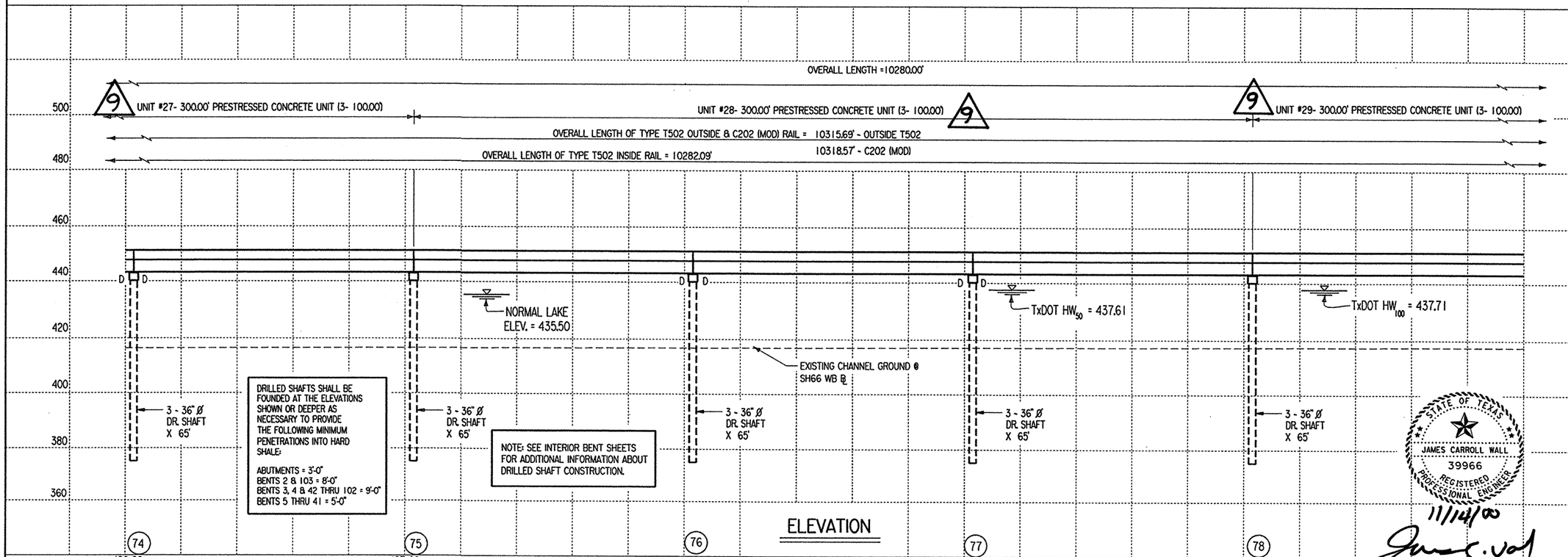
ACTIVE FILE LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

2-14-01
CHANGE ORDER NO. 9
(For C.O #9 Only)

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 16 OF 22 SCALE: 1" = 40'

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	209

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

GEORGE H. ODOM 50826 REGISTERED PROFESSIONAL ENGINEER
11/29/00

JAMES CARROLL WALL 39966 REGISTERED PROFESSIONAL ENGINEER
11/14/00

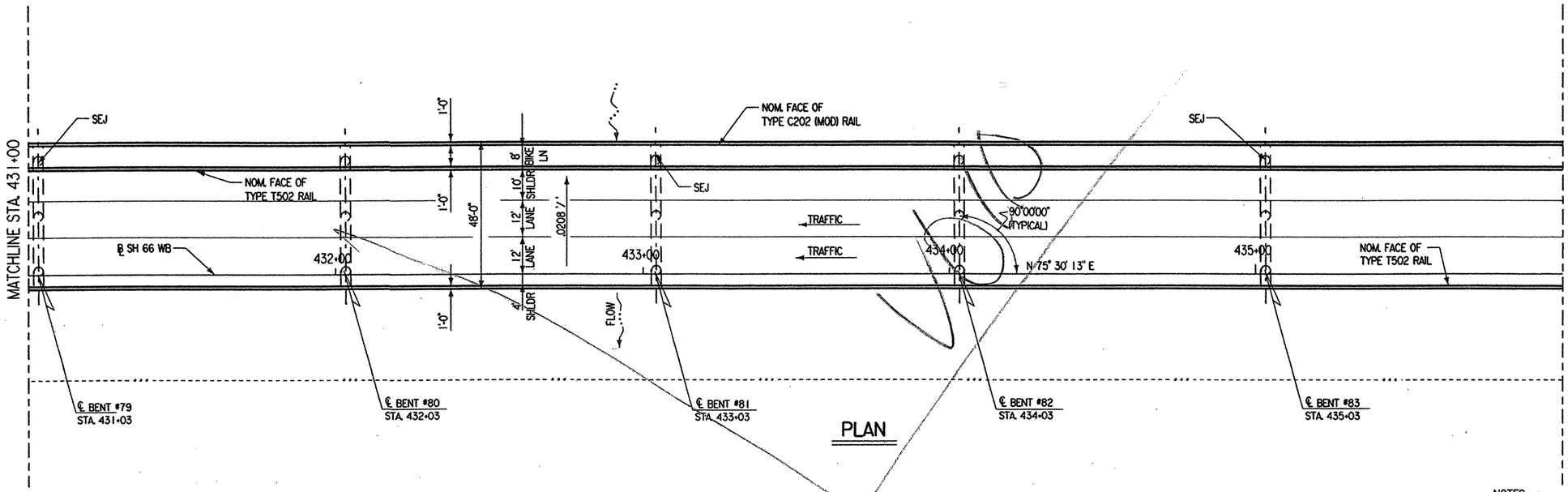
RE 8/00 ~ LENGTHS & LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q FILE: 5692LY01.DGN

DISPLAYED 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

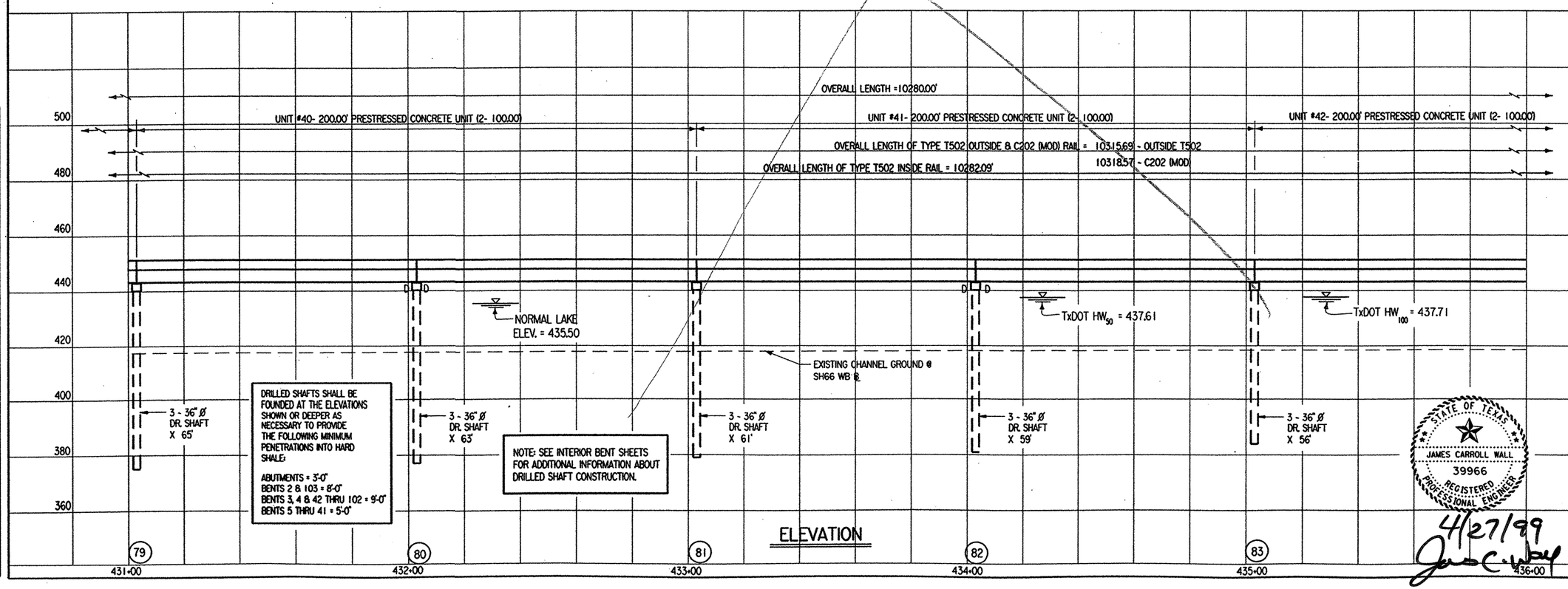


PLAN

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

Minh Tran 4/27/99

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER

© 1998 Texas Department of Transportation

STRUCTURE NO: 422

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER

4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 17 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	210

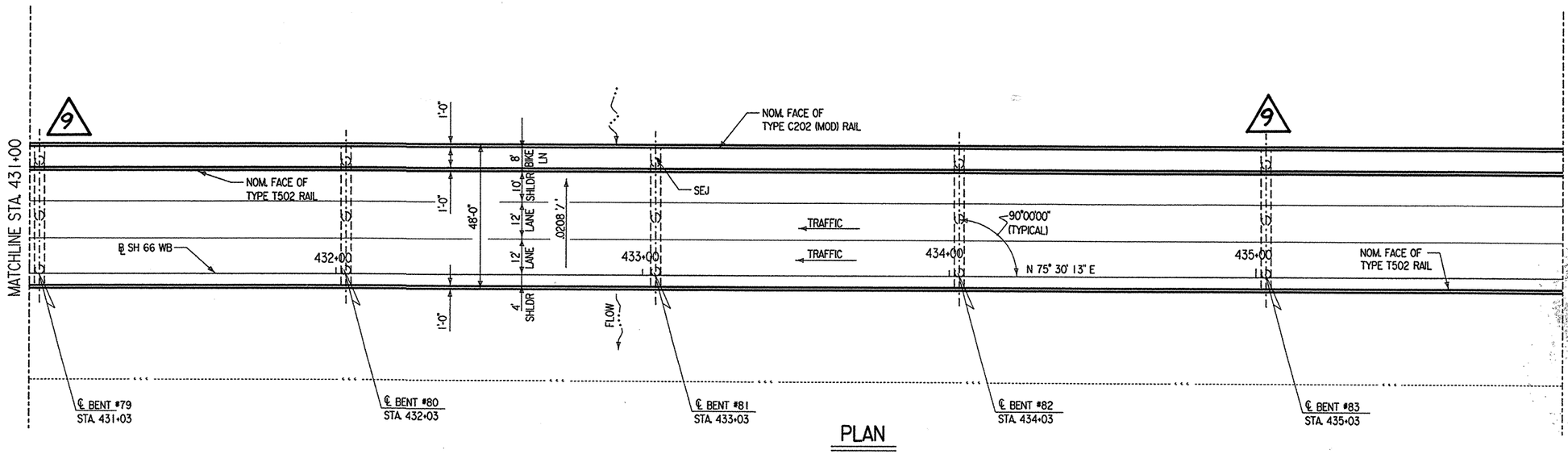
STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

ACTIVE FILE LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



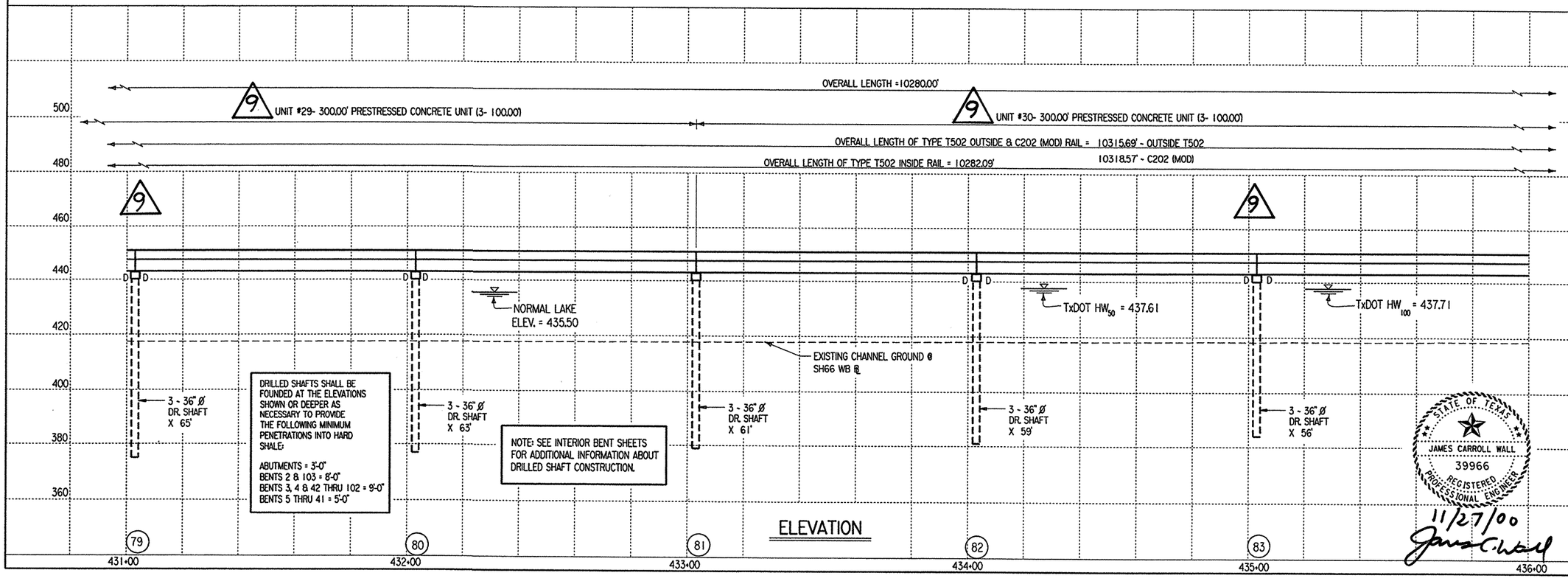
PLAN

2-14-01
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

© 1998 Texas Department of Transportation

STRUCTURE NO: 422

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/27/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 17 OF 22 SCALE: 1"= 40'

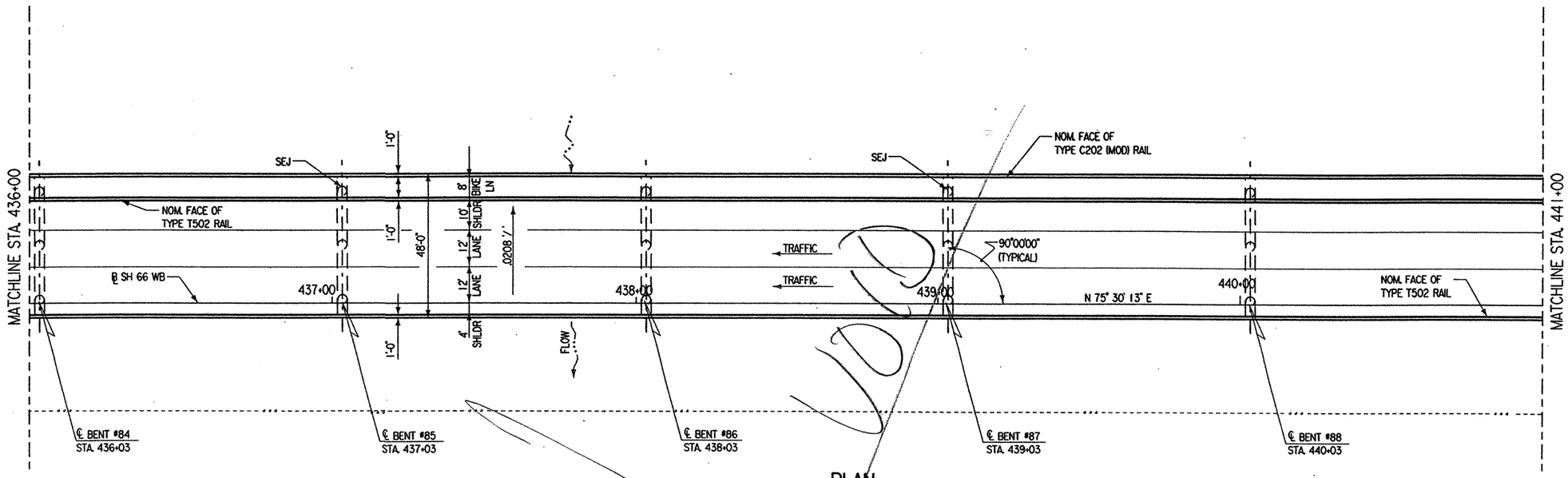
FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		210A
STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

REV : 3 UNIT
8/00 ~ (DOWEL
LENGTHS & LOCATIONS ~ MDH/KC

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

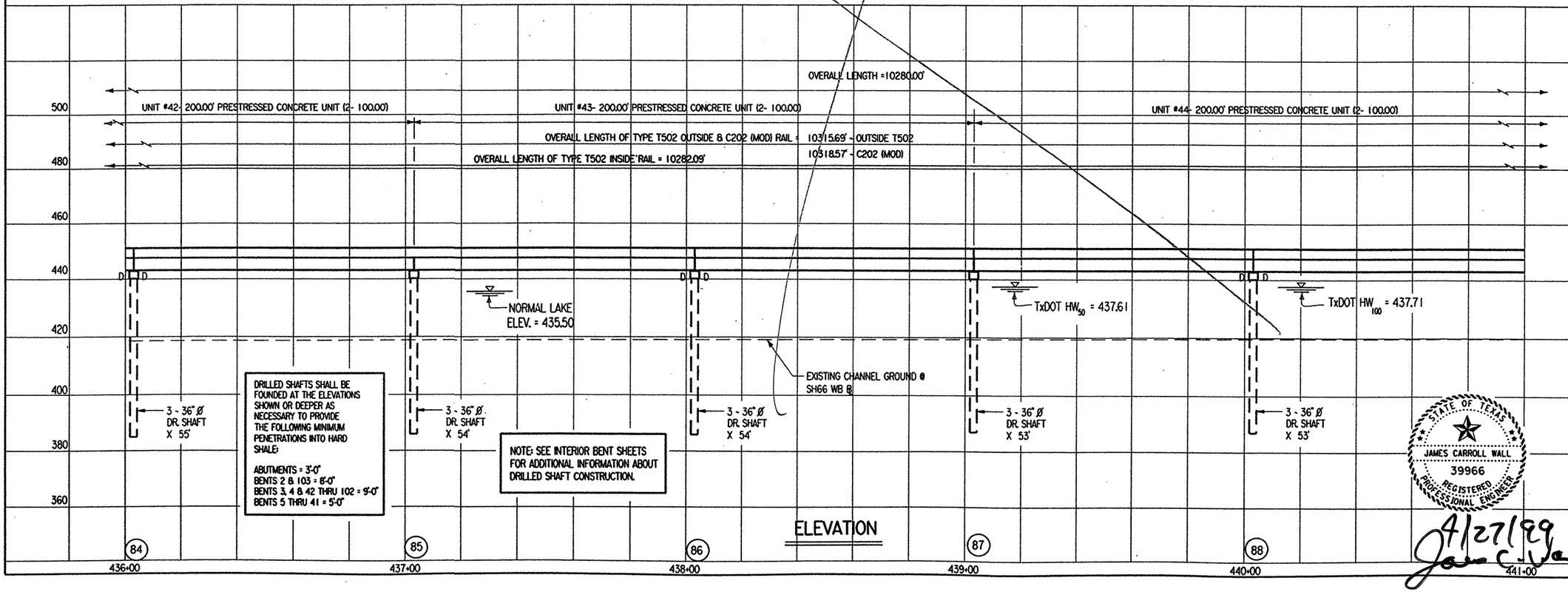
DISPLAYED
ACTIVE FILE



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 18 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		211
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q

FILE: 5692LY01.DGN

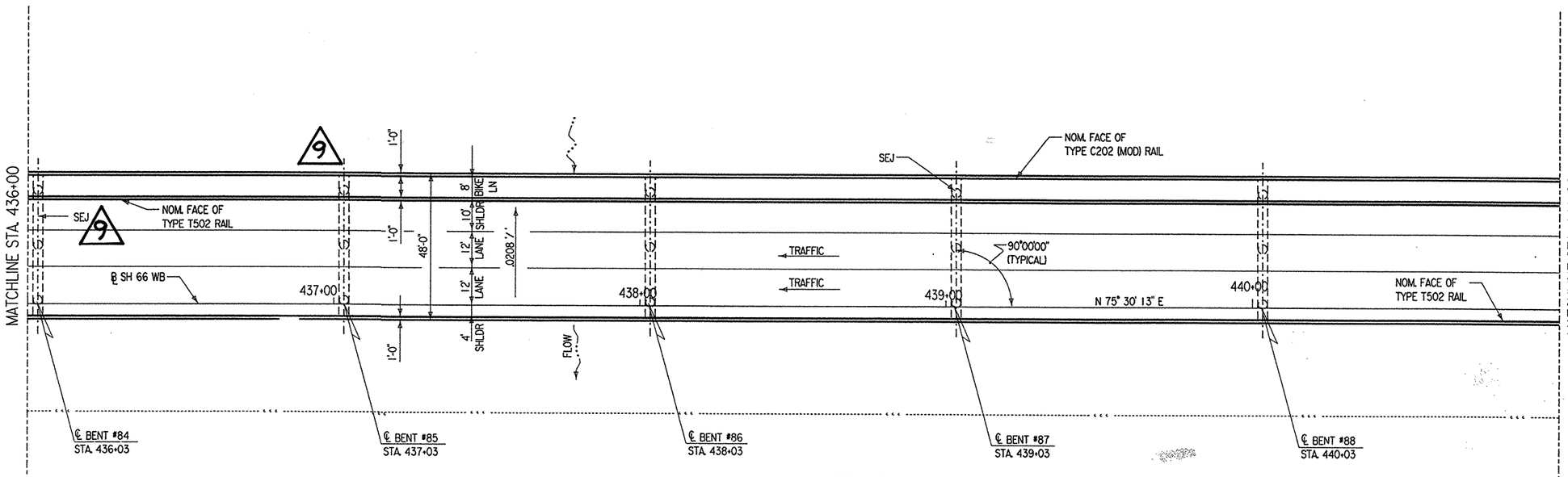
ACTIVE FILE LEVELS DISPLAYED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99



PLAN

2-14-01
Mel Both
(For C.O #9 only)
CHANGE ORDER NO. 9

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

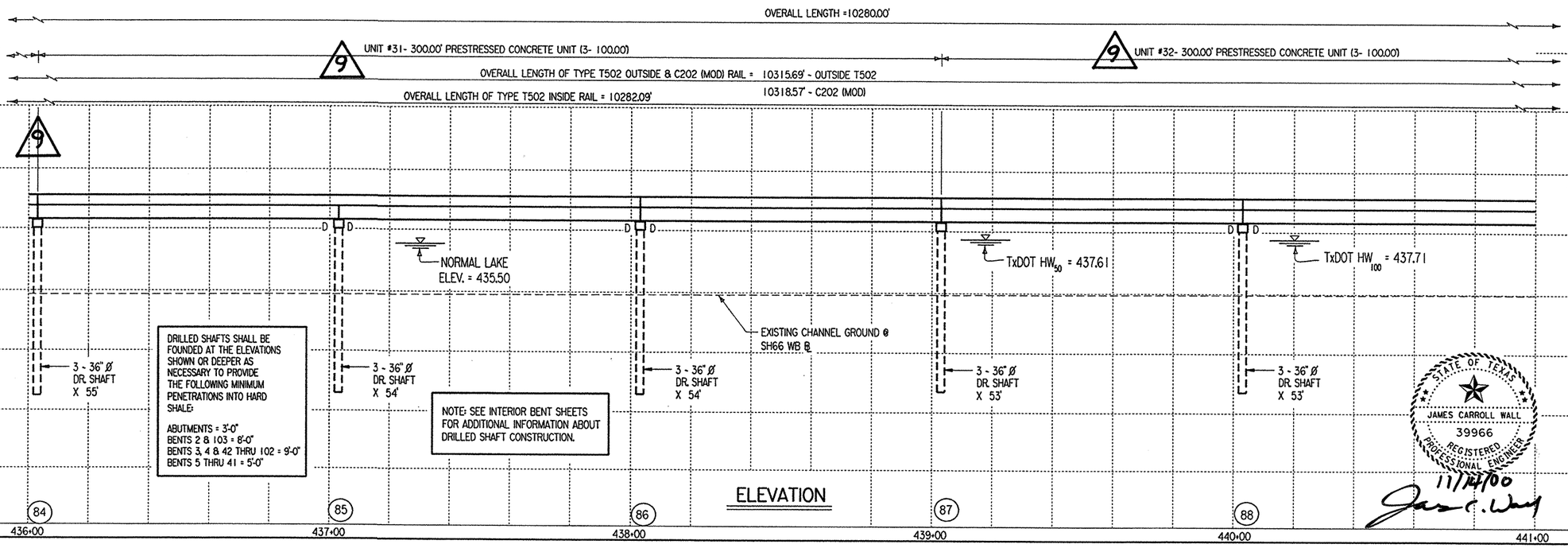
Re...: 3: 8/00 ~ CHANGED UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

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1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9 3 0 3 1 3 2
3 3 3 4 3 5 3 6 3 7 3 8 3 9 4 0 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8
4 9 5 0 5 1 5 2 5 3 5 4 5 5 5 6 5 7 5 8 5 9 6 0 6 1 6 2 6 3

ACTIVE FIL.
1 2 3 4 5 6 7 8 L



ELEVATION

VERTICAL CURVE DATA

+0.0000 %
NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/27/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

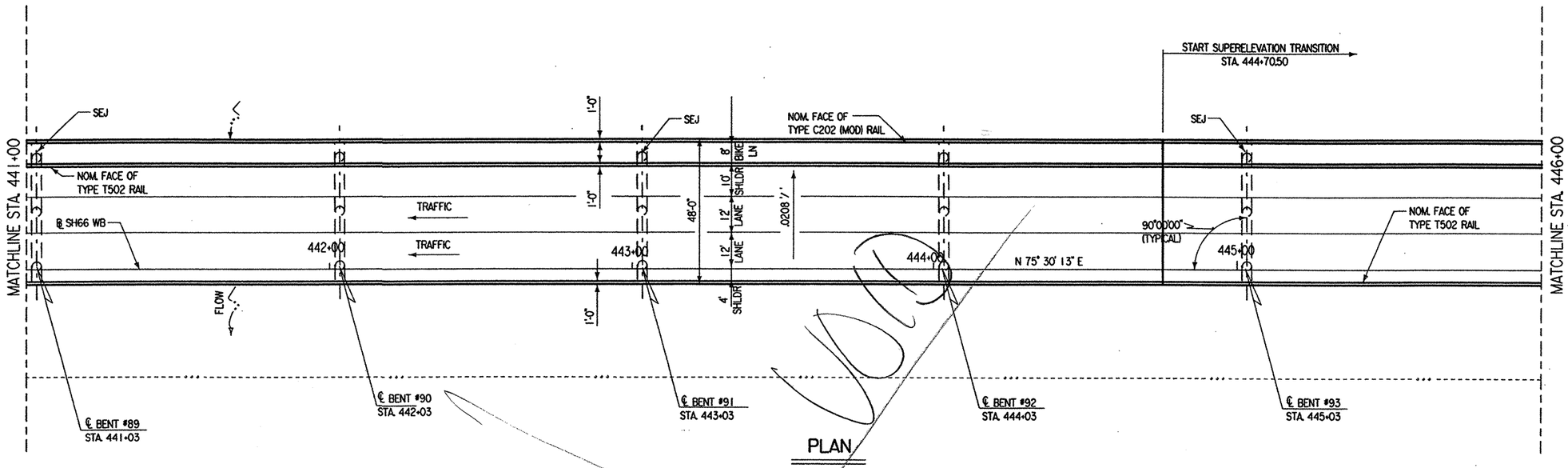
LAYOUT

SHEET 18 OF 22 SCALE: 1"= 40'

FED.RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	211A

STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL

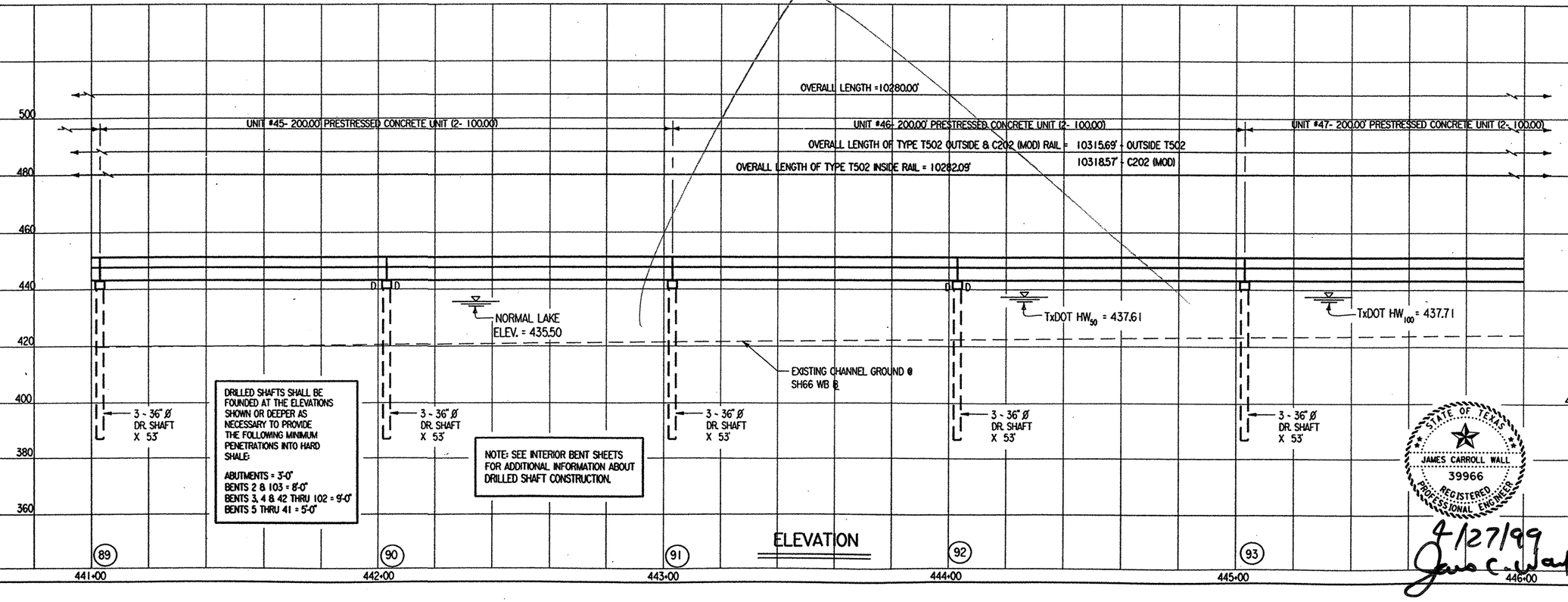
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66



PLAN

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 19 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		212
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

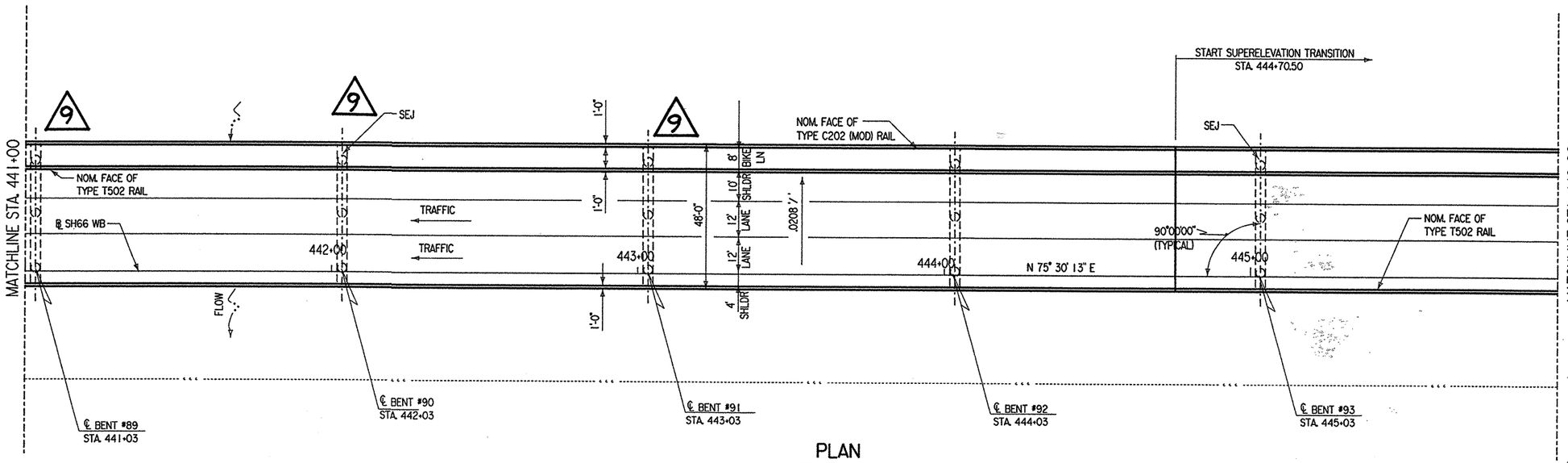
PLOTTED

ACTIVE FILE

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99



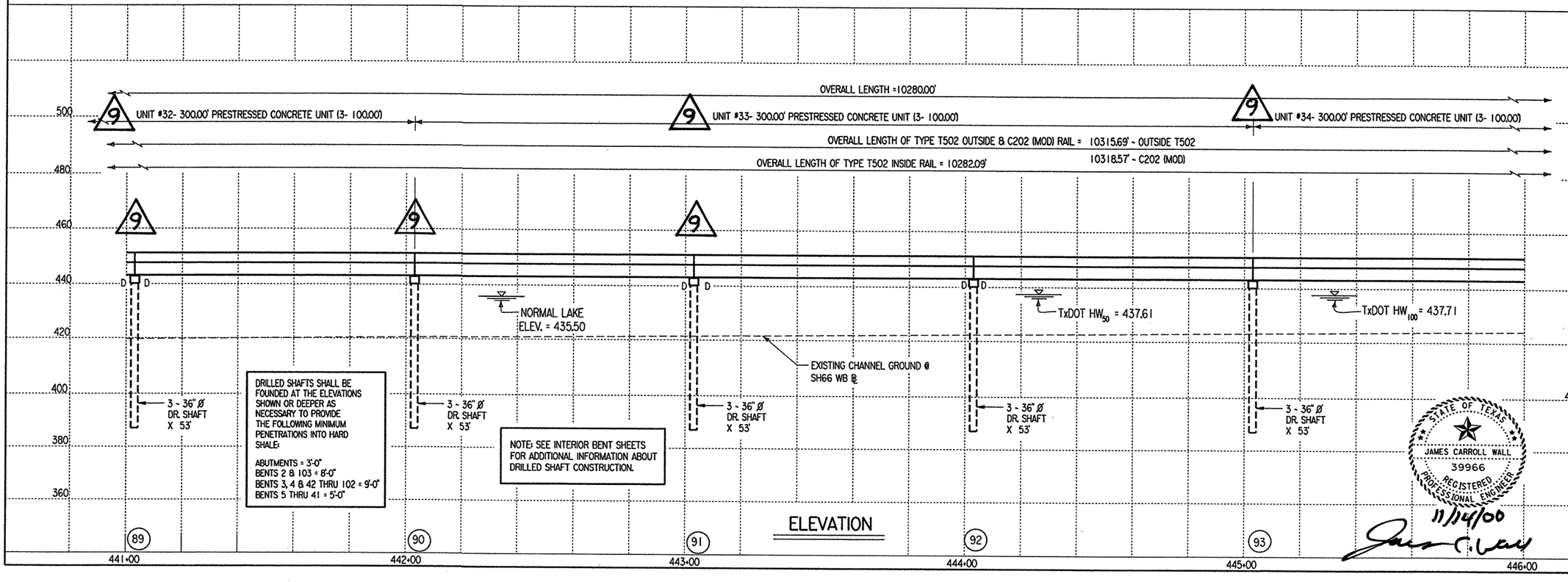
PLAN

2-14-01
Mahn Bashir
(For C.O.# 9 only)

CHANGE ORDER NO. 9

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/00

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 19 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	212A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

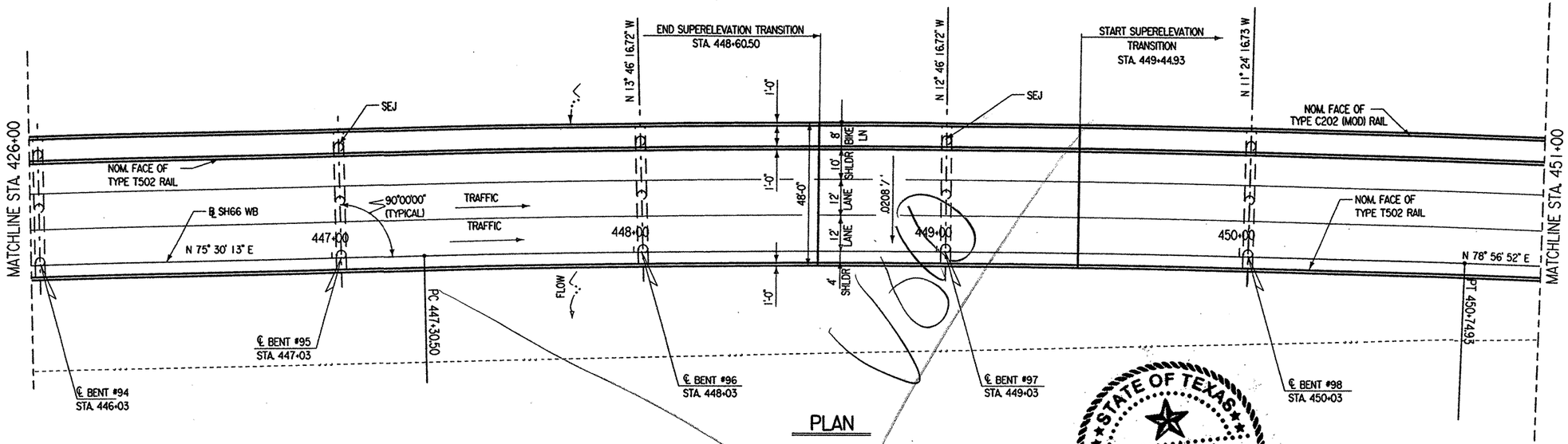
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1 1 2 1 3 1 4 1 5 1 6 1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9 3 0 3 1 3 2
3 3 3 4 3 5 3 6 3 7 3 8 3 9 4 0 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8
9 9 5 0 5 1 5 2 5 3 5 4 5 5 5 6 5 7 5 8 5 9 6 0 6 1 6 2 6 3

ACTIVE FILE:
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1 7 1 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9 3 0 3 1 3 2
3 3 3 4 3 5 3 6 3 7 3 8 3 9 4 0 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8
9 9 5 0 5 1 5 2 5 3 5 4 5 5 5 6 5 7 5 8 5 9 6 0 6 1 6 2 6 3

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DN: MDH
CK: JBH
DW: TKW
CK: MDH

RE : :
8/00 ~ ~ D UNIT
LENGTHS & DOWEL
LOCATIONS ~ MDH/KC



PLAN

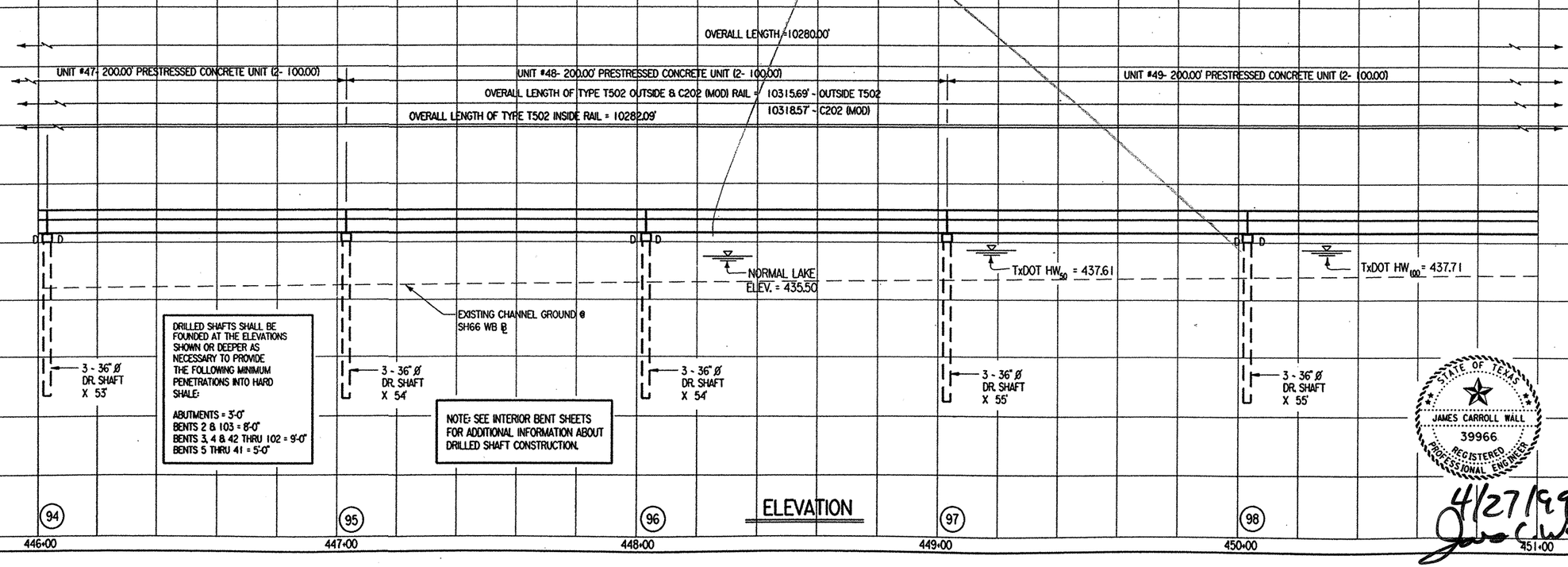
SH 66 CURVE DATA

PI STA. 449+02.77
Δ = 3°26'39.25" (RT)
D = 1°00'00.00"
T = 172.26'
L = 344.42'
R = 5729.58'

NOTES:

1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STRUCTURE NO: 422

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STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

SHEET 20 OF 22 SCALE: 1"= 40'

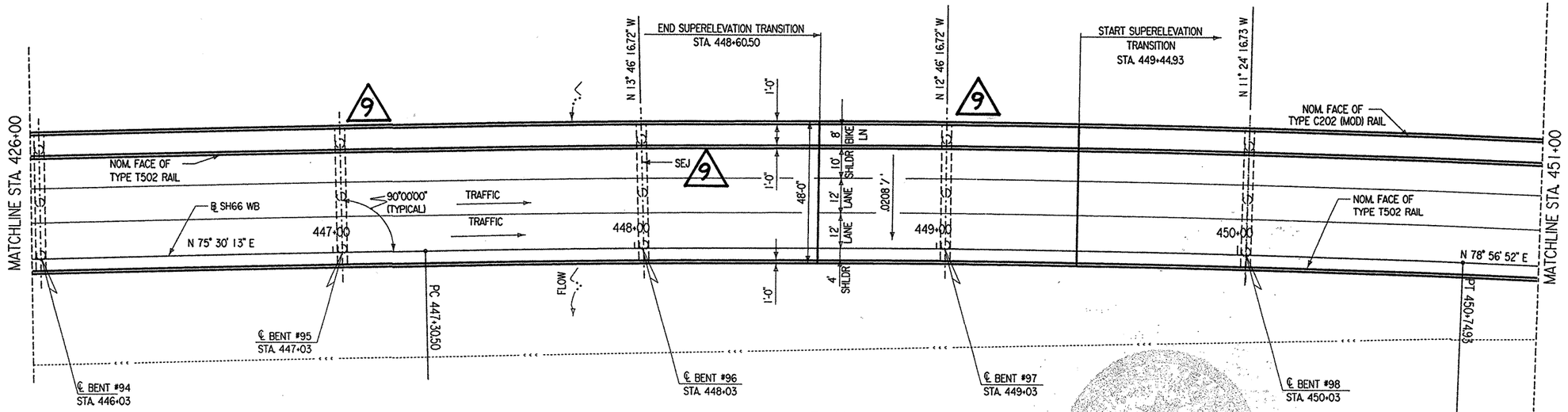
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		213
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

LAYER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE



PLAN

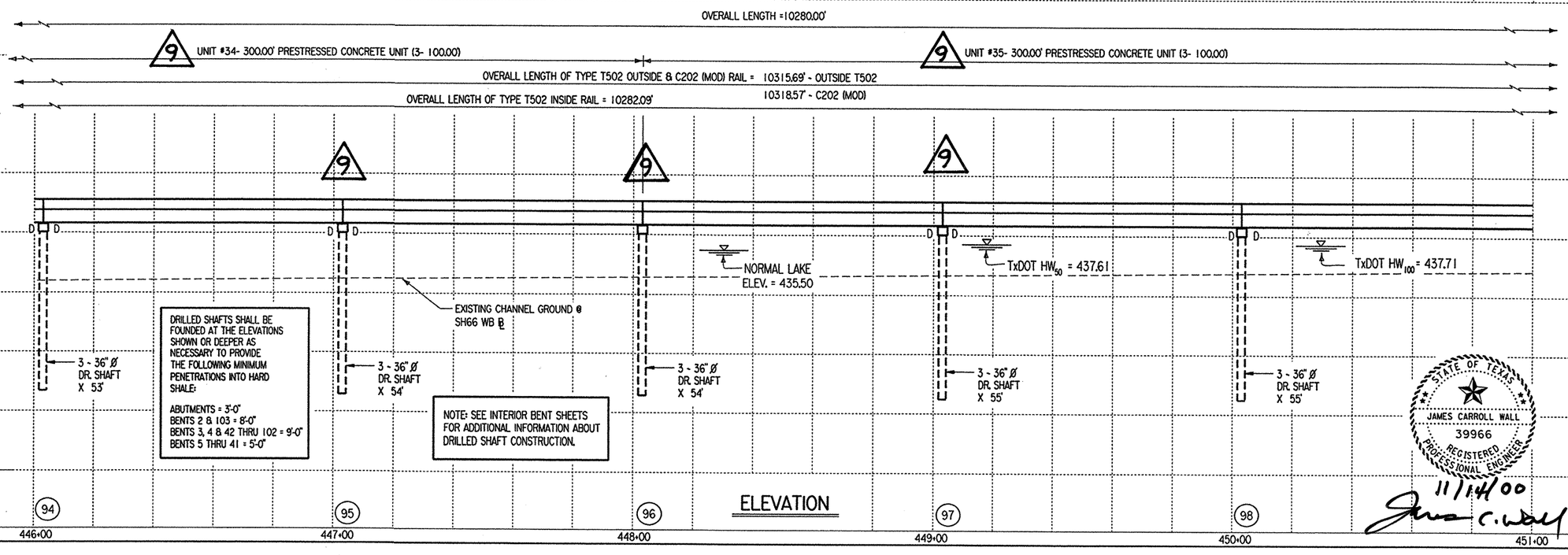
SH 66 CURVE DATA

PI STA. 449+02.77
Δ = 3°26'39.25" (RT)
D = 1°00'00.00"
T = 172.26'
L = 344.42'
R = 5729.58'

CHANGE ORDER NO. 9

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

(For C.O #9 only)
Mylene Bitel 2-14-01



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/27/01

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

LAYOUT

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

SHEET 20 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		213 A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

9

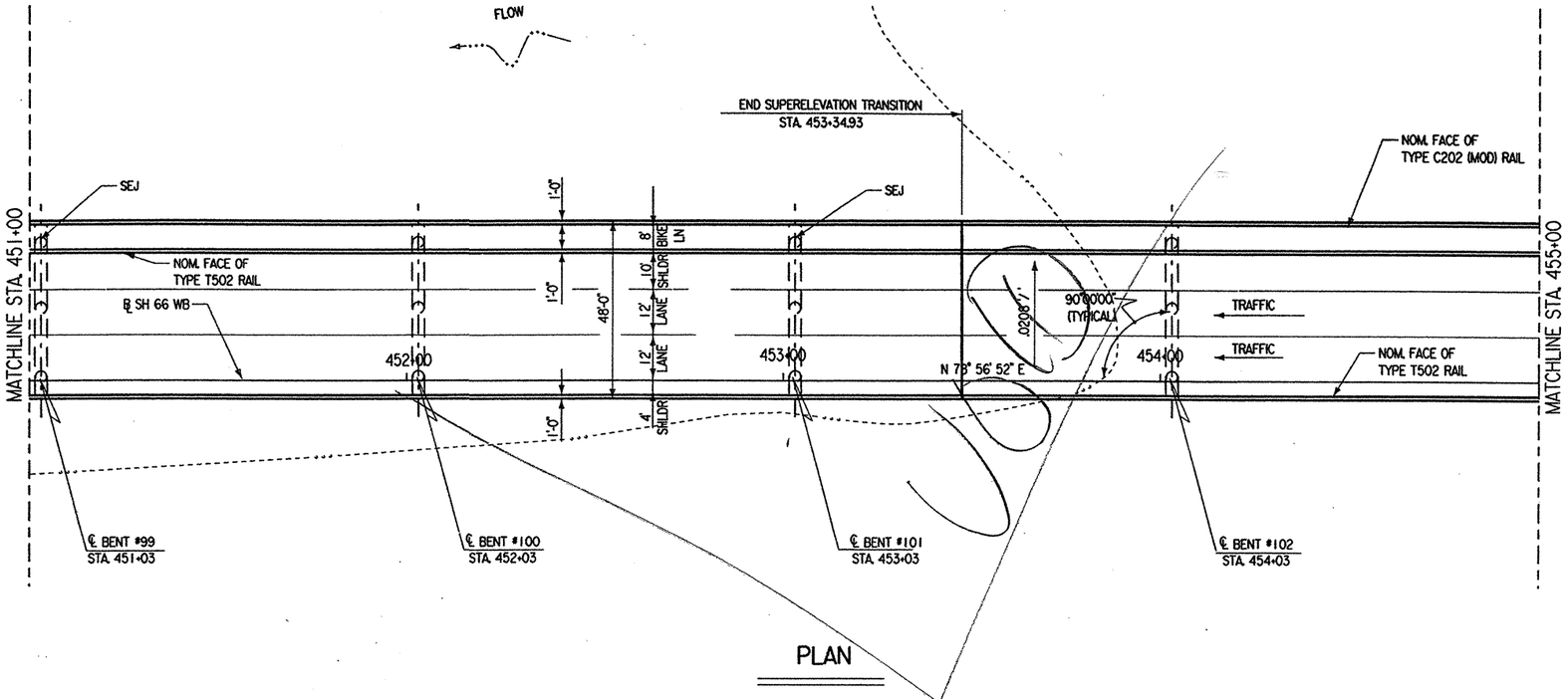
RE: 8/00 ~ CHA. ; LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

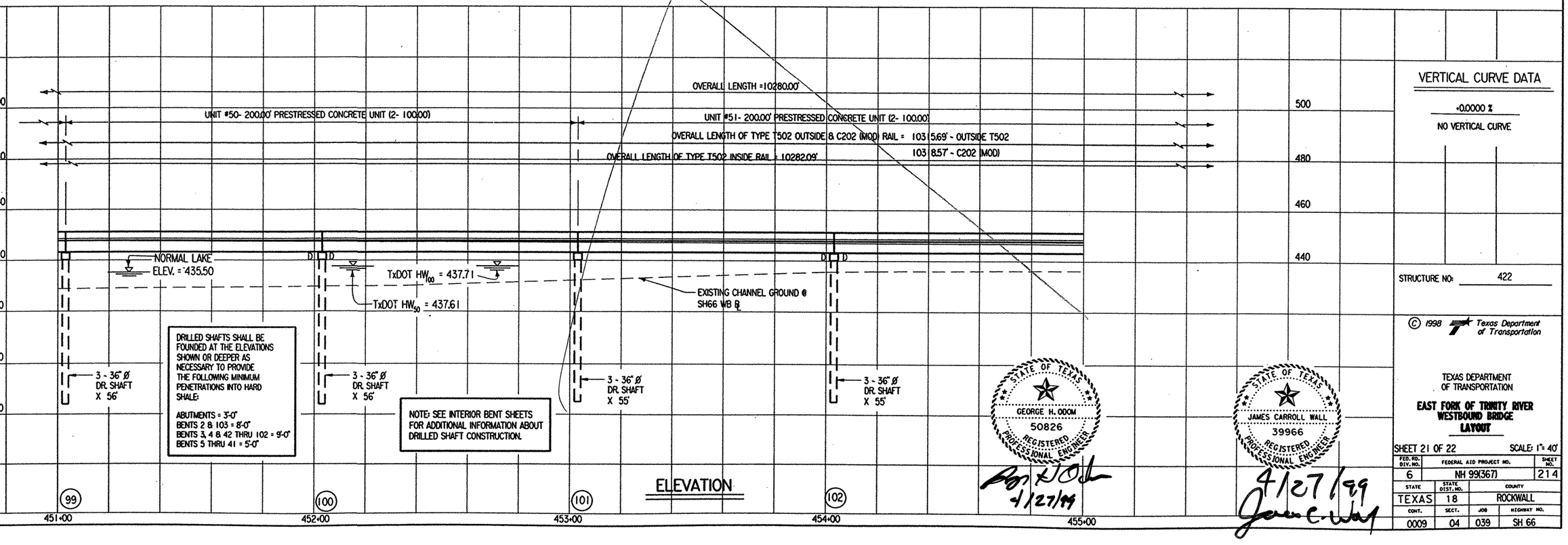
DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DISPLAYED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE FILE: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



ELEVATION

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

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TEXAS DEPARTMENT
OF TRANSPORTATION

**EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE
LAYOUT**

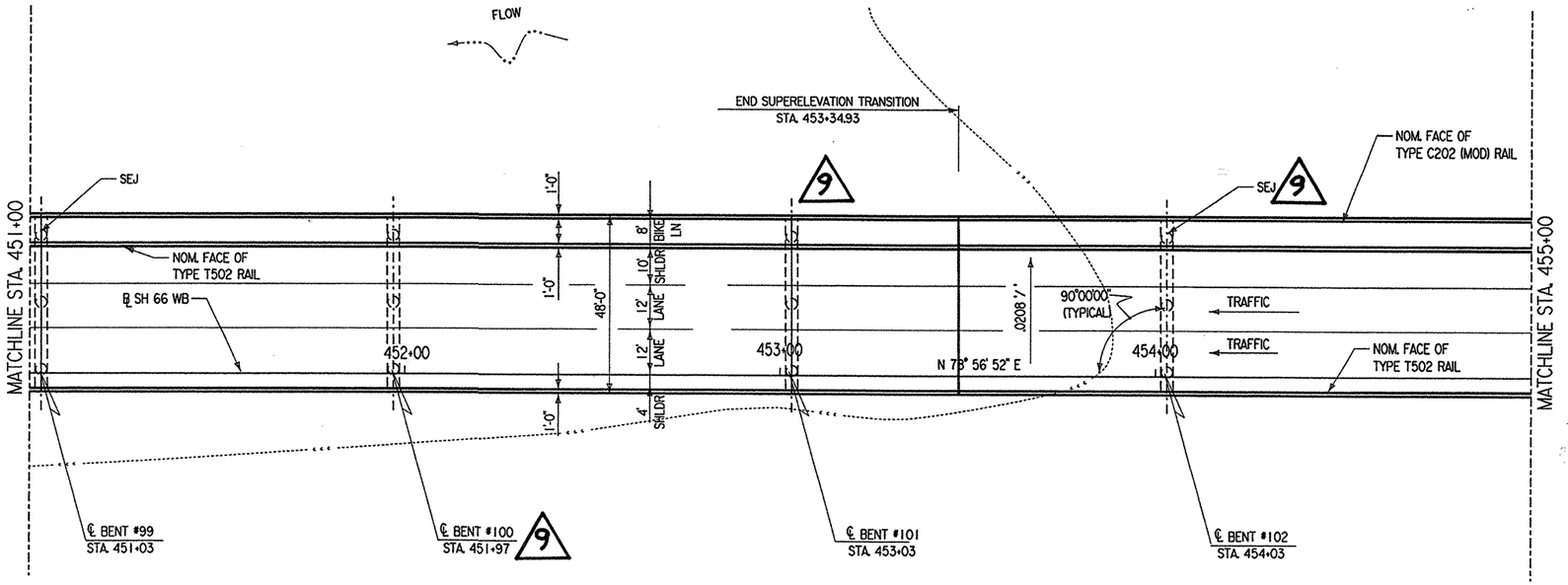
SHEET 21 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		214
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

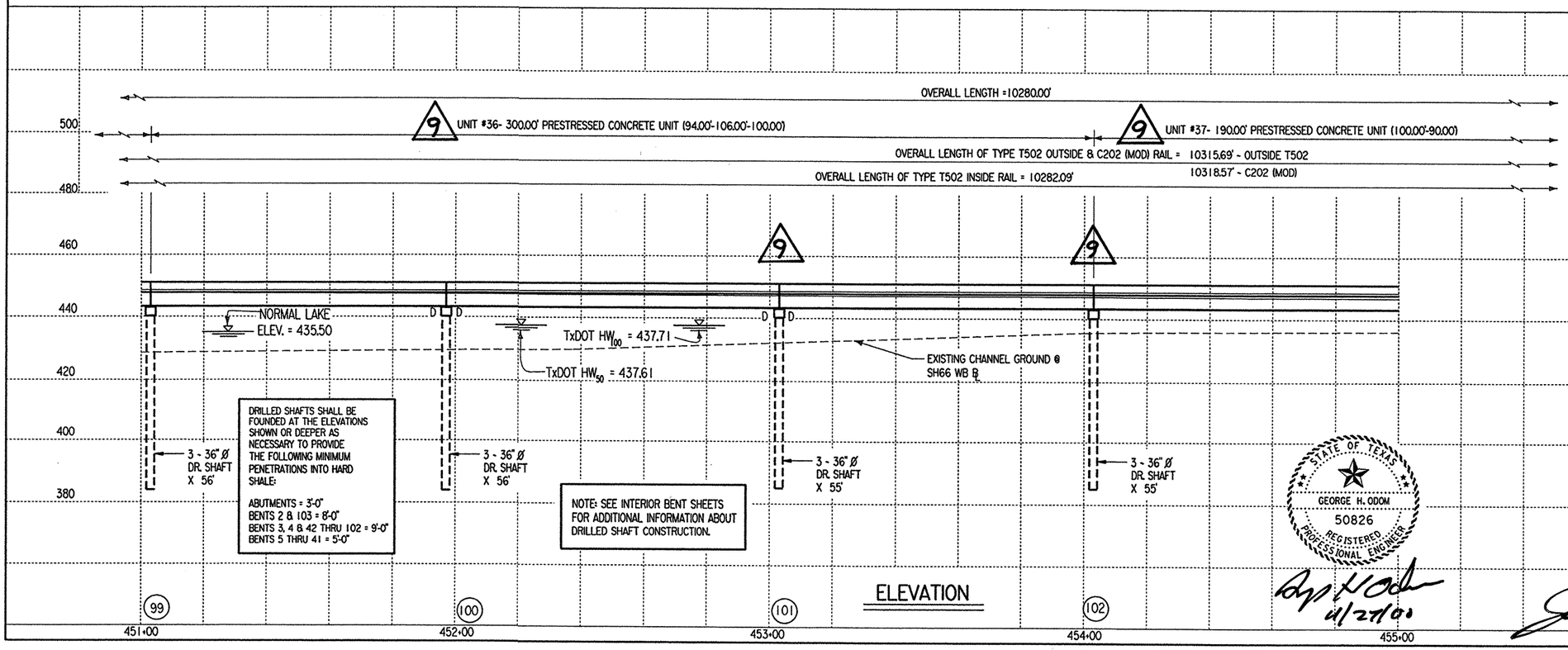
DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

PLOTTED
ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



ELEVATION

VERTICAL CURVE DATA

+0.0000 %

NO VERTICAL CURVE

2-14-01
Mah Batch
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:
1. SEE SHEET 1 OF 22 SHEETS FOR HYDRAULIC DATA.
2. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
3. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.

STRUCTURE NO: 422

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TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE
LAYOUT

STATE OF TEXAS — GEORGE H. ODOM — 50826 — REGISTERED PROFESSIONAL ENGINEER
4/27/01

STATE OF TEXAS — JAMES CARROLL WALL — 39966 — REGISTERED PROFESSIONAL ENGINEER
11/14/00

SHEET 21 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		214A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

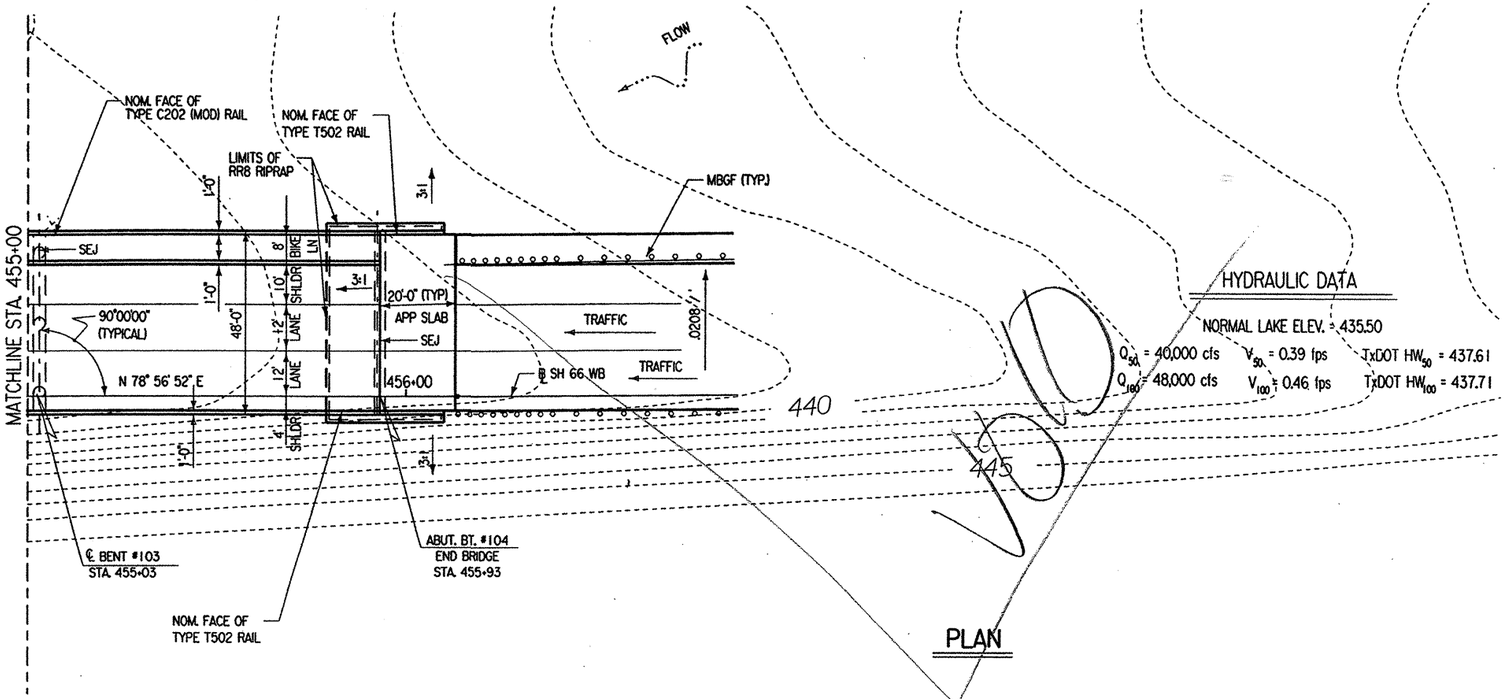
9 8/00 CHA.. _D UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH CK: JBH DW: TKW CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

ISPLAYED 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

HYDRAULIC DATA

NORMAL LAKE ELEV. = 435.50

Q_{50} = 40,000 cfs V_{50} = 0.39 fps TxDOT HW_{50} = 437.61

Q_{100} = 48,000 cfs V_{100} = 0.46 fps TxDOT HW_{100} = 437.71



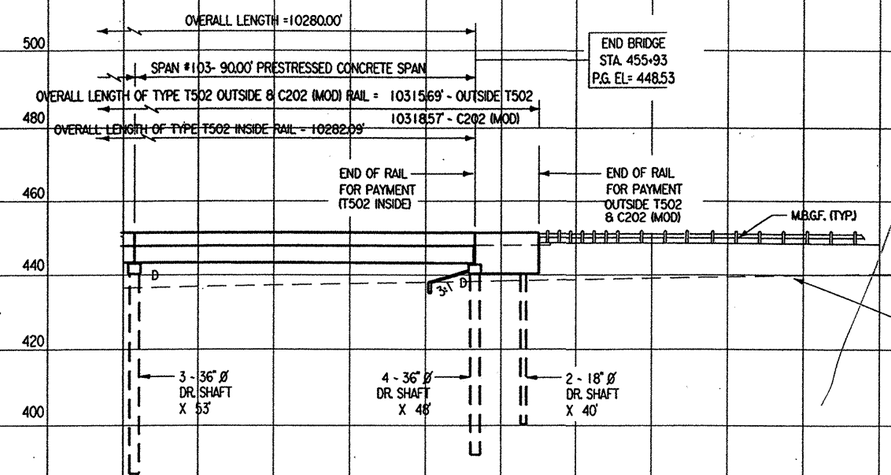
Minh Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

4/27/99

NOTES:

1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2 & 103 = 8'-0"
BENTS 3, 4 & 42 THRU 102 = 9'-0"
BENTS 5 THRU 41 = 5'-0"

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER

4/27/99

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

VERTICAL CURVE DATA

0.000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

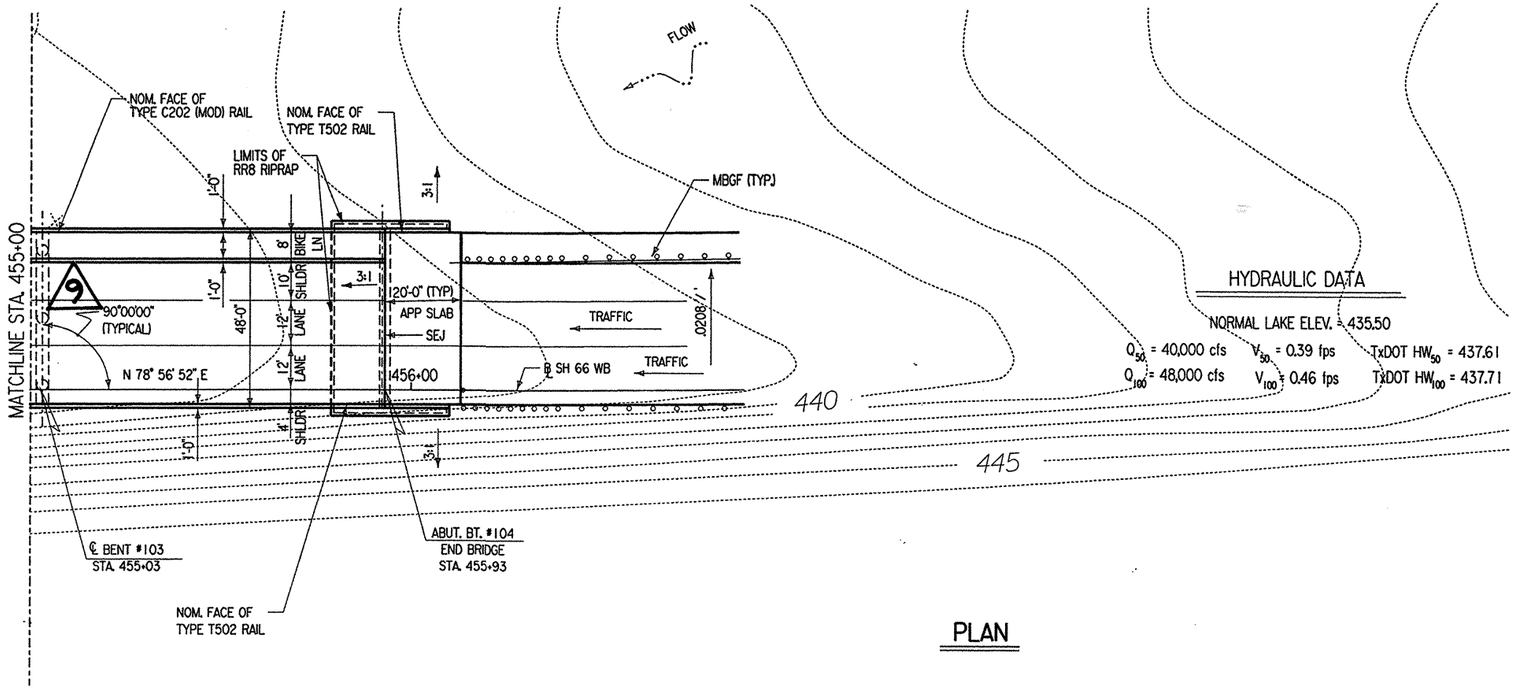
SHEET 22 OF 22 SCALE: 1"= 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		215
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

DN: MDH
CK: JBH
DW: TKW
CK: MDH

JAN 99 NODE: D48PC3Q
DATE:
FILE: 5692LY01.DGN

LAYED ACTIVE FILE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

HYDRAULIC DATA

NORMAL LAKE ELEV. = 435.50

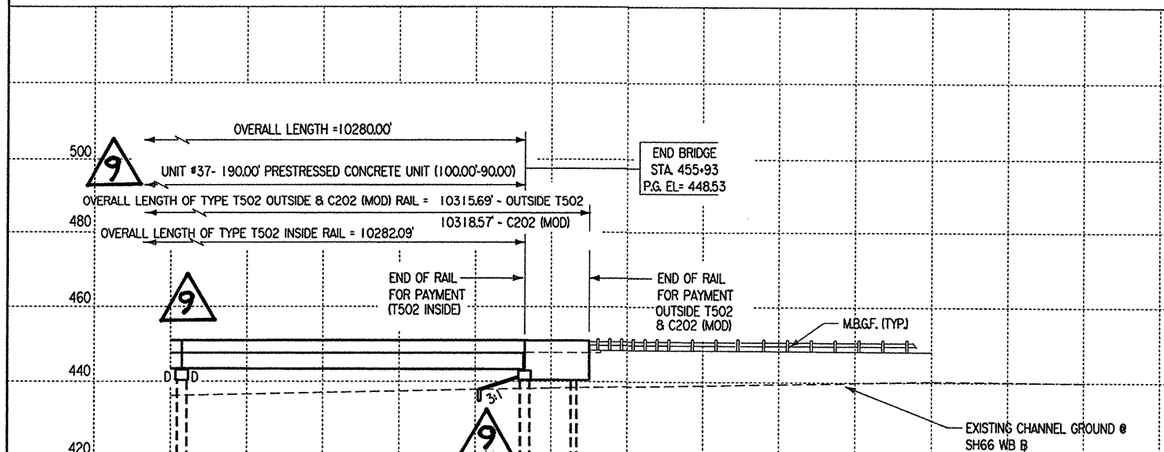
Q_{50} = 40,000 cfs V_{50} = 0.39 fps TxDOT HW_{50} = 437.61

Q_{100} = 48,000 cfs V_{100} = 0.46 fps TxDOT HW_{100} = 437.71

2-14-01
Mohan Batish
(For C.O #9 only)

CHANGE ORDER NO. 9

NOTES:
1. SEE CORE BORING PLAN SHEETS FOR BRIDGE CORES.
2. OVERALL BRIDGE LENGTH MEASURED ALONG SH66 WB ℄.



ELEVATION

NOTE: SEE INTERIOR BENT SHEETS FOR ADDITIONAL INFORMATION ABOUT DRILLED SHAFT CONSTRUCTION.

DRILLED SHAFTS SHALL BE FOUNDED AT THE ELEVATIONS SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM PENETRATIONS INTO HARD SHALE:

ABUTMENTS = 3'-0"
BENTS 2 & 103 = 8'-0"
BENTS 3, 4 & 42 THRU 102 = 9'-0"
BENTS 5 THRU 41 = 5'-0"

STATE OF TEXAS
GEORGE H. ODOM
50826
REGISTERED PROFESSIONAL ENGINEER
11/22/00

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

VERTICAL CURVE DATA

0.000 %

NO VERTICAL CURVE

STRUCTURE NO: 422

© 1998 Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE LAYOUT

SHEET 22 OF 22 SCALE: 1" = 40'

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		215
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

8/00 ~ CHANGED UNIT LENGTHS & DOWEL LOCATIONS ~ MDH/KC

DN: MDH
CK: JBH
DW: TKW
CK: MDH

DATE: JAN 99 NODE: D48PC3Q
FILE: 5692LY01.DGN

DISPLAYED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACTIVE: 1 2 3 4 5 7 11 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

SUMMARY OF ESTIMATED QUANTITIES

ITEM / DESCRIPTION	Drilled Shafts			Class "C" Concrete		Reinforced Concrete Slab	Prestressed Concrete Beams	Concrete Surface Treatment	Riprap Concrete Class "B"	Sealed Expansion Joint	Railing	
	36"	48"	18"	Abutment	Bent		Type IV			Type A (4")	Type T502	Type C202 (MOD)
	LF	LF	LF	CY	CY	SF	LF	SY	CY	LF	LF	LF
2-ABUTMENTS	336		142	72.6							36.00	36.00
102-INTERIOR BENTS	13149	7407			2243.7							
1-190.000' PRESTR CONC BM UNIT #1						9120.0	1136.04	949.6			380.00	190.00
1-200.000' PRESTR CONC BM UNIT #2						9587.9	1194.51	998.3			399.60	199.43
1-200.000' PRESTR CONC BM UNIT #3						9568.2	1192.00	996.2			398.95	198.50
1-200.000' PRESTR CONC BM UNIT #4						9583.1	1193.88	997.8			399.44	199.20
1-200.000' PRESTR CONC BM UNIT #5						9600.0	1196.04	999.5			400.00	200.00
1-200.000' PRESTR CONC BM UNIT #6						9612.6	1197.59	1000.9			400.41	200.59
1-200.000' PRESTR CONC BM UNIT #7						9631.8	1199.96	1002.9			401.05	201.50
1-200.000' PRESTR CONC BM UNIT #8						9616.3	1198.06	1001.2			400.54	200.77
39-200.000' PRESTR CONC BM UNIT #9-47						374400.0	46645.56	38981.9			15600.00	7800.00
1-200.000' PRESTR CONC BM UNIT #48						9627.4	1199.42	1002.4			400.90	201.29
1-200.000' PRESTR CONC BM UNIT #49						9627.3	1199.41	1002.4			400.90	201.29
2-200.000' PRESTR CONC BM UNIT #50-51						19200.0	2392.08	1999.1			800.00	400.00
1-90.000' PRESTR. CONC BM SPAN #103						4320.0	538.02	449.8			180.00	90.00
PHASE TOTAL	13485	7407	142	72.6	2243.7	493494.6	61482.57	51382.0	29.03	2453.5 *	20597.79	10318.57

* Quantity includes 46.29' for each joint

HS 20 LOADING

SHEET 1 OF 3

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER
BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DW: MDH	CK: JBH	DW: TKW	CK: MDH	MSG NO.:	
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		#	SHEET
	18	6	NH 99(367)			216
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

ACC: D48PC3Q: TWHALEY
FILE: 5692TL01.DGN
LEVEL: DTS

SUMMARY OF ESTIMATED QUANTITIES

ITEM / DESCRIPTION	Drilled Shafts			Class "C" Concrete		Reinforced Concrete Slab	Prestressed Concrete Beams	Concrete Surface Treatment	Riprap Concrete Class "B"	Sealed Expansion Joint	Railing	
	36"	48"	18"	Abutment	Bent		Type IV			Type A(4")	Type T502	Type C202 (MOD)
	LF	LF	LF	CY	CY	SF	LF	SY	CY	LF	LF	LF
2-ABUTMENTS	336		142	72.6							36.00	36.00
102-INTERIOR BENTS	13149	7407			2243.7							
1-190.000' PRESTR CONC BM UNIT #1						9120.0	1136.04	949.6			380.00	190.00
1-200.000' PRESTR CONC BM UNIT #2						9587.9	1194.51	998.3			399.60	199.43
1-200.000' PRESTR CONC BM UNIT #3						9568.2	1192.00	996.2			398.95	198.50
1-200.000' PRESTR CONC BM UNIT #4						9583.1	1193.88	997.8			399.44	199.20
1-200.000' PRESTR CONC BM UNIT #5						9600.0	1196.04	999.5			400.00	200.00
1-200.000' PRESTR CONC BM UNIT #6						9612.6	1197.59	1000.9			400.41	200.59
1-200.000' PRESTR CONC BM UNIT #7						9631.8	1199.96	1002.9			401.05	201.50
1-300.000' PRESTR CONC BM UNIT #8						14416.3	1796.08	1501.0			600.54	300.77
25-300.000' PRESTR CONC BM UNIT #9-33						360000.0	44851.50	37482.5			15000.00	7500.00
1-300.000' PRESTR CONC BM UNIT #34						14411.5	1795.48	1500.5			600.38	300.54
1-300.000' PRESTR CONC BM UNIT #35						14443.2	1799.39	1503.9			601.42	302.04
1-300.000' PRESTR CONC BM UNIT #36						14400.0	1794.06	1499.3			600.00	300.00
1-190.000' PRESTR CONC BM UNIT #37						9120.0	1136.04	949.6			380.00	190.00
TOTAL	13485	7407	142	72.6	2243.7	493494.6	61482.57	51382.0	29.03	1759.0 *	20597.79	10318.57

(9) (9) (9) (9)

* Quantity includes 46.29' each joint

CHANGE ORDER NO. (9)

HS 20 LOADING SHEET 1 OF 3

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER
BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DRN - MDH	CK1 - JBH	DRN - TKW	CK1 - MDH	REG NO.:	
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
8-00 Changed unit lengths and joint quantity. MDH/RNP	18	6	NH 99(367)			216A
	COUNTY			CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL			0009	04	039	SH66

(9)

ACC: D48PC3Q: TWHALEY
FILE: 5692TL01.DGN
LEVEL
UNITED
1

BEARING SEAT ELEVATIONS

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6
BENT 1	(FWD)	462.632	462.807	462.981	463.156	463.331	463.506
BENT 2	(BK)	462.267	462.442	462.617	462.791	462.966	463.141
	(FWD)	462.261	462.436	462.611	462.785	462.960	463.135
BENT 3	(BK)	461.855	462.030	462.205	462.379	462.554	462.729
	(FWD)	461.849	462.024	462.199	462.374	462.548	462.723
BENT 4	(BK)	461.443	461.618	461.793	461.967	462.142	462.317
	(FWD)	461.437	461.612	461.787	461.962	462.136	462.311
BENT 5	(BK)	461.031	461.206	461.381	461.555	461.730	461.905
	(FWD)	461.025	461.200	461.375	461.550	461.724	461.899
BENT 6	(BK)	460.619	460.794	460.969	461.144	461.318	461.493
	(FWD)	460.614	460.788	460.963	461.138	461.312	461.487
BENT 7	(BK)	460.208	460.382	460.557	460.732	460.906	461.081
	(FWD)	460.202	460.376	460.551	460.726	460.901	461.075
BENT 8	(BK)	459.796	459.970	460.145	460.320	460.495	460.669
	(FWD)	459.790	459.965	460.139	460.314	460.489	460.663
BENT 9	(BK)	459.384	459.559	459.733	459.908	460.083	460.257
	(FWD)	459.378	459.553	459.727	459.902	460.077	460.252
BENT 10	(BK)	459.136	459.276	459.416	459.557	459.697	459.837
	(FWD)	459.136	459.275	459.414	459.553	459.692	459.831
BENT 11	(BK)	459.151	459.201	459.252	459.303	459.353	459.404
	(FWD)	459.151	459.200	459.250	459.299	459.349	459.398
BENT 12	(BK)	459.165	459.126	459.088	459.049	459.010	458.971
	(FWD)	459.166	459.125	459.085	459.045	459.005	458.965
BENT 13	(BK)	459.180	459.052	458.923	458.795	458.666	458.538
	(FWD)	459.180	459.051	458.921	458.791	458.661	458.531
BENT 14	(BK)	458.988	458.814	458.639	458.464	458.289	458.115
	(FWD)	458.982	458.808	458.633	458.458	458.284	458.109
BENT 15	(BK)	458.462	458.311	458.161	458.010	457.859	457.709
	(FWD)	458.450	458.301	458.151	458.002	457.852	457.703
BENT 16	(BK)	457.624	457.562	457.501	457.440	457.379	457.318
	(FWD)	457.612	457.552	457.492	457.432	457.373	457.313
BENT 17	(BK)	456.785	456.814	456.842	456.871	456.899	456.928
	(FWD)	456.773	456.803	456.833	456.862	456.892	456.922
BENT 18	(BK)	455.947	456.065	456.183	456.301	456.419	456.537
	(FWD)	455.935	456.054	456.173	456.293	456.412	456.531
BENT 19	(BK)	455.265	455.440	455.614	455.789	455.964	456.139
	(FWD)	455.259	455.434	455.609	455.783	455.958	456.133
BENT 20	(BK)	454.853	455.028	455.202	455.377	455.552	455.727
	(FWD)	454.847	455.022	455.197	455.371	455.546	455.721
BENT 21	(BK)	454.441	454.616	454.791	454.965	455.140	455.315
	(FWD)	454.435	454.610	454.785	454.959	455.134	455.309
BENT 22	(BK)	454.029	454.204	454.379	454.553	454.728	454.903
	(FWD)	454.023	454.198	454.373	454.548	454.722	454.897
BENT 23	(BK)	453.617	453.792	453.967	454.142	454.316	454.491
	(FWD)	453.612	453.786	453.961	454.136	454.310	454.485
BENT 24	(BK)	453.205	453.380	453.555	453.730	453.904	454.079
	(FWD)	453.200	453.374	453.549	453.724	453.898	454.073
BENT 25	(BK)	452.794	452.968	453.143	453.318	453.492	453.667
	(FWD)	452.788	452.962	453.137	453.312	453.487	453.661
BENT 26	(BK)	452.382	452.556	452.731	452.906	453.081	453.255
	(FWD)	452.376	452.551	452.725	452.900	453.075	453.249
BENT 27	(BK)	451.970	452.145	452.319	452.494	452.669	452.843
	(FWD)	451.964	452.139	452.313	452.488	452.663	452.838
BENT 28	(BK)	451.558	451.733	451.907	452.082	452.257	452.432
	(FWD)	451.552	451.727	451.901	452.076	452.251	452.426
BENT 29	(BK)	451.146	451.321	451.495	451.670	451.845	452.020
	(FWD)	451.140	451.315	451.490	451.664	451.839	452.014
BENT 30	(BK)	450.734	450.909	451.084	451.258	451.433	451.608
	(FWD)	450.728	450.903	451.078	451.252	451.427	451.602
BENT 31	(BK)	450.322	450.497	450.672	450.846	451.021	451.196
	(FWD)	450.316	450.491	450.666	450.841	451.015	451.190
BENT 32	(BK)	449.910	450.085	450.260	450.435	450.609	450.784
	(FWD)	449.904	450.079	450.254	450.429	450.603	450.778
BENT 33	(BK)	449.498	449.673	449.848	450.023	450.197	450.372
	(FWD)	449.493	449.668	449.842	450.017	450.191	450.366
BENT 34	(BK)	449.087	449.261	449.436	449.611	449.785	449.960
	(FWD)	449.081	449.255	449.430	449.605	449.780	449.954
BENT 35	(BK)	448.675	448.849	449.024	449.199	449.374	449.548
	(FWD)	448.669	448.844	449.018	449.193	449.368	449.542
BENT 36	(BK)	448.263	448.438	448.612	448.787	448.962	449.136
	(FWD)	448.257	448.432	448.606	448.781	448.956	449.131
BENT 37	(BK)	447.851	448.026	448.200	448.375	448.550	448.724
	(FWD)	447.845	448.020	448.194	448.369	448.544	448.719
BENT 38	(BK)	447.439	447.614	447.788	447.963	448.138	448.313
	(FWD)	447.433	447.608	447.783	447.957	448.132	448.307
BENT 39	(BK)	447.027	447.202	447.377	447.551	447.726	447.901
	(FWD)	447.021	447.196	447.371	447.545	447.720	447.895
BENT 40	(BK)	446.615	446.790	446.965	447.139	447.314	447.489
	(FWD)	446.609	446.784	446.959	447.134	447.308	447.483
BENT 41	(BK)	446.203	446.378	446.553	446.727	446.902	447.077
	(FWD)	446.197	446.372	446.547	446.722	446.896	447.071
BENT 42	(BK)	445.791	445.966	446.141	446.316	446.490	446.665
	(FWD)	445.786	445.960	446.135	446.310	446.484	446.659
BENT 43	(BK)	445.380	445.554	445.729	445.904	446.078	446.253
	(FWD)	445.374	445.548	445.723	445.898	446.073	446.247
BENT 44	(BK)	444.968	445.142	445.317	445.492	445.667	445.841
	(FWD)	444.962	445.137	445.311	445.486	445.661	445.835
BENT 45	(BK)	444.556	444.730	444.905	445.080	445.255	445.429
	(FWD)	444.550	444.725	444.899	445.074	445.249	445.423
BENT 46	(BK)	444.144	444.319	444.493	444.668	444.843	445.017
	(FWD)	444.138	444.313	444.487	444.662	444.837	445.012
BENT 47	(BK)	443.732	443.907	444.081	444.256	444.431	444.606
	(FWD)	443.726	443.901	444.076	444.250	444.425	444.600
BENT 48	(BK)	443.320	443.495	443.669	443.844	444.019	444.194
	(FWD)	443.314	443.489	443.664	443.838	444.013	444.188

LEVELS DISPLAYED
ACC: D48PC3Q: TWHALEY
FILE: 5692TL01.DGN

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

HS 20 LOADING

SHEET 2 OF 3

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER
BRIDGE WESTBOUND LANES

ORIG DRAN DATE: FEB 99	DN: MDH	CK: JBH	DW: TKW	CK: MDH	NEG NO.:
REVISIONS					

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT #	SHEET
18	6	NH 99(367)	217

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH66

BEARING SEAT ELEVATIONS

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6
BENT 1	(FWD)	462.632	462.807	462.981	463.156	463.331	463.506
BENT 2	(BK)	462.267	462.442	462.617	462.791	462.966	463.141
	(FWD)	462.261	462.436	462.611	462.785	462.960	463.135
BENT 3	(BK)	461.855	462.030	462.205	462.379	462.554	462.729
	(FWD)	461.849	462.024	462.199	462.374	462.548	462.723
BENT 4	(BK)	461.443	461.618	461.793	461.967	462.142	462.317
	(FWD)	461.437	461.612	461.787	461.962	462.136	462.311
BENT 5	(BK)	461.031	461.206	461.381	461.555	461.730	461.905
	(FWD)	461.025	461.200	461.375	461.550	461.724	461.899
BENT 6	(BK)	460.619	460.794	460.969	461.144	461.318	461.493
	(FWD)	460.614	460.788	460.963	461.138	461.312	461.487
BENT 7	(BK)	460.208	460.382	460.557	460.732	460.906	461.081
	(FWD)	460.202	460.376	460.551	460.726	460.901	461.075
BENT 8	(BK)	459.796	459.970	460.145	460.320	460.495	460.669
	(FWD)	459.790	459.965	460.139	460.314	460.489	460.663
BENT 9	(BK)	459.384	459.559	459.733	459.908	460.083	460.257
	(FWD)	459.295	459.469	459.644	459.819	459.994	460.168
BENT 10	(BK)	459.053	459.193	459.333	459.473	459.614	459.754
	(FWD)	459.136	459.275	459.414	459.553	459.692	459.831
BENT 11	(BK)	459.151	459.201	459.252	459.303	459.353	459.404
	(FWD)	459.151	459.200	459.250	459.299	459.349	459.398
BENT 12	(BK)	459.165	459.126	459.088	459.049	459.010	458.971
	(FWD)	459.166	459.125	459.085	459.045	459.005	458.965
BENT 13	(BK)	459.180	459.052	458.923	458.795	458.666	458.538
	(FWD)	459.180	459.051	458.921	458.791	458.661	458.531
BENT 14	(BK)	458.988	458.814	458.639	458.464	458.289	458.115
	(FWD)	458.982	458.808	458.633	458.458	458.284	458.109
BENT 15	(BK)	458.462	458.311	458.161	458.010	457.859	457.709
	(FWD)	458.450	458.301	458.151	458.002	457.852	457.703
BENT 16	(BK)	457.624	457.562	457.501	457.440	457.379	457.318
	(FWD)	457.612	457.552	457.492	457.432	457.372	457.313
BENT 17	(BK)	456.785	456.814	456.842	456.871	456.899	456.928
	(FWD)	456.773	456.803	456.833	456.862	456.892	456.922
BENT 18	(BK)	455.947	456.065	456.183	456.301	456.419	456.537
	(FWD)	455.851	455.971	456.090	456.209	456.329	456.448
BENT 19	(BK)	455.182	455.356	455.531	455.706	455.880	456.055
	(FWD)	455.259	455.434	455.609	455.783	455.958	456.133
BENT 20	(BK)	454.853	455.028	455.202	455.377	455.552	455.727
	(FWD)	454.847	455.022	455.197	455.371	455.546	455.721
BENT 21	(BK)	454.441	454.616	454.791	454.965	455.140	455.315
	(FWD)	454.435	454.610	454.785	454.959	455.134	455.309
BENT 22	(BK)	454.029	454.204	454.379	454.553	454.728	454.903
	(FWD)	454.023	454.198	454.373	454.548	454.722	454.897
BENT 23	(BK)	453.617	453.792	453.967	454.142	454.316	454.491
	(FWD)	453.612	453.786	453.961	454.136	454.310	454.485
BENT 24	(BK)	453.205	453.380	453.555	453.730	453.904	454.079
	(FWD)	453.200	453.374	453.549	453.724	453.898	454.073
BENT 25	(BK)	452.794	452.968	453.143	453.318	453.492	453.667
	(FWD)	452.788	452.962	453.137	453.312	453.487	453.661
BENT 26	(BK)	452.382	452.556	452.731	452.906	453.081	453.255
	(FWD)	452.376	452.551	452.725	452.900	453.075	453.249
BENT 27	(BK)	451.970	452.145	452.319	452.494	452.669	452.843
	(FWD)	451.964	452.139	452.313	452.488	452.663	452.838
BENT 28	(BK)	451.558	451.733	451.907	452.082	452.257	452.432
	(FWD)	451.552	451.727	451.901	452.076	452.251	452.426
BENT 29	(BK)	451.146	451.321	451.495	451.670	451.845	452.020
	(FWD)	451.140	451.315	451.490	451.664	451.839	452.014
BENT 30	(BK)	450.734	450.909	451.084	451.258	451.433	451.608
	(FWD)	450.728	450.903	451.078	451.252	451.427	451.602
BENT 31	(BK)	450.322	450.497	450.672	450.846	451.021	451.196
	(FWD)	450.316	450.491	450.666	450.841	451.015	451.190
BENT 32	(BK)	449.910	450.085	450.260	450.435	450.609	450.784
	(FWD)	449.904	450.079	450.254	450.429	450.603	450.778
BENT 33	(BK)	449.498	449.673	449.848	450.023	450.197	450.372
	(FWD)	449.493	449.667	449.842	450.017	450.191	450.366
BENT 34	(BK)	449.087	449.261	449.436	449.611	449.785	449.960
	(FWD)	449.081	449.255	449.430	449.605	449.780	449.954
BENT 35	(BK)	448.675	448.849	449.024	449.199	449.374	449.548
	(FWD)	448.669	448.844	449.018	449.193	449.368	449.542
BENT 36	(BK)	448.263	448.438	448.612	448.787	448.962	449.136
	(FWD)	448.257	448.432	448.606	448.781	448.956	449.131
BENT 37	(BK)	447.851	448.026	448.200	448.375	448.550	448.724
	(FWD)	447.845	448.020	448.194	448.369	448.544	448.719
BENT 38	(BK)	447.439	447.614	447.788	447.963	448.138	448.313
	(FWD)	447.433	447.608	447.783	447.957	448.132	448.307
BENT 39	(BK)	447.027	447.202	447.377	447.551	447.726	447.901
	(FWD)	447.021	447.196	447.371	447.545	447.720	447.895
BENT 40	(BK)	446.615	446.790	446.965	447.139	447.314	447.489
	(FWD)	446.609	446.784	446.959	447.134	447.308	447.483
BENT 41	(BK)	446.203	446.378	446.553	446.727	446.902	447.077
	(FWD)	446.197	446.372	446.547	446.722	446.896	447.071
BENT 42	(BK)	445.791	445.966	446.141	446.316	446.490	446.665
	(FWD)	445.786	445.960	446.135	446.310	446.484	446.659
BENT 43	(BK)	445.380	445.554	445.729	445.904	446.078	446.253
	(FWD)	445.374	445.548	445.723	445.898	446.073	446.247
BENT 44	(BK)	444.968	445.142	445.317	445.492	445.667	445.841
	(FWD)	444.962	445.137	445.311	445.486	445.661	445.835
BENT 45	(BK)	444.556	444.730	444.905	445.080	445.255	445.429
	(FWD)	444.550	444.725	444.899	445.074	445.249	445.423
BENT 46	(BK)	444.144	444.319	444.493	444.668	444.843	445.017
	(FWD)	444.138	444.313	444.487	444.662	444.837	445.012
BENT 47	(BK)	443.732	443.907	444.081	444.256	444.431	444.606
	(FWD)	443.726	443.901	444.076	444.250	444.425	444.600
BENT 48	(BK)	443.320	443.495	443.669	443.844	444.019	444.194
	(FWD)	443.314	443.489	443.664	443.838	444.013	444.188

CHANGE ORDER NO. _____

HS 20 LOADING

SHEET 2 OF 3

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/00

Jas C. Wall

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER
BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DW - MDH	CO - JBH	DW - TKW	CO - MDH	MEG NO. #

REVISIONS
1/00 - REVISED BSE'S AT BENTS 8, 9, 18, 19, 50, 51, 52, 92, 93, 101 & 102 - MDH/KC

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT #	SHEET
18	6	NH 99(367)	217

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH66

LEVELS | CHKED | ACC: D48PC30: TWHALEY | FILE: 5692TL01.DGN

BEARING SEAT ELEVATIONS

		BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6
BENT 1	(FWD)	462.632	462.807	462.981	463.156	463.331	463.506
BENT 2	(BK)	462.267	462.442	462.617	462.791	462.966	463.141
	(FWD)	462.261	462.436	462.611	462.785	462.960	463.135
BENT 3	(BK)	461.855	462.030	462.205	462.379	462.554	462.729
	(FWD)	461.849	462.024	462.199	462.374	462.548	462.723
BENT 4	(BK)	461.443	461.618	461.793	461.967	462.142	462.317
	(FWD)	461.437	461.612	461.787	461.962	462.136	462.311
BENT 5	(BK)	461.031	461.206	461.381	461.555	461.730	461.905
	(FWD)	461.025	461.200	461.375	461.550	461.724	461.899
BENT 6	(BK)	460.619	460.794	460.969	461.144	461.318	461.493
	(FWD)	460.614	460.788	460.963	461.138	461.312	461.487
BENT 7	(BK)	460.208	460.382	460.557	460.732	460.906	461.081
	(FWD)	460.202	460.376	460.551	460.726	460.901	461.075
BENT 8	(BK)	459.796	459.970	460.145	460.320	460.495	460.669
	(FWD)	459.790	459.965	460.139	460.314	460.489	460.663
BENT 9	(BK)	459.384	459.559	459.733	459.908	460.083	460.257
	(FWD)	459.295	459.469	459.644	459.819	459.994	460.168
BENT 10	(BK)	459.053	459.193	459.333	459.473	459.614	459.754
	(FWD)	459.136	459.275	459.414	459.553	459.692	459.831
BENT 11	(BK)	459.151	459.201	459.252	459.303	459.353	459.404
	(FWD)	459.151	459.200	459.250	459.299	459.349	459.398
BENT 12	(BK)	459.165	459.126	459.088	459.049	459.010	458.971
	(FWD)	459.166	459.125	459.085	459.045	459.005	458.965
BENT 13	(BK)	459.180	459.052	458.923	458.795	458.666	458.538
	(FWD)	459.180	459.051	458.921	458.791	458.661	458.531
BENT 14	(BK)	458.988	458.814	458.639	458.464	458.289	458.115
	(FWD)	458.982	458.808	458.633	458.458	458.284	458.109
BENT 15	(BK)	458.462	458.311	458.161	458.010	457.859	457.709
	(FWD)	458.450	458.301	458.151	458.002	457.852	457.703
BENT 16	(BK)	457.624	457.562	457.501	457.440	457.379	457.318
	(FWD)	457.612	457.552	457.492	457.432	457.372	457.313
BENT 17	(BK)	456.785	456.814	456.842	456.871	456.899	456.928
	(FWD)	456.773	456.803	456.833	456.862	456.892	456.922
BENT 18	(BK)	455.947	456.065	456.183	456.301	456.419	456.537
	(FWD)	455.851	455.971	456.090	456.209	456.329	456.448
BENT 19	(BK)	455.182	455.356	455.531	455.706	455.880	456.055
	(FWD)	455.259	455.434	455.609	455.783	455.958	456.133
BENT 20	(BK)	454.853	455.028	455.202	455.377	455.552	455.727
	(FWD)	454.847	455.022	455.197	455.371	455.546	455.721
BENT 21	(BK)	454.441	454.616	454.791	454.965	455.140	455.315
	(FWD)	454.435	454.610	454.785	454.959	455.134	455.309
BENT 22	(BK)	454.029	454.204	454.379	454.553	454.728	454.903
	(FWD)	454.023	454.198	454.373	454.548	454.722	454.897
BENT 23	(BK)	453.617	453.792	453.967	454.142	454.316	454.491
	(FWD)	453.612	453.786	453.961	454.136	454.310	454.485
BENT 24	(BK)	453.205	453.380	453.555	453.730	453.904	454.079
	(FWD)	453.200	453.374	453.549	453.724	453.898	454.073
BENT 25	(BK)	452.794	452.968	453.143	453.318	453.492	453.667
	(FWD)	452.788	452.962	453.137	453.312	453.487	453.661
BENT 26	(BK)	452.382	452.556	452.731	452.906	453.081	453.255
	(FWD)	452.376	452.551	452.725	452.900	453.075	453.249
BENT 27	(BK)	451.970	452.145	452.319	452.494	452.669	452.843
	(FWD)	451.964	452.139	452.313	452.488	452.663	452.838
BENT 28	(BK)	451.558	451.733	451.907	452.082	452.257	452.432
	(FWD)	451.552	451.727	451.901	452.076	452.251	452.426
BENT 29	(BK)	451.146	451.321	451.495	451.670	451.845	452.020
	(FWD)	451.140	451.315	451.490	451.664	451.839	452.014
BENT 30	(BK)	450.734	450.909	451.084	451.258	451.433	451.608
	(FWD)	450.728	450.903	451.078	451.252	451.427	451.602
BENT 31	(BK)	450.322	450.497	450.672	450.846	451.021	451.196
	(FWD)	450.316	450.491	450.666	450.841	451.015	451.190
BENT 32	(BK)	449.910	450.085	450.260	450.435	450.609	450.784
	(FWD)	449.904	450.079	450.254	450.429	450.603	450.778
BENT 33	(BK)	449.498	449.673	449.848	450.023	450.197	450.372
	(FWD)	449.493	449.667	449.842	450.017	450.191	450.366
BENT 34	(BK)	449.087	449.261	449.436	449.611	449.785	449.960
	(FWD)	449.081	449.255	449.430	449.605	449.780	449.954
BENT 35	(BK)	448.675	448.849	449.024	449.199	449.374	449.548
	(FWD)	448.669	448.844	449.018	449.193	449.368	449.542
BENT 36	(BK)	448.263	448.438	448.612	448.787	448.962	449.136
	(FWD)	448.257	448.432	448.606	448.781	448.956	449.131
BENT 37	(BK)	447.851	448.026	448.200	448.375	448.550	448.724
	(FWD)	447.845	448.020	448.194	448.369	448.544	448.719
BENT 38	(BK)	447.439	447.614	447.788	447.963	448.138	448.313
	(FWD)	447.433	447.608	447.783	447.957	448.132	448.307
BENT 39	(BK)	447.027	447.202	447.377	447.551	447.726	447.901
	(FWD)	447.021	447.196	447.371	447.545	447.720	447.895
BENT 40	(BK)	446.615	446.790	446.965	447.139	447.314	447.489
	(FWD)	446.609	446.784	446.959	447.134	447.308	447.483
BENT 41	(BK)	446.203	446.378	446.553	446.727	446.902	447.077
	(FWD)	446.197	446.372	446.547	446.722	446.896	447.071
BENT 42	(BK)	445.791	445.966	446.141	446.316	446.490	446.665
	(FWD)	445.786	445.960	446.135	446.310	446.484	446.659
BENT 43	(BK)	445.380	445.554	445.729	445.904	446.078	446.253
	(FWD)	445.374	445.548	445.723	445.898	446.073	446.247
BENT 44	(BK)	444.968	445.142	445.317	445.492	445.667	445.841
	(FWD)	444.962	445.137	445.311	445.486	445.661	445.835
BENT 45	(BK)	444.556	444.730	444.905	445.080	445.255	445.429
	(FWD)	444.550	444.725	444.899	445.074	445.249	445.423
BENT 46	(BK)	444.144	444.319	444.493	444.668	444.843	445.017
	(FWD)	444.138	444.313	444.487	444.662	444.837	445.012
BENT 47	(BK)	443.732	443.907	444.081	444.256	444.431	444.606
	(FWD)	443.726	443.901	444.076	444.250	444.425	444.600
BENT 48	(BK)	443.320	443.495	443.669	443.844	444.019	444.194
	(FWD)	443.314	443.489	443.664	443.838	444.013	444.188

CHANGE ORDER NO._____

HS 20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

Jas C. Wall

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER
BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DN: MDH	CK: JBH	DW: TKW	CK: MDH	MCG NO.:	
REVISIONS	STATE DISTRICT	GENERAL REGION	FEDERAL AID PROJECT			SHEET
1/00 - REVISED BSE'S AT BENTS 8,9,18,19,50,51,52, 92,93,101 & 102 - MDH/KC	18	6	NH 99(367)			217B
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

ACC: D48PC30: TWHALEY
FILE: 5692TL01.DGN
LEVEL
FED

BEARING SEAT ELEVATIONS

BENT 49	(BK)	442.908	443.083	443.258	443.432	443.607	443.782
	(FWD)	442.902	443.077	443.252	443.426	443.601	443.776
BENT 50	(BK)	442.496	442.671	442.846	443.020	443.195	443.370
	(FWD)	442.490	442.665	442.840	443.015	443.189	443.364
BENT 51	(BK)	442.115	442.290	442.465	442.639	442.814	442.989
	(FWD)	442.112	442.287	442.462	442.637	442.811	442.986
BENT 52	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 53	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 54	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 55	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 56	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 57	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 58	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 59	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 60	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 61	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 62	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 63	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 64	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 65	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 66	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 67	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 68	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 69	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 70	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 71	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 72	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 73	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 74	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 75	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 76	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967

BENT 77	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 78	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 79	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 80	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 81	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 82	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 83	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 84	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 85	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 86	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 87	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 88	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 89	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 90	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 91	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 92	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 93	(BK)	442.229	442.376	442.522	442.668	442.814	442.961
	(FWD)	442.236	442.380	442.525	442.670	442.815	442.960
BENT 94	(BK)	442.656	442.713	442.769	442.826	442.883	442.939
	(FWD)	442.662	442.718	442.773	442.828	442.884	442.939
BENT 95	(BK)	443.083	443.050	443.017	442.984	442.951	442.918
	(FWD)	443.089	443.055	443.020	442.986	442.952	442.918
BENT 96	(BK)	443.509	443.387	443.264	443.142	443.019	442.897
	(FWD)	443.515	443.392	443.268	443.144	443.020	442.896
BENT 97	(BK)	443.758	443.583	443.408	443.234	443.059	442.884
	(FWD)	443.758	443.583	443.408	443.234	443.059	442.884
BENT 98	(BK)	443.513	443.390	443.266	443.143	443.020	442.896
	(FWD)	443.507	443.385	443.263	443.141	443.019	442.897
BENT 99	(BK)	443.086	443.053	443.019	442.985	442.952	442.918
	(FWD)	443.080	443.048	443.015	442.983	442.951	442.918
BENT100	(BK)	442.660	442.716	442.771	442.827	442.883	442.939
	(FWD)	442.654	442.711	442.768	442.825	442.882	442.939
BENT101	(BK)	442.233	442.379	442.524	442.669	442.815	442.960
	(FWD)	442.227	442.374	442.521	442.667	442.814	442.961
BENT102	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT103	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT104	(BK)	442.094	442.269	442.443	442.618	442.793	442.967

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

HS 20 LOADING

SHEET 3 OF 3

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DW: MDH	CK: JBH	DW: TKW	QC: MDH	MSG NO.:
REVISIONS					

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
18	6	NH 99(367)		218
COUNTY		CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL		0009	04	039	SH66

LEVELS DISPLAYED
ACC: D48PC3Q: TWHALEY
FILE: 5692TL01.DGN

BEARING SEAT ELEVATIONS

BENT 49	(BK)	442.908	443.083	443.258	443.432	443.607	443.782
	(FWD)	442.902	443.077	443.252	443.426	443.601	443.776
BENT 50	(BK)	442.496	442.671	442.846	443.020	443.195	443.370
	(FWD)	442.470	442.644	442.819	442.994	443.168	443.343
BENT 51	(BK)	442.094	442.269	442.444	442.618	442.793	442.968
	(FWD)	442.092	442.266	442.441	442.616	442.791	442.965
BENT 52	(BK)	442.073	442.248	442.422	442.597	442.772	442.947
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 53	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 54	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 55	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 56	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 57	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 58	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 59	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 60	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 61	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 62	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 63	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 64	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 65	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 66	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 67	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 68	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 69	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 70	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 71	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 72	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 73	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 74	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 75	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 76	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 77	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 78	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 79	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 80	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 81	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 82	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 83	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 84	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 85	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 86	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 87	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 88	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 89	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 90	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 91	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 92	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.031	442.206	442.381	442.555	442.730	442.905
BENT 93	(BK)	442.167	442.313	442.459	442.606	442.752	442.898
	(FWD)	442.236	442.380	442.525	442.670	442.815	442.960
BENT 94	(BK)	442.656	442.713	442.769	442.826	442.883	442.939
	(FWD)	442.662	442.718	442.773	442.828	442.884	442.939
BENT 95	(BK)	443.083	443.050	443.017	442.984	442.951	442.918
	(FWD)	443.089	443.055	443.020	442.986	442.952	442.918
BENT 96	(BK)	443.509	443.387	443.264	443.142	443.019	442.897
	(FWD)	443.515	443.392	443.268	443.144	443.020	442.896
BENT 97	(BK)	443.758	443.583	443.408	443.234	443.059	442.884
	(FWD)	443.758	443.583	443.408	443.234	443.059	442.884
BENT 98	(BK)	443.513	443.390	443.266	443.143	443.020	442.896
	(FWD)	443.507	443.385	443.263	443.141	443.019	442.897
BENT 99	(BK)	443.086	443.053	443.019	442.985	442.952	442.918
	(FWD)	443.080	443.048	443.015	442.983	442.951	442.918
BENT100	(BK)	442.660	442.716	442.771	442.827	442.883	442.939
	(FWD)	442.654	442.711	442.768	442.825	442.882	442.939
BENT101	(BK)	442.233	442.379	442.524	442.669	442.815	442.960
	(FWD)	442.165	442.311	442.458	442.605	442.751	442.898
BENT102	(BK)	442.031	442.206	442.381	442.555	442.730	442.905
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT103	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT104	(BK)	442.094	442.269	442.443	442.618	442.793	442.967

LEVELS DISPLAYED
ACC: D48PC30: TWHALEY
FILE: 5692TL01.DGN

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/00

CHANGE ORDER NO. _____

HS 20 LOADING SHEET 3 OF 3

Texas Department of Transportation
Design Division (Bridge Section)

ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER
BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DW - MDH	CK - JBH	DW - TKW	CK - MDH	REG NO.:	
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
1/00 - REVISED BSE'S AT BENTS 8, 9, 18, 19, 50, 51, 52, 92, 93, 101 & 102 - MDH/KC	18	6	NH 99(367)			216A
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

BEARING SEAT ELEVATIONS

BENT 49	(BK)	442.908	443.083	443.258	443.432	443.607	443.782
	(FWD)	442.902	443.077	443.252	443.426	443.601	443.776
BENT 50	(BK)	442.496	442.671	442.846	443.020	443.195	443.370
	(FWD)	442.470	442.644	442.819	442.994	443.168	443.343
BENT 51	(BK)	442.094	442.269	442.444	442.618	442.793	442.968
	(FWD)	442.092	442.266	442.441	442.616	442.791	442.965
BENT 52	(BK)	442.073	442.248	442.422	442.597	442.772	442.947
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 53	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 54	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 55	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 56	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 57	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 58	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 59	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 60	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 61	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 62	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 63	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 64	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 65	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 66	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 67	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 68	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 69	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 70	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 71	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 72	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 73	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 74	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 75	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 76	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 77	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 78	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 79	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 80	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 81	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 82	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 83	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 84	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 85	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 86	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
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BENT 87	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 88	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 89	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 90	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
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BENT 91	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT 92	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.031	442.206	442.381	442.555	442.730	442.905
BENT 93	(BK)	442.167	442.313	442.459	442.606	442.752	442.898
	(FWD)	442.236	442.380	442.525	442.670	442.815	442.960
BENT 94	(BK)	442.656	442.713	442.769	442.826	442.883	442.939
	(FWD)	442.662	442.718	442.773	442.828	442.884	442.939
BENT 95	(BK)	443.083	443.050	443.017	442.984	442.951	442.918
	(FWD)	443.089	443.055	443.020	442.986	442.952	442.918
BENT 96	(BK)	443.509	443.387	443.264	443.142	443.019	442.897
	(FWD)	443.515	443.392	443.268	443.144	443.020	442.896
BENT 97	(BK)	443.758	443.583	443.408	443.234	443.059	442.884
	(FWD)	443.758	443.583	443.408	443.234	443.059	442.884
BENT 98	(BK)	443.513	443.390	443.266	443.143	443.020	442.896
	(FWD)	443.507	443.385	443.263	443.141	443.019	442.897
BENT 99	(BK)	443.086	443.053	443.019	442.985	442.952	442.918
	(FWD)	443.101	443.069	443.036	443.004	442.971	442.939
BENT100	(BK)	442.706	442.757	442.807	442.858	442.908	442.959
	(FWD) 9	442.658	442.710	442.762	442.814	442.866	442.917
BENT101	(BK)	442.212	442.358	442.503	442.649	442.794	442.940
	(FWD)	442.165	442.311	442.458	442.605	442.751	442.898
BENT102	(BK)	442.031	442.206	442.381	442.555	442.730	442.905
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT103	(BK)	442.094	442.269	442.443	442.618	442.793	442.967
	(FWD)	442.094	442.269	442.443	442.618	442.793	442.967
BENT104	(BK)	442.094	442.269	442.443	442.618	442.793	442.967

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

CHANGE ORDER NO.

CHANGE ORDER NO. 9

HS 20 LOADING

SHEET 3 OF 3

Texas Department of Transportation
Design Division (Bridge Section)

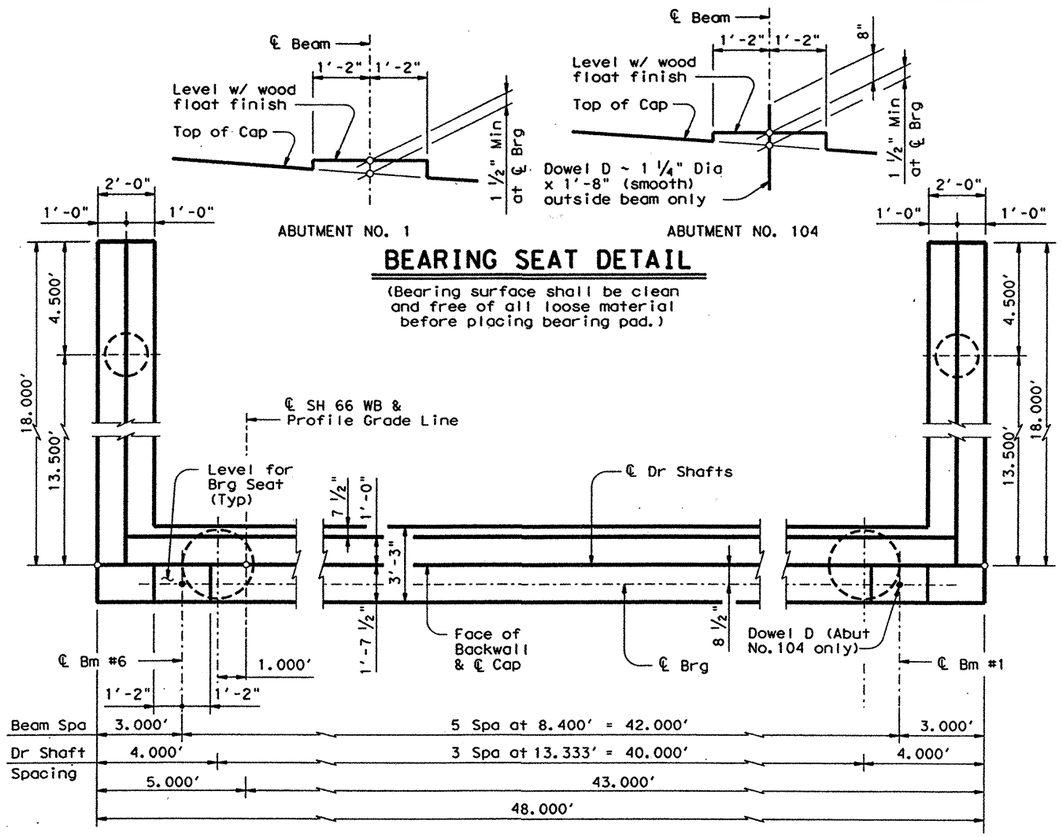
ESTIMATED QUANTITIES AND BEARING SEAT ELEVATIONS

EAST FORK OF TRINITY RIVER BRIDGE WESTBOUND LANES

ORIG DRAW DATE: FEB 99	DN: MDH	CK: JBH	DW: TKW	CK: MDH	NEG NO.:	
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
1/00 - REVISED BSE'S AT BENTS 8,9,18,19,50,51,52, 92,93,101 & 102 - MDH/AC	18	6	NH 99(367)			218
8/00 - REVISED BSE'S AT BENTS 99,100 & 101 - MDH/RNP	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

9

ACC: D48PC3Q: TWHALEY
FILE: 5692TL01.DGN
LEVEL
WED

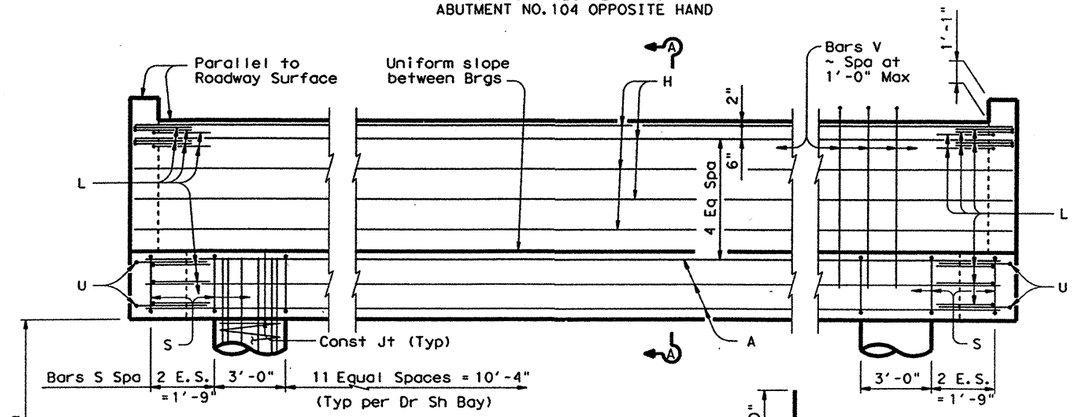


BEARING SEAT DETAIL

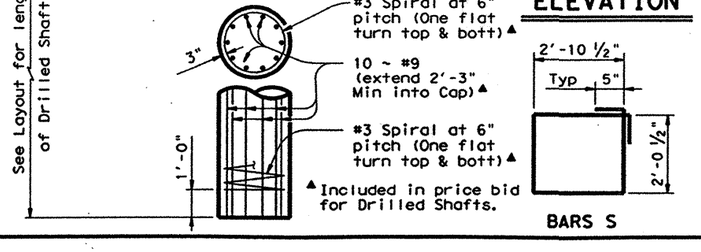
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

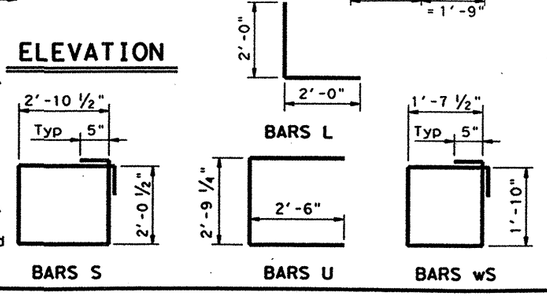
PLAN

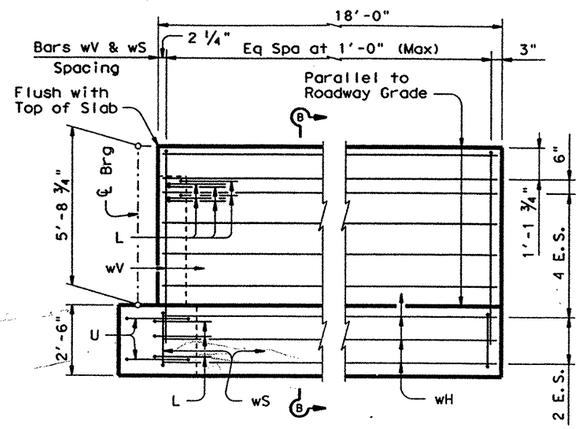
SHOWING ABUTMENT NO. 1
ABUTMENT NO. 104 OPPOSITE HAND



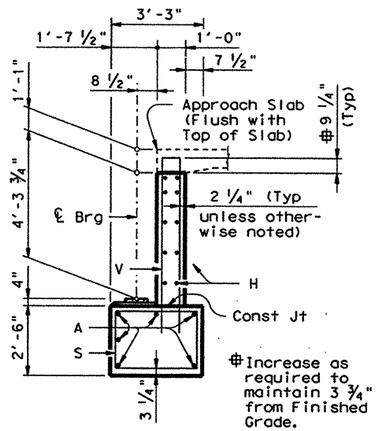
ELEVATION



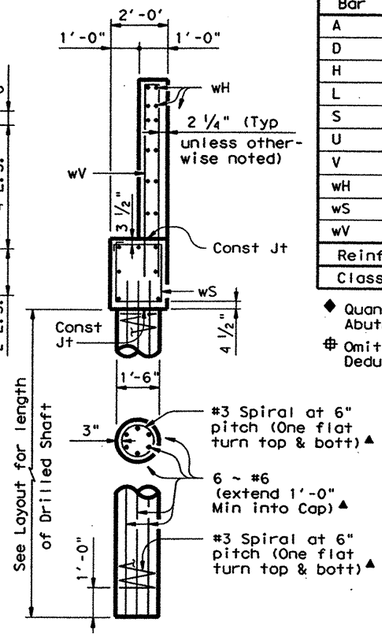




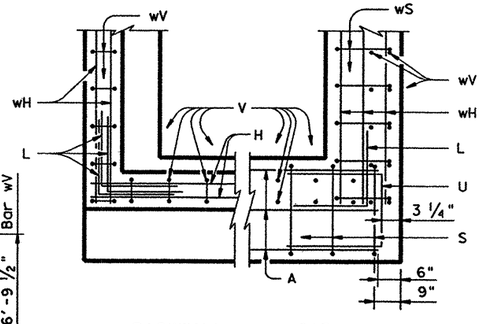
WINGWALL ELEVATION



SECTION A-A



SECTION B-B



BACKWALL CAP

CORNER DETAILS

◆⊕TABLE OF ESTIMATED QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	47'- 0"	1498
D	2	1¼"D	1'- 8"	14
H	10	#5	47'- 8"	497
L	18	#6	4'- 0"	108
S	42	#4	10'- 8"	299
U	4	#6	7'- 9"	47
V	47	#5	14'- 0"	686
wH	38	#6	17'- 8"	1008
wS	38	#4	7'- 9"	197
wV	38	#5	14'- 3"	565
Reinforcing Steel			Lb	4919
Class "C" Concrete			CY	36.3

◆ Quantities shown are for one Abutment only.
⊕ Omit Dowels D at Abut 1, Deduct 14 lbs. reinforcing steel.

130

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.
All cap and wall reinforcing shall be Grade 60.
Drilled Shaft reinforcing may be Grade 40.
Calculated Foundation Loads ~
Cap Drilled Shafts = 102 Tons/Drilled Shaft

HS20 LOADING

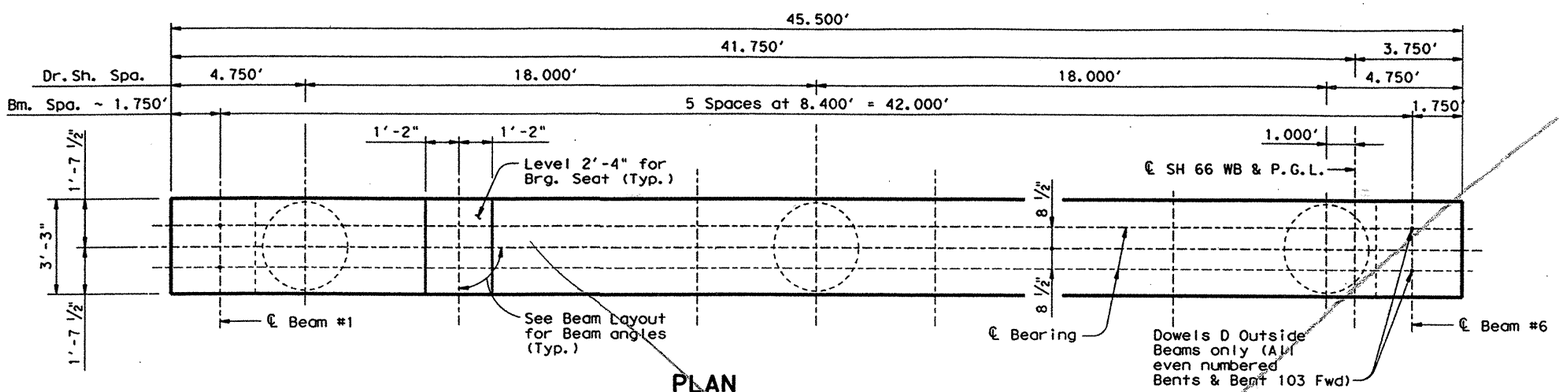
Texas Department of Transportation
Design Division (Bridge)

ABUTMENT NOS. 1 AND 104 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

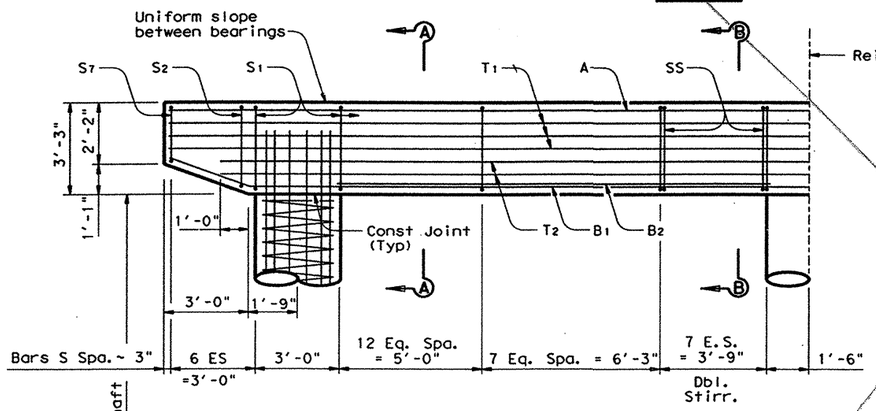
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

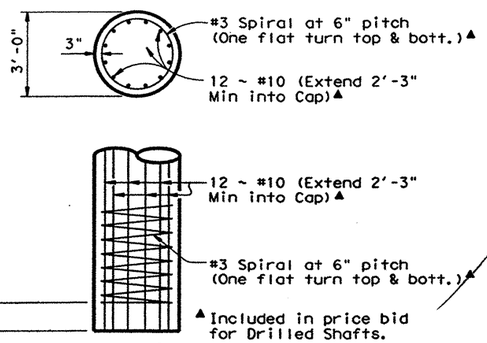
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©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT ◆	SHEET
REVISIONS	18	6	NH 99(367)	219
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5692ab01.dgn
LEVELS: 1 2 3 4 11 21 23 41 45 60



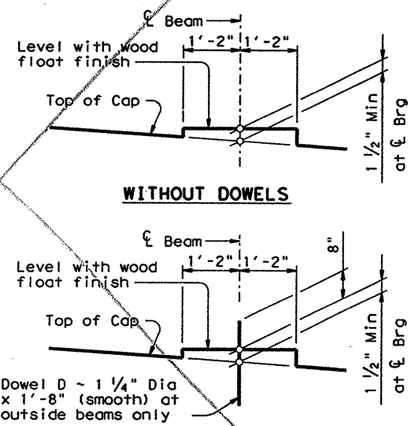
PLAN





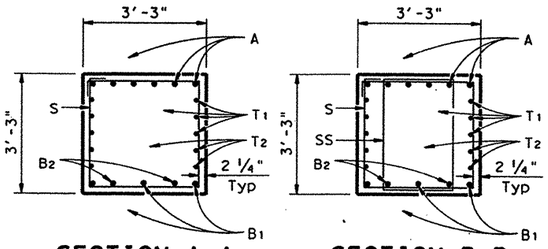
NOTE:
Drilled Shafts shall be formed from 1' below ground to bottom of cap.

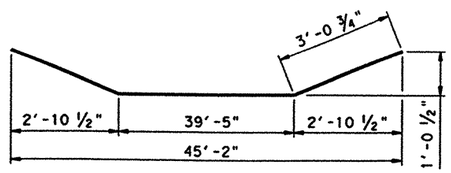
HALF ELEVATION



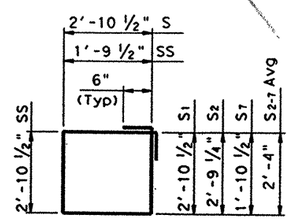
BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)





BARS B1



BARS S & SS

①TABLE OF CONSTANT ②QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

① Quantities shown are for one bent only.

② Omit Dowels D at odd numbered bents. Deduct 28 lbs. reinforcing steel. Omit 2 Dowels D at Bent 103 Bk. Deduct 14 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load
Bents 2 & 95 thru 103 = 237 Tons/Dr Sh
Bents 42 thru 94 = 245 Tons/Dr Sh

HS20 LOADING

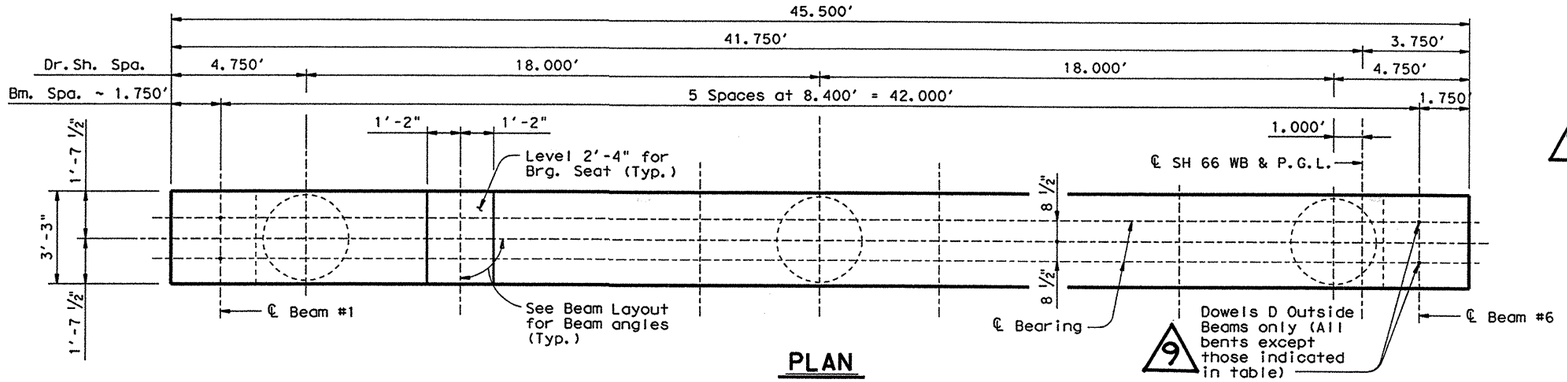
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
9/27/99

Texas Department of Transportation
Design Division (Bridge)

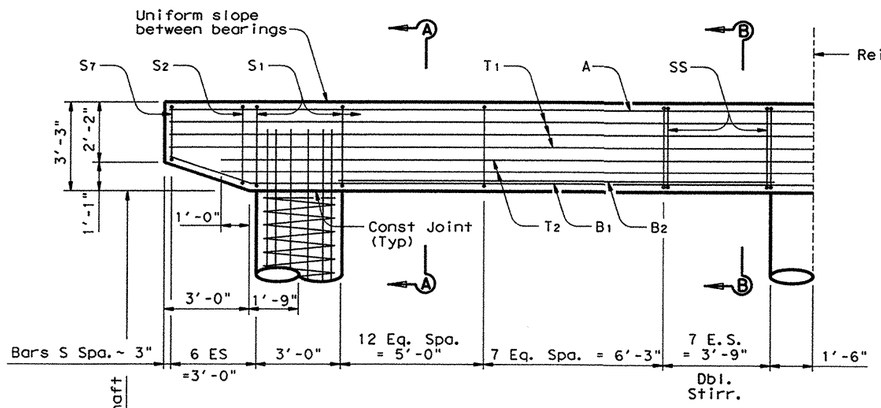
INTERIOR BENT NOS. 2 & 42 THRU 103
EAST FORK TRINITY RIVER BRIDGE
WESTBOUND LANES

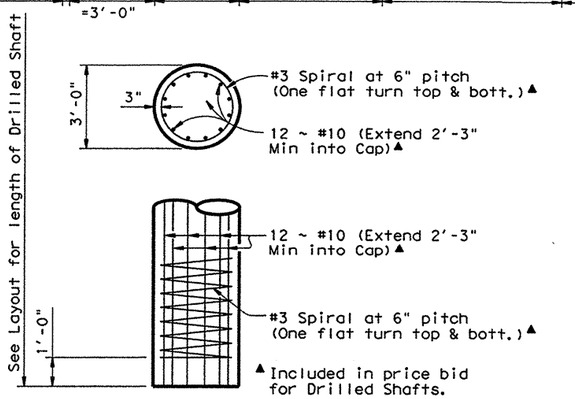
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©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	220
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

ACC: d48pc3b 5692ib01.dgn
LEVELS DELETED



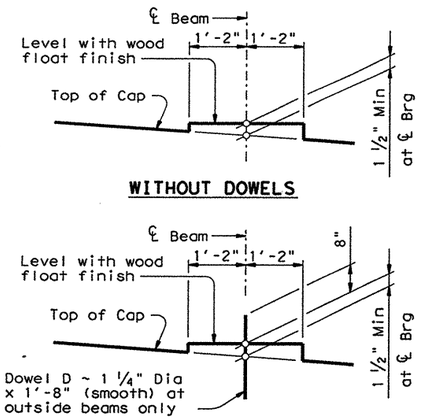
PLAN





NOTE:
Drilled Shafts shall be formed from 1' below ground to bottom of cap.

HALF ELEVATION



WITHOUT DOWELS

WITH DOWELS

BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

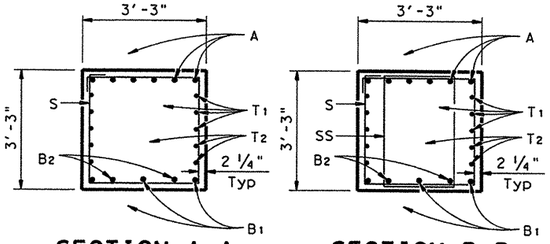
BENT LOCATIONS WITHOUT DOWELS D	
Bent No.	
42	75
45	78
48	81
51	84
54	87
57	90
60	93
63	96
66	99
69	102
72	

9

①TABLE OF CONSTANT ②QUANTITIES				
Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
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SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

① Quantities shown are for one bent only.

9 ② Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.



SECTION A-A

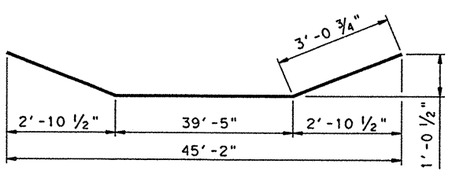
SECTION B-B

9 Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

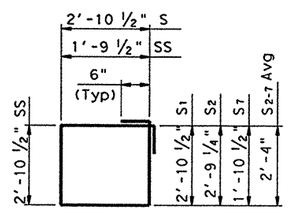
GENERAL NOTES:
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All reinforcing shall be Grade 60.
Calculated Foundation Load
Bents 2 & 95 thru 103 = 237 Tons/Dr Sh
Bents 42 thru 94 = 245 Tons/Dr Sh

CHANGE ORDER NO. 9

HS20 LOADING



BARS B1



BARS S & SS

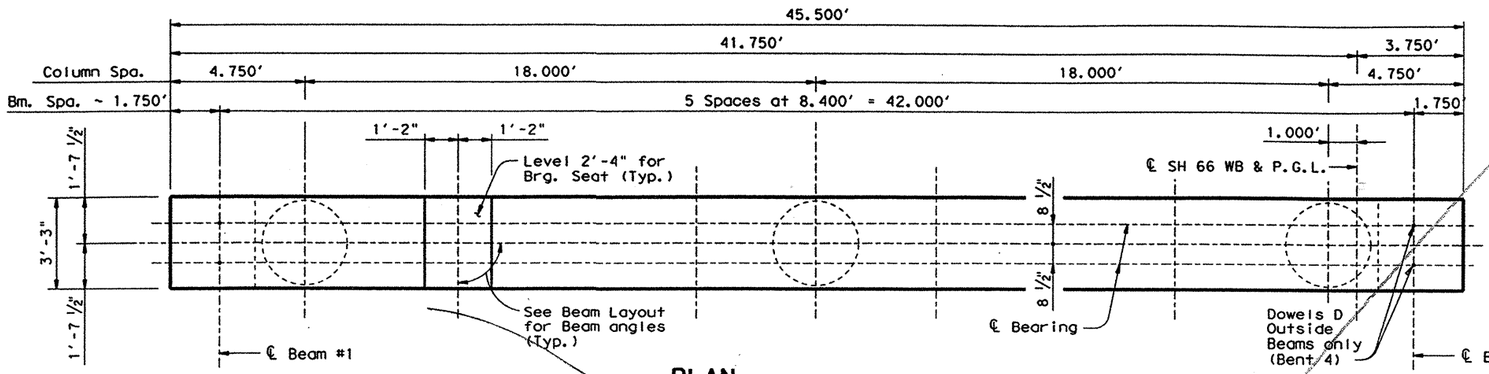
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Design Division (Bridge)

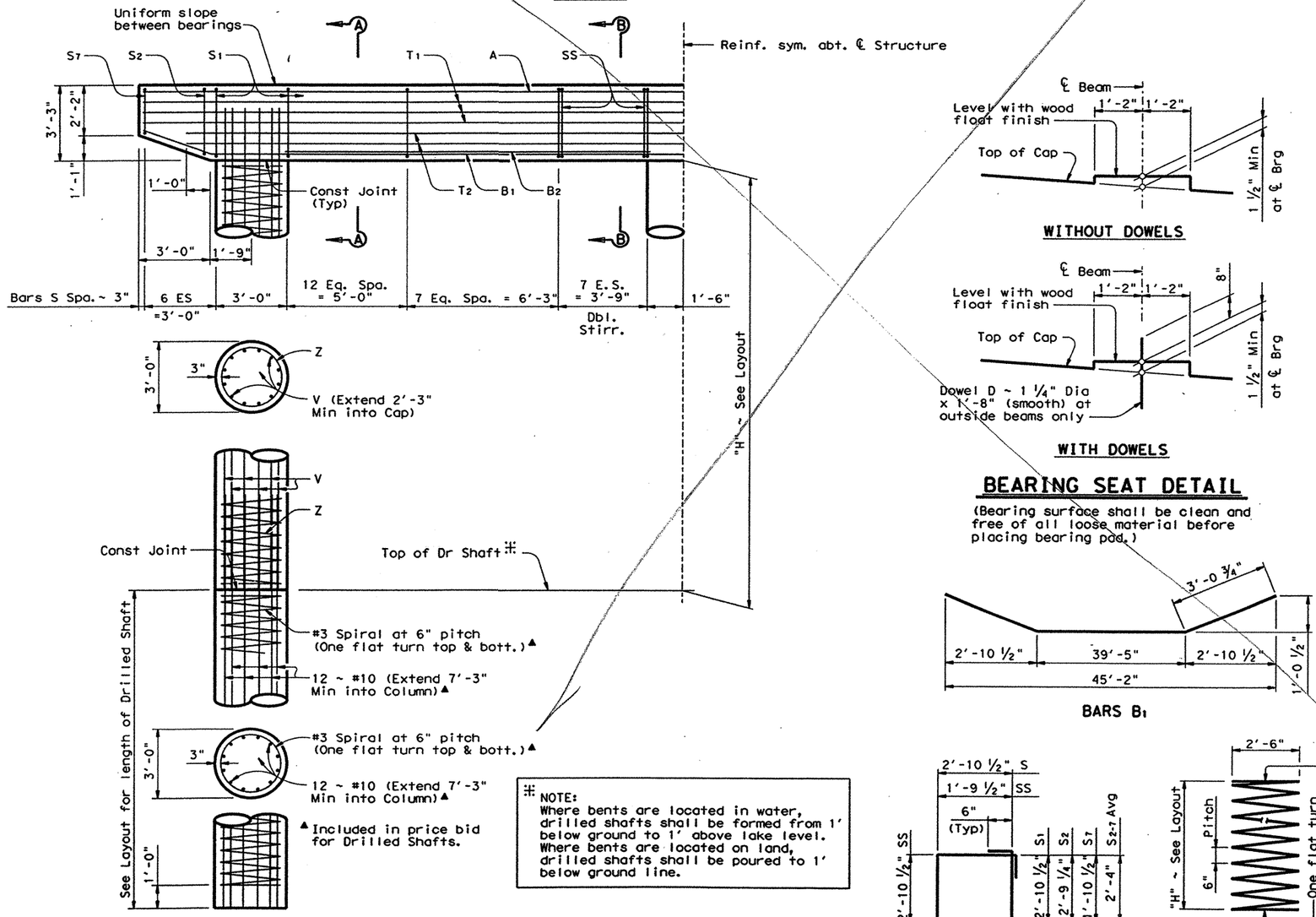
INTERIOR BENT NOS. 2 & 42 THRU 103
EAST FORK TRINITY RIVER BRIDGE
WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS 8/00 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP	18	6	NH 99(367)	220
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5692ib01.dgn
ED
LEVEL
1

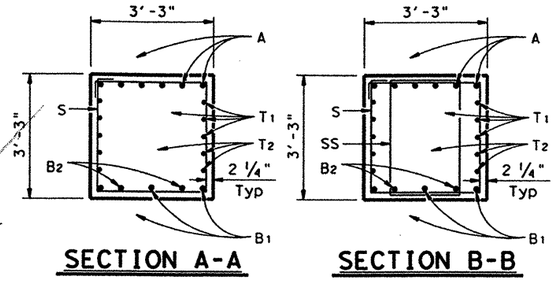


PLAN



⁜ NOTE:
Where bents are located in water, drilled shafts shall be formed from 1' below ground to 1' above lake level. Where bents are located on land, drilled shafts shall be poured to 1' below ground line.

HALF ELEVATION



SECTION A-A

SECTION B-B

①④TABLE OF CONSTANT QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

①②TABLE OF VARIABLE QUANTITIES

①③④TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 36 ~ #10		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
3	19	14.9	21'-3"	3292	315	355	7661	32.5
4	22	17.3	24'-3"	3757	362	408	8179	34.9

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 173 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at Bent 3, Deduct 28 lbs. reinforcing steel.

WITHOUT DOWELS

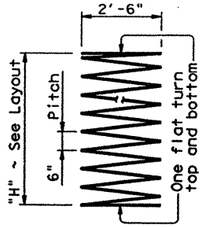
WITH DOWELS

BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

BARS B1

BARS S & SS



BARS Z

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 244 Tons/Dr Sh

HS20 LOADING

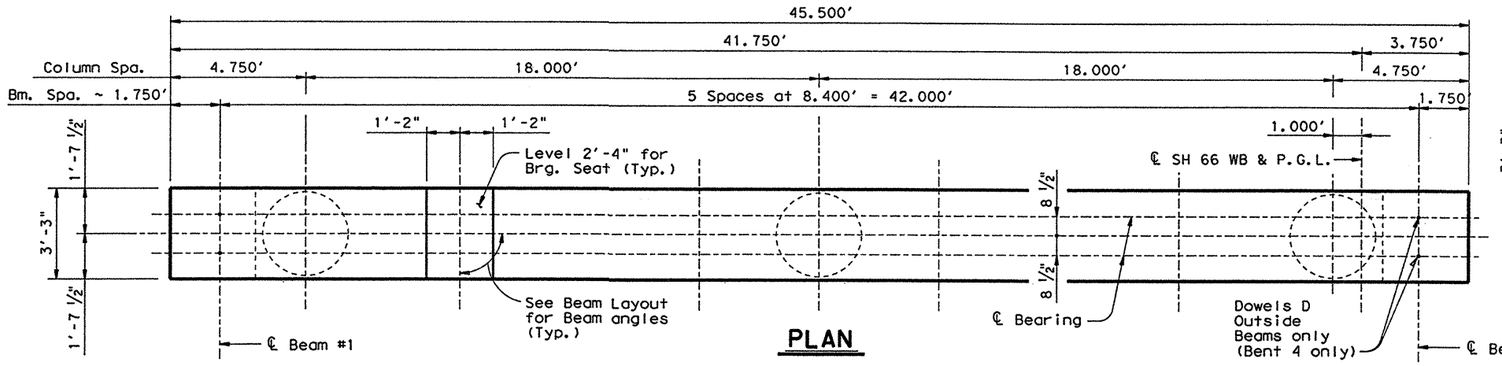
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

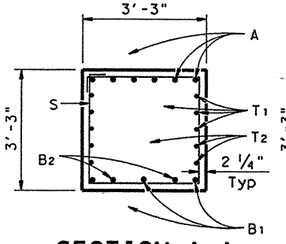
INTERIOR BENT NOS. 3 & 4 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

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©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
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	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

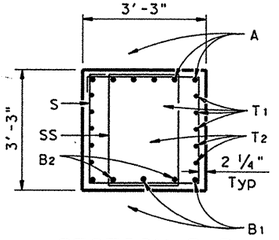
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LEVELS Drawn/ATTED



PLAN



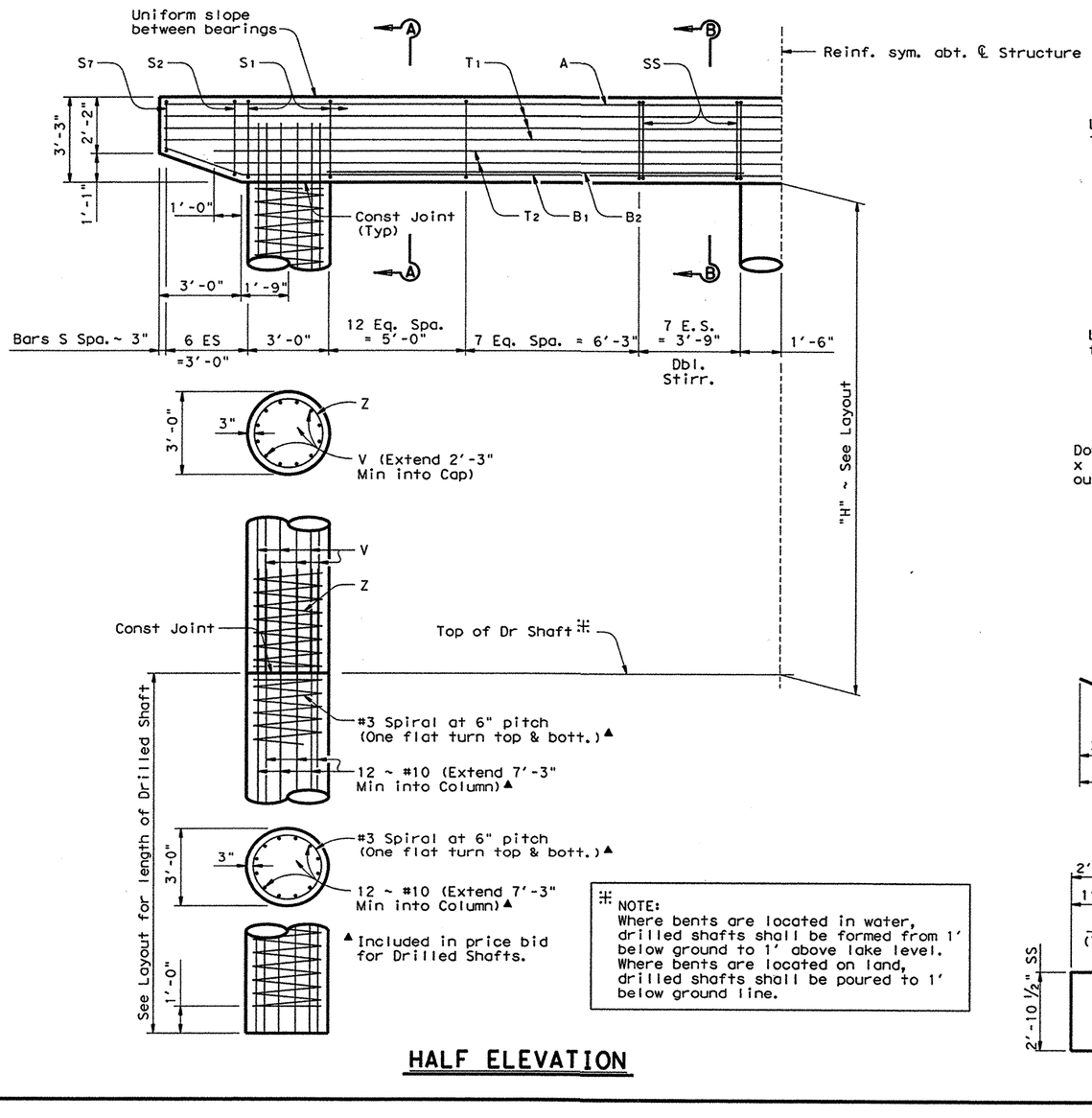
SECTION A-A



SECTION B-B

①④ TABLE OF CONSTANT QUANTITIES

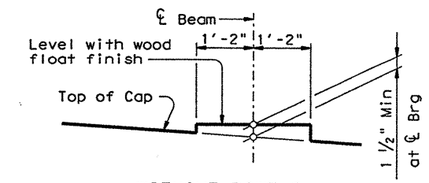
Bar	No.	Size	Length	Weight
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B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6



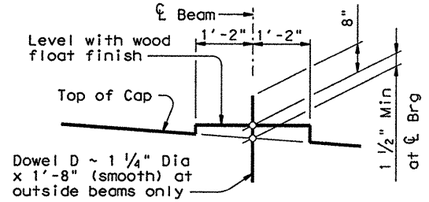
▲ Included in price bid for Drilled Shafts.

Ⓗ NOTE:
Where bents are located in water, drilled shafts shall be formed from 1' below ground to 1' above lake level. Where bents are located on land, drilled shafts shall be poured to 1' below ground line.

HALF ELEVATION



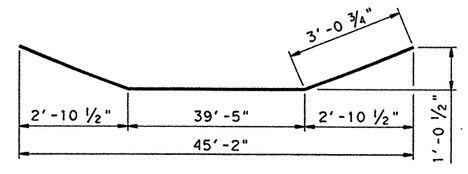
WITHOUT DOWELS



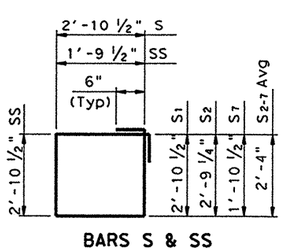
WITH DOWELS

BEARING SEAT DETAIL

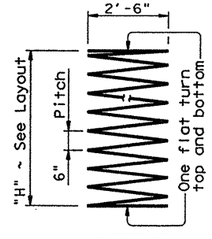
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S & SS



BARS Z

①② TABLE OF VARIABLE QUANTITIES

①③ ④ TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 36 ~ #10		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
3	19	14.9	21'-3"	3292	315	355	7661	32.5
4	22	17.3	24'-3"	3757	362	408	8179	34.9

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 173 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at Bent 3, Deduct 28 lbs. reinforcing steel.

9 Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 244 Tons/Dr Sh

CHANGE ORDER NO. 9

HS20 LOADING

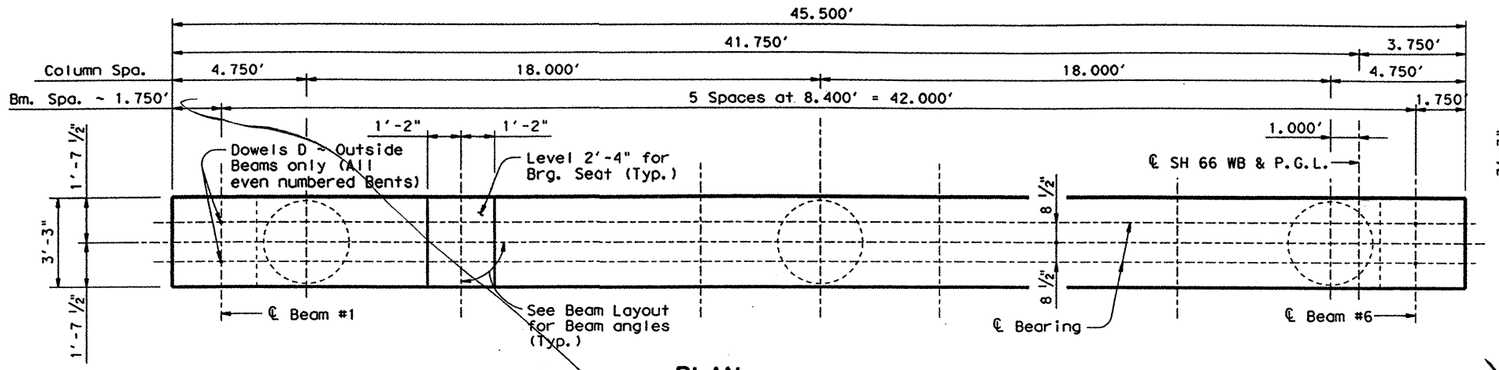
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00
9

Texas Department of Transportation
Design Division (Bridge)

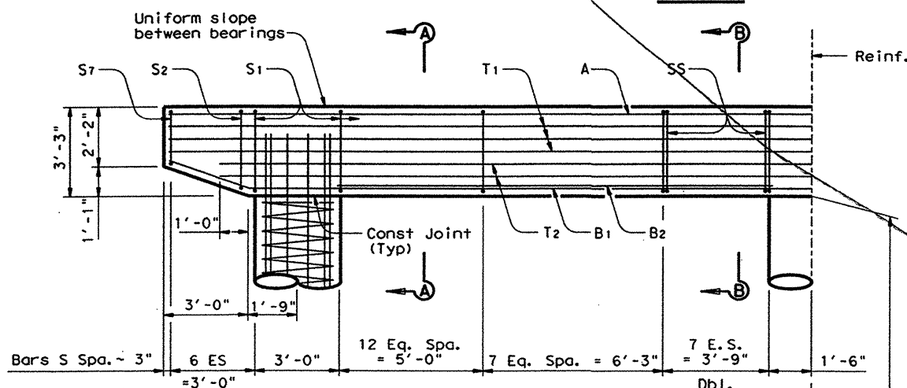
INTERIOR BENT NOS. 3 & 4 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

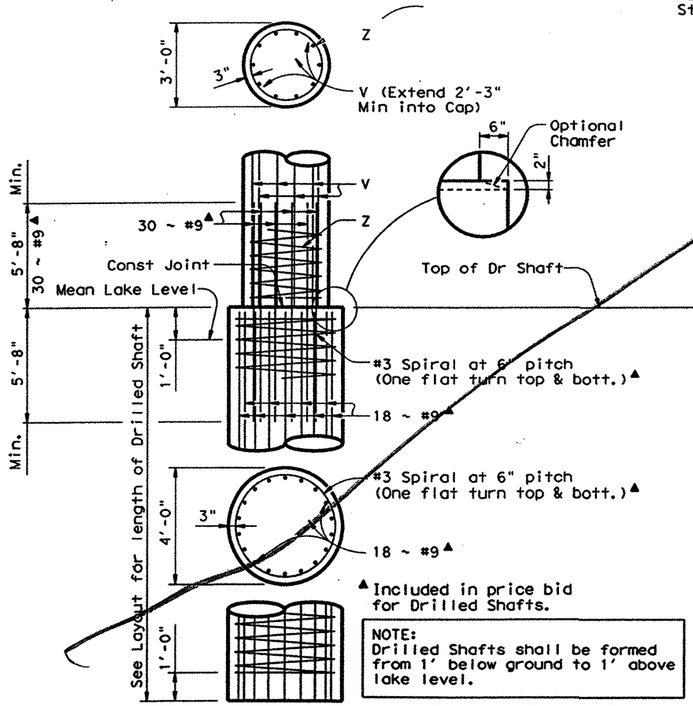
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©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 8/00 ~ Revised dowel location and indicated precast bent option. MDH/RNP	18	6	NH 99(367)	221
	COUNTY		CONTROL SECT	JOB HIGHWAY
	ROCKWALL		0009 04	039 SH 66

ACC: d48pc3b 5692ib01.dgn
ED
LEVEL: 1



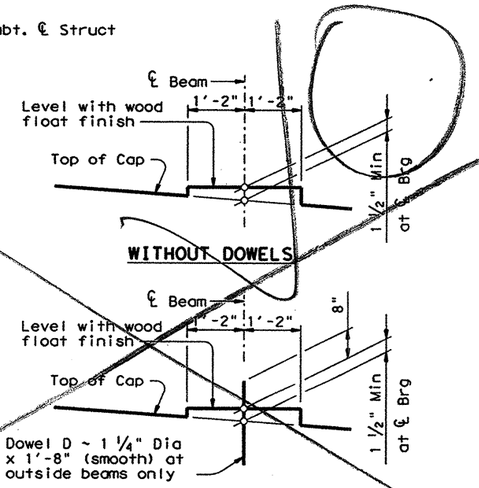
PLAN





NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

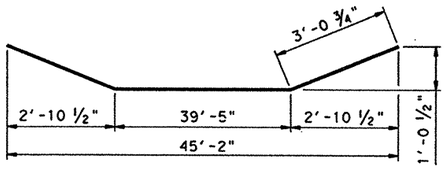
HALF ELEVATION



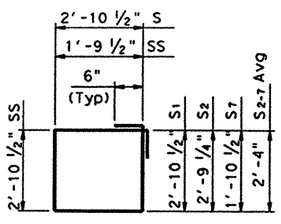
WITH DOWELS

BEARING SEAT DETAIL

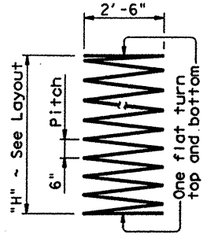
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



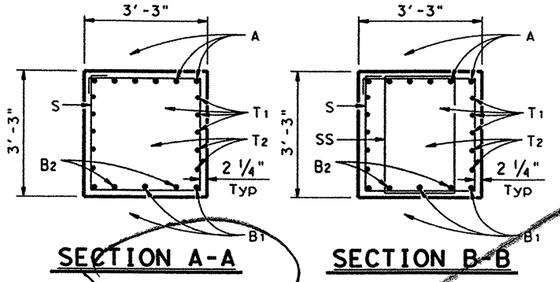
BARS B1



BARS S & SS



BARS Z



①TABLE OF CONSTANT ④ QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"Dia	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	72	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

①② TABLE OF VARIABLE QUANTITIES

①③ TOTAL ④ ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
5	22	17.3	24'-3"	2474	362	408	6896	34.9
6,7	21	16.5	23'-3"	2372	346	391	6777	34.1
8,9,10	20	15.7	22'-3"	2270	331	373	6657	33.3
11,12,13,14	19	14.9	21'-3"	2168	315	355	6537	32.5
15,16	18	14.1	20'-3"	2066	299	337	6417	31.7
17	17	13.4	19'-3"	1964	283	320	6298	31.0
18,19	16	12.6	18'-3"	1862	268	302	6178	30.2
20,21,22	15	11.8	17'-3"	1760	252	284	6058	29.4
23,24	14	11.0	16'-3"	1658	236	266	5938	28.6
25,26,27	13	10.2	15'-3"	1556	220	249	5819	27.8
28,29	12	9.4	14'-3"	1454	205	231	5699	27.0
30,31,32	11	8.6	13'-3"	1352	189	213	5579	26.2
33,34	10	7.9	12'-3"	1250	173	195	5459	25.5

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bents odd numbered bents, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 270 Tons/Dr Sh

HS20 LOADING

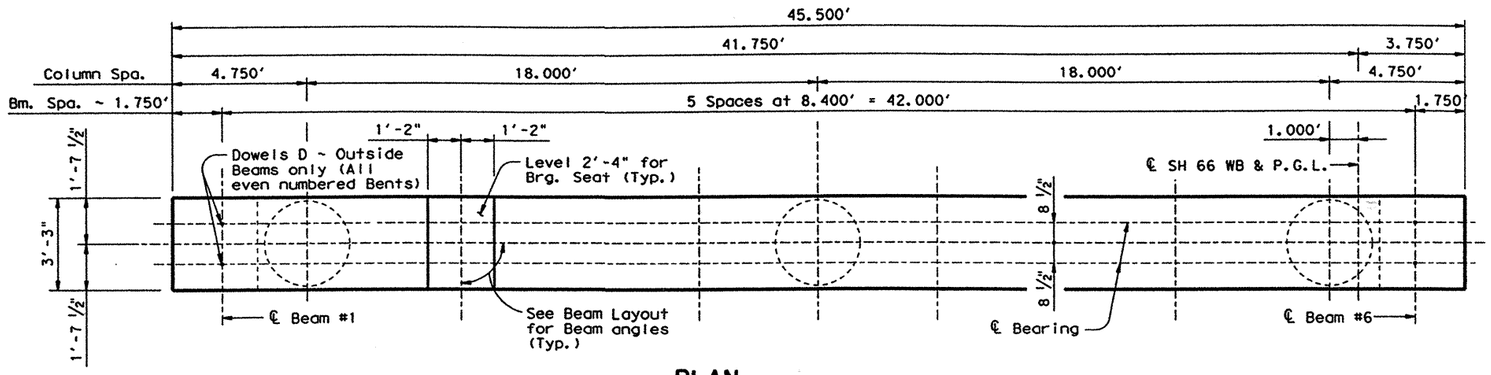
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

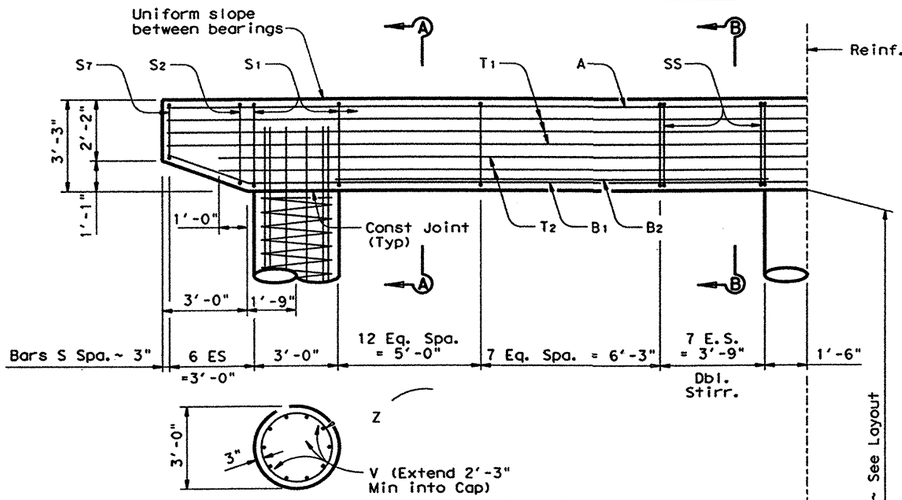
INTERIOR BENT NOS. 5 THRU 34 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

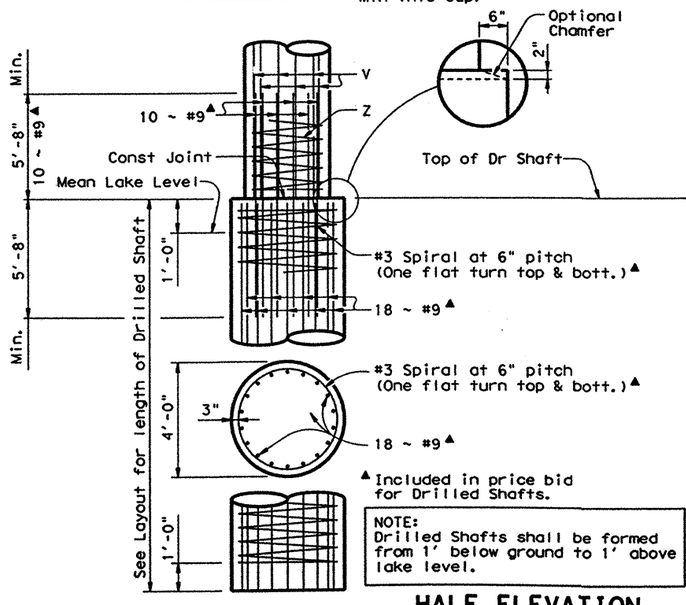
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©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	222
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

ACC: d48pc3b
5692ib01.dgn
LEVELS Displayed

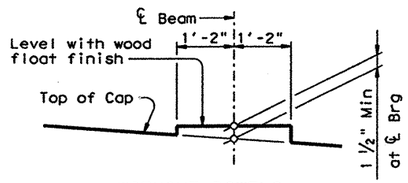


PLAN

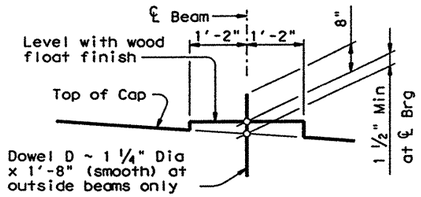




HALF ELEVATION



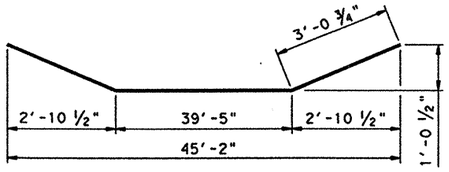
WITHOUT DOWELS



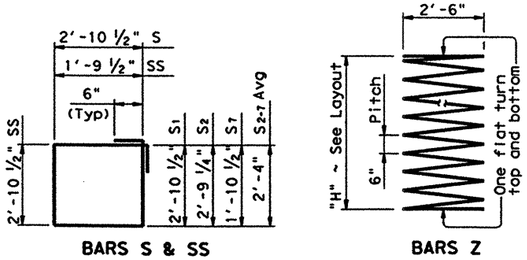
WITH DOWELS

BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

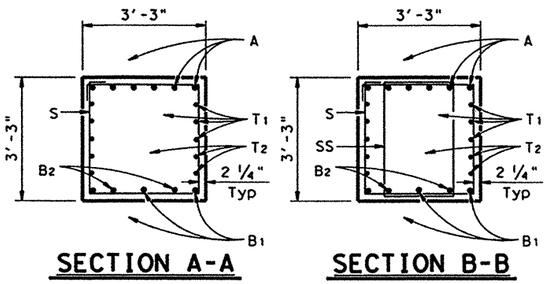


BARS B1



BARS S & SS

BARS Z



SECTION A-A

SECTION B-B

①TABLE OF CONSTANT ④ QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

①②TABLE OF VARIABLE QUANTITIES

①③ TOTAL ④ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
5	22	17.3	24'-3"	2474	362	408	6896	34.9
6,7	21	16.5	23'-3"	2372	346	391	6777	34.1
8,9,10	20	15.7	22'-3"	2270	331	373	6657	33.3
11,12,13,14	19	14.9	21'-3"	2168	315	355	6537	32.5
15,16	18	14.1	20'-3"	2066	299	337	6417	31.7
17	17	13.4	19'-3"	1964	283	320	6298	31.0
18,19	16	12.6	18'-3"	1862	268	302	6178	30.2
20,21,22	15	11.8	17'-3"	1760	252	284	6058	29.4
23,24	14	11.0	16'-3"	1658	236	266	5938	28.6
25,26,27	13	10.2	15'-3"	1556	220	249	5819	27.8
28,29	12	9.4	14'-3"	1454	205	231	5699	27.0
30,31,32	11	8.6	13'-3"	1352	189	213	5579	26.2
33,34	10	7.9	12'-3"	1250	173	195	5459	25.5

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bents odd numbered bents, Deduct 28 lbs. reinforcing steel.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 270 Tons/Dr Sh

CHANGE ORDER NO._____

HS20 LOADING

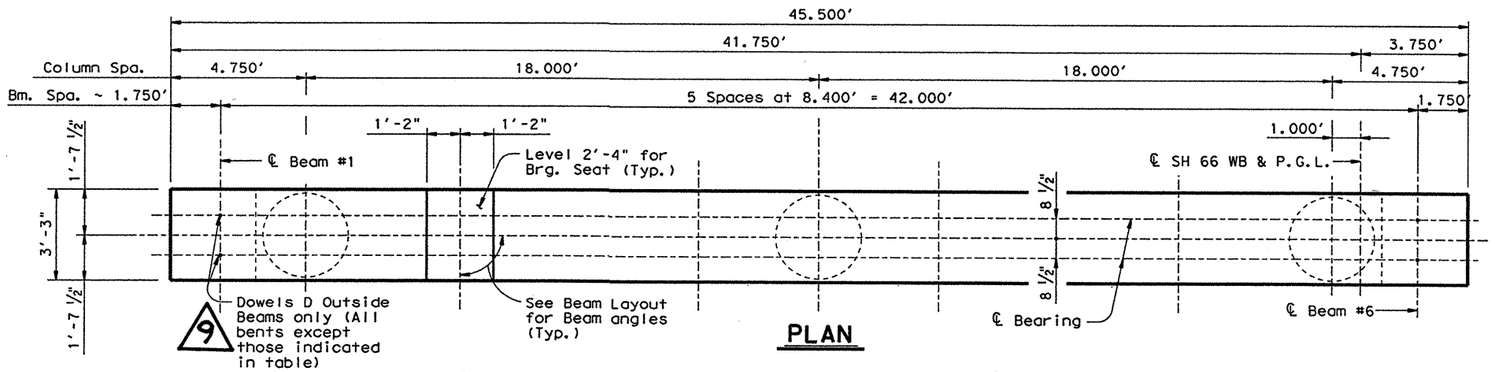
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/16/99

Texas Department of Transportation
Design Division (Bridge)

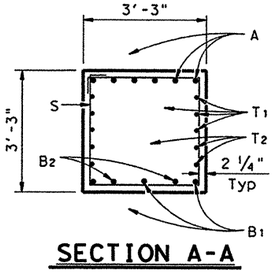
INTERIOR BENT NOS. 5 THRU 34
EAST FORK TRINITY RIVER BRIDGE
WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REC	FEDERAL AID PROJECT	◆	SHEET
REVISIONS	18	6	NH 99(367)		222A
8/99 - Corrected number of Col. to D.S bars. MDH	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

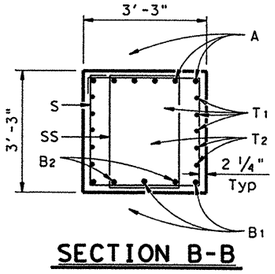
ACC: d48pc3b 5692ib01.dgn
LEVELS



PLAN



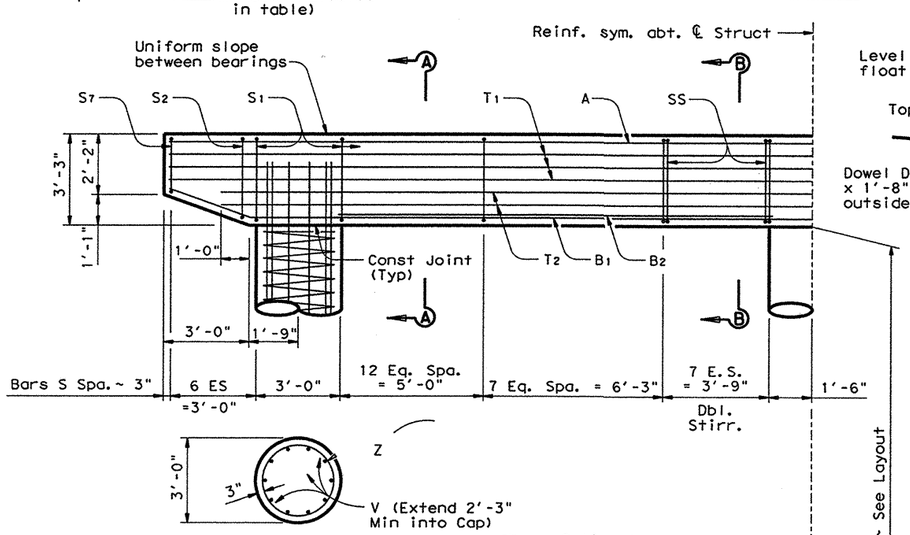
SECTION A-A

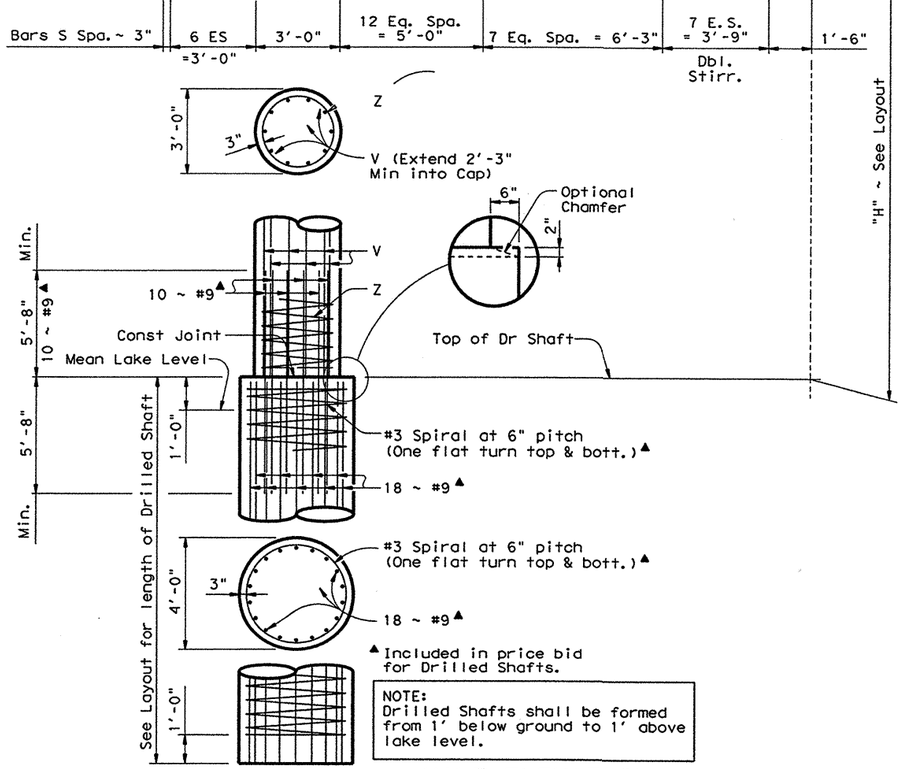


SECTION B-B

①④TABLE OF CONSTANT QUANTITIES

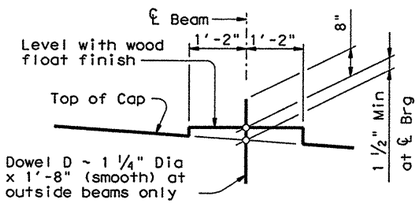
Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6



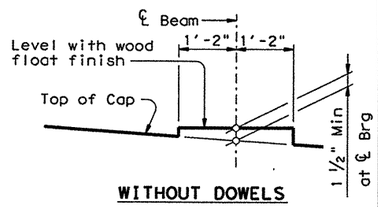


NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION



WITH DOWELS



WITHOUT DOWELS

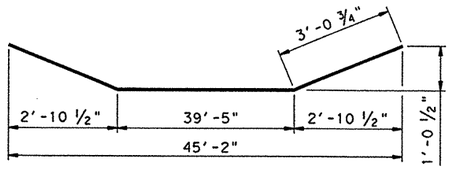
BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

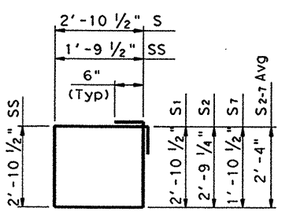
BENT LOCATIONS WITHOUT DOWELS D

9

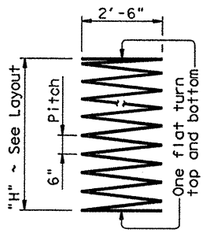
Bent No.	
5	18
7	21
9	24
11	27
13	30
15	33



BARS B1



BARS S & SS



BARS Z

①②TABLE OF VARIABLE QUANTITIES

①③ TOTAL ④ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
5	22	17.3	24'-3"	2474	362	408	6896	34.9
6,7	21	16.5	23'-3"	2372	346	391	6777	34.1
8,9,10	20	15.7	22'-3"	2270	331	373	6657	33.3
11,12,13,14	19	14.9	21'-3"	2168	315	355	6537	32.5
15,16	18	14.1	20'-3"	2066	299	337	6417	31.7
17	17	13.4	19'-3"	1964	283	320	6298	31.0
18,19	16	12.6	18'-3"	1862	268	302	6178	30.2
20,21,22	15	11.8	17'-3"	1760	252	284	6058	29.4
23,24	14	11.0	16'-3"	1658	236	266	5938	28.6
25,26,27	13	10.2	15'-3"	1556	220	249	5819	27.8
28,29	12	9.4	14'-3"	1454	205	231	5699	27.0
30,31,32	11	8.6	13'-3"	1352	189	213	5579	26.2
33,34	10	7.9	12'-3"	1250	173	195	5459	25.5

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

9 ④ Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 270 Tons/Dr Sh

CHANGE ORDER NO. 9

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

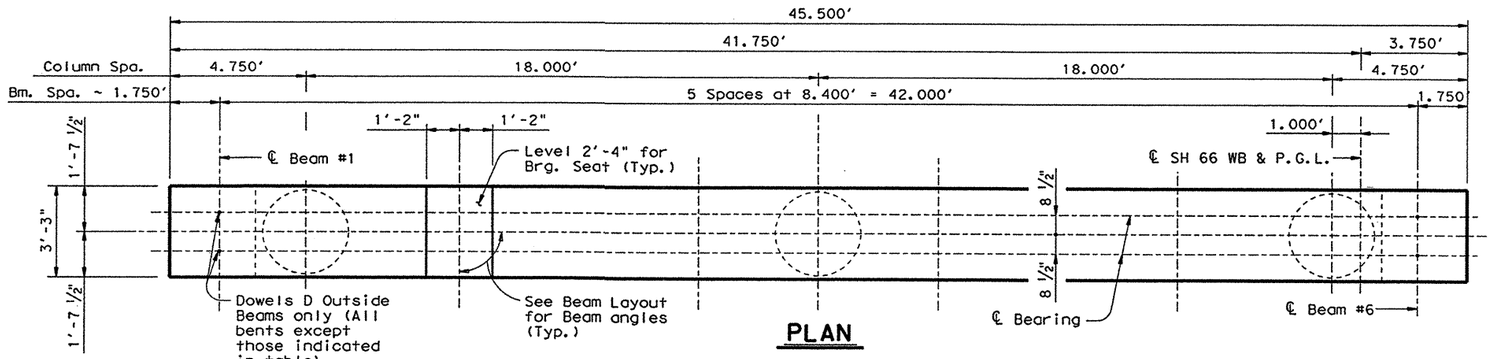
9 8/00 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP

Texas Department of Transportation
Design Division (Bridge)

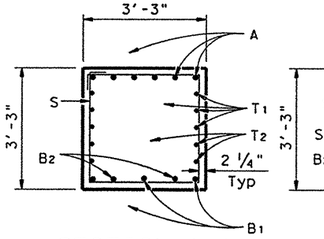
INTERIOR BENT NOS. 5 THRU 34 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	222
8/99 ~ Corrected number of Col. to D.S bars. MDH	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

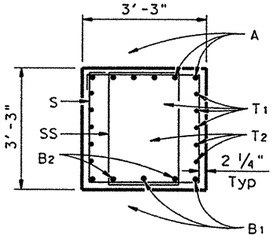
ACC: d48pc3b 5692ib01.dgn
FED
LEVELS



PLAN



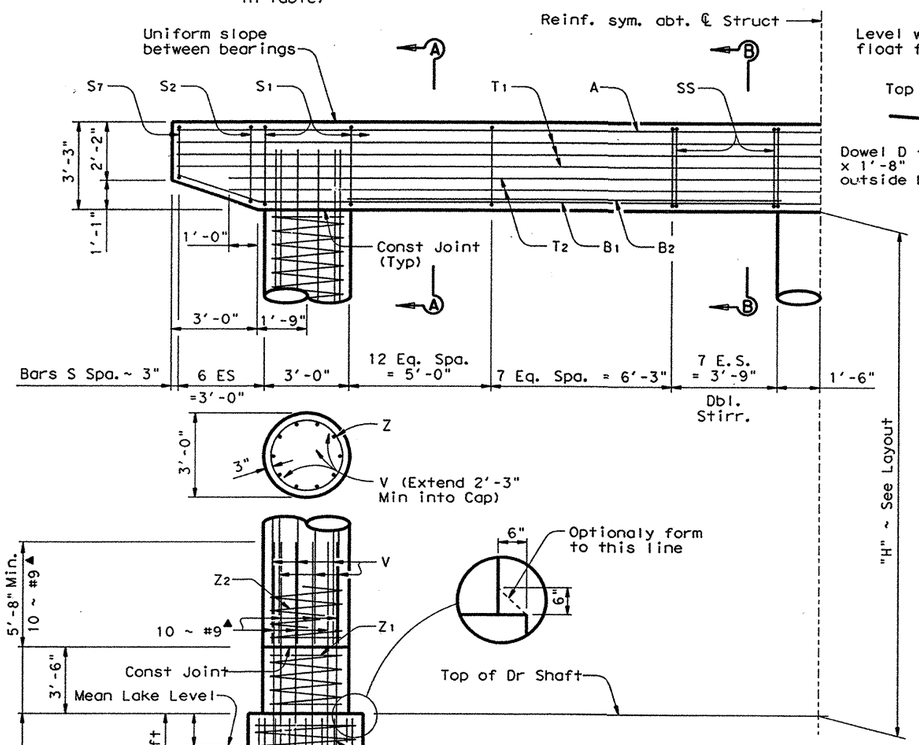
SECTION A-A



SECTION B-B

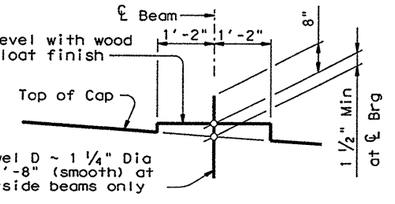
①④ TABLE OF CONSTANT QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B_1	3	#11	45'-7"	726
B_2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S_1	56	#5	12'-6"	730
S_{2-7}	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T_1	6	#5	45'-2"	283
T_2	4	#5	41'-6"	173
Z_2	3	#3	71'-0"	80
Reinforcing Steel			Lb	4094
Class "C" Concrete			CY	17.6

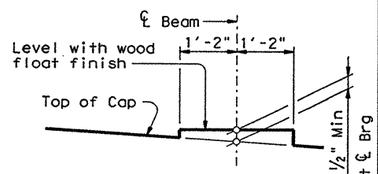


NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION



WITH DOWELS



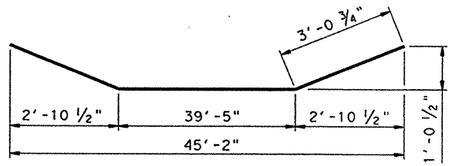
WITHOUT DOWELS

BEARING SEAT DETAIL

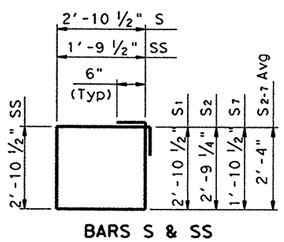
(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

BENT LOCATIONS WITHOUT DOWELS D

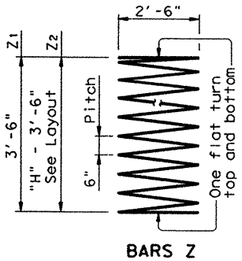
Bent No.	
5	15
7	18
9	21
11	24
13	



BARS B_1



BARS S & SS



BARS Z

①② TABLE OF VARIABLE QUANTITIES

①③④ TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Bars V 30 ~ #9		Bars Z_1 3 ~ #3 Spiral		Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Length	Weight	Length	Weight	Lb	CY
5	22	17.3	20'-9"	2117	307	346	6557	34.9
6,7	21	16.5	19'-9"	2015	291	329	6437	34.1
8,9,10	20	15.7	18'-9"	1913	276	311	6317	33.3
11,12,13,14	19	14.9	17'-9"	1811	260	293	6198	32.5
15,16	18	14.1	16'-9"	1709	244	275	6078	31.7
17	17	13.4	15'-9"	1607	228	258	5958	31.0
18,19	16	12.6	14'-9"	1505	213	240	5838	30.2
20,21,22	15	11.8	13'-9"	1403	197	222	5719	29.4
23,24	14	11.0	12'-9"	1301	181	204	5599	28.6

① Quantities shown are for one bent only.

② Adjust Bars V length by 1 Ft and Bars Z length by 15.7398 Ft for each linear foot of variation in "H" value.

③ Adjust Reinforcing Steel Total by 120 Lbs and Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

④ Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 270 Tons/Dr Sh

CHANGE ORDER NO._____
CHANGE ORDER NO._____
CHANGE ORDER NO._____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
3/28/01

2/01 ~ Revised location of column construction joint and modified applicable range of bents. MDH/RNP

8/00 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP

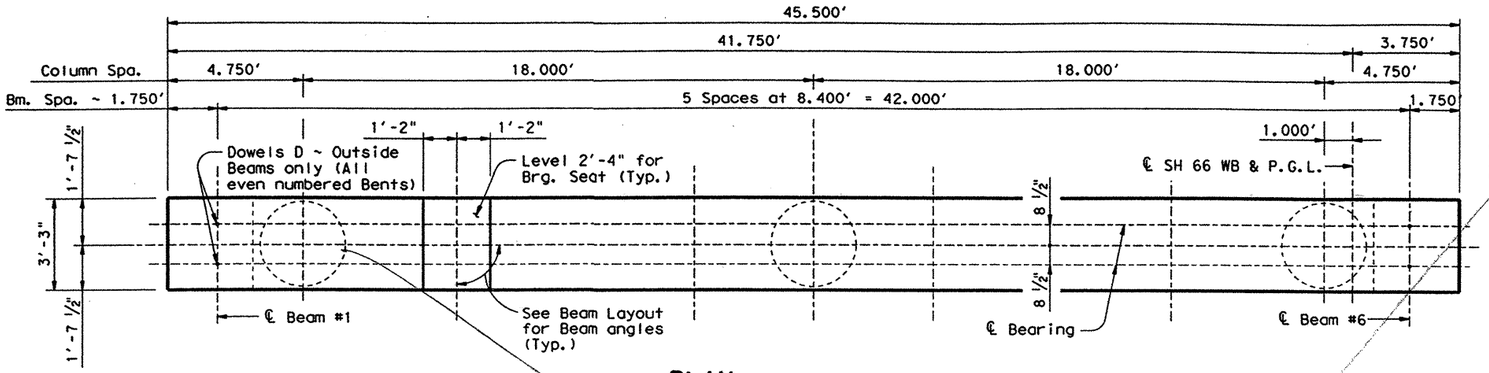
Texas Department of Transportation
Design Division (Bridge)

INTERIOR BENT NOS. 5 THRU 24 (OPTIONAL)

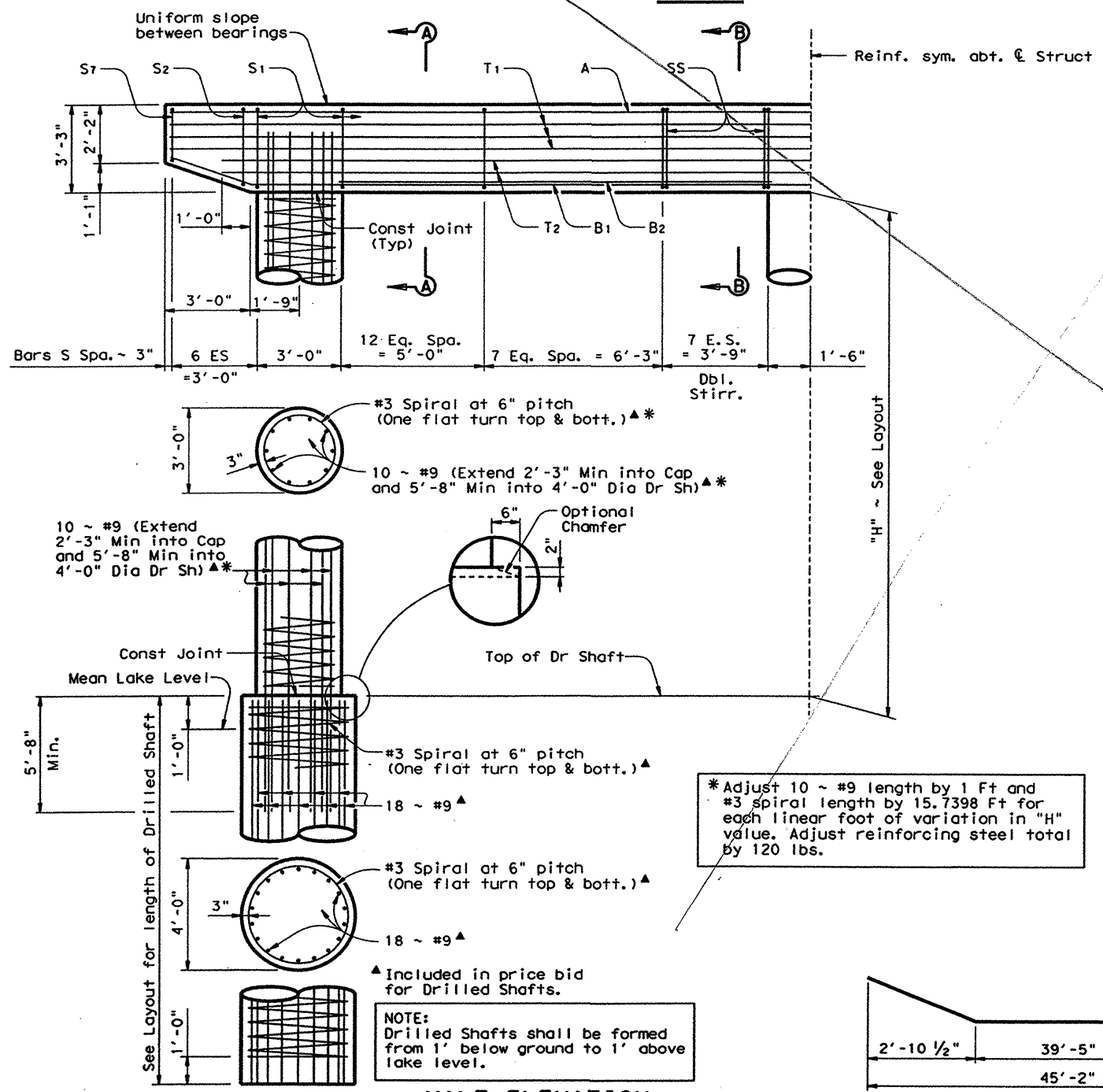
EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
© TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	222
8/99 ~ Corrected number of Col. to D.S bars. MDH	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5692ib01.dgn
LEVELS 1



PLAN

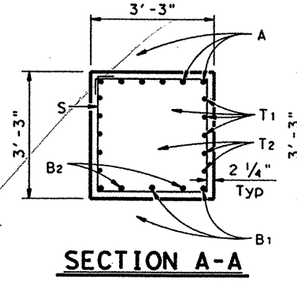


▲ Included in price bid for Drilled Shafts.

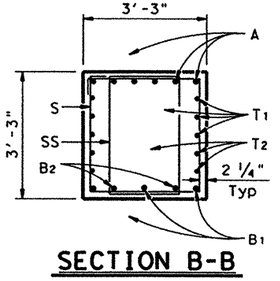
NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION

*Adjust 10 ~ #9 length by 1 Ft and #3 spiral length by 15.7398 Ft for each linear foot of variation in "H" value. Adjust reinforcing steel total by 120 lbs.



SECTION A-A



SECTION B-B

①TABLE OF CONSTANT ③ QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

①②TABLE OF VARIABLE QUANTITIES

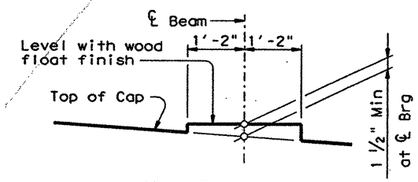
①②③TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Lb	CY
35, 36	9	7.1	4014	24.7
37, 38, 39	8	6.3	4014	23.9
40, 41	7	5.5	4014	23.1

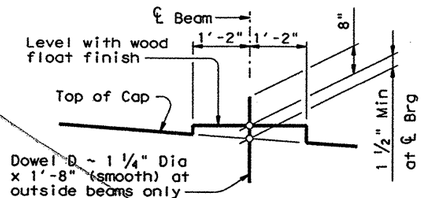
① Quantities shown are for one bent only.

② Adjust Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

③ Omit Dowels D at odd numbered bents, Deduct 28 lbs. reinforcing steel.



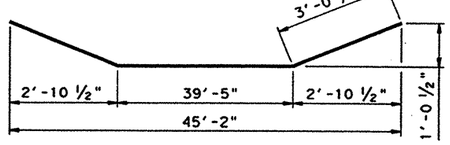
WITHOUT DOWELS



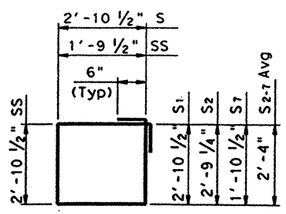
WITH DOWELS

BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S & SS

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 258 Tons/Dr Sh

HS20 LOADING

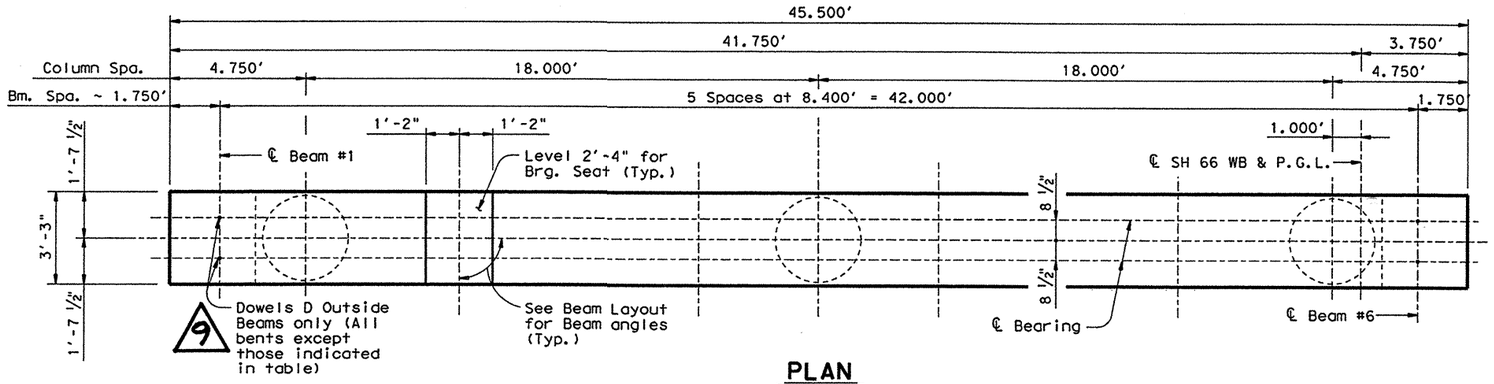
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

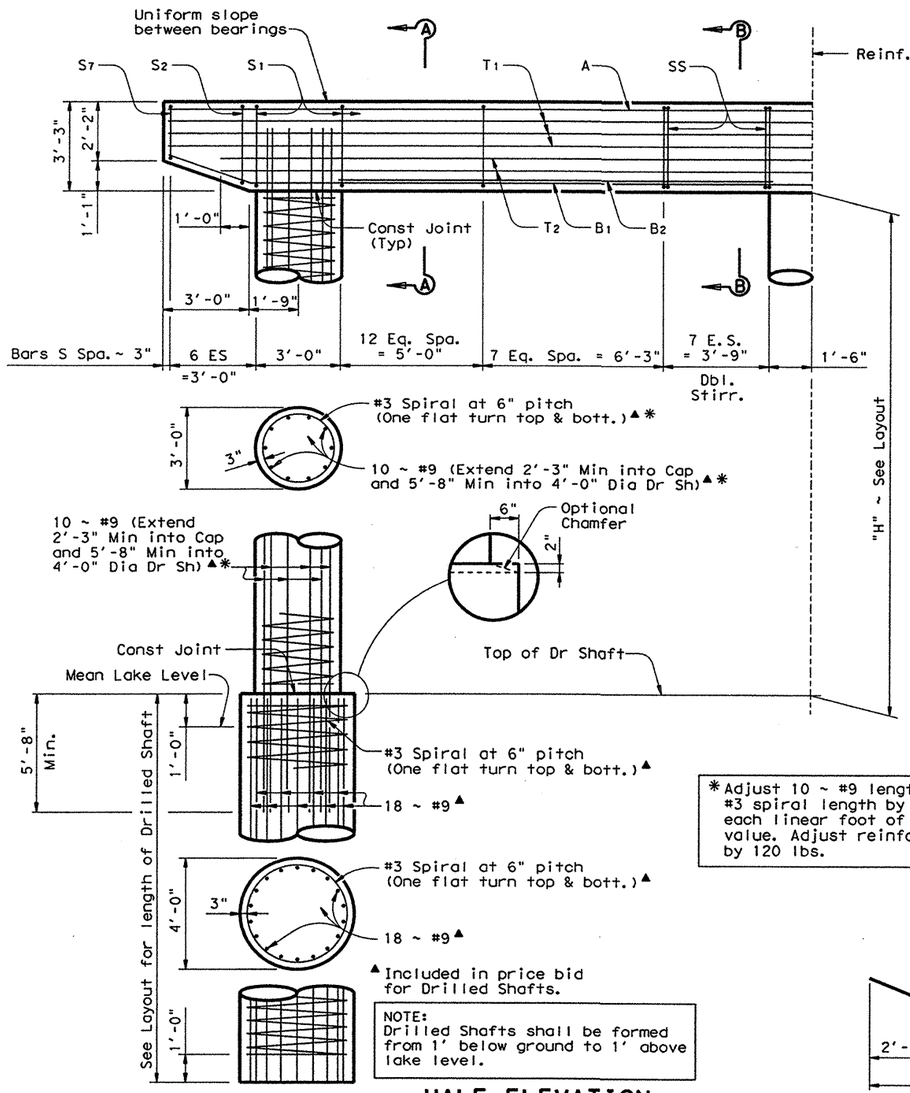
INTERIOR BENT NOS. 35 THRU 41 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	223
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

ACC: d48pc3b 5692ib01.dgn
LEVELS Displayed
1



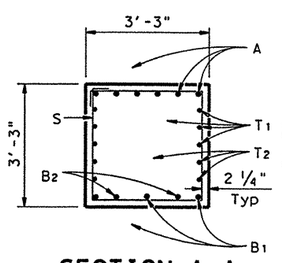
PLAN



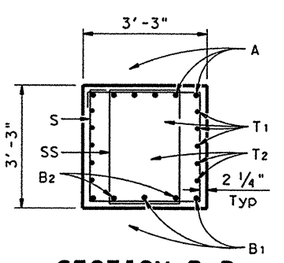
NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION

*Adjust 10 ~ #9 length by 1 Ft and #3 spiral length by 15.7398 Ft for each linear foot of variation in "H" value. Adjust reinforcing steel total by 120 lbs.



SECTION A-A



SECTION B-B

①TABLE OF CONSTANT ③ QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
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T1	6	#5	45'-2"	283
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Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

BENT LOCATIONS WITHOUT DOWELS D

Bent No.	
36	39

①②TABLE OF VARIABLE QUANTITIES

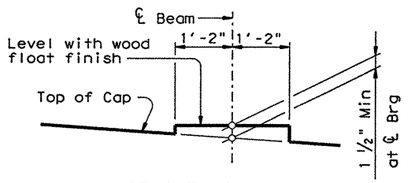
①②③TOTAL ESTIMATED QUANTITIES

Bent	"H"	Class "C" Conc. (Col.)	Reinf Steel	Class "C" Conc
No.	Ft	C.Y.	Lb	CY
35,36	9	7.1	4014	24.7
37,38,39	8	6.3	4014	23.9
40,41	7	5.5	4014	23.1

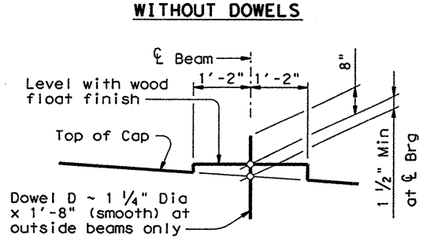
① Quantities shown are for one bent only.

② Adjust Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

③ Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.



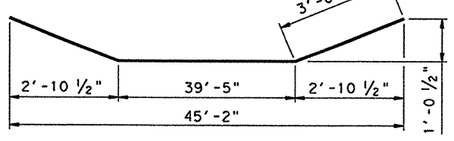
WITHOUT DOWELS



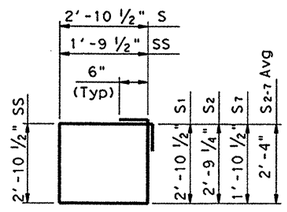
WITH DOWELS

BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)



BARS B1



BARS S & SS

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 258 Tons/Dr Sh

CHANGE ORDER NO. ⑨

HS20 LOADING

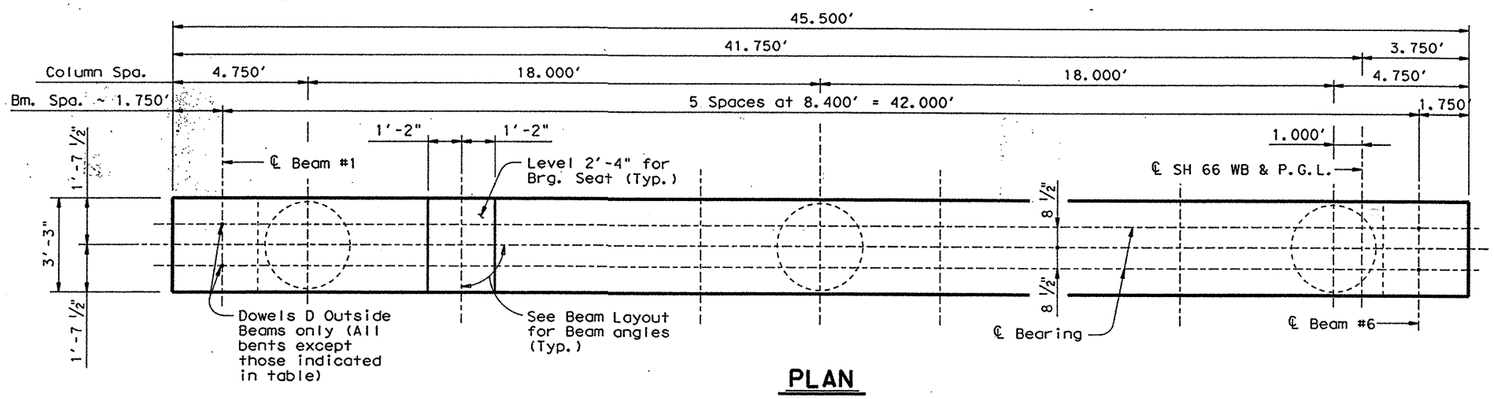
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Design Division (Bridge)

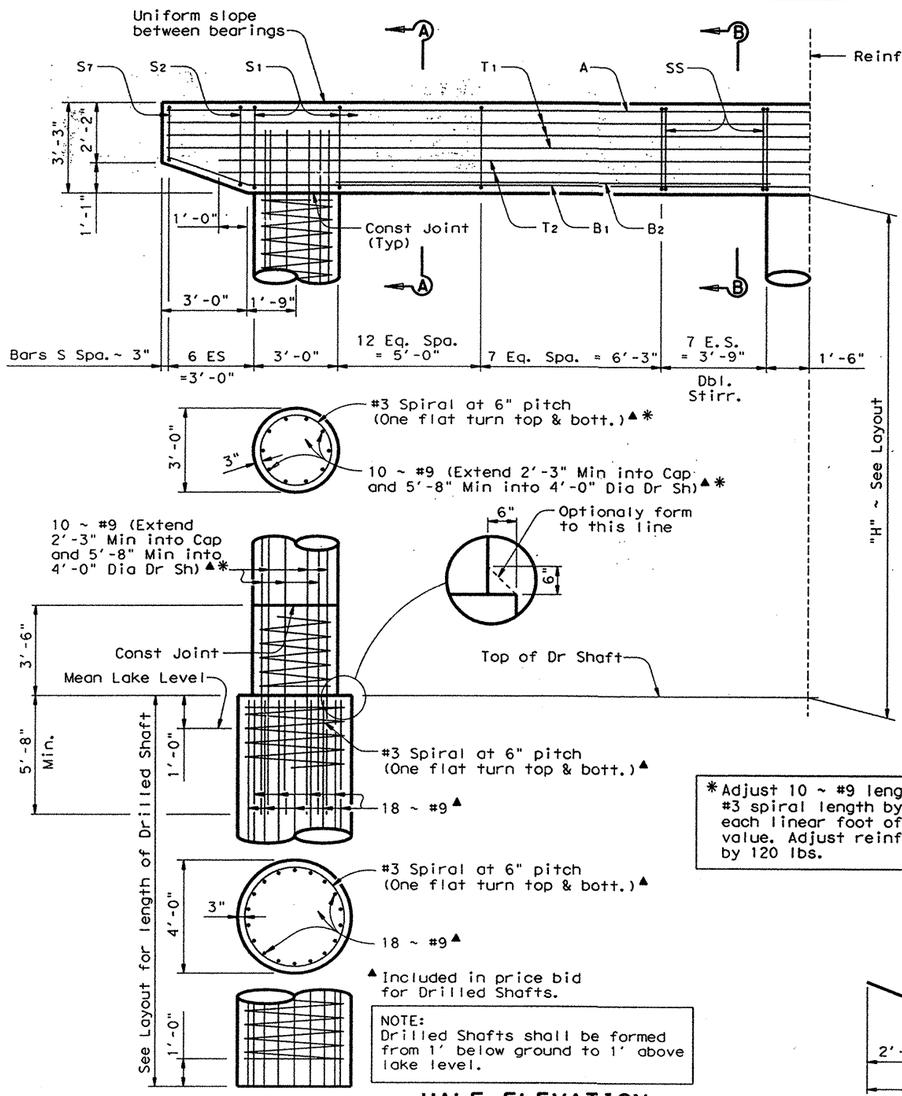
INTERIOR BENT NOS. 35 THRU 41 EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS 8/00 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP	18	6	NH 99(367)	223
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

ACC: d48pc3b 5692ib01.dgn
LEVELS ED 1



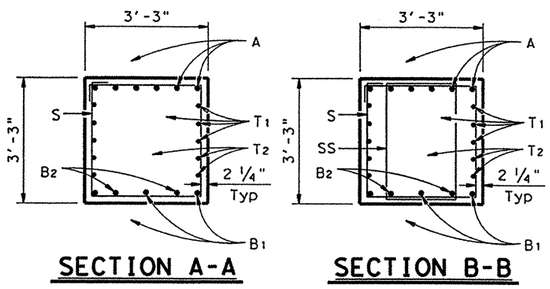
PLAN



▲ Included in price bid for Drilled Shafts.

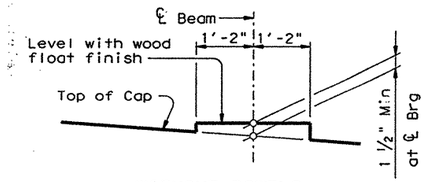
NOTE:
Drilled Shafts shall be formed from 1' below ground to 1' above lake level.

HALF ELEVATION



SECTION A-A

SECTION B-B



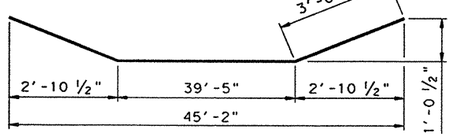
WITHOUT DOWELS

WITH DOWELS

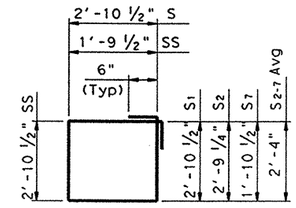
BEARING SEAT DETAIL

(Bearing surface shall be clean and free of all loose material before placing bearing pad.)

* Adjust 10 ~ #9 length by 1 Ft and #3 spiral length by 15.7398 Ft for each linear foot of variation in "H" value. Adjust reinforcing steel total by 120 lbs.



BARS B1



BARS S & SS

①TABLE OF CONSTANT ③ QUANTITIES

Bar	No.	Size	Length	Weight
A	6	#11	45'-2"	1440
B1	3	#11	45'-7"	726
B2	4	#11	15'-0"	319
D	4	1¼"D	1'-8"	28
S1	56	#5	12'-6"	730
S2-7	12	#5	11'-5" Av	143
SS	16	#5	10'-4"	172
T1	6	#5	45'-2"	283
T2	4	#5	41'-6"	173
Reinforcing Steel			Lb	4014
Class "C" Concrete			CY	17.6

BENT LOCATIONS WITHOUT DOWELS D

Bent No.	
27	36
30	39
33	

①② TABLE OF VARIABLE QUANTITIES

①②③ TOTAL ESTIMATED QUANTITIES

Bent No.	"H" Ft	Class "C" Conc. (Col.) C.Y.	Reinf Steel Lb	Class "C" Conc CY
25,26,27	13	10.2	4014	27.8
28,29	12	9.4	4014	27.0
30,31,32	11	8.6	4014	26.2
33,34	10	7.9	4014	25.5
35,36	9	7.1	4014	24.7
37,38,39	8	6.3	4014	23.9
40,41	7	5.5	4014	23.1

① Quantities shown are for one bent only.

② Adjust Class "C" Conc by 0.7854 CY for each linear foot of variation in "H" value.

③ Omit Dowels D at bent locations indicated in table. Deduct 28 lbs. reinforcing steel.

Contractor may alternately use a Precast Bent Cap. See Precast Bent Cap Details sheets for details and quantity adjustments for caps and columns.

GENERAL NOTES:
Designed according to AASHTO 1996 Standard and current Interim Specifications.
Class "C" concrete strength f'c = 3600 psi
All reinforcing shall be Grade 60.
Calculated Foundation Load = 258 Tons/Dr Sh

CHANGE ORDER NO._____

CHANGE ORDER NO._____

HS20 LOADING

2/01 ~ Revised location of column construction joint and modified applicable range of bents.
MDH/RNP

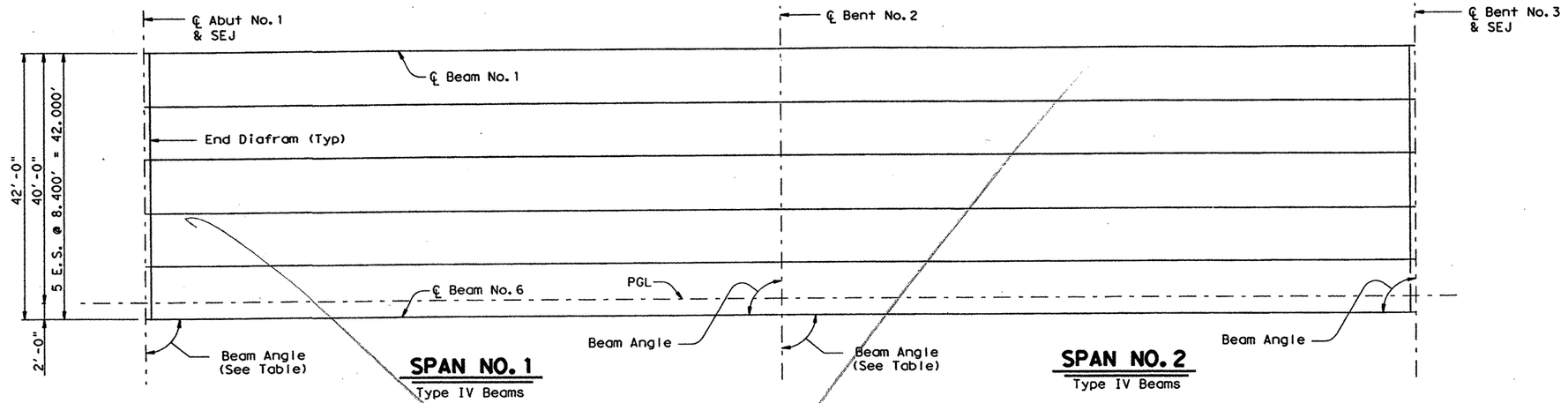
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
3/28/01

Texas Department of Transportation
Design Division (Bridge)

INTERIOR BENT NOS. 25 THRU 41 (OPTIONAL) EAST FORK TRINITY RIVER BRIDGE WESTBOUND LANES

FILE: 5692ib01.dgn	DN: MDH	CK: JBH	DW: RNP	CK: MDH
©TxDOT JANUARY 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS 8/00 ~ Revised Dowel locations and indicated precast bent option. MDH/RNP	18	6	NH 99(367)	223/0
	COUNTY		CONTROL SECT	JOB HIGHWAY
	ROCKWALL		0009 04	039 SH 66

ACC: d48pc3b 5692ib01.dgn
PLAYED
LEVI
1



190.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

ABUT NO. 1 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 2 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN 2	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 3 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 2	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BEAM REPORT

BEAM REPORT, SPAN 1

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	90.000	88.583	89.67
BEAM 2	90.000	88.583	89.67
BEAM 3	90.000	88.583	89.67
BEAM 4	90.000	88.583	89.67
BEAM 5	90.000	88.583	89.67
BEAM 6	90.000	88.583	89.67

BEAM REPORT, SPAN 2

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67
BEAM 6	100.000	98.583	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

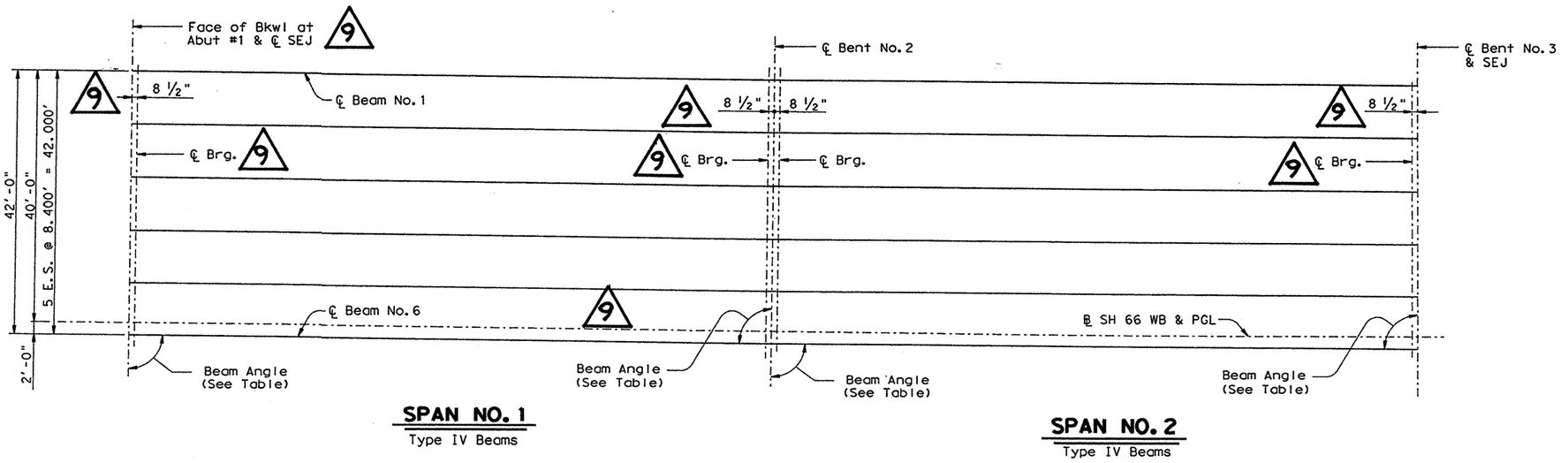
BEAM LAYOUT
UNIT NO. 1

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		224
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS PLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



SPAN NO. 1
Type IV Beams

SPAN NO. 2
Type IV Beams

190.000' PRESTRESSED CONCRETE BEAM UNIT

ABUT NO. 1 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO. 2 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 1	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN 2	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO. 3 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 2	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BEAM REPORT, SPAN 1

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	90.000	88.583	89.67	-.0041
BEAM 2	90.000	88.583	89.67	-.0041
BEAM 3	90.000	88.583	89.67	-.0041
BEAM 4	90.000	88.583	89.67	-.0041
BEAM 5	90.000	88.583	89.67	-.0041
BEAM 6	90.000	88.583	89.67	-.0041

BEAM REPORT, SPAN 2

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	-.0041
BEAM 2	100.000	98.583	99.67	-.0041
BEAM 3	100.000	98.583	99.67	-.0041
BEAM 4	100.000	98.583	99.67	-.0041
BEAM 5	100.000	98.583	99.67	-.0041
BEAM 6	100.000	98.583	99.67	-.0041

CHANGE ORDER NO. 9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

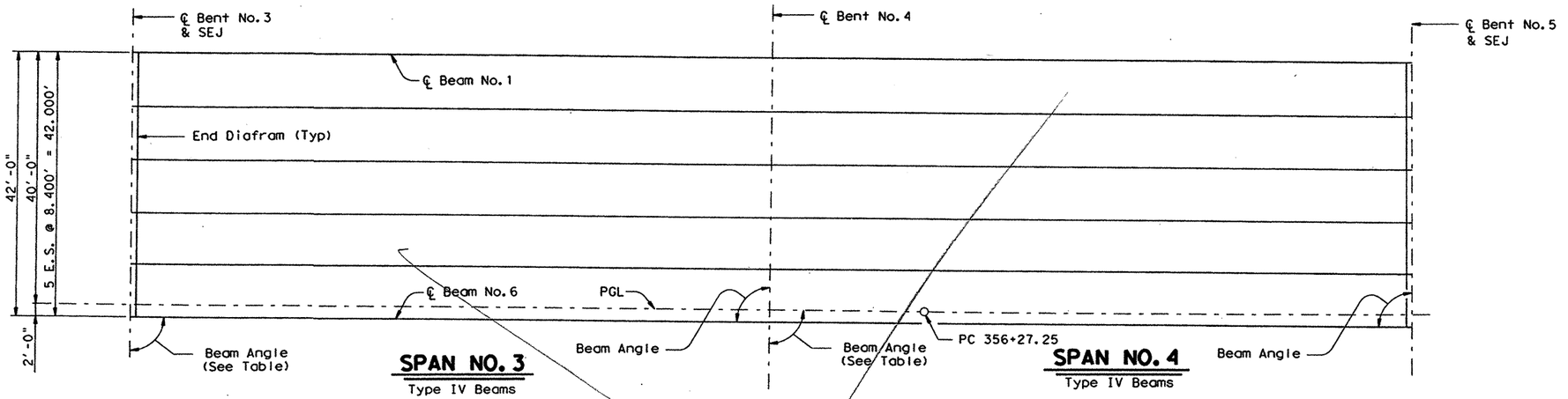
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT UNIT NO. 1

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH		
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET	
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)			22A	
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 3 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO. 4 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN 4	BEAM 1	.000	89	42	48
	BEAM 2	8.400	89	42	48
	BEAM 3	8.400	89	42	48
	BEAM 4	8.400	89	42	47
	BEAM 5	8.400	89	42	47
	BEAM 6	8.400	89	42	47
	TOTAL	42.000			

BENT NO. 5 (S 15 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 4	BEAM 1	.000	89	31	44
	BEAM 2	8.400	89	31	44
	BEAM 3	8.400	89	31	44
	BEAM 4	8.400	89	31	45
	BEAM 5	8.400	89	31	45
	BEAM 6	8.400	89	31	45
	TOTAL	42.000			

BEAM REPORT

BEAM REPORT, SPAN 3

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67
BEAM 6	100.000	98.583	99.67

BEAM REPORT, SPAN 4

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	99.470	98.054	99.14
BEAM 2	99.581	98.165	99.25
BEAM 3	99.692	98.276	99.36
BEAM 4	99.803	98.387	99.47
BEAM 5	99.914	98.498	99.58
BEAM 6	100.025	98.609	99.69

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

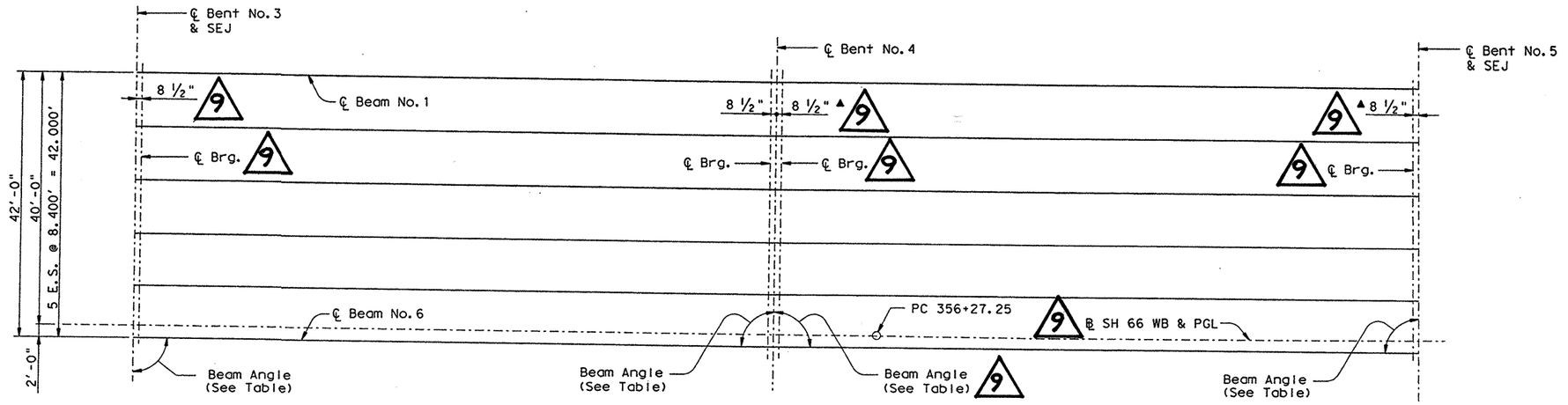
BEAM LAYOUT UNIT NO. 2

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		225
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

PATH: D48PC3Q: TWHALEY

LEVEL DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



SPAN NO. 3
Type IV Beams

SPAN NO. 4
Type IV Beams

200.000' PRESTRESSED CONCRETE BEAM UNIT

9 ▲ See Standard IBB for orientation of dimension.

BENT NO. 3 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 4 (S 14 29 40.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 3	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN 4	BEAM	1	.000	89	42	48
	BEAM	2	8.400	89	42	48
	BEAM	3	8.400	89	42	48
	BEAM	4	8.400	89	42	47
	BEAM	5	8.400	89	42	47
	BEAM	6	8.400	89	42	47
	TOTAL		42.000			

BENT NO. 5 (S 15 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 4	BEAM	1	.000	89	31	44
	BEAM	2	8.400	89	31	44
	BEAM	3	8.400	89	31	44
	BEAM	4	8.400	89	31	45
	BEAM	5	8.400	89	31	45
	BEAM	6	8.400	89	31	45
	TOTAL		42.000			

BEAM REPORT, SPAN 3

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	100.000	98.583	99.67	-.0041
BEAM	2	100.000	98.583	99.67	-.0041
BEAM	3	100.000	98.583	99.67	-.0041
BEAM	4	100.000	98.583	99.67	-.0041
BEAM	5	100.000	98.583	99.67	-.0041
BEAM	6	100.000	98.583	99.67	-.0041

9

BEAM REPORT, SPAN 4

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	99.470	98.054	99.14	-.0041
BEAM	2	99.581	98.165	99.25	-.0041
BEAM	3	99.692	98.276	99.36	-.0041
BEAM	4	99.803	98.387	99.47	-.0041
BEAM	5	99.914	98.498	99.58	-.0041
BEAM	6	100.025	98.609	99.69	-.0041

9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

CHANGE ORDER NO. 9

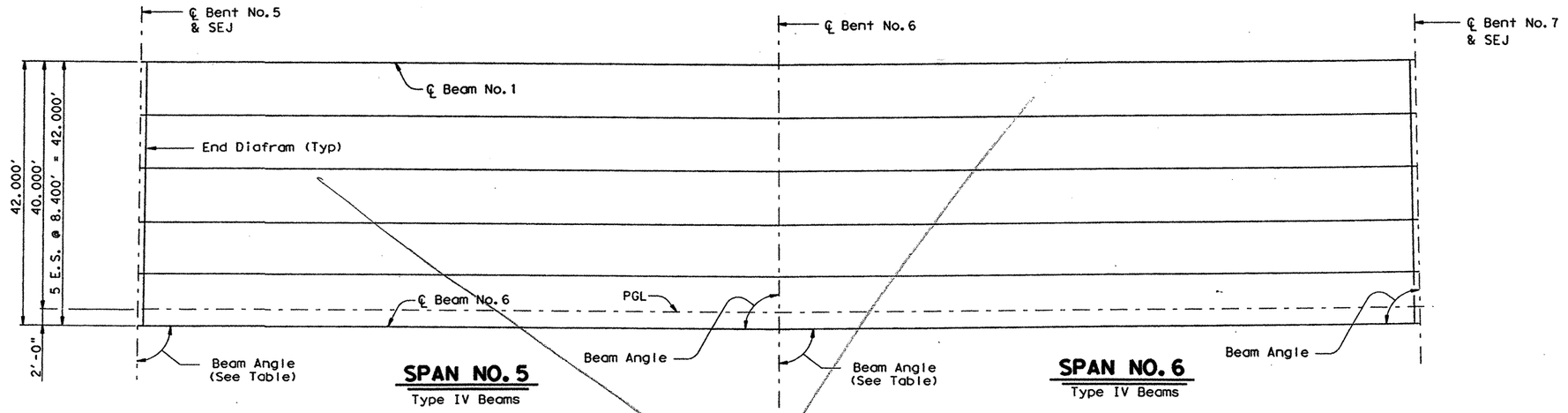
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT UNIT NO. 2

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH	
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)			225A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 5 (S 15 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN	5	BEAM 1	.000	89	30	0
		BEAM 2	8.400	89	30	0
		BEAM 3	8.400	89	30	0
		BEAM 4	8.400	89	30	0
		BEAM 5	8.400	89	30	0
		BEAM 6	8.400	89	30	0
		TOTAL	42.000			

BENT NO. 6 (S 16 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN	5	BEAM 1	.000	89	30	0
		BEAM 2	8.400	89	30	0
		BEAM 3	8.400	89	30	0
		BEAM 4	8.400	89	30	0
		BEAM 5	8.400	89	30	0
		BEAM 6	8.400	89	30	0
		TOTAL	42.000			
SPAN	6	BEAM 1	.000	89	30	0
		BEAM 2	8.400	89	30	0
		BEAM 3	8.400	89	30	0
		BEAM 4	8.400	89	30	0
		BEAM 5	8.400	89	30	0
		BEAM 6	8.400	89	30	0
		TOTAL	42.000			

BENT NO. 7 (S 17 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN	6	BEAM 1	.000	89	30	0
		BEAM 2	8.400	89	30	0
		BEAM 3	8.400	89	30	0
		BEAM 4	8.400	89	30	0
		BEAM 5	8.400	89	30	0
		BEAM 6	8.400	89	30	0
		TOTAL	42.000			

BEAM REPORT

BEAM REPORT, SPAN 5

	C-C BENT	HORIZONTAL DISTANCE C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	99.301	97.884	98.97
BEAM 2	99.447	98.031	99.11
BEAM 3	99.594	98.177	99.26
BEAM 4	99.740	98.324	99.41
BEAM 5	99.887	98.470	99.55
BEAM 6	100.034	98.617	99.70

BEAM REPORT, SPAN 6

	C-C BENT	HORIZONTAL DISTANCE C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	99.301	97.884	98.97
BEAM 2	99.447	98.031	99.11
BEAM 3	99.594	98.177	99.26
BEAM 4	99.740	98.324	99.41
BEAM 5	99.887	98.470	99.55
BEAM 6	100.034	98.617	99.70

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

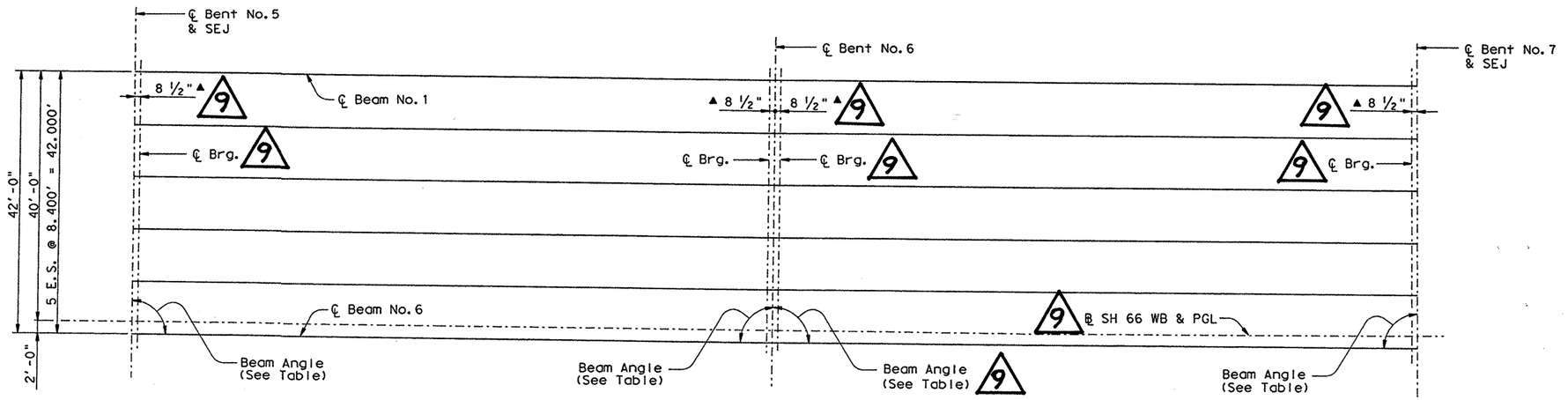
BEAM LAYOUT
UNIT NO. 3

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		226
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS TURNED ON
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



SPAN NO. 5
Type IV Beams

SPAN NO. 6
Type IV Beams

200.000' PRESTRESSED CONCRETE BEAM UNIT

9 ▲ See Standard IBB for orientation of dimension.

BENT NO. 5 (S 15 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 5	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BENT NO. 6 (S 16 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 5	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	
SPAN 6	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BENT NO. 7 (S 17 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 6	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BEAM REPORT, SPAN 5

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	99.301	97.884	98.97	-.0041
BEAM	2	99.447	98.031	99.11	-.0041
BEAM	3	99.594	98.177	99.26	-.0041
BEAM	4	99.740	98.324	99.41	-.0041
BEAM	5	99.887	98.470	99.55	-.0041
BEAM	6	100.034	98.617	99.70	-.0041

9

BEAM REPORT, SPAN 6

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	99.301	97.884	98.97	-.0041
BEAM	2	99.447	98.031	99.11	-.0041
BEAM	3	99.594	98.177	99.26	-.0041
BEAM	4	99.740	98.324	99.41	-.0041
BEAM	5	99.887	98.470	99.55	-.0041
BEAM	6	100.034	98.617	99.70	-.0041

9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

CHANGE ORDER NO. 9

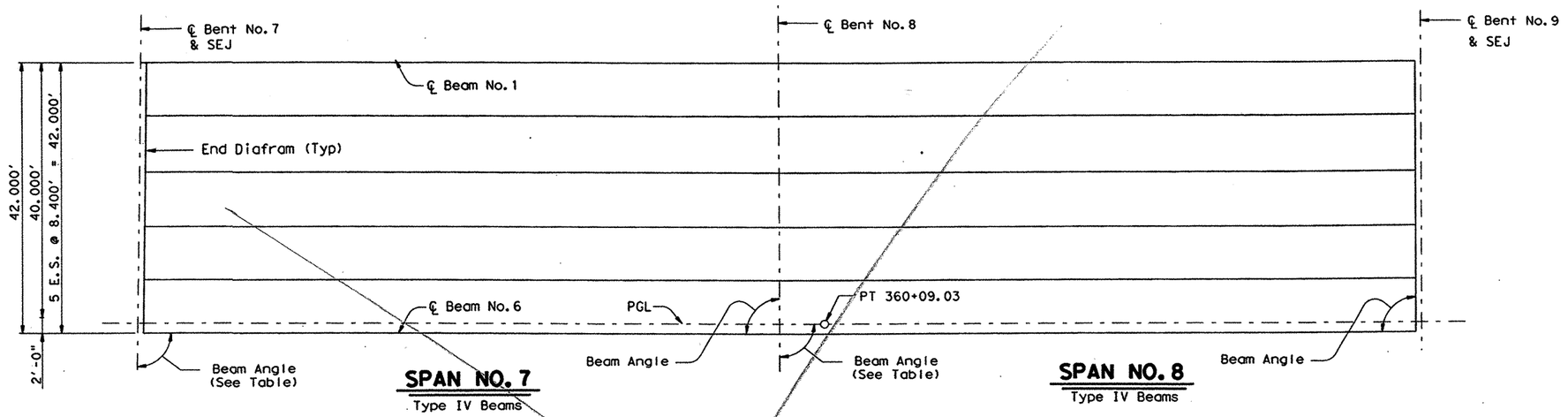
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 3

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)		226A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 7 (S 17 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 7	BEAM	1	.000	89	30	0
	BEAM	2	8.400	89	30	0
	BEAM	3	8.400	89	30	0
	BEAM	4	8.400	89	30	0
	BEAM	5	8.400	89	30	0
	BEAM	6	8.400	89	30	0
	TOTAL		42.000			

BENT NO. 8 (S 18 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 7	BEAM	1	.000	89	30	0
	BEAM	2	8.400	89	30	0
	BEAM	3	8.400	89	30	0
	BEAM	4	8.400	89	30	0
	BEAM	5	8.400	89	30	0
	BEAM	6	8.400	89	30	0
	TOTAL		42.000			
SPAN 8	BEAM	1	.000	89	56	29
	BEAM	2	8.400	89	56	29
	BEAM	3	8.400	89	56	29
	BEAM	4	8.400	89	56	29
	BEAM	5	8.400	89	56	29
	BEAM	6	8.400	89	56	29
	TOTAL		42.000			

BENT NO. 9 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 8	BEAM	1	.000	89	59	53
	BEAM	2	8.400	89	59	53
	BEAM	3	8.400	89	59	53
	BEAM	4	8.400	89	59	53
	BEAM	5	8.400	89	59	53
	BEAM	6	8.400	89	59	53
	TOTAL		42.000			

BEAM REPORT

BEAM REPORT, SPAN 7

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	99.301	97.884	98.97
BEAM 2	99.447	98.031	99.11
BEAM 3	99.594	98.177	99.26
BEAM 4	99.740	98.324	99.41
BEAM 5	99.887	98.470	99.55
BEAM 6	100.034	98.617	99.70

BEAM REPORT, SPAN 8

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	99.958	98.541	99.63
BEAM 2	99.967	98.550	99.63
BEAM 3	99.976	98.559	99.64
BEAM 4	99.984	98.568	99.65
BEAM 5	99.993	98.577	99.66
BEAM 6	100.002	98.585	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

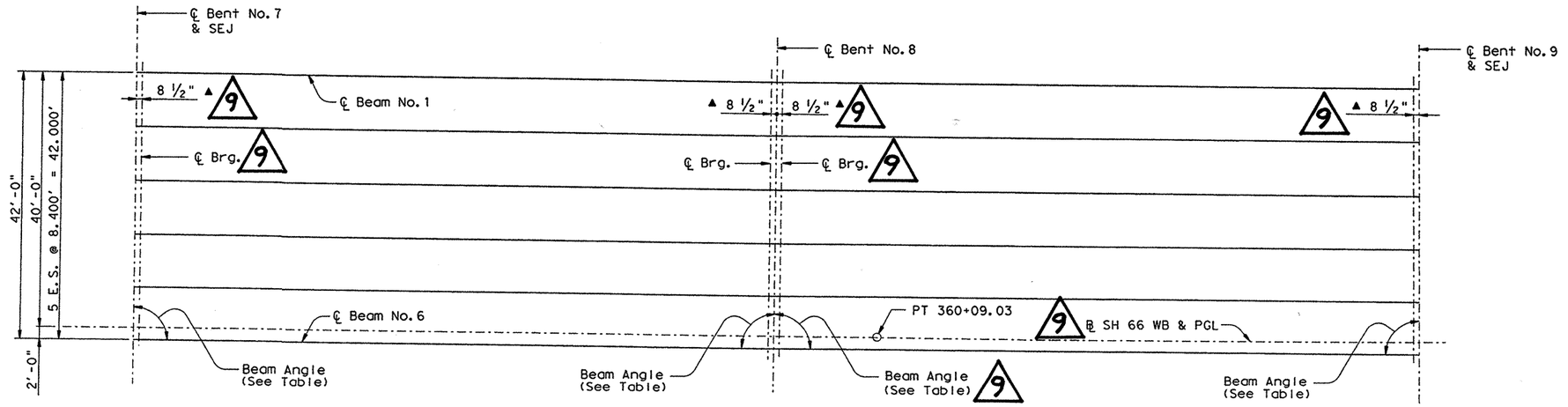
BEAM LAYOUT
UNIT NO. 4

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH			
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET		
REVISIONS	18	NH 99(367)			227		
	COUNTY		CONTROL	SECT	JOB	HIGHWAY	
	ROCKWALL		0009	04	039	SH66	

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



SPAN NO. 7
Type IV Beams

SPAN NO. 8
Type IV Beams

200.000' PRESTRESSED CONCRETE BEAM UNIT

9 ▲ See Standard IBB for orientation of dimension.

BENT NO. 8 (S 18 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 7	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BENT NO. 8 (S 18 15 7.97 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 7	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	
SPAN 8	BEAM	1	.000	89 56 29
	BEAM	2	8.400	89 56 29
	BEAM	3	8.400	89 56 29
	BEAM	4	8.400	89 56 29
	BEAM	5	8.400	89 56 29
	BEAM	6	8.400	89 56 29
	TOTAL		42.000	

BENT NO. 9 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 8	BEAM	1	.000	89 59 53
	BEAM	2	8.400	89 59 53
	BEAM	3	8.400	89 59 53
	BEAM	4	8.400	89 59 53
	BEAM	5	8.400	89 59 53
	BEAM	6	8.400	89 59 53
	TOTAL		42.000	

BEAM REPORT, SPAN 7

	C-C BENT	HORIZONTAL DISTANCE C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	99.301	97.884	98.97	-.0041
BEAM 2	99.447	98.031	99.11	-.0041
BEAM 3	99.594	98.177	99.26	-.0041
BEAM 4	99.740	98.324	99.41	-.0041
BEAM 5	99.887	98.470	99.55	-.0041
BEAM 6	100.034	98.617	99.70	-.0041

9

BEAM REPORT, SPAN 8

	C-C BENT	HORIZONTAL DISTANCE C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	99.958	98.541	99.63	-.0041
BEAM 2	99.967	98.550	99.63	-.0041
BEAM 3	99.976	98.559	99.64	-.0041
BEAM 4	99.984	98.568	99.65	-.0041
BEAM 5	99.993	98.577	99.66	-.0041
BEAM 6	100.002	98.585	99.67	-.0041

9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

9

CHANGE ORDER NO. 9

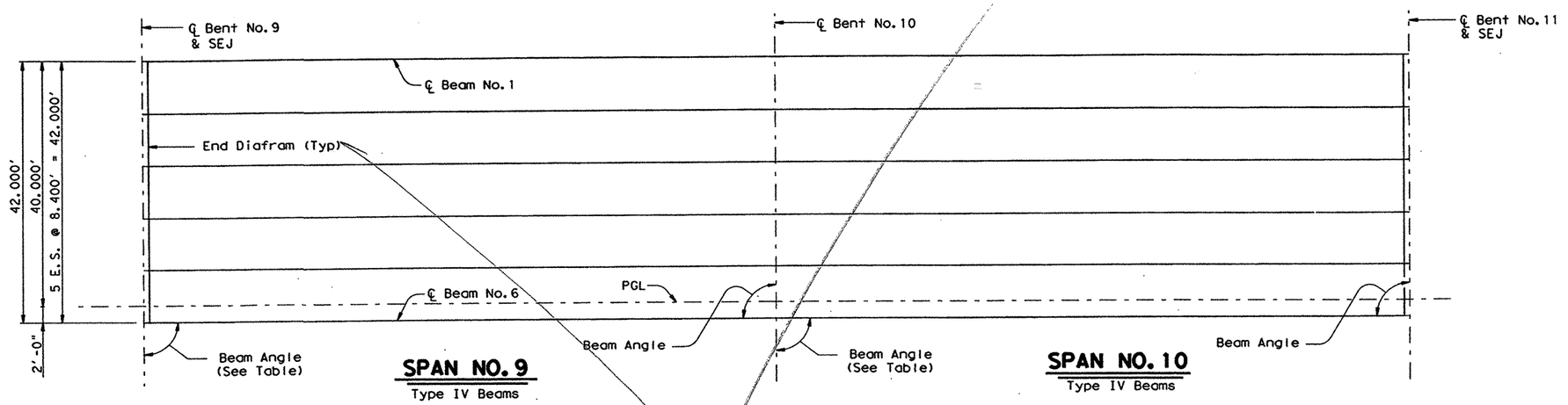
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 4

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH		
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET	
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)			227A	
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 9 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 9	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 10 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 9	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN 10	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 11 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 10	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

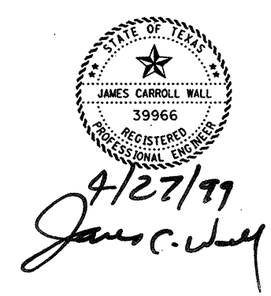
BEAM REPORT

BEAM REPORT, SPAN 9

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67
BEAM 6	100.000	98.583	99.67

BEAM REPORT, SPAN 10

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67
BEAM 6	100.000	98.583	99.67



HS20 LOADING

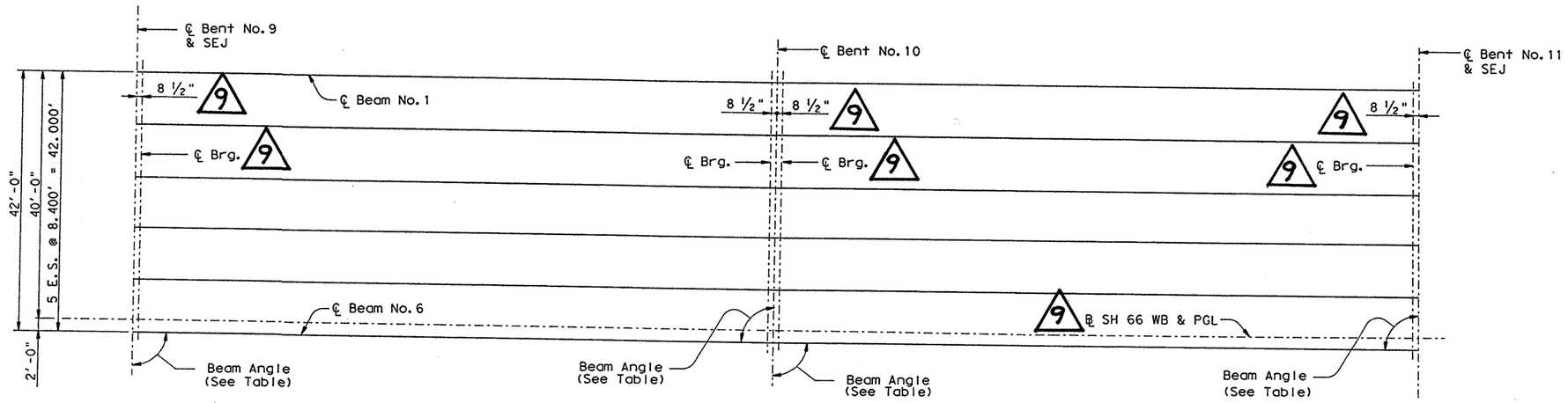
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 5

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		228
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVEL: PLAYED PATH: D48PC3Q: TWHALEY



SPAN NO. 9
Type IV Beams

SPAN NO. 10
Type IV Beams

200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT NO. 9 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 9	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 10 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 9	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN 10	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 11 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 10	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BEAM REPORT, SPAN 9

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	100.000	98.583	99.67	-.0025
BEAM	2	100.000	98.583	99.67	-.0028
BEAM	3	100.000	98.583	99.67	-.0032
BEAM	4	100.000	98.583	99.67	-.0035
BEAM	5	100.000	98.583	99.67	-.0039
BEAM	6	100.000	98.583	99.67	-.0042

BEAM REPORT, SPAN 10

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	100.000	98.583	99.67	.0001
BEAM	2	100.000	98.583	99.67	-.0007
BEAM	3	100.000	98.583	99.67	-.0016
BEAM	4	100.000	98.583	99.67	-.0025
BEAM	5	100.000	98.583	99.67	-.0034
BEAM	6	100.000	98.583	99.67	-.0043

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

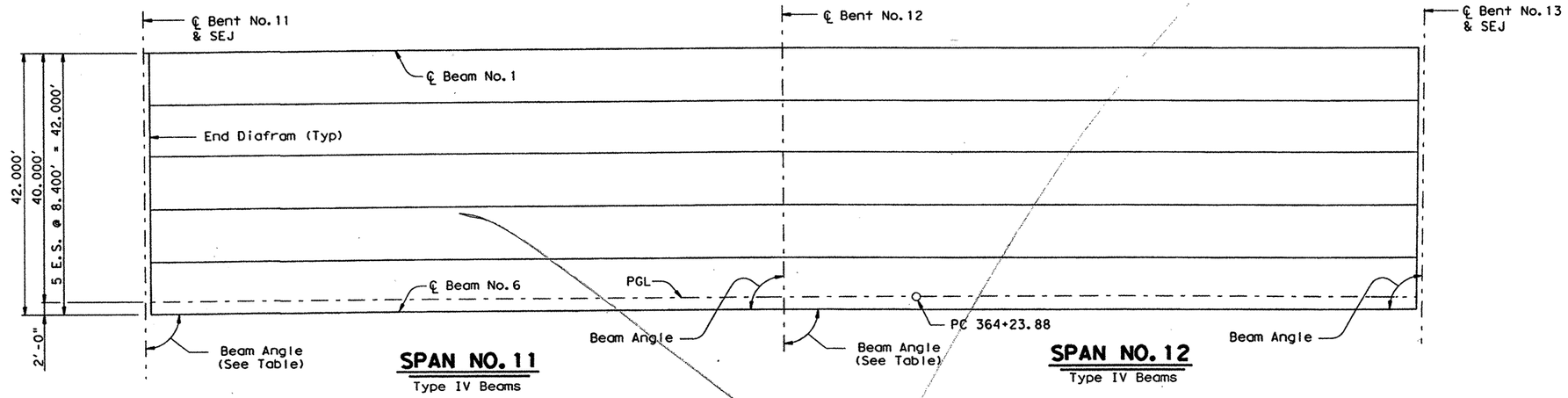
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 5

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)		228A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

9



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 11 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 11	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 12 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 11	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN 12	BEAM	1	.000	89	41	11
	BEAM	2	8.400	89	41	11
	BEAM	3	8.400	89	41	12
	BEAM	4	8.400	89	41	12
	BEAM	5	8.400	89	41	12
	BEAM	6	8.400	89	41	13
	TOTAL		42.000			

BENT NO. 13 (S 17 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 12	BEAM	1	.000	89	31	20
	BEAM	2	8.400	89	31	19
	BEAM	3	8.400	89	31	19
	BEAM	4	8.400	89	31	19
	BEAM	5	8.400	89	31	18
	BEAM	6	8.400	89	31	18
	TOTAL		42.000			

BEAM REPORT

BEAM REPORT, SPAN 11

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.000	98.583	99.67
BEAM 2	100.000	98.583	99.67
BEAM 3	100.000	98.583	99.67
BEAM 4	100.000	98.583	99.67
BEAM 5	100.000	98.583	99.67
BEAM 6	100.000	98.583	99.67

BEAM REPORT, SPAN 12

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.551	99.135	100.22
BEAM 2	100.435	99.019	100.10
BEAM 3	100.319	98.903	99.99
BEAM 4	100.203	98.787	99.87
BEAM 5	100.087	98.671	99.75
BEAM 6	99.971	98.555	99.64

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER
4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

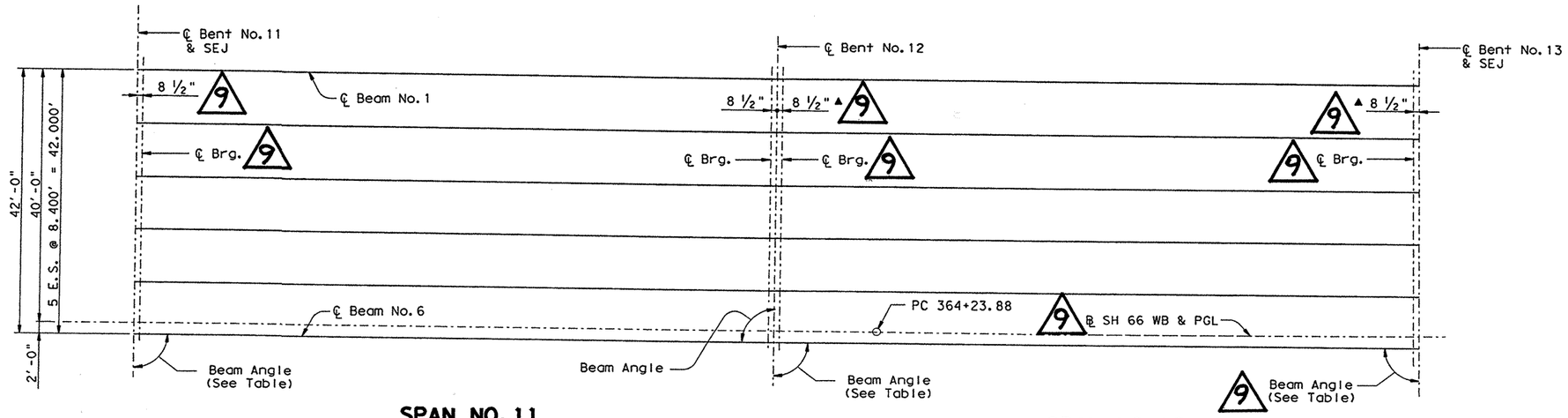
BEAM LAYOUT
UNIT NO. 6

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		229
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



SPAN NO. 11
Type IV Beams

SPAN NO. 12
Type IV Beams

200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT NO. 11 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 11	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO. 12 (S 18 18 45.00 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 11	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN 12	BEAM 1	.000	89	41	11
	BEAM 2	8.400	89	41	11
	BEAM 3	8.400	89	41	12
	BEAM 4	8.400	89	41	12
	BEAM 5	8.400	89	41	12
	BEAM 6	8.400	89	41	13
	TOTAL	42.000			

BENT NO. 13 (S 17 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 12	BEAM 1	.000	89	31	20
	BEAM 2	8.400	89	31	19
	BEAM 3	8.400	89	31	19
	BEAM 4	8.400	89	31	19
	BEAM 5	8.400	89	31	18
	BEAM 6	8.400	89	31	18
	TOTAL	42.000			

9 ▲ See Standard IBB for orientation of dimension.

BEAM REPORT, SPAN 11

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	.0001
BEAM 2	100.000	98.583	99.67	-.0007
BEAM 3	100.000	98.583	99.67	-.0016
BEAM 4	100.000	98.583	99.67	-.0025
BEAM 5	100.000	98.583	99.67	-.0034
BEAM 6	100.000	98.583	99.67	-.0043

BEAM REPORT, SPAN 12

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.551	99.135	100.22	.0001
BEAM 2	100.435	99.019	100.10	-.0007
BEAM 3	100.319	98.903	99.99	-.0016
BEAM 4	100.203	98.787	99.87	-.0025
BEAM 5	100.087	98.671	99.75	-.0034
BEAM 6	99.971	98.555	99.64	-.0043

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

CHANGE ORDER NO. 9

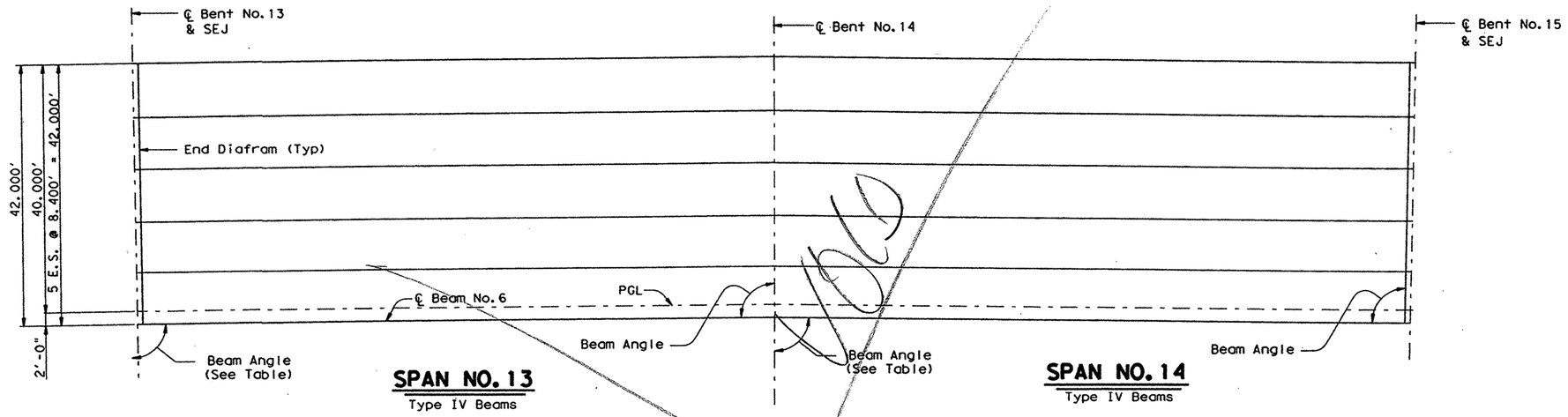
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT UNIT NO. 6

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)		229A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 13 (S 17 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 13	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	

BENT NO. 14 (S 16 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 13	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	
SPAN 14	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	

BENT NO. 15 (S 15 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 14	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	

BEAM REPORT

BEAM REPORT, SPAN 13

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.697	99.280	100.36
BEAM 2	100.550	99.134	100.22
BEAM 3	100.404	98.987	100.07
BEAM 4	100.257	98.840	99.92
BEAM 5	100.110	98.694	99.78
BEAM 6	99.964	98.547	99.63

BEAM REPORT, SPAN 14

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.697	99.280	100.36
BEAM 2	100.550	99.134	100.22
BEAM 3	100.404	98.987	100.07
BEAM 4	100.257	98.840	99.92
BEAM 5	100.110	98.694	99.78
BEAM 6	99.964	98.547	99.63

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

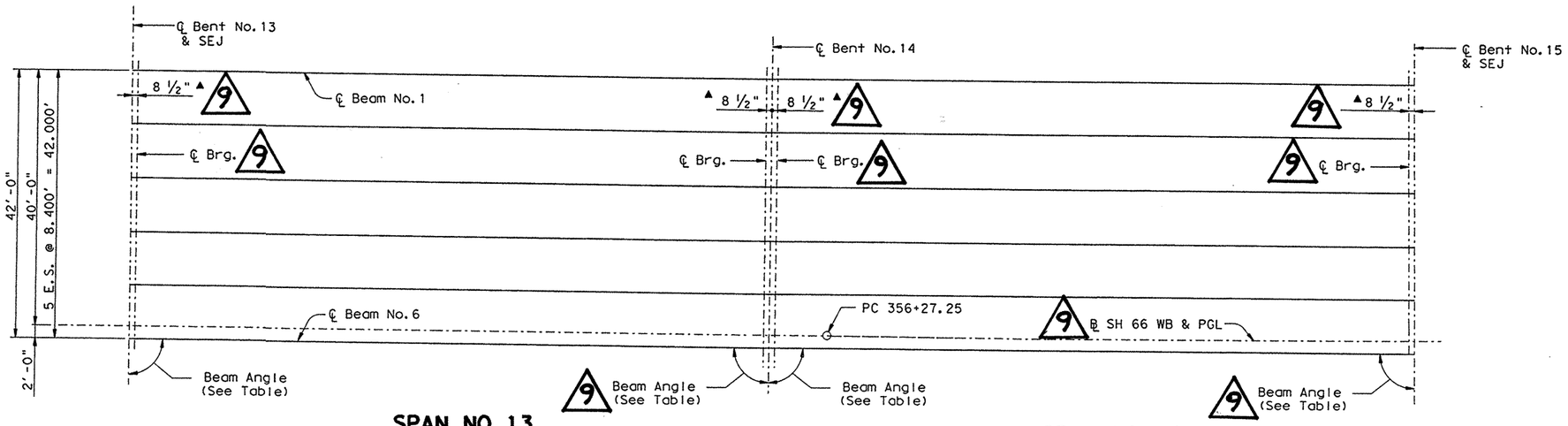
BEAM LAYOUT
UNIT NO. 7

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		230
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS ...PLOTTED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



SPAN NO. 13
Type IV Beams

SPAN NO. 14
Type IV Beams

200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT NO. 13 (S 17 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 13	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BENT NO. 14 (S 16 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 13	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	
SPAN 14	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BENT NO. 15 (S 15 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 14	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BEAM REPORT, SPAN 13

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	100.697	99.280	100.36	-.0019
BEAM	2	100.550	99.134	100.22	-.0024
BEAM	3	100.404	98.987	100.07	-.0028
BEAM	4	100.257	98.840	99.92	-.0033
BEAM	5	100.110	98.694	99.78	-.0038
BEAM	6	99.964	98.547	99.63	-.0042

BEAM REPORT, SPAN 14

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	100.697	99.280	100.36	-.0052
BEAM	2	100.550	99.134	100.22	-.0050
BEAM	3	100.404	98.987	100.07	-.0048
BEAM	4	100.257	98.840	99.92	-.0045
BEAM	5	100.110	98.694	99.78	-.0043
BEAM	6	99.964	98.547	99.63	-.0041

9 ▲ See Standard IBB for orientation of dimension.

CHANGE ORDER NO. 9

HS20 LOADING

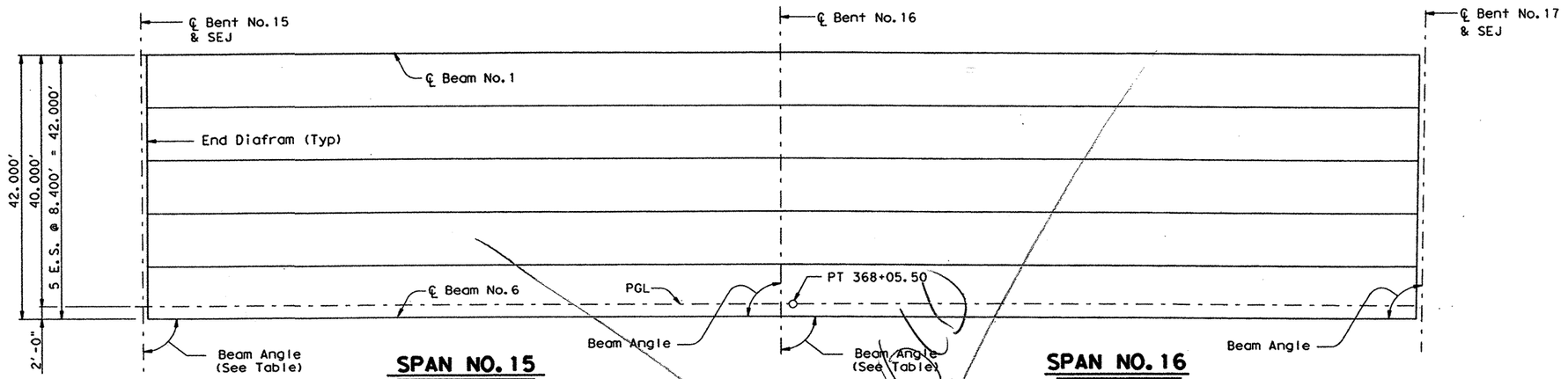
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 7

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH		
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET	
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)			230A	
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 15 (S 15 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 15	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	

BENT NO. 16 (S 14 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 15	BEAM	1	.000	89 30 0
	BEAM	2	8.400	89 30 0
	BEAM	3	8.400	89 30 0
	BEAM	4	8.400	89 30 0
	BEAM	5	8.400	89 30 0
	BEAM	6	8.400	89 30 0
	TOTAL		42.000	
SPAN 16	BEAM	1	.000	89 58 31
	BEAM	2	8.400	89 58 31
	BEAM	3	8.400	89 58 31
	BEAM	4	8.400	89 58 31
	BEAM	5	8.400	89 58 31
	BEAM	6	8.400	89 58 31
	TOTAL		42.000	

BENT NO. 17 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 16	BEAM	1	.000	89 59 58
	BEAM	2	8.400	89 59 58
	BEAM	3	8.400	89 59 58
	BEAM	4	8.400	89 59 58
	BEAM	5	8.400	89 59 58
	BEAM	6	8.400	89 59 58
	TOTAL		42.000	

BEAM REPORT

BEAM REPORT, SPAN 15

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.697	99.280	100.37
BEAM 2	100.550	99.134	100.22
BEAM 3	100.404	98.987	100.07
BEAM 4	100.257	98.840	99.93
BEAM 5	100.110	98.694	99.78
BEAM 6	99.964	98.547	99.63

BEAM REPORT, SPAN 16

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM 1	100.017	98.601	99.69
BEAM 2	100.014	98.597	99.68
BEAM 3	100.010	98.593	99.68
BEAM 4	100.006	98.590	99.67
BEAM 5	100.003	98.586	99.67
BEAM 6	99.999	98.582	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

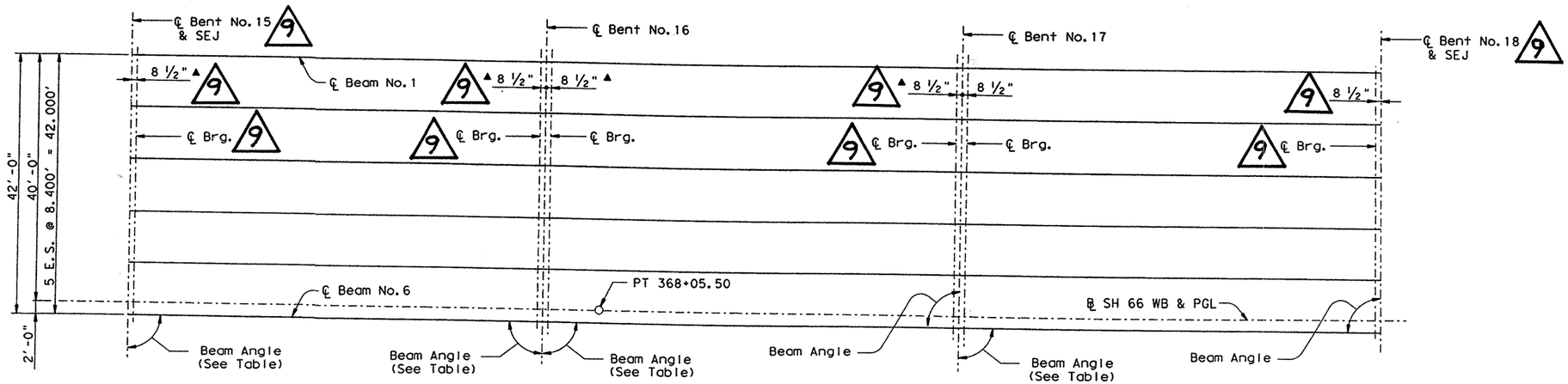
BEAM LAYOUT
UNIT NO. 8

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		231
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS LAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 7 8 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



SPAN NO. 15
Type IV Beams

SPAN NO. 16
Type IV Beams

SPAN NO. 17
Type IV Beams

300.000' PRESTRESSED CONCRETE BEAM UNIT

BENT NO. 15 (S 15 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 15	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	

BENT NO. 16 (S 14 31 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 15	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	
SPAN 16	BEAM 1	.000	89 58 31
	BEAM 2	8.400	89 58 31
	BEAM 3	8.400	89 58 31
	BEAM 4	8.400	89 58 31
	BEAM 5	8.400	89 58 31
	BEAM 6	8.400	89 58 31
	TOTAL	42.000	

BENT NO. 17 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 16	BEAM 1	.000	89 59 58
	BEAM 2	8.400	89 59 58
	BEAM 3	8.400	89 59 58
	BEAM 4	8.400	89 59 58
	BEAM 5	8.400	89 59 58
	BEAM 6	8.400	89 59 58
	TOTAL	42.000	
SPAN 17	BEAM 1	.000	90 0 0
	BEAM 2	8.400	90 0 0
	BEAM 3	8.400	90 0 0
	BEAM 4	8.400	90 0 0
	BEAM 5	8.400	90 0 0
	BEAM 6	8.400	90 0 0
	TOTAL	42.000	

BENT NO. 18 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 17	BEAM 1	.000	90 0 0
	BEAM 2	8.400	90 0 0
	BEAM 3	8.400	90 0 0
	BEAM 4	8.400	90 0 0
	BEAM 5	8.400	90 0 0
	BEAM 6	8.400	90 0 0
	TOTAL	42.000	

BEAM REPORT, SPAN 15

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.697	99.280	100.37	-.0083
BEAM 2	100.550	99.134	100.22	-.0074
BEAM 3	100.404	98.987	100.07	-.0066
BEAM 4	100.257	98.840	99.93	-.0057
BEAM 5	100.110	98.694	99.78	-.0048
BEAM 6	99.964	98.547	99.63	-.0039

BEAM REPORT, SPAN 16

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.017	98.601	99.69	-.0084
BEAM 2	100.014	98.597	99.68	-.0075
BEAM 3	100.010	98.593	99.68	-.0066
BEAM 4	100.006	98.590	99.67	-.0057
BEAM 5	100.003	98.586	99.67	-.0048
BEAM 6	99.999	98.582	99.67	-.0039

BEAM REPORT, SPAN 17

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	-.0084
BEAM 2	100.000	98.583	99.67	-.0075
BEAM 3	100.000	98.583	99.67	-.0066
BEAM 4	100.000	98.583	99.67	-.0057
BEAM 5	100.000	98.583	99.67	-.0048
BEAM 6	100.000	98.583	99.67	-.0039

▲ See Standard IBB for orientation of dimension.

CHANGE ORDER NO. _____

HS20 LOADING

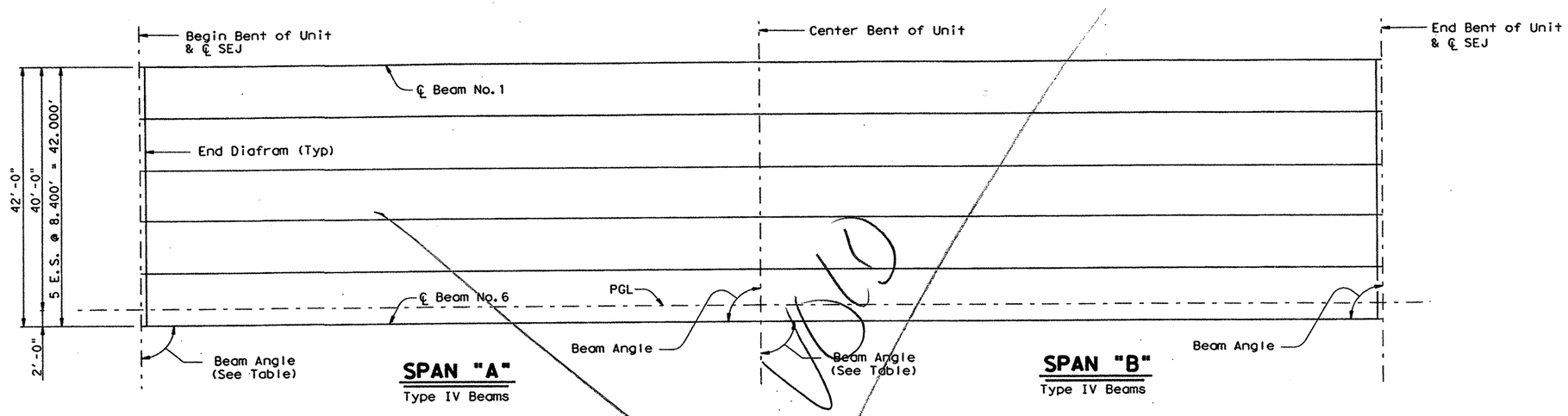
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
1/31/01

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 8

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH			
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT			SHEET		
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW 1/01 - ADDED SEJ LOCATION -MDH	18	NH 99(367)			231A		
	COUNTY		CONTROL	SECT	JOB	HIGHWAY	
	ROCKWALL		0009	04	039	SH66	



200.000' PRESTRESSED CONCRETE BEAM UNIT

Unit No.	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Span "A"	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
Span "B"	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
Unit No.	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
Span "A"	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	
Span "B"	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	

BENT REPORT

BENT NOS.17-95 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPANS 17-94	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BEAM REPORT SPAN NOS.17-94

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.000	98.583	99.67
BEAM	2	100.000	98.583	99.67
BEAM	3	100.000	98.583	99.67
BEAM	4	100.000	98.583	99.67
BEAM	5	100.000	98.583	99.67
BEAM	6	100.000	98.583	99.67

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

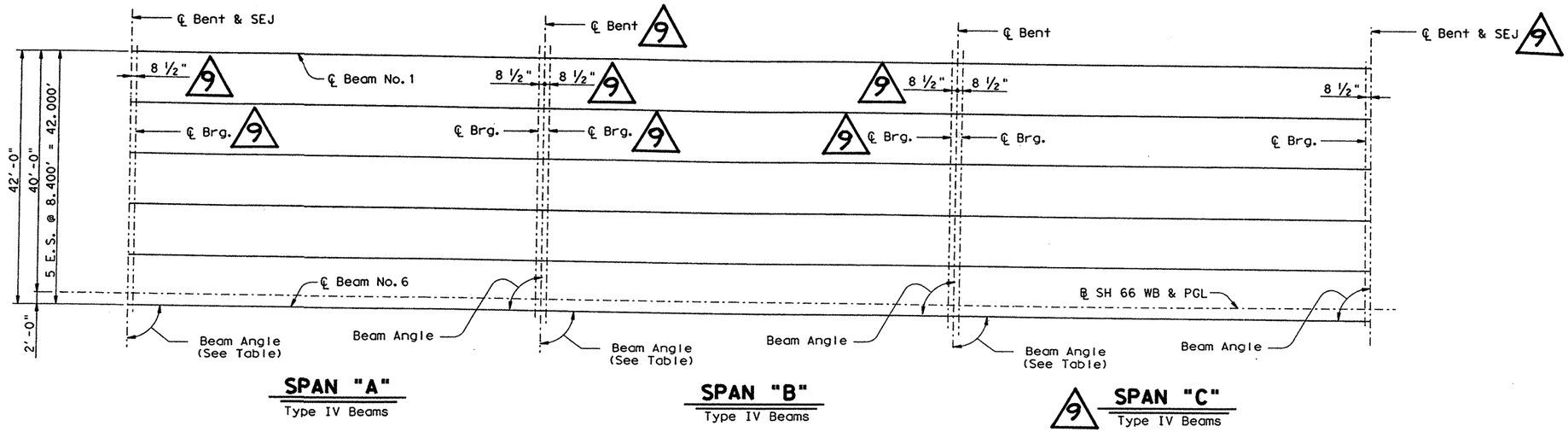
4/27/99

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NOS. 9 THRU 47
EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		232
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

PATH: D48PC3Q: TWHALEY
LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



SPAN "A" Type IV Beams

SPAN "B" Type IV Beams

SPAN "C" Type IV Beams

300.000' PRESTRESSED CONCRETE BEAM UNIT

Unit No.	9	10	11	12	13	14	15	16	17	18	19	20	21
Span "A"	18	21	24	27	30	33	36	39	42	45	48	51	54
Span "B"	19	22	25	28	31	34	37	40	43	46	49	52	55
Span "C"	20	23	26	29	32	35	38	41	44	47	50	53	56
Unit No.	22	23	24	25	26	27	28	29	30	31	32	33	
Span "A"	57	60	63	66	69	72	75	78	81	84	87	90	
Span "B"	58	61	64	67	70	73	76	79	82	85	88	91	
Span "B"	59	62	65	68	71	74	77	80	83	86	89	92	

BENT REPORT, SPANS 18-92

BENT NO. 18-93 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

	BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
BEAM 1	.000	90	0	0
BEAM 2	8.400	90	0	0
BEAM 3	8.400	90	0	0
BEAM 4	8.400	90	0	0
BEAM 5	8.400	90	0	0
BEAM 6	8.400	90	0	0
TOTAL	42.000			

BEAM REPORT, SPANS 18-92

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	.0000
BEAM 2	100.000	98.583	99.67	.0000
BEAM 3	100.000	98.583	99.67	.0000
BEAM 4	100.000	98.583	99.67	.0000
BEAM 5	100.000	98.583	99.67	.0000
BEAM 6	100.000	98.583	99.67	.0000

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
1/31/01

CHANGE ORDER NO. 9

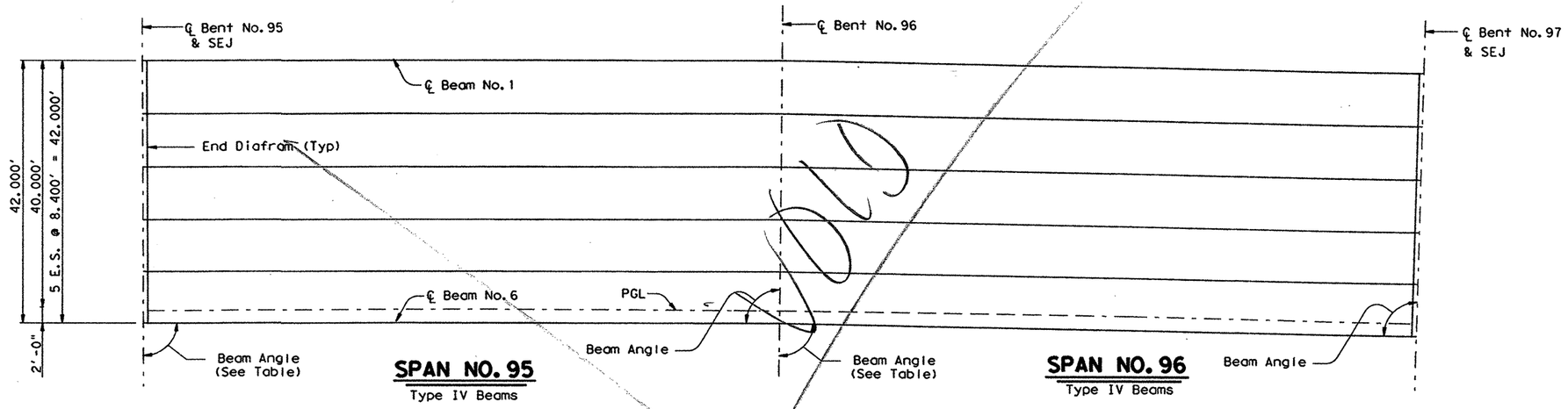
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 9-33

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW 1/01 - FIXED SEJ LOCATION -MDH	18	NH 99(367)		232A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 95 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 95	BEAM	1	.000	89	44	11
	BEAM	2	8.400	89	44	12
	BEAM	3	8.400	89	44	12
	BEAM	4	8.400	89	44	13
	BEAM	5	8.400	89	44	13
	BEAM	6	8.400	89	44	13
			TOTAL 42.000			

BENT NO. 96 (S 13 46 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 95	BEAM	1	.000	89	32	17
	BEAM	2	8.400	89	32	17
	BEAM	3	8.400	89	32	17
	BEAM	4	8.400	89	32	16
	BEAM	5	8.400	89	32	16
	BEAM	6	8.400	89	32	15
			TOTAL 42.000			
SPAN 96	BEAM	1	.000	89	30	0
	BEAM	2	8.400	89	30	0
	BEAM	3	8.400	89	30	0
	BEAM	4	8.400	89	30	0
	BEAM	5	8.400	89	30	0
	BEAM	6	8.400	89	30	0
			TOTAL 42.000			

BENT NO. 97 (S 12 46 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 96	BEAM	1	.000	89	30	0
	BEAM	2	8.400	89	30	0
	BEAM	3	8.400	89	30	0
	BEAM	4	8.400	89	30	0
	BEAM	5	8.400	89	30	0
	BEAM	6	8.400	89	30	0
			TOTAL 42.000			

BEAM REPORT, SPAN 95

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.505	99.089	100.17
BEAM	2	100.399	98.982	100.07
BEAM	3	100.293	98.876	99.96
BEAM	4	100.186	98.770	99.85
BEAM	5	100.080	98.663	99.75
BEAM	6	99.974	98.557	99.64

BEAM REPORT, SPAN 96

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.697	99.280	100.36
BEAM	2	100.550	99.134	100.22
BEAM	3	100.404	98.987	100.07
BEAM	4	100.257	98.840	99.92
BEAM	5	100.110	98.694	99.78
BEAM	6	99.964	98.547	99.63

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 48

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

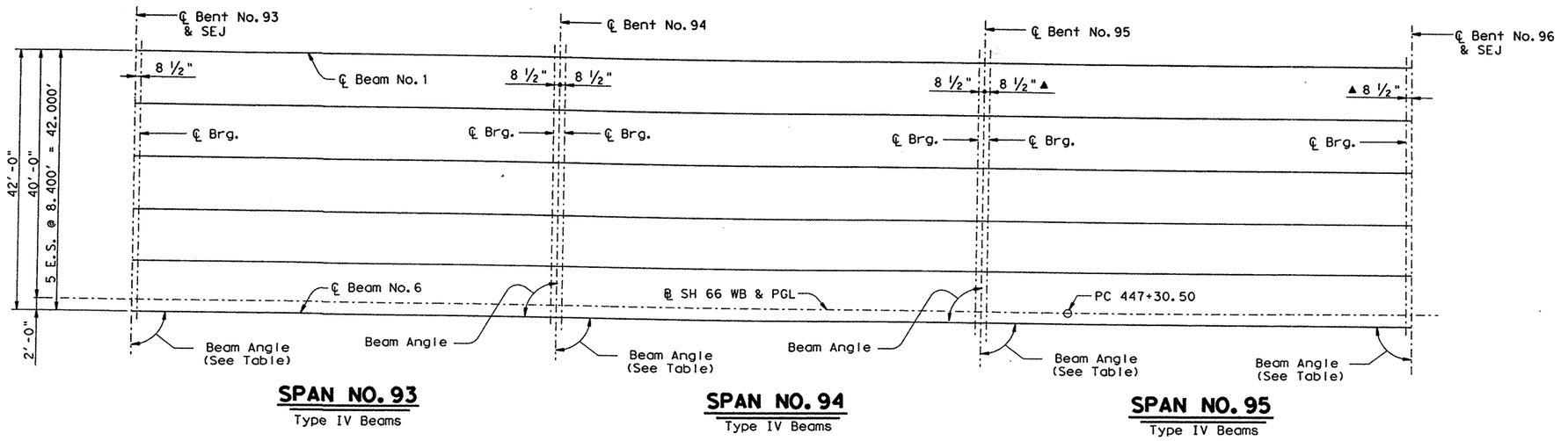
FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		233

COUNTY	CONTROL	SECT	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 7 8 9 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY

9



SPAN NO. 93
Type IV Beams

SPAN NO. 94
Type IV Beams

SPAN NO. 95
Type IV Beams

300.000' PRESTRESSED CONCRETE BEAM UNIT

▲ See Standard IBB for orientation of dimension.

BENT NO. 93 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 93	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO. 94 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 93	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN 94	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO. 95 (S 14 29 46.89 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 94	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN 95	BEAM 1	.000	89	44	11
	BEAM 2	8.400	89	44	12
	BEAM 3	8.400	89	44	12
	BEAM 4	8.400	89	44	13
	BEAM 5	8.400	89	44	13
	BEAM 6	8.400	89	44	13
	TOTAL	42.000			

BENT NO. 96 (S 13 46 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 95	BEAM 1	.000	89	32	17
	BEAM 2	8.400	89	32	17
	BEAM 3	8.400	89	32	17
	BEAM 4	8.400	89	32	16
	BEAM 5	8.400	89	32	16
	BEAM 6	8.400	89	32	15
	TOTAL	42.000			

9

BEAM REPORT, SPAN 93

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	.0043
BEAM 2	100.000	98.583	99.67	.0034
BEAM 3	100.000	98.583	99.67	.0025
BEAM 4	100.000	98.583	99.67	.0016
BEAM 5	100.000	98.583	99.67	.0007
BEAM 6	100.000	98.583	99.67	-.0002

BEAM REPORT, SPAN 94

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	.0043
BEAM 2	100.000	98.583	99.67	.0034
BEAM 3	100.000	98.583	99.67	.0025
BEAM 4	100.000	98.583	99.67	.0016
BEAM 5	100.000	98.583	99.67	.0007
BEAM 6	100.000	98.583	99.67	-.0002

BEAM REPORT, SPAN 95

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.505	99.089	100.17	.0042
BEAM 2	100.399	98.982	100.07	.0034
BEAM 3	100.293	98.876	99.96	.0025
BEAM 4	100.186	98.770	99.85	.0016
BEAM 5	100.080	98.663	99.75	.0007
BEAM 6	99.974	98.557	99.64	-.0002

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/01

9

CHANGE ORDER NO. 9

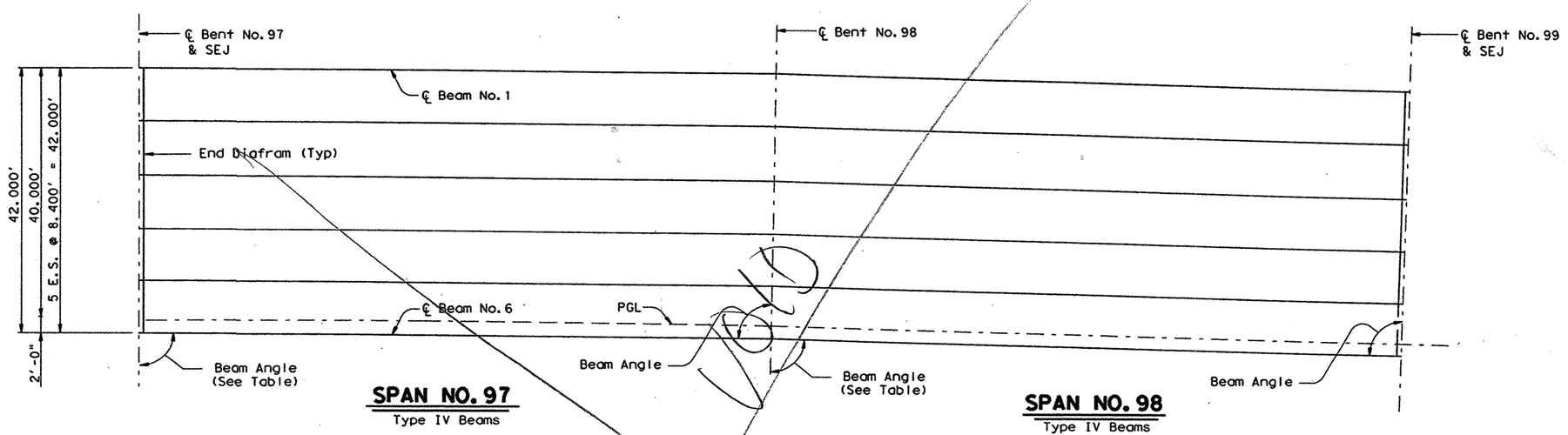
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT UNIT NO. 34 9

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW 1/01 - ADDED SEJ LOCATION -MDH	18	NH 99(367)		233A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 97 (S 12 46 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 97	BEAM	1	.000	89	30	0
	BEAM	2	8.400	89	30	0
	BEAM	3	8.400	89	30	0
	BEAM	4	8.400	89	30	0
	BEAM	5	8.400	89	30	0
	BEAM	6	8.400	89	30	0
			TOTAL 42.000			

BENT NO. 98 (S 11 46 16.73 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 98	BEAM	1	.000	89	30	0
	BEAM	2	8.400	89	30	0
	BEAM	3	8.400	89	30	0
	BEAM	4	8.400	89	30	0
	BEAM	5	8.400	89	30	0
	BEAM	6	8.400	89	30	0
			TOTAL 42.000			
SPAN 98	BEAM	1	.000	89	32	23
	BEAM	2	8.400	89	32	23
	BEAM	3	8.400	89	32	23
	BEAM	4	8.400	89	32	22
	BEAM	5	8.400	89	32	22
	BEAM	6	8.400	89	32	21
			TOTAL 42.000			

BENT NO. 99 (S 11 03 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 98	BEAM	1	.000	89	44	27
	BEAM	2	8.400	89	44	27
	BEAM	3	8.400	89	44	28
	BEAM	4	8.400	89	44	28
	BEAM	5	8.400	89	44	28
	BEAM	6	8.400	89	44	29
			TOTAL 42.000			

BEAM REPORT, SPAN 97

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.697	99.280	100.36
BEAM	2	100.550	99.134	100.22
BEAM	3	100.404	98.987	100.07
BEAM	4	100.257	98.840	99.92
BEAM	5	100.110	98.694	99.78
BEAM	6	99.964	98.547	99.63

BEAM REPORT, SPAN 98

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.501	99.085	100.17
BEAM	2	100.396	98.979	100.06
BEAM	3	100.290	98.874	99.96
BEAM	4	100.185	98.768	99.85
BEAM	5	100.079	98.663	99.75
BEAM	6	99.974	98.557	99.64

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

HS20 LOADING

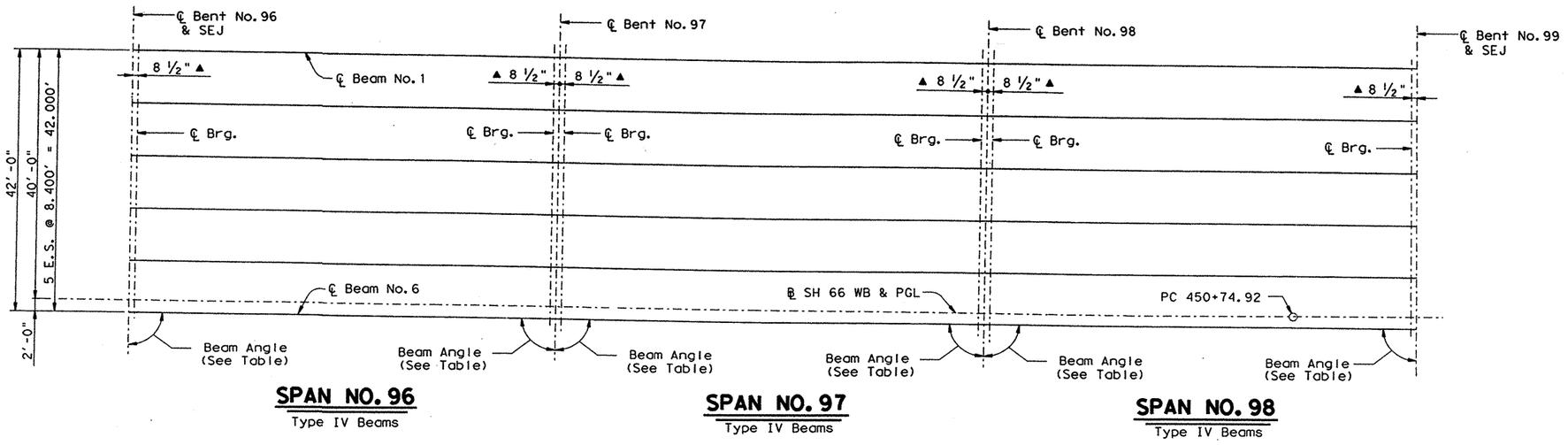
Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT UNIT NO. 49

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		234
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

PATH: D48PC30: TWHALEY
LEVELS Turned ON: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



SPAN NO. 96
Type IV Beams

SPAN NO. 97
Type IV Beams

SPAN NO. 98
Type IV Beams

300.000' PRESTRESSED CONCRETE BEAM UNIT

9 ▲ See Standard IBB for orientation of dimension.

BENT NO. 96 (S 13 46 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 96	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	

BENT NO. 97 (S 12 46 16.72 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 96	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	
SPAN 97	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	

BENT NO. 98 (S 11 46 16.73 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 97	BEAM 1	.000	89 30 0
	BEAM 2	8.400	89 30 0
	BEAM 3	8.400	89 30 0
	BEAM 4	8.400	89 30 0
	BEAM 5	8.400	89 30 0
	BEAM 6	8.400	89 30 0
	TOTAL	42.000	
SPAN 98	BEAM 1	.000	89 32 23
	BEAM 2	8.400	89 32 23
	BEAM 3	8.400	89 32 23
	BEAM 4	8.400	89 32 22
	BEAM 5	8.400	89 32 22
	BEAM 6	8.400	89 32 21
	TOTAL	42.000	

BENT NO. 99 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D M S
SPAN 98	BEAM 1	.000	89 44 27
	BEAM 2	8.400	89 44 27
	BEAM 3	8.400	89 44 28
	BEAM 4	8.400	89 44 28
	BEAM 5	8.400	89 44 28
	BEAM 6	8.400	89 44 29
	TOTAL	42.000	

9

BEAM REPORT, SPAN 96

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.697	99.280	100.36	.0024
BEAM 2	100.550	99.134	100.22	.0019
BEAM 3	100.404	98.987	100.07	.0014
BEAM 4	100.257	98.840	99.92	.0009
BEAM 5	100.110	98.694	99.78	.0004
BEAM 6	99.964	98.547	99.63	-.0001

BEAM REPORT, SPAN 97

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.697	99.280	100.36	-.0025
BEAM 2	100.550	99.134	100.22	-.0020
BEAM 3	100.404	98.987	100.07	-.0014
BEAM 4	100.257	98.840	99.92	-.0009
BEAM 5	100.110	98.694	99.78	-.0004
BEAM 6	99.964	98.547	99.63	.0001

BEAM REPORT, SPAN 98

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.501	99.085	100.17	-.0042
BEAM 2	100.396	98.979	100.06	-.0034
BEAM 3	100.290	98.874	99.96	-.0025
BEAM 4	100.185	98.768	99.85	-.0016
BEAM 5	100.079	98.663	99.75	-.0007
BEAM 6	99.974	98.557	99.64	.0002

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/01

CHANGE ORDER NO. 9

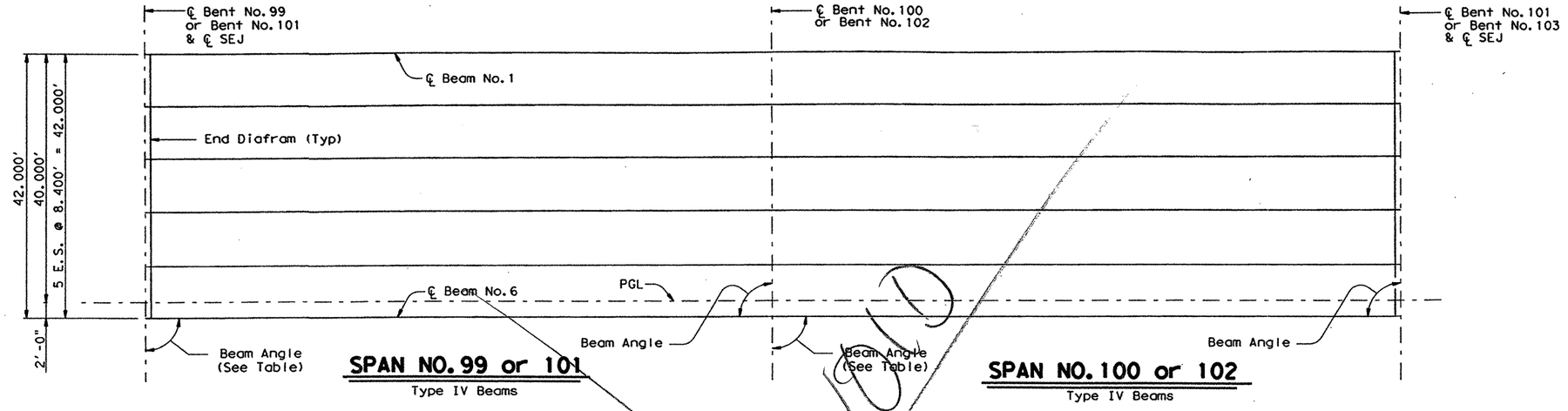
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT UNIT NO. 35 9

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
© TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW 1/01 - ADDED SEJ LOCATION -MDH	18	NH 99(367)		234A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



200.000' PRESTRESSED CONCRETE BEAM UNIT

BENT REPORT

BENT NO. 99 OR 101 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 99 OR 101	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 100 OR 102 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 99 OR 101	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN 100 OR 102	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO. 101 OR 103 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 100 OR 102	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BEAM REPORT

BEAM REPORT, SPAN 99 OR 101

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.000	98.583	99.67
BEAM	2	100.000	98.583	99.67
BEAM	3	100.000	98.583	99.67
BEAM	4	100.000	98.583	99.67
BEAM	5	100.000	98.583	99.67
BEAM	6	100.000	98.583	99.67

BEAM REPORT, SPAN 100 OR 102

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	100.000	98.583	99.67
BEAM	2	100.000	98.583	99.67
BEAM	3	100.000	98.583	99.67
BEAM	4	100.000	98.583	99.67
BEAM	5	100.000	98.583	99.67
BEAM	6	100.000	98.583	99.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

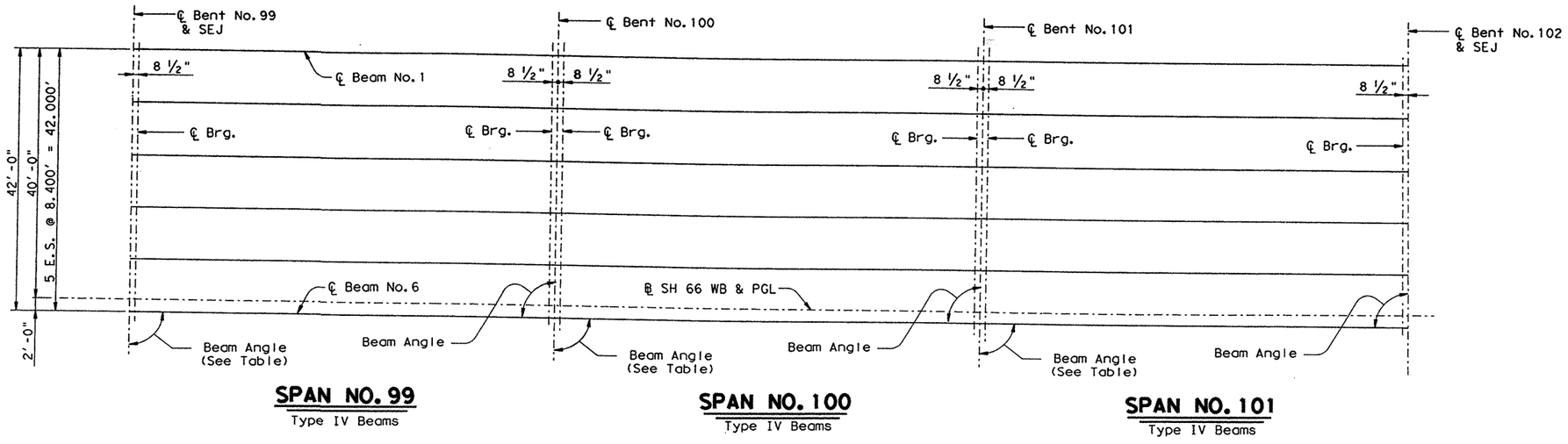
BEAM LAYOUT
UNIT NOS. 50 & 51

EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		235
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS USED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



SPAN NO. 99
Type IV Beams

SPAN NO. 100
Type IV Beams

SPAN NO. 101
Type IV Beams

300.000' PRESTRESSED CONCRETE BEAM UNIT

▲ See Standard IBB for orientation of dimension.

BENT NO. 99 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 99	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO.100 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 99	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN100	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO.101 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN100	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			
SPAN101	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BENT NO.102 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

		BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN101	BEAM 1	.000	90	0	0
	BEAM 2	8.400	90	0	0
	BEAM 3	8.400	90	0	0
	BEAM 4	8.400	90	0	0
	BEAM 5	8.400	90	0	0
	BEAM 6	8.400	90	0	0
	TOTAL	42.000			

BEAM REPORT, SPAN 99

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	94.000	92.583	93.67	-.0043
BEAM 2	94.000	92.583	93.67	-.0034
BEAM 3	94.000	92.583	93.67	-.0025
BEAM 4	94.000	92.583	93.67	-.0016
BEAM 5	94.000	92.583	93.67	-.0007
BEAM 6	94.000	92.583	93.67	.0002

BEAM REPORT, SPAN100

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	106.000	104.583	105.67	-.0043
BEAM 2	106.000	104.583	105.67	-.0034
BEAM 3	106.000	104.583	105.67	-.0025
BEAM 4	106.000	104.583	105.67	-.0016
BEAM 5	106.000	104.583	105.67	-.0007
BEAM 6	106.000	104.583	105.67	.0002

BEAM REPORT, SPAN101

	HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM 1	100.000	98.583	99.67	-.0014
BEAM 2	100.000	98.583	99.67	-.0011
BEAM 3	100.000	98.583	99.67	-.0008
BEAM 4	100.000	98.583	99.67	-.0005
BEAM 5	100.000	98.583	99.67	-.0002
BEAM 6	100.000	98.583	99.67	.0001

CHANGE ORDER NO. ▲9

HS20 LOADING

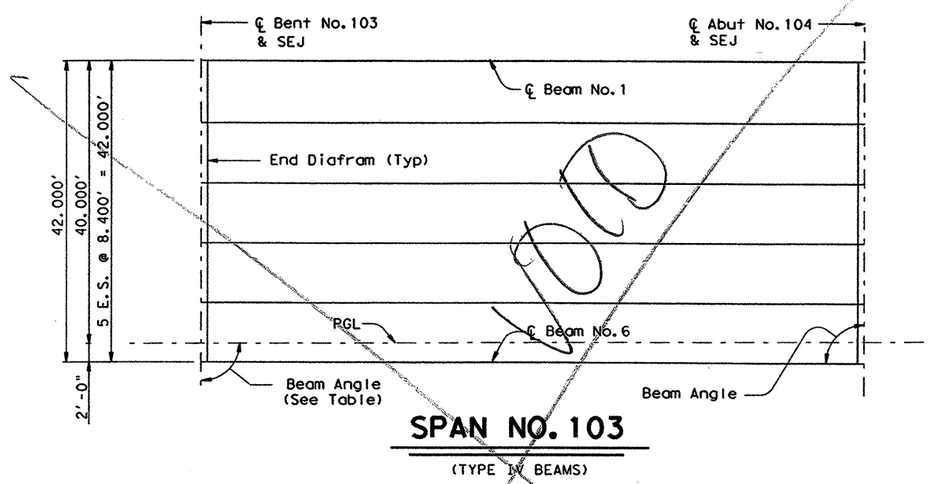
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
1/31/01

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
UNIT NO. 36

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW 1/01 - ADDED SEJ LOCATION -MDH	18	NH 99(367)		235A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



SPAN NO. 103

(TYPE IV BEAMS)

90.000' PRESTRESSED CONCRETE BEAM SPAN

BENT REPORT

BENT NO. 103 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN 103	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
			TOTAL 42.000			

ABUT NO. 104 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC.	BEAM ANGLE		
SPAN 103	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
			TOTAL 42.000			

BEAM REPORT, SPAN 103

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.
BEAM	1	90.000	88.583	89.67
BEAM	2	90.000	88.583	89.67
BEAM	3	90.000	88.583	89.67
BEAM	4	90.000	88.583	89.67
BEAM	5	90.000	88.583	89.67
BEAM	6	90.000	88.583	89.67

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED
PROFESSIONAL ENGINEER

4/27/99

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

BEAM LAYOUT
SPAN NO. 103

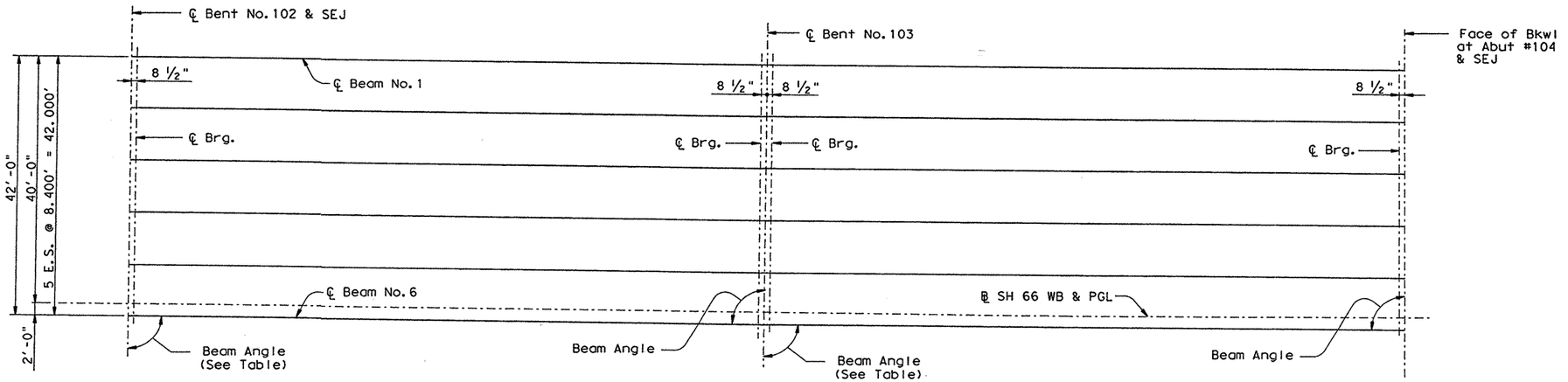
EAST FORK OF TRINITY RIVER
WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		236
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

LEVELS Displayed
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY

9



SPAN NO. 102
Type IV Beams

SPAN NO. 103
Type IV Beams

190.000' PRESTRESSED CONCRETE BEAM UNIT

BENT NO.102 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN102	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BENT NO.103 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN102	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			
SPAN103	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

ABUT NO.104 (S 11 3 7.75 E)
DISTANCE BETWEEN STATION LINE AND BEAM 1 40.000 L

			BEAM SPAC. (C.L. BENT)	BEAM ANGLE D	M	S
SPAN103	BEAM	1	.000	90	0	0
	BEAM	2	8.400	90	0	0
	BEAM	3	8.400	90	0	0
	BEAM	4	8.400	90	0	0
	BEAM	5	8.400	90	0	0
	BEAM	6	8.400	90	0	0
	TOTAL		42.000			

BEAM REPORT, SPAN102

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	100.000	98.583	99.67	.0000
BEAM	2	100.000	98.583	99.67	.0000
BEAM	3	100.000	98.583	99.67	.0000
BEAM	4	100.000	98.583	99.67	.0000
BEAM	5	100.000	98.583	99.67	.0000
BEAM	6	100.000	98.583	99.67	.0000

BEAM REPORT, SPAN103

		HORIZONTAL DISTANCE C-C BENT	C-C BRG.	TRUE DISTANCE BOT. BM. FLG.	BEAM SLOPE
BEAM	1	90.000	88.583	89.67	.0000
BEAM	2	90.000	88.583	89.67	.0000
BEAM	3	90.000	88.583	89.67	.0000
BEAM	4	90.000	88.583	89.67	.0000
BEAM	5	90.000	88.583	89.67	.0000
BEAM	6	90.000	88.583	89.67	.0000

9

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

9

CHANGE ORDER NO. 9

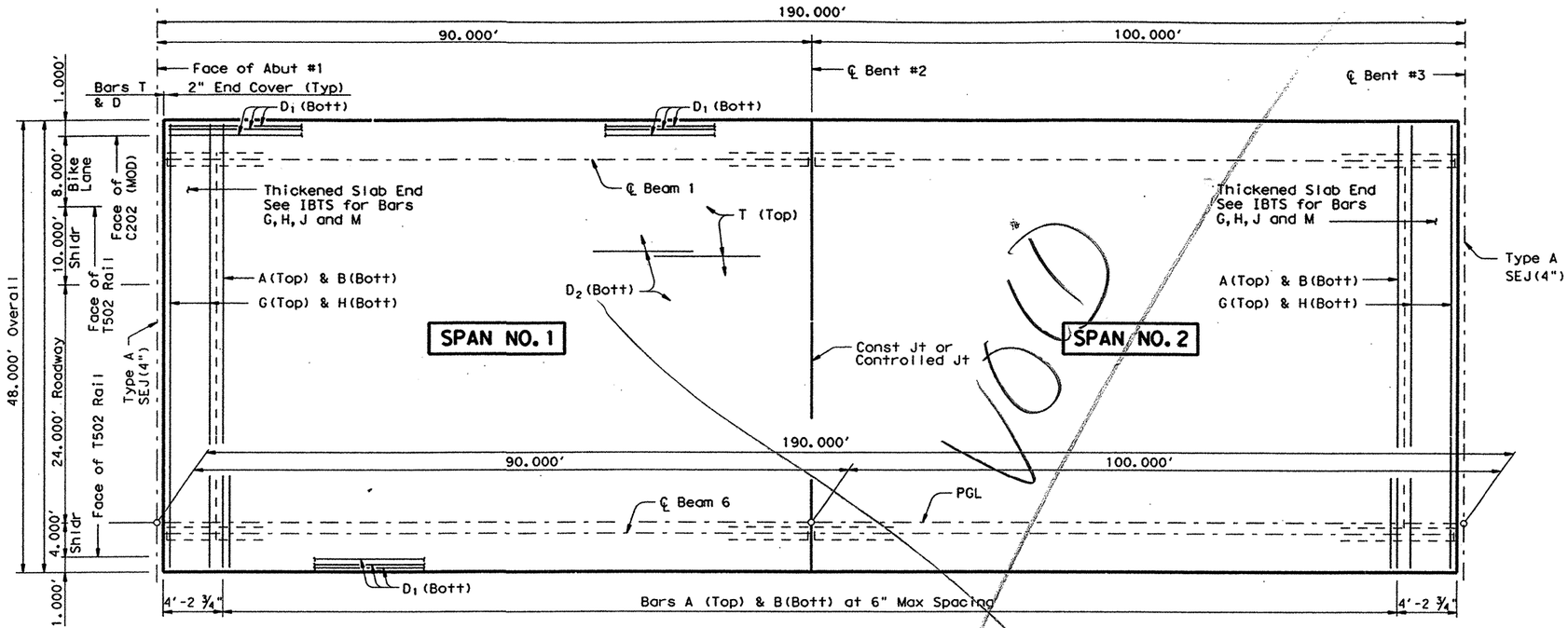
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

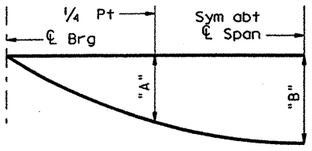
BEAM LAYOUT UNIT NO. 37 9

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692BL01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT MARCH 99	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 - CHANGED UNIT LENGTHS - MDH/TKW	18	NH 99(367)		236A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c = 5 X 10^6 psi)

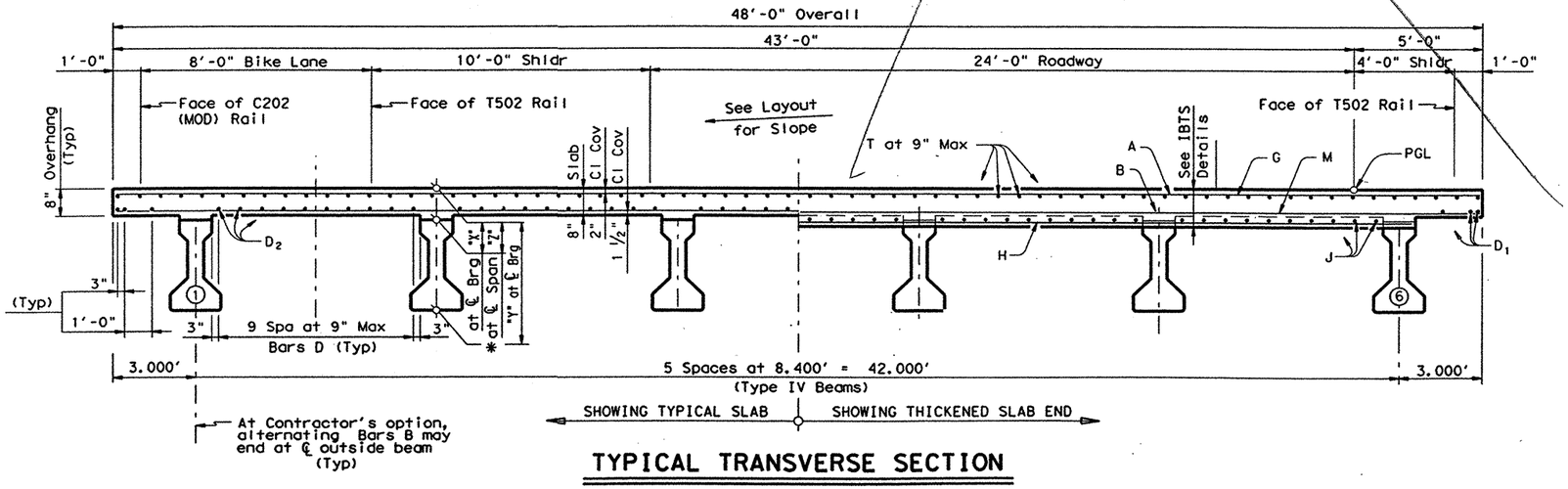
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
1	1 & 6	0.046	0.064
	2 - 5	0.053	0.075
2	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
1	ALL	10 3/4"	5'-4 3/4"	9 1/2"
2	1 - 6	10 3/4"	5'-4 3/4"	8 7/8"
2	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
1	4320.0	538.02	112.8	28080
2	4800.0	598.02	124.2	31200
Total	9120.0	1136.04	237.0	▬ 59280

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 1 ~ 89.67'
Span 2 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

VOID

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

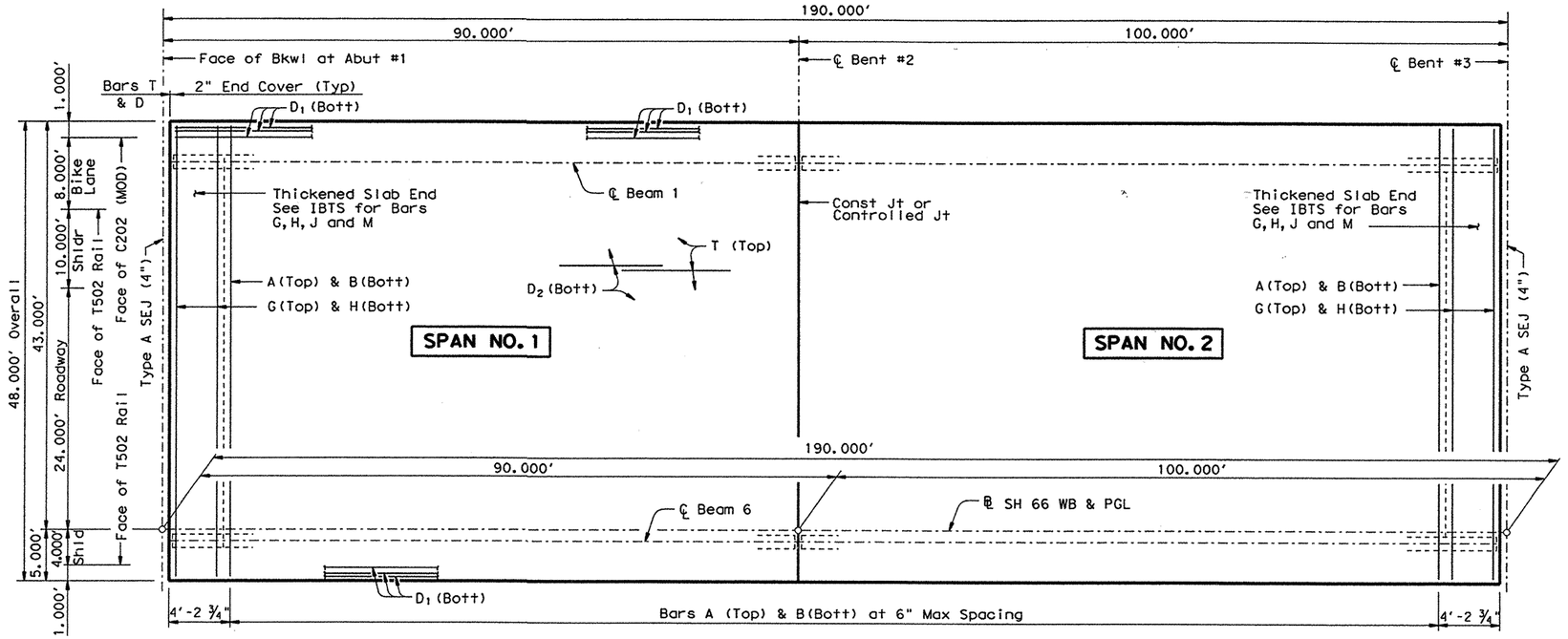
James C Wall

Texas Department of Transportation
Design Division (Bridge)

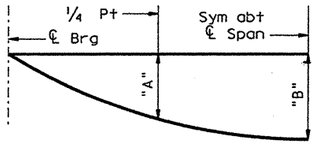
190.00' PRESTRESSED CONCRETE BEAM UNIT #1
(90.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb01.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	237
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

PATH: D48PC30: TWHALEY
LEVELS DISPLAYED



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c = 5 X 10^6 psi)

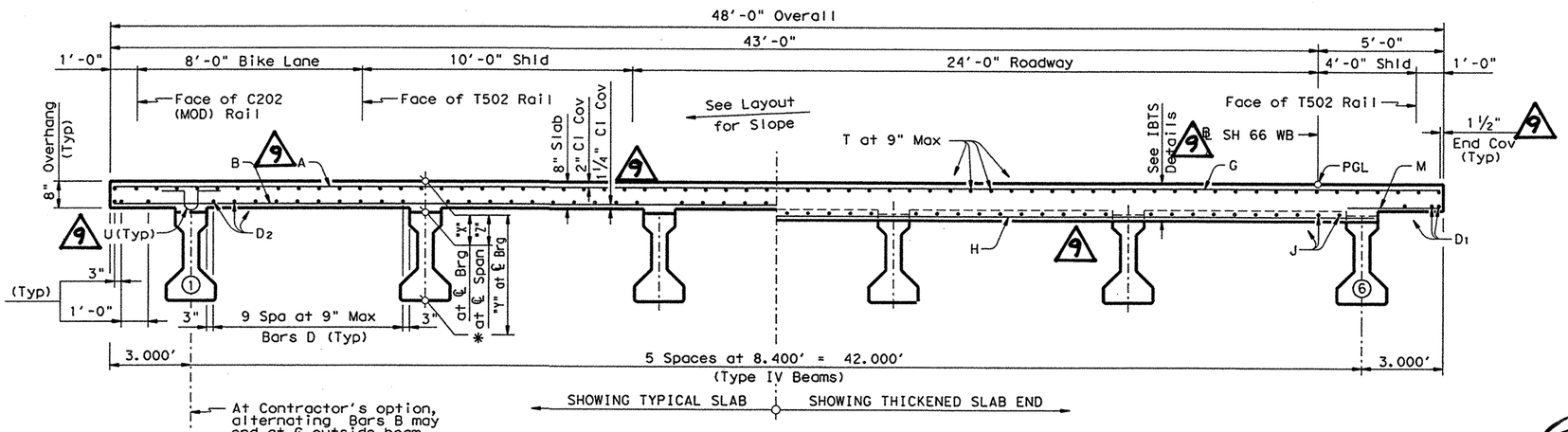
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
1	1 & 6	0.046'	0.064'
	2 - 5	0.053'	0.075'
2	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

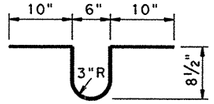
TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
1	ALL	10 3/4"	5'-4 3/4"	9 1/2"
2	1 - 6	10 3/4"	5'-4 3/4"	8 7/8"
2	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

9

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ⬓ 9
	SF	LF	CY	Lb
1	4320.0	538.02	112.8	28080
2	4800.0	598.02	124.2	31200
Total	9120.0	1136.04	237.0	59280

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 1 ~ 89.67'
Span 2 ~ 99.67'

⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

9

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

9

Texas Department of Transportation
Bridge Division

190.00' PRESTRESSED CONCRETE BEAM UNIT #1

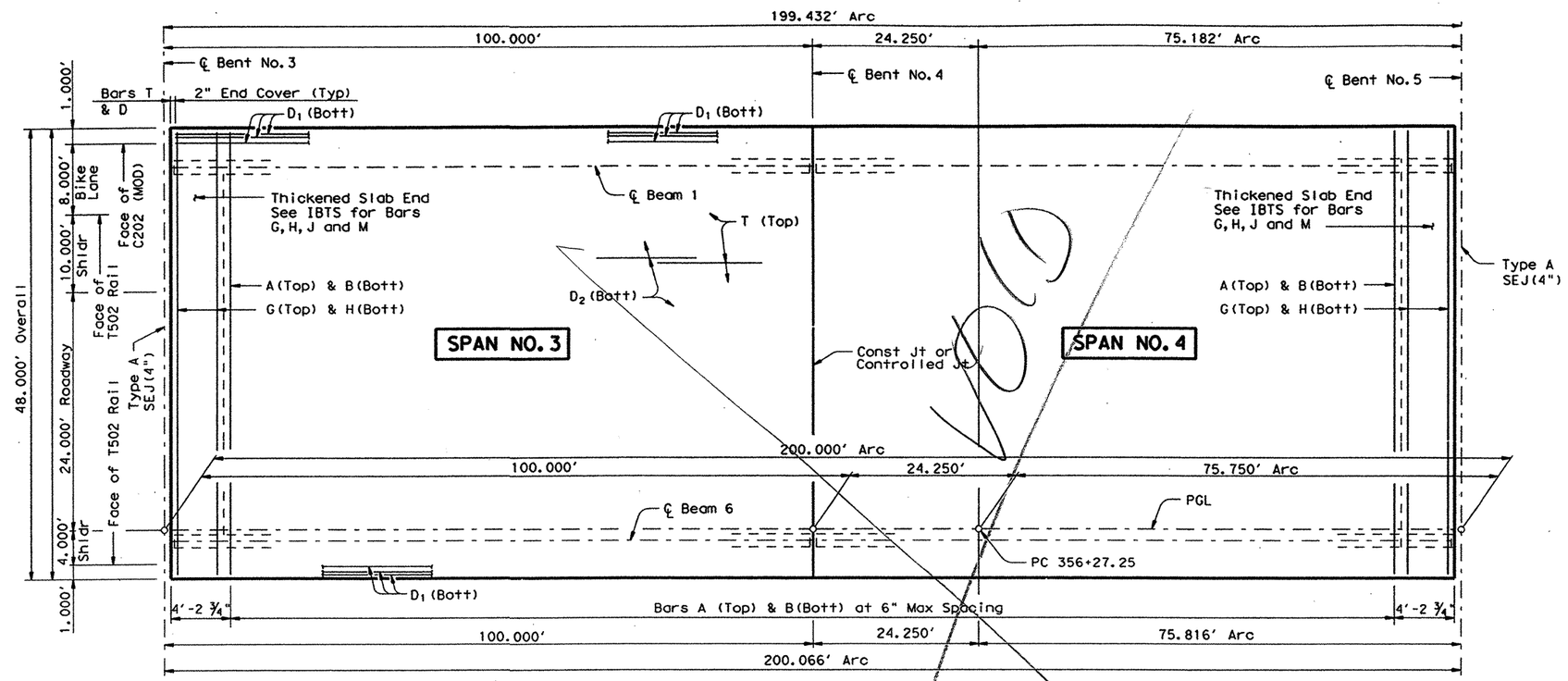
(90.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

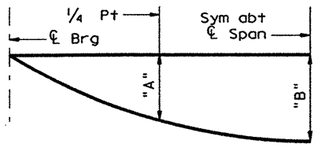
FILE: 5692pb01.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH	
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT			SHEET
REVISIONS 8/00 ~ CLARIFIED DETAILS ~ MDH/KC	18	NH 99(367)			237
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS USED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

Span No.	Beam No.	"A"	"B"
3 & 4	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

DEAD LOAD DEFLECTION DIAGRAM

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
3	4800.0	598.02	124.2	31200
4	4787.9	596.49	123.9	31121
Total	9587.9	1194.51	248.1	▬ 62321

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 3	SPAN 4
1	99.67'	99.14'
2	99.67'	99.25'
3	99.67'	99.36'
4	99.67'	99.47'
5	99.67'	99.58'
6	99.67'	99.69'

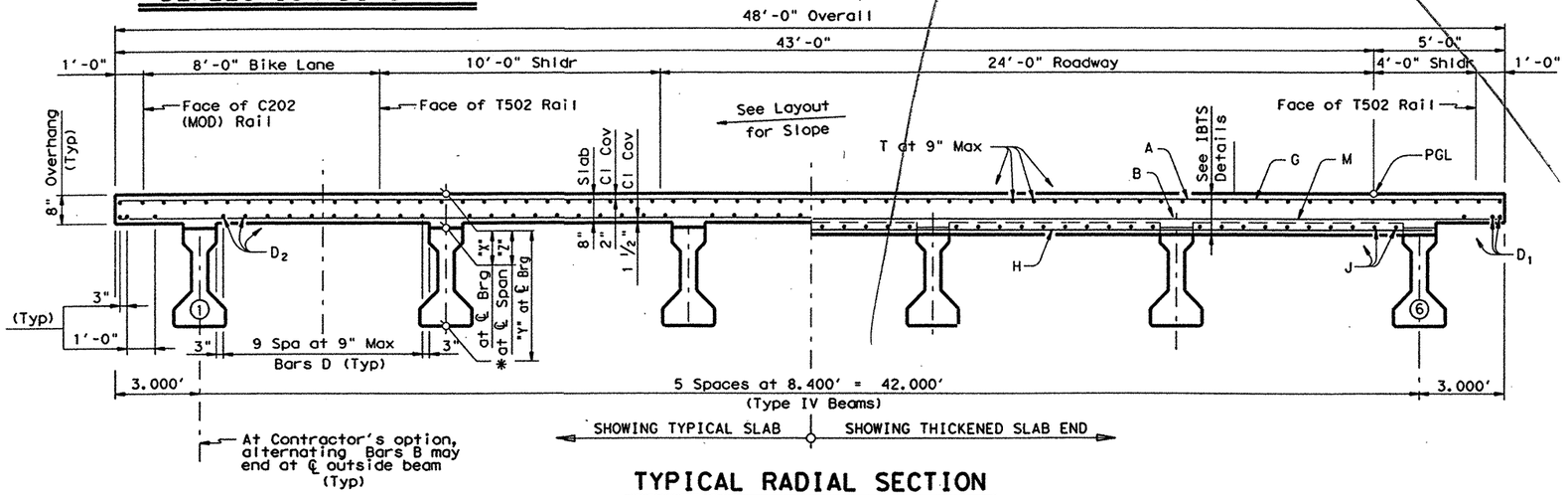
BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
3 & 4	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL RADIAL SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

VOID

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #2

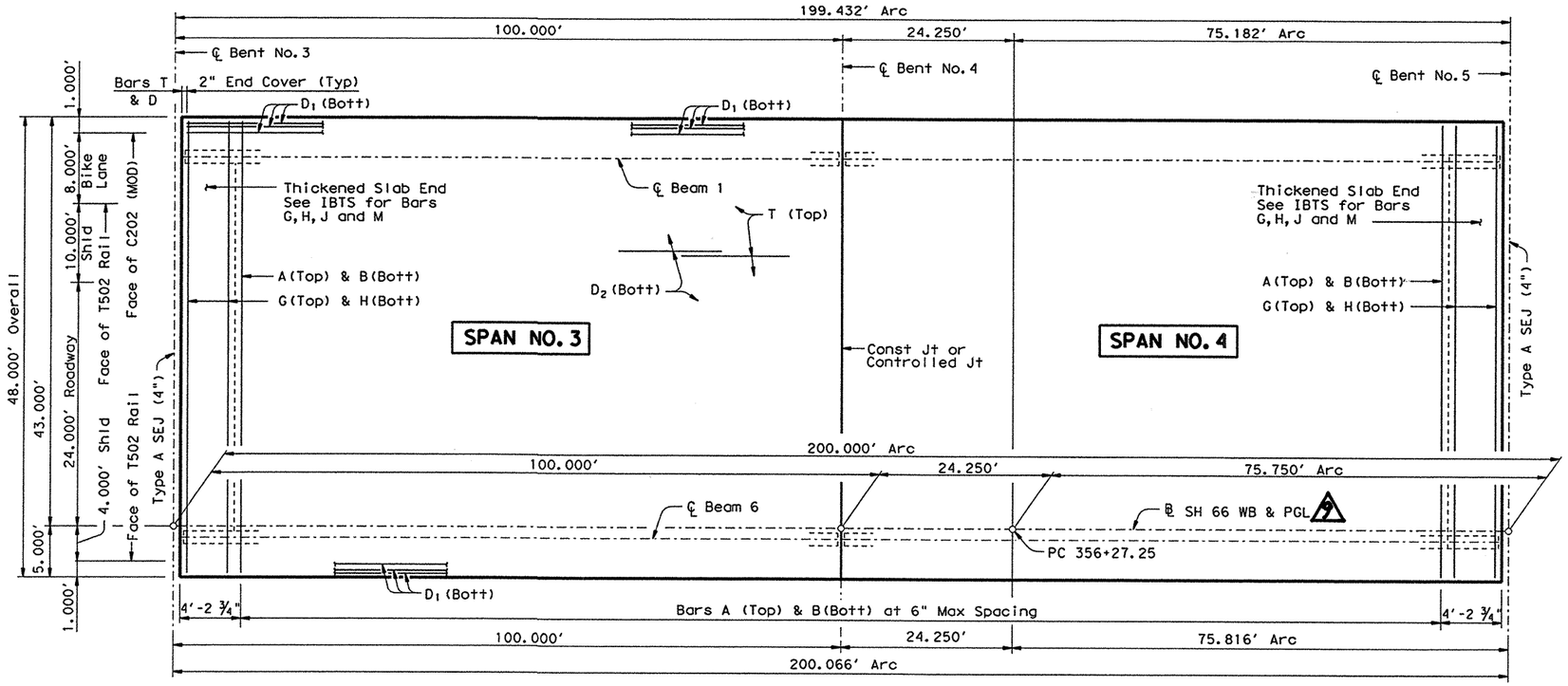
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

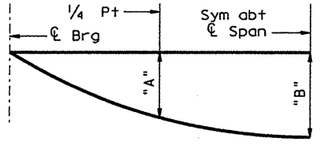
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©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	18	6	NH 99(367)	238
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_C= 5 X 10^6 psi)

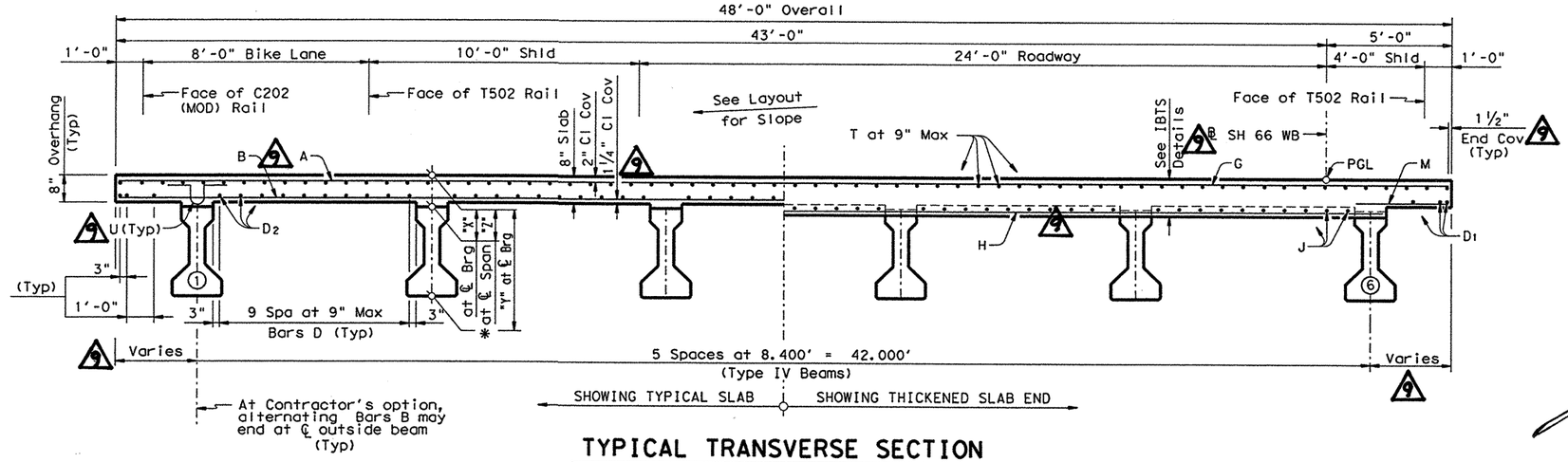
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
3 & 4	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
3 & 4	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ⬓
	SF	LF	CY	Lb
3	4800.0	598.02	124.2	31200
4	4787.9	596.49	123.9	31121
Total	9587.9	1194.51	248.1	62321

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

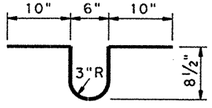
⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 3	SPAN 4
1	99.67'	99.14'
2	99.67'	99.25'
3	99.67'	99.36'
4	99.67'	99.47'
5	99.67'	99.58'
6	99.67'	99.69'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

GENERAL NOTES:

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All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO.

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Bridge Division

200.00' PRESTRESSED CONCRETE BEAM UNIT #2

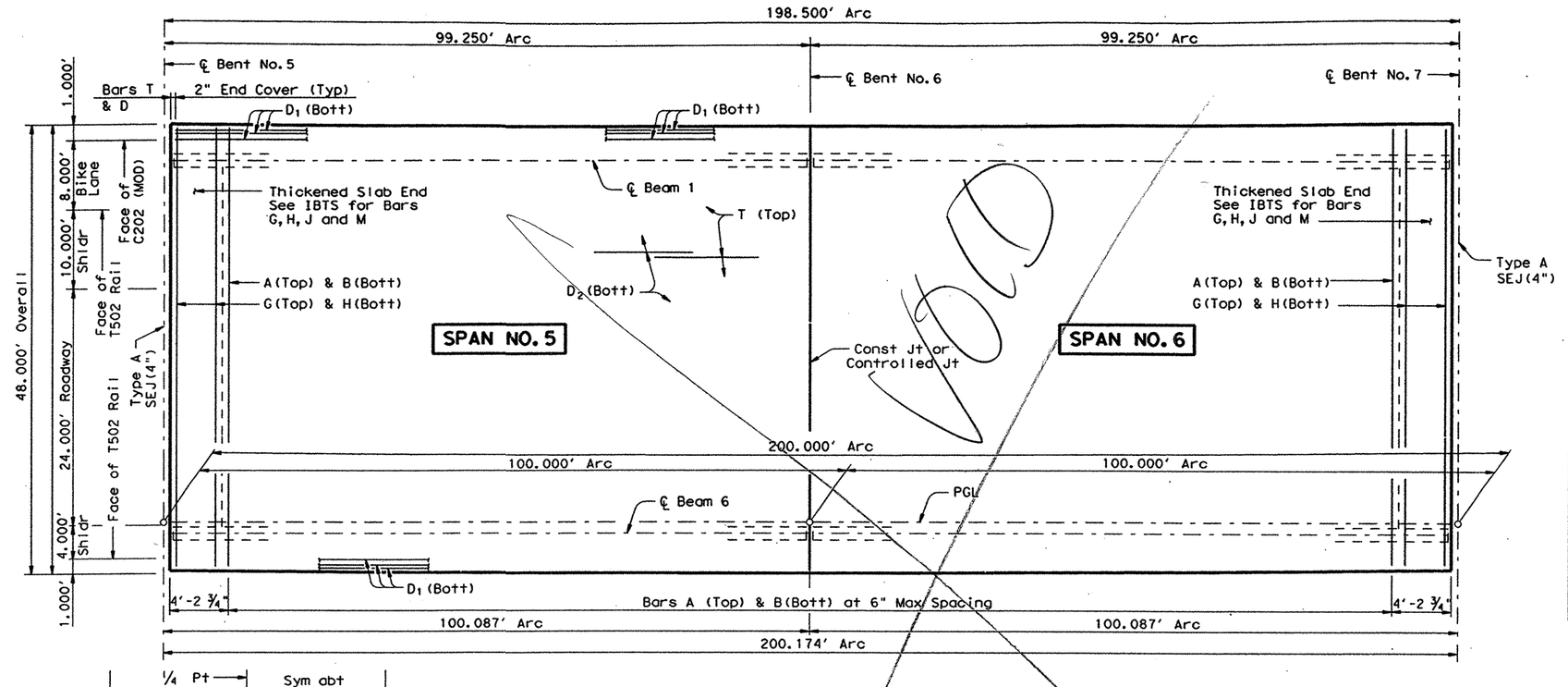
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

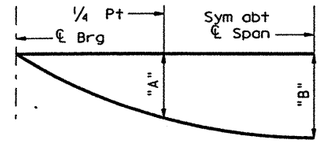
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT •	SHEET
REVISIONS 8/00 ~ CLARIFIED DETAILS ~ MDH/KC	18	6	NH 99(367)	238A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS
1 2 3 4 5 6 7 8 9
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

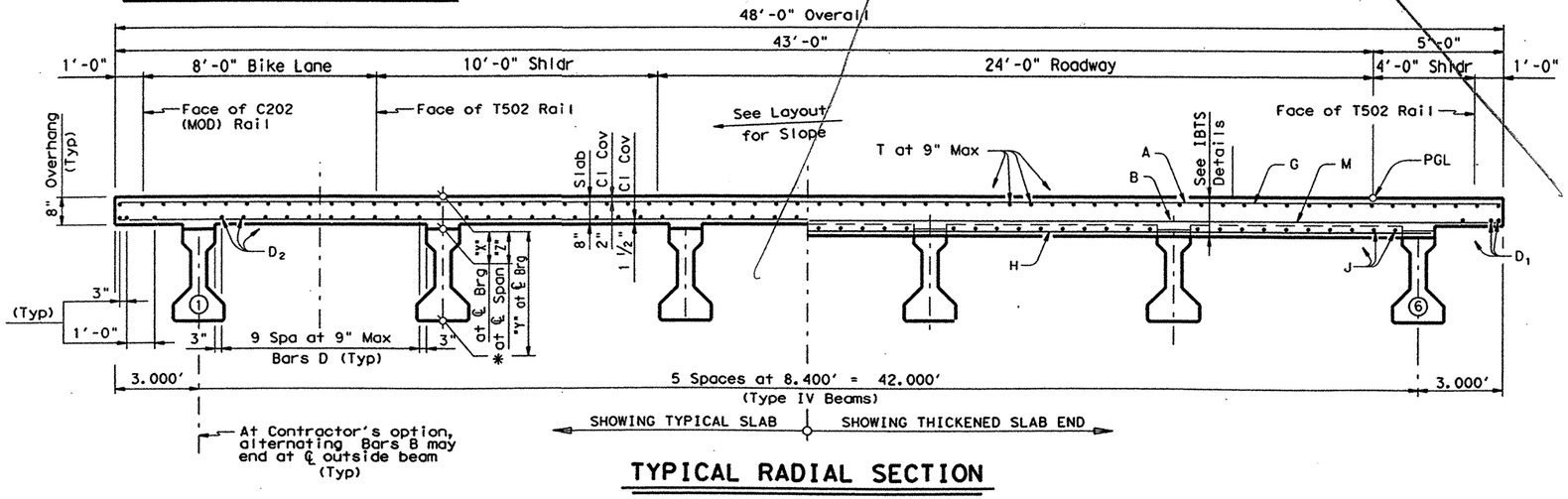
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
5 & 6	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
5 & 6	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
5	4784.1	596.00	123.8	31097
6	4784.1	596.00	123.8	31097
Total	9568.2	1192.00	247.6	▬ 62193

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 5	SPAN 6
1	98.97'	98.97'
2	99.11'	99.11'
3	99.26'	99.26'
4	99.41'	99.41'
5	99.55'	99.55'
6	99.70'	99.70'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

Jas C. Wall

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #3

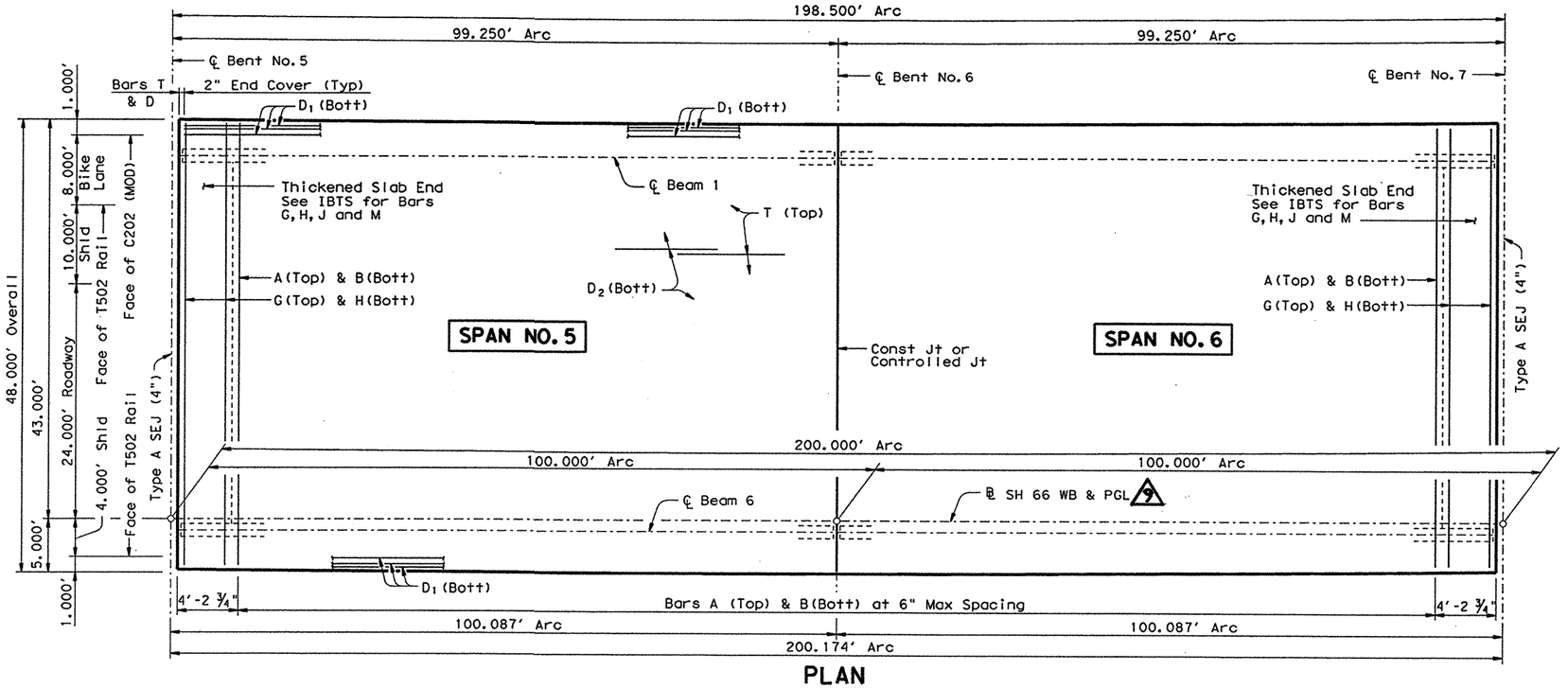
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	239
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

LEVELS Disp
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬ ⑨
	SF	LF	CY	Lb
5	4784.1	596.00	123.8	31097
6	4784.1	596.00	123.8	31097
Total	9568.2	1192.00	247.6	62193

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

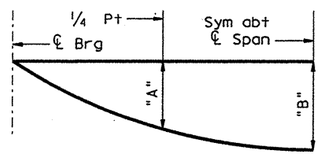
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BEAM	SPAN 5	SPAN 6
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3	99.26'	99.26'
4	99.41'	99.41'
5	99.55'	99.55'
6	99.70'	99.70'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

⑨



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_C= 5 X 10^6 psi)

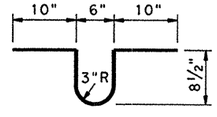
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
5 & 6	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
5 & 6	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

⑨

GENERAL NOTES:

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All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

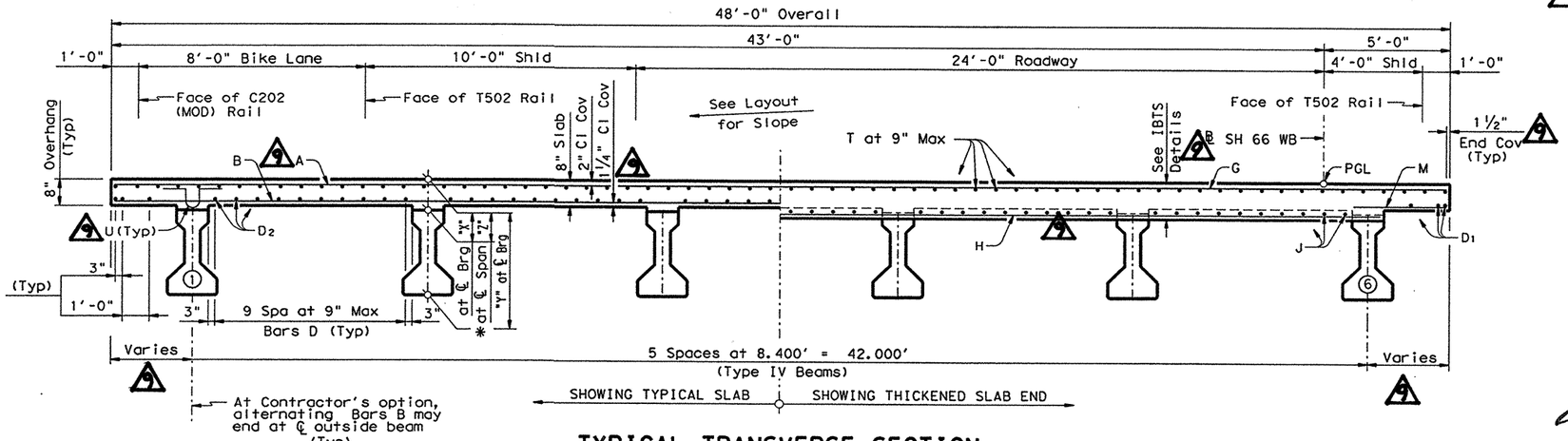
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. ⑨

HS20 LOADING



TYPICAL TRANSVERSE SECTION

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

Texas Department of Transportation
Bridge Division

200.00' PRESTRESSED CONCRETE BEAM UNIT #3

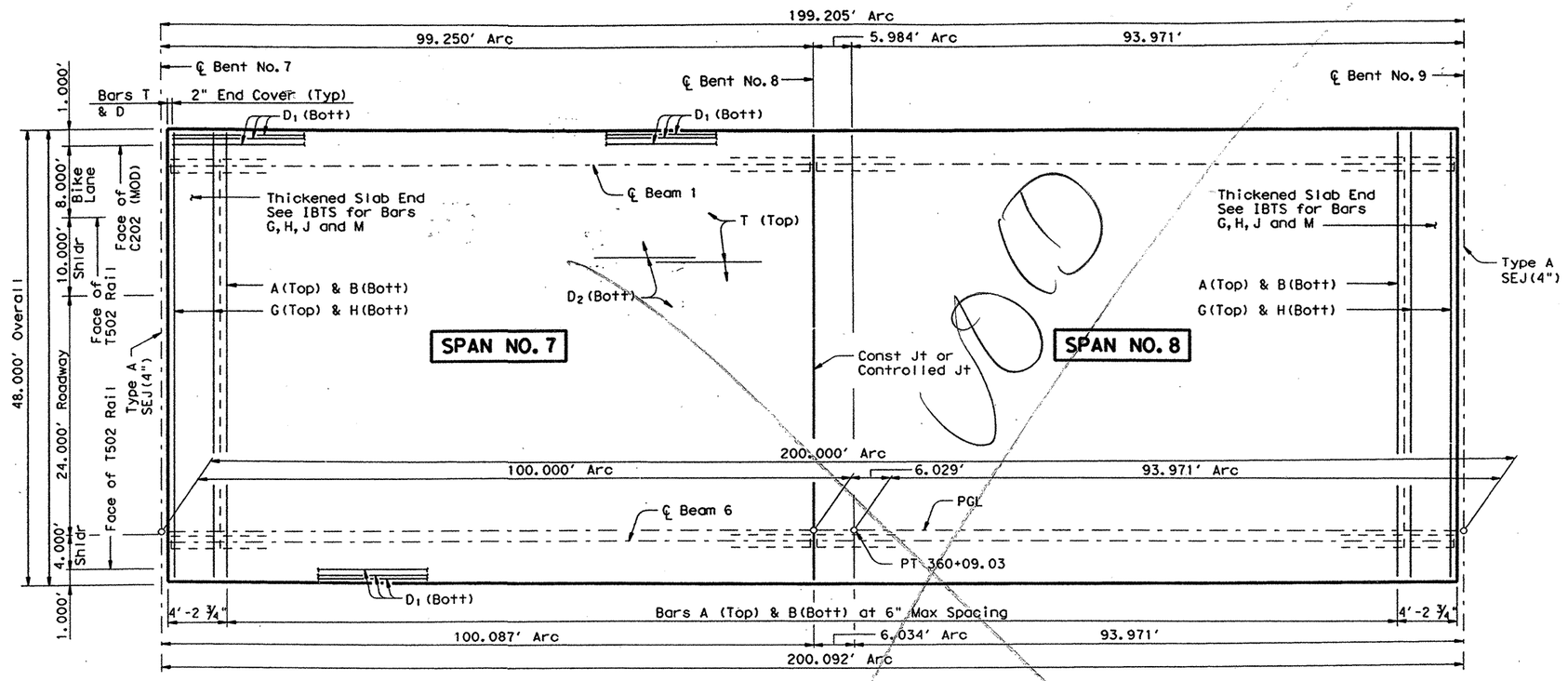
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

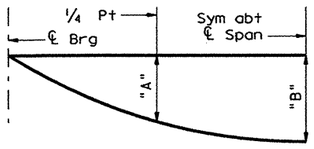
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 8/00 ~ CLARIFIED DETAILS ~ MDH/KC	18	6	NH 99(367)	239A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVEL
1 2 3 4 5 6 7
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_C= 5 X 10^6 psi)

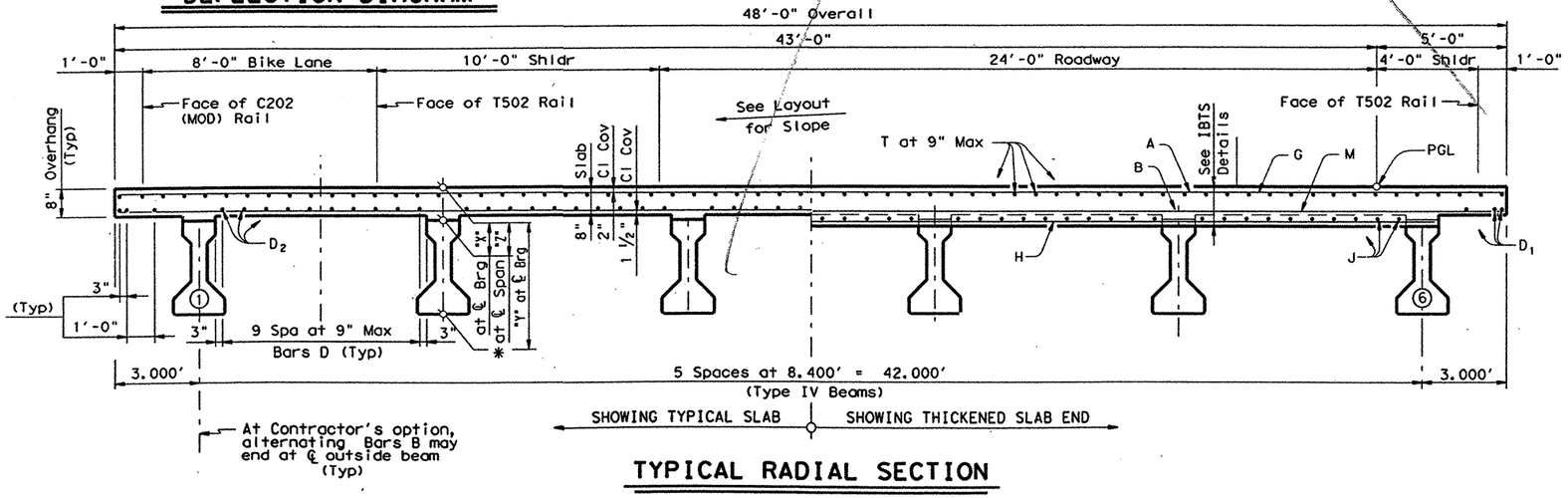
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
7 & 8	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
7 & 8	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
7	4784.1	596.00	123.8	31097
8	4799.0	597.88	124.2	31097
Total	9583.1	1193.88	248.0	⬓ 62193

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 7	SPAN 8
1	98.97'	99.63'
2	99.11'	99.63'
3	99.26'	99.64'
4	99.41'	99.65'
5	99.55'	99.66'
6	99.70'	99.67'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

136

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

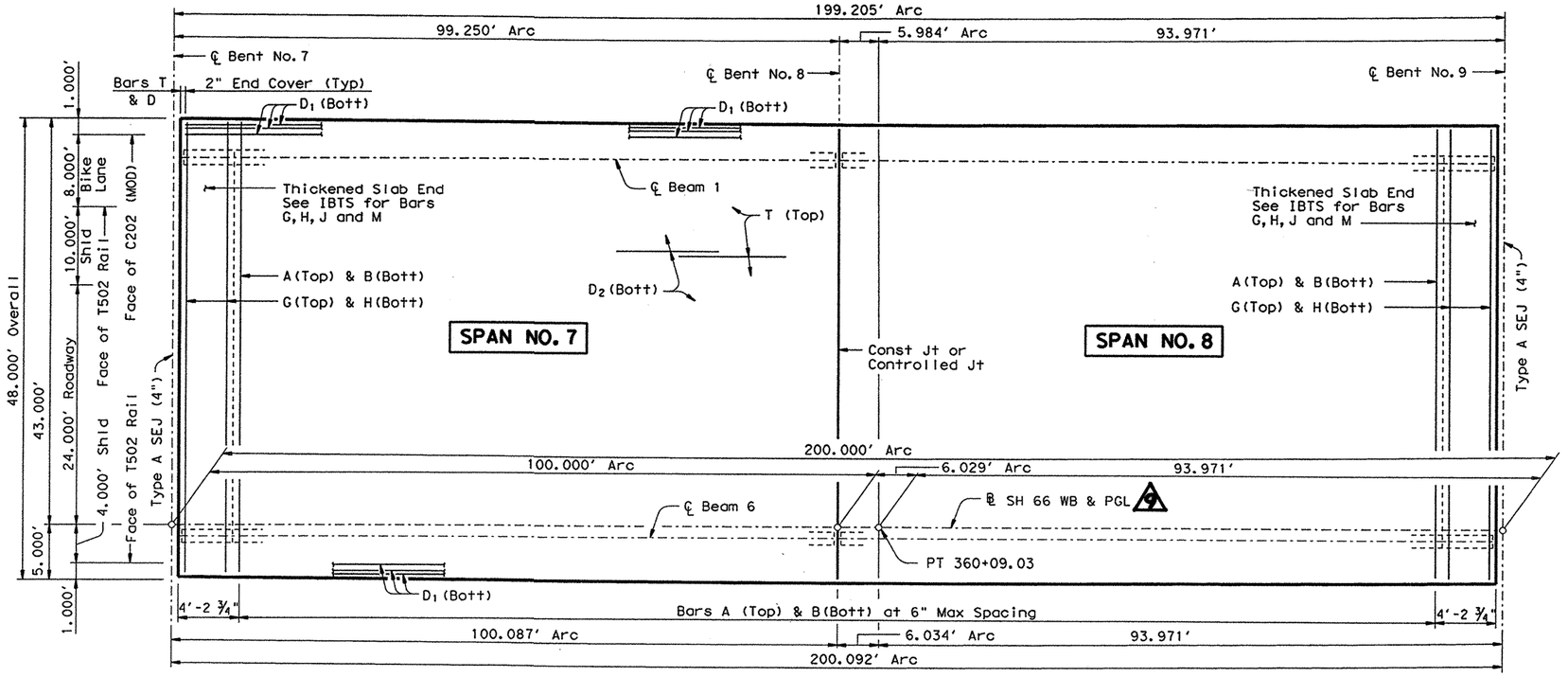
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #4
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	240
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS USED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ⬓
	SF	LF	CY	Lb
7	4784.1	596.00	123.8	31097
8	4799.0	597.88	124.2	31097
Total	9583.1	1193.88	248.0	62193

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

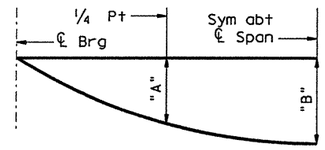
TABLE OF BEAM LENGTHS

BEAM	SPAN 7	SPAN 8
1	98.97'	99.63'
2	99.11'	99.63'
3	99.26'	99.64'
4	99.41'	99.65'
5	99.55'	99.66'
6	99.70'	99.67'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

9



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_c= 5 X 10^6 psi)

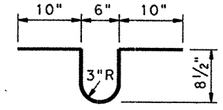
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
7 & 8	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
7 & 8	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

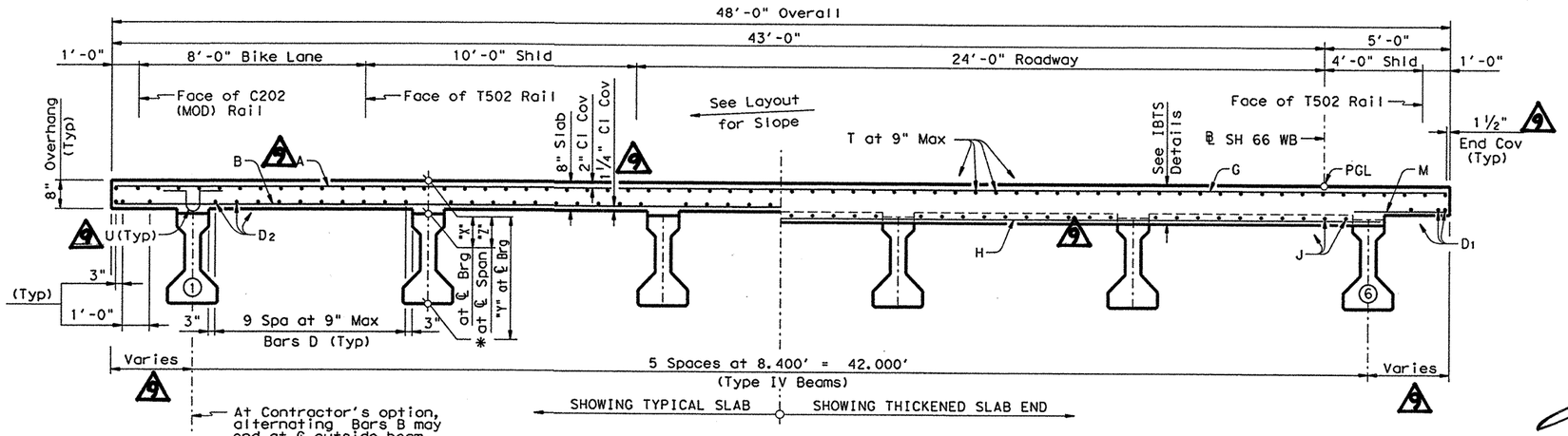
* Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

9



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Bridge Division

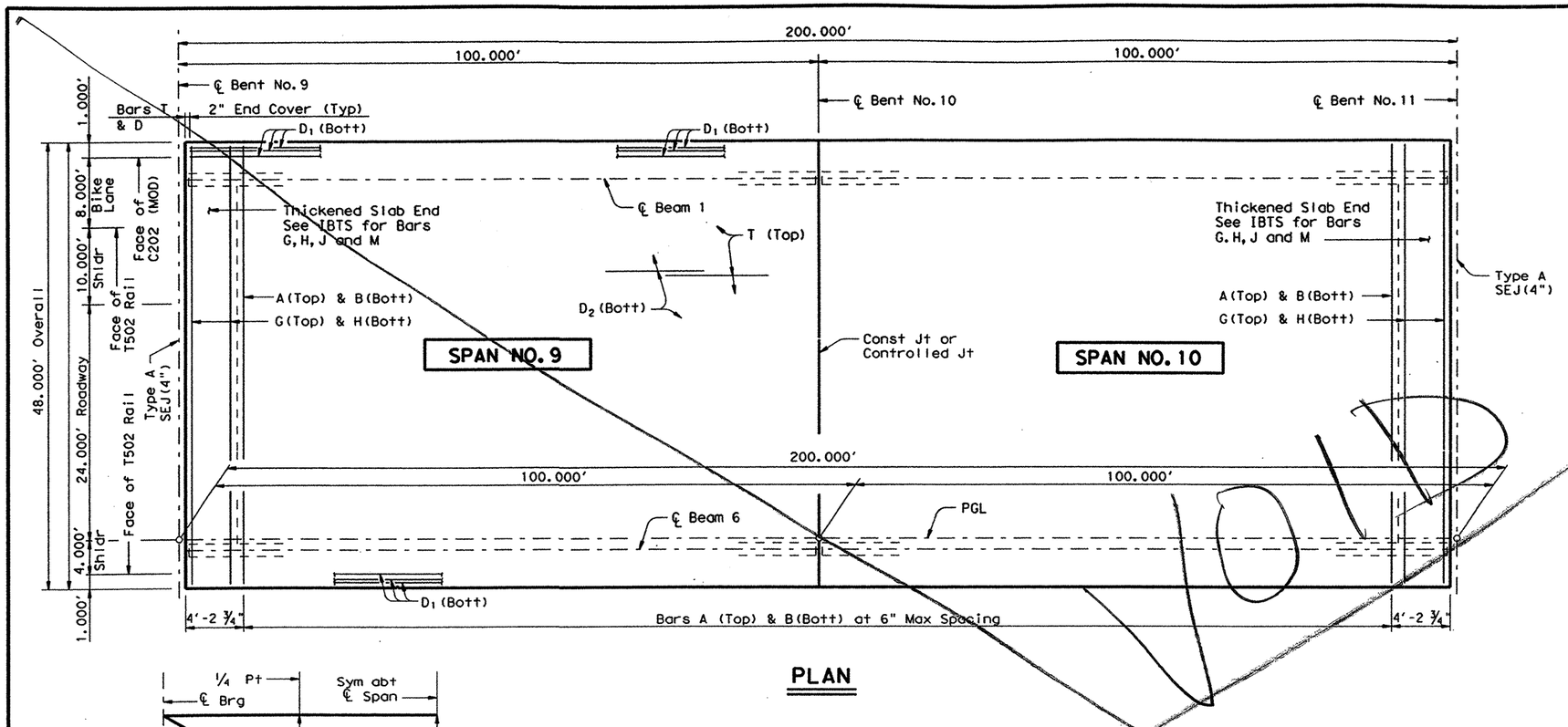
200.00' PRESTRESSED CONCRETE BEAM UNIT #4
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn		DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH		
© TxDOT JAN 1999		DIST	FED REG	FEDERAL AID PROJECT #			SHEET
REVISIONS 8/00 ~ CLARIFIED DETAILS ~ MDH/KC		18	6	NH 99(367)			240
		COUNTY		CONTROL	SECT	JOB	HIGHWAY
		ROCKWALL		0009	04	039	SH 66

9

PATH: D48PC3Q: TWHALEY

LEVEL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

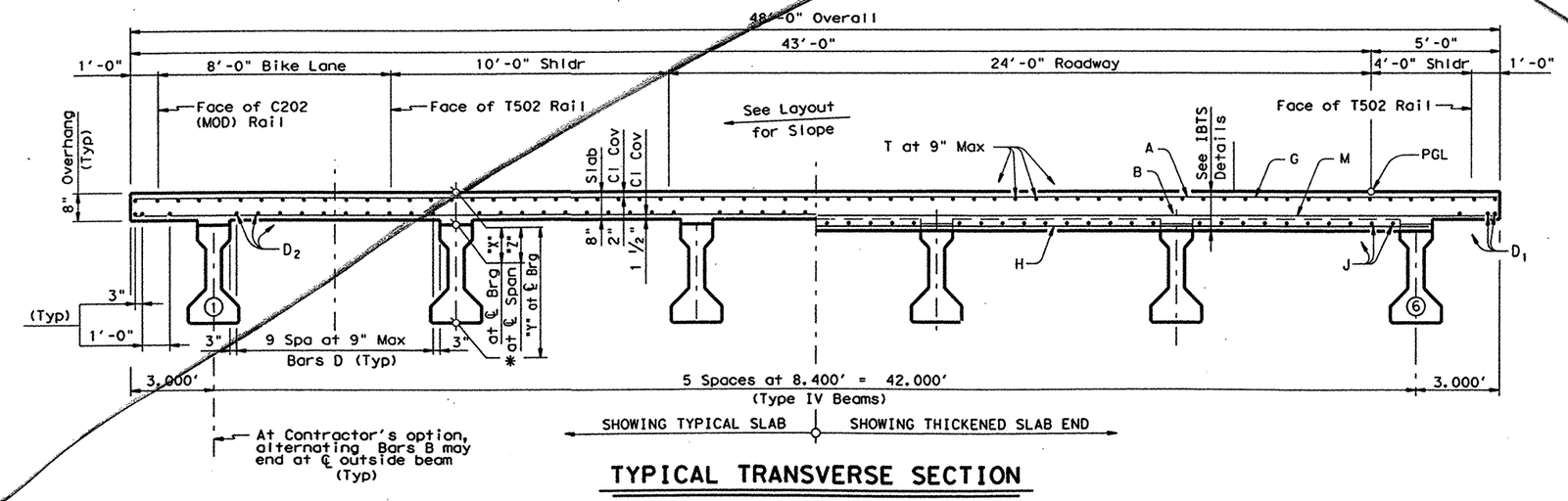
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
9 & 10	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
9 & 10	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
9	4800.0	598.02	124.2	31200
10	4800.0	598.02	124.2	31200
Total	9600.0	1196.04	248.4	▬ 62400

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths:
Spans 9 & 10 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

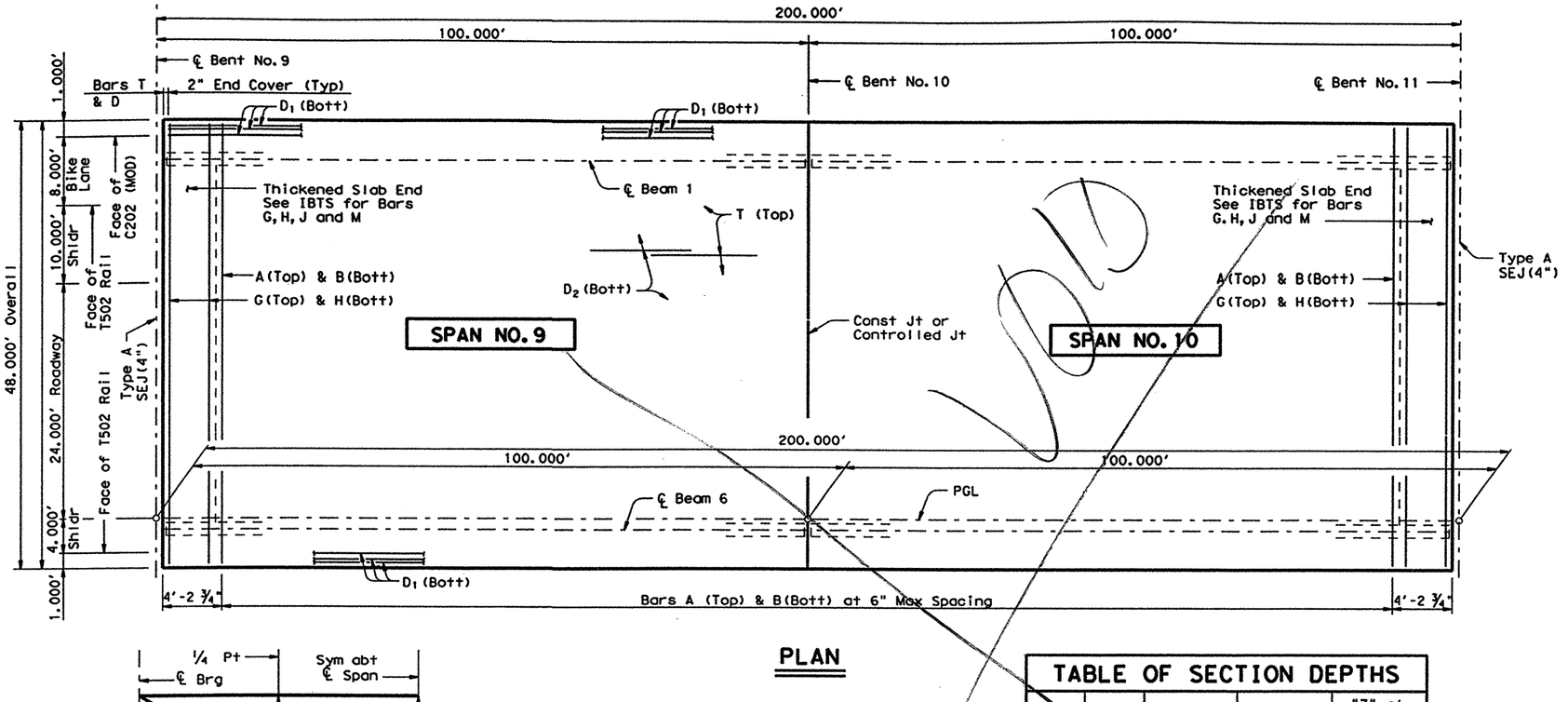
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #5
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

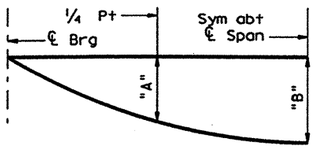
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	18	6	NH 99(367)	241
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

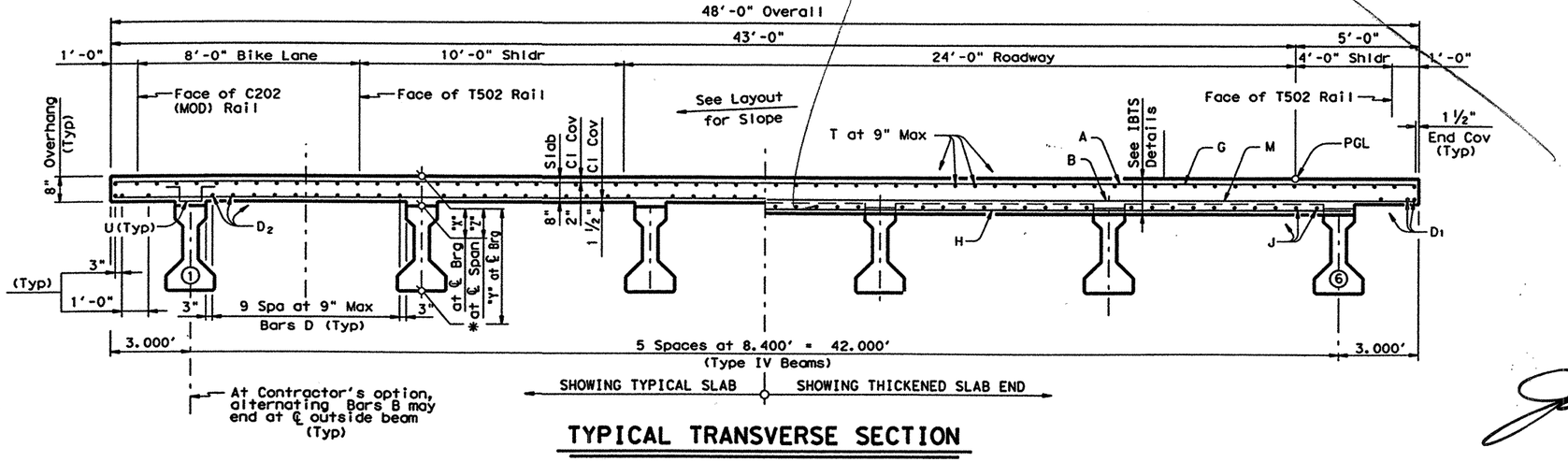
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
9 & 10	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
9	1	11 3/4"	5'-5 3/4"	8 7/8"
	2	11 3/4"	5'-5 3/4"	9 1/4"
	3	11 3/4"	5'-5 3/4"	9 3/8"
	4	11 3/4"	5'-5 3/4"	9 5/8"
	5	11 3/4"	5'-5 3/4"	9 7/8"
	6	11 3/4"	5'-5 3/4"	9 7/8"
10	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



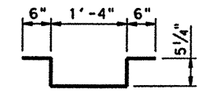
TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
9	4800.0	598.02	126.3	31200
10	4800.0	598.02	124.2	31200
Total	9600.0	1196.04	250.5	▬ 62400

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths:
Spans 9 & 10 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft



BARS U

Bars U shall match Beam Bars R for a minimum distance of 11'-6" from each end of all beams in Span #9.

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/00

James C. Wall

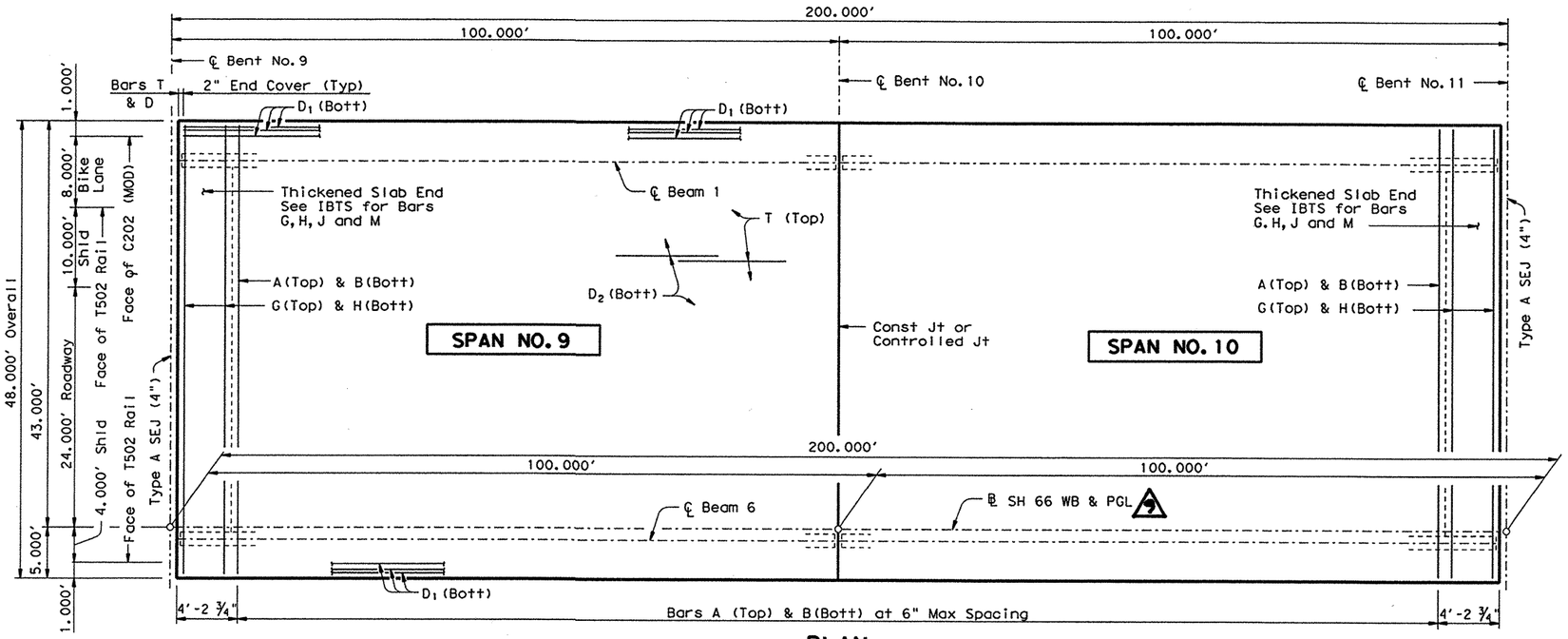
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #5
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	18	6	NH 99(367)	241
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



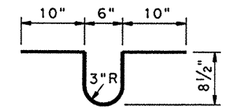
PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV) 9	CLASS "S" CONCRETE	REINFORCING STEEL ▤ 9
	SF	LF	CY	Lb
9	4800.0	598.02	126.3	31200
10	4800.0	598.02	124.2	31200
Total	9600.0	1196.04	250.5	62400

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths:
Spans 9 & 10 ~ 99.67'

▤ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft



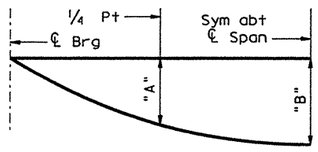
BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

9



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_c= 5 X 10^6 psi)

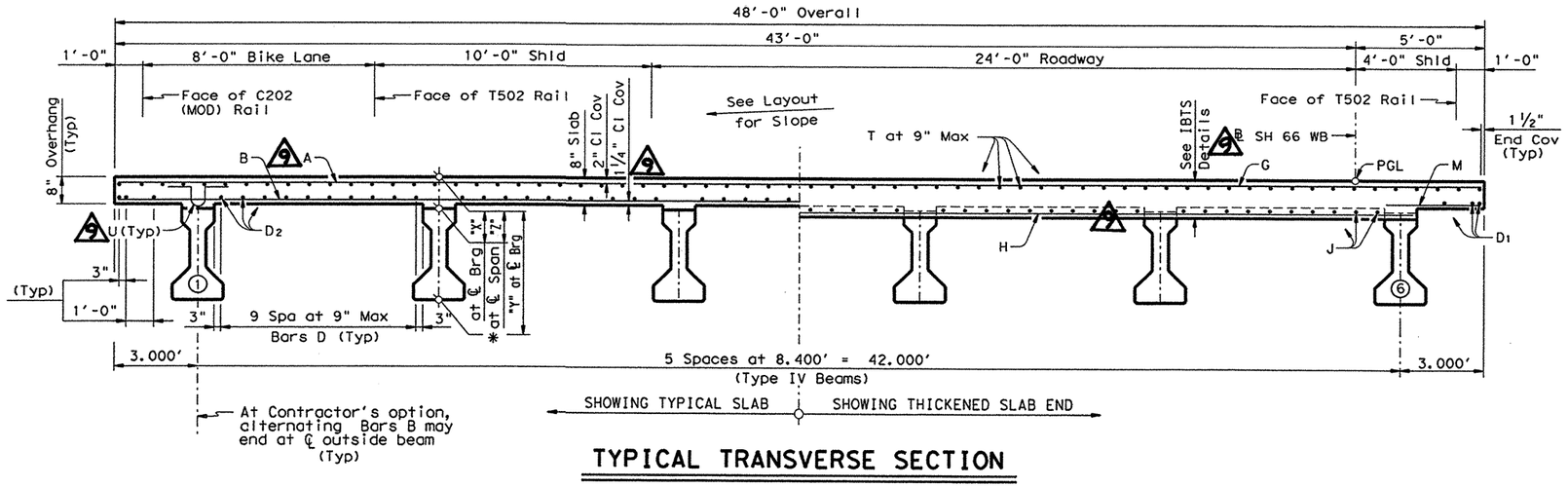
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
9 & 10	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
9	1	11 3/4"	5'-5 3/4"	8 1/8"
	2	11 3/4"	5'-5 3/4"	9 1/4"
	3	11 3/4"	5'-5 3/4"	9 3/8"
	4	11 3/4"	5'-5 3/4"	9 5/8"
	5	11 3/4"	5'-5 3/4"	9 1/8"
	6	11 3/4"	5'-5 3/4"	9 1/8"
10	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

9 8/00 ~ CLARIFIED DETAILS ~ MDH/KC

Texas Department of Transportation
Bridge Division

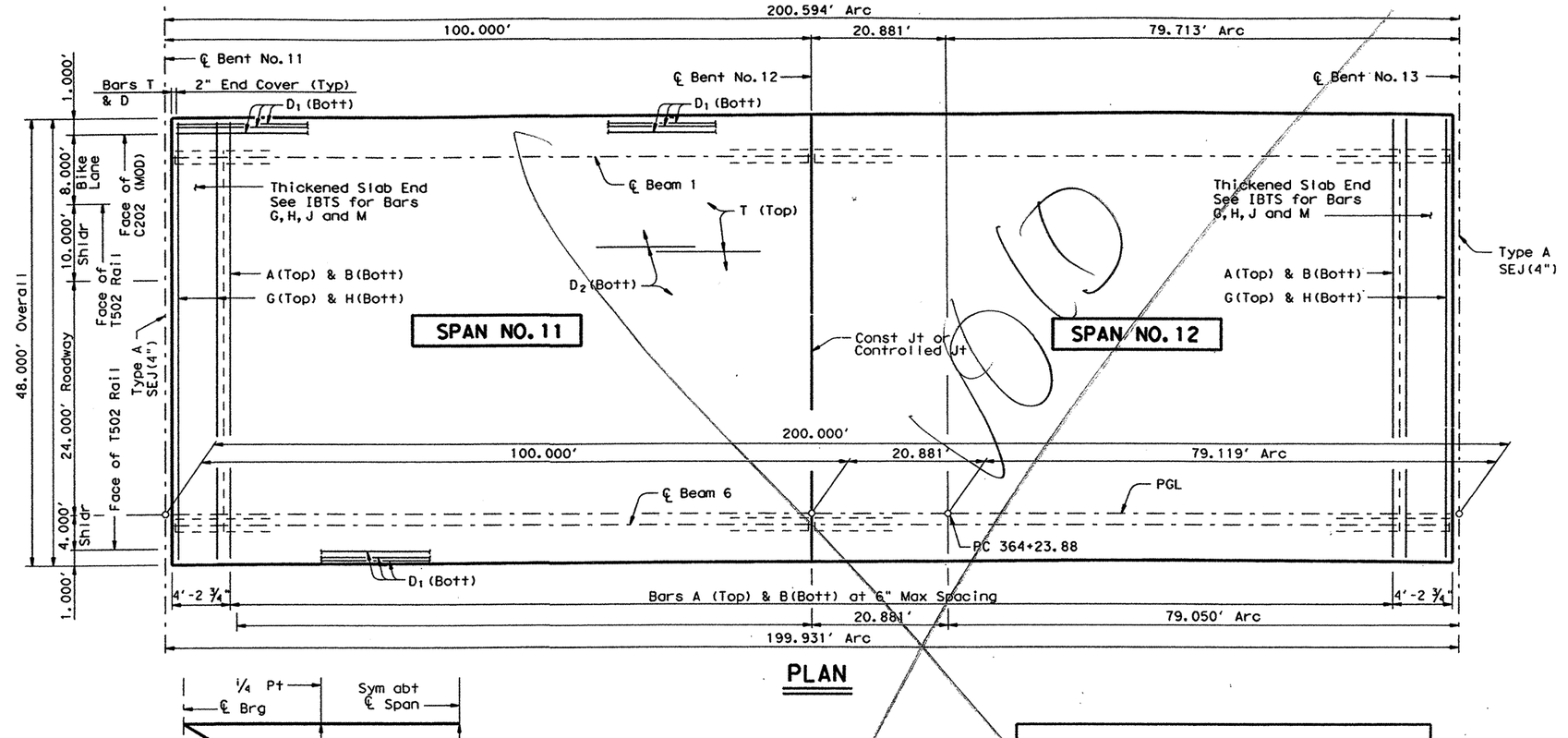
200.00' PRESTRESSED CONCRETE BEAM UNIT #5

(100.00'-100.00')

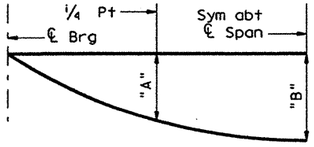
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT *	SHEET
REVISIONS 1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	18	6	NH 99(367)	241B
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

PATH: D48PC30: TWHALEY
LEVELS



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

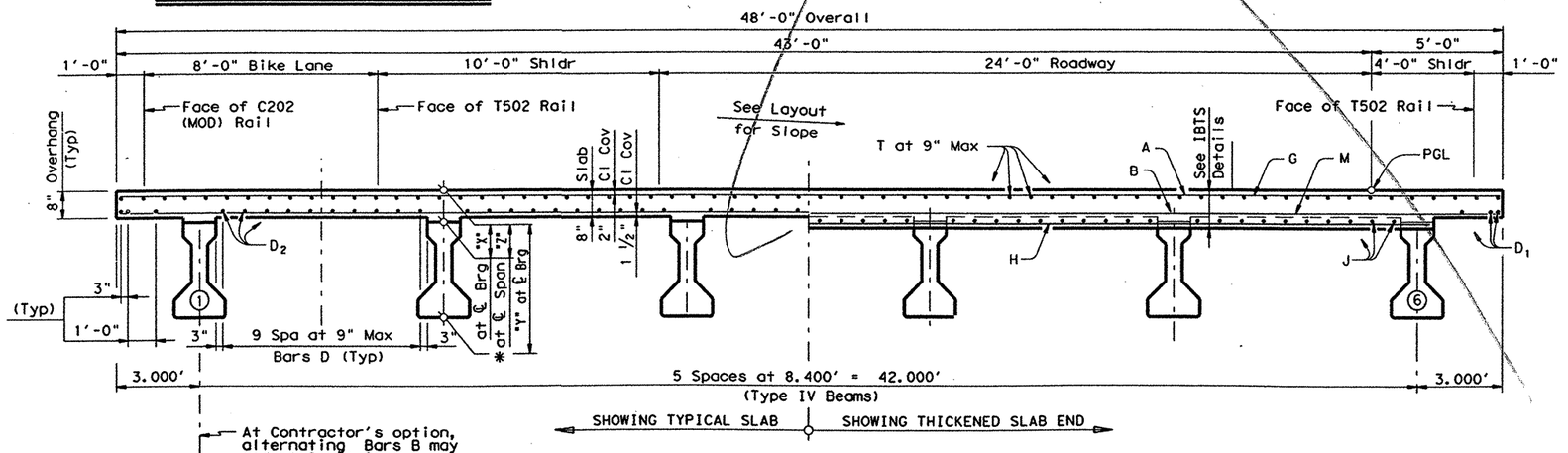
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
11 & 12	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
11 & 12	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Ld
11	4800.0	598.02	124.2	31200
12	4812.6	599.57	124.5	31282
Total	9612.6	1197.59	248.7	◪ 62482

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

◪ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 11	SPAN 12
1	99.67'	100.22'
2	99.67'	100.10'
3	99.67'	99.99'
4	99.67'	99.87'
5	99.67'	99.75'
6	99.67'	99.64'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #6

(100.00'-100.00')

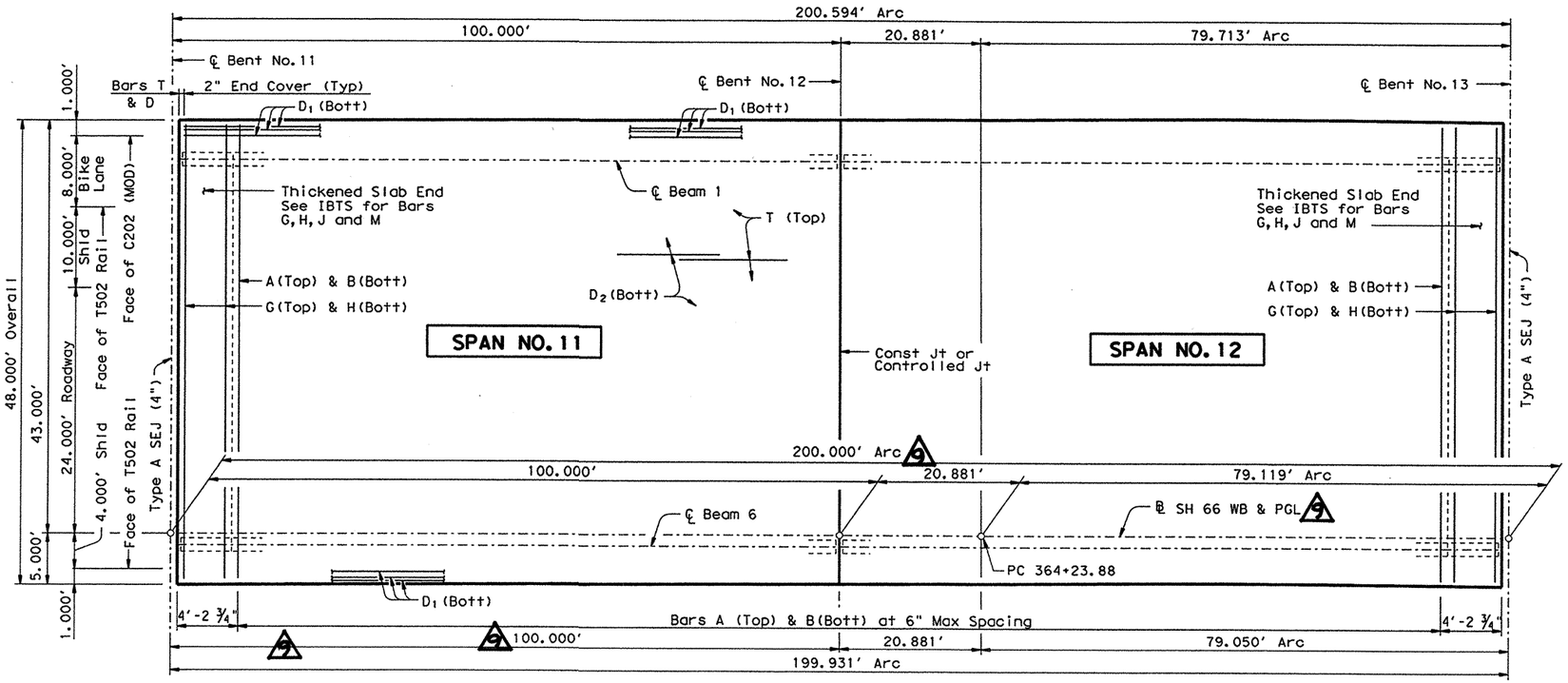
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	242
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS DISPLAYED

| | | | |



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV) 9	CLASS "S" CONCRETE	REINFORCING STEEL ▬ 9
	SF	LF	CY	Lb
11	4800.0	598.02	124.2	31200
12	4812.6	599.57	124.5	31282
Total	9612.6	1197.59	248.7	62482

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

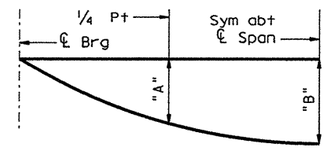
TABLE OF BEAM LENGTHS

BEAM	SPAN 11	SPAN 12
1	99.67'	100.22'
2	99.67'	100.10'
3	99.67'	99.99'
4	99.67'	99.87'
5	99.67'	99.75'
6	99.67'	99.64'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

9



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_C= 5 X 10^6 psi)

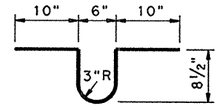
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
11 & 12	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
11 & 12	1 & 6	10 3/4"	5'-4 3/4"	8 1/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

9

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

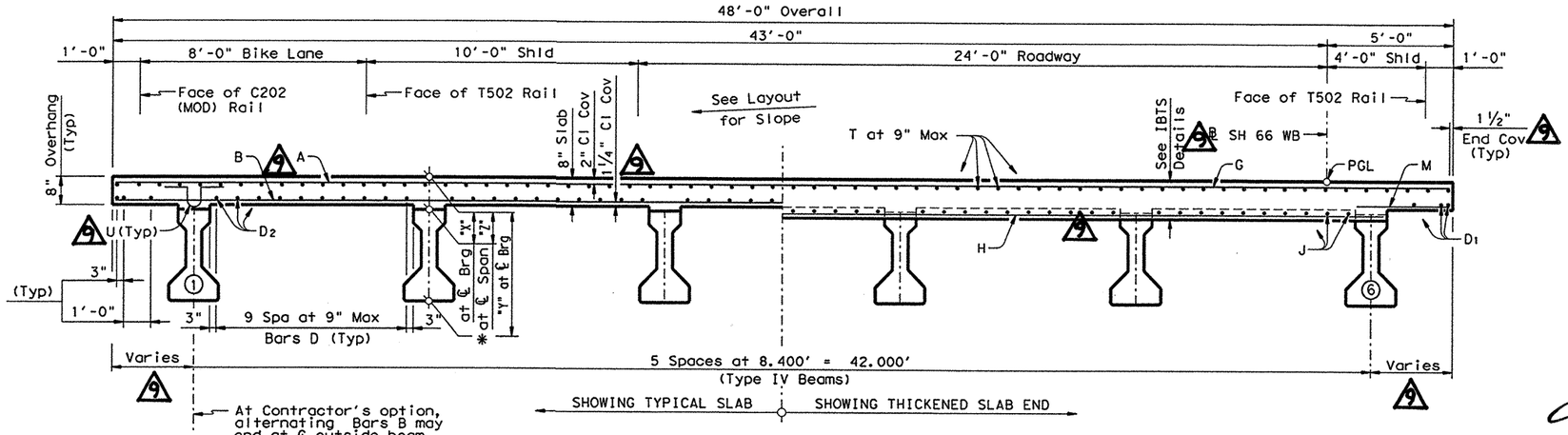
All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

HS20 LOADING



TYPICAL TRANSVERSE SECTION

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Bridge Division

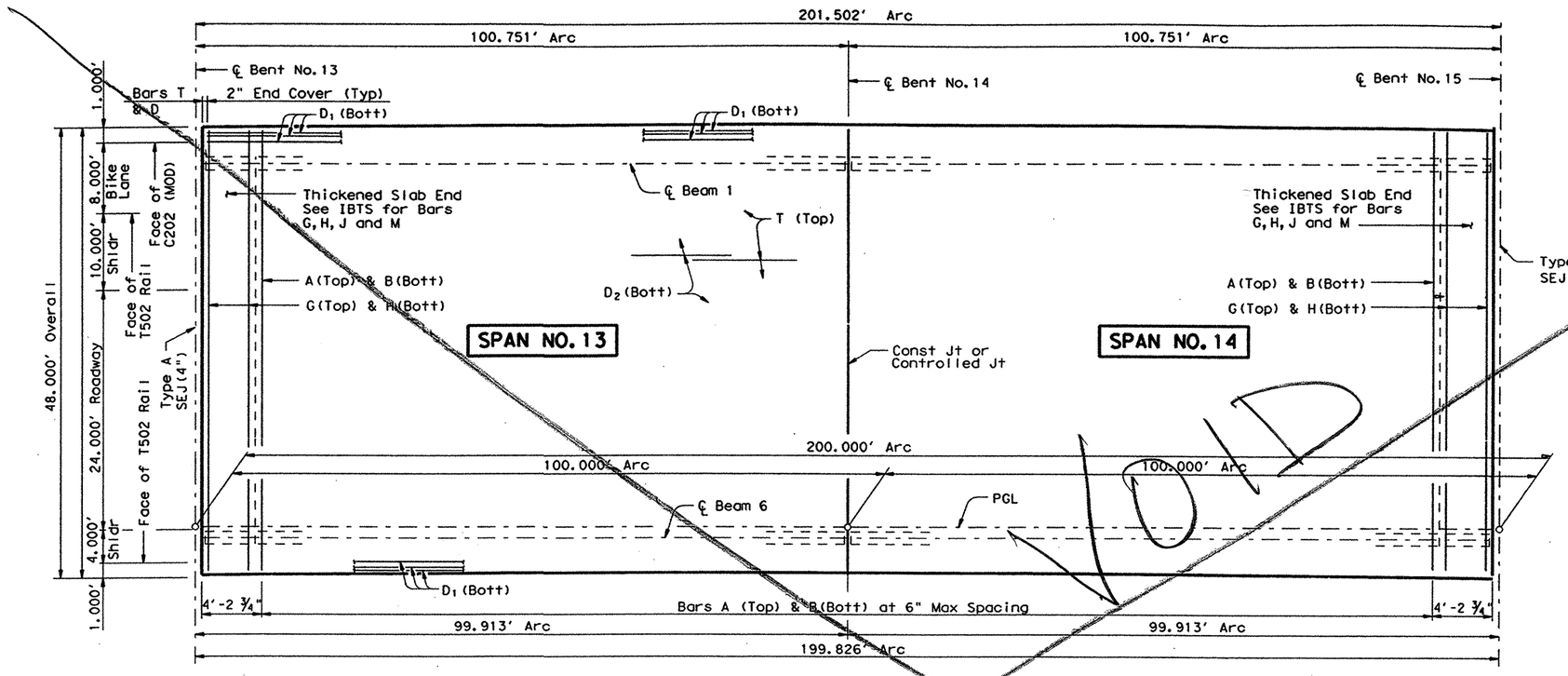
200.00' PRESTRESSED CONCRETE BEAM UNIT #6
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT •	SHEET
REVISIONS 8/00 - CLARIFIED DETAILS - MDH/KC	18	6	NH 99(367)	242A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

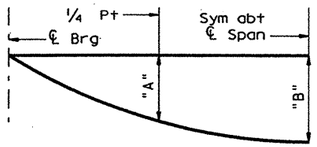
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PATH: D48PC30: TWHALEY

LEVELS
1 2 3 4 5 6 7 8 (9) 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_C= 5 X 10^6 psi)

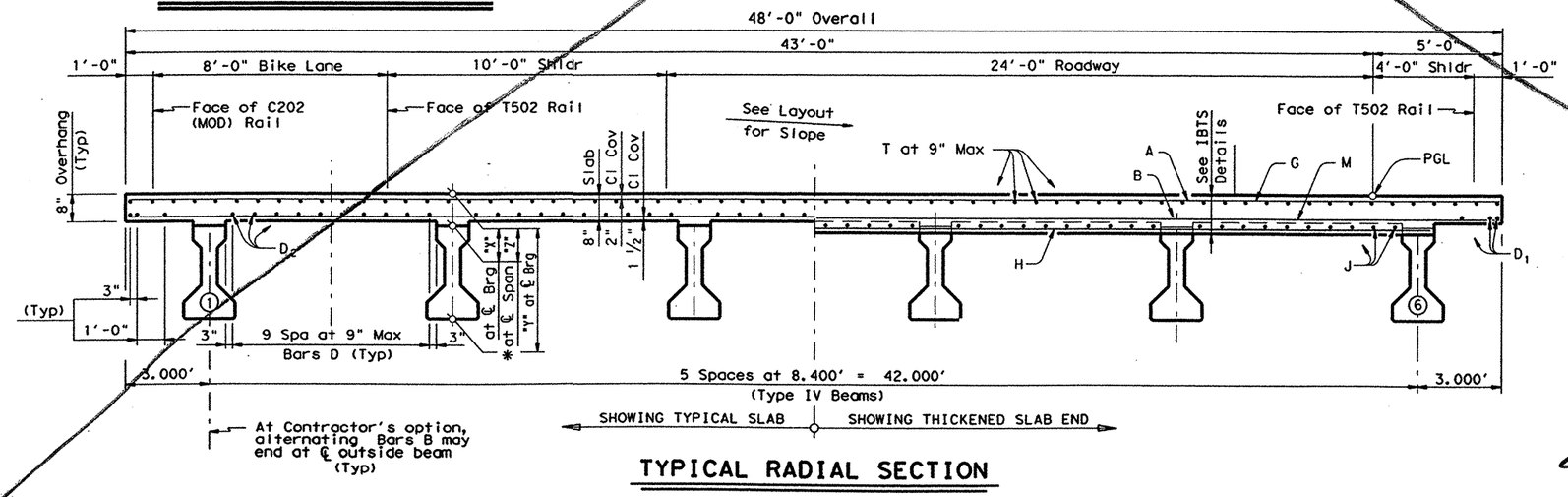
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
13 & 14	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
13 & 14	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◪	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
13	4815.9	599.98	124.6	31303
14	4815.9	599.98	124.6	31303
Total	9631.8	1199.96	249.2	▪ 62607

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▪ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 13	SPAN 14
1	100.36'	100.36'
2	100.22'	100.22'
3	100.07'	100.07'
4	99.92'	99.92'
5	99.78'	99.78'
6	99.63'	99.63'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

VOID

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

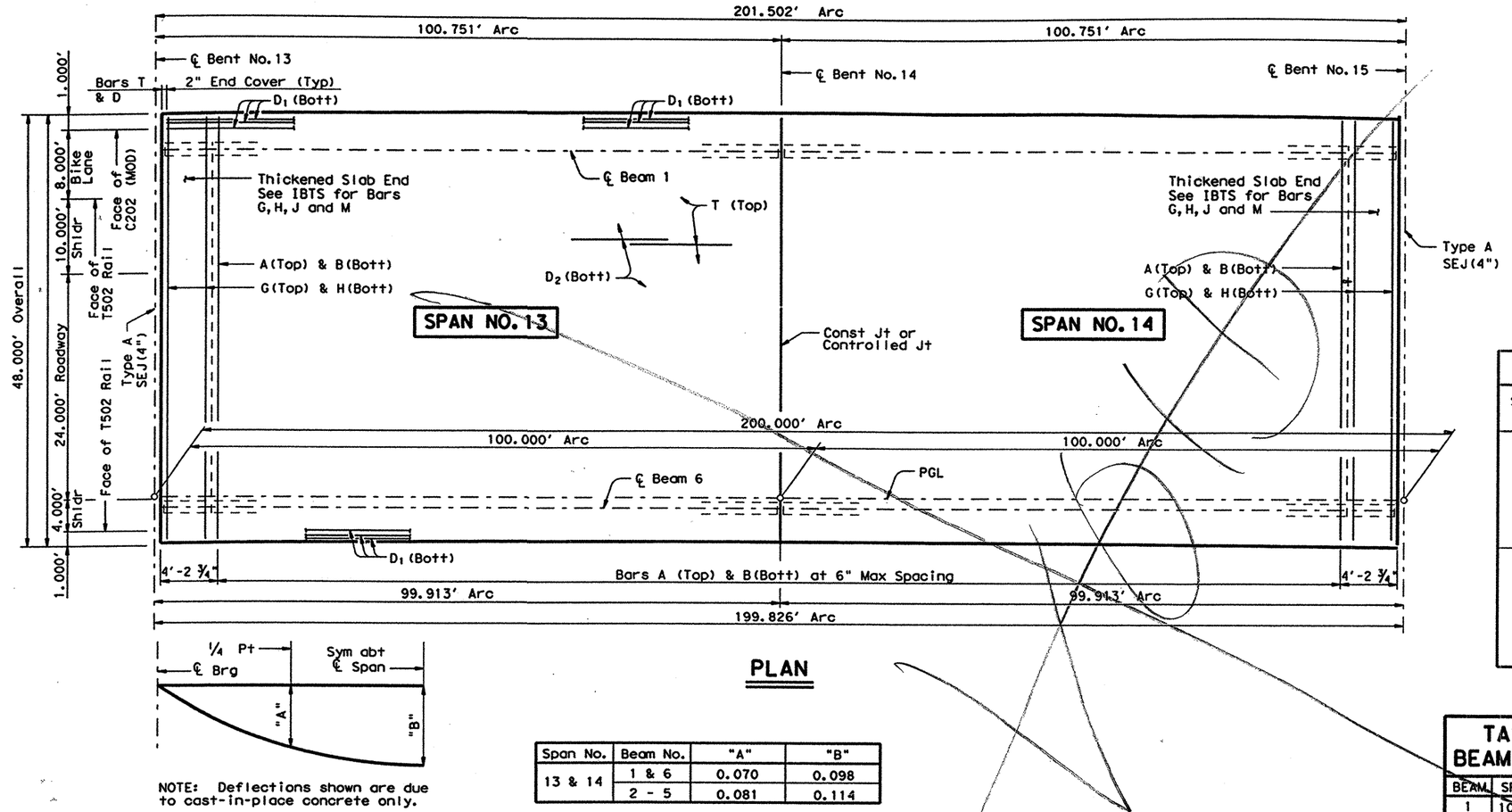
200.00' PRESTRESSED CONCRETE BEAM UNIT #7

(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	18	6	NH 99(367)	243
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

LEVELS Overlayed
PATH: D48PC3Q: TWHALEY



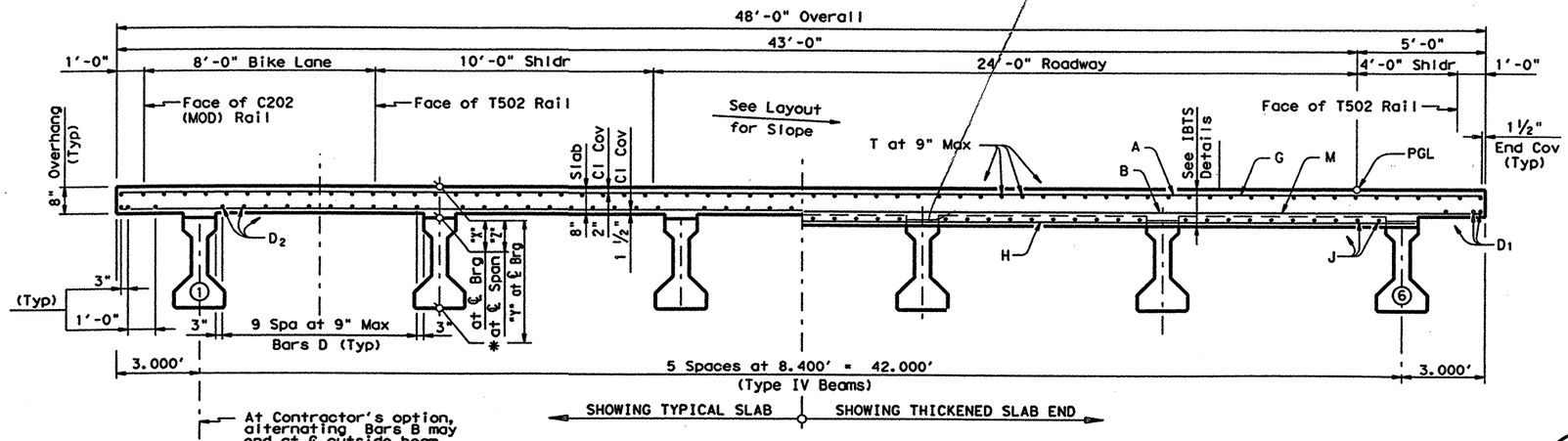
PLAN

NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
13 & 14	1 & 6	0.070	0.098
	2 - 5	0.081	0.114



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
13	4815.9	599.98	125.8	31303
14	4815.9	599.98	125.1	31303
Total	9631.8	1199.96	250.9	◪ 62607

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

◪ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
13	1	10 3/4"	5'-4 3/4"	10 1/8"
	2	10 3/4"	5'-4 3/4"	10"
	3	10 3/4"	5'-4 3/4"	9 3/4"
	4	10 3/4"	5'-4 3/4"	9 3/8"
	5	10 3/4"	5'-4 3/4"	9 1/8"
	6	10 3/4"	5'-4 3/4"	8 3/4"
14	1	10 3/4"	5'-4 3/4"	9 1/2"
	2	10 3/4"	5'-4 3/4"	9 1/2"
	3	10 3/4"	5'-4 3/4"	9 3/8"
	4	10 3/4"	5'-4 3/4"	9 1/4"
	5	10 3/4"	5'-4 3/4"	9"
	6	10 3/4"	5'-4 3/4"	8 3/4"

* Theoretical dimension

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF BEAM LENGTHS

BEAM	SPAN 13	SPAN 14
1	100.36'	100.36'
2	100.22'	100.22'
3	100.07'	100.07'
4	99.92'	99.92'
5	99.78'	99.78'
6	99.63'	99.63'

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustment, if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
Epoxy Coated #5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/00

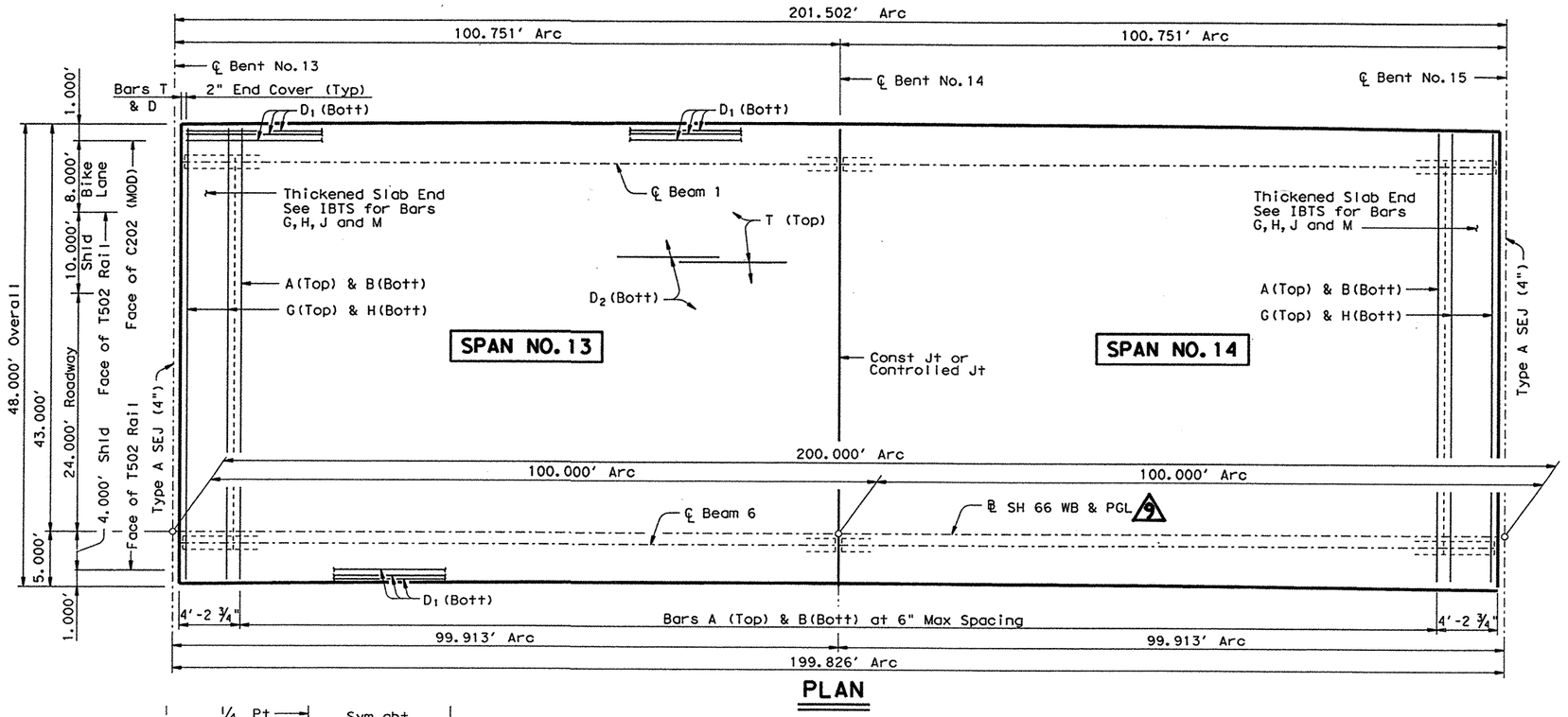
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #7
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

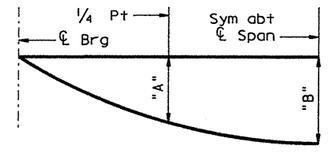
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 1/00 - REVISED HAUNCH/ SECTION DEPTH - MDH/KC	18	6	NH 99(367)	243A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

LEVELS Displayed
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



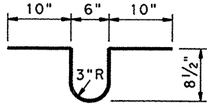
PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_C= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

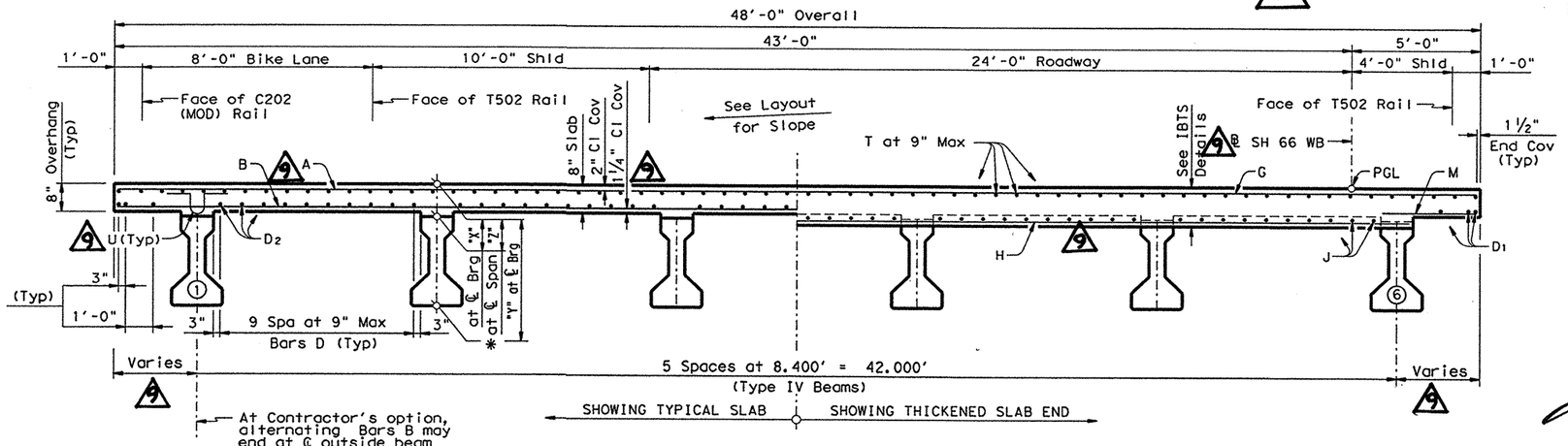
Span No.	Beam No.	"A"	"B"
13 & 14	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

9



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV) 9	CLASS "S" CONCRETE	REINFORCING STEEL ▬ 9
	SF	LF	CY	Lb
13	4815.9	599.98	125.8	31303
14	4815.9	599.98	125.1	31303
Total	9631.8	1199.96	250.9	62607

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
13	1	10 3/4"	5'-4 3/4"	10 1/8"
	2	10 3/4"	5'-4 3/4"	10"
	3	10 3/4"	5'-4 3/4"	9 3/4"
	4	10 3/4"	5'-4 3/4"	9 3/8"
	5	10 3/4"	5'-4 3/4"	9 1/8"
	6	10 3/4"	5'-4 3/4"	8 3/4"
14	1	10 3/4"	5'-4 3/4"	9 1/2"
	2	10 3/4"	5'-4 3/4"	9 1/2"
	3	10 3/4"	5'-4 3/4"	9 3/8"
	4	10 3/4"	5'-4 3/4"	9 1/4"
	5	10 3/4"	5'-4 3/4"	9"
	6	10 3/4"	5'-4 3/4"	8 3/4"

* Theoretical dimension

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

9

TABLE OF BEAM LENGTHS

BEAM	SPAN 13	SPAN 14
1	100.36'	100.36'
2	100.22'	100.22'
3	100.07'	100.07'
4	99.92'	99.92'
5	99.78'	99.78'
6	99.63'	99.63'

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9

CHANGE ORDER NO.

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

James C. Wall

9 8/00 ~ CLARIFIED DETAILS ~ MDH/KC

Texas Department of Transportation
Bridge Division

200.00' PRESTRESSED CONCRETE BEAM UNIT #7

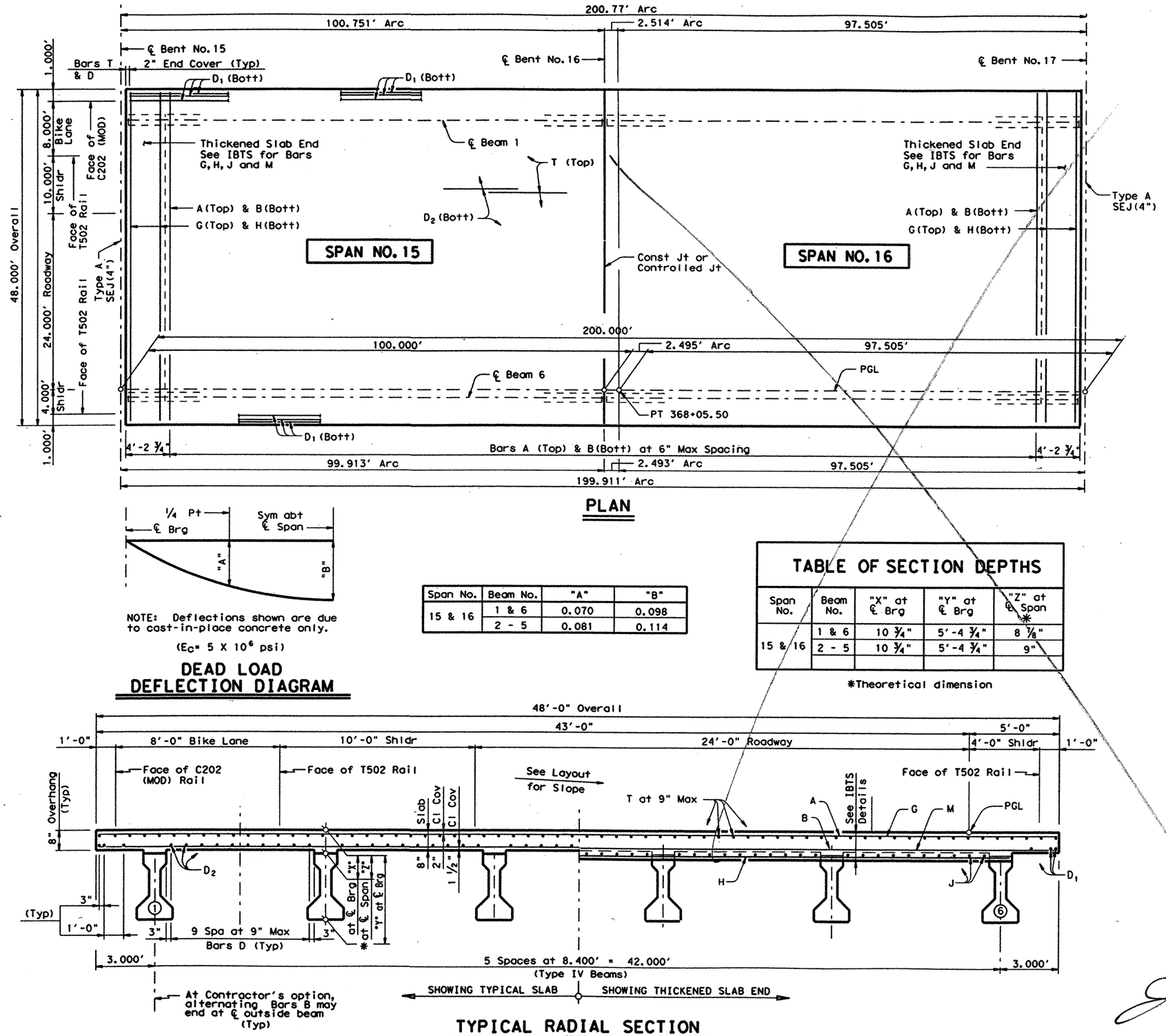
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	243
1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
15 & 16	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
15 & 16	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension

TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
15	4815.9	600.00	124.6	31303
16	4800.4	598.06	124.2	31203
Total	9616.3	1198.06	248.8	▬ 62506

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 15	SPAN 16
1	100.37'	99.69'
2	100.22'	99.68'
3	100.07'	99.68'
4	99.93'	99.67'
5	99.78'	99.67'
6	99.63'	99.67'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/29/99

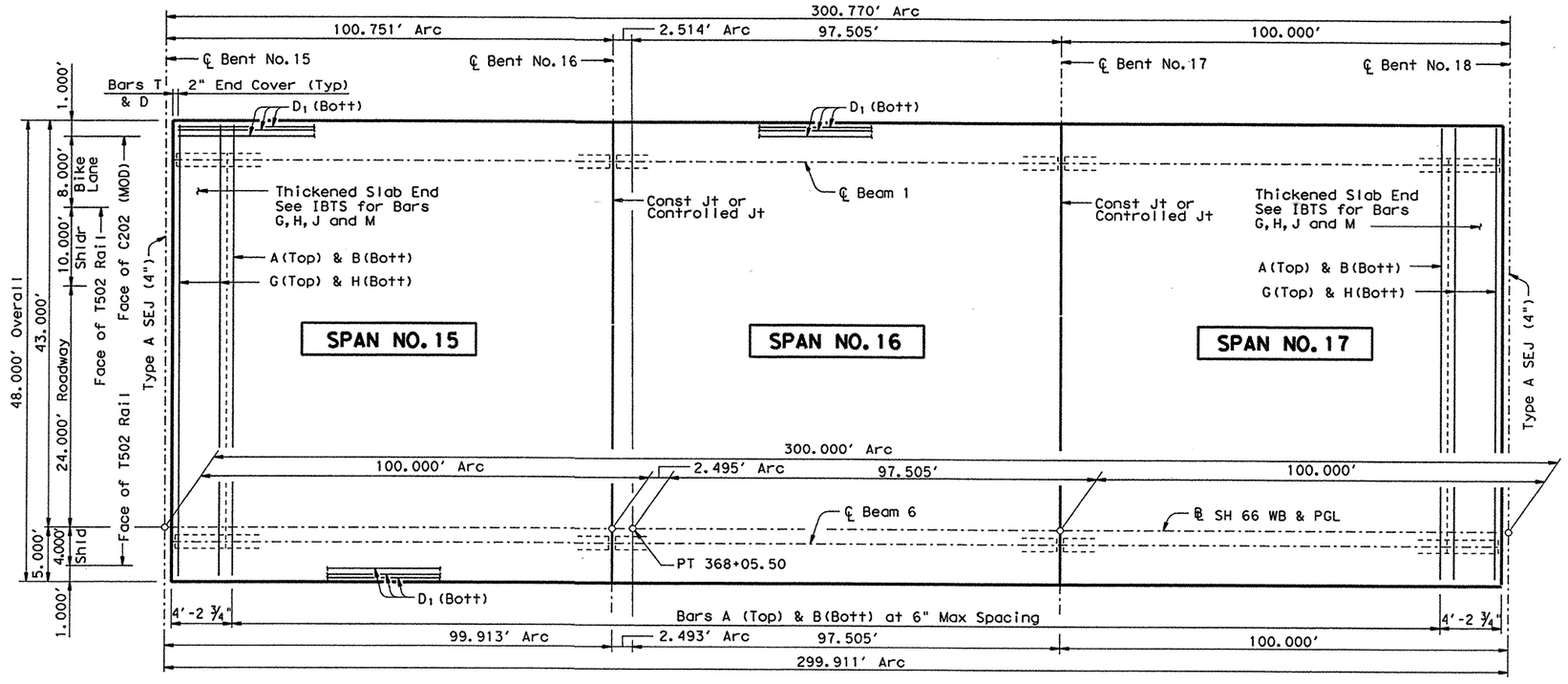
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #8
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

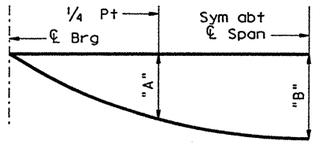
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	244
	COUNTY		CONTROL SECT	JOB HIGHWAY
	ROCKWALL		0009 04	039 SH 66

PATH: D48PC3Q: TWHALEY

LEVEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PLANE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
USED	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
COLOR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WEIGHT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STYLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

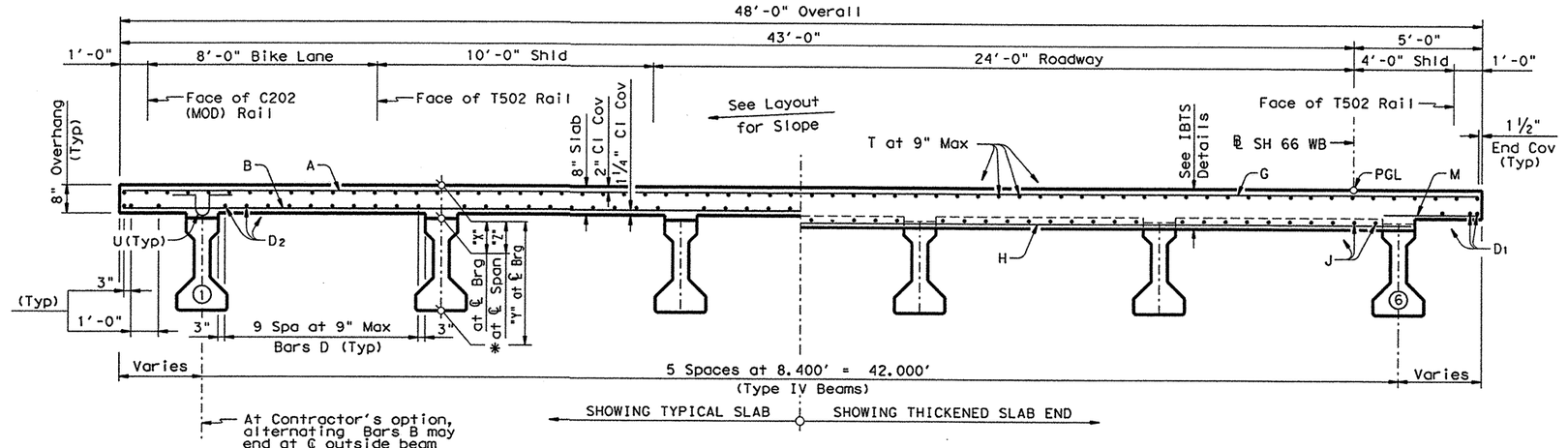
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
15 - 17	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

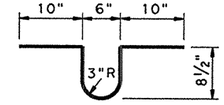
TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
15 - 17	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬
	SF	LF	CY	Lb
15	4815.9	600.00	124.6	31303
16	4800.4	598.06	123.4	31203
17	4800.0	598.02	124.2	31200
Total	14416.3	1796.08	372.2	93706

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 15	SPAN 16	SPAN 17
1	100.37'	99.69'	99.67'
2	100.22'	99.68'	99.67'
3	100.07'	99.68'	99.67'
4	99.93'	99.67'	99.67'
5	99.78'	99.67'	99.67'
6	99.63'	99.67'	99.67'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9 Entire Sheet

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Bridge Division

300.00' PRESTRESSED CONCRETE BEAM UNIT #8

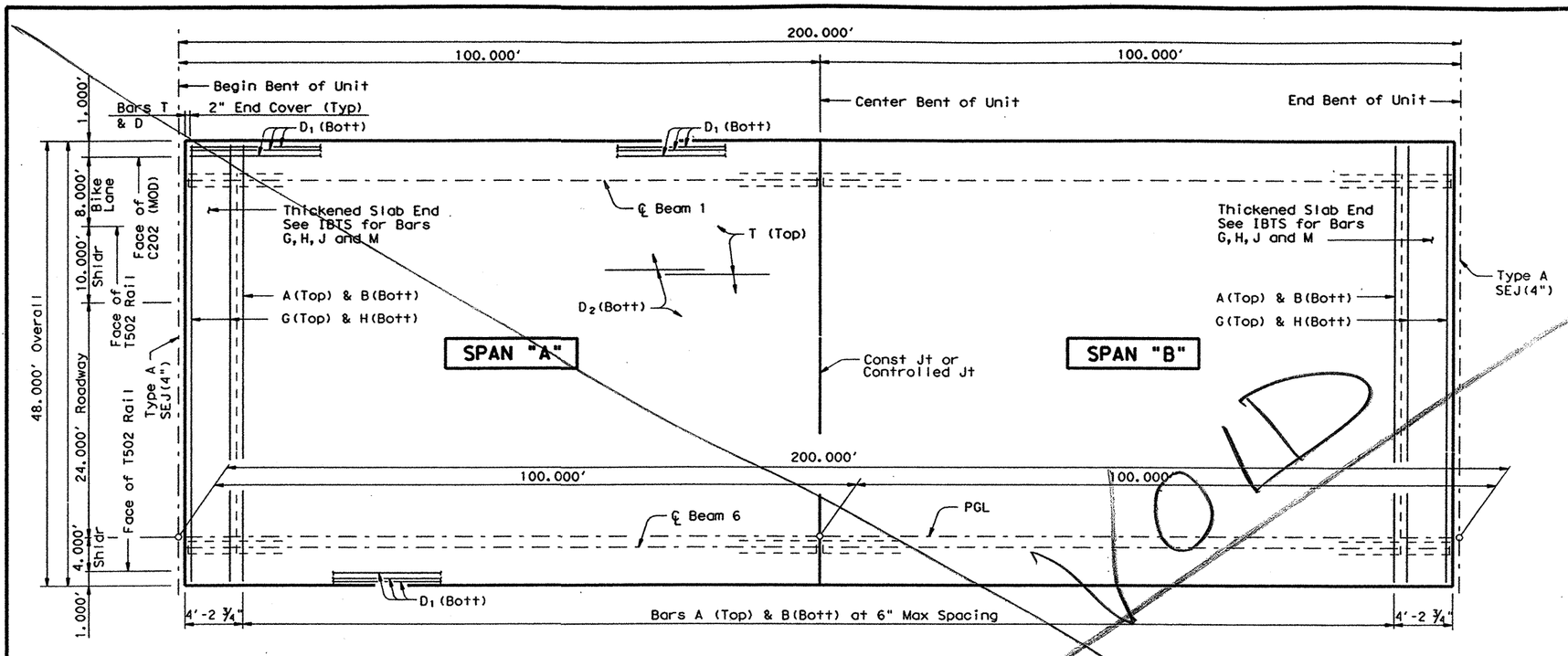
(100.00'-100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 ~ CHANGED UNIT LENGTHS ~ MDH/KC	18	NH 99(367)		244
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

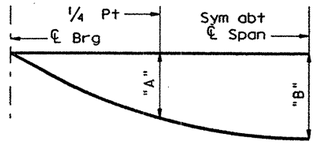
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PLAN

Unit No.	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Span "A"	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
Span "B"	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
Unit No.	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
Span "A"	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	
Span "B"	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	

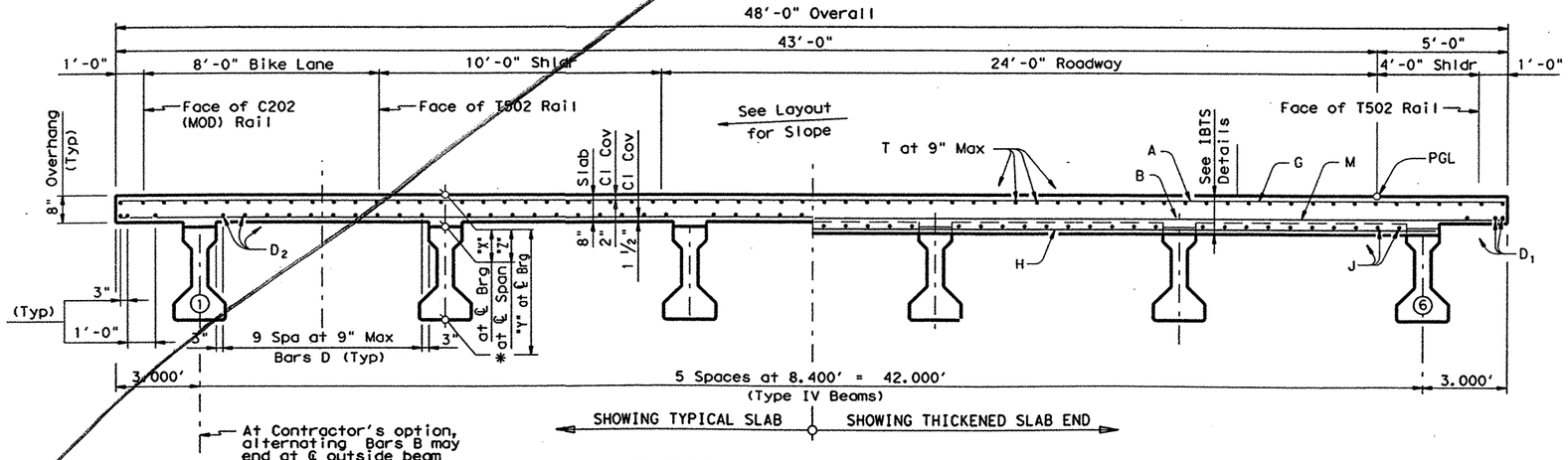
BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
"A"	4800.0	598.02	124.2	31200
"B"	4800.0	598.02	124.2	31200
Total	9600.0	1196.04	248.4	▬ 62400

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths:
Spans 17-94 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
9-49	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
9-49	2 - 5	10 3/4"	5'-4 3/4"	9"
50	1 & 6	10 3/4"	5'-4 3/4"	8 5/8"
50	2 - 5	10 3/4"	5'-4 3/4"	8 3/4"
51	1 & 6	10 3/4"	5'-4 3/4"	8 3/4"
51	2 - 5	10 3/4"	5'-4 3/4"	8 7/8"
52-94	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
52-94	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension

Span No.	Beam No.	"A"	"B"
17 - 94	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

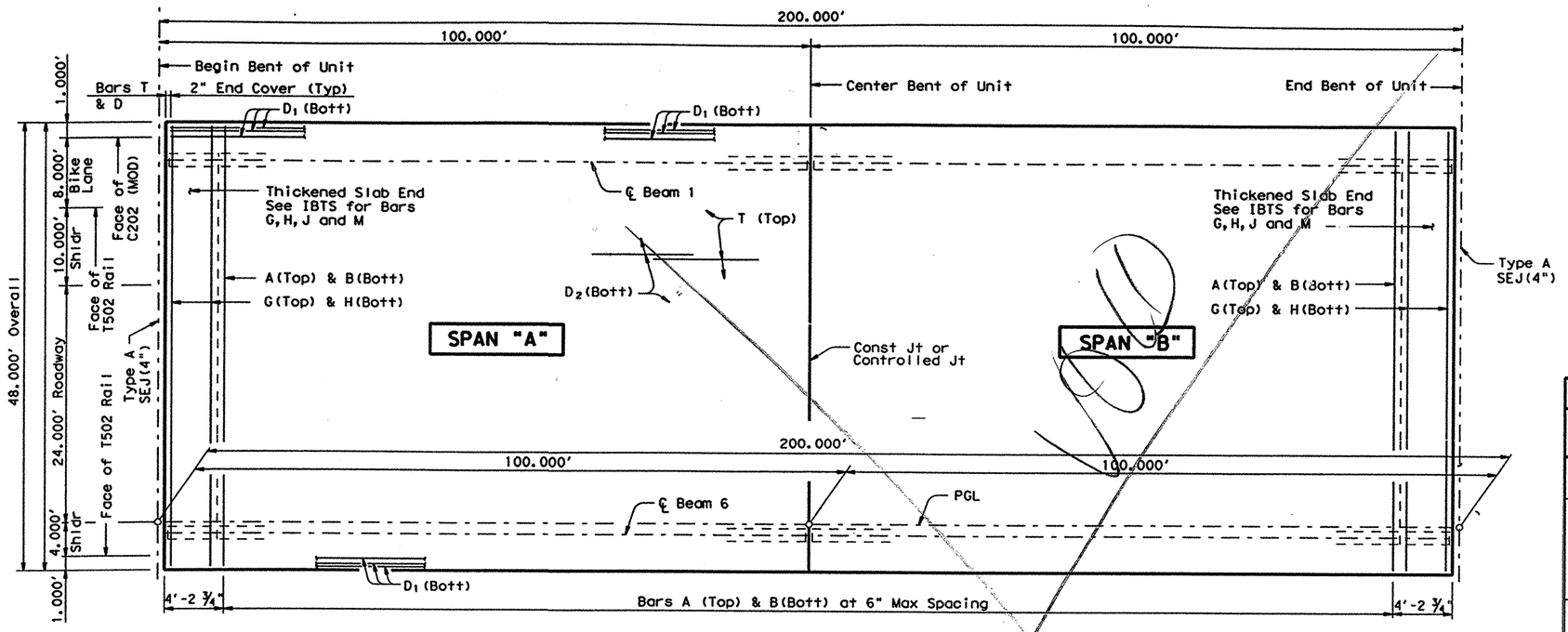
Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNITS #9-47
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb04.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT *	SHEET
REVISIONS	18	6	NH 99(367)	245
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
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33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64

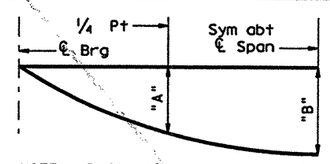
PATH: D48PC3Q: TWHALEY



PLAN

Unit No.	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Span "A"	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55
Span "B"	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
Unit No.	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
Span "A"	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	
Span "B"	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	

Span No.	Beam No.	"A"	"B"
17 - 94	1 & 6	0.070	0.098
	2 - 5	0.081	0.114



NOTE: Deflections shown are due to cast-in-place concrete only.
(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE ◆	REINFORCING STEEL
	SF	LF	CY	Lb
"A"	4800.0	598.02	124.2	31200
"B"	4800.0	598.02	124.2	31200
Total	9600.0	1196.04	248.4	▬ 62400

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths: Spans 17 - 94 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft.

◆ Increase Span "A" Quantity and Total Quantity by 0.3 CY for Span # 51. Increase Span "B" Quantity and Total Quantity by 2.1 CY for Span #18, 0.5 CY for Span #50 and 1.4 CY for Span #92.

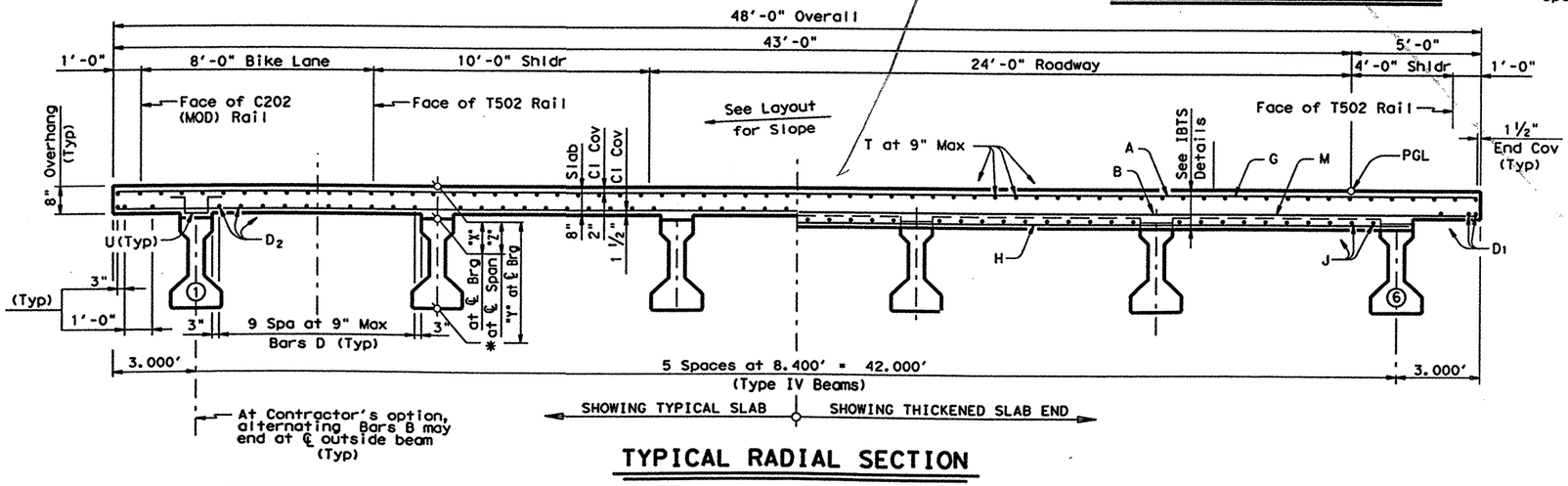
TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
①	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"
18 & 92	1	11 3/4"	5'-5 3/4"	8 7/8"
	2	11 3/4"	5'-5 3/4"	9 1/4"
	3	11 3/4"	5'-5 3/4"	9 3/8"
	4	11 3/4"	5'-5 3/4"	9 5/8"
	5 & 6	11 3/4"	5'-5 3/4"	9 7/8"
50	1 & 6	11"	5'-5"	8 7/8"
	2 - 5	11"	5'-5"	9"
51	1 & 6	11"	5'-5"	9"
	2 - 5	11"	5'-5"	9 1/8"

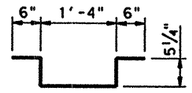
① Spans 17, 19-49, 52-91, 93 & 94
* Theoretical dimension

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4



TYPICAL RADIAL SECTION



BARS U

Bars U shall match Beam Bars R for a minimum distance of 11'-6" from each end of all beams in Span #18 and #92.

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.
See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.
See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.
All reinforcing steel shall be Epoxy Coated.
Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"
All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. _____

HS20 LOADING

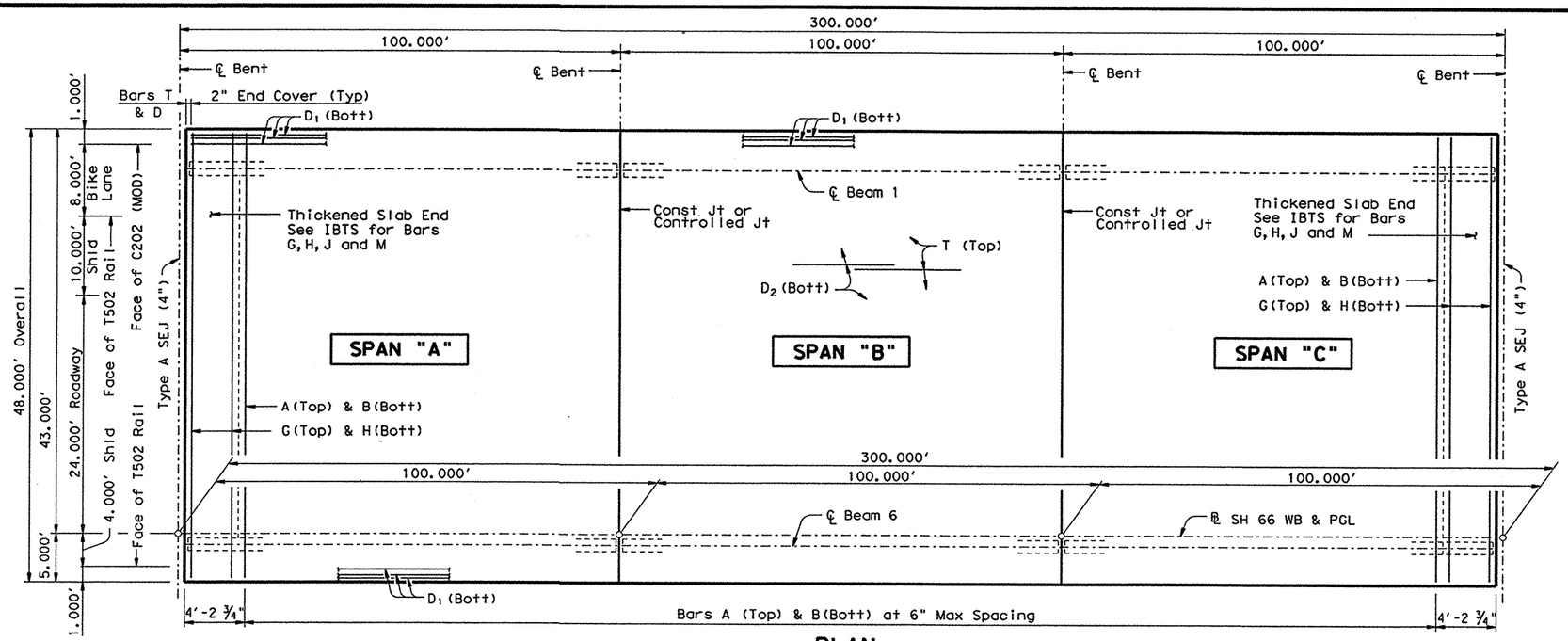
STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
1/31/00

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNITS #9-47
(100.00'-100.00')
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

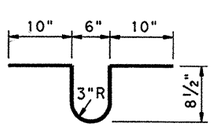
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©TxDOT JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	18	6	NH 99(367)	245
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY
LEVELS D...



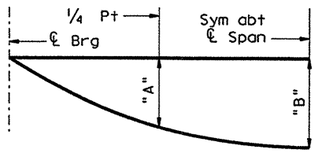
PLAN

Unit No.	9	10	11	12	13	14	15	16	17	18	19	20	21
Span "A"	18	21	24	27	30	33	36	39	42	45	48	51	54
Span "B"	19	22	25	28	31	34	37	40	43	46	49	52	55
Span "C"	20	23	26	29	32	35	38	41	44	47	50	53	56
Unit No.	22	23	24	25	26	27	28	29	30	31	32	33	
Span "A"	57	60	63	66	69	72	75	78	81	84	87	90	
Span "B"	58	61	64	67	70	73	76	79	82	85	88	91	
Span "C"	59	62	65	68	71	74	77	80	83	86	89	92	



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE ◆	REINFORCING STEEL ▬
	SF	LF	CY	Lb
"A"	4800.0	598.02	124.2	31200
"B"	4800.0	598.02	123.4	31200
"C"	4800.0	598.02	124.2	31200
Total	14400.0	1794.06	371.8	93600

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths: Spans 18 - 92 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft.

◆ Increase Span "A" Quantity and Total Quantity by 2.1 CY for Span #18 and 0.3 CY for Span # 51. Increase Span "C" Quantity and Total Quantity by 0.5 CY for Span #50 and 1.4 CY for Span #92.

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span ✱
①	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"
18 & 92	1	11 3/4"	5'-5 3/4"	8 7/8"
	2	11 3/4"	5'-5 3/4"	9 1/4"
	3	11 3/4"	5'-5 3/4"	9 3/8"
	4	11 3/4"	5'-5 3/4"	9 5/8"
	5 & 6	11 3/4"	5'-5 3/4"	9 7/8"
50	1 & 6	11"	5'-5"	8 7/8"
	2 - 5	11"	5'-5"	9"
51	1 & 6	11"	5'-5"	9"
	2 - 5	11"	5'-5"	9 1/8"

① Spans 19-49, 52-91

✱ Theoretical dimension

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

Span No.	Beam No.	"A"	"B"
18 - 92	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

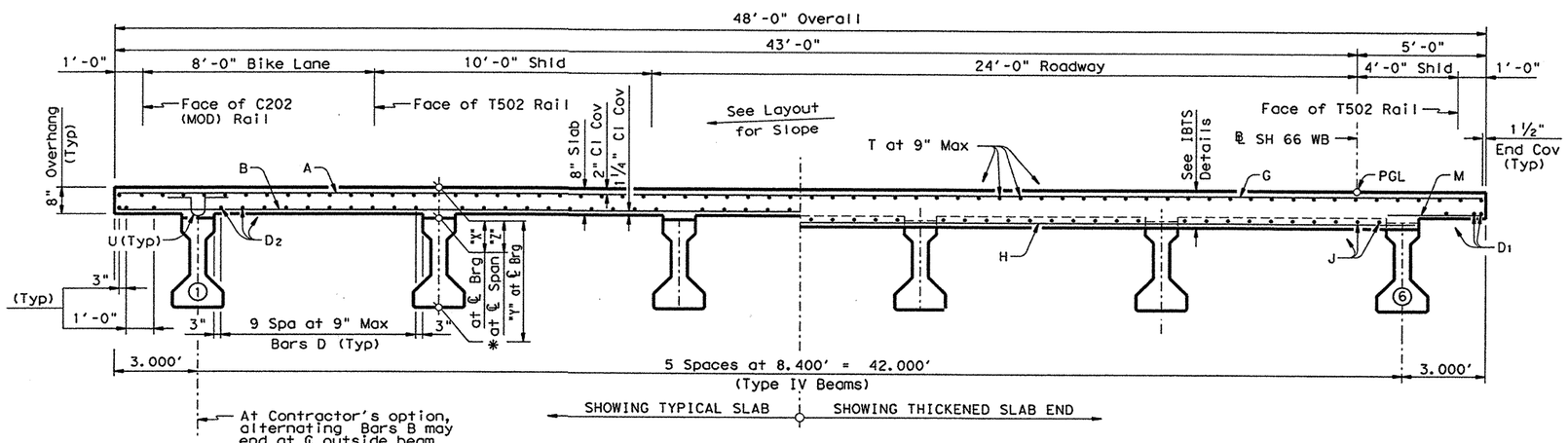
Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.
Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9 Entire Sheet

CHANGE ORDER NO. _____

HS20 LOADING



TYPICAL TRANSVERSE SECTION

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

8/00 ~ CHANGED UNIT LENGTHS ~ MDH/KC

Texas Department of Transportation
Bridge Division

300.00' PRESTRESSED CONC BEAM UNITS #9-33

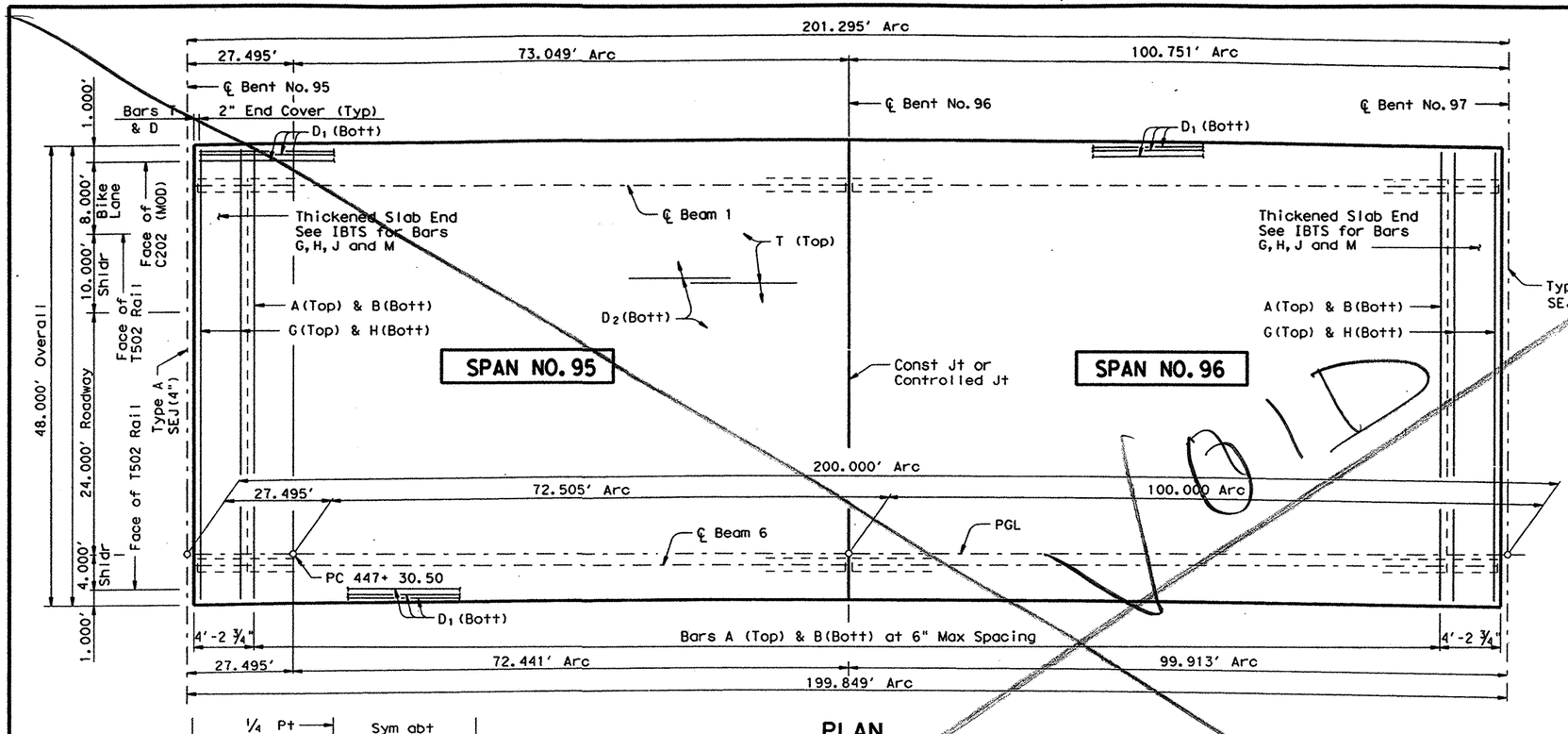
(100.00'-100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

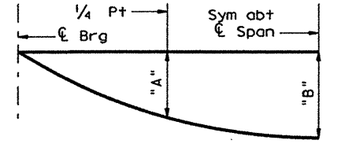
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©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		245A
1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC30: TWHALEY

LEVEL
1 2 3 4 5 6 7
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

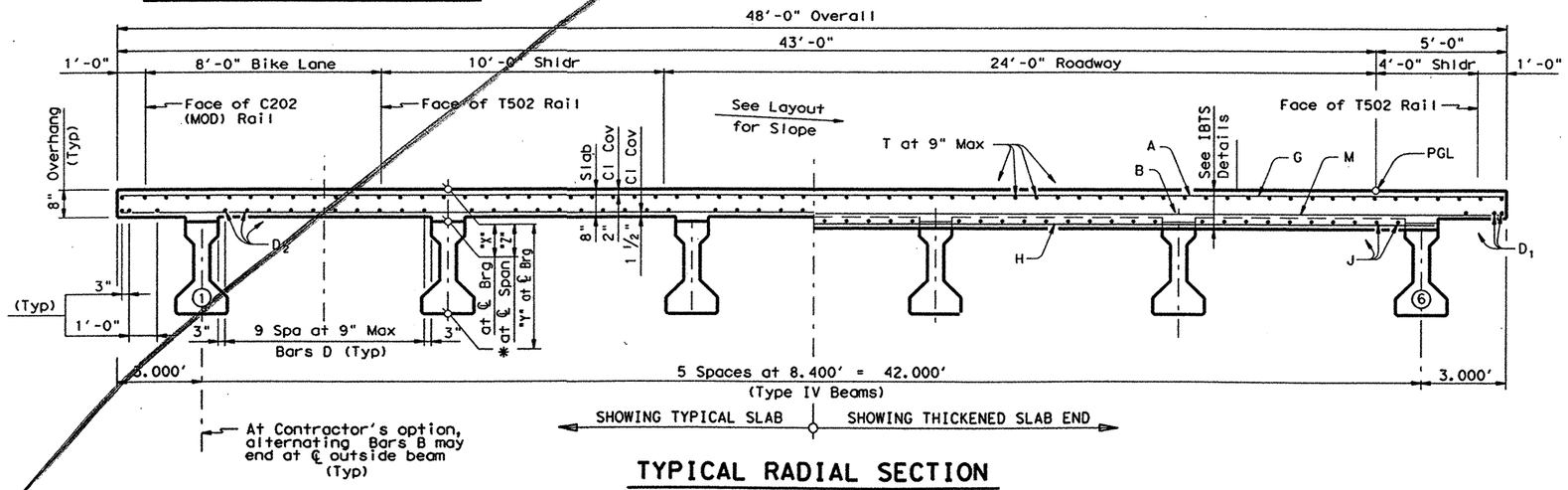


NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
95 & 96	1 & 6	0.070	0.098
	2 - 5	0.081	0.114



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
95	4811.5	599.44	124.5	31275
96	4815.9	599.98	124.6	31275
Total	9627.4	1199.42	249.1	◪ 62550

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

◪ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 95	SPAN 96
1	100.17'	100.36'
2	100.07'	100.22'
3	99.96'	100.07'
4	99.85'	99.92'
5	99.75'	99.78'
6	99.64'	99.63'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
95 & 96	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated. Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"

Epoxy Coated #5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

OLD

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

4/27/99

James C. Wall

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #48

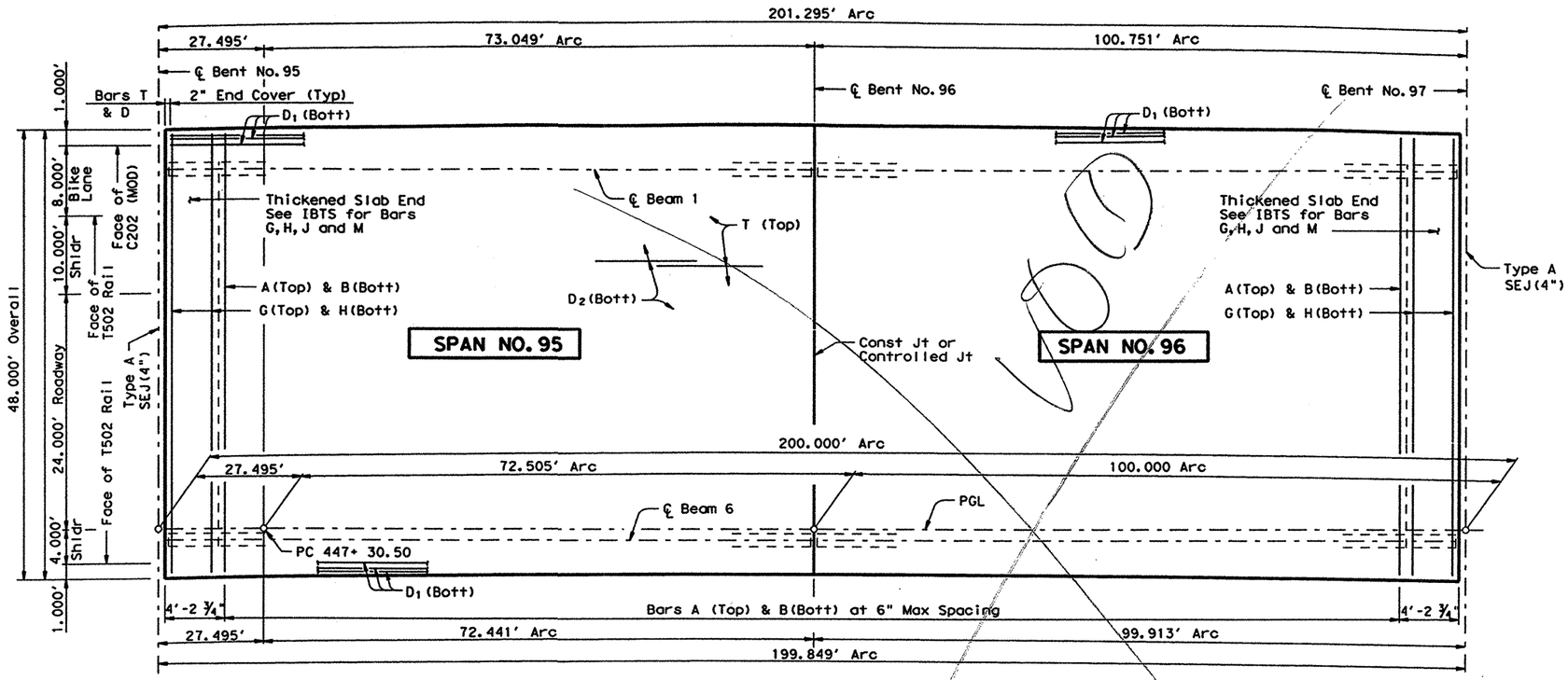
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

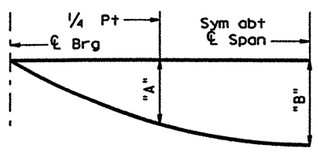
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS	18	6	NH 99(367)	246
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH.66

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC3Q: TWHALEY



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

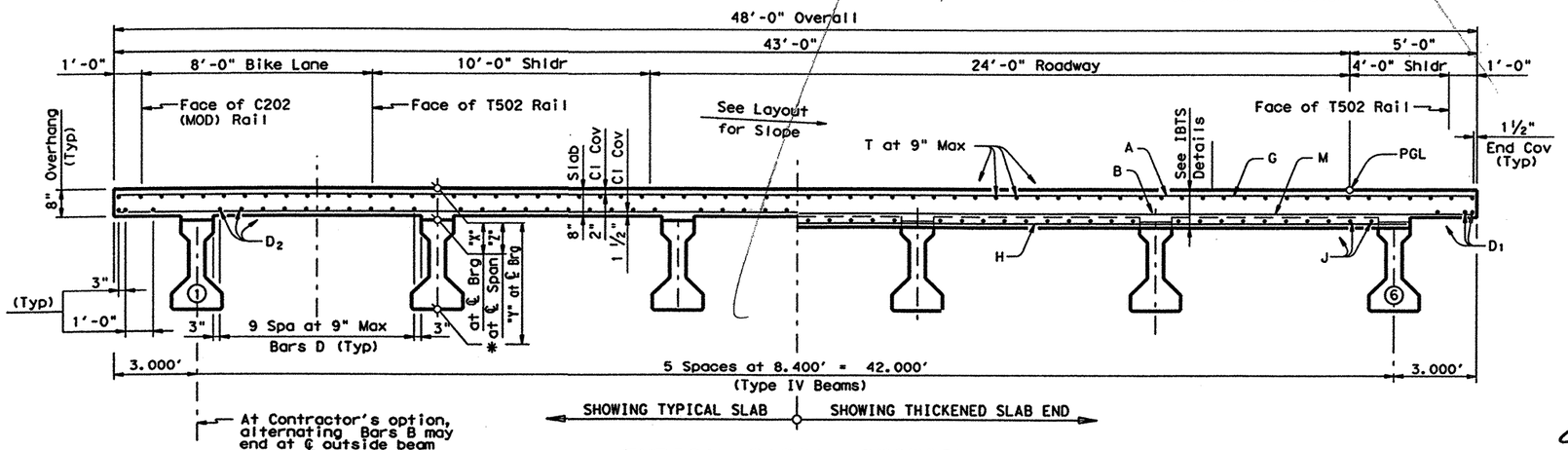
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
95 & 96	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
95	1 & 6	10 3/4"	5'-4 3/4"	8 1/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"
96	1	10 3/4"	5'-4 3/4"	9 1/8"
	2	10 3/4"	5'-4 3/4"	9 1/8"
	3	10 3/4"	5'-4 3/4"	9 5/8"
	4	10 3/4"	5'-4 3/4"	9 3/8"
	5	10 3/4"	5'-4 3/4"	9 1/8"
	6	10 3/4"	5'-4 3/4"	8 3/4"

* Theoretical dimension



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◪	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
95	4811.5	599.44	124.5	31275
96	4815.9	599.98	125.6	31275
Total	9627.4	1199.42	250.1	▣ 62550

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▣ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 95	SPAN 96
1	100.17'	100.36'
2	100.07'	100.22'
3	99.96'	100.07'
4	99.85'	99.92'
5	99.75'	99.78'
6	99.64'	99.63'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

1/31/00

James C. Wall

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #48

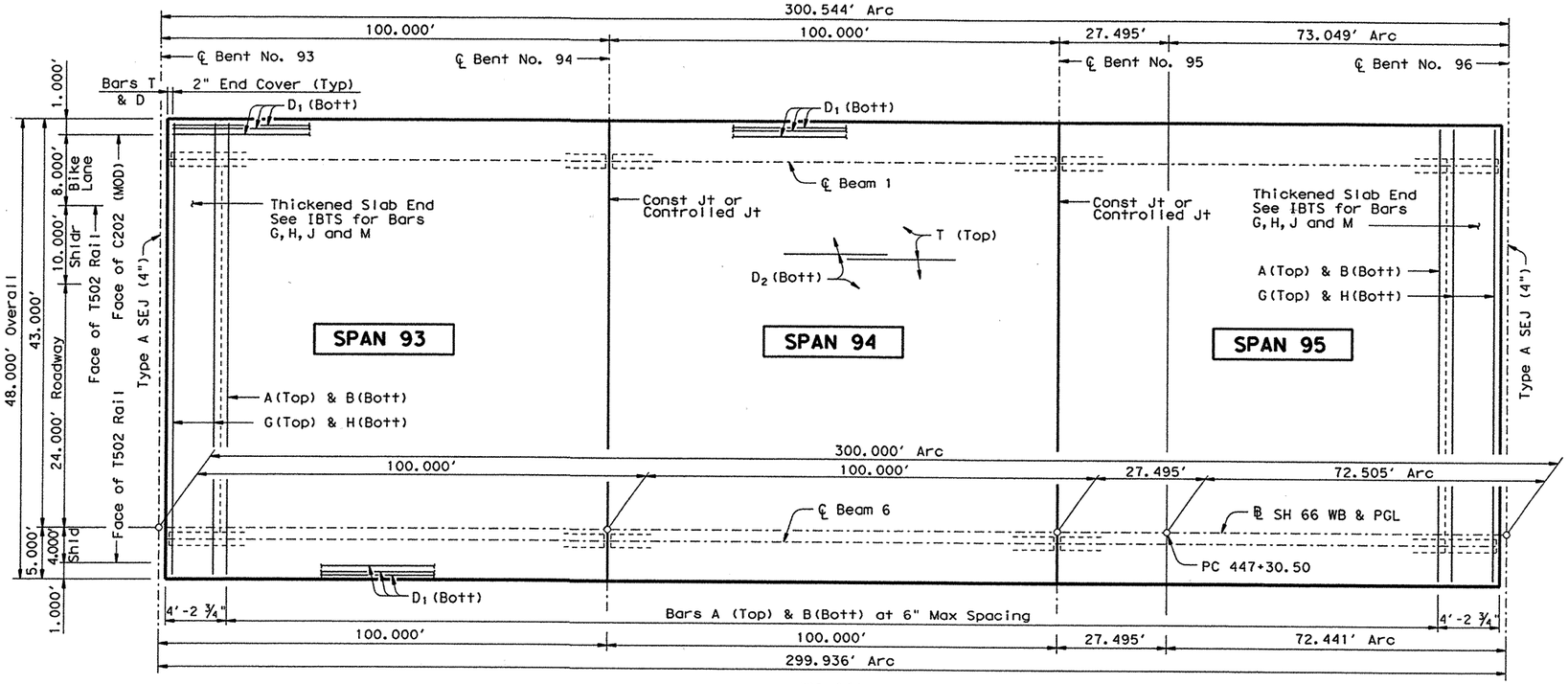
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

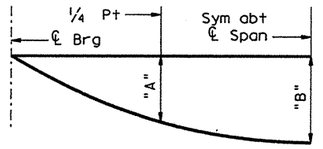
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JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	246
1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS D...ANGE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN

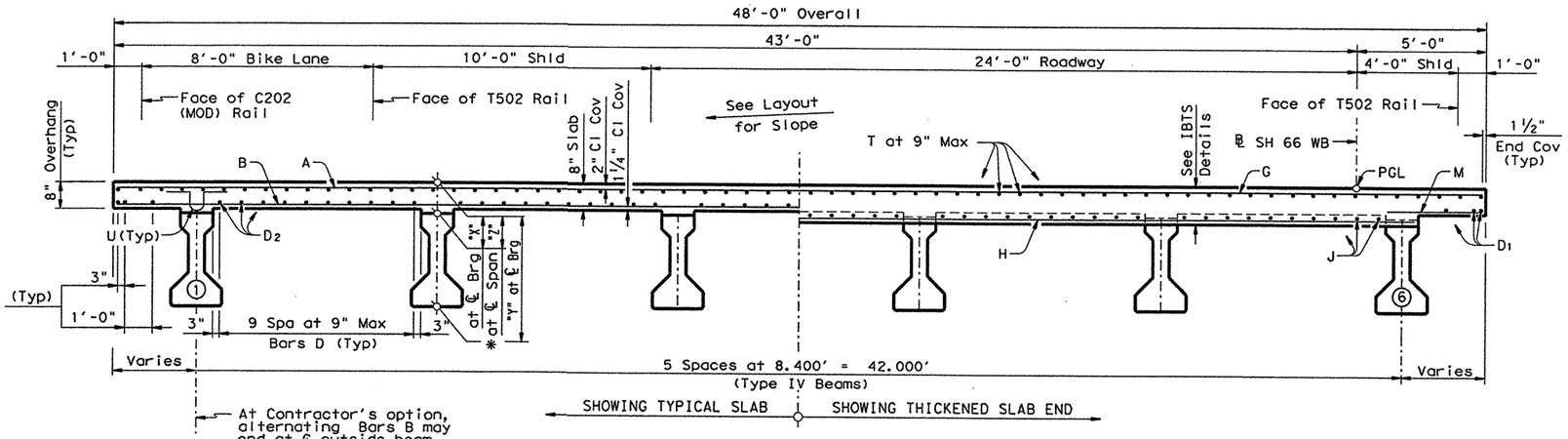


NOTE: Deflections shown are due to cast-in-place concrete only.

(E_C= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
93 - 95	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

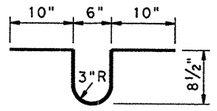


TYPICAL TRANSVERSE SECTION

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
93-95	1 & 6	10 ¾"	5'-4 ¾"	8 ⅞"
	2 - 5	10 ¾"	5'-4 ¾"	9"

* Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV)	CLASS "S" CONCRETE ◆	REINFORCING STEEL ▬
	SF	LF	CY	Lb
93	4800.0	598.02	124.2	31200
94	4800.0	598.02	123.4	31200
95	4811.5	599.44	124.5	31275
Total	14411.5	1795.48	372.1	93675

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 93	SPAN 94	SPAN 95
1	99.67'	99.67'	100.17'
2	99.67'	99.67'	100.07'
3	99.67'	99.67'	99.96'
4	99.67'	99.67'	99.85'
5	99.67'	99.67'	99.75'
6	99.67'	99.67'	99.64'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9 Entire Sheet

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

James C. Wall

8/00 ~ CHANGED UNIT LENGTHS ~ MDH/KC

Texas Department of Transportation
Bridge Division

300.00' PRESTRESSED CONCRETE BEAM UNIT #34

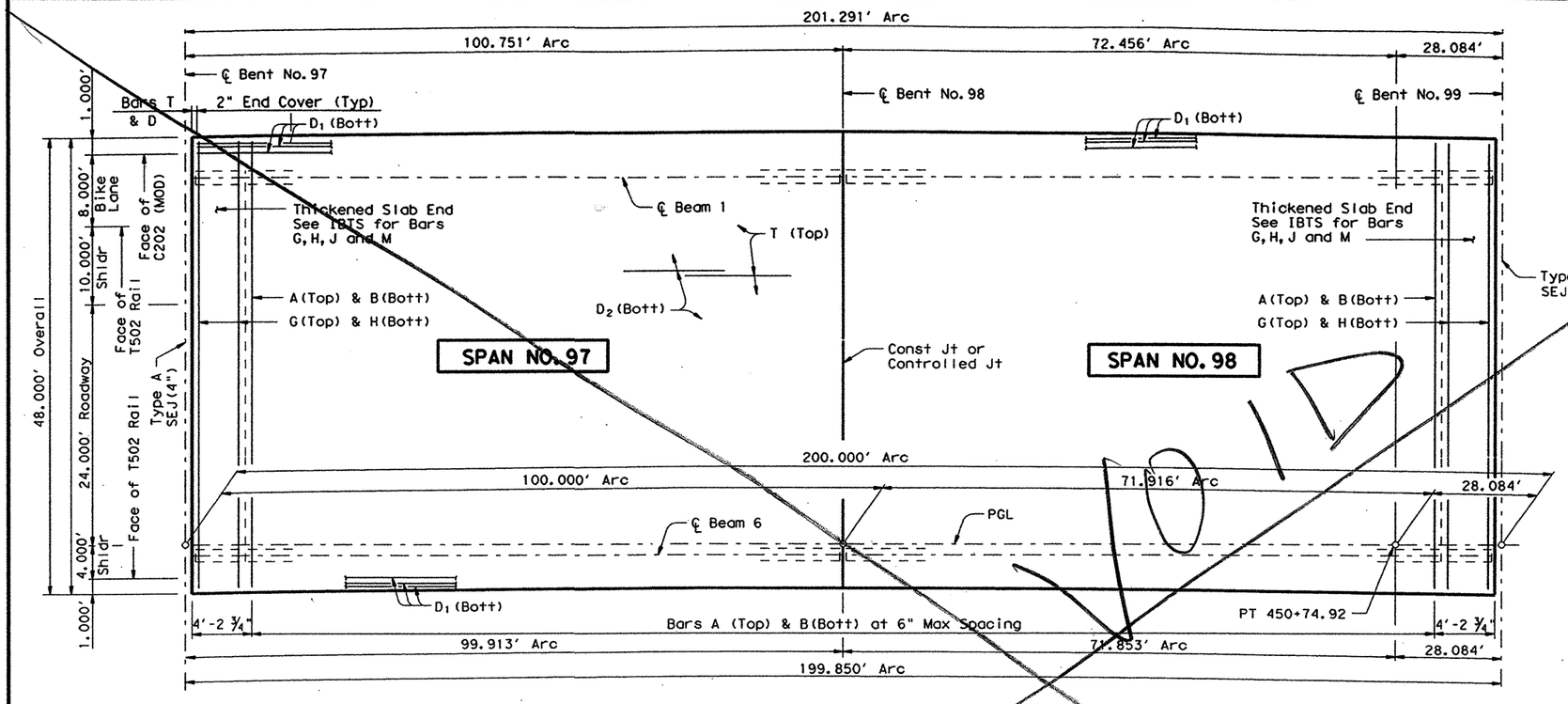
(100.00'-100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

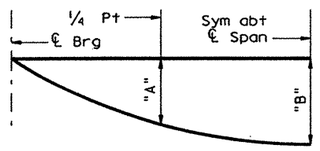
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	18	NH 99(367)		246
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVEL
1 2 3 4 5 6 7 8 9
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

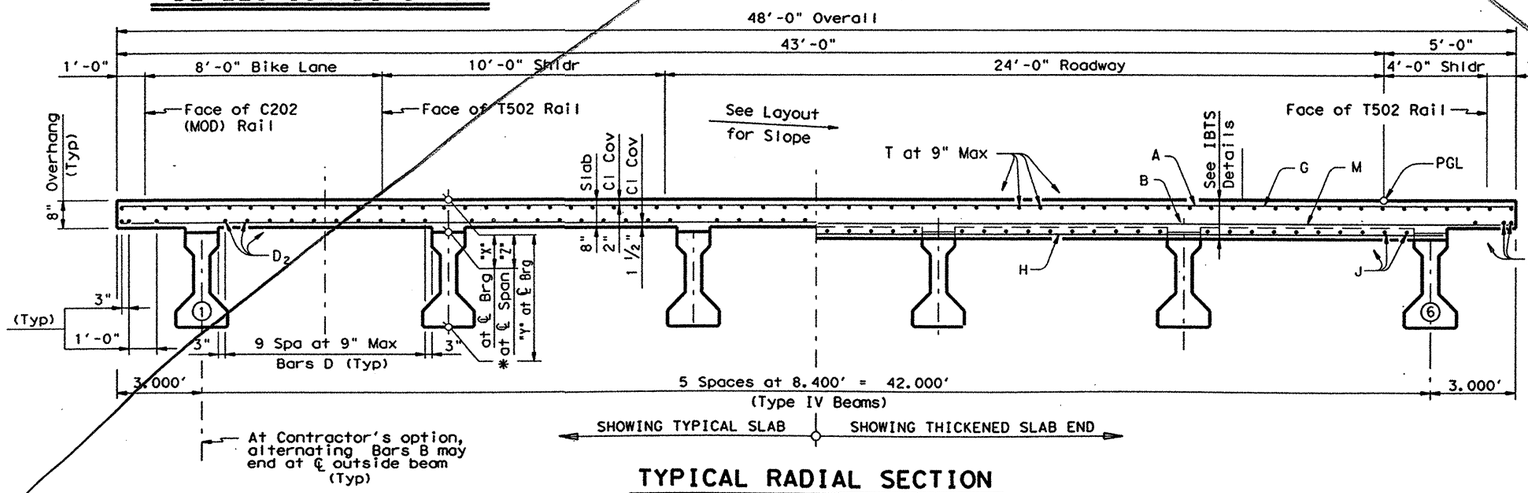
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
97 & 98	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
97 & 98	1 & 6	10 3/4"	5'-4 3/4"	8 1/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL RADIAL SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
97	4815.9	599.98	124.6	31303
98	4811.4	599.43	124.5	31274
Total	9627.3	1199.41	249.1	▬ 62577

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 97	SPAN 98
1	100.36'	100.17'
2	100.22'	100.06'
3	100.07'	99.96'
4	99.92'	99.85'
5	99.78'	99.75'
6	99.63'	99.64'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

VOID

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #49

(100.00'-100.00')

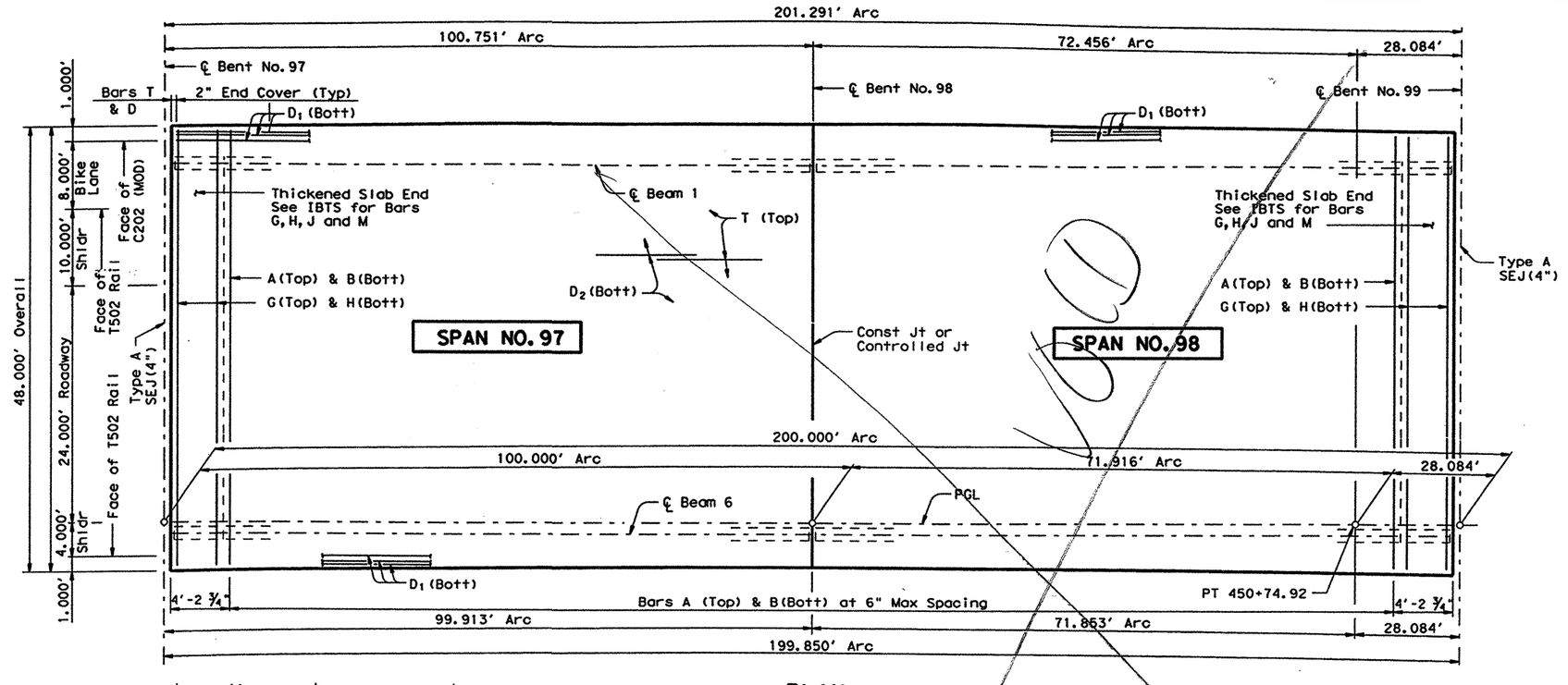
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REC	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(967)	247

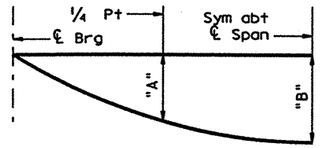
COUNTY	CONTROL	SECT	JOB	HIGHWAY
ROCKWALL	0009	04	038	SH 66

LEVELS DISPLAYED 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: D48PC30: TWHALEY



PLAN

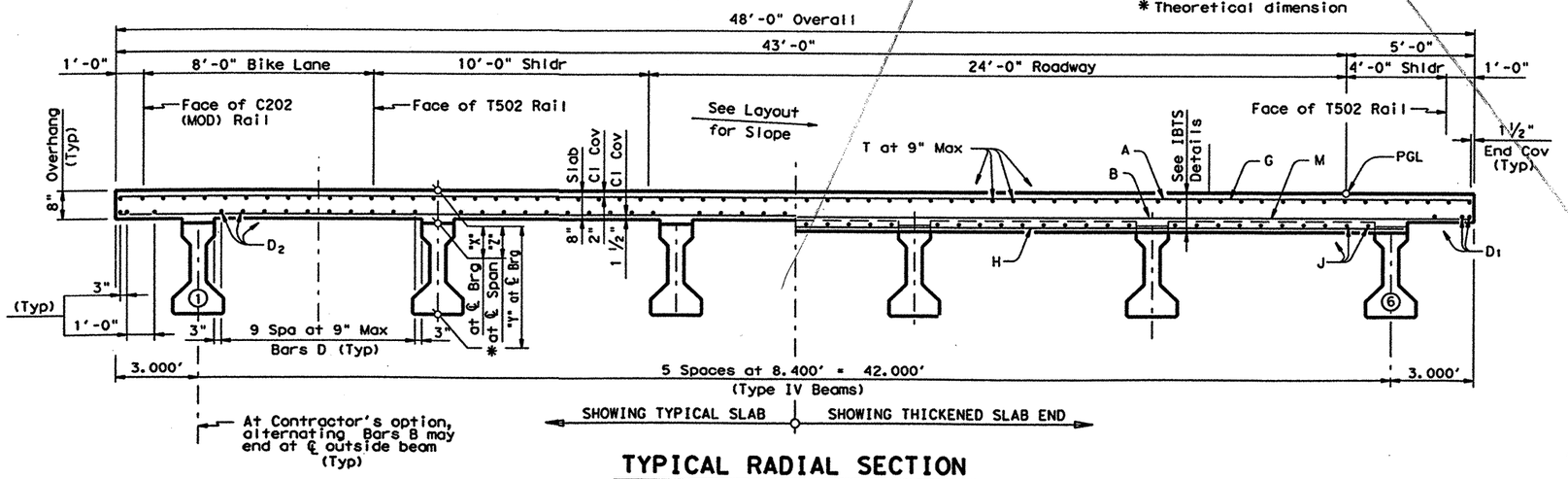


NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
97 & 98	1 & 6	0.070	0.098
	2 - 5	0.081	0.114



TYPICAL RADIAL SECTION

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
97	1	10 3/4"	5'-4 3/4"	9 7/8"
	2	10 3/4"	5'-4 3/4"	9 7/8"
	3	10 3/4"	5'-4 3/4"	9 5/8"
	4	10 3/4"	5'-4 3/4"	9 3/8"
	5	10 3/4"	5'-4 3/4"	9 1/8"
	6	10 3/4"	5'-4 3/4"	8 3/4"
98	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
97	4815.9	599.98	125.6	31303
98	4811.4	599.43	124.5	31274
Total	9627.3	1199.41	250.1	▬ 62577

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 97	SPAN 98
1	100.36'	100.17'
2	100.22'	100.06'
3	100.07'	99.96'
4	99.92'	99.85'
5	99.78'	99.75'
6	99.63'	99.64'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
1/31/00

Texas Department of Transportation
Design Division (Bridge)

200.00' PRESTRESSED CONCRETE BEAM UNIT #49

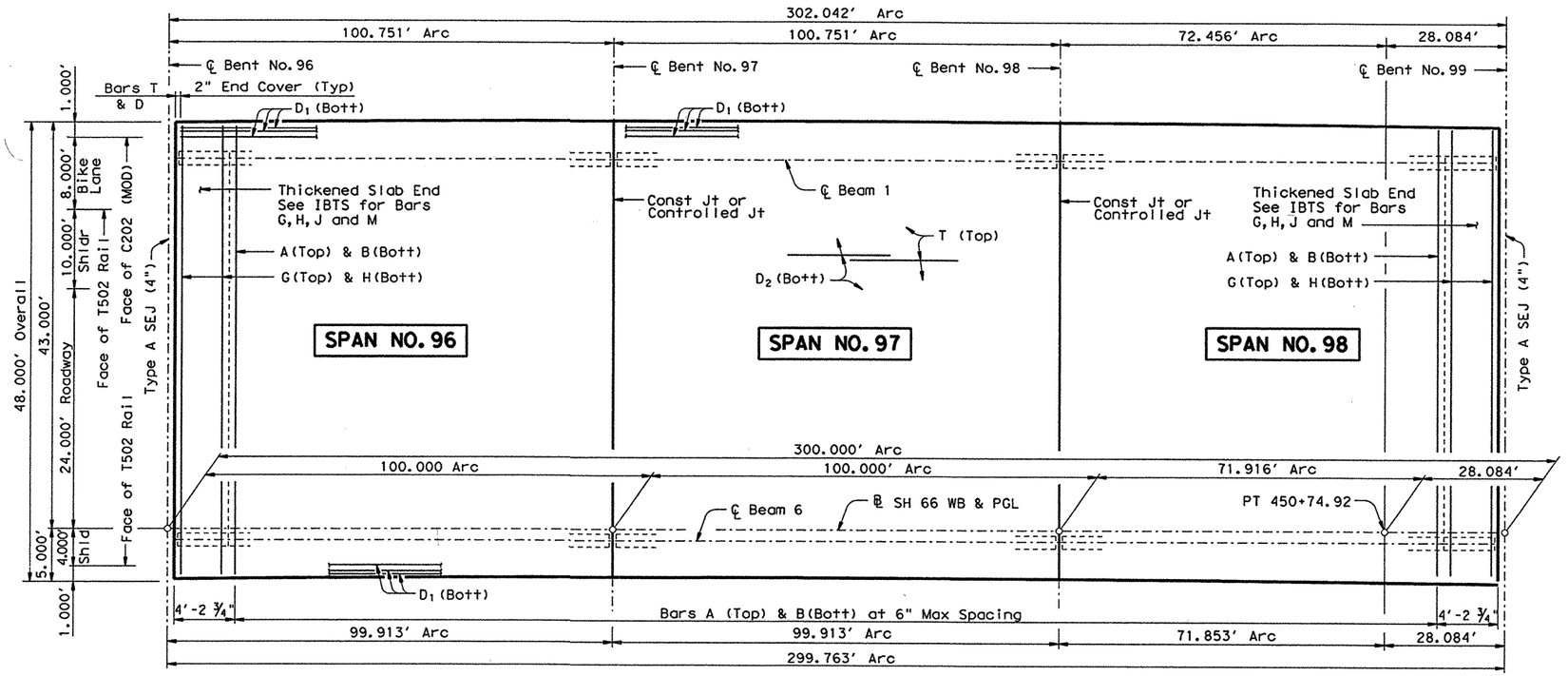
(100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	18	6	NH 99(367)	247
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS used: 1 2 3 4 5 6 7 8 9 10 11 12 31 45 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163



PLAN

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◪ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ⬓
	SF	LF	CY	Lb
96	4815.9	599.98	125.6	31303
97	4815.9	599.98	124.7	31303
98	4811.4	599.43	124.5	31274
Total	14443.2	1799.39	374.8	93880

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope. See table for individual lengths.

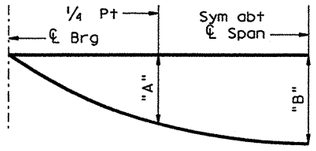
⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

TABLE OF BEAM LENGTHS

BEAM	SPAN 96	SPAN 97	SPAN 98
1	100.36'	100.36'	100.17'
2	100.22'	100.22'	100.06'
3	100.07'	100.07'	99.96'
4	99.92'	99.92'	99.85'
5	99.78'	99.78'	99.75'
6	99.63'	99.63'	99.64'

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

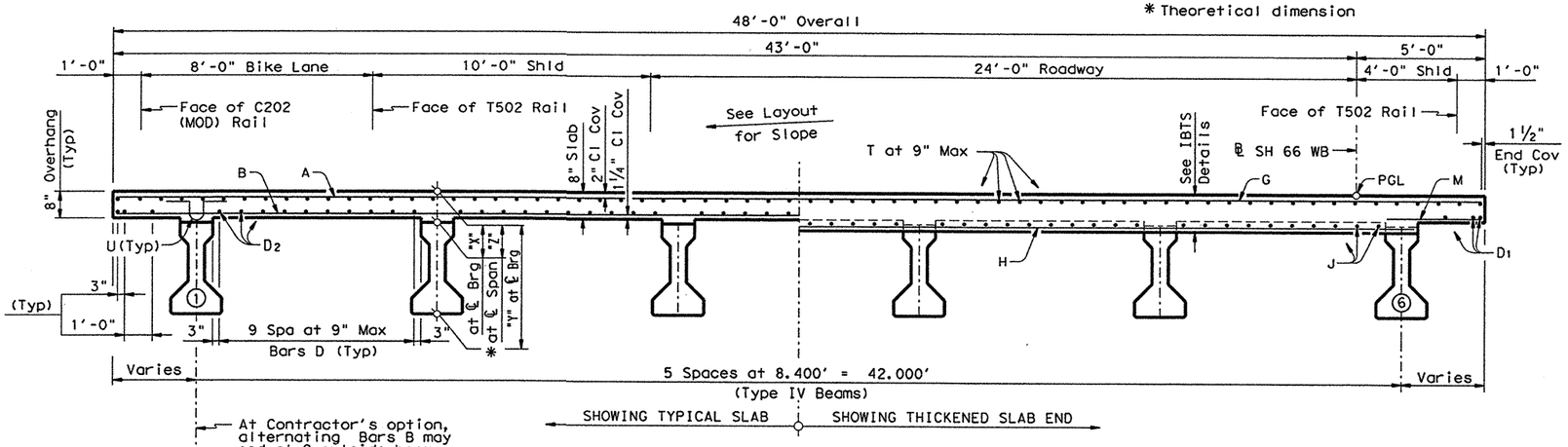
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
96 - 98	1 & 6	0.070'	0.098'
	2 - 5	0.081'	0.114'

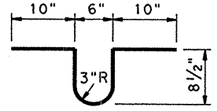
TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
96-97	1	10 3/4"	5'-4 3/4"	9 7/8"
	2	10 3/4"	5'-4 3/4"	9 7/8"
	3	10 3/4"	5'-4 3/4"	9 5/8"
	4	10 3/4"	5'-4 3/4"	9 3/8"
	5	10 3/4"	5'-4 3/4"	9 1/8"
	6	10 3/4"	5'-4 3/4"	8 3/4"
98	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

* Theoretical dimension



TYPICAL TRANSVERSE SECTION



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9 Entire Sheet

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

8/00 ~ CHANGED UNIT LENGTHS ~ MDH/KC

REVISIONS
1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC

Texas Department of Transportation
Bridge Division

300.00' PRESTRESSED CONCRETE BEAM UNIT #35

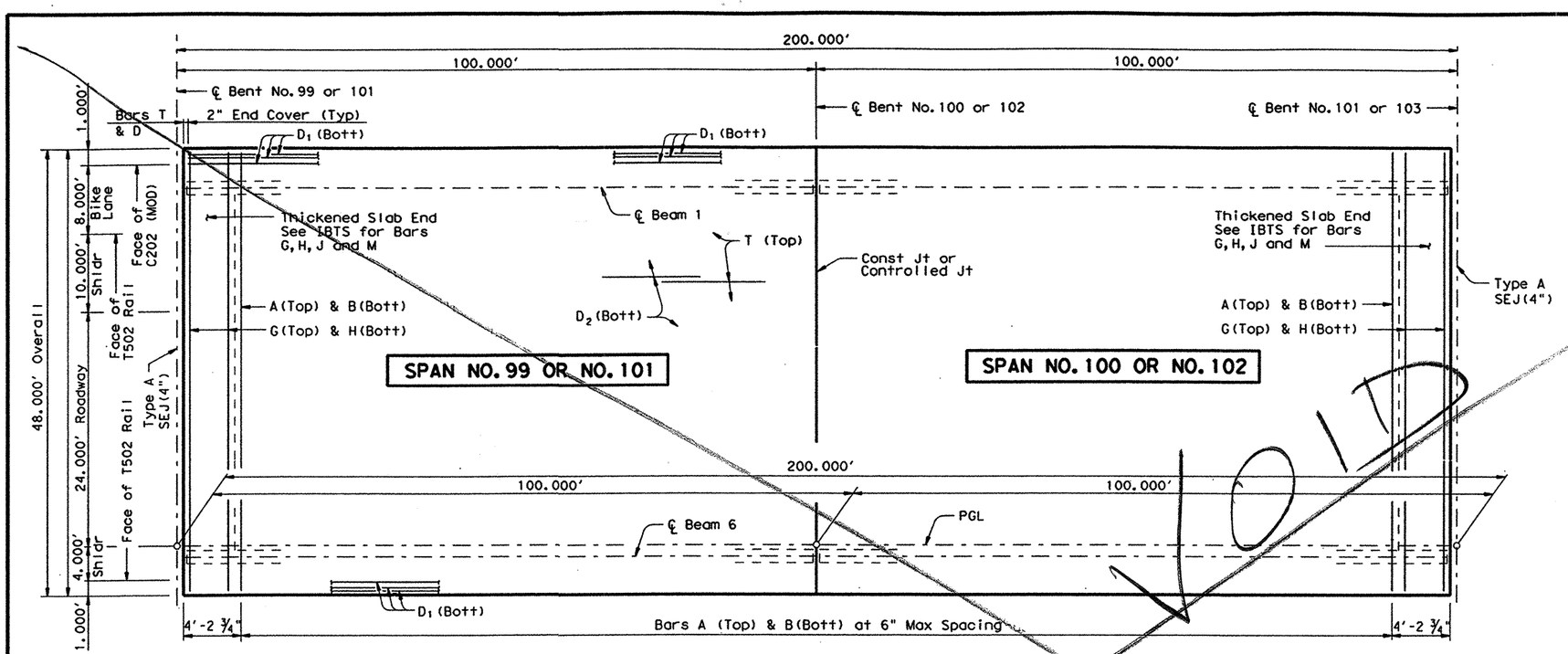
(100.00'-100.00'-100.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

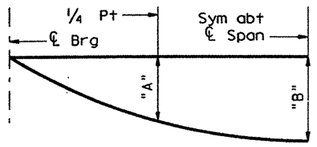
FILE: 5692pb03.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
	18	NH 99(367)		247B
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

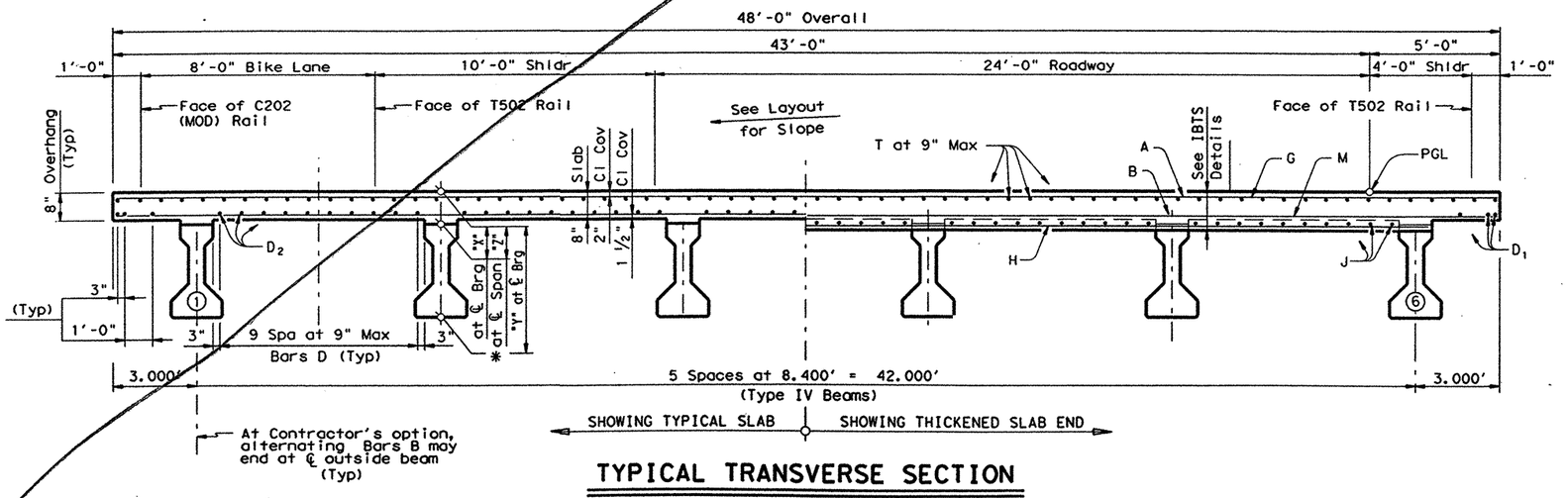
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
99-102	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
99-102	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
99	4800.0	598.02	124.2	31200
100	4800.0	598.02	124.2	31200
101	4800.0	598.02	124.2	31200
102	4800.0	598.02	124.2	31200
Total	19200.00	2392.08	496.8	◪ 124800

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths
Spans 99 - 102 ~ 99.67'

◪ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

VOID

Texas Department of Transportation
Design Division (Bridge)

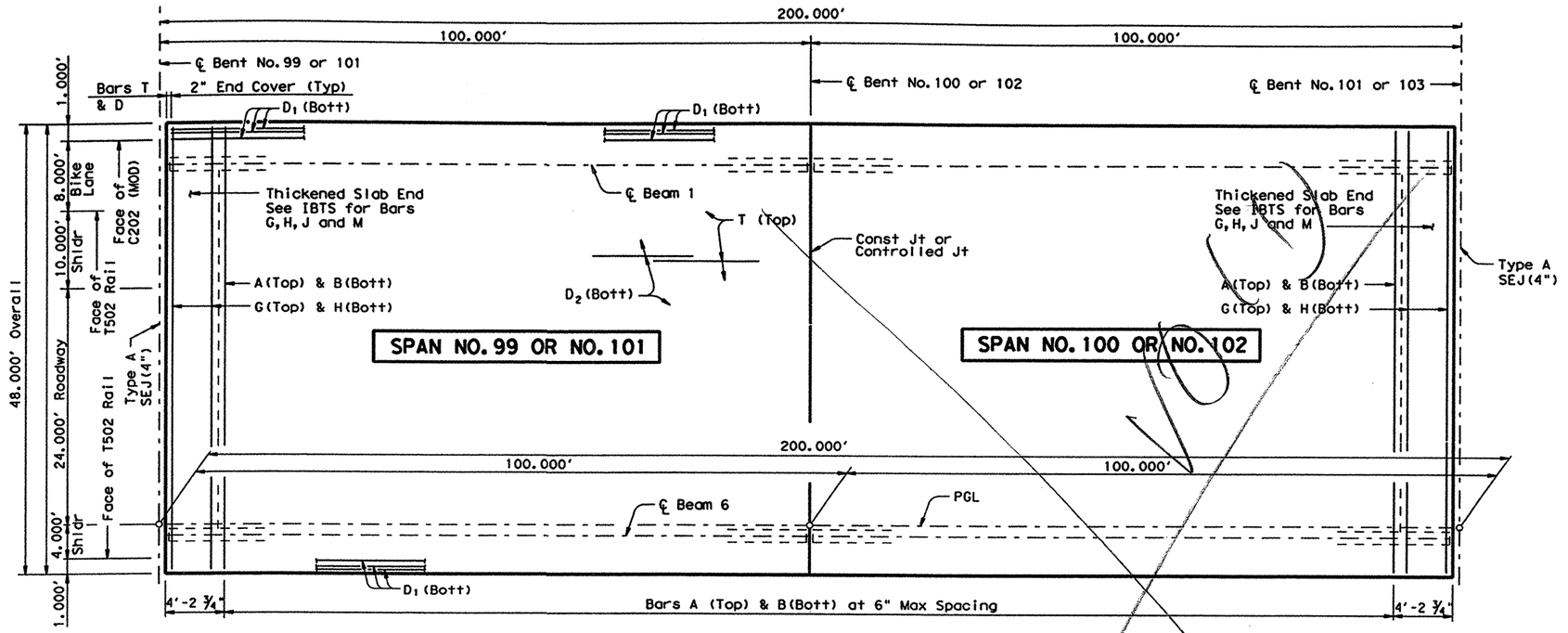
200.00' PRESTRESSED CONCRETE BEAM UNIT #50 & 51

(100.00'-100.00')

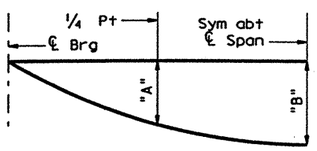
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb05.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	248
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY
LEVELS DISPLAYED



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

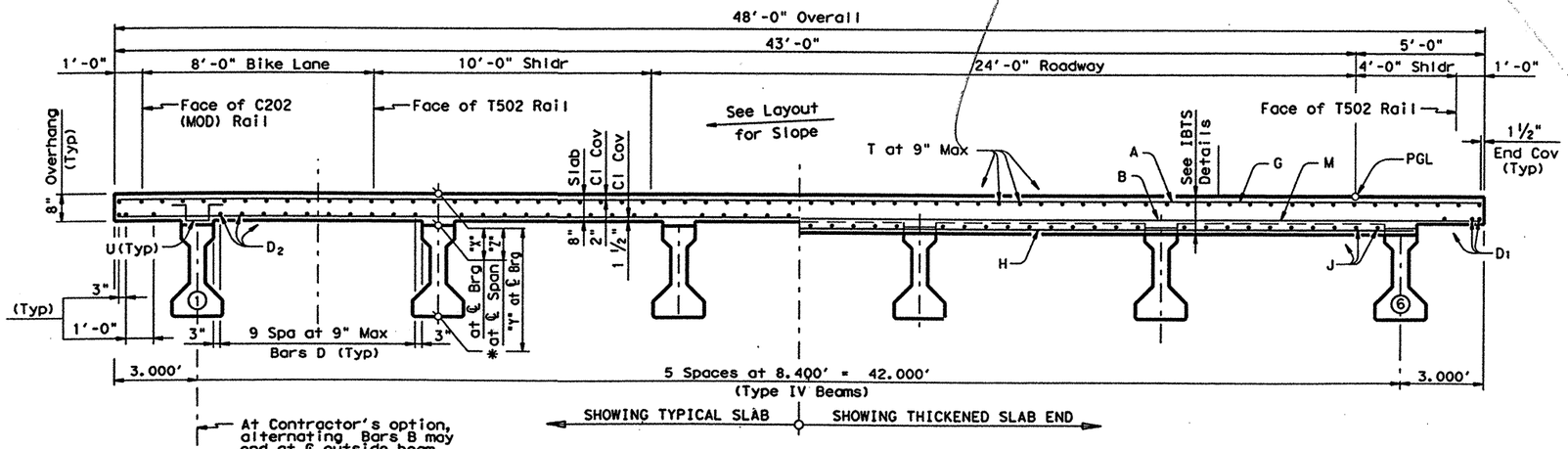
Span No.	Beam No.	"A"	"B"
99-102	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

DEAD LOAD DEFLECTION DIAGRAM

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
99-100, 102	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"
101	1	11 1/2"	5'-5 1/2"	8 3/4"
	2	11 1/2"	5'-5 1/2"	9 1/8"
	3	11 1/2"	5'-5 1/2"	9 1/4"
	4	11 1/2"	5'-5 1/2"	9 1/2"
	5	11 1/2"	5'-5 1/2"	9 5/8"
	6	11 1/2"	5'-5 1/2"	9 5/8"

* Theoretical dimension



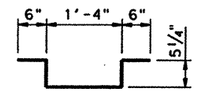
TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS (TY IV) ◩	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
99	4800.0	598.02	124.2	31200
100	4800.0	598.02	124.2	31200
101	4800.0	598.02	125.7	31200
102	4800.0	598.02	124.2	31200
Total	19200.00	2392.08	498.3	▬ 124800

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths
Spans 99 - 102 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft



BARS U

Bars U shall match Beam Bars R for a minimum distance of 8'-6" from each end of all beams in Span #101.

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
1/31/00

Texas Department of Transportation
Design Division (Bridge)

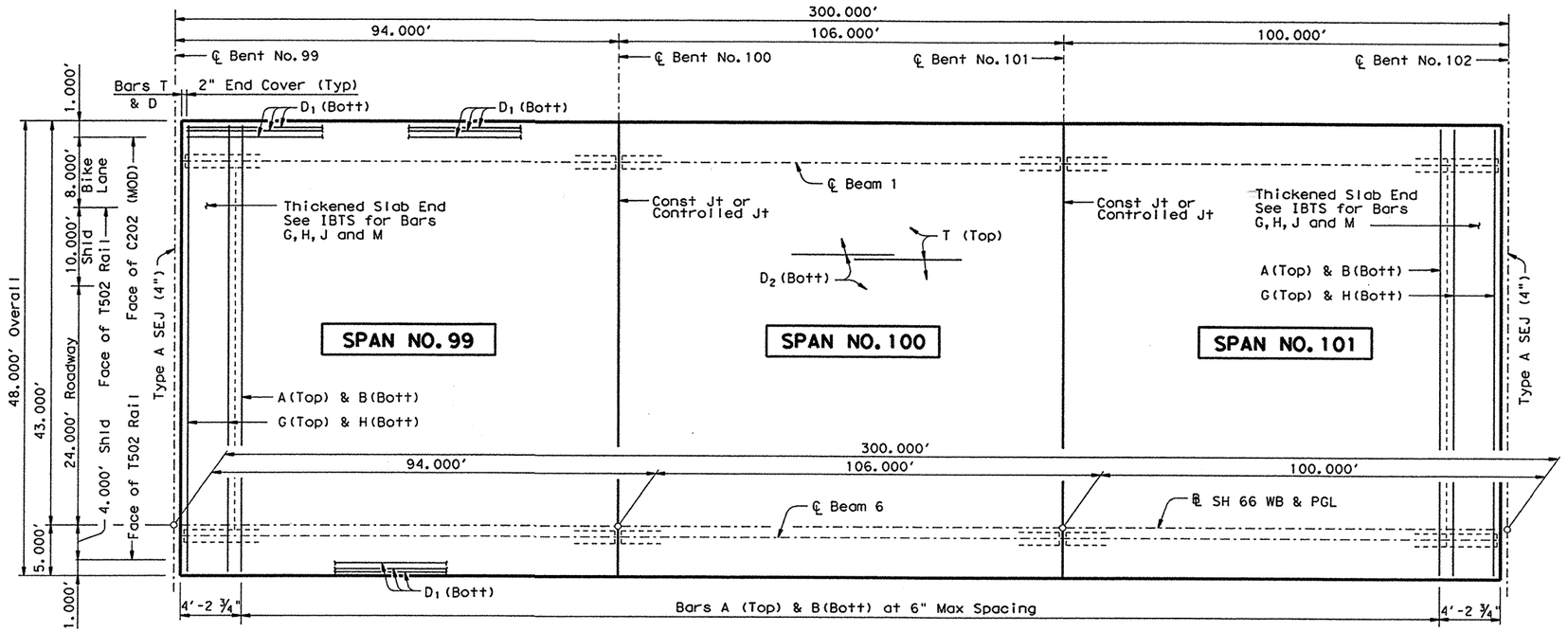
200.00' PRESTRESSED CONCRETE BEAM UNIT #50 & 51

(100.00'-100.00')

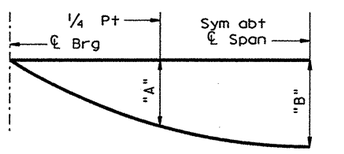
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb05.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT *	SHEET
REVISIONS 1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC	18	6	NH 99(367)	248
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY
LEVELS NOT SAVED



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c= 5 X 10^6 psi)

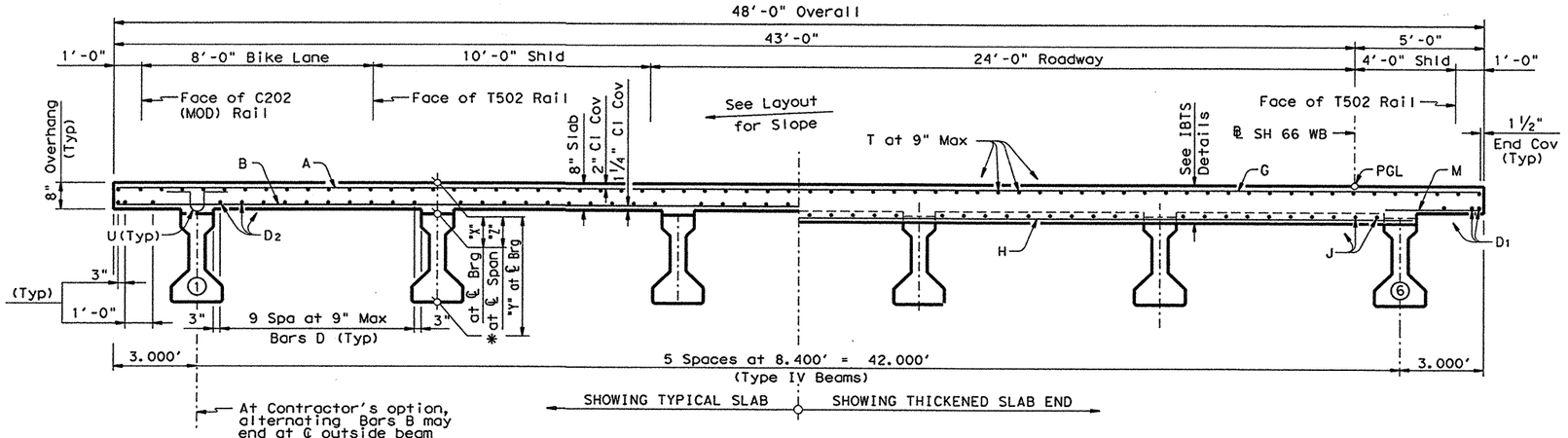
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
99	1 & 6	0.054'	0.076'
	2 - 5	0.063'	0.089'
100	1 & 6	0.092'	0.129'
	2 - 5	0.107'	0.150'
101	1 & 6	0.070	0.098
	2 - 5	0.081	0.114

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
99	1 & 6	10 1/2"	5'-4 1/2"	9"
	2 - 5	10 1/2"	5'-4 1/2"	9 1/8"
100	1 & 6	11"	5'-5"	8 5/8"
	2 - 5	11"	5'-5"	8 7/8"
101	1	11 1/2"	5'-5 1/2"	8 3/4"
	2	11 1/2"	5'-5 1/2"	9 1/8"
	3	11 1/2"	5'-5 1/2"	9 1/4"
	4	11 1/2"	5'-5 1/2"	9 1/2"
	5	11 1/2"	5'-5 1/2"	9 5/8"
	6	11 1/2"	5'-5 1/2"	9 5/8"

* Theoretical dimension



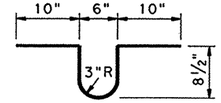
TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS◪ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL▬
	SF	LF	CY	Lb
99	4512.0	562.02	116.8	29328
100	5088.0	634.02	130.6	33072
101	4800.0	598.02	125.7	31200
Total	14400.0	1794.06	373.1	93600

◪ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam Lengths:
Span 99 ~ 93.67'
Span 100 ~ 105.67'
Span 101 ~ 99.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9 Entire Sheet

CHANGE ORDER NO. _____

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER

11/14/00

8/00 ~ CHANGED UNIT LENGTHS ~ MDH/KC

1/00 ~ REVISED HAUNCH/ SECTION DEPTH ~ MDH/KC

Texas Department of Transportation
Bridge Division

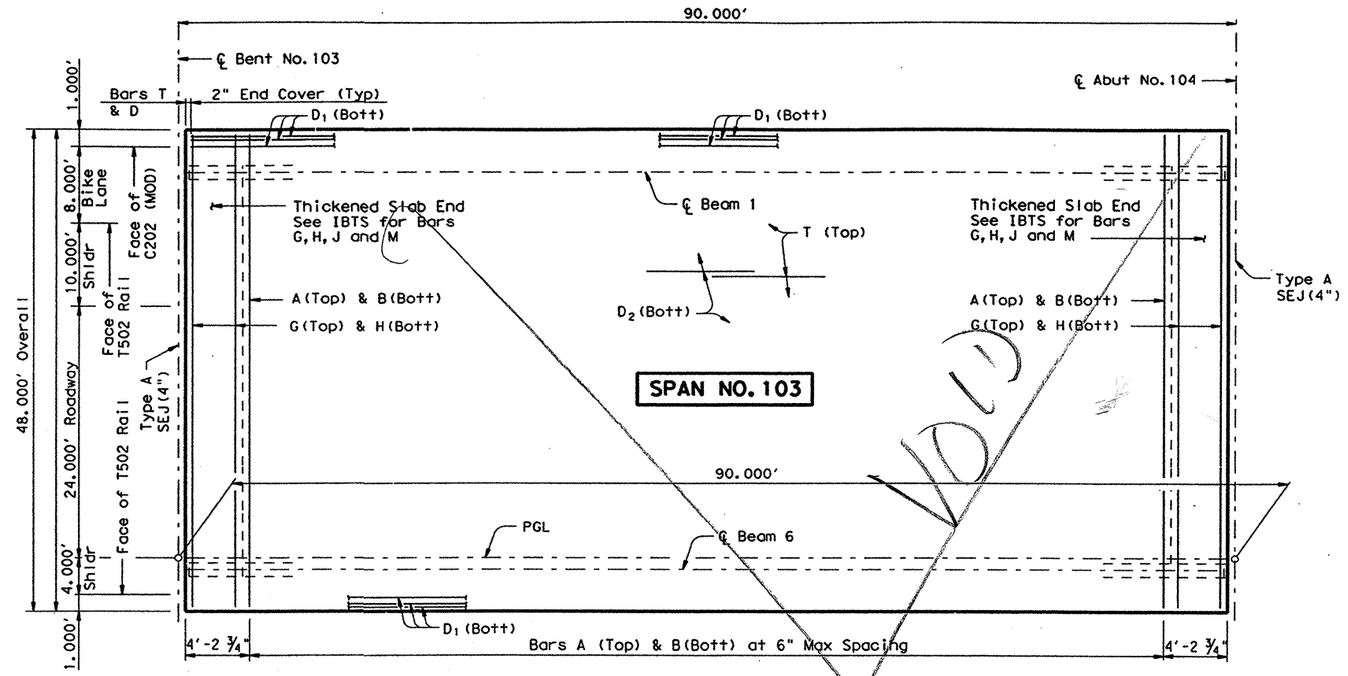
300.00' PRESTRESSED CONCRETE BEAM UNIT #36

(94.00'-106.00'-100.00')

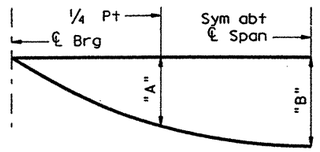
EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb05.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS	18	NH 99(367)		248
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY
LEVELS 1:2
EQ



PLAN



NOTE: Deflections shown are due to cast-in-place concrete only.

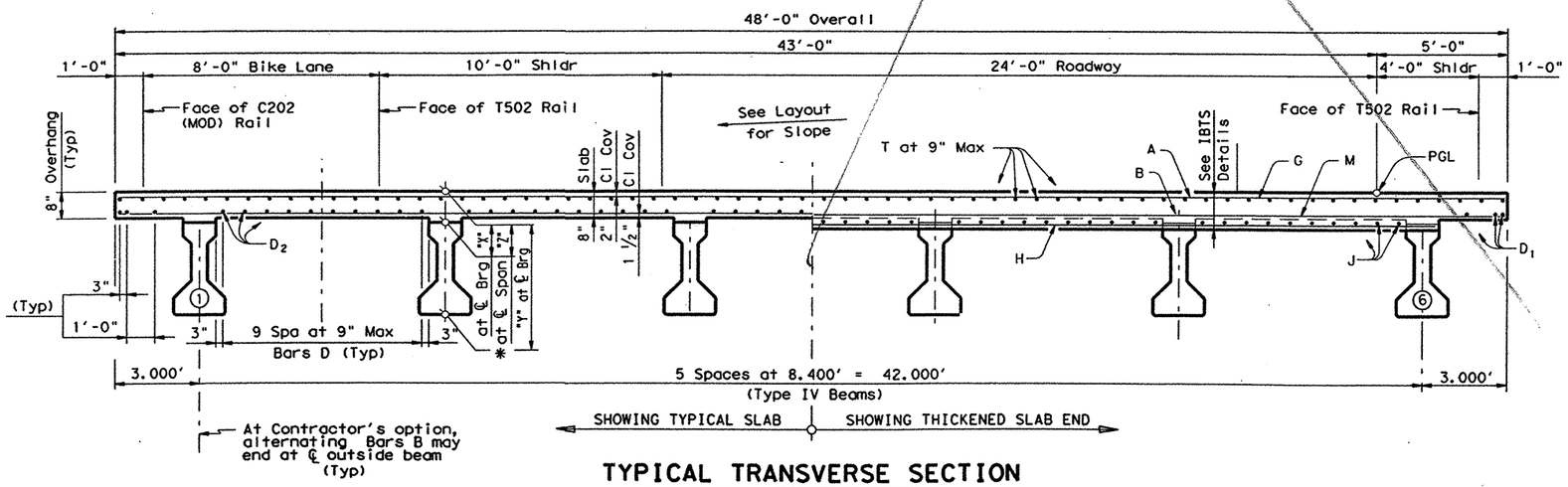
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
103	1 & 6	0.046	0.064
	2 - 5	0.053	0.075

TABLE OF SECTION DEPTHS

Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
103	ALL	10 3/4"	5'-4 3/4"	9 1/2"

*Theoretical dimension



TYPICAL TRANSVERSE SECTION

TABLE OF ESTIMATED QUANTITIES

SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL
	SF	LF	CY	Lb
103	4320.0	538.02	113.6	28080
Total	4320.0	538.02	113.6	⬓ 28080

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 103 ~ 89.67'

⬓ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:
Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

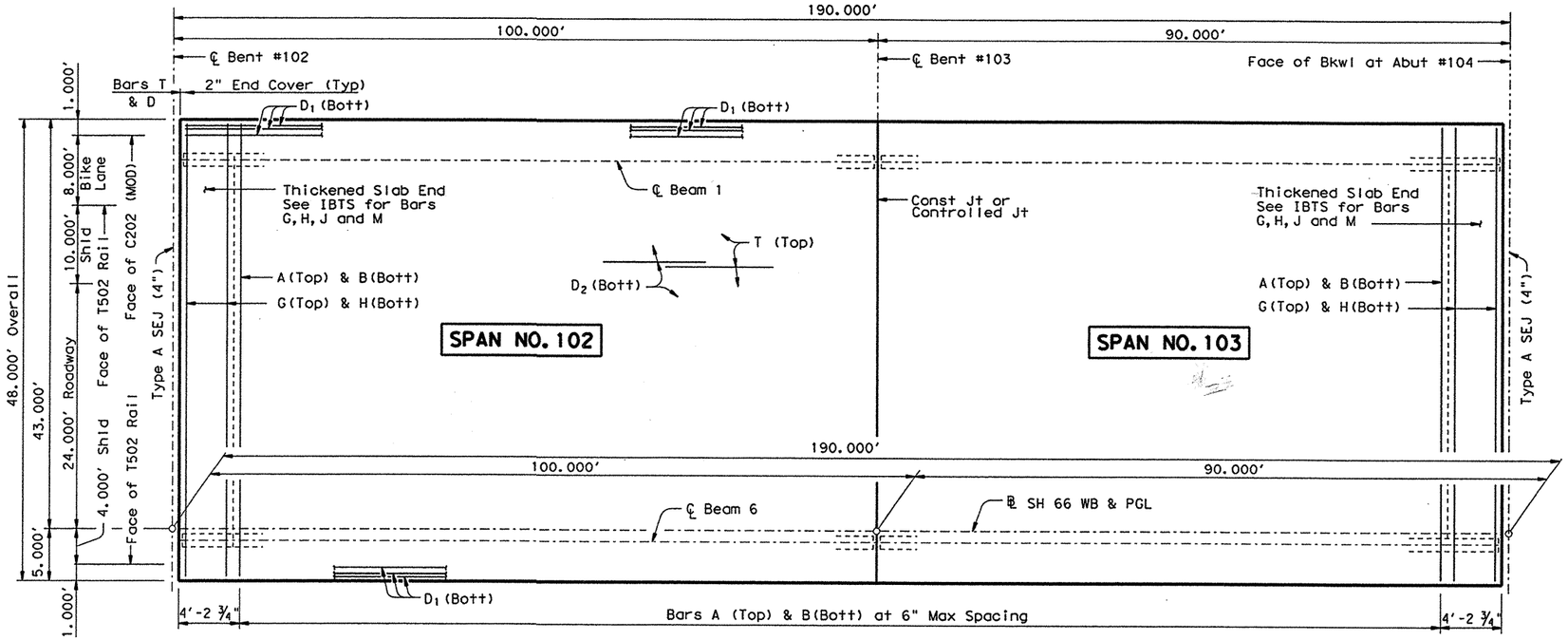
Texas Department of Transportation
Design Division (Bridge)

90.00' PRESTRESSED CONCRETE BEAM SPAN #103

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692ss01.dgn	DN: MDH	CK: JBH	DW: TKW	CK: MDH
JAN 1999	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS	18	6	NH 99(367)	249
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY
LEVELS Display



PLAN

TABLE OF ESTIMATED QUANTITIES

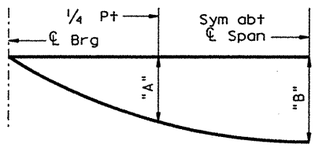
SPAN	REINF CONC SLAB	PRESTRESSED CONC BEAMS ◩ (TY IV)	CLASS "S" CONCRETE	REINFORCING STEEL ▬
	SF	LF	CY	Lb
102	4800.0	598.02	124.2	31200
103	4320.0	538.02	112.8	28080
Total	9120.0	1136.04	237.0	59280

◩ Beam lengths shown are bottom beam flange lengths with adjustment made for beam slope.
Beam lengths:
Span 102 ~ 99.67'
Span 103 ~ 89.67'

▬ Reinforcing steel weight is calculated using an approximate factor of 6.5 lbs per sq ft

BAR TABLE

BAR	SIZE
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4
U	#4



NOTE: Deflections shown are due to cast-in-place concrete only.

(E_c = 5 X 10^6 psi)

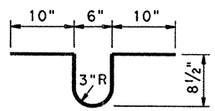
DEAD LOAD DEFLECTION DIAGRAM

Span No.	Beam No.	"A"	"B"
102	1 & 6	0.070'	0.098'
	2 ~ 5	0.081'	0.114'
103	1 & 6	0.046'	0.064'
	2 ~ 5	0.053'	0.075'

TABLE OF SECTION DEPTHS

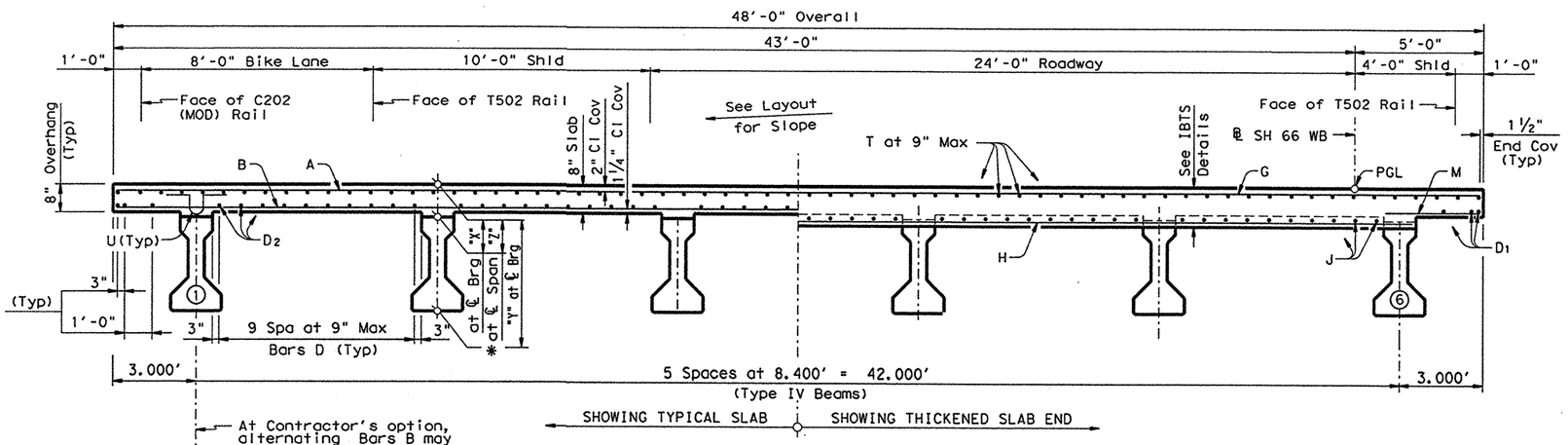
Span No.	Beam No.	"X" at ℄ Brg	"Y" at ℄ Brg	"Z" at ℄ Span *
102	1 & 6	10 3/4"	5'-4 3/4"	8 7/8"
	2 - 5	10 3/4"	5'-4 3/4"	9"
103	ALL	10 3/4"	5'-4 3/4"	9 1/2"

*Theoretical dimension



BARS U

Provide Bars U when haunch exceeds 3". Spacing of Bars U shall match Bars R spacing. Where necessary for placement, tilt top of bar toward nearest bent.



TYPICAL TRANSVERSE SECTION

GENERAL NOTES:

Designed according to AASHTO 1996 Standard and current Interim Specifications.

See IBTS Standard for Thickened Slab End Details or IBDO Standard for Concrete End Diafram Option details and quantity adjustments.

See PCP(C) or PMDF(C) Standards for details and quantity adjustments if either of these options are used.

All reinforcing steel shall be Epoxy Coated.

Bar laps, where required, shall be as follows:

Epoxy Coated #4 = 2'-1"
#5 = 2'-7"

All Reinforcing Steel shall be Grade 60.

Concrete Strength f'c = 4000 psi

CHANGE ORDER NO. 9 Entire Sheet

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

Texas Department of Transportation
Bridge Division

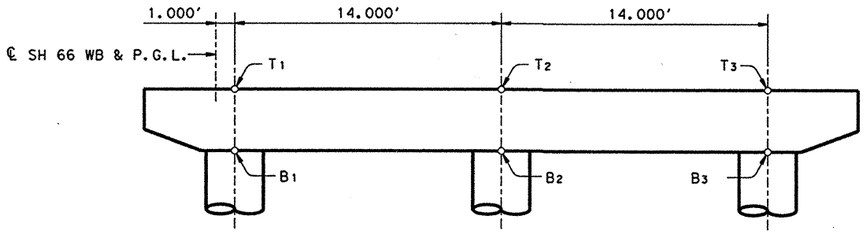
190.00' PRESTRESSED CONCRETE BEAM UNIT #37

(100.00'-90.00')

EAST FORK OF TRINITY RIVER WESTBOUND BRIDGE

FILE: 5692pb05.dgn	DN: MDH	CK: JBH	DW: TKW/KC	CK: MDH
©TxDOT JAN 1999	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 ~ CHANGED UNIT LENGTHS ~ MDH/KC	18	NH 99(367)		249A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: D48PC3Q: TWHALEY
LEVELS 1:2
69



T = Top of Cap Elevations
B = Top of Column or top of Drilled Shaft elevations

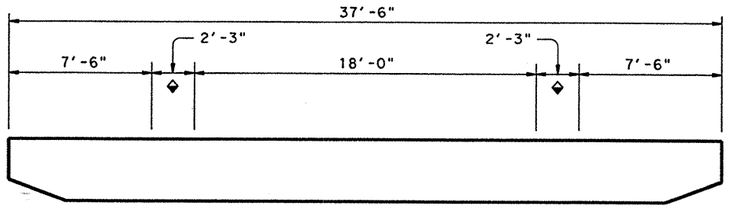
ELEVATION

◪ Assuming 2" grout pad and 1 ½" bearing seat buildup, adjust as necessary for actual thickness.

TABLE OF EASTBOUND TOP OF CAP AND TOP OF COLUMN OR DRILLED SHAFT ELEVATIONS ◆◪

Bent	T1	T2	T3	B1	B2	B3
2	462.898	462.607	462.315	459.480	459.189	458.898
3	462.499	462.207	461.915	459.081	458.790	458.498
4	462.055	461.763	461.471	458.637	458.346	458.054
5	461.611	461.319	461.027	458.193	457.902	457.610
6	461.166	460.875	460.583	457.748	457.457	457.166
7	460.722	460.431	460.139	457.304	457.013	456.722
8	460.278	459.987	459.695	456.860	456.569	456.278
9	459.834	459.543	459.251	456.416	456.125	455.834
10	459.390	459.099	458.807	455.972	455.681	455.390
11	458.946	458.655	458.363	455.528	455.237	454.946
12	458.502	458.211	457.919	455.084	454.793	454.502
13	458.058	457.767	457.475	454.640	454.349	454.058
14	457.614	457.323	457.031	454.196	453.905	453.614
15	457.170	456.879	456.587	453.752	453.461	453.170
16	456.726	456.435	456.143	453.308	453.017	452.726
17	456.282	455.991	455.699	452.864	452.573	452.282
18	455.838	455.547	455.255	452.420	452.129	451.838
19	455.394	455.103	454.811	451.976	451.685	451.394
20	454.950	454.659	454.367	451.532	451.241	450.950
21	454.506	454.215	453.923	451.088	450.797	450.506
22	454.062	453.771	453.479	450.644	450.353	450.062
23	453.618	453.327	453.035	450.200	449.909	449.618
24	453.174	452.883	452.591	449.756	449.465	449.174
25	452.730	452.439	452.147	449.312	449.021	448.730
26	452.286	451.995	451.703	448.868	448.577	448.286
27	451.842	451.551	451.259	448.424	448.133	447.842
28	451.398	451.107	450.815	447.980	447.689	447.398
29	450.954	450.663	450.371	447.536	447.245	446.954
30	450.510	450.219	449.927	447.092	446.801	446.510
31	450.066	449.775	449.483	446.648	446.357	446.066
32	449.622	449.331	449.039	446.204	445.913	445.622
33	449.178	448.887	448.595	445.760	445.469	445.178
34	448.734	448.442	448.150	445.316	445.025	444.733
35	448.290	447.998	447.706	444.872	444.581	444.289
36	447.846	447.554	447.262	444.428	444.137	443.845
37	447.402	447.110	446.818	443.984	443.693	443.401
38	446.958	446.666	446.374	443.540	443.249	442.957
39	446.514	446.222	445.930	443.096	442.805	442.513
40	446.070	445.778	445.486	442.652	442.361	442.069
41	445.625	445.334	445.042	442.207	441.916	441.625
42	445.181	444.890	444.598	441.763	441.472	441.181
43	444.737	444.446	444.154	441.319	441.028	440.737
44	444.338	444.047	443.755	440.920	440.629	440.338

◆ Top of Cap Elevations are consistent with Bearing Seat Elevations indicated elsewhere in the plans. Bearing seats may be precast or cast-in-place. Any elevation differences shall be taken up in the range of allowable bedding layer thickness and/or bearing seat buildup.



◆ Allowable Lift Point Regions. Design lift point load is 33 tons, including impact factor of 2. If bearing seats are precast, lifting anchors are not allowed at the locations of bearing seats. The Contractor may submit other lifting points/schemes to the Engineer for review and approval. After bent caps are in place, lifting device pockets at expansion joint bents shall be patched with a cement grout.

LIFTING DIAGRAM

EASTBOUND LANES

PRECAST BENT CAP QUANTITY ADJUSTMENTS ◆

Shorten column Bars V by 2'-6" and reduce reinforcing steel total by:
Bents 3 - 5 ~ 387 Lbs.
Bents 6 - 31 ~ 255 Lbs.

Shorten drilled shaft vertical reinforcing by 2'-6" at Bents 2 & 32-44

Lengthen Bars B_2 to 11'-11" (11" additional) ~ 20 Lbs. total

Add 24 Bars PD (#11 X 5'-4") ~ 680 Lbs. total

Add 6 Bars PS_1 (#5 X 10'-4") ~ 65 Lbs. total

Add 24 Bars PS_2 (#4 X 9'-6") ~ 152 Lbs. total

Reduce Class "C" Concrete by 0.7 C.Y.

Stay in place forms, non shrink grout and grout tubes shall be subsidiary to Class "C" Concrete.

◪ For Contractors information, grout quantity is 0.69 C.Y. per bent.

◆ No changes in pay quantities will be made if Precast Bent Cap option is selected.

CHANGE ORDER NO. 9 Entire Sheet

HS20 LOADING

SHEET 3 OF 4

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

Lloyd M. Wolf
11-15-2000

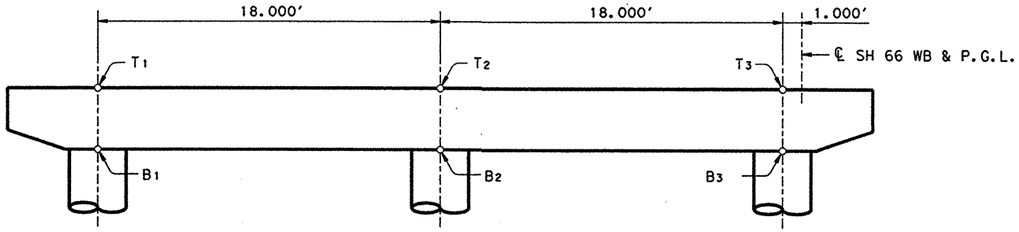
Texas Department of Transportation
Design Division (Bridge)

PRECAST CONCRETE BENT CAP DETAILS EAST FORK TRINITY RIVER BRIDGES

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©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT			SHEET
REVISIONS 8/00 ~ Precast Bent Cap option details. MDH/RNP	18	NH 99(367)			249
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

LEVEL 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

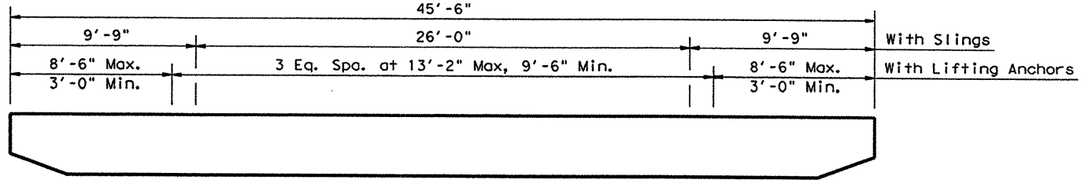
PATH: \RPORTER-WS3
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T = Top of Cap Elevations
B = Top of Column or top of Drilled Shaft elevations

ELEVATION

◪ Assuming 2" grout pad and 1 ½" bearing seat buildup, adjust as necessary for actual thickness.



Allowable Lift Points. Design lift point load is 21 Tons with lift anchors and 41 Tons with slings, including impact factor of 2. If bearing seats are precast, lifting anchors are not allowed at the locations of bearing seats. The Contractor may submit other lifting points/schemes to the Engineer for review and approval. After bent caps are in place, lifting device pockets at expansion joint bents shall be patched with a cement grout.

LIFTING DIAGRAM

TABLE OF WESTBOUND TOP OF CAP AND TOP OF COLUMN OR DRILLED SHAFT ELEVATIONS ◆◪

Bent	T1	T2	T3	B1	B2	B3
2	462.198	462.573	462.948	458.781	459.156	459.530
3	461.786	462.161	462.536	458.369	458.744	459.118
4	461.374	461.749	462.124	457.957	458.332	458.706
5	460.962	461.337	461.712	457.545	457.920	458.294
6	460.551	460.926	461.300	457.134	457.508	457.882
7	460.139	460.514	460.888	456.722	457.096	457.470
8	459.727	460.102	460.476	456.310	456.684	457.058
9	459.232	459.607	459.981	455.815	456.189	456.563
10	458.978	459.279	459.579	455.561	455.861	456.162
11	459.044	459.150	459.255	455.627	455.733	455.839
12	459.026	458.941	458.854	455.609	455.524	455.438
13	459.009	458.731	458.452	455.592	455.313	455.035
14	458.795	458.421	458.046	455.377	455.003	454.629
15	458.272	457.952	457.631	454.854	454.534	454.214
16	457.466	457.338	457.209	454.049	453.921	453.793
17	456.659	456.723	456.786	453.242	453.306	453.370
18	455.769	456.025	456.280	452.352	452.608	452.863
19	455.119	455.494	455.868	451.702	452.076	452.450
20	454.784	455.159	455.534	451.367	451.742	452.116
21	454.372	454.747	455.122	450.955	451.330	451.704
22	453.960	454.335	454.710	450.543	450.918	451.292
23	453.549	453.924	454.298	450.132	450.506	450.880
24	453.137	453.512	453.886	449.720	450.094	450.468
25	452.725	453.100	453.474	449.308	449.682	450.056
26	452.313	452.688	453.062	448.896	449.270	449.644
27	451.901	452.276	452.651	448.484	448.859	449.233
28	451.489	451.864	452.239	448.072	448.447	448.821
29	451.077	451.452	451.827	447.660	448.035	448.409
30	450.665	451.040	451.415	447.248	447.623	447.997
31	450.253	450.628	451.003	446.836	447.211	447.585
32	449.841	450.216	450.591	446.424	446.799	447.173
33	449.430	449.805	450.179	446.013	446.387	446.761
34	449.018	449.393	449.767	445.601	445.975	446.349
35	448.606	448.981	449.355	445.189	445.563	445.937
36	448.194	448.569	448.944	444.777	445.152	445.526
37	447.782	448.157	448.532	444.365	444.740	445.114
38	447.370	447.745	448.120	443.953	444.328	444.702
39	446.958	447.333	447.708	443.541	443.916	444.290
40	446.546	446.921	447.296	443.129	443.504	443.878
41	446.134	446.509	446.884	442.717	443.092	443.466
42	445.723	446.098	446.472	442.306	442.680	443.054
43	445.311	445.686	446.060	441.894	442.268	442.642
44	444.899	445.274	445.648	441.482	441.856	442.230
45	444.487	444.862	445.236	441.070	441.444	441.818
46	444.075	444.450	444.825	440.658	441.033	441.407
47	443.663	444.038	444.413	440.246	440.621	440.995
48	443.251	443.626	444.001	439.834	440.209	440.583
49	442.839	443.214	443.589	439.422	439.797	440.171
50	442.407	442.782	443.156	438.990	439.364	439.738
51	442.029	442.404	442.778	438.612	438.986	439.360
52	442.010	442.385	442.760	438.593	438.968	439.342

Bent	T1	T2	T3	B1	B2	B3
53	442.031	442.406	442.780	438.614	438.988	439.362
54	442.031	442.406	442.780	438.614	438.988	439.362
55	442.031	442.406	442.780	438.614	438.988	439.362
56	442.031	442.406	442.780	438.614	438.988	439.362
57	442.031	442.406	442.780	438.614	438.988	439.362
58	442.031	442.406	442.780	438.614	438.988	439.362
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60	442.031	442.406	442.780	438.614	438.988	439.362
61	442.031	442.406	442.780	438.614	438.988	439.362
62	442.031	442.406	442.780	438.614	438.988	439.362
63	442.031	442.406	442.780	438.614	438.988	439.362
64	442.031	442.406	442.780	438.614	438.988	439.362
65	442.031	442.406	442.780	438.614	438.988	439.362
66	442.031	442.406	442.780	438.614	438.988	439.362
67	442.031	442.406	442.780	438.614	438.988	439.362
68	442.031	442.406	442.780	438.614	438.988	439.362
69	442.031	442.406	442.780	438.614	438.988	439.362
70	442.031	442.406	442.780	438.614	438.988	439.362
71	442.031	442.406	442.780	438.614	438.988	439.362
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75	442.031	442.406	442.780	438.614	438.988	439.362
76	442.031	442.406	442.780	438.614	438.988	439.362
77	442.031	442.406	442.780	438.614	438.988	439.362
78	442.031	442.406	442.780	438.614	438.988	439.362
79	442.031	442.406	442.780	438.614	438.988	439.362
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82	442.031	442.406	442.780	438.614	438.988	439.362
83	442.031	442.406	442.780	438.614	438.988	439.362
84	442.031	442.406	442.780	438.614	438.988	439.362
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89	442.031	442.406	442.780	438.614	438.988	439.362
90	442.031	442.406	442.780	438.614	438.988	439.362
91	442.031	442.406	442.780	438.614	438.988	439.362
92	441.968	442.343	442.718	438.551	438.926	439.300
93	442.094	442.408	442.721	438.677	438.990	439.304
94	442.551	442.673	442.794	439.134	439.256	439.377
95	442.946	442.876	442.805	439.530	439.459	439.388
96	443.340	443.078	442.815	439.923	439.661	439.398
97	443.571	443.196	442.821	440.153	439.779	439.404
98	443.338	443.077	442.815	439.921	439.660	439.398
99	442.949	442.877	442.805	439.532	439.460	439.388
100	442.552	442.663	442.774	439.135	439.246	439.357
101	442.092	442.407	442.721	438.675	438.989	439.303
102	441.968	442.343	442.718	438.551	438.926	439.300
103	442.031	442.406	442.780	438.614	438.988	439.362

WESTBOUND LANES

PRECAST BENT CAP QUANTITY ADJUSTMENTS ◆

Shorten column Bars V by 2'-6" and reduce reinforcing steel total by:
Bents 3 & 4 ~ 387 Lbs.
Bents 5 - 34 ~ 255 Lbs.

Shorten drilled shaft vertical reinforcing by 2'-6" at Bents 2 & 35-103

Lengthen Bars B2 to 15'-11" (11" additional) ~ 20 Lbs. total

Add 24 Bars PD (#11 X 5'-4") ~ 680 Lbs. total

Add 6 Bars PS1 (#5 X 10'-4") ~ 65 Lbs. total

Add 24 Bars PS2 (#4 X 9'-6") ~ 152 Lbs. total

Reduce Class "C" Concrete by 0.6 C.Y.

Stay in place forms, non shrink grout and grout tubes shall be subsidiary to Class "C" Concrete.

◪ For Contractors information, grout quantity is 0.69 C.Y. per bent.

◆ No changes in pay quantities will be made if Precast Bent Cap option is selected.

◆ Top of Cap Elevations are consistent with Bearing Seat Elevations indicated elsewhere in the plans. Bearing seats may be precast or cast-in-place. Any elevation differences shall be taken up in the range of allowable bedding layer thickness and/or bearing seat buildup.

CHANGE ORDER NO. 9 Entire Sheet

HS20 LOADING

SHEET 2 OF 9

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

Lloyd M. Wolf
11-15-2000

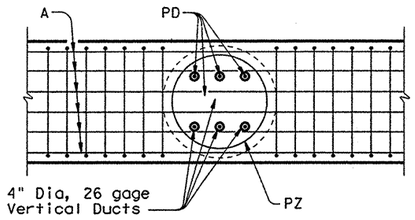
Texas Department of Transportation
Design Division (Bridge)

PRECAST CONCRETE BENT CAP DETAILS EAST FORK TRINITY RIVER BRIDGES

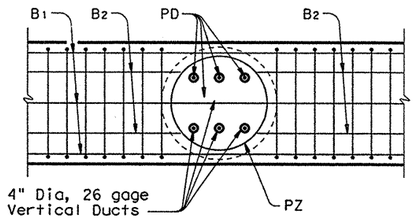
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REVISIONS	18	NH 99(367)			249 C
8/00 ~ Precast Bent Cap option details. MDH/RNP	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

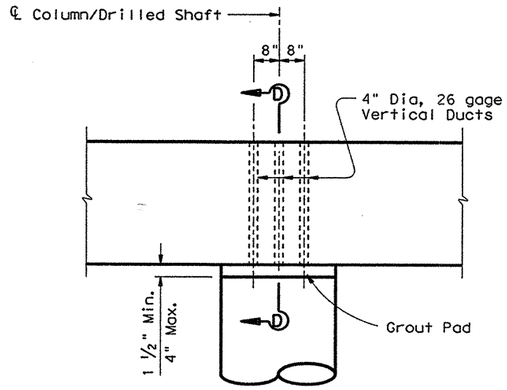
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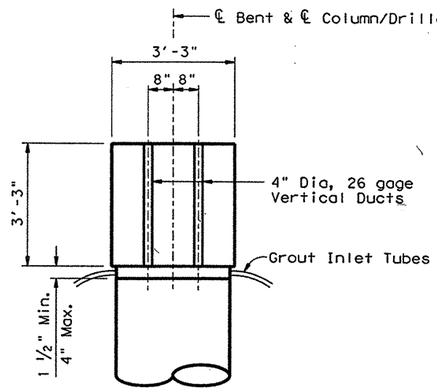
VIEW A-A



SECTION B-B



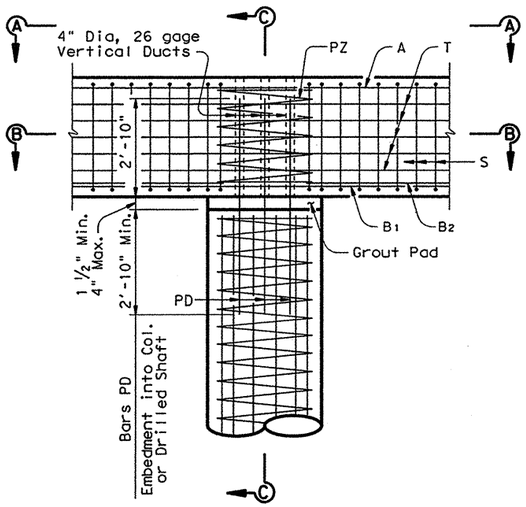
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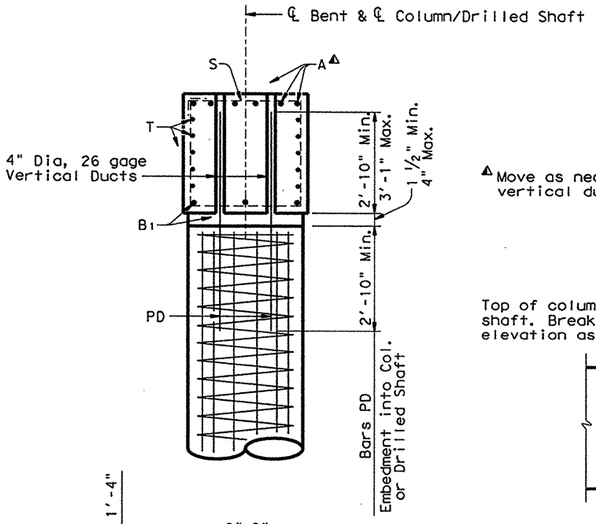


SECTION D-D

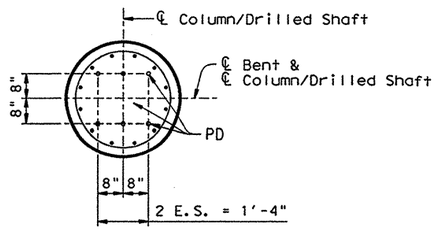
DETAILS SHOWING DUCT PLACEMENT

SHOWING CENTER COLUMN, OUTSIDE COLUMNS SIMILAR

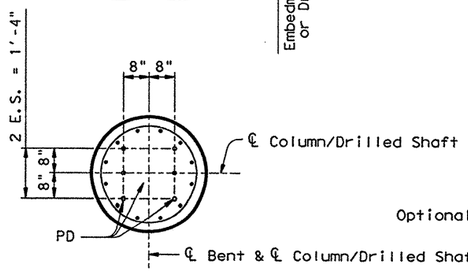




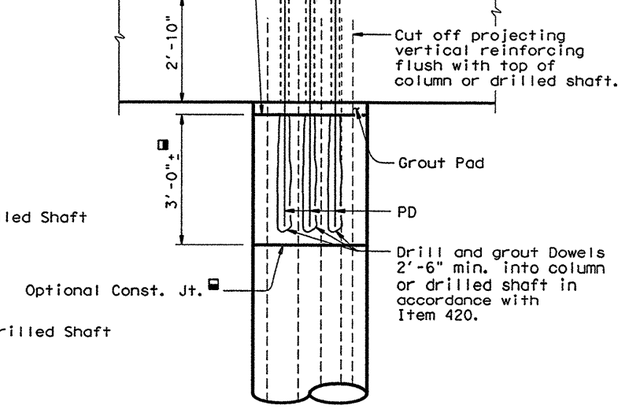
△ Move as necessary to clear vertical ducts.



PART ELEVATION



SECTION C-C



NOTE:
Beam Dowels may be precast into the cap or drilled and grouted into the cap in accordance with Item 420.

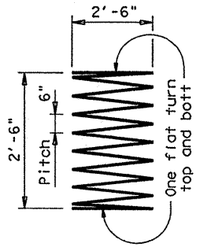
Bearing seats may be precast or cast in place using the pedestal details on Sheet 3 of 3.

GENERAL NOTES

Designed according to AASHTO 1996 Standard and current Interim Specifications, and TxDOT Research Project 1748.
All reinforcing shall be Grade 60.
Class "C" Concrete strength f'c = 3600 psi.
See Interior Bent sheets for additional details.

DETAILS SHOWING DUCT REINFORCING

SHOWING CENTER COLUMN, OUTSIDE COLUMNS SIMILAR



BARS PZ (#3)

DETAILS FOR CONNECTING TO EXISTING COLUMN OR DRILLED SHAFT

SHOWING CENTER COLUMN, OUTSIDE COLUMNS SIMILAR

■ The Contractor with approval of the Engineer may alternately breakback column or drilled shaft and form/cast the top 3'-0", provided that all the existing steel can be extended into this construction. Projecting vertical steel shall be cut off 2" below top of column or drilled shaft.

CHANGE ORDER NO. 9

HS20 LOADING SHEET 1 OF 3

Texas Department of Transportation
Design Division (Bridge)

PRECAST CONCRETE BENT CAP DETAILS
EAST FORK TRINITY RIVER EASTBOUND BRIDGE

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

Lloyd M. Wolf
8-17-01

7/01 ~ New details for EB Bridge MDH/RNP

REVISIONS
8/00 ~ Precast Bent Cap option details. MDH/RNP

FILE: 5691ib01.dgn	DN: MH/LW	CK: LMW	DW: RNP	CK: MDH
©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
	18	NH 99(367)		249
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

PATH: \RPORTER-WS3
5691ib01.dgn

LEVEL
1 2 3 4 5 6 7
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PRECAST BENT CAP CONSTRUCTION NOTES

Construction shall be in accordance with the requirements of Item 420. Vertical Ducts shall be semi-rigid spirally crimped, corrugated duct of galvanized, cold rolled steel conforming to ASTM A527 and ASTM A619. Corrugations shall have an amplitude of 0.094 in.

Precast Bent Caps shall be handled, moved, stored and placed in the structure in a manner to avoid chipping, cracking, fractures and excessive bending stresses or damage. Precast Caps shall not be stacked more than 3 high. They shall be supported on firm blocking until placed and shimmed into final position. Blocking shall be installed such that uneven settlement due to wet ground or inadequate material underneath the blocking will not occur.

The Contractor may alter mix design and/or move or place caps before completing the prescribed curing period in Item 420 provided all of the following conditions are met:

1. The concrete has reached a flexural strength of 355 psi or a compressive strength of 2500 psi.
2. The curing time is interrupted for no more than 2 hours.
3. The alternate plan meets the approval of the Engineer.

Place column/drilled shafts in accordance with Item 420. If the connection dowels (Bars PD) are inserted after the concrete has been placed, the concrete shall be re-vibrated. Dowel placement tolerance is + ½" (plan and elevation).

Caps may be placed on columns/drilled shafts after the column/drilled shaft concrete has achieved a flexural strength of 355 psi (or 2500 psi compressive strength). Use plastic shims or friction collars to support the caps at the proper elevation prior to grouting. Total area of plastic shims used on top of each column may not exceed 6% of the column area. Column/Drilled Shaft curing may be interrupted a maximum of two hours to allow placement of plastic shims or friction collars and placement of the cap.

Grout forms and tubes (input type and location) shall be approved prior to grouting. Connection shall be grout tight such that fluid grout does not leak out before grout has achieved initial set.

All grout for precast connections shall consist of prepackaged, cementitious, non-shrink grout in accordance with ASTM C-1107 and the additional performance requirements listed in the Table of Grout Performance Specifications, including mechanical properties, compatibility, constructability and durability. Table requirements shall govern over ASTM C-1107 requirements. Grout using metallic formulations will not be allowed. Grout shall be free of chlorides. No additives shall be added to prepackaged grout. Fluid grout shall not exhibit frothing or foaming.

Prior to construction, the Contractor shall demonstrate the adequacy of the grout and the grouting system to the satisfaction of the Engineer.

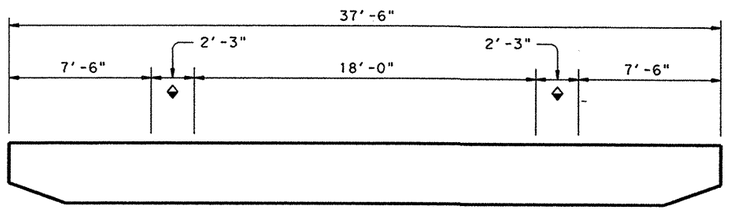
Three (3) 2" x 2" x 2" grout cube samples will be cast for each precast bent cap (one per precast cap-to-column connection) by the Contractor and given to TxDOT for testing to ensure that the grout meets the specified mechanical property criteria for compressive strength. Failure to meet strength criteria or evidence of frothing or foaming shall be cause for removal and recasting of the connection as deemed necessary by the Engineer. Grout selected shall meet the other criteria listed as well.

Prestressed beams may be placed on the caps after a grout compressive strength of 2500 psi has been achieved.

If the Contractor wishes to deviate from these requirements, a work plan and supporting calculations shall be submitted to the Engineer for review and approval. The plan and calculations shall be sealed by an Engineer registered in the State of Texas.

TABLE OF GROUT PERFORMANCE SPECIFICATIONS

PROPERTY	VALUES	
MECHANICAL	AGE	COMPRESSIVE STRENGTH (psi)
Compressive strength (ASTM C-109, 2" cubes)	1 day	2500
	3 days	4000
	7 days	5000
	28 days	5800
COMPATIBILITY		
Expansion Requirements (ASTM C-827 & ASTM C-1090)	Grade B or C ~ expansion per ASTM C-1107	
Modulus of elasticity (ASTM C-469)	$2.8 - 5.0 \times 10^6$ psi	
Coefficient of thermal expansion (ASTM C-531)	$3.0 - 10.0 \times 10^6$/deg F	
CONSTRUCTABLITY		
Flowability (ASTM C-939; CRD-C 611 Flow Cone)	fluid consistency eflux time: 20-30 seconds	
Set Time (ASTM C-191)		
Initial	2.5-5.0 hrs	
Final	4.0-8.0 hrs	
DURABILITY		
Freeze Thaw (ASTM C-666)	300 cycles, RDF 90%	



◆ Allowable Lift Point Regions.
Design lift point load is 33 tons, including impact factor of 2.
If bearing seats are precast, lifting anchors are not allowed at the locations of bearing seats. The Contractor may submit other lifting points/schemes to the Engineer for review and approval.
After bent caps are in place, lifting device pockets at expansion joint bents shall be patched with a cement grout.

LIFTING DIAGRAM

EASTBOUND LANES

PRECAST BENT CAP QUANTITY ADJUSTMENTS

Shorten column Bars V by 2'-6" and reduce reinforcing steel total by:
Bents 3 - 5 ~ 387 Lbs.
Bents 6 - 31 ~ 255 Lbs.

Shorten drilled shaft vertical reinforcing by 2'-6" at Bents 2 & 32-44

Lengthen Bars B_2 to 11'-11" (11" additional) ~ 20 Lbs. total

Add 18 Bars PD (#11 X 6'-0") ~ 574 Lbs. total

Add 3 Bars PZ (#3 X 55'-1") ~ 62 Lbs. total

Reduce Class "C" Concrete by 0.2 C.Y.

Ducts, non shrink grout and grout tubes shall be subsidiary to Class "C" Concrete.

For Contractors information, grout quantity is 0.30 C.Y. per bent.
(Based on a 2" grout pad thickness.)

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

8-17-01

7/01 ~ New details for EB Bridge MDH/RNP

CHANGE ORDER NO. 9

HS20 LOADING

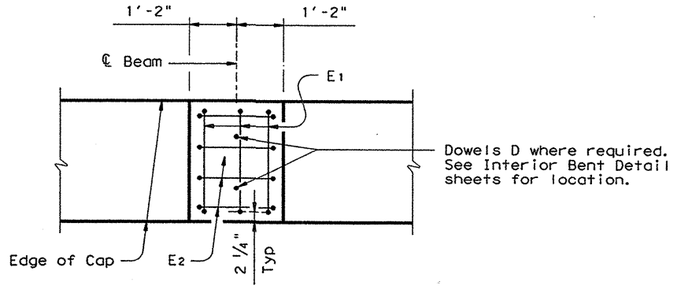
Texas Department of Transportation
Design Division (Bridge)

PRECAST CONCRETE BENT CAP DETAILS
EAST FORK TRINITY RIVER EASTBOUND BRIDGE

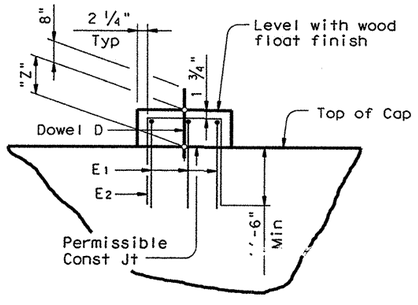
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© TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 8/00 ~ Precast Bent Cap option details. MDH/RNP	18	NH 99(367)		249
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH 66

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

PATH: \RPORTER-WS3
5691ib01.dgn



PLAN



ELEVATION

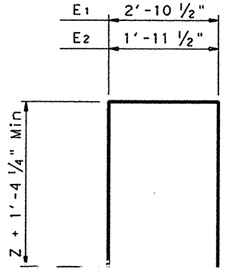
The controlling elevation for a given beam at a given bent shall be the lower of the BK and FWD elevations.

"Z"	E1			E2			Class "C" Conc
in	No	Length	Weight	No	Length	Weight	CY
3	3	6'-1"	19	4	7'-10"	33	0.1
6	3	6'-7"	21	4	8'-1"	34	0.2
9	3	7'-1"	22	4	8'-4"	35	0.2
12	3	7'-7"	24	4	8'-7"	36	0.3

For Contractor's information (per pedestal)

PEDESTAL DETAILS

Where bearing seat buildup height, Z, is 3" or greater, a reinforced pedestal shall be provided. For heights less than 3", the bearing seat detail given on the Interior Bent sheets may be used.



BARS E (#5)

Bend as necessary to avoid ducts in precast cap option.

CHANGE ORDER NO. 9

HS20 LOADING SHEET 3 OF 3

Texas Department of Transportation
Design Division (Bridge)

PRECAST CONCRETE BENT CAP DETAILS
EAST FORK TRINITY RIVER EASTBOUND BRIDGE

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

Lloyd M. Wolf
8-17-01

7/01 ~ New details for EB Bridge MDH/RNP

REVISIONS
8/00 ~ Precast Bent Cap option details. MDH/RNP

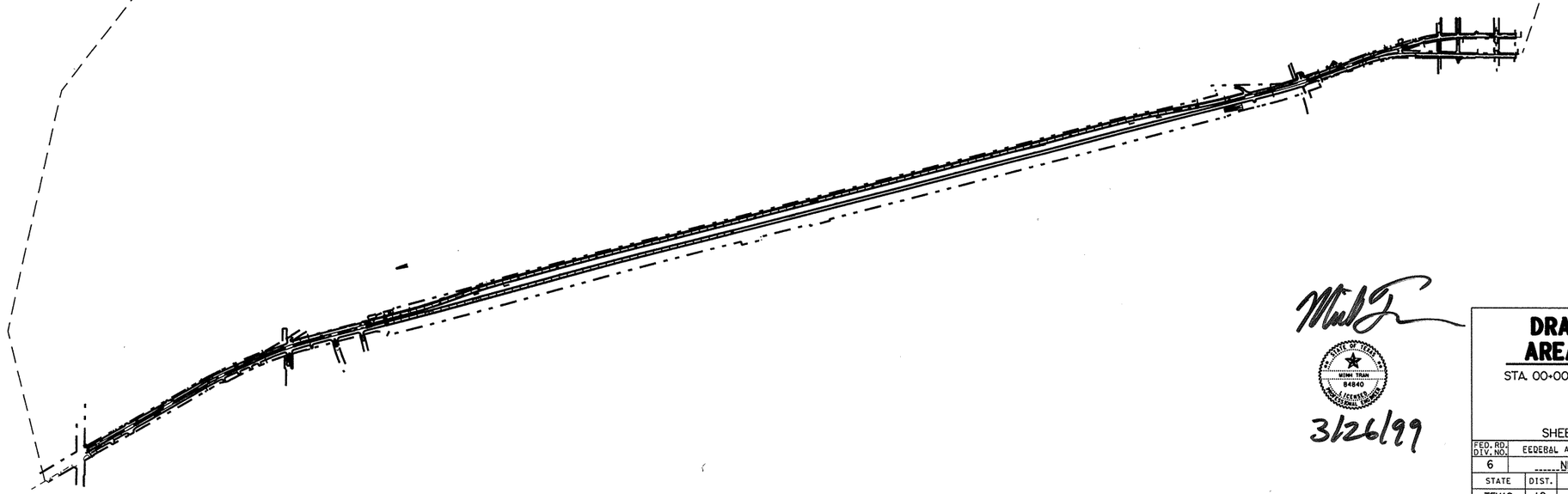
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©TxDOT AUGUST 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
	18	NH 99(367)		249

COUNTY	CONTROL	SECT	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

PATH: \RPORTER-WS3
5691ib01.dgn

LEVELS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DRAINAGE AREA
850 SQ. MI.



3/26/99

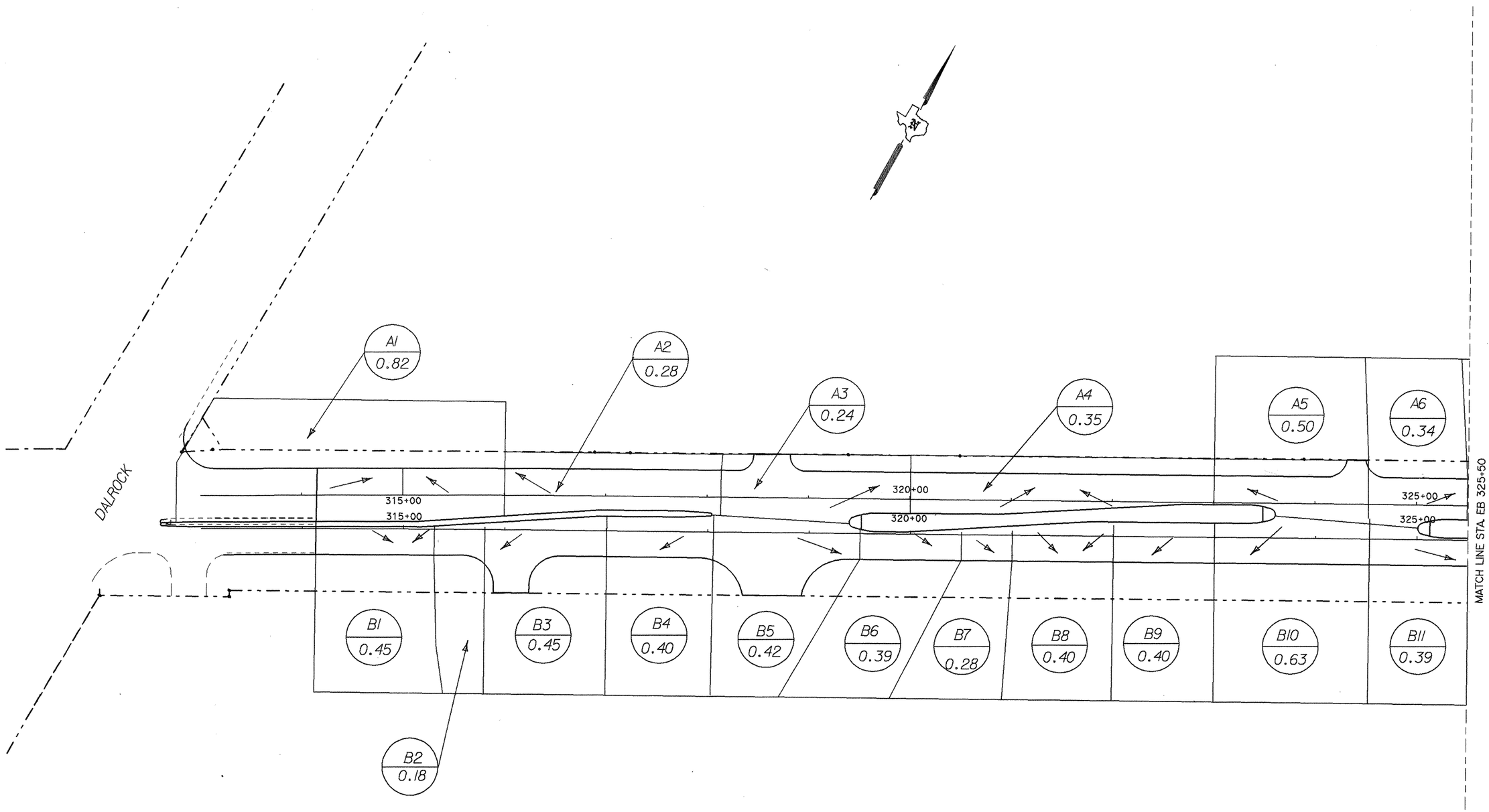
DRAINAGE AREA MAP

STA. 00+00 TO STA. 45+00

SCALE:
1"=1600'

SHEET 1 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		250
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66



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MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER

3/26/99

DRAINAGE AREA MAP

DALROCK TO EB STA. 325+50

SCALE: 1"=100'
SHEET 2 OF 8 SHEETS.

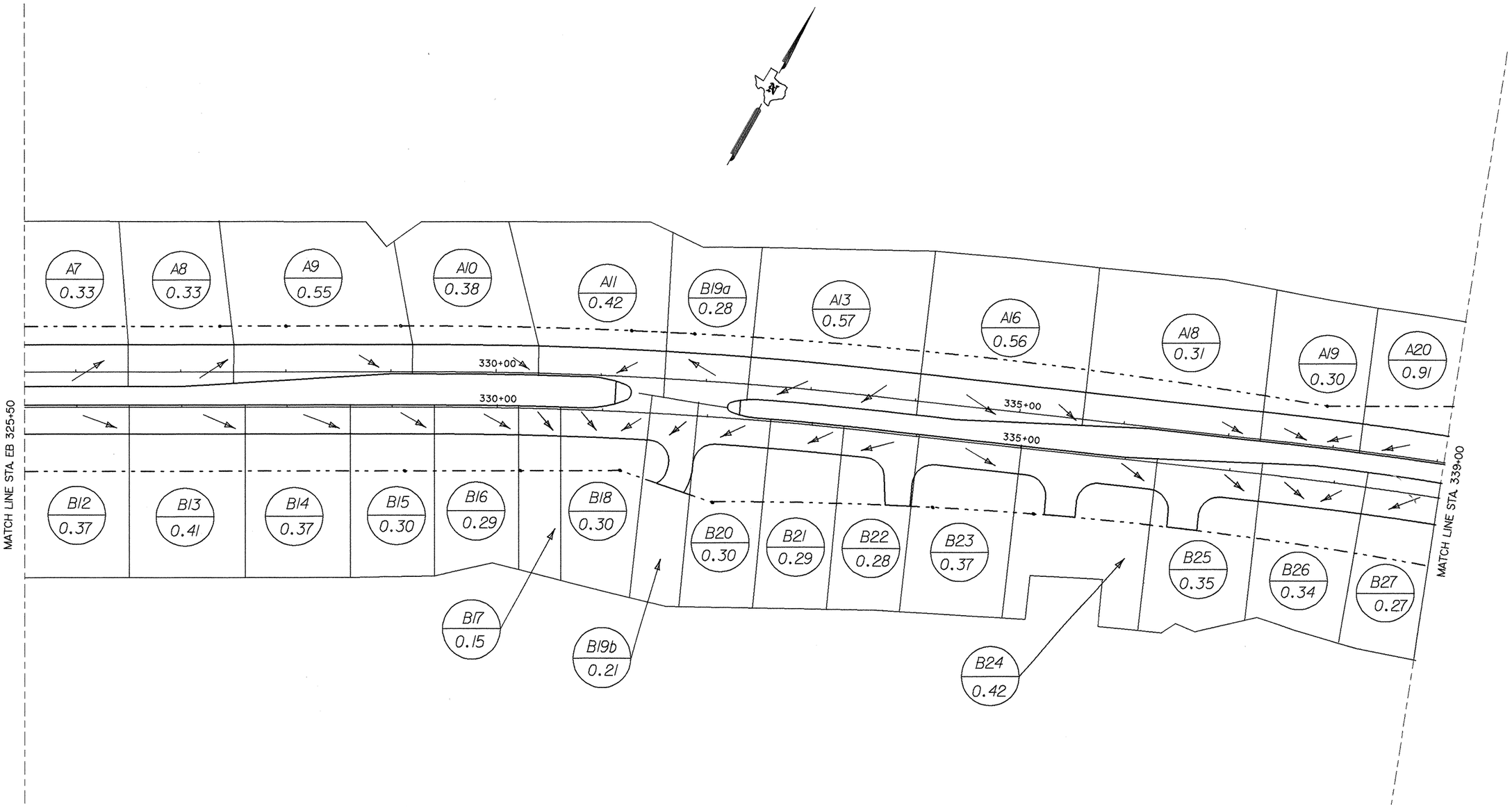
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6	NH 99(367)		251
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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TEE4445 SH66DA2DGN 11-24-98



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DRAINAGE AREA MAP

EB STA. 325+50 TO EB STA. 339+00

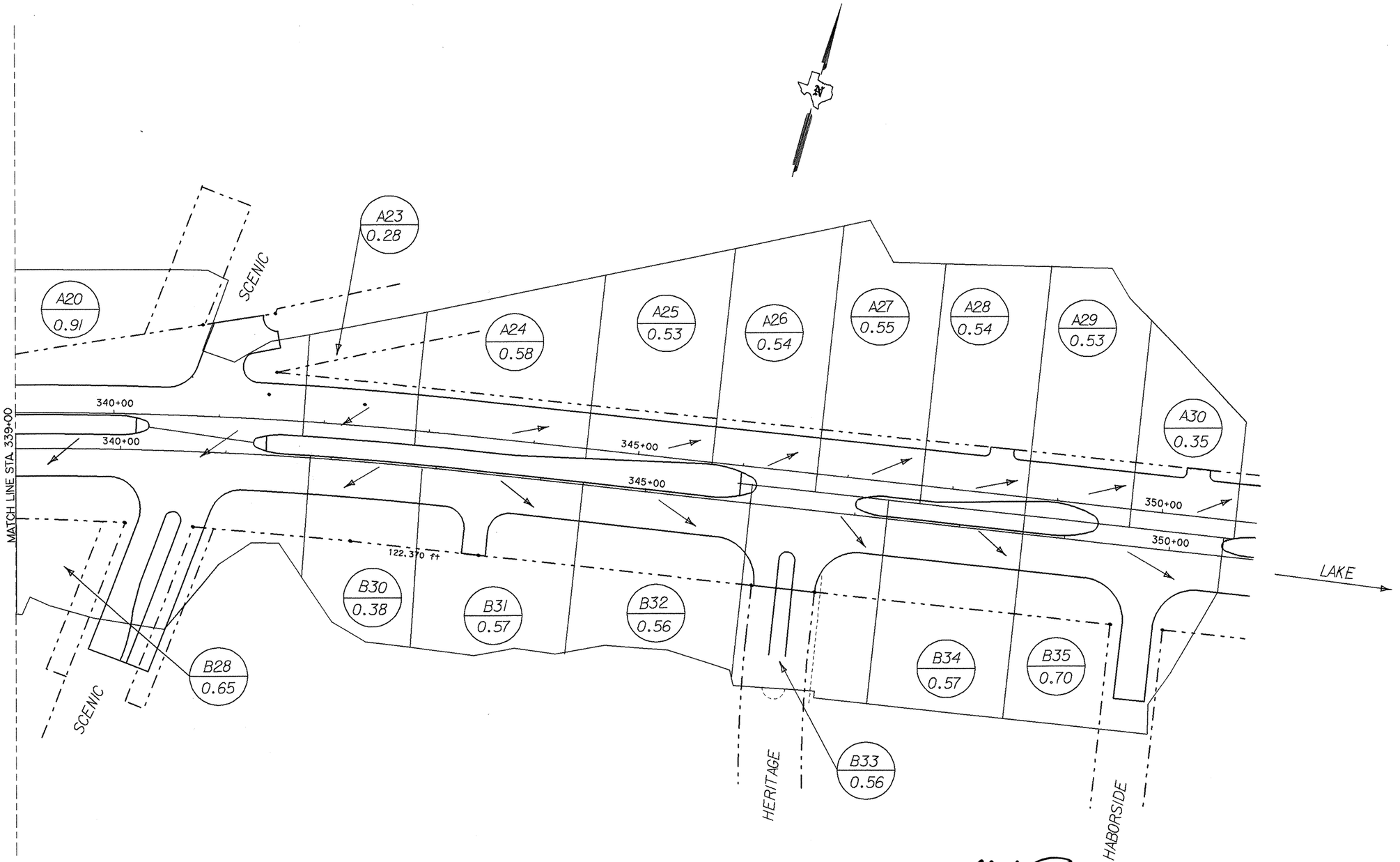
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6	NH 99(367)		252
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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DRAINAGE AREA MAP

EB STA. 339+00 TO LAKE

SCALE: 1"=100'

SHEET 4 OF 8 SHEETS.

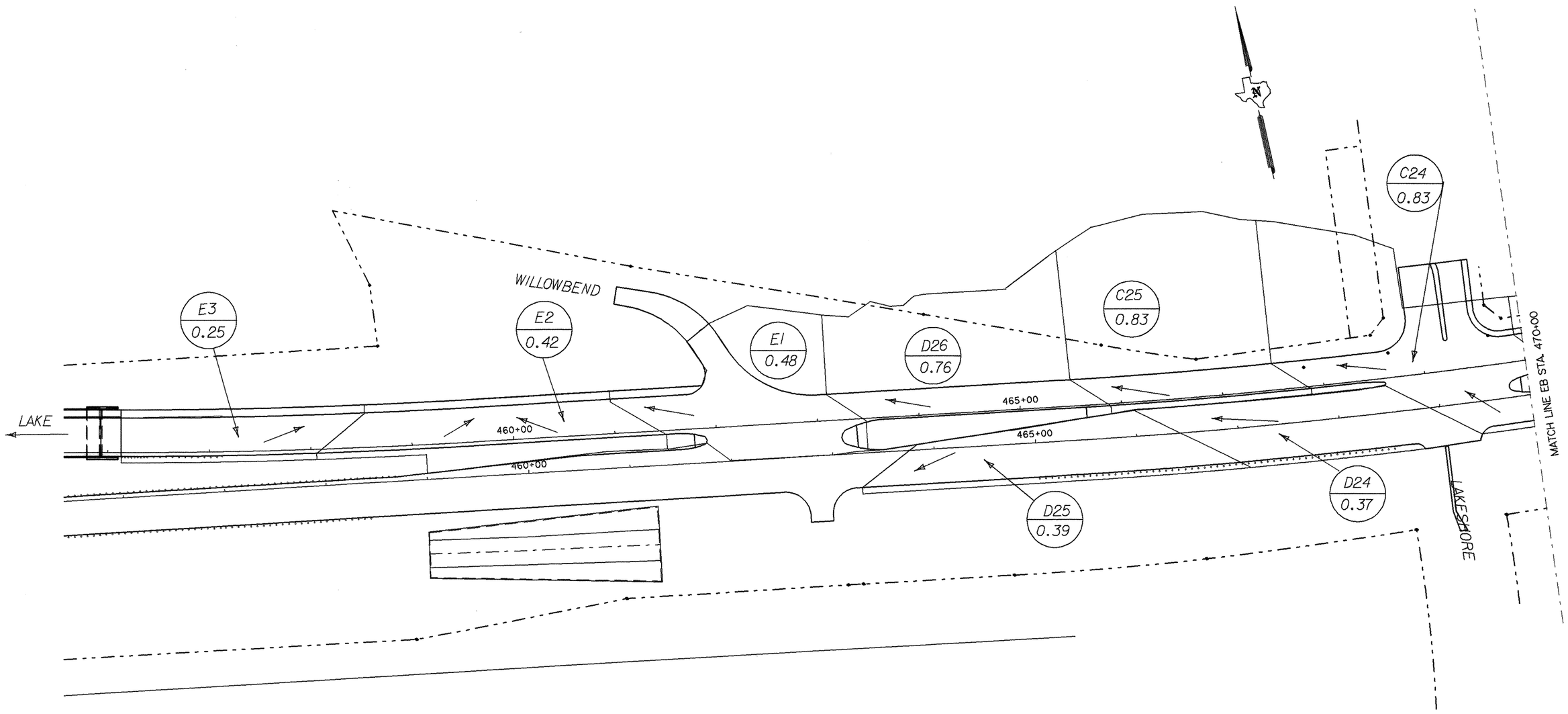
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STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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$$$$date$$$$

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DRAINAGE AREA MAP

LAKE TO EB STA. 470+00

SCALE: 1"=100'
SHEET 5 OF 8 SHEETS.

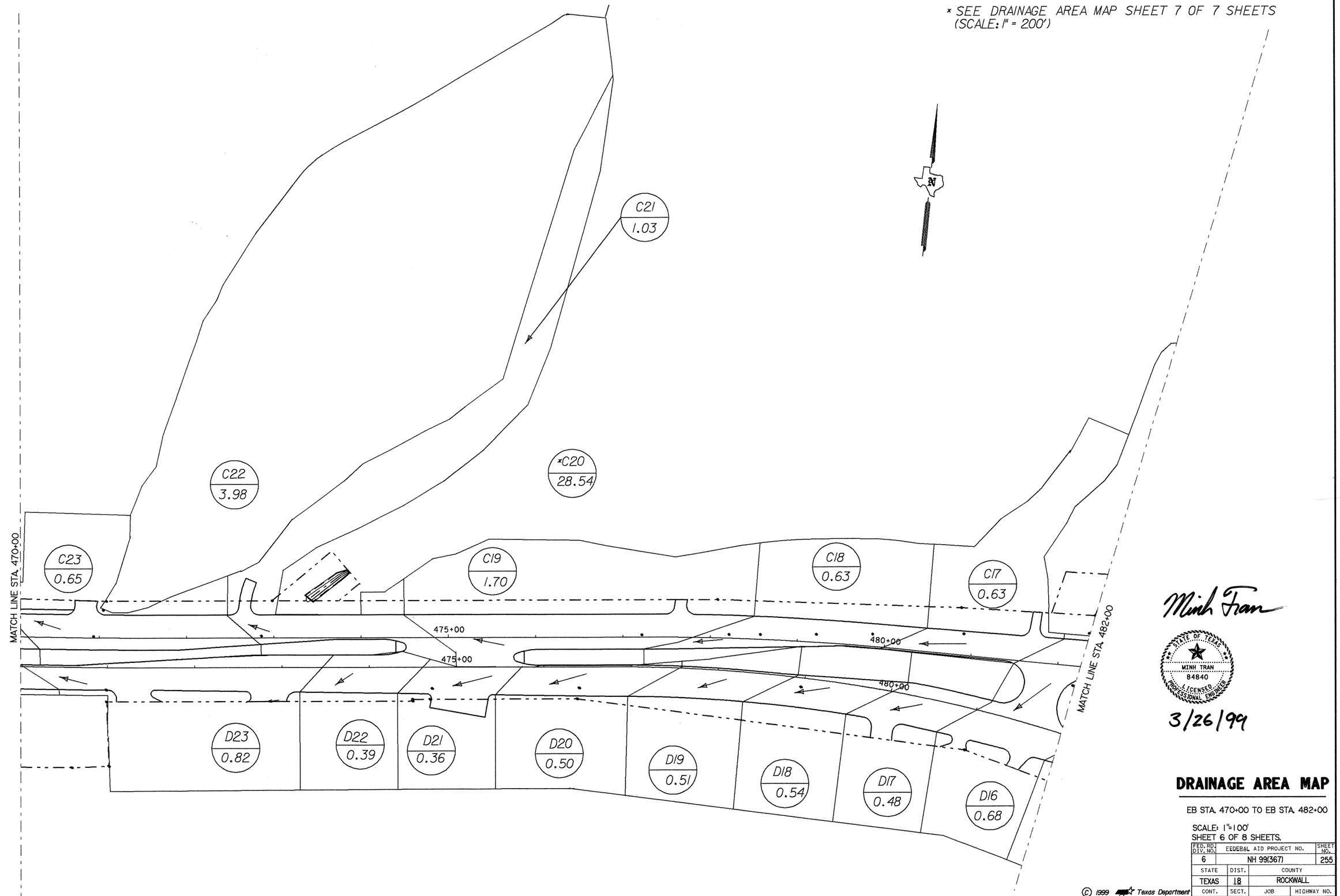
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STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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* SEE DRAINAGE AREA MAP SHEET 7 OF 7 SHEETS
(SCALE: 1" = 200')



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DRAINAGE AREA MAP

EB STA. 470+00 TO EB STA. 482+00

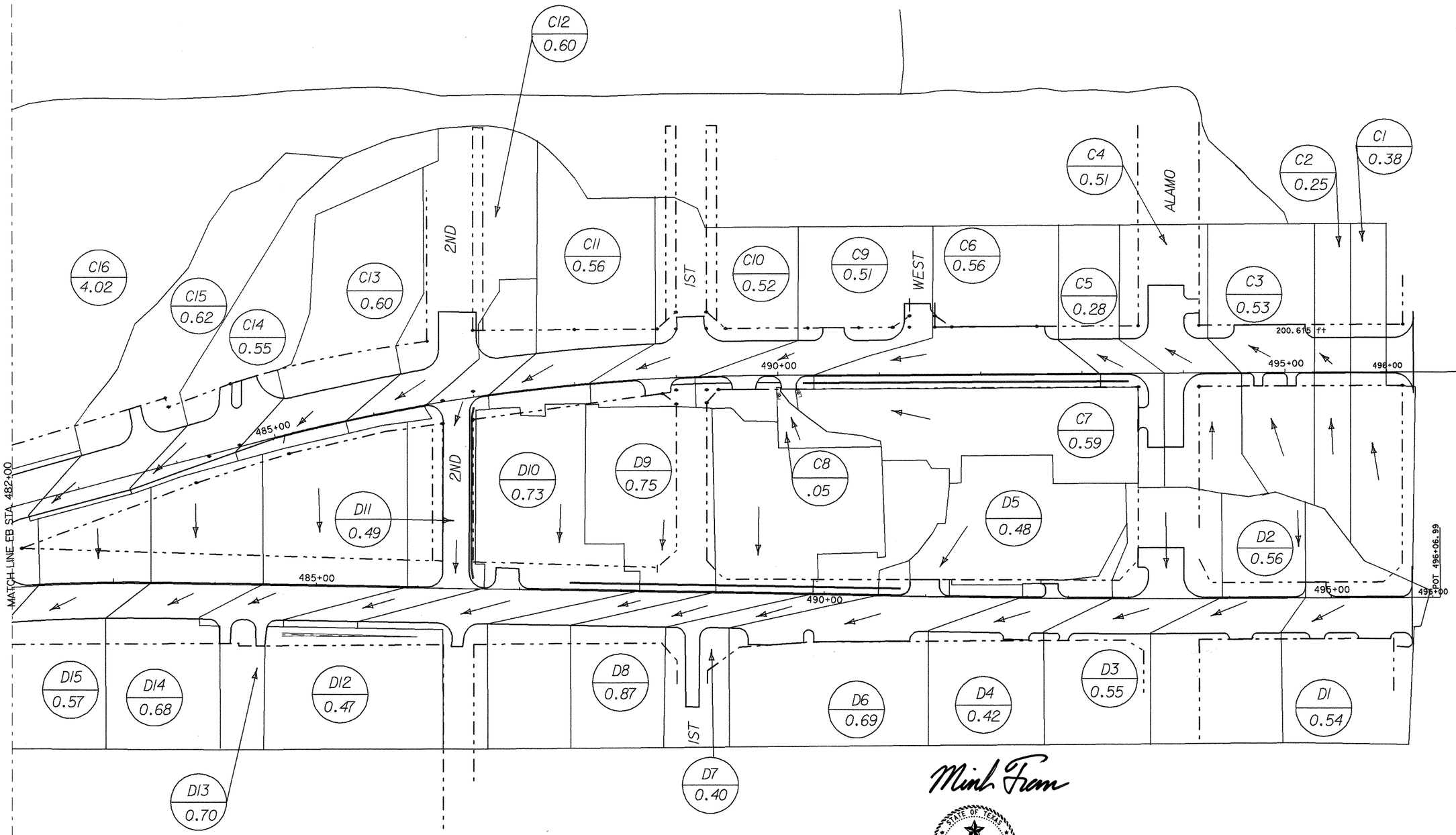
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STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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DRAINAGE AREA MAP

EB STA. 482+00 TO SH 205

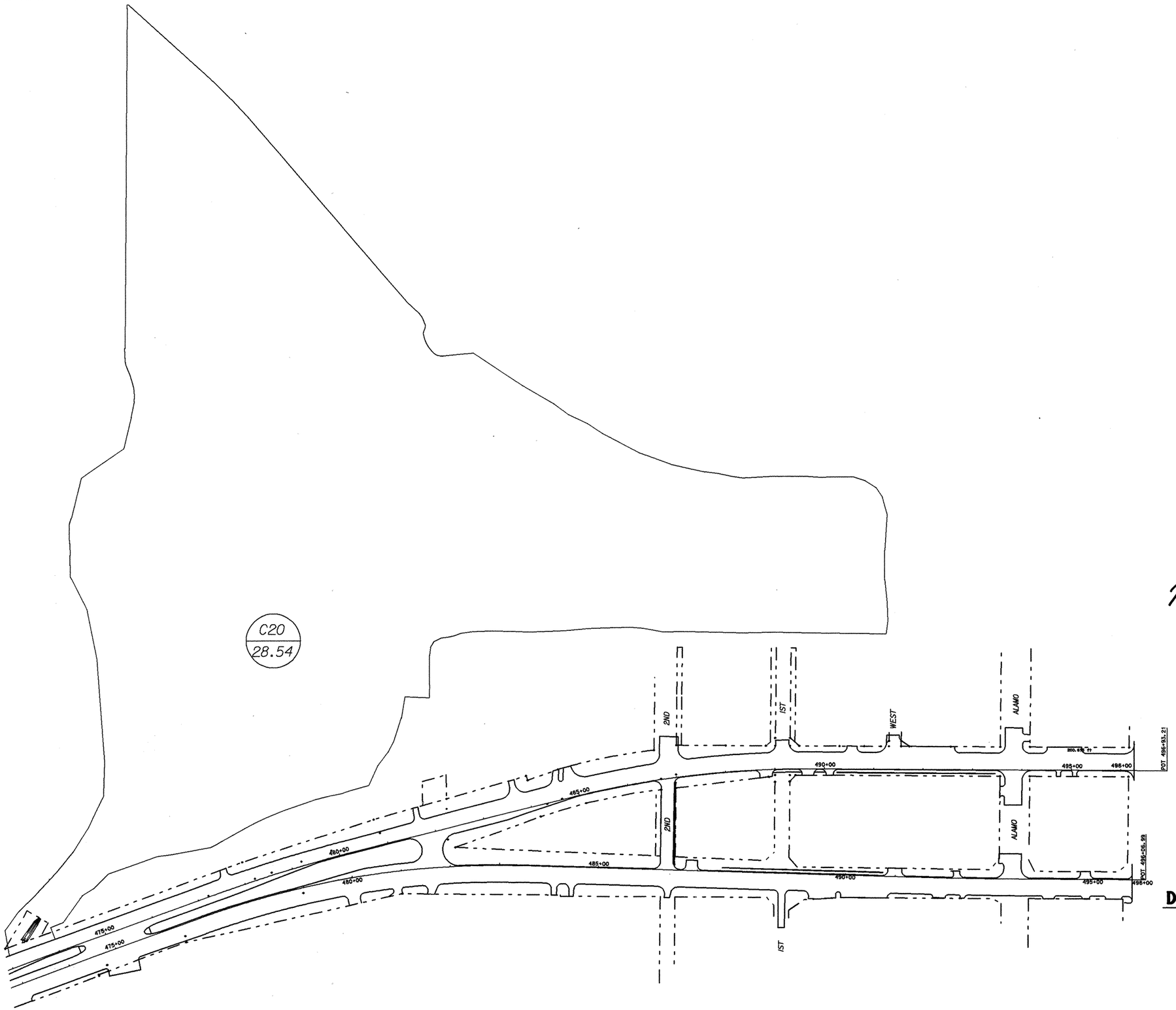
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STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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DRAINAGE AREA MAP

SCALE: 1"=200
SHEET 8 OF 8 SHEETS.

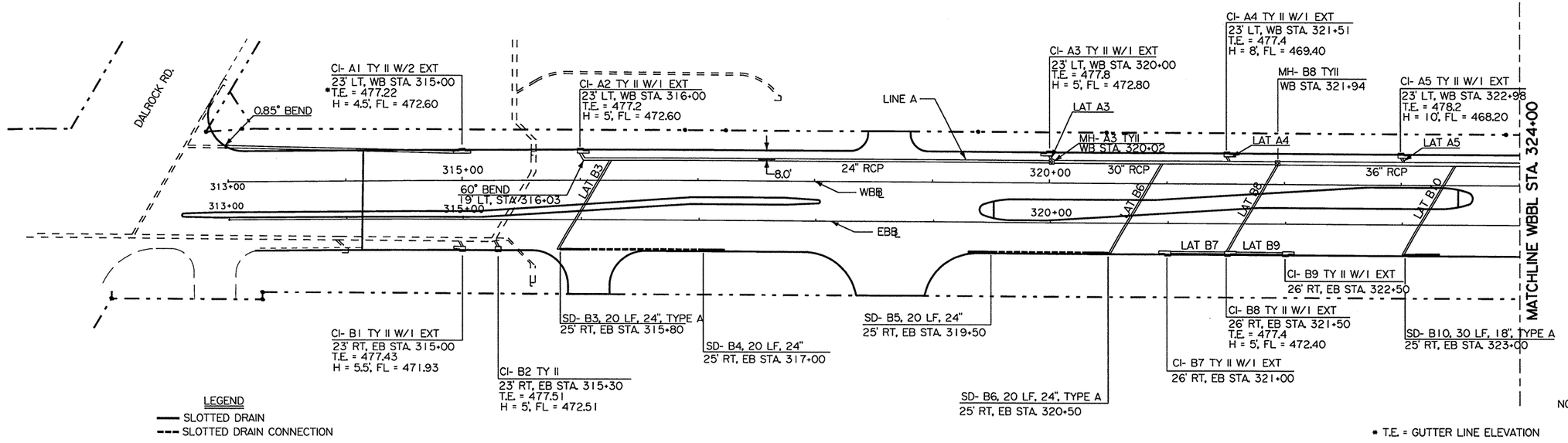
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CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

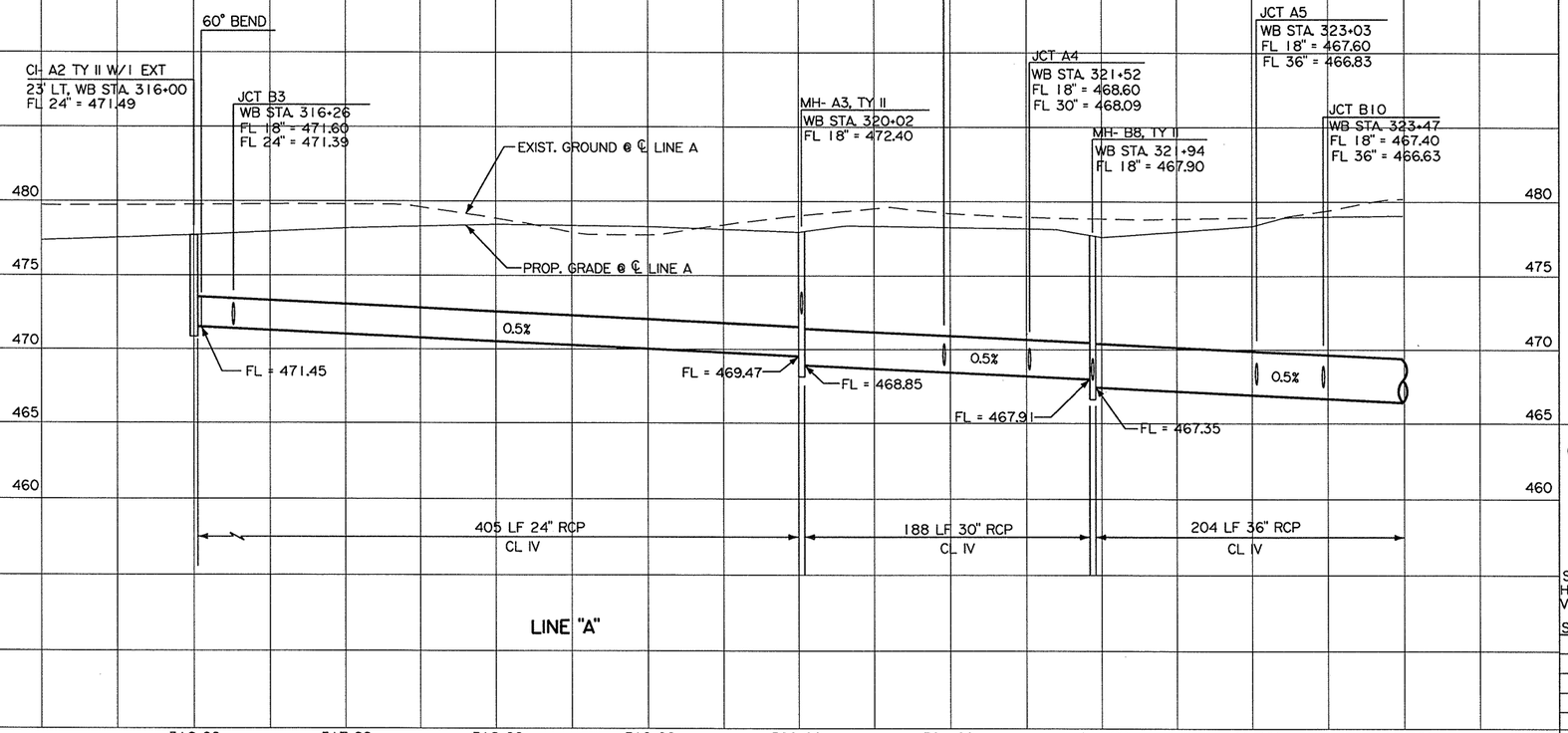
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$$$$date$$$$

TEE4445 SH66DA2.DGN 11-24-98
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LINE "A"

Mark Fox

STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER

3/26/99

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STA. 316+00 TO STA. 324+00

DRAINAGE PLAN and PROFILE

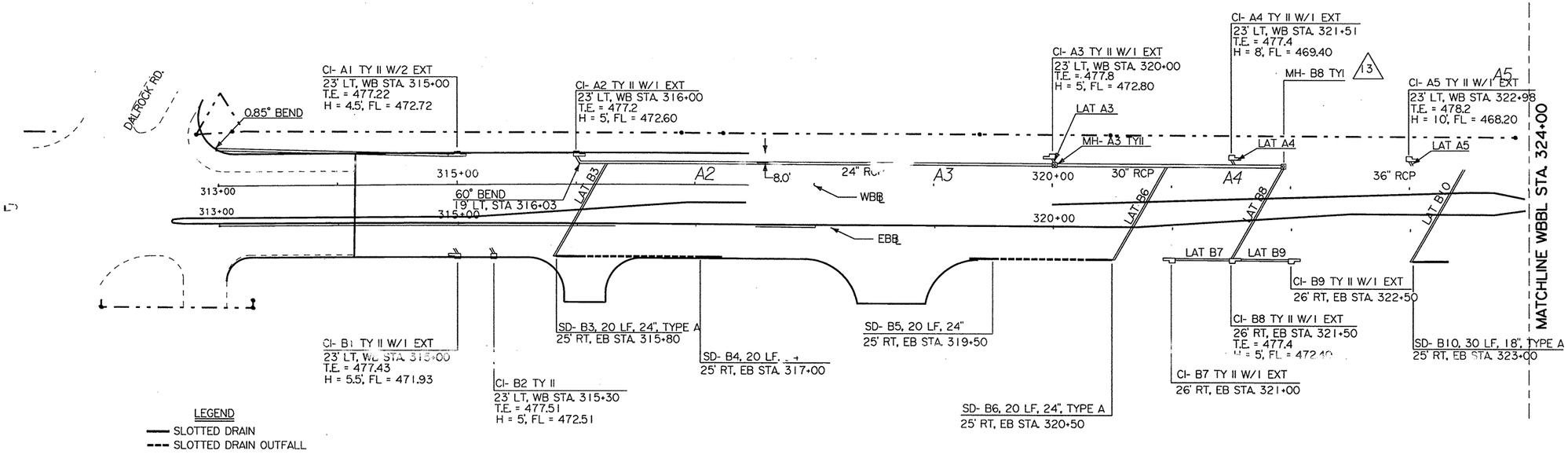
LINE A

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 1 OF 12 SHEETS

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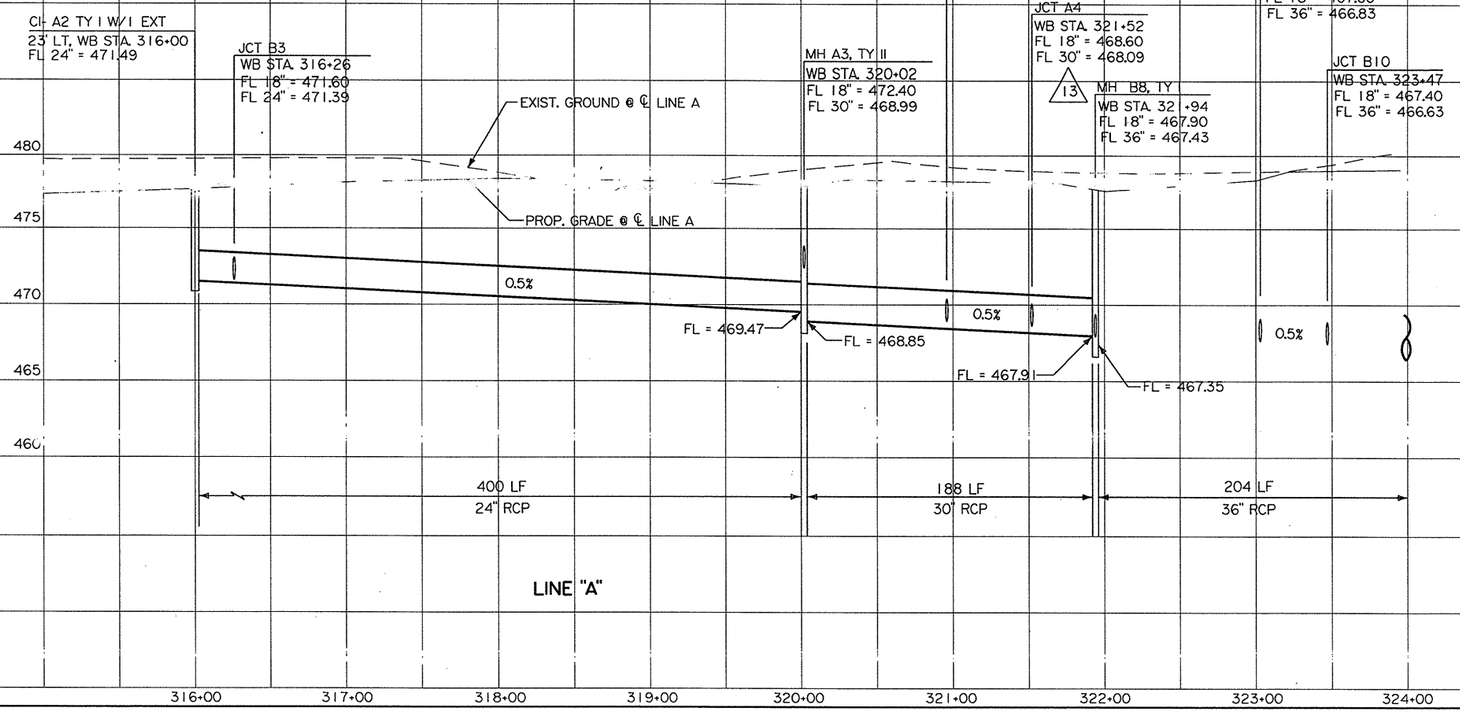
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



13 CHANGE ORDER NO. 13

STATE OF TEXAS
MAKRAM BATAINEH
82298
REGISTERED PROFESSIONAL ENGINEER

8-14-01
For C.O No. 13 only



LINE "A"

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STA. 316+00 TO STA. 324+00

DRAINAGE PLAN and PROFILE

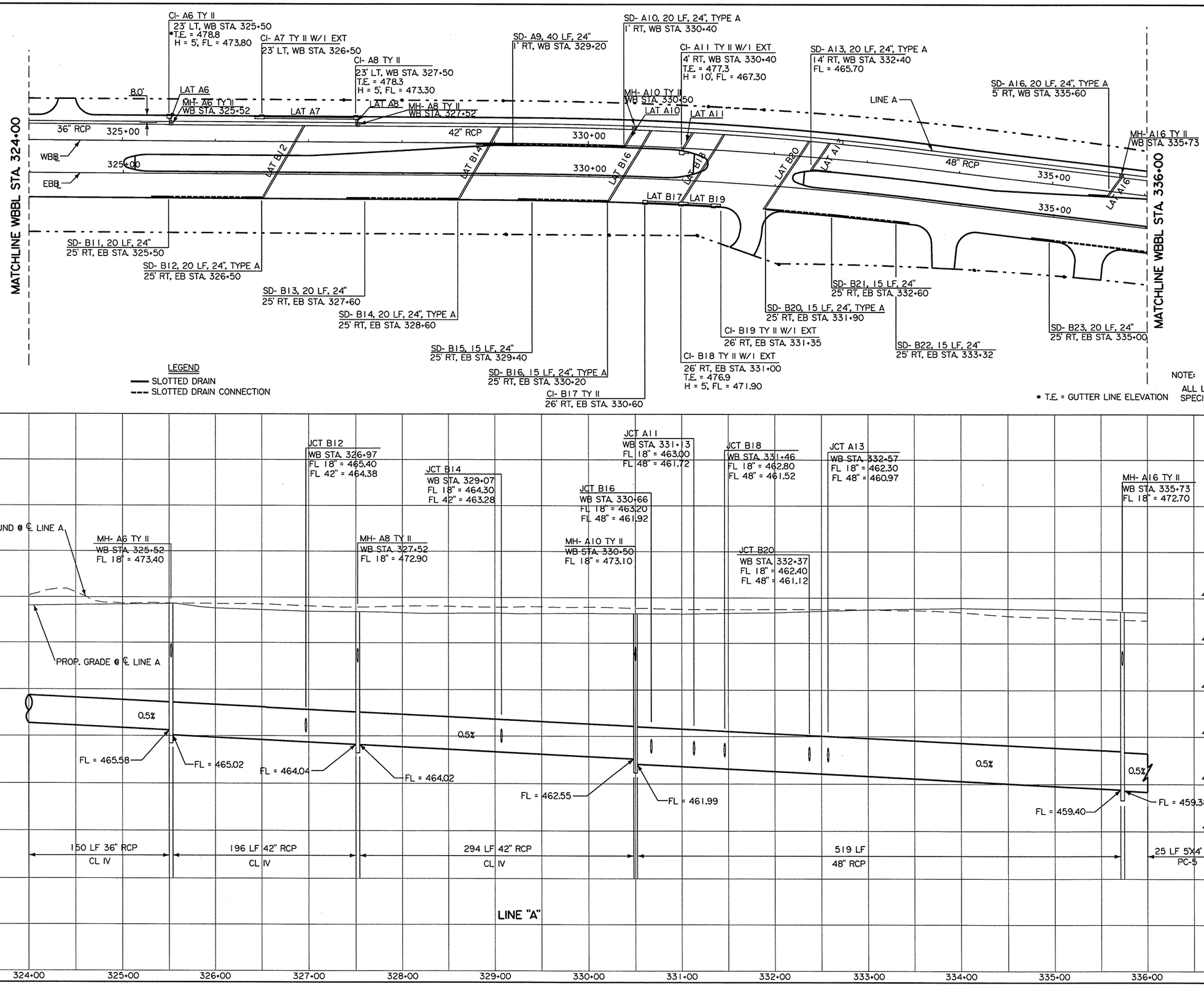
LINE A

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 1A OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	258A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



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MINH TRAN
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STA. 324+00 TO STA. 336+00

DRAINAGE PLAN and PROFILE

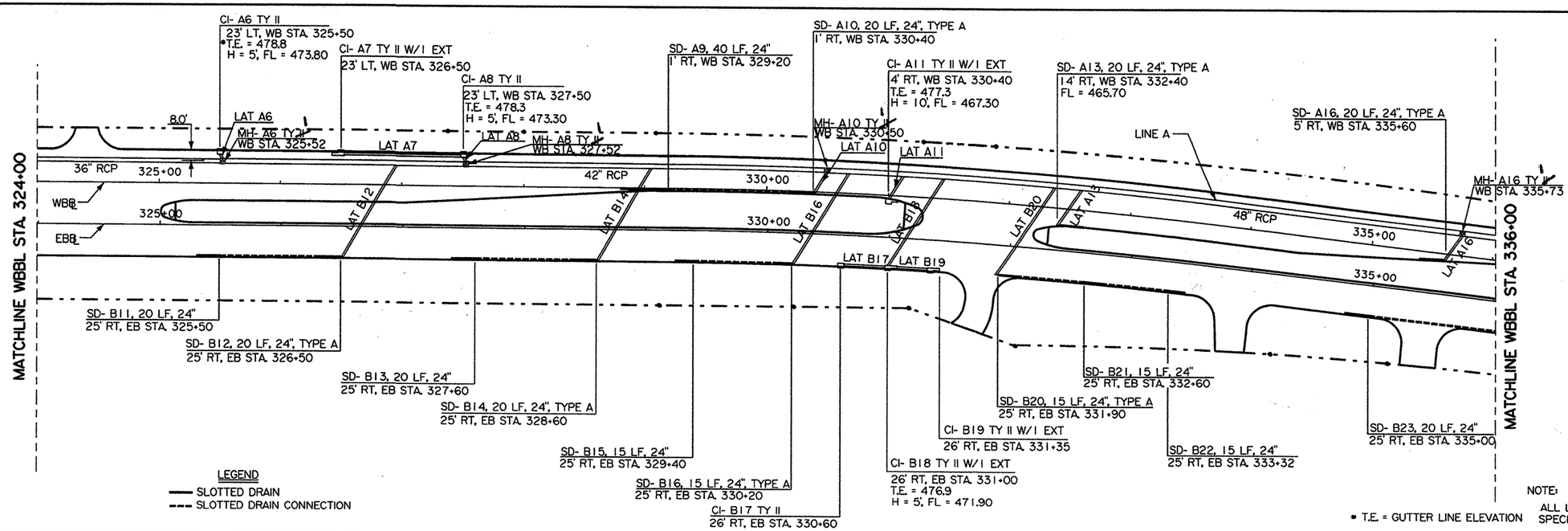
LINE A

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 2 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	259

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



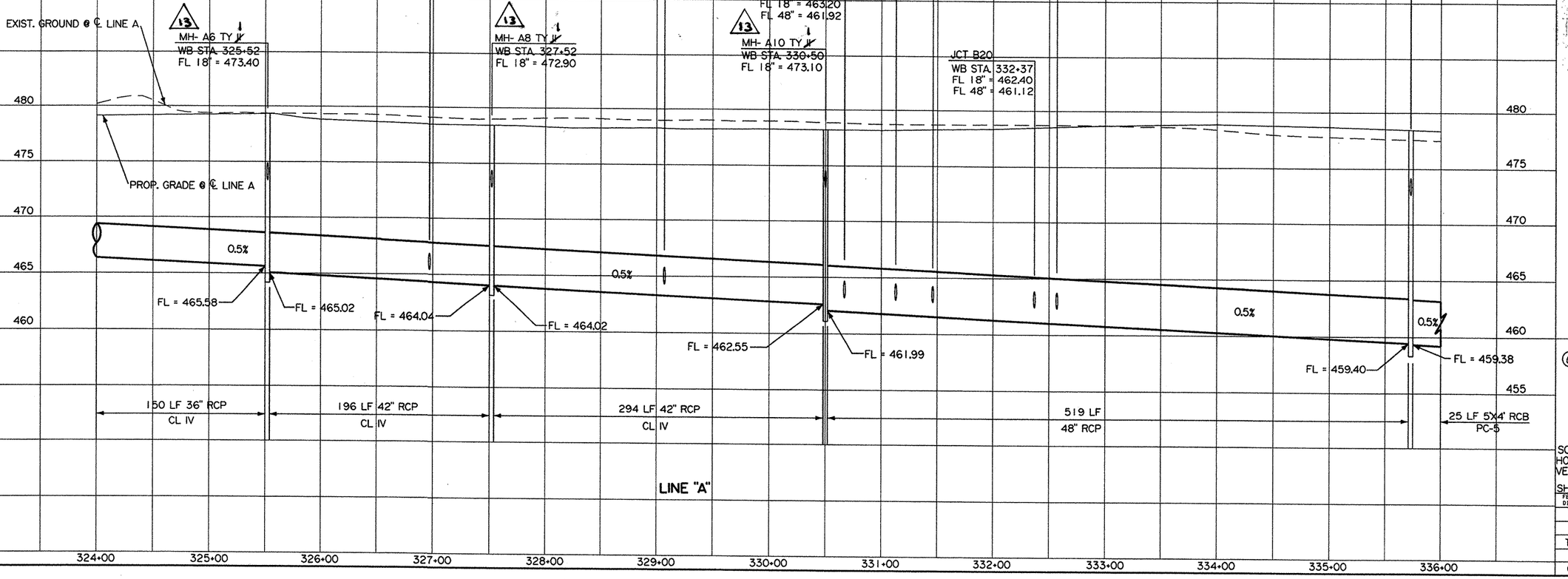
* T.E. = GUTTER LINE ELEVATION

NOTE:
ALL LATERALS SHALL BE PLACED AT 60' UNLESS SPECIFIED ON THE PLANS

13 CO No. 13

STATE OF TEXAS
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DRAINAGE PLAN and PROFILE

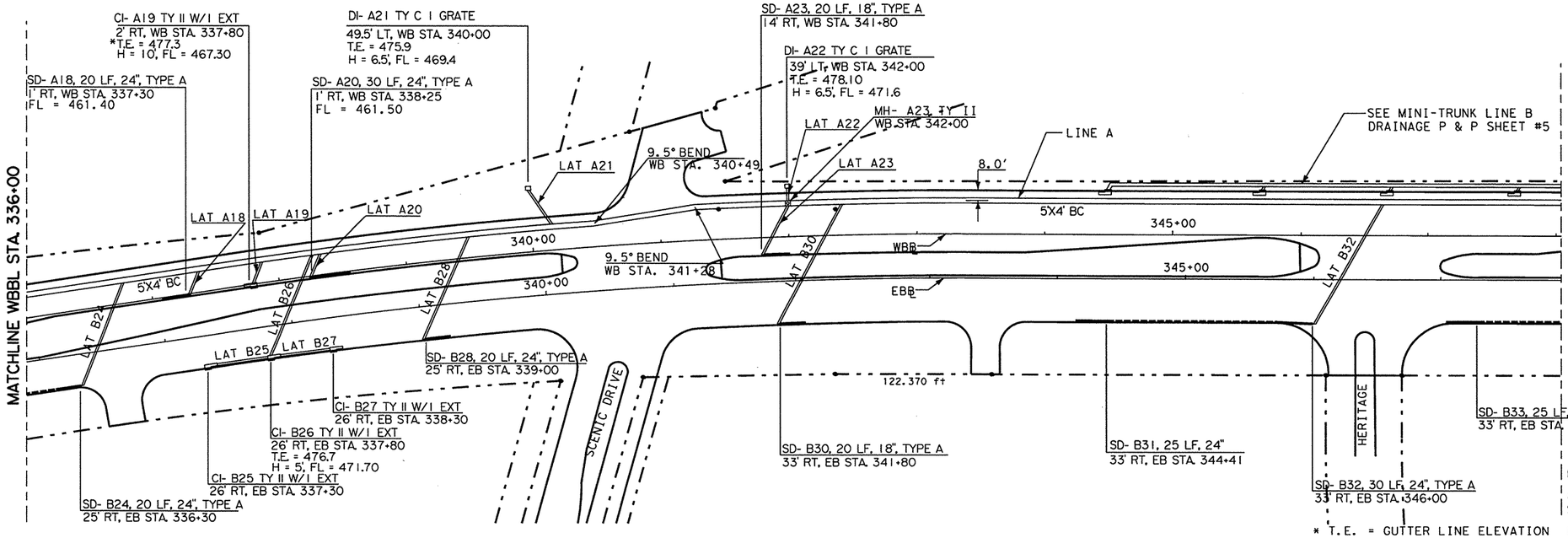
LINE A

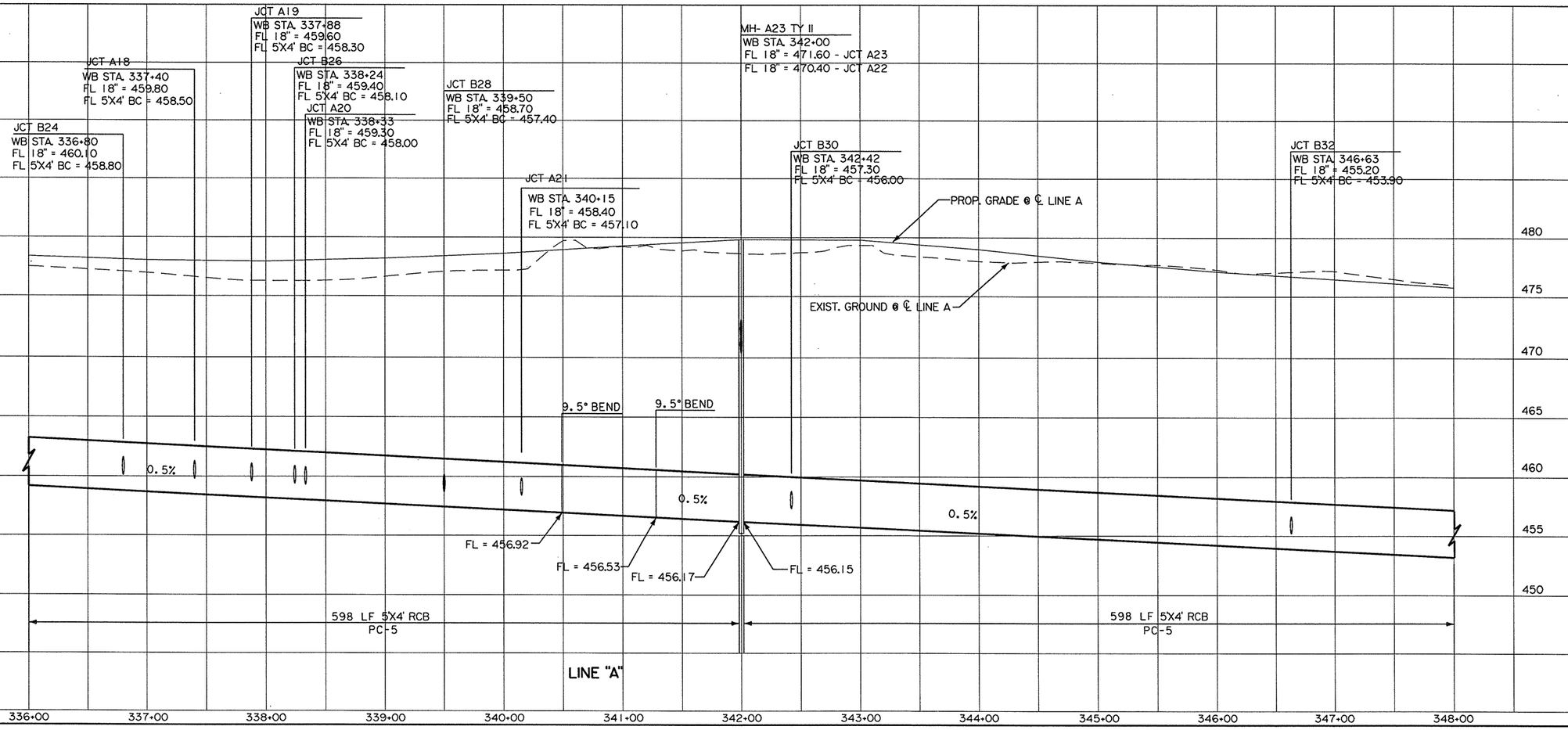
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 2 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		259
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

A





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DRAINAGE PLAN and PROFILE

LINE A

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 3 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		260
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

CI- A19 TY II W/I EXT
2' RT, WB STA. 337+80
*T.E. = 477.3
H = 10', FL = 467.30

SD- A18, 20 LF, 24", TYPE A
1' RT, WB STA. 337+30
FL = 461.40

DI- A21 TY C I GRATE
49.5' LT, WB STA. 340+00
T.E. = 475.9
H = 6.5', FL = 469.4

SD- A20, 30 LF, 24", TYPE A
1' RT, WB STA. 338+25
FL = 461.50

SD- A23, 20 LF, 18", TYPE A
14' RT, WB STA. 341+80

DI- A22 TY C I GRATE
39' LT, WB STA. 342+00
T.E. = 478.10
H = 6.5', FL = 471.6

MH- A23 TY II
WB STA. 342+00

LAT A22

LAT A23

9.5° BEND
WB STA. 340+49

LAT A21

LAT A18

LAT A19

LAT A20

8.0'

LINE A

SEE MINI-TRUNK LINE B
DRAINAGE P & P SHEET #5

MATCHLINE WBBL STA. 336+00

MATCHLINE WBBL STA. 348+00

5X4' BC

340+00

340+00

9.5° BEND
WB STA. 341+28

345+00

345+00

WBB

EBB

LAT B24

LAT B25

LAT B26

LAT B27

LAT B28

LAT B30

LAT B32

SD- B28, 20 LF, 24", TYPE A
25' RT, EB STA. 339+00

CI- B27 TY II W/I EXT
26' RT, EB STA. 338+30

CI- B26 TY II W/I EXT
26' RT, EB STA. 337+80
T.E. = 476.7
H = 5', FL = 471.70

CI- B25 TY II W/I EXT
26' RT, EB STA. 337+30

SD- B24, 20 LF, 24", TYPE A
25' RT, EB STA. 336+30

SCENIC DRIVE

122.370 ft

SD- B30, 20 LF, 18", TYPE A
33' RT, EB STA. 341+80

SD- B31, 25 LF, 24"
33' RT, EB STA. 344+41

HERITAGE

SD- B33, 25 LF, 24"
33' RT, EB STA. 347+32

SD- B32, 30 LF, 24", TYPE A
33' RT, EB STA. 346+00

LEGEND
SLOTTED DRAIN
SLOTTED DRAIN CONNECTION

NOTE:
ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.

* T.E. = GUTTER LINE ELEVATION

LATERAL A22 IS PLACED AT 90°

JCT A19
WB STA. 337+88
FL 18" = 459.60
FL 5X4' BC = 458.30

JCT A18
WB STA. 337+40
FL 18" = 459.80
FL 5X4' BC = 458.50

JCT B26
WB STA. 338+24
FL 18" = 459.40
FL 5X4' BC = 458.10

JCT A20
WB STA. 338+33
FL 18" = 459.30
FL 5X4' BC = 458.00

JCT B28
WB STA. 339+50
FL 18" = 458.70
FL 5X4' BC = 457.40

13 MH- A23 TY II
WB STA. 342+00
FL 18" = 471.60 - JCT A23
FL 18" = 470.40 - JCT A22

JCT B24
WB STA. 336+80
FL 18" = 460.10
FL 5X4' BC = 458.80

JCT A21
WB STA. 340+15
FL 18" = 458.40
FL 5X4' BC = 457.10

JCT B30
WB STA. 342+42
FL 18" = 457.30
FL 5X4' BC = 456.00

JCT B32
WB STA. 346+63
FL 18" = 455.20
FL 5X4' BC = 453.90

PROP. GRADE @ ℄ LINE A

EXIST. GROUND @ ℄ LINE A

480
475
470
465
460
455
450

9.5° BEND
9.5° BEND

0.5%
0.5%
0.5%

FL = 456.92
FL = 456.53
FL = 456.17
FL = 456.15

598 LF 5X4' RCB
PC-5

598 LF 5X4' RCB
PC-5

LINE "A"

336+00 337+00 338+00 339+00 340+00 341+00 342+00 343+00 344+00 345+00 346+00 347+00 348+00

13 C.O No. 13

STATE OF TEXAS
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DRAINAGE PLAN and PROFILE

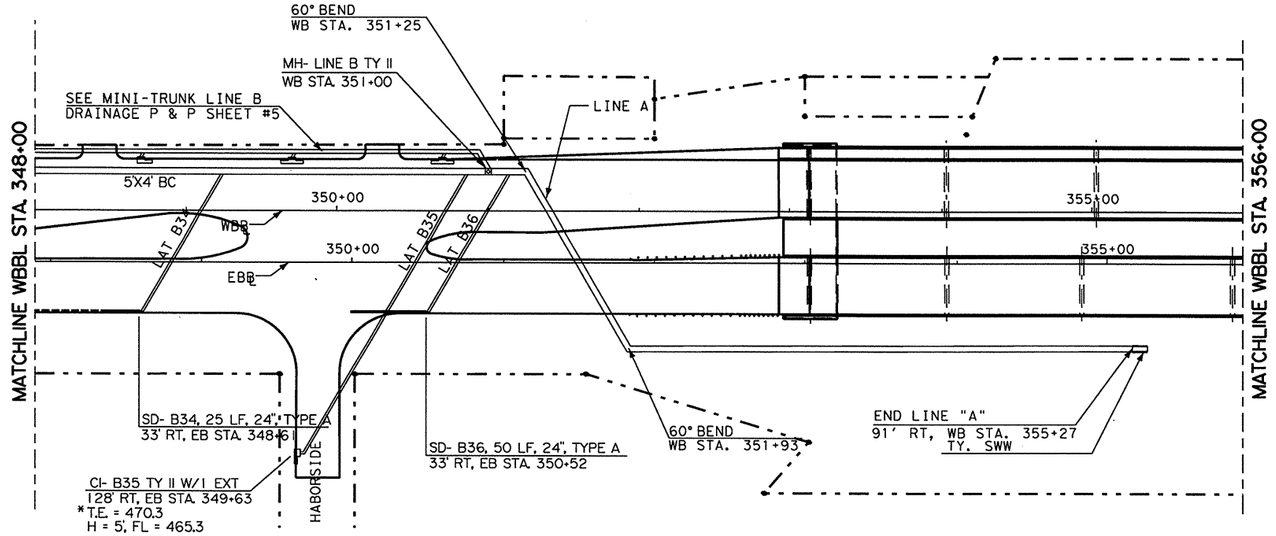
LINE A

SCALE:
HORIZ: 1" = 100'
VERT: 1" = 10'

SHEET 3 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	260 A

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





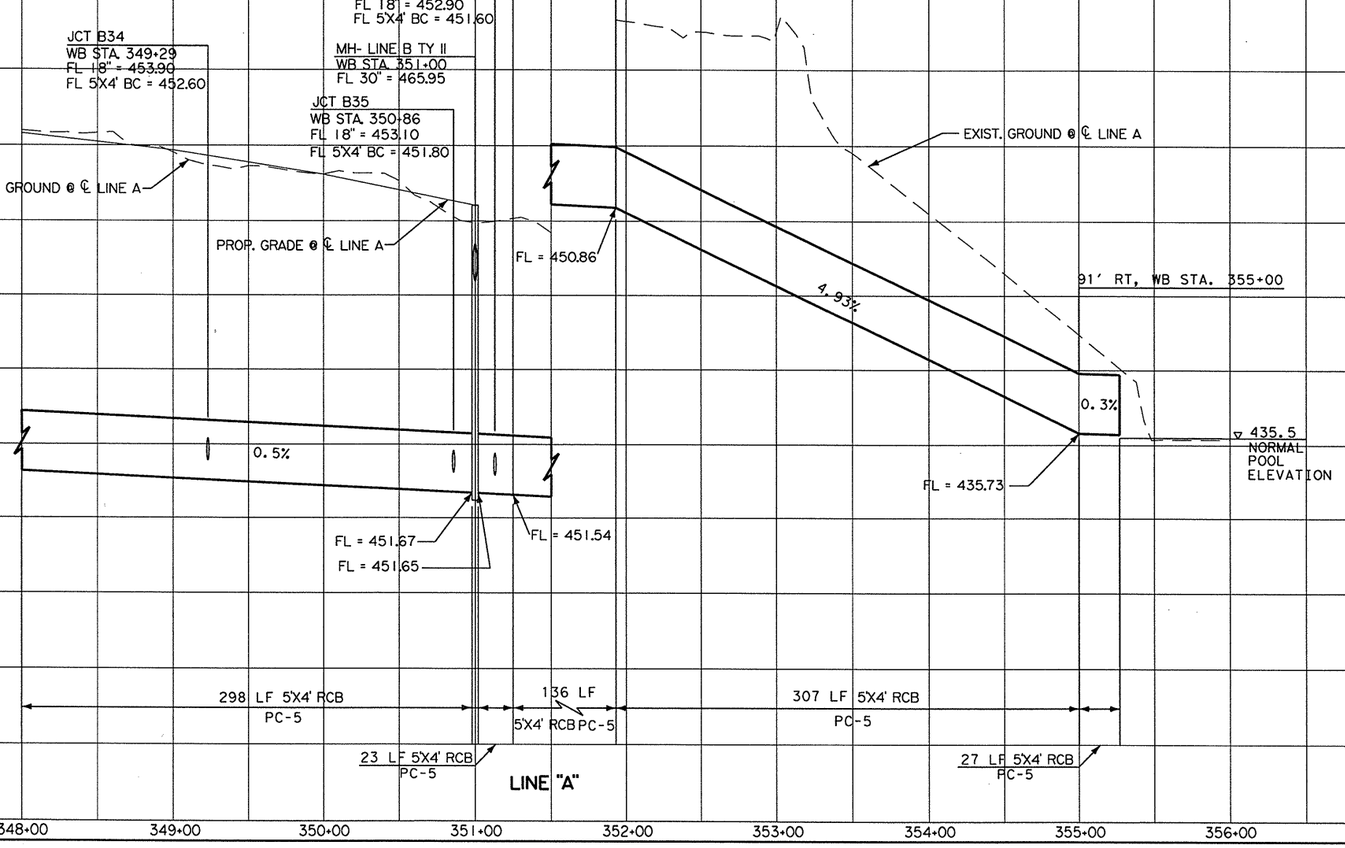
LEGEND

SLOTTED DRAIN

SLOTTED DRAIN CONNECTION

* T.E. = GUTTER LINE ELEVATION

NOTE:
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STA. 348+00 TO STA. 356+00

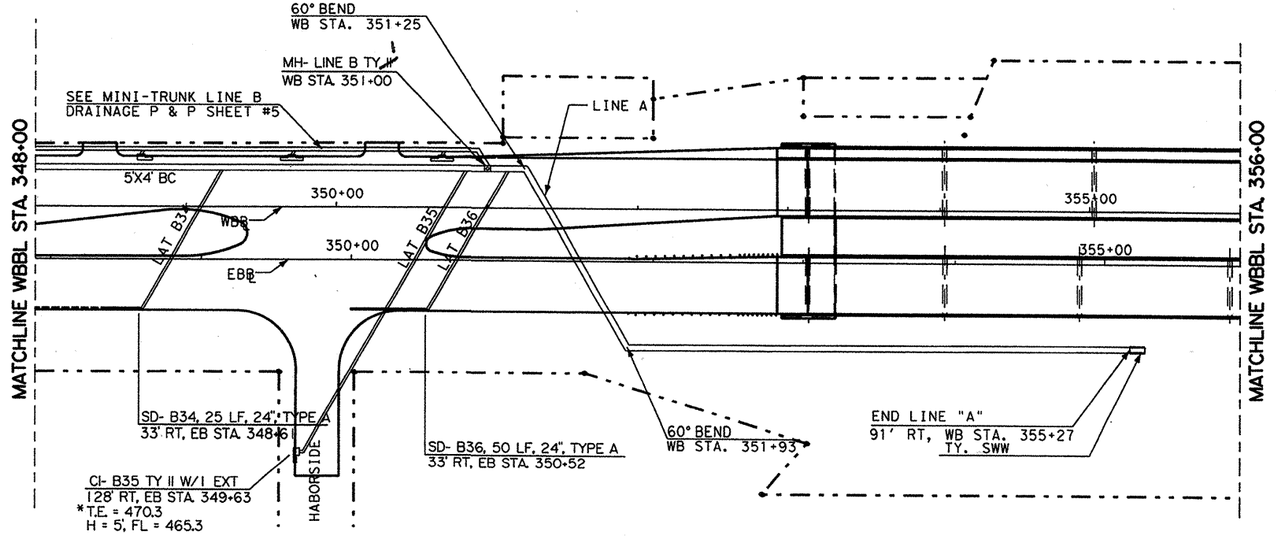
DRAINAGE PLAN and PROFILE

LINE A

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 4 OF 12 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		261
STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



13 C.O No. 13



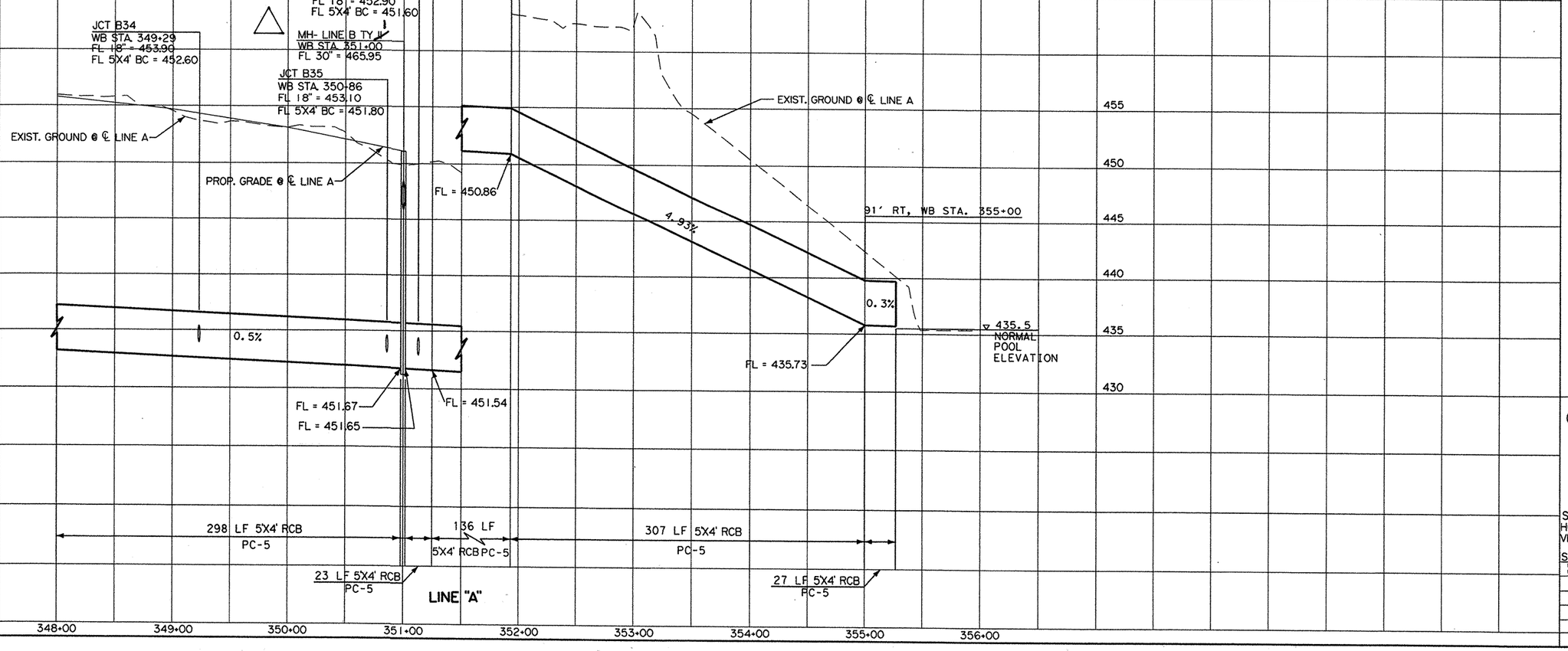
Mak Bataineh
8-14-01



LEGEND
— SLOTTED DRAIN
--- SLOTTED DRAIN CONNECTION

NOTE:
ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.

* T.E. = GUTTER LINE ELEVATION



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DRAINAGE PLAN and PROFILE

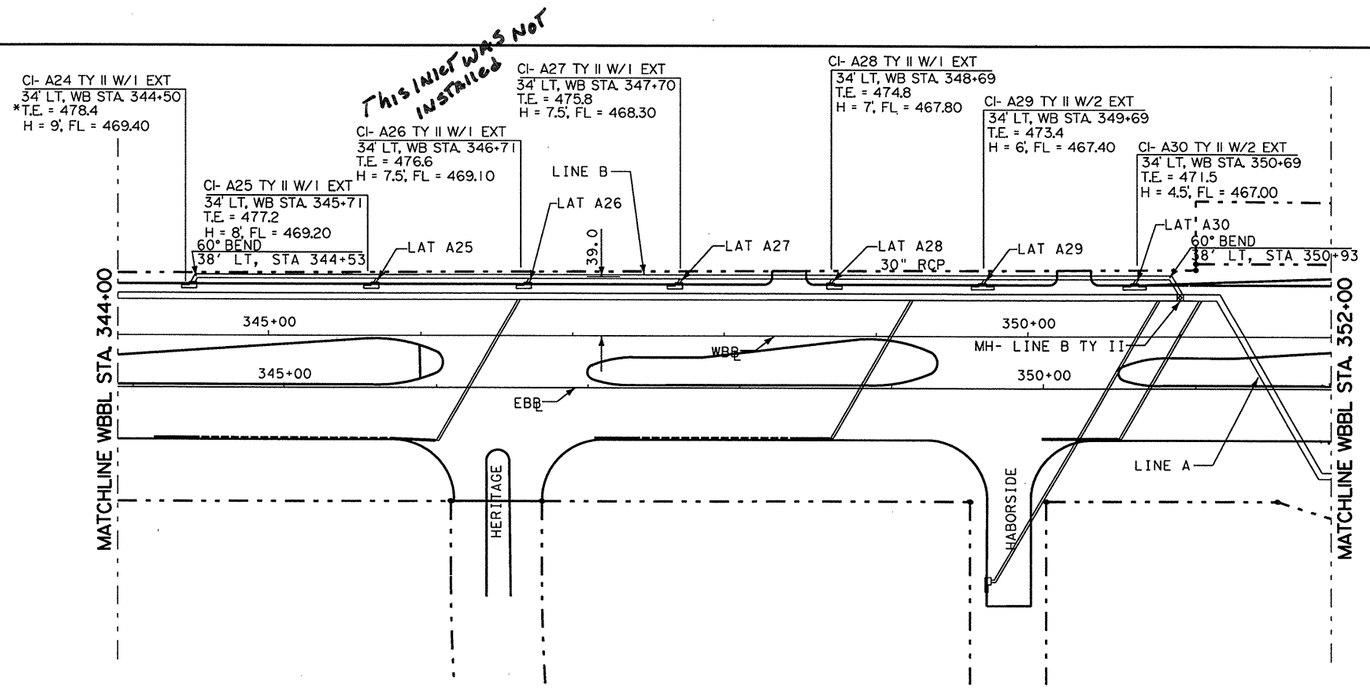
LINE A

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

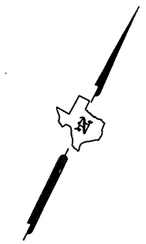
SHEET 4 OF 12 SHEETS

FED.RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	261

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



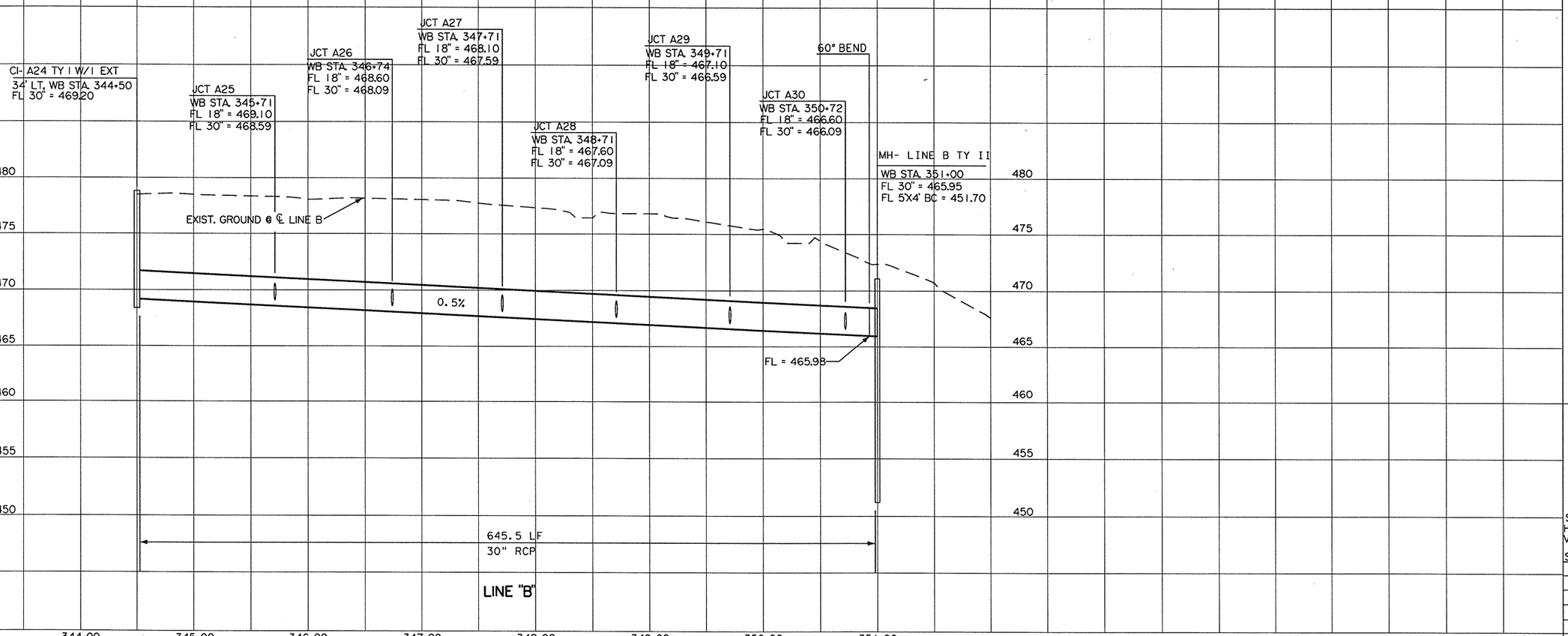
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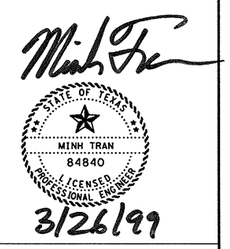


LEGEND
— SLOTTED DRAIN
--- SLOTTED DRAIN CONNECTION

NOTE:
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* T.E. = GUTTER LINE ELEVATION





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STA. 344+00 TO STA. 351+00

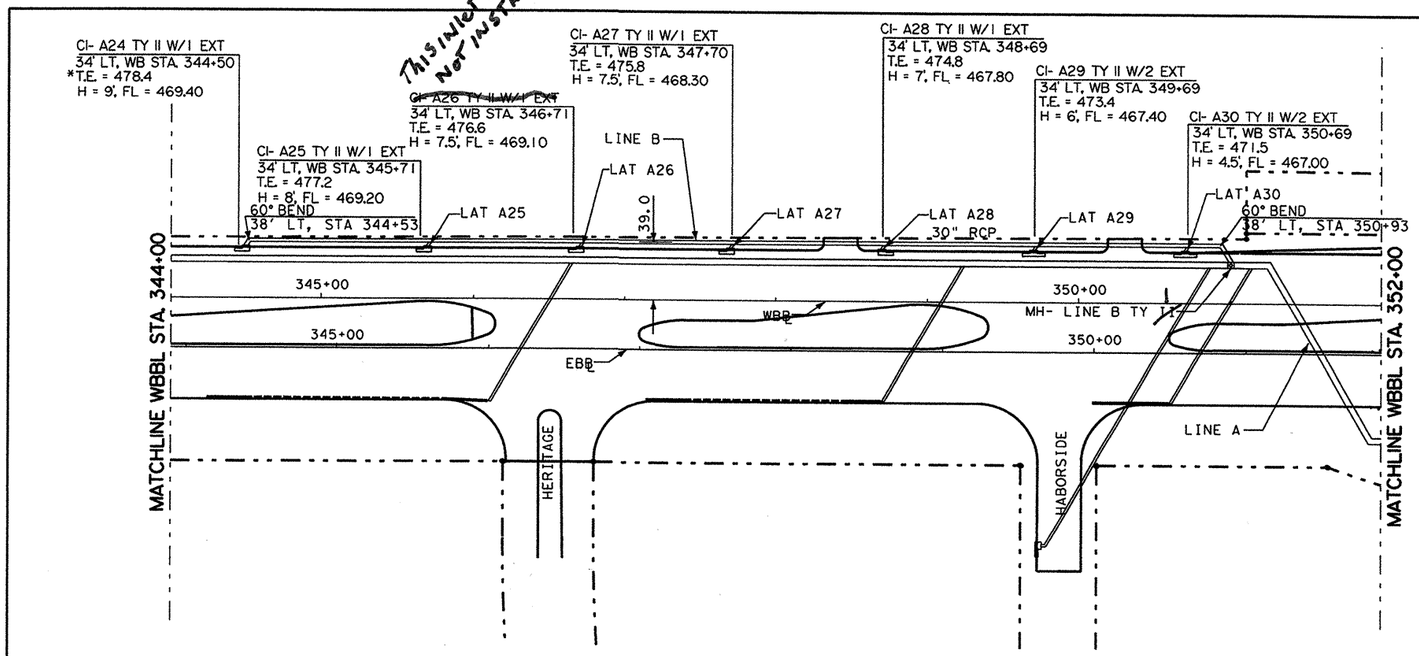
DRAINAGE PLAN and PROFILE

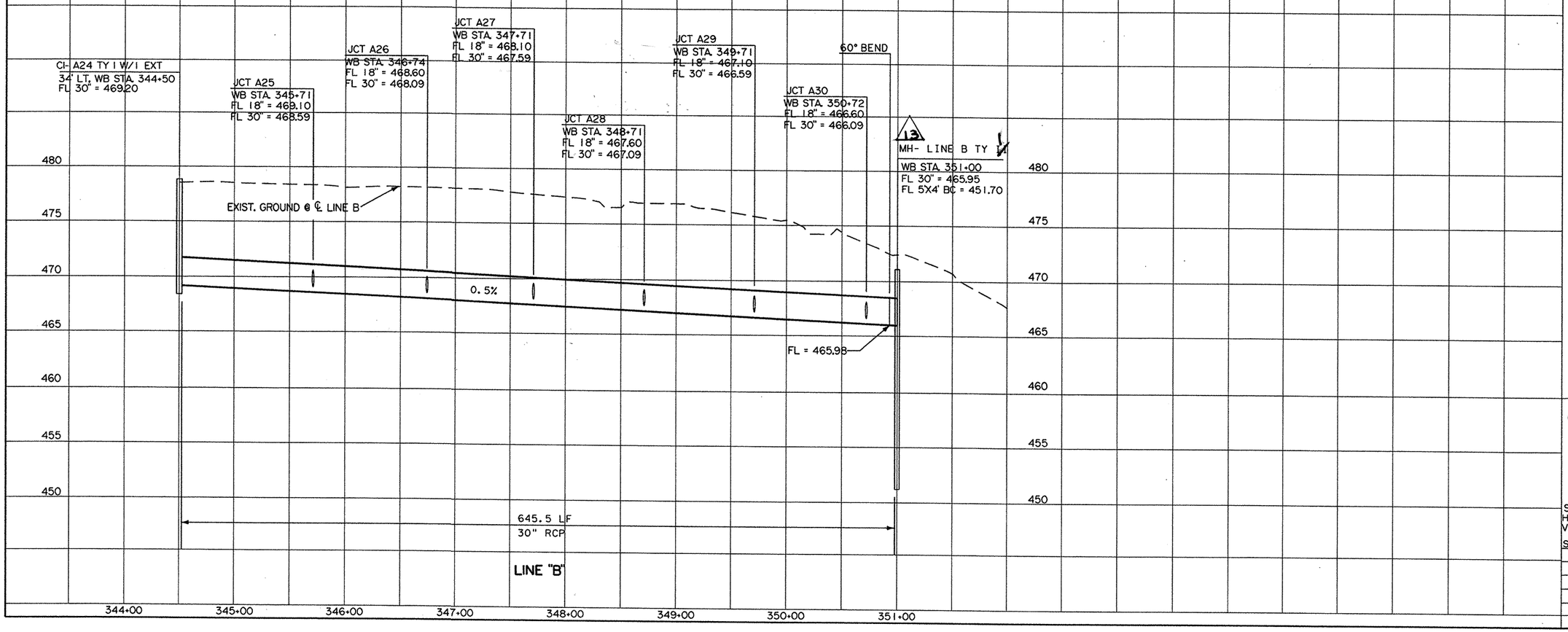
LINE B

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 5 OF 12 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		262
STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66





13 C.O No. 13

STATE OF TEXAS
MAKRAM BATAINEH
82298
REGISTERED
PROFESSIONAL ENGINEER

Makram Bataineh
8-14-01

LEGEND
—— SLOTTED DRAIN
--- SLOTTED DRAIN CONNECTION

* T.E. = GUTTER LINE ELEVATION

NOTE:
ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.

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DRAINAGE PLAN and PROFILE

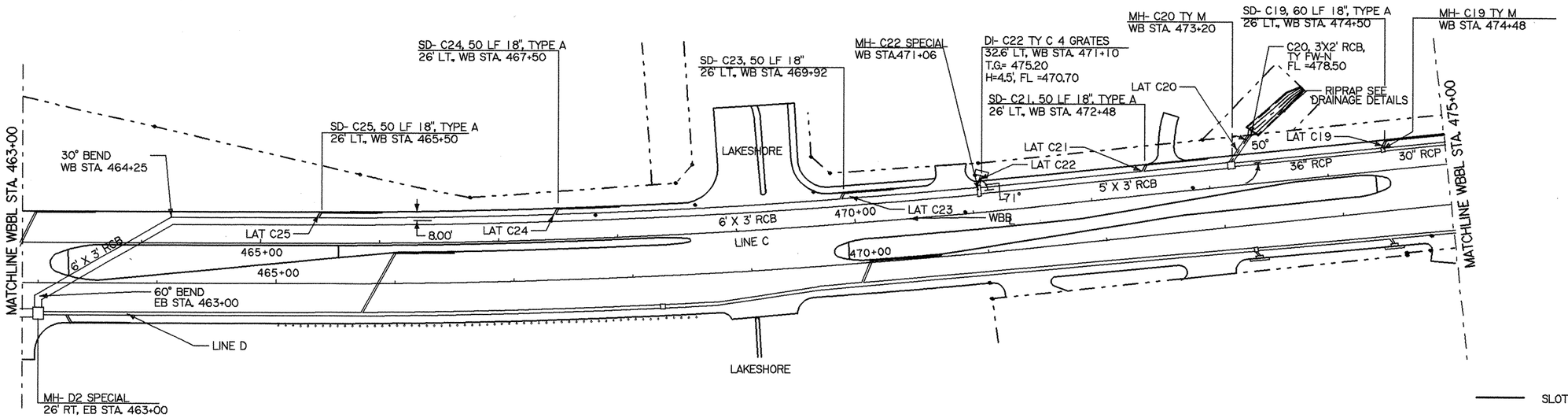
LINE B

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 5 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		262
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

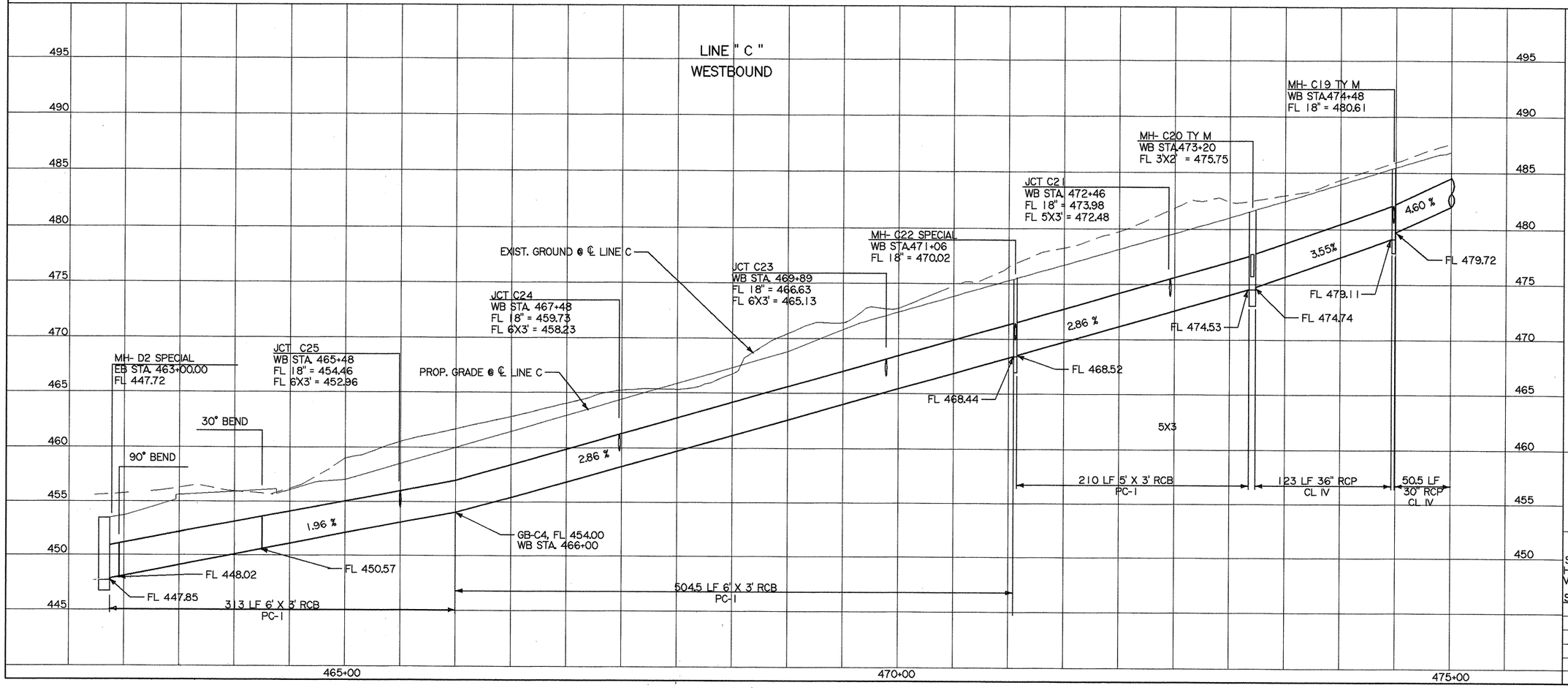
A



NOTE:

ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.





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DRAINAGE PLAN and PROFILE

STA. 463+00 TO STA. 475+00
LINE C

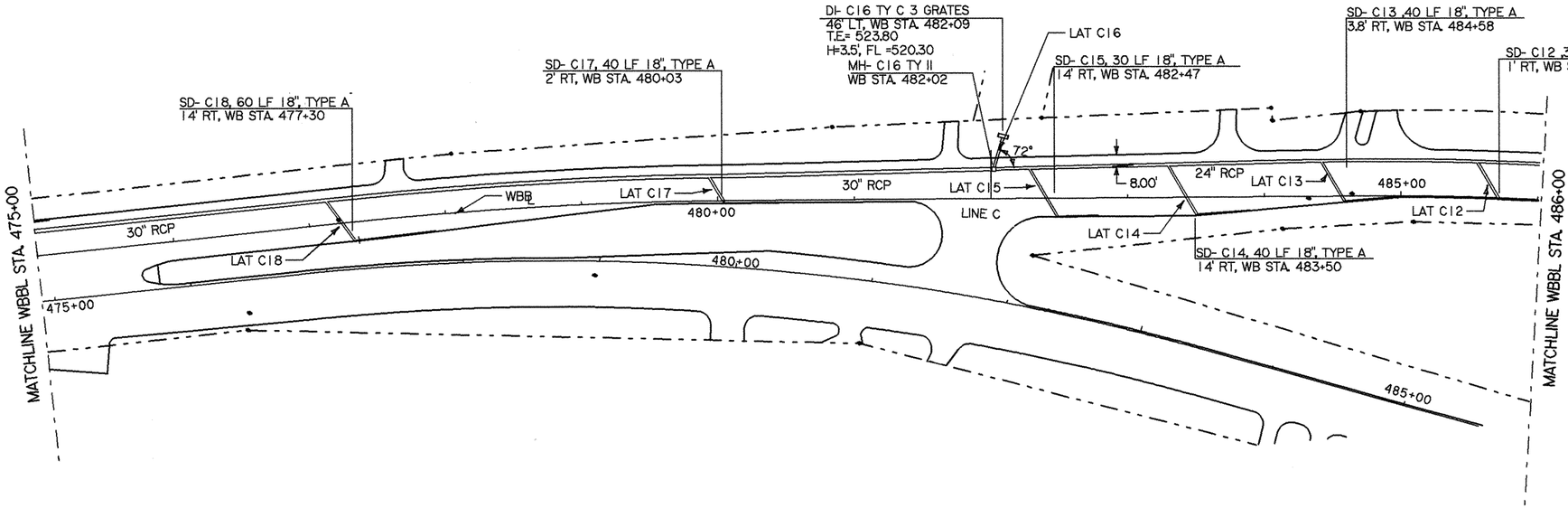
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 6 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	263

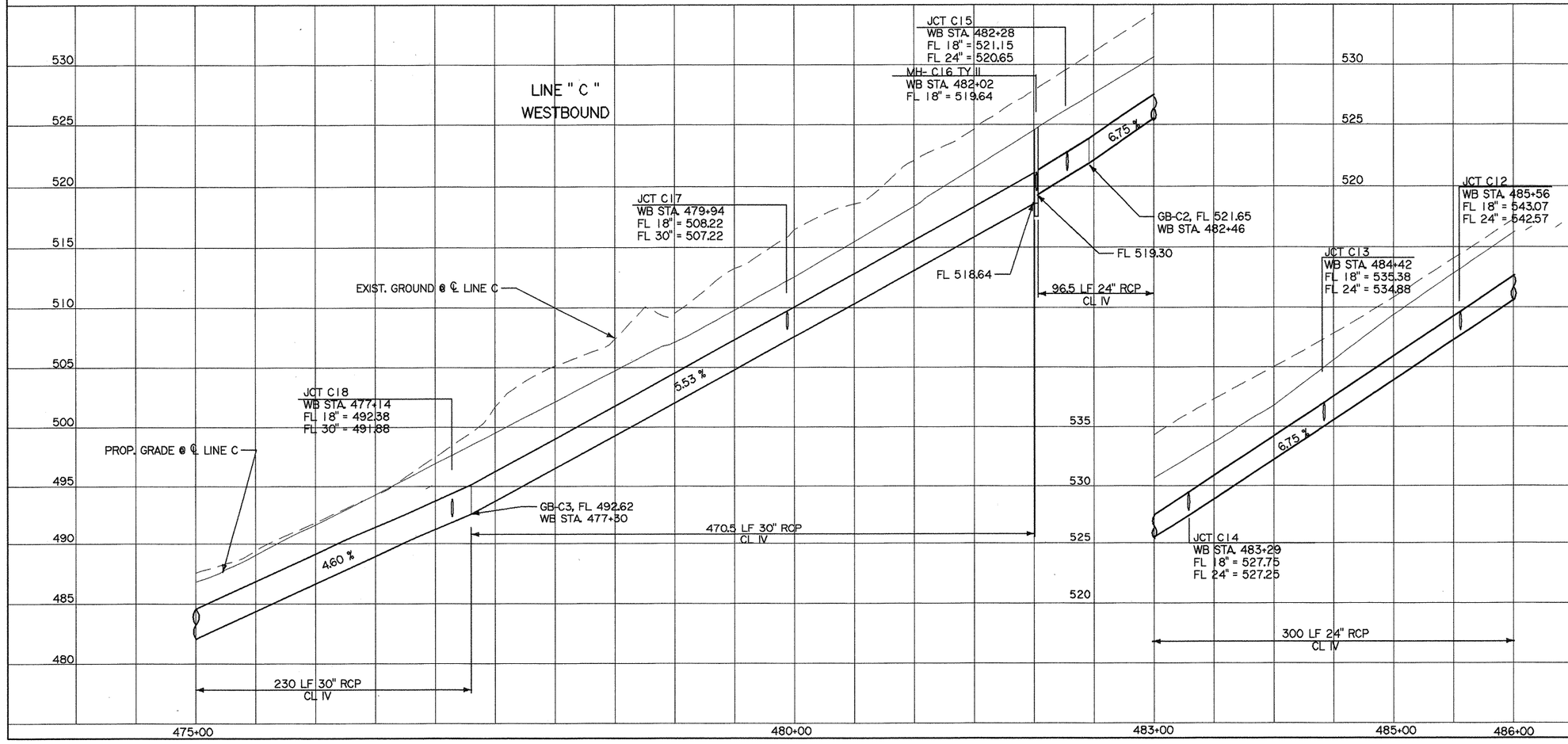
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

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NOTE:

ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.



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DRAINAGE PLAN and PROFILE

STA. 475+00 TO STA. 486+00
LINE C

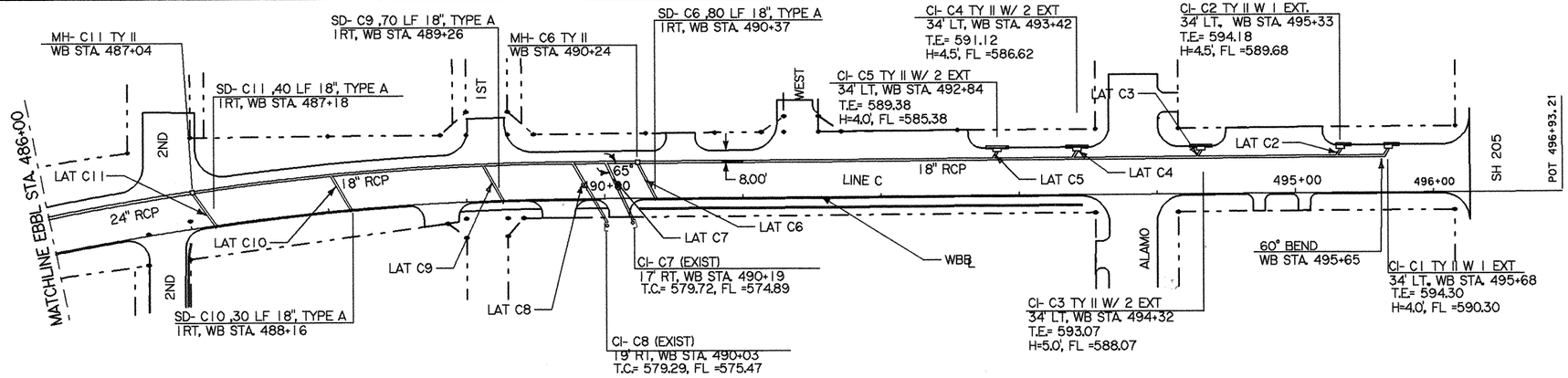
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 7 OF 12 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	264

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

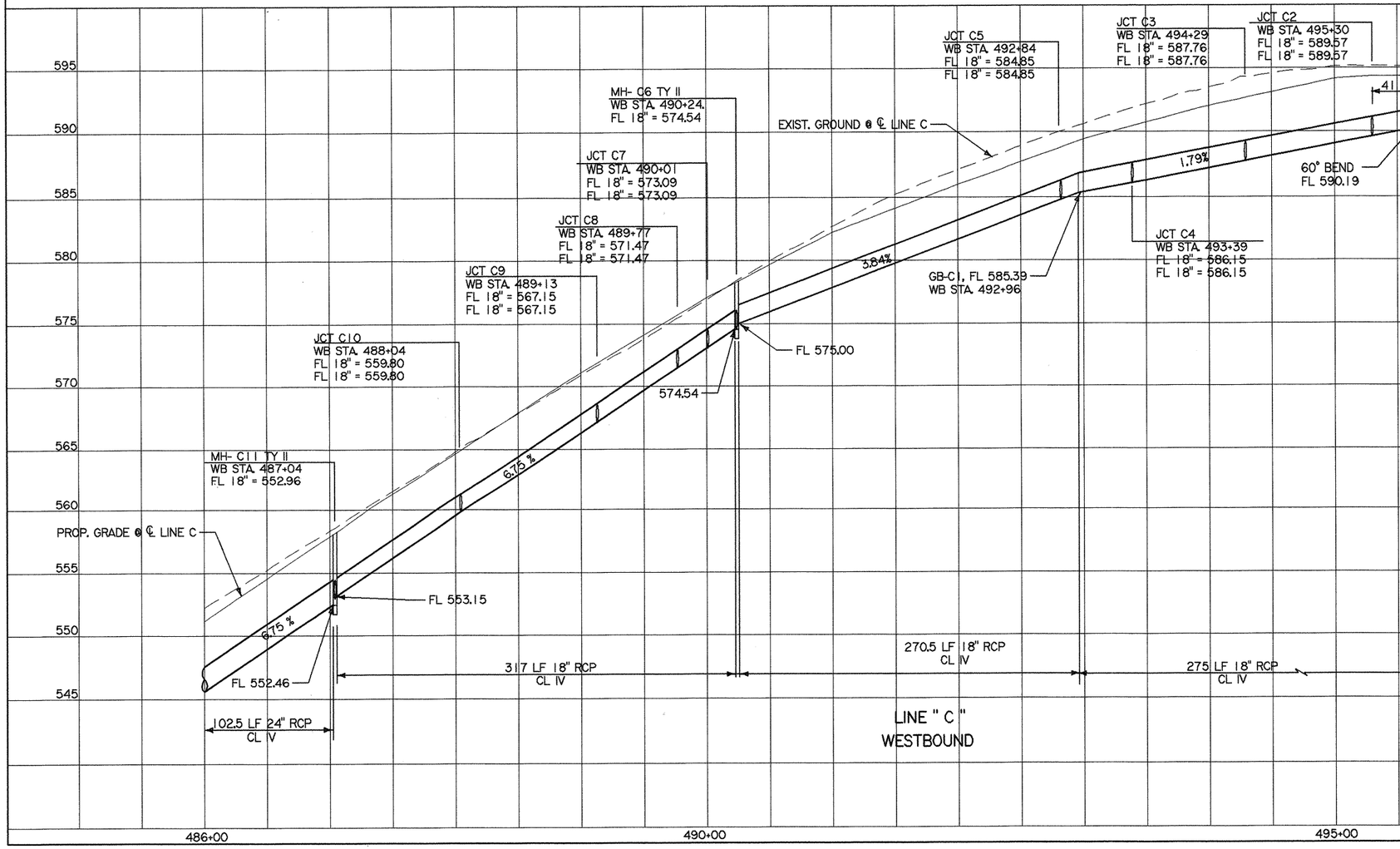
TEE4445 66LINC.DGN 2-10-99



SLOTTED DRAINS

NOTE:

ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.



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DRAINAGE PLAN and PROFILE

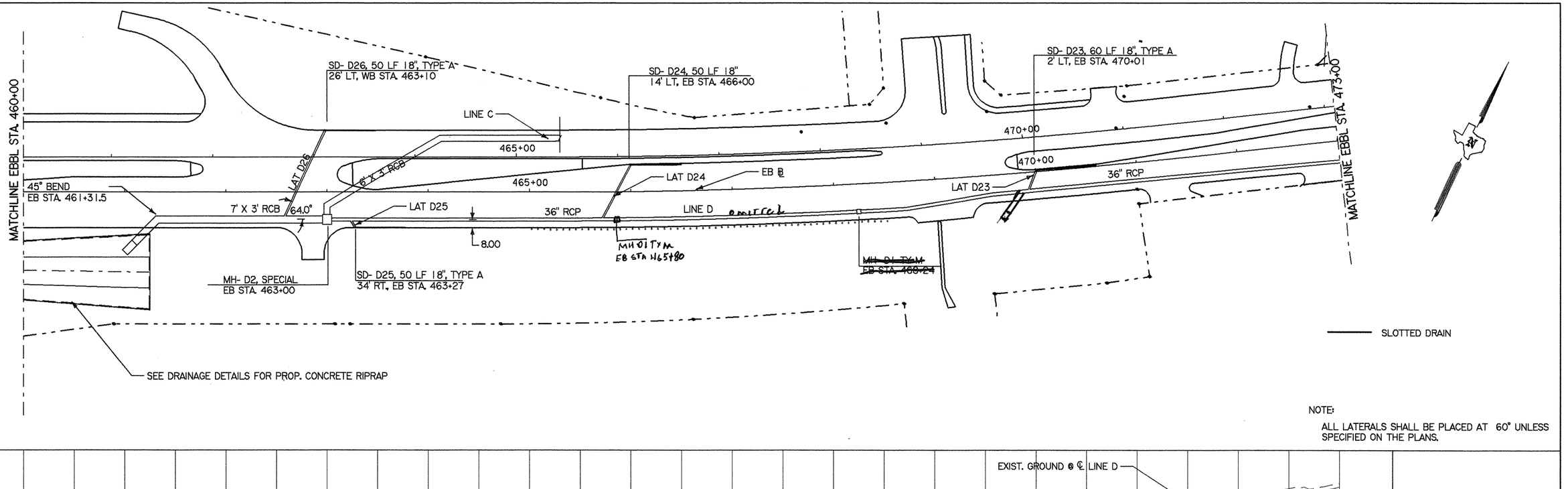
STA. 486+00 TO SH 205
LINE C

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 8 OF 12 SHEETS.

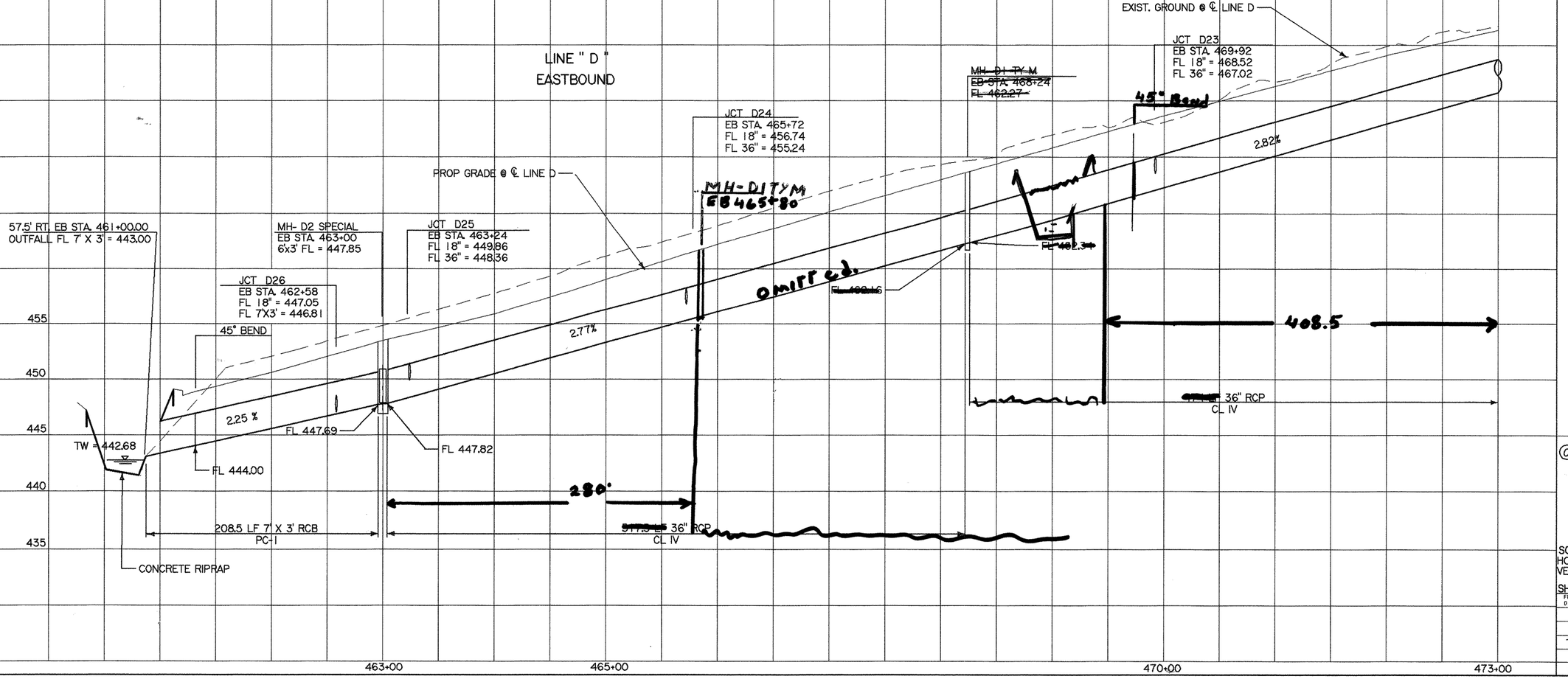
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		265
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE4445 66LINCDGN 2-10-99



NOTE:

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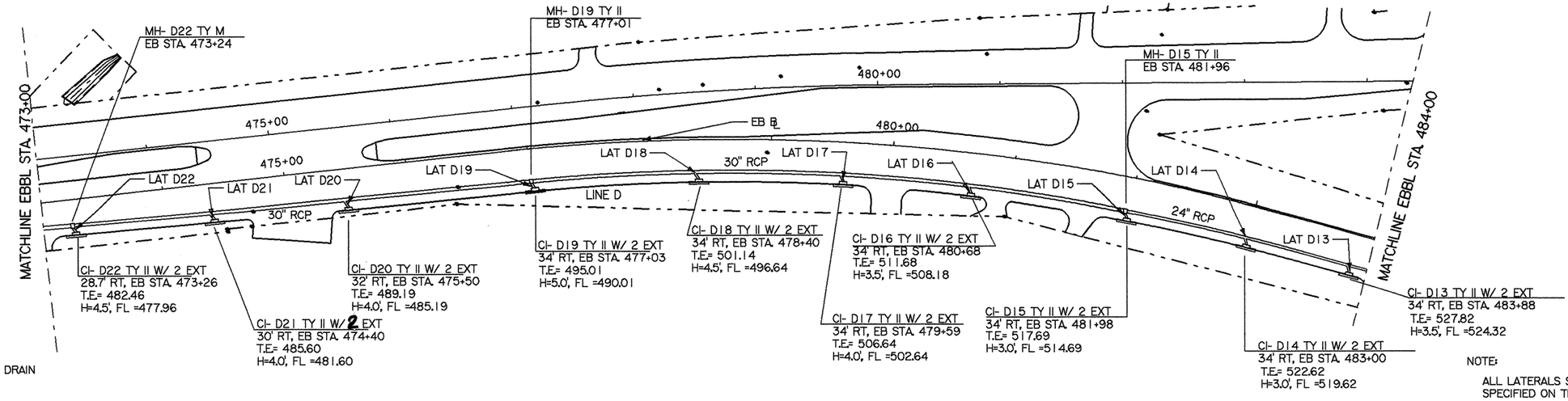
STA. 460+00 TO 473+00
LINE D

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 9 OF 12 SHEETS.

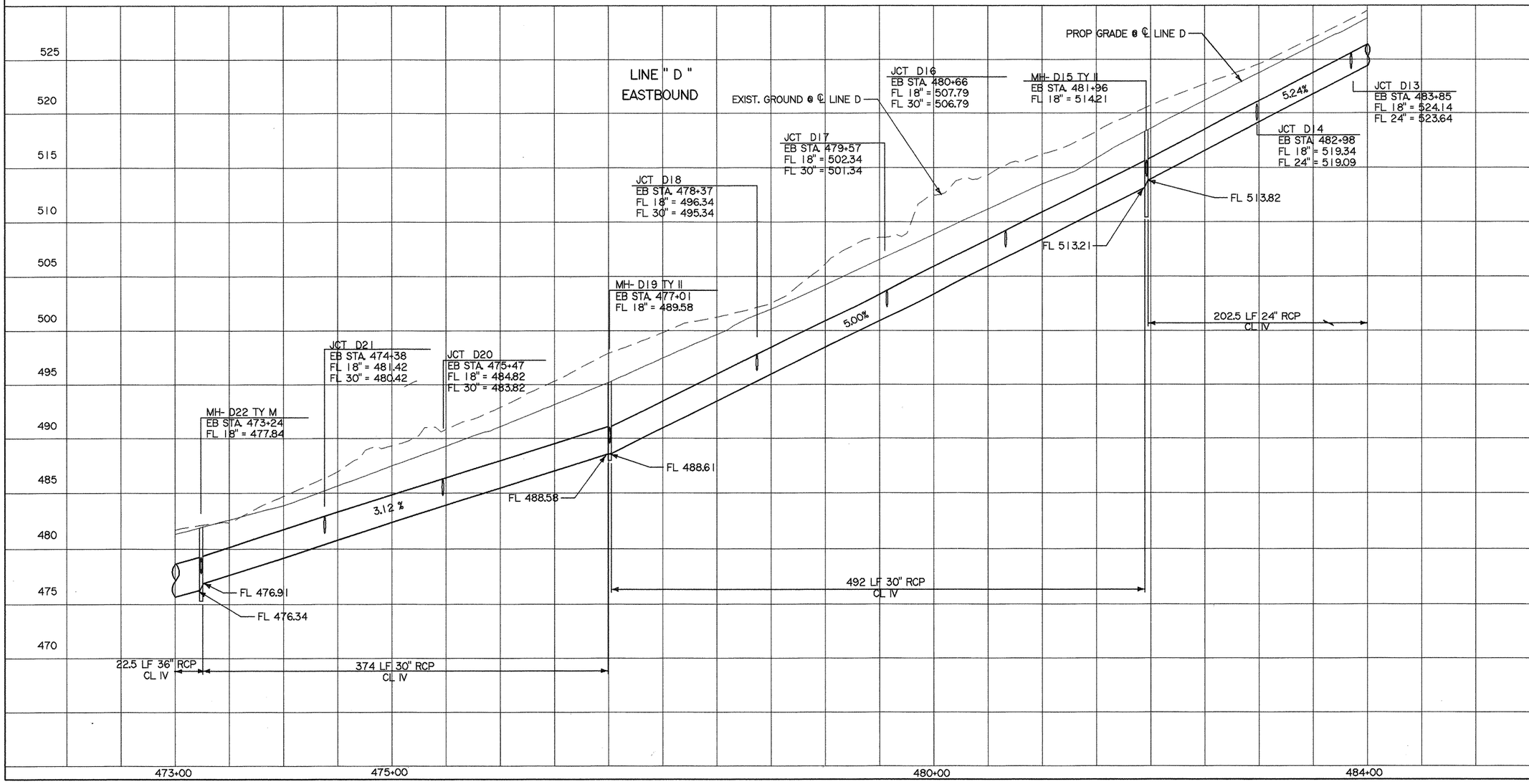
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		266
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE4445 66LIND.DGN 2-10-99



NOTE:

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DRAINAGE PLAN and PROFILE

STA. 473+00 TO 484+00
LINE D

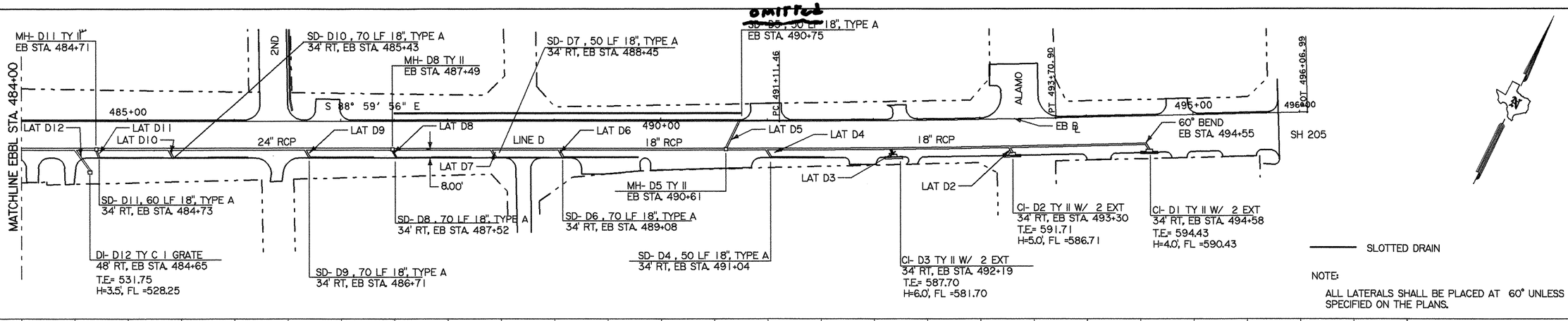
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

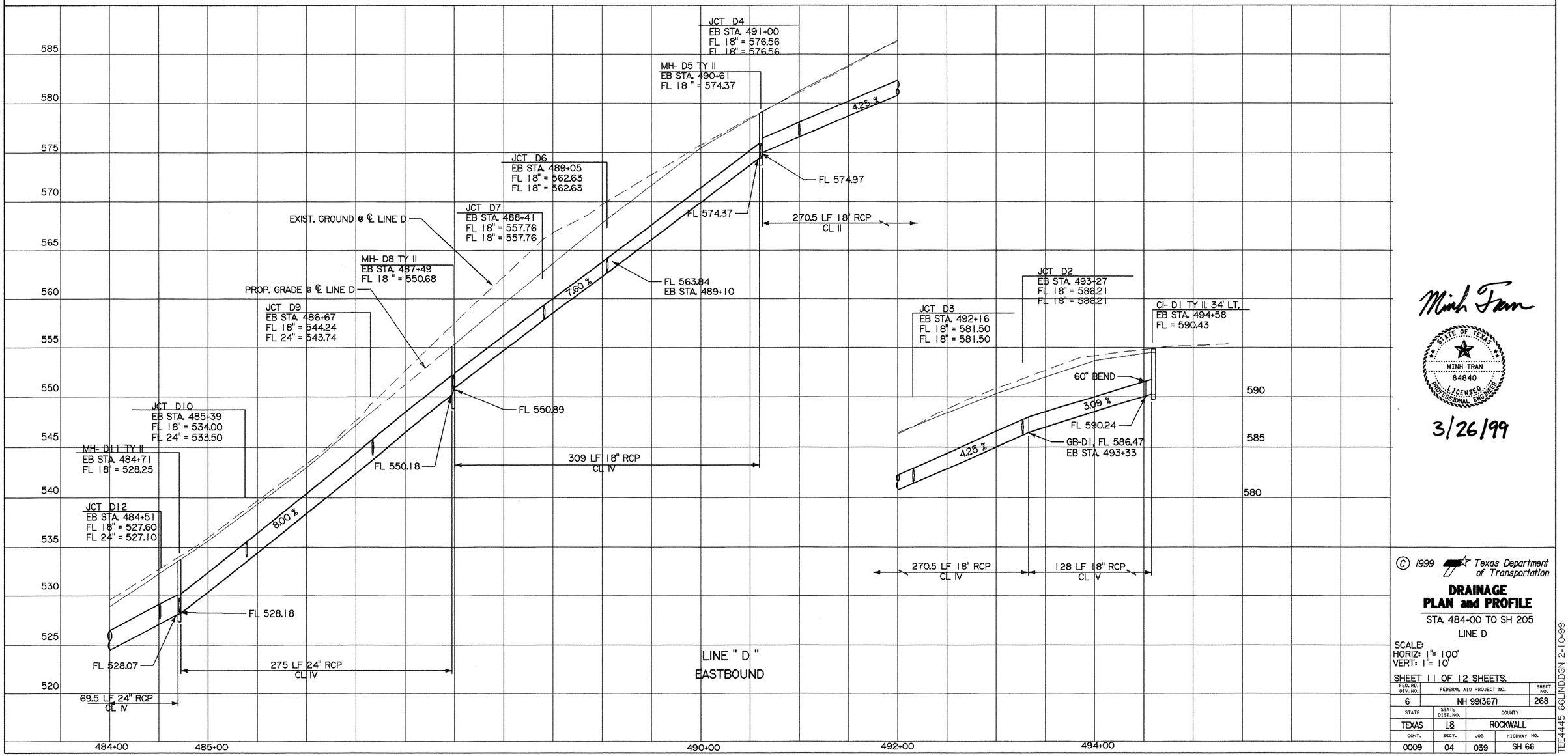
SHEET 10 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	267

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE4445 66LINDDGN 2-9-99





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STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER

3/26/99

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DRAINAGE PLAN and PROFILE

STA. 484+00 TO SH 205

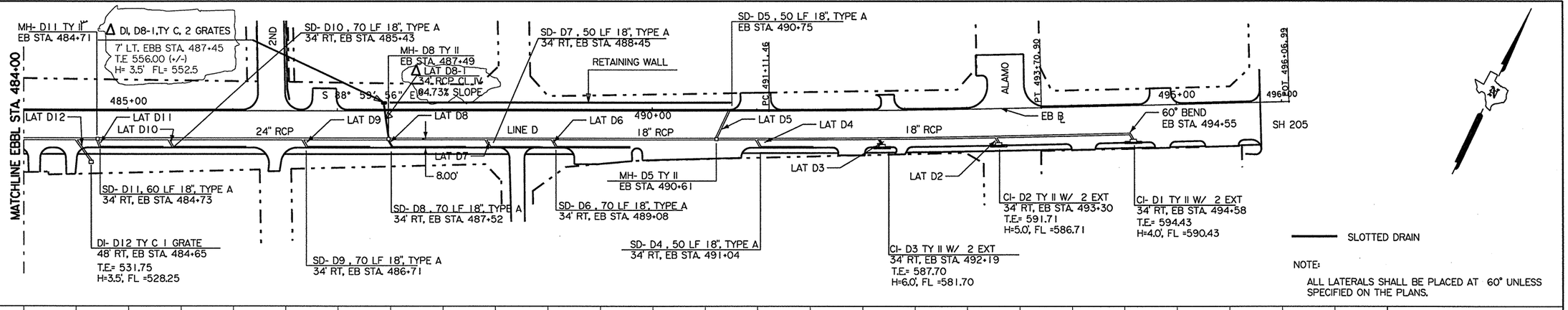
LINE D

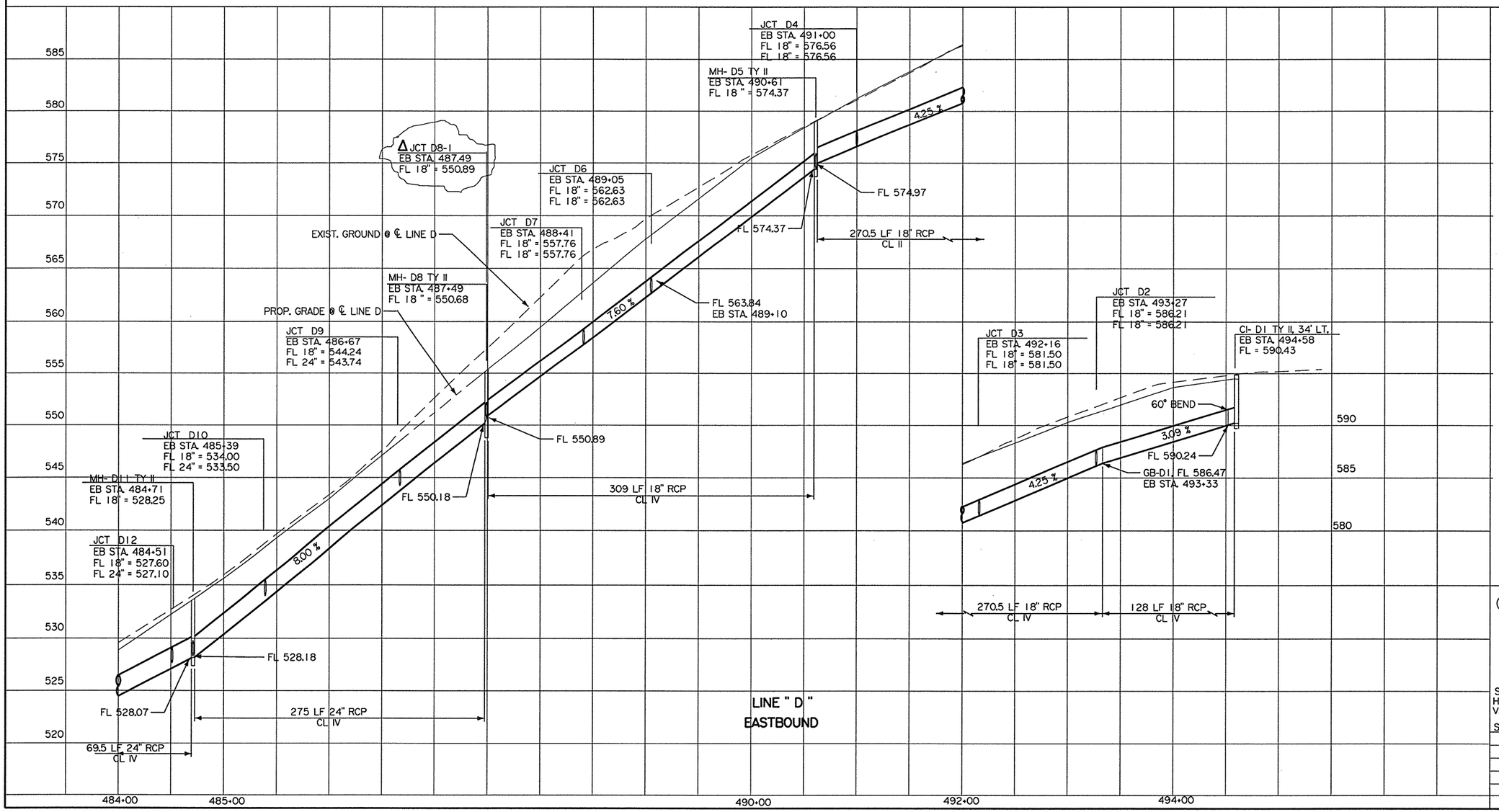
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 11 OF 12 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		268
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TEE4445 66LIND.DGN 2-10-99





STATE OF TEXAS
MAKRAM BATAINEH
82298
LICENSED PROFESSIONAL ENGINEER

Makram Bataineh
07-12-02

Δ FOR MODIFICATION ONLY.
DRAINAGE OF RET WALL FLUME. ADD GRATE INLET. CONNECT TO LINE D.

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DRAINAGE PLAN and PROFILE

STA. 484+00 TO SH 205

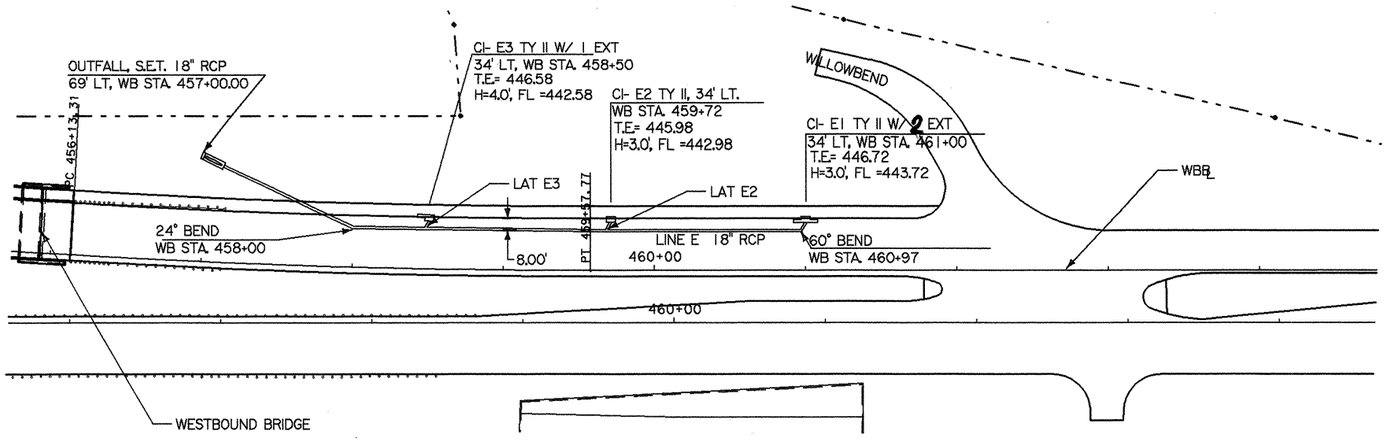
LINE D

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 11 OF 12 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		268A
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

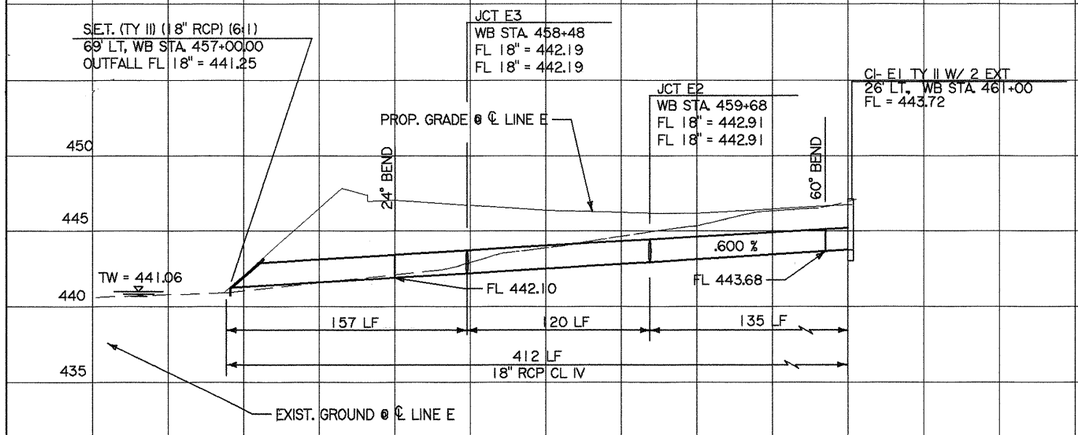
TEE4445 66LINDDGN 2-10-99





NOTE:

ALL LATERALS SHALL BE PLACED AT 60° UNLESS SPECIFIED ON THE PLANS.



LINE " E "
WESTBOUND

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DRAINAGE PLAN and PROFILE

LINE E

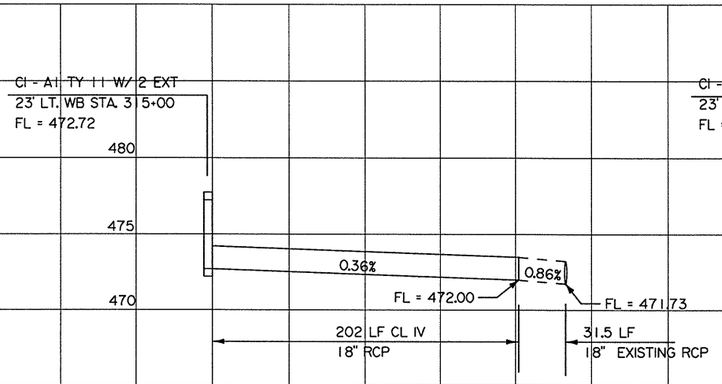
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 12 OF 12 SHEETS.

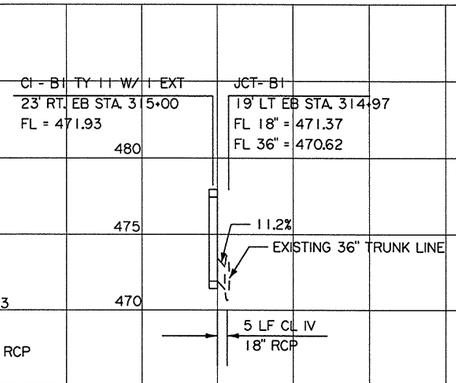
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	269

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

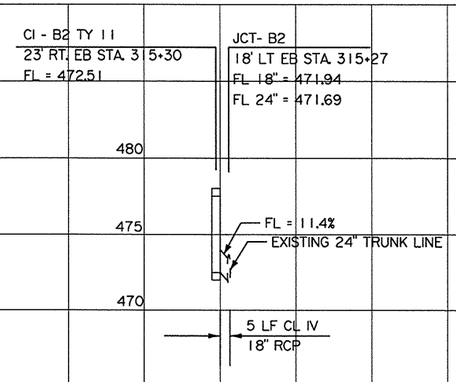
TEE4445 66LINE.DGN 3-20-99



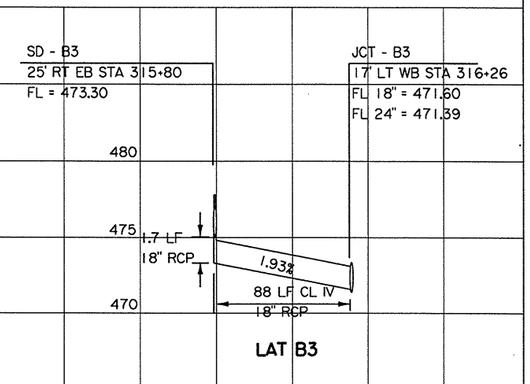
LAT A1



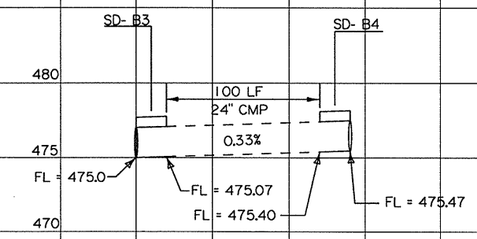
LAT B1



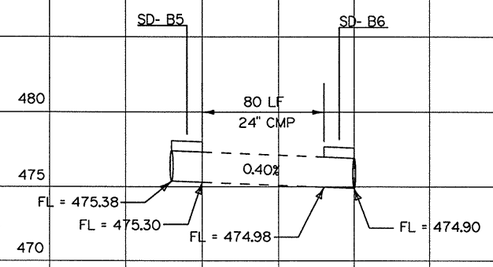
LAT B2



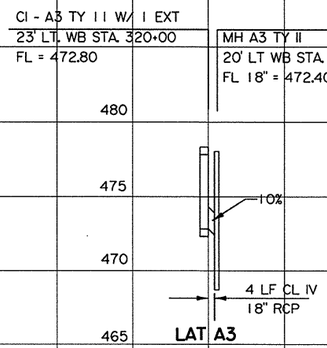
LAT B3



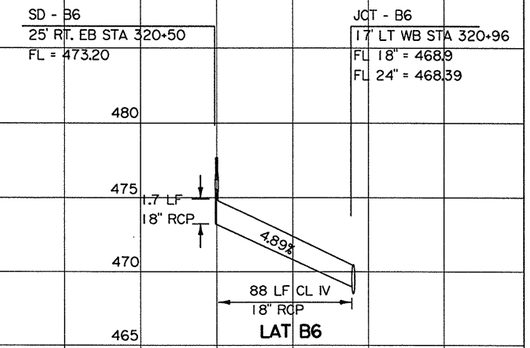
SD - B3 TO SD - B4 CONNECTION



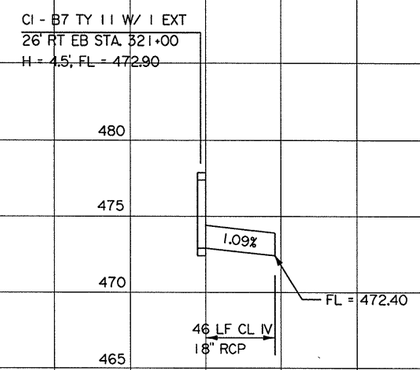
SD - B5 TO SD - B6 CONNECTION



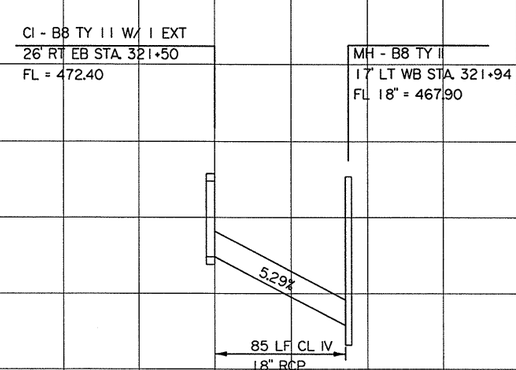
LAT A3



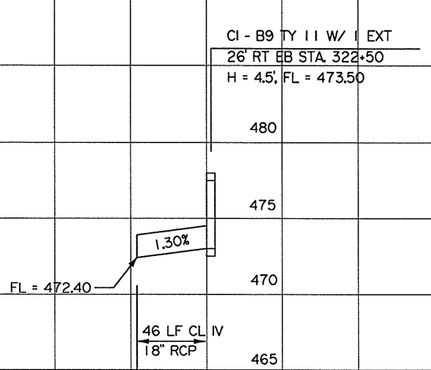
LAT B6



LAT B7



LAT B8



LAT B9



3/26/99

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LATERAL PROFILES

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

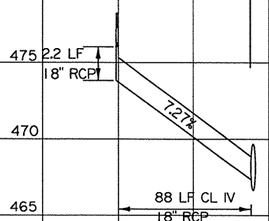
SHEET 1 OF 11

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99 (367)	270

STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

SD - B10
25' RT EB STA 323+00
FL = 473.80

JCT - B10
16' LT WB STA 323+47
FL 18" = 467.40
FL 36" = 466.63

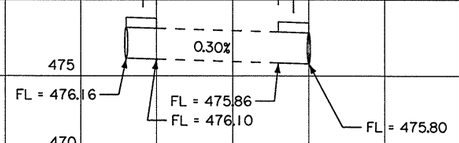


LAT B10

SD - B11

SD - B12

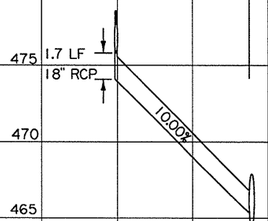
80 LF
24" CMP



SD - B11 TO SD - B12 CONNECTION

SD - B12
25' RT. EB STA 326+50
FL = 474.10

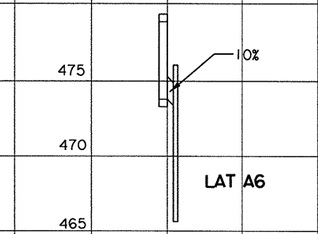
JCT - B12
16' LT WB STA 326+97
FL 18" = 465.40
FL 42" = 464.38



LAT B12

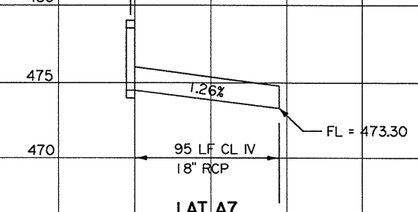
CI - A6 TY II
23' LT WB STA. 325+50
FL = 473.80

MH - A6 TY II
19' LT WB STA. 325+52
FL 18" = 473.40



LAT A6

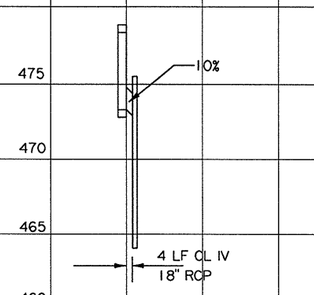
CI - A7 TY II W/ I EXT
23' LT WB STA. 326+50
H = 4', FL = 474.50



LAT A7

CI - A8 TY II
23' LT WB STA. 327+50
FL = 473.30

MH - A8 TY II
19' LT WB STA. 327+52
FL 18" = 472.90

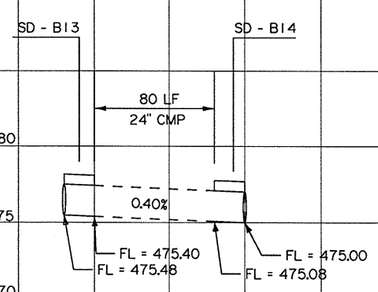


LAT A8

SD - B13

SD - B14

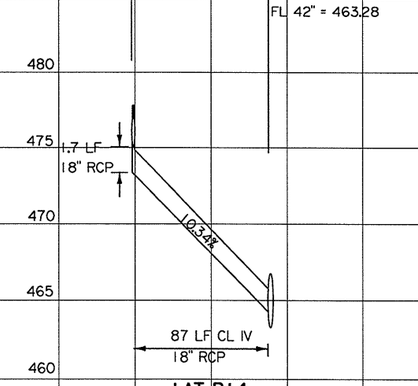
80 LF
24" CMP



SD - B13 TO SD - B14 CONNECTION

SD - B14
25' RT EB STA 328+60
FL = 473.30

JCT - B14
16' LT WB STA 329+07
FL 18" = 464.30
FL 42" = 463.28



LAT B14



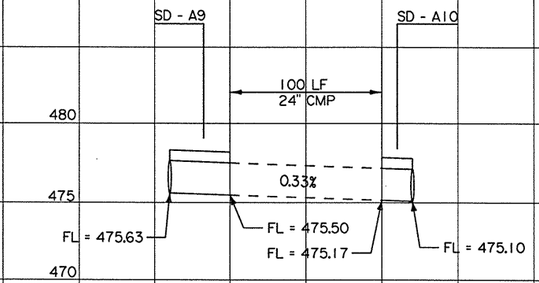
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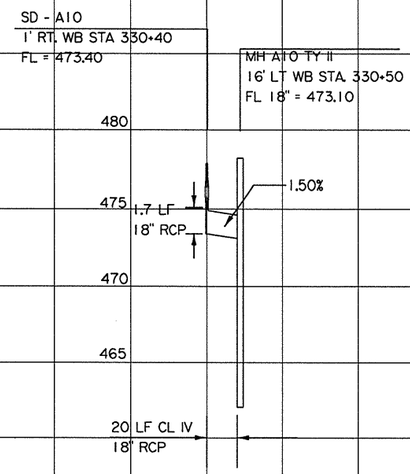
LATERAL PROFILES

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

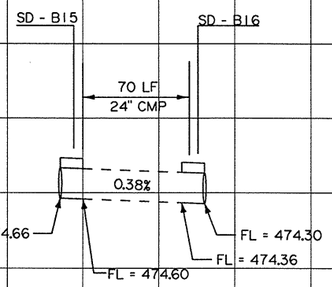
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		271
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	ROCKWALL



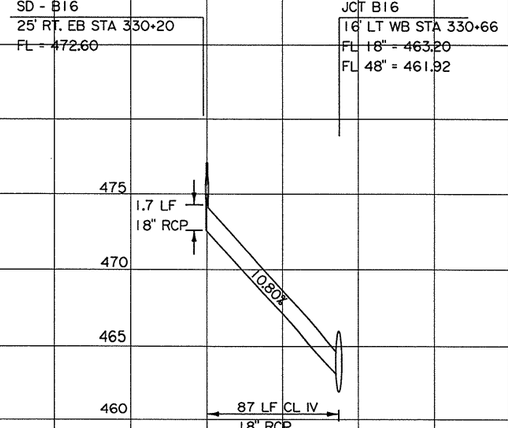
SD - A9 TO SD - A10 CONNECTION



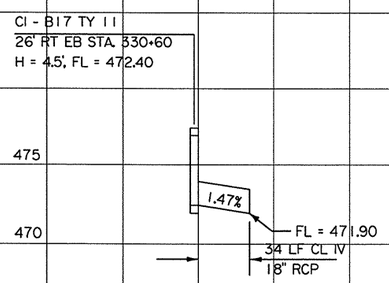
LAT A10



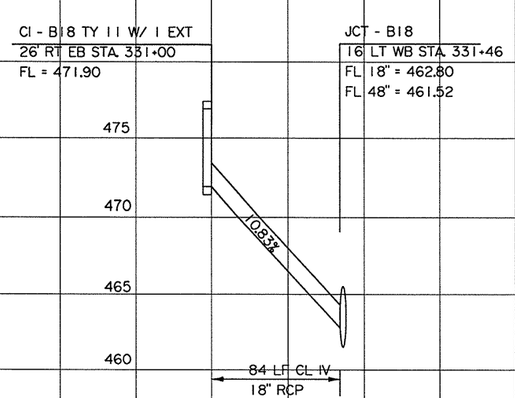
SD - B15 TO SD - B16 CONNECTION



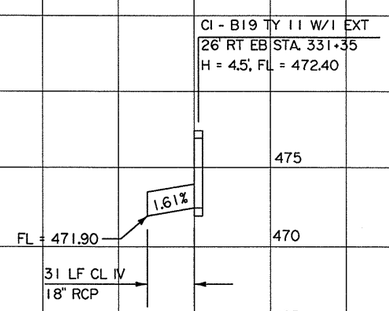
LAT B16



LAT B17



LAT B18



LAT B19

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3/26/99

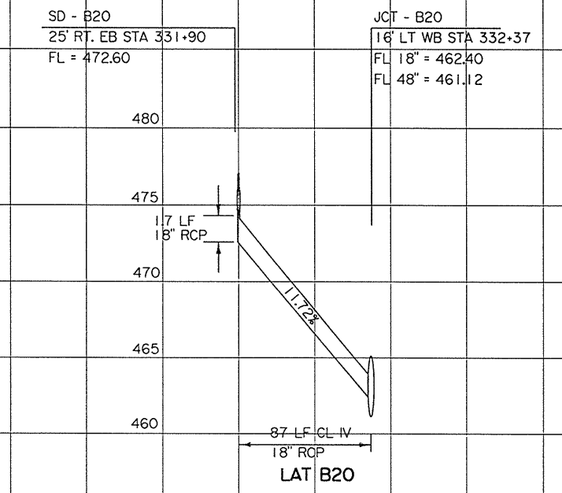
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LATERAL PROFILES

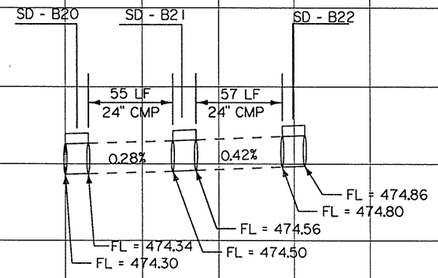
SCALE:
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VERT: 1"= 10'

SHEET 3 OF 11

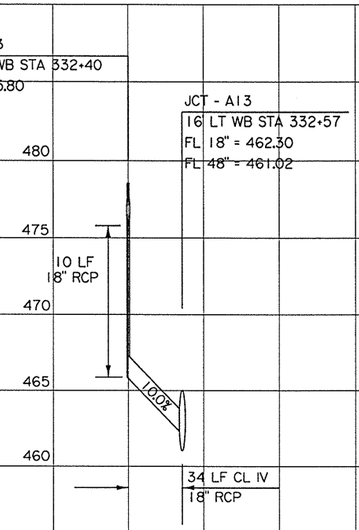
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		272
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



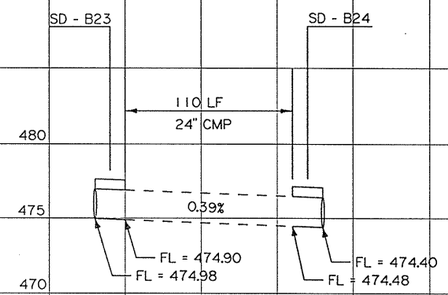
LAT B20



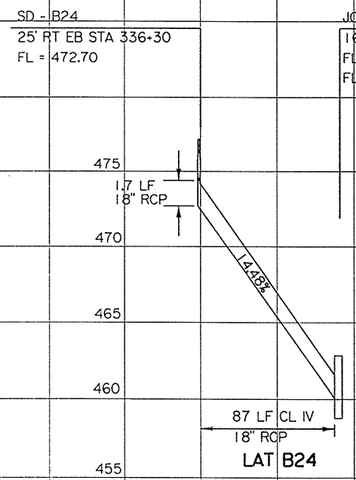
SD - B20 TO SD - B21 TO SD - B22 CONNECTION



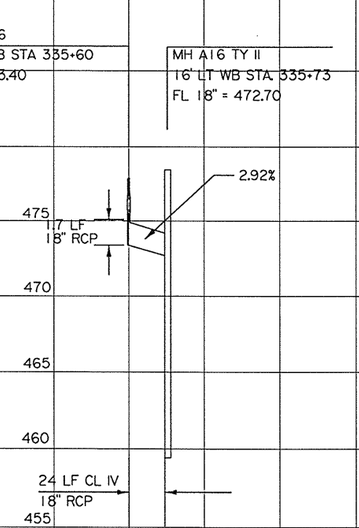
LAT A13



SD - B23 TO SD - B24 CONNECTION



LAT B24



LAT A16

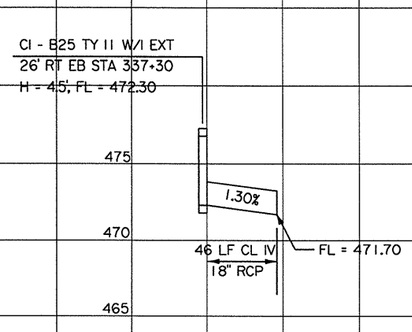


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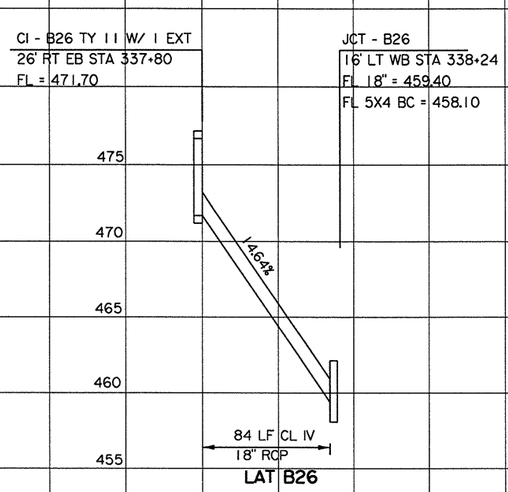
LATERAL PROFILES

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

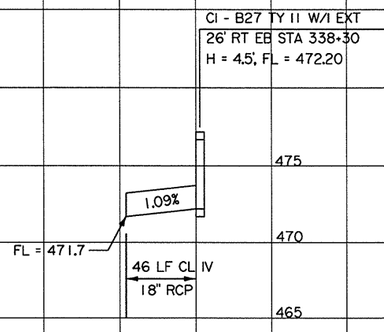
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		273
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



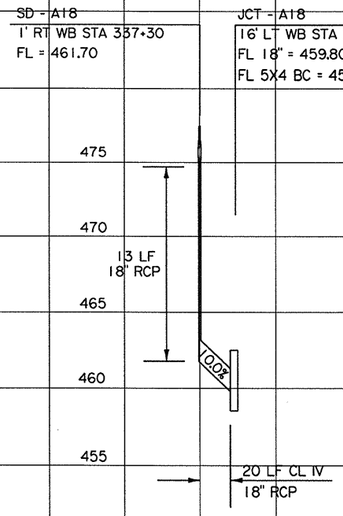
LAT B25



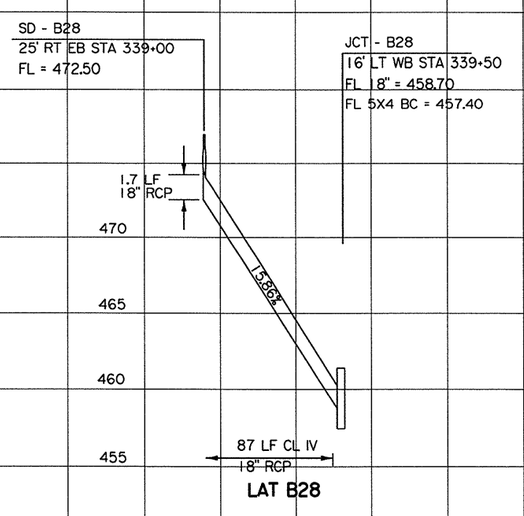
LAT B26



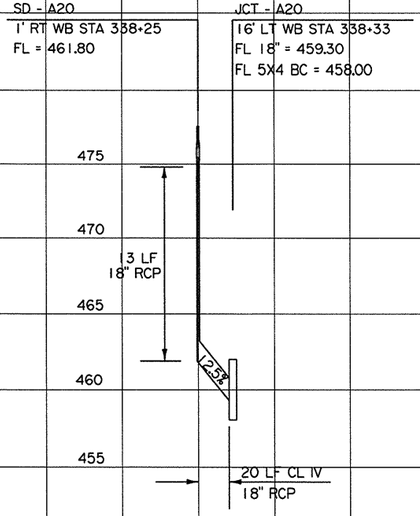
LAT B27



LAT A18



LAT B28



LAT A20

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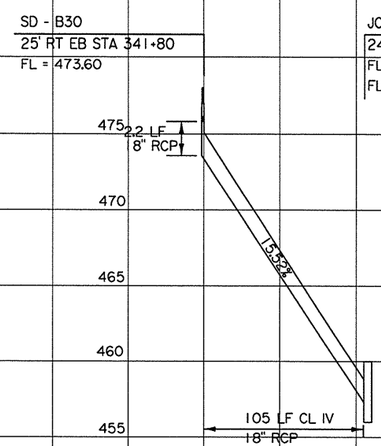
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LATERAL PROFILES

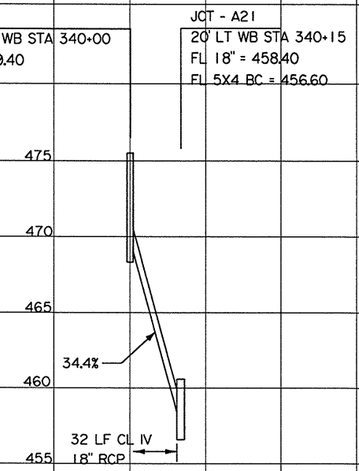
SCALE:
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VERT: 1"= 10'

SHEET 5 OF 11

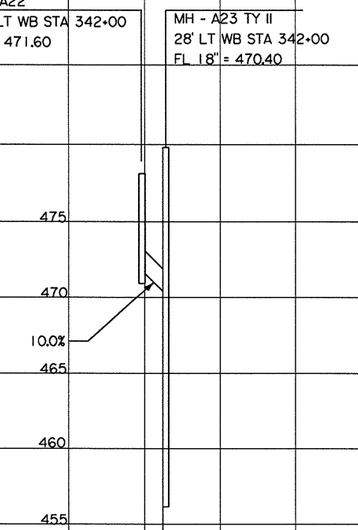
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		274
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



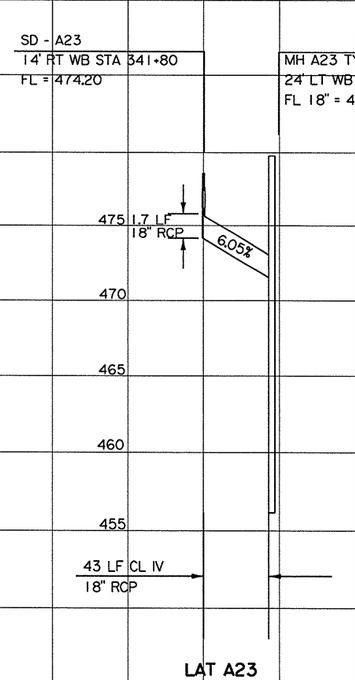
LAT B30



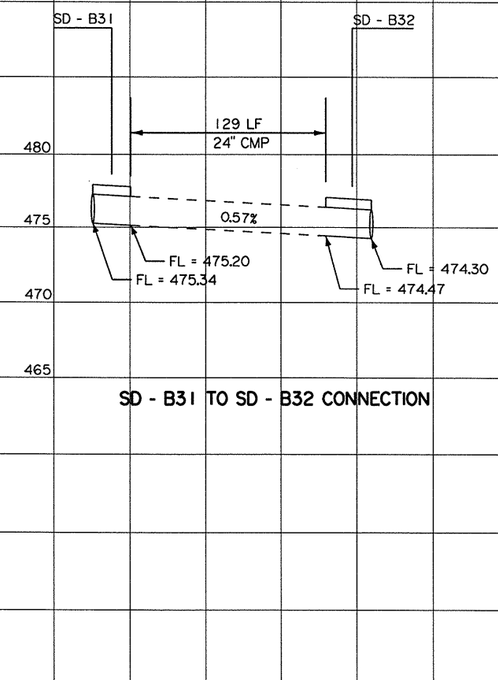
LAT A21



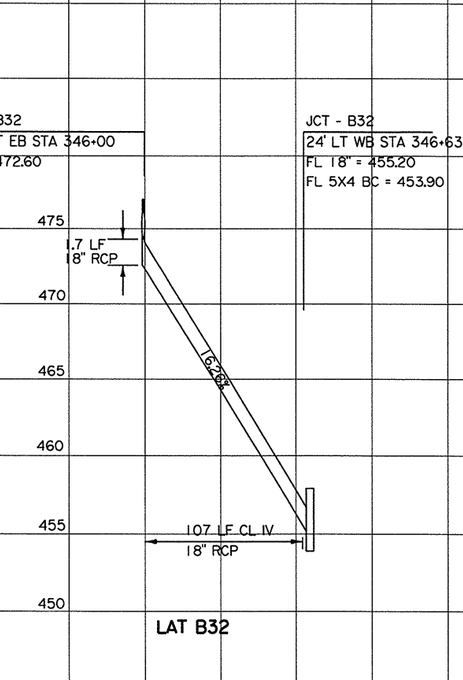
LAT A22



LAT A23



SD - B31 TO SD - B32 CONNECTION



LAT B32

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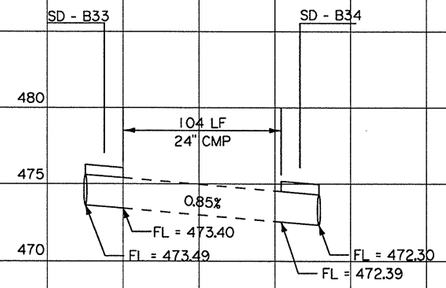
LATERAL PROFILES

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

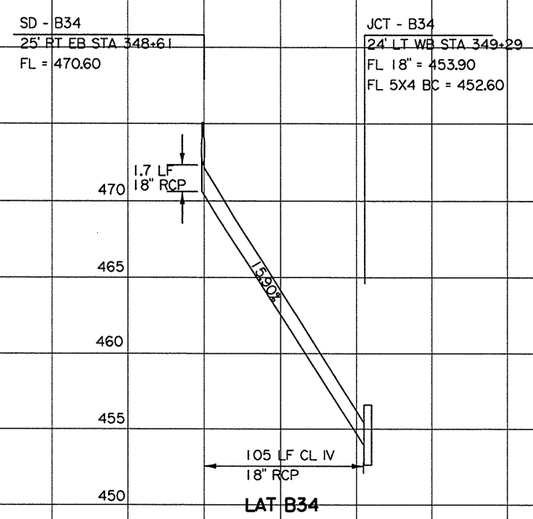
SHEET 6 OF 11

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99 (367)	275

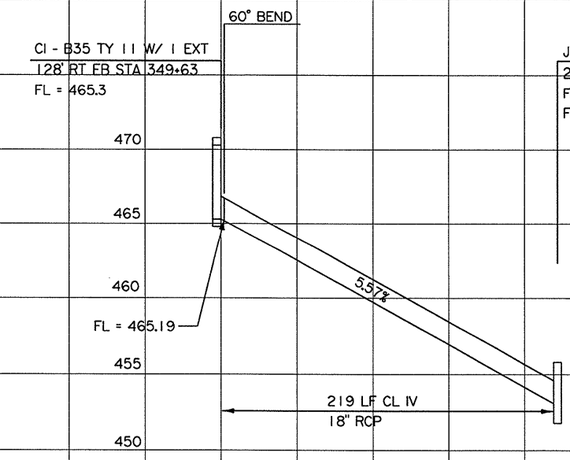
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



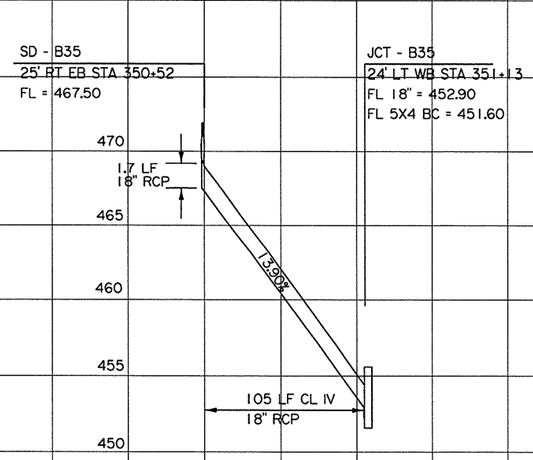
SD - B33 TO SD - B34 CONNECTION



LAT B34



LAT B35



LAT B36



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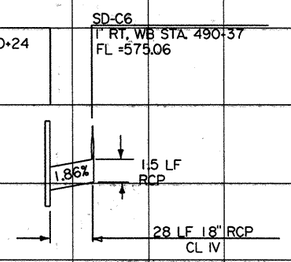
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LATERAL PROFILES

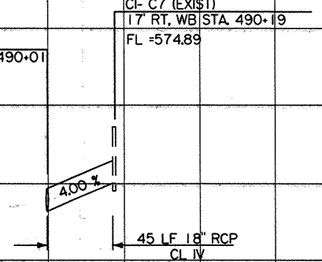
SCALE:
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SHEET 7 OF 11

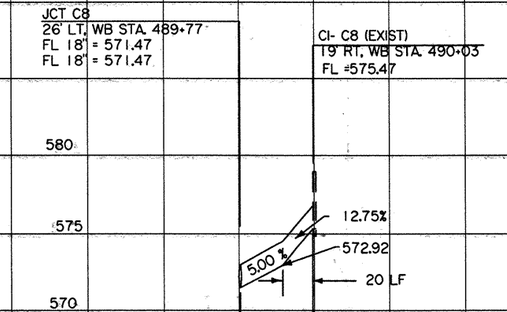
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		276
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



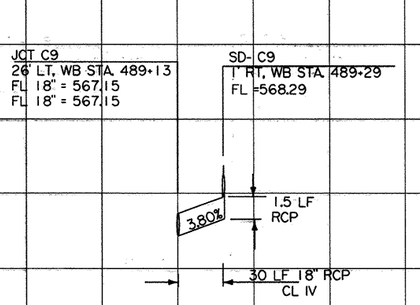
LAT C6



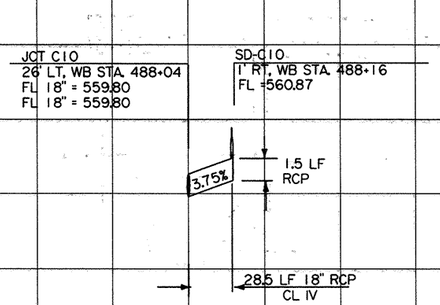
LAT C7



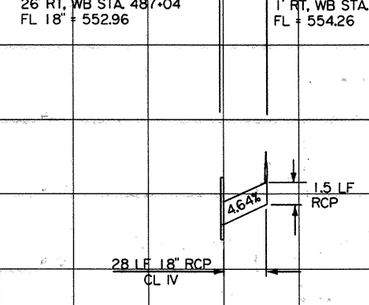
LAT C8



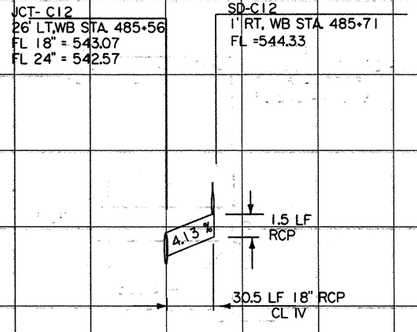
LAT C9



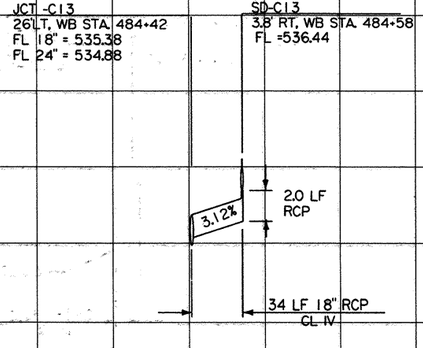
LAT C10



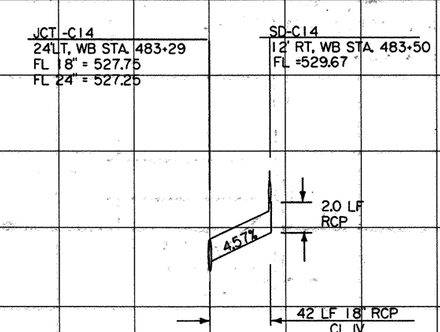
LAT C11



LAT C12



LAT C13



LAT C14

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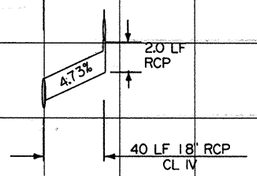
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 8 OF 11 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		277
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

JCT -C15
22LT, WB STA. 482+28
FL 18" = 521.15
FL 24" = 520.65

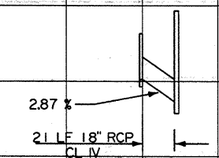
SD-C15
12' RT, WB STA. 482+47
FL =523.04



LAT C15

DI- C16 TY C 3 GRATES
45' LT, WB STA. 482+09
T.G.= 523.80, FL =520.14

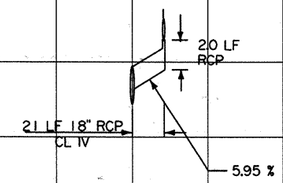
MH- C16 TY II
21.5 LT, WB STA.482+02
FL 18" = 519.64



LAT C16

JCT -C17
18LT, WB STA. 479+94
FL 18" = 508.22
FL 30" = 507.22

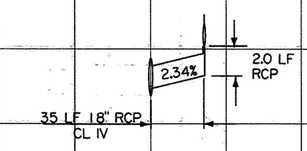
SD-C17
2' RT, WB STA. 480+04
FL =509.47



LAT C17

JCT -C18
18LT, WB STA. 477+14
FL 18" = 492.38
FL 30" = 491.88

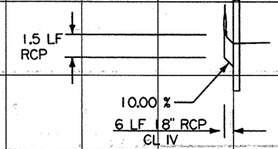
SD-C18
14' RT, WB STA. 477+30
FL =493.20



LAT C18

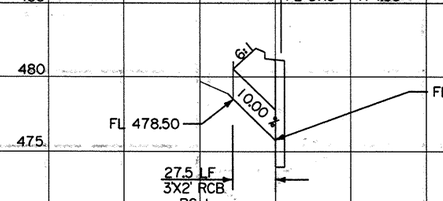
SD-C19
26' LT, WB STA. 474+50
FL =481.21

MH- C19 TY M
18' LT, WB STA.474+48
FL 18" = 480.61



LAT C19

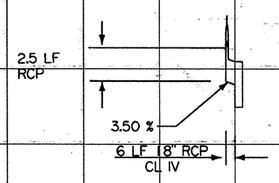
MH- C20 TY M
WB STA.473+20
FL 5X3' = 474.53



LAT C20

SD-C21
26' LT, WB STA. 472+48
FL =474.19

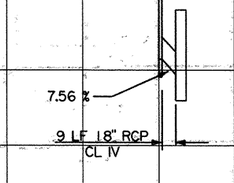
JCT C21
18 LT, WB STA.472+46
FL 18" = 473.98
FL 5X3' = 472.48



LAT C21

DI- C22 TY C 3 GRATES
32.6 LT, WB STA. 471+10
T.G.= 475.20, FL =470.70

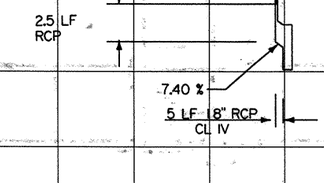
MH- C22 TY M
18 LT, WB STA.471+06
FL 18" = 470.02



LAT C22

SD-C23
26' LT, WB STA. 469+92
FL =467.00

JCT C23
18 LT, WB STA.469+89
FL 18" = 466.63
FL 6X3' = 465.13



LAT C23

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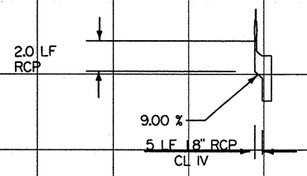
SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 9 OF 11 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		278
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

SD-C24
26' LT, WB STA. 467+50
FL =460.18

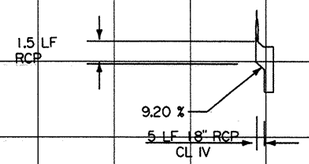
JCT C24
18' LT, WB STA.467+48
FL 18" = 459.73
FL 6'X3' = 458.23



LAT C24

SD-C25
26' LT, WB STA. 465+50
FL =454.92

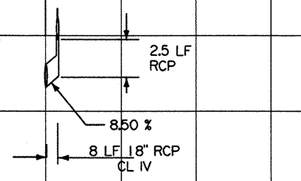
JCT C25
18' LT, WB STA.465+48
FL 18" = 454.46
FL 6'X3' = 452.96



LAT C25

JCT D4
26' RT, EB STA. 491+00
FL 18" = 576.56
FL 18" = 576.56

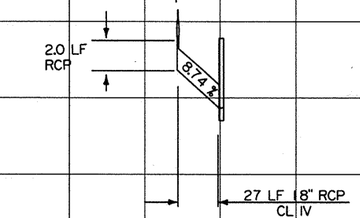
SD- D4
34' RT, EB STA. 491+04
FL =577.24



LAT D4

SD- D5
1' LT,EB STA. 490+75
FL= 576.73

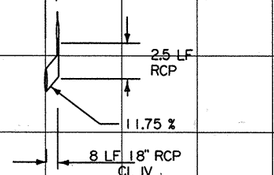
MH- D5 TY II
26' RT, EB STA. 490+61
FL 18" = 574.37



LAT D5

JCT D6
26' RT, EB STA. 489+05
FL 18" = 562.63
FL 18" = 562.63

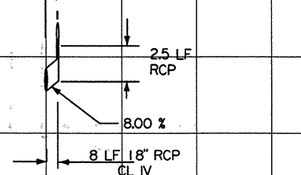
SD- D6
34' RT, EB STA. 489+08
FL =563.57



LAT D6

JCT D7
26' RT, EB STA. 488+41
FL 18" = 557.76
FL 18" = 557.76

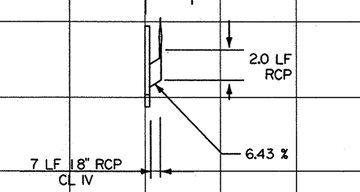
SD- D7
34' RT, EB STA. 488+45
FL =558.40



LAT D7

MH- D8 TY II
26' RT, EB STA. 487+49
FL 18" = 550.68

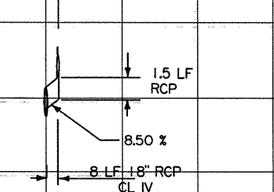
SD- D8
1' LT,EB STA. 487+52
FL= 551.13



LAT D8

JCT D9
26' RT, EB STA. 486+67
FL 18" = 544.24
FL 24" = 543.74

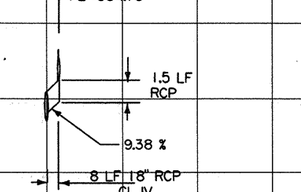
SD- D9
34' RT, EB STA. 486+71
FL =544.92



LAT D9

JCT D10
26' RT, EB STA. 485+39
FL 18" = 534.00
FL 24" = 533.50

SD- D10
34' RT, EB STA. 485+43
FL =534.75



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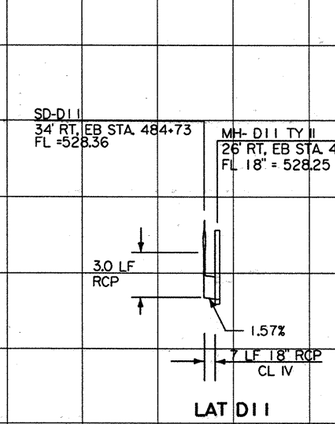
LATERAL PROFILES

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

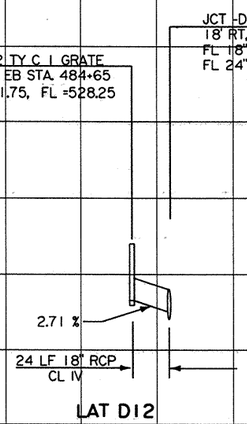
SHEET 10 OF 11 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99 (367)	279

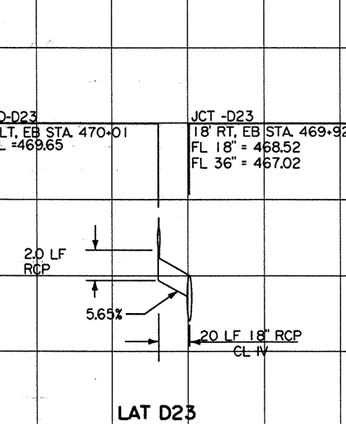
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



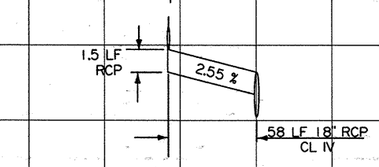
LAT D11



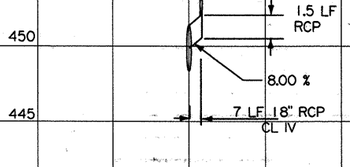
LAT D12



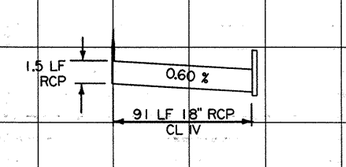
LAT D23



LAT D24



LAT D25



LAT D26

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LATERAL PROFILES

SCALE:
HORIZ: 1"= 100'
VERT: 1"= 10'

SHEET 11 OF 11 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		280
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TFF4445_661ATADGN 2-10-99

RUNOFF COMPUTATIONS

ACRES - DRAINED										
DRAIN NO	AREA AC	PAVT C=0.9	COMM OR INDUST C=0.8	RESID OR INDUST C=0.7	CEMETERY C=0.3	TOTAL C A	TIME OF CONCENTRATION MINUTES	I_{10} IN/HR	Q_{10} cfs	REMARKS
A1	0.82	0.74	–	–	–	0.74	10	7.98	5.98	LOW POINT
A2	0.28	0.18	0.06	–	–	0.24	10	7.98	1.92	
A3	0.24	0.15	0.06	–	–	0.21	10	7.98	1.69	
A4	0.35	0.22	0.09	–	–	0.31	10	7.98	2.45	LOW POINT
A5	0.50	0.15	0.36	–	–	0.41	10	7.98	3.21	
A6	0.34	0.07	0.21	–	–	0.28	10	7.98	2.22	
A7	0.33	0.05	0.22	–	–	0.27	10	7.98	2.16	
A8	0.33	0.05	0.22	–	–	0.27	10	7.98	2.16	
A9	0.55	0.10	0.35	–	–	0.45	10	7.98	3.60	
A10	0.38	0.07	0.24	–	–	0.31	10	7.98	2.48	
A11	0.42	0.06	0.28	–	–	0.34	10	7.98	2.74	LOW POINT
A13	0.57	0.14	0.34	–	–	0.48	10	7.98	3.74	
A16	0.56	0.11	0.35	–	–	0.46	10	7.98	3.66	
A18	0.31	0.05	0.20	–	–	0.25	10	7.98	2.00	
A19	0.30	0.05	0.19	–	–	0.24	10	7.98	1.96	LOW POINT
A20	0.91	0.14	0.60	–	–	0.74	10	7.98	5.98	
A23	0.28	0.11	0.13	–	–	0.24	10	7.98	1.92	
A24	0.58	0.16	0.32	–	–	0.48	10	7.98	3.84	
A25	0.53	0.10	0.34	–	–	0.44	10	7.98	3.51	
A26	0.54	0.10	0.34	–	–	0.44	10	7.98	3.49	
A27	0.55	0.11	0.34	–	–	0.45	10	7.98	3.60	
A28	0.54	0.11	0.34	–	–	0.45	10	7.98	3.58	
A29	0.53	0.10	0.34	–	–	0.44	10	7.98	3.51	
A30	0.35	0.11	0.18	–	–	0.29	10	7.98	2.32	
B1	0.45	0.05	0.32	–	–	0.37	10	7.98	2.94	LOW POINT
B2	0.18	0.03	0.12	–	–	0.15	10	7.98	1.19	
B3	0.45	0.10	0.27	–	–	0.37	10	7.98	2.94	
B4	0.40	0.06	0.26	–	–	0.32	10	7.98	2.62	
B5	0.42	0.14	0.21	–	–	0.35	10	7.98	2.78	
B6	0.39	0.05	0.27	–	–	0.32	10	7.98	2.55	
B7	0.28	0.03	0.20	–	–	0.23	10	7.98	1.83	
B8	0.40	0.07	0.26	–	–	0.33	10	7.98	2.62	LOW POINT
B9	0.40	0.08	0.25	–	–	0.33	10	7.98	2.63	
B10	0.63	0.14	0.38	–	–	0.52	10	7.98	4.17	
B11	0.39	0.07	0.25	–	–	0.32	10	7.98	2.55	
B12	0.37	0.05	0.25	–	–	0.30	10	7.98	2.42	
B13	0.41	0.06	0.27	–	–	0.33	10	7.98	2.68	
B14	0.37	0.05	0.25	–	–	0.30	10	7.98	2.42	
B15	0.30	0.05	0.25	–	–	0.25	10	7.98	1.96	
B16	0.29	0.05	0.19	–	–	0.24	10	7.98	1.90	
B17	0.15	0.03	0.10	–	–	0.13	10	7.98	0.99	
B18	0.30	0.05	0.20	–	–	0.25	10	7.98	1.96	LOW POINT
B19a	0.28	0.07	0.16	–	–	0.23	10	7.98	1.83	
B19b	0.21	0.06	0.11	–	–	0.17	10	7.98	1.39	
B20	0.30	0.05	0.20	–	–	0.25	10	7.98	1.96	
B21	0.29	0.05	0.19	–	–	0.24	10	7.98	1.90	
B22	0.28	0.06	0.17	–	–	0.23	10	7.98	1.83	
B23	0.37	0.05	0.25	–	–	0.30	10	7.98	2.42	
B24	0.42	0.10	0.25	–	–	0.35	10	7.98	2.75	
B25	0.35	0.09	0.20	–	–	0.29	10	7.98	2.29	
B26	0.34	0.08	0.20	–	–	0.28	10	7.98	2.22	LOW POINT
B27	0.27	0.05	0.17	–	–	0.22	10	7.98	1.77	
B28	0.65	0.30	0.26	–	–	0.56	10	7.98	4.35	
B30	0.38	0.08	0.23	–	–	0.31	10	7.98	2.48	
B31	0.57	0.08	0.39	–	–	0.47	10	7.98	3.68	
B32	0.56	0.13	0.33	–	–	0.46	10	7.98	3.66	
B33	0.56	0.20	0.27	–	–	0.47	10	7.98	3.75	
B34	0.57	0.13	0.34	–	–	0.47	10	7.98	3.76	
B35	0.70	0.22	0.36	–	–	0.58	10	7.98	4.69	

ACRES - DRAINED										
DRAIN NO	AREA AC	PAVT C=0.9	COMM OR INDUST C=0.75	RESID OR INDUST C=0.7	CEMETERY C=0.3	TOTAL C A	TIME OF CONCENTRATION MINUTES	I IN/HR	Q_{10} cfs	REMARKS

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STATE OF TEXAS
MINH TRAN
84840
LICENSED PROFESSIONAL ENGINEER
3-26-99

RUNOFF COMPUTATIONS SHEET

SHEET 1 OF 2 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		28
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

RUNOFF COMPUTATIONS

DRAIN NO	AREA AC	ACRES - DRAINED PAVT C=0.9	COMM OR INDUST C=0.8	RESID OR INDUST C=0.7	CEMETERY C=0.3	TOTAL C A	TIME OF CONCENTRATION MINUTES	I_{10} IN/HR	Q_{10} cfs	REMARKS
C1	0.38	0.03	0.35	–	–	0.31	10	7.98	2.47	
C2	0.25	0.03	0.21	–	–	0.20	10	7.98	1.60	
C3	0.53	0.07	0.46	–	–	0.43	10	7.98	3.43	
C4	0.51	0.21	0.30	–	–	0.43	10	7.98	3.43	
C5	0.28	0.12	0.16	–	–	0.24	10	7.98	1.92	
C6	0.56	0.26	0.30	–	–	0.47	10	7.98	3.75	
C7	0.59	0.59	–	–	–	0.53	10	7.98	4.23	EXIST INLET
C8	0.05	0.05	–	–	–	0.04	10	7.98	0.32	EXIST INLET
C9	0.51	0.26	0.25	–	–	0.44	10	7.98	3.51	
C10	0.52	0.19	0.33	–	–	0.44	10	7.98	3.51	
C11	0.56	0.09	0.47	–	–	0.46	10	7.98	3.67	
C12	0.60	0.27	0.33	–	–	0.51	10	7.98	4.07	
C13	0.60	0.09	0.51	–	–	0.49	10	7.98	3.91	
C14	0.55	0.10	–	0.45	–	0.41	10	7.98	3.27	
C15	0.62	0.11	–	0.51	–	0.46	10	7.98	3.67	
C16	4.02	–	1.98	2.04	–	3.01	Accum. tc = 20.67	5.63	16.95	
C17	0.63	0.17	–	0.46	–	0.48	10	7.98	3.83	
C18	0.63	0.20	–	0.43	–	0.48	10	7.98	3.83	
C19	1.70	0.42	–	0.68	–	0.85	10	7.98	6.78	
C20	28.54	–	–	28.54	–	19.97	Accum. tc = 25.60	4.99	99.69	STREAM
C21	1.03	0.23	–	0.80	–	0.77	10	7.98	6.14	
C22	3.98	–	1.99	1.99	–	2.99	10	7.98	23.86	
C23	0.65	0.36	0.29	–	–	0.56	10	7.98	4.47	
C24	0.83	0.41	0.42	–	–	0.71	10	7.98	5.67	
C25	0.83	0.15	0.68	–	–	0.68	10	7.98	5.43	
D1	0.54	0.10	0.44	–	–	0.44	10	7.98	3.51	
D2	0.56	0.08	0.48	–	–	0.46	10	7.98	3.67	
D3	0.55	0.20	0.35	–	–	0.46	10	7.98	3.67	
D4	0.42	0.08	0.34	–	–	0.34	10	7.98	2.71	
D5	0.48	0.48	–	–	–	0.43	10	7.98	3.43	
D6	0.69	0.20	0.49	–	–	0.57	10	7.98	4.55	
D7	0.40	0.06	0.34	–	–	0.33	10	7.98	2.63	
D8	0.87	0.33	0.54	–	–	0.73	10	7.98	5.83	
D9	0.75	0.30	0.45	–	–	0.63	10	7.98	5.03	
D10	0.73	0.36	0.37	–	–	0.62	10	7.98	4.95	
D12	0.47	–	–	–	0.47	0.14	10	7.98	1.12	
D11	0.49	0.36	0.13	–	–	0.43	10	7.98	3.43	
D13	0.70	0.09	0.48	–	0.13	0.50	10	7.98	3.99	
D14	0.68	0.08	0.28	–	0.32	0.39	10	7.98	3.11	
D15	0.57	0.08	0.21	–	0.28	0.32	10	7.98	2.55	
D16	0.68	0.37	–	–	0.31	0.43	10	7.98	3.43	
D17	0.48	0.20	0.28	–	–	0.40	10	7.98	3.19	
D18	0.54	0.22	0.32	–	–	0.45	10	7.98	3.59	
D19	0.51	0.17	0.34	–	–	0.43	10	7.98	3.43	
D20	0.50	0.13	0.37	–	–	0.41	10	7.98	3.27	
D21	0.36	0.09	0.27	–	–	0.30	10	7.98	2.39	
D22	0.39	0.11	0.28	–	–	0.32	10	7.98	2.55	
D23	0.82	0.28	0.54	–	–	0.68	10	7.98	5.43	
D24	0.37	0.37	–	–	–	0.33	10	7.98	2.63	
D25	0.39	0.39	–	–	–	0.35	10	7.98	2.79	
D26	0.76	0.26	0.50	–	–	0.63	10	7.98	5.03	
E1	0.48	0.32	0.16	–	–	0.42	10	7.98	3.35	
E2	0.42	0.42	–	–	–	0.38	10	7.98	3.03	LOW POINT
E3	0.25	0.25	–	–	–	0.23	10	7.98	1.84	

DRAIN NO	AREA AC	ACRES - DRAINED PAVT C=0.9	COMM OR INDUST C=0.75	RESID OR INDUST C=0.7	CEMETERY C=0.3	TOTAL C A	TIME OF CONCENTRATION MINUTES	I IN/HR	Q_{10} cfs	REMARKS

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER
3/22/99

SHEET 2 OF 2 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		282
STATE	STATE DIST.NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

RUNOFF COMPUTATIONS SHEET

TYPE

INLET COMPUTATIONS

INLET NO	LOCATION	DA NO	Q_A 10 yr (CFS)	CARRY OVER (CFS)	TOTAL Q_A (CFS)	Z	Z/N	S (FT/FT)	Y (FT)	PONDED WIDTH YxZ (FT)	SLOTTED DRAIN DESIGN						CURB INLET DESIGN					DROP INLET DESIGN			CARRY OVER (CFS)	CARRY OVER TO	REMARKS
											LR (FT)	LA (FT)	LA/LR	Q CAP (SLOT) (CFS)	N PIPE	DIA (IN)	a (IN)	LR (FT)	LA (FT)	LA/LR	Q CAP (CFS)	ALLOW HEAD	ACTUAL HEAD	NO OF GRATES			
A1	WB STA 315+00	A1	5.89	-	5.89	48	3200	.0041	0.32	15.4	-	-	-	-	-	-	3	12.91	15	-	5.89				-	-	LOW POINT(CONNECT TO EXIST SYSTEM)
A2	WB STA 316+00	A2	1.92	-	1.92	48	3200	.0046	0.21	10.08	-	-	-	-	-	-	3	7.95	10	0.795	1.92				-	-	FLANKER INLET
A3	WB STA 320+00	A3	1.69	-	1.69	48	3200	.0035	0.25	12.0	-	-	-	-	-	-	3	6.94	10	-	1.69				-	-	FLANKER INLET
A4	WB STA 321+50	A4	2.45	0.25	2.70	48	3200	.0035	0.25	12.0	-	-	-	-	-	-	3	9.35	10	-	2.70				-	-	LOW POINT
A5	WB STA 323+00	A5	3.21	-	3.21	48	3200	.0113	0.22	10.56	-	-	-	-	-	-	3	13.23	10	0.76	2.69				0.25	A4	FLANKER INLET
A6	WB STA 325+50	A6	2.22	-	2.22	48	3200	.0035	0.23	11.04	-	-	-	-	-	-	3	8.03	5	-	1.84				0.38	A7	
A7	WB STA 326+50	A7	2.16	0.38	2.54	48	3200	.0035	0.24	11.52	-	-	-	-	-	-	3	9.03	10	-	2.54				-	-	
A8	WB STA 327+50	A8	2.16	-	2.16	48	3200	.0035	0.23	11.04	-	-	-	-	-	-	3	7.94	5	0.63	1.80				0.36	A9	
A9	WB STA 329+20	A9	3.60	0.36	3.96	48	3200	.0035	0.22	10.56	38.61	40	-	3.69	0.024	24	-	-	-	-	-				-	-	
A10	WB STA 330+40	A10	2.48	-	2.48	42	2800	.0035	0.25	10.5	18.76	20	-	2.48	0.024	24	-	-	-	-	-				-	-	
A11	WB STA 331+00	A11	2.74	-	2.74	35	2333	.0034	0.29	10.15	-	-	-	-	-	-	3	9.44	10	-	2.74				-	-	LOW POINT
A13	WB STA 332+40	A13	3.74	-	3.74	35	2333	.0034	0.32	11.2	19.73	20	1.01	3.74	0.024	24	-	-	-	-	-				-	-	
A16	WB STA 335+60	A16	3.66	-	3.66	35	2333	.0032	0.33	11.55	19.20	20	1.04	3.66	0.024	24	-	-	-	-	-				-	-	
A18	WB STA 337+30	A18	3.83	-	3.83	35	2333	.0032	0.33	11.55	19.57	20	1.02	3.83	0.024	24	-	-	-	-	3.83				-	-	
A19	WB STA 337+80	A19	1.96	-	1.96	35	2333	.0032	0.25	8.8	-	-	-	-	-	-	3	7.60	10	1.32	1.96				-	-	LOW POINT
A20	WB STA 338+25	A20	5.98	-	5.98	35	2333	.0049	0.36	12.6	26.81	30	1.12	5.98	0.024	24	-	-	-	-	-				-	-	
A23	WB STA 341+80	A23	1.92	-	1.92	35	2333	.0049	0.23	8.05	16.63	20	1.20	1.92	0.024	18	-	-	-	-	-				-	-	
A24	WB STA 344+50	A24	3.84	-	3.84	48	3200	.0064	0.25	12.0	-	-	-	-	-	-	3	13.00	10	0.77	3.57				0.27	A25	
A25	WB STA 345+70	A25	3.51	0.27	3.78	48	3200	.0064	0.25	12.0	-	-	-	-	-	-	3	12.18	10	0.82	3.61				0.17	A26	
A26	WB STA 346+70	A26	3.49	0.17	3.66	48	3200	.0064	0.25	12.0	-	-	-	-	-	-	3	12.02	10	0.83	3.51				0.15	A27	
A27	WB STA 347+70	A27	3.60	0.15	3.75	48	3200	.0064	0.25	12.0	-	-	-	-	-	-	3	12.14	10	0.82	3.59				0.16	A28	
A28	WB STA 348+70	A28	3.58	0.16	3.74	48	3200	.0064	0.25	12.0	-	-	-	-	-	-	3	11.91	10	0.84	3.60				0.14	A29	
A29	WB STA 349+70	A29	3.51	0.14	3.65	48	3200	.0207	0.20	9.6	-	-	-	-	-	-	3	16.14	15	0.93	3.62				0.03	A30	
A30	WB STA 350+70	A30	2.32	0.03	2.35	48	3200	.0207	0.17	8.16	-	-	-	-	-	-	3	12.40	15	1.21	2.35				-	-	
B1	EB STA 315+00	B1	2.94	0.06	3.00	48	3200	.0038	0.25	12.0	-	-	-	-	-	-	3	9.70	10	-	3.00				-	-	LOW POINT(CONNECT TO EXIST SYSTEM)
B2	EB STA 315+30	B2	1.19	0.07	1.26	48	3200	.0039	0.19	9.12	-	-	-	-	-	-	3	6.07	5	0.82	1.20				0.06	B1	FLANKER INLET
B3	EB STA 315+80	B3	2.94	0.03	2.97	48	3200	.0039	0.25	12.0	22.78	20	0.88	2.90	0.024	24	-	-	-	-	-				0.07	B2	
B4	EB STA 317+00	B4	2.62	-	2.62	48	3200	.0039	0.25	12.0	21.61	20	0.93	2.59	0.024	24	-	-	-	-	-				0.03	B3	
B5	EB STA 319+50	B5	2.78	-	2.78	48	3200	.0035	0.25	12.0	21.44	20	0.93	2.75	0.024	24	-	-	-	-	-				0.03	B6	
B6	EB STA 320+50	B6	2.55	0.03	2.58	48	3200	.0035	0.25	12.0	20.78	20	0.96	2.57	0.024	24	-	-	-	-	-				0.01	B7	
B7	EB STA 321+00	B7	1.83	0.01	1.84	48	3200	.0035	0.22	10.56	-	-	-	-	-	-	3	7.27	10	-	1.84				-	-	FLANKER INLET
B8	EB STA 321+50	B8	2.62	0.11	2.73	48	3200	.0035	0.25	12.0	-	-	-	-	-	-	3	9.16	10	-	2.73				-	-	LOW POINT
B9	EB STA 322+00	B9	2.62	0.17	2.79	48	3200	.0113	0.21	10.08	-	-	-	-	-	-	3	12.02	10	-	2.68				0.11	B8	FLANKER INLET
B10	EB STA 323+00	B10	4.17	-	4.17	48	3200	.0113	0.24	11.52	36.14	30	0.83	4.00	0.024	18	-	-	-	-	-				0.17	B9	
B11	EB STA 325+50	B11	2.55	-	2.55	48	3200	.0035	0.25	12.0	20.68	20	0.97	2.54	0.024	24	-	-	-	-	-				0.01	B12	
B12	EB STA 326+50	B12	2.42	0.01	2.43	48	3200	.0035	0.24	11.52	20.26	20	0.99	2.42	0.024	24	-	-	-	-	-				0.01	B13	
B13	EB STA 327+60	B13	2.68	0.01	2.69	48	3200	.0035	0.25	12.0	21.15	20	0.95	2.67	0.024	24	-	-	-	-	-				0.02	B14	
B14	EB STA 328+60	B14	2.42	0.02	2.44	44	2933	.0035	0.25	11.0	19.11	20		2.44	0.024	24	-	-	-	-	-				-	-	
B15	EB STA 329+40	B15	1.96	-	1.96	37	2466	.0035	0.25	9.25	15.83	15	0.95	1.89	0.024	24	-	-	-	-	-				0.07	B16	
B16	EB STA 330+20	B16	1.90	0.07	1.97	35	2333	.0035	0.25	8.75	15.20	15	0.99	1.92	0.024	24	-	-	-	-	-				0.05	B17	
B17	EB STA 330+60	B17	0.99	0.05	1.04	35	2333	.0035	0.20	7.0	5.48	5	0.91	1.03	0.024	24	-	-	-	-	-				0.01	B18	FLANKER INLET
B18	EB STA 331+00	B18	1.96	0.01	1.97	35	2333	.0034	0.25	9.0	-	-	-	-	-	-	3	7.95	10	1.26	1.97				-	-	
B19	EB STA 331+45	B19ab	3.27	-	3.27	35	2333	.0034	0.31	10.7	-	-	-	-	-	-	3	9.20	10	1.09	3.27				-	-	
B20	EB STA 331+90	B20	1.96	-	1.96	35	2333	.0034	0.25	9.0	15.04	15	1.00	1.96	0.024	24	-	-	-	-	-				-	-	
B21	EB STA 332+60	B21	1.90	-	1.90	35	2333	.0034	0.25	8.82	14.84	15	1.01	1.90	0.024	24	-	-	-	-	-				-	-	
B22	EB STA 333+30	B22	1.83	-	1.83	35	2333	.0034	0.25	8.8	14.62	15	1.03	1.83	0.024	24	-	-	-	-	-				-	-	
B23	EB STA 335+00	B23	2.42	-	2.42	48	3200	.0032	0.25	12.0	19.69	20	1.02	2.42	0.024	24	-	-	-	-	-				-	-	
B24	EB STA 336+30	B24	2.75	-	2.75	48	3200	.0032	0.25	12.0	20.78	20	1.04	2.74	0.024	24	-	-	-	-	-				0.01	B25	
B25	EB STA 337+30	B25	2.30	0.01	2.31	40	2667	.0032	0.25	10.0	-	-	-	-	-	-	3	8.15	10	1.23	2.31				-	-	FLANKER INLET
B26	EB STA 337+80	B26	2.22	-	5.89	39	2600	.0032	0.25	9.75	-	-	-	-	-	-	3	8.46	10	1.18	2.22				-	-	LOW POINT
B27	EB STA 338+30	B27	1.77	0.14	1.91	35	2333	.0049	0.25	8.80	-	-	-	-	-	-	3	8.54	10	1.17	1.91				-	-	FLANKER INLET
B28	EB STA 339+00	B28	4.35	-	4.35	35	2333	.0049	0.32	11.17	23.45	20	1.17	1.21	0.024	24	-	-	-	-	-				0.14	B27	
B30	EB STA 341+80	B30	2.48	-	2.48	35	2333	.0049	0.25	8.80	18.53	20	1.08	2.48	0.024	18	-	-	-	-	-				-	-	

STATE OF TEXAS
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84840
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3/26/99

INLET COMPUTATIONS

SHEET 1 OF 3 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		283
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

TYPE

INLET COMPUTATIONS

INLET NO	LOCATION	DA NO	Q_A 10 yr (CFS)	CARRY OVER (CFS)	TOTAL Q_A (CFS)	Z	Z/N	SLOTTED DRAIN DESIGN S (FT/FT)	Y (FT)	PONDED WIDTH YxZ (FT)	LR (FT)	LA (FT)	LA/LR	Q CAP (SLOT) (CFS)	N PIPE	DIA (IN)	CURB INLET DESIGN a (IN)	LR (FT)	LA (FT)	LA/LR	Q CAP (CFS)	DROP INLET DESIGN ALLOW HEAD	ACTUAL HEAD	NO OF GRATES	CARRY OVER (CFS)	CARRY OVER TO	REMARKS
B31	EB STA 344+40	B31	3.68	-	3.68	48	3200	.0064	0.25	12.0	28.92	25	0.86	3.49	0.024	24	-	-	-	-	-				0.19	B32	
B32	EB STA 346+00	B32	3.66	0.19	3.85	48	3200	.0064	0.25	12.0	29.49	30	1.02	3.85	0.024	24	-	-	-	-	-				-	-	
B33	EB STA 347+30	B33	3.75	-	3.75	48	3200	.0064	0.25	12.0	29.14	30	1.03	3.75	0.024	24	-	-	-	-	-				-	-	
B34	EB STA 348+60	B34	3.72	0.16	3.88	48	3200	.0064	0.25	12.0	29.57	25	0.85	3.69	0.024	24	-	-	-	-	-				0.19	B35	
B35	EB STA 350+70	B35	4.69	0.19	4.88	48	3200	.0209	0.23	11.04	46.53	50	1.07	4.88	0.024	24	-	-	-	-	-				-	-	
																									-	-	
																									-	-	
C1	WB STA 495+68	C1	2.47	-	2.47	48	3200	.0050	0.23	11.04	-	-	-	-	-	-	3	10.13	10	0.99	2.47				-	-	
C2	WB STA 495+33	C2	1.60	-	1.60	48	3200	.0050	0.19	9.12	-	-	-	-	-	-	3	7.94	10	1.26	1.60				-	-	
C3	WB STA 494+32	C3	3.43	-	3.43	48	3200	.0050	0.26	12.48	-	-	-	-	-	-	3	11.94	15	1.26	3.43				-	-	
C4	WB STA 493+42	C4	3.43	-	3.43	48	3200	.0511	0.17	8.16	-	-	-	-	-	-	3	21.47	15	0.70	3.03				0.40	C5	
C5	WB STA 492+84	C5	1.92	0.40	2.32	48	3200	.0511	0.14	6.72	-	-	-	-	-	-	3	17.54	15	0.85	2.24				0.07	C6	
C6	WB STA 490+37	C6	3.75	0.07	3.82	100	6667	.0511	0.13	13.00	85.09	80	0.94	3.80	0.024	18	-	-	-	-	-				0.02	C9	X SLOPE TRANS
C7	WB STA 490+19	C7	4.23	-	4.23	61	4067	.0443	0.17	10.37	-	-	-	-	-	-	3	21.65	5	0.23	1.59				2.64	C9	EXIST INLET
C8	WB STA 490+03	C8	0.32	-	0.32	13	867	.0623	0.11	1.43	-	-	-	-	-	-	3	5.28	5	0.95	0.32				-	-	EXIST INLET
C9	WB STA 489+26	C9	3.51	2.66	6.17	46	3067	.0675	0.20	9.26	71.21	70	0.98	6.16	0.024	18	-	-	-	-	-				0.01	C10	X SLOPE TRANS
C10	WB STA 488+16	C10	3.51	0.01	3.52	24	1600	.0675	0.21	5.04	37.48	30	0.80	3.33	0.024	18	-	-	-	-	-				0.19	C11	X SLOPE TRANS
C11	WB STA 487+18	C11	3.67	0.19	3.86	22	1467	.0675	0.22	4.84	37.67	40	-	3.86	0.024	18	-	-	-	-	-				-	-	
C12	WB STA 485+71	C12	4.07	-	4.07	22	1467	.0675	0.23	5.11	38.49	30	0.78	3.80	0.024	18	-	-	-	-	-				0.27	C13	
C13	WB STA 484+58	C13	3.91	0.27	4.18	25	1667	.05944	0.20	5.00	41.72	40	0.96	4.18	0.024	18	-	-	-	-	-				0.01	C14	X SLOPE TRANS
C14	WB STA 483+50	C14	3.27	0.01	3.28	29	1933	.05944	0.19	5.43	39.35	40	0.98	3.27	0.024	18	-	-	-	-	-				-	-	
C15	WB STA 482+47	C15	3.67	0.00	3.67	15	1933	.05944	0.25	3.75	27.25	30	-	3.68	0.024	18	-	-	-	-	-				-	-	X SLOPE TRANS
C16	WB STA 482+09	C16	16.95	-	16.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.50	0.44	3	-	-	
C17	WB STA 480+04	C17	3.83	-	3.83	29	1933	.05944	0.21	6.09	41.99	40	0.95	3.81	0.024	18	-	-	-	-	-				0.02	C18	
C18	WB STA 477+30	C18	3.83	0.02	3.85	62	4133	.05944	0.15	9.30	67.00	60	0.90	3.79	0.024	18	-	-	-	-	-				0.06	C19	X SLOPE TRANS
C19	WB STA 474+50	C19	6.78	0.06	6.84	48	3200	.0294	0.24	11.52	59.25	60	-	6.83	0.024	18	-	-	-	-	-				-	-	
C21	WB STA 472+48	C21	6.14	-	6.14	48	3200	.0294	0.23	11.04	56.65	50	0.88	6.00	0.024	18	-	-	-	-	-				0.14	C23	
C22	WB STA 471+10	C22	23.86	-	23.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.50	0.47	4	-	-	
C23	WB STA 469+92	C23	4.47	0.14	4.61	48	3200	.0294	0.21	10.08	50.23	50	0.99	4.61	0.024	18	-	-	-	-	-				-	-	
C24	WB STA 467+50	C24	5.67	-	5.67	48	3200	.0294	0.22	10.56	54.79	60	-	5.67	0.024	18	-	-	-	-	-				-	-	
C25	WB STA 465+50	C25	5.43	-	5.43	48	3200	.0294	0.22	10.56	54.09	60	-	5.43	0.024	18	-	-	-	-	-				-	-	
D1	EB STA 494+58	D1	3.51	-	3.51	48	3200	.0080	0.24	11.52	-	-	-	-	-	-	3	13.52	15	-	3.51				-	-	
D2	EB STA 493+30	D2	3.67	-	3.67	48	3200	.0080	0.24	11.52	-	-	-	-	-	-	3	13.78	15	-	3.67				-	-	
D3	EB STA 492+19	D3	3.67	-	3.67	48	3200	.0080	0.24	11.52	-	-	-				3	13.78	15	-	3.67				-	-	
D4	EB STA 491+04	D4	2.71	-	2.71	48	3200	.0830	0.14	6.72	54.86	50	0.91	2.67	0.024	18	-	-	-	-	-				0.04	D6	
D5	EB STA 490+75	D5	3.43	-	3.43	48	3200	.0830	0.15	7.20	60.56	50	0.82	3.27	0.024	18	-	-	-	-	-				0.16	D6	
D6	EB STA 489+08	D6	4.55	0.20	4.75	48	3200	.0830	0.17	8.16	69.43	70	-	4.75	0.024	18	-	-	-	-	-				-	-	
D7	EB STA 488+45	D7	2.63	-	2.63	48	3200	.0830	0.14	6.72	54.17	50	0.92	2.60	0.024	18	-	-	-	-	-				0.03	D8	
D8	EB STA 487+52	D8	5.83	0.03	5.86	48	3200	.0830	0.19	9.12	75.84	70	0.92	5.80	0.024	18	-	-	-	-	-				0.06	D9	
D9	EB STA 486+71	D9	5.03	0.06	5.09	48	3200	.0830	0.18	8.64	71.48	70	0.98	5.09	0.024	18	-	-	-	-	-				-	-	
D10	EB STA 485+43	D10	4.95	-	4.95	48	3200	.0830	0.17	8.16	70.65	70	0.99	4.95	0.024	18	-	-	-	-	-				-	-	
D11	EB STA 484+73	D11	3.43	-	3.43	44	2933	.0830	0.10	4.40	57.77	60	-	3.43	0.024	18	-	-	-	-	-				-	-	X SLOPE TRANS
D12	EB STA 484+65	D12	1.12	-	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.50	0.11	1	-	-	
D13	EB STA 483+88	D13	3.99	-	3.99	30	2000	.0462	0.21	6.30	-	-	-	-	-	-	3	20.13	15	0.75	3.66				0.33	D14	X SLOPE TRANS
D14	EB STA 483+00	D14	3.11	0.33	3.44	23	1533	.0462	0.23	5.29	-	-	-	-	-	-	3	17.47	15	0.86	3.34				0.10	D15	X SLOPE TRANS
D15	EB STA 481+98	D15	2.55	0.10	2.65	21	1400	.0462	0.21	4.41	-	-	-	-	-	-	3	15.24	15	0.98	2.65				-	-	
D16	EB STA 480+68	D16	3.43	-	3.43	21	1400	.0462	0.23	4.83	-	-	-	-	-	-	3	17.12	15	0.88	3.35				0.08	D17	
D17	EB STA 479+59	D17	3.19	0.08	3.27	21	1400	.0462	0.23	4.83	-	-	-	-	-	-	3	16.78	15	0.89	3.21				0.06	D18	
D18	EB STA 478+40	D18	3.59	0.06	3.65	21	1400	.0462	0.24	5.04	-	-	-	-	-	-	3	17.22	15	0.87	3.56				0.09	D19	
D19	EB STA 477+03	D19	3.43	0.09	3.52	24	1667	.0462	0.22	5.28	-	-	-	-	-	-	3	17.89	15	0.84	3.39				0.13	D20	X SLOPE TRANS
D20	EB STA 475+50	D20	3.27	0.13	3.40	46	3067	.0462	0.17	7.82	-	-	-	-	-	-	3	20.39	15	0.74	3.10				0.30	D21	X SLOPE TRANS
D21	EB STA 474+40	D21	2.39	0.30	2.69	48	3200	.0283	0.17	8.16	-	-	-	-	-	-	3	16.09	15	0.93	2.67				0.02	D22	

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	NH 99(367)	284
STATE	STATE DIST. NO.	COUNTY
TEXAS	18	ROCKWALL
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE OF TEXAS — MINH TRAN — 84840 — LICENSED — ENGINEER

3/26/99

INLET COMPUTATIONS

TYPE

INLET COMPUTATIONS

INLET NO	LOCATION	DA NO	Q_A (CFS)	CARRY OVER (CFS)	TOTAL Q_A (CFS)	Z	Z/N	S (FT/FT)	Y (FT)	PONDED WIDTH YxZ (FT)	SLOTTED DRAIN DESIGN						CURB INLET DESIGN					DROP INLET DESIGN			CARRY OVER (CFS)	CARRY OVER TO	REMARKS
											LR (FT)	LA (FT)	LA/LR	Q CAP (SLOT) (CFS)	N PIPE (IN)	DIA (IN)	a (IN)	LR (FT)	LA (FT)	LA/LR	Q CAP (CFS)	ALLOW HEAD	ACTUAL HEAD	NO OF GRATES			
D22	EB STA 473+26	D22	2.55	0.02	2.57	55	3667	.0283	0.16	8.80	–	–	–	–	–	–	3	16.21	15	0.93	2.55				0.02	D23	X SLOPE TRSNS
D23	EB STA 470+01	D23	5.43	0.02	5.45	48	3200	.0283	0.22	10.56	53.27	60	–	5.45	0.24	18	–	–	–	–	–				–	–	
D24	EB STA 466+00	D24	2.63	–	2.63	58	3867	.0283	0.16	9.28	44.12	50	–	2.63	0.24	18	–	–	–	–	–				–	–	X SLOPE TRSNS
D25	EB STA 463+27	D25	2.79	–	2.79	58	3867	.0283	0.16	8.78	44.91	50	–	2.79	0.24	18	–	–	–	–	–				–	–	
D26	EB STA 463+10	D26	5.03	–	5.03	48	3200	.0294	0.21	10.08	52.36	60	–	5.03	0.24	18	–	–	–	–	–				–	–	
E1	WB STA 461+00	E1	3.35	–	3.35	48	3200	.0294	0.18	8.64	–	–	–	–	–	–	3	18.27	15	0.82	3.20				0.15	E2	FLANKER INLET
E2	WB STA 459+72	E2	3.03	0.15	3.18	48	3200	.0064	0.24	11.52	–	–	–	–	–	–	3	2.38	5	–	3.18				–	–	LOW POINT
E3	WB STA 458+48	E3	1.84	–	1.84	48	3200	.0064	0.19	9.12	–	–	–	–	–	–	3	9.03	15	–	1.84				–	–	

STATE OF TEXAS
MINH TRAN
84840
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PROFESSIONAL ENGINEER
3/22/99

INLET COMPUTATIONS

SHEET 3 OF 3 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		285
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STORM SEWER COMPUTATIONS

LINE OR LATERAL	FROM	TO	DRAINAGE AREA NO.	TOTAL DA AC	TOTAL CA	LENGTH ft	TIME OF CONCENTRATION - MINUTES			INTENSITY	DISCHARGE	DESIGN				HYDRAULIC GRADIENT				DESIGN REMARKS
							ALONG SEWER LINE	INLET TIME	USED IN DESIGN	I_{10} in/hr	Q_{10} cfs	SIZE	SLOPE %	CAP cfs	VEL fps	S_f ft/ft	S_f xL	ELEV HG US	ELEV HG DS	
LINE A	A2	JCT - B3	A2	0.28	0.24	24'	10.00	10.00	10.00	7.98	1.92	24"	0.005	17.37	3.80	0.00015	0.0039	444.45	444.44	
LINE A	JCT - B3	MH - A3	B3,B4	1.13	0.93	375'	10.00 + (24/3.80 x 60) = 10.11	10.11	10.11	7.95	7.48	24"	0.005	17.37	5.70	0.00093	0.3500	444.44	444.10	
LINE A	MH - A3	JCT - B6	A3	1.37	1.14	96'	10.11 + (375/5.7 x 60) = 11.20	11.20	11.20	7.61	9.17	30"	0.005	31.50	5.90	0.00043	0.0400	444.10	444.06	
LINE A	JCT - B6	JCT - A4	B5,B6	2.18	1.81	57'	11.20 + (96/5.90 x 60) = 11.47	11.47	11.47	7.53	14.50	30"	0.005	31.50	6.40	0.00110	0.0600	444.06	444.00	
LINE A	JCT - A4	MH - B8	A4	2.53	2.12	44'	11.47 + (57/6.4 x 60) = 11.62	11.62	11.62	7.48	16.95	30"	0.005	31.50	6.80	0.00140	0.0600	444.00	443.93	
LINE A	MH - B8	JCT - A5	B7,B8,B9	3.61	3.01	106'	11.62 + (44/6.80 x 60) = 11.73	11.73	11.73	7.45	24.02	36"	0.005	51.23	7.70	0.00110	0.1200	443.93	443.81	
LINE A	JCT - A5	JCT - B10	A5	4.11	3.42	46'	11.73 + (106/7.7 x 60) = 11.96	11.96	11.96	7.39	27.23	36"	0.005	51.23	7.80	0.00140	0.0600	443.81	443.75	
LINE A	JCT - B10	MH - A6	B10	4.74	3.94	204'	11.96 + (46/7.80 x 60) = 12.06	12.06	12.06	7.36	31.40	36"	0.005	51.23	7.80	0.00190	0.3800	443.75	443.36	
LINE A	MH - A6	JCT - B12	A6	5.08	4.22	147'	12.06 + (204/7.8 x 60) = 12.49	12.49	12.49	7.24	33.62	42"	0.005	77.27	8.00	0.00090	0.1400	443.36	443.23	
LINE A	JCT - B12	MH - A8	B11,B12	5.84	4.84	54'	12.49 + (147/8.00 x 60) = 12.80	12.80	12.80	7.16	38.59	42"	0.005	77.27	8.40	0.00130	0.0700	443.23	443.16	
LINE A	MH - A8	JCT - B14	A7,A8	6.50	5.38	154'	12.80 + (54/8.4 x 60) = 12.91	12.91	12.91	7.14	42.91	42"	0.005	77.27	8.70	0.00160	0.2400	443.16	442.92	
LINE A	JCT - B14	MH - A10	B13,B14	7.28	6.01	144'	12.91 + (154/8.70 x 60) = 13.20	13.20	13.20	7.06	48.01	42"	0.005	77.27	8.90	0.00190	0.2800	442.92	442.64	
LINE A	MH - A10	JCT - B16	A9,A10	8.21	6.77	18'	13.20 + (144/8.9 x 60) = 13.47	13.47	13.47	7.00	55.74	48"	0.005	110.33	9.00	0.00130	0.0200	442.64	442.62	
LINE A	JCT - B16	JCT - A11	B15,B16	8.80	7.26	46'	13.47 + (18/9.00 x 60) = 13.50	13.50	13.50	6.99	59.70	48"	0.005	110.33	9.80	0.00150	0.0800	442.62	442.54	
LINE A	JCT - A11	JCT - B18	A11	9.22	7.60	34'	13.50 + (46/9.8 x 60) = 13.58	13.58	13.58	6.97	62.34	48"	0.005	110.33	9.50	0.00160	0.0500	442.54	442.49	
LINE A	JCT - B18	JCT - B20	B17,B18,B19qb	10.16	8.38	92'	13.58 + (34/9.50 x 60) = 13.64	13.64	13.64	6.95	68.56	48"	0.005	110.33	9.90	0.00190	0.1800	442.49	442.31	
LINE A	JCT - B20	JCT - A13	B20,B21,B22	11.03	9.10	22'	13.64 + (92/9.90 x 60) = 13.80	13.80	13.80	6.92	74.25	48"	0.005	110.33	10.00	0.00230	0.0500	442.31	442.27	
LINE A	JCT - A13	MH - A16	A13	11.60	9.57	317'	13.80 + (22/10.0 x 60) = 13.83	13.83	13.83	6.91	77.99	48"	0.005	110.33	10.00	0.00250	0.7900	442.27	441.47	
LINE A	MH - A16	JCT - B24	A16	12.16	10.03	106'	13.83 + (317/10.0 x 60) = 14.36	14.36	14.36	6.79	81.65	5'x4'	0.005	200.06	10.00	0.00080	0.0900	441.47	441.38	
LINE A	JCT - B24	JCT - A18	B24	12.95	10.68	60'	14.36 + (106/10.00 x 60) = 14.54	14.54	14.54	6.75	86.82	5'x4'	0.005	200.06	10.50	0.00090	0.0600	441.38	441.33	
LINE A	JCT - A18	JCT - A19	A18	13.54	11.16	50'	14.54 + (60/10.5 x 60) = 14.63	14.63	14.63	6.73	90.65	5'x4'	0.005	200.06	10.50	0.00100	0.0500	441.33	441.28	
LINE A	JCT - A19	JCT - B26	A19	13.84	11.40	40'	14.63 + (50/10.5 x 60) = 14.71	14.71	14.71	6.71	92.61	5'x4'	0.005	200.06	11.00	0.00100	0.0400	441.28	441.24	
LINE A	JCT - B26	JCT - A20	B25,B26,B27	14.80	12.19	7'	14.71 + (40/11.00 x 60) = 14.77	14.77	14.77	6.69	98.90	5'x4'	0.005	200.06	11.10	0.00100	0.0100	441.24	441.23	
LINE A	JCT - A20	JCT - B28	A20	15.71	12.94	117'	14.77 + (7/11.1 x 60) = 14.78	14.78	14.78	6.69	104.88	5'x4'	0.005	200.06	11.10	0.00100	0.1600	441.23	441.07	
LINE A	JCT - B28	MH - A23	B28	16.36	13.49	251'	14.78 + (117/11.10 x 60) = 14.96	14.96	14.96	6.65	109.23	5'x4'	0.005	200.06	11.60	0.00100	0.3700	441.07	440.69	
LINE A	MH - A23	JCT - B30	A23	16.64	13.73	42'	14.96 + (251/11.6 x 60) = 15.32	15.32	15.32	6.58	111.15	5'x4'	0.005	200.06	11.70	0.00100	0.0700	440.69	440.63	
LINE A	JCT - B30	JCT - B32	B30	17.02	14.04	423'	15.32 + (42/11.70 x 60) = 15.38	15.38	15.38	6.56	113.63	5'x4'	0.005	200.06	11.30	0.00200	0.6800	440.63	439.94	
LINE A	JCT - B32	JCT - B34	B31,B32	18.15	14.97	259'	15.38 + (423/11.30 x 60) = 16.00	16.00	16.00	6.43	120.97	5'x4'	0.005	200.06	11.80	0.00100	0.4900	439.94	439.45	
LINE A	JCT - B34	MH - MINI TRUNK	B33,B34	19.28	16.18	177'	16.00 + (259/11.80 x 60) = 16.37	16.37	16.37	6.36	128.44	5'x4'	0.005	200.06	12.10	0.00200	0.3500	439.45	439.10	
LINE A	MH - MINI TRUNK	JCT - B35	A24,A30	22.90	19.17	14'	16.37 + (177/12.10 x 60) = 16.61	16.61	16.61	6.31	150.68	5'x4'	0.005	200.06	11.90	0.00300	0.0400	439.10	439.06	
LINE A	JCT - B35	-	B35	23.60	19.75	-	16.61 + (14/11.90 x 60) = 16.63	16.63	16.63	6.31	155.37	5'x4'	0.005	200.06	-	0.00300	1.4600	439.06	437.60	
LINE B	A24	JCT - A25	A24	0.58	0.48	120'	10.00	10.00	10.00	7.98	3.84	30"	0.005	31.50	4.40	0.0007	0.009	439.73	439.72	
LINE B	JCT - A25	JCT - A26	A25	1.11	0.92	100'	10.00 + (120/4.40 x 60) = 10.45	10.45	10.45	7.83	7.21	30"	0.005	31.50	5.50	0.0003	0.026	439.72	439.70	
LINE B	JCT - A26	JCT - A27	A26	2.47	1.36	100'	10.45 + (100/5.50 x 60) = 10.76	10.76	10.76	7.74	10.53	30"	0.005	31.50	5.90	0.0006	0.056	439.70	439.64	
LINE B	JCT - A27	JCT - A28	A27	3.02	1.81	100'	10.76 + (100/5.90 x 60) = 11.04	11.04	11.04	7.65	13.86	30"	0.005	31.50	6.50	0.0010	0.100	439.64	439.54	
LINE B	JCT - A28	JCT - A29	A28	3.56	2.26	100'	11.04 + (100/6.50 x 60) = 11.30	11.30	11.30	7.58	17.13	30"	0.005	31.50	6.80	0.0015	0.150	439.54	439.40	
LINE B	JCT - A29	JCT - A30	A29	4.09	2.70	100'	11.30 + (100/6.80 x 60) = 11.54	11.54	11.54	7.51	20.27	30"	0.005	31.50	6.90	0.0021	0.210	439.40	439.19	
LINE B	JCT - A30	MH - MINI TRUNK	A30	4.44	2.99	-	11.54 + (100/6.90 x 60) = 11.78	11.78	11.78	7.44	22.24	30"	0.005	31.50	-	0.0025	0.090	439.19	439.10	
LATERALS	LINE A																			
	A2	JCT - A2	A2	0.28	0.24	5'	-	-	10.00	7.98	1.92	18"	0.220	53.52	11.80	0.0002	0.0014	444.45	444.45	
	A3	MH - A3	A3	0.24	0.21	4'	-	-	10.00	7.98	1.69	18"	0.100	36.08	9.20	0.0002	0.0009	444.10	444.10	
	A4	JCT - A4	A4	0.40	0.32	5'	-	-	10.00	7.98	2.70	18"	0.160	45.64	18.10	0.0006	0.0030	444.00	444.00	
	A5	JCT - A5	A5	0.50	0.41	4'	-	-	10.00	7.98	3.21	18"	0.150	44.19	12.80	0.0008	0.0030	443.81	443.81	
	A6	MH - A6	A6	0.34	0.28	4'	-	-	10.00	7.98	2.22	18"	0.100	36.08	10.20	0.0004	0.0020	443.36	443.36	
	A8	MH - A8	A7,A8	0.66	0.54	4'	-	-	10.00	7.98	4.76	18"	0.100	36.08	13.30	0.0020	0.0070	443.17	443.16	
	A10	MH - A10	A9,A10	1.03	0.85	20'	-	-	10.00	7.98	6.44	18"	0.020	16.13	8.70	0.0030	0.0600	442.70	442.64	
	A11	JCT - A11	A11	0.42	0.34	22'	-	-	10.00	7.98	2.74	18"	0.200	51.02	13.00	0.0006	0.0130	442.55	442.54	
	A13	JCT - A13	A13	0.57	0.48	34'	-	-	10.00	7.98	3.74	18"	0.100	36.08	11.80	0.0010	0.0400	442.31	442.27	
	A16	MH - A16	A16	0.29	0.24	24'	-	-	10.00	7.98	3.66	18"	0.030	19.80	8.20	0.0010	0.0200	441.49	441.47	

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STATE OF TEXAS
MARK FRANCIS TRAN
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LICENSED PROFESSIONAL ENGINEER

3/26/99

STORM SEWER COMPUTATIONS

SHEET 1 OF 4 SHEETS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		286
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STORM SEWER COMPUTATIONS

LINE OR LATERAL	FROM	TO	DRAINAGE AREA NO.	TOTAL DA AC	TOTAL CA	LENGTH ft	TIME OF CONCENTRATION - MINUTES			INTENSITY	DISCHARGE	DESIGN				HYDRAULIC GRADIENT				DESIGN REMARKS
							ALONG SEWER LINE	INLET TIME	USED IN DESIGN	I_{10} in/hr	Q_{10} cfs	SIZE	SLOPE %	CAP cfs	VEL fps	S_f ft/ft	S_f xL	ELEV HG US	ELEV HG DS	
LATERALS	LINE A CONT.																			
	A18	JCT - A18	A18	0.31	0.25	20'	-	-	10.00	7.98	3.83	18"	0.100	36.10	12.30	0.0010	0.0200	441.35	441.33	
	A19	JCT - A19	A19	0.30	0.24	17'	-	-	10.00	7.98	1.96	18"	0.450	76.53	14.70	0.0003	0.0050	441.29	441.28	
	A20	JCT - A20	A20	0.91	0.74	20'	-	-	10.00	7.98	5.98	18"	0.130	41.14	15.60	0.0030	0.0600	441.29	441.23	
	A23	MH - A23	A23	0.28	0.24	43'	-	-	10.00	7.98	1.92	18"	0.060	27.90	8.10	0.0003	0.0100	441.70	440.69	
	B3	JCT - B3	B3,B4	0.63	0.52	88'	-	-	10.00	7.98	5.59	18"	0.020	16.13	8.30	0.0024	0.2120	444.65	444.44	
	B6	JCT - B6	B5,B6	0.81	0.67	88'	-	-	10.00	7.98	5.36	18"	0.050	25.51	10.80	0.0020	0.2000	444.26	444.06	
	B8	MH - B8	B7,B8,B9	1.08	0.89	85'	-	-	10.00	7.98	7.63	18"	0.050	25.51	12.40	0.0040	0.3800	444.31	443.93	
	B10	JCT - B10	B10	0.63	0.52	88'	-	-	10.00	7.98	4.17	18"	0.070	30.19	11.10	0.0010	0.1200	443.87	443.75	
	B12	JCT - B12	B11,B12	0.76	0.62	87'	-	-	10.00	7.98	4.98	18"	0.100	36.08	13.27	0.0020	0.1700	443.40	443.23	
	B14	JCT - B14	B13,B14	0.78	0.57	87'	-	-	10.00	7.98	5.13	18"	0.100	36.08	13.30	0.0020	0.1800	443.10	442.92	
	B16	JCT - B16	B15,B16	0.59	0.44	87'	-	-	10.00	7.98	3.93	18"	0.110	37.80	12.63	0.0010	0.1000	442.72	442.62	
	B18	JCT - B18	B17,B18,B19a,b	0.94	0.78	84'	-	-	10.00	7.98	6.40	18"	0.110	37.84	14.60	0.0030	0.2700	442.76	442.49	
	B20	JCT - B20	B20,B21,B22	0.87	0.72	87'	-	-	10.00	7.98	5.76	18"	0.120	39.50	14.50	0.0030	0.2200	442.53	442.31	
	B24	JCT - B24	B23,B24	0.79	0.65	87'	-	-	10.00	7.98	5.17	18"	0.140	42.70	15.00	0.0020	0.1800	441.56	441.38	
	B26	JCT - B26	B25,B26,B27	0.96	0.79	84'	-	-	10.00	7.98	6.47	18"	0.150	44.19	16.80	0.0030	0.2700	441.51	441.24	
	B28	JCT - B28	B28	0.65	0.56	87'	-	-	10.00	7.98	4.58	18"	0.160	45.60	15.50	0.0020	0.1400	441.21	440.70	
	B30	JCT - B30	B30	0.38	0.31	105'	-	-	10.00	7.98	2.48	18"	0.160	45.60	11.60	0.0004	0.0400	440.67	440.63	
	B32	JCT - B32	B31,B32	1.13	0.93	107'	-	-	10.00	7.98	7.53	18"	0.160	45.60	17.80	0.0040	0.4700	440.41	439.94	
	B34	JCT - B34	B33,B34	1.13	0.94	105'	-	-	10.00	7.98	7.63	18"	0.160	45.60	17.80	0.0040	0.4700	439.94	439.45	
	B35	JCT - B35	B35	0.70	0.58	105'	-	-	10.00	7.98	4.88	18"	0.140	42.70	14.70	0.0020	0.1900	439.45	439.25	
LATERALS	LINE B																			
	A24	JCT - A24	A24	0.58	0.48	3'	-	-	10.00	7.98	3.84	18"	0.070	30.19	11.10	0.0010	0.0030	439.73	439.73	
	A25	JCT - A25	A25	0.53	0.44	3'	-	-	10.00	7.98	3.78	18"	0.030	19.76	8.16	0.0010	0.0030	439.72	439.72	
	A26	JCT - A26	A26	0.54	0.44	3'	-	-	10.00	7.98	3.66	18"	0.170	47.04	13.84	0.0010	0.0030	439.70	439.70	
	A27	JCT - A27	A27	0.55	0.45	3'	-	-	10.00	7.98	3.60	18"	0.070	30.19	10.76	0.0010	0.0030	439.64	439.64	
	A28	JCT - A28	A28	0.54	0.45	3'	-	-	10.00	7.98	3.74	18"	0.070	30.19	10.76	0.0010	0.0030	439.54	439.54	
	A29	JCT - A29	A29	0.53	0.44	3'	-	-	10.00	7.98	3.65	18"	0.100	36.08	11.84	0.0010	0.0030	439.40	439.40	
	A30	JCT - A30	A30	0.35	0.29	3'	-	-	10.00	7.98	2.35	18"	0.130	41.14	11.17	0.0004	0.0010	439.19	439.19	
LINE C	C1	JCT - C2	C1	0.38	0.31	41'	(241/1.4) x 60 = 2.87	2.87	10.00	7.98	2.47	18"	1.79	15.20	6.50	0.0005	0.02	522.04	522.02	
LINE C	JCT - C2	JCT - C3	C2	0.68	0.51	101'	2.87 + (41/60 x 7.1) = 2.97	2.97	10.00	7.98	4.07	18"	1.79	15.20	7.00	0.0013	0.13	522.02	521.89	
LINE C	JCT - C3	JCT - C4	C3	1.16	0.94	90'	2.97 + (101/60 x 8.5) = 3.16	3.16	10.00	7.98	7.50	18"	1.79	15.20	8.50	0.0043	0.39	521.89	521.50	
LINE C	JCT - C4	GB - C1	C4	1.67	1.37	43'	3.16 + (90/60 x 8.1) = 3.35	3.35	10.00	7.98	10.93	18"	1.79	15.20	8.00	0.0092	0.40	521.50	521.10	
LINE C	GB - C1	JCT - C5	-	1.67	1.37	14'	3.35 + (43/60 x 12.0) = 3.41	3.41	10.00	7.98	10.93	18"	3.84	22.29	12.00	0.0092	0.13	521.10	520.97	
LINE C	JCT - C5	MH - C6	C5	2.18	1.61	256.5'	3.41 + (14/60 x 13.0) = 3.43	3.43	10.00	7.98	12.85	18"	3.84	22.29	13.00	0.0128	3.28	520.97	517.69	
LINE C	MH - C6	JCT - C7	C6	2.74	2.08	21.5'	3.43 + (256.5/60 x 17.0) = 3.68	3.68	10.00	7.98	16.60	18"	6.75	29.55	17.00	0.0213	0.46	517.69	517.23	
LINE C	JCT - C7	JCT - C8	C7	3.33	2.61	24'	3.68 + (21.5/60 x 19.0) = 3.70	3.70	10.00	7.98	20.83	18"	6.75	29.55	19.00	0.0335	0.80	517.23	516.43	
LINE C	JCT - C8	JCT - C9	C8	3.38	2.65	80.5'	3.70 + (24/60 x 19.0) = 3.72	3.72	10.00	7.98	21.15	18"	6.75	29.55	19.00	0.0345	2.78	516.43	513.65	
LINE C	JCT - C9	JCT - C10	C9	3.89	3.09	109'	3.72 + (80.5/60 x 19.0) = 3.79	3.79	10.00	7.98	24.66	18"	6.75	29.55	19.00	0.0470	5.12	513.65	508.53	
LINE C	JCT - C10	MH - C11	C10	4.41	3.53	98.5'	3.79 + (109/60 x 19.0) = 3.89	3.89	10.00	7.98	28.17	18"	6.75	29.55	19.00	0.0613	6.04	508.53	502.49	
LINE C	MH - C11	JCT - C12	C11	4.97	3.99	146.5'	3.89 + (98.5/60 x 20.0) = 3.97	3.97	10.00	7.98	31.84	24"	6.75	63.70	20.00	0.0169	2.47	502.49	500.02	
LINE C	JCT - C12	JCT - C13	C12	5.57	4.50	114'	3.97 + (146.5/60 x 21.5) = 4.08	4.08	10.00	7.98	35.91	24"	6.75	63.70	21.50	0.0215	2.45	500.02	497.57	
LINE C	JCT - C13	JCT - C14	C13	6.17	4.99	113'	4.08 + (114/60 x 22.0) = 4.17	4.17	10.00	7.98	39.82	24"	6.75	63.70	22.00	0.0264	2.98	497.57	494.59	
LINE C	JCT - C14	GB - C2	C14	6.72	5.40	83'	4.17 + (113/60 x 22.5) = 4.25	4.25	10.00	7.98	43.09	24"	6.75	63.70	22.50	0.0309	2.57	494.59	492.02	
LINE C	GB - C2	JCT - C15	-	6.72	5.40	18'	4.25 + (83/60 x 20.5) = 4.32	4.32	10.00	7.98	43.09	24"	5.53	57.65	20.50	0.0309	0.56	492.02	491.46	
LINE C	JCT - C15	MH - C16	C15	7.34	5.86	24.5'	4.32 + (18/60 x 21.5) = 4.33	4.33	10.00	7.98	46.76	24"	5.53	57.65	21.50	0.0364	0.89	491.46	490.57	
LINE C	MH - C16	JCT - C17	C16	11.36	8.87	206.5'	4.33 + (24.5/60 x 23.0) = 4.35	4.35	10.00	7.98	70.78	30"	5.53	104.61	23.00	0.0254	5.24	490.57	485.33	
LINE C	JCT - C17	GB - C3	C17	11.99	9.35	264'	4.35 + (206.5/60 x 22.0) = 4.51	4.51	10.00	7.98	74.61	30"	5.53	104.61	22.00	0.0282	7.44	485.33	477.89	

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STATE OF TEXAS
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3/26/99

STORM SEWER COMPUTATIONS

SHEET 2 OF 4 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		187
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STORM SEWER COMPUTATIONS

LINE OR LATERAL	FROM	TO	DRAINAGE AREA NO.	TOTAL DA AC	TOTAL CA	LENGTH ft	TIME OF CONCENTRATION - MINUTES			INTENSITY	DISCHARGE	DESIGN				HYDRAULIC GRADIENT				DESIGN REMARKS
							ALONG SEWER LINE	INLET TIME	USED IN DESIGN	I_{10} in/hr	Q_{10} cfs	SIZE	SLOPE %	CAP cfs	VEL fps	S_f ft/ft	S_f xL	ELEV HG US	ELEV HG DS	
LINE C	GB - C3	JCT - C18	-	11.99	9.35	16'	4.51 + (264/60 x 21.5) = 4.71	4.71	10.00	7.98	74.61	30"	4.60	95.41	21.50	0.0282	0.45	477.89	477.44	
LINE C	JCT - C18	MH - C19	C18	12.62	9.83	264.5'	4.71 + (16/60 x 21) = 4.72	4.72	10.00	7.98	78.44	30"	4.60	95.41	21.00	0.0312	8.25	477.44	469.19	
LINE C	MH - C19	MH - C20	C19	14.32	10.68	123'	4.72 + (264.5/60 x 20.0) = 4.94	4.94	10.00	7.98	85.23	36"	3.55	136.38	20.00	0.0139	1.71	469.19	467.48	
LINE C	MH - C20	JCT - C21	C20	42.86	30.65	71.5'	4.94 + (123/60 x 22.8) = 5.03	5.03	10.00	7.98	244.59	5X3'	2.86	302.00	22.80	0.0185	1.32	467.48	466.16	
LINE C	JCT - C21	MH - C22	C21	43.89	31.42	138.5'	5.03 + (71.5/60 x 22.8) = 5.08	5.08	10.00	7.98	250.73	5X3'	2.86	302.00	22.80	0.0199	2.76	466.16	463.40	
LINE C	MH - C22	JCT - C23	C22	47.87	34.41	115.5'	5.08 + (138.5/60 x 23.1) = 5.18	5.18	10.00	7.98	274.59	6X3'	2.86	375.00	23.10	0.0153	1.77	463.40	461.63	
LINE C	JCT - C23	JCT - C24	C23	48.52	34.97	241'	5.18 + (115.5/60 x 23.1) = 5.26	5.26	10.00	7.98	279.06	6X3'	2.86	375.00	23.10	0.0159	3.83	461.63	457.80	
LINE C	JCT - C24	GB - C4	C24	49.35	35.68	148'	5.26 + (241/60 x 23.5) = 5.43	5.43	10.00	7.98	284.73	6X3'	2.86	375.00	23.50	0.0165	2.44	457.80	455.36	
LINE C	GB - C4	JCT - C25	-	49.35	35.68	52'	5.43 + (148/60 x 20.8) = 5.55	5.55	10.00	7.98	284.73	6X3'	2.00	312.00	20.80	0.0165	0.86	455.36	454.50	
LINE C	JCT - C25	MH - D2	C25	50.18	36.36	254.5'	5.55 + (52/60 x 20.7) = 5.59	5.59	10.00	7.98	290.15	6X3'	2.00	312.00	20.70	0.0173	4.40	454.50	450.10	
LINE D	D1	GB - D1	D1	0.54	0.44	128'	(114/3.6) x 60 = 0.53	0.53	10.00	7.98	3.51	18"	3.09	20.00	8.20	0.00095	0.12	509.12	509.00	
LINE D	GB - D1	JCT - D2	-	0.54	0.44	6'	0.53 + (128/60 x 9.3) = 0.76	0.76	10.00	7.98	3.51	18"	4.25	23.45	9.30	0.00095	0.01	509.00	508.99	
LINE D	JCT - D2	JCT - D3	D2	1.10	0.90	106'	0.76 + (6/60 x 11.5) = 0.77	0.77	10.00	7.98	7.18	18"	4.25	23.45	11.50	0.00400	0.42	508.99	508.57	
LINE D	JCT - D3	JCT - D4	D3	1.65	1.36	121'	0.77 + (106/60 x 13.0) = 0.91	0.91	10.00	7.98	10.85	18"	4.25	23.45	13.00	0.00910	1.10	508.57	507.47	
LINE D	JCT - D4	MH - D5	D4	2.07	1.70	37.5'	0.91 + (121/60 x 13.5) = 1.06	1.06	10.00	7.98	13.57	18"	4.25	23.45	13.50	0.01420	0.53	507.47	506.94	
LINE D	MH - D5	JCT - D6	D5	2.55	2.13	154.5'	1.06 + (37.5/60 x 19.5) = 1.09	1.09	10.00	7.98	17.00	18"	7.60	31.45	19.00	0.02230	3.45	506.94	503.49	
LINE D	JCT - D6	JCT - D7	D6	3.24	2.70	64'	1.09 + (154.5/60 x 20.0) = 1.22	1.22	10.00	7.98	21.55	18"	7.60	31.45	20.00	0.03590	2.30	503.49	501.19	
LINE D	JCT - D7	MH - D8	D7	3.64	3.03	90.5'	1.22 + (64/60 x 19.0) = 1.28	1.28	10.00	7.98	24.18	18"	7.60	31.45	19.00	0.04520	4.09	501.19	497.10	
LINE D	MH - D8	JCT - D9	D8	4.51	3.76	80.5'	1.28 + (90.5/60 x 21.0) = 1.35	1.35	10.00	7.98	30.00	24"	8.00	69.49	21.00	0.01500	1.21	497.10	495.89	
LINE D	JCT - D9	JCT - D10	D9	4.84	4.39	128'	1.35 + (80.5/60 x 22.0) = 1.41	1.41	10.00	7.98	35.03	24"	8.00	69.49	22.00	0.02050	2.62	495.89	493.27	
LINE D	JCT - D10	MH - D11	D10	5.57	5.01	64'	1.41 + (128/60 x 23.0) = 1.50	1.50	10.00	7.98	39.98	24"	8.00	69.49	23.00	0.02660	1.70	493.27	491.57	
LINE D	MH - D11	JCT - D12	D11	6.06	5.44	18.5'	1.50 + (64/60 x 21.0) = 1.55	1.55	10.00	7.98	43.41	24"	8.00	69.49	21.00	0.03140	0.58	491.57	490.99	
LINE D	JCT - D12	JCT - D13	D12	6.53	5.58	66'	1.55 + (18.5/60 x 21.0 = 1.56	1.56	10.00	7.98	44.53	24"	5.24	56.12	21.00	0.03300	2.18	490.99	488.81	
LINE D	JCT - D13	JCT - D14	D13	7.23	6.08	87'	1.56 + (66/60 x 20.0 = 1.61	1.61	10.00	7.98	48.52	24"	5.24	56.12	20.00	0.03920	3.41	488.81	485.40	
LINE D	JCT - D14	MH - D15	D14	7.78	6.47	100.5'	1.61 + (87/60 x 19.0) = 1.69	1.69	10.00	7.98	51.63	24"	5.24	56.12	19.00	0.04440	4.46	485.40	480.94	
LINE D	MH - D15	JCT - D16	D15	8.35	6.79	128.5'	1.69 + (100.5/60 x 20.0) = 1.77	1.77	10.00	7.98	54.18	30"	5.00	99.47	20.00	0.01490	1.91	480.94	479.03	
LINE D	JCT - D16	JCT - D17	D16	9.03	7.22	109'	1.77 + (128.5/60 x 20.5) = 1.87	1.87	10.00	7.98	57.62	30"	5.00	99.47	20.50	0.01680	1.83	479.03	477.20	
LINE D	JCT - D17	JCT - D18	D17	9.51	7.62	120'	1.87 + (109/60 x 21.0) = 1.96	1.96	10.00	7.98	60.81	30"	5.00	99.47	21.00	0.01870	2.24	477.20	474.96	
LINE D	JCT - D18	MH - D19	D18	10.05	8.07	134.5'	1.96 + (120/60 x 21.5) = 2.05	2.05	10.00	7.98	64.40	30"	5.00	99.47	21.50	0.02100	2.83	474.96	472.13	
LINE D	MH - D19	JCT - D20	D19	10.56	8.50	152.5'	2.05 + (134.5/60 x 18.0) = 2.17	2.17	10.00	7.98	67.83	30"	3.12	78.58	18.00	0.02330	3.55	472.13	468.58	
LINE D	JCT - D20	JCT - D21	D20	11.06	8.91	109'	2.17 + (152.5/60 x 18.0) = 2.31	2.31	10.00	7.98	71.10	30"	3.12	78.58	18.00	0.02560	2.79	468.58	465.79	
LINE D	JCT - D21	MH - D22	D21	11.42	9.21	112.5'	2.31 + (109/60 x 17.0) = 2.42	2.42	10.00	7.98	73.50	30"	3.12	78.58	17.00	0.02740	3.08	465.79	462.71	
LINE D	MH - D22	MH - D23	D22	11.81	9.53	330.5'	2.42 + (112.5/60 x 18.0) = 2.52	2.52	10.00	7.98	76.05	36"	2.82	121.55	18.00	0.01110	3.67	462.71	459.04	
LINE D	MH - D23	MH - D1	D23	12.63	10.21	166'	2.52 + (330.5/60 x 17.5) = 2.83	2.83	10.00	7.98	81.48	36"	2.82	121.55	17.50	0.01270	2.11	459.04	456.93	
LINE D	MH - D1	JCT - D24	-	12.63	10.21	250'	2.83 + (166/60 x 17.5) = 2.99	2.99	10.00	7.98	81.48	36"	2.77	120.47	17.50	0.01270	3.18	456.93	453.75	
LINE D	JCT - D24	JCT - D25	D24	13.00	10.54	248'	2.99 + (250/60 x 17.5) = 3.23	3.23	10.00	7.98	84.11	36"	2.77	120.47	17.50	0.01360	3.37	453.75	450.38	
LINE D	JCT - D25	MH - D2	D25	13.39	10.89	19.5'	3.23 + (248/60 x 17.0) = 3.47	3.47	10.00	7.98	86.90	36"	2.77	120.47	17.00	0.01450	0.28	450.38	450.10	
LINE D	MH - D2	JCT - D26	-	63.57	47.25	37.5'	5.55 + (254.5/60 x 23.7) = 5.73	5.73	10.00	7.98	377.06	7X3'	2.34	410.00	23.70	0.01980	0.74	450.10	449.36	
LINE D	JCT - D26	-	D26	64.33	47.88	-	5.73 + (37.5/60 x 23.6) = 5.76	5.76	10.00	7.98	382.08	7X3'	2.34	410.00	23.60	0.02000	2.63	449.36	446.73	
LINE E	E1	JCT - E2	E1	0.48	0.42	135'	(222/3.4 x 60) = 1.09	1.09	10.00	7.98	3.35	18"	0.60	8.81	4.50	0.0009	0.12	444.07	443.95	
LINE E	JCT - E2	JCT - E3	E2	0.90	0.80	120'	1.09 + (135/60 x 5.3) = 1.51	1.51	10.00	7.98	6.38	18"	0.60	8.81	5.30	0.0031	0.37	443.95	443.58	
LINE E	JCT - E3	-	E3	1.15	1.03	-	1.51 + (120/60 x 5.9) = 1.85	1.85	10.00	7.98	8.22	18"	0.60	8.81	5.90	0.0052	0.72	443.58	442.86	
LATERALS	LINE C																			
	C2	JCT - C2	C2	0.25	0.20	5.5'	-	-	10.00	7.98	1.60	18"	2.00	16.10	5.70	0.0002	0.00	522.02	522.02	
	C3	JCT - C3	C3	0.53	0.43	5.5'	-	-	10.00	7.98	3.43	18"	5.64	27.04	10.50	0.0009	0.00	521.89	521.89	
	C4	JCT - C4	C4	0.51	0.43	5.5'	-	-	10.00	7.98	3.43	18"	8.55	33.33	12.00	0.0009	0.00	521.50	521.50	
	C5	JCT - C5	C5	0.28	0.24	5.5'	-	-	10.00	7.98	1.92	18"	9.64	35.31	10.50	0.0003	0.00	520.97	520.97	
	C6	MH - C6	C6	0.56	0.47	28'	-	-	10.00	7.98	3.75	18"	1.86	30.54	11.50	0.0011	0.03	517.72	517.69	

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

3/26/99

STORM SEWER COMPUTATIONS

SHEET 3 OF 4 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		288
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STORM SEWER COMPUTATIONS

LINE OR LATERAL	FROM	TO	DRAINAGE AREA NO.	TOTAL DA AC	TOTAL CA	LENGTH ft	TIME OF CONCENTRATION - MINUTES			INTENSITY	DISCHARGE	DESIGN				HYDRAULIC GRADIENT				DESIGN REMARKS
							ALONG SEWER LINE	INLET TIME	USED IN DESIGN	I_{10} in/hr	Q_{10} cfs	SIZE	SLOPE %	CAP cfs	VEL fps	S_f ft/ft	S_f xL	ELEV HG US	ELEV HG DS	
LATERALS	LINE C CONT.																			
	C7	JCT - C7	C7	0.59	0.53	45'	-	-	10.00	7.98	4.23	18"	4.00	23.29	10.00	0.0014	0.06	517.29	517.23	
	C8	JCT - C8	C8	0.05	0.04	49'	-	-	10.00	7.98	0.32	18"	*	33.08	6.00	0.000008	0.00	516.43	516.43	* SEE LATERAL PROFILES SHEET
	C9	JCT - C9	C9	0.51	0.44	30'	-	-	10.00	7.98	3.51	18"	3.80	33.75	12.50	0.0009	0.03	513.68	513.65	
	C10	JCT - C10	C10	0.52	0.44	28.5'	-	-	10.00	7.98	3.51	18"	3.75	34.24	12.50	0.0009	0.03	508.56	508.53	
	C11	MH - C11	C11	0.56	0.46	28'	-	-	10.00	7.98	3.67	18"	4.64	36.34	13.00	0.0010	0.03	502.52	502.49	
	C12	JCT - C12	C12	0.60	0.51	30.5'	-	-	10.00	7.98	4.07	18"	4.13	34.21	13.00	0.0013	0.04	500.06	500.02	
	C13	JCT - C13	C13	0.60	0.49	34'	-	-	10.00	7.98	3.91	18"	3.12	32.59	12.50	0.0012	0.04	497.61	497.57	
	C14	JCT - C14	C14	0.55	0.41	42'	-	-	10.00	7.98	3.27	18"	4.57	29.98	11.00	0.0008	0.03	494.62	494.59	
	C15	JCT - C15	C15	0.62	0.46	40'	-	-	10.00	7.98	3.67	18"	4.73	28.93	11.00	0.0010	0.04	491.50	491.46	
	C16	MH - C16	C16	4.02	3.01	21'	-	-	10.00	7.98	16.95	18"	2.87	17.54	11.30	0.0222	0.47	491.04	490.57	
	C17	JCT - C17	C17	0.63	0.48	21'	-	-	10.00	7.98	3.83	18"	5.95	31.68	12.00	0.0011	0.02	485.35	485.33	
	C18	JCT - C18	C18	0.63	0.48	35'	-	-	10.00	7.98	3.83	18"	2.34	27.43	11.00	0.0011	0.04	477.48	477.44	
	C19	MH - C19	C19	1.70	0.85	6'	-	-	10.00	7.98	6.78	18"	10.00	35.96	15.50	0.0035	0.02	469.21	469.19	
	C20	JCT - C20	C20	28.54	19.97	27.5'	-	-	10.00	7.98	99.69	3X2'	10.00	167.56	29.30	0.0350	0.96	468.44	467.48	
	C21	JCT - C21	C21	1.03	0.77	6'	-	-	10.00	7.98	6.14	18"	3.50	30.53	13.50	0.0029	0.02	466.18	466.16	
	C22	MH - C22	C22	3.98	2.99	4'	-	-	10.00	7.98	23.86	18"	7.56	25.43	16.50	0.0440	0.40	463.80	463.40	
	C23	JCT - C23	C23	0.65	0.56	5'	-	-	10.00	7.98	4.47	18"	7.40	30.94	12.50	0.0015	0.01	461.64	461.63	
	C24	JCT - C24	C24	0.83	0.71	5'	-	-	10.00	7.98	5.67	18"	9.00	34.12	14.30	0.0025	0.01	457.81	457.80	
	C25	JCT - C25	C25	0.83	0.68	5'	-	-	10.00	7.98	5.43	18"	9.20	34.50	19.50	0.0023	0.01	454.51	454.50	
LATERALS	LINE D																			
	D2	JCT - D2	D2	0.56	0.46	5.5'	-	-	10.00	7.98	3.67	18"	9.09	34.29	12.50	0.0010	0.01	509.00	508.99	
	D3	JCT - D3	D3	0.55	0.46	5.5'	-	-	10.00	7.98	3.67	18"	3.64	21.70	9.00	0.0010	0.01	508.58	508.57	
	D4	JCT - D4	D4	0.42	0.34	8'	-	-	10.00	7.98	2.71	18"	8.50	33.16	11.30	0.0006	0.00	507.47	507.47	
	D5	MH - D5	D5	0.48	0.43	27'	-	-	10.00	7.98	3.43	18"	8.74	33.62	12.30	0.0009	0.02	506.96	506.94	
	D6	JCT - D6	D6	0.69	0.57	8'	-	-	10.00	7.98	4.55	18"	11.75	38.98	14.70	0.0016	0.01	503.50	503.49	
	D7	JCT - D7	D7	0.40	0.33	8'	-	-	10.00	7.98	2.63	18"	8.00	32.17	11.00	0.0005	0.00	501.19	501.19	
	D8	MH - D8	D8	0.87	0.73	7'	-	-	10.00	7.98	5.83	18"	6.43	28.84	13.50	0.0026	0.02	497.12	497.10	
	D9	JCT - D9	D9	0.75	0.63	8'	-	-	10.00	7.98	5.03	18"	8.50	33.16	13.00	0.0020	0.02	495.91	495.89	
	D10	JCT - D10	D10	0.73	0.62	8'	-	-	10.00	7.98	4.95	18"	9.38	34.83	13.70	0.0019	0.02	493.29	493.27	
	D11	MH - D11	D11	0.49	0.43	7'	-	-	10.00	7.98	3.43	18"	1.57	29.22	9.70	0.0009	0.01	491.58	491.57	
	D12	JCT - D12	D12	0.47	0.14	24'	-	-	10.00	7.98	1.12	18"	2.71	25.81	7.30	0.000095	0.00	490.99	490.99	
	D13	JCT - D13	D13	0.70	0.50	5'	-	-	10.00	7.98	3.99	18"	3.60	21.58	9.50	0.0012	0.01	488.82	488.81	
	D14	JCT - D14	D14	0.68	0.39	5'	-	-	10.00	7.98	3.11	18"	5.60	26.91	10.00	0.0007	0.00	485.40	485.40	
	D15	MH - D15	D15	0.57	0.32	4.5'	-	-	10.00	7.98	2.55	18"	10.67	37.15	12.00	0.0005	0.00	480.94	480.94	
	D16	JCT - D16	D16	0.68	0.43	5'	-	-	10.00	7.98	3.43	18"	7.80	31.76	11.70	0.0009	0.00	479.03	479.03	
	D17	JCT - D17	D17	0.48	0.40	5'	-	-	10.00	7.98	3.19	18"	6.00	27.86	11.00	0.0008	0.00	477.20	477.20	
	D18	JCT - D18	D18	0.54	0.45	5'	-	-	10.00	7.98	3.59	18"	6.00	27.86	11.00	0.0010	0.00	474.96	474.96	
	D19	MH - D19	D19	0.51	0.43	4'	-	-	10.00	7.98	3.43	18"	10.75	37.29	13.00	0.0009	0.00	472.13	472.13	
	D20	JCT - D20	D20	0.50	0.41	5'	-	-	10.00	7.98	3.27	18"	7.40	30.94	11.50	0.0008	0.00	468.58	468.58	
	D21	JCT - D21	D21	0.36	0.30	5'	-	-	10.00	7.98	2.39	18"	3.60	21.58	8.00	0.0004	0.00	465.79	465.79	
	D22	MH - D22	D22	0.39	0.32	4'	-	-	10.00	7.98	2.55	18"	3.00	19.70	7.70	0.0005	0.00	462.71	462.71	
	D23	JCT - D23	D23	0.82	0.68	20'	-	-	10.00	7.98	5.43	18"	5.65	27.06	12.00	0.0023	0.05	459.09	459.04	
	D24	JCT - D24	D24	0.37	0.33	58'	-	-	10.00	7.98	2.63	18"	2.55	26.21	9.50	0.0005	0.03	453.78	453.75	
	D25	JCT - D25	D25	0.39	0.35	7'	-	-	10.00	7.98	2.79	18"	8.00	32.17	11.00	0.0006	0.00	450.38	450.38	
	D26	JCT - D26	D26	0.76	0.63	91'	-	-	10.00	7.98	5.03	18"	0.60	10.61	6.00	0.0020	0.18	449.54	449.36	
LATERALS	LINE E																			
	E2	JCT - E2	E2	0.42	0.38	5.5'	-	-	10.00	7.98	3.03	18"	1.27	12.84	6.00	0.0007	0.00	443.96	443.96	
	E3	JCT - E3	E3	0.25	0.23	5'	-	-	10.00	7.98	1.84	18"	7.80	31.83	9.70	0.0003	0.00	443.59	443.59	

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STORM SEWER COMPUTATIONS

SHEET 4 OF 4 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		289
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

460+00

2+25

1+25

0+25

0+00

EB ℄

8.5'

26.0'

10.6'

16.0'

26.6'

15.4'

21.2'

29.6'

19.9'

22.7'

29.9'

21.4'

℄ CHANNEL

EXISTING RIPRAP

N

NOTE: CHANNEL STA. 0+00 = EB ℄ STA. 461+25

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DRAINAGE DETAIL SHEET

EB STA. 459+00 TO 461+25

SCALE: 1"=20'

SHEET 1 OF 8 SHEETS.

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		290
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

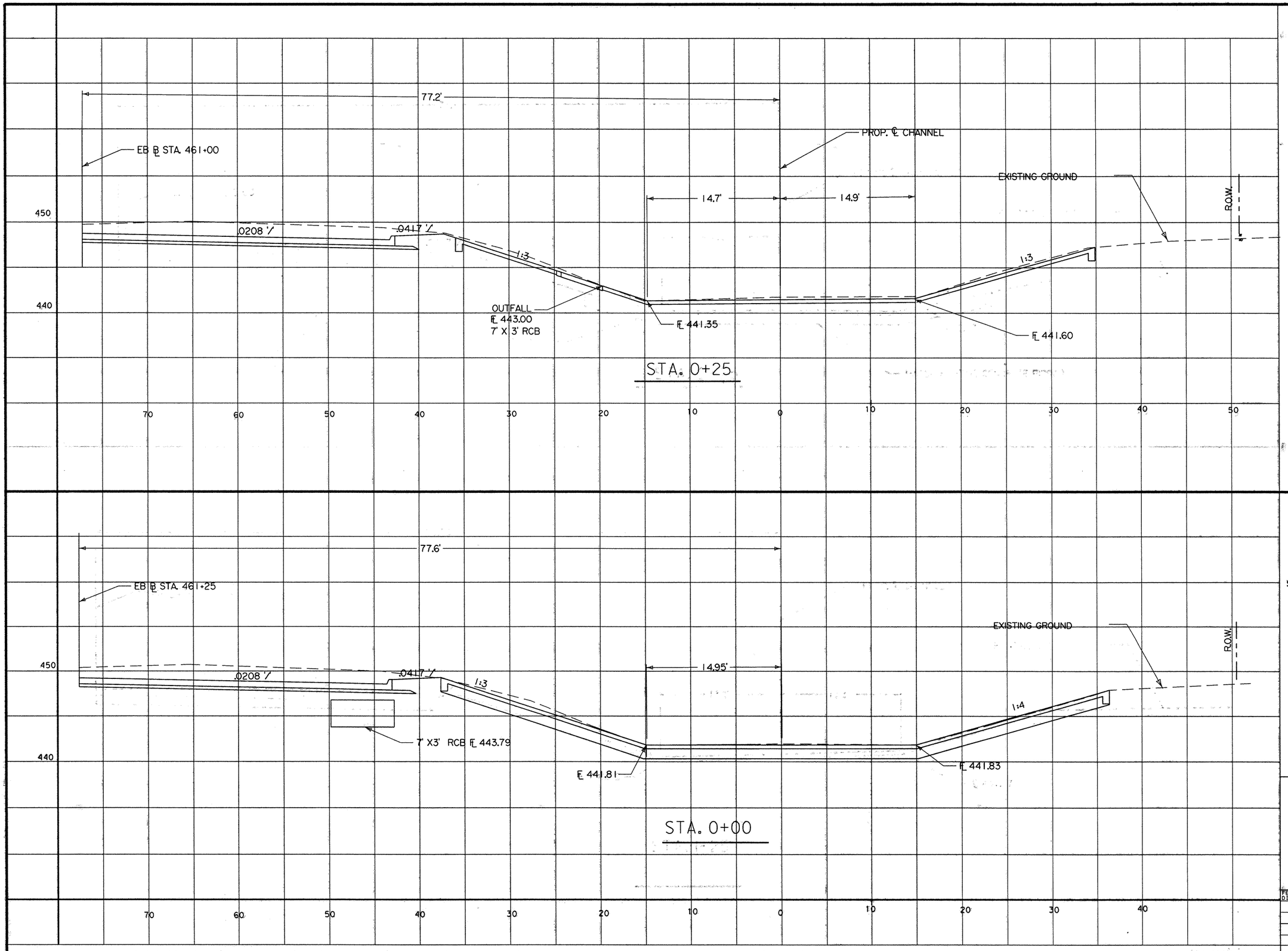
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3/26/99

TFF4445

66shpnl.dgn 2.24.99



STA. 0+25

STA. 0+00

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NOTE:
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DRAINAGE DETAIL SHEET

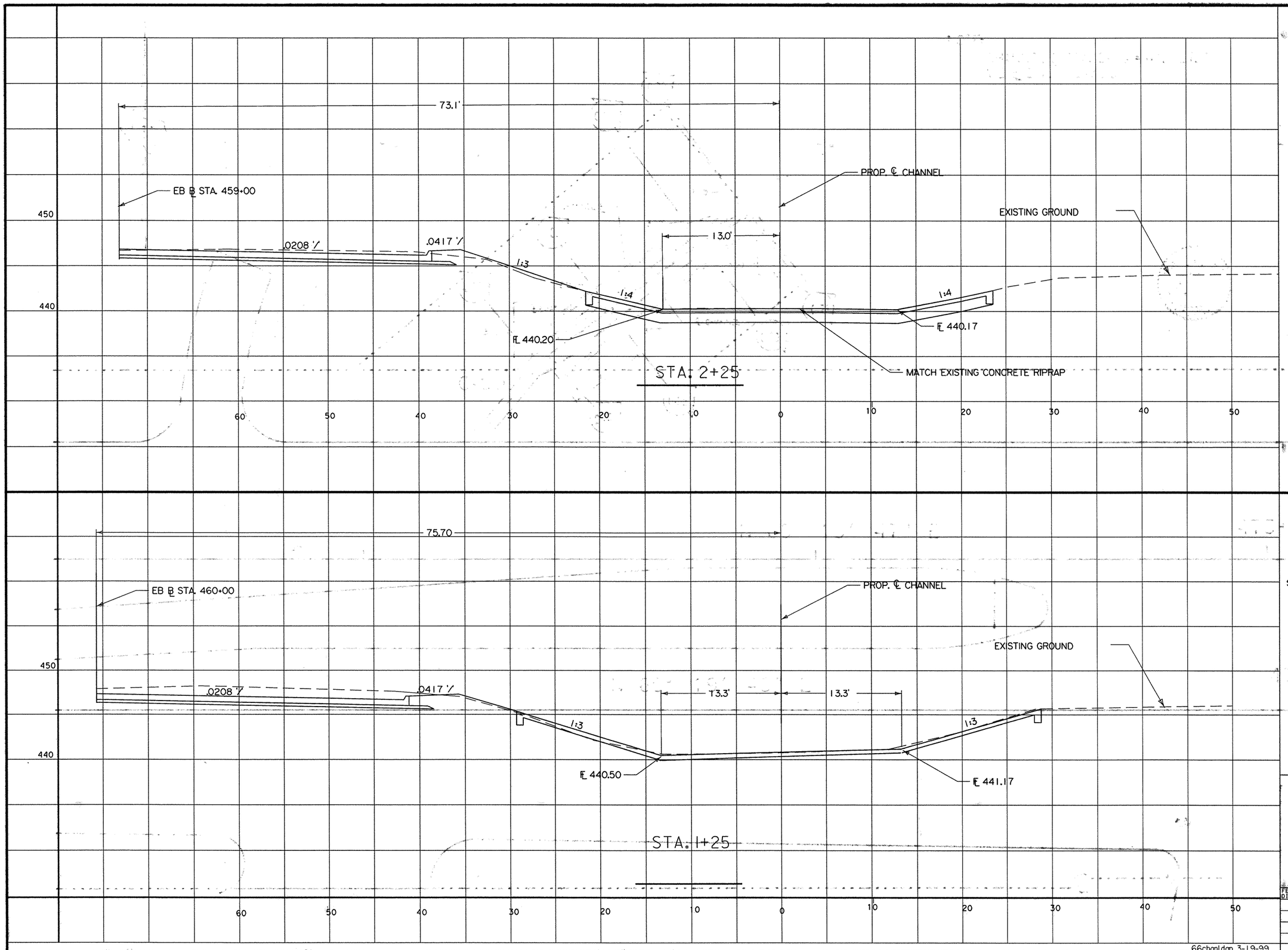
EB STA. 459+00 TO 461+25

SCALE:
1"= 10' HORZ.
1"= 10' VERT.

SHEET 2 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		291
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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DRAINAGE DETAIL SHEET

EB STA. 459+00 TO 461+25

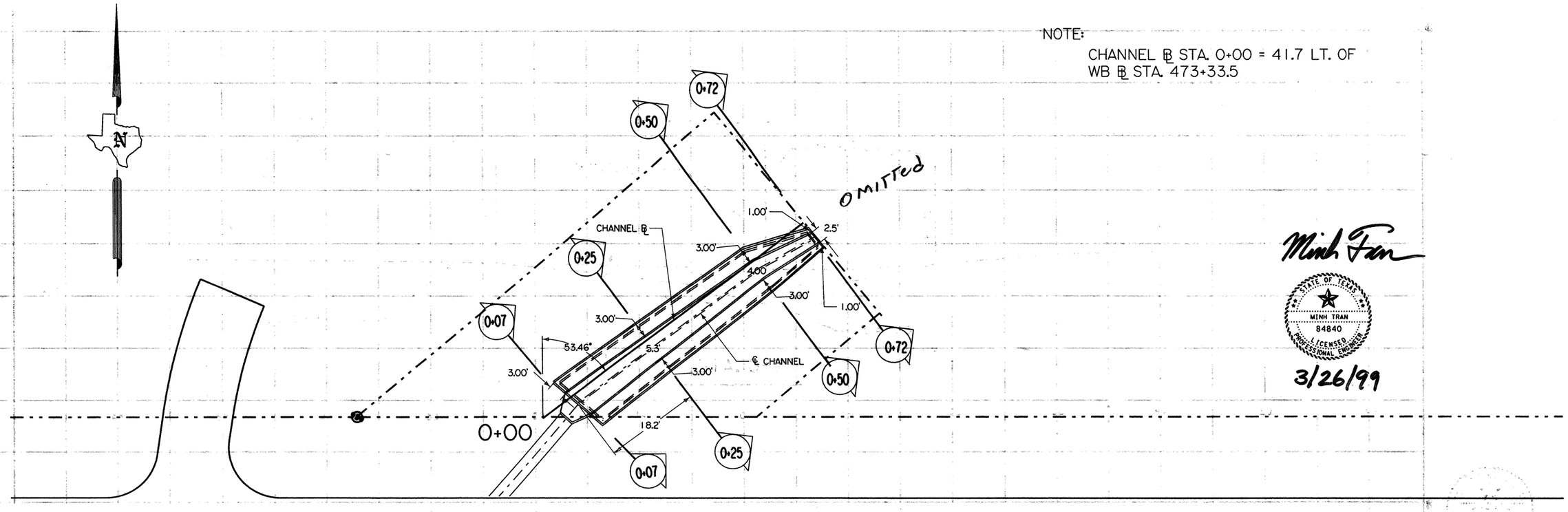
SCALE:
1"= 10' HORZ.
1"= 10' VERT.

SHEET 3 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		292
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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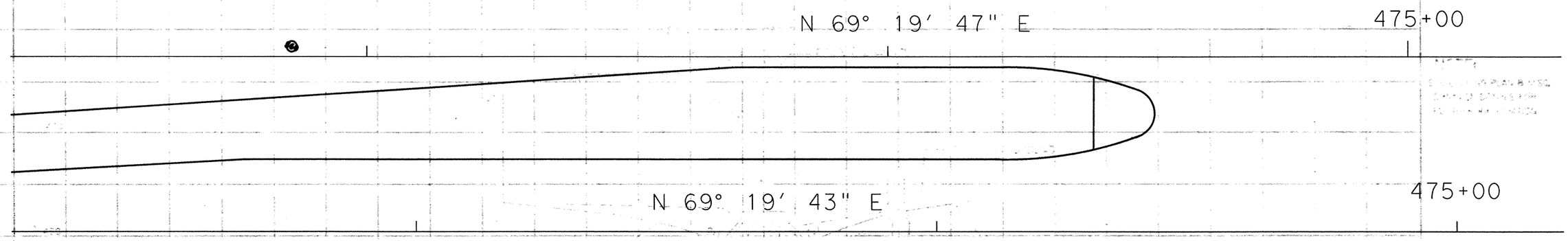
NOTE:
CHANNEL ℄ STA. 0+00 = 41.7 LT. OF
WB ℄ STA. 473+33.5

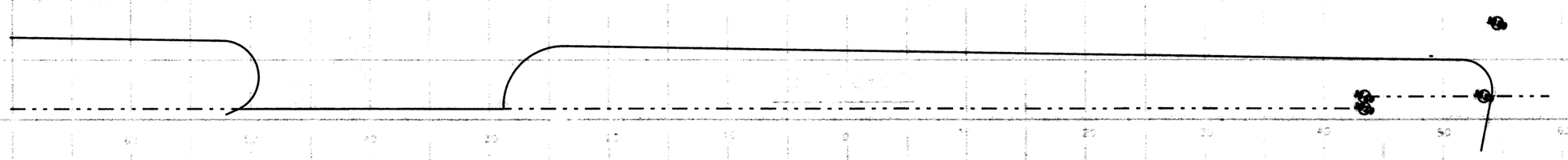


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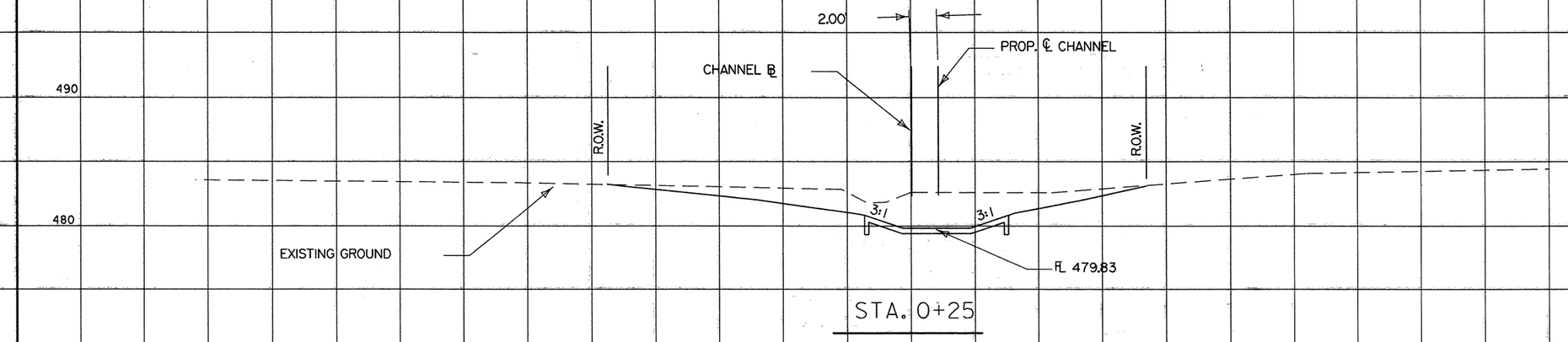
DRAINAGE DETAIL SHEET

WB STA. 473+33.5

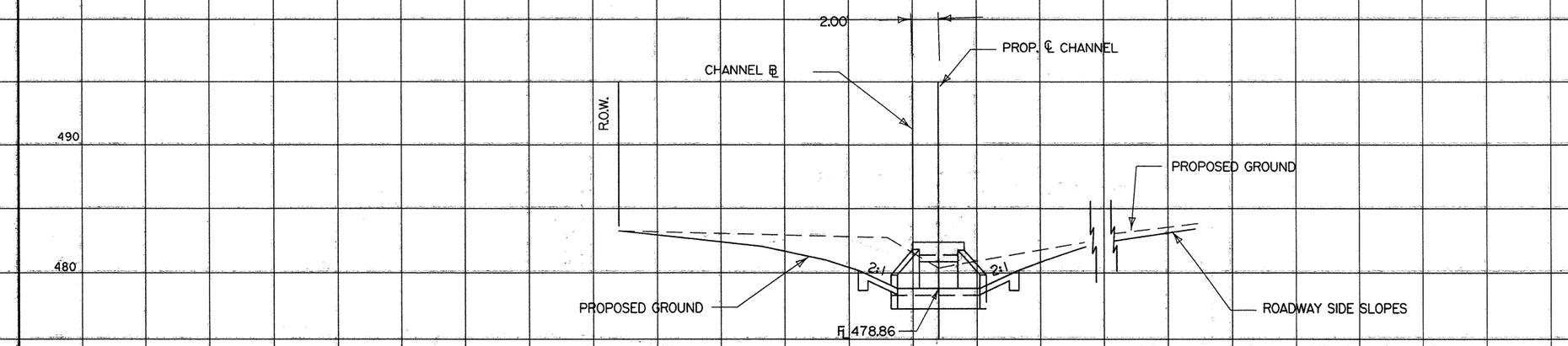
SCALE: 1"=20'
SHEET 4 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		293
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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STA. 0+25



STA. 0+07

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NOTE:
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DRAINAGE DETAIL SHEET

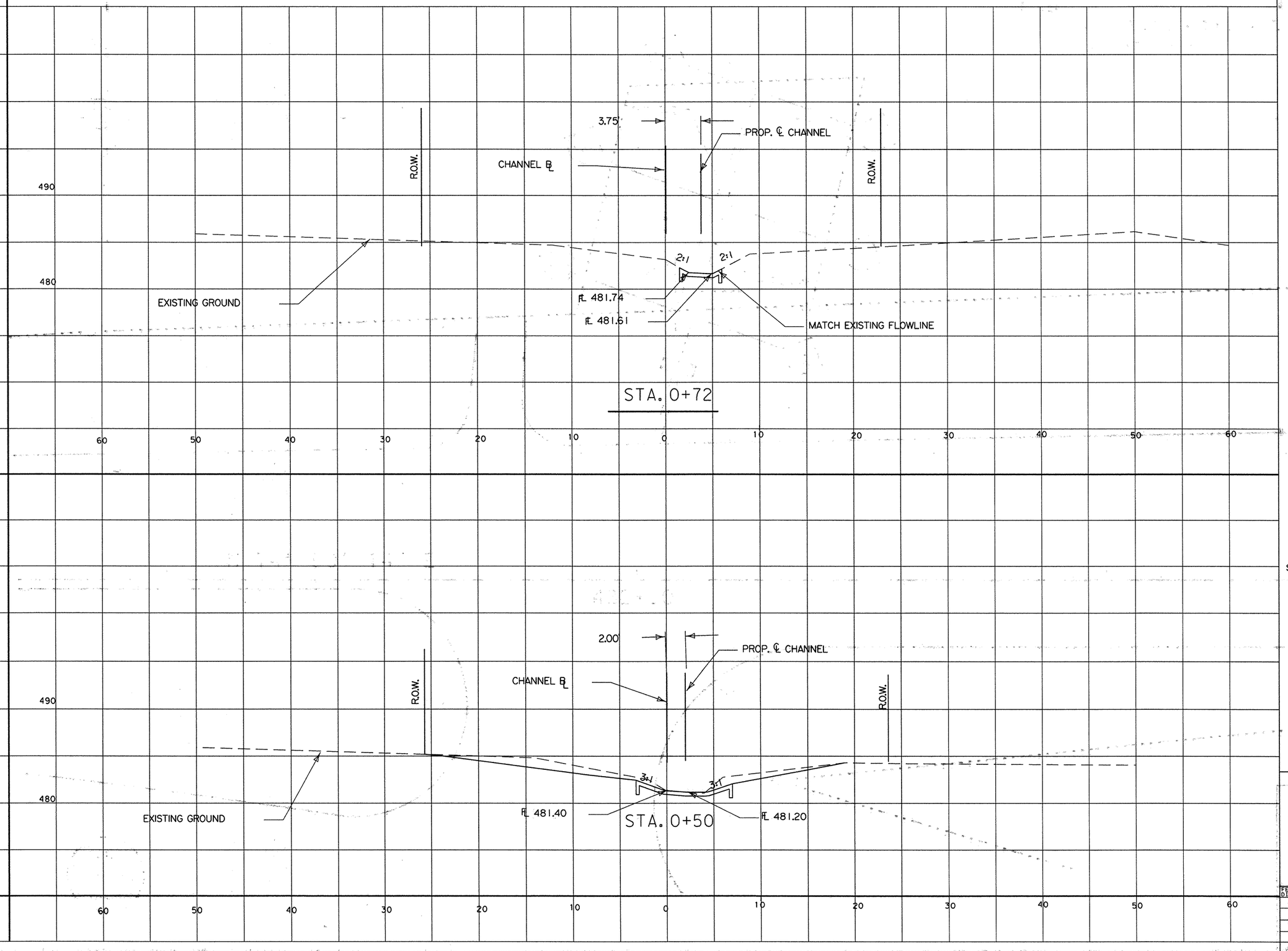
WB STA. 473+33.5

SCALE:
1"= 10' HORZ.
1"= 10' VERT.

SHEET 5 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		294
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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NOTE:
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DRAINAGE DETAIL SHEET

WB STA. 473+33.5

SCALE:
1"= 10' HORZ.
1"= 10' VERT.

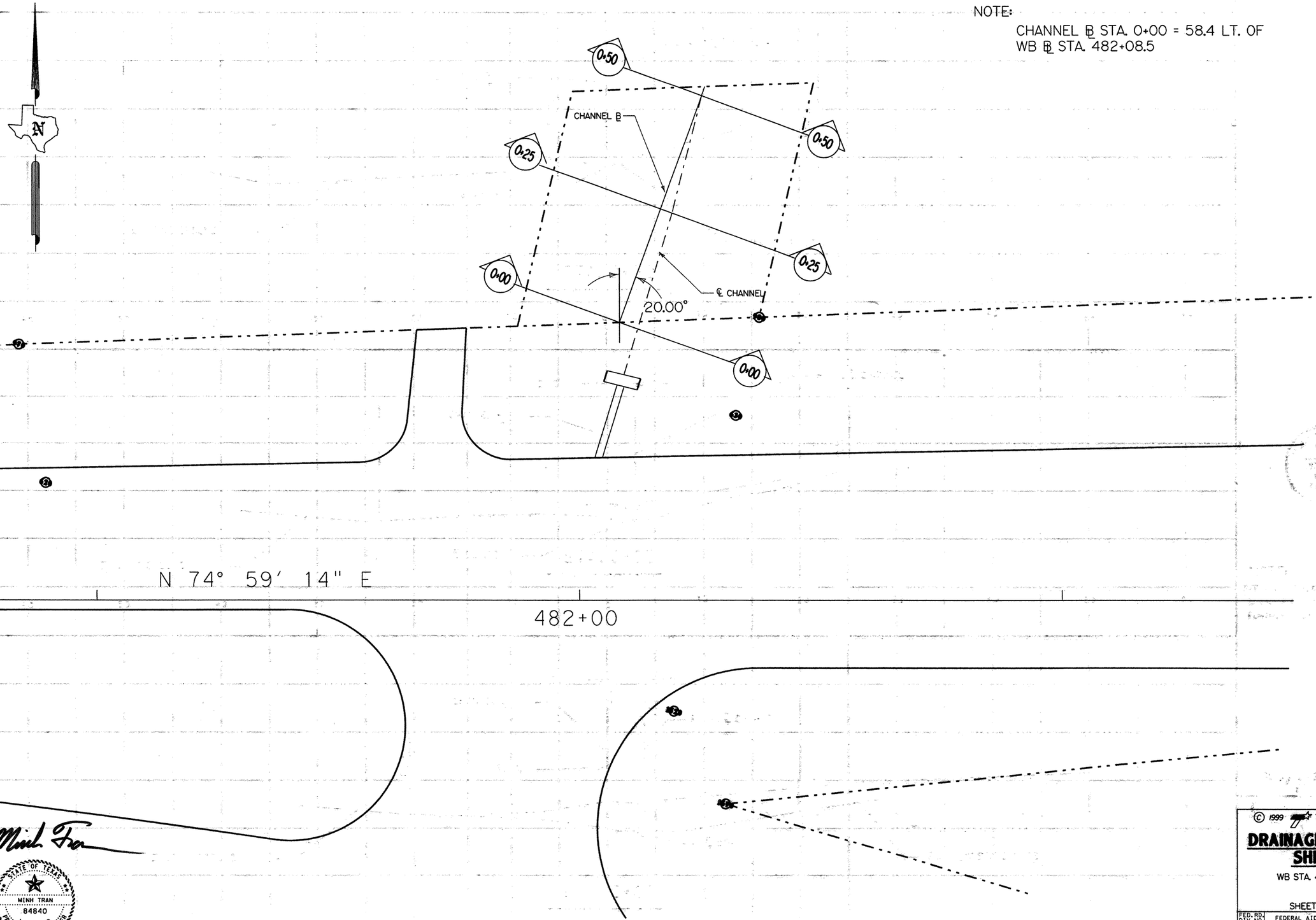
SHEET 6 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
-6	NH 99 (367)		295
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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NOTE:

CHANNEL ℄ STA. 0+00 = 58.4 LT. OF
WB ℄ STA. 482+08.5



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DRAINAGE DETAIL SHEET

WB STA. 482+08.5

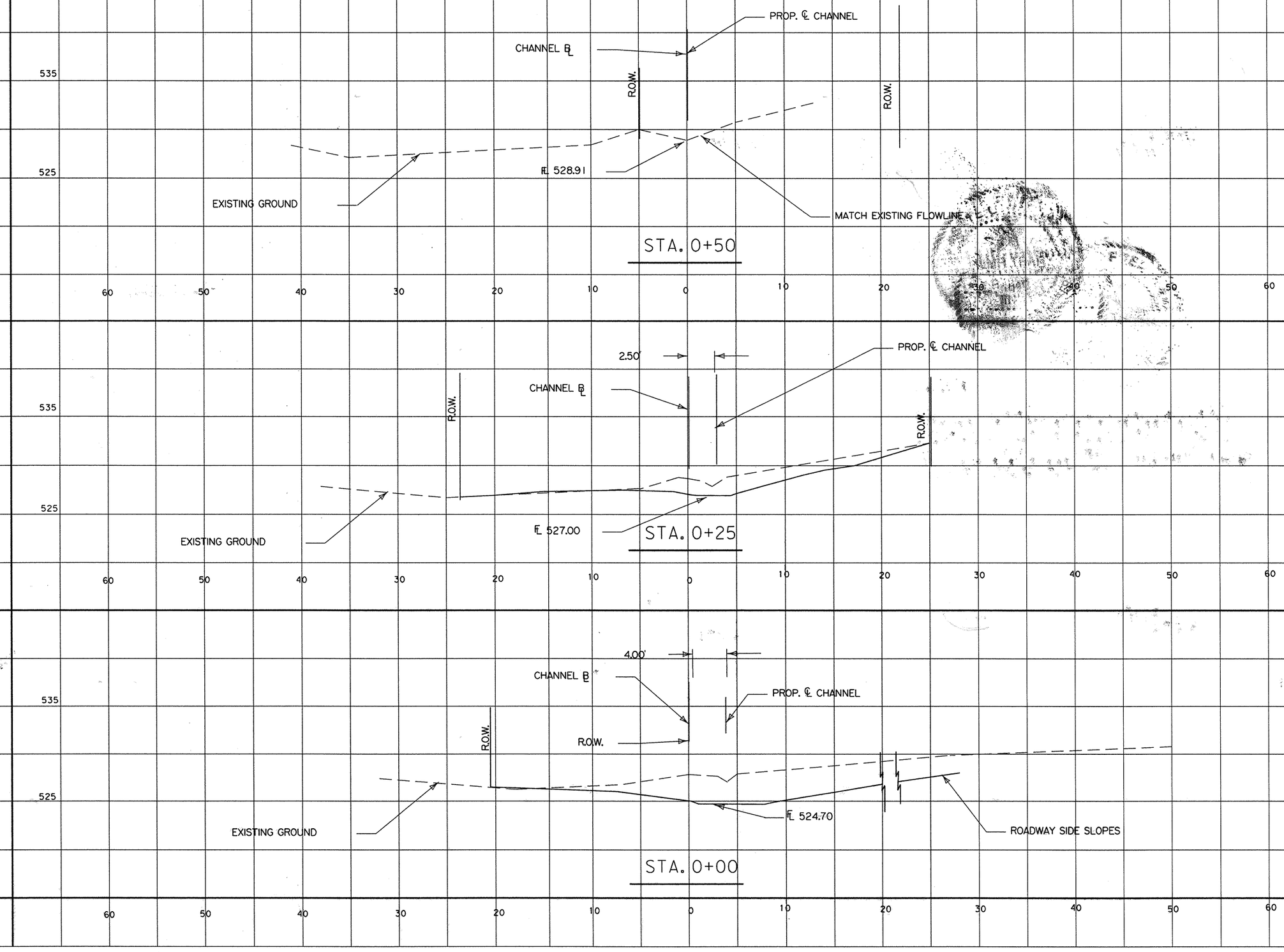
SCALE: 1"=20'

SHEET 7 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		296
STATE	DIST.	COUNTY	
TEXAS	[illegible]		
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

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NOTE:
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DRAINAGE DETAIL SHEET

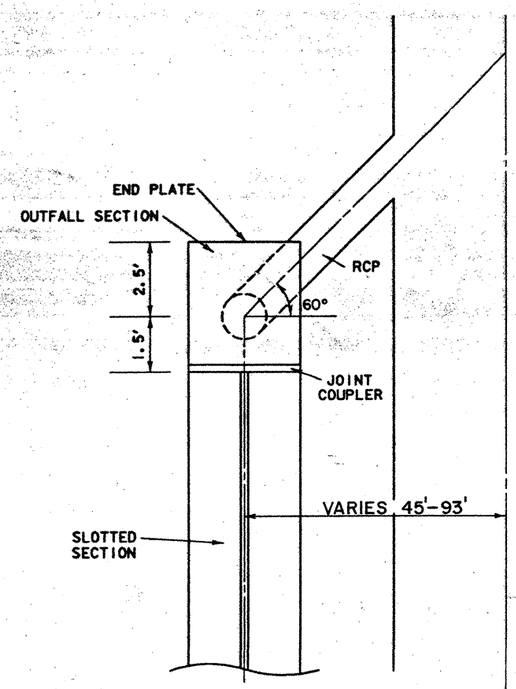
WB STA. 482+08.5

SCALE:
1" = 10' HORZ.
1" = 10' VERT.

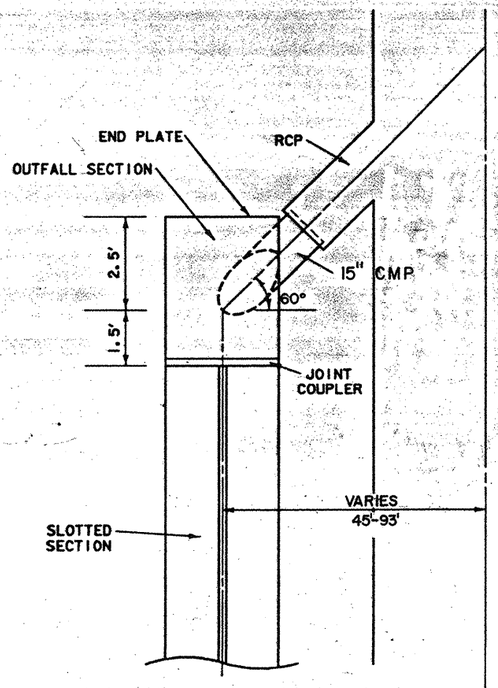
SHEET 8 OF 8 SHEETS.

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		297
STATE	DIST.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

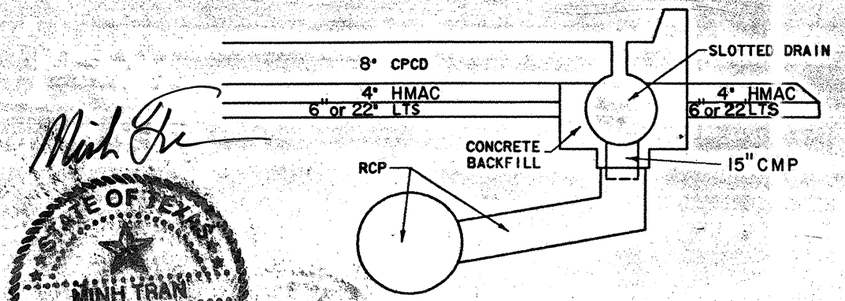
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PLAN



PLAN

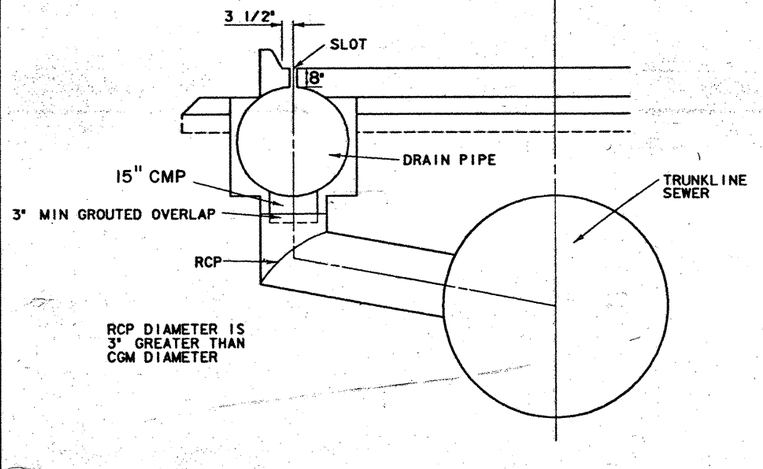


BACKFILL DETAIL
TYPE A CONNECTION

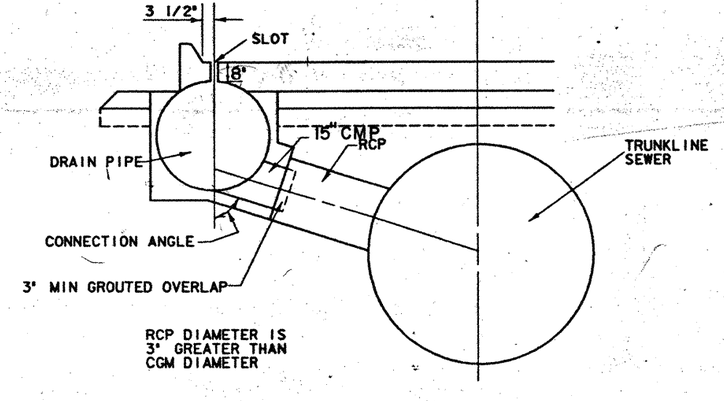
STATE OF TEXAS
MINH TRAN
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PROFESSIONAL ENGINEER
3/26/99

NOTE:

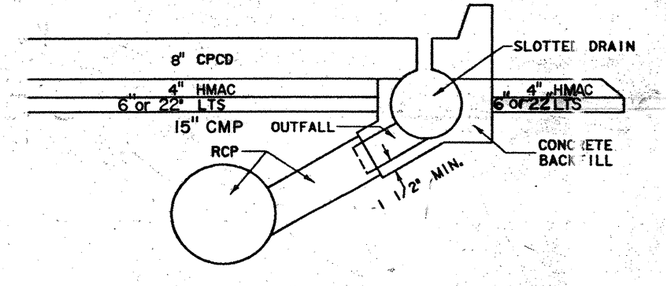
UNLESS NOTED OTHERWISE, SLOTTED DRAIN LOCATION SHALL BE LOCATED AS SPECIFIED ON THE DRAINAGE PLAN AND PROFILE SHEETS.



SLOTTED DRAIN OUTFALL CONNECTION
TYPE A



SLOTTED DRAIN OUTFALL CONNECTION
TYPE B



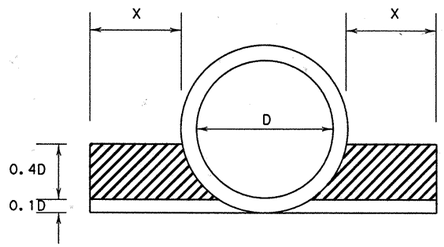
BACKFILL DETAIL
TYPE B CONNECTION

NOTE: GROUT FOR LATERAL CONNECTIONS TO BE CONSIDERED AS SUBSIDIARY TO ITEM 474.

SHEET 1 OF 1

SLOTTED DRAIN DETAILS

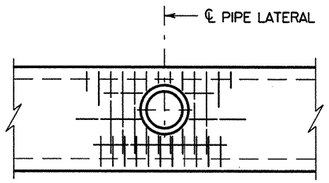
DIST. NO.	STATE	FEDERAL AID PROJECT NO.		SHEET NO.
6	TEXAS	NH 99(367)		SH 66
STATE DIST. NO.	COUNTY	CONTROL NO.	JOB NO.	SHEET NO.
18	ROCKWALL	009	04 039	298



X = 1'-0" FOR PIPES 42" OR LESS
AND
X = 2'-0" FOR PIPES OVER 42"

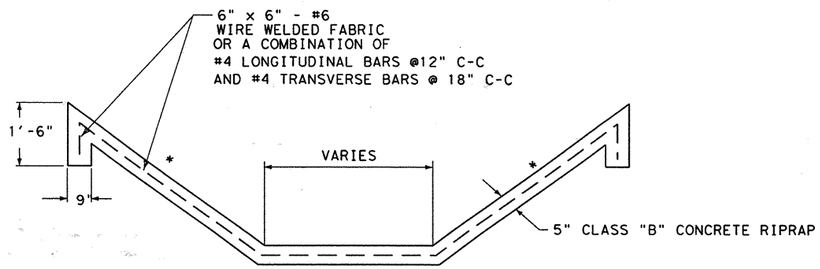
CEMENT STABILIZED BACKFILL

FOR STORM SEWERS ON SLOPES GREATER THAN 10%



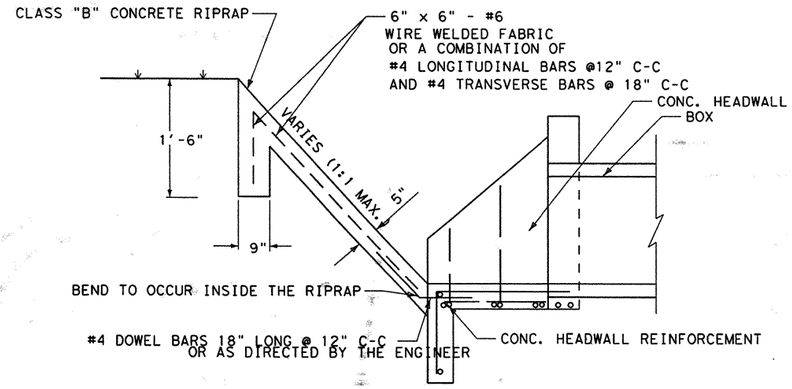
NOTE:
CULVERT WALL REINFORCING STEEL TO BE RELOCATED OR CUT, AS REQUIRED, TO CLEAR PIPE LATERALS LESS THAN 21" IN DIAMETER.
ADD #4 DIAGONAL REINFORCING BARS FOR ALL LATERALS GREATER THAN OR EQUAL TO 21" IN DIAMETER.

PIPE LATERAL CONNECTION DETAIL



DETAIL OF CONCRETE LINED CHANNEL

* SEE DRAINAGE DETAIL SHEET FOR CHANNEL SIDE SLOPE



WB STA. 473+30, 45' LT.

DETAIL OF CONCRETE RIPRAP/ CONC. HEADWALL CONNECTION

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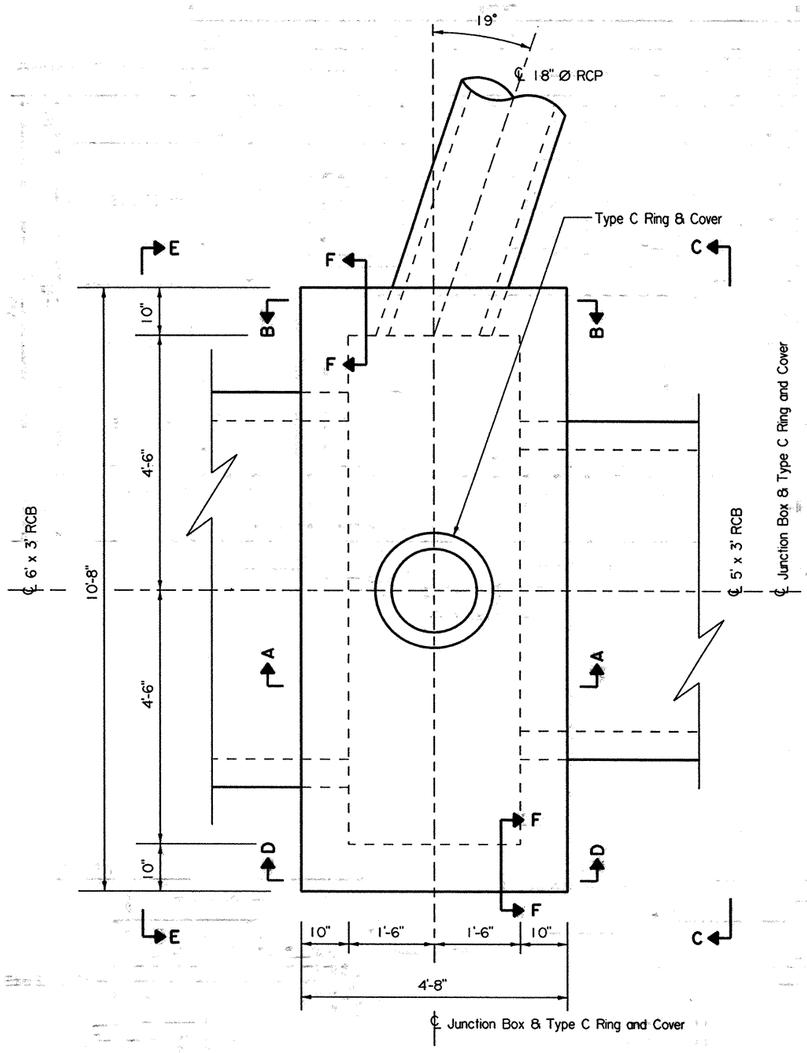
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MISCELLANEOUS DRAINAGE DETAILS

SHEET 1 OF 1 SHEETS

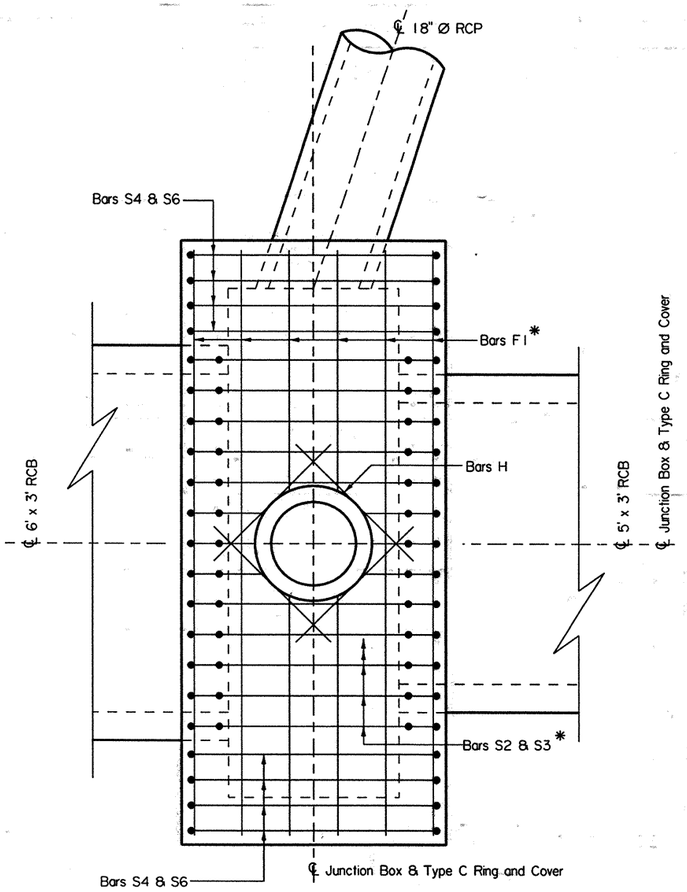
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		299
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	39	SH 66

66mspav.dgn 8-24-98

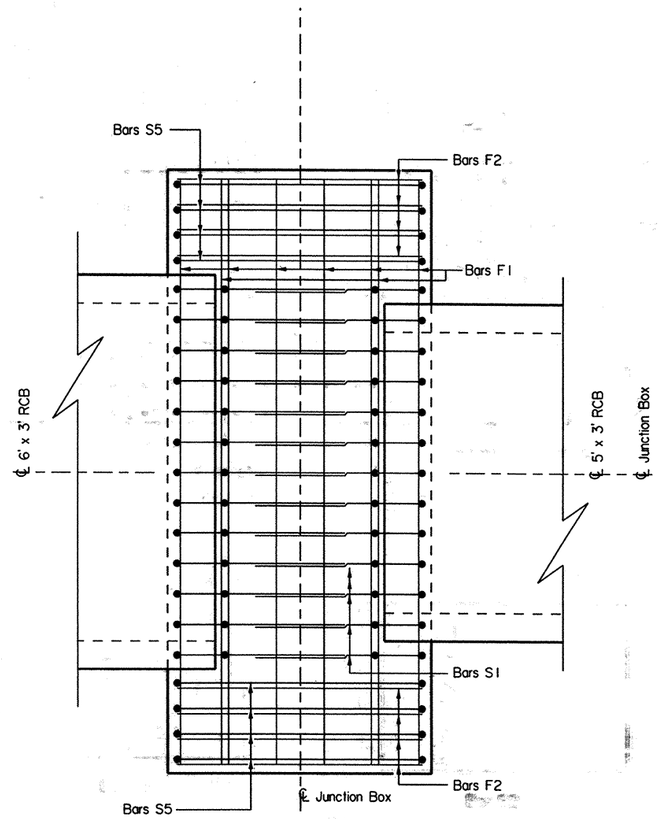


PLAN
Scale: 3/8" = 1'-0"

* - Cut Bars S2, S3 & F1 as required to clear Type C Ring & Cover by 2".



PLAN - TOP SLAB
Scale: 3/8" = 1'-0"

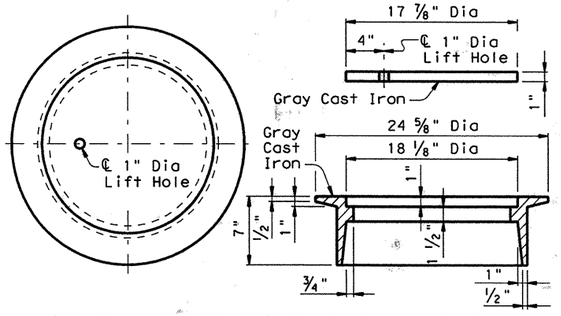


PLAN - BOTTOM SLAB
Scale: 3/8" = 1'-0"

General Notes:
Junction Box designed for HS 20 Loading.
For other details see sheet 2 of 2 sheets.
All Reinf. Steel shall be Grade 60.
Class S Conc. shall be used.
In area of conflict between reinforcing steel, blockout, pipes, box culvert, or other reinforcing steel, the reinforcing shall be bent, adjusted, or cut to clear as directed by the Engineer.

BAR SCHEDULE

Bar	Type	No.	Size	Length	Weight
E1	Bt	12	#5	7'-4"	92
E2	Bt	12	#5	3'-5"	43
E3	Bt	12	#5	7'-8"	96
E4	Bt	12	#5	4'-4"	54
F1	St	32	#5	10'-4"	345
F2	St	28	#5	4'-4"	127
F3	St	12	#5	1'-6"	19
F4	St	12	#5	2'-0"	25
H	St	4	#5	2'-11"	12
S1	Bt	13	#5	13'-8"	185
S2	Bt	13	#5	9'-4"	127
S3	Bt	13	#5	11'-6"	156
S4	Bt	8	#5	16'-10"	140
S5	Bt	8	#5	9'-10"	82
S6	Bt	8	#5	14'-10"	124
S7	Bt	1	#5	14'-2"	15
Total				Lb	1642
Class S Conc.				CY	6.6



RING AND COVER DETAILS (TYPE C)

Approximate Weight = 200 lb ③

③ Rings and covers of slightly different dimensions but approximately the same weight may be substituted if approved by the Engineer.

Sheet 1 of 2 Sheets

Texas Department of Transportation

SH66

JUNCTION BOX MH-C22

DETAILS

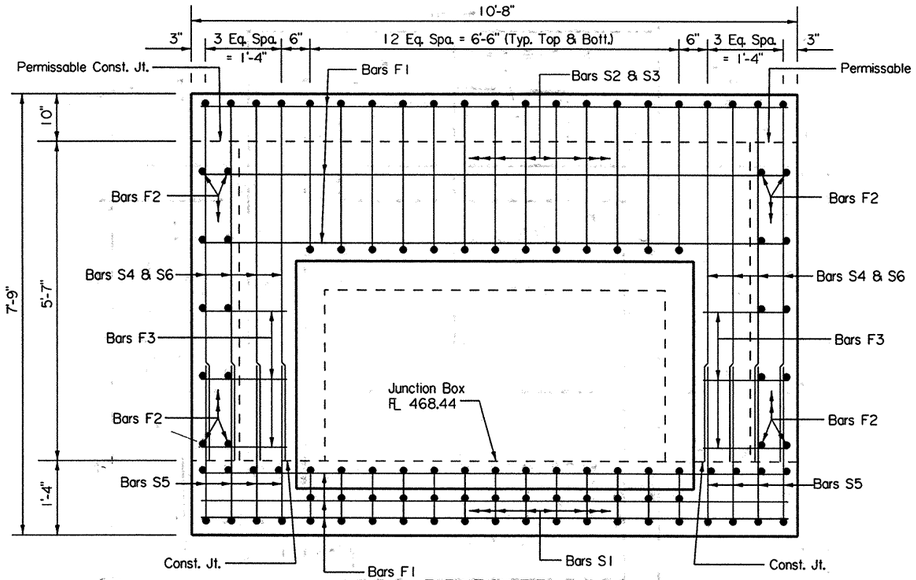
K. A. MENSAH 67081 REGISTERED PROFESSIONAL ENGINEER
2/2/99

DN: KAM	CK: WRF	DW: WRF	CK: KAM	
©TxDOT 01-1999	DIST	FED REG	FEDERAL AID PROJECT •	SHEET
REVISIONS	DAL	6		300
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

EXT. 6673

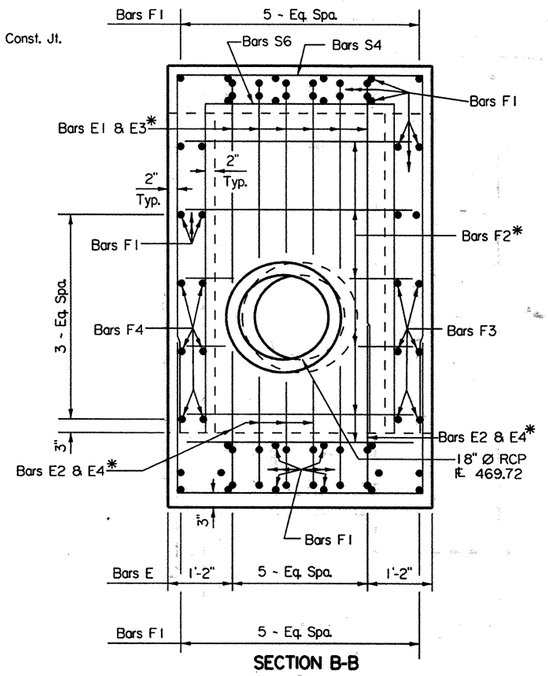
63 02 FEB 99 13:04:56

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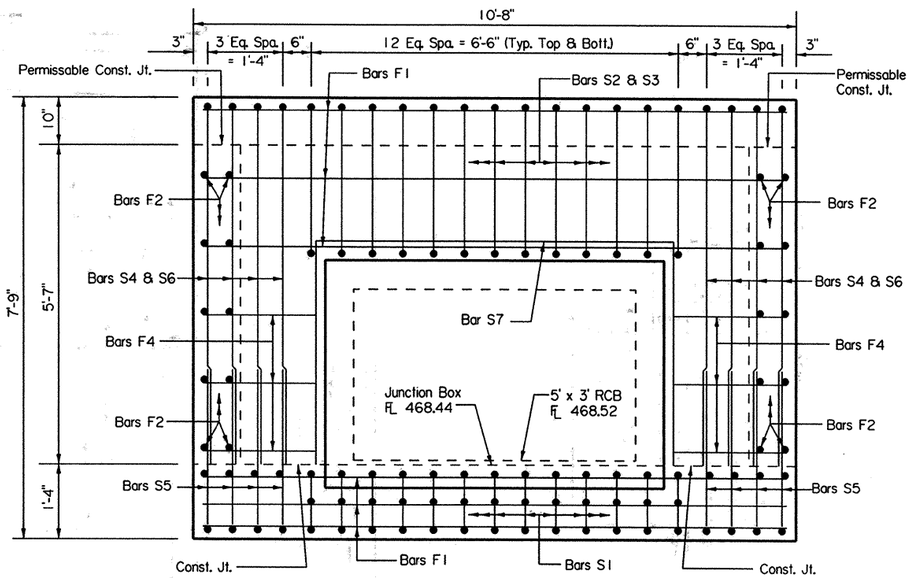


ELEVATION E-E
Scale: 3/8" = 1'-0"

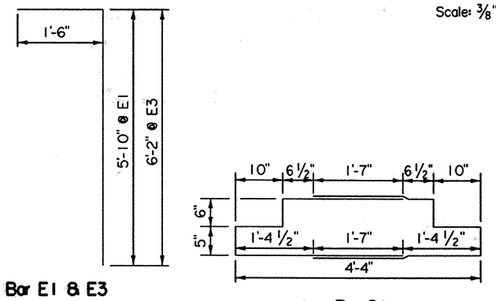
* - Cut Bars E1, E2, E3, E4 & F2 as required to clear 18" Ø RCP by 2".



SECTION B-B
Scale: 3/8" = 1'-0"

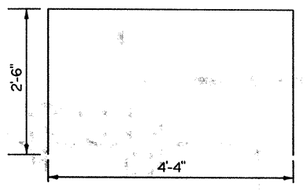


ELEVATION C-C
Scale: 3/8" = 1'-0"

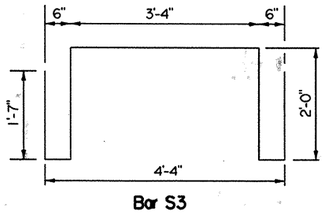


Bar E1 & E3

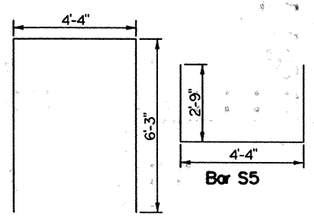
Bar S1



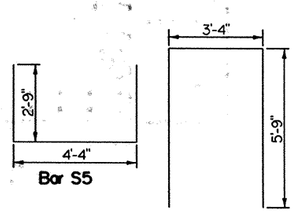
Bar S2



Bar S3

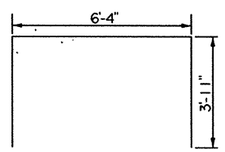


Bar S4

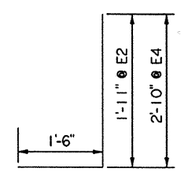


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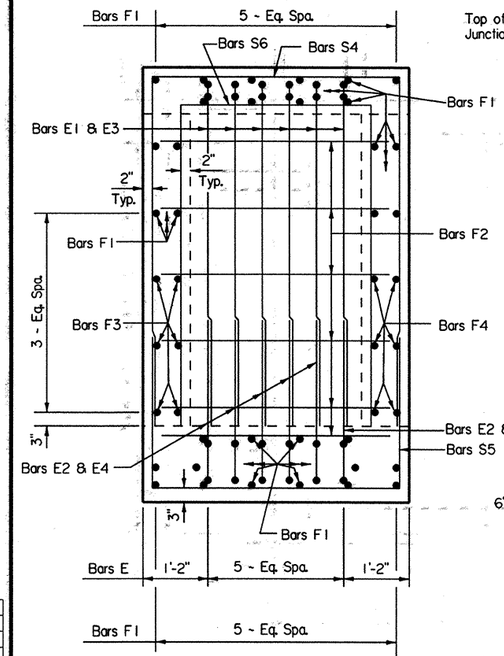
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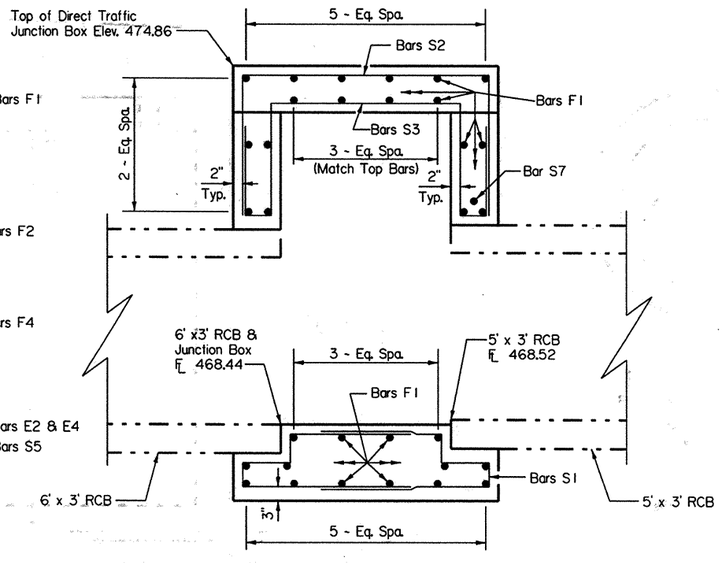
Bar S7



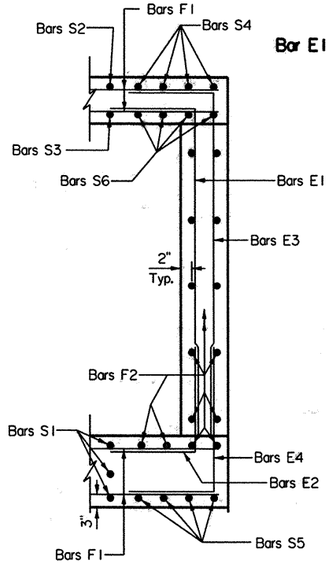
Bar E2 & E4



SECTION D-D
Scale: 3/8" = 1'-0"



SECTION A-A
Scale: 3/8" = 1'-0"



SECTION F-F
Scale: 3/8" = 1'-0"

Note:
For General Notes and details not shown, see sheet 1 of 2 sheets.

Sheet 2 of 2 Sheets

Texas Department of Transportation

SH66

JUNCTION BOX MH-C22

DETAILS

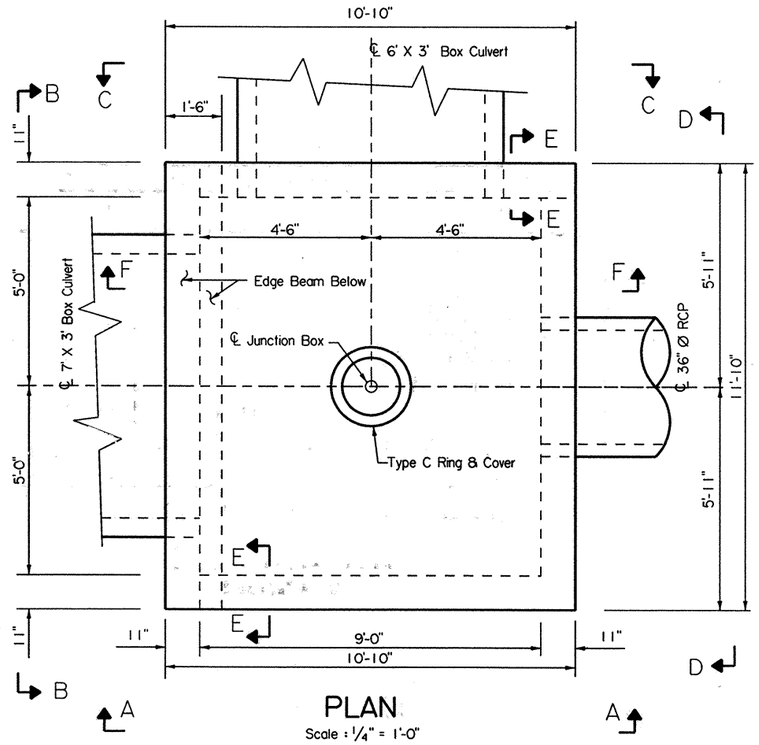
K. A. MENSAH
67081
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
2/2/99

DN: KAM	CK: WRF	DW: WRF	CK: KAM
© TxDOT 01-1999	DIST	FED REG	FEDERAL AID PROJECT •	SHEET
REVISIONS	DAL	6		30
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL	0009	04	039	SH66

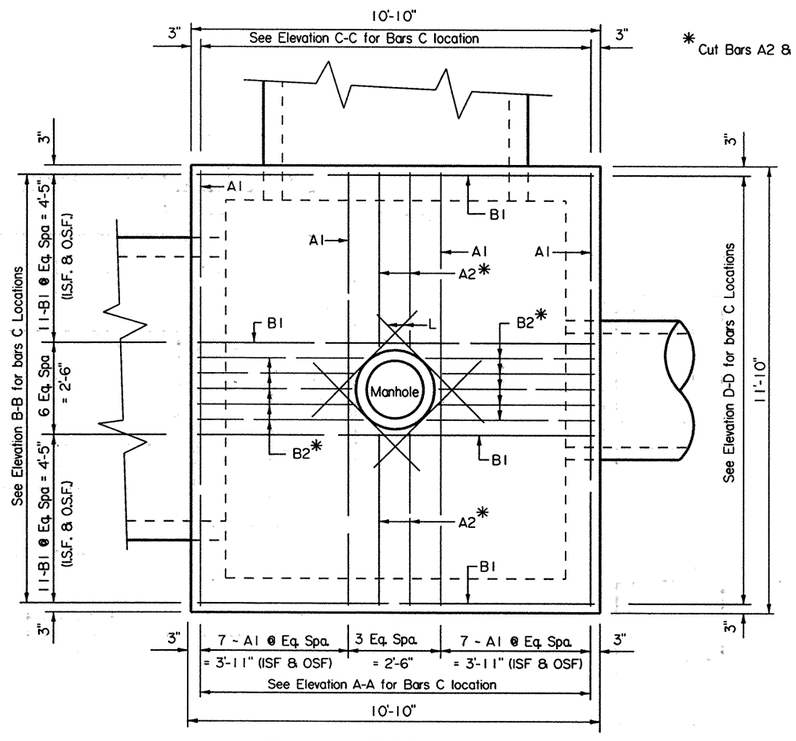
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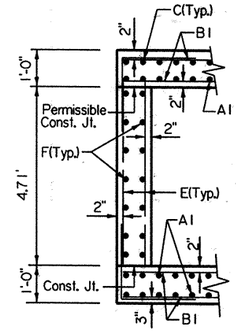


PLAN
Scale : 1/4" = 1'-0"

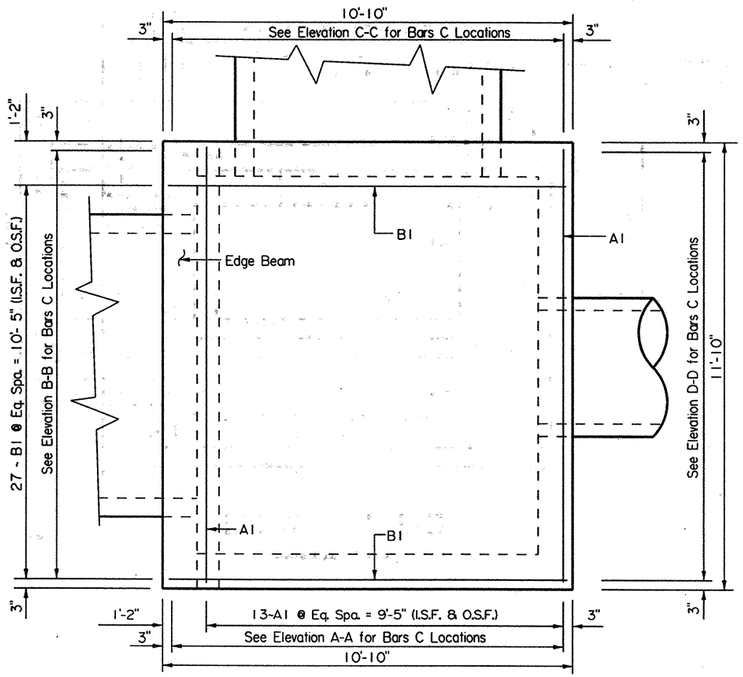


PLAN ~ TOP SLAB
Scale : 1/4" = 1'-0"

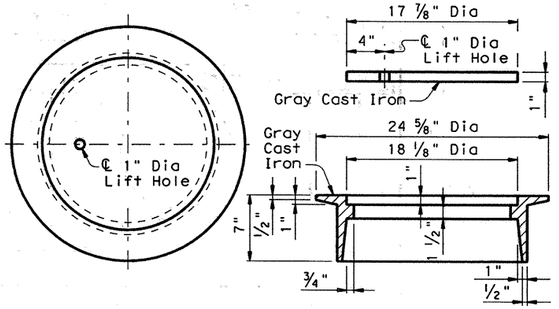
* Cut Bars A2 & B2 as required to clear the Ring and Cover by 2'.



SECTION E-E
Scale : 1/4" = 1'-0"



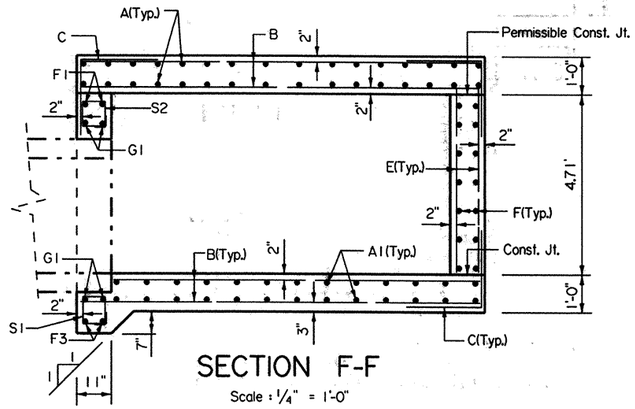
PLAN ~ BOTTOM SLAB
Scale : 1/4" = 1'-0"



RING AND COVER DETAILS (TYPE C)

Approximate Weight = 200 lb ③

③ Rings and covers of slightly different dimensions but approximately the same weight may be substituted if approved by the Engineer.



SECTION F-F
Scale : 1/4" = 1'-0"

Note:
See sheets 2 of 2 sheets for other details not shown.

K. A. MENSAH
67081
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
2/2/99

Sheet 1 of 2 Sheets

Texas Department of Transportation

SH 66

JUNCTION BOX MH-D2

DETAILS

DN: KAM	CK: WRF	DW: KAM	CK: WRF
©TxDOT 01-99	DIST	FED REG	FEDERAL AID PROJECT •
REVISIONS	DAL	6	

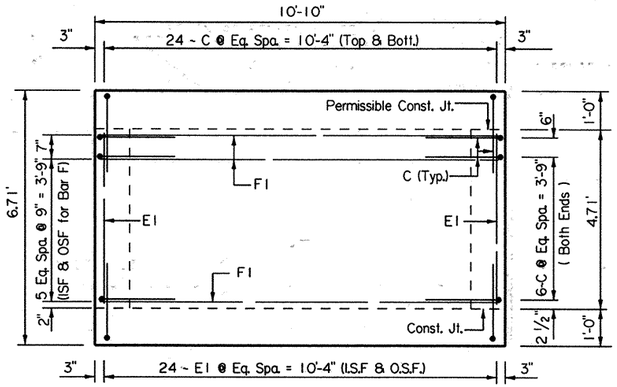
COUNTY	CONTROL	SECT	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

SHEET 302

EXT. 6672

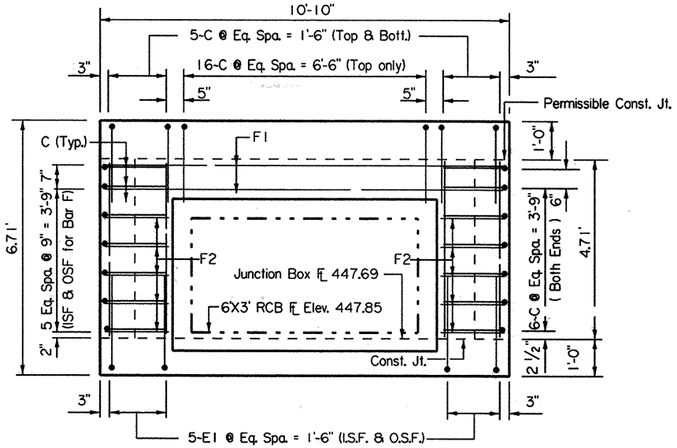
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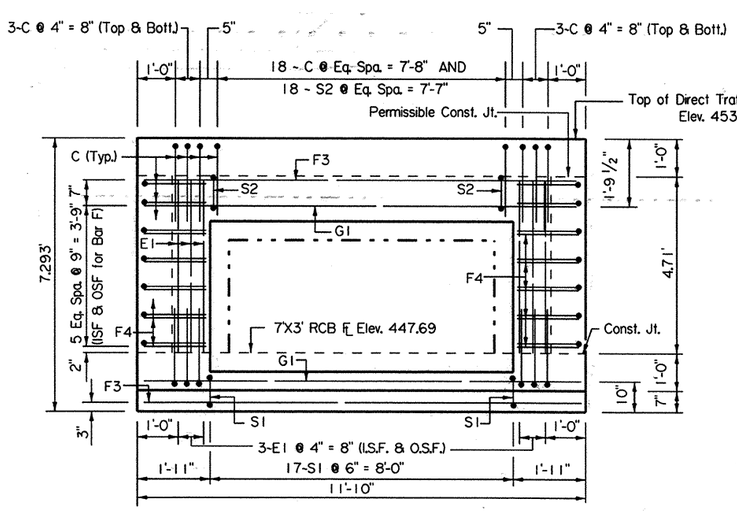
ELEVATION A-A

Scale : 1/4" = 1'-0"



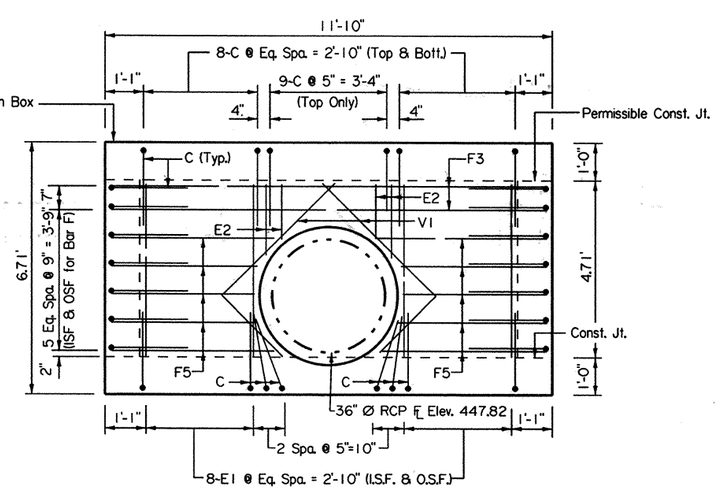
ELEVATION C-C

Scale : 1/4" = 1'-0"



ELEVATION B-B

Scale : 1/4" = 1'-0"

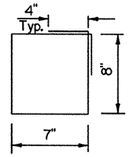


ELEVATION D-D

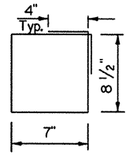
Scale : 1/4" = 1'-0"

BAR SCHEDULE

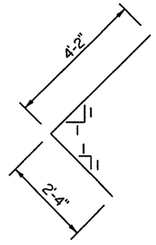
Bar	Type	No.	Size	Length	Weight
A1	St.	54	#5	11'-6"	648
A2	St.	8	#5	4'-7"	38
B1	St.	98	#6	10'-6"	1,546
B2	St.	20	#6	4'-1"	123
C	Bt.	187	#5	4'-0"	780
E1	St.	112	#6	4'-9"	799
E2	St.	8	#6	1'-11"	23
F1	St.	18	#5	10'-6"	197
F2	St.	20	#5	1'-7"	33
F3	St.	8	#5	11'-6"	96
F4	St.	20	#5	1'-7"	33
F5	St.	20	#5	4'-4"	90
L	St.	4	#5	4'-0"	17
V1	Bt.	4	#5	6'-6"	27
S1	Bt.	17	#4	3'-3"	37
S2	Bt.	18	#4	3'-2"	38
G1	St.	4	#8	11'-6"	123
Reinf. Steel				LB	4,648
Class S Conc.				CY	14.0



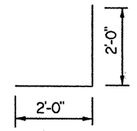
BAR S2



BAR S1



BAR V1



BAR C

General Notes:

Junction Box designed for HS 20 Loading.
For other details see sheets 1 of 2 sheets.
I. S. F. = Inside Face.
O. S. F. = Outside Face.
All Reinf. Steel shall be Grade 60.
Class S Conc. shall be used.
In area of conflict between reinforcing steel, blockout, pipes, box culvert, or other reinforcing steel, the reinforcing shall be bent, adjusted, or cut to clear as directed by the Engineer.

Sheet 2 of 2 Sheets

Texas Department of Transportation

SH 66

JUNCTION BOX MH-D2

DETAILS

STATE OF TEXAS
K. A. MENSAH
67081
REGISTERED
PROFESSIONAL ENGINEER

2/2/99

DN: KAM	CK: WRF	DW: KAM	CK: WRF
© TxDOT 01-99	DIST	FED REG	FEDERAL AID PROJECT
REVISIONS	DAL	6	

COUNTY	CONTROL	SECT	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

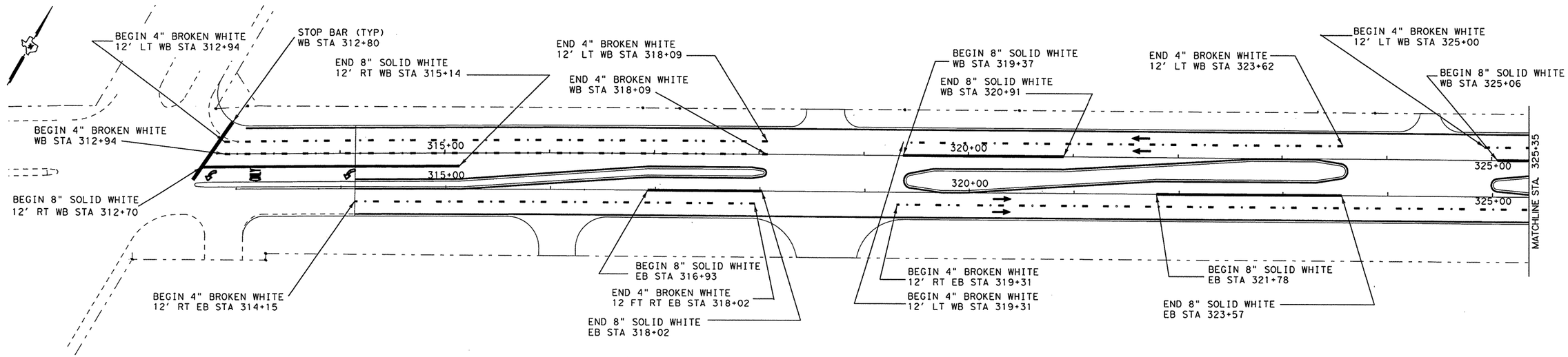
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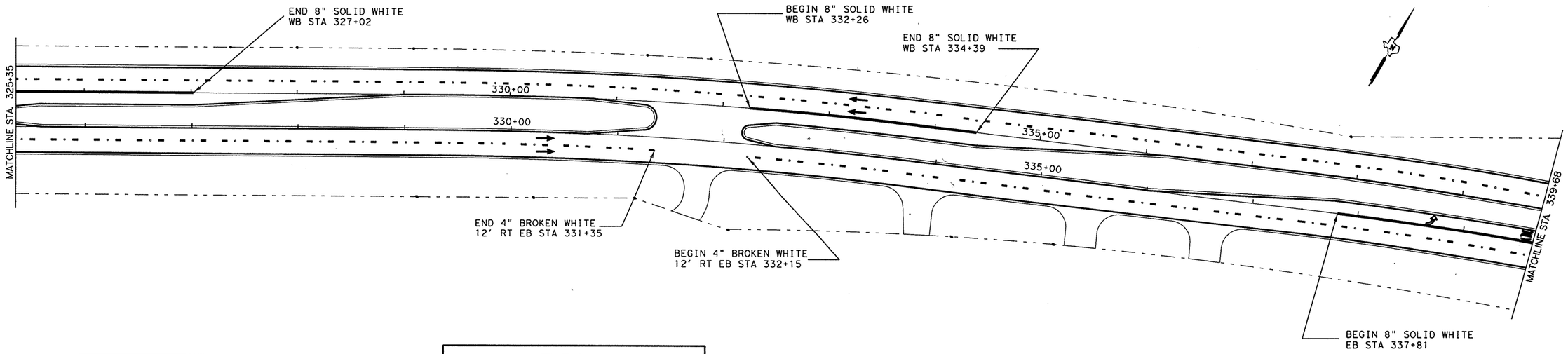
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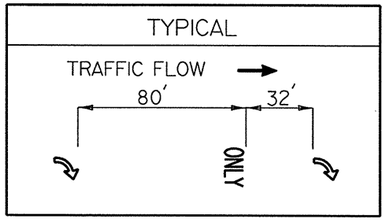
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$$$$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$$$$





LEGEND
PAINTED ARROW TYP
TRAFFIC FLOW ARROW TYP



NOTES:

4" SOLID YELLOW EDGE STRIPE WILL BE PLACED ALONG THE ENTIRE LEFT EDGE OF THE ROADWAY UNLESS OTHERWISE SHOWN ON THE PLANS.

4" SOLID WHITE EDGE STRIPE WILL BE PLACED ALONG THE ENTIRE RIGHT EDGE OF THE ROADWAY UNLESS OTHERWISE SHOWN ON THE PLANS. THE STRIPE WILL NOT BE PLACED IN FRONT OF ROADS ABUTTING THE MAIN ROADWAY.

ALL CROSSWALK LINES SHALL BE 12" SOLID WHITE

ALL STOP BARS SHALL BE 24" SOLID WHITE

SEE PAVEMENT MARKING DETAIL SHEET FOR ADDITIONAL INFORMATION

MATCHLINES ARE TO WESTBOUND BASELINE

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/26/99

PAVEMENT MARKINGS

SCALE: 1"=100'

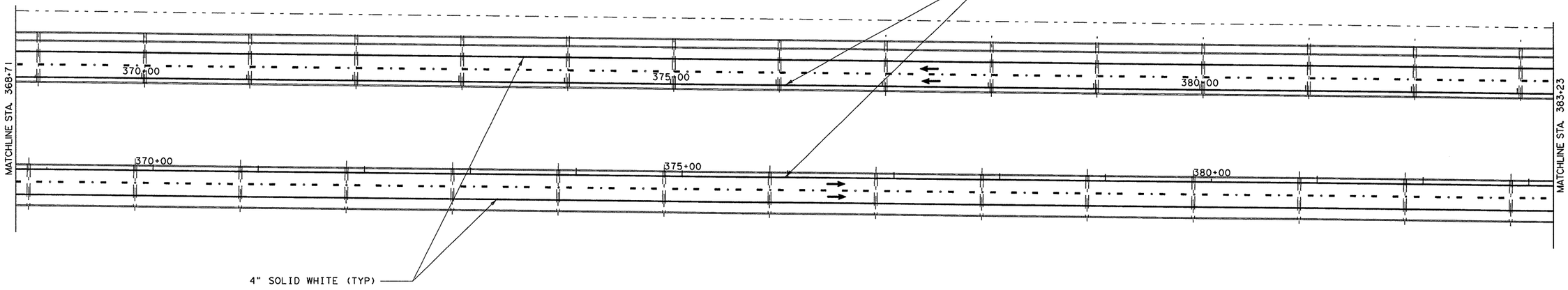
SHEET 1 OF 7 SHEETS

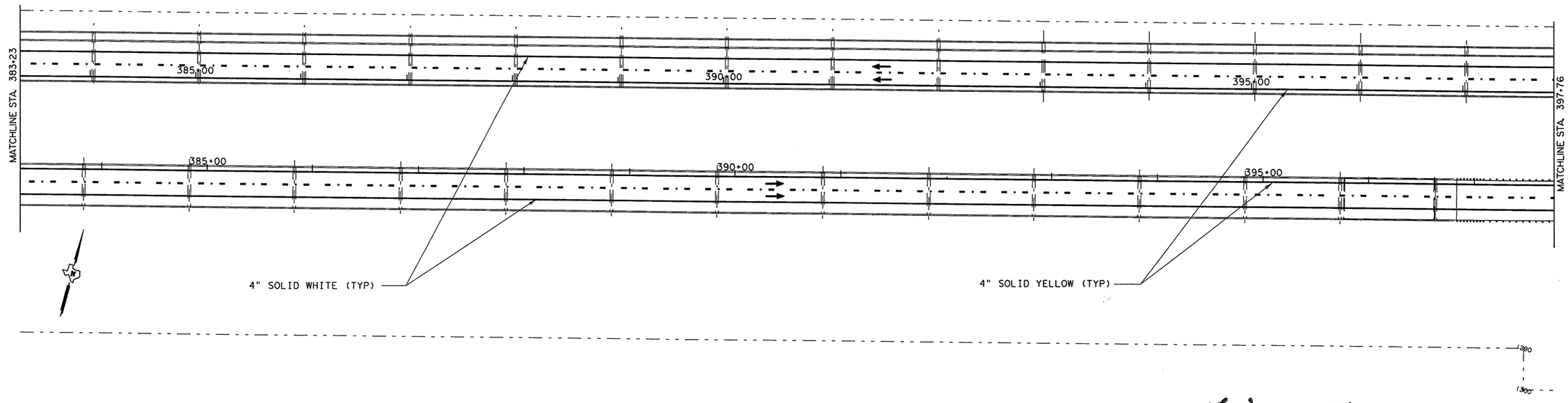
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FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		304
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

$$$





LEGEND
PAINTED ARROW TYP
TRAFFIC FLOW ARROW TYP

NOTES:

4" SOLID YELLOW EDGE STRIPE WILL BE PLACED ALONG THE ENTIRE LEFT EDGE OF THE ROADWAY UNLESS OTHERWISE SHOWN ON THE PLANS.

4" SOLID WHITE EDGE STRIPE WILL BE PLACED ALONG THE ENTIRE RIGHT EDGE OF THE ROADWAY UNLESS OTHERWISE SHOWN ON THE PLANS. THE STRIPE WILL NOT BE PLACED IN FRONT OF ROADS ABUTTING THE MAIN ROADWAY.

ALL CROSSWALK LINES SHALL BE 12" SOLID WHITE

ALL STOP BARS SHALL BE 24" SOLID WHITE

SEE PAVEMENT MARKING DETAIL SHEET FOR ADDITIONAL INFORMATION

MATCHLINES ARE TO WESTBOUND BASELINE

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

3/26/99

PAVEMENT MARKINGS

SCALE: 1"=100'

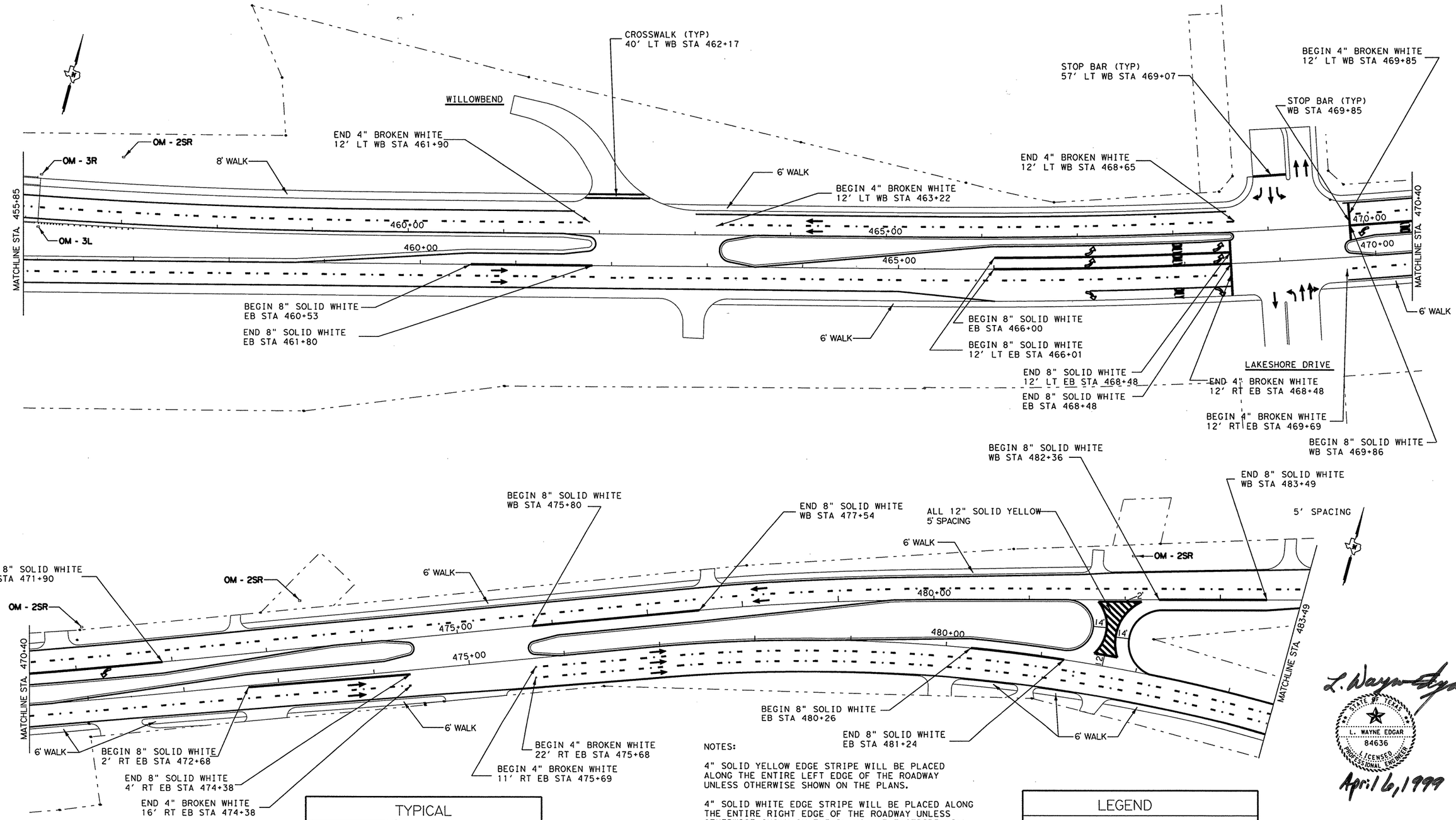
SHEET 3 OF 7 SHEETS

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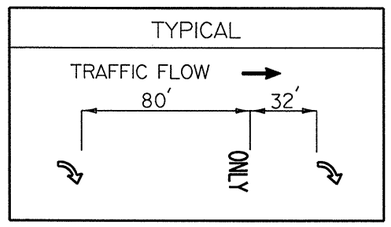
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STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$

$$$



TYPICAL



NOTES:

4" SOLID YELLOW EDGE STRIPE WILL BE PLACED ALONG THE ENTIRE LEFT EDGE OF THE ROADWAY UNLESS OTHERWISE SHOWN ON THE PLANS.

4" SOLID WHITE EDGE STRIPE WILL BE PLACED ALONG THE ENTIRE RIGHT EDGE OF THE ROADWAY UNLESS OTHERWISE SHOWN ON THE PLANS. THE STRIPE WILL NOT BE PLACED IN FRONT OF ROADS ABUTTING THE MAIN ROADWAY.

ALL CROSSWALK LINES SHALL BE 12" SOLID WHITE

ALL STOP BARS SHALL BE 24" SOLID WHITE

SEE PAVEMENT MARKING DETAIL SHEET FOR ADDITIONAL INFORMATION

OBJECT MARKERS SHALL BE PLACED 2' FROM EDGE OF ROADWAY.

SEE STANDARD SHEETS DOM(1) & DOM(2) FOR ADDITIONAL DETAILS.

MATCHLINES ARE TO WESTBOUND BASELINE

LEGEND

PAINTED ARROW TYP

TRAFFIC FLOW ARROW TYP

L. Wayne Edgar

STATE OF TEXAS
L. WAYNE EDGAR
84636
LICENSED PROFESSIONAL ENGINEER

April 6, 1999

PAVEMENT MARKINGS

SCALE: 1"=100'

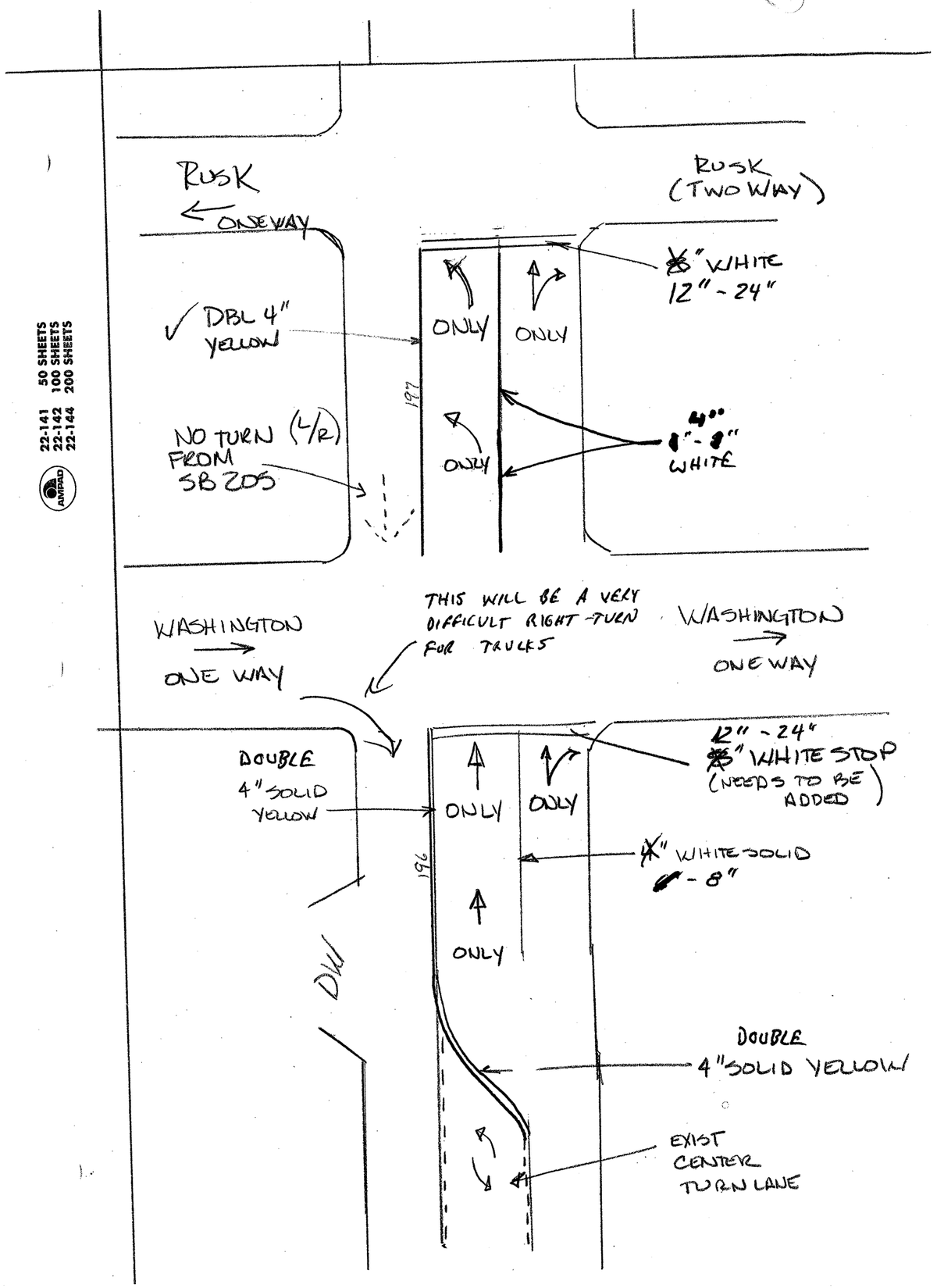
SHEET 6 OF 7 SHEETS

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TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

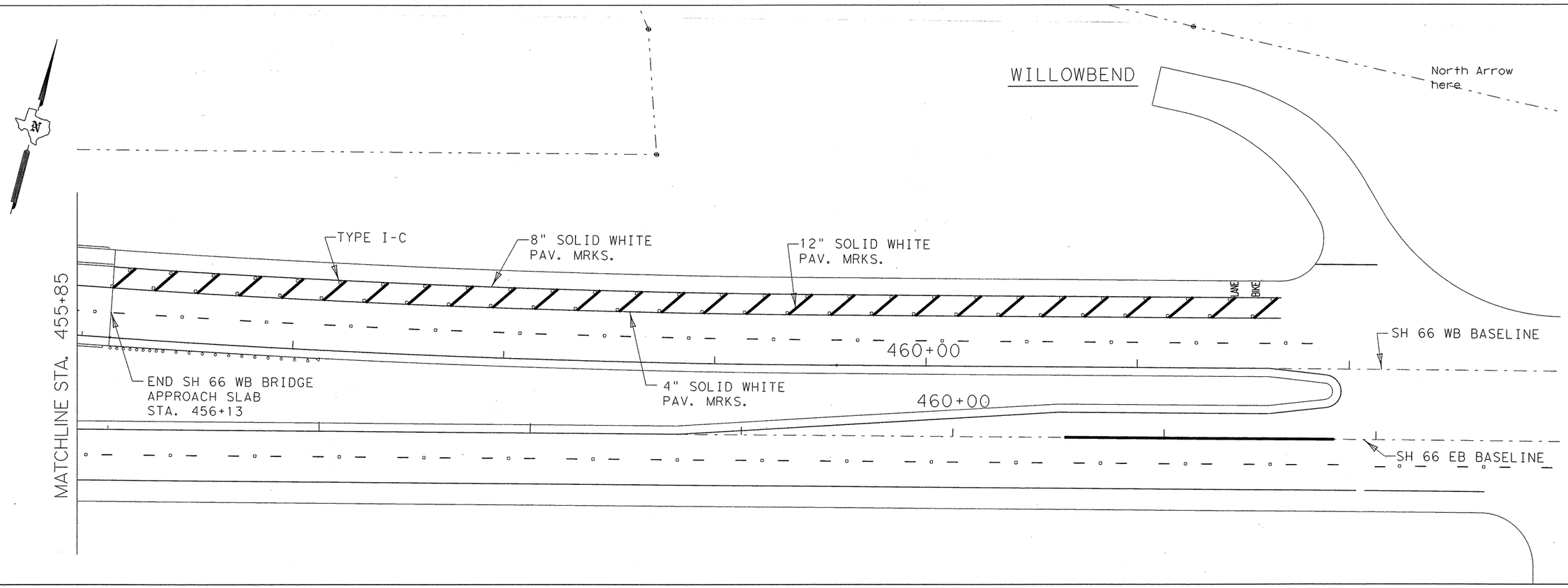
© 1999 Texas Department of Transportation

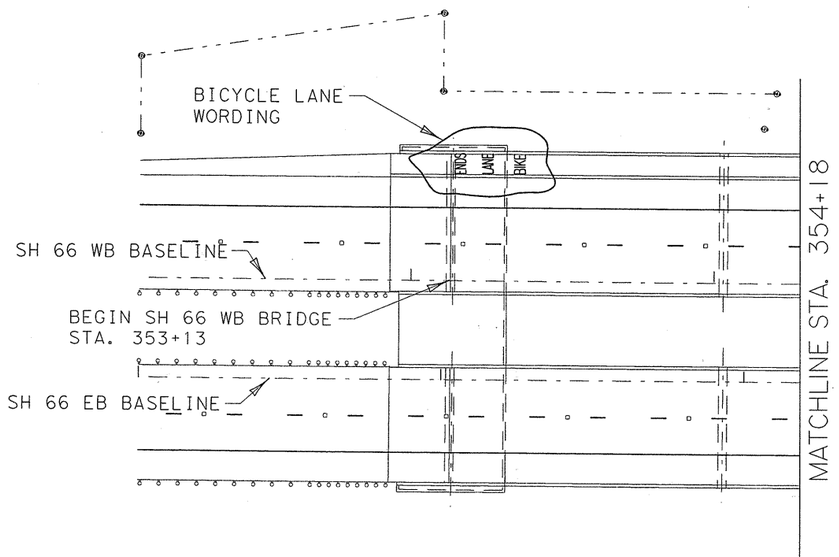
REPLACED 6-28-99 DLP

$$$$$dgnspec$$$$$



AMPAD 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS





END OF BICYCLE LANE DETAIL

SUMMARY OF BICYCLE LANE AREA PAVEMENT MARKINGS

LOCATION	FROM STATION (STA)	TO STATION (STA)	ITEM 666 PAV MARK TYPE I 4" (WHT SLD) (LF)	PAV MARK TYPE I 8" (WHT SLD) (LF)	PAV MARK TYPE I 12" (WHT SLD) (LF)	PAV MARK TYPE I (W) (WORD) (EA)	PAV MARK TYPE II 4" (WHT SLD) (LF)	PAV MARK TYPE II 8" (WHT SLD) (LF)	PAV MARK TYPE II 12" (WHT SLD) (LF)	PAV MARK TYPE II (W) (WORD) (EA)	ITEM 672 RAISED PAV MARK TYPE I-C (EA)	ITEM 678 PAV SURF PREP FOR MRKS (4") (LF)	PAV SURF PREP FOR MRKS (8") (LF)	PAV SURF PREP FOR MRKS (12") (LF)	PAV SURF PREP FOR MRKS (WORD) (EA)
SHEET 1 OF 1	456+13	461+68	555	555	410	2.0	555	555	410	2.0	56.0	555	555	410	2.0
SHEET 1 OF 1	353+13	353+37	—	—	—	3.0	—	—	—	3.0	—	—	—	—	3.0
SUB-TOTALS			555	555	410	5.0	555	555	410	5.0	56.0	555	555	410	5.0

STATE OF TEXAS
TRACEY L. FRIGGLE
73467
REGISTERED PROFESSIONAL ENGINEER

Signature of Registrant & Date: Tracey Friggle, P.E. 3/25/03

NOTES:

SEE BL(PM-1)97 AND BL(PM-2)97 STANDARDS FOR BICYCLE LANE PAVEMENT MARKING DETAILS

SEE PM(1)-00A THRU PM(3)-00A FOR PAVEMENT MARKING DETAILS

SEE PAV. MARKINGS SHEET 6 OF 7 FOR ADDITIONAL INFORMATION

38 CHANGE ORDER NO. 38

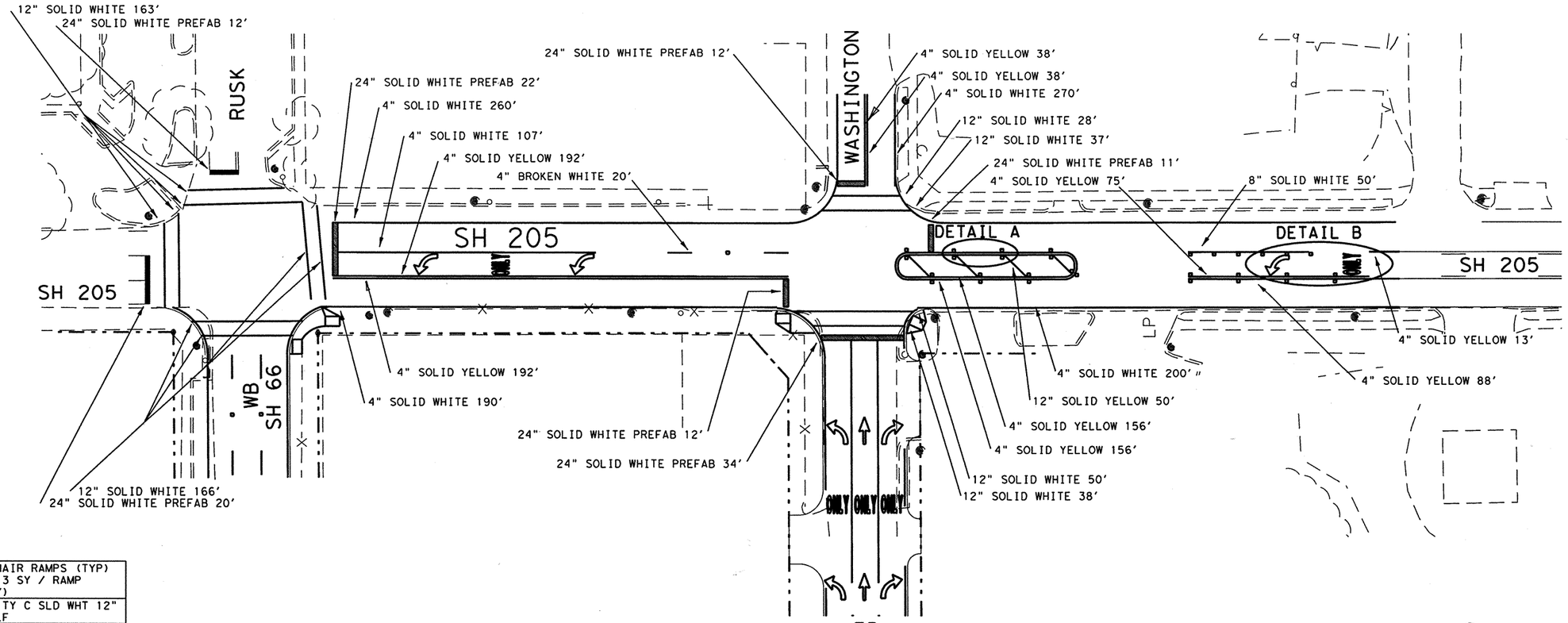
Texas Department of Transportation
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PAVEMENT MARKINGS
(BICYCLE LANE AREA)

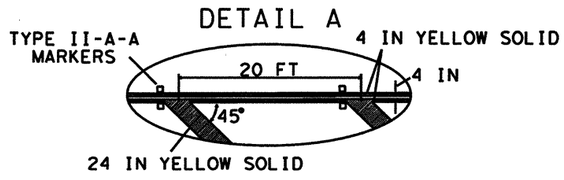
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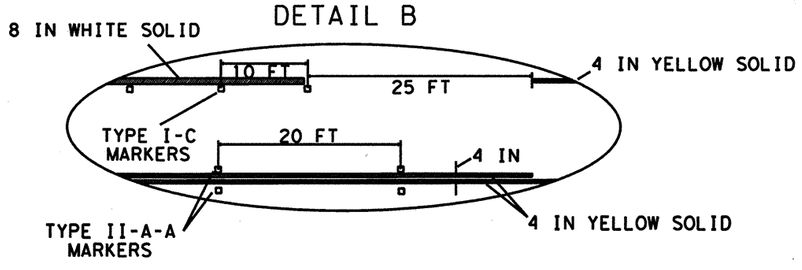
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WF	6	(See Title Sheet)		SH 66
GRAPHICS WF	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK TF	TEXAS	DALLAS	ROCKWALL	310B
CHECK TF	CONTROL 0009	SECTION 11	JOB 039	

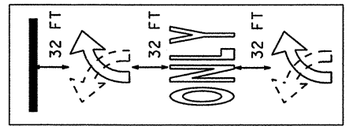
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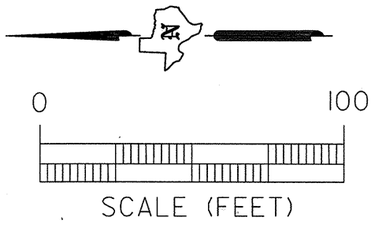


WHEELCHAIR RAMPS (TYP) 6 EA @ 3 SY / RAMP (18 SY)
PREFAB TY C SLD WHT 12" 482 LF
PREFAB TY C SLD WHT 24" 99 LF
PREFAB TY C SLD YEL 12" 50 LF
PREFAB TY C SLD WHT ARROW 9 EA
PREFAB TY C SLD WHT WORD 5 EA
PAV MRK TY I SLD WHT 4" 1027 LF
PAV MRK TY I BKN WHT 4" 20 LF
PAV MRK TY I SLD WHT 8" 50 LF
PAV MRK TY I SLD YLW 4" 872 LF
PAV MRK TY II SLD WHT 4" 1027 LF
PAV MRK TY II BKN WHT 4" 20 LF
PAV MRK TY II SLD WHT 8" 50 LF
PAV MRK TY II SLD YLW 4" 872 LF
RAISED PAV MRK TY II-A-A 25 EA
RAISED PAV MRK TY I-C 6 EA
PAV SURF PREP 4" 1919 LF
PAV SURF PREP 8" 50 LF
PAV SURF PREP 12" 532 LF
PAV SURF PREP 24" 99 LF
PAV SURF PREP ARROW 9 EA
PAV SURF PREP WORD 5 EA









This was not done

LEVELS DISPLAYED							
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

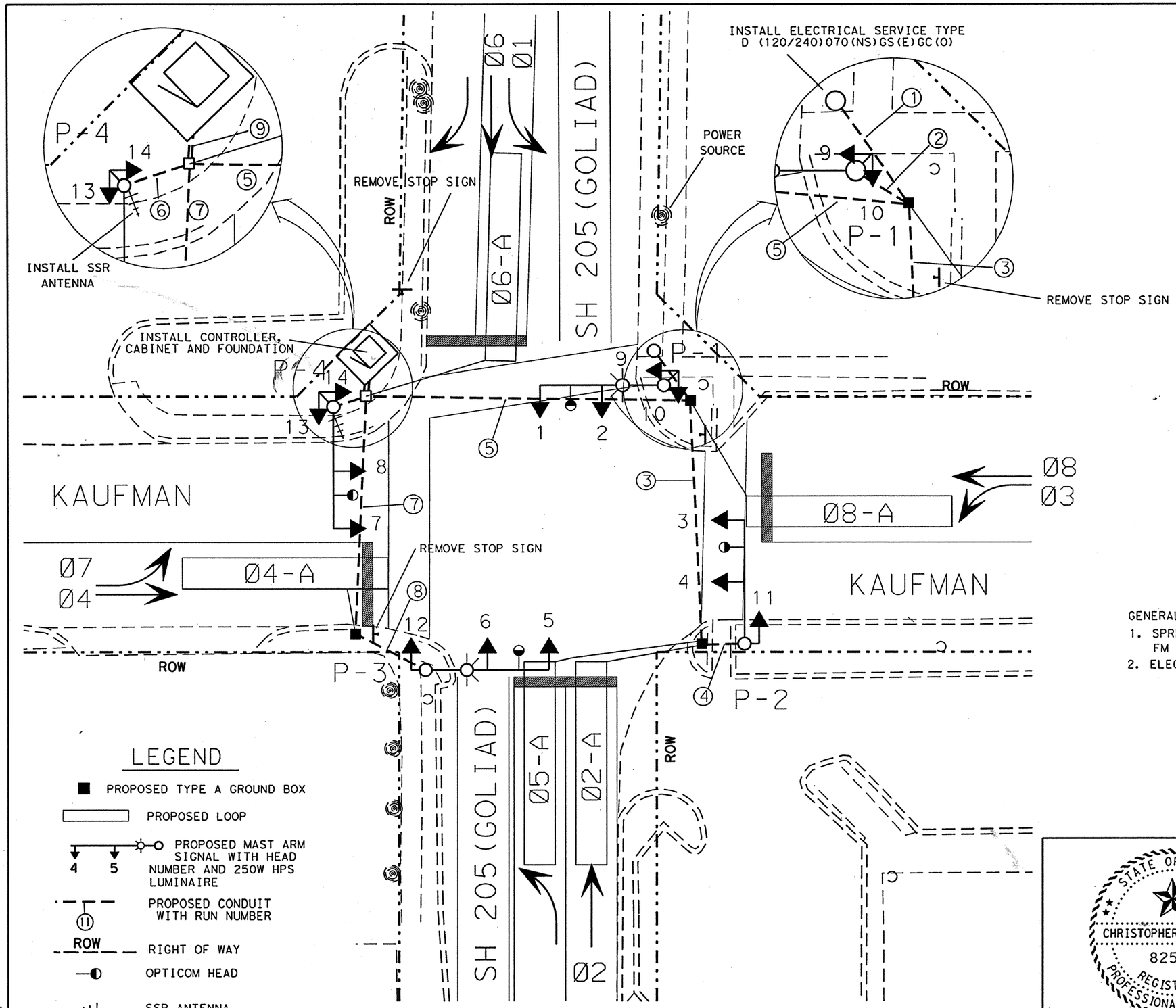
Christopher D. Blain, P.E. 11/12/01
Signature Date

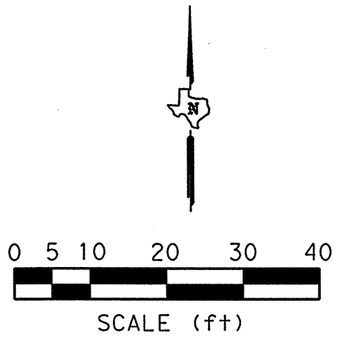
Texas Department of Transportation
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PAVEMENT MARKING LAYOUT SH66 AT SH205(GOLIAD)

SCALE: 1"= 50'

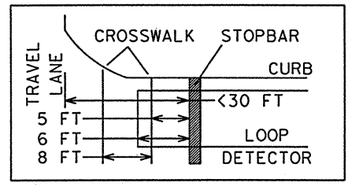
DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BES	6	NH 99(367)		SH 66
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
BES	TEXAS	DALLAS	ROCKWALL	
CHECK	CONTROL	SECTION	JOB	310
CDB	0009	04	039	
CHECK				





GROUND BOX SUMMARY	EA
GROUND BOX TY A W/APRON	3

LOOP DETECTOR DETAIL



GENERAL NOTES:

1. SPREAD SPECTRUM RADIO SHALL COMMUNICATE WITH MASTER AT FM 740 AND IH 30.
2. ELECTRICAL SERVICE ADDRESS IS 101 E. KAUFMAN ST.

LEGEND

- PROPOSED TYPE A GROUND BOX
- PROPOSED LOOP
- PROPOSED MAST ARM SIGNAL WITH HEAD NUMBER AND 250W HPS LUMINAIRE (4 5)
- PROPOSED CONDUIT WITH RUN NUMBER (11)
- ROW — RIGHT OF WAY
- OPTICOM HEAD
- SSR ANTENNA

LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

CHANGE ORDER NO. 32

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 8/19/02
Signature Date

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TRAFFIC SIGNAL LAYOUT KAUFMAN ST AT SH 205 (GOLIAD)

SCALE: 1"= 20' SHEET 1 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BS	6	NH 99(367)		SH 66
GRAPHICS BS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CB	TEXAS	DALLAS	ROCKWALL	310-6
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

CONDUIT AND WIRE RUNS (FEET)

CONDUIT TYPE				WIRE SIZE AND TYPE								TOTAL LENGTH IN FEET
				CNDCTRS ITEM 620			CABLE ITEM 684					
							TY A		TY C	OPTI-	(8288)	
RUNS	2 IN PVC	3 IN PVC	3 IN PVC BORED	NO 6 XHHW	NO 6 BARE	NO 8 XHHW	16 CNDR	12 CNDR	DET CBL	COM *CBL	COAX. CABLE	
1	18			2	1	2						18
2	10				1	4	1			1		10
3		15	38		1			1	2	1		53
4	11				1			1		1		11
5		21	50	2	1	2	1	1	3	2		71
6	10				1		1			1	1	10
7		13	42		1	2		1	1	1		55
8	18				1	2		1		1		18
9		2@11		2	2		2	2	5	4	1	11
TOTAL	67	71	130	200	268	364	113	230	429	343	21	

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

DETECTOR DETAILS

LOOP	DIMEN	TURNS	DETECT UNIT	CARD/ CHANNEL	DELAY INHIBIT	NO 14 XHHW COLOR *	ITEM 688 SAWCUT FEET	ITEM 618 1 IN PVC o FEET
Ø2-A	6X40 FT	2	Ø2-1	P2-A	Ø2R	WHITE	108	6
Ø4-A	6X40 FT	2	Ø4-1	P7-A	Ø4R	WHITE	100	4
Ø5-A	6X40 FT	2	Ø5-1	P2-B	Ø5R	BLACK	118	6
Ø6-A	6X40 FT	2	Ø6-1	P1-B	Ø6R	WHITE	105	12
Ø8-A	6X40 FT	2	Ø8-1	P6-B	Ø8R	WHITE	105	9
ALL LOOPS SHALL BE LOOP WIRE						TOTAL	536	37

o (NOT SHOWN ON CONDUIT RUNS CHART)
* FOR CONTRACTORS INFORMATION ONLY

ITEM 618 CONDUIT SUMMARY

	FEET
1 IN PVC	37
2 IN PVC	67
3 IN PVC	71
3 IN PVC BORED	130

CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM P-1 TO CNTRL 16 CNDR	CABLE 2 FROM P-2 TO CNTRL 12 CNDR	CABLE 3 FROM P-3 TO CNTRL 12 CNDR	CABLE 4 FROM P-4 TO CNTRL 16 CNDR
BLACK	P.B. COMMON	P.B. COMMON	P.B. COMMON	P.B. COMMON
WHITE	S. COMMON	S. COMMON	S. COMMON	S. COMMON
RED	SH 1,2 R	SH 3,4 R	SH 5,6 R	SH 7,8 R
GREEN	SH 1,2 G	SH 3,4 G	SH 5,6 G	SH 7,8 G
ORANGE	SH 1,2 Y	SH 3,4 Y	SH 5,6 Y	SH 7,8 Y
BLUE	SH 1 ~~G~~	SH 3 ~~G~~	SH 5 ~~G~~	SH 7 ~~G~~
WHITE/ BLACK	SH 1 ~~Y~~	SH 3 ~~Y~~	SH 5 ~~Y~~	SH 7 ~~Y~~
RED/ BLACK	PED CALL Ø8	PED CALL Ø2	PED CALL Ø6	PED CALL Ø6
GREEN/ BLACK	SH 9 W	SH 11 W	SH 12 W	SH 13 W
ORANGE/ BLACK	SH 9 DW	SH 11 DW	SH 12 DW	SH 13 DW
BLUE/ BLACK	PED CALL Ø2	SPARE	SPARE	PED CALL Ø8
BLACK/ WHITE	SH 10 W	SPARE	SPARE	SH 14 W
RED/ WHITE	SH 10 DW			SH 14 DW
GREEN/ WHITE	SPARE			SPARE
BLUE/ WHITE	SPARE			SPARE
BLACK/ RED	SPARE			SPARE

LEVELS DISPLAYED							
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

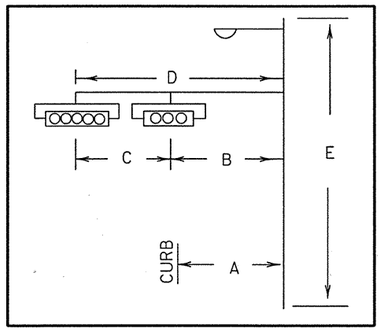
ITEM 682 SIGNAL HEAD NO	SIG HEAD TYPE	12 IN SIG IND BACKPLATE 3 SEC EA	BACKPLATE 5 SEC EA	VEH SEC EA	PED SEC EA	RED LED EA	YEL LED EA	GRN LED EA	YEL ARW LED EA	GRN ARW LED EA	PED LED EA
2,4,6,8	H3	4		12		4	4	4			
1,3,5,7	H5LT		4	20		4	4	4	4	4	
9-14	PED				6						6
TOTAL		4	4	32	6	8	8	8	4	4	6

SIGNAL HEAD & POLE PLACEMENT (FEET)

POLE NO	A	B	C	D	E	NO. OF HEADS	LUM-A	FND TYPE	FOUNDATION DEPTH (LF) 30-A	36-A	WIRE INSIDE POLE (FEET) (ITEM 684) SIG CABLE TY-A 7 CNDR	5 CNDR	(ITEM 620) LUMINAIRE NO 12 XHHW	OPTICOM *CABLE	(8288) COAX. CABLE
P-1	5	12	12	24	30	2	1	30-A	11		44	52	80	38	30
P-2	5	12	12	24	24	2		30-A	11		44	42		38	
P-3	6	12	12	24	30	2	1	30-A	11		44	42	80	38	
P-4	8	12	12	24	24	2		30-A	11		44	52		38	
						TOTAL			44	—	176	188	160	152	30

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

SIGNAL POLE DIMENSIONS



WIRE SUMMARY (ITEM 620)

CONDUCTOR TYPE	TOTAL LENGTH FEET
NO 6 XHHW	200
NO 6 BARE	268
NO 8 XHHW	364
NO 12 XHHW	160
(ITEM 684) TY A 14 AWG	
12 CNDR CBL	230
15 CNDR CBL	113
14 AWG (INSIDE POLES)	
7 CNDR CBL	176
5 CNDR CBL	188
TY C 18 AWG	
DET CABLE	429
*OPTICOM CBL	495
(ITEM 6439)	
COAX. CBL	51

* FOR CONTRACTOR'S INFORMATION ONLY

CHANGE ORDER NO. 32

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

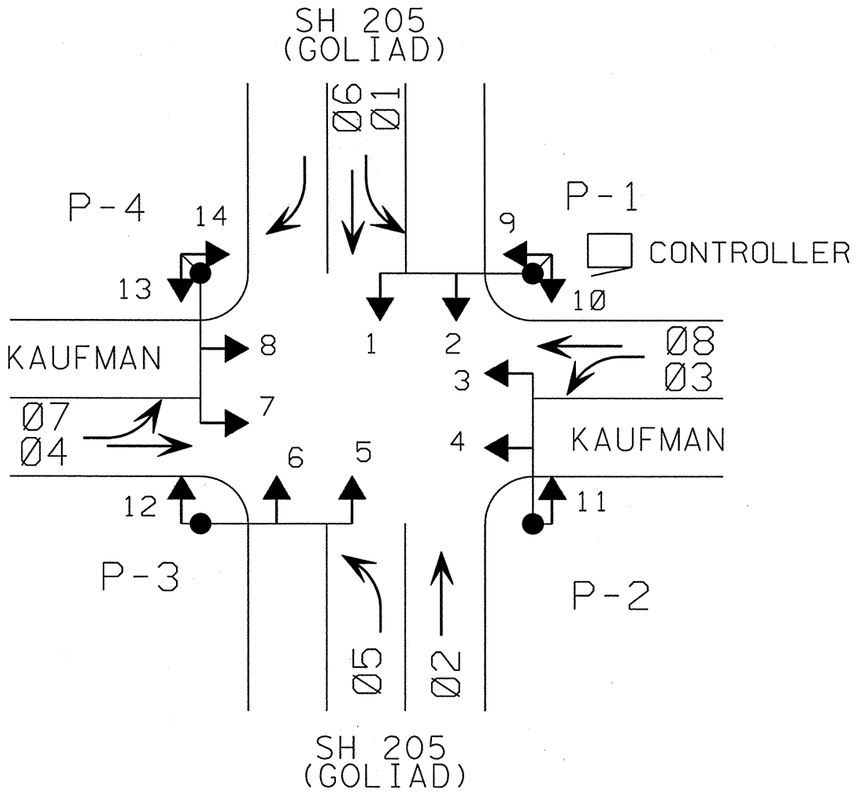
Christopher D. Blain, P.E. 8/19/02
Signature Date

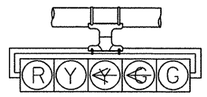
Texas Department of Transportation
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TRAFFIC SIGNAL LAYOUT
KAUFMAN ST AT SH 205 (GOLIAD)

SHEET 2 OF 4

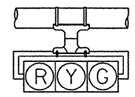
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BS	6	NH 99(367)		SH 66
GRAPHICS BS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CB	TEXAS	DALLAS	ROCKWALL	310-
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	





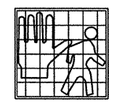
H5LT

S.H. 1,3,5,7



H3

S.H. 2,4,6,8



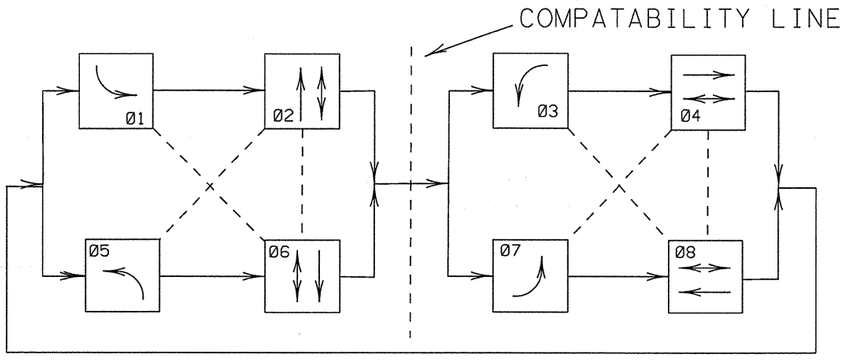
PED - 142C OR 153A

S.H. 9-14

SIGNAL HEADS

DURING MAINTENANCE FLASH
SIGNAL HEADS 3,4,7 AND 8 RED
SIGNAL HEADS 1,2,5 AND 6 YELLOW
DURING EMERGENCY FLASH
ALL RED

PHASE AND SIGNAL HEAD IDENTIFICATION



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER
Ø1, Ø3, Ø5, Ø7 ARE PROTECTED/PERMISSIVE

CHANGE ORDER NO. 32

LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

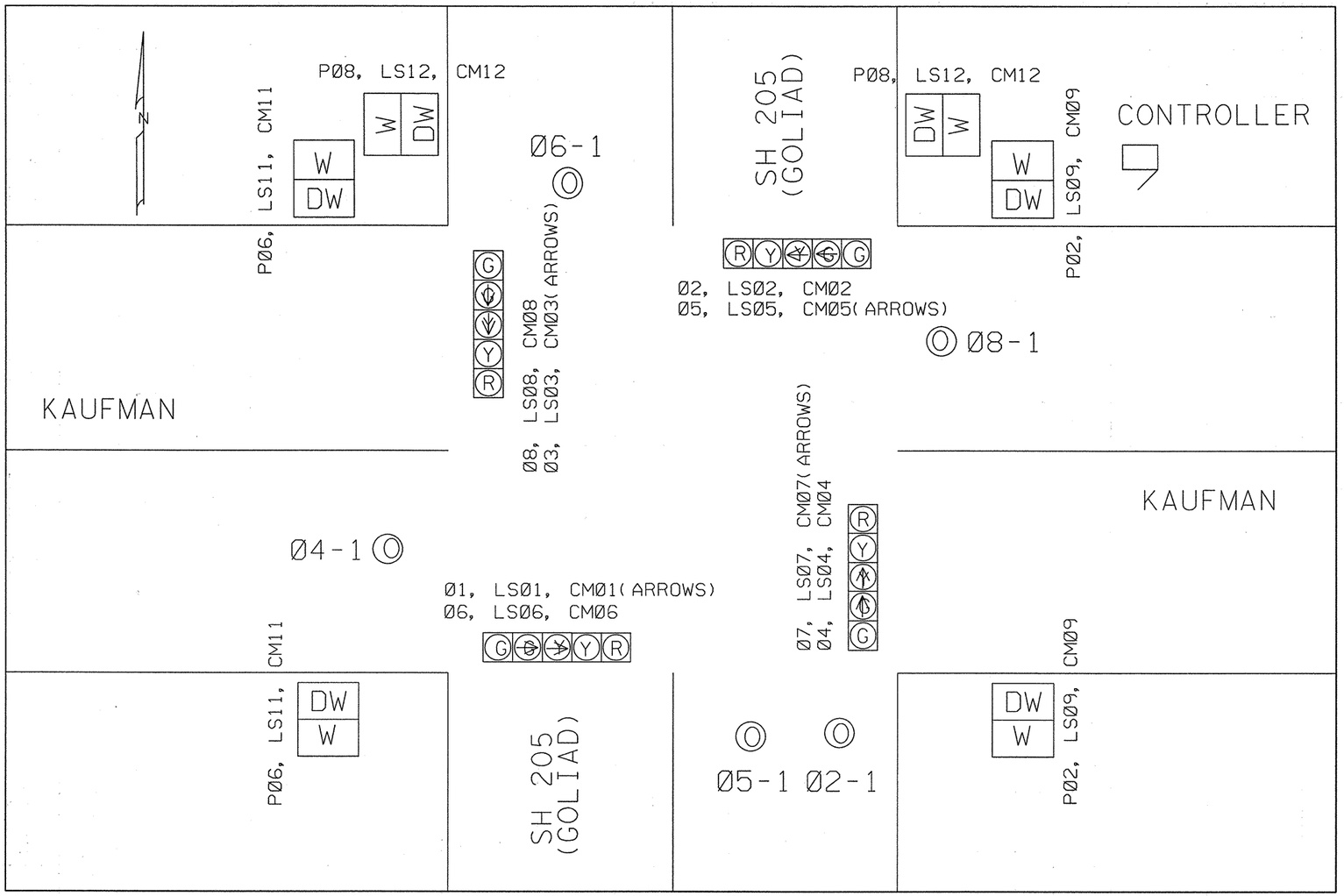
Christopher D. Blain, P.E. 8/19/02
Signature Date

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TRAFFIC SIGNAL LAYOUT
KAUFMAN ST AT
SH 205 (GOLIAD)

SHEET 3 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BS	6	NH 99(367)		SH 66
GRAPHICS: BS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: CB	TEXAS	DALLAS	ROCKWALL	310-G
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	



DISPLAY BOARD

CHANGE ORDER NO. 32

LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED
PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 8/19/02
Signature Date

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TRAFFIC SIGNAL LAYOUT
KAUFMAN ST AT SH 205 (GOLIAD)

SHEET 4 OF 4

DESIGN	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BS	6	NH 99(367)		SH 66
GRAPHICS: BS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: CB	TEXAS	DALLAS	ROCKWALL	310-6 H
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	TYPE OF MOUNT														
								A	A (FRP)	A-1	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	G	DRIVEABLE TY I TY II	MILEPOSTS MP MW
	* A	R10-12	LEFT TURN YIELD ON GREEN	24" X 30"	C		X	MOUNTED ON MAST ARMS P1, P-2, P-3, AND P-4														
	* B	D3-3	100 N GOLIAD ST 200	96" X 15"	C		X	MOUNTED ON MAST ARM P-4														
	* C	D3-3	E KAUFMAN ST 100	102" X 15"	C		X	MOUNTED ON MAST ARM P-1														
	* D	D3-3	200 N GOLIAD ST 100	96" X 15"	C		X	MOUNTED ON MAST ARM P-2														
	* E	D3-3	100 W KAUFMAN ST	108" X 15"	C		X	MOUNTED ON MAST ARM P-3														
	**F	R10-4bR	PED BUTTON RIGHT ARROW	9" X 12"	C		X	MOUNTED ON MAST ARMS P-1 AND P-4														
	**G	R10-4bL	PED BUTTON LEFT ARROW	9" X 12"	C		X	MOUNTED ON MAST ARMS P-1, P-2, P-3 AND P-4														

PAGE TOTALS

* - SUBSIDIARY TO ITEM 680

**- SUBSIDIARY TO ITEM 688

CHANGE ORDER NO. 22

ALUMINUM SIGN BLANKS (TYPE A)

Square Ft.	Min. Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.

Reflective sheeting will be designated as:

Type B - Super Engineer Grade
Type C - High Specific Intensity

SUMMARY OF SMALL SIGNS

©TxDOT May 1992

DN: TxDOT DW: TxDOT CK: TxDOT

REVISIONS
11-93
8-95

STATE	DISTRICT	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
DAL	6	ROCKWALL	0009	04	039	SH 66

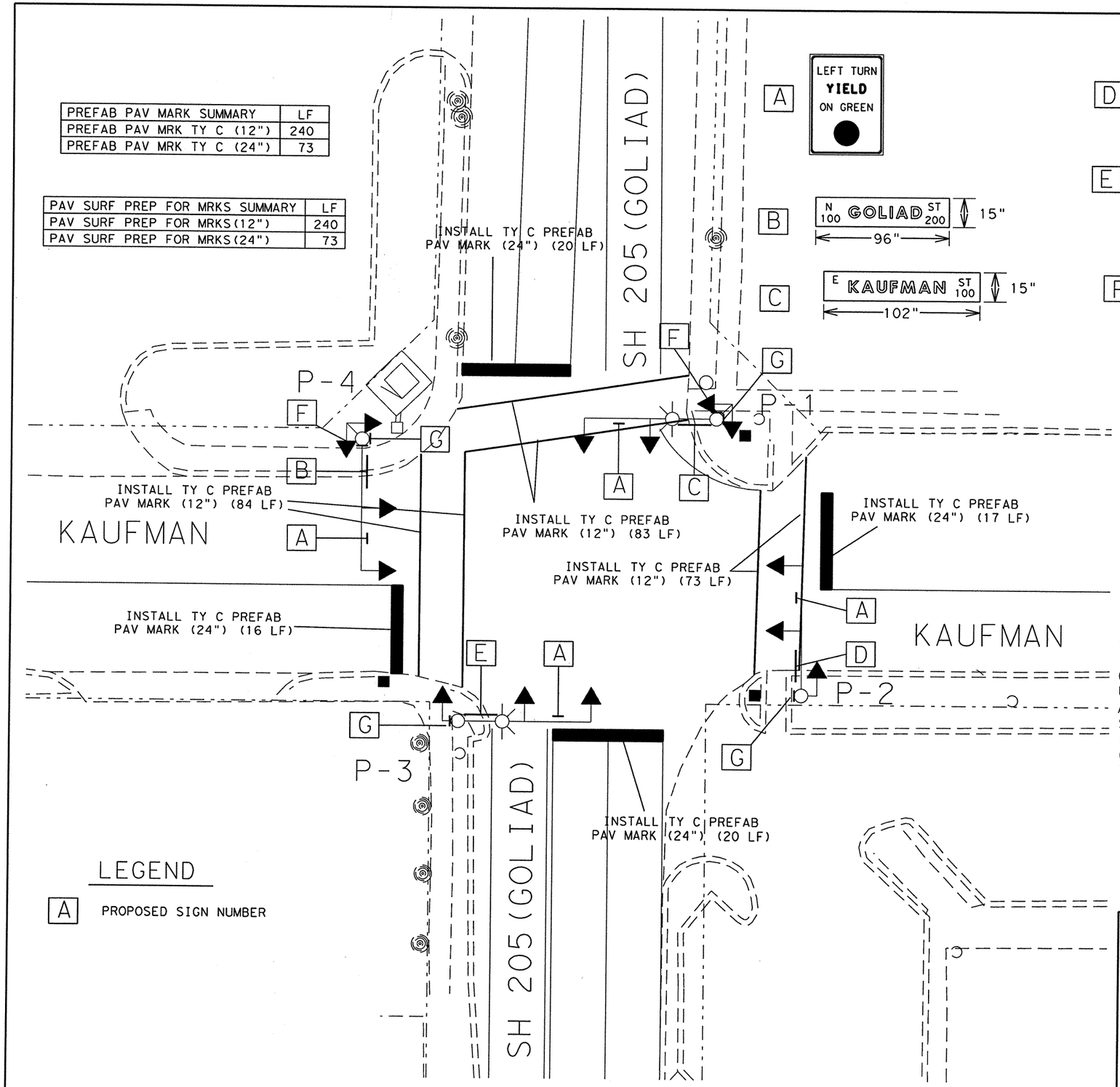
FEDERAL AID PROJECT

SHEET 340

Traffic Operations Division

PREFAB PAV MARK SUMMARY	LF
PREFAB PAV MRK TY C (12")	240
PREFAB PAV MRK TY C (24")	73

PAV SURF PREP FOR MRKS SUMMARY	LF
PAV SURF PREP FOR MRKS(12")	240
PAV SURF PREP FOR MRKS(24")	73



A — LEFT TURN YIELD ON GREEN

B — N 100 GOLIAD ST 200 — 15" — 96"

C — E KAUFMAN ST 100 — 15" — 102"

D — N 200 GOLIAD ST 100 — 15" — 96"

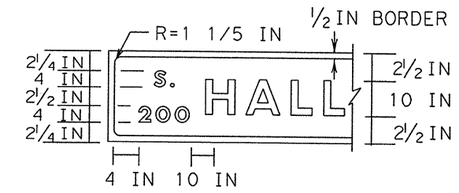
E — W 100 KAUFMAN ST — 15" — 108"

F — PUSH BUTTON FOR

G — PUSH BUTTON FOR

0 5 10 20 30 40

SCALE (ft)



NOTE: ALL LETTERING SHALL BE SERIES D

LEGEND

LETTERS-	WHITE
BORDER-	WHITE
BACKGROUND-	GREEN REFLECTIVE

GENERAL NOTES:

ALPHABETS AND LATERAL SPACING BETWEEN LETTERS AND NUMERALS SHALL CONFORM WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST ADDITION AND ANY APPROVED CHANGES THERETO. LATERAL SPACING OF TEXT SHALL BE SUCH AS TO PROVIDE A BALANCE APPEARANCE.
SIGN BACKGROUNDS SHALL BE OF FLAT SURFACE REFLECTIVE SHEETING CONFORMING WITH THE SPECIFICATIONS (TYPE C).
THE SIGN BLANKS SHALL BE ONE PIECE SHEET ALUMINUM ALLOY 1 / 16 IN THICK CONFORMING WITH THE ITEM "ALUMINUM SIGNS (TYPE A)".

LEGEND

A — PROPOSED SIGN NUMBER

CHANGE ORDER NO. 32

LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
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STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 8/19/02
Signature Date

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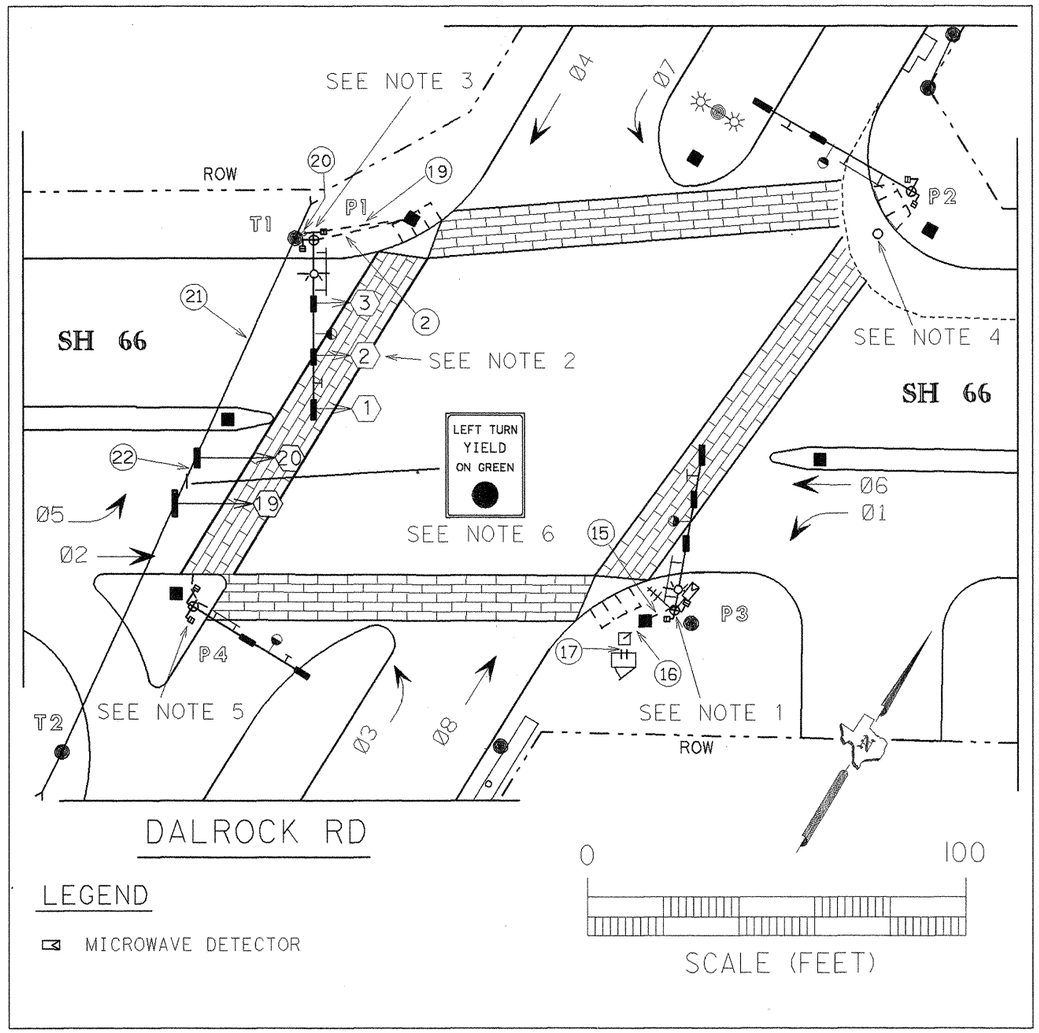
PAVEMENT MARKING AND SIGNING LAYOUT KAUFMAN ST AT SH 205 (GOLIAD)

SCALE: 1"= 20'

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BS	6	NH 99(367)		SH 66
GRAPHICS BS	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CB	TEXAS	DALLAS	ROCKWALL	310-6 J
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$

EXT ---

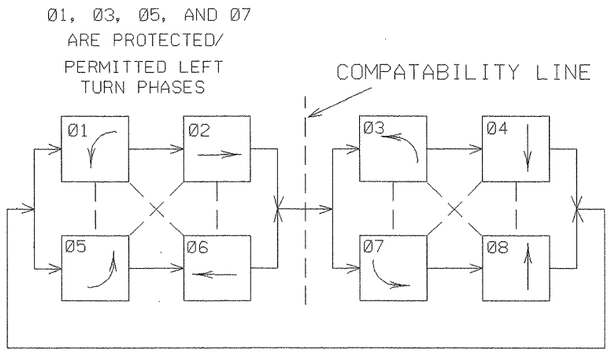


LEGEND

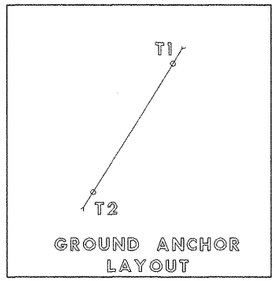
MICROWAVE DETECTOR

GENERAL NOTES:

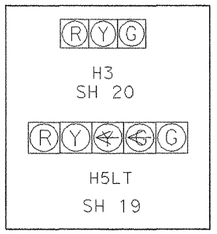
1. INSTALL MICROWAVE DETECTOR ON P3. IT SHALL COVER WESTBOUND TRAFFIC MOVEMENTS Ø1 AND Ø6 AT THE STOPBAR, AND SHALL DETECT PRESENCE. IT SHALL BE MOUNTED AT THE TOP OF THE MAST ARM AND THE 6 PAIR CONDUCTOR FOR IT SHALL BE RUN INSIDE THE POLE.
2. SIGNAL HEADS 1,2 AND 3 SHALL BE BAGGED WHILE THE TEMPORARY SIGNALS ARE BEING USED. OPTICOM, LUMINAIRE AND ILLUMINATED STREET NAME SIGN TO BE LEFT ACTIVE.
3. ATTACH MULTICONDUCTOR CABLE TO TERMINAL STRIP IN HAND HOLE OF P1.
4. EXISTING P2 TO BE REMOVED AND REPLACED BY NEW P2 SHOWN. SEE TRAFFIC SIGNAL LAYOUT - SH66 AT DALROCK RD FOR MORE INFORMATION.
5. PED MOVEMENTS SHALL BE PROHIBITED DURING CONSTRUCTION.
6. SIGN SUMMARY ON TEMPORARY SIGNAL LAYOUT - SIGNS



EIGHT PHASE NEMA CONTROLLER



GROUND ANCHOR LAYOUT



NO.	TYPE	BACKPLATE 3 SEC	BACKPLATE 5 SEC	12" VEH SECTION
19	H5LT		1	5
20	H3	1		3
TOTAL		1	1	8

WIRE SUMMARY (FEET)	
TYPE	LENGTH
NO 6 BARE	52
7 CONDR	158
* 6 PAIR	63

* TO BE SUPPLIED BY THE STATE

POLE PLACEMENT

POLE	LOCATION	FT FROM DALROCK	FT FROM SH66	FT FROM PVMT
T1	NW	39	6 (MIN)	6 (MIN)
T2	SW	12	47	6 (MIN)

CABLE TERMINATION CHART

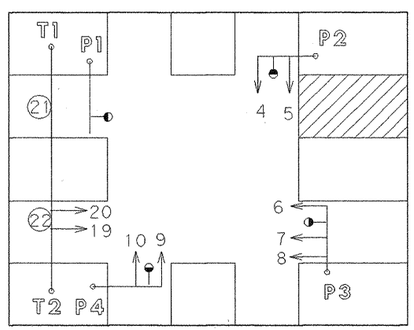
CNDR COLOR	CABLE 1 FROM T1 TO P1 7 CNDR
BLACK	SPARE
WHITE	SIGNAL COMMON
RED	SH 19, 20 R
GREEN	SH 19, 20 G
ORANGE	SH 19, 20 Y
BLUE	SH 19 ←6
WHITE/ BLACK	SH 19 ←Y

STEEL CABLE LENGTH	
FROM T1 TO T2	150 FT

FURTHEST SIGNAL HEAD PLACEMENT DURING CONSTRUCTION

MAXIMUM DISTANCE

FROM T1 TO	LF	FROM T1 TO	LF
HEAD 19	76	HEAD 20	64



RUN	21	22
LEN.	64	12

STAGE 2
PHASE 1

CONDUIT RUNS (FT)

RUN NO	CONDUIT TYPE 2 IN RM	2 IN PVC	3 IN PVC	WIRE SIZE AND TYPE CONDUCTORS NO 6 XHHW	NO 6 BARE	NO 8 XHHW	SIGNAL CABLE TY A (12 AWG) 5 CNDR CABLE	7 CNDR CABLE	SIGNAL CABLE *6 PAIR	TOTAL MAXIMUM LENGTH OF RUN
2	EXISTING							** 1		30
15	EXISTING								** 1	12
16	EXISTING								** 1	11
17	EXISTING								** 1	10
19		32			1			1		32
20	20				1			1		20
21	OVERHEAD							1		64
22	OVERHEAD							1		12
TOTAL	20	32			52			158	33	

* TO BE SUPPLIED BY THE STATE
** IN ADDITION TO EXISTING CABLES

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MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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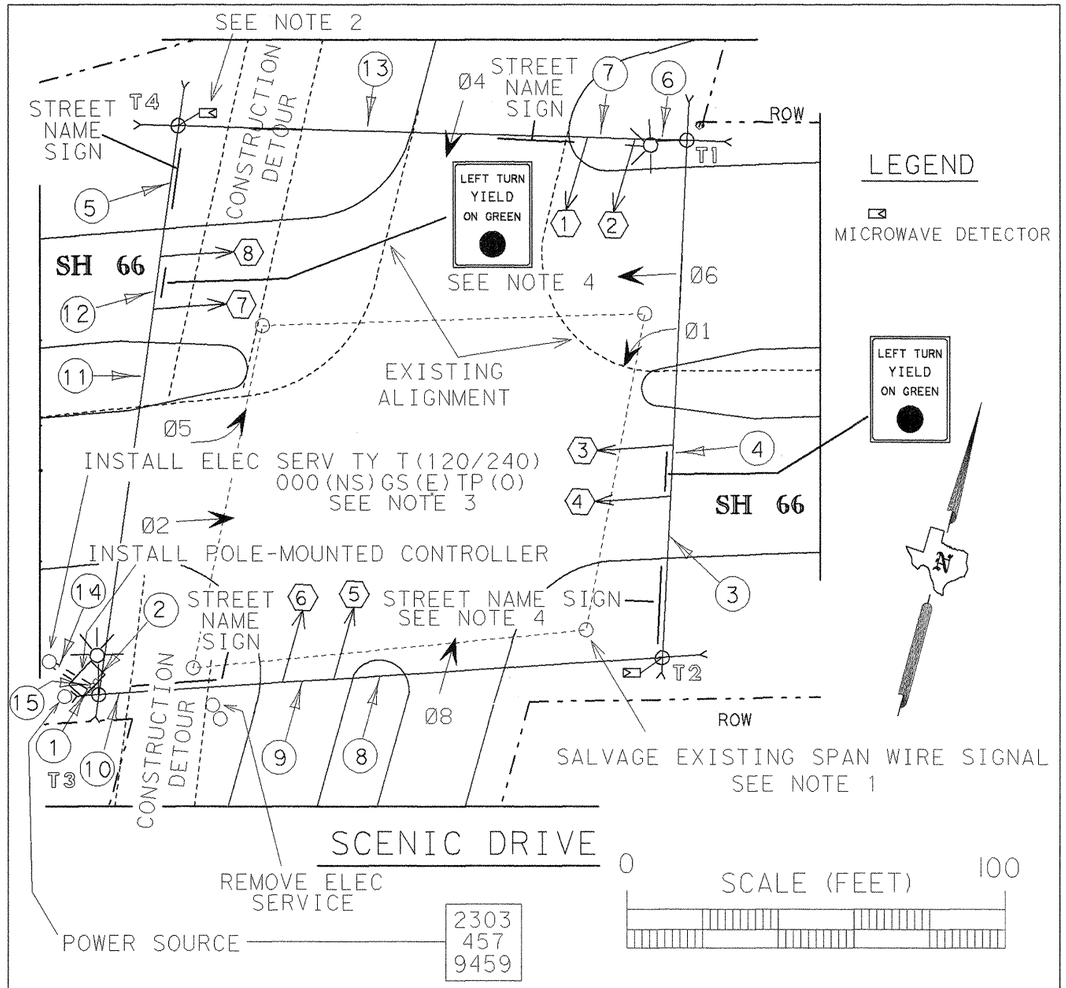
Maher M. Ghanayem

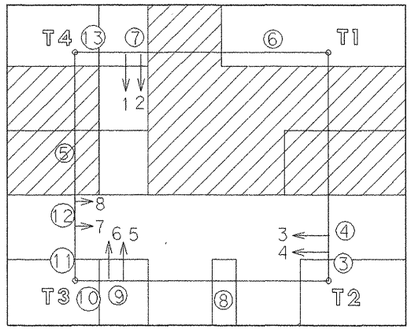
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TEMPORARY SIGNAL LAYOUT SH66 AT DALROCK RD

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		311
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

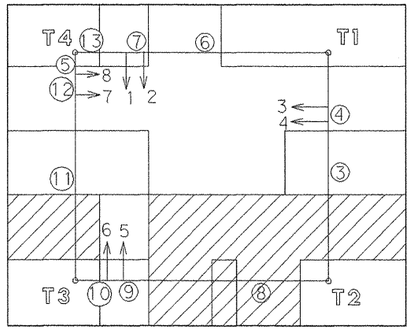
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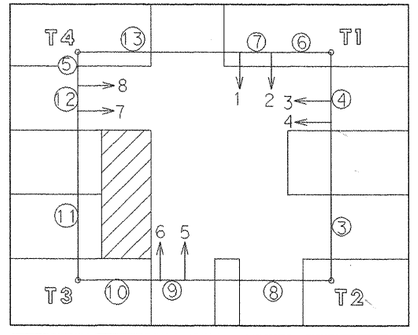
RUN	3	4	5	6	7	8	9	10	11	12	13
LEN.	30	12	84	102	12	128	12	10	55	12	21

STAGE 2 - PHASE 1



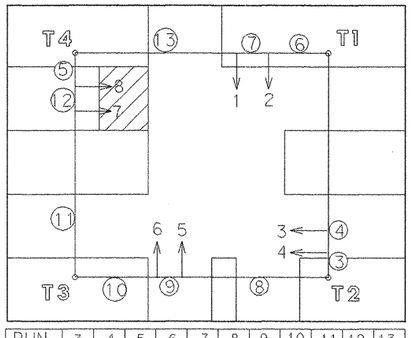
RUN	3	4	5	6	7	8	9	10	11	12	13
LEN.	86	12	32	102	12	128	12	10	107	12	21

STAGE 2 - PHASE 2



RUN	3	4	5	6	7	8	9	10	11	12	13
LEN.	86	12	37	14	12	87	12	51	102	12	109

STAGE 2 - PHASE 3



RUN	3	4	5	6	7	8	9	10	11	12	13
LEN.	43	12	37	14	12	87	12	51	102	12	109

STAGE 2 - PHASE 4

POLE PLACEMENT

POLE	LOCATION	FT FROM SCENIC	FT FROM SH66
T1	NE	30	59
T2	SE	38	34
T3	SW	39	35
T4	NW	59	70

DISTANCES FROM EDGE OF EXISTING TRAVEL LANE

STEEL CABLE LENGTH

FROM T1 TO T2	137 FT
FROM T2 TO T3	150 FT
FROM T3 TO T4	151 FT
FROM T4 TO T1	135 FT
TOTAL	573 FT

WIRE SUMMARY (FEET)

TYPE	LENGTH
NO 6 BARE	21
NO 6 XHHW	42
NO 8 XHHW	1074
5 CONDR	365
7 CONDR	397
* 6 PAIR	345

* TO BE SUPPLIED BY THE STATE

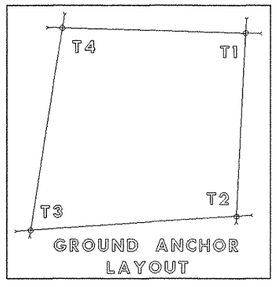
CONDUIT FOR POLE-MOUNTED LUMINAIRES/ DETECTORS	
1½ IN RM	
FT	28

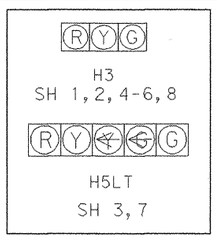
FURTHEST SIGNAL HEAD PLACEMENT DURING CONSTRUCTION

MAXIMUM DISTANCE

FROM T3 TO	LF	FROM T3 TO	LF
HEAD 1	260	HEAD 5	63
HEAD 2	272	HEAD 6	51
HEAD 3	248	HEAD 7	107
HEAD 4	236	HEAD 8	119

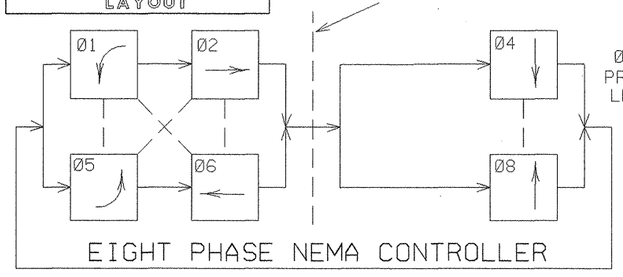
NO.	TYPE	BACKPLATE 3 SEC	BACKPLATE 5 SEC	12" VEH SECTION
1	H3	1		3
2	H3	1		3
3	H5LT		1	5
4	H3	1		3
5	H3	1		3
6	H3	1		3
7	H5LT		1	5
8	H3	1		3
TOTAL		6	2	28





CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM T1 TO CNTRL 5 CNDR	CABLE 2 FROM T2 TO CNTRL 7 CNDR	CABLE 3 FROM T3 TO CNTRL 5 CNDR	CABLE 4 FROM T4 TO CNTRL 7 CNDR
BLACK	SPARE	SPARE	SPARE	SPARE
WHITE	SIGNAL COMMON	SIGNAL COMMON	SIGNAL COMMON	SIGNAL COMMON
RED	SH 1,2 R	SH 3,4 R	SH 5,6 R	SH 7,8 R
GREEN	SH 1,2 G	SH 3,4 G	SH 5,6 G	SH 7,8 G
ORANGE	SH 1,2 Y	SH 3,4 Y	SH 5,6 Y	SH 7,8 Y
BLUE		SH 3 ⟲		SH 7 ⟲
WHITE/ BLACK		SH 3 ⟲		SH 7 ⟲



CONDUIT RUNS (FT)

RUN NO	CONDUIT TYPE 2 IN RM	2 IN PVC	3 IN RM	WIRE SIZE AND TYPE CONDUCTORS NO 6 XHHW	NO 6 BARE	NO 8 XHHW	SIGNAL CABLE TY A (12 AWG) 5 CNDR CABLE	7 CNDR CABLE	SIGNAL CABLE *6 PAIR	TOTAL MAXIMUM LENGTH OF RUN
1	5			2	1					5
2			15				2	2	2	15
3		OVERHEAD						1		86
4		OVERHEAD						1		12
5		OVERHEAD				3	1		1	32
6		OVERHEAD				3				14
7		OVERHEAD				3	1			12
8		OVERHEAD						1	1	87
9		OVERHEAD					1	1	1	12
10		OVERHEAD					1	1	1	51
11		OVERHEAD				3	1	1	1	107
12		OVERHEAD				3	1	1	1	12
13		OVERHEAD				3	1			109
14		2@16		2	1	6				16
15	20					6				20
TOTAL	25	32	15	42	21	1074	365	397	331	

* TO BE SUPPLIED BY THE STATE

GENERAL NOTES:

1. REMOVAL OF THE EXISTING SERVICE POLE IS SUBSIDIARY TO THIS ITEM.
2. INSTALL MICROWAVE DETECTORS ON T2 AND T4. THEY SHALL COVER MOVEMENTS Ø4 AND Ø8 RESPECTIVELY.
3. THE SERVICE SHALL BE EQUIPPED WITH A SPARE 20A BREAKER FOR SYSTEM SWITCHOVERS.
4. SEE TEMPORARY SIGNAL LAYOUT - SIGNS FOR SIGN SUMMARY AND DETAILS.

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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SHEET 2 OF 5

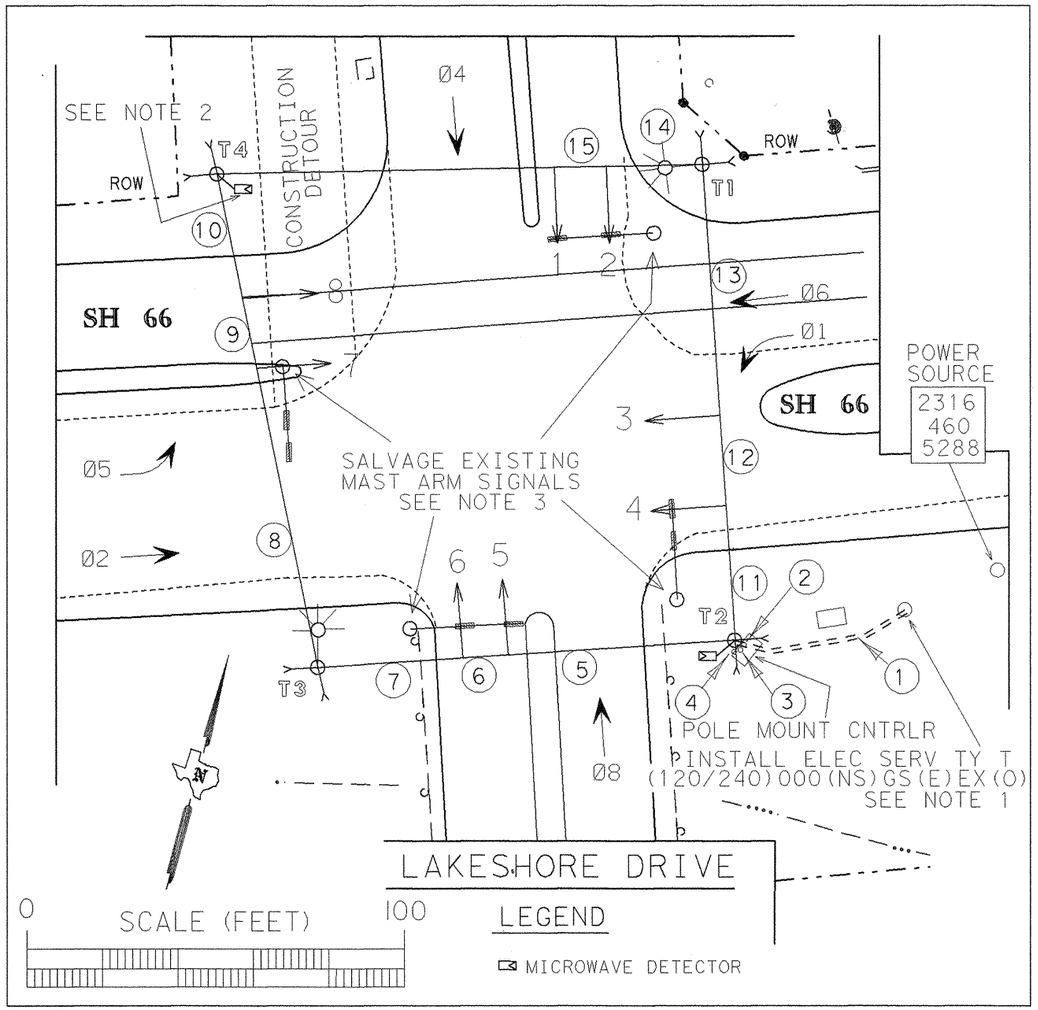
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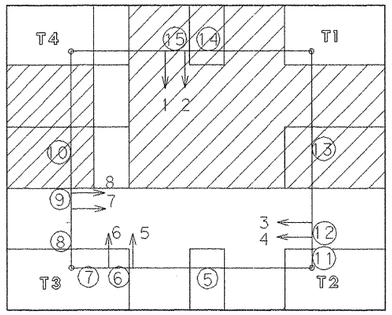
TEMPORARY SIGNAL LAYOUT SH66 AT SCENIC DR

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		312
STATE	STATE DIST. No.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

EXT

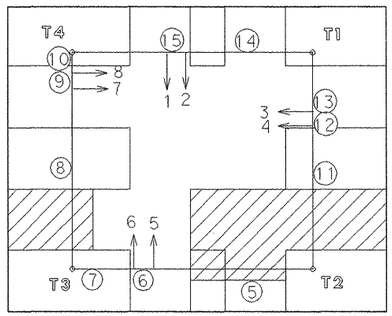
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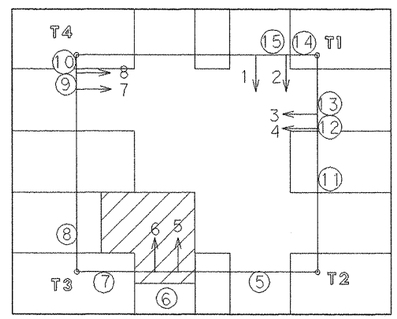
RUN	5	6	7	8	9	10	11	12	13	14	15
LEN.	91	12	8	30	12	68	34	12	80	60	12

STAGE 2 - PHASE 1



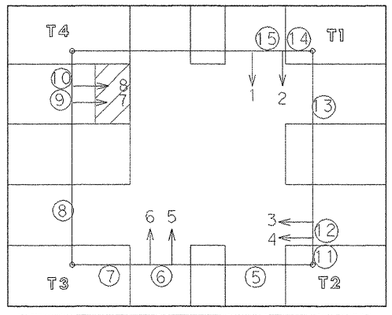
RUN	5	6	7	8	9	10	11	12	13	14	15
LEN.	66	12	33	97	12	24	83	12	31	55	12

STAGE 2 - PHASE 2



RUN	5	6	7	8	9	10	11	12	13	14	15
LEN.	56	12	43	97	12	24	83	12	31	26	12

STAGE 2 - PHASE 3



RUN	5	6	7	8	9	10	11	12	13	14	15
LEN.	56	12	43	88	12	34	34	12	80	24	12

STAGE 2 - PHASE 4

WIRE SUMMARY (FEET)	
TYPE	LENGTH
NO 6 BARE	55
NO 6 XHHW	110
NO 8 XHHW	1302
5 CONDR	331
7 CONDR	432
* 6 PAIR	361

* TO BE SUPPLIED BY THE STATE

R Y G

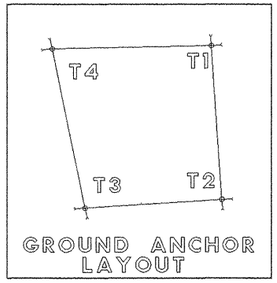
H3

SH 1, 2, 4, 5, 6, 8

R Y ~~Y~~ G G

H5LT

SH 3, 7



GROUND ANCHOR LAYOUT

FURTHEST SIGNAL HEAD PLACEMENT DURING CONSTRUCTION

MAXIMUM DISTANCE

FROM T2 TO	LF	FROM T2 TO	LF
HEAD 1	198	HEAD 5	91
HEAD 2	186	HEAD 6	103
HEAD 3	95	HEAD 7	208
HEAD 4	83	HEAD 8	220

NO.	TYPE	BACKPLATE		12" VEH SECTION
		3 SEC	5 SEC	
1	H3	1		3
2	H3	1		3
3	H5LT		1	5
4	H3	1		3
5	H3	1		3
6	H3	1		3
7	H5LT		1	5
8	H3	1		3
TOTAL		6	2	28

POLE PLACEMENT

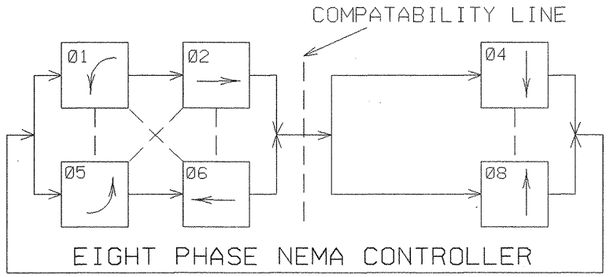
POLE	LOCATION	FT FROM LAKESH.	FT FROM SH66
T1	NE	21	56
T2	SE	24	30
T3	SW	32	24
T4	NW	47	62

DISTANCES FROM EDGE OF EXISTING TRAVEL LANE

STEEL CABLE LENGTH	
FROM T1 TO T2	126 FT
FROM T2 TO T3	111 FT
FROM T3 TO T4	133 FT
FROM T4 TO T1	129 FT
TOTAL	499 FT

CONDUIT FOR POLE-MOUNTED LUMINAIRES/ DETECTORS	
1½ IN RM	
FT	28

Ø1 AND Ø5 ARE PROTECTED/ PERMITTED LEFT TURN PHASES



EIGHT PHASE NEMA CONTROLLER

CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM T1 TO CNTRL 5 CNDR	CABLE 2 FROM T2 TO CNTRL 7 CNDR	CABLE 3 FROM T3 TO CNTRL 5 CNDR	CABLE 4 FROM T4 TO CNTRL 7 CNDR
BLACK	SPARE	SPARE	SPARE	SPARE
WHITE	SIGNAL COMMON	SIGNAL COMMON	SIGNAL COMMON	SIGNAL COMMON
RED	SH 1, 2 R	SH 3, 4 R	SH 5, 6 R	SH 7, 8 R
GREEN	SH 1, 2 G	SH 3, 4 G	SH 5, 6 G	SH 7, 8 G
ORANGE	SH 1, 2 Y	SH 3, 4 Y	SH 5, 6 Y	SH 7, 8 Y
BLUE		SH 3 ~~G~~		SH 7 ~~G~~
WHITE/ BLACK		SH 3 ~~Y~~		SH 7 ~~Y~~

CONDUIT RUNS (FT)

RUN NO	CONDUIT TYPE			WIRE SIZE AND TYPE CONDUCTORS			SIGNAL CABLE			TOTAL MAXIMUM LENGTH OF RUN
	2 IN RM	2 IN PVC	3 IN RM	NO 6 XHHW	NO 6 BARE	NO 8 XHHW	TY A (12 AWG) 5 CNDR CABLE	TY A (12 AWG) 7 CNDR CABLE	SIGNAL CABLE *6 PAIR	
1		2@50		2	1	6				50
2	5			2	1					5
3			15				2	2	2	15
4	20					6				20
5	OVERHEAD					3	1	1	1	91
6	OVERHEAD					3	1	1	1	12
7	OVERHEAD					3		1	1	95
8	OVERHEAD							1	1	97
9	OVERHEAD							1	1	12
10	OVERHEAD								1	24
11	OVERHEAD					3	1	1		83
12	OVERHEAD					3	1	1		12
13	OVERHEAD					3	1			31
14	OVERHEAD						1			60
15	OVERHEAD						1			12
TOTAL	25	100	15	110	55	1302	331	432	361	

* TO BE SUPPLIED BY THE STATE

GENERAL NOTES:
1. THE SERVICE SHALL BE EQUIPPED WITH A SPARE 20A BREAKER FOR SYSTEM SWITCHOVERS.
2. INSTALL MICROWAVE DETECTORS ON T2 AND T4. THEY SHALL COVER MOVEMENTS Ø4 AND Ø8 RESPECTIVELY.
3. OPTICOM EQUIPMENT REMAINS THE PROPERTY OF THE CITY OF ROCKWALL. CONTROLLER AND CABINET REMAINS THE PROPERTY OF THE STATE.

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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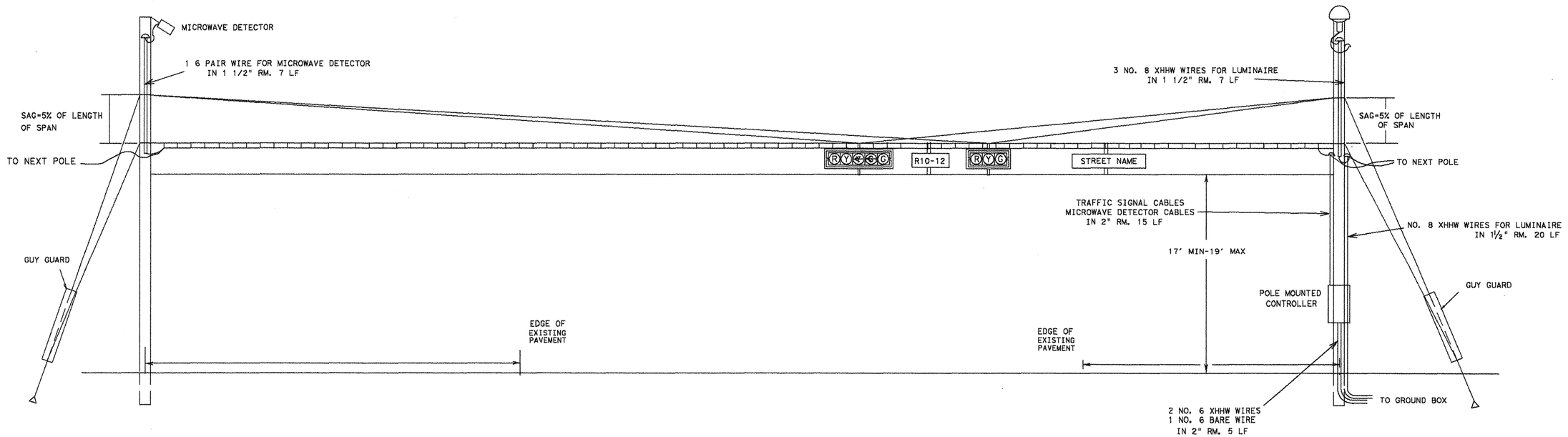
SHEET 3 OF 5

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TEMPORARY SIGNAL LAYOUT SH66 AT LAKESHORE DR

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		313
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$



NO SCALE

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MAHER M. GHANAYEM
63459
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TEMPORARY SIGNAL LAYOUT
TYPICAL SPAN WIRE ELEVATION

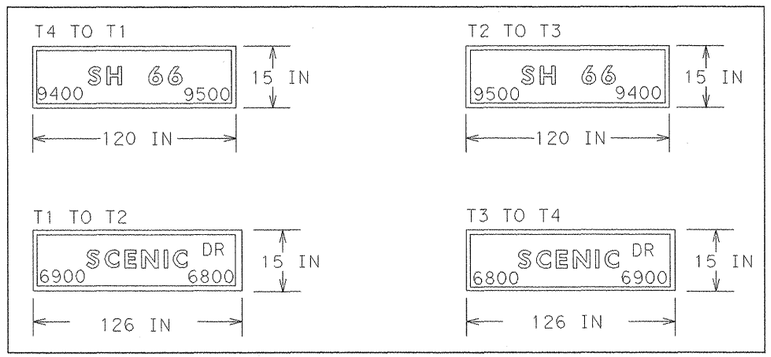
FED.RD. DIV.NO.	STATE	FEDERAL AID PROJECT NO.				HIGHWAY NO.
6	TEXAS	NH 99(367)				314
STATE DIST. NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.		SHEET NO.
DALLAS	ROCKWALL	0009	04	39		SH 66

EXT

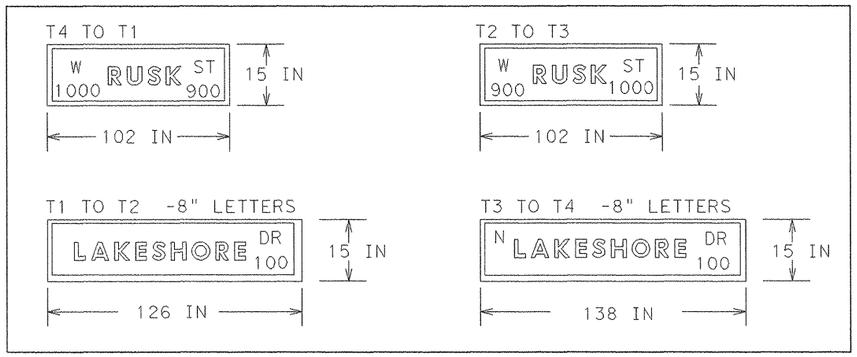


R10-12
24X30

SH 66 AT SCENIC - STREET NAME SIGNS

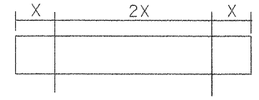


SH66 AT LAKESHORE - STREET NAME SIGNS



HANGER ASSEMBLY DETAILS

NOTES: 1. FOR SIGNS LESS THAN 5 FT ONE VERTICAL SUPPORTS SHALL BE USED FOR SIGNS LONGER THAN 5 FT
2. FOR STREET NAME SIGNS, EXTRUDED ALUMINUM SHALL BE MOUNTED FOR HORIZONTAL SUPPORT AS SHOWN.



SIGN LENGTH	X
5'-6" - 6'-0"	1'-6"
6'-6" - 7'-0"	1'-9"
7'-6" - 8'-0"	2'-0"
8'-6" - 9'-0"	2'-3"
9'-6" - 10'-0"	2'-6"
10'-6" - 11'-0"	2'-9"
11'-6" - 12'-0"	3'-0"
12'-6" - 13'-0"	3'-3"

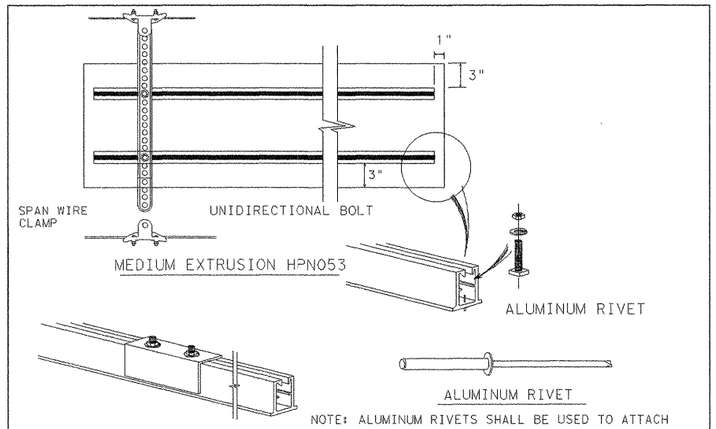
SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	TYPE OF MOUNT: SPAN WIRE
SH66 AT DALROCK								
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T1 TO T2
SH 66 AT SCENIC								
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T1 TO T2
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T2 TO T3
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T3 TO T4
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T4 TO T1
		D3-3	9500 SH 66 9400	120x15	C		X	T2 TO T3
		D3-3	9400 SH 66 9500	120x15	C		X	T4 TO T1
		D3-3	6900 SCENIC DR 6800	126x15	C		X	T1 TO T2
		D3-3	6800 SCENIC DR 6900	126x15	C		X	T3 TO T4
SH66 AT LAKESHORE								
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T1 TO T2
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T2 TO T3
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T3 TO T4
		R10-12	LEFT TURN YIELD ON GRN	24x30	A		X	T4 TO T1
		D3-3	1000 W RUSK 900	102x15	C		X	T4 TO T1
		D3-3	900 W RUSK 1000	102x15	C		X	T2 TO T3
		D3-3	LAKESHORE DR 100	144x15	C		X	T1 TO T2
		D3-3	N LAKESHORE DR 100	144x15	C		X	T3 TO T4

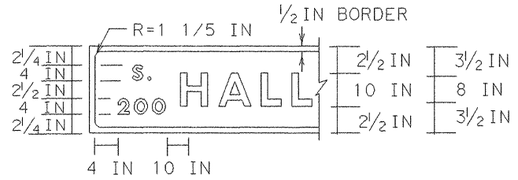
GENERAL NOTES:
SIGN LOCATIONS SHOWN ON THE PLANS ARE DIARGAMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE 1980 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

SIGNS SUBSIDIARY TO ITEM 681

REFLECTIVE SHEETING WILL BE DESIGNATED AS:
TYPE A = ENGINEER GRADE
TYPE B = SUPER ENGINEER GRADE
TYPE C = HIGH SPECIFIC INTENSITY



NOTE: ALUMINUM RIVETS SHALL BE USED TO ATTACH THE SIGN TO THE EXTRUDED ALUMINUM. SPACINGS OF RIVETS SHALL BE 6" O.C.



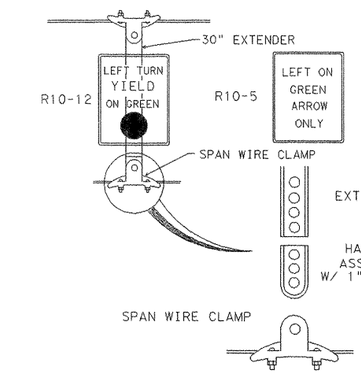
NOTE: ALL LETTERING SHALL BE SERIES D

LEGEND

LETTERS-	WHITE
BORDER-	WHITE
BACKGROUND-	GREEN REFLECTIVE

GENERAL NOTES:
ALPHABETS AND LATERAL SPACING BETWEEN LETTERS AND NUMERALS SHALL CONFORM WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST ADDITION AND ANY APPROVED CHANGES THERETO. LATERAL SPACING OF TEXT SHALL BE SUCH AS TO PROVIDE A BALANCE APPEARANCE.
SIGN BACKGROUNDS SHALL BE OF FLAT SURFACE REFLECTIVE SHEETING CONFORMING WITH THE SPECIFICATIONS (TYPE C).
THE SIGN BLANKS SHALL BE ONE PIECE SHEET ALUMINUM ALLOY 1 / 16 IN THICK CONFORMING WITH THE ITEM "ALUMINUM SIGNS (TYPE A)".

ALUMINUM STREET NAME SIGN INSTALLATION



STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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Maher M. Ghanayem

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SHEET 5 OF 5

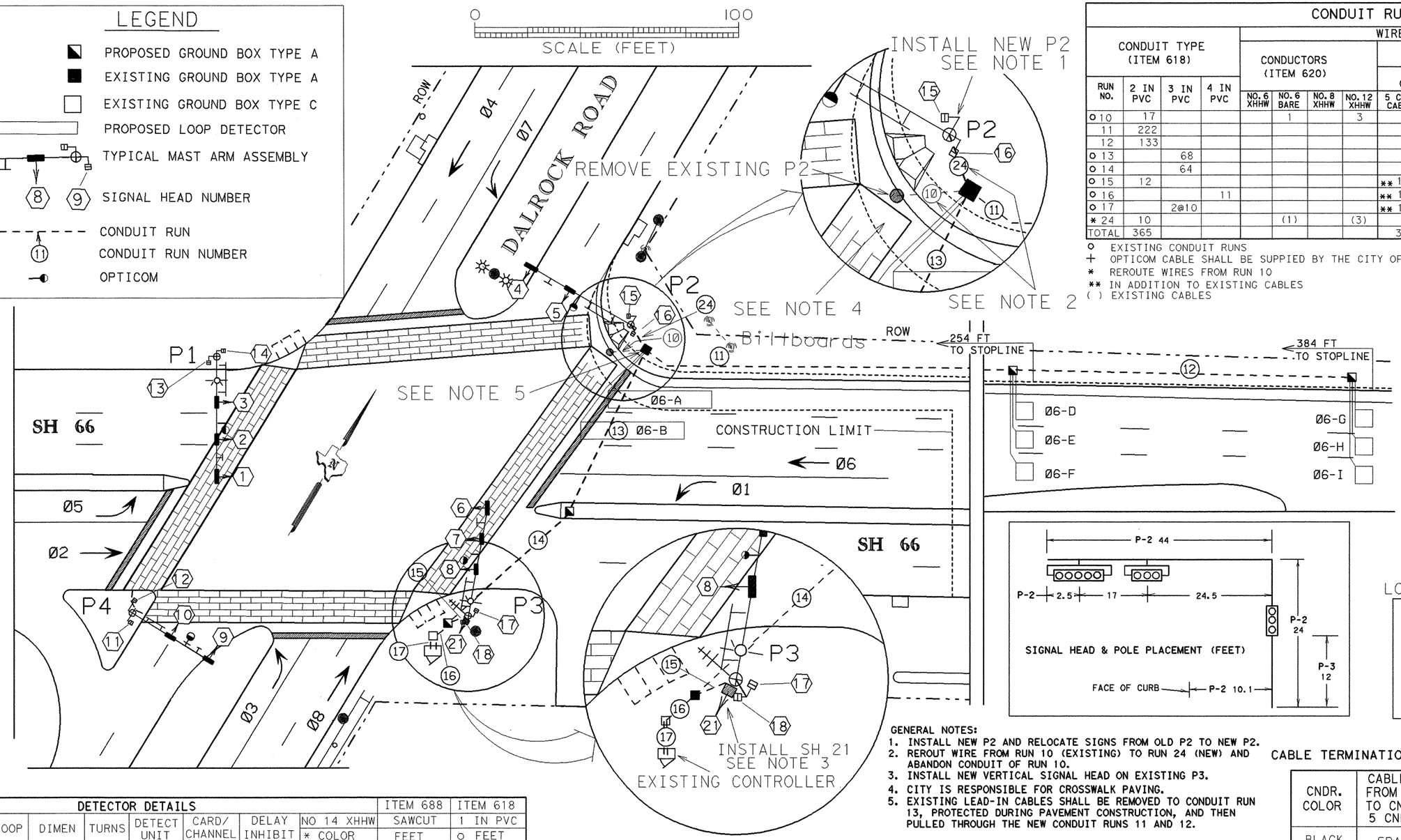
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		315
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

TEMPORARY SIGNAL LAYOUT SIGNS

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$

LEGEND

- PROPOSED GROUND BOX TYPE A
- EXISTING GROUND BOX TYPE A
- EXISTING GROUND BOX TYPE C
- PROPOSED LOOP DETECTOR
- TYPICAL MAST ARM ASSEMBLY
- (7) (8) (9) SIGNAL HEAD NUMBER
- CONDUIT RUN
- (11) CONDUIT RUN NUMBER
- OPTICOM



CONDUIT RUNS (FEET)

RUN NO.	CONDUIT TYPE (ITEM 618) 2 IN PVC	3 IN PVC	4 IN PVC	WIRE SIZE AND TYPE (EA.) CONDUCTORS (ITEM 620) NO. 6 XHHW	NO. 6 BARE	NO. 8 XHHW	NO. 12 XHHW	SIG. CABLE (ITEM 684) TY-A (12 AWG) 5 CNDR CABLE	16 CNDR CABLE	TY-C 18 AWG DET. CABLE	+ OPTICOM CABLE	TOTAL LENGTH OF RUN
o 10	17				1		3		1		1	17
11	222									** 2		222
12	133									** 1		133
o 13		68								** 3		68
o 14		64								** 3		64
o 15	12							** 1				12
o 16			11					** 1		** 3		11
o 17		2@10						** 1		** 3		10
* 24	10				(1)		(3)		(1)		(1)	10
TOTAL	365							33		1036		

o EXISTING CONDUIT RUNS
\+ OPTICOM CABLE SHALL BE SUPPIED BY THE CITY OF ROWLETT
* REROUTE WIRES FROM RUN 10
** IN ADDITION TO EXISTING CABLES
( ) EXISTING CABLES

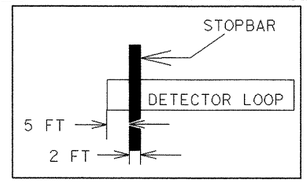
WIRE SUMMARY

CONDUCTOR TYPE	TOTAL LENGTH FEET
NO 12 XHHW	96
TY A 12 AWG	
5 CNDR CBL	33
16 AWG(INSIDE POLES)	
7 CNDR CBL	64
5 CNDR CBL	79
TY C 18 AWG	
DET CABLE	1036
*OPTICOM CBL	42

* FOR CONTRACTOR'S INFORMATION ONLY

SIGNAL HEAD & POLE PLACEMENT (FEET)

LOOP PLACEMENT DETAIL



DETECTOR DETAILS

LOOP	DIMEN	TURNS	DETECT UNIT	CARD/ CHANNEL	DELAY INHIBIT	NO 14 XHHW * COLOR	ITEM 688 SAWCUT FEET	ITEM 618 1 IN PVC o FEET
Ø6-A	6X40 FT	2	Ø6-1	P1-B	Ø6R	WHITE	106	8
Ø6-B	6X40 FT	2				BLACK	122	8
Ø6-C	6X40 FT	2				ORANGE	TAG WITH ORANGE	
Ø6-D	6X6 FT	5	Ø6-2	P3-B	Ø6G	WHITE	31	6
Ø6-E	6X6 FT	5				BLACK	42	6
Ø6-F	6X6 FT	5				ORANGE	54	6
Ø6-G	6X6 FT	5	Ø6-3	P4-B	Ø6G	WHITE	32	5
Ø6-H	6X6 FT	5				BLACK	42	5
Ø6-I	6X6 FT	5				ORANGE	53	5
ALL LOOPS SHALL BE LOOP WIRE						TOTAL	482	49

o (NOT SHOWN ON CONDUIT RUNS CHART)
* FOR CONTRACTORS INFORMATION ONLY

LOCATION	SIG FND (ITEM 656) TYPE	SIGNAL HEADS (ITEM 682) 300 mm SIGNAL INDICTION									CABLE INSIDE POLE (ITEM 684) SIG. CABLE TY-A (16 AWG)		(ITEM 620)	
							BACK PLATE				SIG. HEADS	PED. HEADS	LUMINAIRE/ ILSN	OPTICOM CABLE
POLE NUMBER	FDN. TYPE	RED +LED	YEL +LED	GRN +LED	YEL ARW +LED	GRN ARW +LED	3 SEC	5 SEC	VEH SIG SECTION	PED SIG SECTION	5 CNDR	7 CNDR	5 CNDR	NO 12 XHHW	SUPPLIED BY CITY OF ROWLETTE
		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	FEET				
P-2	36-A	2	2	2	1	1	1	1	8	2	44	61	20	96	42
P-3	——	1	1	1			1				15				
TOTAL		3	3	3	1	1	2	1	8	2	59	61	20	96	42

\+ SUPPLIED BY THE STATE

ITEM 618 CONDUIT SUMMARY

	FEET
1 IN PVC	49
2 IN PVC	365

CABLE TERMINATION CHART

CNDR. COLOR	CABLE 1 FROM P-3 TO CNTRL. 5 CNDR.
BLACK	SPARE
WHITE	S. COMMON
RED	SH 21 R
GREEN	SH 21 G
ORANGE	SH 21 Y

GENERAL NOTES:
1. INSTALL NEW P2 AND RELOCATE SIGNS FROM OLD P2 TO NEW P2.
2. REROUT WIRE FROM RUN 10 (EXISTING) TO RUN 24 (NEW) AND ABANDON CONDUIT OF RUN 10.
3. INSTALL NEW VERTICAL SIGNAL HEAD ON EXISTING P3.
4. CITY IS RESPONSIBLE FOR CROSSWALK PAVING.
5. EXISTING LEAD-IN CABLES SHALL BE REMOVED TO CONDUIT RUN 13, PROTECTED DURING PAVEMENT CONSTRUCTION, AND THEN PULLED THROUGH THE NEW CONDUIT RUNS 11 AND 12.

NOTES:
1. CONNECT LOOP Ø6-A, Ø6-B AND Ø6-C IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
2. CONNECT LOOP Ø6-D, Ø6-E AND Ø6-F IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
3. CONNECT LOOP Ø6-G, Ø6-H AND Ø6-I IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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SHEET 1 OF 2

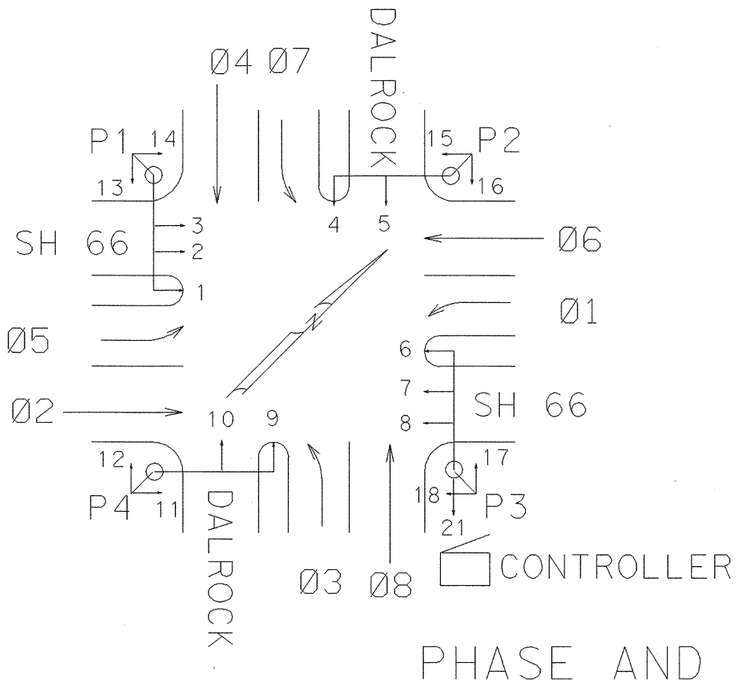
TRAFFIC SIGNAL LAYOUT
SH66 AT DALROCK RD

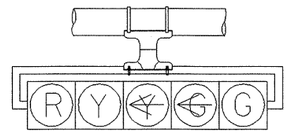
FED. RD DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
6	NH 99(367)			316
STATE	STATE DIST. NO.	COUNTY		
TEXAS	18			
CONTROL	SECTION	JOB	HIGHWAY NO.	
0009	04	39	SH 66	

$$$$date$$$$

EXT ---

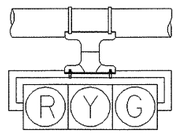
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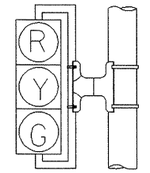
H5LT

S.H. 1,4,6,9



H3

S.H. 2,3,5,7,8,10



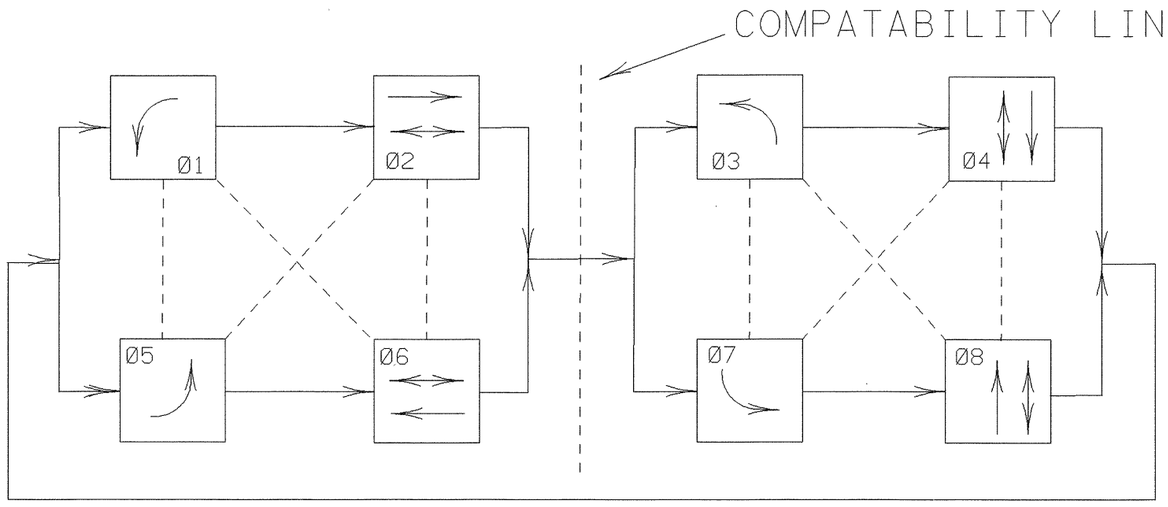
V3

S.H. 21

SIGNAL HEADS

NOTE:
DURING MAINTENANCE FLASH
SIGNAL HEADS 1-3,6-8 SHALL FLASH YELLOW
SIGNAL HEADS 4,5,9,10 SHALL FLASH RED

PHASE AND SIGNAL HEAD IDENTIFICATION



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER
Ø1, Ø3, Ø5, Ø7 ARE PROTECTED/PERMISSIVE

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3/25, 1999

Mahen M. Ghanayem

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TRAFFIC SIGNAL LAYOUT
SH66 AT DALROCK RD

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
6	NH 99 (367)			317
STATE	STATE DIST. NO.	COUNTY		
TEXAS	18			
CONTROL	SECTION	JOB	HIGHWAY NO.—	
0009	04	39	SH 66	

$$$$date$$$$

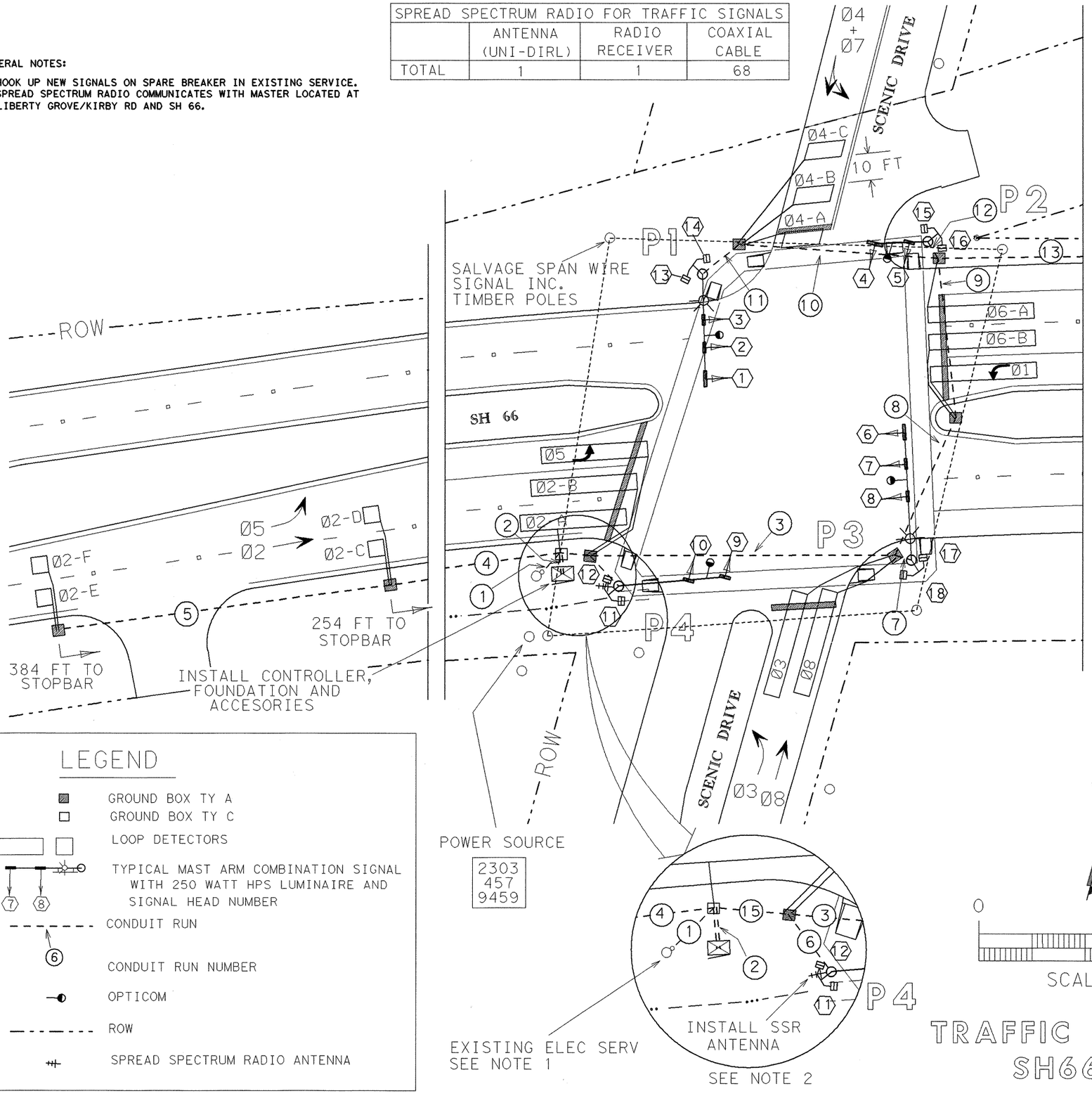
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EXT ---

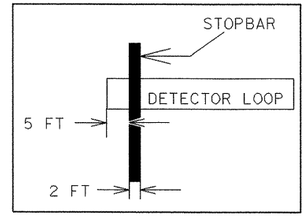
GENERAL NOTES:

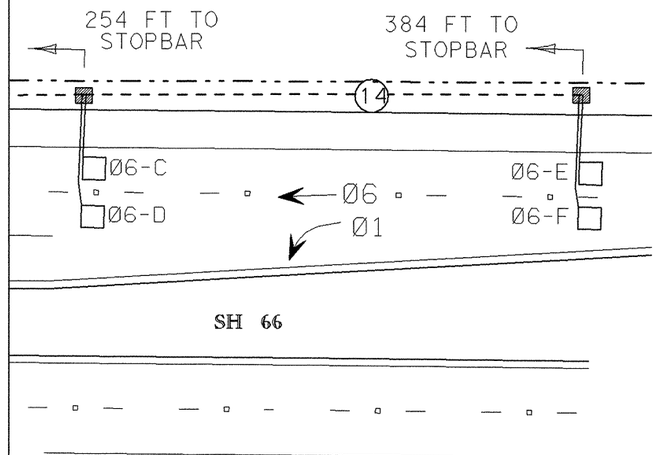
1. HOOK UP NEW SIGNALS ON SPARE BREAKER IN EXISTING SERVICE.
2. SPREAD SPECTRUM RADIO COMMUNICATES WITH MASTER LOCATED AT LIBERTY GROVE/KIRBY RD AND SH 66.

SPREAD SPECTRUM RADIO FOR TRAFFIC SIGNALS			
	ANTENNA (UNI-DIRL)	RADIO RECEIVER	COAXIAL CABLE
TOTAL	1	1	68



LOOP PLACEMENT DETAIL

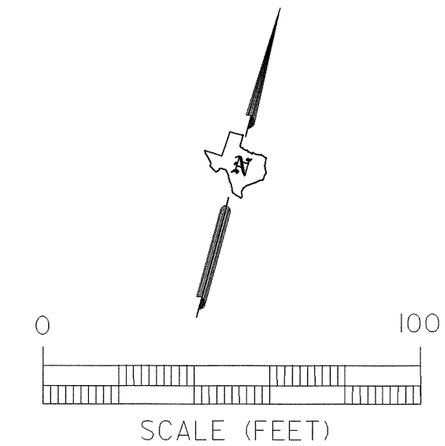




LEGEND

- GROUND BOX TY A
- GROUND BOX TY C
- LOOP DETECTORS
- TYPICAL MAST ARM COMBINATION SIGNAL WITH 250 WATT HPS LUMINAIRE AND SIGNAL HEAD NUMBER
- CONDUIT RUN
- CONDUIT RUN NUMBER
- OPTICOM
- ROW
- SPREAD SPECTRUM RADIO ANTENNA

GROUND BOXES	
TY A	9
TY C	1



STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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SHEET 1 OF 4

TRAFFIC SIGNAL LAYOUT
SH66 AT SCENIC DR

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		318
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ---

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$

CONDUIT AND WIRE RUNS (FEET)

CONDUIT TYPE			WIRE SIZE AND TYPE							TOTAL
			CNDCTRS ITEM 620			CABLE ITEM 684		OPTI-	(6439)	LENGTH
RUNS	2 IN PVC	3 IN PVC	NO 6 XHHW	NO 6 BARE	NO 8 XHHW	TY A 15 CNDR	TY C DET CBL	COM *CBL	COAX. CABLE	IN FEET
1	13		2	1	2					13
2		2@10	2	1		4	19	4	1	10
3		118		1	2	3	12	2		118
4	235						4			235
5	130						2			130
6	19			1		1		1	1	19
7	11			1	4	1		1		11
8		60		1	2	2	10	2		60
9		64		1	2	2	8	2		64
10		78		1	2	1	3	1		78
11	21			1	2	1		1		21
12	10			1		1		1		10
13	264						4			264
14	132						2			132
15		15		1	2	4	12	3	1	15
TOTAL	835	355	46	419	782	841	5652	708	44	

* SUPPLIED BY CITY OF ROWLETT
FOR CONTRACTORS INFORMATION ONLY

DETECTOR DETAILS

LOOP	DIMEN	TURNS	DETECT UNIT	CARD/ CHANNEL	DELAY INHIBIT	NO 14 XHHW COLOR *	ITEM 688 SAWCUT FEET	ITEM 618 1 IN PVC o FEET
Ø1	6X40 FT	2	Ø1	P1-A	Ø1G	ORANGE	103	5
Ø2-A	6X40 FT	2	Ø2-1	P2-A	Ø2R	WHITE	108	7
Ø2-B	6X40 FT	2				BLACK	120	7
Ø2-C	6X6 FT	5	Ø2-2	P3-A	Ø2G	WHITE	29	10
Ø2-D	6X6 FT	5				BLACK	42	10
Ø2-E	6X6 FT	5	Ø2-3	P4-A	Ø2G	WHITE	29	8
Ø2-F	6X6 FT	5				BLACK	41	8
Ø3	6X40 FT	2	Ø3	P6-A	Ø3G	BLACK	115	13
Ø4-A	6X14 FT	4	Ø4	P7-A	Ø4G	WHITE	43	15
Ø4-B	6X14 FT	4				BLACK	45	20
Ø4-C	6X14 FT	4				ORANGE	47	33
Ø5	6X40 FT	2	Ø5	P2-B	Ø5G	ORANGE	133	7
Ø6-A	6X40 FT	2	Ø6-1	P1-B	Ø6R	WHITE	107	5
Ø6-B	6X40 FT	2				BLACK	116	5
Ø6-C	6X6 FT	5	Ø6-2	P3-B	Ø6G	WHITE	37	7
Ø6-D	6X6 FT	5				BLACK	50	7
Ø6-E	6X6 FT	5	Ø6-3	P4-B	Ø6G	WHITE	36	8
Ø6-F	6X6 FT	5				BLACK	49	8
Ø8	6X40 FT	2	Ø8	P6-B	Ø8G	WHITE	96	23
ALL LOOPS SHALL BE LOOP WIRE						TOTAL	1343	212

o (NOT SHOWN ON CONDUIT RUNS CHART)
* FOR CONTRACTORS INFORMATION ONLY

WIRE SUMMARY (ITEM 620)

CONDUCTOR TYPE	TOTAL LENGTH FEET
NO 6 XHHW	46
NO 6 BARE	419
NO 8 XHHW	782
NO 12 XHHW	544
(ITEM 684) TY A 12 AWG	
15 CNDR CBL	876
16 AWG(INSIDE POLES)	
7 CNDR CBL	165
5 CNDR CBL	430
TY C 18 AWG	
DET CABLE	5652
*OPTICOM CBL	885
(ITEM 6439)	
COAX. CBL	68

* FOR CONTRACTOR'S INFORMATION ONLY

CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM P-1 TO CNTRL 15 CNDR	CABLE 2 FROM P-2 TO CNTRL 15 CNDR	CABLE 3 FROM P-3 TO CNTRL 15 CNDR	CABLE 4 FROM P-4 TO CNTRL 15 CNDR
BLACK	P.B. COMMON	P.B. COMMON	P.B. COMMON	P.B. COMMON
WHITE	S. COMMON	S. COMMON	S. COMMON	S. COMMON
RED	SH 1,2,3 R	SH 4,5 R	SH 6,7,8 R	SH 9,10 R
GREEN	SH 1,2,3 G	SH 4,5 G	SH 6,7,8 G	SH 9,10 G
ORANGE	SH 1,2,3 Y	SH 4,5 Y	SH 6,7,8 Y	SH 9,10 Y
BLUE	SH 1 ~~G~~	SH 4 ~~G~~	SH 6 ~~G~~	SPARE
WHITE/ BLACK	SH 1 ~~Y~~	SH 4 ~~Y~~	SH 6 ~~Y~~	SPARE
RED/ BLACK	PED CALL Ø4	PED CALL Ø6	PED CALL Ø8	PED CALL Ø2
GREEN/ BLACK	SH 13 W	SH 15 W	SH 17 W	SH 11 W
ORANGE/ BLACK	SH 13 DW	SH 15 DW	SH 17 DW	SH 11 DW
BLUE/ BLACK	PED CALL Ø6	PED CALL Ø8	PED CALL Ø2	PED CALL Ø4
BLACK/ WHITE	SH 14 W	SH 16 W	SH 18 W	SH 12 W
RED/ WHITE	SH 14 DW	SH 16 DW	SH 18 DW	SH 12 DW
GREEN/ WHITE	SPARE	SPARE	SPARE	SPARE
BLUE/ WHITE	SPARE	SPARE	SPARE	SPARE

NOTES:
1. CONNECT LOOP Ø2-A AND Ø2-B IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
2. CONNECT LOOP Ø2-C AND Ø2-D IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
3. CONNECT LOOP Ø2-E AND Ø2-F IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
4. CONNECT LOOP Ø4-A, Ø4-B AND Ø4-C IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
5. CONNECT LOOP Ø6-A AND Ø6-B IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
6. CONNECT LOOP Ø6-C AND Ø6-D IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
7. CONNECT LOOP Ø6-E AND Ø6-F IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.

ITEM 618 CONDUIT SUMMARY

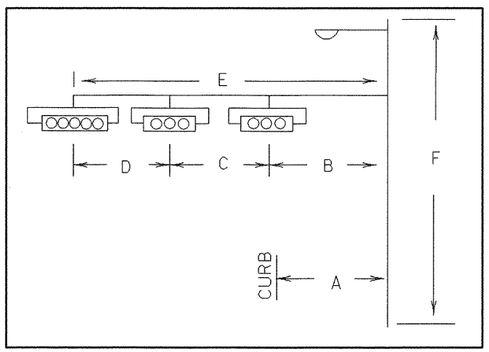
	FEET
1 IN PVC	212
2 IN PVC	835
3 IN PVC	355

SIGNAL HEAD & POLE PLACEMENT (FEET)

POLE NO	A	B	C	D	E	F	NO. OF HEADS	LUM-A	FND TYPE	WIRE INSIDE POLE (FEET) (ITEM 684) SIG CABLE TY-A 7 CNDR	5 CNDR	(ITEM 620) LUMINAIRE /ILSN NO 12 XHHW	OPTICOM *CABLE	(6439) COAX. CABLE
P-1	10	17	11	12	40	30	3	1	36-A	59	103	176	43	
P-2	8	7	13		20	24	2		30-A	39	85	96	33	
P-3	6	24	12	12	48	30	3	1	36-A	67	118	176	49	
P-4	12	26	14		40	24	2		36-A		124	96	52	24
								TOTAL		165	430	544	177	24

* SUPPLIED BY CITY OF ROWLETT
FOR CONTRACTORS INFORMATION ONLY

SIGNAL POLE DIMENSIONS



ITEM 682 SIGNAL HEAD NO	SIG HEAD TYPE	12 IN SIG IND BACKPLATE 3 SEC EA	BACKPLATE 5 SEC EA	VEH SEC EA	RED +LED EA	YEL +LED EA	GRN +LED EA	YEL ARW +LED EA	GRN ARW +LED EA
2, 3, 5, 7, 8, 9, 10	H3	7		21	7	7	7		
1, 4, 6	H5LT		3	15	3	3	3	3	3
TOTAL		7	3	36	10	10	10	3	3

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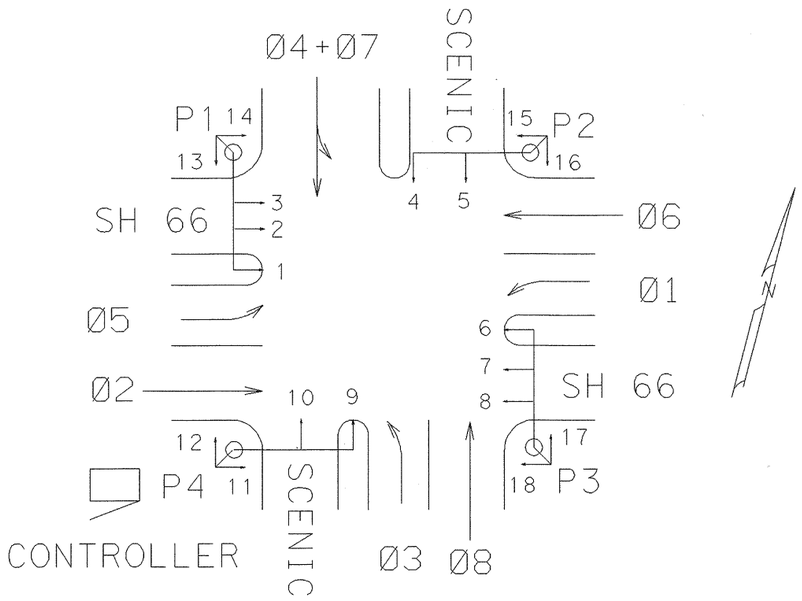
TRAFFIC SIGNAL LAYOUT
SH66 AT SCENIC DR

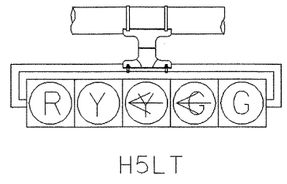
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		319
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ——

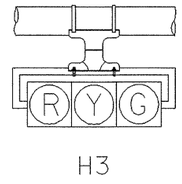
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H5LT

S.H. 1,4,6



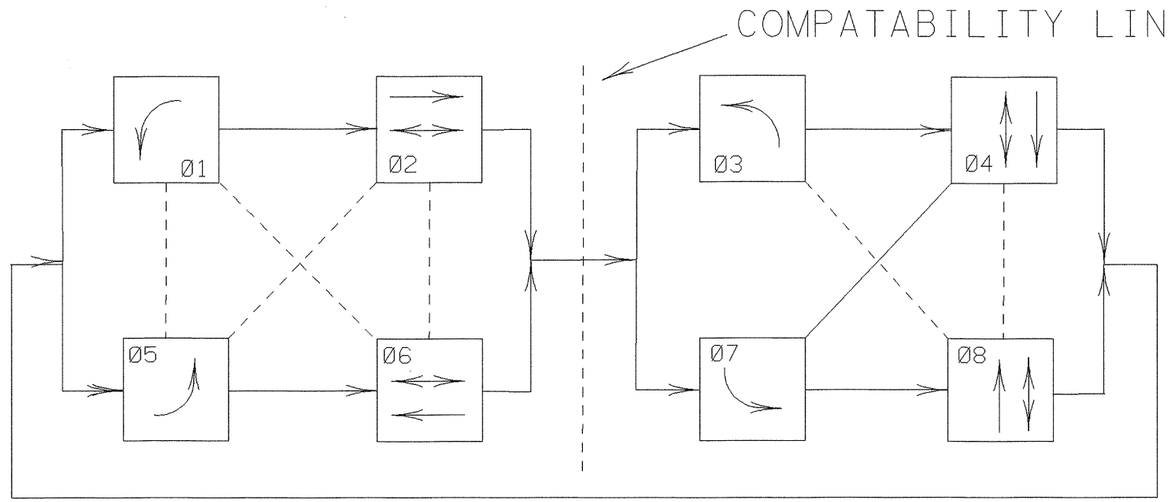
H3

S.H. 2,3,5,7,8,9,10

SIGNAL HEADS

NOTE:
DURING MAINTENANCE FLASH
SIGNAL HEADS 1-3,6-8 SHALL FLASH YELLOW
SIGNAL HEADS 4,5,9,10 SHALL FLASH RED

PHASE AND SIGNAL HEAD IDENTIFICATION



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER
Ø1, Ø3, Ø5 ARE PROTECTED/PERMISSIVE

STATE OF TEXAS
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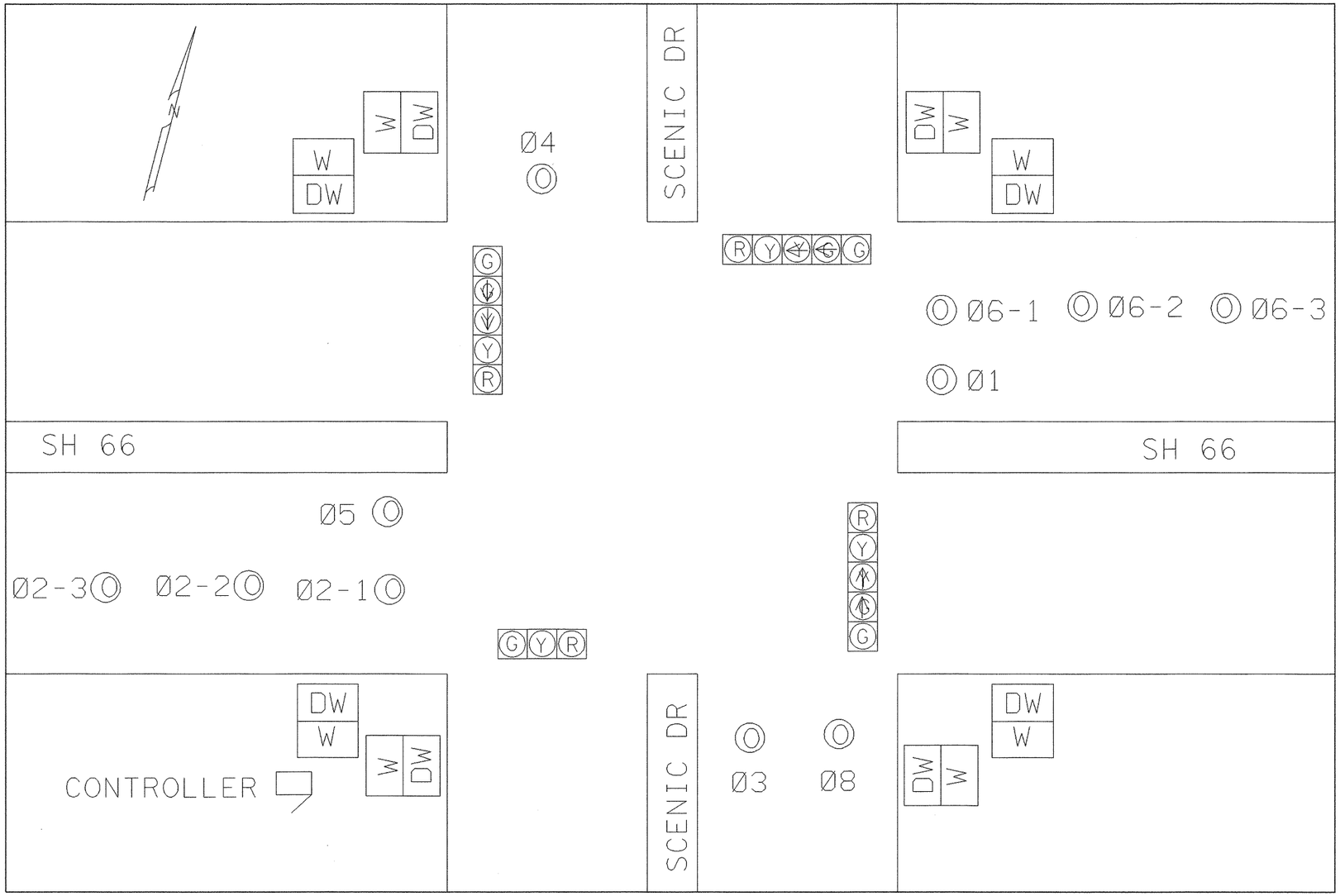
TRAFFIC SIGNAL LAYOUT
SH66 AT SCENIC DR

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		320
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT

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TRAFFIC SIGNAL LAYOUT
DISPLAY BOARD SH66 AT SCENIC DR

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		321
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$

EXT

LEGEND

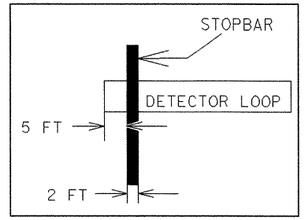
- GROUND BOX TY A
- GROUND BOX TY C
- LOOP DETECTORS
- TYPICAL MAST ARM COMBINATION SIGNAL WITH 250 WATT HPS LUMINAIRE AND SIGNAL HEAD NUMBER (7) (8)
- CONDUIT RUN
- (6) CONDUIT RUN NUMBER
- OPTICOM
- ROW
- SPREAD SPECTRUM RADIO ANTENNA

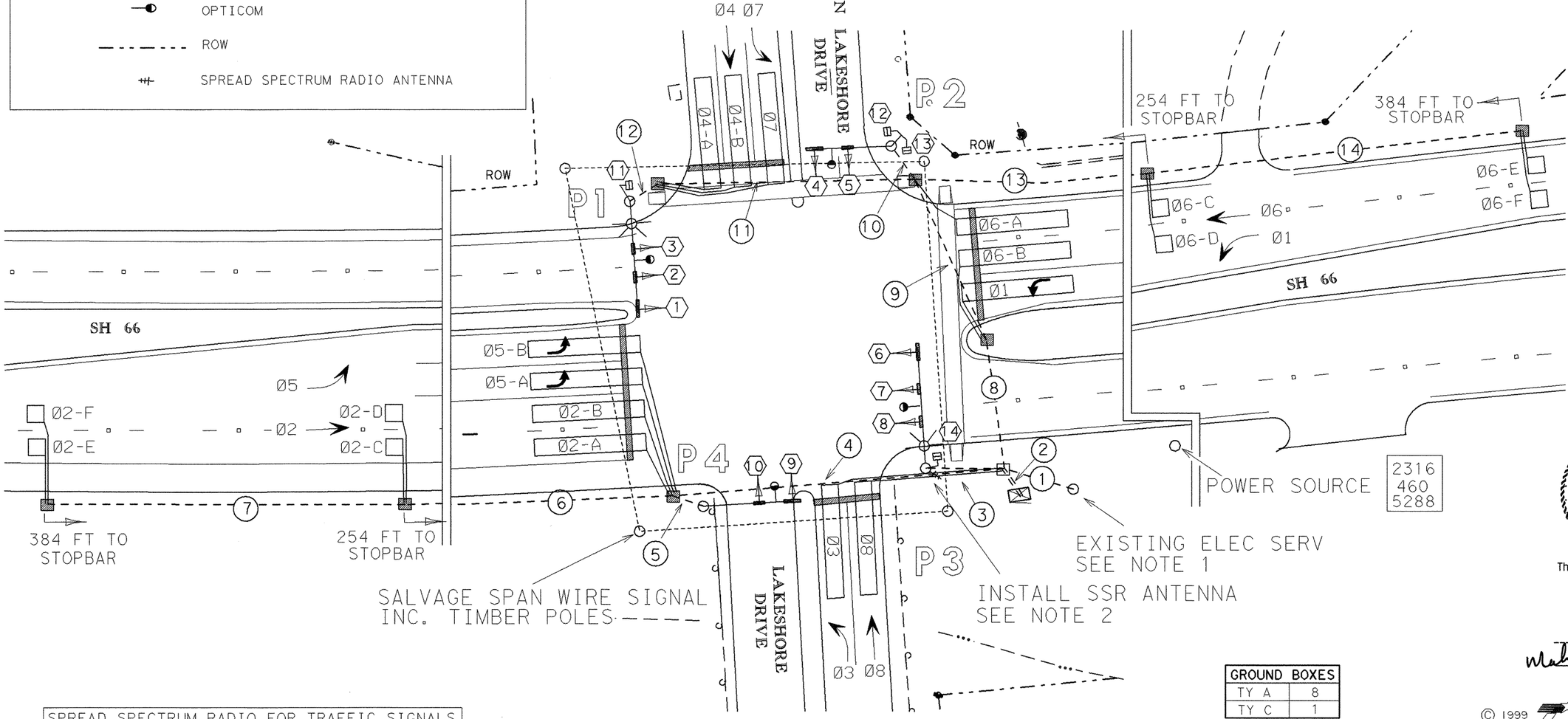
0 100

SCALE (FEET)

N

LOOP PLACEMENT DETAIL





SPREAD SPECTRUM RADIO FOR TRAFFIC SIGNALS			
	ANTENNA (UNI-DIRL)	RADIO RECEIVER	COAXIAL CABLE
TOTAL	1	1	73

GROUND BOXES	
TY A	8
TY C	1

GENERAL NOTES:
1. HOOK UP NEW SIGNALS TO SPARE BREAKER IN EXISTING SERVICE.
2. SPREAD SPECTRUM RADIO SHALL COMMUNICATE WITH MASTER AT FM 740 AND IH 30.

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SHEET 1 OF 4

TRAFFIC SIGNAL LAYOUT SH66 AT LAKESHORE

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		322
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ---

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$

CONDUIT AND WIRE RUNS (FEET)

CONDUIT TYPE			WIRE SIZE AND TYPE								TOTAL
			CNDCTRS ITEM 620			CABLE ITEM 684					
RUNS	2 IN PVC	3 IN PVC	NO 6 XHHW	NO 6 BARE	NO 8 XHHW	TY A 12 CNDR	TY A 15 CNDR	TY C DET CBL	OPTI-COM *CBL	(6439) COAX. CBL	LENGTH IN FEET
1	29		2	1	4						29
2		2@11	2	1		3	1	19	4	1	11
3	32			1	2	1			1	1	32
4		122		1		1		8	1		122
5	10			1		1			1		10
6	270							4			270
7	131							2			131
8		50		1	2	1	1	9	2		50
9		66		1	2	1	1	6	2		66
10	17			1	2		1		1		17
11		95		1		1		2	1		95
12	18			1		1			1		18
13	275							4			275
14	138							2			138
TOTAL	920	355	80	450	446	426	144	4939	570	44	

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

DETECTOR DETAILS SUBSIDIARY TO ITEM 688

LOOP	DIMEN	TURNS	DETECT UNIT	CARD/ CHANNEL	DELAY INHIBIT	NO 14 XHHW COLOR *	ITEM 688 SAWCUT FEET	ITEM 618 1 IN PVC o FEET
Ø1	6X40 FT	2	Ø1	P1-A	Ø1G	ORANGE	102	8
Ø2-A	6X40 FT	2	Ø2-1	P2-A	Ø2R	WHITE	107	5
Ø2-B	6X40 FT	2				BLACK	118	5
Ø2-C	6X6 FT	5	Ø2-2	P3-A	Ø2G	WHITE	37	8
Ø2-D	6X6 FT	5				BLACK	49	8
Ø2-E	6X6 FT	5	Ø2-3	P4-A	Ø2G	WHITE	37	7
Ø2-F	6X6 FT	5				BLACK	49	7
Ø3	6X40 FT	2	Ø3	P6-A	Ø3G	BLACK	108	45
Ø4-A	6X40 FT	2	Ø4-1	P7-A	Ø4G	WHITE	101	9
Ø4-B	6X40 FT	2	Ø4-2	P8-A	Ø4G	BLACK	112	9
Ø5-A	6X40 FT	2	Ø5	P2-B	Ø5G	ORANGE	130	5
Ø5-B	6X40 FT	2				GREEN	142	5
Ø6-A	6X40 FT	2	Ø6-1	P1-B	Ø6R	WHITE	102	11
Ø6-B	6X40 FT	2				BLACK	115	8
Ø6-C	6X6 FT	5	Ø6-2	P3-B	Ø6G	WHITE	30	7
Ø6-D	6X6 FT	5				BLACK	43	7
Ø6-E	6X6 FT	5	Ø6-3	P4-B	Ø6G	WHITE	30	8
Ø6-F	6X6 FT	5				BLACK	42	8
Ø7	6X40 FT	2	Ø7	P7-B	Ø7G	ORANGE	125	9
Ø8	6X40 FT	2	Ø8	P6-B	Ø8G	WHITE	96	45
ALL LOOPS SHALL BE LOOP WIRE						TOTAL	1675	224

o (NOT SHOWN ON CONDUIT RUNS CHART)
* FOR CONTRACTORS INFORMATION ONLY

WIRE SUMMARY (ITEM 620)

CONDUCTOR TYPE	TOTAL LENGTH FEET
NO 6 XHHW	80
NO 6 BARE	450
NO 8 XHHW	446
NO 12 XHHW	160
(ITEM 684) TY A 12 AWG	
12 CNDR CBL	426
15 CNDR CBL	144
16 AWG (INSIDE POLES)	
7 CNDR CBL	216
5 CNDR CBL	240
TY C 18 AWG	
DET CABLE	4939
*OPTICOM CBL	738
(ITEM 6439)	
COAX. CBL	73

* FOR CONTRACTOR'S INFORMATION ONLY

CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM P-1 TO CNTRL 12 CNDR	CABLE 2 FROM P-2 TO CNTRL 15 CNDR	CABLE 3 FROM P-3 TO CNTRL 12 CNDR	CABLE 4 FROM P-4 TO CNTRL 12 CNDR
BLACK	P.B. COMMON	P.B. COMMON	P.B. COMMON	SPARE
WHITE	S. COMMON	S. COMMON	S. COMMON	S. COMMON
RED	SH 1, 2, 3 R	SH 4, 5 R	SH 6, 7, 8 R	SH 9, 10 R
GREEN	SH 1, 2, 3 G	SH 4, 5 G	SH 6, 7, 8 G	SH 9, 10 G
ORANGE	SH 1, 2, 3 Y	SH 4, 5 Y	SH 6, 7, 8 Y	SH 9, 10 Y
BLUE	SH 1 ~~G~~	SH 4 ~~G~~	SH 6 ~~G~~	SH 9 ~~G~~
WHITE/ BLACK	SH 1 ~~Y~~	SH 4 ~~Y~~	SH 6 ~~Y~~	SH 9 ~~Y~~
RED/ BLACK	PED CALL Ø6	PED CALL Ø6	PED CALL Ø8	SPARE
GREEN/ BLACK	SH 11 W	SH 12 W	SH 14 W	SPARE
ORANGE/ BLACK	SH 11 DW	SH 12 DW	SH 14 DW	SPARE
BLUE/ BLACK	SPARE	PED CALL Ø8	SPARE	SPARE
BLACK/ WHITE	SPARE	SH 13 W	SPARE	SPARE
RED/ WHITE		SH 13 DW		
GREEN/ WHITE		SPARE		
BLUE/ WHITE		SPARE		

NOTES:
1. CONNECT LOOP Ø2-A AND Ø2-B IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
2. CONNECT LOOP Ø2-C AND Ø2-D IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
3. CONNECT LOOP Ø2-E AND Ø2-F IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
4. CONNECT LOOP Ø5-A AND Ø5-B IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
5. CONNECT LOOP Ø6-A AND Ø6-B IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
6. CONNECT LOOP Ø6-C AND Ø6-D IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.
7. CONNECT LOOP Ø6-E AND Ø6-F IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.

ITEM 618 CONDUIT SUMMARY

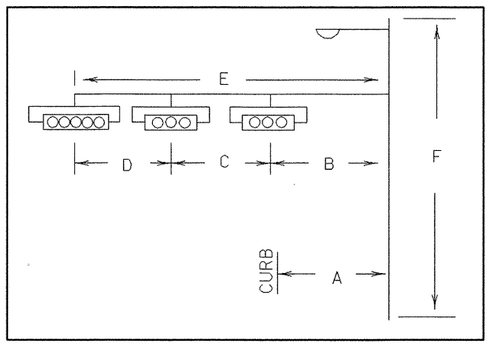
	FEET
1 IN PVC	224
2 IN PVC	920
3 IN PVC	355

SIGNAL HEAD & POLE PLACEMENT (FEET)

POLE NO	A	B	C	D	E	F	NO. OF HEADS	LUM-A	FND TYPE	WIRE INSIDE POLE (FEET) (ITEM 684) SIG CABLE TY-A 7 CNDR	(ITEM 684) SIG CABLE TY-A 5 CNDR	(ITEM 620) LUMINAIRE NO 12 XHHW	OPTICOM *CABLE	(6439) COAX. CABLE
P-1	7	17	10	11	40	30	3	1	36-A	57	82	80	41	
P-2	8	16	12		28	19	2		30-A	47	35		41	
P-3	6	17	12	13	44	30	3	1	36-A	61	84	80	41	30
P-4	6	20	12		32	19	2		30-A	51	39		45	
								TOTAL		216	240	160	168	30

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

SIGNAL POLE DIMENSIONS



ITEM 682 SIGNAL HEAD NO	SIG HEAD TYPE	12 IN SIG IND BACKPLATE 3 SEC EA	BACKPLATE 5 SEC EA	VEH SEC EA	RED +LED EA	YEL +LED EA	GRN +LED EA	YEL ARW +LED EA	GRN ARW +LED EA
2, 3, 5, 7, 8, 10	H3	6		18	6	6	6		
1, 4, 6, 9	H5LT		4	20	4	4	4	4	4
TOTAL		6	4	38	10	10	10	4	4

\+ SUPPLIED BY STATE

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SHEET 2 OF 4

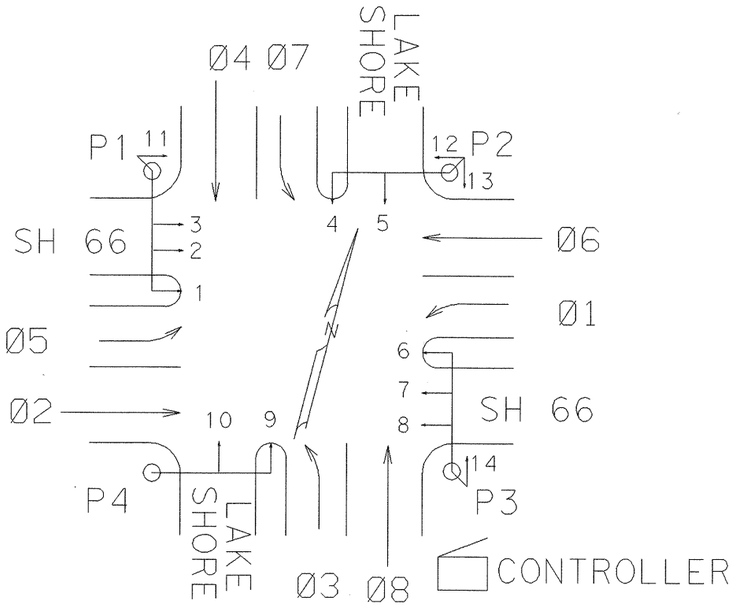
TRAFFIC SIGNAL LAYOUT
SH66 AT LAKESHORE

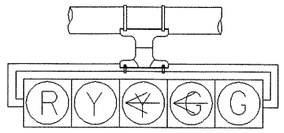
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
6	NH99 (367)			323
STATE	STATE DIST. NO.	COUNTY		
TEXAS	18	ROCKWALL		
CONTROL	SECTION	JOB	HIGHWAY NO.	
0009	04	39	SH 66	

$$$$date$$$$

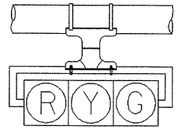
EXT ---

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H5LT



H3

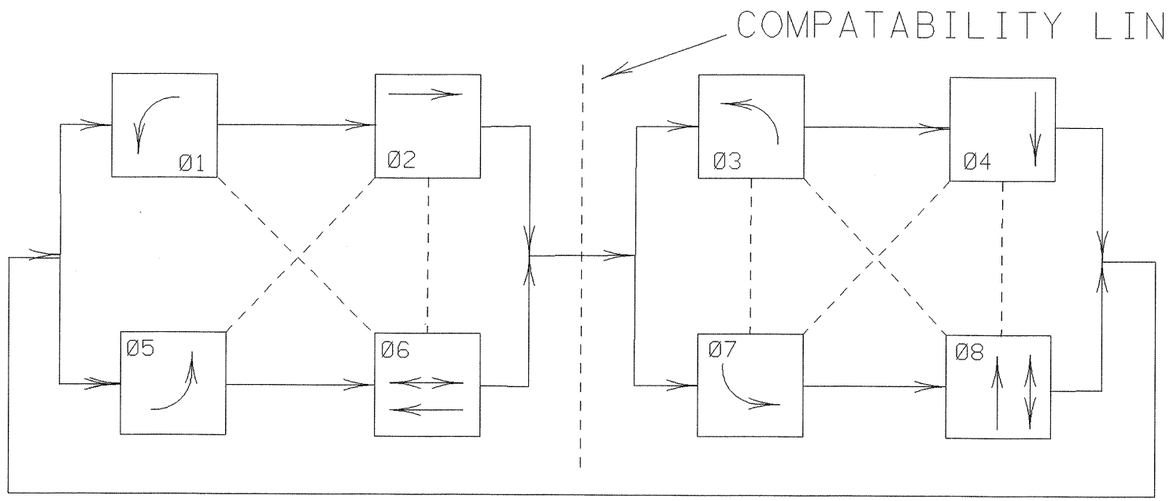
S.H. 1,4,6,9

S.H. 2,3,5,7,8,10

SIGNAL HEADS

NOTE:
DURING MAINTENANCE FLASH
SIGNAL HEADS 1-3,6-8 SHALL FLASH YELLOW
SIGNAL HEADS 4,5,9,10 SHALL FLASH RED

PHASE AND SIGNAL HEAD IDENTIFICATION



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER
Ø1, Ø3, Ø7 ARE PROTECTED/PERMISSIVE

STATE OF TEXAS
MAHER M. GHANAYEM
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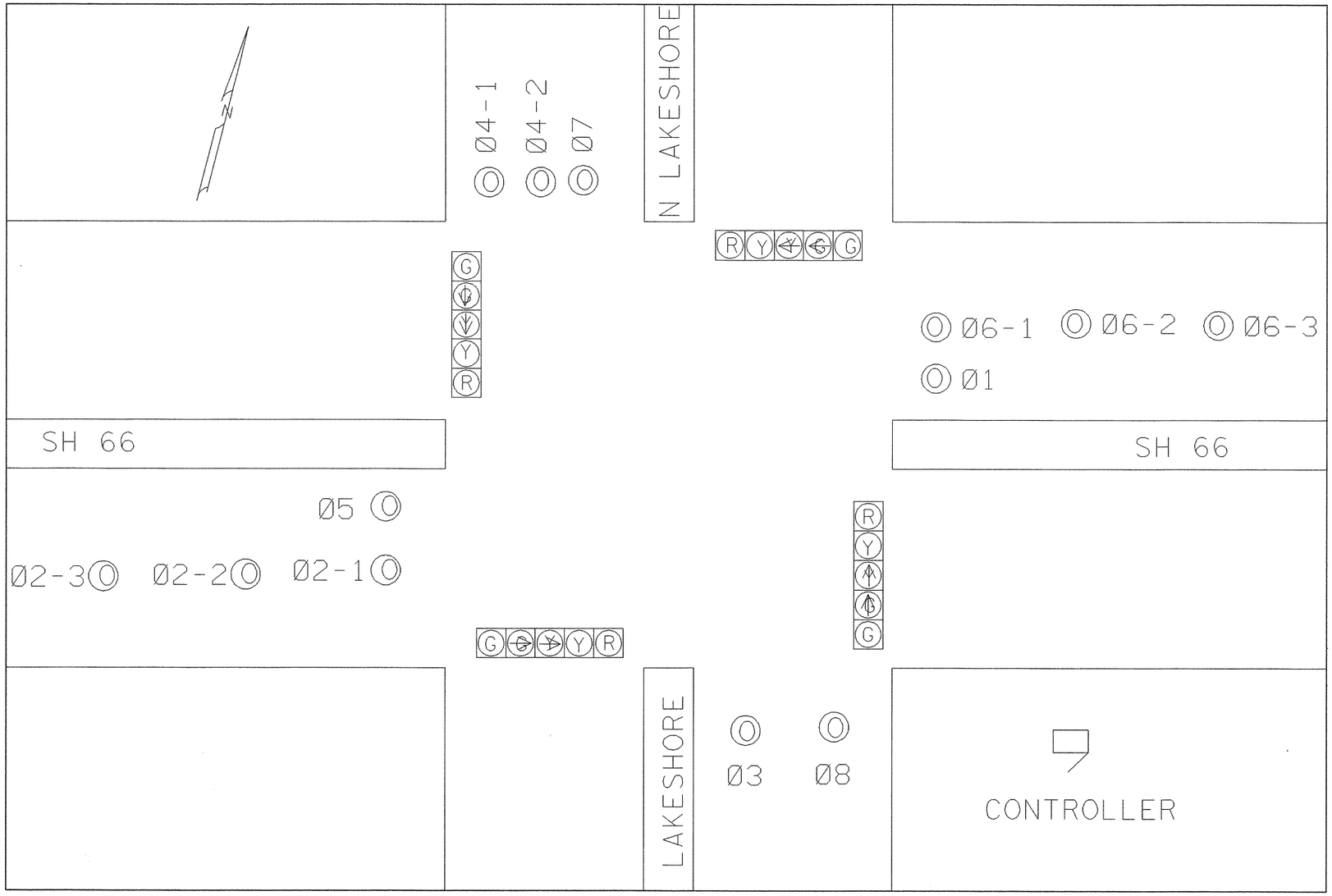
TRAFFIC SIGNAL LAYOUT
SH66 AT LAKESHORE

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		324
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ___

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$



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SHEET 4 OF 4

TRAFFIC SIGNAL LAYOUT
DISPLAY BOARD SH66 AT LAKESHORE

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		325
STATE	STATE DIST. No.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ---

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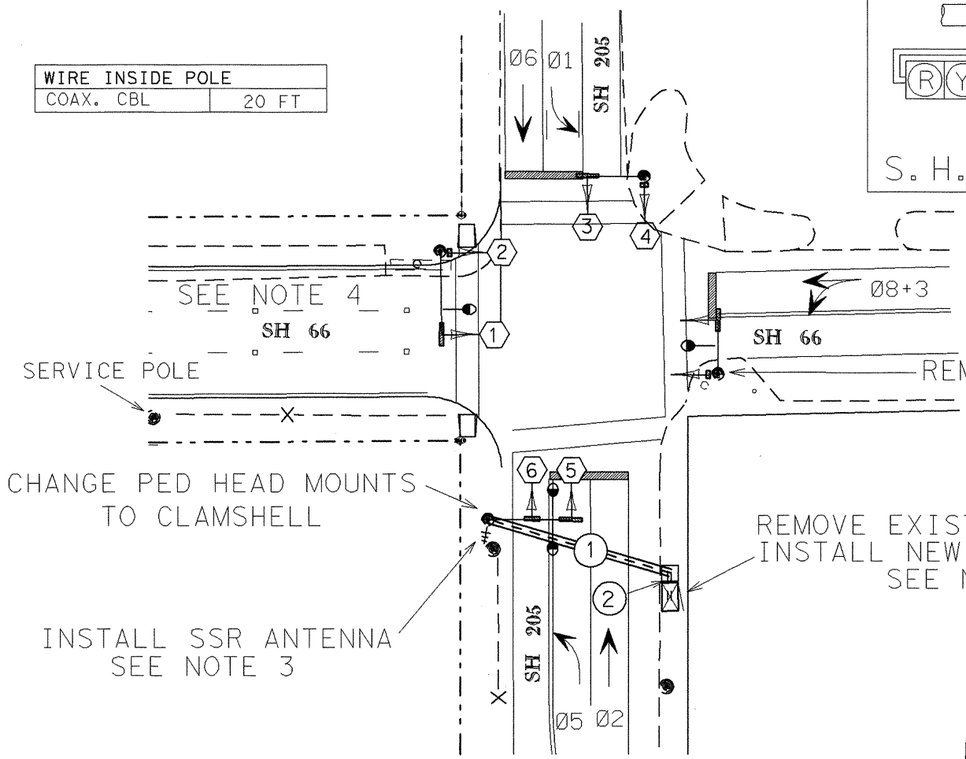
CONDUIT AND WIRE RUNS (FEET)						
CONDUIT TYPE (ITEM 618)					WIRE	TOTAL
RUNS	2 IN PVC	2 IN RM	3 IN RM	3 IN PVC	(6439) COAX. CBL	LENGTH IN FEET
○ 1			60		** 1	60
○ 2				2@5	** 1	5
TOTAL					65	

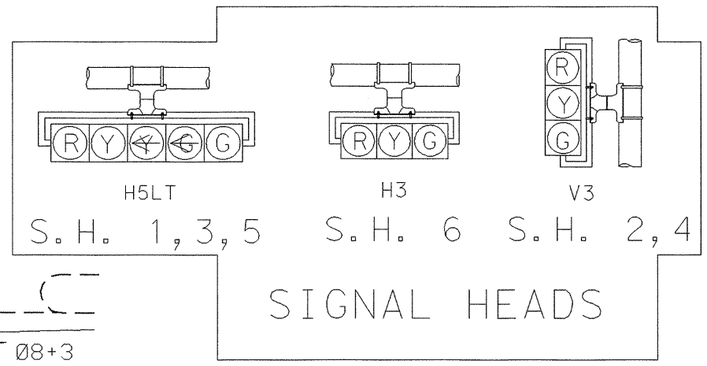
○ EXISTING CONDUIT RUN
** IN ADDITION TO EXISTING CABLES

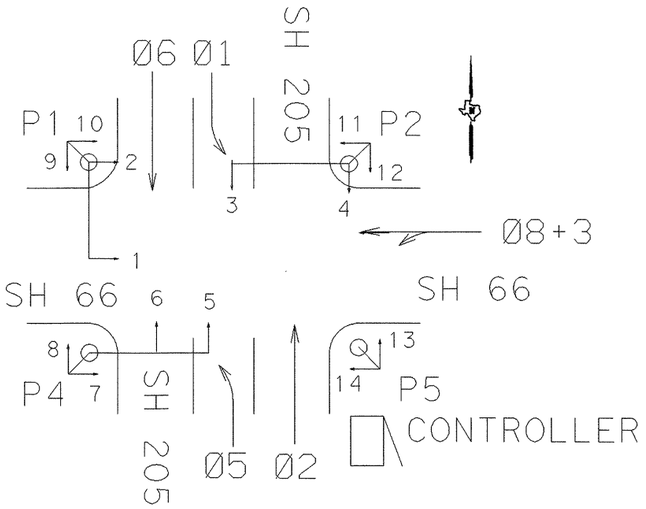
SPREAD SPECTRUM RADIO FOR TRAFFIC SIGNALS			
	ANTENNA (UNI-DIRL)	RADIO RECEIVER	COAXIAL CABLE
TOTAL	1	1	85

NOTE:
DURING MAINTENANCE FLASH
SIGNAL HEADS 3, 4, 5, 6 SHALL FLASH YELLOW
SIGNAL HEADS 1, 2 SHALL FLASH RED

WIRE INSIDE POLE	
COAX. CBL	20 FT







PHASE AND SIGNAL HEAD IDENTIFICATION

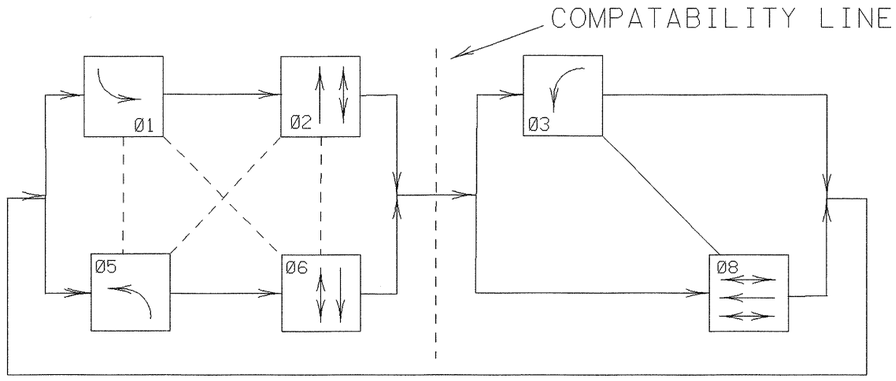
GENERAL NOTES:
1. FOUNDATION TO BE REMOVED TO 2 FEET BELOW GRADE. OPTICOM SENSOR ON MAST ARM TO BE RETURNED TO THE CITY OF ROCKWALL.
2. REUSE FOUNDATION. REINSTALL OPTICOM CABINET.
3. SPREAD SPECTRUM RADIO TO COMMUNICATE TO MASTER LOCATED AT FM 740 AND IH 30.
4. EXISTING LOOP DETECTORS ON WEST SIDE OF INTERSECTION TO BE ABANDONED.

LEGEND

- EXISTING GROUND BOX TY C
- EXISTING TYPICAL MAST ARM COMBINATION SIGNAL WITH 250 WATT HPS LUMINAIRE AND SIGNAL HEAD NUMBER
- EXISTING CONDUIT RUN TO REMAIN
- (6) CONDUIT RUN NUMBER
- OPTICOM SENSOR
- ROW
- EXISTING BORED CONDUIT RUN
- SPREAD SPECTRUM RADIO ANTENNA



0 100
SCALE (FEET)



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER
Ø1, Ø5 ARE PROTECTED/PERMISSIVE

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SHEET 1 OF 2

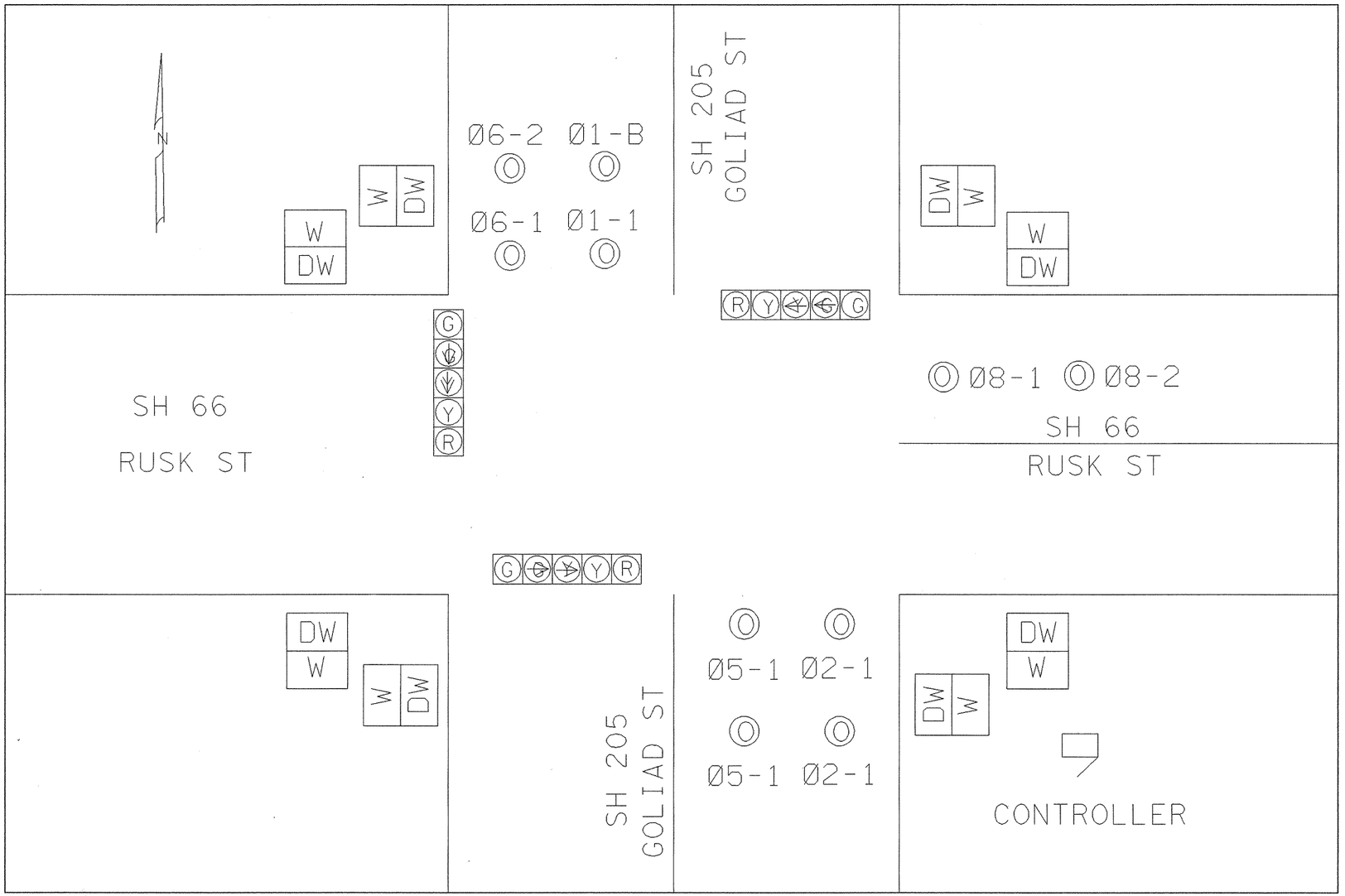
TRAFFIC SIGNAL LAYOUT
SH66(RUSK) AT SH205(GOLIAD)

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		326
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ---

$$$$$$$$$$$$dgnspec$$$$$$$$$$$$



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TRAFFIC SIGNAL LAYOUT
DISPLAY BOARD SH66(RUSK) AT SH205(GOLIAD)

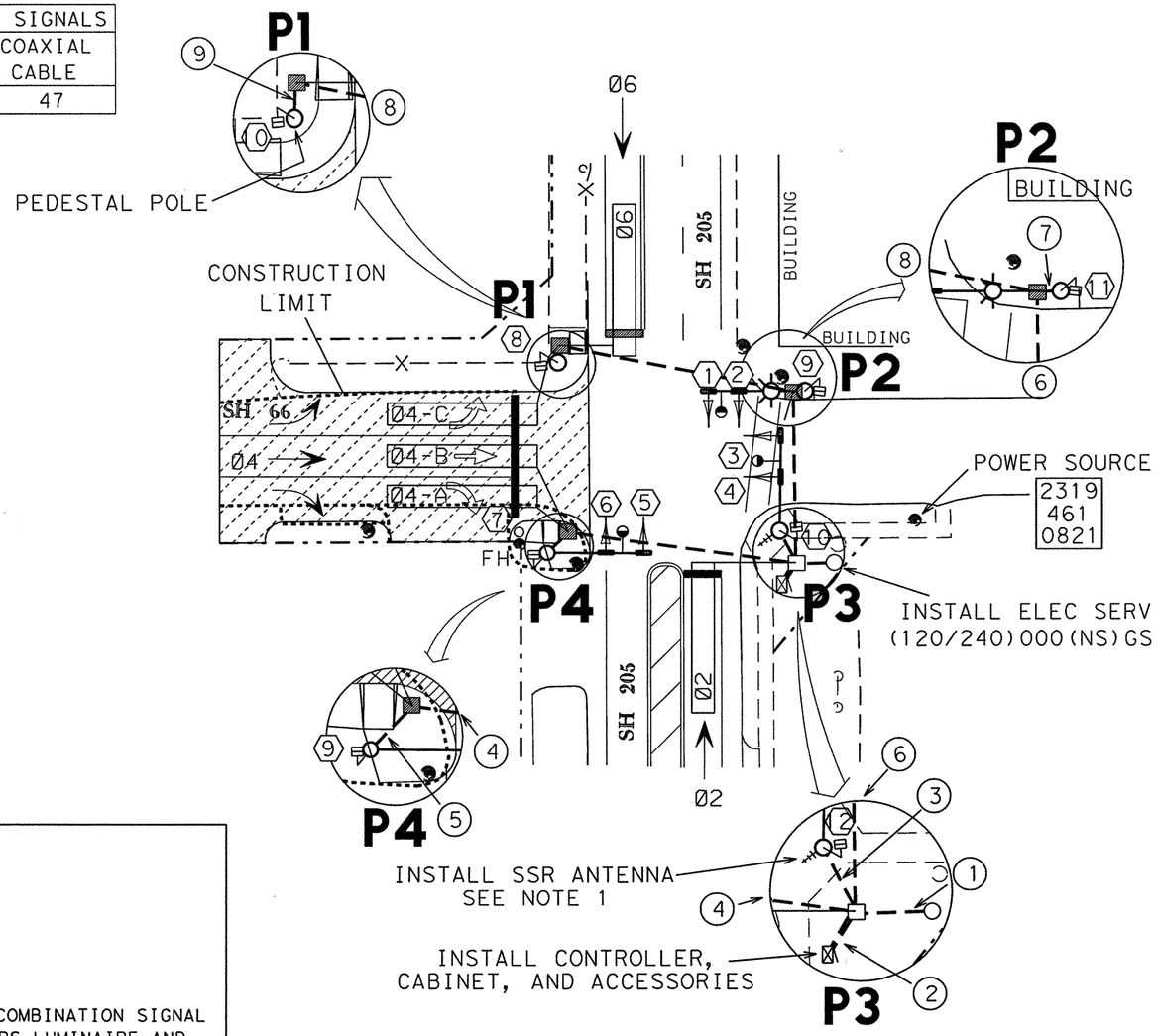
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		327
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

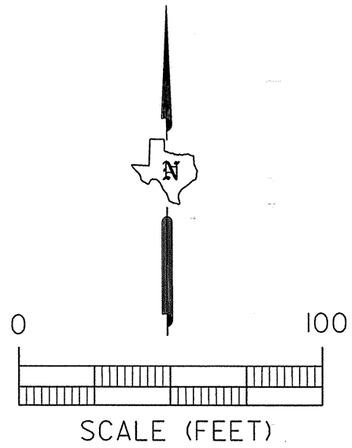
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SPREAD SPECTRUM RADIO FOR TRAFFIC SIGNALS			
	ANTENNA (UNI-DIRL)	RADIO RECEIVER	COAXIAL CABLE
TOTAL	1	1	47

GROUND BOXES	
TY A	3
TY C	1





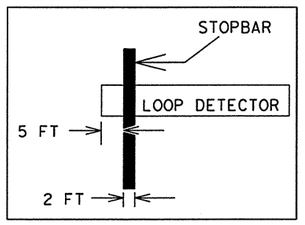
LEGEND

- GROUND BOX TY A
- GROUND BOX TY C
- LOOP DETECTORS
- TYPICAL MAST ARM COMBINATION SIGNAL WITH 250 WATT HPS LUMINAIRE AND SIGNAL HEAD NUMBER
- CONDUIT RUN
- CONDUIT RUN NUMBER
- OPTICOM
- RIGHT-OF-WAY
- SPREAD SPECTRUM RADIO ANTENNA
- EXISTING EDGE OF PAVEMENT
- EXISTING TIMBER POLE

LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

TYPICAL STOPBAR DETAIL



GENERAL NOTES:

1. SPREAD SPECTRUM RADIO TO COMMUNICATE TO MASTER LOCATED AT FM 740 AND IH 30.
2. LOOP DETECTORS TO BE INSTALLED AFTER PAVEMENT IS INSTALLED. SIGNAL SHALL BE PRETIMED UNTIL LOOP DETECTORS ARE INSTALLED.
3. SIGNAL SHALL BE INSTALLED AT EARLIEST POSSIBLE TIME TO ACCOMODATE NEW TRAFFIC FLOW.

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 11/12/01
Signature Date

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TRAFFIC SIGNAL LAYOUT SH66 (WASHINGTON) AT SH205 (GOLIAD)

SCALE: 1"= 50' SHEET 1 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BES	6	NH 99(367)		SH 66
GRAPHICS BES	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CDB	TEXAS	DALLAS	ROCKWALL	39BA
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

CONDUIT AND WIRE RUNS (FEET)

CONDUIT TYPE (ITEM 618)					WIRE SIZE AND TYPE							TOTAL
RUNS	2 IN PVC	2 IN PVC BORED	3 IN PVC	3 IN PVC BORED	CNDRS (620) NO 6 XHHW	NO 6 BARE	NO 8 XHHW	CABLE ITEM 684 TY A 12 CNDR	TY C DET CBL	OPTI-COM *CBL	(6439) COAX. CABLE	LENGTH IN FEET
1	14				2	1	3					14
2			2@10		2	1		4	7	4	1	10
3			29	33		1	3	1	1	1		62
4	9					1		1		1	1	9
5	13					1	3	1		1		13
6			27	44		1		2	5	2		71
7	13					1		1		1		13
8			52			1		1	4	1		52
9	8					1		1		1		8
TOTAL	57		120	77	48	252	267	339	695	339	19	

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

DETECTOR DETAILS SUBSIDIARY TO ITEM 688

LOOP	DIMEN	TURNS	DETECT UNIT	CARD/ CHANNEL	DELAY INHIBIT	NO 14 XHHW COLOR *	ITEM 688 SAWCUT FEET	ITEM 618 1 IN PVC ○ FEET
Ø1	6X40 FT	2	Ø1	P1-A	Ø1G	WHITE	100	13
Ø2-A	6X40 FT	2	Ø2	P2-A	Ø2G	WHITE	96	14
Ø2-B	6X40 FT	2				BLACK	110	5
Ø2-C	6X40 FT	2				ORANGE	103	5
Ø4	6X40 FT	2	Ø4	P7-A	Ø4G	WHITE	107	6
Ø7	6X40 FT	2	Ø7	P7-B	Ø7G	BLACK	117	6
Ø8	6X40 FT	2	Ø8	P6-B	Ø8G	WHITE	100	14
ALL LOOPS SHALL BE LOOP WIRE						TOTAL	733	63

○ (NOT SHOWN ON CONDUIT RUNS CHART)
* FOR CONTRACTORS INFORMATION ONLY

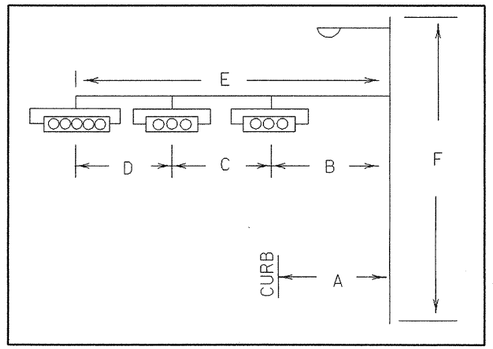
NOTE:
1. CONNECT LOOP Ø2-A, Ø2-B AND Ø2-C IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.

WIRE SUMMARY (ITEM 620)	
CONDUCTOR TYPE	TOTAL LENGTH FEET
NO 6 XHHW	48
NO 6 BARE	252
NO 8 XHHW	267
NO 12 XHHW	80
(ITEM 684) TY A 12 AWG	
12 CNDR CBL	339
16 AWG(INSIDE POLES)	
7 CNDR CBL	51
5 CNDR CBL	387
TY C 18 AWG	
DET CABLE	695
*OPTICOM CBL	517
(ITEM 6439)	
COAX. CBL	39

* FOR CONTRACTOR'S INFORMATION ONLY

ITEM 618 CONDUIT SUMMARY	
	FEET
1 IN PVC	63
2 IN PVC	57
3 IN PVC	120
3 IN PVC (BORED)	77

SIGNAL POLE DIMENSIONS



CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM P-1 TO CNTRL 12 CNDR	CABLE 2 FROM P-2 TO CNTRL 12 CNDR	CABLE 3 FROM P-3 TO CNTRL 12 CNDR	CABLE 4 FROM P-4 TO CNTRL 12 CNDR
BLACK	P.B. COMMON	P.B. COMMON	P.B. COMMON	P.B. COMMON
WHITE	S. COMMON	S. COMMON	S. COMMON	S. COMMON
RED	SH 1,2 R	SH 3,4 R	SH 5,6 R	SH 5,6 R
GREEN	SH 1,2	SH 3,4 G	SH 5,6 G	SH 5,6 G
ORANGE	SH 1,2	SH 3,4 Y	SH 5,6 Y	SH 5,6 Y
BLUE	PED CALL Ø4	PED CALL Ø2	PED CALL Ø8	PED CALL Ø2
WHITE/ BLACK	SH 11 W	SH 13 W	SH 15 W	SH 9 W
RED/ BLACK	SH 11 DW	SH 13 DW	SH 15 DW	SH 9 DW
GREEN/ BLACK	PED CALL Ø2	PED CALL Ø8	PED CALL Ø2	PED CALL Ø4
ORANGE/ BLACK	SH 12 W	SH 14 W	SH 16 W	SH 10 W
BLUE/ BLACK	SH 12 DW	SH 14 DW	SH 16 DW	SH 10 DW
BLACK/ WHITE	SPARE	SPARE	SPARE	SPARE

ITEM 682 SIGNAL HEAD NO	SIG HEAD TYPE	12 IN SIG IND BACKPLATE 3 SEC EA	BACKPLATE 5 SEC EA	VEH SEC EA	RED LED EA	YEL LED EA	GRN LED EA	YEL ARW LED EA	GRN ARW LED EA
1-6, 8	H3	7		21	7	5	5	2	2
7	H5LT		1	5	1	1	1	1	1
TOTAL		7	1	26	8	6	6	3	3

\+ SUPPLIED BY STATE

SIGNAL HEAD & POLE PLACEMENT (FEET)

POLE NO	A	B	C	D	E	F	NO. OF HEADS	PED BTN	LUM-A	FND TYPE	WIRE INSIDE POLE (FEET) (ITEM 684) SIG CABLE TY-A 7 CNDR	5 CNDR	(ITEM 620) LUMINAIRE /ILSN NO 12 XHHW	OPTICOM *CABLE	(6439) COAX. CABLE
P-1	6	19	12		32	19	2	2		30-A		108		44	
P-2	9	22	10		32	30	2	2	1	30-A		112	80	46	
P-3	7	19	11		32	19	2	2		30-A		107		42	20
P-4	7	21	11		32	19	2	2		30-A	51	60		46	
							TOTAL				51	387	80	178	20

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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Maher M. Ghanayem

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TRAFFIC SIGNAL LAYOUT
SH66(WASHINGTON) AT SH205(GOLIAD)

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.			SHEET NO.
6	NH99(367)			329
STATE	STATE DIST. NO.	COUNTY		
TEXAS	18	ROCKWALL		
CONTROL	SECTION	JOB	HIGHWAY NO.	
0009	04	39	SH 66	

$$$$date$$$$

CONDUIT AND WIRE RUNS (FEET)

CONDUIT TYPE (ITEM 618)					WIRE SIZE AND TYPE								TOTAL LENGTH IN FEET
RUNS	2 IN PVC	2 IN PVC BORED	3 IN PVC	3 IN PVC BORED	CNDRS (620) NO 6 XHHW	NO 6 BARE	NO 8 XHHW	CABLE ITEM 684 TY A 12 CNDR	TY A 5 CNDR	TY C DET CBL	OPTI-COM *CBL	(6439) COAX. CABLE	
1	16				2	1	3						16
2			2@12		2	1		3	1	5	3	1	12
3	15					1		1			1	1	15
4			25	57		1		1		2	1		82
5	13					1		1			1		13
6			26	39		1	3	1	1	2	1		65
7	7					1	3	1			1		7
8			26	60		1			1	2			86
9	10					1			1				10
TOTAL	61		101	156	56	306	264	218	173	526	218	27	

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

ITEM 682 SIGNAL HEAD NO	SIG HEAD TYPE	12 IN SIG IND BACKPLATE 3 SEC EA	BACKPLATE 5 SEC EA	VEH SEC EA	RED +LED EA	YEL +LED EA	GRN +LED EA	PED SEC
1-6	H3	6		18	6	6	6	
7-10	152A							4
TOTAL		6		18	8	6	6	4

\+ SUPPLIED BY STATE

DETECTOR DETAILS SUBSIDIARY TO ITEM 688						ITEM 688	ITEM 618
LOOP	DIMEN	TURNS	DETECT UNIT	CARD/ CHANNEL	DELAY INHIBIT	NO 14 XHHW COLOR *	SAWCUT FEET	1 IN PVC o FEET
Ø4-A	6X40 FT	2	Ø4	P7-A	Ø4G	WHITE	96	14
Ø4-B	6X40 FT	2				BLACK	110	5
Ø4-C	6X40 FT	2				ORANGE	103	5
Ø6	6X40 FT	2	Ø6	P2-B	Ø6G	WHITE	107	6
Ø2	6X40 FT	2	Ø2	P2-A	Ø2G	WHITE	100	14
ALL LOOPS SHALL BE LOOP WIRE						TOTAL	516	44

o (NOT SHOWN ON CONDUIT RUNS CHART)
* FOR CONTRACTORS INFORMATION ONLY

NOTE: CONNECT LOOPS Ø4-A, Ø4-B AND Ø4-C IN SERIES TO ONE DETECTOR UNIT AT THE CONTROLLER.

WIRE SUMMARY (ITEM 620)	
CONDUCTOR TYPE	TOTAL LENGTH FEET
NO 6 XHHW	56
NO 6 BARE	306
NO 8 XHHW	264
NO 12 XHHW	80
(ITEM 684) TY A 12 AWG	
12 CNDR CBL	218
5 CNDR CBL	173
16 AWG(INSIDE POLES)	
7 CNDR CBL	-
5 CNDR CBL	279
TY C 18 AWG	
DET CABLE	526
*OPTICOM CBL	352
(ITEM 6439)	
COAX. CBL	47

* FOR CONTRACTOR'S INFORMATION ONLY

ITEM 618 CONDUIT SUMMARY	
	FEET
1 IN PVC	44
2 IN PVC	61
3 IN PVC	101
3 IN PVC (BORED)	156

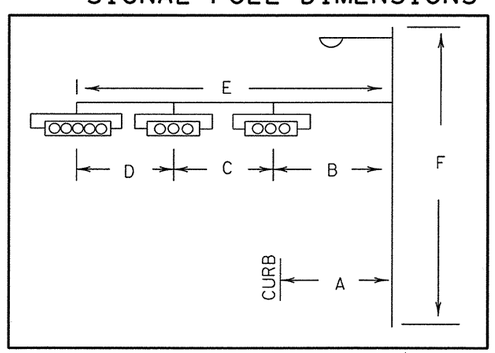
CABLE TERMINATION CHART

CNDR COLOR	CABLE 1 FROM P-1 TO CNTRL 5 CNDR	CABLE 2 FROM P-2 TO CNTRL 12 CNDR	CABLE 3 FROM P-3 TO CNTRL 12 CNDR	CABLE 4 FROM P-4 TO CNTRL 12 CNDR
BLACK	P.B. COMMON	P.B. COMMON	P.B. COMMON	P.B. COMMON
WHITE	S. COMMON	S. COMMON	S. COMMON	S. COMMON
RED	PED CALL Ø6	SH 1,2 R	SH 3,4 R	SH 5,6 R
GREEN	SH 8 W	SH 1,2 G	SH 3,4 G	SH 5,6 G
ORANGE	SH 8 DW	SH 1,2 Y	SH 3,4 Y	SH 5,6 Y
BLUE		PED CALL Ø2	PED CALL Ø2	PED CALL Ø6
WHITE/ BLACK		SH 10 W	SH 11 W	SH 9 W
RED/ BLACK		SH 10 DW	SH 11 DW	SH 9 DW
GREEN/ BLACK		SPARE	SPARE	SPARE
ORANGE/ BLACK		SPARE	SPARE	SPARE
BLUE/ BLACK		SPARE	SPARE	SPARE
BLACK/ WHITE		SPARE	SPARE	SPARE

SIGNAL HEAD & POLE PLACEMENT (FEET)											WIRE INSIDE POLE (FEET) (ITEM 684) SIG CABLE TY-A (16 AWG) 7 CNDR	(ITEM 684) 5 CNDR	(ITEM 620) LUMINAIRE NO 12 XHHW	OPTICOM *CABLE	(6439) COAX. CABLE
POLE NO	A	B	C	D	E	F	NO. OF HEADS	PED BTN	LUM-A	FND TYPE					
P-1	9					10		1		30-A		10			
P-2	26	22	10		32	30	2	1	1	30-A		92	80	47	
P-3	9	18	14		32	19	2	1		30-A		88		43	20
P-4	13	19	13		32	19	2	1		30-A		89		44	
							TOTAL					279	80	134	20

* SUPPLIED BY CITY OF ROCKWALL
FOR CONTRACTORS INFORMATION ONLY

SIGNAL POLE DIMENSIONS



LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 11/12/01
Signature Date

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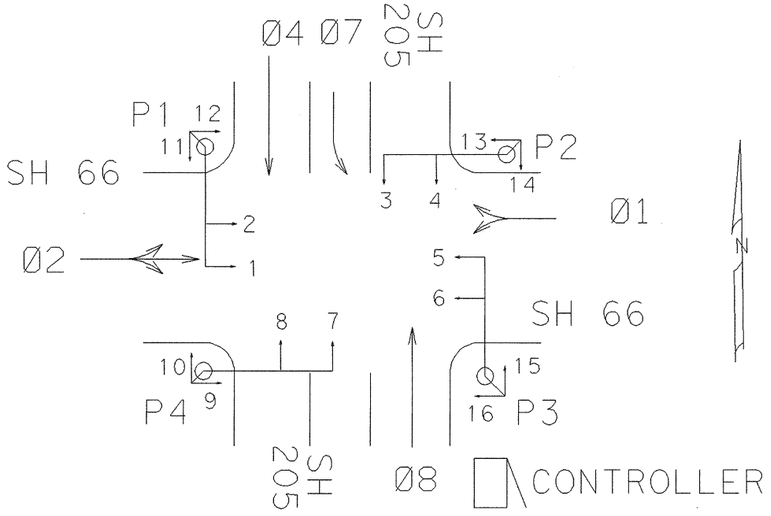
TRAFFIC SIGNAL LAYOUT SH66 (WASHINGTON) AT SH205 (GOLIAD)

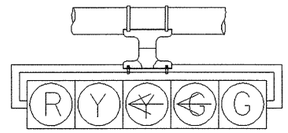
SHEET 2 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BES	6	NH 99(367)		SH 66
GRAPHICS BES	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CDB	TEXAS	DALLAS	ROCKWALL	329A
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

EXT ---

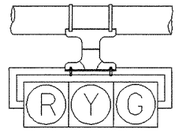
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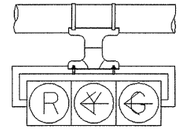
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S.H. 7



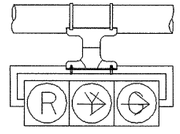
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S.H. 3-6, 8



H3

S.H. 1



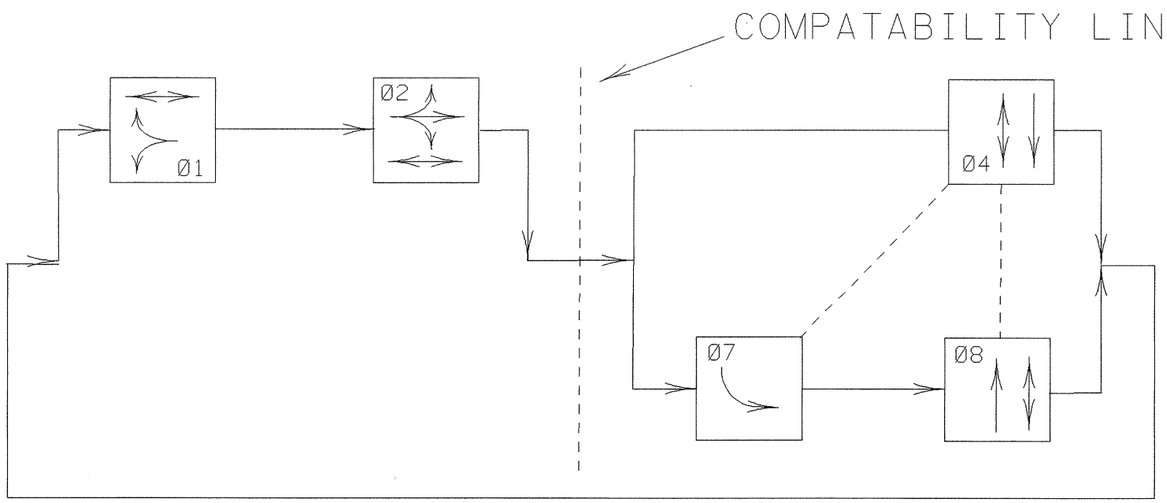
H3

S.H. 2

SIGNAL HEADS

NOTE:
DURING MAINTENANCE FLASH
SIGNAL HEADS 3, 4, 7, 8 SHALL FLASH YELLOW
SIGNAL HEADS 1, 2, 5, 6 SHALL FLASH RED

PHASE AND SIGNAL HEAD IDENTIFICATION



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER
Ø7 IS PROTECTED/PERMISSIVE

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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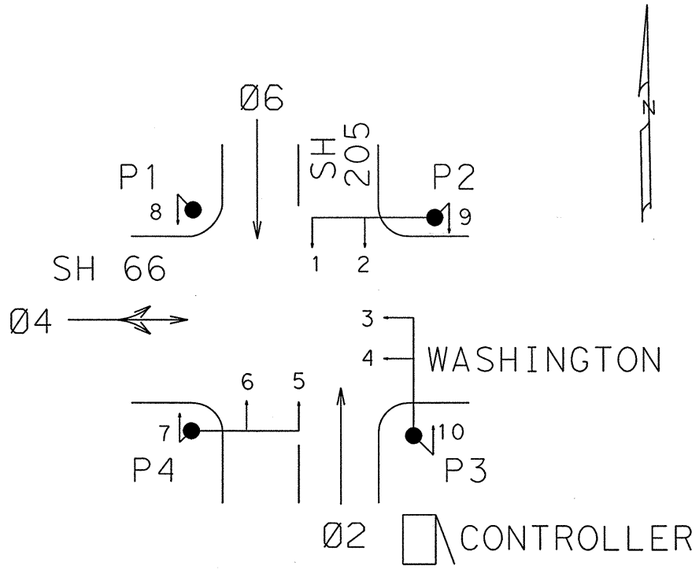
Maher M. Ghanayem

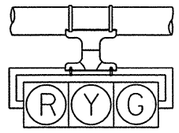
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TRAFFIC SIGNAL LAYOUT
SH66(WASHINGTON) AT SH205(GOLIAD)

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		330
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

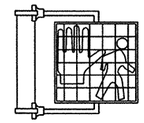
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H3

S.H. 1-6

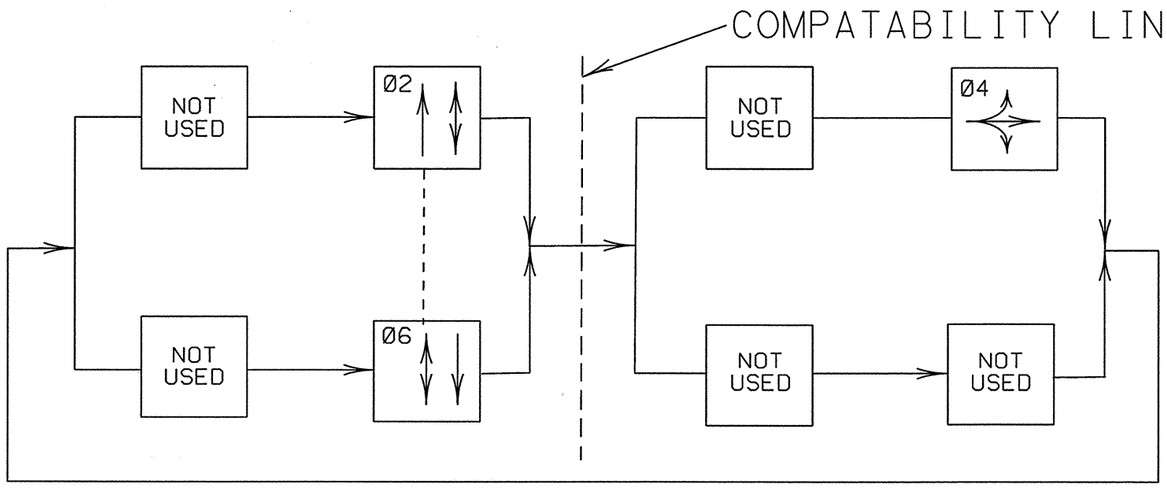


152A

S.H. 7-10

SIGNAL HEADS

PHASE AND SIGNAL HEAD IDENTIFICATION



PHASE SEQUENCE

EIGHT PHASE NEMA CONTROLLER

NOTE:
DURING MAINTENANCE FLASH:
SIGNAL HEADS 1,2,5,6 SHALL FLASH YELLOW.
SIGNAL HEADS 3,4 SHALL FLASH RED.
DURING EMERGENCY FLASH:
FLASH ALL RED.

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED
PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 11/12/01
Signature Date

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TRAFFIC SIGNAL LAYOUT SH66 (WASHINGTON) AT SH205 (GOLIAD)

SHEET 3 OF 4

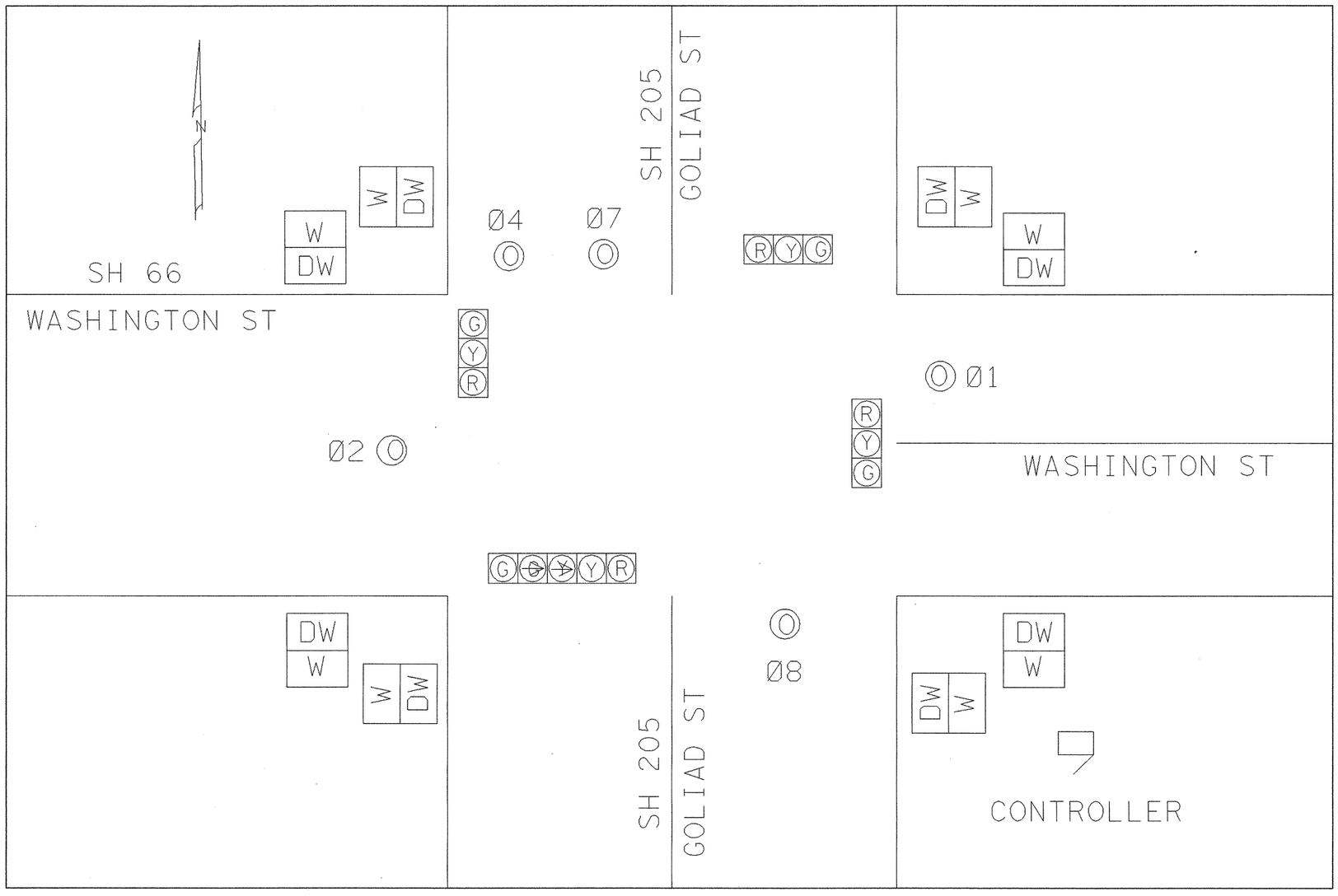
DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BES	6	NH 99(367)		SH 66
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
BES	TEXAS	DALLAS	ROCKWALL	330A
CHECK	CONTROL	SECTION	JOB	
CDB	0009	04	039	
CHECK				

LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

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STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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Maher M. Ghanayem

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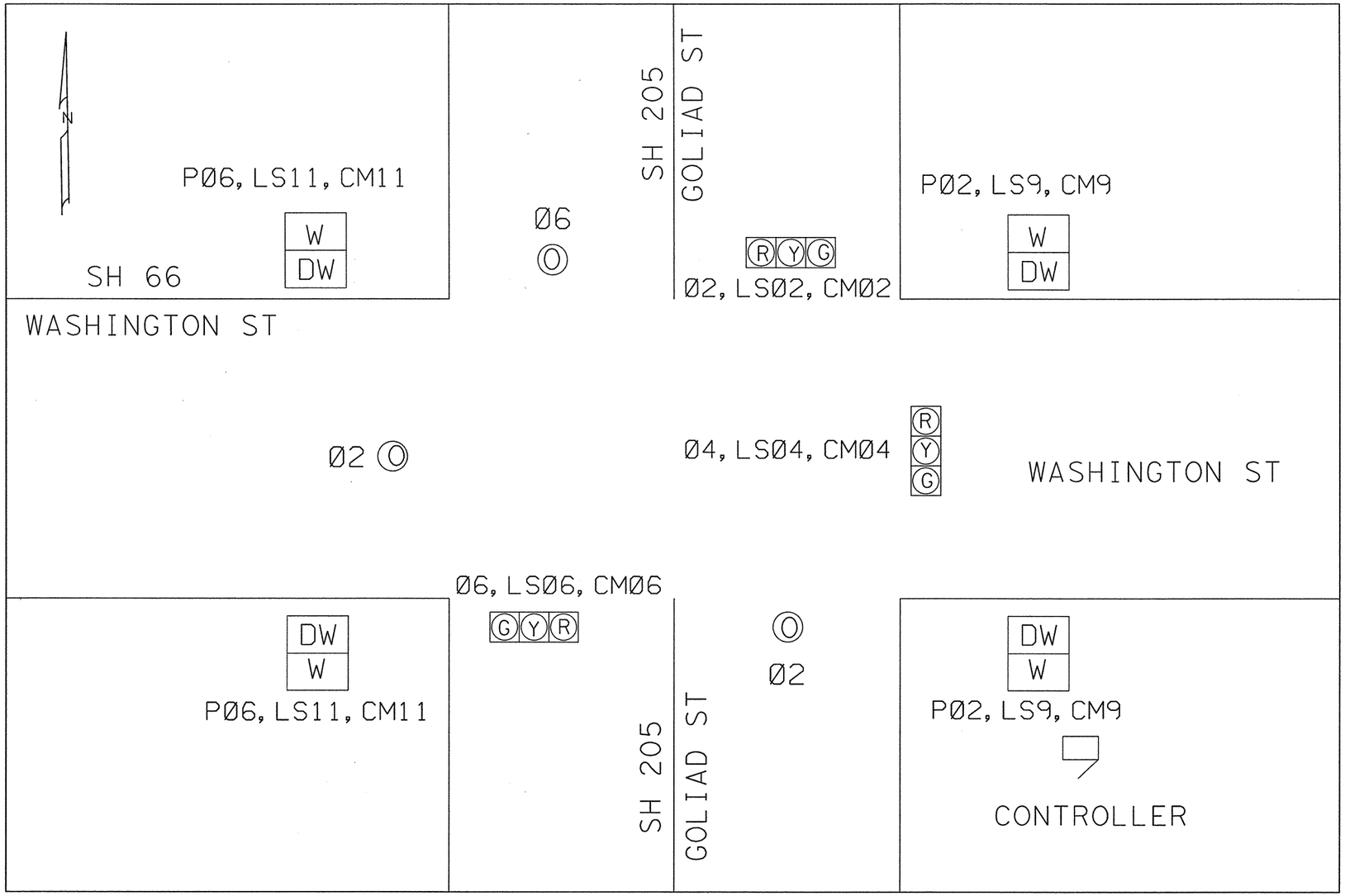
SHEET 4 OF 4

TRAFFIC SIGNAL LAYOUT
DISPLAY BOARD SH66(WASHINGTON) AT SH205(GOLIAD)

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367)		331
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

DISPLAY BOARD



LEVELS DISPLAYED

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	

STATE OF TEXAS
CHRISTOPHER D. BLAIN
82588
REGISTERED PROFESSIONAL ENGINEER

Christopher D. Blain, P.E. 11/12/01
Signature Date

Texas Department of Transportation
© 2001

TRAFFIC SIGNAL LAYOUT SH66 (WASHINGTON) AT SH205 (GOLIAD)

SHEET 4 OF 4

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
BES	6	NH 99(367)		SH 66
GRAPHICS: BES	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK: CDB	TEXAS	DALLAS	ROCKWALL	331A
CHECK	CONTROL	SECTION	JOB	
	0009	04	039	

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT: Type 1	Type 2	A	A (SPL)	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	F (MOD)	F (SPL)	MP	MW
1	1	D9-2	H [IM(5)-93]	24"x24"	C		X				X														
		M6-1B	-> [IM(5)-93]	21"x15"	C		X																		
	2	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	3	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	4	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	5	R1-1	STOP [R(1)-98]	30"x30"	C	X					X														
	6	R1-1	STOP [R(1)-98]	30"x30"	C	X					X														
	7	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	8	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	9	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	10	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	11	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	12	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	13	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	14	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	15	D9-2	H [IM(5)-93]	24"x24"	C		X				X														
		M6-1B	-> [IM(5)-93]	21"x15"	C		X																		
2	1	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	2	D9-2	H [IM(5)-93]	24"x24"	C		X				X														
		M6-1B	<- [IM(5)-93]	21"x15"	C		X																		
	3	M3-2	EAST [M(3)-97]	24"x12"	A		X																		
		MI-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	<- [M(3)-97]	21"x15"	A		X																		
		M3-4	WEST [M(3)-97]	24"x12"	A		X																		
		MI-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	-> [M(3)-97]	21"x15"	A		X																		
	4	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	5	D9-2	H [IM(5)-93]	24"x24"	C		X				X														
		M6-1B	-> [IM(5)-93]	21"x15"	C		X																		
	6	M3-4	WEST [M(3)-97]	24"x12"	A		X																		
		MI-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	<- [M(3)-97]	21"x15"	A		X																		
		M3-2	EAST [M(3)-97]	24"x12"	A		X																		
		MI-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	-> [M(3)-97]	21"x15"	A		X																		
	7	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	8	D9-2	H [IM(5)-93]	24"x24"	C		X				X														
		M6-1B	<- [IM(5)-93]	21"x15"	C		X																		
	9	M3-2	EAST [M(3)-97]	24"x12"	A		X				X														
		MI-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
	10	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
			SHEET 1 TOTAL:								23		2												

GENERAL NOTES:

SIGN LOCATIONS SHOWN ON THE PLANS ARE DIARGAMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE 1980 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

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REFLECTIVE SHEETING WILL BE DESIGNATED AS:

TYPE A = ENGINEER GRADE
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* SUBSIDIARY TO ITEM 680
** SUBSIDIARY TO ITEM 688

SUMMARY OF SMALL SIGNS

SHEET 1 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT				HIGHWAY
6	TEXAS	NH 99 (367)				SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB		SHEET
18	ROCKWALL	0009	04	39		332

CELL NAME: SMLSUM

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT: Type 1	Type 2	A	A (SPL)	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	F (MOD)	F (SPL)	MP	MW
2	11	R4-7	KEEP RIGHT [R(2)-97]	24"x30"	A	X					X														
	12	R1-1	STOP [R(1)-98]	30"x30"	C	X					X														
	13	R1-1	STOP [R(1)-98]	30"x30"	C	X					X														
	14	W19-2	ICE ON BRIDGE [W(3)-95]	36"x36"	C		X																X		
	15	R1-1	STOP [R(1)-98]	30"x30"	C	X					X														
	16	R1-1	STOP [R(1)-98]	30"x30"	C	X					X														
	17	I-2a	ROWLETT CITY LIMIT [C-99 SHSDT]	48"x18"	C	X									X										
	18	I-2a	DALLAS CITY LIMIT [C-99 SHSDT]	48"x18"	C	X																			
	19	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X															X				
	20	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
3	1	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	2	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	3	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	4	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	5	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	6	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
4	1	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	2	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	3	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	4	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	5	M3-4	WEST [M(3)-97]	24"x12"	A		X				X														
		M1-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
	6	M3-2	EAST [M(3)-97]	24"x12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
5	1	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	2	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	3	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	4	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	5	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
	6	FR8-4	EMERGENCY PARK ONLY [A-98 SHSDT]	48"x36"	A	X																			
6	1	I-2a	ROCKWALL CITY LIMIT [C-99 SHSDT]	54"x18"	C	X																			
	2	I-2a	DALLAS CITY LIMIT [C-99 SHSDT]	48"x18"	C	X																			
			SHEET 2 TOTAL:							6	1			4							5		14		

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* SUBSIDIARY TO ITEM 680
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SUMMARY OF SMALL SIGNS

SHEET 2 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT				HIGHWAY
6	TEXAS	NH 99 (367)				SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB		SHEET
18	ROCKWALL	0009	04	39		333

CELL NAME: SMLSUM

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT: Type 1	Type 2	A	A (SPL)	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	F (MOD)	F (SPL)	MP	MW
6	3	W19-2	ICE ON BRIDGE [W(3)-95]	36"×36"	C		X																X		
	4	R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	5	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X		X												
	6	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	7	M3-4	WEST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
	8	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	9	M3-2	EAST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
		M6-1	<- [M(3)-97]	21"×15"	A		X																		
		M3-4	WEST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
		M6-1	-> [M(3)-97]	21"×15"	A		X																		
	10	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	11	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	12	M3-4	WEST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
		M6-1	<- [M(3)-97]	21"×15"	A		X																		
		M3-2	EAST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
		M6-1	-> [M(3)-97]	21"×15"	A		X																		
	13	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	14	R6-1R	ONE WAY RIGHT [R(2)-97]	36"×12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	15	R6-1R	ONE WAY RIGHT [R(2)-97]	36"×12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	16	R6-1R	ONE WAY RIGHT [R(2)-97]	36"×12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	17	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	18	R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	19	R4-7	KEEP RIGHT [R(2)-97]	24"×30"	A	X					X														
	20	R5-1	DO NOT ENTER [R(2)-97]	30"×30"	C	X					X														
	21	R6-1R	ONE WAY RIGHT [R(2)-97]	36"×12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	22	M3-4	WEST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
	23	R6-1R	ONE WAY RIGHT [R(2)-97]	36"×12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	24	R6-1R	ONE WAY RIGHT [R(2)-97]	36"×12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"×30"	C	X					X														
	25	R5-1	DO NOT ENTER [R(2)-97]	30"×30"	C	X					X														
	26	M3-2	EAST [M(3)-97]	24"×12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"×24"	A		X				X														
			SHEET 3 TOTAL:								21	1	2										1		

CELL NAME: SMLSUM

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SUMMARY OF SMALL SIGNS

SHEET 3 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT				HIGHWAY
6	TEXAS	NH 99 (367)				SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB		SHEET
18	ROCKWALL	0009	04	39		334

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT: Type 1	TYPE OF MOUNT: Type 2	A	A (SPL)	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	F (MOD)	F (SPL)	MP	MW
7	1	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	2	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	3	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	4	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
	5	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
	6	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
	7	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	8	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	9	R5-1	DO NOT ENTER [R(2)-97]	30"x30"	C	X					X														
	10	R5-1	DO NOT ENTER [R(2)-97]	30"x30"	C	X					X														
	11	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	12	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	13	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	14	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
	15	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
	16	R5-1	DO NOT ENTER [R(2)-97]	30"x30"	C	X					X														
	17	R5-1	DO NOT ENTER [R(2)-97]	30"x30"	C	X					X														
	18	M1-6T	SH 205 [M(1)-95]	24"x24"	A		X																		
		M6-3	^ [M(3)-97]	21"x15"	A		X																		
		M3-2	EAST [M(3)-97]	24"x12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	<- [M(3)-97]	21"x15"	A		X																		
		M3-4	WEST [M(3)-97]	24"x12"	A		X																		
		M1-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	-> [M(3)-97]	21"x15"	A		X																		
	19	R3-1	NO RIGHT TURN [R(3)-95]	24"x24"	C	X					X														
	20	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	21	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
	22	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	23	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	24	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X																			
	25	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X					X														
SHEET 4 TOTAL:											24			1											

CELL NAME: SMLSUM

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SUMMARY OF SMALL SIGNS

SHEET 4 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT			HIGHWAY
6	TEXAS	NH 92(367)			SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET
18	ROCKWALL	0009	04	39	335

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT Type 1	TYPE OF MOUNT Type 2	A	A (SPL)	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	F (MOD)	F (SPL)	MP	MW
7	26	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X				X	X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X				X															
	27	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X				X	X														
	28	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X				X	X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X				X															
	29	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X				X	X														
		R1-1	STOP [R(1)-98]	30"x30"	C	X				X															
	30	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X				X	X														
	31	R3-8RSL	LANE ASSIGNMENT [SIGNS]	48"x30"	A	X				X	X														
		R5-1a	WRONG WAY [R(2)-97]	36"x24"	C	X				X															
	32	R3-8RSL	LANE ASSIGNMENT [SIGNS]	48"x30"	A	X				X	X														
		R5-1a	WRONG WAY [R(2)-97]	36"x24"	C	X				X															
	33	R6-1L	ONE WAY LEFT [R(2)-97]	36"x12"	A	X				X	X														
	34	R6-1R	ONE WAY RIGHT [R(2)-97]	36"x12"	A	X				X	X														
	35	R3-8RSL	LANE ASSIGNMENT [SIGNS]	48"x30"	A	X				X	X														
		R5-1	DO NOT ENTER [R(2)-97]	30"x30"	C	X				X															
	36	R3-1	NO RIGHT TURN [R(3)-95]	24"x24"	C	X				X	X														
	37	R3-1	NO RIGHT TURN [R(3)-95]	24"x24"	C	X				X	X														
	38	R3-8RSL	LANE ASSIGNMENT [SIGNS]	48"x30"	A	X				X	X														
		R5-1	DO NOT ENTER [R(2)-97]	30"x30"	C	X				X															
	39	R3-2	NO LEFT TURN [R(3)-95]	24"x24"	C	X				X	X														
	40	R3-8LR	LANE ASSIGNMENT (SPL)	30"x30"	A	X				X	X														
	41	R3-2	NO LEFT TURN [R(3)-95]	24"x24"	C	X				X	X														
	42	MI-6T	SH 66 [M(1)-95]	24"x24"	A		X																		
		M6-1	<- [M(3)-97]	21"x15"	A		X																		
		M3-2	NORTH [M(3)-97]	24"x12"	A		X																		
		MI-6T	SH 205 [M(1)-95]	24"x24"	A		X																		
		M6-1	<- [M(3)-97]	21"x15"	A		X																		
		M3-4	SOUTH [M(3)-97]	24"x12"	A		X																		
		MI-6T	SH 205 [M(1)-95]	24"x24"	A		X																		
		M6-1	-> [M(3)-97]	21"x15"	A		X																		
	43	R3-8RSL	LANE ASSIGNMENT [SIGNS]	48"x30"	A	X				X	X														
	44	R3-8LR	LANE ASSIGNMENT (SPL)	30"x30"	A	X				X	X														
9	* 1	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X																		
	* 2	D3-1	6800 SCENIC DR 6900	96"x16.5"				X																	
	** 3	R10-4DR	PED RIGHT	9"x12"	A		X																		
	** 4	R10-4DL	PED LEFT	9"x12"	A		X																		
	* 5	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X																		
	* 6	D3-1	LAKEVIEW PKWY 9500	96"x16.5"				X																	
	** 7	R10-4DR	PED RIGHT	9"x12"	A		X																		
			SHEET 5 TOTAL:								14			1							1	4			

GENERAL NOTES:

SIGN LOCATIONS SHOWN ON THE PLANS ARE DIARGAMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE 1980 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

THE CONTRACTOR, IN COOPERATION WITH THE ENGINEER WILL STAKE EACH SIGN LOCATION BEFORE TAKING ELEVATIONS FOR FABRICATION OF SIGN POST.

SIGN POST LENGTHS SHALL BE VERIFIED WITH THE ENGINEER BEFORE FABRICATION.

REFLECTIVE SHEETING WILL BE DESIGNATED AS:

TYPE A = ENGINEER GRADE
TYPE B = SUPER ENGINEER GRADE
TYPE C = HIGH SPECIFIC INTENSITY

* SUBSIDIARY TO ITEM 680
** SUBSIDIARY TO ITEM 688

CELL NAME: SMLSUM

SUMMARY OF SMALL SIGNS

SHEET 5 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT			HIGHWAY
6	TEXAS	NH 99 (367)			SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET
18	ROCKWALL	0009	04	39	336

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT Type 1	TYPE OF MOUNT Type 2	TYPE OF MOUNT A	TYPE OF MOUNT A (SPL)	TYPE OF MOUNT B	TYPE OF MOUNT C	TYPE OF MOUNT D-1	TYPE OF MOUNT D-2	TYPE OF MOUNT D-3	TYPE OF MOUNT D-4	TYPE OF MOUNT D-5	TYPE OF MOUNT D-6	TYPE OF MOUNT F	TYPE OF MOUNT F (MOD)	TYPE OF MOUNT F (SPL)	TYPE OF MOUNT MP	TYPE OF MOUNT MW
9	** 8	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P2												
	* 9	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X						MOUNTED ON P3												
	* 10	D3-1	6900 SCENIC DR 6800	96"x16.5"				X					MOUNTED ON P3												
	**11	R10-4bR	PED RIGHT	9"x12"	A		X						MOUNTED ON P3												
	**12	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P3												
	* 13	D3-1	LAKEVIEW PKWY 9400	96"x16.5"				X					MOUNTED ON P4												
	**14	R10-4bR	PED RIGHT	9"x12"	A		X						MOUNTED ON P4												
	**15	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P4												
10	+ 1	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X						MOUNTED ON P1												
	+ 2	D3-1	N LAKESHORE DR 100	138"x15"	C		X						MOUNTED ON P1												
	** 3	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P1												
	+ 4	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X						MOUNTED ON P2												
	+ 5	D3-1	1000 W RUSK ST 900	102"x15"	C		X						MOUNTED ON P2												
	** 6	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P2												
	** 7	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P2												
	+ 8	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X						MOUNTED ON P3												
	+ 9	D3-1	LAKESHORE DR 100	126"x15"	C		X						MOUNTED ON P3												
	**10	R10-4bR	PED RIGHT	9"x12"	A		X						MOUNTED ON P3												
	**11	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X						MOUNTED ON P4												
	+ 12	D3-1	900 W RUSK ST 1000	102"x15"	C		X						MOUNTED ON P4												
11	* 1	R3-8LR	LANE ASSIGNMENT (SPL)	30"x30"	A		X						MOUNTED ON P1												
	* 2	D3-1	200 S GOLIAD ST 100	114"x15"	C		X						MOUNTED ON P1												
	** 3	R10-4bR	PED RIGHT	9"x12"	A		X						MOUNTED ON P1												
	** 4	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P1												
	* 5	R3-2	NO LEFT TURN [R(3)-95]	24"x24"	C		X						MOUNTED ON P2												
	* 6	D3-1	E WASHINGTON ST 100	144"x15"	C		X						MOUNTED ON P2												
	** 7	R10-4bR	PED RIGHT	9"x12"	A		X						MOUNTED ON P2												
	** 8	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P2												
	* 9	D3-1	100 S GOLIAD ST 200	114"x15"	C		X						MOUNTED ON P3												
	**10	R10-4bR	PED RIGHT	9"x12"	A		X						MOUNTED ON P3												
	**11	R10-4bL	PED LEFT	9"x12"	A		X						MOUNTED ON P3												
			SHEET 6 TOTAL:																						

GENERAL NOTES:

SIGN LOCATIONS SHOWN ON THE PLANS ARE DIARGAMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE 1980 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

THE CONTRACTOR, IN COOPERATION WITH THE ENGINEER WILL STAKE EACH SIGN LOCATION BEFORE TAKING ELEVATIONS FOR FABRICATION OF SIGN POST.

SIGN POST LENGTHS SHALL BE VERIFIED WITH THE ENGINEER BEFORE FABRICATION.

REFLECTIVE SHEETING WILL BE DESIGNATED AS:

TYPE A = ENGINEER GRADE
TYPE B = SUPER ENGINEER GRADE
TYPE C = HIGH SPECIFIC INTENSITY

* SUBSIDIARY TO ITEM 680
** SUBSIDIARY TO ITEM 688
\+ SIGNS RELOCATED FROM SPAN WIRE SIGNALS

SUMMARY OF SMALL SIGNS

SHEET 6 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT			HIGHWAY
6	TEXAS	NH99(367)			SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET
18	ROCKWALL	0009	04	39	337

CELL NAME: SMLSUM

SUMMARY OF SMALL SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	INTERNALLY ILLUM. SIGN	TYPE OF MOUNT																
									Type 1	Type 2	A	A (SPL)	B	C	D-1	D-2	D-3	D-4	D-5	D-6	F	F (MOD)	F (SPL)	MP	MW
11	12	R10-12	LEFT TURN YIELD [SIGNS]	24"x30"	A		X				MOUNTED ON P4														
	13	D3-1	W WASHINGTON ST 100	144"x15"	C		X				MOUNTED ON P4														
	14	R10-4bR	PED RIGHT	9"x12"	A		X				MOUNTED ON P4														
	15	R10-4bL	PED LEFT	9"x12"	A		X				MOUNTED ON P4														
			SHEET 7 TOTAL:																						
			SHEET 1 TOTAL:								23		2												
			SHEET 2 TOTAL:								6	1			4							5		14		
			SHEET 3 TOTAL:								21		2											1		
			SHEET 4 TOTAL:								24			1												
			SHEET 5 TOTAL:								14			1							1		4		
			SHEET 6 TOTAL:																						
			PROJECT TOTAL								88	1	4	2	4						6		19		

GENERAL NOTES:

SIGN LOCATIONS SHOWN ON THE PLANS ARE DIAGRAMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE 1980 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

THE CONTRACTOR, IN COOPERATION WITH THE ENGINEER WILL STAKE EACH SIGN LOCATION BEFORE TAKING ELEVATIONS FOR FABRICATION OF SIGN POST.

SIGN POST LENGTHS SHALL BE VERIFIED WITH THE ENGINEER BEFORE FABRICATION.

REFLECTIVE SHEETING WILL BE DESIGNATED AS:

TYPE A - ENGINEER GRADE
TYPE B - SUPER ENGINEER GRADE
TYPE C - HIGH SPECIFIC INTENSITY

* SUBSIDIARY TO ITEM 680
** SUBSIDIARY TO ITEM 688

SUMMARY OF SMALL SIGNS

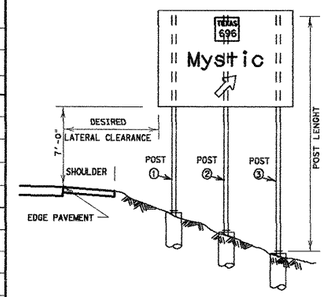
SHEET 7 OF 7

FEDERAL REGION	STATE	FEDERAL AID PROJECT	HIGHWAY
6	TEXAS	NH 79(57)	SH66
DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET
18	ROCKWALL	0009	04	39	336

CELL NAME: SMLSUM

SUMMARY OF LARGE SIGNS

PLAN SHEET NO. OF 12	SIGN NO.	SIGN BACK-GROUND COLOR	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING TYPE	GUIDE SIGN CONSTRUCTION					TYPE OF MOUNT				GALV. STRUCTURAL STEEL (ITEM 647)					DRILLED SHAFT (ITEM 656)							
						SHIELDS	OVERHEAD		GROUND MOUNTED		OSB OR COSS	320 OR 330	D TYPES	OTHER MOUNTING		LINEAR FEET				LINEAR FEET							
						ITEM 636	ITEM 642	ITEM 640	ITEM 634						SIZE	post (1)	post (2)	post (3)	TOTAL WEIGHT LBS.	NON-REINF 12"ϕ	REINFORCED 24"ϕ	30"ϕ	36"ϕ	42"ϕ	48"ϕ	54"ϕ	60"ϕ
						ALUMINUM	ALUMINUM	PLYWOOD	PLYWOOD																	
						TYPE A	TYPE O	TYPE O	TYPE A																	
						SQ/FT	SQ/FT	SQ/FT	SQ/FT	SQ/FT	ITEM 650		ITEM 6000													
			ROWLETT 7																							
6	1	GREEN		9′ x 2.5′	C				22.5			320			S3x5.7	10	10		171.8	7						
			GARLAND 11																							
			TOTALS						22.5										171.8	7						



GENERAL NOTES:

SIGNS SHOWN ON THIS SHEET ARE GENERALLY THOSE WITH REMOVEABLE LEGEND TEXTS, ALTHOUGH SCREENED LEGEND SIGNS MAY ALSO BE SHOWN (SEE SIGN TYPE).

SIGN LOCATIONS SHOWN ON THE PLANS ARE DIAGRAMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE 1980 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.

THE CONTRACTOR, IN COOPERATION WITH THE ENGINEER WILL STAKE EACH SIGN LOCATION BEFORE TAKING ELEVATIONS FOR FABRICATION OF SIGN POST OR SIGN BRIDGE TOWERS.

SIGN POST AND SIGN BRIDGE TOWER HEIGHTS SHALL BE VERIFIED WITH THE ENGINEER BEFORE FABRICATION.

REFLECTIVE SHEETING WILL BE DESIGNATED AS:

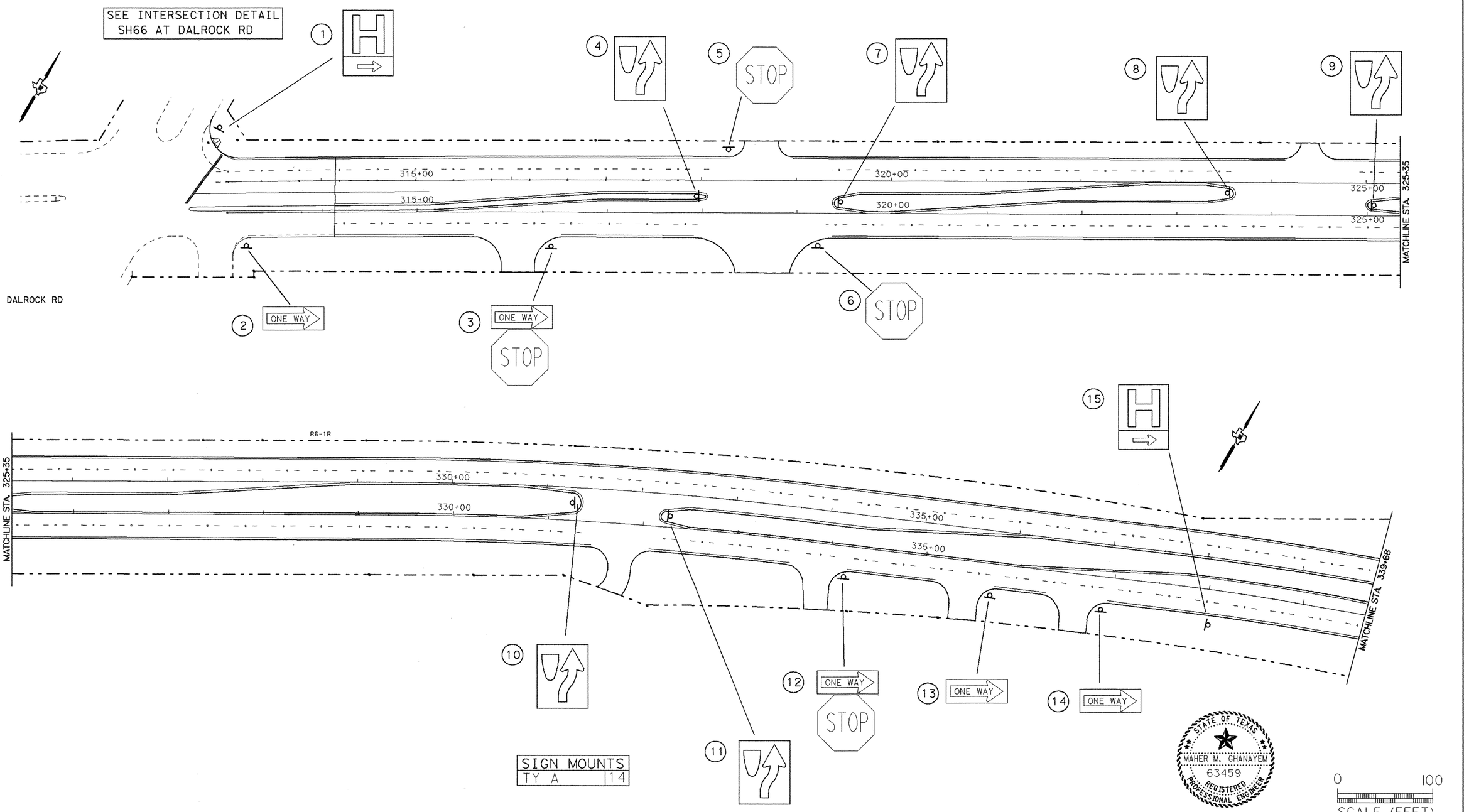
TYPE A = ENGINEER GRADE
TYPE B = SUPER ENGINEER GRADE
TYPE C = HIGH SPECIFIC INTENSITY

SUMMARY OF LARGE SIGNS

SHEET 1 OF 1

FEDERAL REGION	STATE	FEDERAL AID PROJECT				HIGHWAY
6	TEXAS	NH99(367)				SH66
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB		SHEET
18	ROCKWALL	0009	04	39		339

CELL NAME= LRGSUM



SIGN MOUNTS	
TY A	14

LEGEND

(3) SMALL SIGN TO INSTALL

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SCALE (FEET)

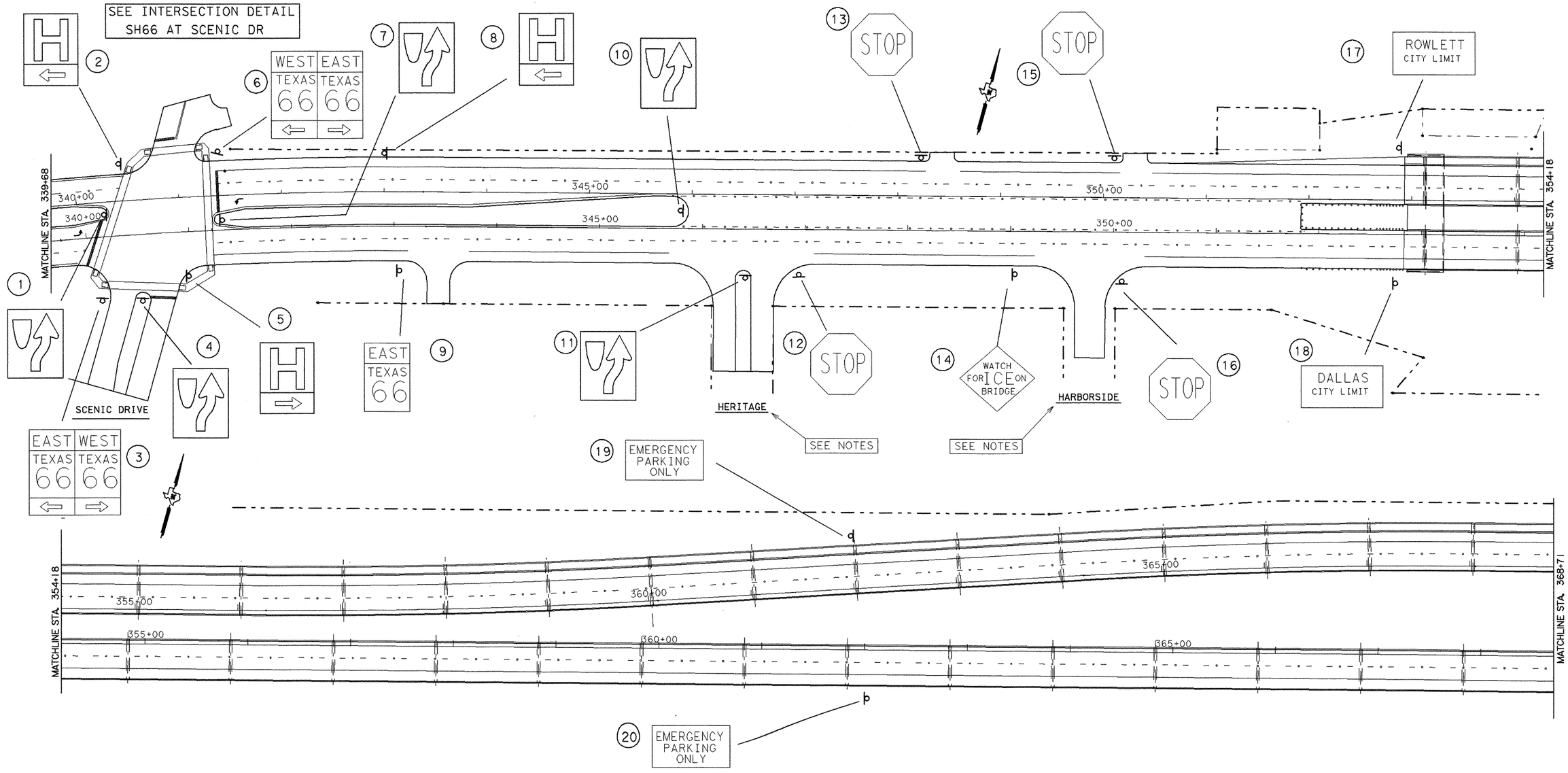
SIGNING LAYOUT

SHEET 1 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		340
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

EXT

$$$$$$$$$$$$$dgnspec$$$$$$$$$$$$$



NOTE
EXISTING STREET NAME SIGNS LOCATED AT AT THE NOTED LOCATIONS ARE TO BE REMOVED AND REPLACED WHEN CONSTRUCTION IS COMPLETE. WORK SUBSIDIARY TO ITEM 680.

LEGEND

(3) SMALL SIGN TO INSTALL

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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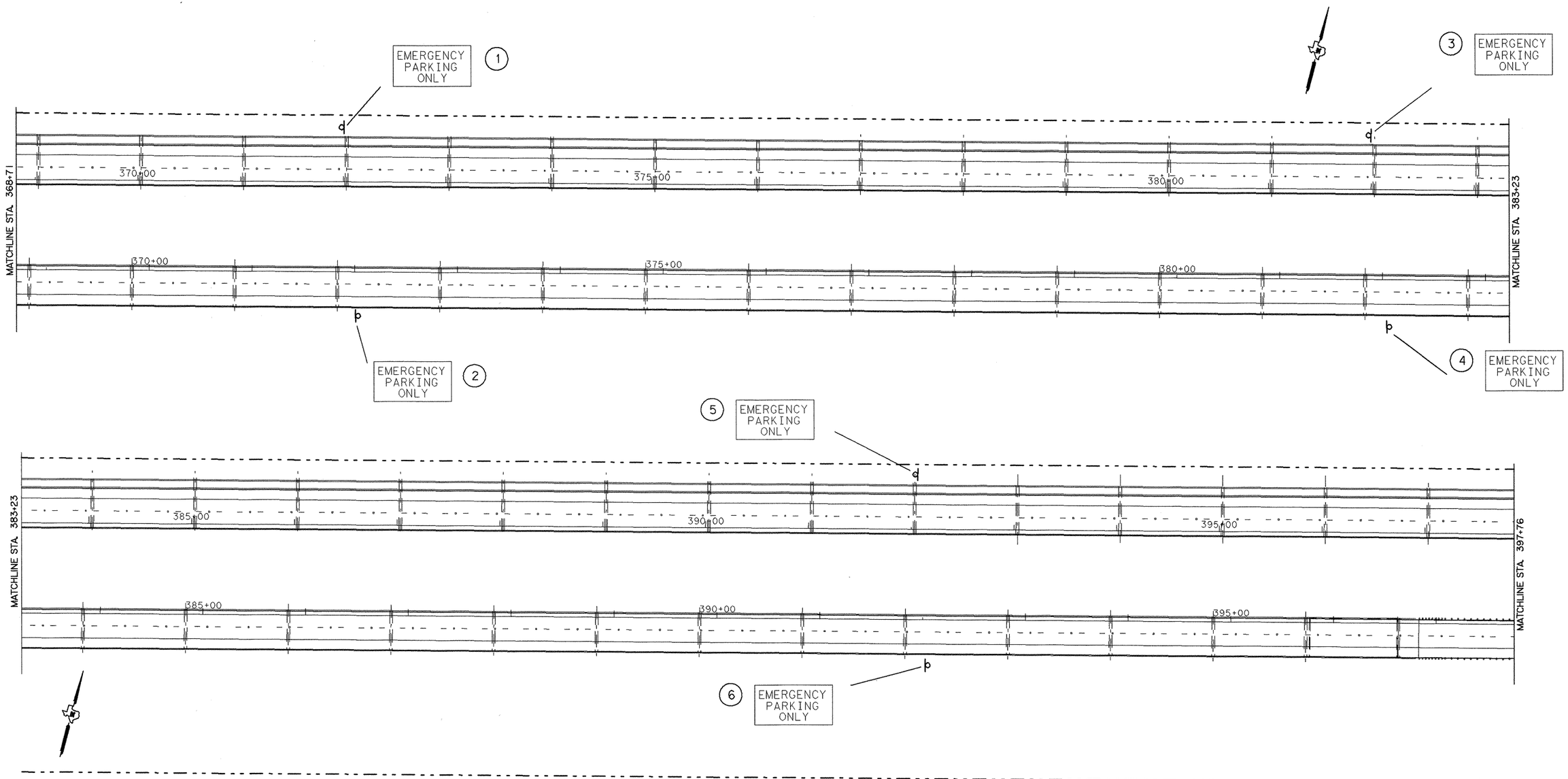
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SCALE (FEET)

SIGNING LAYOUT

SHEET 2 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		341
STATE	STATE DIST. No.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$



LEGEND

(3) SMALL SIGN TO INSTALL

STATE OF TEXAS
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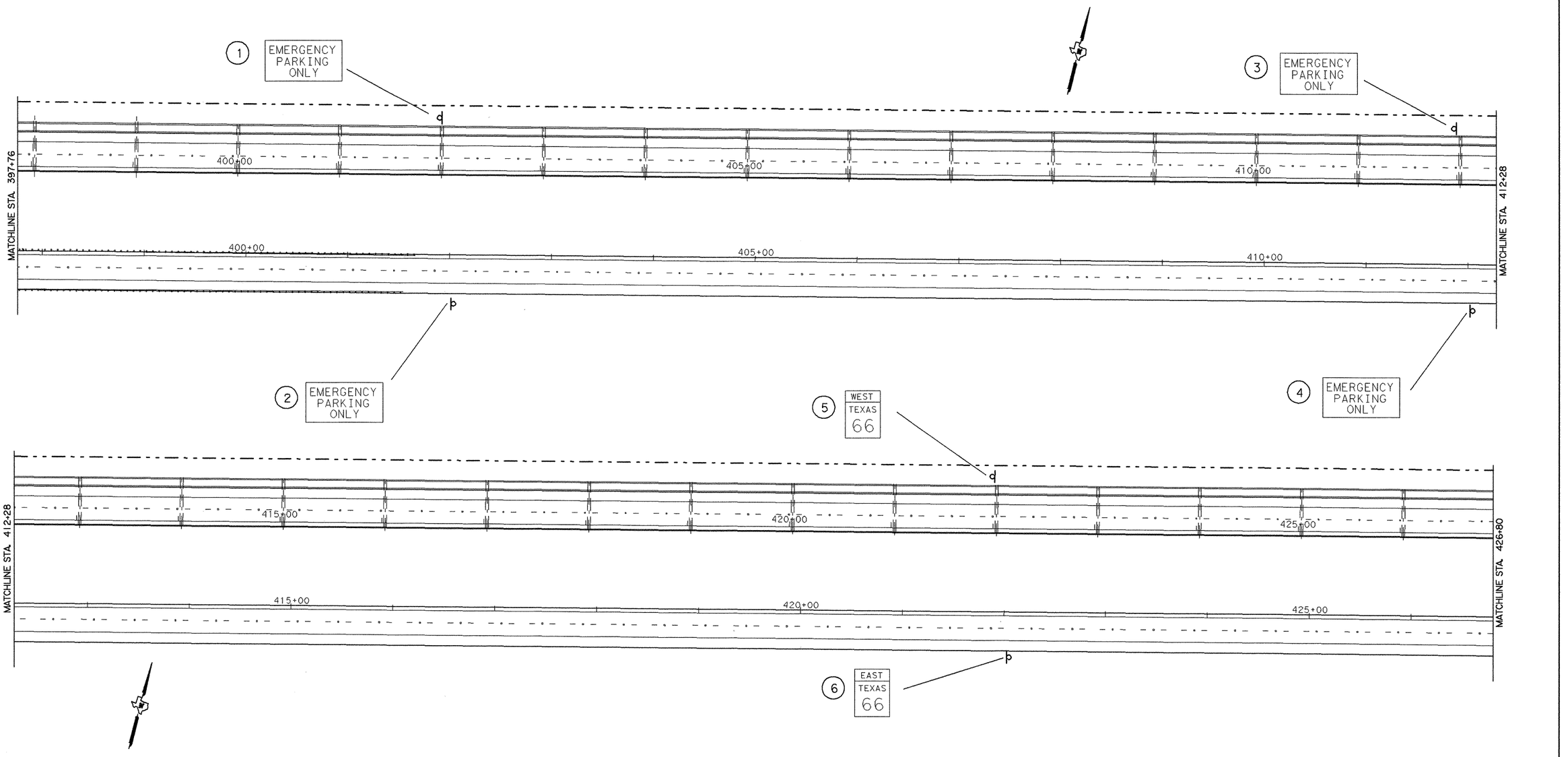
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SCALE (FEET)

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SHEET 3 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		342
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66



LEGEND

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SCALE (FEET)

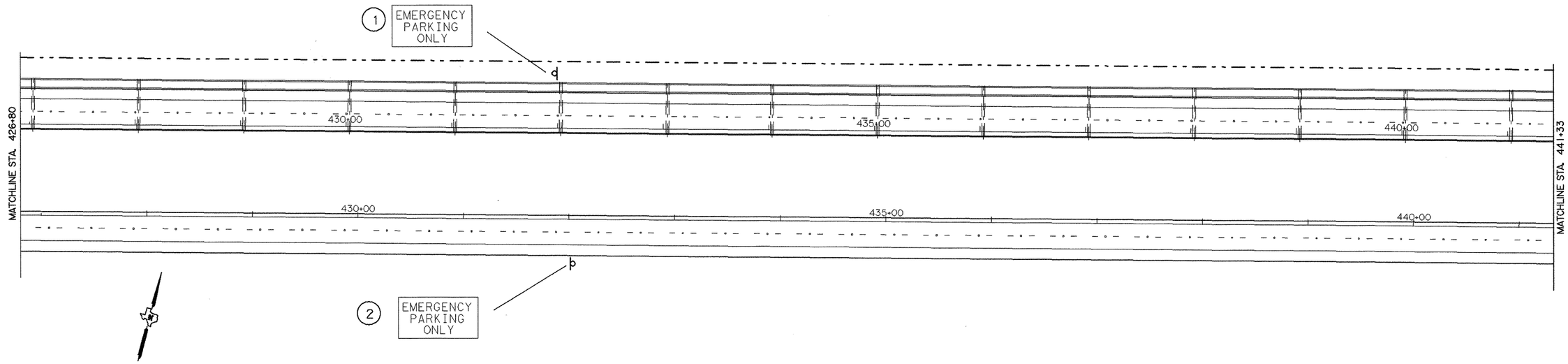
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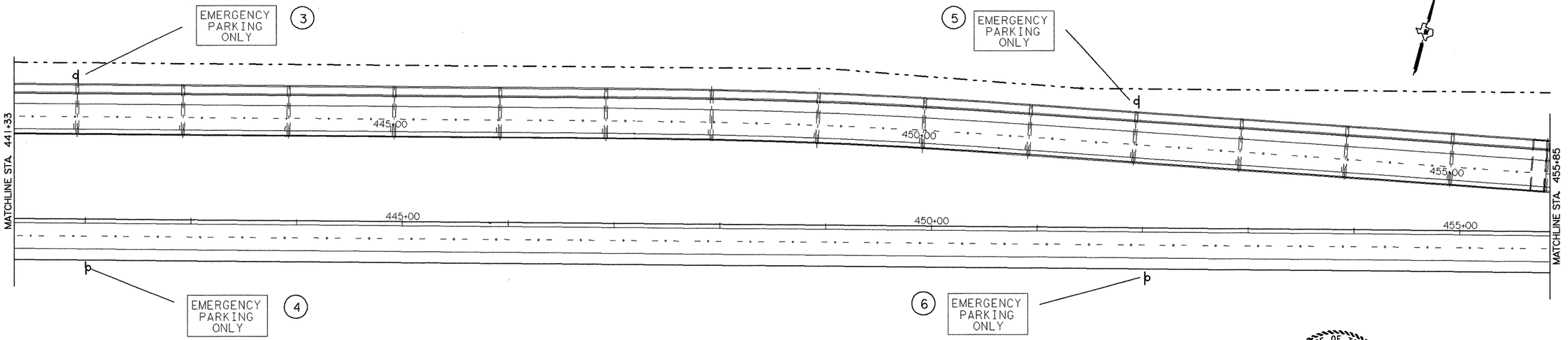
SHEET 4 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(369)		343
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT ---





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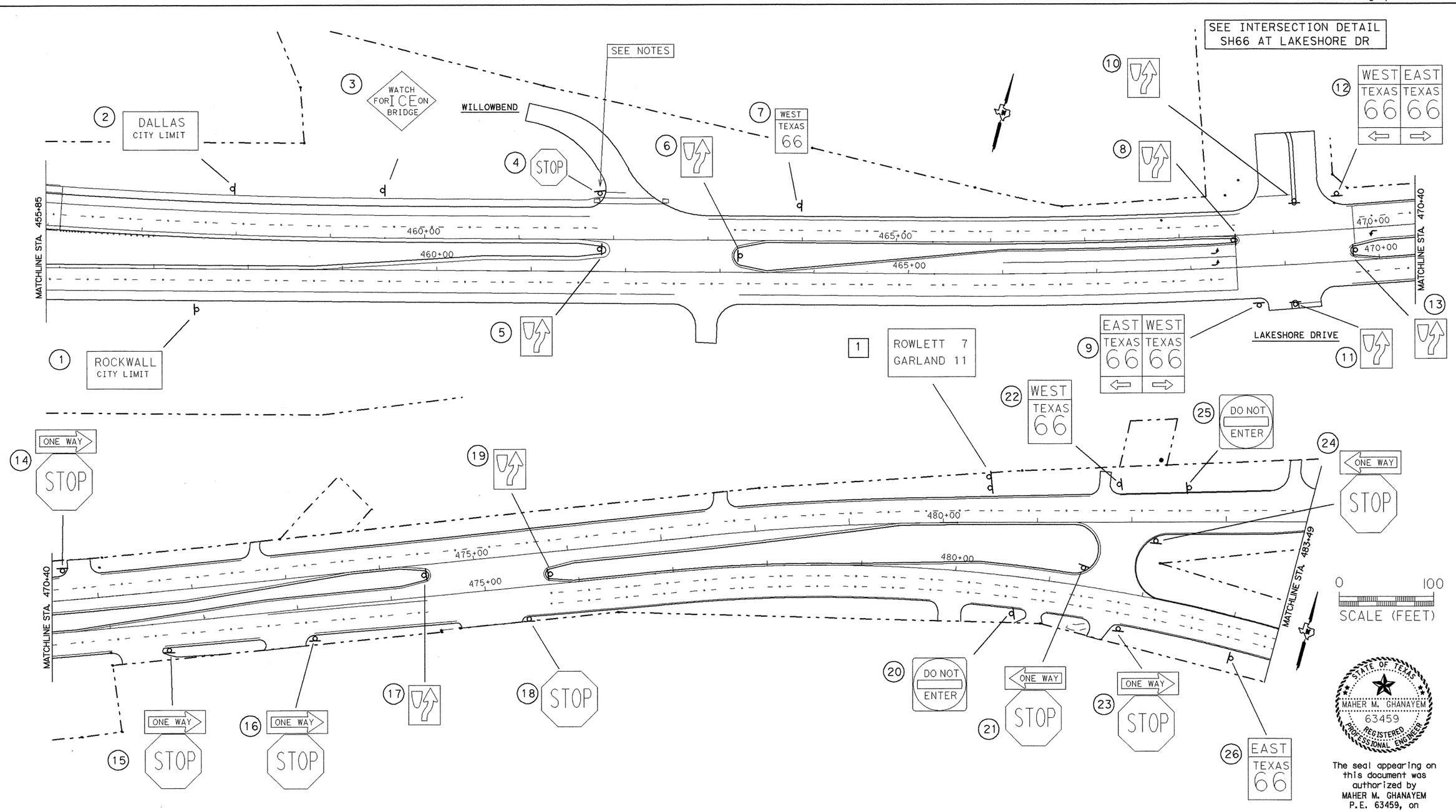
SIGNING LAYOUT

SHEET 5 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		344
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

EXT



0 100
SCALE (FEET)

NOTE
EXISTING STREET NAME SIGNS LOCATED AT AT THE NOTED LOCATIONS ARE TO BE REMOVED AND REPLACED WHEN CONSTRUCTION IS COMPLETE. WORK SUBSIDIARY TO ITEM 680.

LEGEND

(3) SMALL SIGN TO INSTALL

[3] LARGE SIGN TO INSTALL

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REGISTERED PROFESSIONAL ENGINEER

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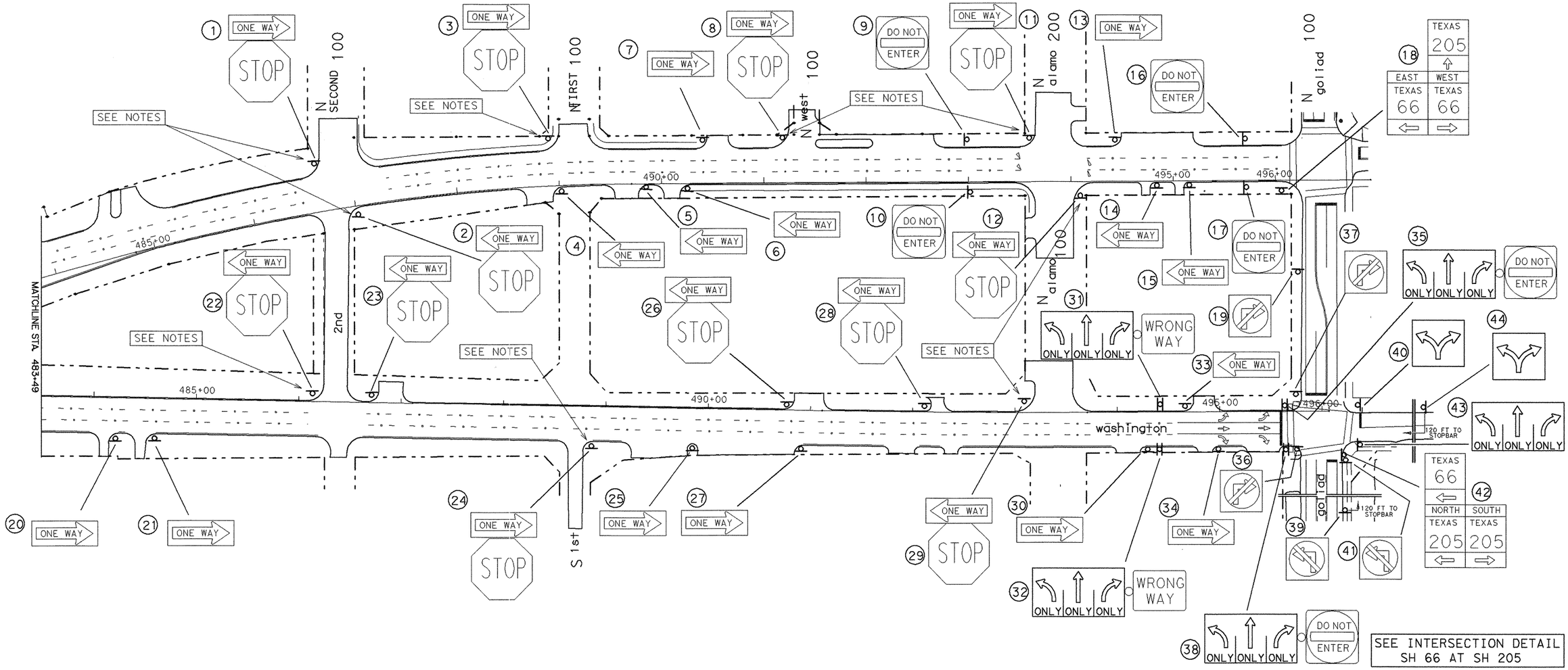
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SIGNING LAYOUT

SHEET 6 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		345
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

EXT ---



NOTE
EXISTING STREET NAME SIGNS LOCATED AT AT THE NOTED LOCATIONS ARE TO BE REMOVED AND REPLACED WHEN CONSTRUCTION IS COMPLETE. WORK SUBSIDIARY TO ITEM 680.

LEGEND

(3) SMALL SIGN TO INSTALL

0 100
SCALE (FEET)

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63459
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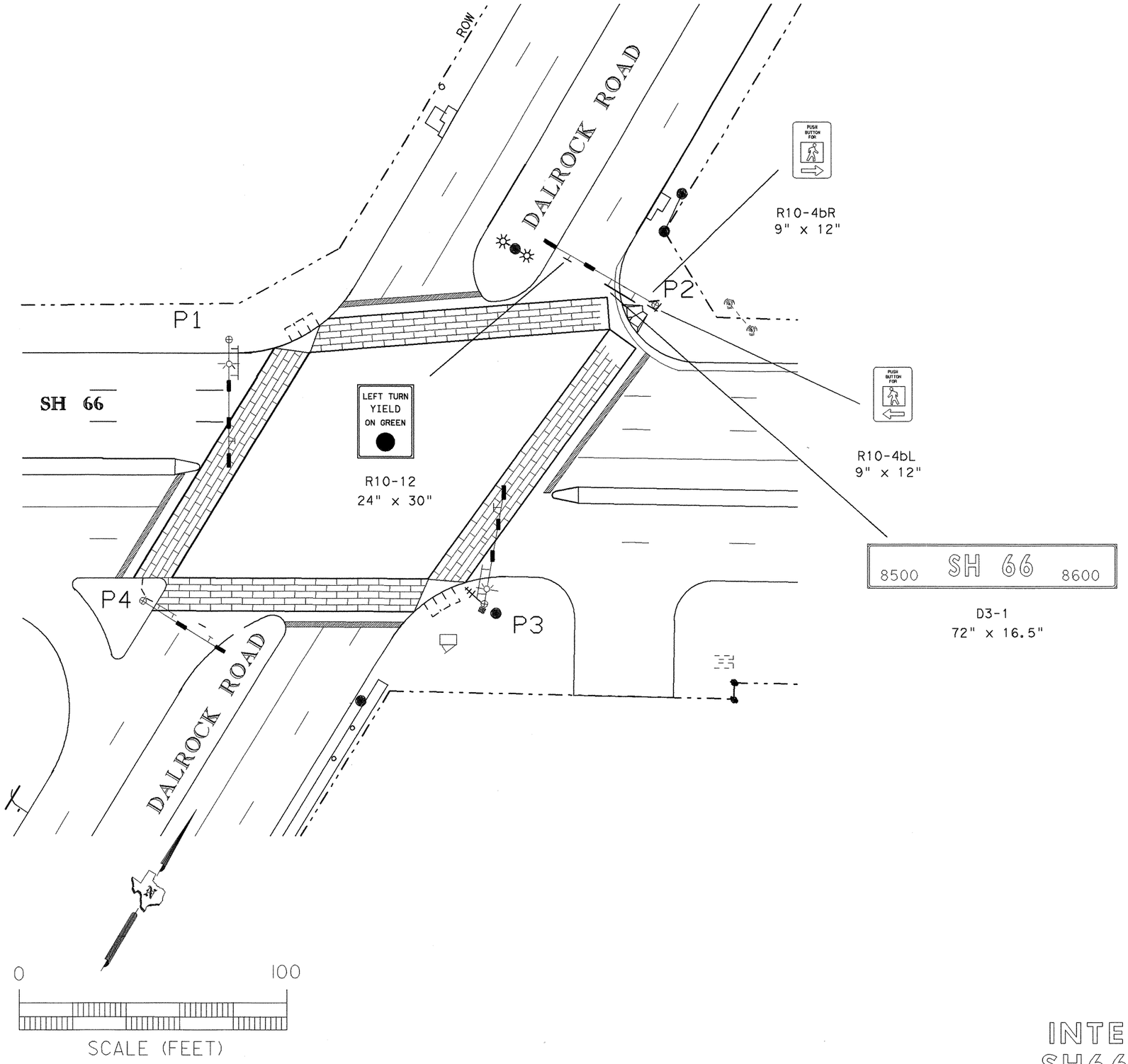
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SIGNING LAYOUT

SHEET 7 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		340
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

EXT ---



NOTE
SIGNS ON THIS SHEET RELOCATED FROM THE EXISTING P2 TO THE NEW P2. WORK SUBSIDIARY TO ITEM 680.

STATE OF TEXAS
MAHER M. GHANAYEM
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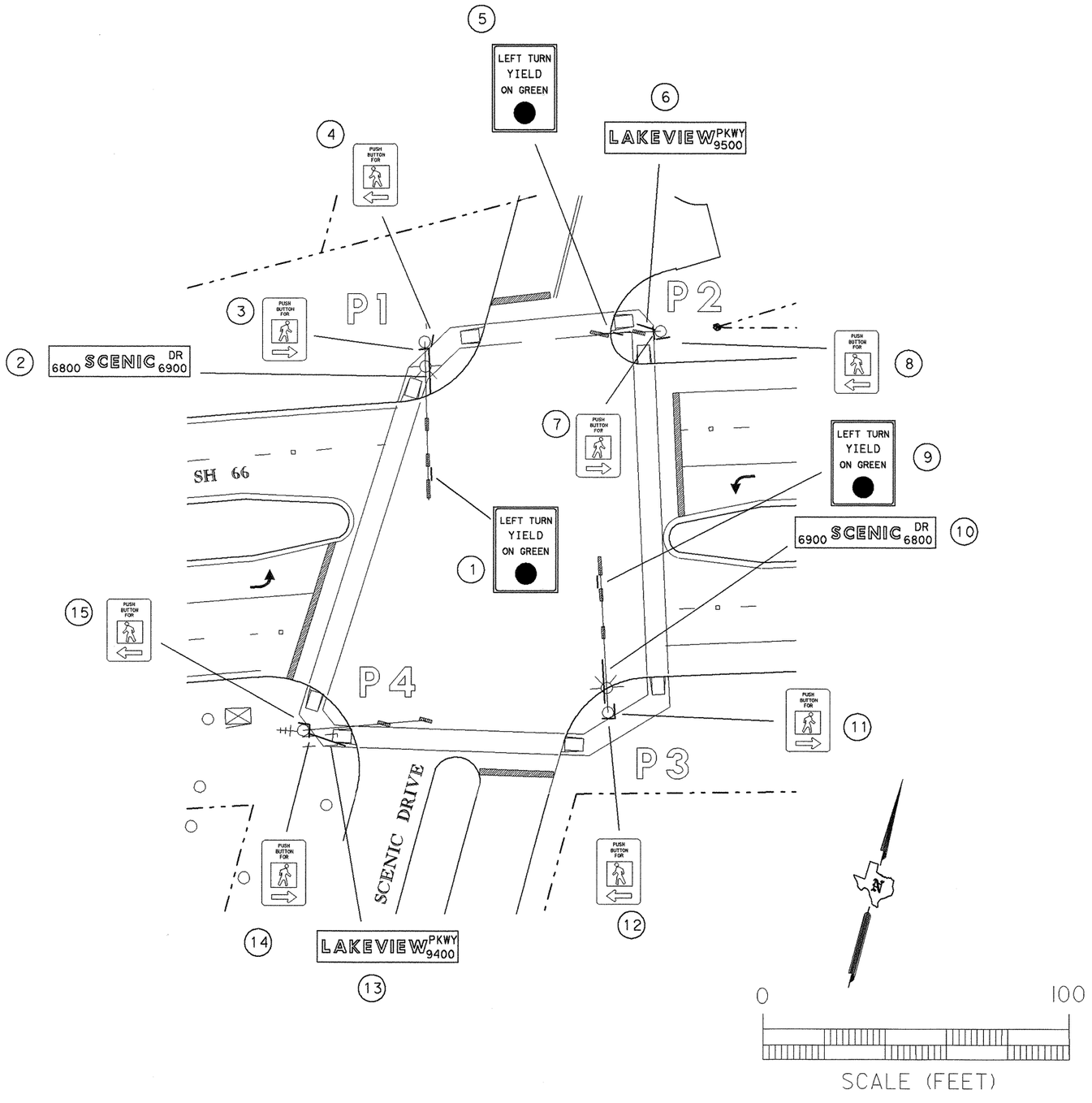
SIGNING LAYOUT

SHEET 8 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		347
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

INTERSECTION DETAIL SH66 AT DALROCK RD

$$$$date$$$$



LEGEND

(3) SMALL SIGN TO INSTALL

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MAHER M. GHANAYEM P.E. 63459, on

3/25, 1999

Maher M. Ghanayem

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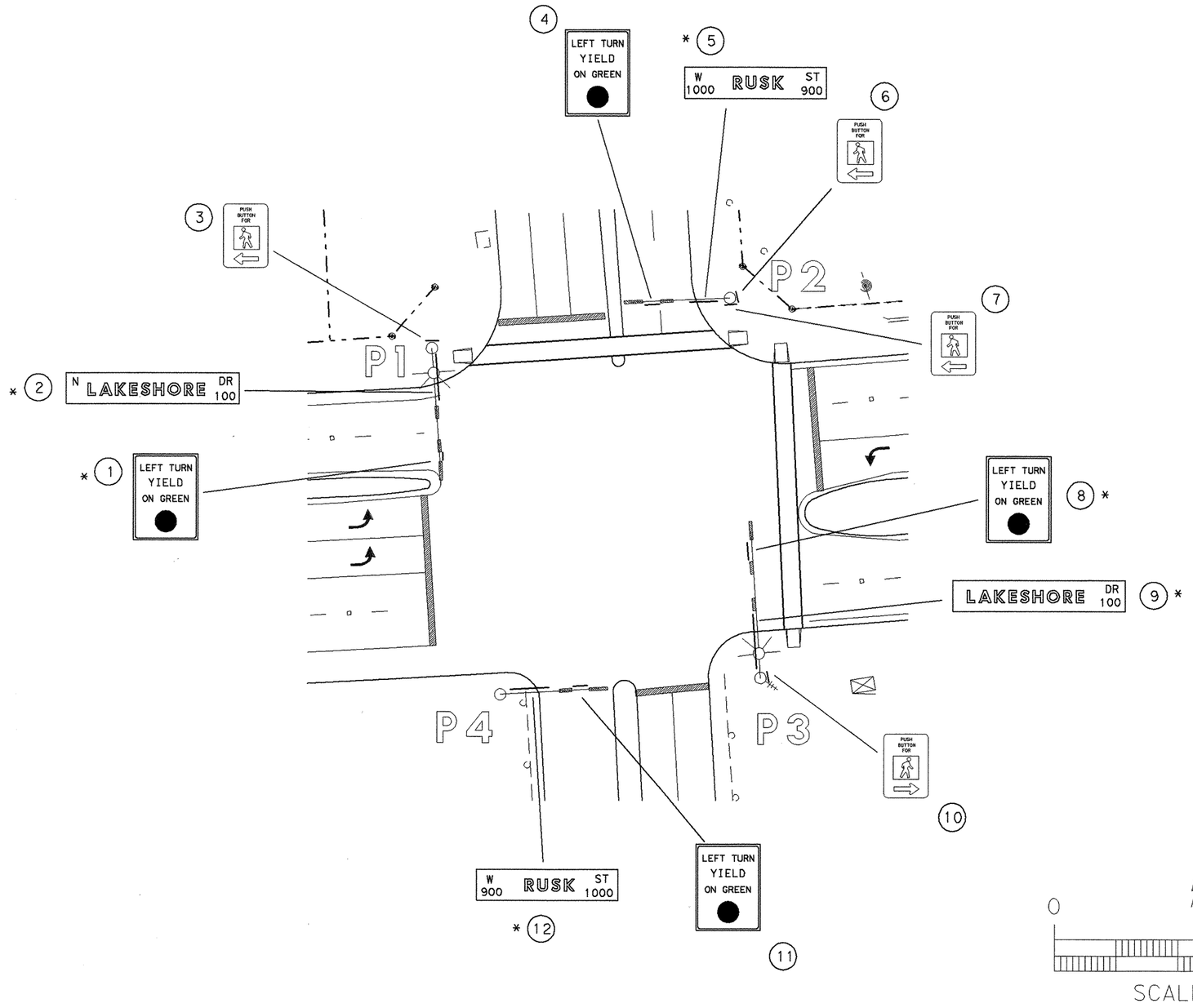
INTERSECTION DETAIL
SH66 AT SCENIC

SIGNING LAYOUT

SHEET 9 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		348
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

* SIGNS RELOCATED FROM SPAN WIRE SIGNALS.



LEGEND

(3) SMALL SIGN TO INSTALL

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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Maher M. Ghanayem

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SIGNING LAYOUT

SHEET 10 OF 12 SHEETS

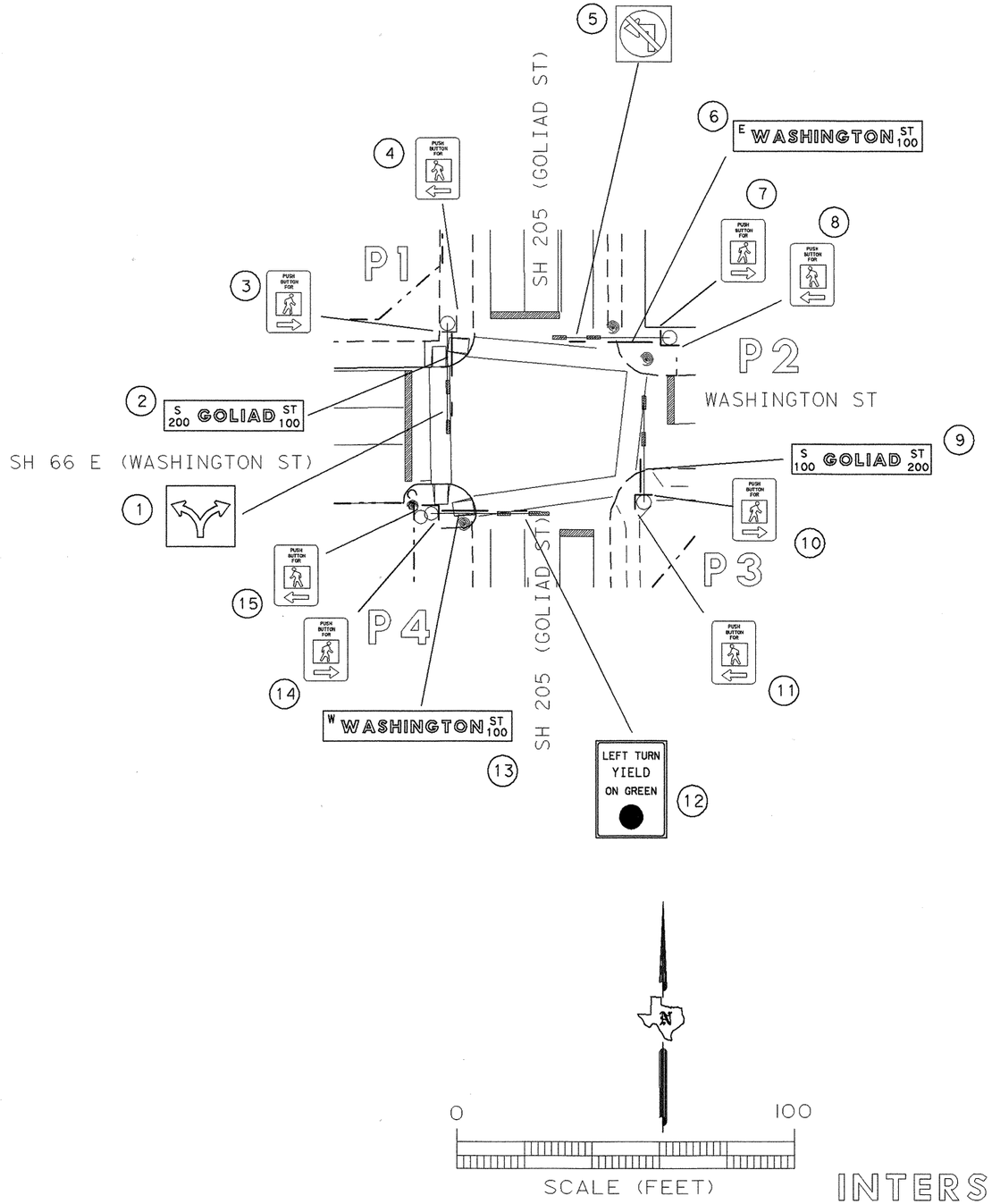
INTERSECTION DETAIL
SH66(RUSK) AT LAKESHORE

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		349
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

$$$$date$$$$

$$$$$$$$$$$$dgnspec$$$$$$$$$$$$

EXT



LEGEND

(3) SMALL SIGN TO INSTALL

STATE OF TEXAS
MAHER M. GHANAYEM
63459
REGISTERED PROFESSIONAL ENGINEER

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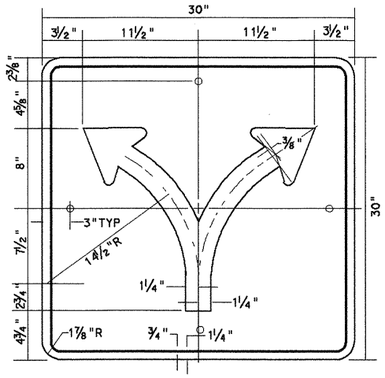
SIGNING LAYOUT

SHEET 11 OF 12 SHEETS

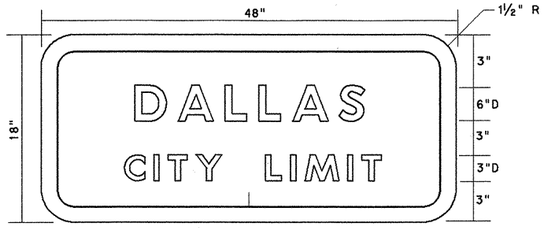
INTERSECTION DETAIL
SH66(WASHINGTON) AT SH205(GOLIAD)

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		350
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

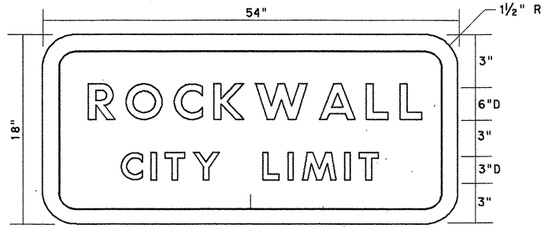
$$$$date$$$$



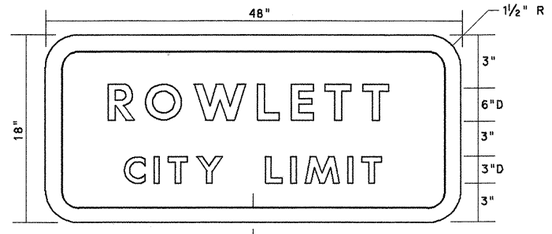
R3-8LR(SPL)
30"x 30"



½" LETTERS- WHITE
BORDER- WHITE
BACKGROUND- GREEN REFLECTIVE
TY C REFLECTIVE SHEETING
I-2a
VAR x 18"



½" LETTERS- WHITE
BORDER- WHITE
BACKGROUND- GREEN REFLECTIVE
TY C REFLECTIVE SHEETING
I-2a
VAR x 18"



½" LETTERS- WHITE
BORDER- WHITE
BACKGROUND- GREEN REFLECTIVE
TY C REFLECTIVE SHEETING
I-2a
VAR x 18"

GENERAL NOTES:

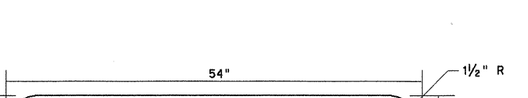
ALPHABETS AND LATERAL SPACING BETWEEN LETTERS AND NUMERALS SHALL CONFORM WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", LATEST EDITION AND ANY APPROVED CHANGES THERETO. LATERAL SPACING OF TEXT SHALL BE SUCH AS TO PROVIDE A BALANCED APPEARANCE.

SIGN BACKGROUNDS SHALL BE OF FLAT SURFACE REFLECTIVE SHEETING CONFORMING WITH THE SPECIFICATIONS (TYPE A) UNLESS OTHERWISE SPECIFIED IN THE PLANS.

SIGN LEGENDS SHALL BE APPLIED BY THE SCREENING PROCESS.

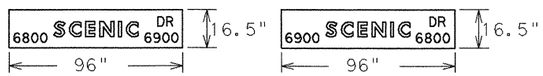
THE SIGN BLANKS SHALL BE ONE PIECE⅝INCH THICK PLYWOOD (TYPE A) CONFORMING TO THE SPECIFICATIONS UNLESS ATTACHED TO SIGNAL POLES.

THE SIGN BLANKS SHALL BE ONE PIECE SHEET ALUMINUM ALLOY 0.080 INCH THICK CONFORMING TO THE ITEM "ALUMINUM SIGNS (TYPE A)" WHEN ATTACHED TO SIGNAL POLES.



SIGN #6-SHEET 9
6 IN LETTERS

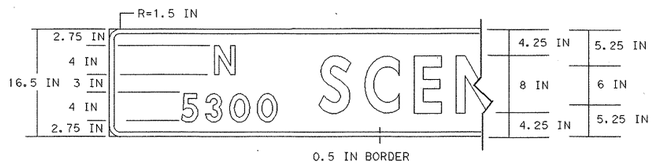
SIGN #13-SHEET 9
6 IN LETTERS



SIGN #2-SHEET 9
8 IN LETTERS

SIGN #10-SHEET 9
8 IN LETTERS

ILLUMINATED STREET NAME SIGN DETAILS



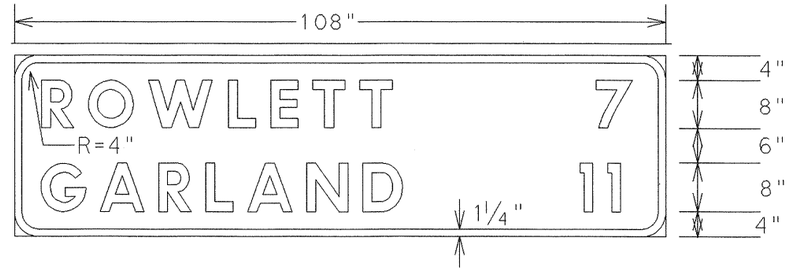
ALL LETTERING SHALL BE TYPE C SERIES

LETTERS- WHITE
BORDER- WHITE
BACKGROUND- GREEN REFLECTIVE

GENERAL NOTES:
ALPHABETS AND LATERAL SPACING BETWEEN LETTERS AND NUMERALS SHALL CONFORM WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST ADDITION AND ANY APPROVED CHANGES THERETO. LATERAL SPACING OF TEXT SHALL BE SUCH AS TO PROVIDE A BALANCE APPEARANCE.

NOTE:
DETAILS FOR INTERNALLY LIGHTED STREET NAME SIGNS INSTALLATION SEE STANDARD SHEET SNS-95(M)

LARGE SIGN DETAILS

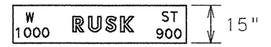


LETTERS- WHITE
BORDER- WHITE
BACKGROUND- GREEN REFLECTIVE
TY C REFLECTIVE SHEETING

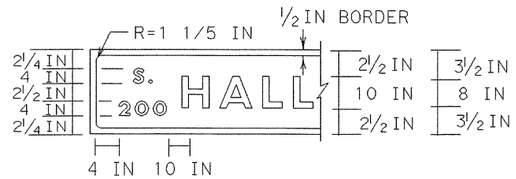
STREET NAME SIGN DETAILS



SIGN #2-SHEET 10
8 IN LETTERS

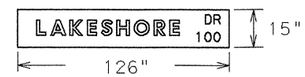


SIGN #5-SHEET 10
10 IN LETTERS

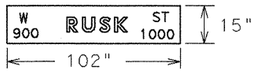


NOTE: ALL LETTERING SHALL BE SERIES D

LEGEND
LETTERS- WHITE
BORDER- WHITE
BACKGROUND- GREEN REFLECTIVE



SIGN #9-SHEET 10
8 IN LETTERS

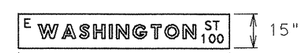


SIGN #12-SHEET 10
10 IN LETTERS

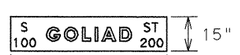
GENERAL NOTES:
ALPHABETS AND LATERAL SPACING BETWEEN LETTERS AND NUMERALS SHALL CONFORM WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST ADDITION AND ANY APPROVED CHANGES THERETO. LATERAL SPACING OF TEXT SHALL BE SUCH AS TO PROVIDE A BALANCE APPEARANCE.
SIGN BACKGROUNDS SHALL BE OF FLAT SURFACE REFLECTIVE SHEETING CONFORMING WITH THE SPECIFICATIONS (TYPE C).
THE SIGN BLANKS SHALL BE ONE PIECE SHEET ALUMINUM ALLOY 1 / 16 IN THICK CONFORMING WITH THE ITEM "ALUMINUM SIGNS (TYPE A)".



SIGN #2-SHEET 11
10 IN LETTERS



SIGN #6-SHEET 11
8 IN LETTERS



SIGN #9-SHEET 11
10 IN LETTERS



SIGN #13-SHEET 11
8 IN LETTERS



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Maher M. Ghanayem

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SIGNING LAYOUT

SHEET 12 OF 12 SHEETS

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		351
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
0009	04	39	SH 66

D18HP1E/USR2/D1845I2/SH66/SHEET2.DGN

H. HAMILTON SURVEY
ABSTRACT NUMBER 548

JOSIAH HART SURVEY
ABSTRACT NUMBER 111

1A

UNIVERSITY FEDERAL SAVINGS ASSOCIATION
DEED
VOL. PG.
64.29 sq. m [692 S.F.]

REM. = 53,735.61 sq. m.
[578,403 S.F.]

BEGIN PROJECT 0009-03-039
END PROJECT 0009-03-035

DALROCK ROAD

DALLAS COUNTY LINE
ROCKWALL COUNTY LINE

N00° 37' 16"E
[240.00']
73.152 m

S89° 30' 57"E
[363.89']
110.919 m

S60° 12' 00"W
3.432 m
[11.26']

CURVE R=1,765.887m
[5,792.58']
L=8.760m [28.74']
CHORD S60° 24' 21"W
8.760 m [28.74']

DETAIL
N.T.S.

PC 314+47.26

PT 317+43.12

EXISTING RIGHT OF WAY LINE

N60° 12' 00"E
221.108 m [725.42']

483.356 m

103.632 m [340.00']

N 59° 30' 58" E

N 29° 37' 16" E

N60° 12' 00"E
544.960 m
[1,787.92']

EXISTING RIGHT OF WAY LINE

PC 313+79.79

PT 316+33.42

N60° 12' 00"E
39.014 m
[128.00']

N29° 48' 00"W
[6.35']
1.935 m

S.H. 66

N 60° 15' 20" E

N 60° 15' 13" E

N 66° 44' 24" E

[1,585.81']

PC 329+35.82

PC 329+31.07

PT 333+68.11

PT 333+63.50

CURVE R=1527.700m [5012.13']
CHORD N65° 17' 07"E
269.761 m [885.04']

CURVE R=1144.44m [3754.72']
CHORD N66° 07' 36"E
239.906 m [787.09']

PC 337+56.28

PC 337+33.83

N60° 12' 00"E
91.443 m
[300.01']

N60° 15' 00"E
[95.72']

JAMES SAUNDERS SURVEY
ABSTRACT NUMBER 1424

DALLAS COUNTY LINE
ROCKWALL COUNTY LINE

DALROCK ROAD

JOSIAH HART SURVEY
ABSTRACT NUMBER 111

GRAPHIC SCALE
0m 15m 30m 60m 120m

GRAPHIC SCALE
0' 50' 100' 200' 300' 400'

DMPP 04/08/96

REV. 06-15-98

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	HIGHWAY NO.
6	TEXAS	NH 9(367)	SH 66

STATE DISTRICT NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	34	551A

D18HP1E/USR2/0184512/SH66/SHEET3.DGN

JOSIAH HART SURVEY
ABSTRACT NUMBER 111

E.R. FOSTER SURVEY
ABSTRACT NUMBER 81

M.E. HARKINS SURVEY
ABSTRACT NUMBER 101

BENJAMIN F. BOYDSTUN SURVEY
ABSTRACT NUMBER 17

WILLIAM G. DEWEESE SURVEY
ABSTRACT NUMBER 70

JOSIAH HART SURVEY
ABSTRACT NUMBER 111

BENJAMIN F. BOYDSTUN SURVEY
SURVEY
ABSTRACT NUMBER 17

LAKE RAY HUBBARD

LAKE RAY HUBBARD

(1)
BLUEBONNET SAVINGS BANK, FSB
DEED
VOL. PG.
2,776.88 sq. m
[29,890 S.F.]

REM. =23,298.69 sq. m
[250,784 S.F.]

(1E)
BLUEBONNET SAVINGS BANK, FSB
EASEMENT
VOL. PG.
PART 1 = 380.90 sq. m [4100 S.F.]
PART 2 = 278.43 sq. m [2997 S.F.]
TOTAL = 659.33 sq. m [7097 S.F.]

DEATAIL 1E PART 1
N.T.S.

DEATAIL 1E PART 2
N.T.S.

DEATAIL 1E
PARTS 1 & 2

SCENIC DRIVE

OLD S.H. 66

NEW RIGHT OF WAY LINE

EXISTING RIGHT OF WAY LINE

S. H. 66

HERITAGE PARKWAY

HARBORSIDE STREET

BEACON HARBOR STREET

CITY OF DALLAS
CITY OF ROWLETT

GREEN'S SQUARE
LOT 1
BLOCK A

BLOCK 15
LOTS 1R & 2R
A REPLAT OF
BLOCK 15, LOT 1
TEXAS HERITAGE
SAVINGS BANC

HERITAGE PLAZA
ADDITION
BLOCK B
LOT 1

(1F TE)
THOMAS S. SUDELA,
DAVID P. GRANGER, &
TEXAS HERITAGE SAVINGS BANC
EASEMENT
VOL. PG.
332.41 sq. m
[3,578 S.F.]

(1B TE)
FEDERAL DEPOSIT INSURANCE CORPORATION
EASEMENT
VOL. PG.
638.25sq. m
6,870S.F.]

(1D TE)
EASTERN PLACE ASSOCIATION
EASEMENT
VOL. PG.
281.87 sq. m
[3,034 S.F.]

CURVE NO.	RADIUS	ARC LENGTH	CHORD BEARING	CHORD DISTANCE
C1	1527.700m [5012.13']	270.111m [886.19']	N65°17'07"E	269.761m [885.04']
C2	1144.441m [3754.72']	240.344m [788.53']	N66°07'36"E	239.906m [787.09']
C3	1184.065m [3884.72']	28.069m [92.09']	S74°46'46"W	28.069m [92.09']
C4	1144.441m [3754.72']	45.735m [150.05']	N74°18'48"E	45.732m [150.04']

GRAPHIC SCALE
0m 15m 30m 60m 120m

GRAPHIC SCALE
0' 50' 100' 200' 300' 400'

REVISED 8/04/98
REVISED 6/15/98

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.			HIGHWAY NO.
6	TEXAS	NH 99(367)			SH 66
STATE DISTRICT NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	34	351 B

DWVP 04/08/96

D:\MPLE/USR2/D1845I2/SH66/SHEET4.DGN

M.E. HARKINS SURVEY
ABSTRACT NUMBER 101

(2)

CITY OF DALLAS
DEED
VOL. PG.
1.24607 ha.
[3.0791 AC.]

E.R. FOSTER SURVEY ABSTRACT 81
0.00643 ha. [0.0159 AC.]
BENJAMIN F. BOYDSTUN ABSTRACT 17
0.27175 ha. [0.6715 AC.]
M.E. HARKINS SURVEY ABSTRACT 101
0.10477 ha. [0.2589 AC.]
M.L. EGGLESTON SURVEY ABSTRACT 75
0.23913 ha. [0.5909 AC.]
MIAL B. JONES SURVEY ABSTACT 121
0.62399 ha. [1.5419 AC.]

LAKE RAY HUBBARD

CITY OF DALLAS

BENJAMIN F. BOYDSTUN SURVEY
ABSTRACT NUMBER 17

PT 368+08.48

N75° 30' 13"E 2,529.845m [8,300.00']
S75° 30' 44"W 2,670.791m [8,762.42']

NEW RIGHT OF WAY LINE

EXISTING RIGHT OF WAY LINE

370+00 375+00 380+00 385+00 390+00 395+00

S.H. 66

370+00 375+00 380+00 385+00 390+00 395+00

Transmission Line

EXISTING RIGHT OF WAY LINE

N75° 30' 44"E 1,363.931m [4,474.83']

LAKE RAY HUBBARD

CITY OF DALLAS

M.L. EGGLESTON SURVEY
ABSTRACT NUMBER 75

BENJAMIN F. BOYDSTUN SURVEY
ABSTRACT NUMBER 17

GRAPHIC SCALE
0m 15m 30m 60m 120m

GRAPHIC SCALE
0' 50' 100' 200' 300' 400'

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.				HIGHWAY NO.
6	TEXAS	NH 44(367)				SH 66
STATE DISTRICT NO.	COUNTY	CONTROL NO.	SECTION NO.	SUB NO.		SHEET NO.
18	ROCKWALL	0009	04	34	351	C

DMVP 04/08/96

4490

D:\BMPJE\USR2\D\184512\SH66\SHEET5.DGN

M. L. EGGLESTON SURVEY
ABSTRACT NUMBER 75

CITY OF DALLAS

LAKE RAY HUBBARD

MIAL B. JONES SURVEY
ABSTRACT NUMBER 121

N75° 30' 13"E 2,529.845m [8,300.00']

EXISTING RIGHT OF WAY LINE

NEW RIGHT OF WAY LINE

S75° 30' 44"W 2,670.791m [8,762.42']

N 75° 30' 14" E

N 75° 30' 11" E

400+00 405+00 410+00 415+00 420+00 425+00

Transmission Line

Inlet

EXISTING RIGHT OF WAY LINE

N75° 30' 44"E 1,363.931m [4,474.83']

S14° 29' 16"E 12.192m [40.00']

N75° 30' 44"E 76.225m [250.08']

N14° 29' 16"W 12.192m [40.00']

N75° 30' 44"E 190.098m [623.68']

S14° 29' 16"E 6.096m [20.00']

N75° 30' 44"E 76.225m [250.08']

N14° 29' 16"W 6.096m [20.00']

N75° 30' 44"E 1526.441m [5008.00']

M. L. EGGLESTON SURVEY
ABSTRACT NUMBER 75

LAKE RAY HUBBARD

CITY OF DALLAS

MIAL B. JONES SURVEY
ABSTRACT NUMBER 121

GRAPHIC SCALE
0m 15m 30m 60m 120m

GRAPHIC SCALE
0' 50' 100' 200' 300' 400'

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	HIGHWAY NO.
6	TEXAS	NH 94(367)	SH 66
STATE DISTRICT NO.	COUNTY	CONTROL NO. / SECTION NO. / JOB NO.	SHEET NO.
18	ROCKWALL	0009 / 04 / 34	351

DMVP 04/08/96

D18HPIE/USR2/0184512/SH66/SHEET6.DGN

WATSON B. BOWLES SURVEY
ABSTRACT NUMBER 12

MIAL B. JONES SURVEY
ABSTRACT NUMBER 121

LAKE RAY HUBBARD

CITY OF DALLAS

N75° 30' 13"E 2,529.845m [8,300.00']

430+00 435+00 440+00 445+00 450+00 455+00

S75° 30' 44"W 2,670.79lm [8,762.42']

NEW RIGHT OF WAY LINE

EXISTING RIGHT OF WAY LINE

S.H. 66

PC 447+34.34

PT 450+78.58

N79° 23' 38"E 73.558m [241.33']

N75° 30' 44"E 218.819 m [717.91']

PC 454+19.92

N 78° 56' 46" E

Transmission Line Tower

EXISTING RIGHT OF WAY LINE

N75° 30' 44"E 1526.441m [5008.00']

CITY OF DALLAS

LAKE RAY HUBBARD

MIAL B. JONES SURVEY
ABSTRACT NUMBER 121

GRAPHIC SCALE
0m 15m 30m 60m 120m

GRAPHIC SCALE
0' 50' 100' 200' 300' 400'

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.			HIGHWAY NO.
6	TEXAS	NH 99(367)			SH 66
STATE DISTRICT NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	34	351 E

DMVP 04/08/96

D:\BHPIE\USR22\D1845112\SH66\SHEET7.DGN

WATSON B. BOWLES SURVEY
ABSTRACT NUMBER 12

BENJAMIN F. BOYDSTUN SURVEY
ABSTRACT NUMBER 14

MIAL B. JONES SURVEY
ABSTRACT NUMBER 121

231500 E
231600 E
461400 N
461600 N

BLOCK B
BLOCK A
LOT 33
LOT 32
LOT 31
LOT 30
LOT 29
LOT 28
LOT 27
NORTHSHORE PHASE 4
BAYSHORE DR.
HIGHVIEW LANE
Fill Area

3
CITIZENS FIRST MORTGAGE COMPANY
DEED
VOL. PG.
285.59 sq. m
[3074 S.F.]

REM. =22,595.69 sq. m
[243,217 S.F.]

3TE
CITIZENS FIRST MORTGAGE COMPANY
DEED
VOL. PG.
590.96 sq. m
[6361 S.F.]

DETAIL 3TE
NTS
N26°19'11"E 6.47m [21.23']
FOUND I.R.
S18°37'20"E 10.450m [34.30']
N71°15'42"E 6.096m [20.00']
FOUND I.R.

4
CESAR GREGORIO
DEED
VOL. PG.
171.69 sq. m
[1848 S.F.]

REM. =1857.98 sq. m
[19,999 S.F.]

NORTHSHORE PLAZA PHASE TWO
BLOCK 1
LOT 1

CITY OF DALLAS
VOL. 77 PG. 147
EXISTING RIGHT OF WAY LINE

OLD S.H. 66
S.H. 66
N 75° 30' 17" E
460+00
465+00
470+00
PT 459+61.07
PC 465+41.46
PC 465+24.93
PT 471+59.17
PT 471+42.28

N75°30'44"E 218.819m [717.91']
N88°23'20"E 143.156m [469.67']
N75°30'44"E 1526.441m [5008.00']
N67°47'16"E 64.359m [211.15']
N75°30'21"E 71.238m [233.72']
N75°28'56"E 45.360m [148.82']

CURVE R=427.050m [1401.08']
L=28.804m [94.50']
CHORD N61°16'28"E 28.798m [94.48']

CURVE R=427.050m [1401.08']
L=32.419m [106.36']
CHORD S82°12'07"E 32.412m [106.34']

CURVE R=1203.874m [3949.71']
L=121.494m [398.60']
CHORD N72°55'27"E 121.442m [398.43']

CURVE R=1145.965m [3759.72']
L=25.658m [84.18']
CHORD S69°13'50"W 25.658m [84.18']

N18°37'20"E 51.795m [169.93']
N18°37'20"E
S18°37'20"E 34.763m [114.05']
N18°37'20"W 29.58m [97.05']
S69°13'50"W 41.675m [136.73']
S63°40'49"E 6.459m [21.19']
S00°06'40"E 3.277m [10.75']
N71°15'42"E 38.15m [125.05']
N71°22'40"E 10.668m [35.00']
46.702m [153.22']
52.798m [173.22']
N71°15'42"E

NEW RIGHT OF WAY LINE
SEE DETAIL 3TE
EXISTING RIGHT OF WAY LINE
FOUND I.R.
FOUND
I.R.

LAKESHORE DRIVE NORTH
LAKE SHORE DRIVE
Inlet
Outlet
Markers
Signs
Sign
Culvert
Concrete Drain
Transmission Line
Marker
Patio
A/C Unit
MH
TFP
LP

GRAPHIC SCALE
0m 15m 30m 60m
GRAPHIC SCALE
0' 25' 50' 100' 150' 200'

DNVP 04/08/96

REV. 06/15/98

FED. AID DIST. NO.	STATE	FEDERAL AID PROJECT NO.				HIGHWAY NO.
6	TEXAS	NH 99(367)				SH 66
STATE DISTRICT NO.	COUNTY		CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL		0009	04	34	351 F

4489

D18HPIE/USR2/D184512/SH66/SHEET8.DGN

461800 N

2316800 E

(5)
9.2277 ACRE
LIMITED PARTNERSHIP
DEED
VOL. PG.
710.80 sq. m
[7651 S.F.]

REM. =36,632.55 sq. m
[394,308 S.F.]

(6)
METRO FOOD STORES I, L.P.
DEED
VOL. PG.
219.16 sq. m
[2359 S.F.]

REM. =1955.24 sq. m
[21,046 S.F.]

(7)
WADE CANUP
DEED
VOL. PG.
2,107.89 sq. m
[22,689 S.F.]

REM. =8,211.64 sq. m
[88,389 S.F.]

(7A)
DAVID WADE CANUP &
ADA VIRGINIA CANUP
DEED
VOL. PG.
220.65 sq. m
[2375 S.F.]

REM. =1406.19 sq. m
[15,136 S.F.]

(7B)
VIRGINIA P. GREENE
DEED
VOL. PG.
204.48 sq. m
[2201 S.F.]

REM. =1260.42 sq. m
[13,567 S.F.]

(7D)
VIRGINIA CANUP
DEED
VOL. PG
294.69 sq. m
[3172 S.F.]

REM. =1381.19 sq. m
[14,867 S.F.]

(8)
WILLIAM H. WAY, 1/2 INT.
GERALD BURGAMY, 1/2 INT.
DEED
VOL. PG.
254.37 sq. m
[2738 S.F.]

REM. =3119.51 sq. m
[33,578 S.F.]

(9)
ARTHUR H. KUHLMAN, III
DEED
VOL. PG.
191.29 sq. m
[2059 S.F.]

REM. =3855.58 sq. m
[41,501 S.F.]

(7E)
DAVID CANUP, ET UX
EASEMENT
VOL. PG.
277.78 sq. m
[2990 S.F.]

(11E)
DAVID CANUP
EASEMENT
VOL. PG.
223.99 sq. m
2411 S.F.]

(11)
DAVID CANUP
DEED
VOL. PG.
345.51 sq. m
[3719 S.F.]

REM. =7367.80 sq. m
[79,306 S.F.]

(12)
O.L. STEGER, JR.
DEED
VOL. PG.
238.48 sq. m
[2567 S.F.]

REM. =6489.40 sq. m
[69,851 S.F.]

(10)
GERALD BURGAMY, 1/2 INT.
WAYCO DEVELOPMENT, INC., 1/2 INT.
DEED
VOL. PG.
1092.45 sq. m
[11,759 S.F.]

REM. =12,832.00 sq. m
[138,122 S.F.]

LOWE & ALLEN ADDITION
BLOCK 19

LOWE & ALLEN ADDITION
BLOCK 18

LOWE & ALLEN ADDITION

BLOCK 17

BLOCK 16

STONEBRIDGE CENTER PHASE TWO

STONEBRIDGE CENTER PHASE I

BENJAMIN F. BOYDSTUN SURVEY
ABSTRACT NUMBER 14

STATE OF TEXAS VOL. 34 PG. 308

CITY OF DALLAS
VOL. 77 PG. 147

EXISTING RIGHT OF WAY LINE

NEW RIGHT OF WAY LINE

S.H. 66

NORTH LAKESHORE DRIVE

LAKESHORE DRIVE

PT 471+59.17

PC 477+34.04

PT 480+17

PC 485+00

PT 483+33.57

PC 476+69.79

PT 471+42.28

N 69° 19' 39" E 475+00 476+00 476+00.02

N 74° 59' 12" E

470+00

480+00

485+00

483+33.57

Markers
Sign
Signs
Culvert
Billboard
Cemetery
Outlet
Inlet
Transmission Line
Slab
A/C Units
A/C Unit
TFP
LP
MH
FP
GL

GRAPHIC SCALE
0m 15m 30m 60m

GRAPHIC SCALE
0' 25' 50' 100' 150' 200'

REVISED 6/15/98

FED. AID PRI. NO.	STATE	FEDERAL AID PROJECT NO.			HIGHWAY NO.
6	TEXAS	NH 99(367)			SH 66
STATE DISTRICT NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	34351	G

DMVP 04/08/96

D18MP1E/USR2/0184512/SH66/SHEET9.DGN

(13) ROBERT D. SPARKS DEED VOL. PG. 14.31 sq. m [154 S.F.] REM. =2726.25 sq. m [29,345 S.F.]

(13A TE) ROBERT D. SPARKS EASEMENT VOL. PG. 97.55 sq. m [1050 S.F.]

(16) ROBERT D. SPARKS DEED VOL. PG. 929.034 sq. m [10,156 S.F.] REM. =1841.252 sq. m [19819 S.F.]

(16 TE) ROBERT D. SPARKS EASEMENT VOL. PG. 174.65 sq. m [1880 S.F.]

(17) CARROLL HOWERTON DEED VOL. PG. 8.64 sq. m [93 S.F.] REM. =1384.73 sq. m [14,905 S.F.]

(21) H. N. HEATH DEED VOL. PG. 8.64 sq. m [93 S.F.] REM. =1855.00 sq. m [19,967 S.F.]

(10) ROCKWALL COUNTY HELPING HANDS DEED VOL. PG. PART 1 = 281.59 sq. m [3031 S.F.] PART 2 = 509.67 sq. m [5486 S.F.] TOTAL = 791.26 sq. m [8517 S.F.] REM. =2924.88 sq. m [31,483 S.F.]

(11) STATE OF TEXAS VOL. 34 PG. 308

(12) CITY OF ROCKWALL & ROCKWALL CO. DEED VOL. PG. PART 1 = 6.97 sq. m [75 S.F.] PART 2 = 418.81 sq. m [4508 S.F.] TOTAL = 425.78 sq. m [4583 S.F.] (OF WHICH 27.22 sq. m [293 S.F.] LIES WITHIN ROADWAY) REM. =7479.10 sq. m [80,504 S.F.]

(13 TE) ROBERT D. SPARKS EASEMENT VOL. PG. PART 1= 88.26 sq.m [950 S.F.] PART 2=174.57 sq.m [1879 S.F.] TOTAL =262.83 sq.m [2829 S.F.]

REM. =1846.92 sq. m [19,880 S.F.]

(17TE) CARROLL HOWERTON DEED VOL. PG. 178.56 sq.m [1,922 S.F.]

(14) LOWE & ALLEN ADDITION BLOCK 8 — PART 1 Paved Parking

(15) J.W. WRIGHT DEED VOL. PG. 11.15 sq. m [120 S.F.]

(19) JOYCE M. FLOREY DEED VOL. PG. 59.55 sq. m [641 S.F.] REM. =2536.17 sq. m [27,299 S.F.]

(20) JACK ANDERSON DEED VOL. PG. 7.99 sq. m [86 S.F.] REM. =1850.08 sq. m [19,914 S.F.]

(22) WILLIAM DAVIS SR. DEED VOL. PG. 57.97 sq. m [624 S.F.] REM. =1335.58 sq. m [14,376 S.F.]

(23) B.A. KLUTTS DEED VOL. PG. 59.27 sq. m [638 S.F.] REM. =405.24 sq. m [4362 S.F.]

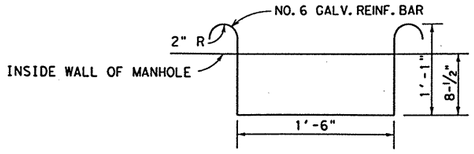
GRAPHIC SCALE 0m 15m 30m 60m

GRAPHIC SCALE 0' 25' 50' 100' 150' 200'

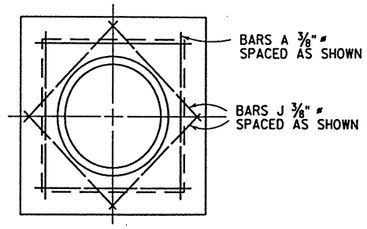
REVISED 8/04/98
REVISED 6/15/98

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.	HIGHWAY NO.
6	TEXAS	NH 44(367)	SH 66
STATE DISTRICT NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	34	351 H

DWVP 04/08/96



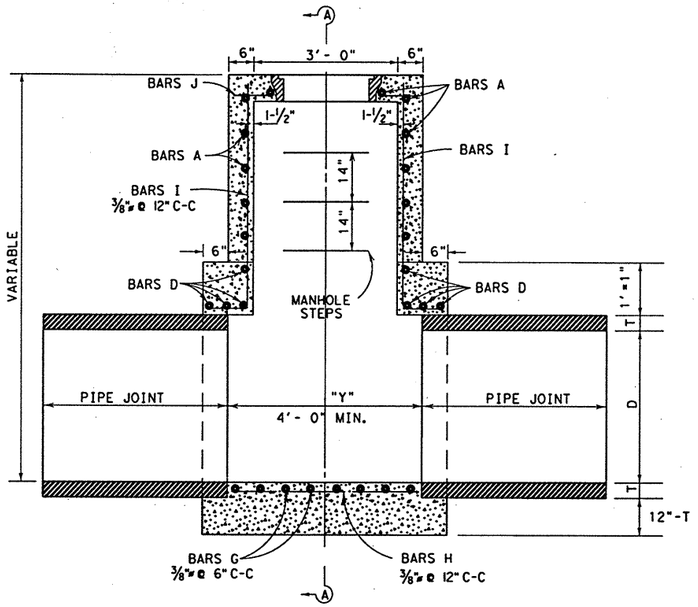
DETAIL OF MANHOLE STEP



PLAN *

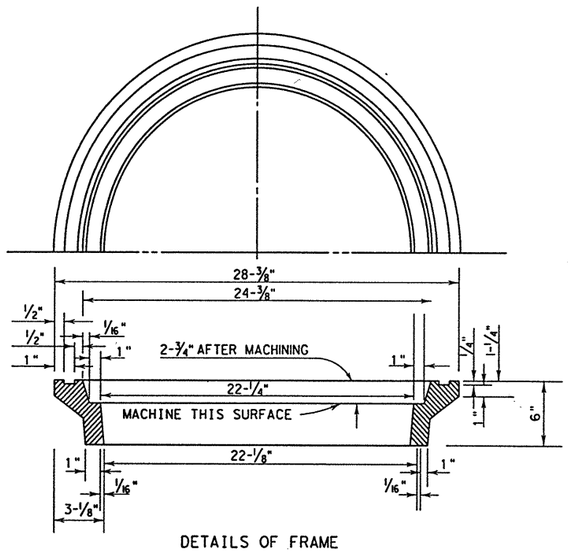
SHOWING REINFORCING STEEL IN MANHOLE TOP

TYPE I & II MANHOLES:
PROVIDE ¾" PREMOLDED EXPANSION JOINT, SEALED WITH RUBBER COMPOUND AROUND MANHOLE TOP WHEN IN PAVEMENT.

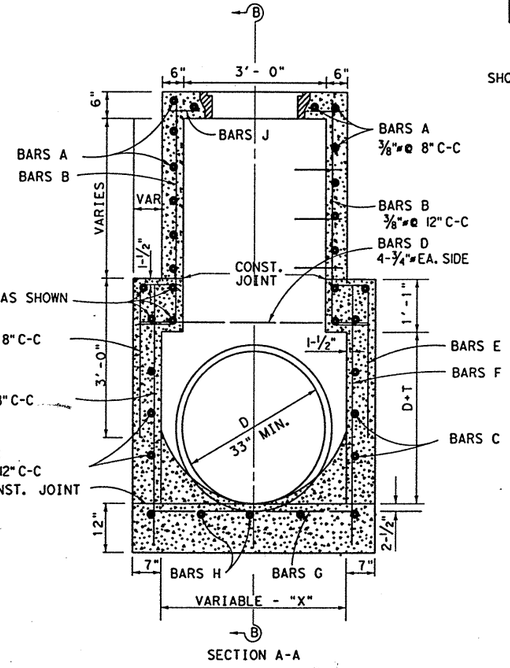


SECTION B-B

NOTE: FRAME AND COVER TO BE OF GRAY CAST IRON CONFORMING TO A.S.T.M. SPEC. A-48 FOR CLASS 30 CAST IRON.

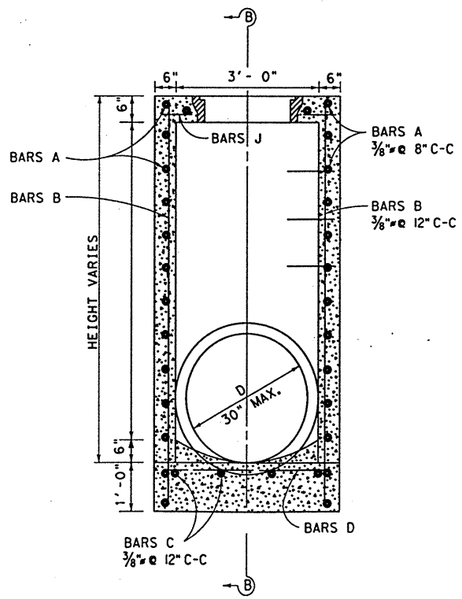


DETAILS OF FRAME



SECTION A-A

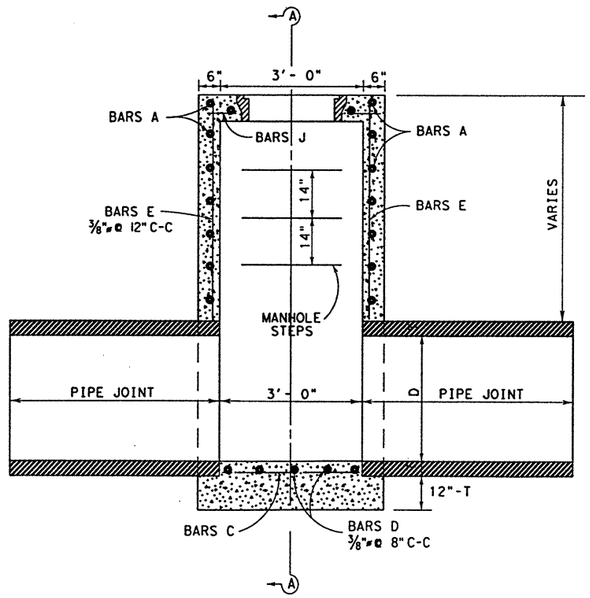
TYPE I MANHOLE



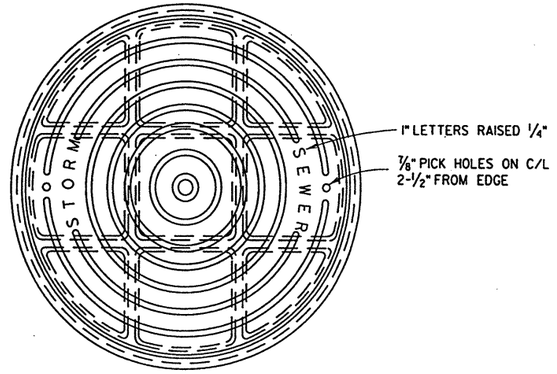
SECTION A-A

* TYPE II MANHOLE TOP SAME AS PLAN FOR TYPE I MANHOLE TOP

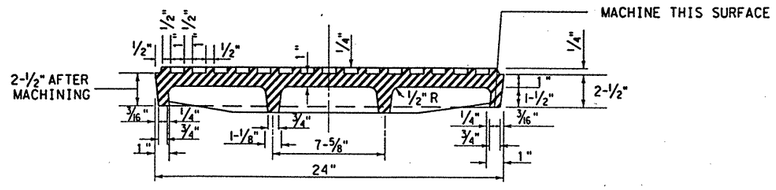
TYPE II MANHOLE



SECTION B-B



TOP PLAN OF COVER



SECTION OF COVER

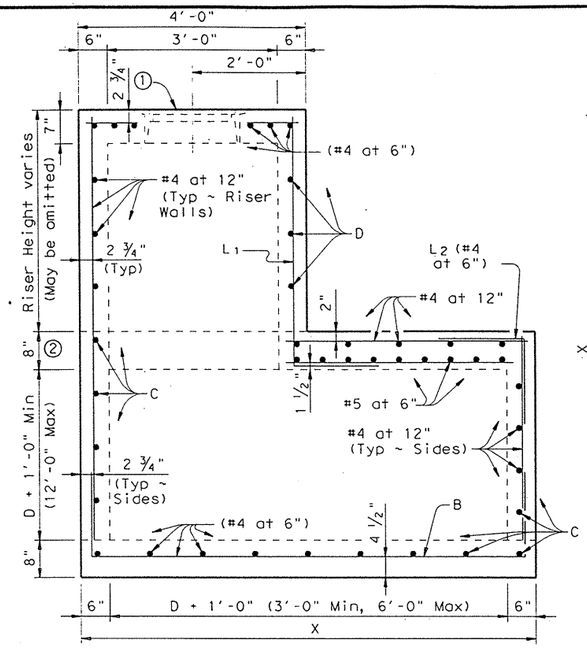
TxDOT
DALLAS DISTRICT STANDARD

TYPE I & II
MANHOLE DETAILS
MANHOLE FRAME & COVER TY A

2/92

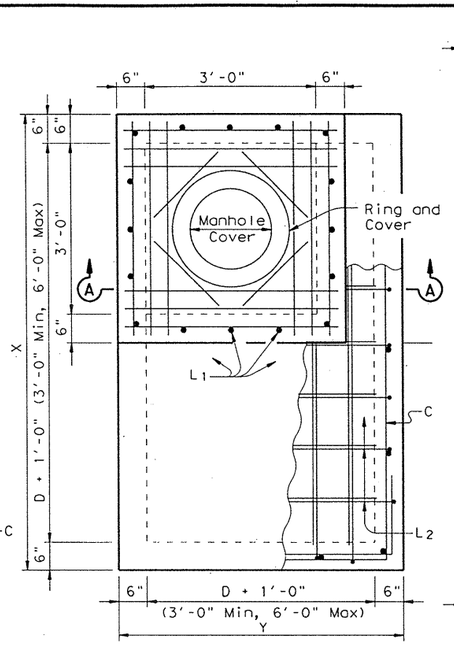
FED.RD. DIV.NO.	STATE	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	TEXAS	NH 99(367)		SH66
STATE DIST. NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	039	352

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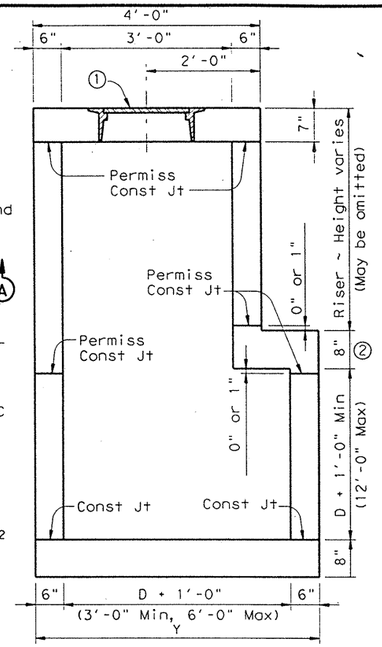


ELEVATION

D = Maximum inside diameter of any Pipe entering the side shown or the opposite side



PLAN

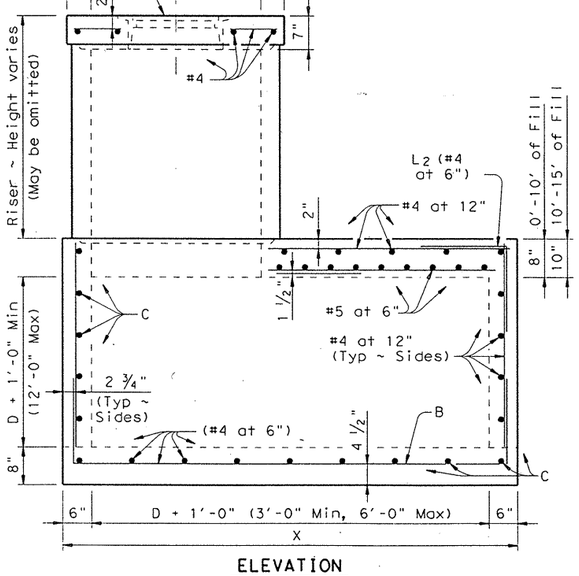


SECTION A-A

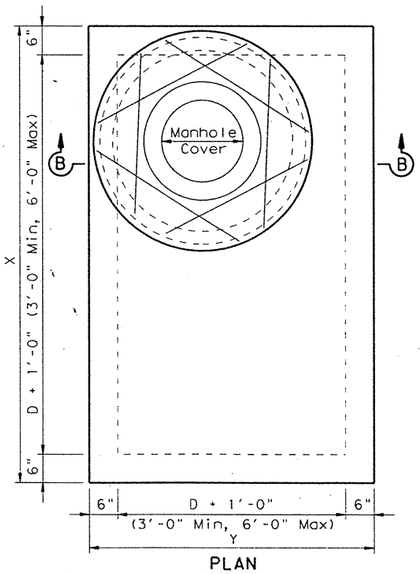
MANHOLE WITH CAST-IN-PLACE RISER

① See Ring and Cover Details

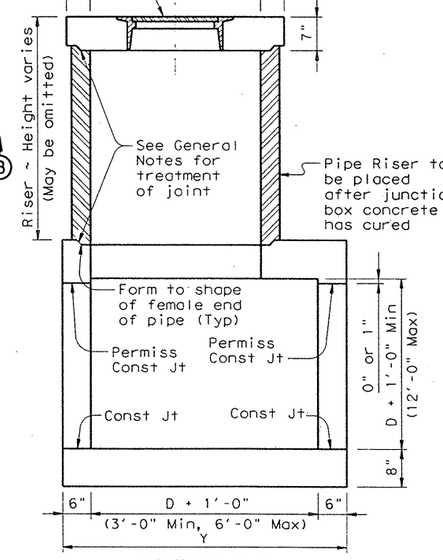
② for 0'-15' of Fill



ELEVATION

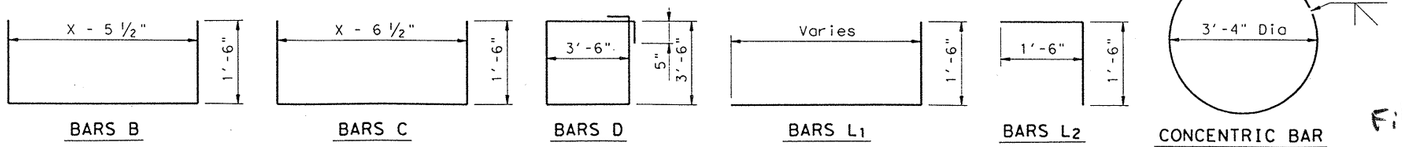


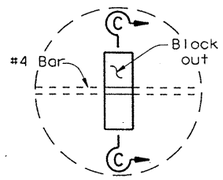
PLAN



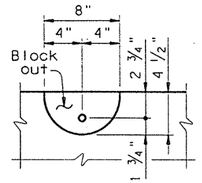
SECTION B-B

OPTIONAL MANHOLE WITH CONCRETE PIPE RISER



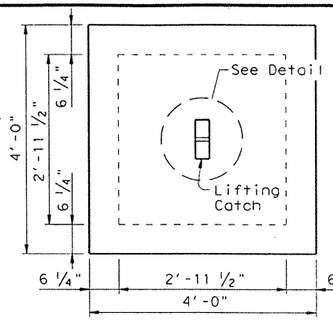


DETAIL "A"

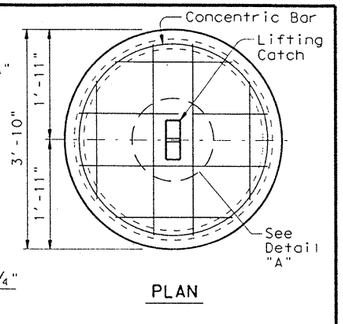


SECTION C-C

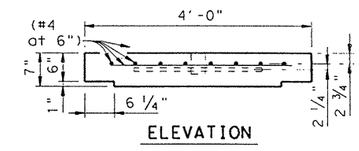
LIFTING CATCH



PLAN

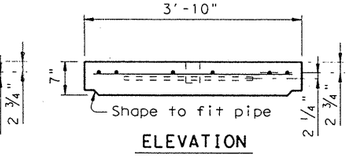


PLAN



ELEVATION

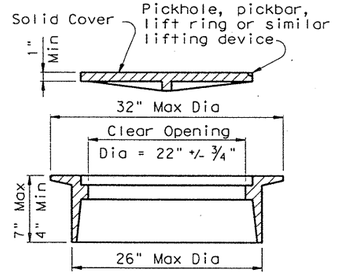
CAST-IN-PLACE RISER COVER



ELEVATION

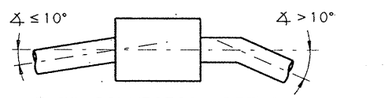
CONCRETE PIPE RISER COVER

OPTIONAL PRECAST CONCRETE LIFT-OFF COVERS



RING AND COVER DETAILS

Approximate Weight = 245 lb



PIPE CONNECTION DETAIL

Connecting pipes should enter within 10° of normal to inlet wall. If necessary, pipe elbow or curved approach alignment should be used to stay within this limit.

GENERAL NOTES:

Unless otherwise shown in the plans, payment will be made for each manhole of the Type M.

Alternate design drawings bearing the seal of a registered professional engineer will be acceptable for precast construction of the manholes.

Shop drawings will not be required.

The Contractor may with the approval of the Engineer furnish manholes of equivalent structural design.

In areas of conflict between reinforcing steel, blockouts, pipes, anchor bolts or other reinforcing steel, the reinforcement shall be bent or adjusted to clear as directed by the Engineer.

The riser may be constructed of reinforced concrete as shown or of Reinforced Concrete Pipe, Class III, in accordance with ASTM Designation C-76. If pipe is used, joints shall conform to the Item "Reinforced Concrete Pipe Culverts". Precast Concrete Lift-Off Cover may be substituted for Ring and Cover.

The riser, either cast-in-place or concrete pipe, may be located in any corner.

All reinforcing steel shall be #4 unless otherwise noted.

Pipes may enter any or all walls. The maximum size of pipe that can be accommodated is 60". More than one pipe may enter a side, subject to the maximum box dimension shown. The clear distance between adjacent pipes should be 9" minimum.

Ring and cover shall conform to the requirements of AASHTO M306, "Standard Specification for Drainage Structure Castings". Materials shall conform to ASTM A48, Class 35B for gray iron castings or ASTM A536, Grade 65-45-12 for ductile iron castings. Aluminum alloy castings shall not be permitted.

Texas Department of Transportation
Bridge Division

MANHOLE TYPE M
(JUNCTION BOX WITH ACCESS)

MH-M

For M.H's with > 3' Pipe Corrugated the Flat File
File: SH CC Shop Dwg

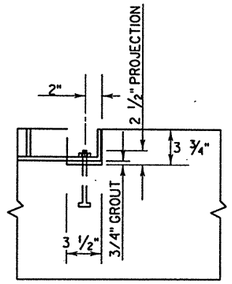
FILE: mh-mstde.dgn	DN: TxDOT	CK: TER	DW: MCB	CK: TER/GAF
© TxDOT September 2000	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS				352A
	COUNTY	CONTROL	SECT	JOB	HIGHWAY

PATH:

LEVELS DISPLAY

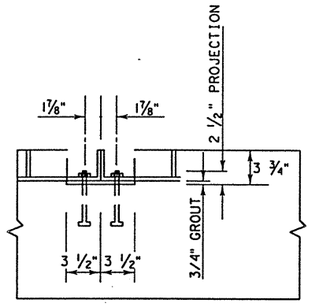
6185

TYCINL34.DGN

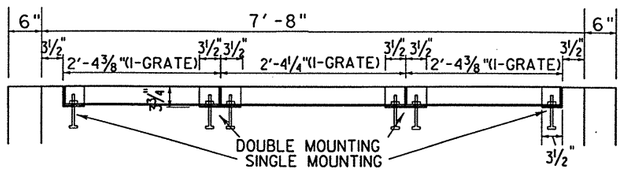


SINGLE MOUNTING

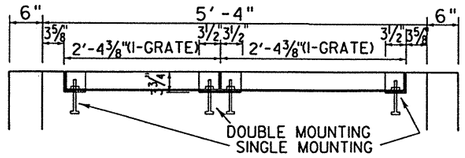
INTERIOR ANGLES W/4 - ½" DIAMETER X 6" BOLTS, HEX NUTS AND WASHERS



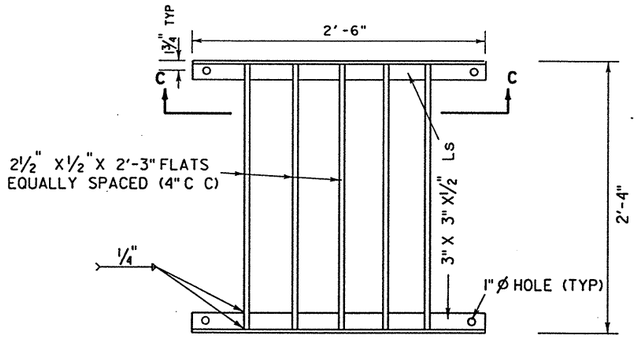
DOUBLE MOUNTING



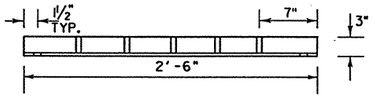
THREE GRATES



TWO GRATES

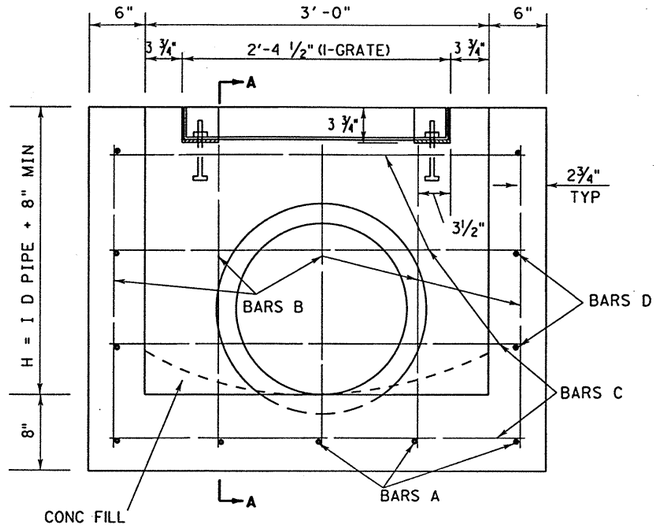


PLAN

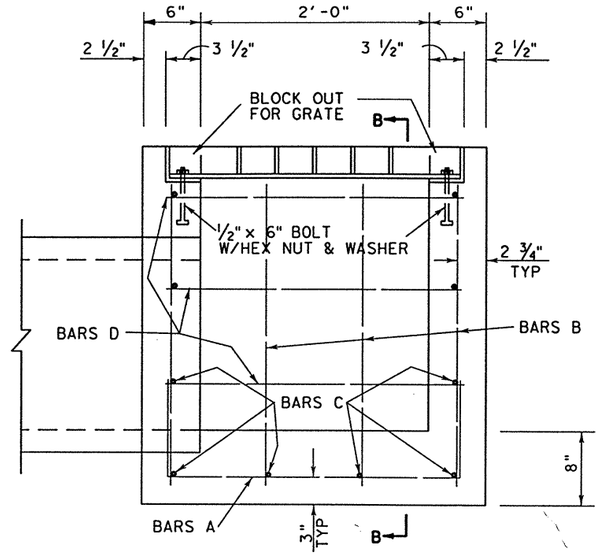


GRATE DETAILS TYPE "C"

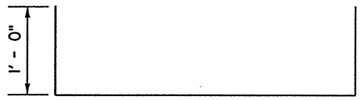
SECTION C-C

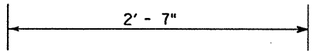


SECTION B-B



SECTION A-A





BAR A

GENERAL NOTES

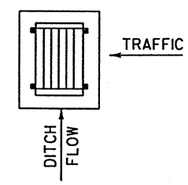
EXPOSED EDGES SHALL BE CHAMFERED ¾".

ALL CONCRETE SHALL BE CLASS "A".

ALL DIMENSIONS TO REINFORCING STEEL ARE TO CENTERS OF BARS.

IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, BLOCKOUTS, PIPES ANCHOR BOLTS OR OTHER REINFORCING STEEL, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.

IF POSSIBLE HORIZONTAL GRATE INLET SHOULD BE ORIENTED SUCH THAT BOTH TRAFFIC AND DITCH WATER APPROACH THE INLET IN THE MANNER SHOWN AT RIGHT. IF THIS IS NOT POSSIBLE, ORIENTATION SHOULD FAVOR TRAFFIC FLOW WHERE PIPE SIZES PERMIT.



STRUCTURAL STEEL FOR GRATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A-36 OR AISI DESIGNATION M 1010 - M 1020. PAYMENT FOR GRATES SHALL BE MADE UNDER THE BID ITEM "GRATE (TY C)".

QUANTITIES FOR CONCRETE AND STEEL ARE FOR CONTRACTOR'S INFORMATION ONLY.

PAYMENT FOR INLETS SHALL BE MADE UNDER TTHE BID ITEM "INLETS (COMP) (TY C 1 GRATE), (TY C 2 GRATE) OR (TY C 3 GRATE)".

CONCRETE TO BE DEDUCTED FOR PIPES

PIPE SIZE	CONC. C.Y.
15"	0.04
18"	0.05
21"	0.07
24"	0.09
27"	0.11
30"	0.14
33"	0.17
36"	0.20
39"	0.23
42"	0.26
48"	0.34

BILL OF REINFORCING STEEL FOR TYPE "C" INLETS

	"H"	BARS A 12" C.C.				BARS B 12" C.C.				BARS C 12" C.C.				BARS D 12" C.C.				REINF. STEEL	CL. "A" CONC.*	GRATE
		NO.	LENGTH	SIZE	WT.	NO.	LENGTH	SIZE	WT.	NO.	LENGTH	SIZE	WT.	NO.	LENGTH	SIZE	WT.	LB.	C.Y.	
1-GRATE	2'- 2"	5	4'- 7"	4	15	14	2'- 4"	4	22	8	3'- 8"	4	20	4	2'- 8"	4	7	64	0.78	
	2'- 6"	5	4'- 7"	4	15	14	2'- 8"	4	25	10	3'- 8"	4	24	6	2'- 8"	4	11	75	0.85	
	3'- 0"	5	4'- 7"	4	15	14	3'- 2"	4	30	10	3'- 8"	4	24	6	2'- 8"	4	11	80	0.96	95#
	3'- 6"	5	4'- 7"	4	15	14	3'- 8"	4	34	12	3'- 8"	4	29	8	2'- 8"	4	14	92	1.07	
	4'- 0"	5	4'- 7"	4	15	14	4'- 2"	4	39	12	3'- 8"	4	29	8	2'- 8"	4	14	97	1.18	
	4'- 6"	5	4'- 7"	4	15	14	4'- 8"	4	44	14	3'- 8"	4	34	10	2'- 8"	4	18	111	1.29	
	6'- 6"	5	4'- 7"	4	15	14	6'- 8"	4	62	18	3'- 8"	4	44	14	2'- 8"	4	25	146	1.73	
2-GRATE	5'- 0"	5	4'- 7"	4	15	14	5'- 2"	4	48	14	3'- 8"	4	34	10	2'- 8"	4	18	115	1.40	
	3'- 0"	7	4'- 7"	4	21	18	3'- 2"	4	38	10	6'- 0"	4	40	6	2'- 8"	4	11	110	1.38	
	3'- 6"	7	4'- 7"	4	21	18	3'- 8"	4	44	12	6'- 0"	4	48	8	2'- 8"	4	14	127	1.53	
	4'- 0"	7	4'- 7"	4	21	18	4'- 2"	4	50	12	6'- 0"	4	48	8	2'- 8"	4	14	133	1.68	190#
	4'- 6"	7	4'- 7"	4	21	18	4'- 8"	4	56	14	6'- 0"	4	56	10	2'- 8"	4	18	151	1.83	
	5'- 0"	7	4'- 7"	4	21	18	5'- 2"	4	62	14	6'- 0"	4	56	10	2'- 8"	4	18	157	1.98	
	5'- 6"	7	4'- 7"	4	21	18	4'- 2"	4	68	16	6'- 0"	4	64	12	2'- 8"	4	21	174	2.13	
3-GRATE	3'- 6"	10	4'- 7"	4	31	24	3'- 8"	4	59	12	8'- 4"	4	67	8	2'- 8"	4	14	171	1.23	
	4'- 0"	10	4'- 7"	4	31	24	5'- 8"	4	67	12	8'- 4"	4	67	8	2'- 8"	4	14	179	2.22	
	4'- 6"	10	4'- 7"	4	31	24	4'- 8"	4	75	14	8'- 4"	4	78	10	2'- 8"	4	18	202	2.41	
	5'- 0"	10	4'- 7"	4	31	24	5'- 2"	4	83	14	8'- 4"	4	78	10	2'- 8"	4	18	210	2.60	
	5'- 6"	10	4'- 7"	4	31	24	5'- 8"	4	91	16	8'- 4"	4	89	12	2'- 8"	4	21	232	2.79	285#
	6'- 0"	10	4'- 7"	4	31	24	6'- 2"	4	99	16	8'- 4"	4	89	12	2'- 8"	4	21	240	2.98	
	6'- 6"	10	4'- 7"	4	31	24	6'- 8"	4	107	18	8'- 4"	4	100	14	2'- 8"	4	25	263	3.17	
4-GRATE	4'- 4"	12	4'- 7"	4	37	28	4'- 6"	4	84	14	12'- 8"	4	119	10	2'- 8"	4	18	258	2.89	
	4'- 6"	12	4'- 7"	4	37	28	4'- 8"	4	87	14	12'- 8"	4	119	10	2'- 8"	4	18	261	2.47	380#
5-GRATE	3.20'	14	4'- 7"	4	43	32	3.37'	4	72	10	13'- 0"	4	87	6	2'- 8"	4	11	213	2.79	
	4'- 6"	14	4'- 7"	4	43	32	4'- 8"	4	100	14	13'- 0"	4	122	10	2'- 8"	4	18	283	3.53	475#
6-GRATE	5'- 0"	17	4'- 7"	4	52	38	5'- 2"	4	131	14	15'- 5"	4	144	10	2'- 8"	4	18	345	6.36	
																				570#

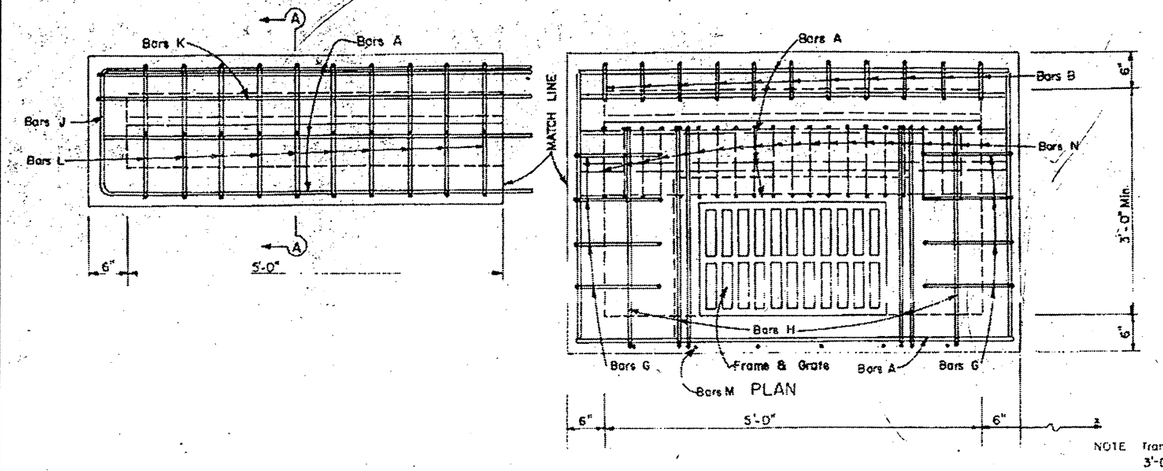
* DOES NOT INCLUDE QUANTITY FOR SHAPING OR DEDUCTION FOR PIPES.

INLET DETAILS TYPE "C"

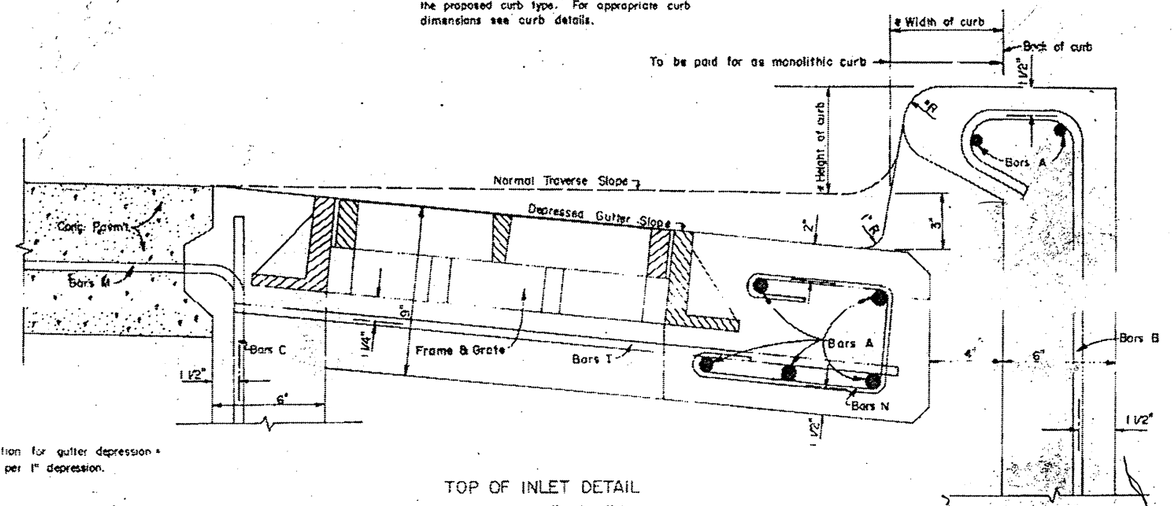
DISTRICT 18 STANDARD

FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH99(367)		353
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH66

CGIT2D34.DGN

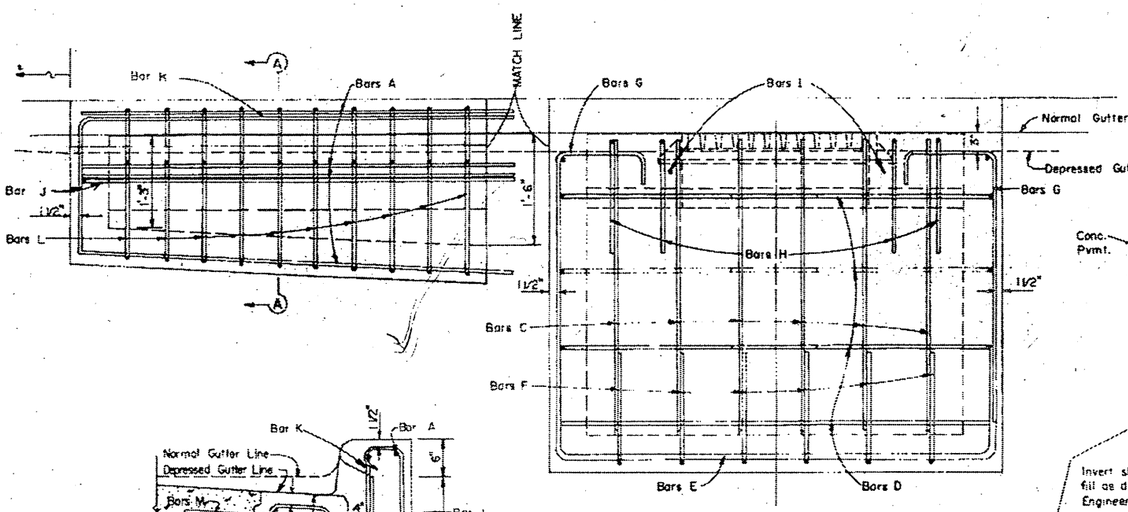


* Dimensions for curb sections vary according to the proposed curb type. For appropriate curb dimensions see curb details.

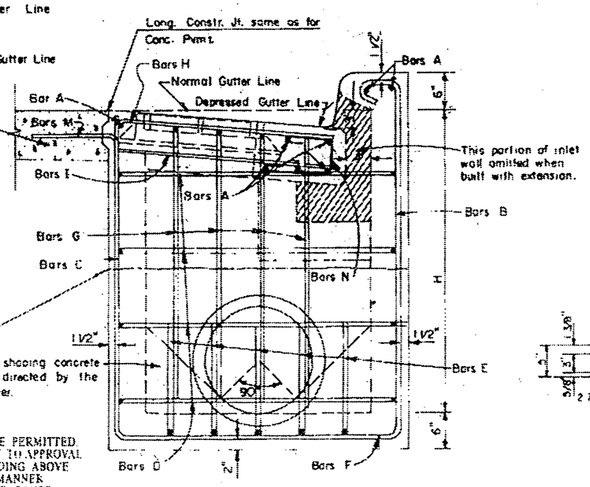


NOTE Transition for gutter depression = 3'-0" per 1" depression.

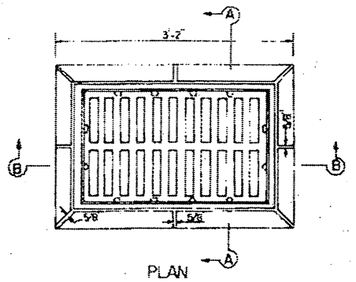
TOP OF INLET DETAIL
Scale: 3"= 1'-0"



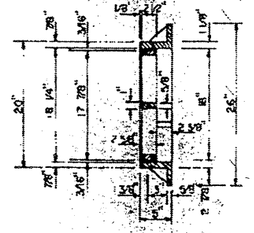
ELEVATION



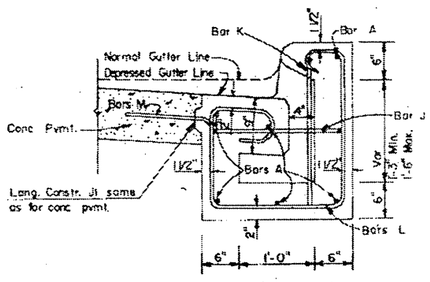
SIDE VIEW



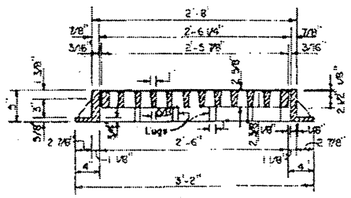
PLAN



SECTION A-A



SECTION A-A

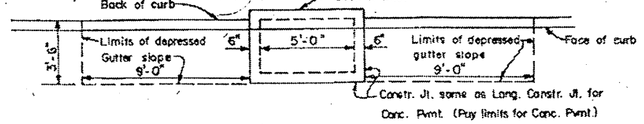


SECTION B-B

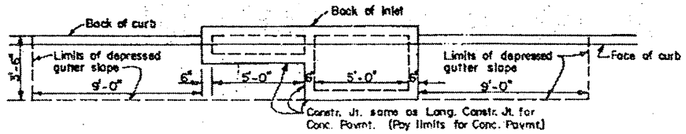
NOTE:
Frame and grate to be of gray cast iron conforming to A.S.T.M. Spec A-48 for Class No. 30 Cast Iron.

FRAME & GRATE TYPE A

ONE HORIZONTAL CONSTRUCTION JOINT WILL BE PERMITTED THE LOCATION OF THIS JOINT WILL BE SUBJECT TO APPROVAL BY THE ENGINEER. REINFORCING STEEL EXTENDING ABOVE THE CONSTRUCTION JOINT MAY BE BENT IN A MANNER ACCEPTABLE TO THE ENGINEER TO PROVIDE CLEARANCE FOR PAVING OPERATIONS. IN LIEU OF BENDING THE STEEL, THE CONTRACTOR MAY PROVIDE A MINIMUM 1'-0" LAP SPLICE TO THE LOWER STEEL.

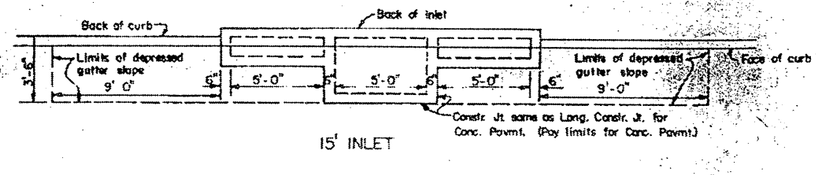


5' INLET



10' INLET

PLAN OF INLET AND EXTENSIONS



15' INLET

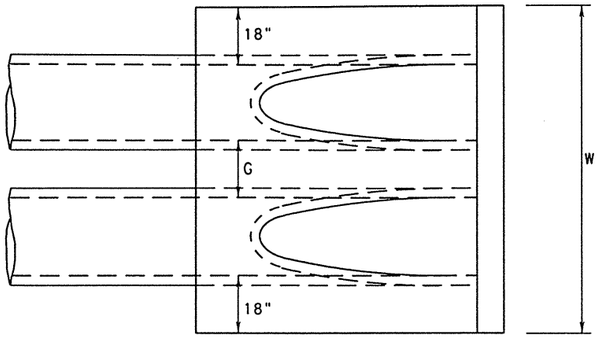
CURB & GRATE INLET TYPE II DETAILS

TxDOT
DISTRICT 18 STANDARD

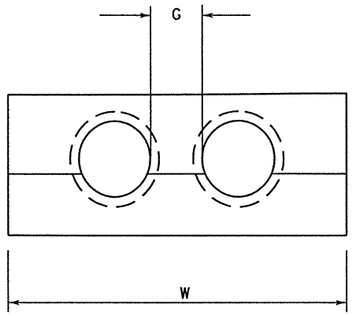
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99(367)		354
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONTROL	SECTION	JOB	HIGHWAY NO.
6009	04	039	SH66

SHEET 1 OF 2

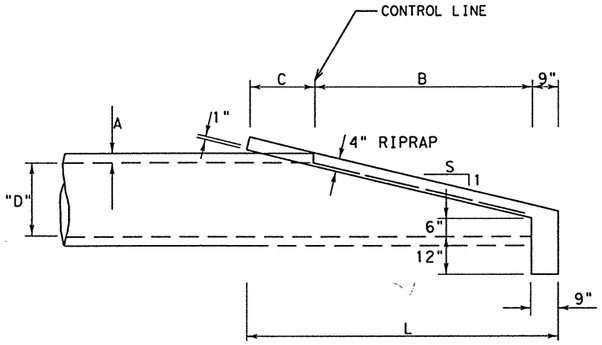
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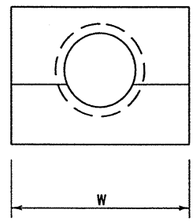
TOP VIEW
MULTIPLE PIPES



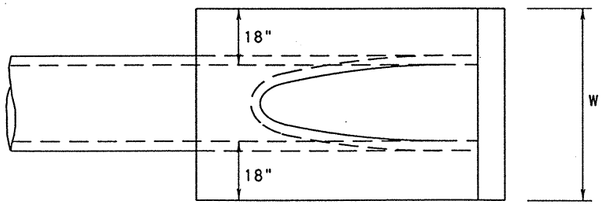
END VIEW
MULTIPLE PIPES



SIDE VIEW
SINGLE OR MULTIPLE PIPES



END VIEW
SINGLE PIPE



TOP VIEW
SINGLE PIPE

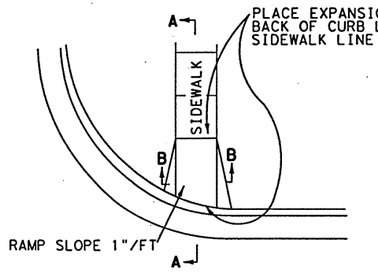
NO PIPES	NPS SIZE (IN)	NPS SIZE (MM)	OUTSIDE DIA (MM)	SLOPE	DIMENSIONS (IN)						RIPRAP CY
					A	B	C	L	G	W	
1	18	450	565	1:3	2 1/4"	36"	24"	69"	---	54"	0.44
2	"	"	"	"	"	"	"	"	14"	86"	0.72
3	"	"	"	"	"	"	"	"	14"	118"	1.01
1	"	"	"	1:4	"	48"	33"	90"	---	54"	0.52
2	"	"	"	"	"	"	"	"	14"	86"	0.87
3	"	"	"	"	"	"	"	"	14"	118"	1.21
1	"	"	"	1:5	"	60"	39"	108"	---	54"	0.60
2	"	"	"	"	"	"	"	"	14"	86"	0.99
3	"	"	"	"	"	"	"	"	14"	118"	1.39
1	"	"	"	1:6	"	72"	48"	129"	---	54"	0.68
2	"	"	"	"	"	"	"	"	14"	86"	1.13
3	"	"	"	"	"	"	"	"	14"	118"	1.59
1	21	525	650	1:3	2 1/2"	45"	24"	78"	---	57"	0.49
2	"	"	"	"	"	"	"	"	15"	93"	0.84
3	"	"	"	"	"	"	"	"	15"	129"	1.18
1	"	"	"	1:4	"	60"	33"	102"	---	57"	0.59
2	"	"	"	"	"	"	"	"	15"	93"	1.01
3	"	"	"	"	"	"	"	"	15"	129"	1.44
1	"	"	"	1:5	"	75"	39"	123"	---	57"	0.67
2	"	"	"	"	"	"	"	"	15"	93"	1.16
3	"	"	"	"	"	"	"	"	15"	129"	1.65
1	"	"	"	1:6	"	90"	48"	147"	---	57"	0.77
2	"	"	"	"	"	"	"	"	15"	93"	1.34
3	"	"	"	"	"	"	"	"	15"	129"	1.90
1	24	600	750	1:3	3"	54"	24"	87"	---	60"	0.54
2	"	"	"	"	"	"	"	"	17"	101"	0.97
3	"	"	"	"	"	"	"	"	17"	142"	1.40
1	"	"	"	1:4	"	72"	33"	114"	---	60"	0.65
2	"	"	"	"	"	"	"	"	17"	101"	1.18
3	"	"	"	"	"	"	"	"	17"	142"	1.71
1	"	"	"	1:5	"	90"	39"	138"	---	60"	0.75
2	"	"	"	"	"	"	"	"	17"	101"	1.36
3	"	"	"	"	"	"	"	"	17"	142"	1.98
1	"	"	"	1:6	"	108"	48"	165"	---	60"	0.86
2	"	"	"	"	"	"	"	"	17"	101"	1.57
3	"	"	"	"	"	"	"	"	17"	142"	2.28
1	27	675	840	1:3	3 1/4"	63"	24"	96"	---	63"	0.59
2	"	"	"	"	"	"	"	"	18 1/2"	108.5"	1.10
3	"	"	"	"	"	"	"	"	18 1/2"	154"	1.61
1	"	"	"	1:4	"	84"	33"	126"	---	63"	0.72
2	"	"	"	"	"	"	"	"	18 1/2"	108.5"	1.35
3	"	"	"	"	"	"	"	"	18 1/2"	154"	1.98
1	"	"	"	1:5	"	105"	39"	153"	---	63"	0.83
2	"	"	"	"	"	"	"	"	18 1/2"	108.5"	1.57
3	"	"	"	"	"	"	"	"	18 1/2"	154"	2.31
1	"	"	"	1:6	"	126"	48"	183"	---	63"	0.96
2	"	"	"	"	"	"	"	"	18 1/2"	108.5"	1.81
3	"	"	"	"	"	"	"	"	18 1/2"	154"	2.67
1	30	750	925	1:3	3 1/2"	72"	24"	105"	---	66"	0.65
2	"	"	"	"	"	"	"	"	20"	116"	1.25
3	"	"	"	"	"	"	"	"	20"	166"	1.85
1	"	"	"	1:4	"	96"	33"	138"	---	66"	0.79
2	"	"	"	"	"	"	"	"	20"	116"	1.53
3	"	"	"	"	"	"	"	"	20"	166"	2.28
1	"	"	"	1:5	"	120"	39"	168"	---	66"	0.91
2	"	"	"	"	"	"	"	"	20"	116"	1.79
3	"	"	"	"	"	"	"	"	20"	166"	2.66
1	"	"	"	1:6	"	144"	48"	201"	---	66"	1.05
2	"	"	"	"	"	"	"	"	20"	116"	2.07
3	"	"	"	"	"	"	"	"	20"	166"	3.09
1	33	825	1015	1:3	3 3/4"	81"	24"	114"	---	69"	0.70
* 2	"	"	"	"	"	"	"	"	21 1/2"	123.5"	1.40
* 3	"	"	"	"	"	"	"	"	21 1/2"	178"	2.09
1	"	"	"	1:4	"	108"	33"	150"	---	69"	0.86
* 2	"	"	"	"	"	"	"	"	21 1/2"	123.5"	1.73
* 3	"	"	"	"	"	"	"	"	21 1/2"	178"	2.59
1	"	"	"	1:5	"	135"	39"	183"	---	69"	1.00
* 2	"	"	"	"	"	"	"	"	21 1/2"	123.5"	2.02
* 3	"	"	"	"	"	"	"	"	21 1/2"	178"	3.05
1	"	"	"	1:6	"	162"	48"	219"	---	69"	1.15
* 2	"	"	"	"	"	"	"	"	21 1/2"	123.5"	2.35
* 3	"	"	"	"	"	"	"	"	21 1/2"	178"	3.54

REFER TO CD-SPR FOR DETAILS NOT SHOWN
* MULTIPLE PIPES GREATER THAN 30" DIAMETER REQUIRE SAFETY PIPE RUNNERS

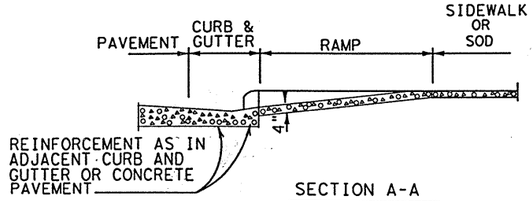
SAFETY END TREATMENT

TxDOT
DALLAS DISTRICT STANDARD 2/92

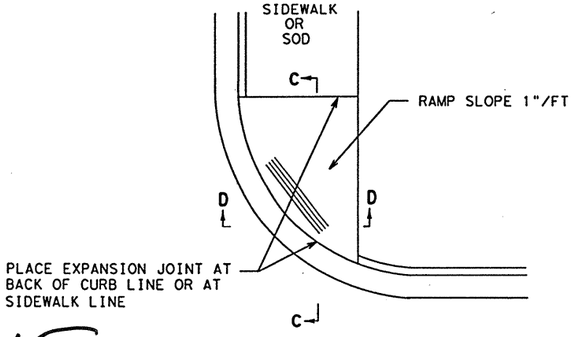
FED.RD. DIV.NO.	STATE	FEDERAL AID PROJECT NO.		HIGHWAY NO.
6	TEXAS	NH 99(367)		SH66
STATE DIST. NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
18	ROCKWALL	0009	04	039	355



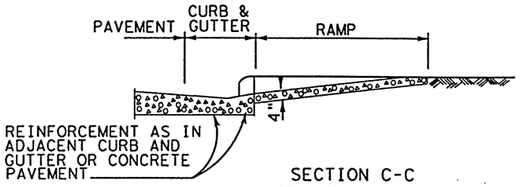
PLAN VIEW



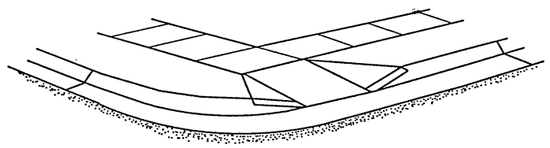
SECTION A-A

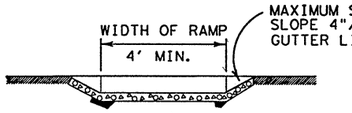


PLAN VIEW



SECTION C-C



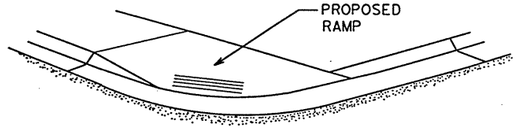


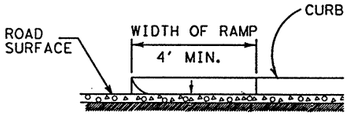
SECTION B-B

Minh Tran

STATE OF TEXAS
MINH TRAN
84840
LICENSED
PROFESSIONAL ENGINEER

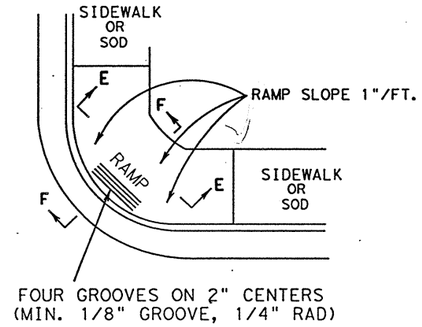
5/17/99



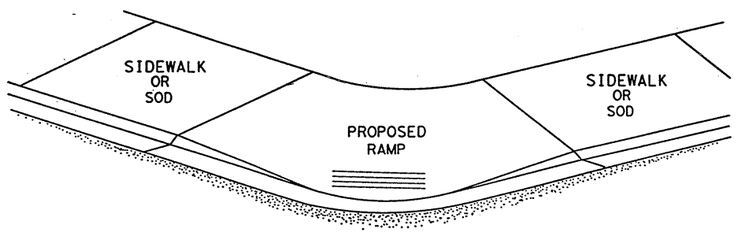


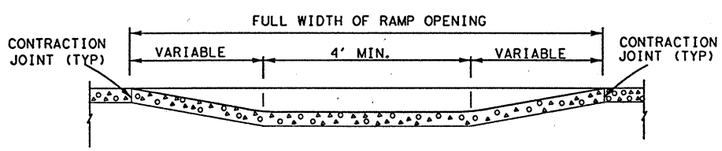
SECTION D-D

SIDEWALK RAMP TYPE 1

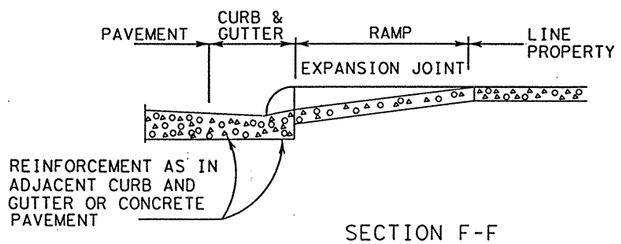


PLAN VIEW





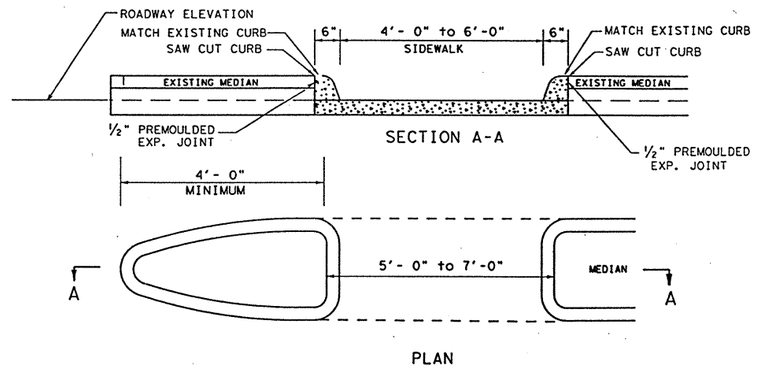
SECTION E-E



SECTION F-F

SIDEWALK RAMP TYPE 2

REPLACED 6-28-99 VLWII



SECTION A-A

PLAN

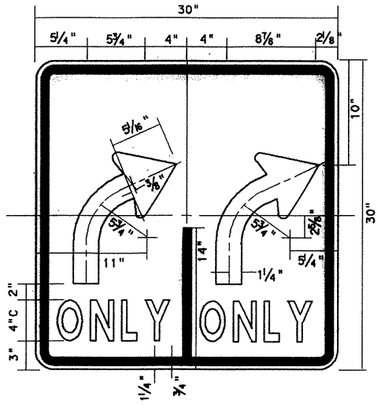
MEDIAN CUTOUT

SIDEWALK RAMP DETAILS (SRD-DALLAS) MOD.

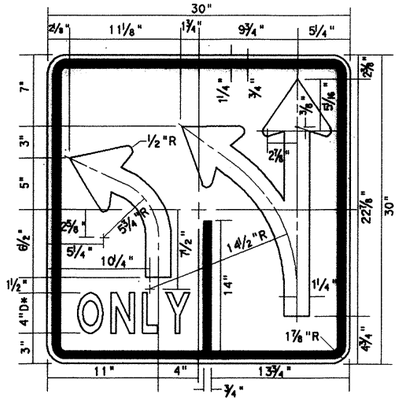
MOD. 1-93, 1-94, 8-97

DALLAS DISTRICT STANDARD

FED. RD. DIV. NO.	STATE PROJECT NO.			SHEET NO.
6	NH 99 (367)			356
STATE	STATE DIST. NAME		COUNTY	
TEXAS	DALLAS		ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.	
9	04	39	SH 66	

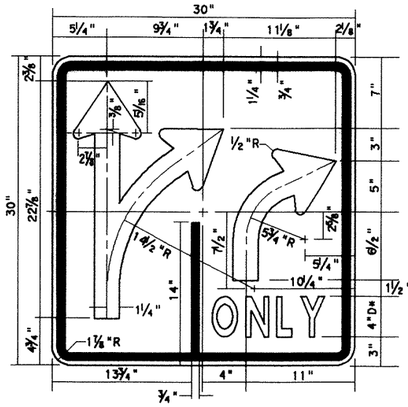


R3-8RR
30"× 30"

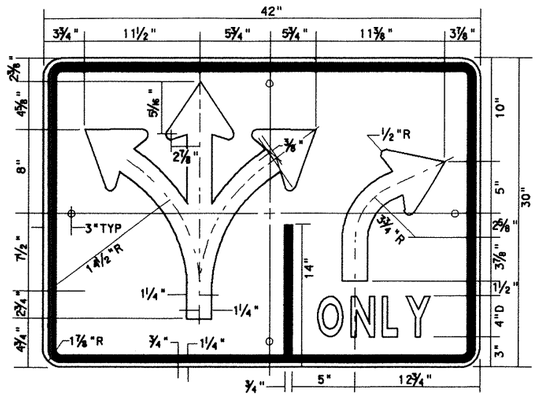


* SPACING REDUCED 50%

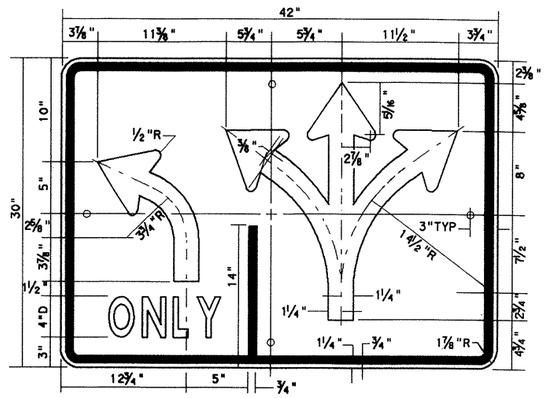
R3-8L
30"× 30"



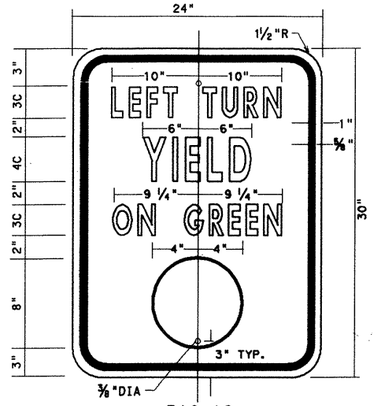
R3-8R
30"× 30"



R3-8R(SPL)
42"× 30"

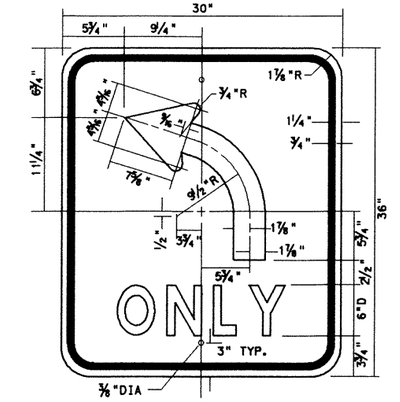


R3-8L(SPL)
42"× 30"

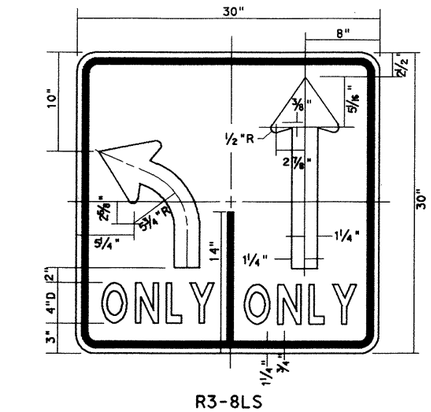


R10-12
24"× 30"

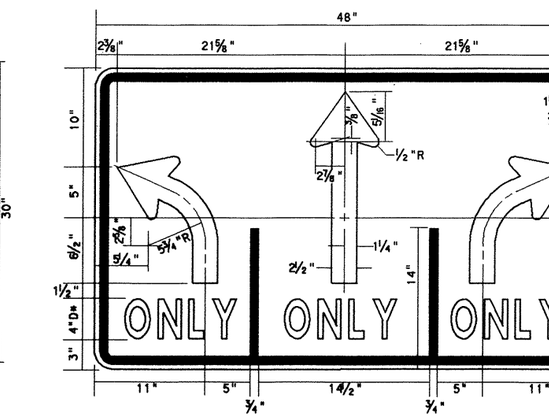
LEGEND BLACK(NON-REFLECTIVE)
BACKGROUND WHITE(REFLECTIVE)
CIRCULAR GREEN(REFLECTIVE)



R3-5L
R3-5R(RT. ARROW)
30"× 36"

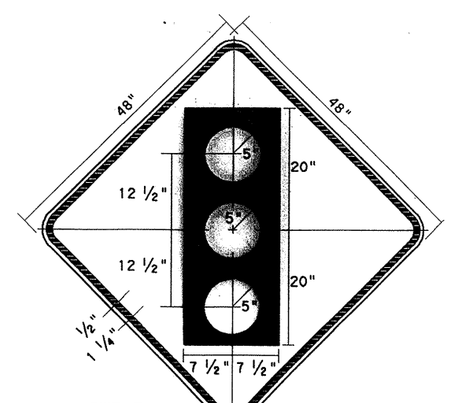


R3-8LS
30"× 30"



R3-8RSL
48"× 30"

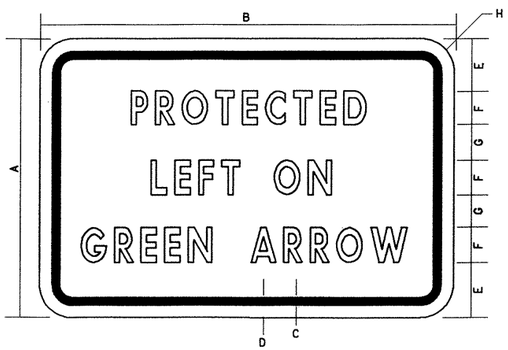
*SPACING REDUCED 50%



SW3-3
48"× 48"

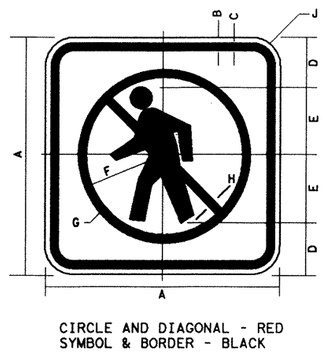
COLORS

SYMBOL & LEGEND- BLACK (NON-REFL.)
TOP CIRCLE - RED (REFL.)
BOTTOM CIRCLE - GREEN (REFL.)
BACKGROUND - YELLOW (REFL.)
TYPE C REFLECTIVE SHEETING

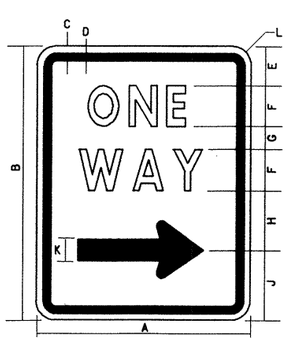


SIGN NO.	SIGN	DIMENSIONS (INCHES)							
		A	B	C	D	E	F	G	H
R10-9	STD.	12	18	⅜	¾	2	2 C	1	1 ½
SR10-9S	EXPWY.	18	30	⅜	¾	3	3 C	1 ½	1 ½
SR10-9	FRWY.	24	36	⅝	1	4	4C*	2	1 ½

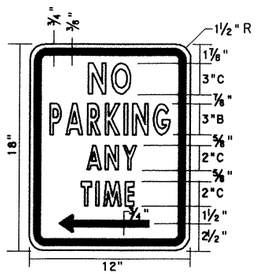
* - REDUCE SPACING 40%



SIGN NO.	SIGN	DIMENSIONS (INCHES)									
		A	B	C	D	E	F	G	H	J	
R9-3a	STD.	18	1	⅝	3 ½	5 ½	6 ⅜	7 ⅞	1 ½	1 ½	
ER9-3a	EXPWY.	24	1	⅝	4 ½	7 ½	8 ½	10½	2	1 ½	
FR9-3a	FRWY.	30	1¼	¾	5 ¾	9 ¼	10⅝	13⅜	2 ½	1 ⅞	



SIGN NO.	SIGN	DIMENSIONS (INCHES)										
		A	B	C	D	E	F	G	H	J	K	L
R6-2	STD.	18	24	1	⅝	2½	5D	1½	4½	5½	2¼	1½
SR6-2	SPEC.	24	30	1	⅝	3	6D	1⅞	6 6/16	7 7/16	3	1½



R7-1L
R7-1R(RT ARROW)
R7-1LR(DBL ARROW)
12"× 18"

GENERAL NOTES:

ALPHABETS AND LATERAL SPACING BETWEEN LETTERS AND NUMERALS SHALL CONFORM WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", LATEST EDITION AND ANY APPROVED CHANGES THERETO. LATERAL SPACING OF TEXT SHALL BE SUCH AS TO PROVIDE A BALANCED APPEARANCE.

SIGN BACKGROUNDS SHALL BE OF FLAT SURFACE REFLECTIVE SHEETING CONFORMING WITH THE SPECIFICATIONS (TYPE A) UNLESS OTHERWISE SPECIFIED IN THE PLANS.

SIGN LEGENDS SHALL BE APPLIED BY THE SCREENING PROCESS.

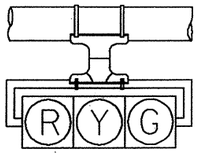
THE SIGN BLANKS SHALL BE ONE PIECE⅝INCH THICK PLYWOOD (TYPE A) CONFORMING TO THE SPECIFICATIONS UNLESS ATTACHED TO SIGNAL POLES.

THE SIGN BLANKS SHALL BE ONE PIECE SHEET ALUMINUM ALLOY 0.080 INCH THICK CONFORMING TO THE ITEM "ALUMINUM SIGNS (TYPE A)" WHEN ATTACHED TO SIGNAL POLES.

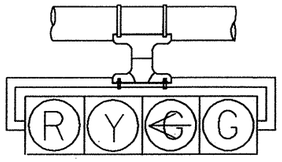
SIGNS

DALLAS DISTRICT STANDARD

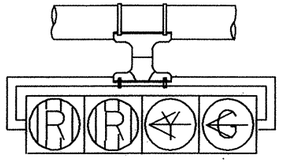
FED. RD. DIV. NO.	STATE PROJECT NO.		SHEET NO.
6	NH99 (367)		357
STATE	STATE DIST. NO.	COUNTY	
TEXAS	DALLAS	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



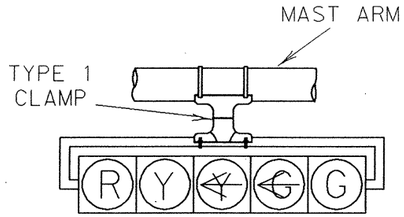
H3



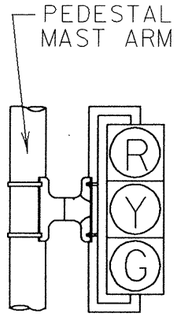
H4LT



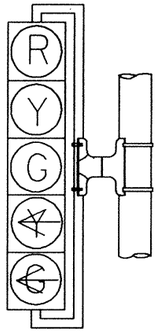
H4LLT



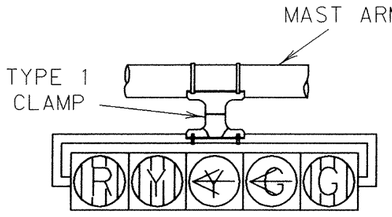
H5LT



V3

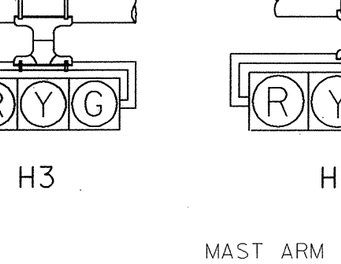


V5LT



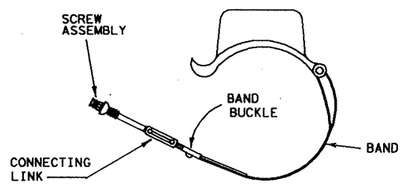
H5LLT

NOTE:
VERTICAL LOUVERS SHALL BE INSTALLED ON HORIZONTAL MOUNTED SIGNALS, HORIZONTAL LOUVERS SHALL BE INSTALLED ON VERTICAL MOUNTED SIGNAL WHEN NEEDED.



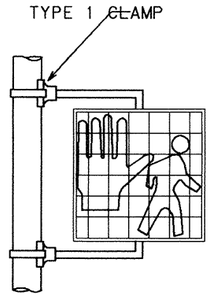
TYPE 2 CLAMP KIT

SHALL BE INSTALLED WHEN ROTATION ABOUT THE HORIZONTAL AND VERTICAL AXES ARE NEEDED.

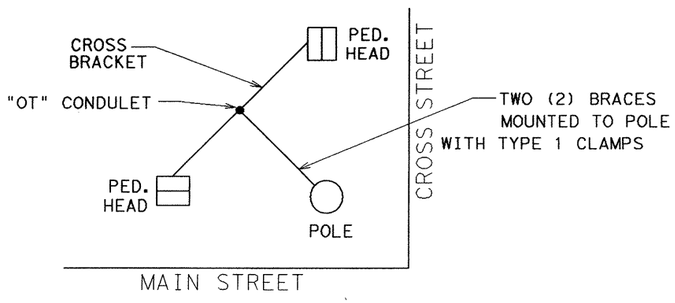


TYPE 1 CLAMP

1 NOTE:
CLAM SHELL MOUNTING HARDWARE MAY BE USED INSTEAD OF MOUNTING HARDWARE SHOWN ABOVE, AS APPROVED BY THE ENGINEER. ICC P/N 4805 OR OR McCAIN QUICKMOUNT OR APPROVED EQUAL.



PEDESTRIAN SIGNAL HEAD MOUNTING
FOR ONE PEDESTRIAN SIGNAL HEAD
152A

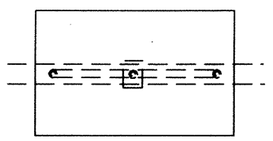


PEDESTRIAN SIGNAL HEAD MOUNTING
FOR TWO PEDESTRIAN SIGNAL HEADS
143C



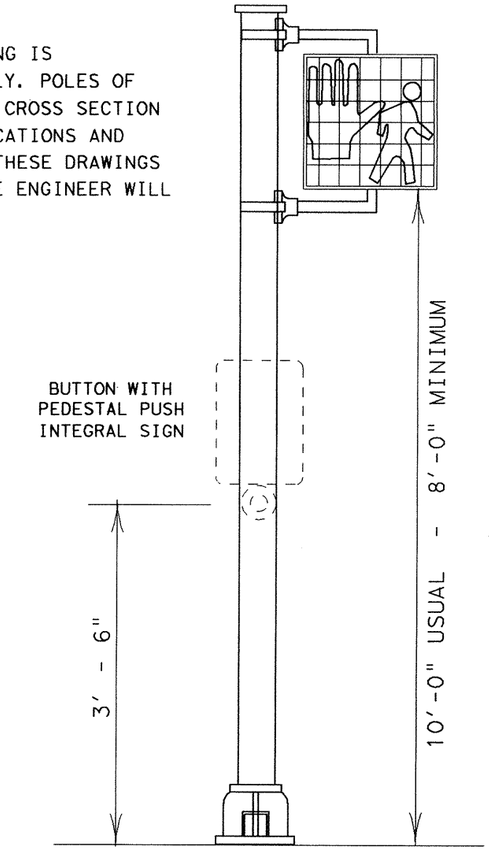
* ONE (1) CLAMP SHALL BE USED ON SIGNS LESS THAN OR EQUAL TO 10'-0" IN LENGTH.

* TWO (2) CLAMPS SHALL BE USED ON SIGNS GREATER THAN 10'-0" IN LENGTH.

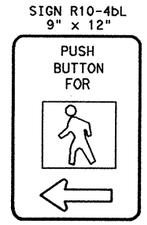


SIGN OR DAMPENING DEVICE
ATTACHMENT FOR MAST ARMS

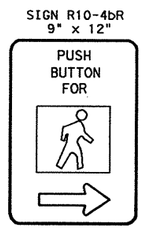
NOTE:
THE POLE ON THIS DRAWING IS SHOWN AS AN EXAMPLE ONLY. POLES OF SIMILAR DESIGN FOR ANY CROSS SECTION WHICH MEET THE SPECIFICATIONS AND REQUIREMENTS SHOWN ON THESE DRAWINGS AND ARE APPROVED BY THE ENGINEER WILL BE DEEMED ACCEPTABLE.



PEDESTAL POLE



PEDESTRIAN PUSHBUTTON
SIGN DETAILS



PEDESTRIAN PUSHBUTTON
SIGN DETAILS

NOTES:

1. VEHICLE AND PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH TYPE 1 CLAMP AND APPROPRIATE TUBING.
2. ALL POLE MOUNTED VEHICLE AND PEDESTRIAN HEADS SHALL BE INSTALLED ON THE AWAY-FROM-TRAFFIC SIDE OF THE PEDESTAL OR MAST ARM POLE.
3. ALL DAMPING DEVICES SHALL BE 18" TO 2' WIDE BY 4' IN LENGTH.
4. ALL WIRING FOR PEDESTRIAN SIGNALS SHALL BE TOTALLY ENCLOSED WITHIN THE SIGNAL MOUNTING HAREWARE.
5. ALL PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON SIGNS SHALL DISPLAY THE SYMBOLIZED MESSAGES SHOWN ABOVE.

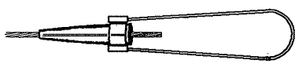
1 ALTERNATIVE MOUNTING METHOD revised 12-92

* REVISED 3-7-97

DALLAS DISTRICT STANDARD

TRAFFIC SIGNAL AND PEDESTRIAN HEAD IDENTIFICATION

FED. RD. DIV. NO.	STATE PROJECT NO.		SHEET NO.
6	NH 99(367) 358		
STATE	STATE DIST.	COUNTY	
TEXAS	DALLAS	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



COMPRESSION FITTING

SOURCES:
RELIABLE ELECTRIC NO. 5264
FARGO NO. OR EQUAL

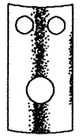
LUMINAIRE ARM

SOURCES:
CROUSE HINDS NO. 106-R82
JOSLYN NO. J75100B OR EQUAL



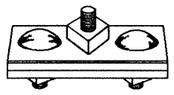
THIMBLEYE BOLT (Angle Type)

SOURCES:
JOSLYN NO. J80 SERIES
McGRAW EDISON DG4F OR EQUAL



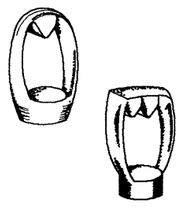
LIFT PLATE

SOURCES:
JOSLYN J7886
McGRAW EDISON DG4M-2 OR EQUAL



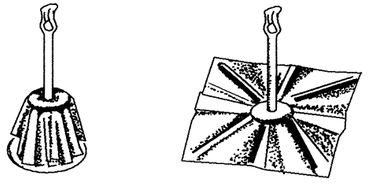
GUY CLAMP (3-Bolt)

6" HEAVY GUY CLAMP WITH 3-5/8" BOLTS OR RELIABLE ELECTRIC STRANDVISE WITH FLEXIBLE BAIL (NO. 5264) OR FARGO STRANDVISE OR EQUAL



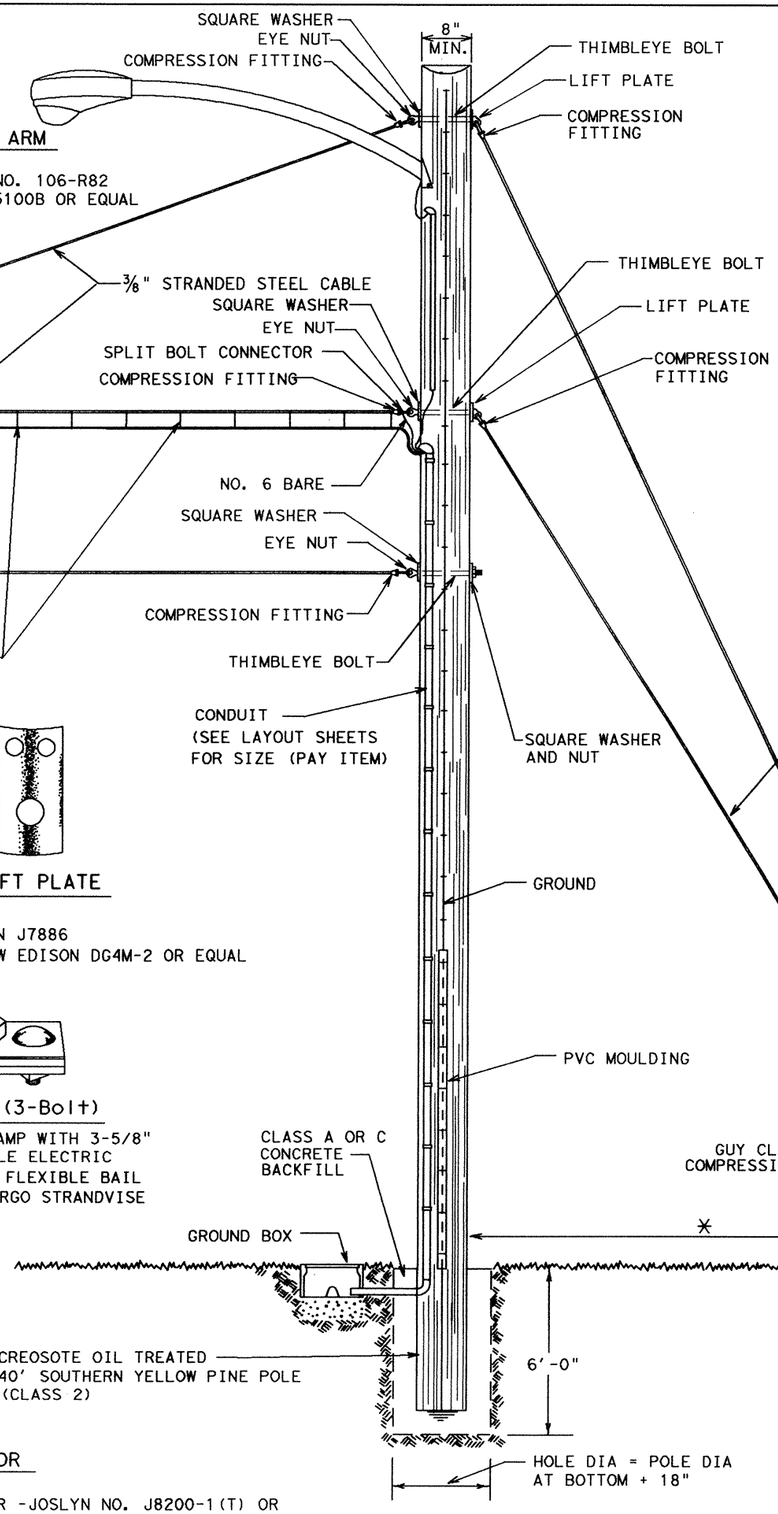
EYE NUTS (Twineye & tripleye)

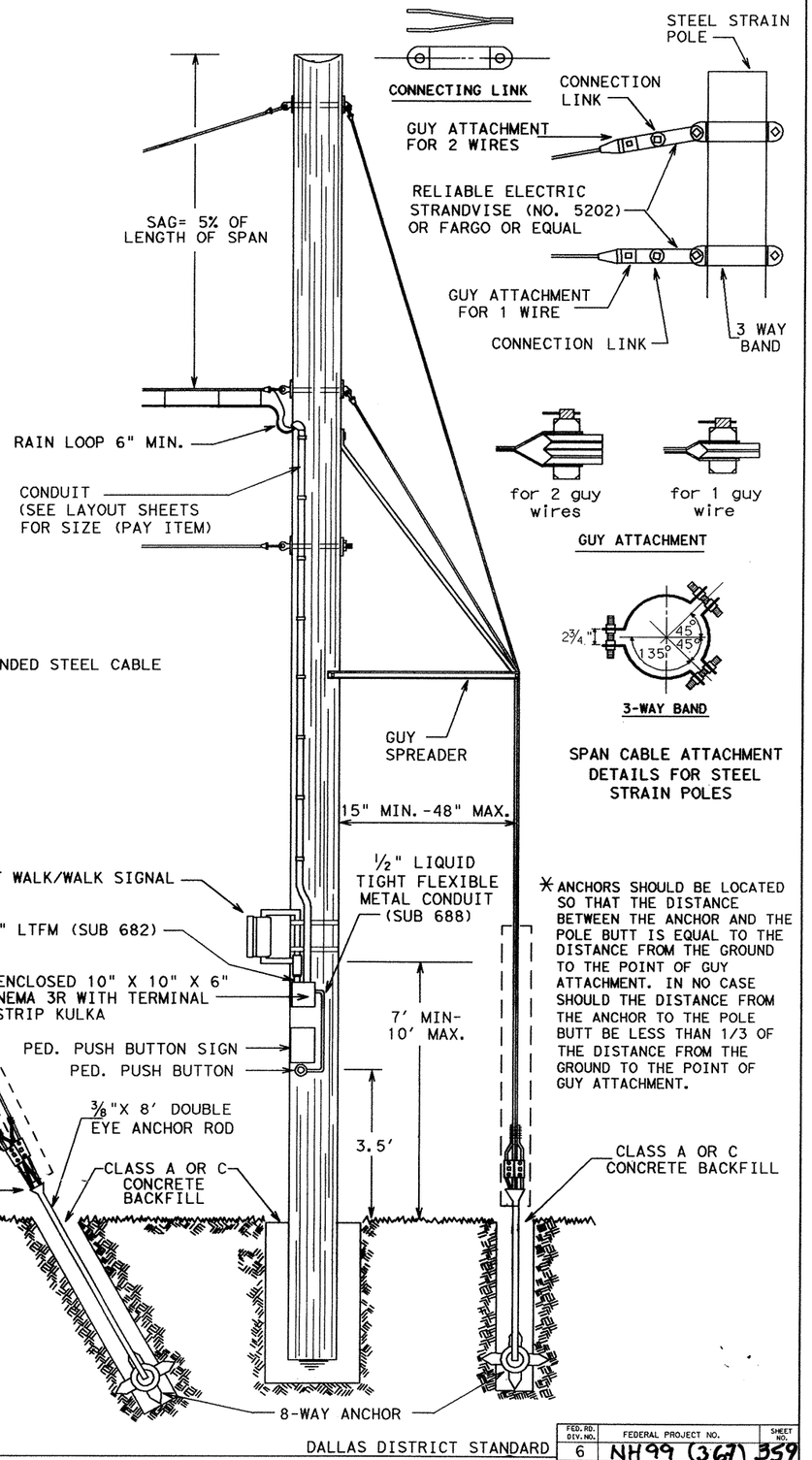
SOURCES:
JOSLYN NO. J12593
McGRAW EDISON DGISE OR EQUAL



8-WAY ANCHOR

SOURCES:
8-WAY ANCHOR -JOSLYN NO. J8200-1(T) OR
6-WAY ANCHOR-McGRAW EDISON DA6E1 OR EQUAL





GUY ATTACHMENT

3-WAY BAND

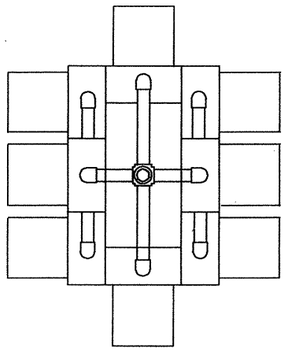
SPAN CABLE ATTACHMENT DETAILS FOR STEEL STRAIN POLES

✳ANCHORS SHOULD BE LOCATED SO THAT THE DISTANCE BETWEEN THE ANCHOR AND THE POLE BUTT IS EQUAL TO THE DISTANCE FROM THE GROUND TO THE POINT OF GUY ATTACHMENT. IN NO CASE SHOULD THE DISTANCE FROM THE ANCHOR TO THE POLE BUTT BE LESS THAN 1/3 OF THE DISTANCE FROM THE GROUND TO THE POINT OF GUY ATTACHMENT.

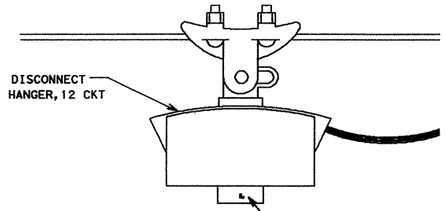
DALLAS DISTRICT STANDARD

CONSTRUCTION DETAILS FOR SPAN WIRE MOUNTED SIGNALS

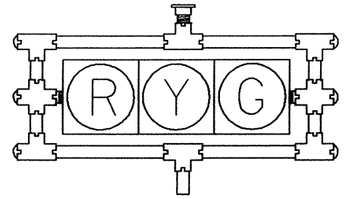
FED. RD. DIV. NO.	FEDERAL PROJECT NO.		SHEET NO.
6	NH99 (367) 359		
STATE	STATE DIST. NO.	COUNTY	
TEXAS	DALLAS	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66



TOP

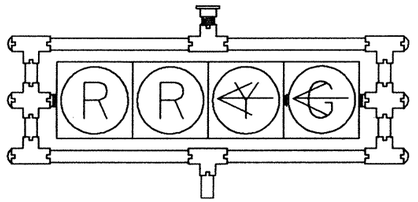


DISCONNECT HANGER MODIFICATION



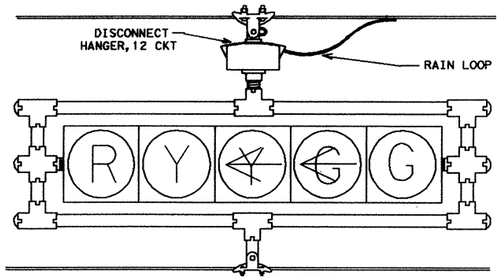
SH 3H

TYPICAL SPAN WIRE
HORIZONTAL MOUNT
INSTALLATION



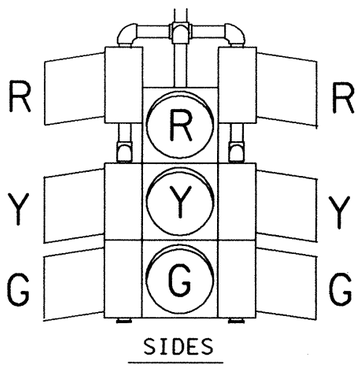
SH 4H

TYPICAL SPAN WIRE
HORIZONTAL MOUNT
INSTALLATION

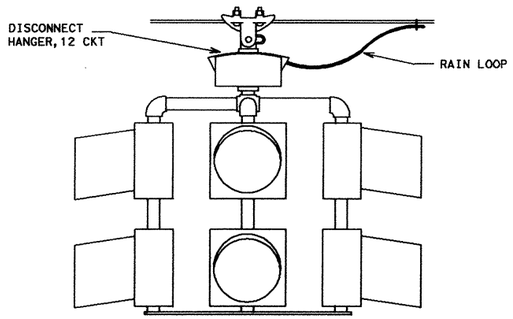


SH 5H

TYPICAL SPAN WIRE
HORIZONTAL MOUNT
INSTALLATION

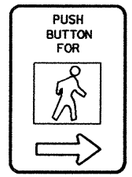


SIDES

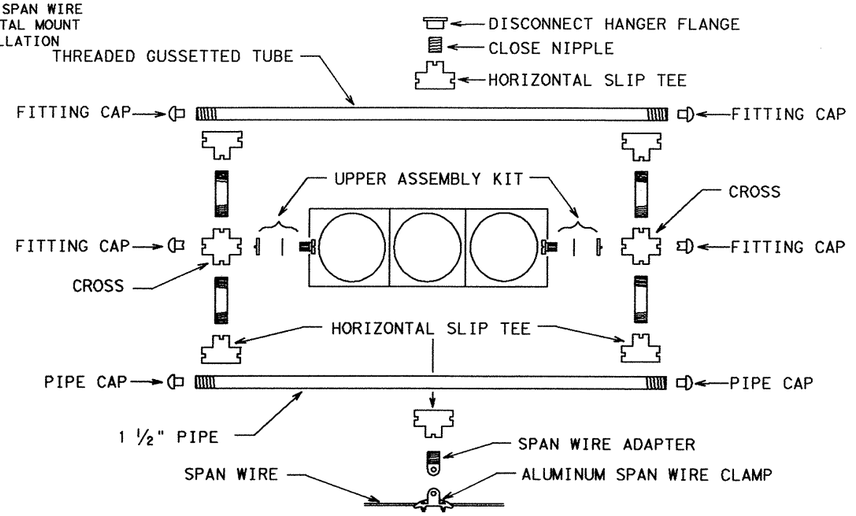


TYPICAL
FLASHING BEACON
INSTALLATION

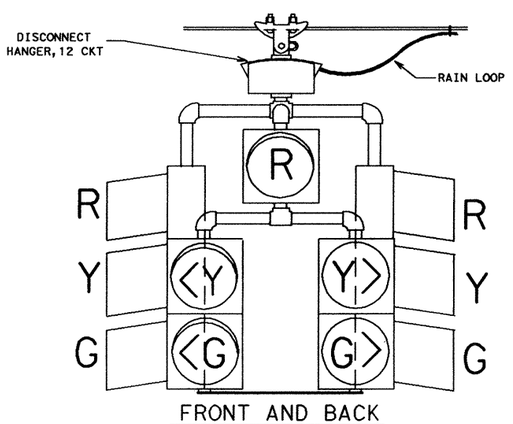
SIGN R10-4bR
SIGN R10-4bL
9"X12"



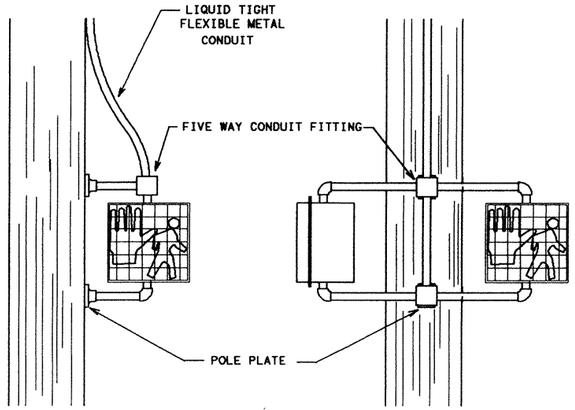
PEDESTRIAN PUSHBUTTON
SIGN DETAILS



BOTTOM TETHERED, SPAN WIRE SIGNAL HARDWARE ASSEMBLY
(BACK PANEL NOT SHOWN)

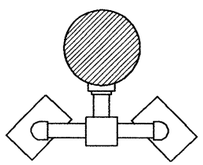


FRONT AND BACK

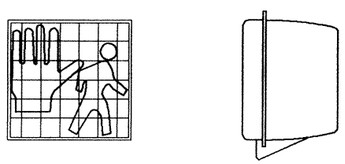


SH 152A
ONE-WAY
ADJUSTABLE FACE SIGNAL FOR
WOOD POLE MOUNTING

SH 143C
TWO-WAY
ADJUSTABLE FACE SIGNAL FOR
WOOD POLE MOUNTING



SH 143C
PLAN VIEW

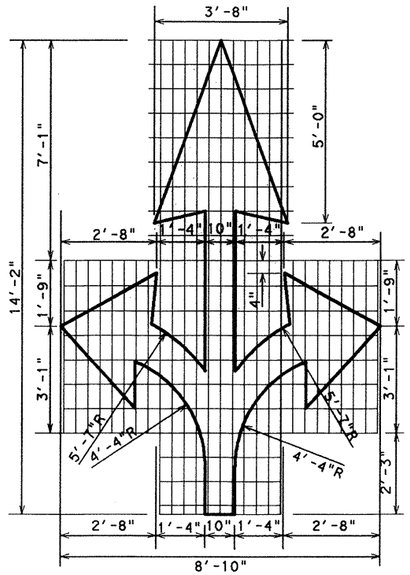


"EGGCRATE" VISOR PEDESTRIAN SIGNAL
WITH ONE-PIECE REFLECTOR

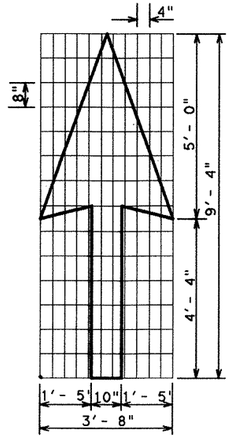
DALLAS DISTRICT STANDARD

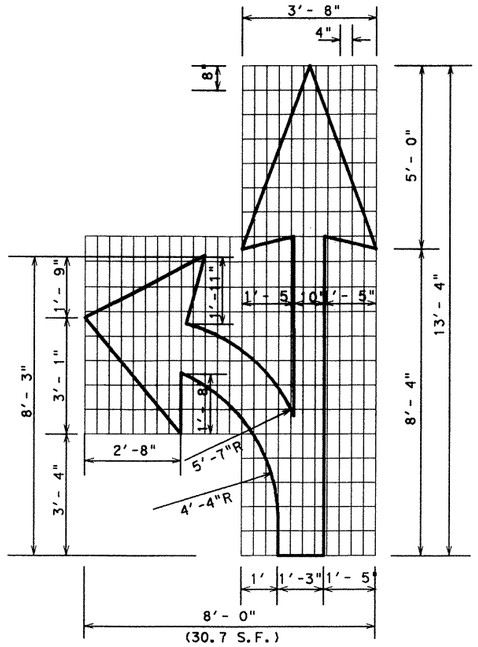
FED.RD. DIV.NO.	FEDERAL PROJECT NO.		SHEET NO.
6	NH 99 (367) 360		
STATE	STATE DIST.NO.	COUNTY	
TEXAS	DALLAS	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

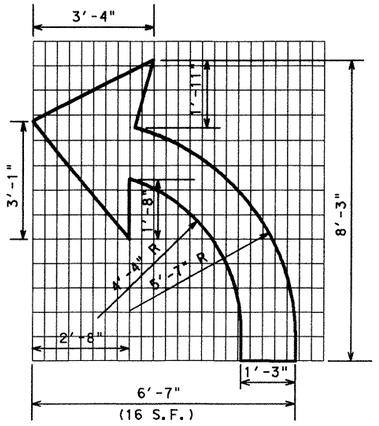
SIGNALS HEADS FOR SPAN WIRE INSTALLATION

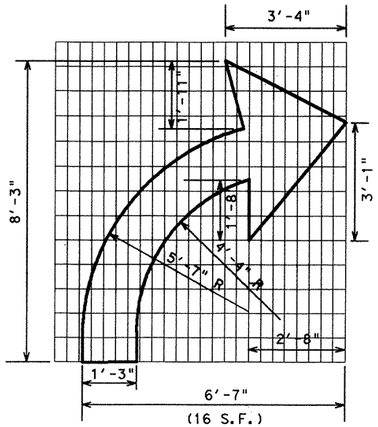


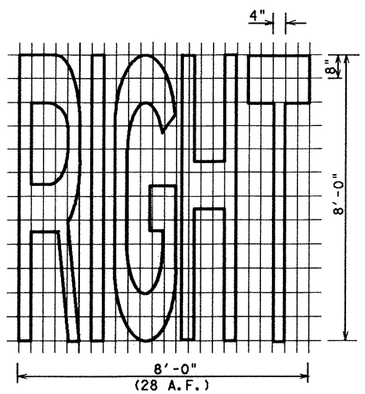
(38.5 S.F.)

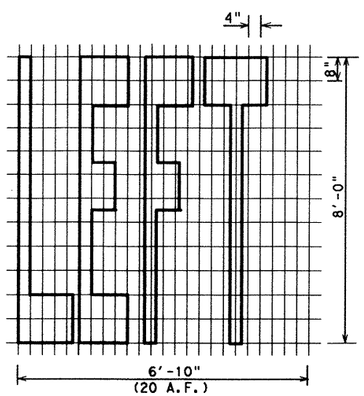


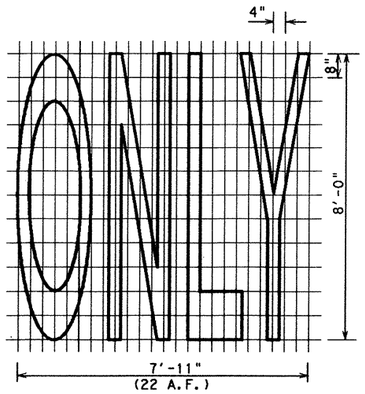


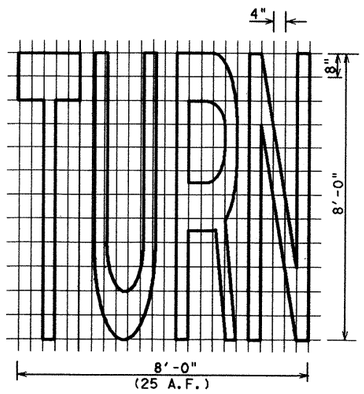










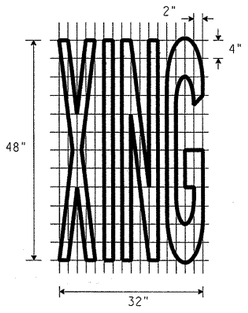


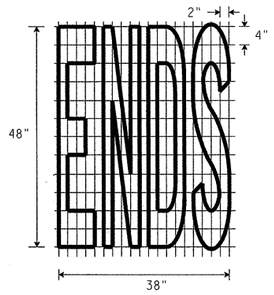
PAVEMENT MARKING DETAILS

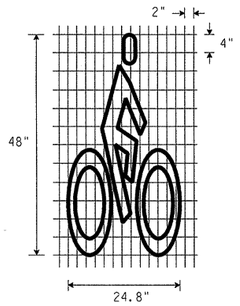
DALLAS DISTRICT STANDARD

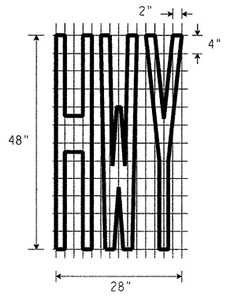
FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	NH 99 (367) 361		
STATE	STATE DIST. NO.	COUNTY	
TEXAS	DALLAS	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

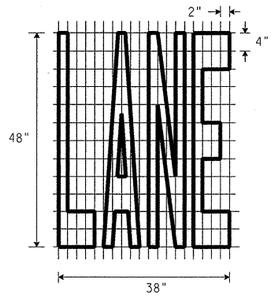
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

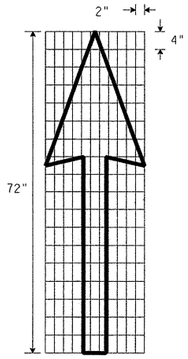


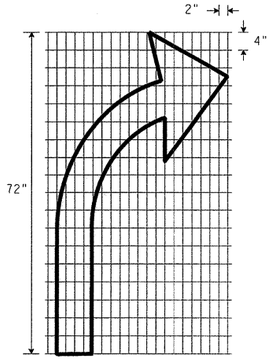


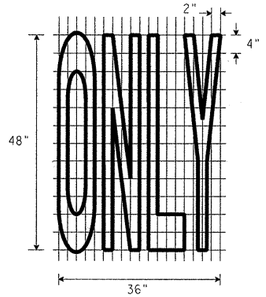


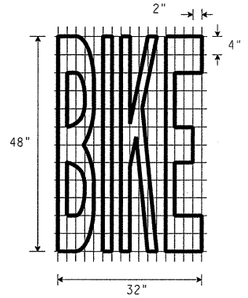


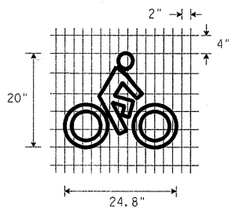


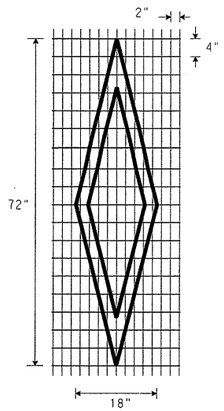


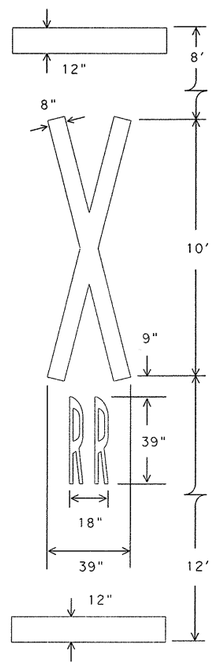


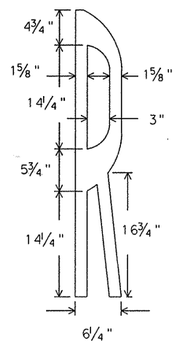


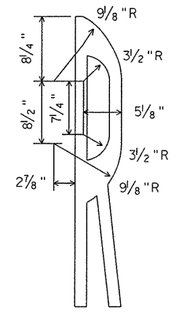












SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS

TRAFFIC PAINT	D-9-8200
THERMOPLASTIC, HOT APPLIED	D-9-8220
PREFABRICATED PAVEMENT MARKINGS-PERMANENT	D-9-8240
GLASS BEADS	D-9-8290

GENERAL NOTES:

All pavement markings shall be white except when noted otherwise.

Pavement markings shall be of the materials specified and shall be in conformance with Department Material Specifications.

38 CHANGE ORDER NO. 38

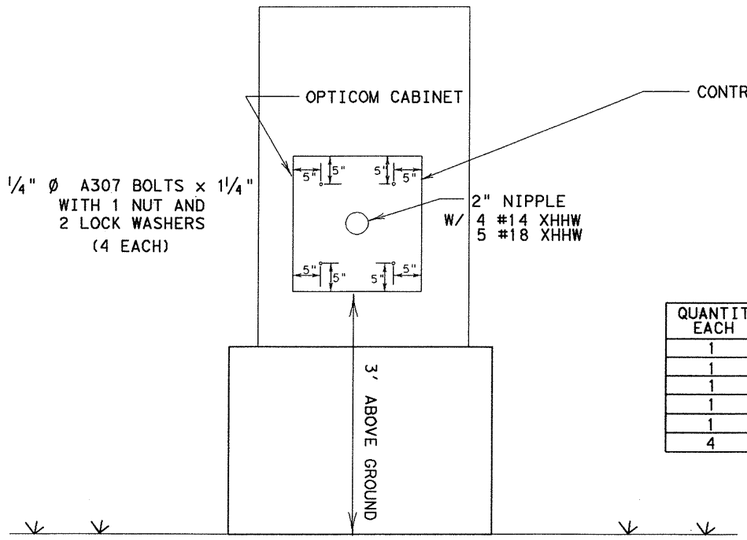
STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BICYCLE LANE PAVEMENT MARKINGS

BL(PM-1)-97

©TxDOT January 1997	DN: MT	CK: -	DW: DN	CK: -	REQ NO.:	
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
	DAL	6	(See Title-Sheet)			361 A
	COUNTY			CONTROL	SECTION	JOB	HIGHWAY
	DALLAS			0009	11	039	SH 66

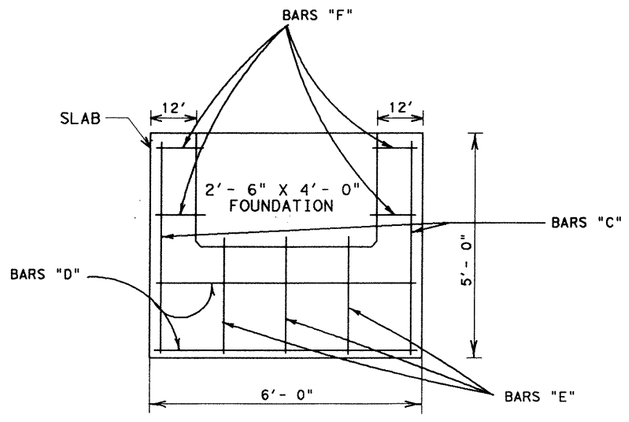
LEVEL: 1 2 3 4 5 6 17 / 17 18 19 20 21 22 23 / 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 / 49 50 51 52 53 54 55 56 57
LAYED: 01 11 21 31 41 51 61 / 26 27 28 29 30 31 32 / 59 60 61 62 63
DATE:
ACC: d58hplc/usr/d580504
FILE:
DN: LR
CK: CW
DW: DN
CK: MT



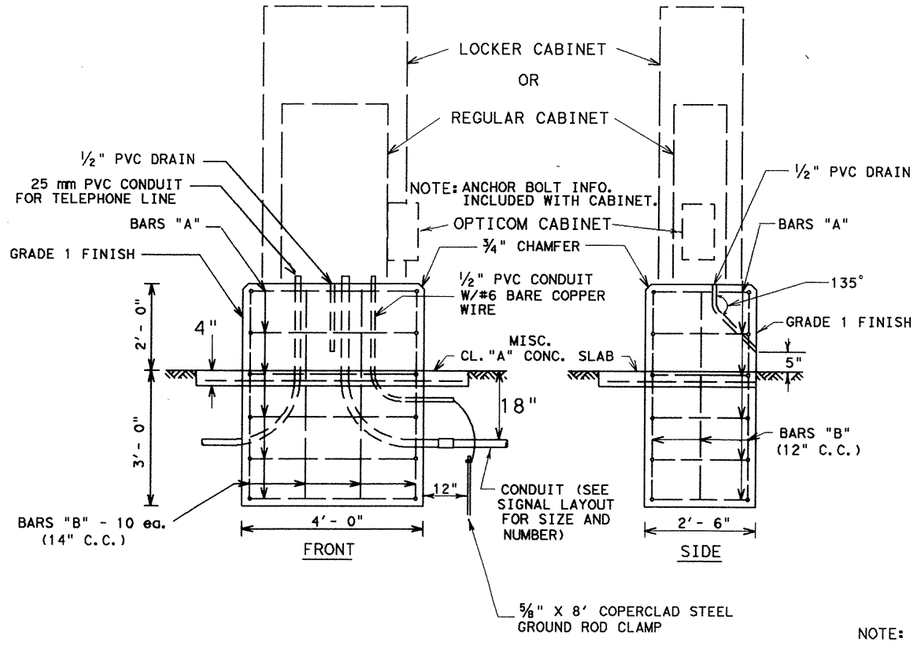
FRONT VIEW OF OPTICOM CABINET

REQUIRED WIRE FOR OPTICOM

QUANTITY EACH	WIRE TYPE	COLOR	DESCRIPTION
1	#14	BLACK	120 VAC FOR OPTICOM
1	#14	BLACK	120 VAC FOR FAN & CABINET LIGHT
1	#14	WHITE	AC NEUTRAL
1	#14	GREEN	CHASSIS GROUND
1	#18	GRAY	LOGIC GROUND
4	#18	BLUE	PREEMPT COMMANDS



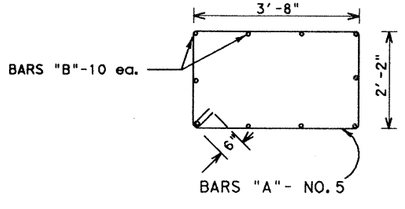
TOP



NOTE: DRAIN SHALL BE FLUSH WITH CONCRETE FOUNDATION

BAR	NO. BARS	SIZE	LENGTH	SPACING
A	6	5	12'-8"	11" C.C.
B	10	5	4'-8"	VAR.
C	2	3	4'-8"	16.5" C.C.
D	2	3	5'-8"	18" C.C.
E	3	3	2'-8"	16.5" C.C.
F	4	3	1'-2"	18" C.C.

PROVIDE 2" MIN. COVER FOR TOP AND SIDES



NOTES:

1. DRAIN SHALL BE FLUSH WITH CONCRETE FOUNDATION
2. CONDUIT FOR TELEPHONE LINE SHALL BE STUBBED OUT 18" BELOW GROUND AND 12" FROM THE FOUNDATION. THE FOUNDATION SHALL BE STAMPED ON THE LEFT SIDE WITH "TEL" TO INDICATE THE LOCATION OF THE CONDUIT.

CONTROLLER FOUNDATION DETAIL

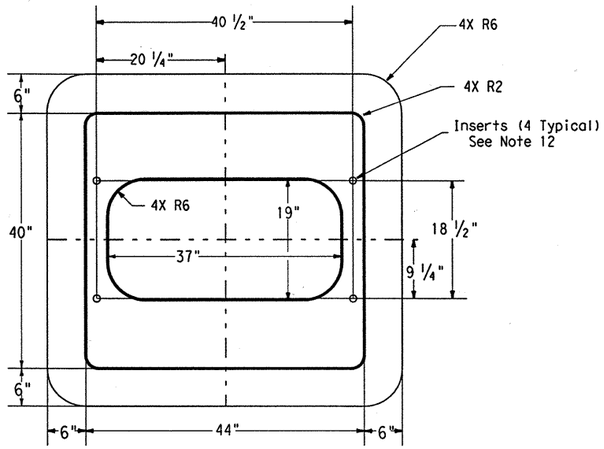
DISTRICT 18 STANDARD

CONTROLLER FOUNDATION DETAILS

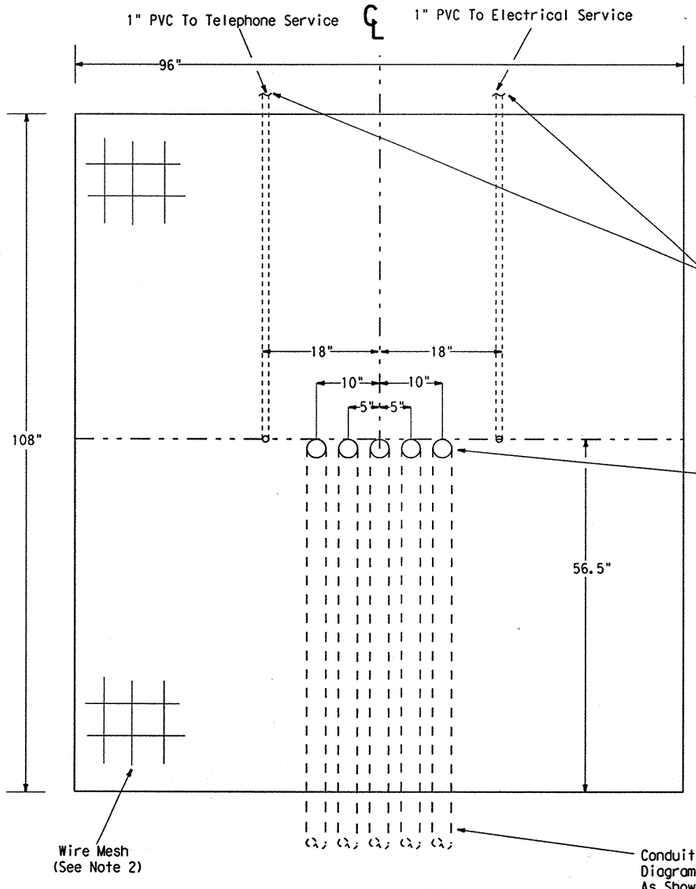
FED.RD. DIV. NO.	STATE PROJECT NO.		SHEET NO.
6	NH 99 (367)		362
STATE	STATE DIST. NO.	COUNTY	
TEXAS	18	ROCKWALL	
CONT.	SECT.	JOB	HIGHWAY NO.
0009	04	039	SH 66

STATE

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TOP VIEW
(Base Only)

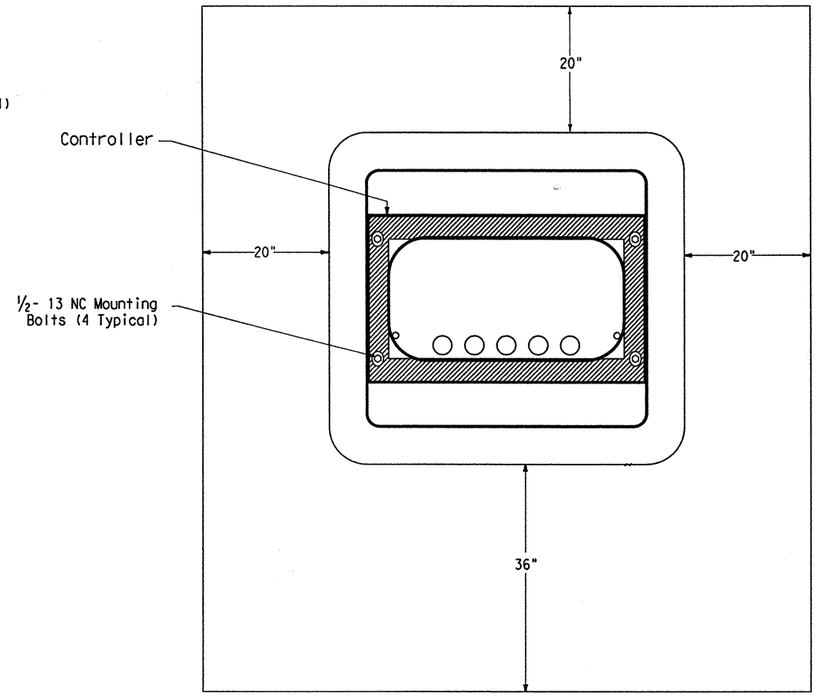


Conduit Direction Leaving Foundation Are Diagramatic Only And May Be Adjusted As Shown On Layouts.

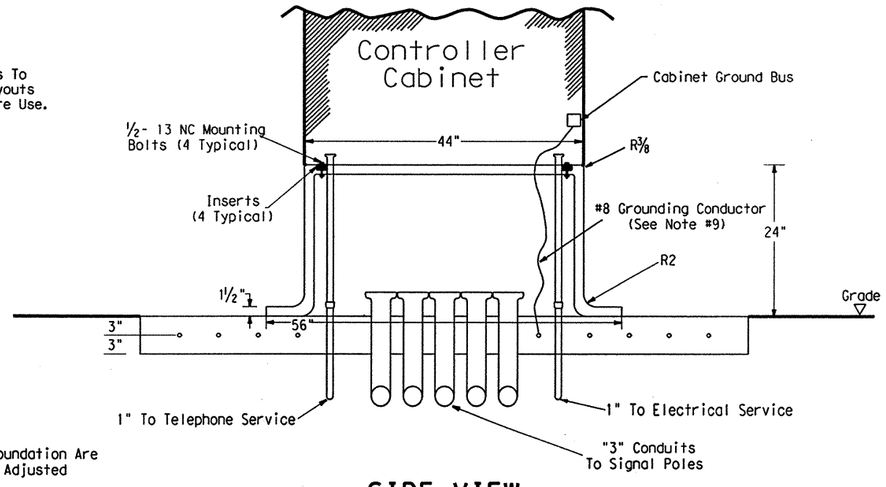
Number of Conduits To Be As Shown on Layouts Plus Two For Future Use.

Conduit Direction Leaving Foundation Are Diagramatic Only And May Be Adjusted As Shown On Layouts.

TOP VIEW
(Slab Only)



TOP VIEW
(Slab & Base)



SIDE VIEW
(Slab & Base)

GENERAL NOTES

CONCRETE:
1. Concrete shall be class B minimum in accordance with Item 421. Slab shall be constructed in accordance with Item 531.

2. Reinforcement shall be welded wire mesh 6X6-W2.9 X W2.9. Joints and splices in the mesh shall have a minimum 6-inch overlap.

3. Mesh shall have a minimum 3 inch cover on the edges and shall be centered between top and bottom.

CONDUITS:
4. 3-inch conduits shall be stubbed up through the slab and run to the various traffic signal poles and ground boxes as shown on the layouts. Contractor shall install the number of conduits as shown on layouts plus two additional 3 inch conduits for future use. Conduits shall be terminated with a bushing between 2 and 4-inches above the slab.

5. Future use conduits shall be extended at least 18-inches from the edge of the slab, shall be terminated underground with a coupling, and shall be capped and sealed so that the seal can be removed without damaging the coupling.

6. Two separate 1-inch conduits shall be stubbed up through the slab from the electrical and telephone services. The conduit for the electrical feed shall be run directly to the electrical service enclosure.

7. The conduit for the telephone line shall be run directly to the telephone service, usually located on the same pole as the electrical service. Telephone shall not under any circumstance share a conduit with any other function. Telephone conduit not used at this time shall be capped and sealed, the same as the 3" future use conduits.

8. Electric and telephone conduits shall terminate above the slab with a coupling. After the base is installed, the conduits shall be extended above the top of the base and shall be secured to the base using a steel one-hole strap or similar suitable substitute.

9. A #8 AWG copper ground wire shall be bonded to the reinforcing mesh by a suitable clamp UL Listed for encasement in concrete and terminated to the cabinet grounding bus for the purpose of providing a local ground for the electrical grounding conductor. The electrical grounding conductor specified in Item 680-4(4) is still required and shall be terminated to the cabinet ground bus.

BASE:
10. The base shall be constructed of reinforced polymer concrete reinforced with continuous strands of borosilicate fiberglass cloth. Concrete shall be made from catalyzed polyester resin and aggregate, and shall have a minimum comprehensive strength of 11,000 psi. Polymer concrete containing chopped fiber or fiber reinforced plastic shall not be acceptable.

11. The base shall be permanently marked either by impress or by permanent ink with the manufacturer's model number and name or logo.

12. The base shall conform to the dimensions shown. Four (4) 1/2-13 NC stainless steel self cleaning inserts shall be provided to secure the controller to the base. Inserts shall withstand a minimum torque of 50 ft-lb and a minimum straight pull out strength of 750 lbs. The base, secured to the concrete slab per the manufacturer's instructions and with a controller cabinet attached, shall withstand a minimum wind load of 125 mph. Manufacturer shall supply certification sealed by a Texas Licensed Professional Engineer.

13. The base shall be sealed to the concrete with a silicone caulk bead and fastened to the slab per manufacturer's instructions.

CONTROLLER CABINET:
14. The controller cabinet shall be anchored to the base using four 1/2-13 NC bolts.

15. The silicone caulk bead specified in Item 680.5 shall be RTV 133.

PAYMENT:
16. TS-CF shall be bid as Item 656.

CHANGE ORDER NO. 32

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL CONTROLLER SLAB AND BASE

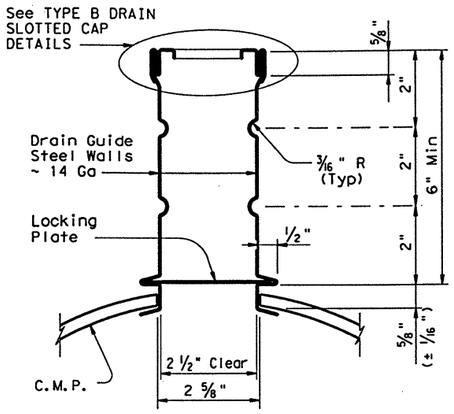
TS-CF

© TxDOT October 2000	DN: - JM	CK: - JM	DW: - FC	CK: - CAL
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
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	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

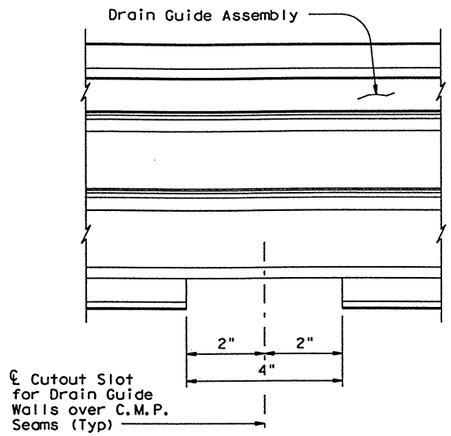
132

CELLS DISPLAYED ACC:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

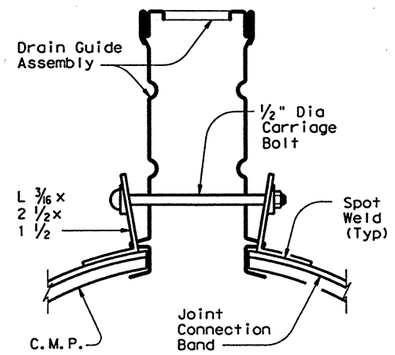
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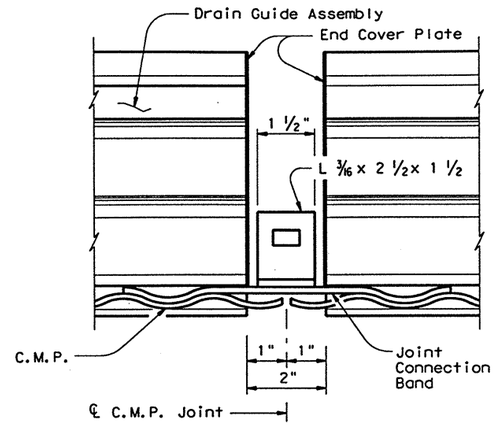
TYPE B DRAIN
GUIDE DETAIL
TRANSVERSE SECTION



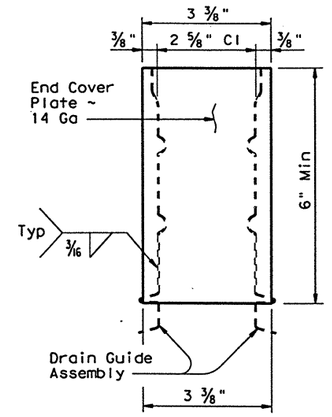
TYPE B DRAIN
CUT OUT AT PIPE SEAM
LONGITUDINAL SECTION



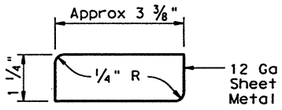
TYPE B DRAIN
PIPE JOINT CONNECTION
TRANSVERSE SECTION



TYPE B DRAIN
PIPE JOINT CONNECTION
LONGITUDINAL SECTION

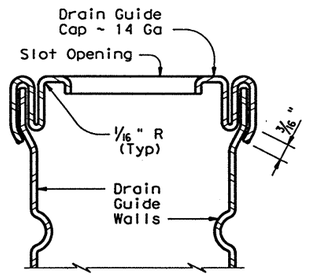


TYPE B DRAIN
GUIDE END
COVER PLATE
TRANSVERSE
SECTION

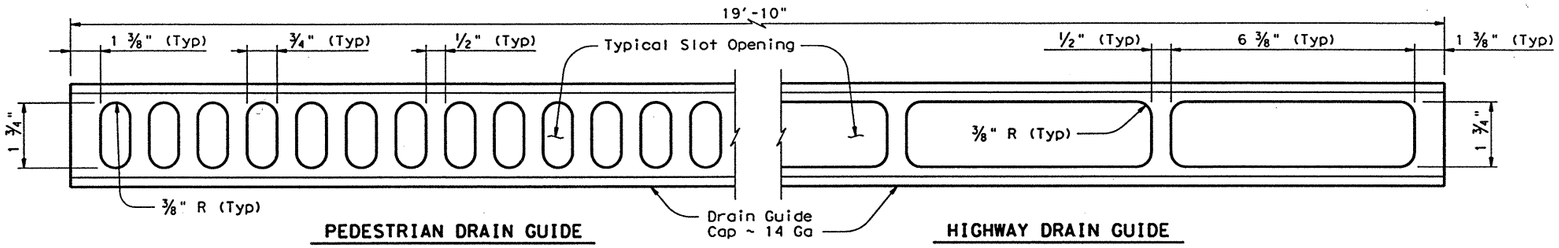


Plates to be installed at each end of Drain Guide, at each centerline location of seams on pipe, and at mid-point of each open slot.

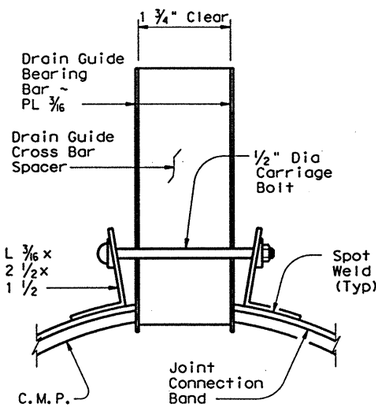
TYPE B DRAIN
LOCKING PLATE
DETAILS



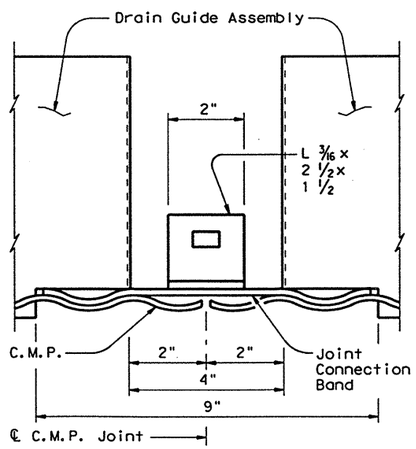
TYPE B DRAIN
SLOTTED CAP DETAILS



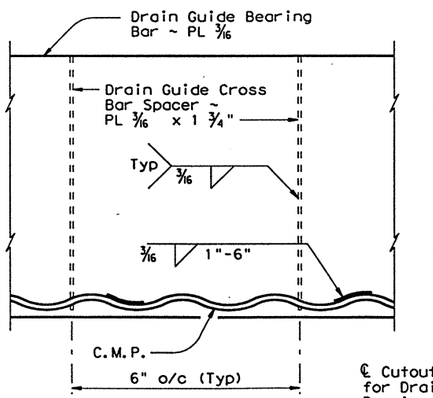
TYPE B DRAIN SLOTTED CAP PLAN



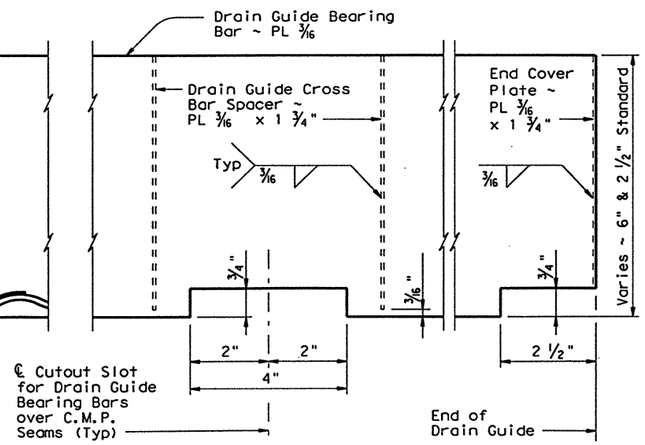
TYPE A DRAIN
PIPE JOINT CONNECTION
TRANSVERSE SECTION



TYPE A DRAIN
PIPE JOINT CONNECTION
LONGITUDINAL SECTION



TYPE A DRAIN
WELDING DETAILS
LONGITUDINAL SECTION



TYPE A DRAIN CUT OUTS AT
PIPE SEAM AND AT DRAIN END
LONGITUDINAL SECTION

LEVELS DISPLAYED 1 2
ACC: (LV=1,2 for English)

SHEET 2 OF 2

Texas Department of Transportation
Design Division (Bridge)

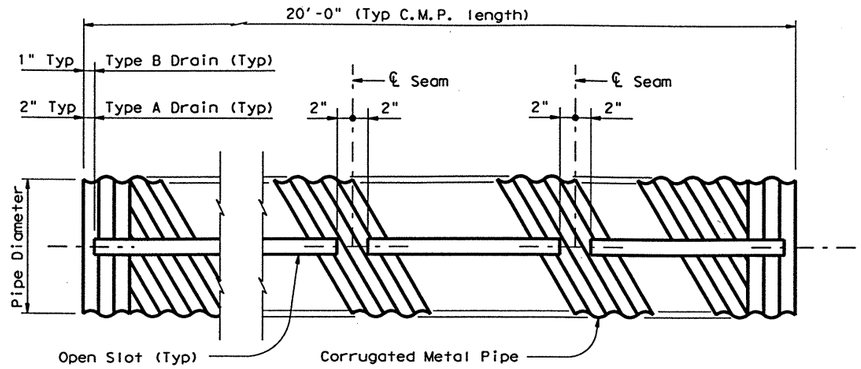
ROADWAY DRAIN DETAILS
(SLOTTED DRAIN)

SD

FILE: sdestd01.dgn	DN: TxDOT	CK: MAS	DW: JRP	CK: MAS	STD: B276
©TxDOT September 1996	DIST	FED REG	FEDERAL AID PROJECT *		SHEET
REVISIONS	18	6	NH99(367)		363
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	3H66

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LEVELS DISPLAYED (LV=1,2 for English) ACC:



SLOTTED CORRUGATED METAL PIPE (C.M.P.) DETAIL

GENERAL NOTES:

Slot assemblies shall conform to the provisions of Item 474, "Slotted Drains". All welding shall be in accordance with Item 448, "Structural Welding".

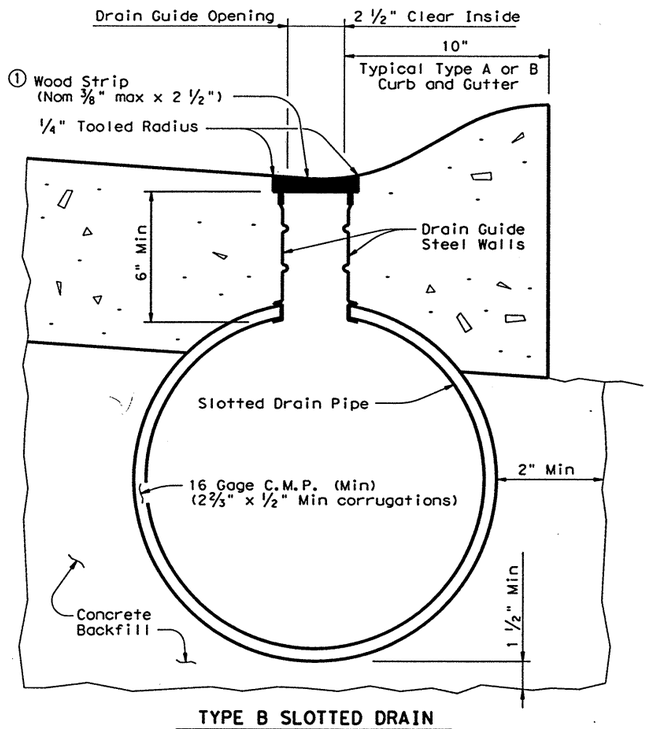
The Corrugated Galvanized Pipe shall be in accordance with Item 460, Corrugated Metal Pipe.

Trenches for slotted drains and outfall pipe shall be backfilled with 1 ½" minimum (or as shown otherwise) low strength concrete (minimum 2 sacks of cement per cubic yard) as directed by the Engineer.

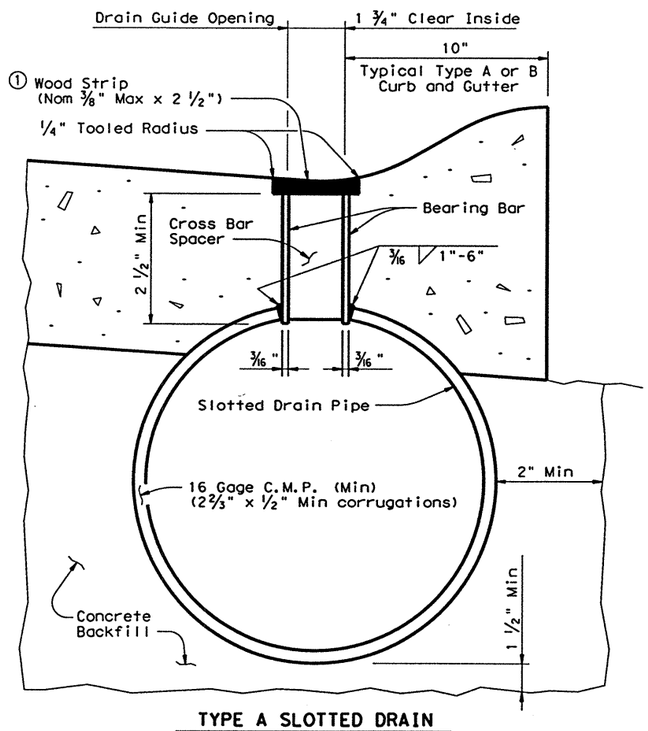
Outfall Connection slip joint shall be backed with a suitable compressible material to retain grout in place during curing.

Slotted Drain shall be furnished in 20'-0" lengths wherever practical to minimize the number of joints required.

The Contractor may furnish either of the designs as shown.



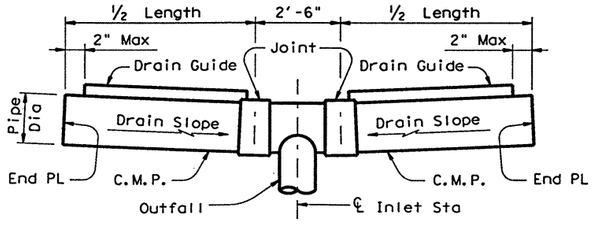
TYPE B SLOTTED DRAIN



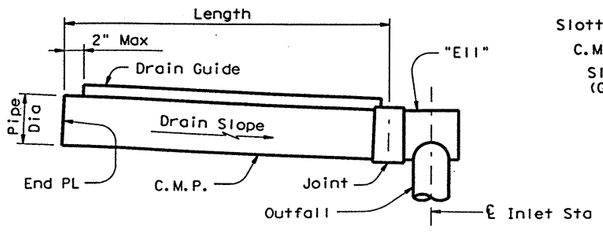
TYPE A SLOTTED DRAIN

TYPICAL SECTIONS

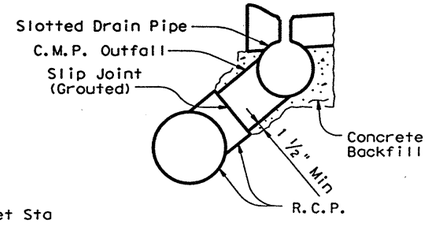
① Wood strip may be omitted if suitable protection is provided during curb placement.



TYPICAL TYPE "T" DRAIN INSTALLATION



TYPICAL TYPE "L" DRAIN INSTALLATION



BACKFILL DETAIL

SHEET 1 OF 2

Texas Department of Transportation
Design Division (Bridge)

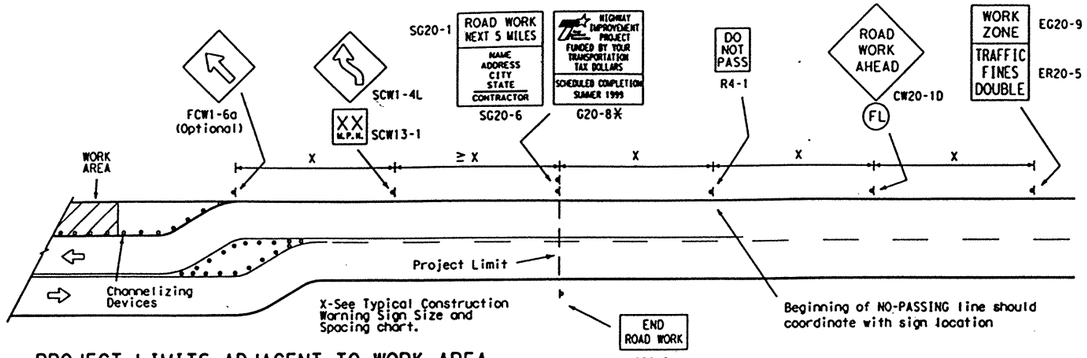
ROADWAY DRAIN DETAILS (SLOTTED DRAIN)

SD

FILE: sdestd01.dgn	DN: TxDOT	CK: MAS	DW: JRP	CK: MAS	STD: B276
©TxDOT September 1996	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		364
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	34466

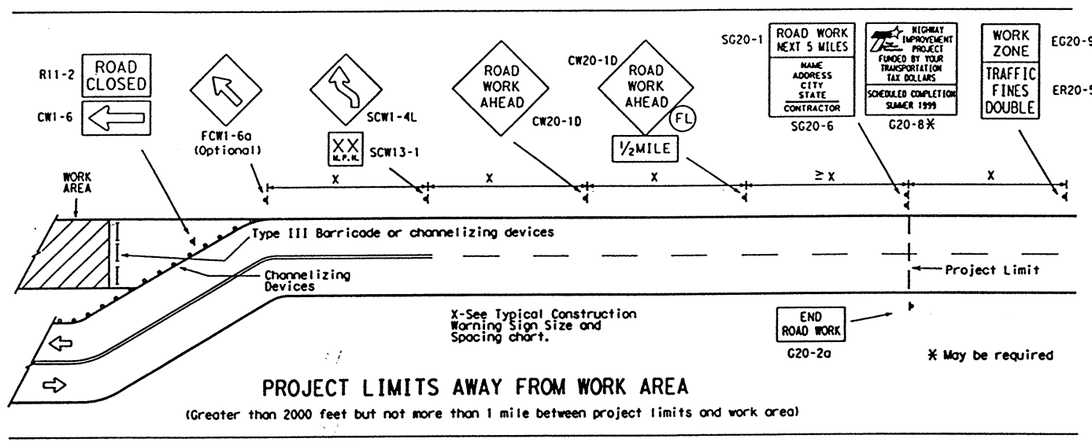
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PROJECT LIMIT TRAFFIC CONTROL DEVICES



PROJECT LIMITS ADJACENT TO WORK AREA

(Less than 2000 feet between project limits and work area)



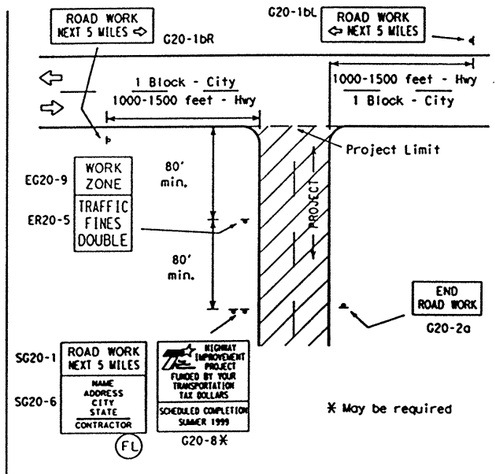
PROJECT LIMITS AWAY FROM WORK AREA

(Greater than 2000 feet but not more than 1 mile between project limits and work area)

PROJECT LIMIT GENERAL NOTES

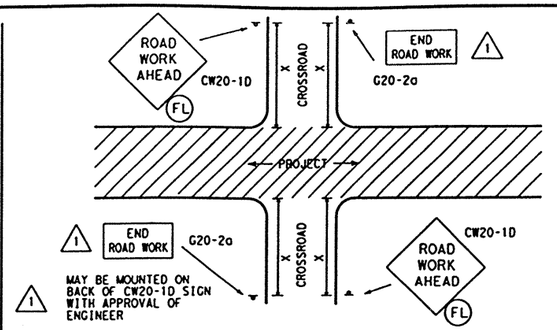
SIGNS AND WARNING LIGHTS

1. When specified on this sheet or other sheets in the plans, warning lights for a sign shall be installed and maintained by the contractor. Warning lights shall be attached to the sign support using a 1/2" bolt (minimum) of sufficient length for three washers, lock washer and a nut.
2. Warning lights shall be maintained as directed by the Engineer.
3. Appropriate standard traffic control devices shall be used as required by the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the contractor's responsible person.
4. As a general rule, additional traffic control devices in advance of the project limits should only be used in those cases where a work area, a detour, or a potentially hazardous location is less than 2000 feet inside the project limits.
5. The traffic control devices used in the above illustrations are examples only. Field conditions and engineering judgement should dictate the most appropriate traffic control devices to be used. Any variation in the plans shall be documented by written agreement between the Engineer and the contractor's responsible person.
6. As detailed above, the ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the project limits and the WORK ZONE TRAFFIC FINES DOUBLE sign shall be erected in advance of the project limits. These signs should be adjusted to provide adequate spacing to other signs. The OBSERVE WARNING SIGNS STATE LAW sign shall be installed when required elsewhere in the plans.
7. With the agreement of an adjacent project Engineer, the Engineer(s) may allow the omission of END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the contractor will erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
8. Duplicate construction warning signs should be erected on the median side of divided highways where median width will permit and traffic volumes justifies the signing.
9. Except for devices required by Note 6, traffic control devices should be in place only while work is actually in progress or a definite need exists.
10. Sign size should be based on the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" (TMUTCD).
11. The Special Public Information sign (G20-8 shall be installed at the project limits when required elsewhere in the plans. Refer to SMD Standards for approved mounting details.

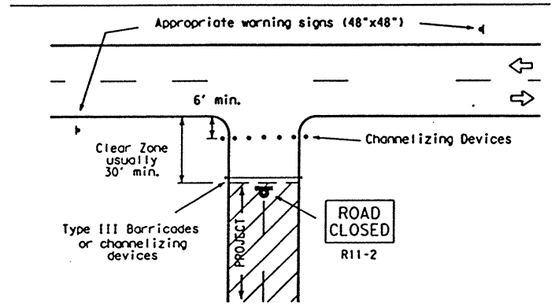


PROJECT LIMITS AT T-INTERSECTION

1. The ROAD WORK NEXT X MILES sign should be erected on the intersected highway as detailed above.
2. On the intersected roadway, additional traffic control devices, such as a flagger and accompanying signs or other signs, should be used when work is being performed at or near the intersection.

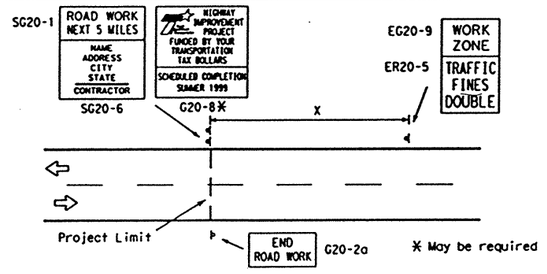


CROSSROAD SIGNING AND BARRICADING



PROJECT LIMITS FOR CLOSED ROADWAY

Barricades shall be erected completely across roadway. Channelizing Devices may be drums, vertical panels or cones as specified in the plans.



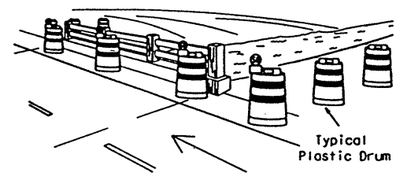
PROJECT LIMITS AWAY FROM WORK AREA

(Greater than 1 mile between project limits and work area)

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

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PERSPECTIVE

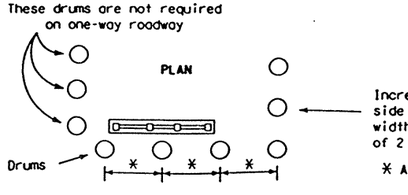


1). Where positive redirectional capability is provided, drums may be omitted.

2). Plastic construction fencing may be used with drums for safety as required in the plans.

3). Vertical Panel on flexible support may be substituted for drums when shoulder width is less than 4'.

4). When shoulder width is greater than 12', steady-burn lights may be omitted, if drums are used.



CROSSROAD SIGNING AND BARRICADING

1. Except as noted elsewhere in plans, the usual minimum signing on a cross-road approach should be one CW20-1D ROAD WORK AHEAD sign and G20-2a END ROAD WORK sign. Where speeds and volumes are relatively low, a smaller ROAD WORK AHEAD sign may be used.

When approved by the Engineer, on low volume crossroads, advance warning signs may be the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 24" x 18" END ROAD WORK (SG20-2a) sign. See the "STANDARD HIGHWAY SIGN DESIGNS for TEXAS" manual and BC(9) thru BC(9C) for sign design details. On low volume crossroads, advance signing may be omitted if approved by the Engineer.

Additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs may be required. When additional signs are required, such signs will be considered part of the minimum requirements.

2. The G20-1a sign shall be required on major crossroads to advise motorists of the length of construction in either direction from the intersection.
3. On higher volume crossroads additional traffic control devices may be noted elsewhere in the plans.
4. When work occurs in the intersection area, appropriate traffic control devices shall be in place.

WARNING LIGHTS

Warning lights shall meet the requirements of the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways."

Flashing and Steady-Burn Warning Lights shall NOT be installed on barricades.

Type A-Low Intensity Flashing Warning Lights are commonly used with signs. They are intended to warn of an approaching potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "(FL)".

Type-C Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "(SB)".

TYPICAL CONSTRUCTION WARNING SIGN SIZE [L5,6] AND SPACING

Roadway Classification	Posted Speed	Sign Spacing "X" △	Long-term Or Intermediate-term Stationary Approach Warning Signs CW20 Series And CW22-1 Sign		Short-term Stationary Or Short Duration Approach Warning Signs CW21 Series		Other Warning Signs
			Standard Inches	Minimum[4] Inches	Standard Inches[7]	Minimum[4] Inches[7]	Standard mm [7]
Conven.	MPH	Feet (Apprx.)					
	30	120	48 x 48	36 x 36	30 x 30 or 36 x 36	24 x 24 or 30 x 30	30 x 30 or 26 x 36
	35	160 △		↓	↓	↓	↓
	40	240					
	45	320		Use Standard Size		Use Standard Size	
	50	400					
	55	500 [2]					
	60	600 [2]			48 x 48		48 x 48
	65	700 [2]			↓	↓	↓
	70	800 [2]	↓	↓			
Exp or Frwy	*	* [3]	↓	↓	**	**	**

* For typical sign spacings on expressways and freeways, see TMUTCD typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to 1st Advance Warning sign and/or distance between each additional sign.

** Smaller sign sizes may be used where sign designs have not been included in the "Standard Highway Sign Designs for Texas" manual.

General Notes:
1. Special or larger size signs may be used as may be necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have ½ mile or more advance warning.
4. For use only on secondary roads or city streets where speeds are low.
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in TMUTCD, Appendix A for complete list of all available sign design sizes.
7. Where two sizes are listed, see sign size listing in TMUTCD, Appendix A for proper size.

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:
Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARDS@mailgw.dot.state.tx.us

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

ADVANCE SIGNING
CROSSROAD SIGNING
WARNING LIGHTS

BC(1)-98

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DN-LR	CK-DTN	DW-DN	CK-GB	MEC NO.

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
	DALLAS	6	NH 99 (367)	366

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

DN: CK: DW: CK:
DATE: ACC: FILE:
LEVELS LAYER
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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TYPE III BARRICADE (SKID)

GENERAL NOTES

FOR TYPE III BARRICADES

Type III Barricades are to be used at each end of construction projects closed to all traffic.

Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided for, the chevron striping may slope downward in both directions from the center of the barricade.

Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope to the right.

Identification markings may be shown only on back side of barricade rails. Maximum height of letters shall be 1 inch.

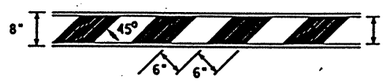
Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided (see BC(1)).

Barricades shall be made using pre-qualified materials. A list of compliant products and their sources may be obtained by writing or faxing:

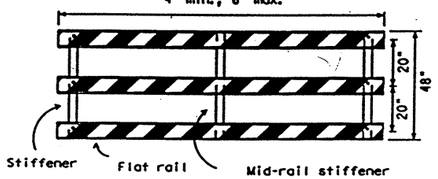
Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

Barricades shall NOT be used as a sign support.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



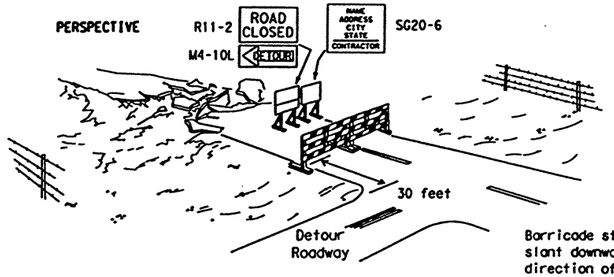
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



Stiffner may be inside or outside of support.

* For dimensions of components refer to TxDOT approved products list.

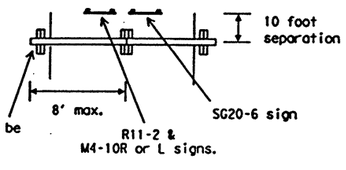
PERSPECTIVE



(Use M4-10R or L sign only when Detour begins at barricade)

PLAN

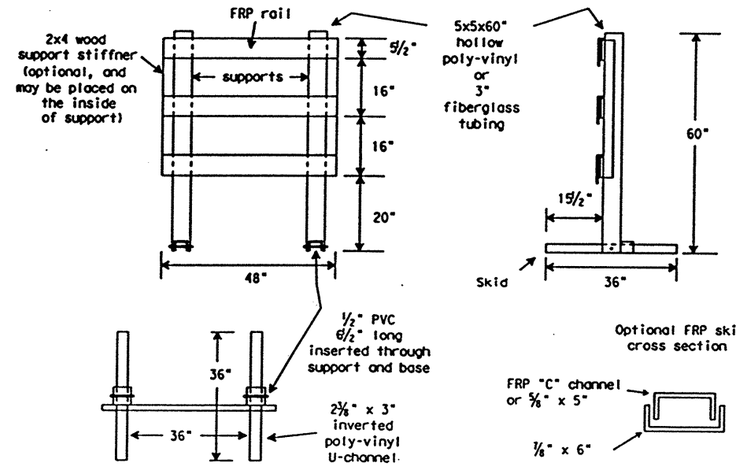
Each roadway of a divided highway shall be barricaded in the same manner.



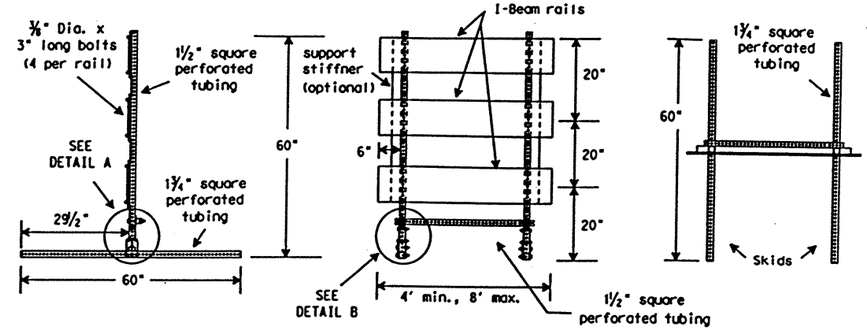
1). R11-2 and M4-10 signs should be mounted on independent supports at 7 foot mounting height in center of roadway.

2). Advance signing, including construction warning signs, and detour signing shall be as specified elsewhere in the plans.

PLASTIC/FIBERGLASS TYPE III BARRICADE OPTION

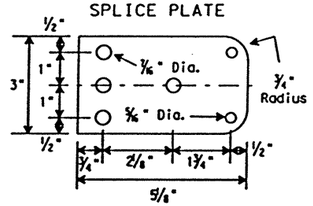


PERFORATED STEEL/WOOD/PLASTIC TYPE III BARRICADE OPTION

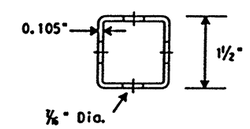


NOTE: If flat rails are used, refer to Wood/Plastic Option for vertical placement of rails

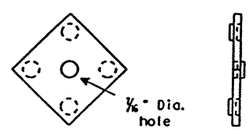
SPLICE PLATE



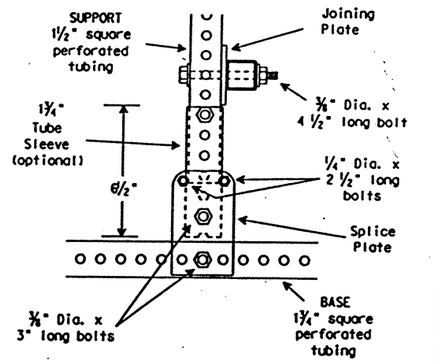
1½" PERFORTED SQUARE STEEL TUBE



JOINING PLATE

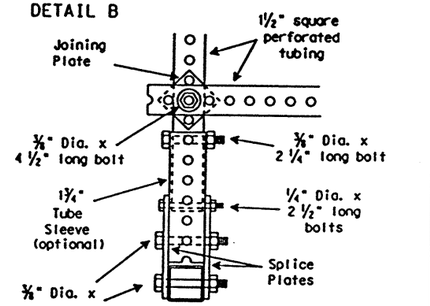


DETAIL A



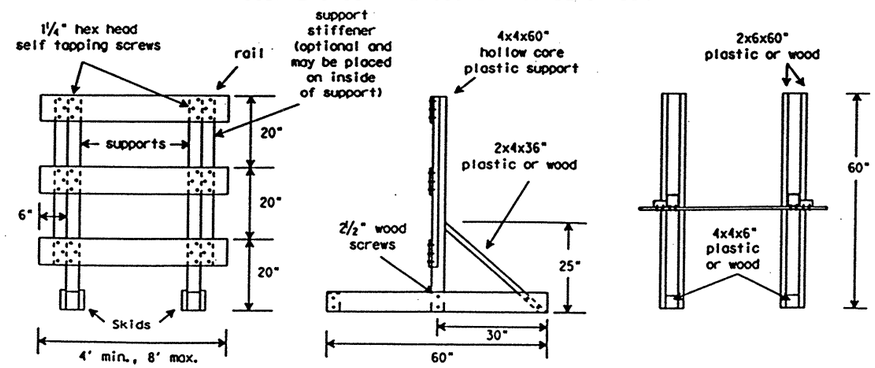
(Option: tube sleeve and base may be welded)

DETAIL B

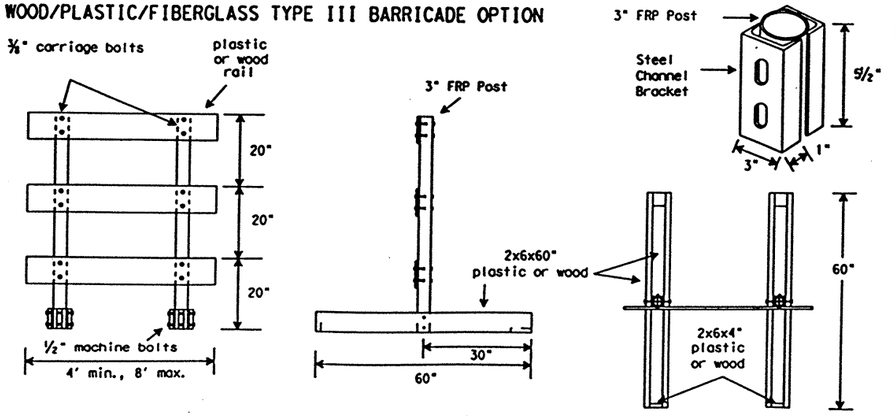


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WOOD/PLASTIC TYPE III BARRICADE OPTION



WOOD/PLASTIC/FIBERGLASS TYPE III BARRICADE OPTION



STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

BARRICADES (SKID MOUNT TYPE) **BC(2)-98**

© TxDOT February 1998	DN-LR	CK-DTN	DW-DN	CK-GB	HCC SH.#
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	DALLAS	6	NH 99 (367)		367
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

102

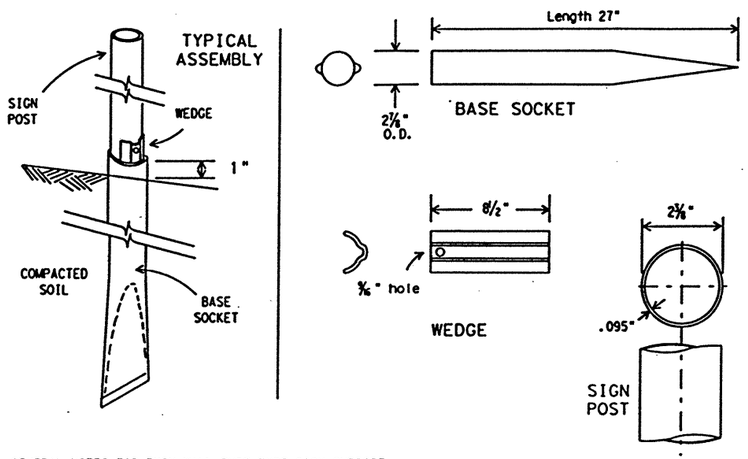
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LEV	SPLAYED	DATE:	FILE:
1,2,3,4,5,6	T(0),(1),2),3),4),5),6)		
7),8),9),0),(2)	22,62,72,82,92,03	ACC:	
13),4),5),6),7),8),9),0),(3)	24,34,44,54,64,74,84		
95,05,15,25,35,45,55,65,75,85,96,06,16,26,3			

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TYPE III BARRICADE (POST TYPE)

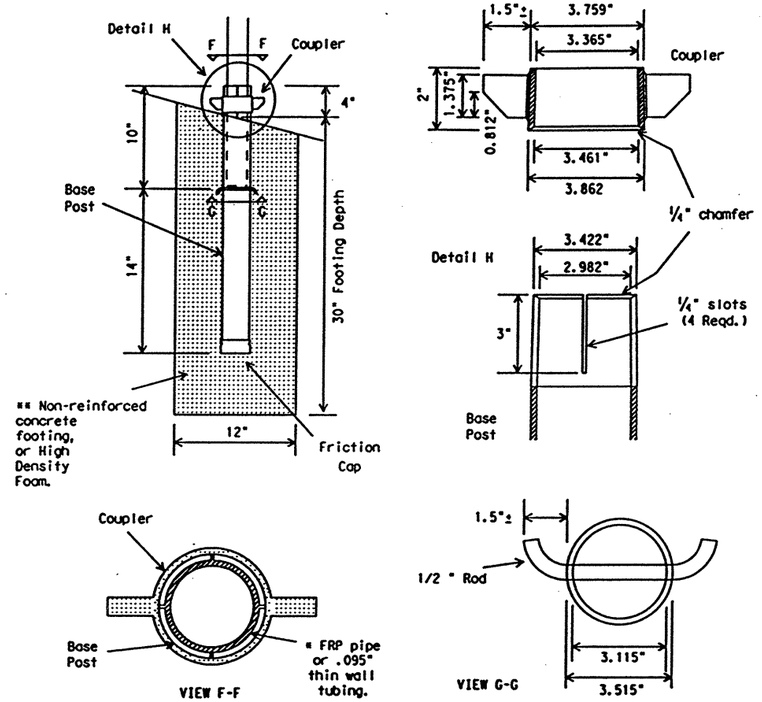
POZ-LOC (Driveable)



GENERAL NOTES FOR THIN WALL TUBE TYPE SIGN SUPPORT:

1. The BASE SOCKET is formed from 2⅛" O.D. x 12 gauge galvanized pipe.
2. The WEDGE is formed from 11 gauge steel galvanized per ASTM A525.
3. The SIGN POST is 2.375" O.D. x 0.095" thin wall steel tubing.
4. Steel Supports shall be made from new material and shall be corrosion resistant. Steel supports shall be galvanized in accordance with ASTM Designations A123 or A525 (G-90 or better).
5. Supports shall be straight within ¼" per 5 feet of length and shall have a smooth, uniform finish free from defects affecting strength or appearance. Any bolt holes and sheared ends shall be free from burrs. Bases of multisection supports shall not extend more than 5 inches above ground when installed.
6. Bolts, nuts, screws, washers and other miscellaneous hardware shall be galvanized in accordance to ASTM Designation: A153 Class C or D, or B695 Class 50.
7. Barricade supports systems used on this sheet may be suitable for only certain soil types. The contractor is responsible for selecting the appropriate support system for soil conditions on each project.

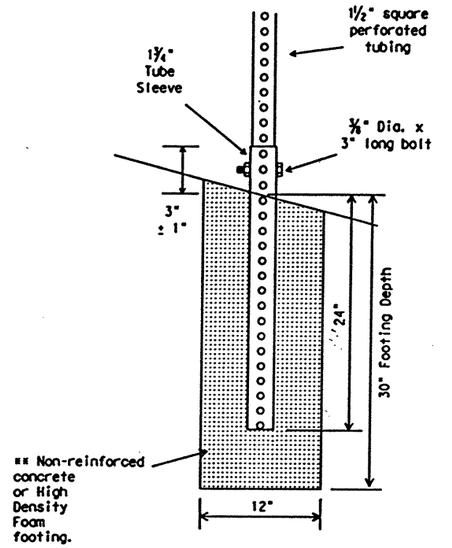
UNIVERSAL ANCHOR SYSTEM



* Plastic insert must be used with ⅛" thin wall tubing.

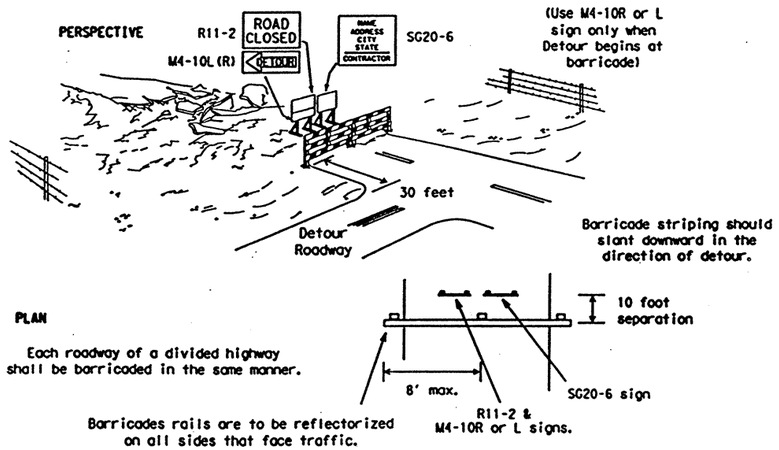
** Footing shall be removed and backfilled when barricade is removed.

SQUARE TUBING



Barricades shall NOT be used as a sign support.

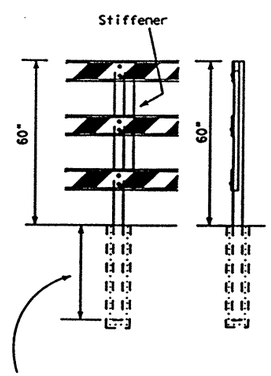
TYPE III BARRICADE (POST TYPE) TYPICAL APPLICATION



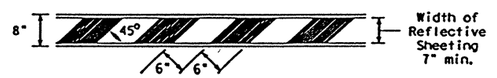
1). R11-2 and M4-10 signs should be mounted on independent supports at 7 foot mounting height in center of roadway.

2). Advance signing, including construction warning signs, and detour signing shall be as specified elsewhere in the plans.

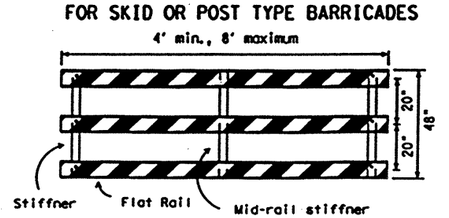
TYPE III BARRICADE (POST)



TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



Stiffner may be inside or outside of support.

* For dimensions of components refer to TxDOT approved products list.

Barricades shall be made using pre-qualified materials. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

BARRICADES (POST TYPE)

BC(3)-98

© TxDOT February 1998	DN-LR	CK-DTN	DW-DN	CK-CB	FED. RD. NO.
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	DALLAS	6	NH 99 (367)		368
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

103

DN: CK: DW: CK:
DATE: ACC: FILE:
LEVEL PLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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GENERAL NOTES:

1. Sign Supports detailed on this sheet have been crash tested and are approved breakaway systems. TxDOT acceptance of these breakaway systems does not cover the structural features of the sign support systems.
2. Sign support systems approved by FHWA may be used as approved fixed sign supports. The contractor shall provide documentation from FHWA approving sign support systems not shown on this sheet.
3. Sign support systems listed on this sheet may be suitable for only certain soil types. The contractor is responsible for selecting appropriate sign support systems for soil conditions on each project.
4. Barricades shall NOT be used as sign supports.

WORK ZONE SIGNS

GENERAL

Standard signs shall be used as required by the BC Standard sheets, the plans, or as directed by the Engineer to regulate, warn, and guide traffic. All sign usage and erection shall be in strict accordance with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways" (TMUTCD). The Contractor shall maintain each sign as directed by the Engineer.

The Contractor may use either the sign designs shown on the BC Standard Sheets, or those sign designs shown in the "Standard Highway Sign Designs for Texas" (SHSD). All work zone signs provided for in the TMUTCD but not detailed in the plans may be used when directed by the Engineer.

SIZE OF SIGNS

On secondary roads or city streets where speeds are low, smaller size construction warning signs may be used with the written approval of the Engineer and if the sign size is in accordance with the "Typical Construction Warning Sign Size and Spacing Chart" shown on page 6C-11 of the TMUTCD, Part VI.

SPLICES

All wooden sign panels fabricated from 2 or more pieces shall have one or more plywood cleats, 1/2 inch thick by 6 inches wide, fastened to the back of the sign and extending fully across the sign.

Wood Sign posts shall not be spliced.

REFLECTIVE SHEETING

Reflectorized signs shall be constructed of retroreflective sheeting meeting the color and reflectivity requirements of Material Specification D-9-8300 or D-9-8310. Day only is defined as a device that is used only during daylight hours.

Type A, B or C sheeting may be used for all day only applications. Type A sheeting should be used for all white background regulatory signs. Type C sheeting shall be used for all other applications.

The above applications of sheeting grades to different type signs will apply unless otherwise specified in the plans.

TYPE A = Engineer Grade, TYPE B = Super Engineer Grade, TYPE C = High Specific Intensity

SIGN LETTERS

All sign lettering shall be clear, open rounded type capital letters as approved by and as published by the Federal Highway Administration (FHWA). Signs and lettering shall be of first class workmanship equivalent to that of the Department standard signs.

WORK DURATION TERMINOLOGY-(as defined by the "Texas Manual on Uniform Traffic Control Devices")

Long-term Stationary = occupies a location 3 or more days;
Intermediate-term Stationary = occupies a location from overnight to 3 days;
Short-term Stationary = daylight work that occupies a location from 1 to 12 hours;
Short Duration = occupies a location up to 1 hour.

SUPPORTS AND MOUNTING HEIGHT

The bottom of Long-term / Intermediate-term signs shall be at least 7 feet above the paved surface. The bottom of any supplementary plaques shall be at least 6 feet above the paved surface.

The bottom of Short-term / Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground. Long-term / Intermediate-term Signs may be used in lieu of Short-term / Short Duration signing. Short-term / Short Durations signs shall be used only during daylight and removed at the end of the workday.

Regulatory signs shall be mounted at least 7 feet above the paved surface regardless of work duration.

Wood sign supports shall be painted white.

SIGN SUPPORT WEIGHTS

Where sign supports require the use of weights to keep from turning over, the use of some type of sandbag is recommended. The use of pieces of rock, concrete, iron, steel or other solid objects will not be permitted.

Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.

REMOVING OR COVERING

When sign messages may be confusing or no longer apply, the signs shall be removed or completely covered. When signs are covered the material used shall be opaque, such as heavy mil black plastic. Burlap shall not be used to cover signs. Signs shall be removed upon completion of the work.

Duct tape or other adhesive material shall not be affixed to sign face.

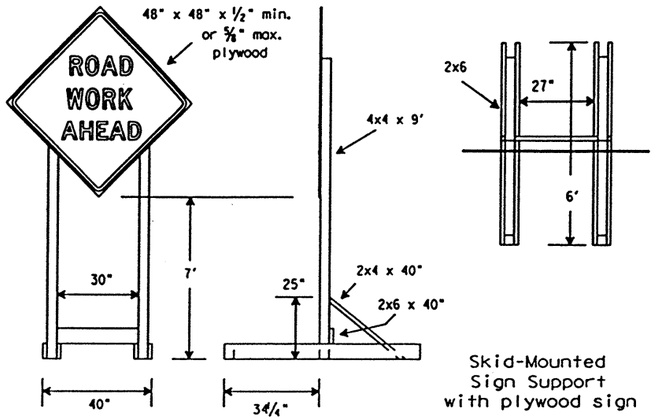
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Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

LONG/INTERMEDIATE TERM STATIONARY PORTABLE SIGN SUPPORTS

7 Foot Mounting Height

(SKID MOUNTED)



Skid-Mounted Sign Support with plywood sign

(POST TYPE)

Refer to acceptable products list.

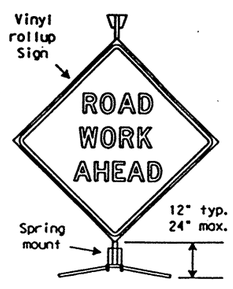


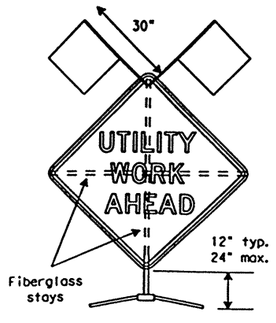
WHEELED PORTABLE SIGN SUPPORT

with plywood sign
(Minimum thickness ½ inch)
TxDOT Design

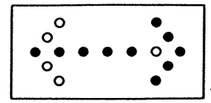
SHORT TERM STATIONARY/SHORT DURATION PORTABLE SIGN SUPPORTS

1 Foot Mounting Height





TYPICAL FLASHING ARROW PANEL



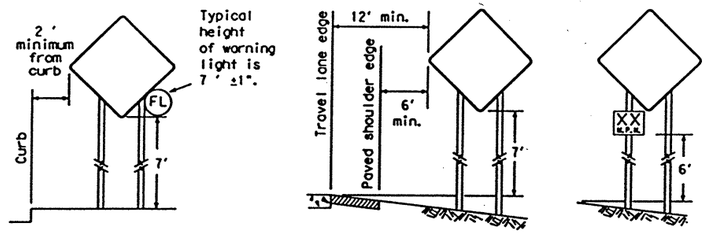
For traffic to move right.

ATTENTION: Arrow panels shall be equipped with automatic dimming devices.

1. The Advance Warning Flashing Arrow Panel should be used for all lane closures (multilane roadway), or slow moving maintenance or construction activities on the traveled way. Arrow panels should not be used on two-lane roadways, detours, diversions or work on shoulders unless the CAUTION mode is used.
2. Necessary signs, barricades or other traffic control devices should be used in conjunction with the Advance Warning Arrow Panel.
3. The Arrow panel should have the capability of the following display selections: LEFT ARROW, RIGHT ARROW, LEFT and RIGHT ARROW and CAUTION. The CAUTION mode consists of four corner lamps flashing simultaneously.
4. The Arrow panel shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 times per minute nor more than 40 flashes per minute. The Advance Warning Flashing Arrow Panel shall be mounted on a vehicle, trailer or other suitable support.
5. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and 25 percent for the sequential chevron.
6. The TxDOT standard is the flashing arrow, however, the sequential chevron may be used during daylight operations. The sequential arrow should NOT be used.

REQUIREMENTS TYPE	MINIMUM SIZE	MIN. NUMBER OF PANEL LAMPS	MIN. VISIBILITY DISTANCE
B	30" x 60"	13	¾ mile
C	48" x 96"	15	1 mile

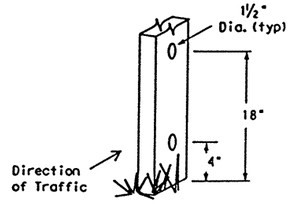
TYPICAL MINIMUM CLEARANCES FOR LONG/INTERMEDIATE TERM SIGNS



It is the intent of these plans to provide positive guidance to motorists throughout the project limits by the use of signs, pavement markings, delineation devices and/or channelizing devices. All traffic control devices shall conform with the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways."

WOOD POST SYSTEM FOR FIXED SIGN SUPPORTS

Nominal Post Size	No. of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	no
4 x 4	2	21	36"	no
4 x 6	1	21	36	YES



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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

SIGN SUPPORTS — BC(4)-98

©TxDOT February 1998	DN-LR	CK-DTN	DW-DN	CK-GB	HCC NO.:
REVISIONS	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99 (367)		SHEET: 369
	COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66

104

DN: CK: DW: CK:

DATE: SPLANED
FILE:
ACC:
LEVEL

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LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
ACC:
FILE:
DN:
CK:
DW:
CK:

GENERAL NOTES

Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects which would adversely affect their appearance or serviceability.

After drums and other traffic control devices are placed, the work zone should be driven through both during the day and after dark to be certain that these devices are functioning as intended.

PLASTIC DRUM - Prequalified plastic drums shall meet the following requirements.

GENERAL DESIGN REQUIREMENTS

Plastic drums shall be of a two-piece design; the "body" of the drum shall be the top portion of the drum and the "base" shall be the bottom of the drum.

The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 35 km/h or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles. Plastic drums that have been in use for more than two years generally do not have enough locking strength to prevent accidental separation. Plastic drums identified for replacement by the project engineer, inspector or their designee shall be replaced within 24 hours with an approved device.

Plastic drums shall be constructed of lightweight flexible, and deformable materials. Use of metal drums or single piece plastic drums as channelization devices or sign supports shall not be allowed.

Drums shall present a profile that is a minimum of 18 inches in width at the 36 inches height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.

Drums shall be tapered to allow nesting of a minimum of 5 drum bodies for ease in transport.

The top of drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 14mm diameter holes to allow attachment of a warning light, delineator reflector unit or sign.

The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches in width nor greater than 8 inches. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.

Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.

Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.

Drum body shall have a minimum unballasted weight of 7.7 lbs. and maximum unballasted weight of 11 lbs. The wall of the drum body shall be a minimum of 0.07 inch in thickness. Weight of any drum supplied shall not vary more than 0.5 lb. from that of the prequalified sample.

Drum and base shall be marked with manufacture's name, model number, and year and month of construction.

RETROREFLECTIVE SHEETING

The retroreflective stripes used on drums shall be constructed of retroreflective sheeting meeting the color and reflectivity requirements of Departmental Materials Specification D-9-8300: Flat Surface Reflective Sheeting, Type C unless otherwise specified in the plans.

Drums used only during daylight hours may use any type of sheeting meeting the color and retroreflective color requirements of Departmental Materials Specification D-9-8300.

The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, checking, cracking, or loss of reflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

Unballasted bases shall be large enough to hold up to 50 lbs. of sand. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs.

The ballasted base should weigh between 35 (minimum) and 75 lbs. (maximum). The ballast may be sand in one to three sand bags separate from the base, sand in a sand-filled plastic base, a integral crumb rubber base and ballast or other ballasting devices as approved by the Engineer. Stacking of sand bags will be allowed, however height of sand bags above pavement surface may not exceed 12 inches.

The ballasts shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle. Ballast shall not be placed on top of drums

Adhesives may be used to secure base of drums to pavement.

SIGNS, CHEVRONS, AND VERTICAL PANELS

Signs used on plastic drums shall be manufactured using substrates listed on the Compliant Products List.

Chevrons and other work zone signs with an orange background shall be manufactured with Type C (high intensity grade) retroreflective sheeting meeting the color and reflectivity requirements of "Departmental Materials Specification D-9-8300: Flat Surface Reflective Sheeting, Type C" unless otherwise specified in the plans.

Signs with white backgrounds, such as the KEEP RIGHT sign (R4-8 series), shall be manufactured with Type A (engineer grade) sheeting.

Approved sign messages for signs mounted on plastic drums are the Chevron (CW1-8), the KEEP RIGHT/LEFT sign (R4-7 or R4-8 series), the Vertical Panel, and the Opposing Lane Divider. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height. Refer to acceptable materials list for approved substrate materials. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled way.

Signs shall be installed using one 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than ½" beyond nuts. The hardware used for the mounting of signs onto plastic drums shall be of adequate quality for this use.

WARNING LIGHTS, WARNING REFLECTORS, AND DELINEATORS

Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area. Type A flashing warning lights are not intended for delineation and shall not be used in a series.

Type B warning lights shall not be attached to a drum.

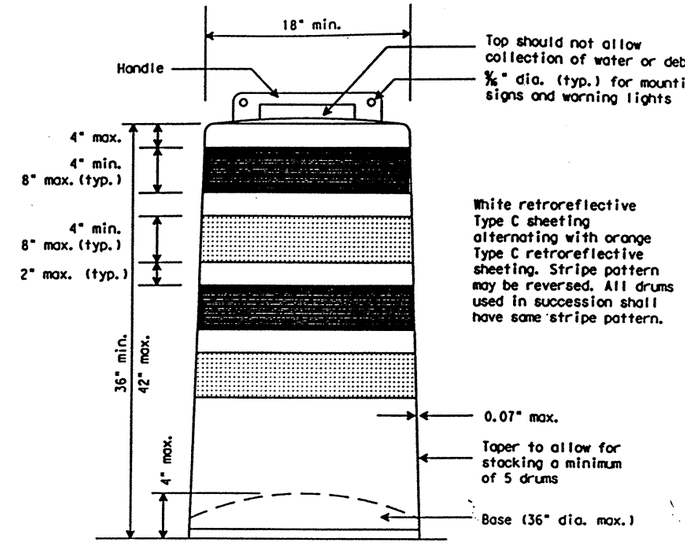
Type C steady-burn warning lights are intended to be used in a series to delineate the edge of the traveled way on detours, on lane changes, on lane closures, and on other similar conditions. Type A and Type C warning lights shall be installed at locations as detailed on other sheets in the plans.

A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, Steady Burn Warning Light at the discretion of the contractor unless otherwise noted in the plans. The warning reflector shall be manufactured from a sign substrate from the approved list for use on plastic drums. The warning reflector shall have a retroreflective surface area (one-side) no less than 30 square inches.

The side of the warning reflector facing approaching traffic shall be fully reflectorized using retroreflective sheeting meeting the color and reflectivity requirements for ASTM Type 4 retroreflective sheeting as described in ASTM Design Standard 4956-93B. When used near two-way traffic, both sides of the warning reflector shall be fully reflectorized. The warning reflector should be mounted on the side of the handle that faces approaching traffic so that the maximum amount of reflective sheeting is visible to traffic approaching in the adjacent lane. Delineators may be used as directed by the Engineer. Delineators may not be used to substitute for warning lights. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.

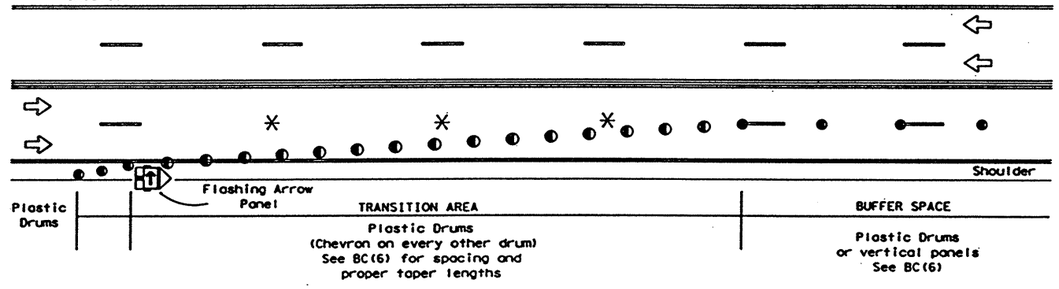
Type(A) Class(1), Type(A) Class(2), or Type(B) Reflector Units (D & OM Standard) may be attached to drums to delineate the intended vehicular path. The color of the reflector unit shall correspond to the marking it is supplementing or for which it is substituting. The reflective unit shall be attached to the handle of the drum using the mounting hole nearest the traveled way and shall be aligned perpendicular to approaching traffic.

Contractor shall provide, on request from project engineer, a letter from the drum manfacturer certifying the plastic drum model number, the year and month of construction and that it meets the specifications on this standard sheet.

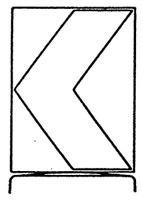


Color sequence of reflective sheeting may be reversed.

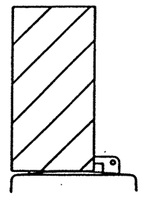
TYPICAL LANE CLOSURE



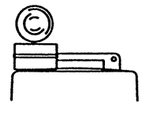
✳ NOTE: For Long Term Stationary Duration - Lane lines shall be removed.



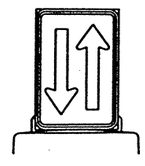
18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8,
Driveway sign D70a,
Keep Right R4 series
or other sign as approved
by Engineer



12" x 24" Vertical Panel
mount with diagonals
sloping down towards
travel way



Warning Light or approved substitute
mount towards travel way



12" x 18" Sign
Opposing Lane Divider

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

PLASTIC DRUMS — **BC(5)-98**

©TxDOT February 1998	DN-LR	CK-DTN	DW-DN	CK-DM	REC NO.:	
REVISIONS 4-98	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
	DALLAS	6	NH 99 (367)			370
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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GENERAL NOTES:

SELF-RIGHTING SUPPORTS

1. Channelizing devices on self-righting supports may be a vertical panel, opposing lane divider or chevron.
2. Channelizing devices on self-righting supports shall be used at locations detailed elsewhere in the plans. These devices shall conform to the "Texas Manual on Uniform Traffic Control Devices". Type of base will be as directed by the Engineer.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. Devices should not be placed within 12 inches of the traveled way. Spacing and placement shall be uniform and in accordance with the "Texas MUTCD".
4. The contractor shall maintain devices in a clean condition and replace damaged, non-reflective, faded, or broken devices and bases as necessary.
5. Devices shall be erected by method shown on this sheet and as approved by the Engineer.
6. Portable bases shall be fabricated from virgin and/or recycled rubber. Approximate weight of portable bases shall be 35 lbs.
7. Pavement surfaces shall be prepared in a manner that will ensure proper bonding of adhesives and fixed mount bases to the pavement surfaces when required. Adhesives shall be prepared and applied as per manufacturers recommendations.
8. Application and removal of devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface intregity. Driveable bases shall not be permitted on final pavement surfaces. All application and removal procedures of fixed bases shall be approved by the Engineer.
9. These devices shall not be paid for directly but shall be considered subsidiary to the Item "Barricades, Signs, and Traffic Handling."

CONES

1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used on freeways or used at nighttime. Orange shall be the predominant color of cones and tubular markers. They should be kept clean and bright for maximum visibility. Cones shall have a minimum weight of 9½ lbs.
2. For nighttime use, cones shall be reflectorized. Reflectorized material shall have a smooth, sealed outer surface which will display the same approximate color day and night. When used at night, appropriate personnel shall be present at all times to ensure cones and tubular markers remain in their proper location and in an upright position.
3. Reflectorization of cones shall be a minimum 6 inch band placed at least 3 inches but not more than 4 inches from the top, supplemented by a minimum 4 inch band spaced a minimum of 2 inches below the 6 inch band. Reflectorization of tubular markers shall be a minimum of two 3 inch bands placed a maximum of 2 inches from the top with a maximum of 6 inches between bands.
4. One-piece cones or tubular markers are generally suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels, drums or two-piece cones for long term usage. Care should be taken to ensure that they remain in their proper location and in an upright position.
5. *-SPRAF (stacking/placement/removal assistance feature) may be designed as a handle, hook or other shape, fabricated from non-rigid materials similar to the cone material, and may extend up to a maximum of 8 inches above the top of cone. The length of the SPRAF shall not be considered with regard to the 28 inch minimum height.

DRUMS

Refer to BC(5).

SPECIFICATION REFERENCE TABLE
MATERIALS AND TEST SPECIFICATIONS (D-9)

FLAT SURFACE REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300

Only pre-qualified products shall be used. A List of compliant products and their sources may be obtained by writing, calling or faxing:

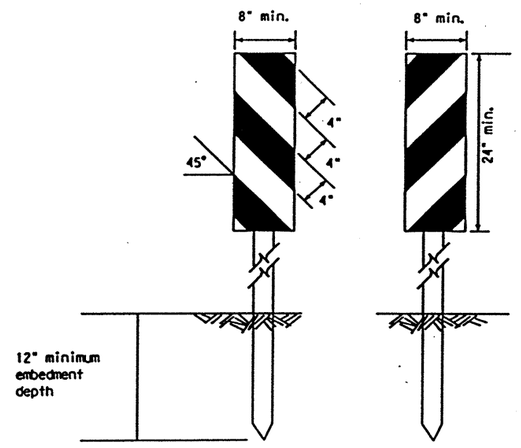
Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation (TxDOT)
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD @ mailgw.dot.state.tx.us

Posted Speed*	Formula	Minimum Desirable Taper Lengths** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Device On a Taper	On a Tangent	Minimum Sign Spacing X Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'	120'
35		205'	225'	245'	35'	70'-90'	160'
40		265'	295'	320'	40'	80'-100'	240'
45	L=WS	450'	495'	540'	45'	90'-110'	320'
50		500'	550'	600'	50'	100'-125'	400'
55		550'	605'	660'	55'	110'-140'	500'
60		600'	660'	720'	60'	120'-150'	*600'
65		650'	715'	780'	65'	130'-165'	*700'
70		700'	770'	840'	70'	140'-175'	*800'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

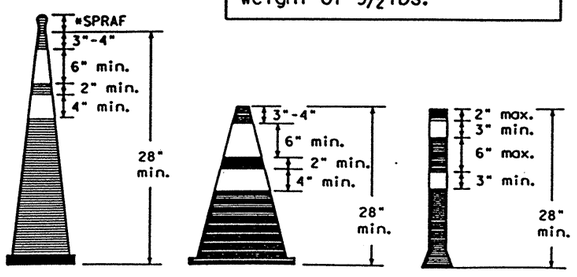
DRIVEABLE RIGID VERTICAL PANEL



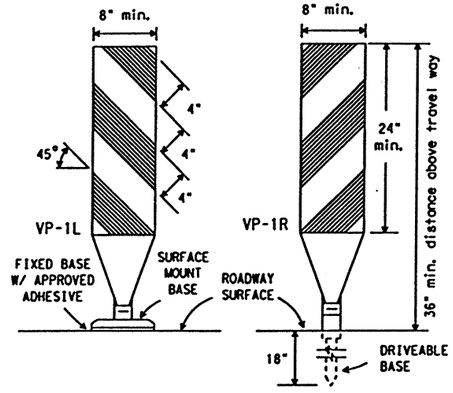
See Compliant Products List for supports and panel substrates

CONES

Cones shall have a minimum weight of 9½ lbs.



SELF-RIGHTING SUPPORTS



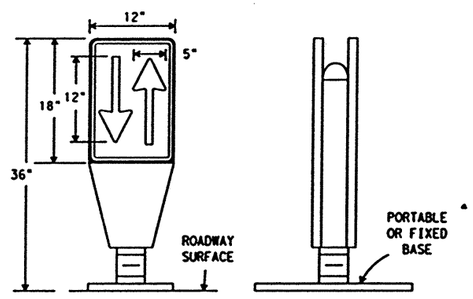
VERTICAL PANELS

Vertical Panels are normally used as channelizing devices to indicate tangent or nearly tangent roadway alignment where good target value of a device is needed in daytime as well as nighttime. In addition, vertical panels should be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation may be required. Vertical panels should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the traveled way. Vertical Panels used on expressways, freeways, and other high speed roadways shall have a minimum of 2 square feet of retroreflective area facing traffic.

Self-righting supports are available with portable base. See Compliant Products List.

OPPOSING LANE DIVIDER

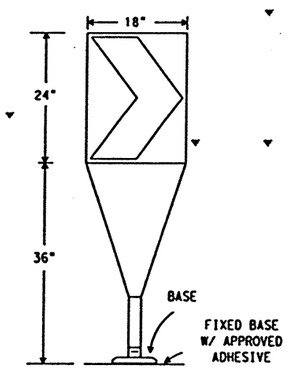
with Portable or Fixed Base Support



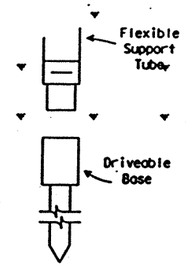
REFLECTIVE ORANGE BACKGROUND WITH BLACK ARROWS AND BORDER.

CHEVRON

with Flexible Support

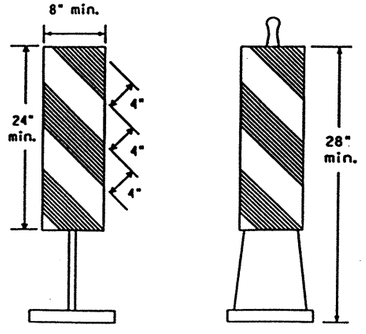


DRIVEABLE BASE



Driveable Support for Vertical Panel VP(F)-1 or Chevron CW1-8(F).

PORTABLE RIGID VERTICAL PANEL



See Compliant Products List for alternate designs.

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

CHANNELIZING DEVICES
CONES

BC(6)-98

© TxDOT February 1998	DN: LR	CK: DTN	DW: DN	CK: CB	HCC NO.:	
REVISIONS	STATE DISTRICT	FEDERAL SECTION	FEDERAL AID PROJECT			SHEET
	DALLAS	6	NH 99 (367)			371
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	IH 30

LEVEL SPLAYED DATE: DN: CK: DW: CK: ACC: FILE:

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WORK ZONE PAVEMENT MARKINGS

GENERAL

The Contractor shall be responsible for maintaining work zone and existing pavement markings on all roadways open to traffic within the projects limits unless otherwise stated in the plans. Color, patterns, and dimensions shall be in conformance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD). Additional supplemental pavement marking details may be found in the plans or specifications.

Work zone pavement markings shall consist of guidemarks, short term markings and/or standard pavement markings. Unless otherwise shown in the plans, materials used for work zone pavement markings shall be thermoplastic, raised pavement markers, prefabricated pavement marking material, temporary flexible-reflective roadway marker tabs or other materials approved by the Engineer. Thermoplastic shall not be used for removable markings.

All roadways to be opened to traffic shall be marked with short term markings or standard markings as shown in the plans, at the end of each day's operation. Unless otherwise shown in the plans or approved in writing by the Engineer, all concrete surfaces shall have standard markings in place prior to opening to traffic.

Standard pavement markings shall be installed in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD) and as shown on the plans. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard WZ(STPM).

All asphaltic surfaces which are to be opened to traffic shall be marked with guidemarks immediately following placement and final rolling of any course. Guidemarks shall consist of a single temporary flexible-reflective roadway marker tab or a single temporary construction raised pavement marker at 40 foot spacing.

Guidemarks shall be placed in proper alignment with the final location of future pavement markings. Any guidemarks not in alignment with pavement markings shall be removed by the Contractor at the Contractor's expense. Guidemarks shall not be used to simulate edgelines.

When inclement weather prohibits the application of short term markings or standard markings as called for on the plans, upon approval of the Engineer, guidemarks may be considered as temporary short term markings for asphaltic surfaces. The placement of pavement markings as shown on the plans may be delayed until such time that weather permits application of pavement markings.

When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs shall be erected to mark the beginning of the sections where passing is permitted.

RAISED PAVEMENT MARKERS

Raised pavement markers are to be placed according to the patterns on BC(8). Raised pavement markers used as standard pavement markings or to supplement removable markings shall meet the requirements of Item "RAISED PAVEMENT MARKERS".

Unless otherwise shown on the plans, raised pavement markers will not be allowed for words, symbols, and shapes, diagonal or transverse lines.

PREFABRICATED PAVEMENT MARKINGS

Removable prefabricated pavement markings shall be a material of manufacture and product code or designation shown on the list of approved materials covered by the Department Materials Specification D-9-8241.

Non-removable prefabricated pavement markings (foil back) shall be a material of manufacture and product code or designation shown on the list of approved materials covered by the Specification TxDOT 550-74-01.

The lists of approved prefabricated work zone pavement marking materials may be obtained from TxDOT General Services Division.

MAINTENANCE

The Contractor will be responsible for maintaining work zone pavement markings within the project limits. Work Zone Pavement Markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 165 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics. Markings failing to meet this criteria shall be replaced as required by the Engineer.

REMOVAL OF PAVEMENT MARKINGS

Removal of pavement markings includes centerline, channelizing lines, lane lines, edge lines, words, arrows, symbols and raised pavement markers.

Pavement markings that are no longer applicable and which may create confusion or direct a motorist toward or into the closed portion of the roadway, shall be removed or obliterated before the roadway is open to traffic. The above shall not apply to detours of a short duration of a few hours, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route and the detour is not to be maintained during nighttime.

Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernible marking, by any method that does not materially damage the surface or texture of the pavement. The removal of pavement markings may require resurfacing or seal coating portions of the roadway, normally full lane widths. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used. Blast cleaning may be used but will not be required unless specifically shown in the plans. Over-painting of the markings SHALL NOT BE permitted. Removal of raised pavement markers shall be as directed by the Engineer.

Removal of existing pavement markings and markers will be paid for directly in accordance with the Item "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS" unless otherwise stated elsewhere in the plans.

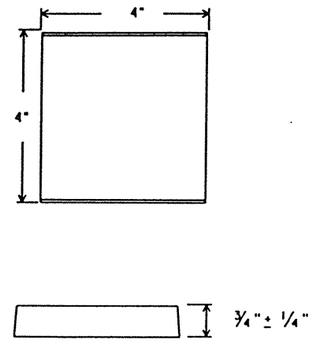
SPECIFICATION REFERENCE TABLE

MATERIALS AND TESTS DIVISION SPECIFICATIONS	
JIGGLE BAR TILE	D-9-4100
PAVEMENT MARKERS (REFLECTORIZED)	D-9-4200
TRAFFIC BUTTONS	D-9-4300
EPOXY	D-9-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	D-9-6130
PREFABRICATED PAVEMENT MARKINGS - REMOVABLE	D-9-8241
TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS	D-9-8242

PREQUALIFICATION PROCEDURES MAY BE OBTAINED BY WRITING:

GENERAL SERVICES DIVISION
TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT)
125 EAST 11th STREET
AUSTIN, TX 78701-2483

Temporary Construction Raised Pavement Markers used as Guidemarks:



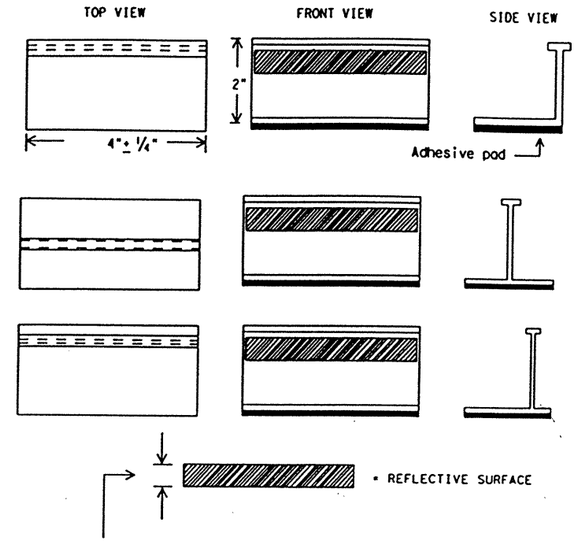
The above temporary construction raised pavement marker is shown for illustration purposes only and not intended to specify any particular product.

Temporary construction raised pavement markers used as guidemarks shall be of design and manufacture approved by the Engineer.

All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.

Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKERS TABS TO THE PAVEMENT SURFACE

Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of Departmental Material Specification D-9-8242.

Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.

A) Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Tests section to determine specification compliance.
B) Select five (5) tabs and submit to the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with front and rear wheels at a speed of 35 to 40 miles per hour, four times in each direction. No more than one (1) out of five reflective surfaces shall be lost or displaced as a result of this test.

Guidemarks shall be designated as:

YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as ¼inch, unless otherwise noted.

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

PAVEMENT MARKINGS — BC(7)-98

©TxDOT April 1992	DW-LR	CK-DTN	DW-DN	CK-GB	REC NO.:
REVISIONS 2-94 1-97 2-98	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99 (367)		SHEET: 372
COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66	

107

DN:
CK:
DW:
CK:

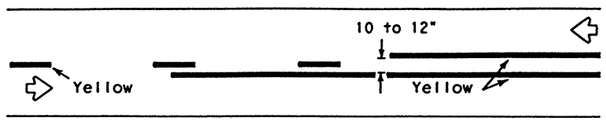
DATE:
ACC:
FILE:

SPLAYED LEN
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

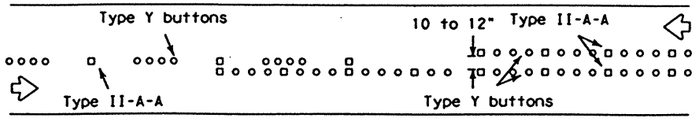
DISCLAIMER
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PAVEMENT MARKING PATTERNS

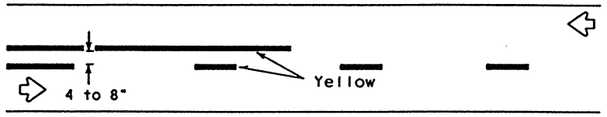
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS



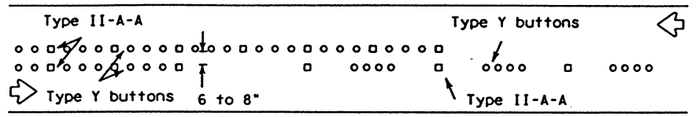
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED MARKERS - PATTERN A

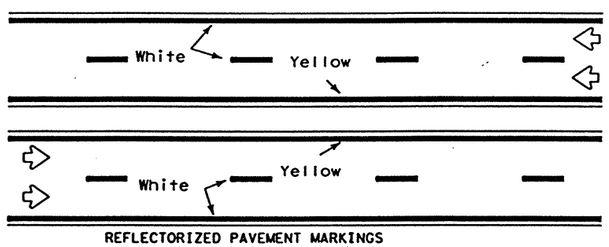


REFLECTORIZED PAVEMENT MARKINGS - PATTERN B

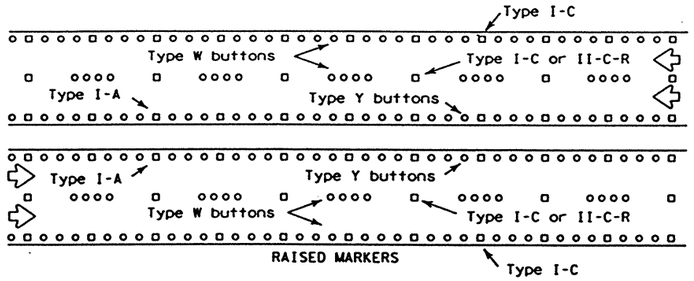


RAISED MARKERS - PATTERN B

EDGE & LANE LINES FOR DIVIDED HIGHWAY

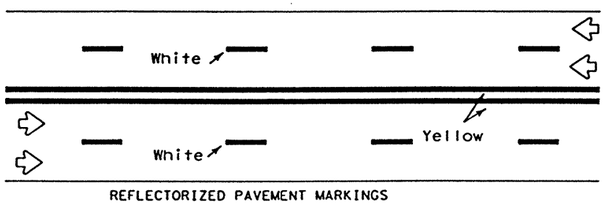


REFLECTORIZED PAVEMENT MARKINGS

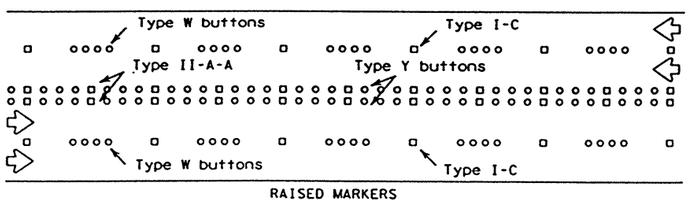


RAISED MARKERS

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS

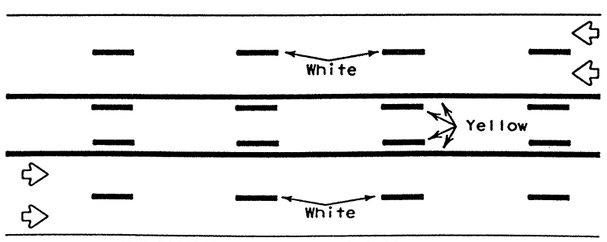


REFLECTORIZED PAVEMENT MARKINGS

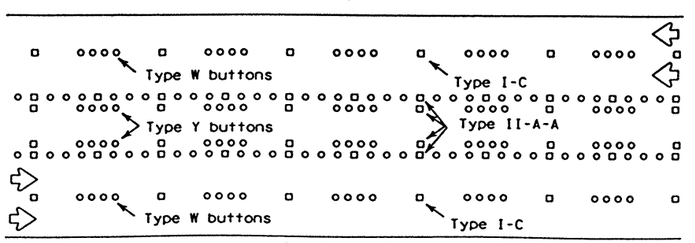


RAISED MARKERS

TWO-WAY LEFT TURN LANE



REFLECTORIZED PAVEMENT MARKINGS

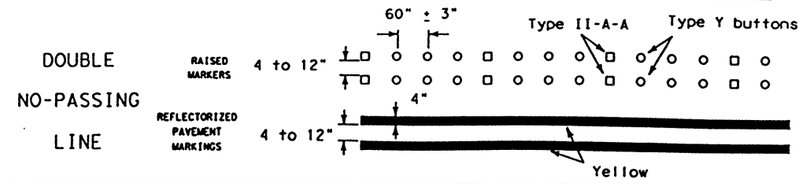


RAISED MARKERS

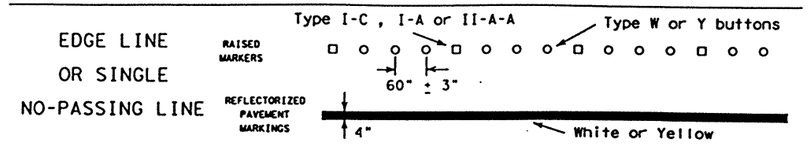
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

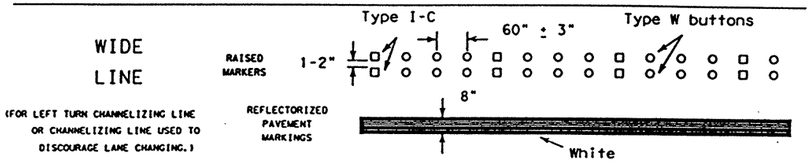


EDGE LINE OR SINGLE NO-PASSING LINE



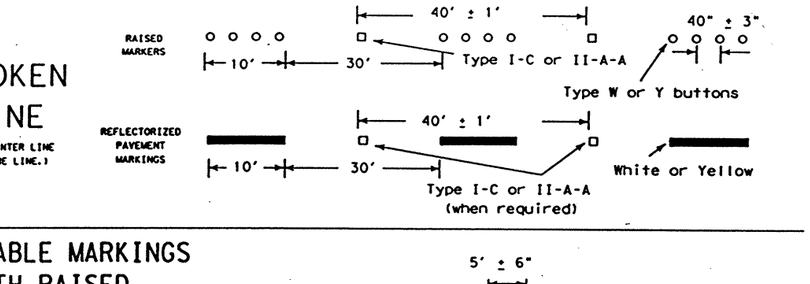
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)



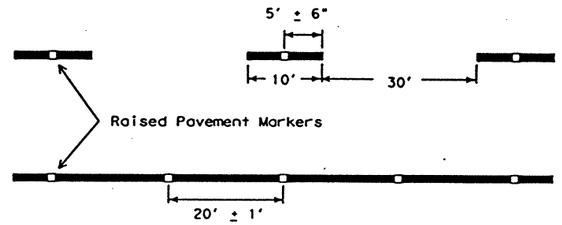
BROKEN LINE

(FOR CENTER LINE OR LANE LINE.)



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines and at approximately 20 foot spacing for solid lines. This allows an easier removal of raised markers and tape.



NOTES:
Pattern A is the Department Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be subsitituted for reflectorized pavement markings.

Raised pavement markers used as standard pavement markings shall meet the requirements of items "RAISED PAVEMENT MARKERS" and "EPOXY AND ADHESIVES."

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

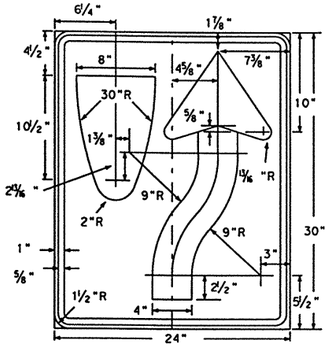
BARRICADE AND CONSTRUCTION STANDARDS

PAVEMENT MARKINGS — BC(8)-98

©TxDOT April 1992	DN-LR	CK-DTN	DW-DN	CK-GB	HCC NO.:
REVISIONS 2-94 1-97 2-98	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99 (367)		SHEET: 373
	COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66

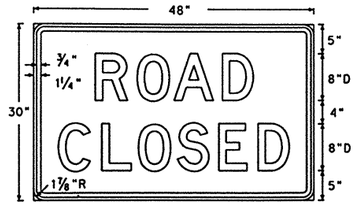
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R4-7 (R4-8) 24" X 30"

Symbol - Black
Border - Black
Background - White Refl.

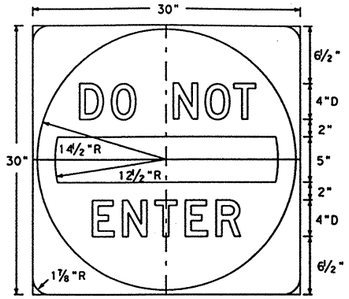


R11-2 48" X 30"

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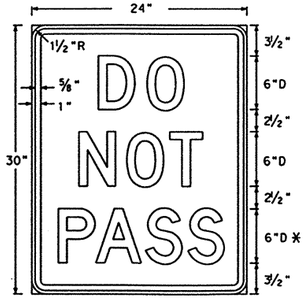
Alternate 1st line legend

STREET I 8"D R11-2S
RAMP I 8"D R11-2R
BRIDGE I 8"D R11-2B



R5-1 30" X 30"

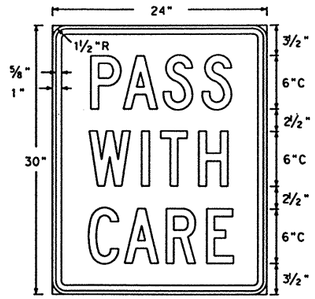
Letters - White Refl.
Bar - White Refl.
Border - White Refl.
Background - Red Refl.



* reduce spacing 40%

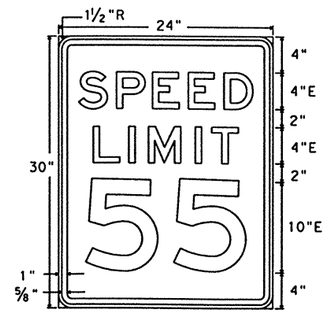
R4-1 24" X 30"

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Background - White Refl.



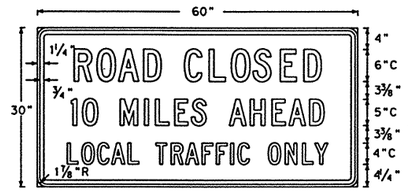
R4-2 24" X 30"

Letters - Black
Border - Black
Background - White Refl.



R2-1 24" X 30"

Letters - Black
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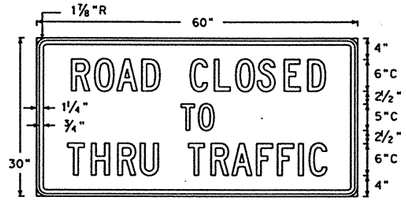


R11-3a 60" X 30"

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Numerals - Black
Border - Black
Background - White Refl.

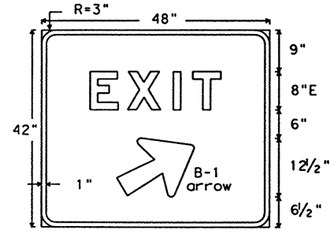
Alternate 1st line legend

BRIDGE OUT I 6"C R11-3b



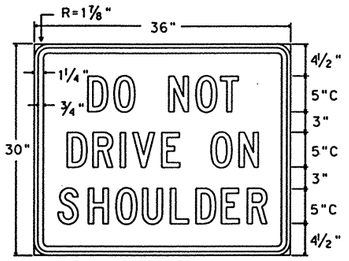
R11-4 60" X 30"

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Background - White Refl.



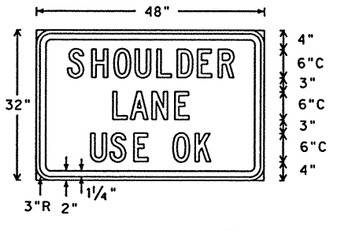
E5-1a 48" X 42"

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Numerals - White Refl.
Symbol - White Refl.
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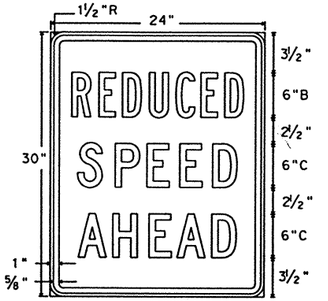
R4-3a 36" X 30"

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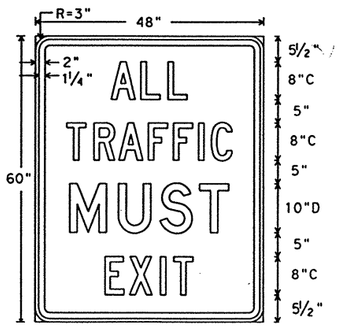
R4-3d 48" X 32"

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Background - White Refl.



R2-5a 24" X 30"

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Background - White Refl.



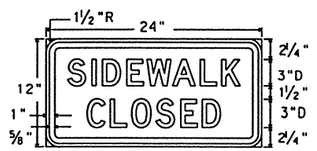
R3-22 48" X 60"

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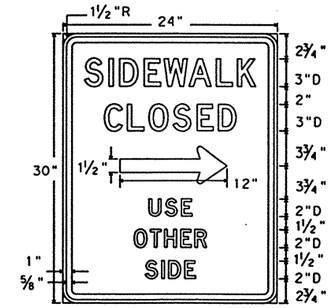
R5-7 24" X 12"

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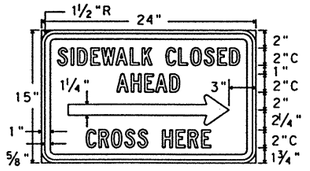
R5-8 24" X 12"

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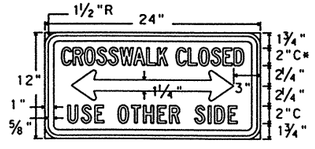
R5-8T 24" X 30"

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Symbol - Black
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Background - White Refl.



R5-9a 24" X 15"

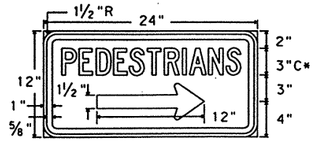
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Symbol - Black
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Background - White Refl.



* reduce spacing 40%

R5-9 24" X 12"

Letters - Black
Symbol - Black
Border - Black
Background - White Refl.



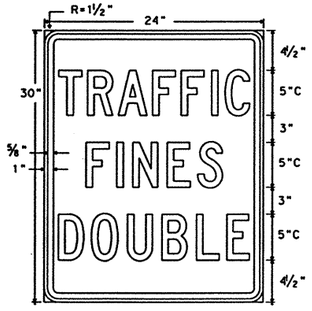
* reduce spacing 40%

R5-7T 24" X 12"

Letters - Black
Symbol - Black
Border - Black
Background - White Refl.

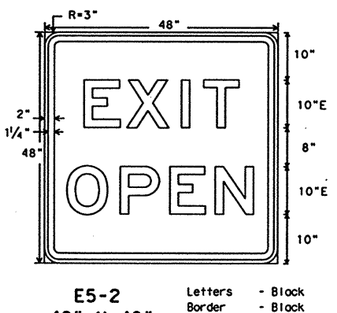
ER20-5 36" X 36"

Letters - Black
Border - Black
Background - White Refl.



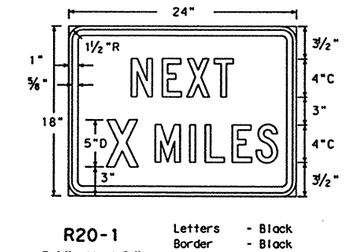
R20-5 24" X 30"

Letters - Black
Border - Black
Background - White Refl.



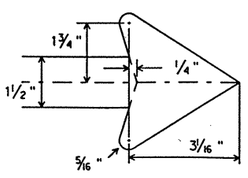
E5-2 48" X 48"

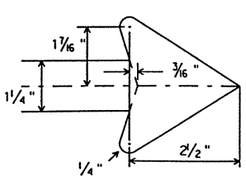
Letters - Black
Border - Black
Background - Orange Refl.



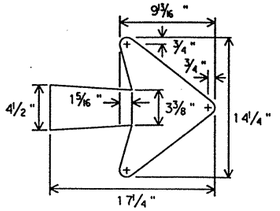
R20-1 24" X 18"

Letters - Black
Border - Black
Background - White Refl.





Signs E5-1a, E5-2 and R5-1 - letters, border and symbol may be fabricated from FLAT REFLECTIVE SHEETING, TYPE C.



B-1 Arrow Detail

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

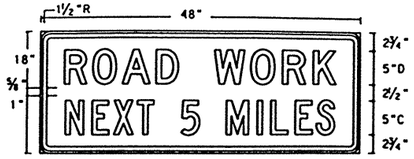
REGULATORY AND GUIDE SIGNS

BC(9)-98

©TxDOT February 1998	DN: GB	CK: DTN	DW: DN	CK: GB	MCG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	6		NH 99 (367)		374
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

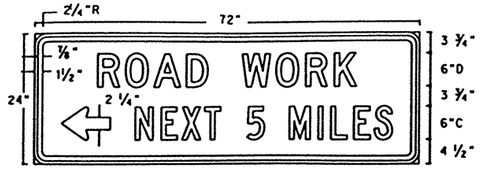
LEVEL	PLAYED	DATE:	DN:
1	1 4 5 6 7 8 9 10 11 12 13 14 15 16		CK:
1 7 8 1 9 2 0 2 1 2 2 2 3 2 4 2 5 2 6 2 7 2 8 2 9 3 0 3 1 3 2		ACC:	DW:
3 3 3 4 3 5 3 6 3 7 3 8 3 9 4 0 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8			CK:
4 9 5 0 5 1 5 2 5 3 5 4 5 5 5 6 5 7 5 8 5 9 6 0 6 1 6 2 6 3		FILE:	

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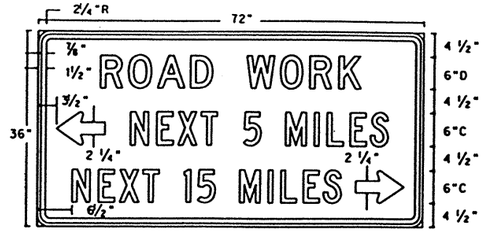
SG20-1
48" X 18"

Letters - Black
Numbers - Black
Border - Black
Background - Orange Refl.



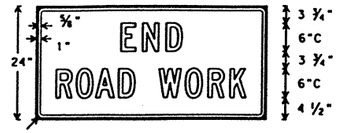
G20-1bL (R)
72" X 24"

Letters - Black
Numbers - Black
Border - Black
Background - Orange Refl.



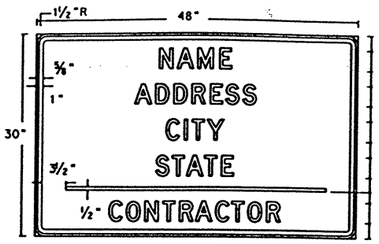
G20-1a
72" X 36"

Letters - Black
Numbers - Black
Border - Black
Background - Orange Refl.



G20-2a
48" X 24"

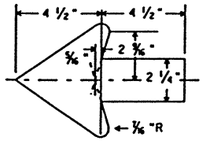
Letters - Black
Border - Black
Background - Orange Refl.



SG20-6
48" X 30"

Letters - Black
Border - Black
Background - Orange Refl. or White Refl. (optional)

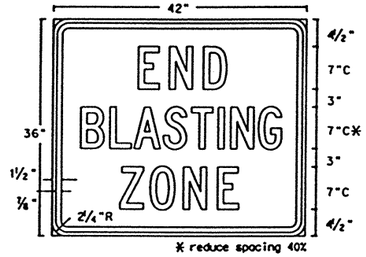
NOTE:
G20-1 Series signs shall show distances rounded to nearest whole mile. Fractions and decimal miles will not be used.





CW22-2a
60" X 36"

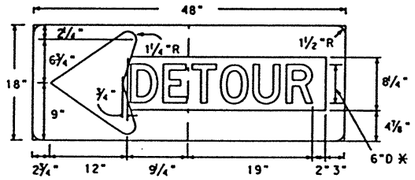
Letters - Black
Number - Black
Border - Black
Background - Orange Refl.



* reduce spacing 40%

CW22-3
42" X 36"

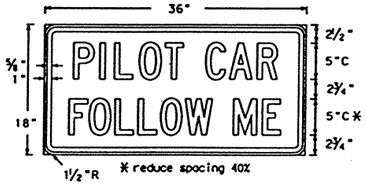
Letters - Black
Border - Black
Background - Orange Refl.



* reduce spacing 40%

M4-10L (R)
48" X 18"

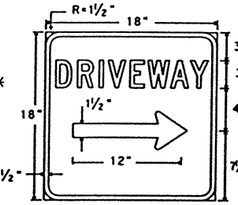
Letters - Black
Arrow - Orange Refl.
Background - Black



* reduce spacing 40%

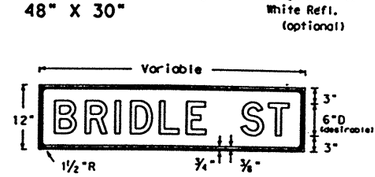
G20-4
36" X 18"

Letters - Black
Border - Black
Background - Orange (Refl. Optional)



D-70a
18" X 18"

Letters - White Refl.
Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

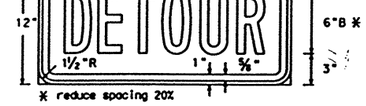


M4-9N
Variable X 12"

Letters - Black
Border - Black
Background - Orange Refl.

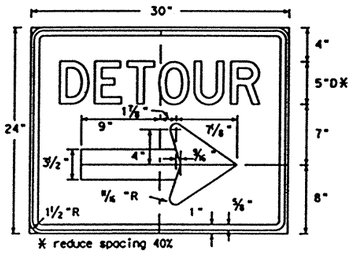
The M4-9R,L or S sign is to be used to detour local streets or roads that are not a State or Federal numbered highway; however, it should not be used in lieu of the M4-10 sign at the beginning of the detour or to detour State or Federal numbered routes.

Also, when the M4-9R,L or S sign is used, a sign (M4-9N) with the name of the street being detoured may be mounted above it.



M4-8
24" X 12"

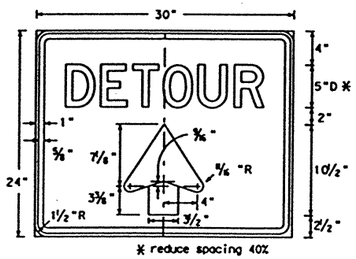
Letters - Black
Border - Black
Background - Orange Refl.



* reduce spacing 40%

M4-9R(L)
30" X 24"

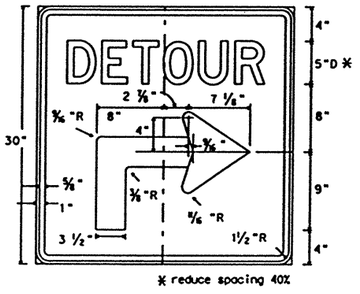
Letters - Black
Symbol - Black
Border - Black
Background - Orange Refl.



* reduce spacing 40%

M4-9S
30" X 24"

Letters - Black
Symbol - Black
Border - Black
Background - Orange Refl.



* reduce spacing 40%

M4-9AR(L)
30" X 30"

Letters - Black
Symbol - Black
Border - Black
Background - Orange Refl.

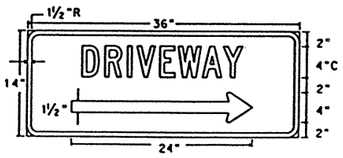
* Alternate first line legend for D-70S

RESTAURANT I D70R 4"C
BUSINESS I D70B 4"C
MOTEL I D70M 4"C
GAS I D70G 4"C



D-70S
42" X 14"

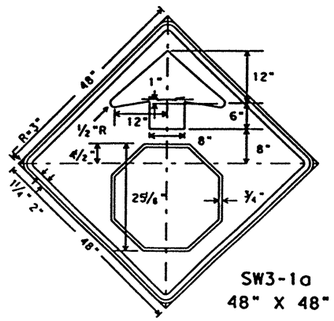
Letters - White Refl.
Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.



D-70
36" X 14"

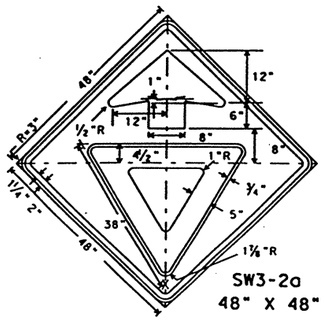
Letters - White Refl.
Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

NOTE:
STOP, YIELD, and SIGNAL AHEAD symbol signs should be yellow background.



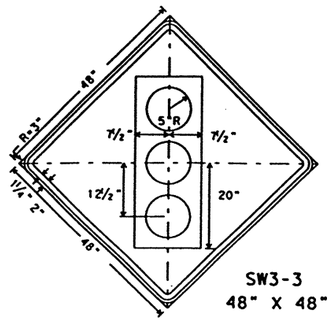
48" X 48"

Border and Arrow - Black
Symbol - White Border on Red Background (Refl)
Background - Yellow Reflective



48" X 48"

Border and Arrow - Black
Symbol - Red Border Band on White Background (Refl)
Background - Yellow Reflective



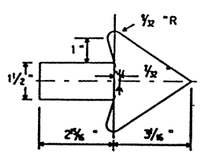
48" X 48"

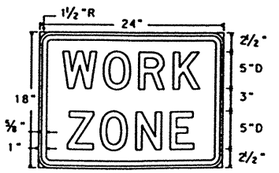
Symbol and Border - Black
Top Circle - Red Reflective
Bottom Circle - Green Reflective
Background - Yellow Reflective



CW26-1T
96" X 24"

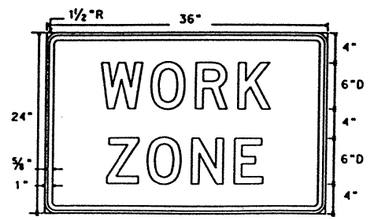
Letters - Black
Border - Black
Background - Orange Refl.





G20-9
24" X 18"

Letters - Black
Border - Black
Background - Orange Refl.



EG20-9
36" X 24"

Letters - Black
Border - Black
Background - Orange Refl.

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

CONTRACTOR INFORMATION, DETOURS & WARNING SIGNS

BC(9A)-98

© TxDOT February 1998	DN: CB	CK: DTN	DW: DN	CK: CB	HCC NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	DALLAS	6	NH 99 (367)		375
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

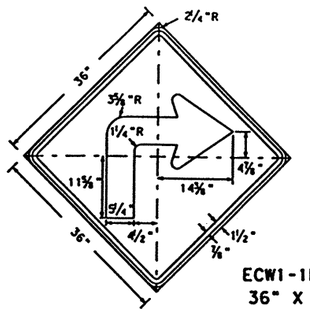
109A

DN:
CK:
DW:
CK:

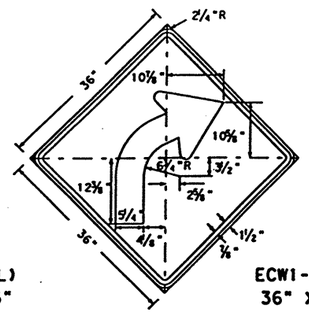
DATE:
ACC:
FILE:

LEGEND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

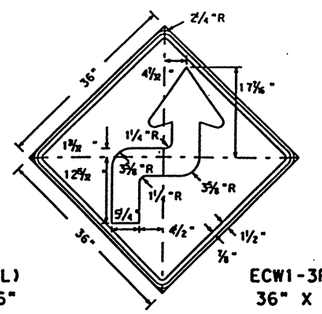
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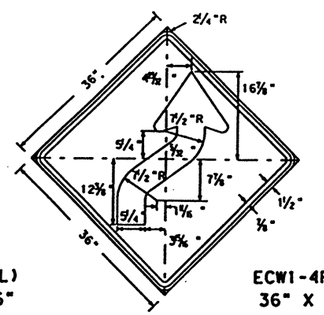
ECW1-1R(L)
36" X 36"



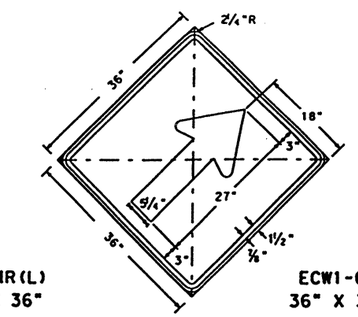
ECW1-2R(L)
36" X 36"



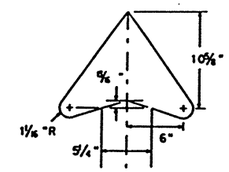
ECW1-3R(L)
36" X 36"



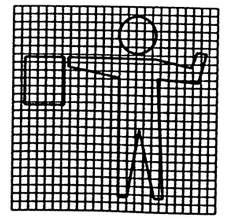
ECW1-4R(L)
36" X 36"



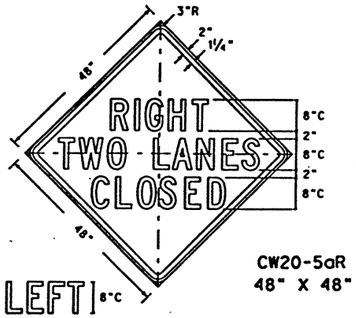
ECW1-6a
36" X 36"



ARROW DETAIL FOR
ECW1-1, ECW1-2, ECW1-3,
ECW1-4 AND ECW1-6a.

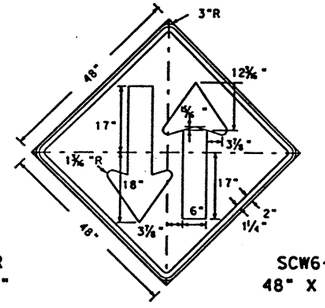


FCW20-7a
48" X 48"

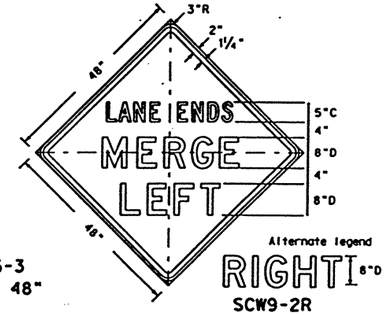


CW20-5aR
48" X 48"

CW20-5aL

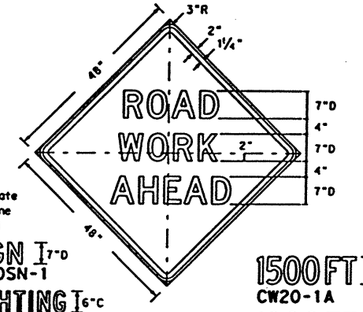


SCW6-3
48" X 48"



SCW9-2R

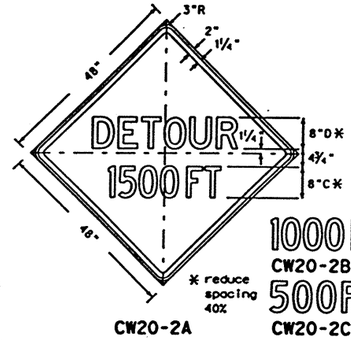
SCW9-2L
48" X 48"



Alternate 1st line legend
SIGN 7"D
CW20SN-1
LIGHTING 6"C
CW20LT-1
BRIDGE 6"C
CW20BR-1
RAMP 7"D
CW20RP-1
SIGNAL 6"C
CW20SG-1
STREET 7"D
CW20ST-1

CW20-1D
48" X 48"

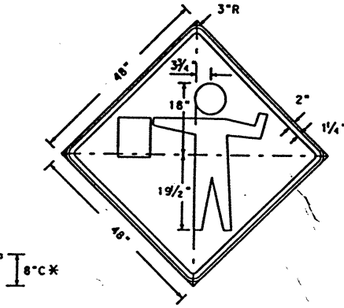
1500FT 7"C*
CW20-1A
1000FT 7"C*
CW20-1B
500FT 7"C
CW20-1C

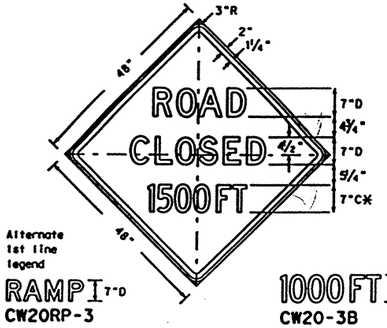


CW20-2A
48" X 48"

* reduce spacing 40%

1000FT 8"C*
CW20-2B
500FT 8"C
CW20-2C
AHEAD 8"D
CW20-2D

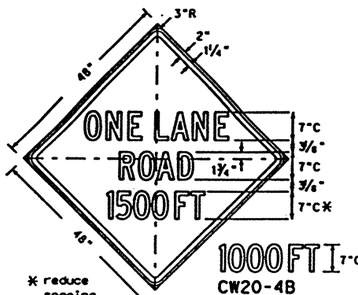




Alternate 1st line legend
RAMP 7"D
CW20RP-3
FRWY 7"D
CW20FY-3
STREET 7"C
CW20ST-3

CW20-3A
48" X 48"

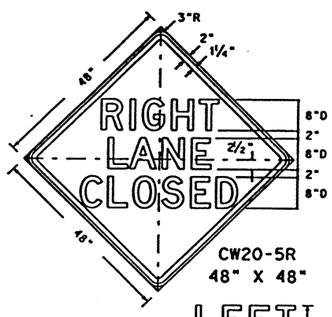
1000FT 7"C*
CW20-3B
500FT 7"C
CW20-3C
AHEAD 7"D
CW20-3D



* reduce spacing 40%

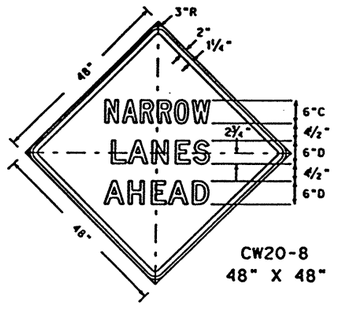
CW20-4A
48" X 48"

1000FT 7"C*
CW20-4B
500FT 7"C
CW20-4C
AHEAD 7"C
CW20-4D

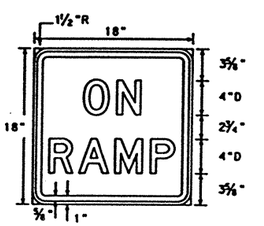


CW20-5R
48" X 48"

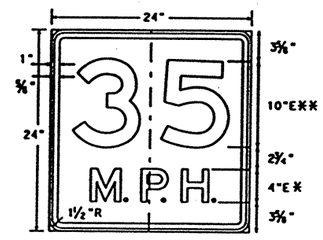
LEFT 8"D
CW20-5L



CW20-8
48" X 48"



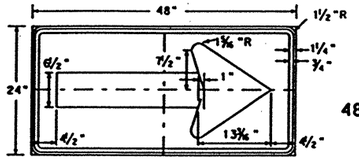
CW13-4
18" X 18"



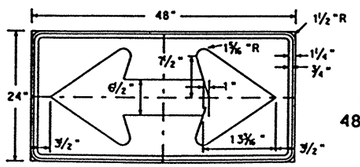
* increase spacing 100%
** optically space numerals about vert. centerline

SCW13-1
24" X 24"

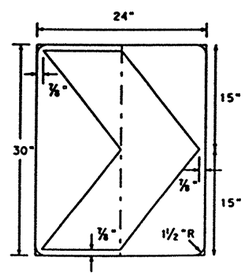
Speed value to be determined at the site by the Engineer.



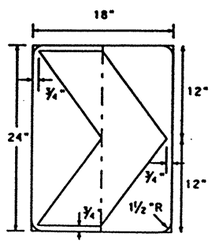
CW1-6
48" X 24"



CW1-7
48" X 24"

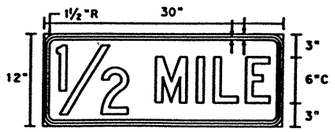


SCW1-8
24" X 30"



CW1-8
18" X 24"

GENERAL NOTES:
All signs detailed on this sheet shall have Black border, legend and/or symbol on an orange Type C reflective background.



Distance Plaque
30" X 12"

Alternate legends
1 MILE 6"C
1000 FT 6"C
1500 FT 6"C
500 FT 6"C

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

CONSTRUCTION WARNING SIGNS BC(9B)-98

©TxDOT February 1998	DN: CG	CK: DTN	DW: DN	CK: CG	REVISIONS
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
DALLAS	6	NH 99 (367)			376
COUNTY		CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL		0009	04	039	SH 66

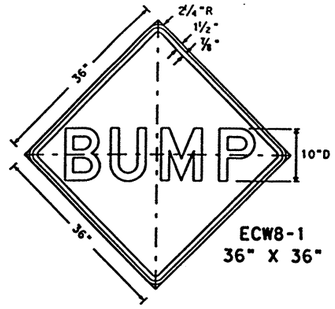
1098

DN:
CK:
DW:
CK:

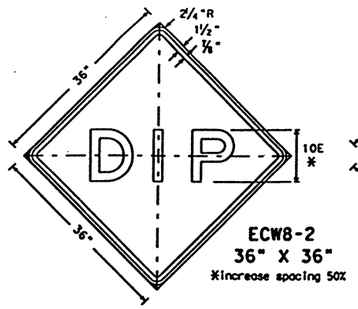
DATE:
FILE:
ACC:

LEGEND
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

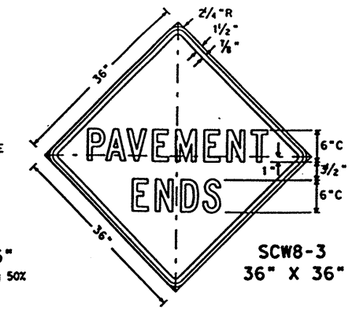
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



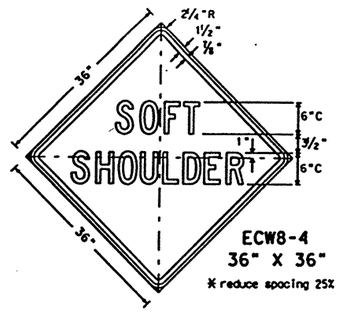
ECW8-1
36" X 36"



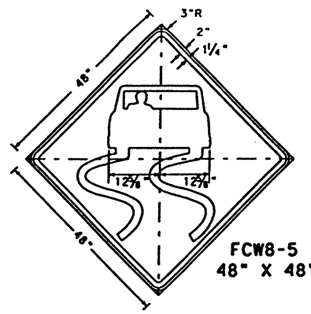
ECW8-2
36" X 36"
*increase spacing 50%



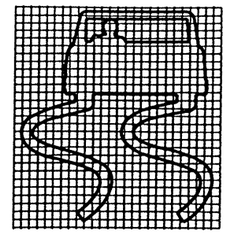
SCW8-3
36" X 36"

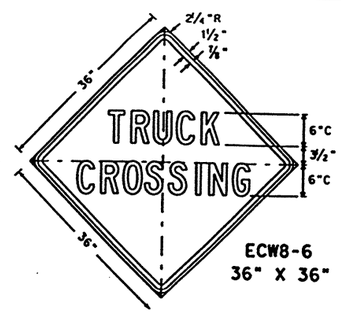


ECW8-4
36" X 36"
* reduce spacing 25%

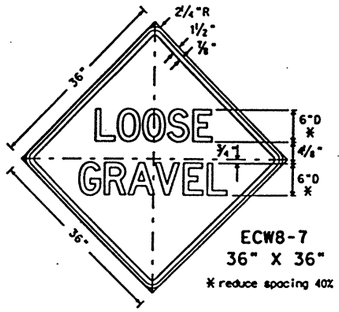


FCW8-5
48" X 48"

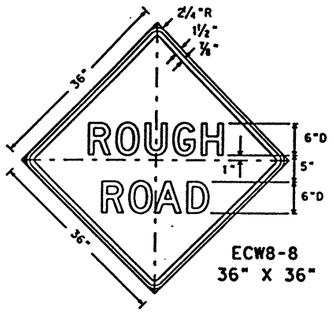




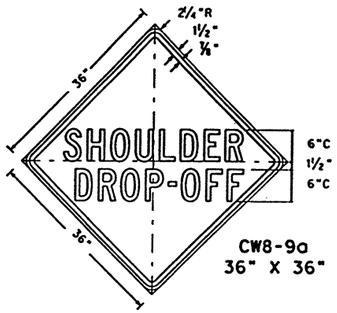
ECW8-6
36" X 36"



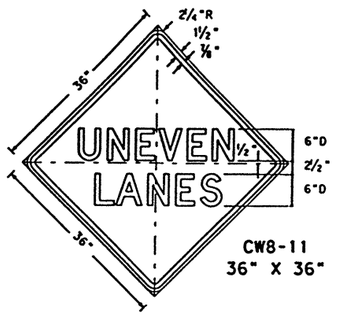
ECW8-7
36" X 36"
* reduce spacing 40%



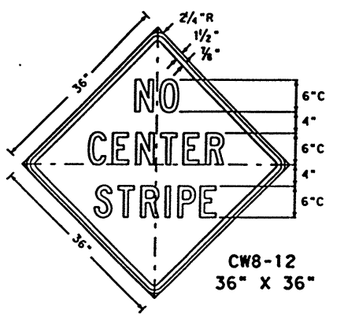
ECW8-8
36" X 36"



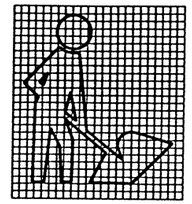
CW9-9a
36" X 36"

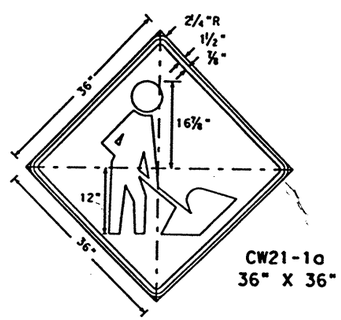


CW8-11
36" X 36"

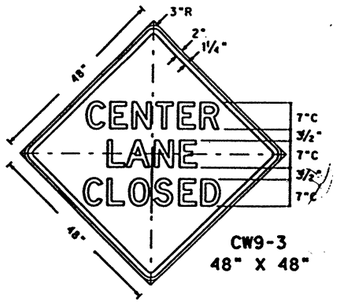


CW8-12
36" X 36"

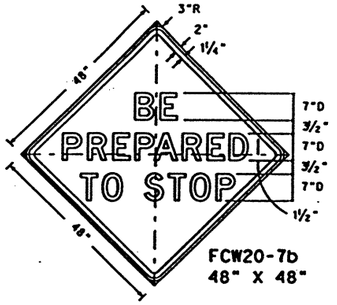




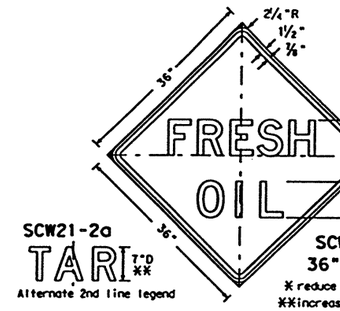
CW21-1a
36" X 36"



CW9-3
48" X 48"

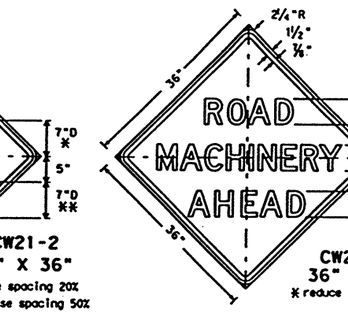


FCW20-7b
48" X 48"

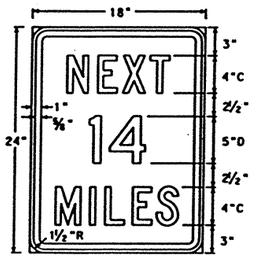


SCW21-2a
TARI 7"D **
Alternate 2nd line legend

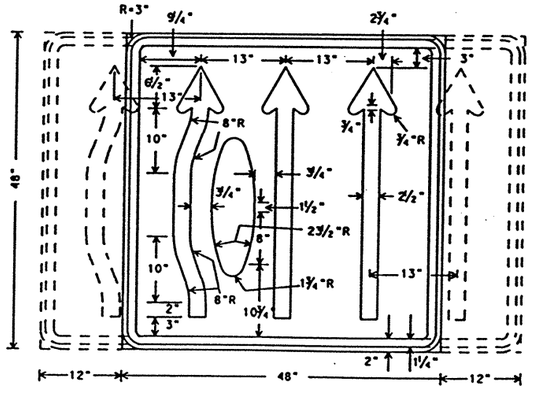
SCW21-2
36" X 36"
* reduce spacing 20%
**increase spacing 50%



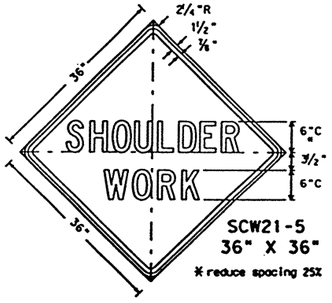
CW21-3D
36" X 36"
* reduce spacing 40%



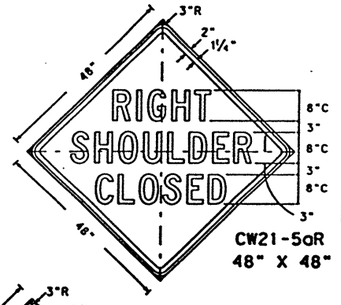
CW21-16
18" X 24"



CW24-2
Var. X 48"
A mirror image may be used to show proper lane alignment.

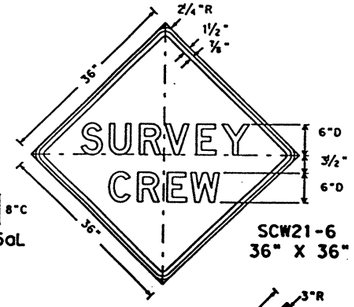


SCW21-5
36" X 36"
* reduce spacing 25%

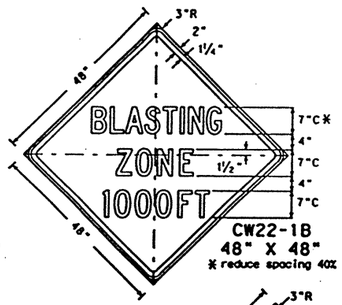


CW21-5aR
48" X 48"

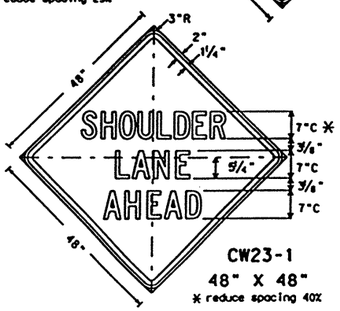
LEFT 8"C
CW21-5aL



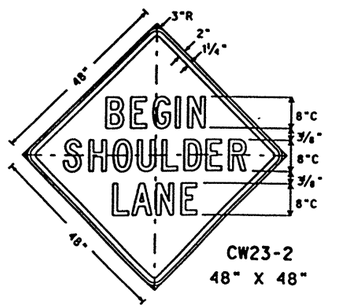
SCW21-6
36" X 36"



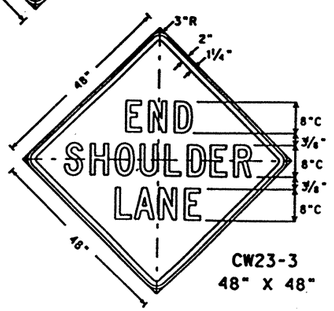
CW22-1B
48" X 48"
* reduce spacing 40%



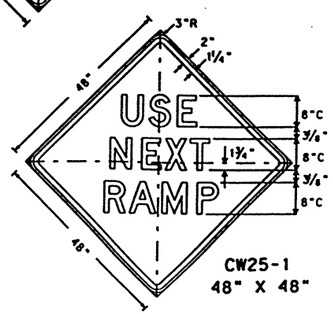
CW23-1
48" X 48"
* reduce spacing 40%



CW23-2
48" X 48"



CW23-3
48" X 48"



CW25-1
48" X 48"

GENERAL NOTES:
All signs detailed on this sheet shall have Black border, legend and/or symbol on an orange Type C reflective background.

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION STANDARDS

CONSTRUCTION WARNING SIGNS **BC(9C)-98**

© TxDOT February 1998	DN: C8	CK: DTN	DW: DN	CK: C8	HCC NO.:
REVISIONS	STATE DISTRICT	FISCAL YEAR	FEDERAL AID PROJECT		SHEET
	DALLAS	6	NH 99 (367)		377
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

109C

DATE:
FILE:
DN:
CK:
DW:
CK:
ACC:

LEGEND	1	2	3	4	5	6
1	7	13	19	25	31	37
2	8	14	20	26	32	38
3	9	15	21	27	33	39
4	10	16	22	28	34	40
5	11	17	23	29	35	41
6	12	18	24	30	36	42

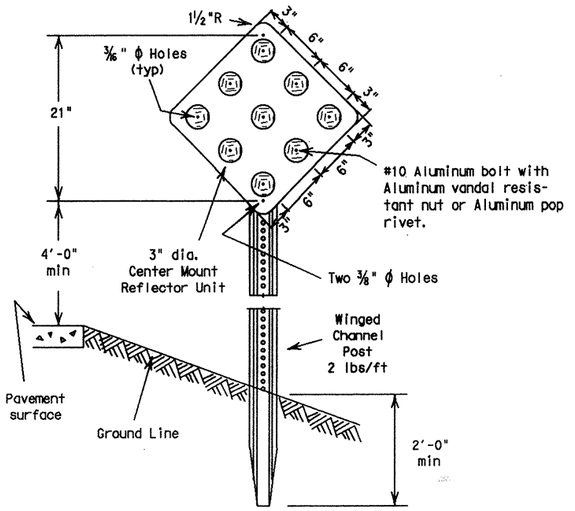
DISPLAYED

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LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACC:

OBJECT MARKER TYPES 1 and 4

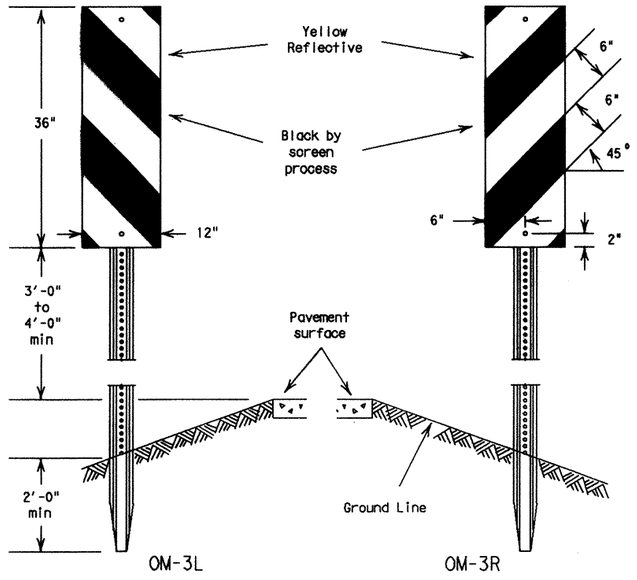


TYPE 1 and 4 Object Markers shall consist of Type (B) Center Mount Reflector Units mounted on 0.080" thick sheet aluminum conforming with ASTM B-209 Alloy 6061-T6.

TYPE 1 OM-1R
18" x 18"
Reflector Unit - YELLOW
Background - (YELLOW - Non-Reflective)

TYPE 4 OM-4R
18" x 18"
Reflector Unit - RED
Background - (RED - Non-Reflective)

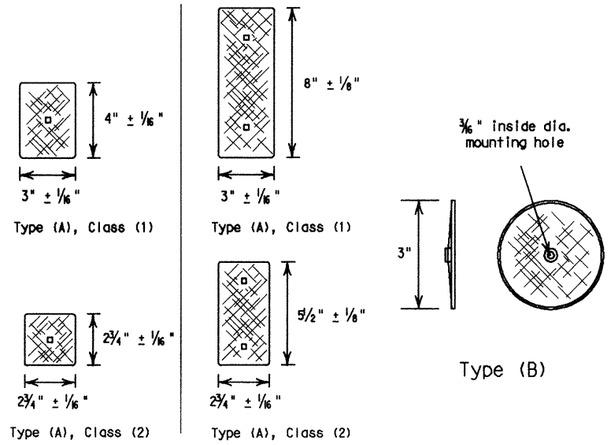
OBJECT MARKER TYPE 3



Sign blank to be .080" thick sheet aluminum conforming to ASTM B-209 Alloy 6061-T6.

Reflective sheeting shall be in accordance with Departmental Material Specification, D-9-8300, Type C.

TYPICAL REFLECTOR UNITS



Type (A)

Type (A) - Reflective sheeting with pressure sensitive backing. For certain (non-flexible post) applications, reflective sheeting may be directly applied to approved metal, plastic or fiberglass backplate with 17/64" square mounting hole.

It is the contractor's option to provide Class (1) or Class (2) reflective sheeting in accordance with Departmental Material Specification D-9-8600. All reflector units per delineator or object marker shall be of the same type and class of reflective sheeting.

Type (B) - Centermount acrylic plastic prismatic reflector.

SPECIFICATION REFERENCE TABLE

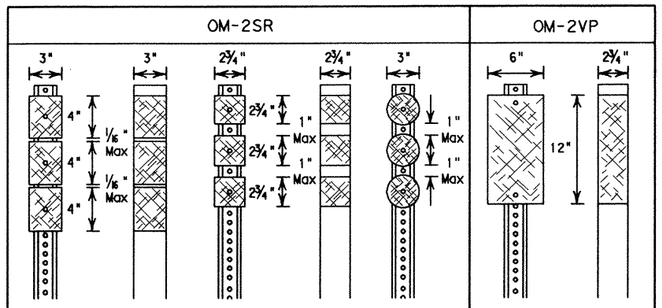
MATERIALS AND TESTS DIVISION SPECIFICATIONS	
FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (DRIVEABLE & SURFACE MOUNT TYPES)	D-9-4400
FLAT SURFACE REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300
NON-REFLECTIVE BACKGROUND COATING	D-9-8500
DELINEATOR AND OBJECT MARKER	D-9-8600

GENERAL NOTES:

1) Delineators shall be uniformily placed not less than 2 feet nor more than 8 feet from the edge of shoulder or the face of unmountable curb. They may be placed in line with guardrail where guardrail is used.
2) Object markers shall be located at points designated on the plan.
   When used for marking objects in the roadway or 8 feet or less from the shoulder or curb, the mounting height to the bottom of the object marker should normally be 4 feet above the surface of the nearest traffic lane. When used to mark objects more than 8 feet from the shoulder or curb, the mounting height to the bottom of the object marker may be 4 feet above the ground line.
   When object markers or markings are applied to a hazardous object which by its nature required a lower or higher mounting, the vertical mounting height may vary according to need.
3) Hardware shall be galvanized steel, stainless steel, or aluminum, except as noted.
4) Posts for supporting delineators and Type 2 object markers shall be 1.12 lbs/ft winged channel.
5) Type 1, 3 and 4 object marker posts shall be 2 lbs/ft winged channel.
6) Delineator and object markers shall be in accordance with Department Material Specification D-9-8600.

OBJECT MARKERS TYPE 2

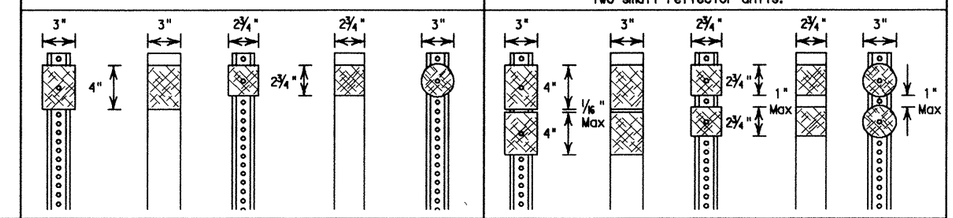
YELLOW (R-reflector unit, P-panel)



Type	A				B	A	
Class	1	1	2	2	n/a	1	2
Post	WC	FLEX	WC	FLEX	WC	WC	FLEX

ALL REFLECTOR UNITS ARE YELLOW
WC-wing channel post (1.12 lbs/ft)
FLEX-flexible post (driveable and semi-driveable)

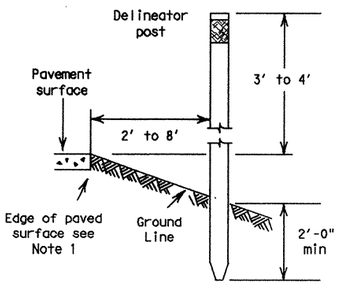
DELINEATORS



Type	A				B	A				B
Class	1	1	2	2	n/a	1	1	2	2	n/a
Post	WC	FLEX	WC	FLEX	WC	WC	FLEX	WC	FLEX	WC

Length of post may vary to meet field conditions.

REFLECTOR UNITS: W-white, Y-yellow, R-red
WC-wing channel post (1.12 lbs/ft)
FLEX-flexible post (driveable and semi-driveable)



TYPICAL INSTALLATION

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

DELINEATORS & OBJECT MARKERS

(1 of 2) D & OM(1)-95

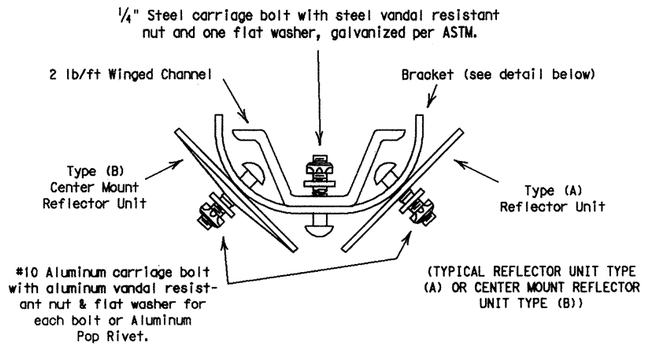
©TxDOT January 1981	DN:-LR	CK:-	DW:-DN	CK:-	MEG NO.:
REVISIONS 1-82 4-92 8-95	STATE DISTRICT 18	FEDERAL REGION 6	FEDERAL AID PROJECT NH 99 (367) 37B		SHEET
	COUNTY ROCKWALL	CONTROL 0009	SECTION 04	JOB 039	HIGHWAY SH 66

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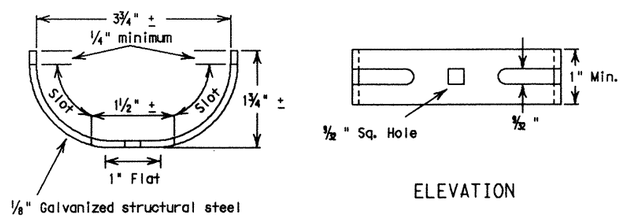
PLAN VIEW OF BIDIRECTIONAL MOUNTING

For Single Delineators Only

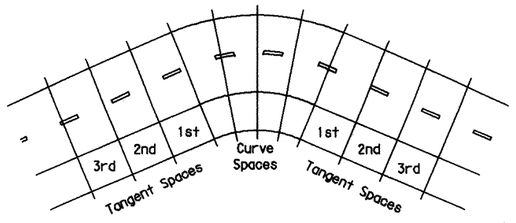
Post oriented as directed by Engineer



BIDIRECTIONAL BRACKET



DELINEATORS FOR CURVES OR TANGENT SECTIONS

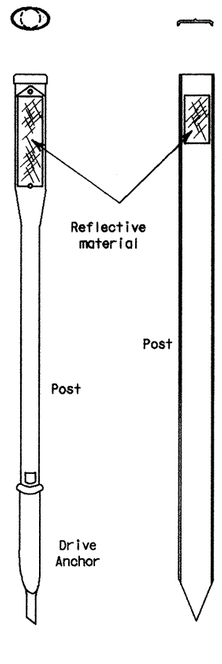


The delineator spacing, S, on the curve is found from the formula $S=3\sqrt{R-50}$, where R is the radius of the curve in feet. The first spaces immediately in advance of and beyond the curve are 2.0xS, the second spaces are 3.0xS, and the third spaces are 6.0xS but not to exceed 300 feet. Distance for spaces rounded to nearest 5 feet.

Spacing for Highway Delineators on Horizontal Curve

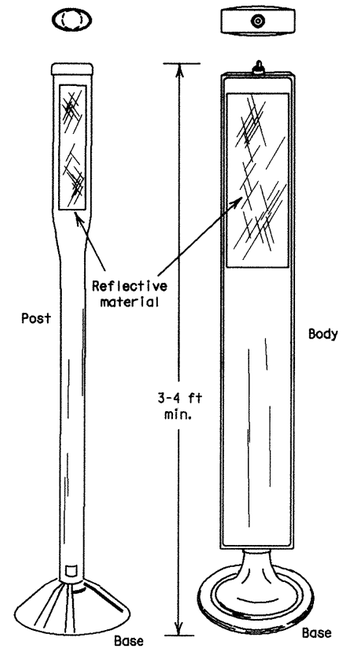
Degree of Curve	Radius on Curve	Spacing on Curve	Spacing in Advance of and Beyond Curves		
			First Space	Second Space	Third Space
	Feet	Feet	Feet	Feet	Feet
1	5730	225	300	300	300
2	2865	160			
3	1910	130	260		
4	1433	110	225		
5	1146	100	200		
6	955	90	185	275	
7	819	85	165	250	
8	716	75	155	230	
9	637	75	145	220	
10	573	70	135	205	
11	521	65	130	195	
12	478	60	125	185	

FLEXIBLE POSTS



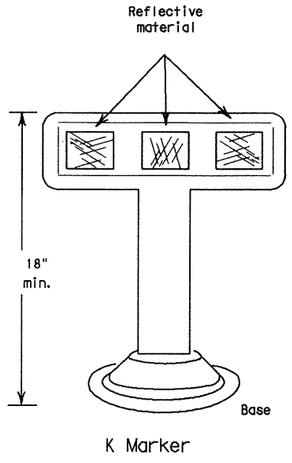
Driveable or Semi-Driveable Delineator Posts

Install to manufacturer's recommendations

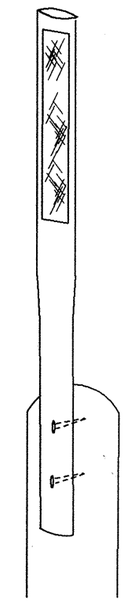


Pavement Surface Mount

Surface mounted delineator posts may use epoxy, or hot bituminous adhesive to mount post to flat surface.



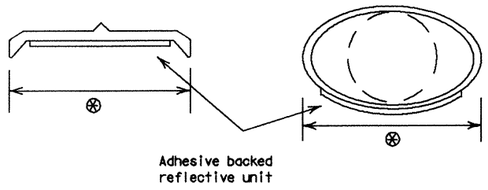
K Marker



Guardrail Post Surface Mount

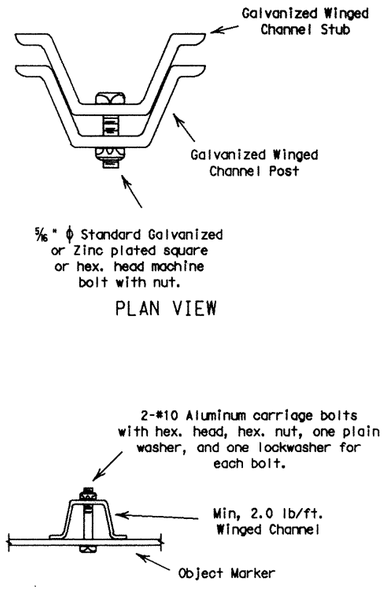
PLAN VIEW OF MONODIRECTIONAL MOUNTINGS

For Single and Double Delineators and Object Marker types OM-2YP(a) & OM-2SR



⊛ Not less than 3 ¼".

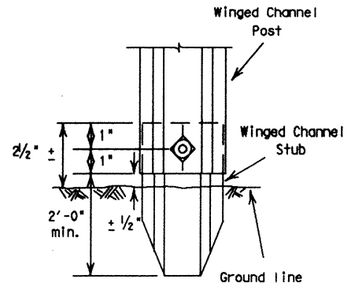
Various Cross Sections may be furnished if projected width of reflective unit appears to be 3" ± ⅜".



BREAK AWAY CHANNEL POST

For Object Marker Types 1, 3 and 4

(where specified in the plans)



PARTIAL ELEVATION

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

DELINEATORS & OBJECT MARKERS

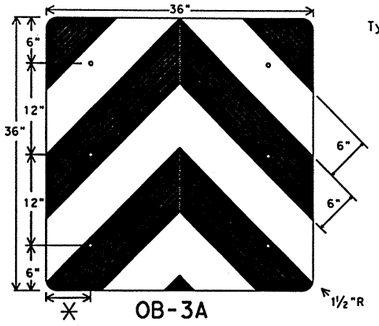
(2 of 2) D & OM(2)-95

©TxDOT January 1981	DN-LR	CK:-	DW-DN	CK:-	MEG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
2-82	18	6	NH 99 (367) 379		
4-92	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
8-95	ROCKWALL		0009	04	039	SH 66

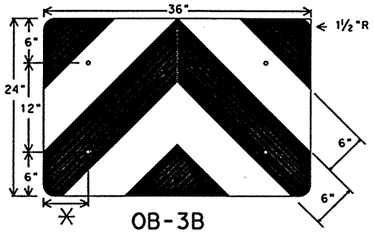
20B

ES DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACC:

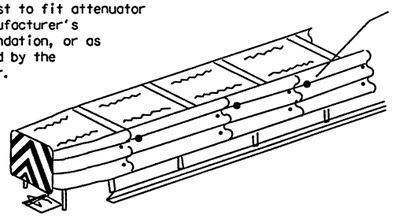


OB-3A

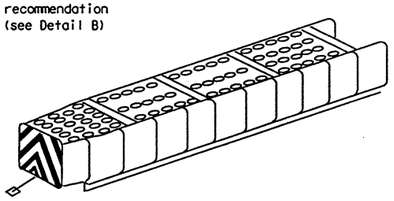


OB-3B

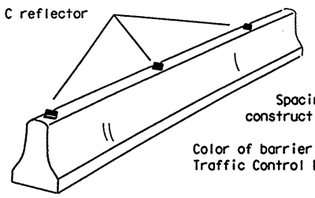
✳ adjust to fit attenuator per manufacturer's recommendation, or as directed by the Engineer.



Type C reflector installed per manufacturer's recommendation (see Detail B)



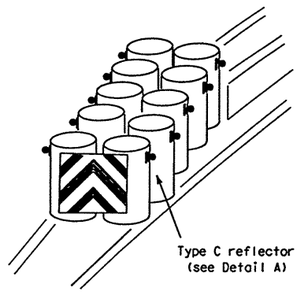
Type C reflector



Barrier Reflectors will be installed only on barriers designated for reflectorization as required elsewhere in the plans.

Spacing of reflectors is 40 feet. Mount reflectors to barrier by construction adhesive or butyl rubber adhesive.

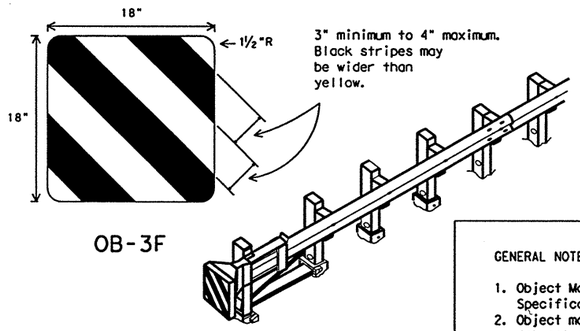
Color of barrier reflectors will conform to the Texas "Manual on Uniform Traffic Control Devices", (TMUTCD).



Type C reflector (see Detail A)

Object Marker blank to be ⅝" Plywood (Type A) in accordance with Item "PLYWOOD SIGNS (TYPE A)" or 0.08" Aluminum as per Specification D-9-7110.

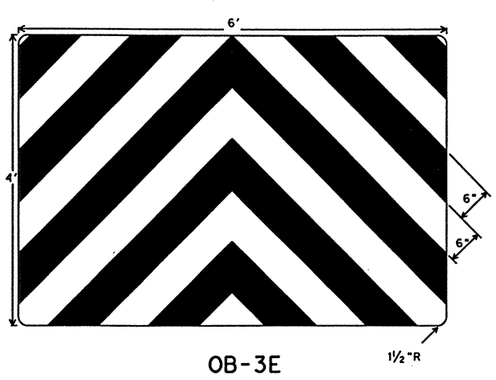
Mounting should be flush with top of VIA. Minimum size 36" x 24".



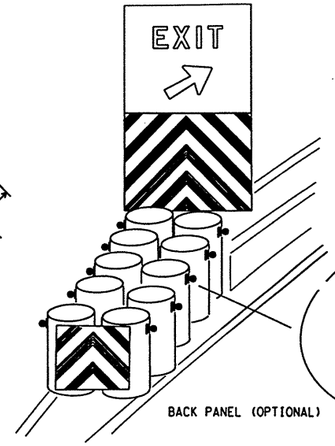
OB-3F

3" minimum to 4" maximum. Black stripes may be wider than yellow.

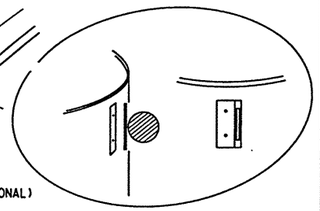
TYPICAL GUARDRAIL END TREATMENT



OB-3E



BACK PANEL (OPTIONAL)



TYPE C REFLECTOR
Detail A

GENERAL NOTES:

1. Back Panel (OB-3E) shall be made of 5/8" plywood (Type A) panels unless otherwise noted in the plans.
2. Back panel will be mounted independent of the attenuator. The minimum mounting height is flush with the top of the attenuator.
3. Alternating flashing yellow lights may be added. Lights should be mounted minimum 72" above pavement.
4. Attenuator may have additional yellow reflective and black striping, and/or reflectors placed on sides. CHEVRONS (W1-8) may be erected to delineate roadway curvature beyond the attenuator. These additional devices will be installed if required elsewhere in the plans.
5. Mount Back Panel per details on SMD Standards, or as detailed elsewhere in the plans.

GENERAL NOTES: OBJECT MARKERS

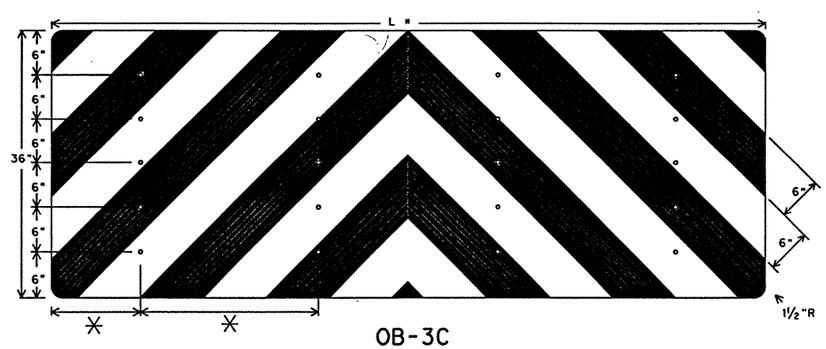
1. Object Markers shall conform to the Texas MUTCD and meet the color and reflectivity requirement of Department Material Specification D-9-8300, Type C. Background shall be yellow reflective and Chevron shall be black.
2. Object markers OB-3C, OB-3D and OB-3F may be fabricated from reflective sheeting applied to:
   (a) galvanized sheet metal gauge 24 to 28 per ASTM A366.025 nominal, aluminum sheet of 6061-T6 or 5052-H38 alloy approximately .065 inch thickness,
   (b) low or medium density polyetheylene approximately 0.08 inch thickness, or
   (c) other material as specified in the plans or approved by the Engineer.
3. OB-3F is intended for use only with guardrail end treatments (i.e. GET, CAT, BEST, BRAKEMASTER, SENTRE, etc.). OM-BF may be fabricated from adhesive backed reflective sheeting applied directly to guardrail end treatment, or applied directly to an "end cap" as per the manufacturer's recommendation. Direct applied sheeting shall provide a smooth surface and have no wrinkles, air bubbles, cuts or tears.
4. Size may be reduced to fit smaller devices, however, the minimum size shall be:
   (a) 24 x 24 inches for attenuators, and
   (b) 18 x 18 inches for guardrail end treatments.
5. Pop rivets, screws, or nuts and bolts may be used to attach object markers and reflectors. Holes, slots or other openings may be cut or drilled through object markers to allow cable or other attachments.
6. When traffic passes only on one side of attenuator, only the OM-3 marker should be installed. OM-3 should be installed per the requirements of D & OM Standards with a minimum mounting height of 18 inches.

TYPE C REFLECTORS

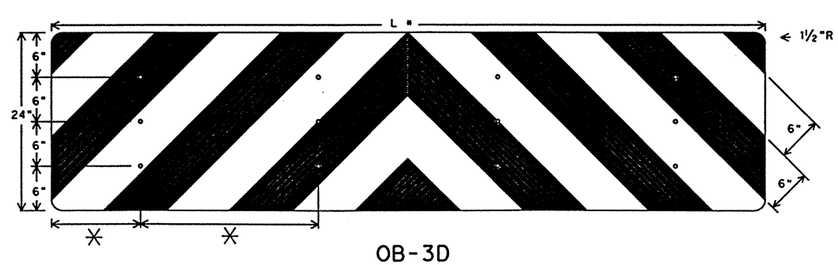
1. Type C reflectors shall consist of a reflector unit attached to a bracket to facilitate delineator mounting on attenuators, guardrails and concrete traffic barriers.
2. Type C reflectors may also be used to delineate side of attenuator, guardrail and concrete traffic barrier.
3. Type C reflectors shall meet the requirements of D-9-8600.

TRAFFIC FLOW	BOTH SIDES						ONE SIDE
ATTENUATOR TYPE	OB-3A	OB-3B	OB-3C	OB-3D	L	OM-1	
GREAT	NR	✓	NR	✓	96"	✓	
Steel Drum	✓	✓	✓	✓	114"	✓	
Hydraulic	✓	✓	NR	NR	NR	✓	
Hex Foam	✓	✓	NR	NR	NR	✓	OM-3
Low Maintenance	NR	✓	NR	✓	96"	✓	
Sand Filled Plastic Modules	NR	NR	NR	NR	NR	✓	
Sand Tire	NR	NR	NR	NR	NR	✓	

NR - Not Recommended



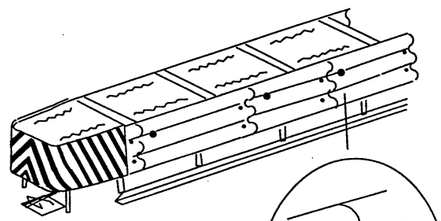
OB-3C

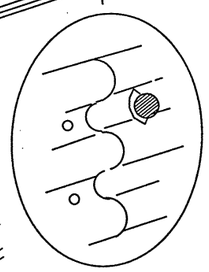


OB-3D

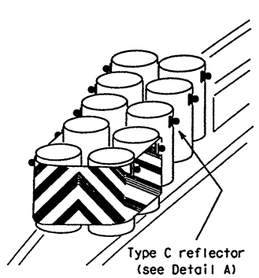
✳ spacing adjusted to attach through centerline of drum, per attenuator manufacturers recommendation, or as directed by the Engineer.

Mounting should be flush with top of attenuator. Minimum size 96" x 24".





TYPE C REFLECTOR
Detail B



Type C reflector (see Detail A)

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

DELINEATORS & OBJECT MARKERS FOR VEHICLE IMPACT ATTENUATORS

D & OM(VIA)-98

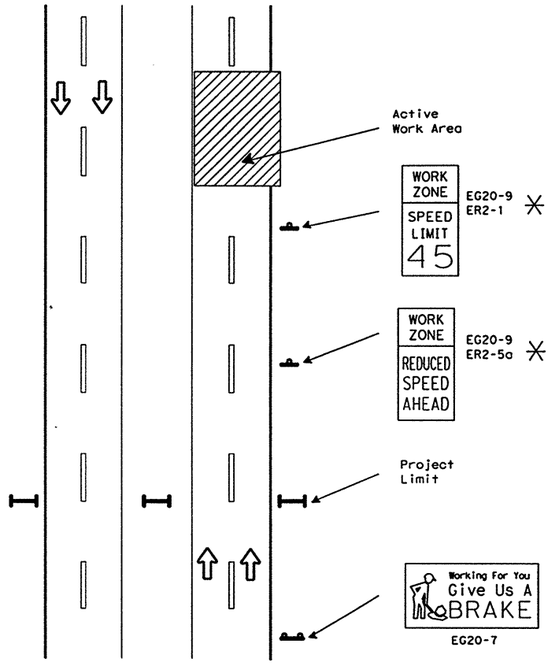
© TxDOT December 1989	DN: LR	CK: -	DW: DN	CK: -	MSG NO.:

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
4-90	DAL	6	NH 99 (367)			380
4-92	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
8-95	ROCKWALL		9	04	39	SH 66
4-98						

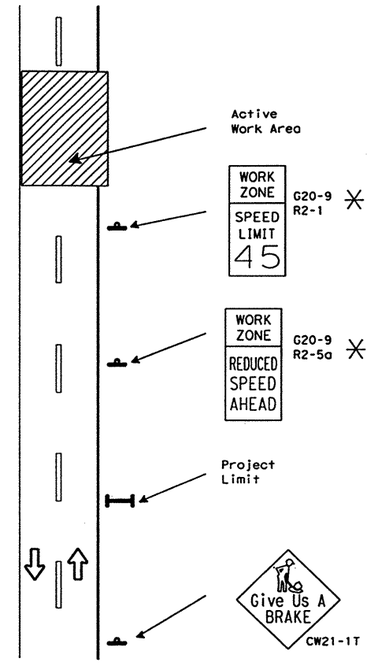
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FILE:
CK: CW
DW: DN
CK: MT

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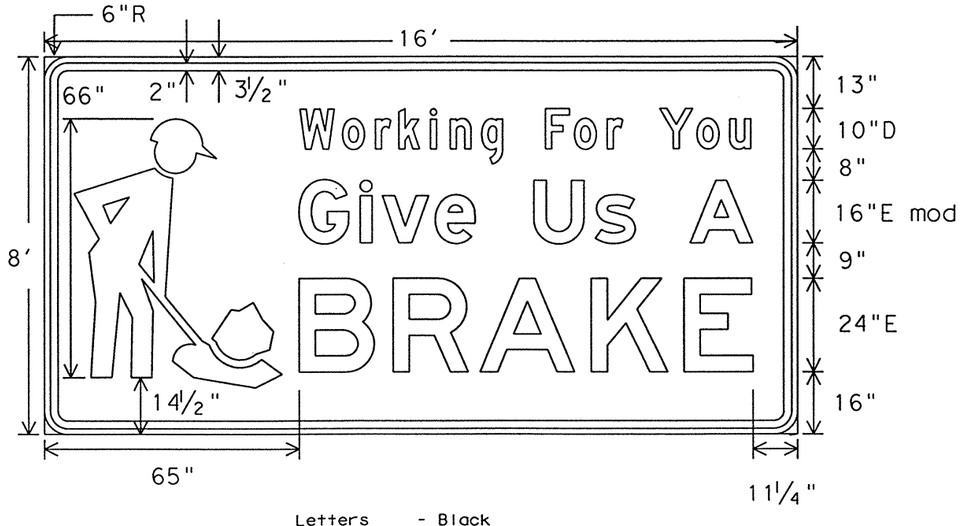
Divided Highway



Undivided Highway

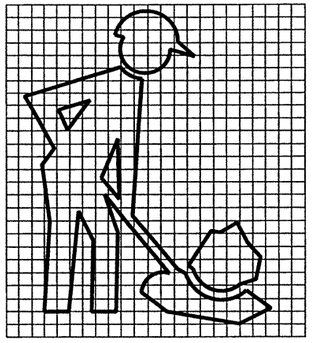


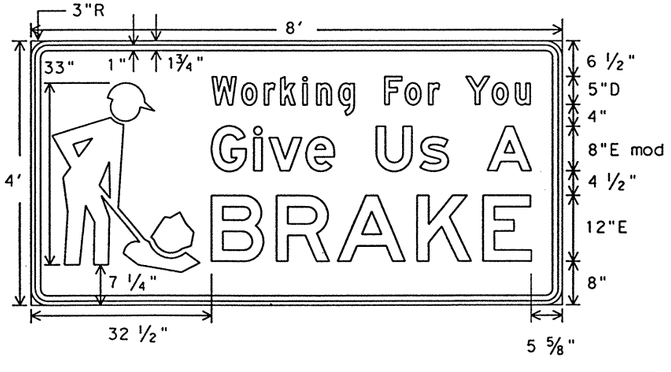
✳ Posted only when reduced speed is directed by the Engineer



Letters - Black
Symbol - Black
Border - Black
Background - Orange Refl.

EG20-7





Letters - Black
Symbol - Black
Border - Black
Background - Orange Refl.

G20-7

SUMMARY OF LARGE SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLY TY A (SQ FT)	GALVANIZED STRUCT STEEL			DRILLED SHAFT 24" DIA. (LF)
						Size	(LF) ①	(LF) ②	
Orange	EG20-7	Give Us A BRAKE	16' x 8'	Type C	128	W8x18	16	17	12
Orange	G20-7	Give Us A BRAKE	8' x 4'	Type C	32	S4x7.7	12	13	7✳

✳ 12" Non-reinforced Concrete Footing (LF)

SUMMARY OF SMALL SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLY TY A (SQ FT)
Orange	EG20-9	WORK ZONE	36" x 24"	Type C	6
Orange	G20-9	WORK ZONE	24" x 18"	Type C	3
White	ER2-1	SPEED LIMIT	36" x 48"	Type A	12
White	ER2-5a	REDUCED SPEED AHEAD	36" x 48"	Type A	12
Orange	CW21-1T	GIVE US A BRAKE	48" x 48"	Type C	16

SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS

PLYWOOD SIGN BLANKS	D-9-7100
ALUMINUM SIGN BLANKS	D-9-7110
FLAT SURFACE REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE)	D-9-8300
FLAT SURFACE REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

1. See BC sheets, SMD(2-1), (2-2) and (2-3) for additional sign support details.
2. Sign locations shall be approved by the Engineer.
3. For projects more than two miles in length, Give Us A BRAKE and WORK ZONE SPEED LIMIT signs should be repeated halfway through the project. Projects less than two miles generally do not require repeated Give Us A BRAKE signs.
4. Signs are illustrated for one direction of travel.
5. G20-7 and EG20-7 signs detailed on this sheet shall be paid for under the following bid items:

   Item 634 Plywood Signs Type A
   Item 647 Large Roadside Sign Supports
   Item 656 Foundations for Signs, Traffic Signals and Roadway Illumination Assemblies

6. EG20-9, G20-9, ER2-1, R2-1, ER2-5a, R2-5a and CW21-1T signs and sign supports shall be considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling."

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

WORK ZONE "GIVE US A BRAKE" SIGNS

SHEET 1 OF 2 WZ(BRK-1)-98

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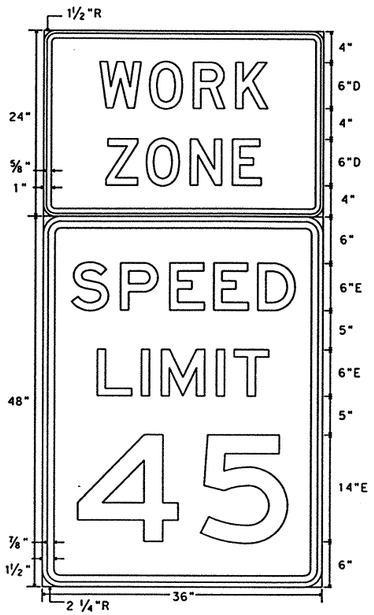
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REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
12-95	DAL	6	NH 99 (367)	381
6-96	COUNTY		CONTROL SECTION JOB	HIGHWAY
8-96	ROCKWALL		9 04 39	SH66
5-98				119A

LEVELS USED
1 2 3 4 5 6 7 8 9 10 11 12 13 21 31 41 51 61
17 18 19 20 21 22 23 24 25 26 27 28 29 33 132
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
ACC: d58hplc/usr/d580504
FILE:
DN: LR
CK: CW
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CK: MT

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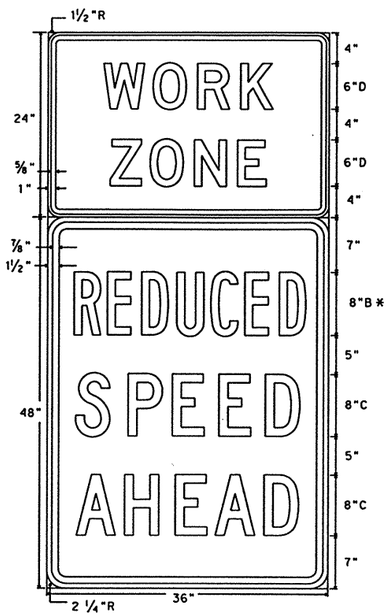


Letters - Black
Background - Orange Refl.

EG20-9

Letters - Black
Background - White Refl.

ER2-1



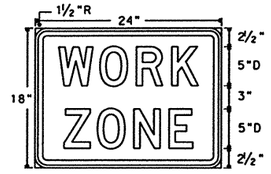
Letters - Black
Background - Orange Refl.

EG20-9

Letters - Black
Background - White Refl.

ER2-5a

* spacing reduced 40%

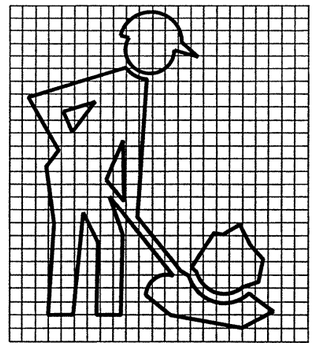


Letters - Black
Background - Orange Refl.

G20-9

SUMMARY OF SMALL SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN TEXT	SIGN DIMENSIONS	REFLECTIVE SHEETING	PLY TY A (SQ FT)
Orange	EG20-9	WORK ZONE	36" x 24"	Type C	6
Orange	G20-9	WORK ZONE	24" x 18"	Type C	3
White	ER2-1	SPEED LIMIT	36" x 48"	Type A	12
White	ER2-5a	REDUCED SPEED AHEAD	36" x 48"	Type A	12
Orange	CW21-1T	GIVE US A BRAKE	48" x 48"	Type C	16



SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS

PLYWOOD SIGN BLANKS	D-9-7100
FLAT SURFACE REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE)	D-9-8300
FLAT SURFACE REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

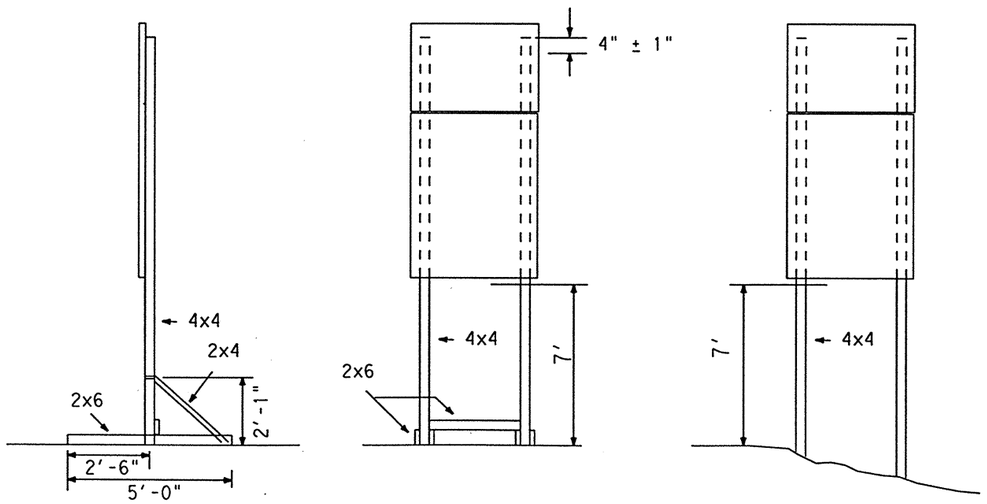
1. See BC sheets for additional sign support details.
2. The WORK ZONE (EG20-9) sign is to be installed in combination with a SPEED LIMIT (ER2-1) sign or REDUCED SPEED AHEAD (ER2-5a) sign.
3. Signs shall be placed at the minimum advance distances listed below:

MINIMUM ADVANCE DISTANCE

SIGNS	DIVIDED HIGHWAY	UNDIVIDED HIGHWAY	FROM
WORK ZONE SPEED LIMIT	1100'	800'	active work area
WORK ZONE REDUCED SPEED AHEAD	1600'	1000'	WORK ZONE SPEED LIMIT sign(s)

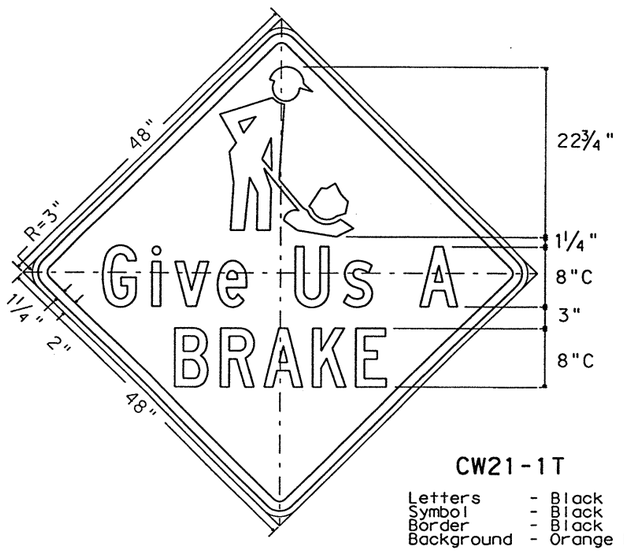
4. The WORK ZONE REDUCED SPEED AHEAD and WORK ZONE SPEED LIMIT signs should only be visible to motorists when workers are actually present in the work area.
5. Speed limits shall be regulatory and approved by the Texas Transportation Commission.
6. EG20-9, G20-9, ER2-1, R2-1, ER2-5a, R2-5a and CW21-1T signs and sign supports shall be considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling."

FIXED SUPPORTS REQUIRED FOR ER2-1 AND ER2-5a



SKID MOUNT

GROUND MOUNT



CW21-1T

Letters - Black
Symbol - Black
Border - Black
Background - Orange Refl.

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

WORK ZONE "GIVE US A BRAKE" SIGNS

SHEET 2 OF 2 WZ(BRK-2)-98

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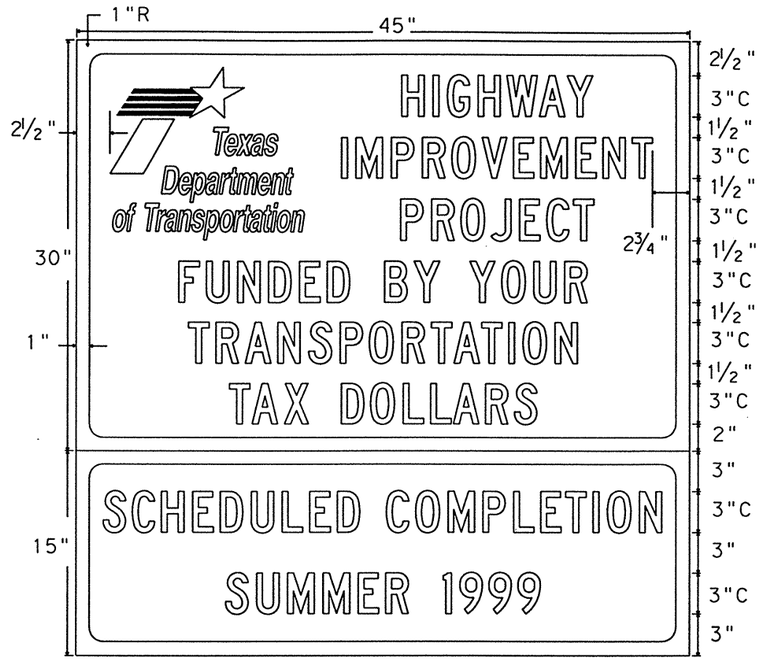
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
12-95	DAL	6	NH 99 (367)	382
6-96	COUNTY		CONTROL SECTION JOB	HIGHWAY
8-96	ROCKWALL		9 04 39	SH66
5-98				119B

LEVELS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	

DATE:
ACC: d58np1c/usr/d580504
FILE:

DN: LR
CK: CW
DW: DN
CK: MT

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The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



SG20-8

45" x 30" sign
TxDOT logo - standard red & blue (auto decal)
Background - white
Legend & border - blue

45" x 15" plaque
Background - blue
Legend & border - white

The TxDOT logo is a registered trademark of the Texas Department of Transportation.

SIGN AND SUPPORTS SHALL BE CONSIDERED SUBSIDIARY TO ITEM 502, "BARRICADES, SIGNS AND TRAFFIC HANDLING."

SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS

PLYWOOD SIGN BLANKS	D-9-7100
ALUMINUM SIGN BLANKS	D-9-7110
REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE)	D-9-8300
REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300
SIGN HARDWARE	D-9-7120

COLOR	USAGE	REFLECTIVE SHEETING OR OTHER MATERIAL
BLUE	BACKGROUND	TYPE C (HIGH SPECIFIC INTENSITY)
WHITE	BACKGROUND	TYPE A (ENGINEER GRADE)
BLUE	LEGEND & BORDER	TYPE C (HIGH SPECIFIC INTENSITY)
WHITE	LEGEND & BORDER	TYPE A (ENGINEER GRADE)

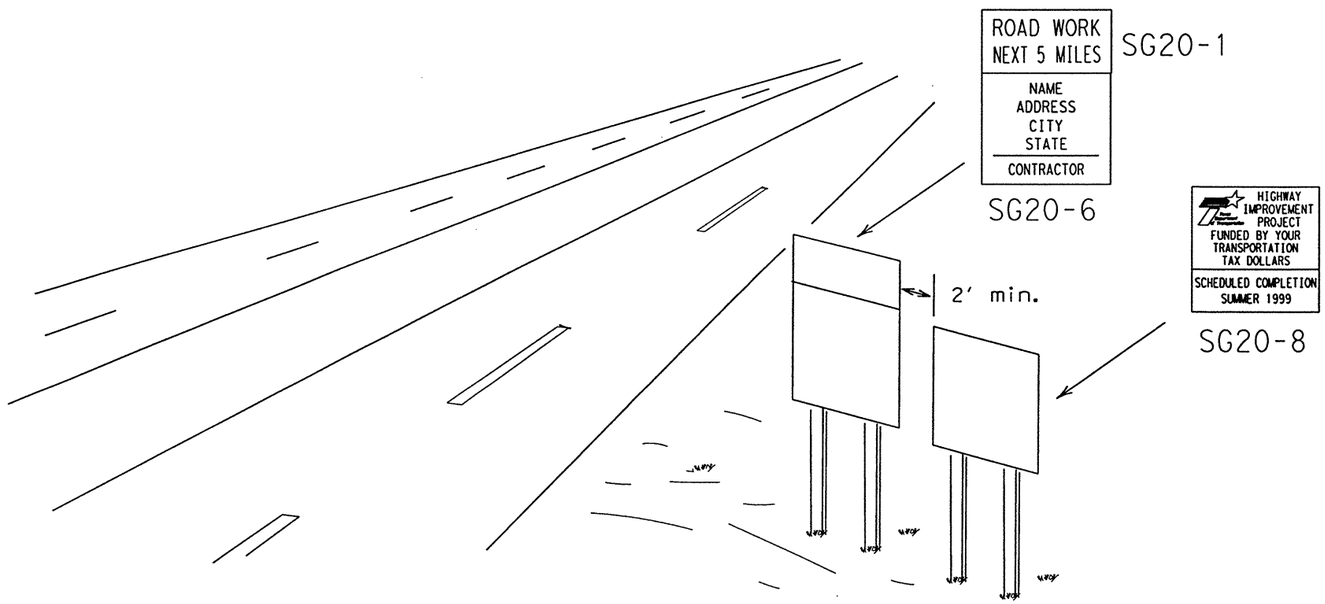
GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend and border may be applied by reverse screening process with transparent colored ink, cut-out white reflective sheeting applied to colored background or combination thereof. Background shall be reflective sheeting (Type A).

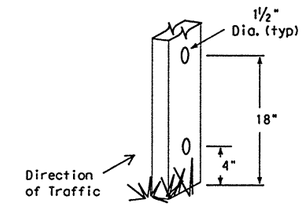
Sign blanks for roadside mounted guide signs shall be 5/8 inch thick plywood (Type A) or extruded aluminum, unless otherwise noted elsewhere in the plans. Dimensions shown for borders and corner radii are nominal. Borders may vary in width as much as 1/2 inch. Borders and corner radii must be of matching widths. The sign area outside the corner radius need not be trimmed or rounded. Panels attached below the parent sign shall be made of the same material as the parent sign, or as specified on the sign tabulation sheet.

Mounting details are shown on Standard Plan Sheets SMD series.



WOOD POST SYSTEM FOR FIXED SIGN SUPPORTS

Nominal Post Size	No. of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	no
4 x 4	2	21	36"	no
4 x 6	1	21	36	YES



STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SPECIAL PUBLIC INFORMATION SIGN

WZ(SPIS)-98A

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DN: MT	CK: DTN	DW: DN	CK: DW	MEG NO.:

REVISIONS
4-98
5-98

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
	6	NH 99 (367)	383

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	9	04	39	SH66

119C

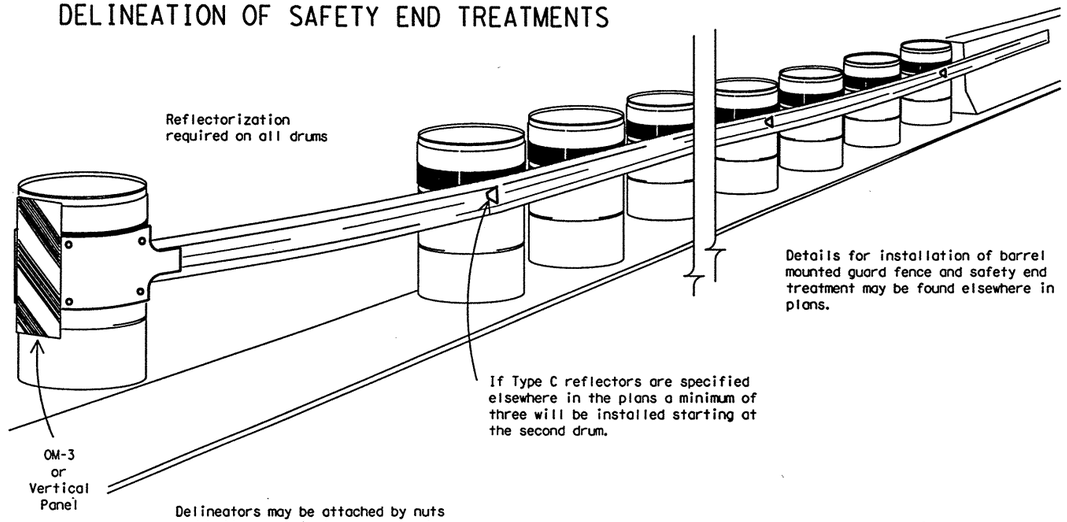
LEVELS LAYED
1 2 3 4 5 6 7 8 M 10 11 12 13 14 15 16
17 18 19 20 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 | 96 06 16 26 3

DATE:
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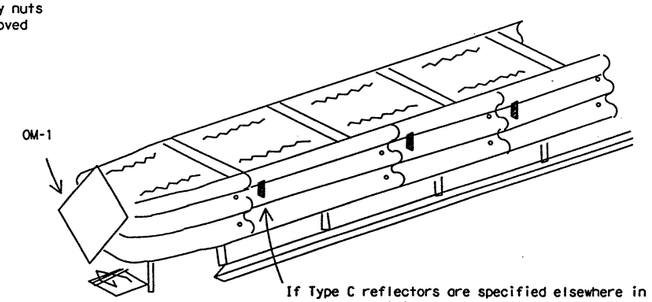
DN: LR
CK: CW
DW: DN
CK: MT

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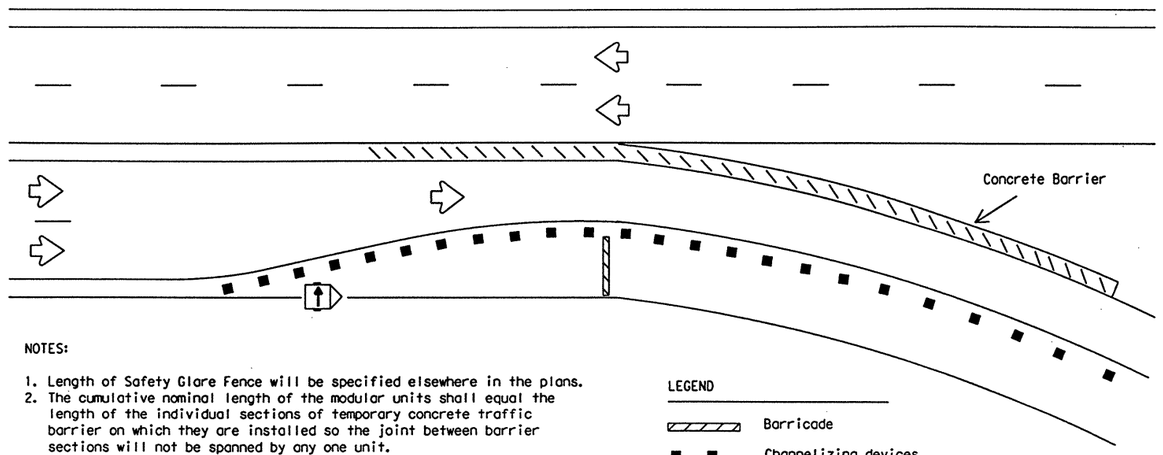
DELINEATION OF SAFETY END TREATMENTS



	APPROACHING TRAFFIC	
	BOTH SIDES	ONE SIDE
DELINEATION	OM-1	OM-3 or Vertical Panel



BARRIER DELINEATION WITH SAFETY GLARE FENCE



NOTES:

1. Length of Safety Glare Fence will be specified elsewhere in the plans.
2. The cumulative nominal length of the modular units shall equal the length of the individual sections of temporary concrete traffic barrier on which they are installed so the joint between barrier sections will not be spanned by any one unit.
3. Panel/blades will be designed such that reflective sheeting conforming with Departmental Specification D-9-8300, Type C, minimum size of 2 inches by 12 inches can be attached to the edge of the panel/blade. The sheeting shall be attached to one panel/blade per section of concrete barrier not to exceed a spacing of 30 feet. Barrier reflectors are not necessary when panel/blades are installed.

LEGEND

- Barricade
- Channelizing devices
- Trailer mounted flashing arrow panel
- Safety glare fence

REFLECTORS FOR CONCRETE TRAFFIC BARRIER, BARREL MOUNTED GUARD FENCE, AND ATTENUATORS

Type C reflectors may be installed using pop rivets, nuts and bolts, construction adhesive or butyl rubber adhesive.

Type C reflectors shall be prequalified and shall conform to the color and reflectivity requirements of Specification D-9-8600.

Color of Type C reflector will be the same as the nearest edge line, gore pavement marking or as directed by the Engineer.

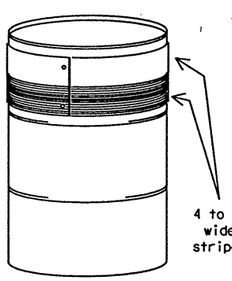
Unless stated elsewhere in the plans, reflectorization of metal drums, delineation and reflectors shown on this standard shall be considered subsidiary to the various bid items.

PREQUALIFICATION PROCEDURES ARE OBTAINED FROM:

MATERIALS AND TESTS DIVISION
TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT)
125 EAST 11th STREET
AUSTIN, TX 78701-2483

SPECIFICATION REFERENCE TABLE

MATERIALS AND TESTS DIVISION SPECIFICATIONS	
EPOXY	D-9-6100
BITUMINOUS ADHESIVE	D-9-6130
ALUMINUM SIGN BLANKS	D-9-7110
FLAT SURFACE REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300
DELINEATOR AND OBJECT MARKER	D-9-8600



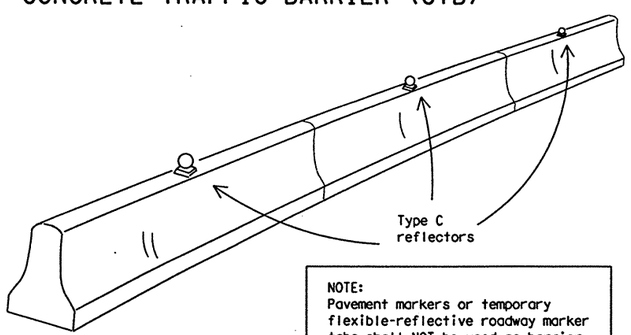
REFLECTORIZATION OF METAL DRUMS FOR BARREL MOUNTED GUARD FENCE

The following specification is intended to detail the reflectorization of metal drums used to support barrel mounted guard fence. Metal drums shall not be used as a standalone channelizing device or sign support.

Markings on drums shall be horizontal, circumferential, reflectorized orange and reflectorized white stripes, 4 to 8 inches wide. The first reflectorized stripe should start within four inches of the top of the drum. There shall be at least one orange and one white stripe on each drum. If there is a non-reflectorized space between the horizontal orange and white stripes, it shall be no more than 2 inches wide. Reflectorized material shall conform with Specification D-9-8300 Type C (High Specific Intensity).

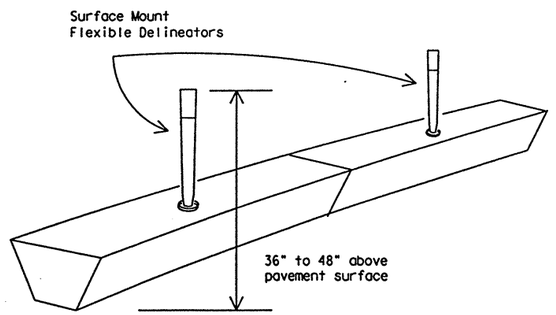
All drums on project will be orange.

CONCRETE TRAFFIC BARRIER (CTB)



NOTE:
Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as barrier delineation.

LOW PROFILE CONCRETE BARRIER (LPCB)



Barrier reflectors will be installed only on barriers designated for reflectorization as required elsewhere in the plans.

Reflectors should be mounted one reflector per section of barrier, preferably in the center.

Maximum spacing of reflectors is 40 feet for CTB and 20 feet for LPCB. Mount reflectors to barrier with construction adhesive or butyl rubber adhesive.

Color of barrier reflectors will conform to the Texas "Manual on Uniform Traffic Control Devices", (TMUTCD).

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

WORK ZONE BARRIER DELINEATION

WZ(BD)-97

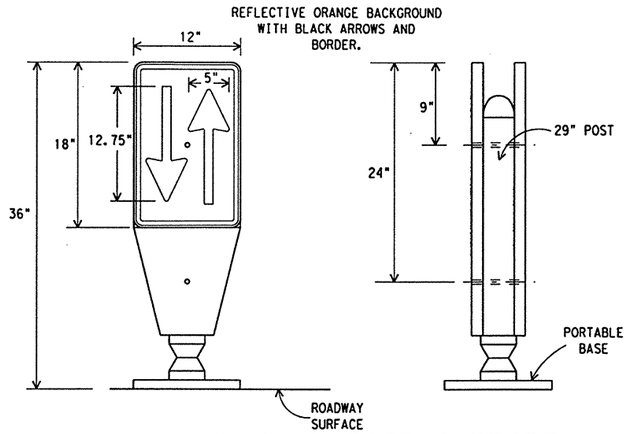
©TxDOT April 1992	DN: LR/MT	CK:	DW: DN	CK: MT	MSG NO.:		
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET	
8-95	DAL	6	NH 99 (367)			384	
1-97	COUNTY		CONTROL	SECTION	JOB	HIGHWAY	
	ROCKWALL		9	04	39	SH 66	

113

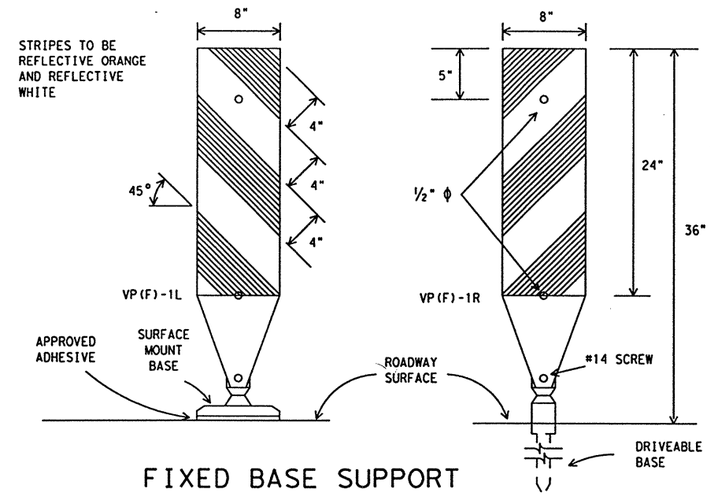
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FILE:

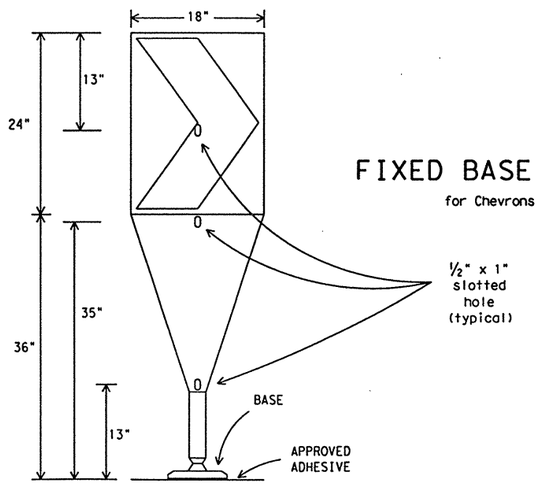
LEVELS
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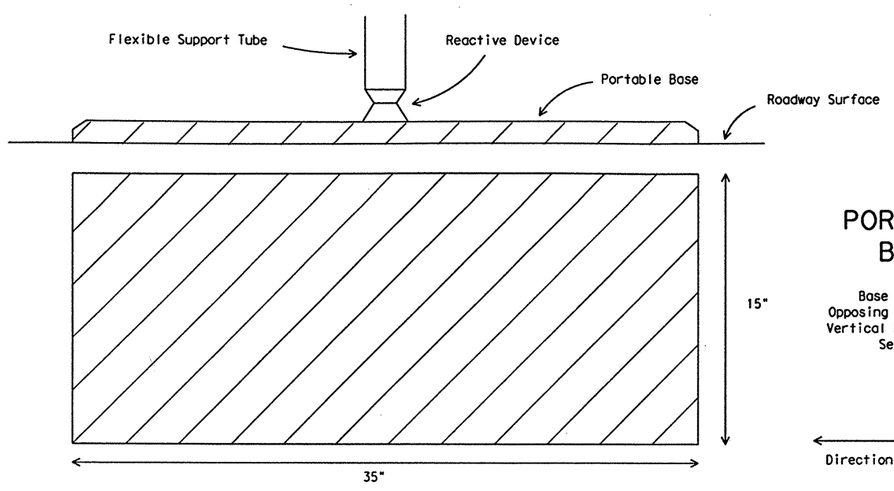
PORTABLE BASE SUPPORT
for Opposing Lane Divider



FIXED BASE SUPPORT
for Vertical Panels VP(F)-1

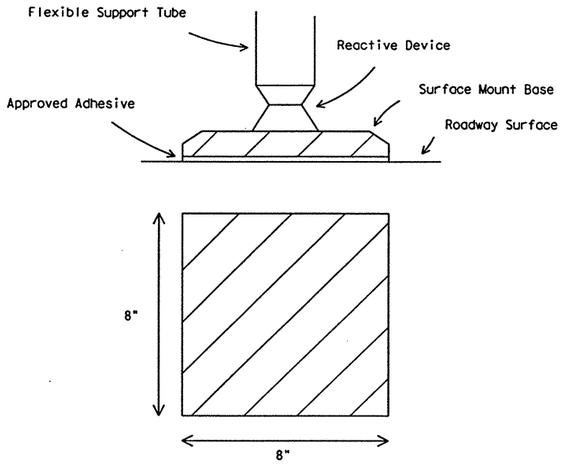


FIXED BASE SUPPORT
for Chevrons CW1-8(F)



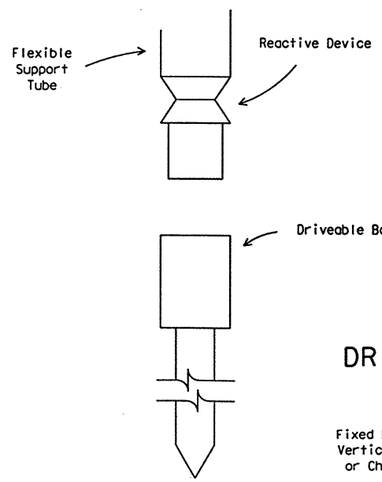
PORTABLE BASE

Base Support for Opposing Lane Divider or Vertical Panel (VP(F)-1). See Note 5.



SURFACE MOUNT BASE

Fixed Base Support for Chevron CW1-8(F), Vertical Panels VP(F)-1 or Opposing Lane Divider.



DRIVEABLE BASE

Fixed Base Support for Vertical Panel VP(F)-1 or Chevron CW1-8(F).

GENERAL NOTES:

1. Channelizing devices on flexible supports shall be used at locations detailed elsewhere in the plans. These devices shall conform to the Texas MUTCD.
2. Channelizing devices on flexible supports may be used in work zone areas where channelizing devices are frequently impacted by errant vehicles. Work zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. Spacing and placement shall be uniform and in accordance with the Texas MUTCD.
3. The contractor shall maintain devices in a clean condition and replace damaged, non-reflective, faded, or broken devices and bases as necessary.
4. Devices shall be fabricated to withstand repeated impacts with minimal maintenance to devices and damage to vehicles. When devices are impacted, they should not adversely affect worker or vehicle safety.
5. Devices shall be erected on a fixed, portable, or driveable base as approved by the Engineer.
6. Portable bases shall be fabricated from a flexible material such as virgin and/or recycled rubber. Approximate weight of portable bases should be 35 pounds.
7. Fixed bases may be surface mount or driveable type.
8. Pavement surfaces shall be prepared in a manner that will insure proper bonding of adhesives and surface mount bases to the pavement surfaces. Adhesives shall be prepared and applied as per manufacturer's recommendations.
9. Application and removal of devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface intregity. Driveable bases shall not be permitted on final pavement surfaces. All application and removal procedures of fixed bases shall be approved by the Engineer.
10. These devices shall not be paid for directly but shall be considered subsidiary to the Item "Barricades, Signs, and Traffic Handling."

PREQUALIFICATION PROCEDURES MAY BE OBTAINED BY WRITING:

TRAFFIC OPERATIONS DIVISION
TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT)
125 EAST 11th STREET
AUSTIN, TX 78701-2483

SPECIFICATION REFERENCE TABLE
MATERIALS AND TEST DIVISION SPECIFICATIONS

FLAT SURFACE REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

WORK ZONE CHANNELIZING DEVICES ON FLEXIBLE SUPPORTS

WZ(CD)-94

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DN: LR	CK: -	DW: DN	CK: -	MEG NO.:
REVISIONS 9-94				

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
	6	NH 99 (367)	385

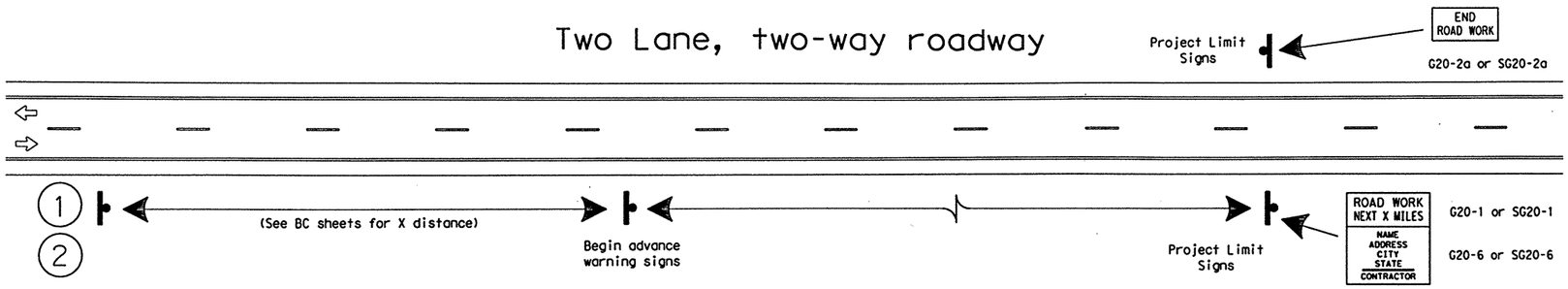
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	9	04	39	SH66

115

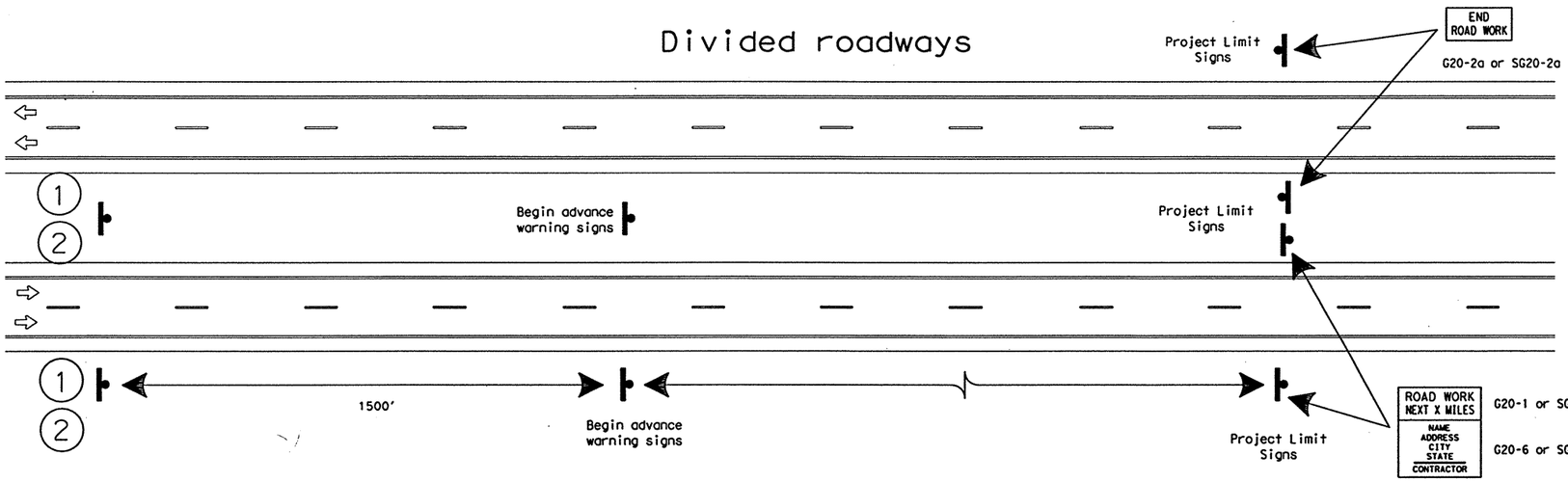
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CK: MT
ACC: d58mpic/usr/d580504
FILE:

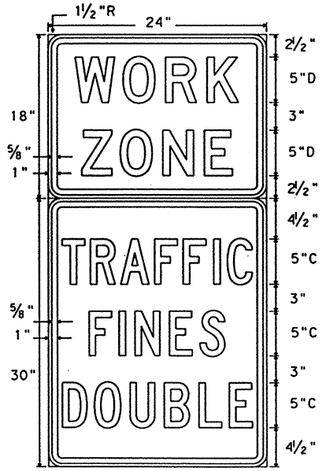
DISCLAIMER
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Two Lane, two-way roadway



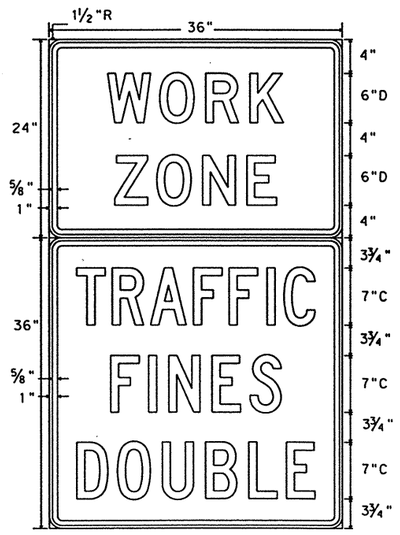
Divided roadways





G20-9
LEGEND - BLACK (NON-REFL)
BACKGROUND - ORANGE (REFL)

R20-5
LEGEND - BLACK (NON-REFL)
BACKGROUND - WHITE (REFL)



EG20-9
LEGEND - BLACK (NON-REFL)
BACKGROUND - ORANGE (REFL)

ER20-5
LEGEND - BLACK (NON-REFL)
BACKGROUND - WHITE (REFL)

1. OBSERVE WARNING SIGNS - STATE LAW is removed.
2. TRAFFIC FINES DOUBLE sign is installed at previous position of 1.

GENERAL NOTES:

DISPLAY

The Traffic Fines Double Sign Assembly (TFDSA) shall consist of the WORK ZONE (EG20-9) or (G20-9) sign, TRAFFIC FINES DOUBLE (ER20-5) or (R20-5) sign, and supports. Orange warning flags may be attached at the top of the TFDSA as described in the General Notes.

FABRICATION AND ERECTION

The TFDSA shall be fabricated and erected in accordance with Department and BC-98 Standards.

PLACEMENT

The TFDSA shall be placed as an integral part of the advance warning signs along major roadway approaches. Typical placement locations are illustrated. The preferred method is to remove and replace the OBSERVE WARNING SIGN-STATE LAW sign with the TFDSA. The Engineer may use alternate locations as necessary.

MEASUREMENT AND PAYMENT

The TSFDA will be considered subsidiary to ITEM 502, "Barricades, Signs and Traffic Handling."

DN: CK: DW: CK:

LEVEL: 1 2 3 4 5 6 7
LAYED 01 11 21 31 41 51 61 71 81 91 02 12 22 32 42 52 62 72 82 92 03 13 23 33 43 53 63 73 83 93 04 14 24 34 44 54 64 74 84 94 05 15 25 35 45 55 65 75 85 95 06 16 26 36
DATE:
ACC:
FILE:

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TRAFFIC FINES DOUBLE SIGNS

WZ(TFDS)-98

ORIG DRAW DATE: June 1997			DRN: MT	CK: DTN	DW: DN	CK: GB	MSG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT				SHEET
10-97 2-98		6	NH 99 (367)				386
	COUNTY		CONTROL	SECTION	JOB		HIGHWAY
	ROCKWALL		9	04	39		SH 66

119D

DISCLAIMER
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GENERAL NOTES

1. Additional details may be provided in the plans concerning sign size, type of channelization devices, sequence of work details, and required measures needed to control traffic during changes in the sequence of work.
2. All traffic control devices shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways" (TMUTCD), and shall be maintained as directed by the Engineer. Additional guidelines for traffic control devices may be found in the TMUTCD.
3. All distance and spacing shown on the TCP Standards are approximate.
4. All traffic control devices used during nighttime shall be reflectorized, illuminated from within or externally illuminated.
5. Additional information for fabrication, erection and usage of the following traffic control devices is found in the (TMUTCD) and Barricade and Construction (BC) Standards:

BARRICADES	BC(2) and BC(3)
CONES	BC(6)
BARRIER DELINEATION	WZ(BD)
DRUMS	BC(5)
PAVEMENT MARKINGS	BC(5), BC(7) and BC(8) WZ(STPM) or TCP(7-1) if applicable
SIGNS	BC(1), BC(2), BC(3), BC(4), BC(9), BC(9A), BC(9B) and BC(9C)

6. Work area operations are defined as follows:
   Long-term stationary - Work that occupies a location more than 3 days.
   Intermediate-term stationary - Work that occupies a location overnight to 3 days.
   Short-term stationary - Daytime work that occupies a location from 1 to 12 hours.
   Short Duration - Work that occupies a location up to 1 hour.
   Mobile - Work that moves intermittently or continuously.

SIGNS

1. Selection of sign size should be based on Table 1.
2. Flashing warning lights, channelizing devices and/or flags may be required to call attention to the advance warning signs.
3. The words UTILITY, SIGNAL, BRIDGE, LIGHTING, SIGN, STREET or RAMP may be substituted for ROAD in all signs where applicable.
4. Advisory speed plaques, if used in conjunction with warning signs, speeds shall be determined in the field by the Engineer.
5. Regulatory signs shall be mounted at 7 foot minimum mounting height.
6. Warning signs may be mounted on the approved types of supports at the minimum mounting heights as stated on BC(4):

CHANNELIZING DEVICES

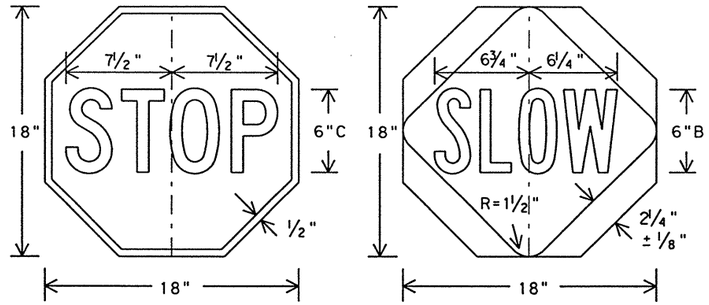
1. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit (S).
2. For intermediate term situations, when it is not feasible to remove and restore pavement markings, the channelization must be made dominant by using a very close spacing. This is especially important in locations of conflicting information, such as where traffic is directed over a double yellow centerline. In such locations a maximum channelizing device spacing of 10 feet is recommended. The 10 foot channelizing device spacing recommendation is intended for the area of conflicting information and not the entire work zone.
3. Channelizing device spacing should be reduced when placed on curves, hills or next to potential hazards. At least three channelizing devices should be in view at all times.
4. MERGING taper (lane closure with merging traffic) =L
   SHIFTING taper (traffic diverted to adjacent lane) =1/2 L
   SHOULDER taper (shoulder closed to traffic) =1/3 L
5. DOWNSTREAM taper usage is optional. When used it should be 100 foot minimum length per lane. Devices should be spaced at approximately 20 foot intervals.
6. ONE LANE, TWO-WAY taper is intended for a portion of the road controlled by STOP, YIELD traffic signals or flagger and used alternately by traffic in each direction. It should be 50-100 foot length with devices spaced at approximately 20 foot intervals.
7. Arrow panels used on two-way, two-lane roadways should flash in the four corner CAUTION disploy.

WORKER SAFETY

1. Workers exposed to traffic should wear orange safety vests.
2. Work vehicles within 30 feet of the traveled way should have strobe lights or rotating beacons in use.
3. When work vehicles are used to shadow the work area, the vehicle should be parked 30 feet or more from the work area, transmission in gear (or set in PARK), emergency brake set on, and front wheels turned away from work area. Shadow vehicles shall be equipped with truck mounted attenuators.
4. Inactive work vehicles, including workers' private vehicles, should be parked away from the work area and as close to the right-of-way line as possible.

FLAGGER CONTROL

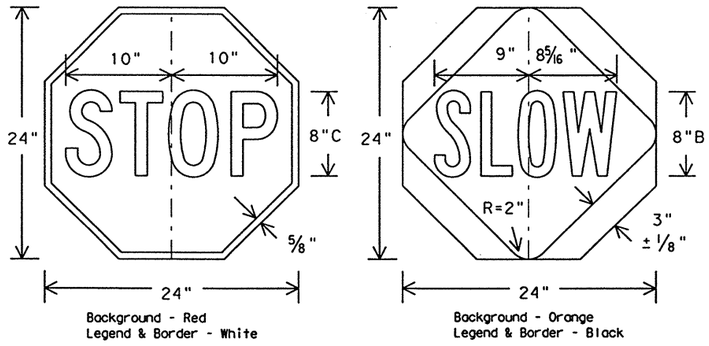
1. Flagger shall wear orange safety vests. Flaggers should wear saftey hats to provide a professional image to the motorist and to protect the head from flying objects.
2. STOP/SLOW paddles shall be used as the primary method to control traffic by flaggers. The STOP/SLOW paddle minimum size is 18" x 18". Paddles may be attached to a 60 inch staff for easier handling. The larger size (24" x 24") should be attached to a 60 inch staff.
3. The 24" paddle should be used when the posted speed is 45 MPH or greater.
4. Flags are only used to control traffic for emergency situations and the STOP/SLOW paddles are not available. Flags shall be 24" square and securely fastened to a staff approximately 3 feet long.
5. Flaggers may carry hand held air horns to alert workers of an emergency condition.
6. For one lane two-way traffic control, one or more flaggers should be used where traffic density, road conditions or motorists' sight distance justify their use. If flaggers are used, the taper should be reduced to 50-100 feet. When flaggers are used to control traffic, the FLAGGER symbol sign (FCW20-7a) shall be used. When flaggers are used, the BE PREPARED TO STOP sign (CW20-7b) should be used. Proper spacing between signs should be maintained.
7. When flaggers are used to draw attention to traffic control devices, the FLAGGER symbol sign should be used. Proper spacing should be maintained.
8. When more than one flagger is used, a chief flagger should be assigned the responsibility of making decisions concerning traffic control.
9. The contractor has the option to use a flashing Stop/Slow Paddle conforming to Departmental Materials Specification D-9-8620.



Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

18" STOP-SLOW PADDLE



Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

24" STOP-SLOW PADDLE

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer
Traffic Operations Division - TE
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701-2483
Phone (512) 416-3335
Fax (512) 416-3161
E-mail TRF-STANDARD@mailgw.dot.state.tx.us

Table I

TYPICAL CONSTRUCTION WARNING SIGN SIZE [1,5,6] AND SPACING

Roadway Classification	Posted Speed	Sign Spacing "X" ▲	Long-term Stationary Or Intermediate-term Stationary Approach Warning Signs CW20 Series And CW22-1 Sign		Short-term Stationary Or Short Duration Approach Warning Signs CW21 Series		Other Warning Signs
	MPH	Ft. (Apprx.)	Standard Inches	Minimum[4] Inches	Standard Inches[7]	Minimum[4] Inches[7]	Standard Inches[7]
Conven.	30	120	48X48	36X36	30X30 or 36X36	24X24 or 30X30	30X30 or 36x36
	35	160		↓	↓	↓	↓
	40	240					
	45	320		Use Standard Size		Use Standard Size	
	50	400					
	55	500[2]					
	60	600[2]			48x48		48x48
	65	700[2]			↓		↓
	70	800[2]					
Exp or Frwy	*	* [3]	↓	↓	**	**	**

* For typical sign spacings on expressways and freeways, see TMUTCD typical application diagrams or TCP Standard Sheets.

▲ Minimum distance from work area to 1st Advance Warning sign and/or distance between each additional sign.

** Smaller sign sizes may be used where sign designs have not been included in the "Standard Highway Sign Design for Texas" manual.

General Notes:

1. Special or larger size signs may be used as may be necessary.
2. Distance between signs should be increased as required to have 1500' advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. For use only on secondary roads or city streets where speeds are low.
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in TMUTCD, Appendix A for complete list of all available sign design sizes.
7. Where two sizes are listed, see sign size listing in TMUTCD, Appendix A for proper size.

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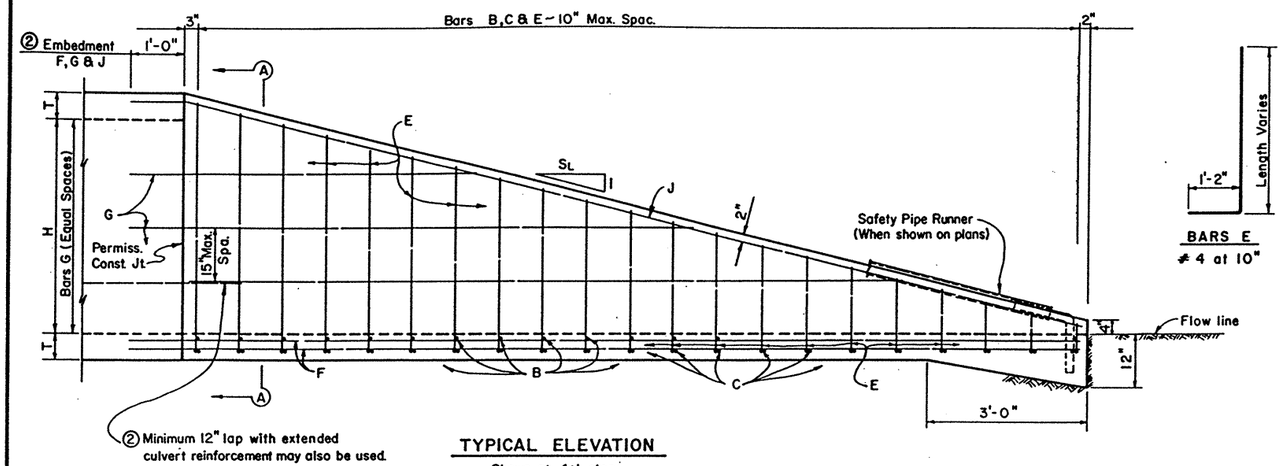
STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TRAFFIC CONTROL PLAN

TCP NOTES-98

© TxDOT Feburary 1994	DN: MT	CK:	DW: DN	CK: DN	MSG NO.:
REVISIONS 8-95 1-97 4-98	STATE DISTRICT: DAL	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99 (367)		SHEET: 387
	COUNTY: ROCKWALL	CONTROL: 9	SECTION: 04	JOB: 39	HIGHWAY: SH 66

DN: CK: DW: CK:
DATE: ACC: FILE:
LEVELS ASSIGNED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



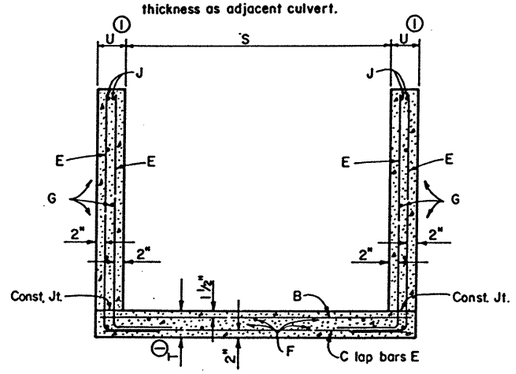
TYPICAL ELEVATION

Shown at 4:1 slope

BARS E

4 at 10"

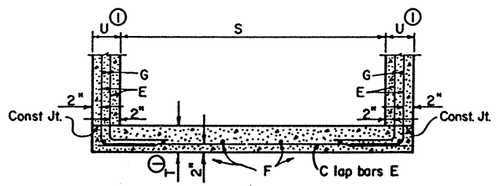
① Dimensions T and U to be a minimum of 6 inches thick, or may be same thickness as adjacent culvert.



SECTION A-A

SINGLE CULVERT

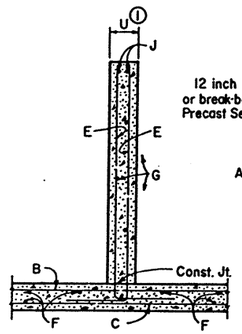
S > 4'



SECTION A-A

SINGLE CULVERT

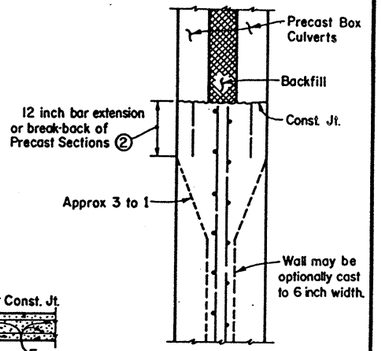
S ≤ 4'



SECTION A-A

INTERIOR WING

MULTIPLE CULVERTS



PLAN

INTERIOR WING EXTENSIONS

FOR MULTIPLE

BOX CULVERTS

QUANTITY CALCULATIONS ③

S = Clear Span of Each Barrel
H = Height of Barrels
N = Number of Barrels
SL = Side Slope Ratio
W = N(S)+.5(N+1)
L = (H+.167)SL

CONCRETE VOLUME = $\left[.5(W)(L)+.75(W)+.25(H+.833)(L)(N+1)\right] \frac{1}{27}$

STEEL QUANTITY CALCULATIONS

Bar	Unit Weight	Avg. Length (Ft.)	No. Bars
B ⊙	.668	(W-.25)	$\left(\frac{L}{.833}+.5\right)^*$
C	.668	(W-.25)	$\left(\frac{L}{.833}+.5\right)^*$
E	.668	$\left(\frac{H+3.5}{2}\right)$	$\left(\frac{L}{.833}+.5\right)^*(N+1)(2)$
F	.668	(L+.875)	((S+2)+(N-1)(S+1))
G	.668	$\left(\frac{SL}{2}(H+.667)+1.0\right)$	$\left(\frac{H}{2}+.5\right)^*(N+1)$
J	.668	$\left(L\left(\frac{\sqrt{SL^2+1}}{SL}\right)+.875\right)$	(N+1)(2)

③ Based on T & U = 6". Interior Wings with multiple precast box culverts are assumed at 6".

* Round up to next highest integer.

⊙ Omit B bars if S = 4'.

EXAMPLE 1

SINGLE BARREL 4 x 3

6:1 SLOPE

Bar	No.	Size	Length	Weight	Weight Using Formula
Bars B will be omitted for S ≤ 4'					
C	24	#4	4'-9"	76	76
E	96	#4	3'-3" avg.	208	208
F	6	#4	19'-10"	79	80
G	4	#4	12'-0" avg.	32	32
J	4	#4	20'-2"	54	54
Reinforcing Steel			Lbs.	449	450
Conc.(Calculated)				C.Y.	3.25
Conc.(Using Formula)				C.Y.	3.25

EXAMPLE 2

DOUBLE BARREL 5 x 4

4:1 SLOPE

Bar	No.	Size	Length	Weight	Weight Using Formula
B	21	#4	11'-3"	158	158
C	21	#4	11'-3"	158	158
E	126	#4	3'-9" avg.	316	316
F	13	#4	17'-6"	152	152
G	9	#4	10'-3" avg.	62	62
J	6	#4	18'-1"	72	72
Reinforcing Steel			Lbs.	918	918
Conc.(Calculated)				C.Y.	6.11
Conc.(Using Formula)				C.Y.	6.11

GENERAL NOTES:

The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

Quantities are for one complete end, either single or multiple box, and are included in the price bid for each Safety End Treatment.

Additional Riprap as indicated elsewhere in the plans will also be included in the price bid for Safety End Treatment.

INCLUDE THIS SHEET IN PLANS ONLY WHEN SINGLE OR MULTIPLE BOX CULVERTS REQUIRE TREATMENT.

STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

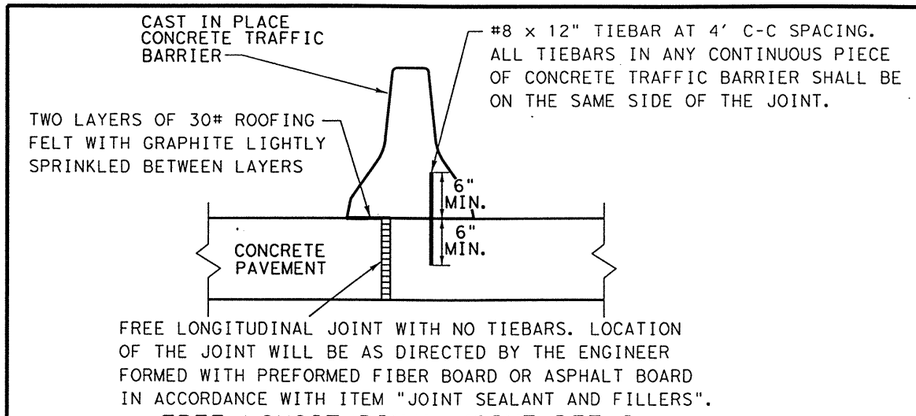
STRAIGHT WING WALLS

FOR SINGLE OR MULTIPLE

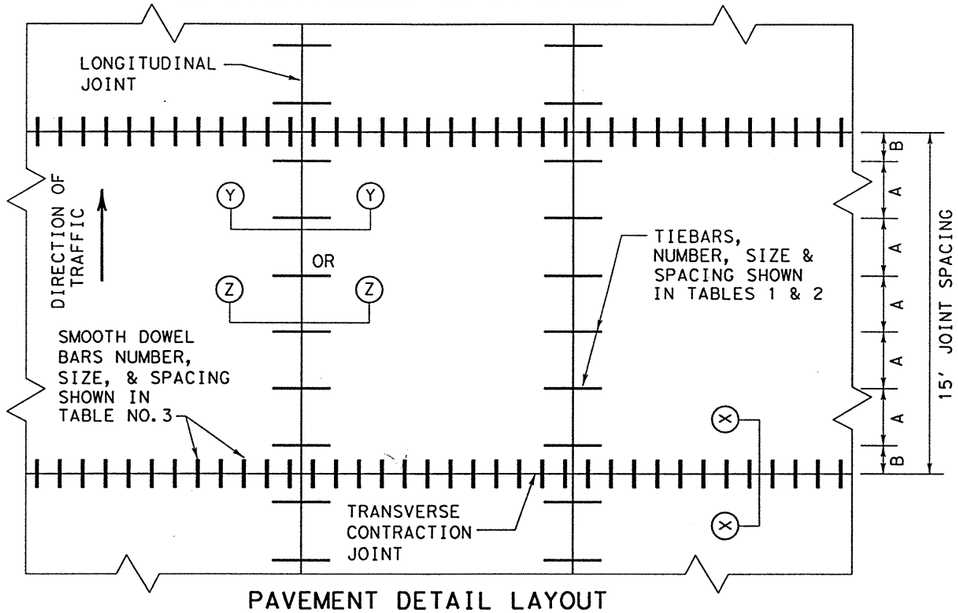
BOX CULVERT SAFETY END TREATMENT - TYPE I

SWW

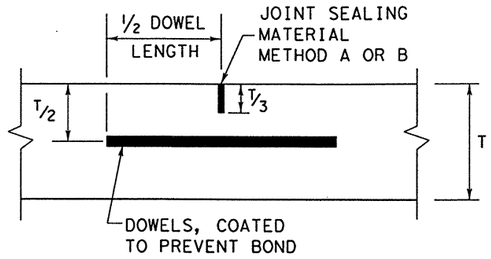
ORIGINAL DRAWING DATE: JUNE 1985		STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT #	SHEET
DR.:-JJP	REVISIONS		6	NH 99(367)	358
CK.:-MPM	Rev. 7-95 (Added Type)	COUNTY		CONTROL SECTION JOB	HIGHWAY
DR.:-EDS		ROCKWALL		2009 04 039	SH66
CK.:-MPM					



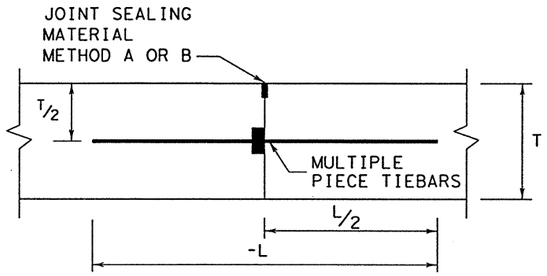
FREE LONGITUDINAL JOINT DETAIL



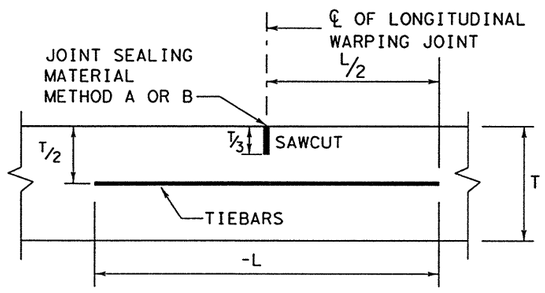
PAVEMENT DETAIL LAYOUT



TRANSVERSE CONTRACTION JOINT SECTION X-X



LONGITUDINAL CONSTRUCTION JOINT SECTION Y-Y



LONGITUDINAL WARPING JOINT SECTION Z-Z

GENERAL NOTES

1. CONCRETE SLABS WIDER THAN 100' WITHOUT A FREE JOINT, ARE NOT COVERED BY THIS STANDARD.
2. FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND LOAD TRANSFER DEVICES REFER TO THE GOVERNING SPECIFICATIONS FOR "CONCRETE PAVEMENT" AND "REINFORCING STEEL."
3. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS, AND CROWN CROSS SLOPE SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
4. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR WILL BE SHOWN IN CONCRETE PAVEMENT DETAIL, JOINT SEALANT STANDARD (JS-94).
5. PAVEMENT WIDTHS IN EXCESS OF 16' SHALL BE PROVIDED WITH A LONGITUDINAL JOINT (SECTION Z-Z OR Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6" OF THE LANE LINES UNLESS SHOWN ELSEWHERE ON THE PLANS.
6. THE JOINT BETWEEN OUTSIDE LANE AND SHOULDER SHALL BE A LONGITUDINAL WARPING JOINT (SECTION Z-Z) UNLESS OTHERWISE SHOWN IN THE PLANS.
7. THE SPACING BETWEEN TRANSVERSE JOINTS SHALL BE 15 FEET UNLESS OTHERWISE SHOWN IN THE PLANS.
8. WHERE A MONOLITHIC CURB IS SPECIFIED, THE JOINT IN THE CURB SHALL COINCIDE WITH PAVEMENT JOINTS AND MAY BE FORMED BY ANY MEANS APPROVED BY THE ENGINEER.
9. TRANSVERSE CONSTRUCTION JOINTS MAY BE FORMED BY USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE NOMINAL DEPTH OF THE PAVEMENT, OR BY METHODS APPROVED BY THE ENGINEER.
10. THE ENGINEER WILL ADJUST THE REQUIRED NUMBER OF TIEBARS FOR SLABS SHORTER OR LONGER THAN 15'. SPACING "B" WILL BE ADJUSTED TO MAINTAIN A MINIMUM CLEARANCE OF 2" BETWEEN THE TIEBAR AND THE DOWEL BARS AT THE TRANSVERSE JOINT AND THE "A" SPACING WILL REMAIN AS REQUIRED FOR THE PAVEMENT SLAB WIDTH.
11. MULTIPLE PIECE TIEBARS SHALL BE USED AT LONGITUDINAL CONSTRUCTION JOINTS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
12. THE SAW CUT FOR LONGITUDINAL WARPING AND THE TRANSVERSE CONSTRUCTION JOINTS MAY BE ONE FOURTH THE SLAB THICKNESS WHEN CRUSHED LIMESTONE IS USED AS THE COARSE AGGREGATE.

TABLE NO. 1 TIEBARS REQUIRED FOR LONGITUDINAL JOINT JOINTS FOR EACH 15' SLAB

ASTM A-616 OR A-615 (GRADE 60) STRAIGHT OR MULIPLE PIECE REINFORCING TIEBARS		CONCRETE SLAB THICKNESS	DISTANCE FROM THE LONGITUDINAL JOINT TO THE NEAREST LONGITUDINAL FREE EDGE			
			< OR =16'	< OR =24'	< OR =34'	< OR =50'
BAR LENGTH, "L" INCHES	BAR SIZE	"T" INCHES	REQUIRED NO. OF BARS	REQUIRED NO. OF BARS	REQUIRED NO. OF BARS	REQUIRED NO. OF BARS
42	#5 (5/8")	8	5	5	6	9
		9	5	5	7	10
		10	5	5	7	11
		11	5	6	8	12
		12	5	6	9	13
		13	5	7	9	13
		14	6	7	10	NA
		15	6	8	11	NA
50	#6 (3/4")	8	5	5	5	6
		9	5	5	5	7
		10	5	5	5	8
		11	5	5	6	8
		12	5	5	6	9
		13	5	5	7	10
		14	5	5	7	10
		15	5	6	8	11

THE DISTANCE TO THE FREE EDGE WILL BE DETERMINED BY THE ENGINEER AND THE DISTANCE WILL BE BASED ON THE NOMINAL WIDTHS OF THE LANES AND SHOULDERS PLUS ANY TIED RAMPS OR CONNECTING ROADWAYS.

TABLE NO. 2 TIEBAR SPACINGS

SPACING REQUIREMENT FOR 15'SLAB FOR REQUIRED NUMBER OF BARS		
REQUIRED NO. OF BARS	REGUALR SPACING "A" INCHES	FIRST AT JOINT "B" INCHES
5	36	18
6	30	15
7	25	15
8	21	16.5
9	18	18
10	16	18
11	15	15
12	13	18.5
13	12	18

TABLE NO. 3 DOWELS REQUIEMENTS

T, IN.	DOWELS (SMOOTH BARS)	
	SIZE AND LENGTH	AVERAGE SPACING (INCHES)
8	1" X 18"	12
9	1 1/8" X 18"	12
10	1 1/4" X 18"	12
11	1 3/8" X 18"	12
12	1 1/2" X 18"	12
13	1 5/8" X 18"	12
14	1 3/4" X 18"	12
15	1 7/8" X 18"	12

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Texas Department of Transportation
Design Division (Pavement)

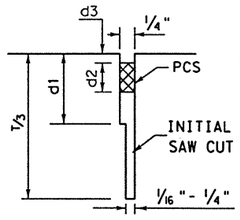
CONCRETE PAVEMENT DETAILS
CONTRACTION DESIGN
T-8 THRUGH 15 INCHES
CPCD-94

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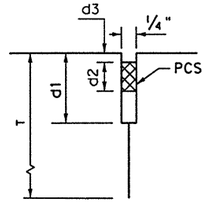
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MODIFICATIONS				

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
DAL	6	NH 99 (367)		389
COUNTY		CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL		9	04	39	SH66

ACC: /usc/d481303
FILE: CPCD94.DGN
LEVELS DISPLAYED

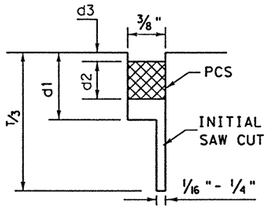


SAWED
LONGITUDINAL JOINT

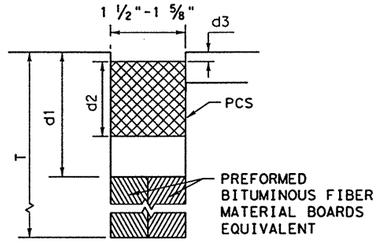


LONGITUDINAL
CONSTRUCTION JOINT

LONGITUDINAL JOINT SEALS



SAWED
CONTRACTION JOINT



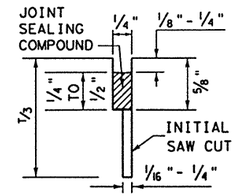
FORMED
FORMED EXPANSION JOINT

TRANSVERSE JOINT SEALS

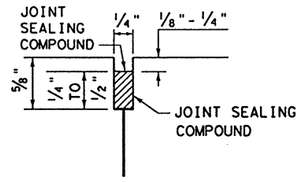
METHOD A: PREFORMED COMPRESSION SEALS (PCS)
(CLASS 6 PREFORMED JOINT SEALANT)

GENERAL NOTES FOR METHOD "A"

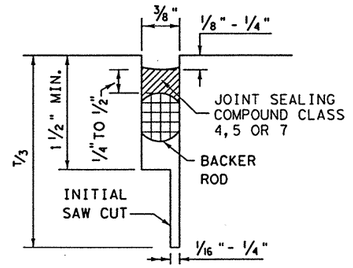
1. UNLESS OTHERWISE SHOWN IN THE PLANS, EITHER METHOD "A" OR METHOD "B" MAY BE USED.
2. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
3. DIMENSIONS d1, d2, AND d3 SHALL BE IN ACCORDANCE WITH THE PREFORMED COMPRESSION SEAL MANUFACTURES RECOMMENDATION.
4. THE JOINT RESERVOIR FOR SEALANT SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION AND THE TWO SAWED JOINTS.
5. THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE ITEM 438 AND PRIOR TO BEGINNING OPERATIONS, THE CONTRACTOR SHALL SUBMIT A STATEMENT FROM THE SEALANT MANUFACTURER SHOWING THE RECOMMENDED EQUIPMENT AND INSTALLATION PROCEDURES TO BE USED.
6. THE SAW CUT FOR THE LONGITUDINAL JOINT SHALL BE ONE FOURTH THE SLAB THICKNESS WHEN CRUSHED LIMESTONE IS USED AS THE COARSE AGGREGATE.



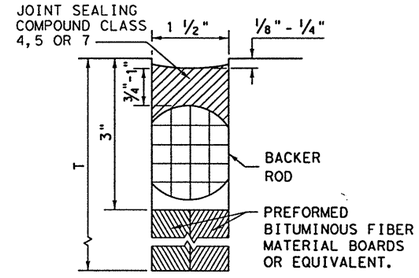
SAWED
LONGITUDINAL JOINT



LONGITUDINAL OR TRANSVERSE
CONSTRUCTION JOINT



TRANSVERSE SAWED
CONTRACTION JOINT



TRANSVERSE FORMED
EXPANSION JOINT

METHOD B: JOINT SEALING COMPOUND

GENERAL NOTES FOR METHOD "B"

1. UNLESS OTHERWISE SHOWN IN THE PLANS, EITHER METHOD "A" OR METHOD "B" MAY BE USED.
2. THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
3. THE ENGINEER SHALL SELECT A TARGET PLACEMENT THICKNESS FOR THE SEALANT DETAILS WHICH SHOW RANGES IN THICKNESS. THE TARGET THICKNESS WILL NORMALLY BE THE MIDPOINT OF THE RANGE.
4. THE JOINT RESERVOIR FOR SEALANT SHALL BE SAWED UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION AND THE TWO SAWED JOINTS.
5. THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE ITEM 438 AND PRIOR TO BEGINNING OPERATIONS, THE CONTRACTOR SHALL SUBMIT A STATEMENT FROM THE SEALANT MANUFACTURER SHOWING THE RECOMMENDED EQUIPMENT AND INSTALLATION PROCEDURES TO BE USED.
6. THE SAW CUT FOR THE LONGITUDINAL JOINT SHALL BE ONE FOURTH THE SLAB THICKNESS WHEN CRUSHED LIMESTONE IS USED AS THE COARSE AGGREGATE.

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Design Division (Pavement)

CONCRETE PAVING DETAILS
JOINT SEALS

JS-94

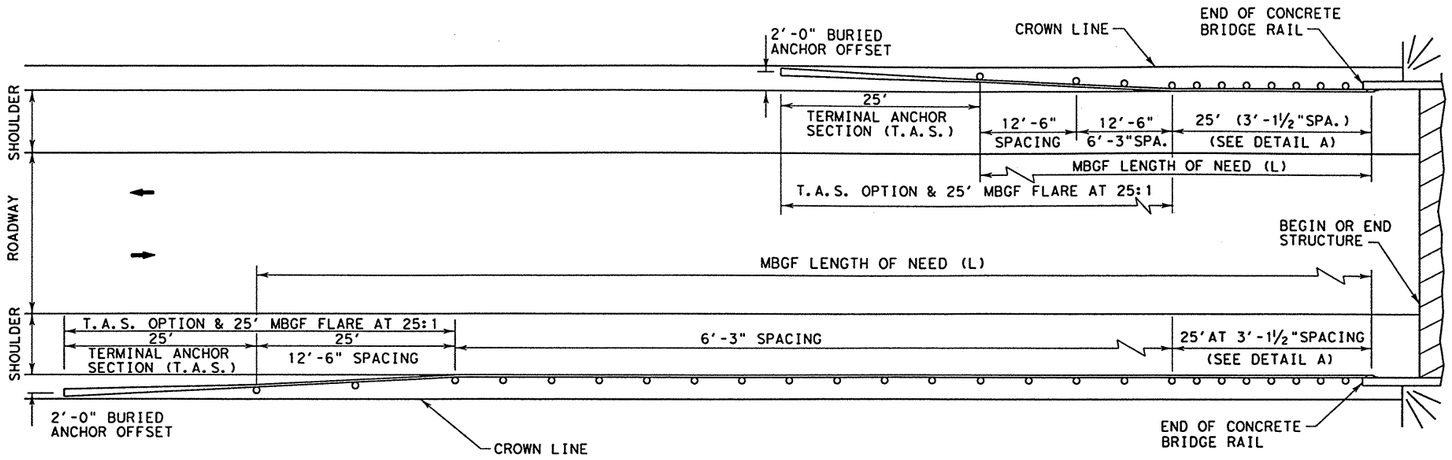
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DRN: LJB	CK: LJB	DW: BGD	CK: GLG	REG NO.: R0000
MODIFICATIONS				

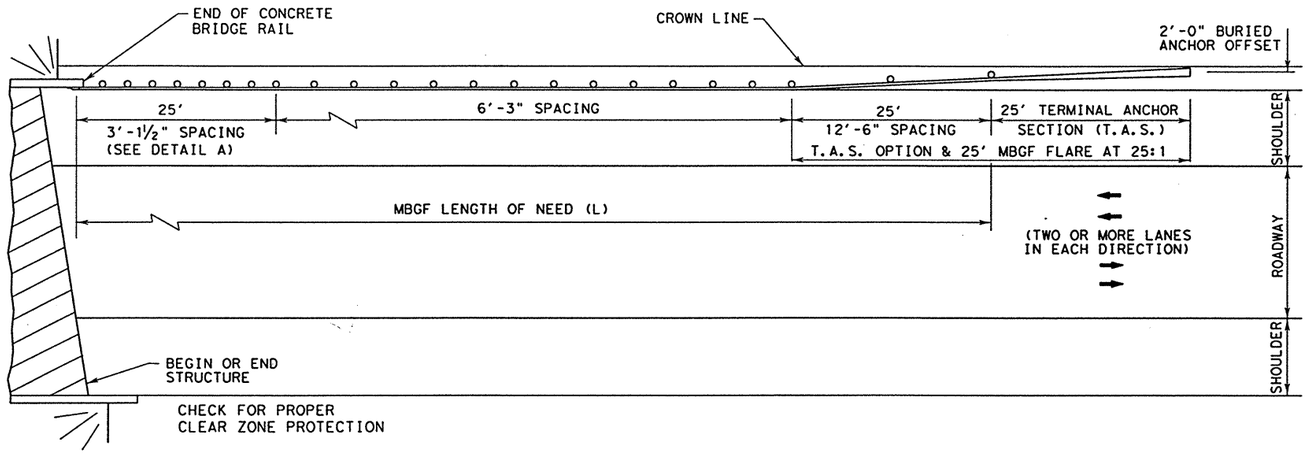
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
DAL	6	NH 99 (367)		390

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	9	04	39	SH 66

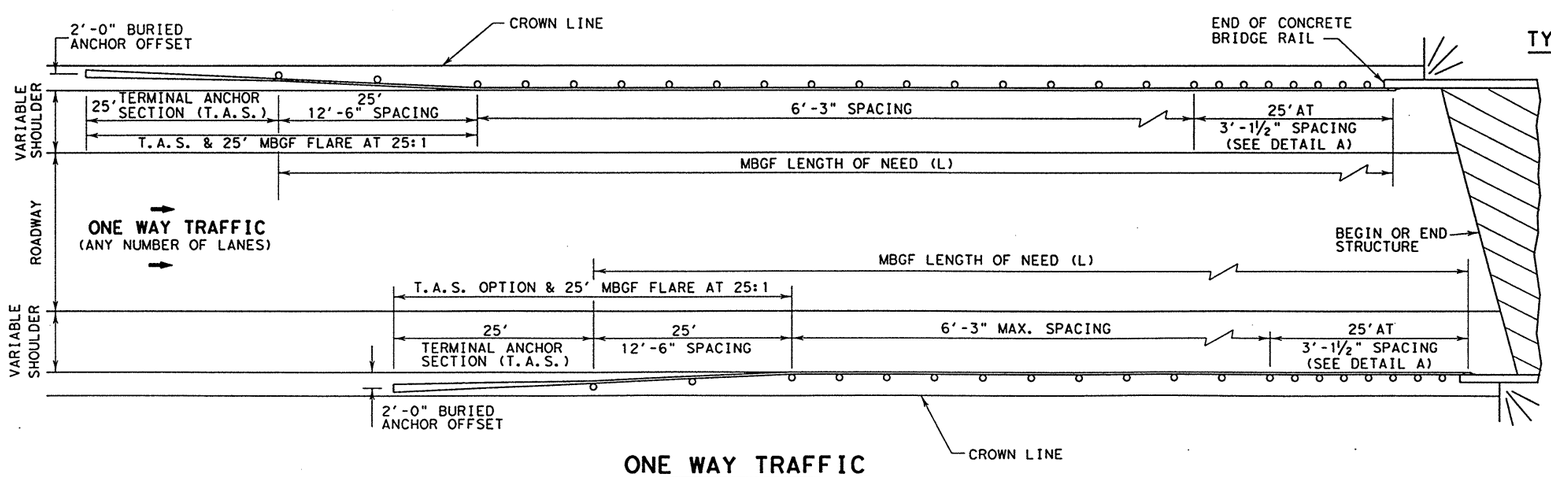
LEVELS DISPLAYED
ACC: /usc/d481303
FILE: JS94.DGN



TWO LANE (RURAL) HIGHWAYS



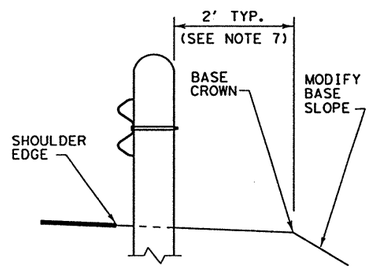
MULTILANE UNDIVIDED (RURAL) HIGHWAYS



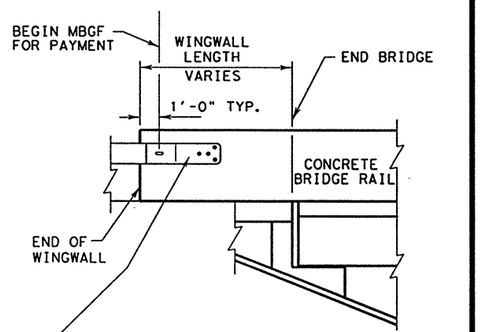
ONE WAY TRAFFIC

GENERAL NOTES

1. FOR METAL BEAM GUARD FENCE DETAILS, SEE MBGF PLAN SHEET.
2. QUANTITIES OF METAL BEAM GUARD FENCE (MBGF) AT INDIVIDUAL BRIDGE ENDS ARE SHOWN ELSEWHERE IN PLANS.
3. USE AVERAGE DAILY TRAFFIC (ADT) FOR THE CURRENT YEAR TO DETERMINE MBGF LENGTH OF NEED IN ACCORDANCE WITH THE DESIGN MANUAL UNLESS OTHERWISE SPECIFED. WHERE SIGNIFICANT TRAFFIC VOLUME GROWTH IS ANTICIPATED ON LOW VOLUME (0-750 ADT) HIGHWAYS USE LENGTH DETERMINATIONS FOR THE HIGHER VOLUME CATEGORY.
4. WHERE LENGTH (L) OF MBGF USED IS 50 FEET, POST SPACING SHALL BE AS DETAILED HEREON (SEE PLAN LAYOUT FOR TWO LANE (RURAL) HIGHWAYS, LEFT SIDE OF TRAFFIC APPROACHING BRIDGE). WHERE LENGTH (L) OF MBGF IS 75' OR MORE, POST SPACING SHALL BE 3'-1 ½" FOR THE 25' SECTION ADJACENT TO THE BRIDGE, 12'-6" FOR THE 25' SECTION AJACENT TO THE T.A.S., AND 6'-3" FOR REMAINING INTERVENING LENGTH. WHEN T6 BRIDGE RAIL IS USED, THE MIN. MBGF POST SPACING SHALL BE 6'- 3".
5. MBGF MAY NOT BE REQUIRED TO SHIELD DEPARTURE END OF BRIDGE UNLESS OTHER HAZARDS WITHIN THE CLEAR ZONE WARRANT MBGF. WHERE INSTALLED ON THE DEPARTURE END, 6'- 3" POST SPACING IS ACCEPTABLE THOUGHOUT THE PLACEMENT LENGTH INCLUDING ADJACENT TO BRIDGE END.
6. WHEN SPECIFIED, THE T.A.S. AND TYPICALLY ADJACENT 25' MBGF SHOULD BE FLARED FROM THE SHOULDER EDGE AT 25:1 TO PROVIDE A 2' USUAL OFFSET TO BURIED ANCHOR. THE 6'-3" POST SPACING SHALL BE MAINTAINED TO THE LENGTH OF NEED WHEN END TREATMENTS OTHER THAN T.A.S. ARE USED.
7. THE CROWN WILL BE WIDENED TO ACCOMMODATE MBGF. TYPICALLY THE CROWN LINE SHOULD BE 2 FEET FROM THE BACK OF THE MBGF POST. THIS APPLIES TO NEW CONSTRUCTION ON NEW ALIGNMENT OR WHERE EXISTING ROADWAY CROSS SECTION IS TO BE WIDENED TO INCREASE ROADWAY WIDTH. THIS DOES NOT APPLY TO REHABILITATION WORK WHERE EXISTING ROADWAY CROWN WIDTH IS TO BE RETAINED (SEE TYPICAL CROSS SECTION).
8. FOR RESTRICTIVE WIDTH BRIDGES, A 25-FOOT TANGENT SECTION OF MBGF SHOULD CONNECT TO THE WINGWALL. THE ADJOINING MBGF THAT LIES WITHIN THE ROADWAY (LANES & SHOULDER AREA) CROWN SHOULD BE FLARED AT THE RATE OF 25:1 (LONGITUDINAL: LATERAL). LENGTH ON THESE BRIDGES SHOULD BE DETERMINED AS STATED ABOVE OR THE LENGTH NECESSARY TO LOCATE THE BURIED ANCHOR AT A 2-FOOT OFFSET FROM SHOULDER EDGE, WHICHEVER IS GREATER.
9. VARIATIONS IN POST SPACINGS AND/OR THE USE OF SPACER BLOCKS OR SHIMS MAY BE REQUIRED BY THE ENGINEER IN ORDER TO ACCOMMODATE THE REQUIRED RAIL CONNECTION TO EXISTING STRUCTURES.



TYPICAL CROSS SECTION



DETAIL A

TEXAS DEPARTMENT OF TRANSPORTATION

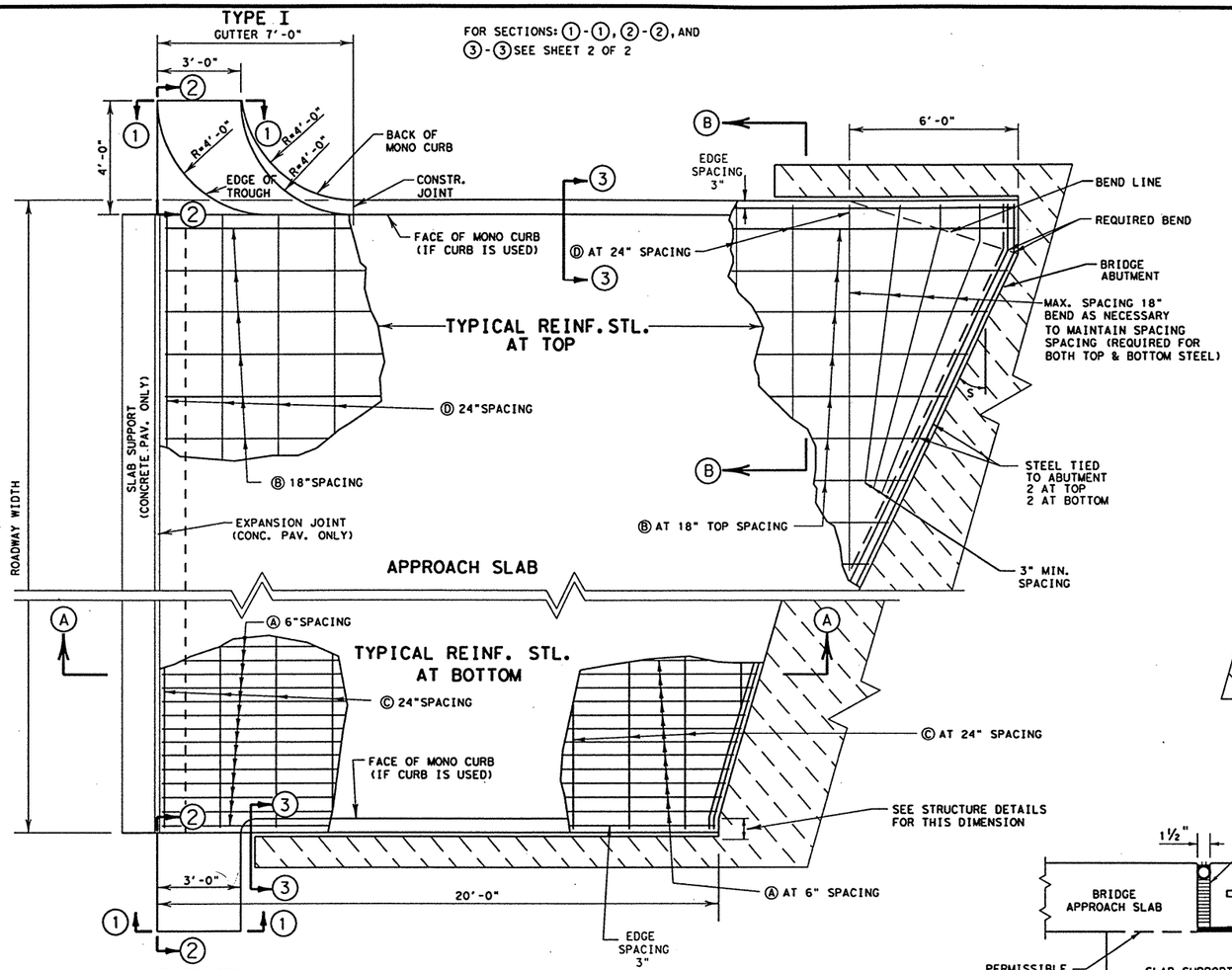
BRIDGE END DETAILS

BED-91

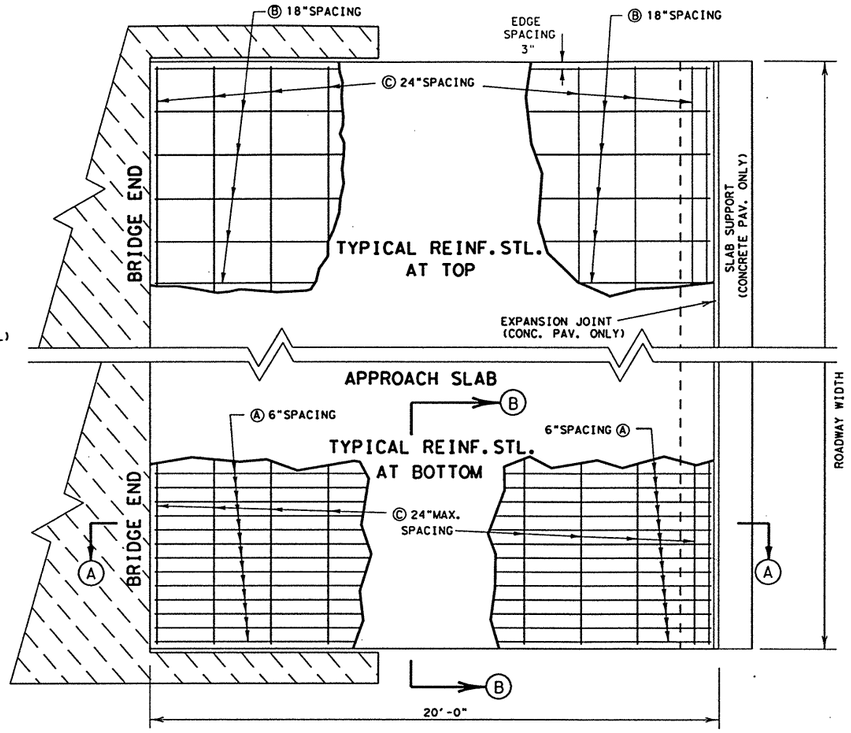
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REVISIONS

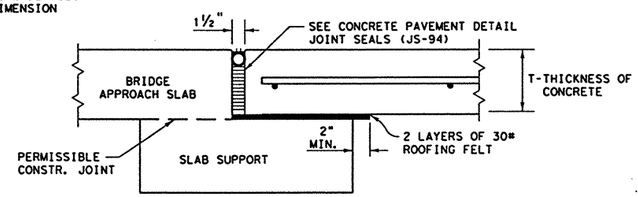
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6	TEXAS	NH 99 (367)			391
STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
	ROCKWALL	9	04	39	SH 66



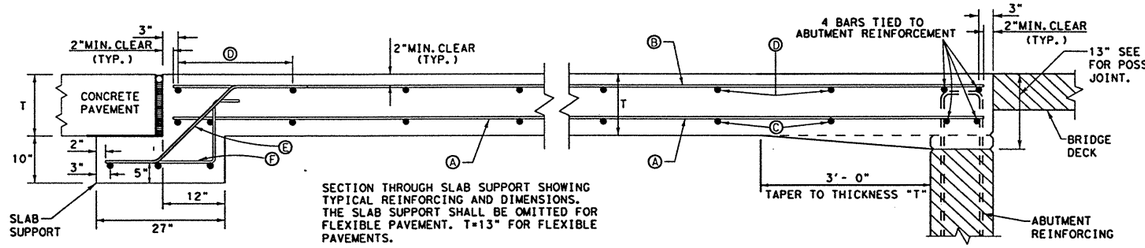
TYPE II SKEWED BRIDGE APPROACH SLAB



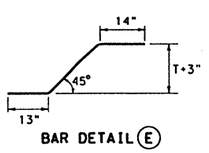
NORMAL BRIDGE APPROACH SLAB



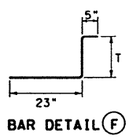
EXPANSION JOINT DETAIL A



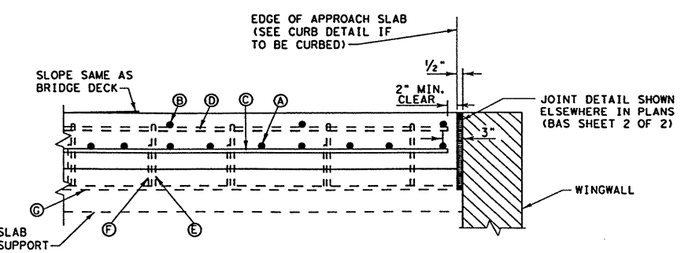
TYPICAL SECTION A-A



BAR DETAIL Ⓔ



BAR DETAIL Ⓕ



TYPICAL SECTION B-B

EXPANSION JOINT DETAIL A

FOR THE CONTRACTOR INFORMATION QUANTITIES WERE CALCULATED USING THE FOLLOWING :

DEFINITION OF TERMS

W = THE WIDTH OF THE SLAB IN FEET

S = ANGLE OF SKEW IN DEGREES

A_{BAS} = AREA OF BRIDGE APPROACH SLAB (S.Y.)

$$A_{BAS} = \frac{20W + \frac{W^2 \tan S}{2}}{9}$$

TABLE FOR STEEL QUANTITIES
STEEL POUNDS
38.0/S.Y. OF BAS
9.5/FT. OF SUPPORT SLAB

GENERAL NOTES

1. THE APPROACH SLAB SHALL HAVE THE SAME TRANSVERSE CROWN THROUGHOUT ITS LENGTH AS THE STRUCTURE WHICH IT ADJOINS.
2. ALL REINFORCEMENT BARS ON THIS STANDARD SHALL BE NUMBER 5 BARS. REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A-615, GRADE 60 OR A-616, GRADE 60. WHERE BENDING OF THE STEEL IS REQUIRED A-615, GRADE 60 SHALL BE USED.
3. ADDITIONAL DETAILS FOR POSSIBLE CURB AND GUTTER AND LONGITUDINAL JOINTS ARE SHOWN ON SHEET 2 OF 2 OF THIS STANDARD DRAWING.

Texas Department of Transportation
Design Division (Pavement)

BRIDGE APPROACH SLAB
FOR USE WITH ASPHALT AND CONCRETE PAVEMENTS NORMAL OR SKEW

BAS-94

SHEET 1 OF 2

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DN: LJB	CK: LJB	DW: BGD	CK: GLG	MSG NO.: R0000
MODIFICATIONS				

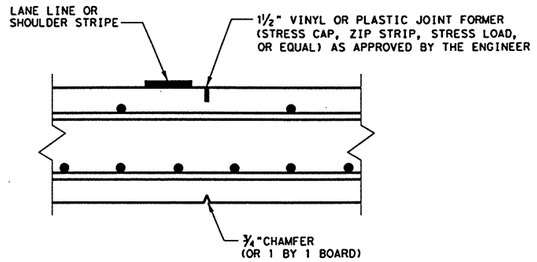
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT #	SHEET
	6	NH 99 (367)	392

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	9	04	39	SH66

LEVELS DISPLAYED 1 3 5 10

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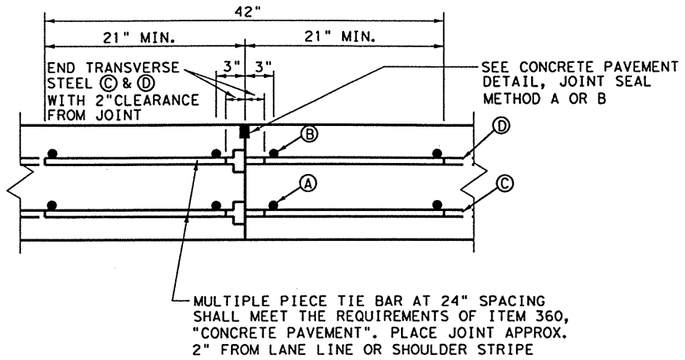
FILE: BAS94.DGN



CONTROLLED LONGITUDINAL JOINT DETAIL

THE TOP JOINT MAY BE SAWED PROVIDED A LIGHT WEIGHT SAW IS USED WITHIN 6 HOURS OF PLACEMENT. A DRY SAWING OPERATION SHALL BE USED. THE SAW CUT SHALL BE LESS THAN 3/16" WIDE.

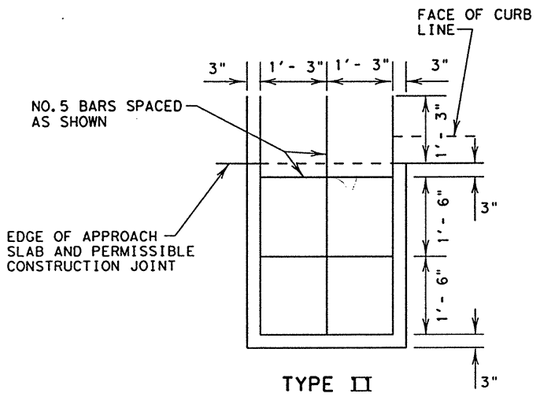
THE CHAMFER SHALL BE PLACED TO BE APPROXIMATELY MIDWAY BETWEEN THE LONGITUDINAL BOTTOM-STEEL. A REFERENCE LINE SHALL BE ESTABLISHED TO INSURE THAT THE INSERT OR SAW CUT IS DIRECTLY ABOVE THE CHAMFER. MINOR ADJUSTMENT IN THE A AND B BARS SPACINGS MAY BE REQUIRED TO INSURE THAT THE JOINT WILL BE APPROXIMATELY 2" FROM THE LANE LINE AND NOT ABOVE A REINFORCING BAR.



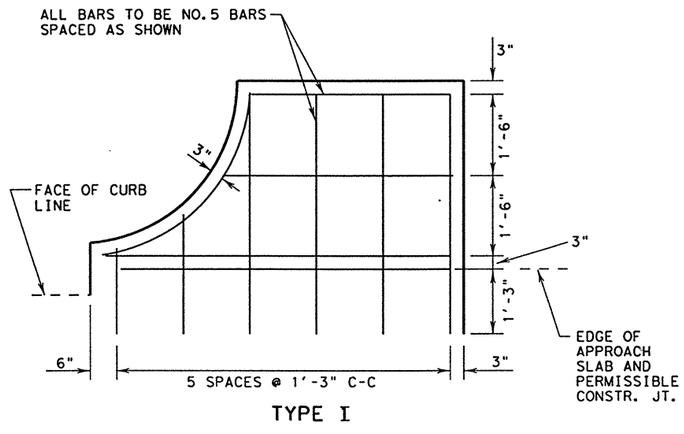
LONGITUDINAL CONSTRUCTION JOINT DETAIL

GENERAL NOTES

1. TIEBARS AT CONSTRUCTION JOINTS SHALL MEET THE REQUIREMENTS OF ITEM 360, "CONCRETE PAVEMENT."
2. IF A CURB IS USED ON THE STRUCTURE, A CURB WITH HEIGHT AND INSIDE FACE MATCHING THE STRUCTURE CURB SHALL BE USED ON THE APPROACH SLAB. THE CURB SHOULD TAPER TO A TWO INCH HEIGHT AND BE TERMINATED AT THE END OF THE SLAB OR AT THE DRAINAGE GUTTER, IF A DRAINAGE GUTTER IS USED.
3. DETAILS AND QUANTITIES FOR CURB ARE TO BE AS SHOWN ELSEWHERE IN THE PLANS.
4. TYPE I GUTTER SHOULD BE USED IN LIEU OF TYPE II GUTTER WHEN SPACE PERMITS.
5. WHEN STAGE CONSTRUCTION IS USED TO BUILD A PORTION OF A BRIDGE, THE LONGITUDINAL CONSTRUCTION JOINTS OF THE APPROACH SLAB SHALL ALIGN WITH THE LONGITUDINAL CONSTRUCTION JOINTS OF OF THE BRIDGE STRUCTURE.
6. ALL REINFORCEMENT STEEL ON THIS STANDARD SHEET SHALL BE NUMBER 5 (#5) BARS.

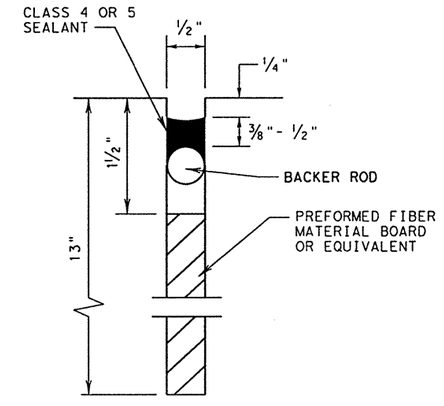


TYPE II



TYPE I

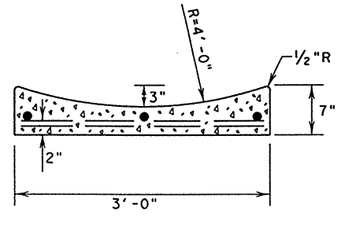
REINFORCING LAYOUT FOR GUTTER



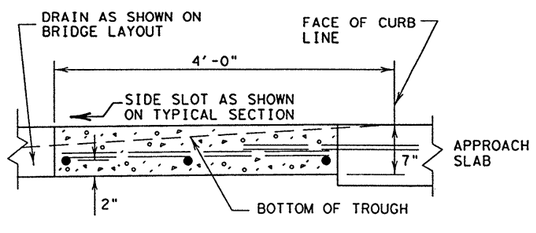
EXPANSION JOINT

BETWEEN SLAB AND WINGWALL

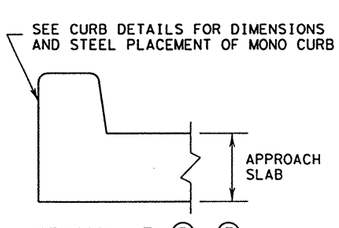
PLACE IN ACCORDANCE WITH ITEM 438 "CLEANING AND/OR SEALING JOINTS AND CRACKS".



SECTION AT ① - ①
TYPES I & II GUTTER



SECTION AT ② - ②



SECTION AT ③ - ③
SHOWING MONO CURB

ACC: /usc/d481303
FILE: BAS94.DGN
LEVELS DISPLAYED 1 3 5 10

Texas Department of Transportation
Design Division (Pavement)

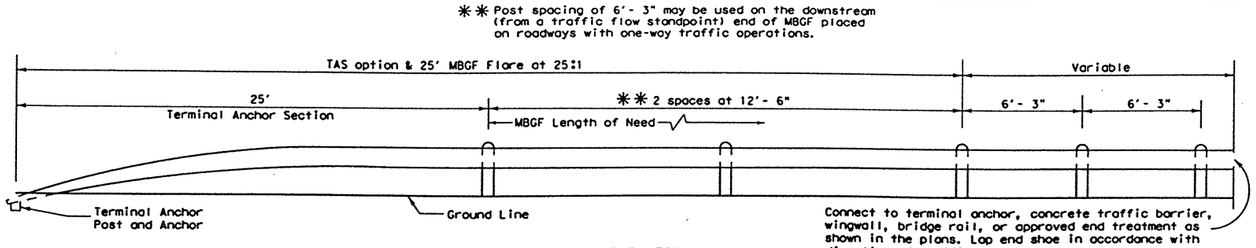
BRIDGE APPROACH SLAB

FOR USE WITH ASPHALT AND CONCRETE PAVEMENTS NORMAL OR SKEW

BAS-94

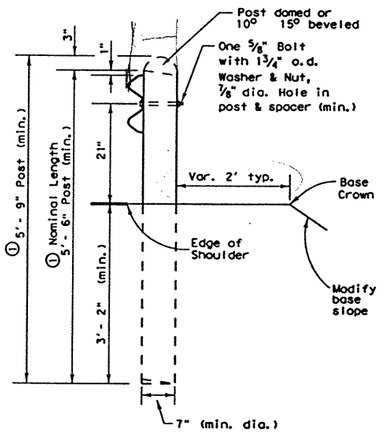
SHEET 2 OF 2

©TxDOT SEPTEMBER 1994	DN: LJB	CK: LJB	DW: BGD	CK: GLG	REG NO.: R0000
MODIFICATIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT #		SHEET
		6	NH 99 (367)		393
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		9	04	39	SH66

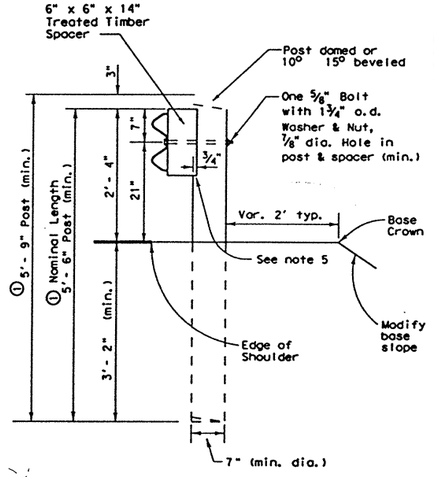


ELEVATION

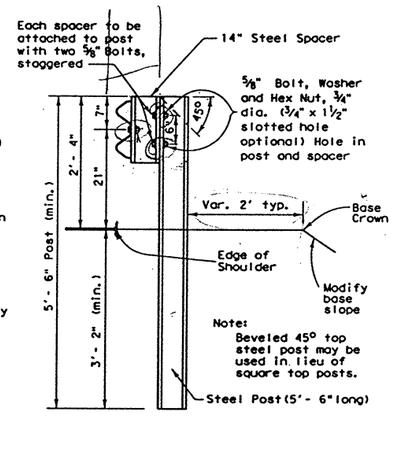
Note ①: Where a nominal length of 6'- 0" is specified as acceptable elsewhere in the plans, these dimensions shall be increased by 0'- 6". The additional length should be specified only on roadways where future ACP overlays and adjustments of the rail height on the same posts are likely.



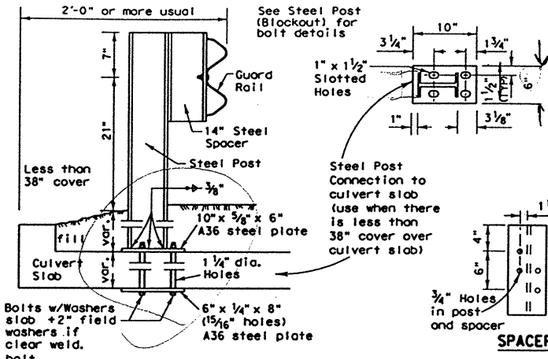
WOOD POST



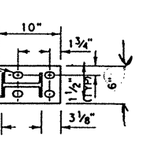
WOOD POST (Blockout)

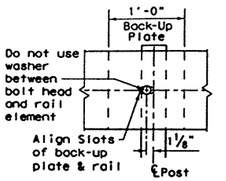


STEEL POST (Blockout)

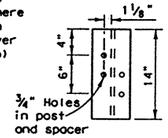


LOW FILL CULVERT POST MOUNTING OPTION

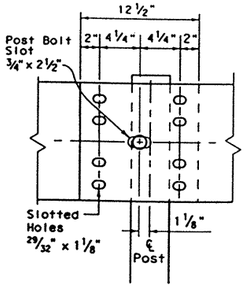




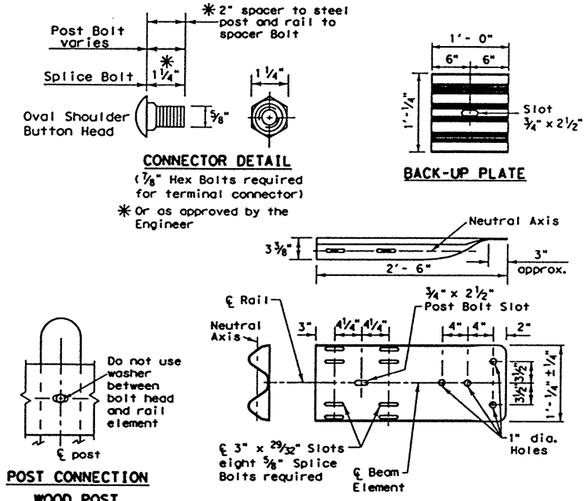
POST CONNECTION
STEEL POST
Non-Splice Steel Post Only



SPACER



RAIL SPLICE

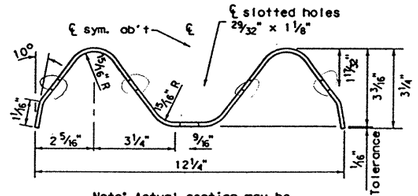


CONNECTOR DETAIL
(7/8" Hex Bolts required for terminal connector)
* Or as approved by the Engineer

POST CONNECTION
WOOD POST

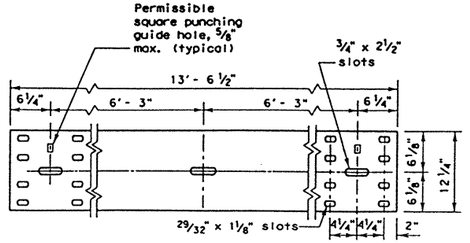
BACK-UP PLATE

TERMINAL CONNECTOR
(10 Gauge Minimum)



Note: Actual section may be slightly different depending upon the manufacturer.

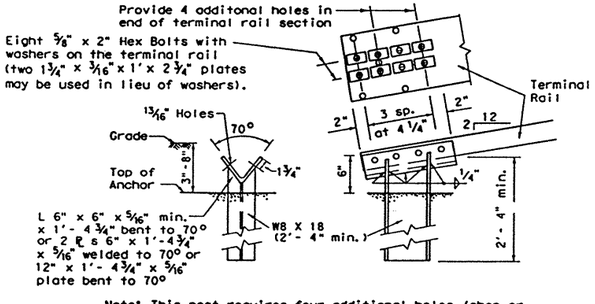
SECTION THRU GUARD RAIL



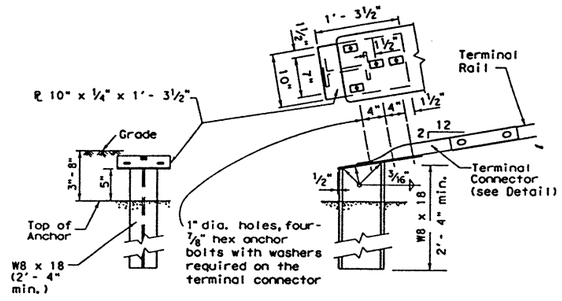
ELEVATION OF NOMINAL
12 1/2 FOOT GUARD RAIL
(25 foot sections may also be supplied)

GENERAL NOTES

1. The exact position of guard fence shall be as shown elsewhere on the plans or as directed by the Engineer. Guard fence shall be transitioned to a smooth connection with other guard fence or structure railing as shown elsewhere on plans.
2. Unless otherwise shown in the plans, guard fence placed in the vicinity of curbs shall be blocked out so that the face of curb is located directly below or behind the face of rail. Rail placed over curbs shall be installed so that the post bolt is located approximately 21-inches above the gutter pan or roadway surface.
3. Unless otherwise shown in the plans, MBGF shall be placed with the face of rail directly above the shoulder edge (or curbface) except the 25' Terminal Anchor Section and adjacent 25' or MBGF shall be flared at 25:1 (longitudinal:lateral) to provide a 2' offset between buried anchor and shoulder edge (or curbface). Flaring the 25' Terminal Anchor and adjacent 25' MBGF is optional for one-way traffic conditions on the downstream end of guard fence.
4. At the option of the Contractor, the rail elements for the guard fence may be be furnished in either 12 1/2 or 25 foot nominal lengths with post bolt slots for connection to posts.
5. Timber posts may be beveled from 10 to 15 degrees on the top of both ends with high side of top of post placed toward the roadway or they may be domed. When blockout guard fence is specified elsewhere in the plans, a 6"x 6"x14" treated timber spacer of yellow pine shall be used with wood posts. When "blocked out", the upper portion of the post shall be notched 3/4" to provide flat surface for timber spacer. A tolerance of ±1/8" will be permitted on the notched portion of the post. Routing the timber spacer may be used in lieu of notching the post. The depth of routing shall be 3/4" at the center of radius ±1/8".
6. Steel posts shall be blocked out. Steel posts and spacers shall meet the requirements of ASTM A-36 (W6 x 9.0 or W6 x 8.5). Bolt holes shall be approximately centered between web and edge of flange of spacers and posts.
7. Post spacing will be 6'-3" except that the first post will be 25' from the terminal anchor post and the next two posts spaced at 12'-6" with a minimum of 8 posts adjacent to structures spaced at 3'-1 1/2" and posts adjacent to Type T6 bridge rail are spaced at 6'- 3". Post spacing adjacent to structures may vary as shown on bridge rail details or as directed by the Engineer.
8. The upper 10" (minimum) of the terminal anchor post and all steel fittings thereon shall be galvanized.
9. The terminal anchor post shall be set in Class "A" concrete in (unless otherwise shown on plans) in accordance with Item, "Portland Cement Concrete". Concrete shall be subsidiary to the bid item requiring construction of the terminal rail section and anchorage system.
10. An anchor other than to a terminal anchor post shall consist of a connection similar to the rail splice or similar to the terminal connector.
11. Back-up plates shall be provided at intermediate (non-splice) steel posts. Back-up plates shall conform to the materials and galvanizing requirements specified for the rail element, and shall be of the same nominal thickness as the rail element used.
12. Washers used with the eight 5/8" splice bolts and nuts that are provided for terminal connectors and/or terminal anchor posts shall be 1 3/4"x 3"x 3/16", or 1" I.d. and 2" o.d. x 0.134" (ANSI B27.2) narrow Type A plain washers.
13. The 10 gauge terminal connectors must be used with the optional terminal anchor post. Either anchor post may be used with either concrete anchor.
14. Welded steel posts and spacers shall meet the requirements of ASTM A-36. The flange width and thickness, web thickness, and depth of welded posts and spacers shall equal or exceed the dimensions of a standard rolled W6 x 8.5 or W6 x 9.0.
15. Special fabrication will be required at installations having a curvature of less than 150' radius.
16. Bolts shall be of sufficient length to extend through the full thickness of the nut and no more than 3/4" beyond it. (Button head bolts may be used instead of hex bolts when specified by the Engineer.) Fittings (bolts, nuts, and washers) shall be in accordance with Item, "Metal For Structures". Fittings shall be subsidiary to the bid item requiring construction of MBGF or Terminal Anchor Section.
17. Crown will be widened to accommodate guard fence.
18. Where solid rock is encountered or where shown on the plans, the diameter of the holes shall be approximately 12 inches, the backfilling shall be with a cohesionless material, and embedment depth shall be 1'-6" or more as directed by the Engineer. Timber posts shall not be set in concrete.

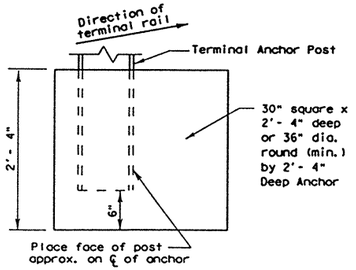


Note: This post requires four additional holes (shop or field) in the terminal rail member with eight 5/8" bolts and washer plates as shown for attachment.



Note: This optional post requires the use of the 10 ga. terminal connector with four 7/8" hex bolts for attachment to the anchor post.

TERMINAL ANCHOR POST OPTIONS

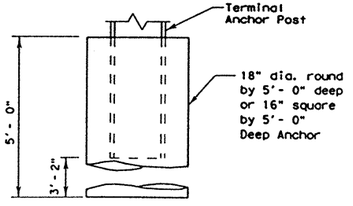


Notes: Either post may be used with either anchor.

No construction joint is allowed in the concrete anchor.

Terminal rail may be bolted to post and in twist position prior to placing concrete anchor.

If concrete anchor is precast, the area should be compacted as directed by the Engineer, when placed in the field.



TERMINAL CONCRETE ANCHOR OPTIONS

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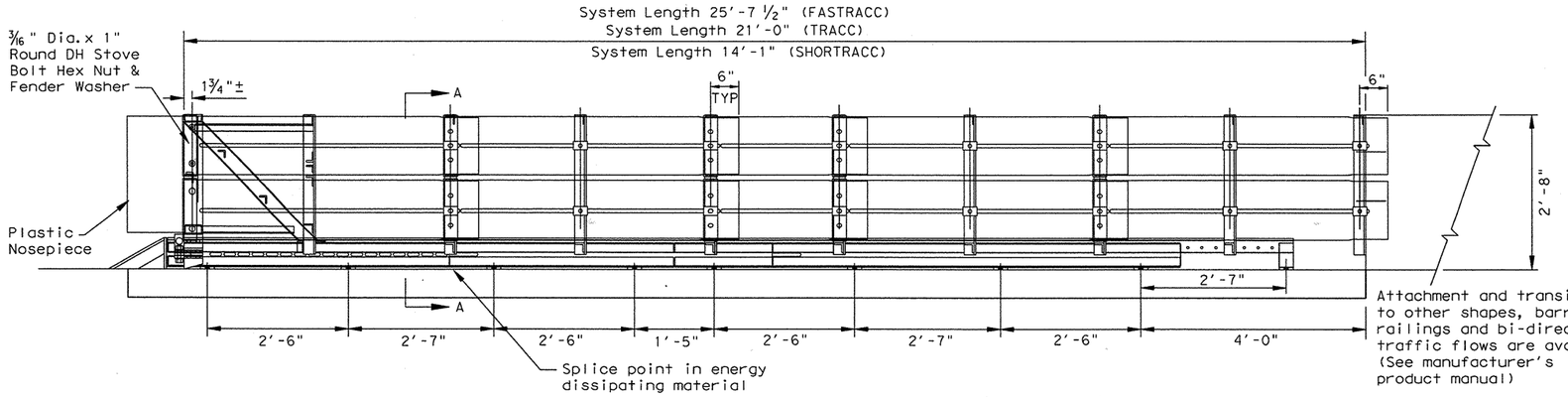
Texas Department of Transportation
Design Division (Roadway)

METAL BEAM GUARD FENCE

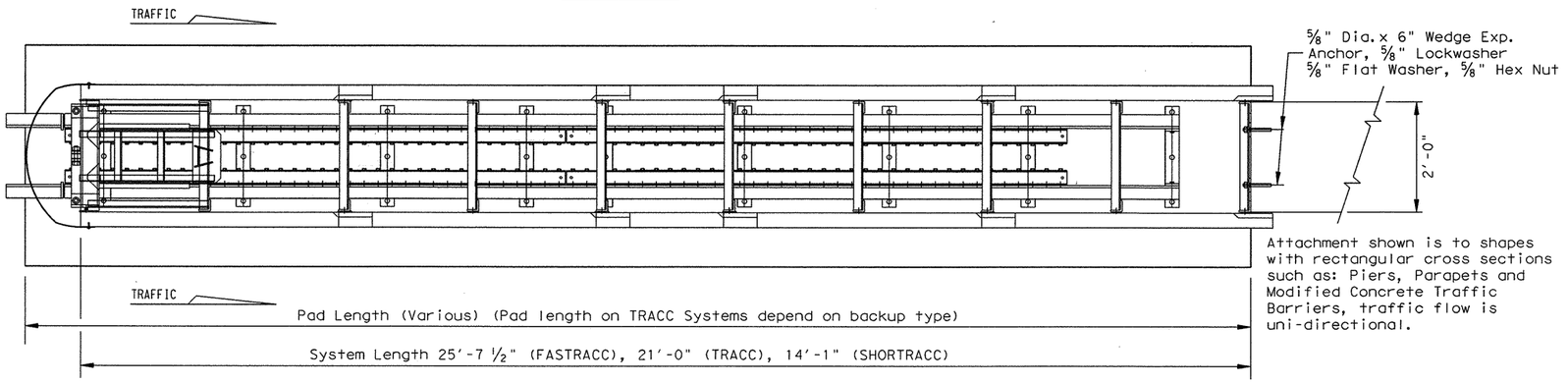
MBGF-94

© TxDOT JULY 1994	DN: TGM	CK: TGM	DW: BGD	CK:	REG NO.: A6
MODIFICATIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
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	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		9	04	39	SH66

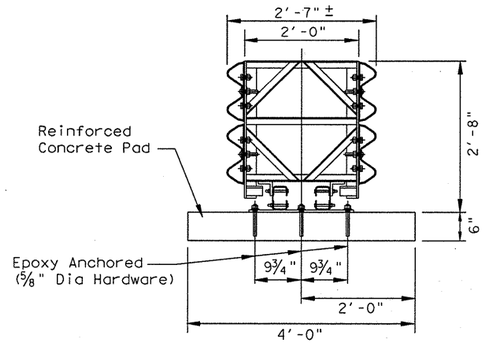
LEVELS DISPLAYED 1
ACC: /usc/d481303
FILE: MBGF94.DGN



ELEVATION



PLAN



SECTION A-A

TYPE	DESIGN SPEED (mph)	SYSTEM LENGTH	PAD LENGTHS
FASTRACC	70	25'-7½"	26'-7½"
TRACC	50 or greater	21'-0"	22'-0" 23'-0" 24'-0"
SHORTRACC	45 or less	14'-1"	15'-1" 16'-1" 17'-1"

Concrete pad length on TRACC & SHORTRACC depends on backup type.

FOUNDATION OPTIONS
6" Reinforced Concrete
8" Unreinforced Concrete
3" Min. Asphalt over 3" Min. Concrete
6" Asphalt over 6" Compact Subbase
8" Minimum Asphalt

For steel placement in concrete foundations (See manufacturer's product manual)

BACKUP SUPPORT OPTIONS
Square Concrete Backup
Concrete Barrier (CTB) Backup
Single Slope Concrete Barrier (SSCB)
Guardrail Backup (Base-Plated Post)
Guardrail Backup (Driven Post)
TRANSITION OPTIONS
Vertical Wall
Modified (CTB) to Vertical Wall
Concrete Barrier (CTB)
Guardrail (W-Beam)
Guardrail (Thrie-Beam)

For bi-directional transition panel details (See manufacturer's product manual)

GENERAL NOTES

1. For bi-directional traffic, appropriate transition panels will be required.
2. Details of components for the TRACC and backups and reinforcing details will be shown on the manufacturer's shop drawings furnished to the Engineer.
3. Concrete shall be class "S" with a minimum compressive strength of 4,000 p.s.i.
4. If the cross-slope varies more than 2% over the length of the system, the concrete pad will require leveling. Maximum permissible cross-slope is 8%.
5. The installation area should be free from curbs, elevated objects, or depressions.
6. The TRACC system should be approximately parallel with the barrier or ℄ of merging barriers.

BILL OF MATERIAL

PRODUCT CODE	FAST TRACC QTY	TRACC QTY	SHORT TRACC QTY	DESCRIPTION
917A	1			FASTRACC Unit Assembly
970A		1		TRACC Unit Assembly
935A			1	SHORTRACC Unit Assembly
3310G	4	4	4	5/8" Lockwasher
4451G	4	4	4	5/8" Dia x 6" Wedge Exp. Anchor
6707G	8	8	8	3/16" Dia x 1" Rnd. HD Stove Bolt
6708G	8	8	8	3/16" Hex Nut
6709G	8	8	8	3/16" Fender Washer 3/4" OD
6825B	4	4	4	Reflective Tape
6826B	1	1	1	Plastic Nosepiece
✳ ANCHOR HARDWARE (CONCRETE BASE)				
6352G	33	27	18	5/8" Dia x 7 1/2" All Thd. Rod
3310G	33	27	18	5/8" Lockwasher
3361G	33	27	18	5/8" Hex Nut
3300G	33	27	18	5/8" Flat Washer
4747G	3	2	2	Kelken Epoxy (Quart can)
✳ ANCHOR HARDWARE (ASPHALT BASE)				
6380G	33	27	18	5/8" Dia x 18" All Thd. Rod
3310G	33	27	18	5/8" Lockwasher
3361G	33	27	18	5/8" Hex Nut
3300G	33	27	18	5/8" Flat Washer
4747G	7	6	4	Kelken Epoxy (Quart can)

✳ See manufacturer's product manual

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LEVELS DISPLAYED
1 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

36 CHANGE ORDER NO. 36

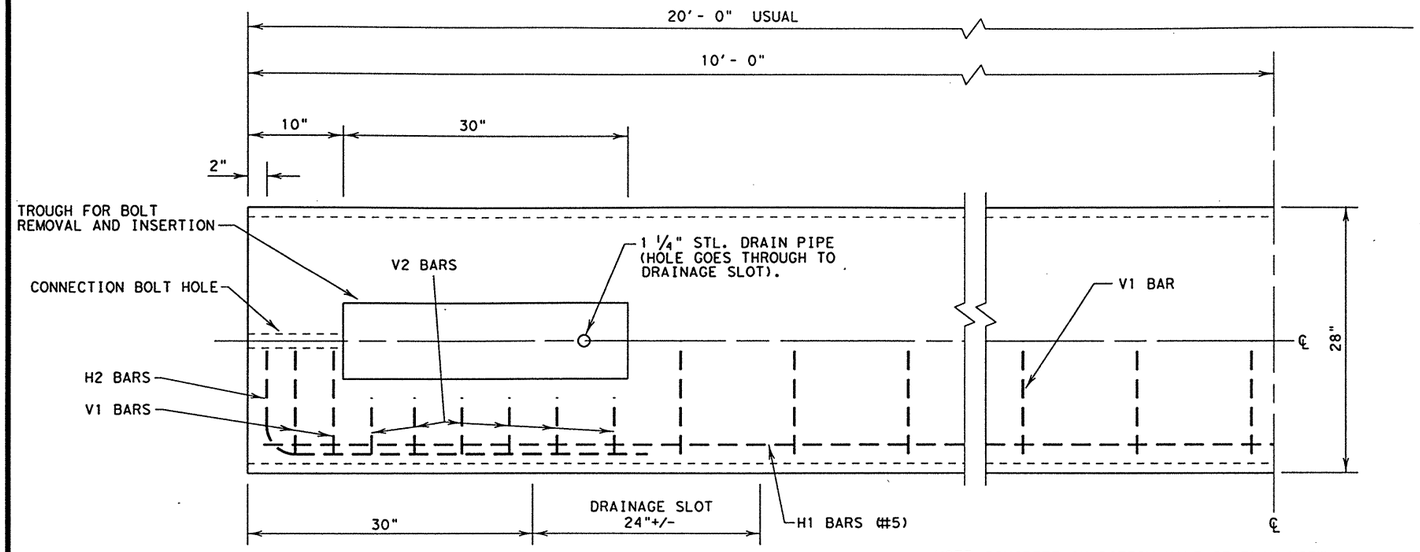
Texas Department of Transportation
Design Division (Roadway)

TRINITY ATTENUATING CRASH CUSHION

(TRACC Systems)
(FASTRACC, TRACC, SHORTRACC)

TRACC-01

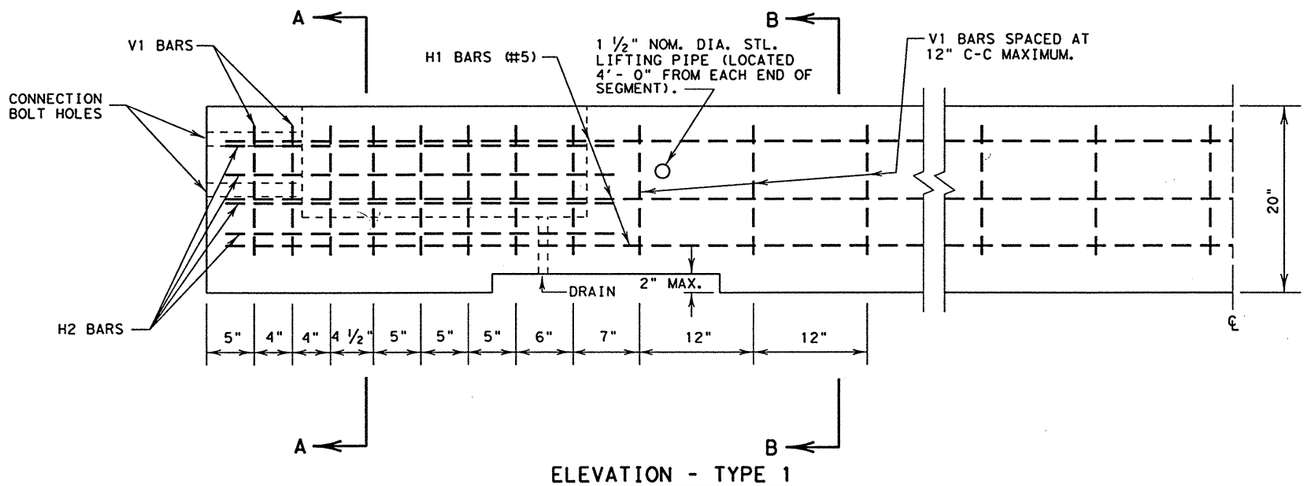
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©TxDOT OCTOBER 2001	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	DAL	6	NH 99(367)		394A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	DALLAS		0009	04	039	SH 66



NOTE: CONCRETE ON BOTTOM HALF OF PLAN VIEW IS REMOVED IN ORDER TO SHOW DETAILS

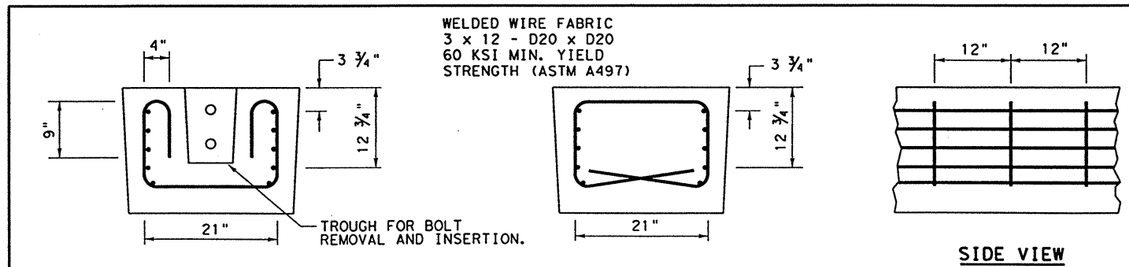
PLAN VIEW - TYPE 1

(SYMMETRICAL ABOUT CENTER LINES)



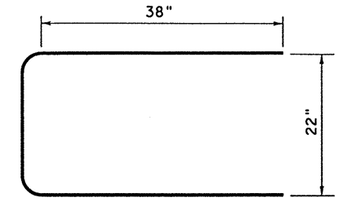
ELEVATION - TYPE 1

(SYMMETRICAL ABOUT CENTER LINES)



NOTE: THIS FABRIC OPTION CAN BE USED IN PLACE OF V1, V2 AND H1 BARS. THE H2 BARS SPECIFIED ARE STILL REQUIRED.

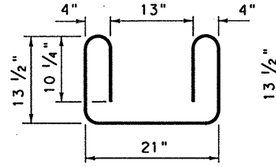
WELDED WIRE FABRIC OPTIONAL REINFORCING



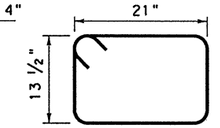
H2 BAR (#5)

(GRADE 60 MIN.)

NOTE: H2 REBAR IS TO BE BENT AT A 3" RADIUS.



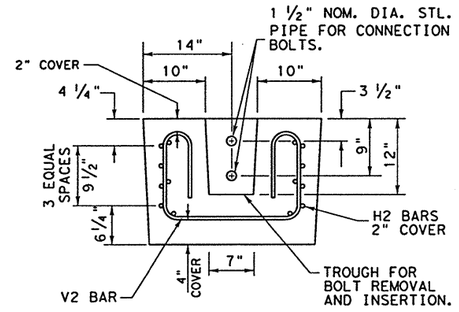
V2 BAR (#4)



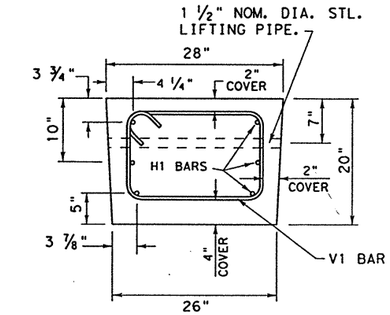
V1 BAR (#4)

NOTE: ALL BENDING OF SHEAR REBAR IS AT A 2" RADIUS, UNLESS SPECIFIED OTHERWISE.

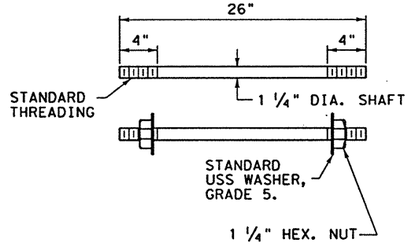
REINFORCING STEEL DETAILS



SECTION A-A



SECTION B-B



CONNECTION BOLT

FOR CONTRACTORS INFORMATION ONLY

(TYPE 1) APPROX. QUANTITIES 20 FT. SECTION		
CONCRETE	CY	2.6
REINFORCING STEEL	LBS	330
TOTAL BARRIER WT.	LBS	11000

GENERAL NOTES

1. BARRIER LENGTH SHALL BE 20 FEET (+/- 1 INCH) UNLESS OTHERWISE SPECIFIED IN THE PLANS.
2. ALL CONCRETE, REINFORCEMENT, ANCHOR BOLTS, BLOCKING, ETC., AS SHOWN ARE CONSIDERED AS PART OF THE BARRIER FOR PAYMENT.
3. ALL CONCRETE SHALL BE CLASS A, C, OR H, UNLESS OTHERWISE SPECIFIED.
4. ALL REINFORCING STEEL SHALL BE GRADE 40, UNLESS OTHERWISE SPECIFIED.
5. CHAMFER ALL EDGES 3/4 INCH, AS DIRECTED BY THE ENGINEER.
6. STEEL PIPE SHALL BE HOT DIP GALVANIZED IN CONFORMANCE TO ASTM DESIGNATION A123. BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED TO ASTM DESIGNATION A153.
7. BOLTS SHALL CONFORM TO ASTM A36. NUTS SHALL CONFORM TO A307 REQUIREMENTS AND SHALL BE TAPPED OR CHASED AFTER GALVANIZING. BOLTS AND NUTS SHALL HAVE CLASS 2A AND 2B FIT TOLERANCES.
8. THE BARRIER SHOULD BE LIGHT IN COLOR AND SHOULD BE SUPPLEMENTED BY DELINEATION AS DETAILED ELSEWHERE IN THE PLANS.

TEXAS DEPARTMENT OF TRANSPORTATION

LOW PROFILE CONCRETE BARRIER

(PORTABLE AND PRECAST)

LPCB(1)-92

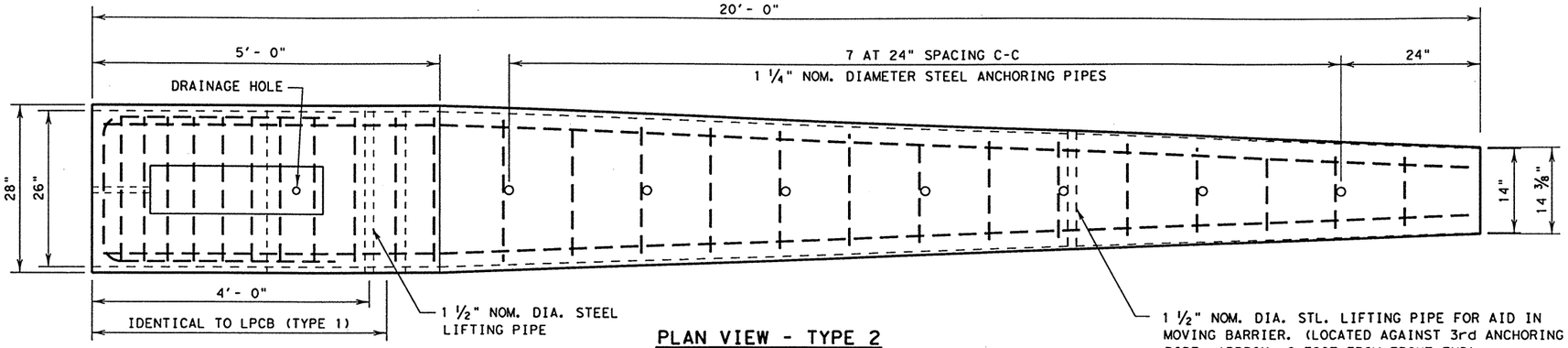
SHEET 1 OF 2

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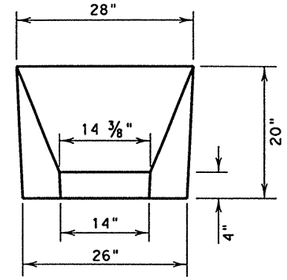
MODIFICATIONS

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6	TEXAS	NH 99 (367)				395
STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB		HIGHWAY NO.
	ROCKWALL	9	04	39		SH66

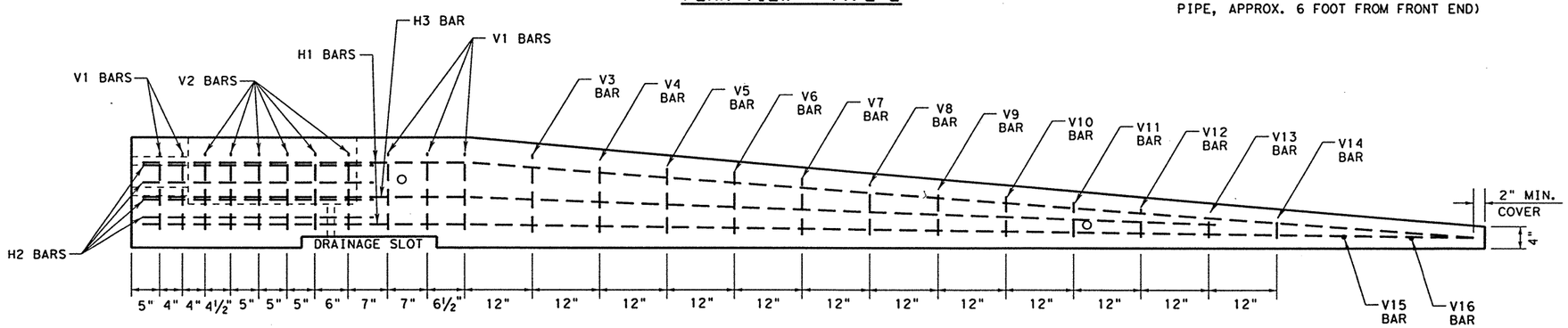
HIGHWAY DESIGN DIVISION (D-8)



PLAN VIEW - TYPE 2



APPROACH VIEW

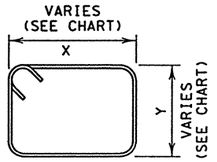


ELEVATION - TYPE 2

NOTE: ANCHORING PIPES NOT SHOWN IN ELEVATION.

GENERAL NOTES

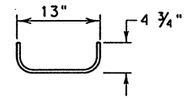
1. TYPE 2 BARRIER SHALL BE USED AS AN END TREATMENT FOR TYPE 1 BARRIER WHEN APPROPRIATE.
2. THE ANCHORAGE PINS ARE ALL THE SAME LENGTH AND ARE INTENDED TO BE DRIVEN FLUSH WITH THE TOP OF THE BARRIER SURFACE.
3. THE BENDS IN THE H3 AND H1 BARS ARE SLIGHT, NO FORMAL BEND IS NECESSARY.
4. TYPE 2 BARRIER MUST BE LIFTED FROM REAR FIRST TO PREVENT CRACKING OF SLOPED SECTION.
5. SEE SHEET 1 OF 2 FOR ADDITIONAL INFORMATION.



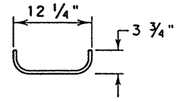
V 3-11 BARS (#4)

BAR (#4)	X (IN.)	Y (IN.)
V3 BAR	20 ¼	14 ½
V4 BAR	19 ½	13 ½
V5 BAR	18 ½	12 ¼
V6 BAR	17 ½	11 ¼
V7 BAR	17	10 ¼
V8 BAR	16 ¼	9
V9 BAR	15 ½	8
V10 BAR	14 ½	7
V11 BAR	13 ¾	6

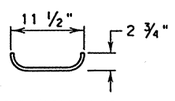
NOTE: ALL BENDING OF SHEAR REBAR IS AT A 2" RADIUS, UNLESS SPECIFIED OTHERWISE.



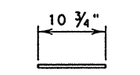
V12 BAR (#4)



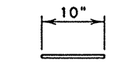
V13 BAR (#4)



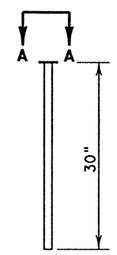
V14 BAR (#4)



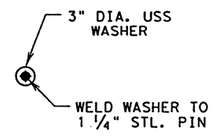
V15 BAR (#4)



V16 BAR (#4)



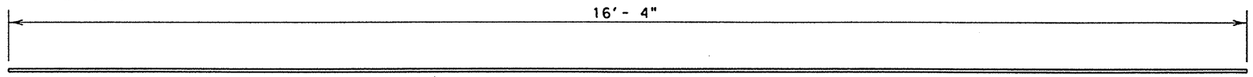
ANCHORING PIN
(1 ¼"DIA., A36 STL.)



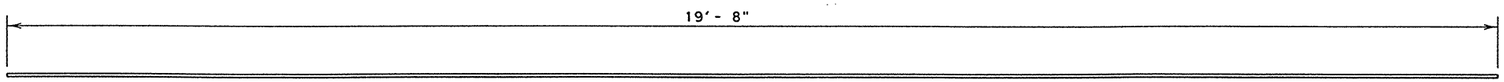
A-A
(HEAD OF ANCHORING PIN)

FOR CONTRACTORS INFORMATION ONLY

(TYPE 2) APPROX. QUANTITIES 20 FT. SECTION		
CONCRETE	CY	1.65
REINFORCING STEEL	LBS	240
TOTAL BARRIER WT.	LBS	7000



H3 BARS (#5)
(GRADE 60)



H1 BARS (#5)
(GRADE 60)

TEXAS DEPARTMENT OF TRANSPORTATION

LOW PROFILE CONCRETE BARRIER

(PORTABLE AND PRECAST)

LPCB(2)-92

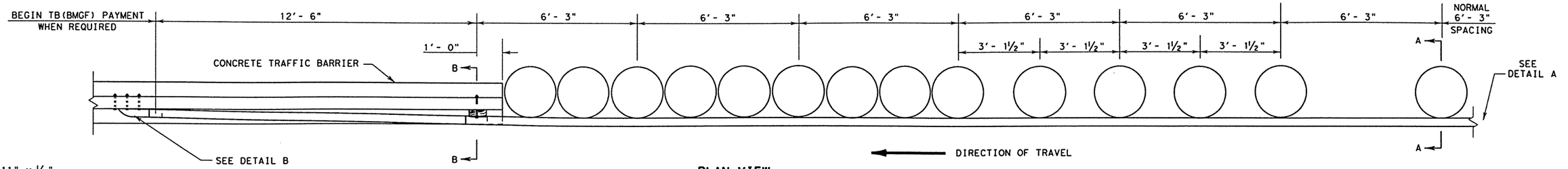
SHEET 2 OF 2

©TxDOT SEPTEMBER 1992
MODIFICATIONS

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.			SHEET NO.
6	TEXAS	NH 99 (367)			396
STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
	ROCKWALL	9	04	39	SH66

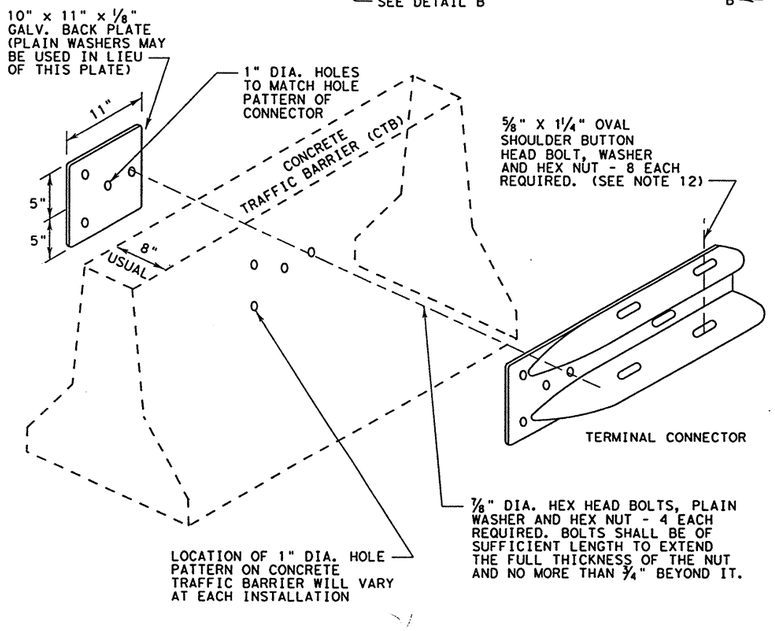
HIGHWAY DESIGN DIVISION (D-8)

| CULVERT SIZE | | TABLE OF DIMENSIONS | | | | | | MAX FILL | | | TOTAL QUANTITIES | | TABLE OF REINFORCING STEEL FOR 2 WINGS | | | | | |



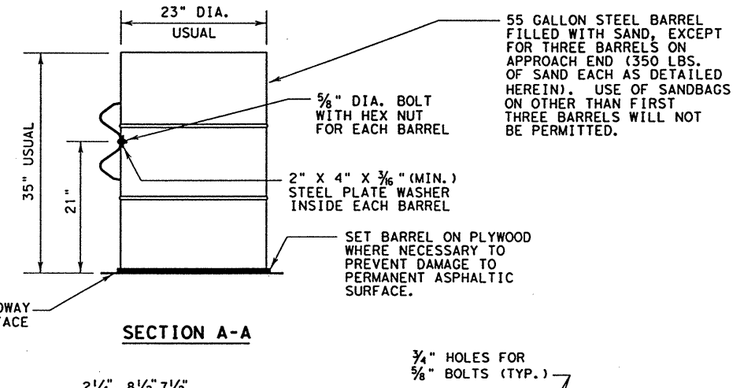
PLAN VIEW

ATTACHMENT TO CONCRETE TRAFFIC BARRIER

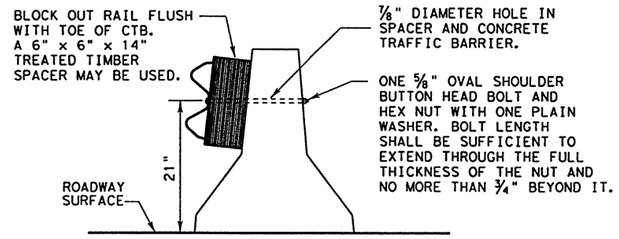


DETAIL B

(SEE NOTE 11 FOR ATTACHMENT TO BRIDGE RAIL)



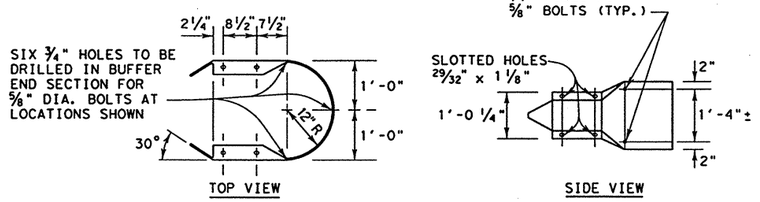
SECTION A-A



SECTION B-B

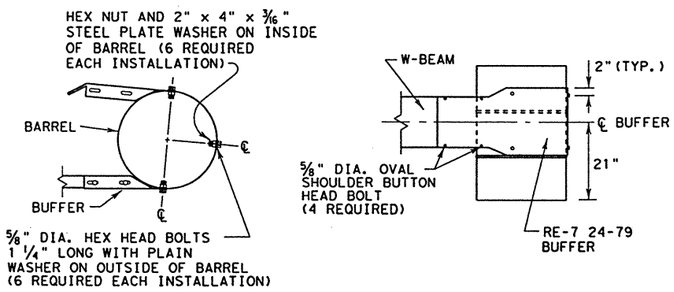
GENERAL NOTES

1. RAIL ELEMENT MAY BE EITHER 12 ½ OR 25 FOOT LENGTHS, EXCEPT A 25 FOOT LENGTH IS REQUIRED ON THE APPROACH END, IN EITHER 10 OR 12 GAUGE.
2. MINIMUM LENGTH OF PLACEMENT EQUALS 100 FEET EXCEPT WHERE BOTH ENDS ARE CONNECTED TO A POSITIVE BARRIER (BRIDGE RAIL, CTB, ETC.) MINIMUM LENGTH OF PLACEMENT EQUALS 75 FEET WHERE ONE END IS CONNECTED TO A POSITIVE BARRIER.
3. RAIL ELEMENTS AND OTHER HARDWARE SHALL MEET THE MATERIAL REQUIREMENTS OF ITEM "METAL BEAM GUARD FENCE." DETAILS SHOWN ELSEWHERE IN THE PLANS.
4. LOCATION OF BARREL MOUNTED GUARD FENCE IS SHOWN ELSEWHERE IN THE PLANS.
5. RAIL ELEMENT SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC AND CONNECTED TO BARRELS.
6. RAIL SPLICES SHALL BE CONNECTED WITH THE NORMAL EIGHT 1 ¼" LONG OVAL SHOULDER BUTTON HEAD BOLTS WHICH ARE ⅝"IN DIAMETER.
7. BARREL SPACING SHALL BE 6'-3", EXCEPT CLOSER SPACING SHALL BE USED AS SHOWN TO TRANSITION INTO A CONNECTION WITH A BRIDGE RAIL, CONCRETE TRAFFIC BARRIER, OR SIMILAR FIXED OBJECT. WHEN USED AS A TRANSITION, SPACING OF BARRELS SHOULD BE (FROM FRONT BARREL) ONE SPACE AT 25', 3 SPACES AT 6'-3", 4 SPACES AT 3'-1½"AND 8 SPACES AT 2'-1".
8. DRAINAGE HOLES SHALL BE REQUIRED IN THE BOTTOM OF THE BARRELS TO ALLOW FOR DRAINAGE OF WATER.
9. APPROACH END OF THE TEMPORARY BARRIER SHALL BE FLARED AWAY FROM THE ROADWAY AND SHALL BE TREATED AS SHOWN.
10. THE BARRIER SHALL BE SUPPLEMENTED BY DELINEATION AS SHOWN ELSEWHERE IN THE PLANS.
11. WHEN TB(BMGF) IS TEMPORARILY CONNECTED TO PERMANENT BRIDGE RAIL, THE CONNECTION SHALL BE LOCATED AS SHOWN ELSEWHERE IN THE PLANS.
12. WASHERS USED WITH THE EIGHT ⅝" SPLICE BOLTS AND NUTS THAT ARE PROVIDED FOR TERMINAL CONNECTORS SHALL BE 1 ¾" x 3" x ⅜" OR 1" I.D. AND 2" O.D. x 0.134" (ANSI B27.2) NARROW TYPE A PLAIN WASHERS.

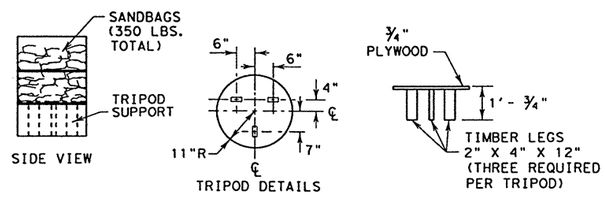


BUFFER DETAIL

W-BEAM END SECTION (BUFFER)

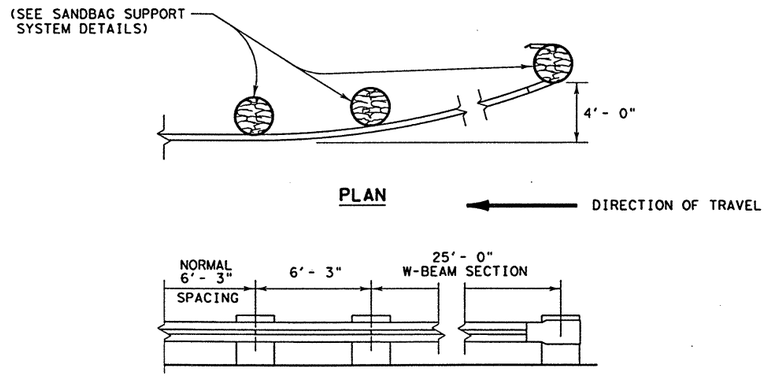


BARREL CONNECTION DETAILS



SANDBAG SUPPORT SYSTEM

(THREE BARRELS ON APPROACH END)



DETAIL A

APPROACH END

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TEXAS DEPARTMENT OF TRANSPORTATION

TEMPORARY BARRIER
BARREL-MOUNTED GUARD FENCE

TB(BMGF)-92

© TxDOT 1988	FED.RD. DIV.NO.	STATE	FEDERAL AID PROJECT NO.			SHEET NO.
MODIFICATIONS	6	TEXAS	NH 99 (367)			398
	STATE DIST.NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
	DAL	ROCKWALL	9	04	39	SH66

HIGHWAY DESIGN DIVISION (D-8)

WALL HEIGHT "H"

SURCHARGE LEVEL SLOPED — up to 5:1

PROPERTIES

2'	WALL DIMENSIONS Fw	Tw	Sw	Hw	Ft	Kw	Max. Soil Press. T/ft	MIN. REQ'D. As ☐/Ft. STEM	TOE	HEEL
1	5'-0"	1'-0"	1'-0"	0	8"	9"	.141	.125	.125	.125
2	5'-8"	1'-4"	1'-0"	4"	1'-0"	9"	.110	.125	.125	.125
3	5'-6"	1'-9"	1'-0"	9"	1'-0"	9"	.143	.125	.125	.125
4	6'-3"	2'-1⅛"	1'-0"	1'-1½"	1'-0"	9"	.176	.125	.125	.125
5	7'-0"	2'-6"	1'-0"	1'-6"	1'-0"	9"	.207	.125	.125	.125
6	7'-8"	2'-10"	1'-0"	1'-10"	1'-0"	9"	.238	.154	.128	.125
7	8'-4"	3'-2"	1'-0"	2'-2"	1'-0"	9"	.269	.229	.181	.158
8	9'-0"	3'-6"	1'-0"	2'-6"	1'-0"	9"	.300	.327	.247	.220
9	9'-9"	3'-10⅝"	1'-0"	2'-10⅝"	1'-0"	9"	.349	.448	.325	.401
10	8'-6"	4'-3"	1'-0"	3'-3"	1'-0"	9"	.361	.560	.438	.553
11	9'-2"	4'-7"	1'-0"	3'-7"	1'-0"	9"	.391	.774	.552	.722
12	9'-10"	4'-11"	1'-0"	3'-11"	1'-0"	9"	.442	.985	.696	.924
13	10'-6"	5'-3"	1'-1⅛"	4'-1⅛"	1'-0"	9"	.465	1.086	.862	1.113
14	11'-2"	5'-7"	1'-2"	4'-5"	1'-3"	1'-0"	.513	1.173	.795	.971
15	11'-10"	5'-11"	1'-3⅛"	4'-7⅛"	1'-3"	1'-0"	.544	1.291	.946	1.148
16	12'-6"	6'-3"	1'-5⅛"	4'-10⅛"	1'-6"	1'-3"	.593	1.383	.913	1.057
17	13'-3"	6'-7⅛"	1'-5⅛"	5'-2⅛"	1'-6"	1'-3"	.623	1.513	1.081	1.246
18	13'-10"	6'-11"	1'-6⅝"	5'-4⅞"	1'-6"	1'-3"	.652	1.650	1.229	1.414
19	14'-6"	7'-3"	1'-7"	5'-8"	1'-9"	1'-6"	.702	1.758	1.205	1.396
20	15'-2"	7'-7"	1'-8⅝"	5'-10⅝"	1'-9"	1'-6"	.731	1.939	1.373	1.521
21	16'-0"	8'-0"	1'-10⅛"	6'-2⅛"	1'-9"	1'-6"	.761	2.066	1.590	1.767
22	16'-6"	8'-3"	1'-10⅛"	6'-4⅛"	2'-0"	1'-6"	.810	2.189	1.537	1.648
23	17'-3"	8'-7½"	1'-11½"	6'-6¾"	2'-0"	1'-6"	.840	2.359	1.742	1.870
24	17'-11"	8'-11½"	2'-0⅝"	6'-11⅝"	2'-5"	1'-6"	.889	2.408	1.735	1.813
25	18'-7"	9'-3½"	2'-1⅝"	7'-2⅝"	2'-5"	1'-6"	.919	2.672	1.929	2.028
26	19'-3"	9'-7½"	2'-2⅝"	7'-5⅝"	2'-5"	1'-9"	.949	2.862	2.138	2.235
27	19'-11"	9'-11½"	2'-3⅝"	7'-8⅝"	2'-5"	1'-9"	.979	3.057	2.361	2.468
28	20'-7"	10'-3½"	2'-4⅝"	7'-11⅝"	2'-5"	1'-9"	1.009	3.261	2.599	2.717
29	21'-3"	10'-7½"	2'-5⅝"	8'-2⅝"	2'-5"	1'-9"	1.039	3.470	2.852	2.992
30	21'-11"	10'-11½"	2'-6⅝"	8'-5⅝"	2'-5"	1'-9"	1.088	3.631	2.817	2.888

C ← DESIGN

REINFORCING STEEL FOR 32'-0" PANEL (DESIGN C)

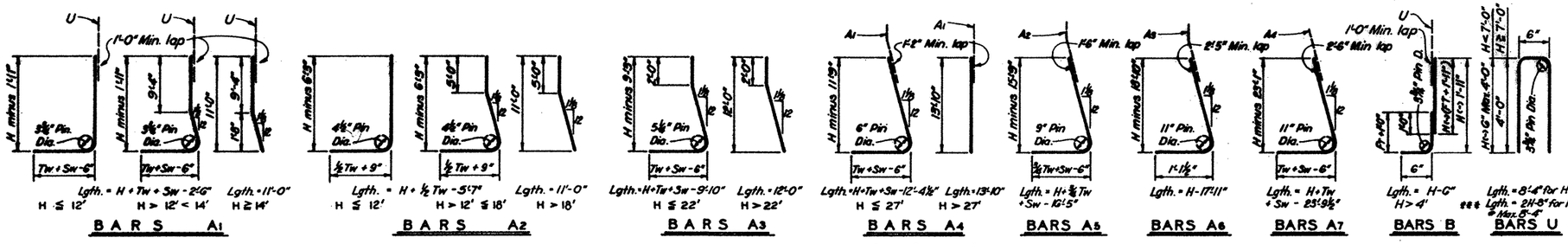
2'	# A1 26-#5 @ 15" LGTH.	WT.	# A2 25-#6 @ 15" LGTH.	WT.	A3 25-#7 @ 15" LGTH.	WT.	** A4 26-#9 @ 15" LGTH.	WT.	** A5 25-#9 @ 15" LGTH.	WT.	A6 25-#11 @ 15" LGTH.	WT.	A7 26-#11 @ 15" LGTH.	WT.	B 26-#5 @ 15" LGTH.	WT.
1																
2																
3																
4	4'-8"	127														
5	6'-0"	163													4'-6"	122
6	7'-4"	199													5'-6"	149
7	8'-8"	235													6'-6"	176
8	10'-0"	271	4'-2"	156											7'-6"	203
9	11'-5"	310	5'-4"	200											8'-6"	231
10	12'-9"	346	6'-7"	247											9'-6"	258
11	14'-1"	382	7'-8"	288	6'-9"	345									10'-6"	285
12	15'-5"	418	8'-11"	335	8'-1"	413									11'-6"	312
13	16'-10"	456	10'-1"	379	9'-6"	485									12'-6"	339
14	18'-2"	494	11'-2"	419	10'-11"	558	8'-5"	584							13'-6"	366
15	19'-7"	532	12'-5"	466	12'-4"	630	9'-10"	683							14'-6"	393
16	20'-11"	570	13'-7"	510	13'-9"	703	11'-2"	775							15'-6"	420
17	22'-3"	608	14'-9"	554	15'-3"	779	12'-8"	879							16'-6"	447
18	23'-8"	646	15'-11"	598	16'-7"	847	14'-1"	1245							17'-6"	475
19	25'-0"	684	17'-2"	642	18'-0"	920	15'-5"	1070	9'-7"	815					18'-6"	502
20	26'-4"	722	18'-4"	686	19'-5"	992	16'-11"	1174	10'-11"	928					19'-6"	529
21	27'-8"	760	19'-6"	730	20'-11"	1069	18'-5"	1278	12'-4"	1327					20'-6"	556
22	28'-6"	798	20'-8"	774	22'-3"	1137	19'-9"	1371	13'-7"	1461					21'-6"	583
23	29'-11"	836	21'-10"	818	23'-8"	1205	21'-2"	1469	15'-0"	1215	5'-1"	G75			22'-6"	G10
24	31'-3"	874	23'-0"	862	24'-11"	1273	22'-7"	1568	16'-4"	1388	6'-1"	808			23'-6"	G37
25	32'-7"	912	24'-2"	906	26'-4"	1341	24'-0"	1666	17'-8"	1502	7'-1"	941			24'-6"	GG4
26	33'-3"	950	25'-4"	950	27'-9"	1409	25'-5"	1764	19'-0"	2044	8'-1"	1074			25'-6"	G92
27	34'-11"	988	26'-6"	994	29'-2"	1477	26'-11"	1869	20'-4"	2187	9'-1"	1206			26'-6"	719
28	36'-7"	1026	27'-8"	1038	30'-7"	1545	28'-4"	1960	21'-8"	1842	10'-1"	1339	10'-11"	2337	27'-6"	T4C
29	37'-3"	1064	28'-10"	1082	32'-0"	1613	29'-10"	2060	23'-0"	1955	11'-1"	1472	12'-4"	2533	28'-6"	T73
30	38'-11"	1102	30'-0"	1126	33'-5"	1681	31'-3"	2161	24'-4"	3232	12'-1"	1605	13'-9"	2728	29'-6"	800

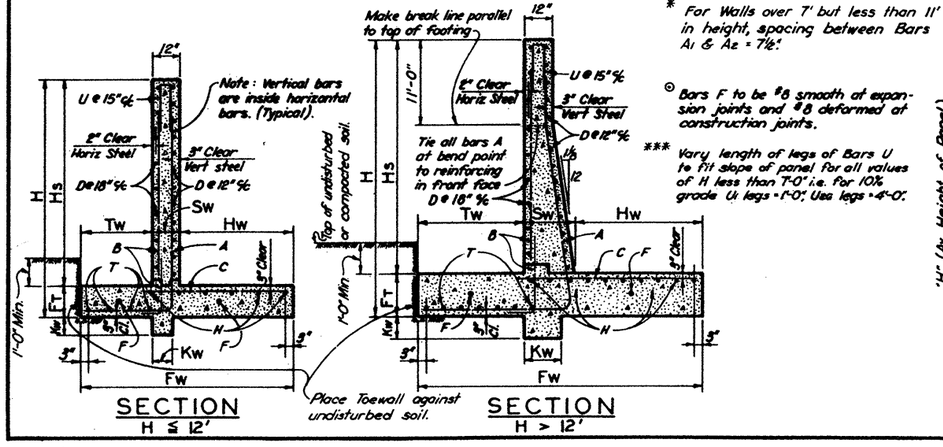
2'	C NO.	C SIZE	C SPA.	C LGTH.	C WT.	D NO.	D WT.	F NO.	F WT.	H NO	H WT.	T NO.	T WT.	## U LTH	## U WT.
1						2	66	2	16			2	66	1'-4"	30
2	2G	#4	15"	1'-10"	32	2	66	3	84	2	66	2	66	3'-4"	90
3	2G	#4	15"	2'-3"	39	4	131	4	32	2	66	3	99	5'-4"	145
4	2G	#4	15"	2'-8"	46	5	164	5	40	3	99	3	99	7'-4"	199
5	2G	#4	15"	3'-0"	52	7	230	6	48	3	99	3	99	8'-4"	226
6	2G	#4	15"	3'-4"	58	9	296	7	56	3	99	4	131	8'-4"	226
7	2G	#4	15"	3'-8"	64	10	329	8	64	3	99	4	131	8'-4"	226
8	3G	#4	10"	4'-0"	102	12	394	9	72	4	131	4	131	8'-4"	226
9	3G	#4	10"	4'-4"	247	15	487	10	80	4	131	5	164	8'-4"	226
10	3G	#4	10"	4'-9"	271	15	498	11	88	4	131	5	164	8'-4"	226
11	3G	#5	10"	5'-1"	395	17	559	12	96	5	164	6	197	8'-4"	226
12	3G	#5	10"	5'-5"	550	19	624	13	104	5	164	6	197	8'-4"	226
13	3G	#9	10"	5'-9"	743	20	657	14	112	6	197	6	197	8'-4"	226
14	3G	#9	10"	6'-1"	786	22	723	14	112	6	197	7	230	8'-4"	226
15	3G	#9	10"	6'-5"	829	24	789	15	120	7	230	7	230	8'-4"	226
16	3G	#9	10"	6'-9"	872	25	821	16	128	7	230	8	263	8'-4"	226
17	3G	#9	10"	7'-2"	926	27	887	17	136	7	230	8	263	8'-4"	226
18	3G	#10	10"	7'-5"	1213	29	953	18	144	8	263	8	263	8'-4"	226
19	3G	#10	10"	7'-9"	1267	30	986	18	144	8	263	9	296	8'-4"	226
20	3G	#10	10"	8'-1"	1322	32	1051	19	152	8	263	9	296	8'-4"	226
21	7G	#8	5"	8'-6"	1725	34	1117	20	160	9	296	10	329	8'-4"	226
22	7G	#8	5"	8'-9"	1776	35	1150	21	168	9	296	10	329	8'-4"	226
23	7G	#8	5"	9'-2"	1860	37	1216	22	176	9	296	10	329	8'-4"	226
24	7G	#9	5"	9'-6"	1928	39	1281	23	184	10	329	11	361	8'-4"	226
25	7G	#9	5"	9'-10"	2541	40	1314	24	192	10	329	11	361	8'-4"	226
26	7G	#9	5"	10'-1"	2606	42	1380	25	200	10	329	12	394	8'-4"	226
27	7G	#9	5"	10'-5"	2692	44	1446	26	208	11	361	12	394	8'-4"	226
28	7G	#10	5"	10'-9"	3516	45	1478	27	216	11	361	12	394	8'-4"	226
29	7G	#10	5"	11'-2"	3652	47	1544	28	224	11	361	13	427	8'-4"	226
30	7G	#10	5"	11'-6"	3787	49	1610	29	232	12	394	13	427	8'-4"	226

DESIGN → C

QUAN. FOR 32'-0" PANEL

2'	SURCHARGE 2' OR 5:1 CONC. C.Y.	REINF. LB.
1	2.7	154
2	5.0	344
3	7.2	512
4	9.3	774
5	11.3	1039
6	13.3	1214
7	15.3	1324
8	17.3	1686
9	19.3	2016
10	21.4	2224
11	23.4	2937
12	25.4	3343
13	27.4	3791
14	33.0	4499
15	35.4	4894
16	41.9	5246
17	44.9	5625
18	47.7	6525
19	55.4	7200
20	58.7	7644
21	62.4	8794
22	70.0	9208
23	74.0	9456
24	82.6	10034
25	86.9	11060
26	92.1	12033
27	96.6	12632
28	101.1	14739
29	105.8	15451
30	110.5	17299

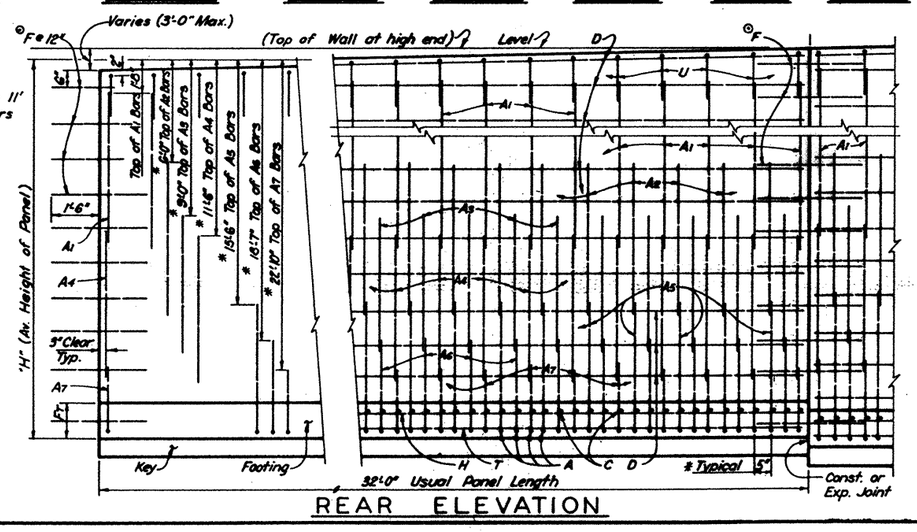




* For Walls over 7' but less than 11' in height, spacing between Bars A1 & A2 = 7½".

⊙ Bars F to be #8 smooth at expansion joints and #8 deformed at construction joints.

*** Vary length of legs of Bars U to fit slope of panel for all values of H less than 7'-0" i.e. for 10% grade U1 legs = 1'-0", U66 legs = 4'-0".



GENERAL NOTES

1. Walls are designed using 40# eq. fluid pressure and with weight of earth at 120 #/cu. ft.
2. All concrete to be Class C; ft = 3600 psi ; fc = 1440 psi.
3. All reinforcing steel to be grade 60; fs = 24,000 psi.
4. For notes and details not shown on this sheet see sheets 2, 3 and 4 of Retaining Walls.
5. Quantities are based on "H" being average height of panel.
6. Retaining Walls are designed to be coded as follows on Retaining Wall Layout Sheets.

LC-21-28
HC-28-32
- Length of Panel { 28' requires special quantities. 32' is standard
- Average height "H" of panel.
- Design C = 2' Level surcharge or sloped surcharge up thru. 5:1.
- Footing pressure design. H=High, L=Low

TEXAS HIGHWAY DEPARTMENT
BRIDGE DIVISION

RETAINING WALLS

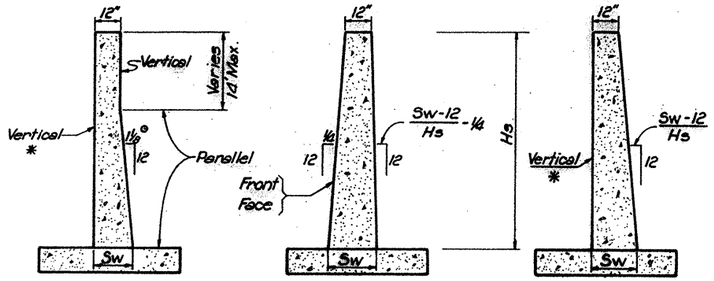
HEIGHTS UP TO 30'-0"
DESIGN C

PREPARED BY AND FOR THE USE OF TEXAS SDH&PT.

RW 1 (L) C

ORIGINAL DRAWING DATE: MAR. 1975	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
DR.: CWC	18	6	NH 99(367)	399
CK.: DAB	COUNTY	CONTROL	SECT	JOB	HIGHWAY
DW.: HWD	Rockwall	0059	04	039	5HTG
SR.: CWC	REVISIONS				

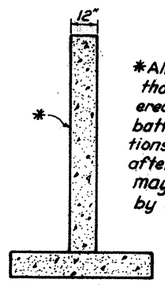
22x34 7A1



AS DETAILED ALL HEIGHTS
(Basis for Payment)

BOTH FRONT & BACK FACES SLOPING
other slopes may be used on either front or back face of wall.

FRONT FACE VERTICAL BACK FACE SLOPED
(For "H" > 14')

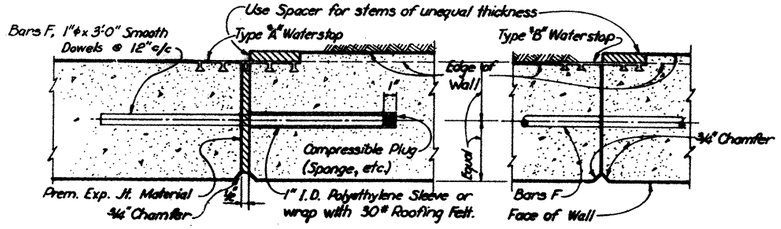


BOTH FACES VERTICAL
(As detailed, for "H" ≤ 14')

*All walls with heights greater than 14 feet shall have the forms erected with an 0.125 in. per 10 ft batter to compensate for deflections due to earth pressure after backfilling. This batter may be adjusted as indicated by specific site experience.

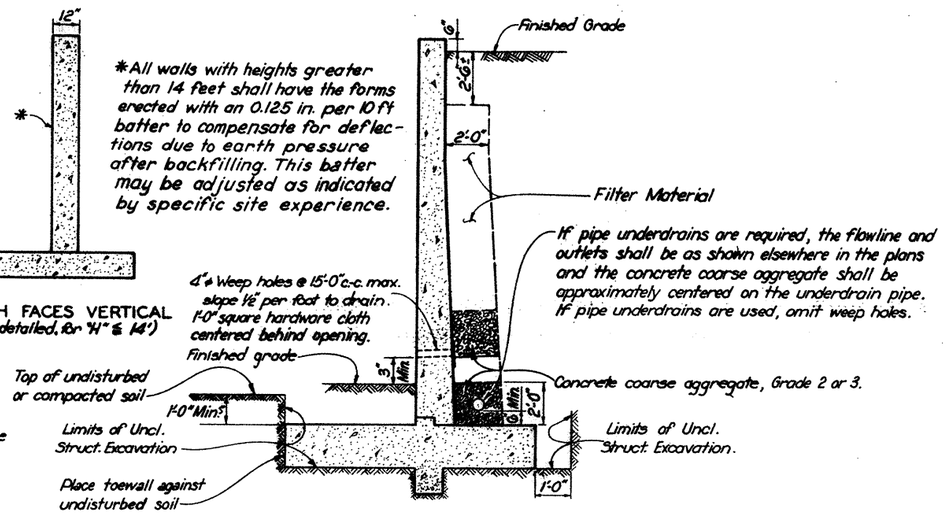
ALTERNATE STEM SLOPE DETAILS

Walls with slopes other than those shown may be used after approval by the Engineer. Sw shall not be less than shown in Table on sheet 1. No payment will be made for excess concrete due to changing of slope of wall face.

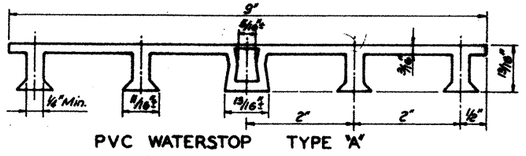


EXPANSION JOINT

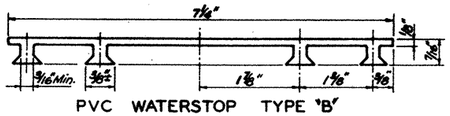
CONSTRUCTION JOINT



DRAINAGE DETAILS
& EXCAVATION DIAGRAM

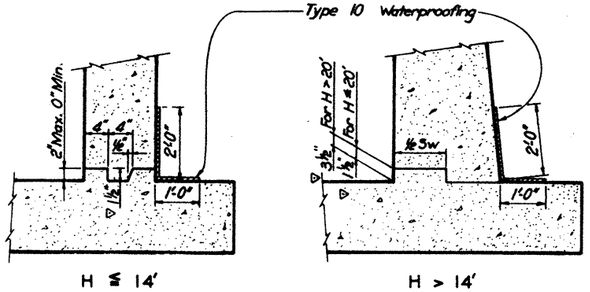


PVC WATERSTOP TYPE "A"



PVC WATERSTOP TYPE "B"

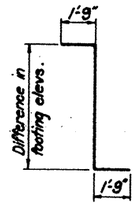
Note: Dimensions & shapes may vary slightly depending on manufacturer.



H ≤ 14'

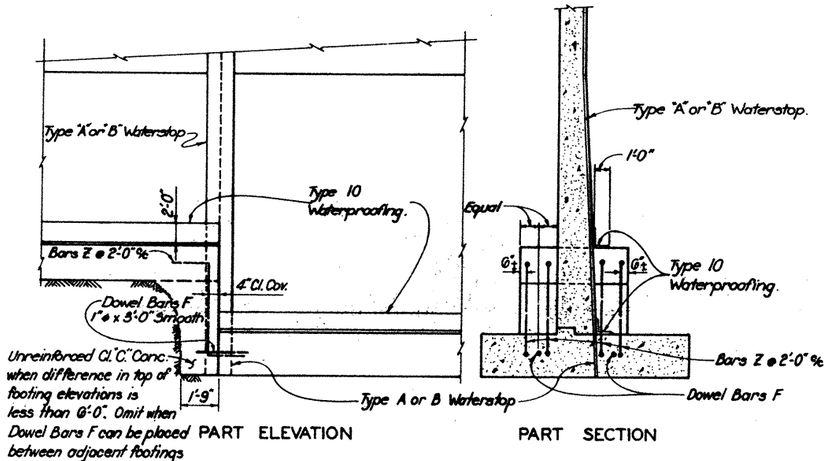
H > 14'

JOINT AND WATERSTOP DETAILS



BARS Z #5

NOTE: Bars Z are to be tabulated on RW-4 sheet. Omit bars Z when difference in top of footing elevations is less than 0'-0".



SHOWING WATERSTOP @ FOOTING JOINT

GENERAL NOTES:

Walls are designed to provide a minimum factor of safety against sliding of 1.5. The undisturbed or compacted soil depth in front of walls, from bottom of Key up shall not be less than Kw + Fr + 1'-0". The angle of internal friction (ϕ) of this soil must be greater than 20°.

The bearing capacity of the soil must be equal to or greater than the wall footing pressure.

Retaining Walls with heights up to 15'-0" are detailed to be placed on grades up thru 10% with footing level, with no changes in reinforcing steel. Steeper grades can be accomodated by shortening Bars A1 & B and increasing length of legs of Bars U by the same amount. No change in Quantities will be involved. Walls over 15'-0" in height can be placed on steeper grades with no revisions.

Retaining Walls may be placed on Horizontal Curves by adjusting lengths of footing Bars T & H. Minor revisions of Concrete Quantities may be required when maximum footing pressure walls are used.

Designed in accordance with A.A.S.H.O. 1973 Standard Specifications.

All concrete to be Class C.

Reinforcing bar laps and splices conform to Research Report 113-3

TEXAS HIGHWAY DEPARTMENT
BRIDGE DIVISION

RETAINING WALLS MISCELLANEOUS DETAILS

RW 2

ORIGINAL DRAWING DATE: MAR. 1975		STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
DN.: CWC	REVISIONS	18	6	NH 99(367)		400
CK.: DAB	Rev. 6-83 (Gen. Notes)	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
DW.: AS	▽ Rev. 12-83 Rev. 3-87 (Added Note)	ROCKWALL		0009	04	039	SH 66
CK.: CWC	⊙ Rev. 10-88						

(22 x 34)

(7C1)

LC-01-32

BAR	NO.	SIZE	LENGTH	WEIGHT
D	2	5	31'-6"	66
F	2	8	3'-0"	16
T	2	5	31'-6"	66
U	26	5	1'-4"	36

REINFORCING STEEL	LB.	184
CLASS C CONCRETE	C.Y.	2.7
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-02-32

BAR	NO.	SIZE	LENGTH	WEIGHT
C	26	4	1'-10"	32
D	2	5	31'-6"	66
F	3	8	3'-0"	24
H	2	5	31'-6"	66
T	2	5	31'-6"	66
U	26	5	3'-4"	90

REINFORCING STEEL	LB.	344
CLASS C CONCRETE	C.Y.	5.0
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-03-32

BAR	NO.	SIZE	LENGTH	WEIGHT
C	25	4	2'-3"	38
D	4	5	31'-6"	131
F	4	8	3'-0"	32
H	2	5	31'-6"	66
T	3	5	31'-6"	99
U	26	5	5'-4"	145

REINFORCING STEEL	LB.	512
CLASS C CONCRETE	C.Y.	7.2
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-04-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	4'-8"	127
B	26	5	3'-6"	95
C	26	4	2'-8"	46
D	5	5	31'-6"	164
F	5	8	3'-0"	40
H	3	5	31'-6"	99
T	3	5	31'-6"	99
U	26	5	7'-4"	199

REINFORCING STEEL	LB.	869
CLASS C CONCRETE	C.Y.	9.3
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-05-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	6'-0"	163
B	26	5	4'-6"	122
C	26	4	3'-0"	52
D	7	5	31'-6"	230
F	6	8	3'-0"	48
H	3	5	31'-6"	99
T	3	5	31'-6"	99
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	1,039
CLASS C CONCRETE	C.Y.	11.3
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-06-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	7'-4"	199
B	26	5	5'-6"	149
C	26	4	3'-4"	58
D	9	5	31'-6"	296
F	7	8	3'-0"	56
H	3	5	31'-6"	99
T	4	5	31'-6"	131
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	1,214
CLASS C CONCRETE	C.Y.	13.3
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-07-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	8'-8"	235
B	26	5	6'-6"	176
C	26	4	3'-8"	64
D	10	5	31'-6"	329
F	8	8	3'-0"	64
H	3	5	31'-6"	99
T	4	5	31'-6"	131
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	1,324
CLASS C CONCRETE	C.Y.	15.3
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-08-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	10'-0"	271
A2	25	6	4'-2"	156
B	26	5	7'-6"	203
C	38	4	4'-0"	102
D	12	5	31'-6"	394
F	9	8	3'-0"	72
H	4	5	31'-6"	131
T	4	5	31'-6"	131
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	1,686
CLASS C CONCRETE	C.Y.	17.3
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-09-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	11'-5"	310
A2	25	6	5'-4"	200
B	26	5	8'-6"	231
C	38	6	4'-4"	247
D	13	5	31'-6"	427
F	10	8	3'-0"	80
H	4	5	31'-6"	131
T	5	5	31'-6"	164
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	2,016
CLASS C CONCRETE	C.Y.	19.3
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-10-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	12'-9"	346
A2	25	6	6'-7"	247
B	26	5	9'-6"	258
C	38	6	4'-9"	271
D	15	5	31'-6"	493
F	11	8	3'-0"	88
H	4	5	31'-6"	131
T	5	5	31'-6"	164
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	2,224
CLASS C CONCRETE	C.Y.	21.4
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-11-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	14'-1"	382
A2	25	6	7'-8"	288
B	26	5	10'-6"	285
C	38	7	5'-1"	395
D	17	5	31'-6"	559
F	12	8	3'-0"	96
H	5	5	31'-6"	164
T	6	5	31'-6"	197
U	26	5	8'-4"	226
A3	25	7	6'-9"	345

REINFORCING STEEL	LB.	2,937
CLASS C CONCRETE	C.Y.	23.4
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-12-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	15'-5"	418
A2	25	6	8'-11"	335
A3	25	7	8'-1"	413
B	26	5	11'-6"	312
C	38	8	5'-5"	550
D	19	5	31'-6"	624
F	13	8	3'-0"	104
H	5	5	31'-6"	164
T	6	5	31'-6"	197
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	3,343
CLASS C CONCRETE	C.Y.	25.4
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-13-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	16'-10"	456
A2	25	6	10'-1"	379
A3	25	7	9'-6"	485
A4	26	8	8'-5"	584
B	26	5	12'-6"	339
C	38	9	5'-9"	743
D	20	5	31'-6"	657
F	14	8	3'-0"	112
H	6	5	31'-6"	197
T	6	5	31'-6"	197
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	3,791
CLASS C CONCRETE	C.Y.	27.4
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-14-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	11'-0"	298
A2	25	6	11'-2"	419
A3	25	7	10'-11"	558
A4	26	8	8'-5"	584
B	26	5	13'-6"	366
C	38	9	6'-1"	786
D	22	5	31'-6"	723
F	14	8	3'-0"	112
H	6	5	31'-6"	197
T	7	5	31'-6"	230
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	4,499
CLASS C CONCRETE	C.Y.	33.0
UNCL. STUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-15-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	11'-0"	298
A2	25	6	12'-5"	466
A3	25	7	12'-4"	630
A4	26	8	9'-10"	683
B	26	5	14'-6"	393
C	38	9	6'-5"	829
D	24	5	31'-6"	789
F	15	8	3'-0"	120
H	7	5	31'-6"	230
T	7	5	31'-6"	230
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	4,894
CLASS C CONCRETE	C.Y.	35.4
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-16-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	11'-0"	298
A2	25	6	13'-7"	510
A3	25	7	13'-9"	703
A4	26	8	11'-2"	775
B	26	5	15'-6"	420
C	38	9	6'-9"	872
D	25	5	31'-6"	821
F	16	8	3'-0"	128
H	7	5	31'-6"	230
T	8	5	31'-6"	263
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	5,246
CLASS C CONCRETE	C.Y.	41.9
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-17-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	11'-0"	298
A2	25	6	14'-9"	554
A3	25	7	15'-3"	779
A4	26	8	12'-8"	879
B	26	5	16'-6"	447
C	38	9	7'-2"	926
D	27	5	31'-6"	887
F	17	8	3'-0"	136
H	7	5	31'-6"	230
T	8	5	31'-6"	263
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	5,625
CLASS C CONCRETE	C.Y.	44.9
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

LC-18-32

BAR	NO.	SIZE	LENGTH	WEIGHT
A1	26	5	11'-0"	298
A2	25	6	15'-11"	598
A3	25	7	16'-7"	847
A4	26	9	14'-1"	1,245
B	26	5	17'-6"	475
C	38	10	7'-5"	1213
D	29	5	31'-6"	953
F	18	8	3'-0"	144
H	8	5	31'-6"	263
T	8	5	31'-6"	263
U	26	5	8'-4"	226

REINFORCING STEEL	LB.	6,525
CLASS C CONCRETE	C.Y.	47.7
UNCL. STRUCT. EXCAV.	C.Y.	
FILTER MATERIAL	C.Y.	
WATERPROOFING	S.Y.	

TEXAS HIGHWAY DEPARTMENT
BRIDGE DIVISION

RETAINING WALLS

BILL OF REINFORCING STEEL & TABLE OF ESTIMATED QUANTITIES

PREPARED BY AND FOR THE USE OF TEXAS SDH&PT.

RW 4(LC)1

ORIGINAL DRAWING DATE: MAR. 1975	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT #	SHEET
DR.:-CWC	18	6	NH 99(367)	401
CK.:-DAB	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
DW.:-HM	ROCKWALL	0909	04	039	34(6)
CK.:-RNS					

REVISIONS

22x34 TJ1

LC - 6 - 12

Bar	No.	Size	Length	Weight
A1	10	#5	7'- 4"	76
B	10	#5	5'- 6"	57
C	10	#4	3'- 4"	22
D	9	#5	11'- 6"	108
F	7	#8	3'- 0"	56
H	3	#5	11'- 6"	36
T	4	#5	11'- 6"	48
U	10	#5	8'- 4"	87

REINFORCING STEEL	LB	490
CLASS C CONCRETE	CY	5.0
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 8 - 12

Bar	No.	Size	Length	Weight
A1	10	#5	10'- 0"	104
A2	9	#6	4'- 2"	56
B	10	#5	7'- 6"	78
C	14	#4	4'- 0"	37
D	12	#5	11'- 6"	144
F	9	#8	3'- 0"	72
H	4	#5	11'- 6"	48
T	4	#5	11'- 6"	48
U	10	#5	8'- 4"	87

REINFORCING STEEL	LB	674
CLASS C CONCRETE	CY	6.5
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 9 - 13

Bar	No.	Size	Length	Weight
A1	11	#5	11'- 5"	131
A2	10	#6	5'- 4"	80
B	11	#5	8'- 6"	98
C	16	#6	4'- 4"	104
D	13	#5	12'- 6"	169
F	10	#8	3'- 0"	80
H	4	#5	12'- 6"	52
T	5	#5	12'- 6"	65
U	11	#5	8'- 4"	96

REINFORCING STEEL	LB	875
CLASS C CONCRETE	CY	7.8
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 12 - 13

Bar	No.	Size	Length	Weight
A1	11	#5	15'- 5"	177
A2	10	#6	8'-11"	134
A3	10	#7	8'- 1"	165
B	11	#5	11'- 6"	132
C	16	#8	5'- 5"	231
D	19	#5	12'- 6"	248
F	13	#8	3'- 0"	104
H	5	#5	12'- 6"	65
T	6	#5	12'- 6"	78
U	11	#5	8'- 4"	96

REINFORCING STEEL	LB	1,430
CLASS C CONCRETE	CY	10.3
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 12 - 22

Bar	No.	Size	Length	Weight
A1	18	#5	15'- 5"	289
A2	17	#6	8'-11"	228
A3	17	#7	8'- 1"	281
B	18	#5	11'- 6"	216
C	27	#8	5'- 5"	390
D	19	#5	21'- 6"	426
F	13	#8	3'- 0"	104
H	5	#5	21'- 6"	112
T	6	#5	21'- 6"	135
U	18	#5	8'- 4"	156

REINFORCING STEEL	LB	2,337
CLASS C CONCRETE	CY	17.5
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 6 - 29

Bar	No.	Size	Length	Weight
A1	23	#5	7'- 4"	176
B	23	#5	5'- 6"	132
C	23	#4	3'- 4"	51
D	9	#5	28'- 6"	268
F	7	#8	3'- 0"	56
H	3	#5	28'- 6"	89
T	4	#5	28'- 6"	119
U	23	#5	8'- 4"	200

REINFORCING STEEL	LB	1,091
CLASS C CONCRETE	CY	12.1
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 5 - 10

Bar	No.	Size	Length	Weight
A1	8	#5	6'- 0"	50
B	8	#5	4'- 6"	38
C	8	#4	3'- 0"	16
D	7	#5	9'- 6"	69
F	6	#8	3'- 0"	48
H	3	#5	9'- 6"	30
T	3	#5	9'- 6"	30
U	8	#5	8'- 4"	70

REINFORCING STEEL	LB	351
CLASS C CONCRETE	CY	3.5
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 6 - 10

Bar	No.	Size	Length	Weight
A1	8	#5	7'- 4"	61
B	8	#5	5'- 6"	46
C	8	#4	3'- 4"	18
D	9	#5	9'- 6"	89
F	7	#8	3'- 0"	56
H	3	#5	9'- 6"	30
T	4	#5	9'- 6"	40
U	8	#5	8'- 4"	70

REINFORCING STEEL	LB	410
CLASS C CONCRETE	CY	4.2
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

LC - 6 - 22

Bar	No.	Size	Length	Weight
A1	18	#5	7'- 4"	138
B	18	#5	5'- 6"	103
C	18	#4	3'- 4"	40
D	9	#5	21'- 6"	202
F	7	#8	3'- 0"	56
H	3	#5	21'- 6"	67
T	4	#5	21'- 6"	90
U	18	#5	8'- 4"	156

REINFORCING STEEL	LB	852
CLASS C CONCRETE	CY	9.1
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Bar	No.	Size	Length	Weight

REINFORCING STEEL	LB	
CLASS C CONCRETE	CY	
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Bar	No.	Size	Length	Weight

REINFORCING STEEL	LB	
CLASS C CONCRETE	CY	
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Bar	No.	Size	Length	Weight

REINFORCING STEEL	LB	
CLASS C CONCRETE	CY	
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Bar	No.	Size	Length	Weight

REINFORCING STEEL	LB	
CLASS C CONCRETE	CY	
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Bar	No.	Size	Length	Weight

REINFORCING STEEL	LB	
CLASS C CONCRETE	CY	
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Bar	No.	Size	Length	Weight

REINFORCING STEEL	LB	
CLASS C CONCRETE	CY	
UNCL STRUCT EXCAV	CY	
FILTER MATERIAL	CY	
WATERPROOFING	SY	

Sheet of Sheets

Texas Department of Transportation

RETAINING WALLS

BILL OF REINFORCING STEEL & TABLE OF ESTIMATED QUANTITIES

RW 4 (MOD)

DN: TxDOT	CK: TxDOT	DW: SNP	CK: MHM
© TxDOT	DIST	FED REG	FEDERAL AID PROJECT • SHEET
REVISIONS	DAL	6	NH 99(367) 402
	COUNTY	CONTROL	SECT JOB HIGHWAY
	ROCKWALL	0009	04 039 SH66

STATE OF TEXAS
MONNIE H. MATTHEWS
15721
REGISTERED PROFESSIONAL ENGINEER

3-16-99

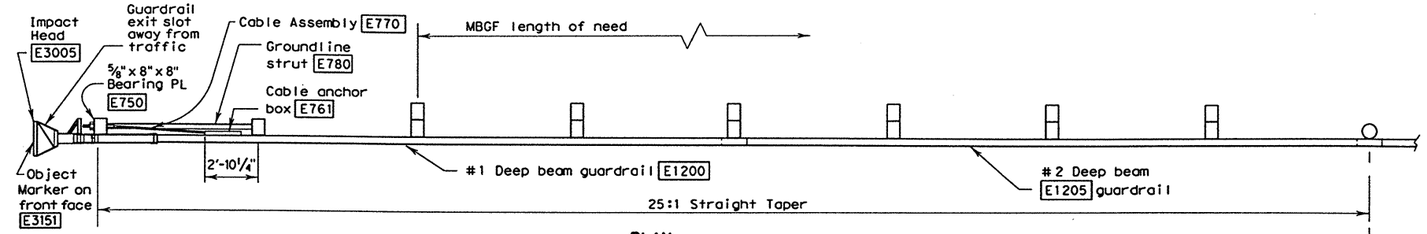
Monnie H. Matthews

4 5 6

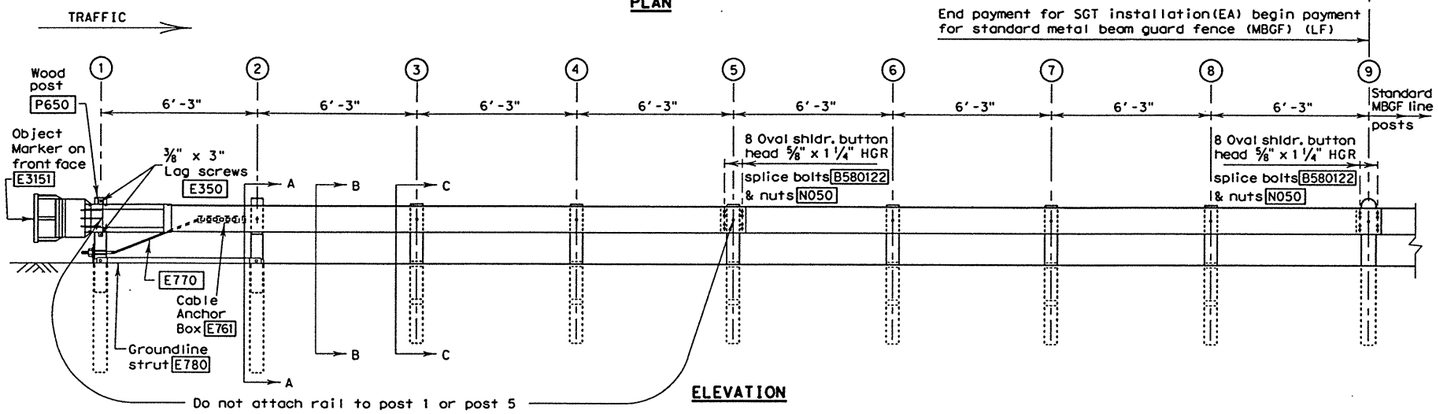
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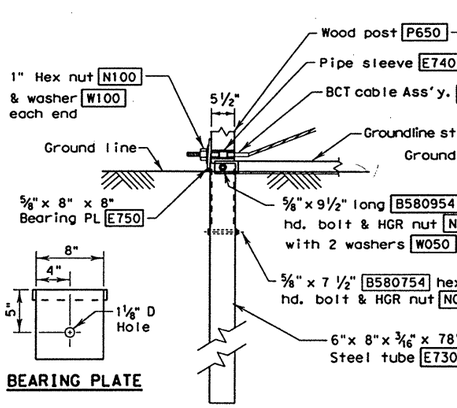
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PLAN



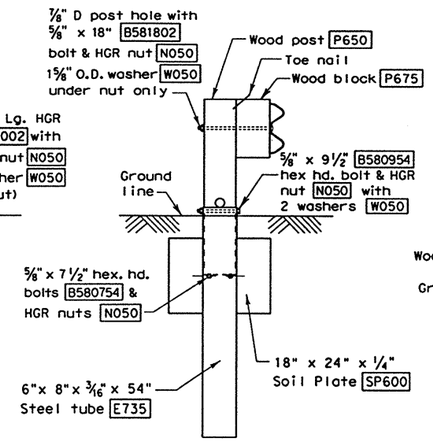
ELEVATION



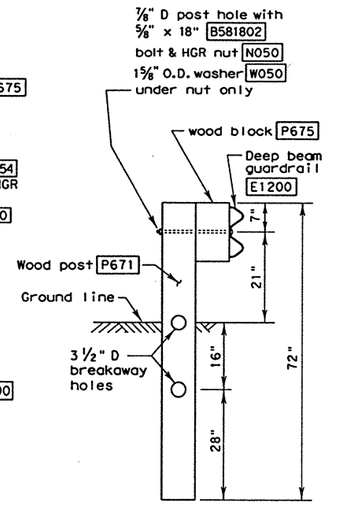
BEARING PLATE

PARTIAL VIEW AT POST #1

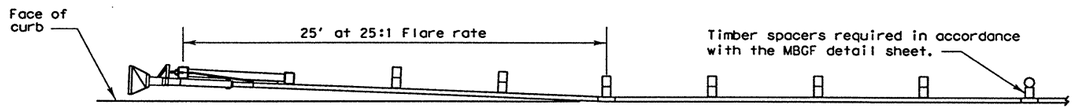
SECTION A-A
(at post #2)



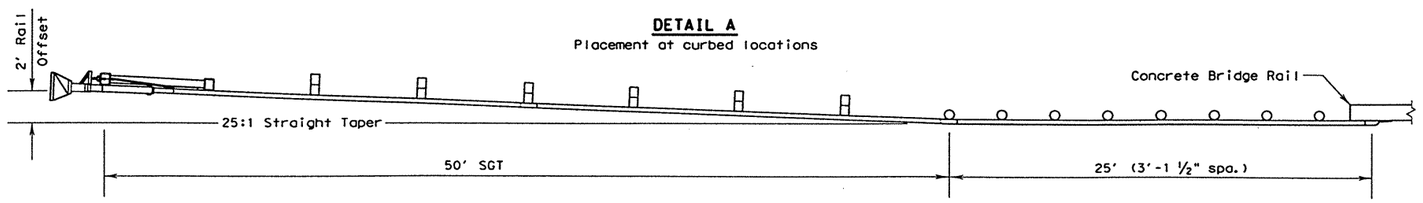
SECTION B-B
(Typ. at post and tube positions)



SECTION C-C
(Typ. at post only positions)



DETAIL A
Placement at curbed locations



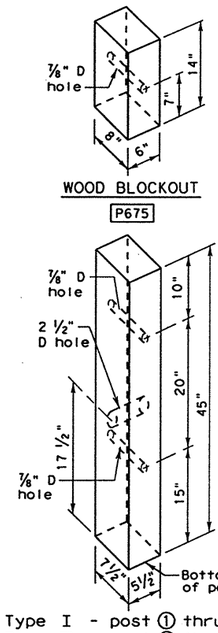
DETAIL B
Usual minimum placement to protect concrete bridge ends

GENERAL NOTES

1. The type of SGT unit will be specified elsewhere in the plans. (Numbers in circles indicate post position.)

	Post & Tube	Post Only
Type I	Posts ① thru ②	Posts ③ thru ⑧
Type II	Posts ① thru ④	Posts ⑤ thru ⑧
Type III	Posts ① thru ⑧	None

2. Wood posts are required with this guardrail end treatment.
3. All bolts, nuts, cable assemblies, cable anchors, steel tubes & bearing plates shall be galvanized.
4. For non-curb installations, the MBGF will be flared at a rate of 25:1 over the first 50 foot of the system to prevent the terminal head from encroaching on the shoulder. The flare may be decreased or eliminated for specific installations if directed by the Engineer. A 25:1 flare rate will be used at curb sections, beginning at post number 5 and ending at post number one.
5. The steel tubes shall not protrude more than 4 inches above ground. Site grading may be necessary to meet this requirement.
6. The steel tubes may be driven with an approved driving head. They shall not be driven with the wood post in the tube. If the steel tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent tube settlement.
7. When rock excavation is encountered, a 12 inch diameter post hole, 20 inches deep may be used if approved by the Engineer. Granular material will be placed in the bottom of the hole approximately 2 1/2 inches deep to provide drainage. The steel tube sleeves will be field cut to 20 inches in length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
8. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening the nuts.
9. The wood blockouts shall be "toe nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.
10. For curb installations, the soil tubes and posts shall be installed at the proper ground elevation behind the curb. The posts will then require field drilling new holes to accommodate the rail to post connection bolt to maintain the proper height of the rail above the gutter pan. The excess post length above the rail will be removed if directed by the Engineer.
11. An object marker shall be installed on the front of the impact head as detailed on D&OM(VIA).
12. A special site evaluation should be considered, prior to using this end treatment where there is less than 25 feet between the outlet side of the end treatment and any adjacent driving lane.



Type I - post ① thru ②
Type II - post ① thru ④
Type III - post ① thru ⑧

All measurements should be taken from bottom of posts.

R = Radius
D = Diameter

BILL OF MATERIAL

Code #	Type I Qty.	Type II Qty.	Type III Qty.	DESCRIPTION
E1200	1	1	1	#1 Deep Beam Guardrail (26'-6 1/2") (12 Ga.)
E1205	1	1	1	#2 Deep Beam Guardrail (26'-1/2") (12 Ga.)
E730	2	2	2	Steel Tube - 6" x 8" x 3/16" x 78"
E735	0	2	6	Steel Tube - 6" x 8" x 3/16" x 54"
SP600	0	2	6	Soil Plate - 18" x 24" x 1/4"
P650	2	4	8	Wood Posts - 5 1/2" x 7 1/2" x 45"
P671	6	4	0	Wood CRT Posts - 6" x 8" x 72"
P675	6	6	6	Wood Blockouts - 6" x 8" x 14"
E740	1	1	1	Pipe Sleeve - 2" Std. Pipe x 5 1/2"
E750	1	1	1	Bearing Plate - 5/8" x 8" x 8"
E761	1	1	1	Cable Anchor Box
E770	1	1	1	Cable Assembly
E780	1	1	1	Groundline Strut
E3005	1	1	1	Impact Head
HARDWARE				
B580754	2	6	14	5/8" x 7 1/2" Hex Hd. Bolt
B580954	2	4	8	5/8" x 9 1/2" Hex Hd. Bolt (Top of Tubes)
W050	11	15	23	5/8" Washers
B581002	1	1	1	5/8" x 10" HGR Post Bolt (Post 2)
B580122	16	16	16	5/8" x 1 1/4" HGR Splice Bolt
B581802	6	6	6	5/8" x 18" HGR Post Bolt (Posts ③ thru ⑧)
N050	27	33	45	5/8" HGR Nut (16-Spl, 7-Posts, 2-Strut, 2 ea. at Tube ③ thru ⑧)
E350	2	2	2	3/8" x 3" Lag Screw
N100	2	2	2	1" Hex Nut (Anchor Cable)
W100	2	2	2	1" Washer (Anchor Cable)
E3151	1	1	1	Object Marker - (18" x 18")

Texas Department of Transportation
Design Division (Roadway)

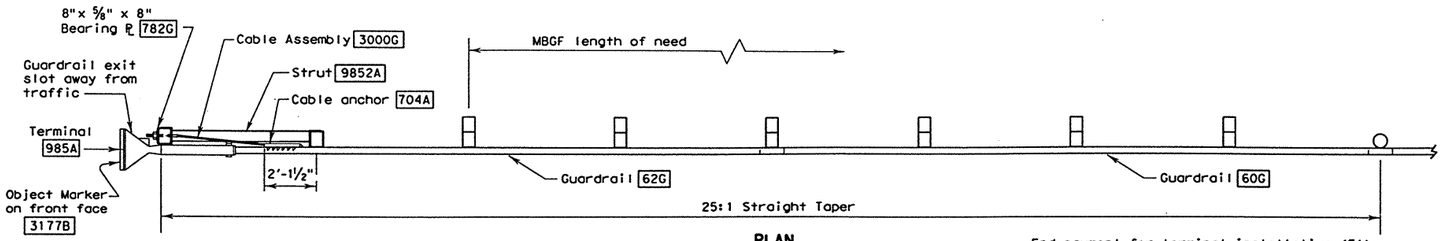
SINGLE GUARDRAIL TERMINAL
(BEST 350)

SGT(5)-97

FILE: SGT597.dgn	DN: MAM	CK: MAM	DW: BR	CK: MAM	NEC:	
©TxDOT FEBRUARY 1997	DIST	FED REG	FEDERAL AID PROJECT •			SHEET
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	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

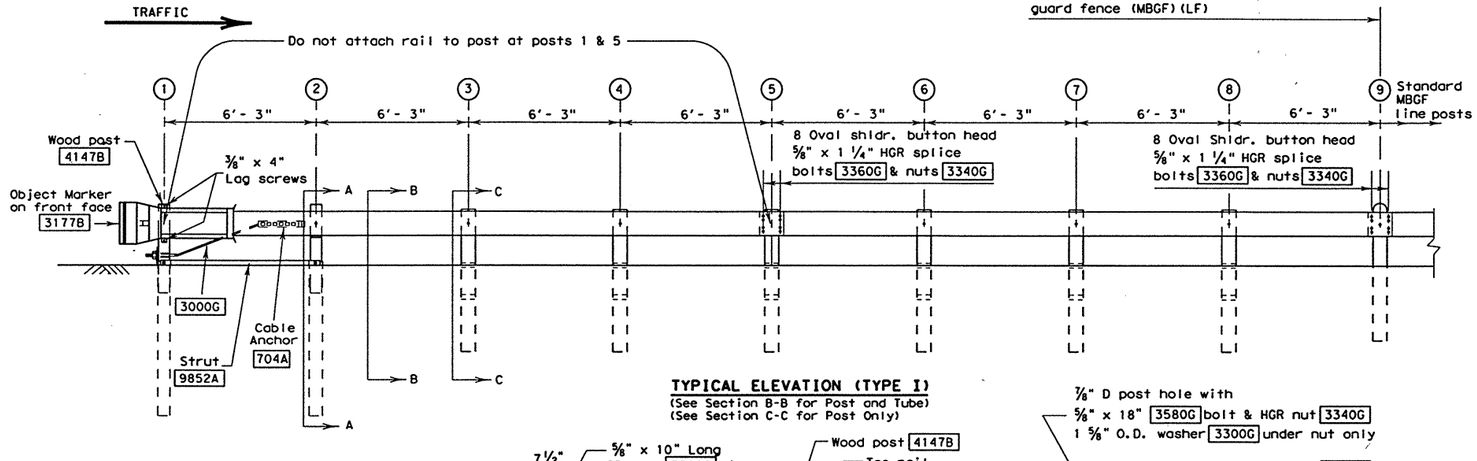
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LEVELS DISPLAYED
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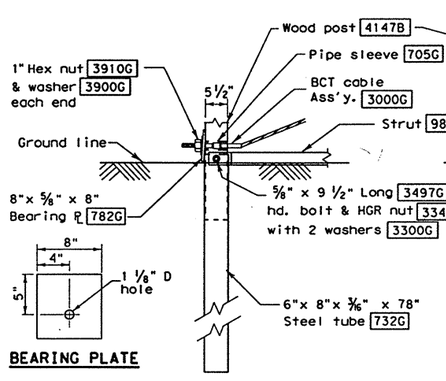


PLAN

End payment for terminal installation (EA) begin payment for standard metal beam guard fence (MBGF) (LF)

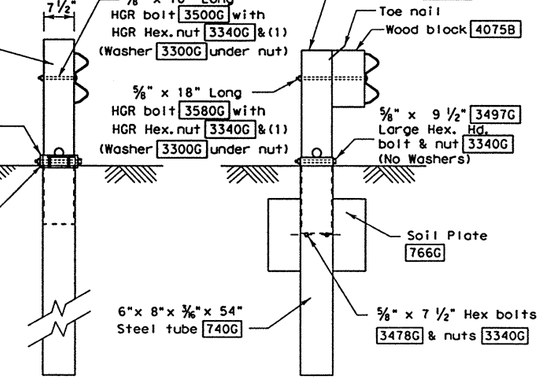


TYPICAL ELEVATION (TYPE I)
(See Section B-B for Post and Tube)
(See Section C-C for Post Only)



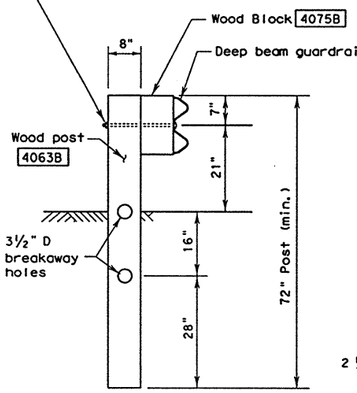
BEARING PLATE

LET PARTIAL VIEW AT POST #1

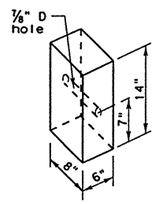


LET SECTION A-A
(at post #2)

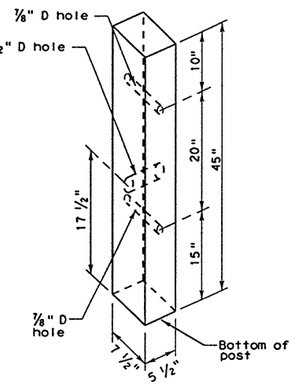
SECTION B-B
(Typ. at post and tube positions)



SECTION C-C
(Typ. at post only positions)

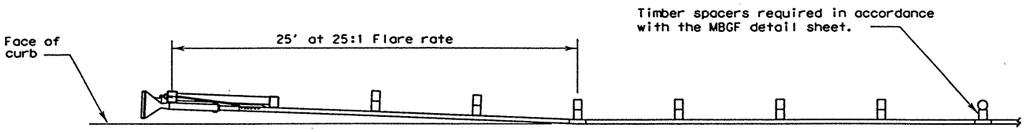


WOOD BLOCKOUT
4075B

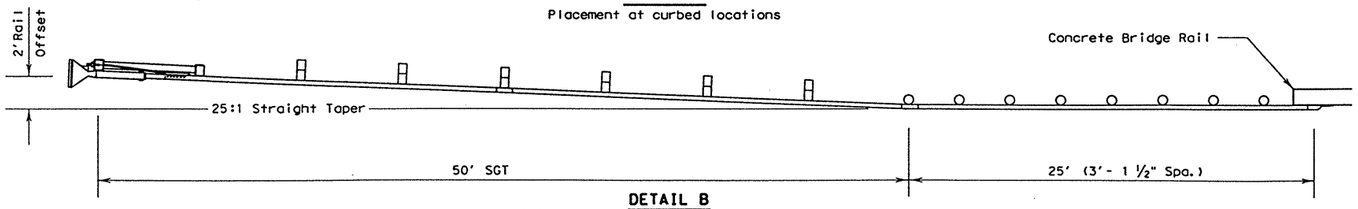


Type I Posts ① thru ②
Type II Posts ① thru ④
Type III Posts ① thru ⑧

All measurements should be taken from bottom of posts.



DETAIL A
Placement at curbed locations



DETAIL B
Usual minimum placement to protect concrete bridge ends

GENERAL NOTES

1. The type of SGT unit will be specified elsewhere in the plans. (Numbers in circles indicate post position.)

	Post & Tube	Post Only
Type I	Posts ① thru ②	Posts ③ thru ⑧
Type II	Posts ① thru ④	Posts ⑤ thru ⑧
Type III	Posts ① thru ⑧	None

2. Wood posts are required with this guardrail end treatment.
3. All bolts, nuts cable assemblies, cable anchors, steel tubes & bearing plates shall be galvanized.
4. For non-curb installations, the MBGF will be flared at a rate of 25:1 over the first 50 foot of the system to prevent the terminal head from encroaching on the shoulder. The flare may be decreased or eliminated for specific installations if directed by the Engineer. A 25:1 flare rate will be used at curb sections, beginning at post number 5 and ending at post number one.
5. The steel tubes shall not protrude more than 4 inches above ground. Site grading may be necessary to meet this requirement.
6. The steel tubes may be driven with an approved driving head. They shall not be driven with the wood post in the tube. If the steel tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent tube settlement.
7. When rock excavation is encountered, a 12 inch diameter post hole, 20 inches deep may be used if approved by the Engineer. Granular material will be placed in the bottom of the hole approximately 2 ½ inches deep to provide drainage. The steel tube sleeves will be field cut to 20 inches in length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
8. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening the nuts.
9. The wood blockouts shall be "toe nailed" to the rectangular wood posts to prevent them from turning when the wood shrinks.
10. For curb installations, the soil tubes and posts shall be installed at the proper ground elevation behind the curb. The posts will then require field drilling new holes to accommodate the rail to post connection bolt to maintain the proper height of the rail above the gutter pan. The excess post length above the rail will be removed if directed by the Engineer.
11. An object marker shall be installed on the front of the impact head as detailed on D&OM(VIA).
12. A special site evaluation should be considered, prior to using this end treatment where there is less than 25 feet between the extrusion side of the end treatment and any adjacent driving lane.

BILL OF MATERIAL

Code #	LET-2000 Type I Qty.	LET-2000 Type II Qty.	LET-2000 Type III Qty.	ET-2000 Type II Qty.	ET-2000 Type III Qty.	DESCRIPTION
62G	1	1	1	1	1	#1 Deep Beam Guardrail (12 Ga) at 25'
60G	1	1	1	1	1	#2 Deep Beam Guardrail (12 Ga) at 25'
732G	2	2	2	-	-	Steel Tube - 6"x 8"x 78"x 3/16"
740G	0	2	6	4	8	Steel Tube - 6"x 8"x 54"x 3/16"
766G	0	2	6	4	8	Soil Plate - 18"x 24"x 1/4"
4147B	2	4	8	4	8	Wood Posts - 5 ½" x 7 ½" x 45"
4063B	6	4	0	4	0	Wood CRT Posts - 6"x 8"x 72"
4075B	6	6	6	7	7	Wood Block - 6"x 8"x 14"
705G	1	1	1	1	1	Pipe Sleeve - 2" std. pipe x 5 ½"
782G	1	1	1	1	1	Bearing Plate - 8"x 8"x 5/8"
704A	1	1	1	1	1	Cable Anchor
3000G	1	1	1	1	1	Cable Assembly (3/4" x 78")
9852A	1	1	1	-	-	Inline Strut
9918A	-	-	-	1	1	Offset Strut
985A	1	1	1	1	1	ET-2000 Guardrail Terminal
HARDWARE						
3497G	2	4	8	4	8	5/8" x 9 ½" Hex Hd. Bolt (Top of tubes)
3300G	11	11	11	11	11	5/8" Washers
3478G	2	4	8	8	16	5/8" x 7 ½" Hex Bolt
3500G	1	1	1	-	-	5/8" x 10" Post Bolt (Post 2 of LET)
3580G	6	6	6	7	7	5/8" x 18" HGR Post Bolt (posts ③ thru ⑧)
3360G	16	16	16	16	16	5/8" x 1 1/4" HGR Splice Bolt
3340G	27	31	39	35	47	5/8" HGR Nut (16-spl, 7-posts, 2-strut, 2 each at tube ③ thru ⑧)
4228G	2	2	2	2	2	3/8" x 4" Lag Screw
3910G	2	2	2	2	2	1" Hex Nut (Anchor Cable)
3900G	2	2	2	2	2	1" Washer (Anchor Cable)
3177B	1	1	1	1	1	Object Marker (18" x 18")

R = Radius
D = Diameter

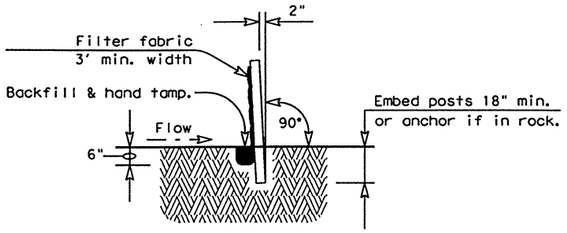
Texas Department of Transportation
Design Division (Roadway)

SINGLE GUARDRAIL TERMINAL
(LET-2000 & ET-2000)
SGT(6)-97

FILE: sgt697.dgn	DN: MAM	CK: MAM	DW: BGD	CK:	NEG: R0000
© TxDOT APRIL 1997	DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS	18	6	NH 99 (367)		4of4 HIGHWAY
	COUNTY		CONTROL	SECT	JOB
	ROCKWALL		9	04	39 SH66

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LEVELS DISPLAYED
1



SECTION A-A

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a max. flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

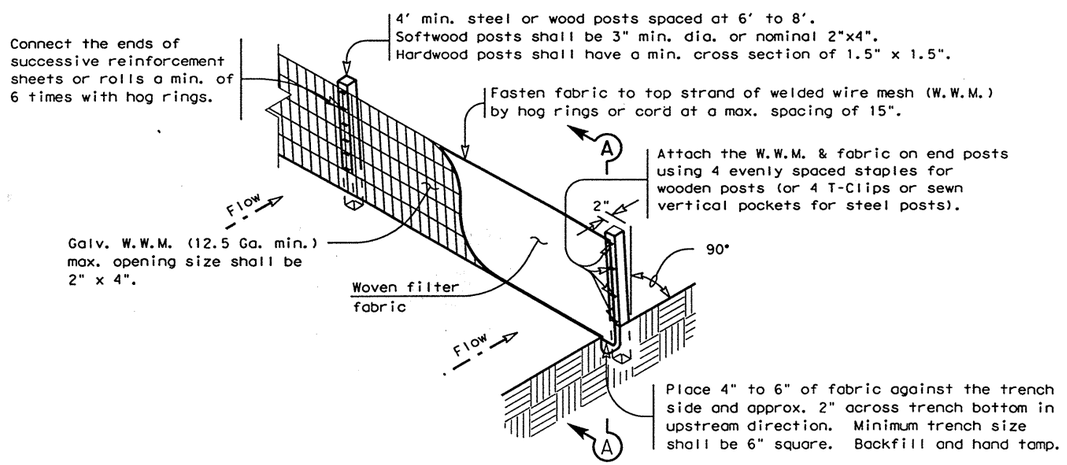
PLAN SHEET LEGEND

Sediment Control Fence ——(SCF)——

Sediment Control Fence ——(SCF)——

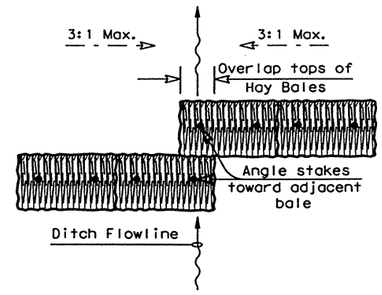
GENERAL NOTES

1. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

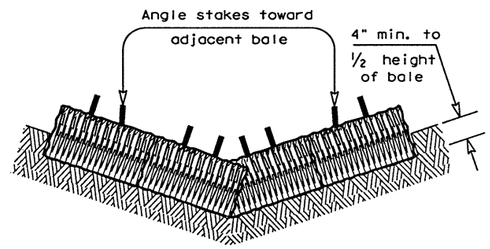


TEMPORARY SEDIMENT CONTROL FENCE

(SCF)



PLAN VIEW



PROFILE VIEW

PLANS SHEET LEGEND

Baled Hay ——(BH)——

BALED HAY USAGE GUIDELINES

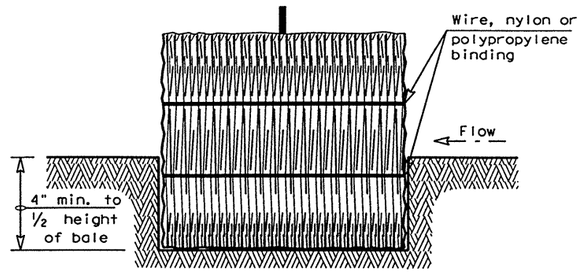
A Baled Hay installation may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A two year storm frequency may be used to calculate the flow rate to be filtered. The installation should be sized to filter a maximum flow thru rate of 5 GPM/FT^2 of cross sectional area. Baled hay may be used at the following locations:

1. Where the runoff approaching the baled hay flows over disturbed soil for less than 100'. If the slope of the disturbed soil exceeds 10%, the length of slope upstream the baled hay should be less than 50'.
2. Where the installation will be required for less than 3 months.
3. Where the contributing drainage area is less than ½ acre.

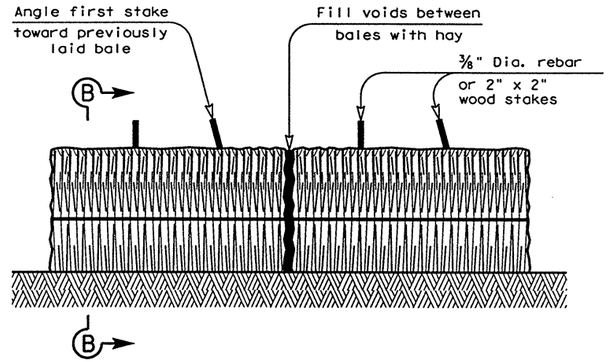
For Baled Hay installations in small ditches, the additional following considerations apply:

1. The ditch sideslopes should be graded as flat as possible to maximize the drainage flowrate thru the hay.
2. The ditch should be graded large enough to contain the overtopping drainage when sediment has filled to the top of the baled hay.

Bales should be replaced usually every 2 months or more often during wet weather when loss of structural integrity is accelerated.



SECTION B-B



BALED HAY FOR EROSION CONTROL

(BH)

GENERAL NOTES

1. Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 Lbs.
2. Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetable matter.
3. Hay bales shall be embedded in the soil a minimum of 4" and where possible ½ the height of the bale.
4. Hay bales shall be placed in a row with ends tightly abutting the adjacent bales. The bales shall be placed with bindings parallel to the ground.
5. Hay bales shall be securely anchored in place with ⅜" Dia. rebar or 2" x 2" wood stakes, driven through the bales. The first stake shall be angled towards the previously laid bale to force the bales together.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

TEXAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & BALED HAY

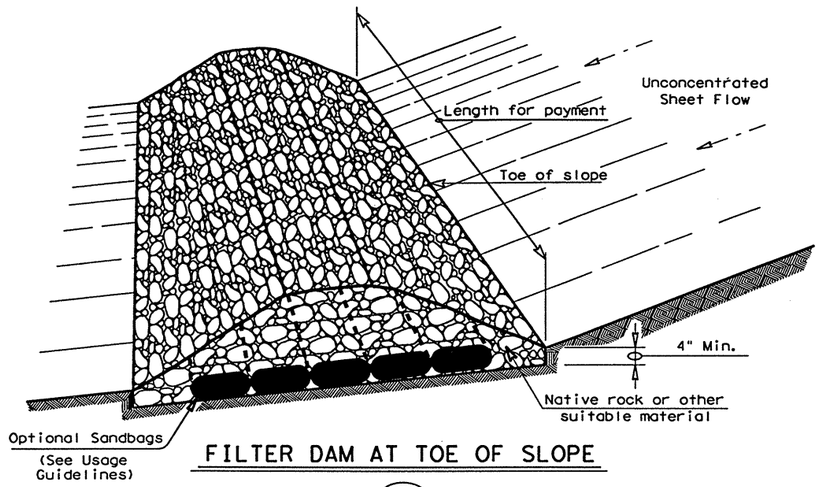
EC(1)-93

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MODIFICATIONS

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6	TEXAS	NH 99 (367)				405
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	ROCKWALL		9	04	39	SH66

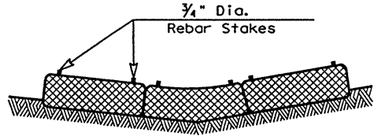
HIGHWAY DESIGN DIVISION (D-8)



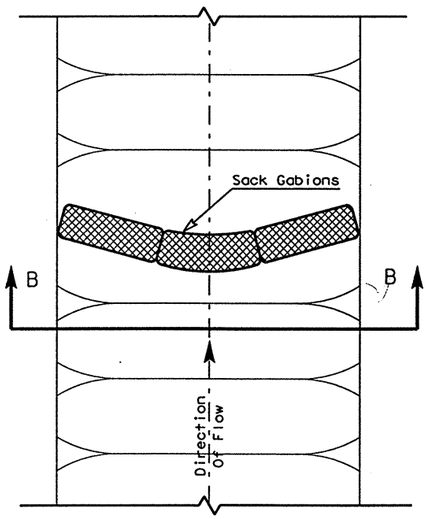
FILTER DAM AT TOE OF SLOPE

RFD1

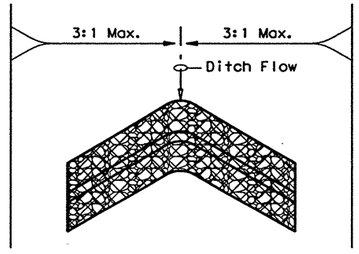
TYPE 1



SECTION B-B

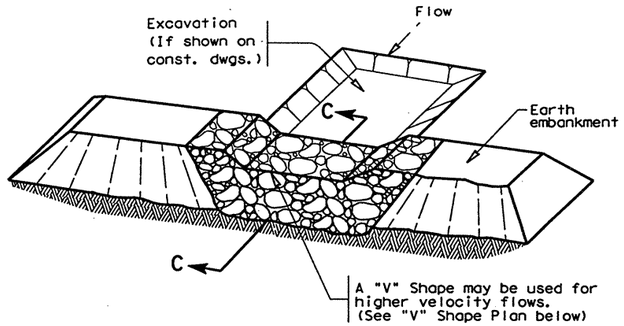


PLAN VIEW



"V" SHAPE

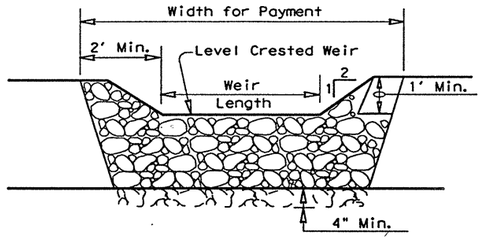
(Plan View)



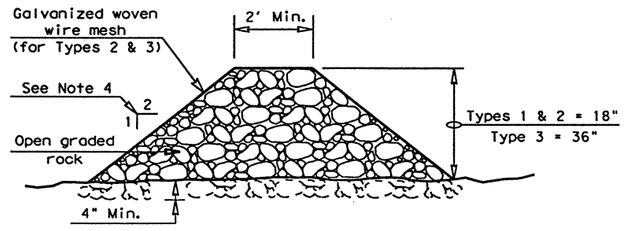
FILTER DAM AT SEDIMENT TRAP

RFD1 — OR — RFD2

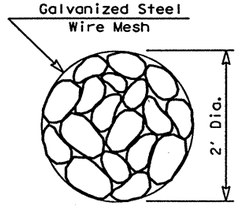
TYPE 1 OR TYPE 2



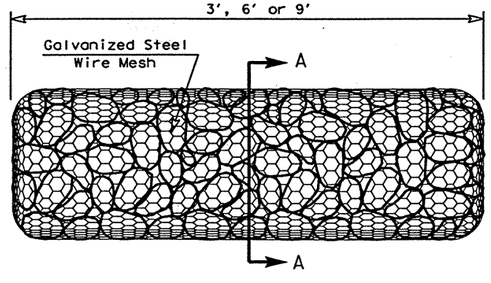
PROFILE



SECTION C-C



SECTION A-A



TYPE 4 (SACK GABIONS)

PLANS SHEET LEGEND

Type 1 Rock Filter Dam — RFD1

Type 2 Rock Filter Dam — RFD2

Type 3 Rock Filter Dam — RFD3

ROCK FILTER DAM USAGE GUIDELINES

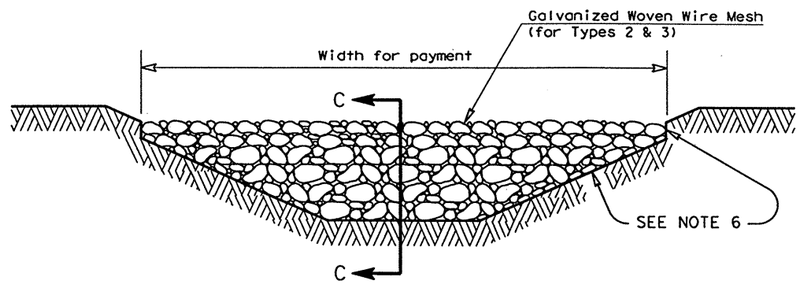
Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT^2 of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

Type 1 (18" high with no wire mesh): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approx. 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions): Type 4 May be used in ditches and smaller channels to form an erosion control dam.



FILTER DAM AT CHANNEL SECTIONS

RFD1 — OR — RFD2 — OR — RFD3

TYPE 1 OR TYPE 2 OR TYPE 3

GENERAL NOTES

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. In stream use the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with ¾" dia. rebar stakes.
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

TEXAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

ROCK FILTER DAMS

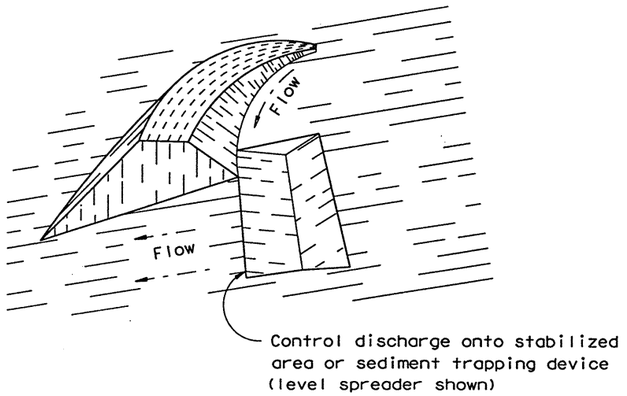
EC(2)-93

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MODIFICATIONS

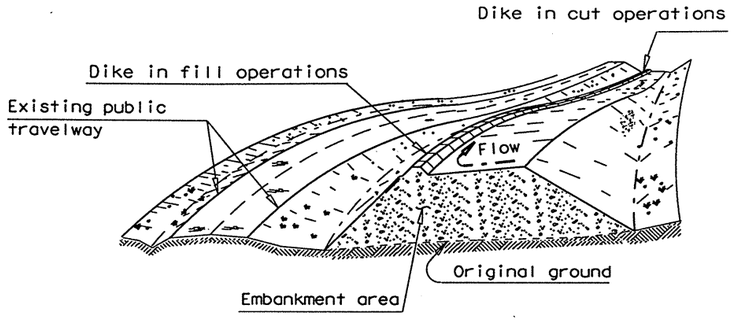
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6	TEXAS	NH 99 (367)				406
STATE DIST. NO.	COUNTY		CONT.	SECT.	JOB	HIGHWAY NO.
	ROCKWALL		9	4	39	SH66

HIGHWAY DESIGN DIVISION (D-8)



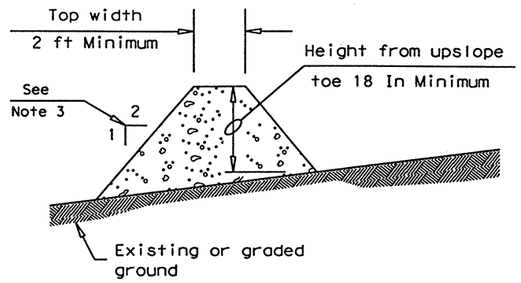
PERIMETER DIKE

Dike —Ⓓ—

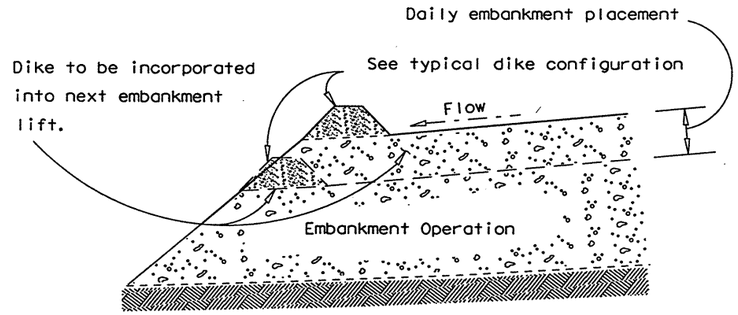


DIVERSION DIKE

Dike —Ⓓ—

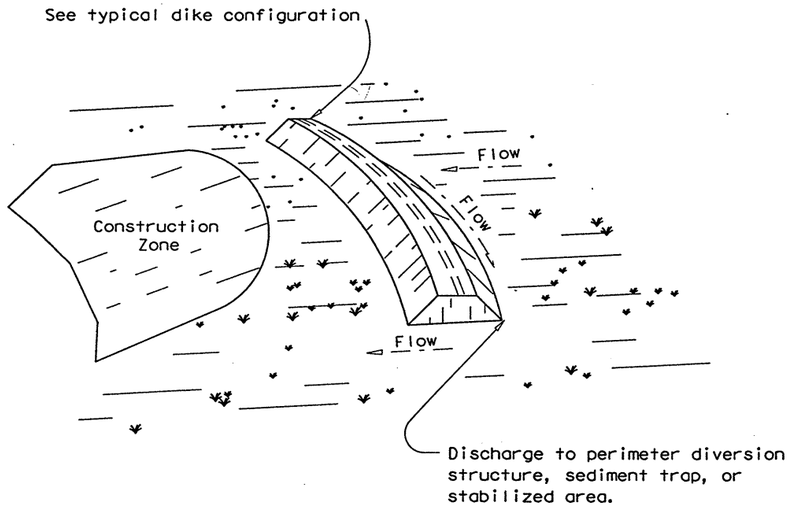


TYPICAL DIKE CONFIGURATION



EMBANKMENT SECTION - DIVERSION DIKE

Dike —Ⓓ—



INTERCEPTOR DIKE

PLANS SHEET LEGEND

Dike —Ⓓ—

GENERAL NOTES:

1. Soil used in dike construction shall be machine compacted.
2. Top width and height of dike may be modified with prior approval of the Engineer.
3. Side slopes within the safety clear zone of a roadway shall be 6:1 or flatter.
4. Grading shall be shown elsewhere in the plans or as directed by the Engineer.
5. The Engineer reserves the right to modify the dimensions shown for the dike dependent on runoff volume characteristics.
6. Dikes that are in place for more than 14 calendar days should be stabilized to prevent sediment runoff.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

DIKE USAGE GUIDELINES

A dike may be used to intercept runoff and divert it around unstabilized areas or to divert sediment laden runoff to an erosion control device (sediment basin or trap, rock filter dam, etc.).

The drainage area contributing runoff to a dike should not exceed 5 acres. The spacing of dikes should be as follows:

Slope of disturbed areas above dike	greater than 10%	5 - 10%	less than 5%
Maximum distance between dikes	100′	200′	300′

Intercepted runoff flowing along a dike should outlet to a stabilized area (vegetation, rock, etc.).

TEXAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

DIKES
(EARTHWORK FOR EROSION CONTROL)

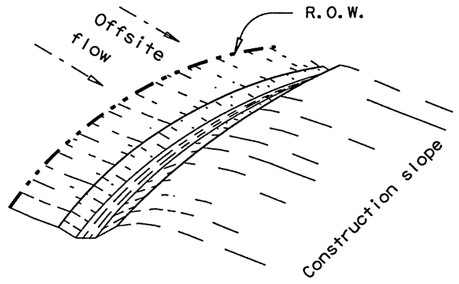
EC(4)-93

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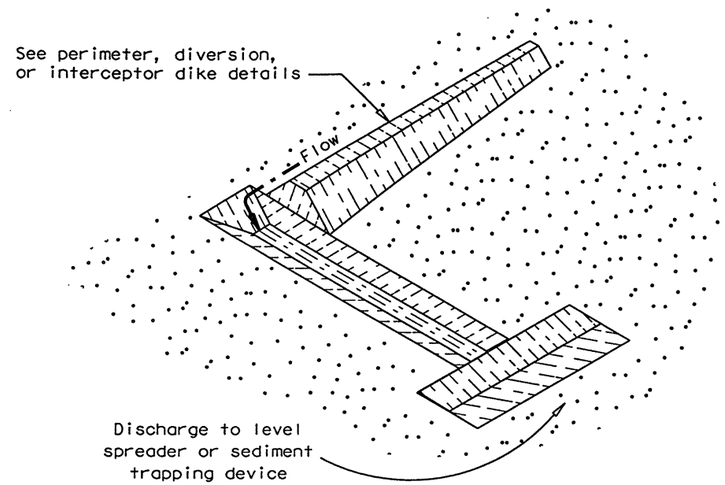
MODIFICATIONS

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DAL	ROCKWALL	9	4	39	SH66

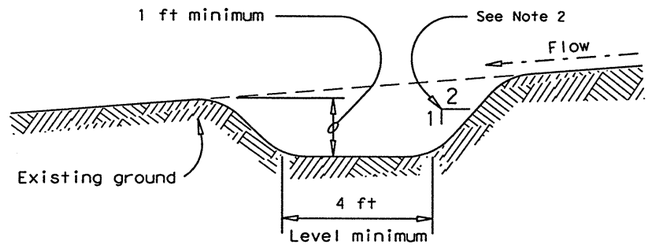
HIGHWAY DESIGN DIVISION (D-8)



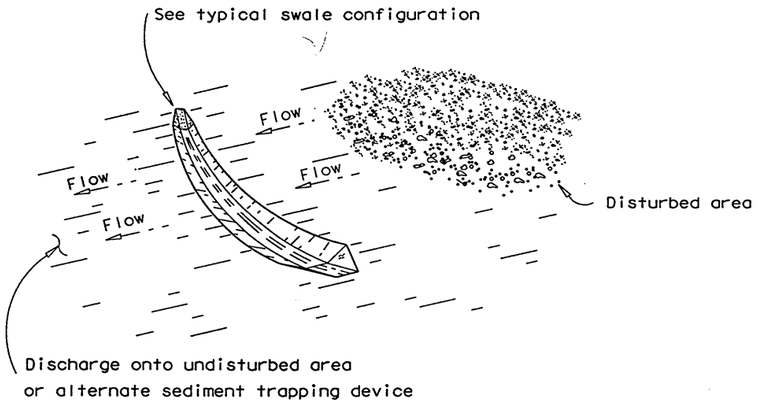
PERIMETER SWALE



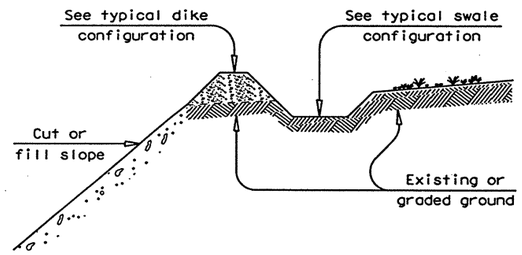
DIVERSION SWALE



TYPICAL SWALE CONFIGURATION



INTERCEPTOR SWALE



DIVERSION DIKE WITH SWALE

PLANS SHEET LEGEND

Swale — (S)

Dike — (D)

SWALE AND DIKE/SWALE USAGE GUIDELINES

A swale or dike/swale may be used to intercept runoff and divert it around unstabilized areas or to divert sediment laden runoff to an erosion control device (sediment basin or trap, rock filter dam, etc.).

The drainage area contributing runoff to a swale or dike/swale should not exceed 5 acres. The spacing of swales and dike/swales should be as follows:

Slope of disturbed areas above dike	greater than 10%	5 - 10%	less than 5%
Maximum distance between dikes	100'	200'	300'

Intercepted runoff flowing in a swale or dike/swale should outlet to a stabilized area (vegetation, rock, etc.).

GENERAL NOTES:

1. Dimensions of swale may be modified with prior approval of the Engineer.
2. Side slopes within the safety clear zone of a roadway shall be 6:1 or flatter.
3. Grading shall be shown elsewhere on the plans or as directed by the Engineer.
4. The Engineer reserves the right to modify the dimensions shown for the swale dependent on runoff volume characteristics.
5. Swales that are in place for more than 14 calender days should be stabilized through seeding or other measures to control sediment runoff.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

TEXAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

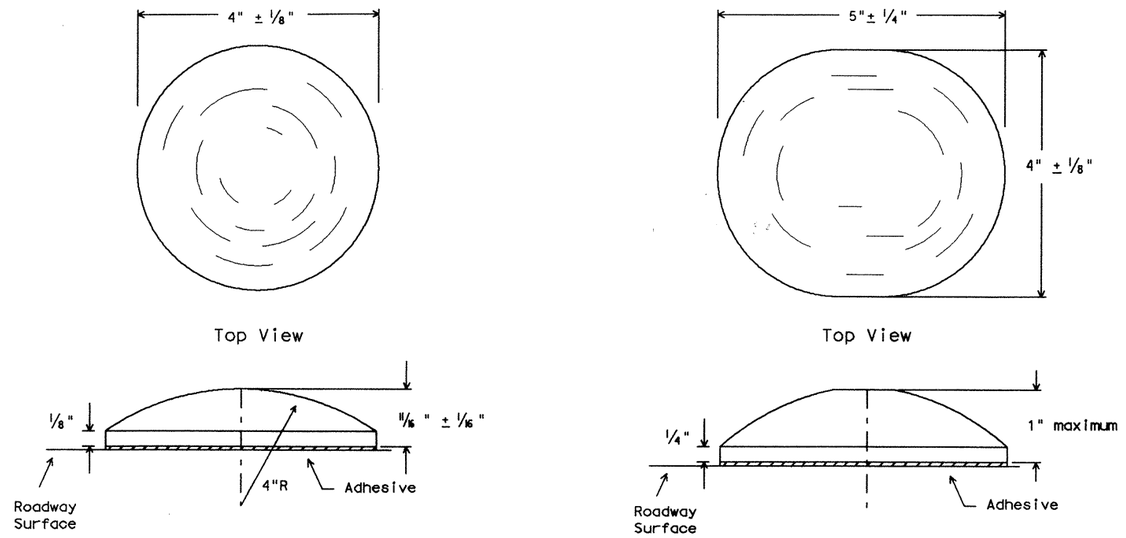
SWALES
(EARTHWORK FOR EROSION CONTROL)

EC(5)-93

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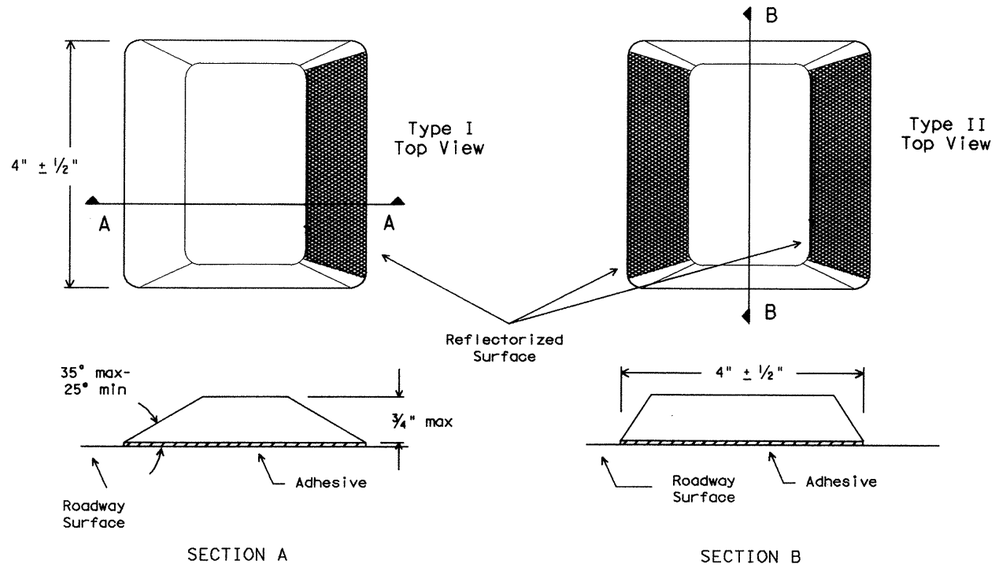
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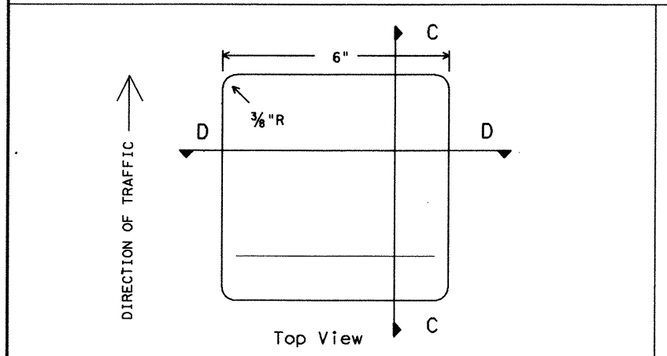


TRAFFIC BUTTONS
(NON-REFLECTORIZED)

NOTE: Minimum area of markers shall be not less than 12.5 square inches.
Either shape may be used but the same shape shall be used through out the project.

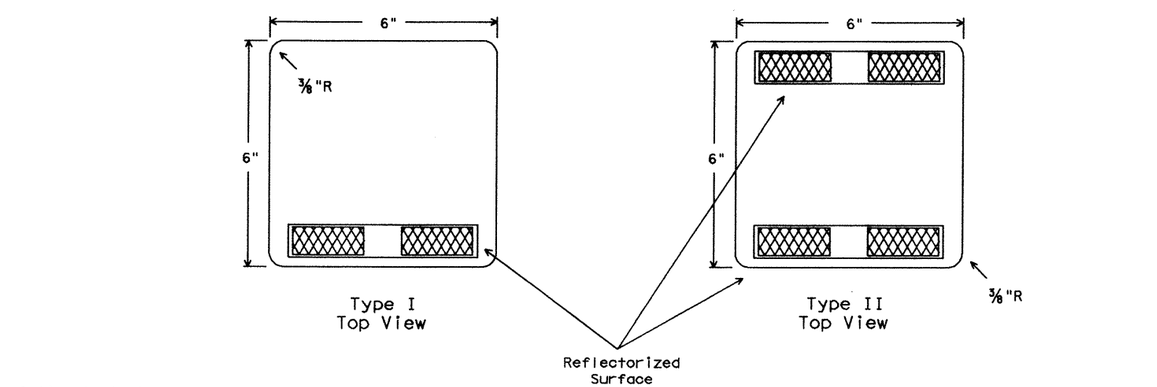


RAISED PAVEMENT MARKERS
(REFLECTORIZED)



JIGGLE BAR TILES
(NON-REFLECTORIZED)

"Jiggle Bars" consist of a number of Jiggle Bar Tiles placed in a linear configuration.



JIGGLE BAR TILES
(REFLECTORIZED)

SPECIFICATION REFERENCE TABLE	
MATERIALS AND TEST SPECIFICATIONS (D-9)	
JIGGLE BAR TILE	D-9-4100
PAVEMENT MARKERS (REFLECTORIZED)	D-9-4200
TRAFFIC BUTTONS	D-9-4300
BITUMINOUS ADHESIVE	D-9-6130

GENERAL NOTES:

RAISED PAVEMENT MARKERS (RPMs) MAY CONSIST OF TRAFFIC BUTTONS, PAVEMENT MARKERS AND/OR JIGGLE BAR TILES. PAVEMENT SURFACE SHALL BE PREPARED AND CLEANED SUBJECT TO APPROVAL OF THE ENGINEER BEFORE ADHESIVE AND RPMs ARE PLACED.

JIGGLE BARS SHALL BE ORIENTED PERPENDICULAR TO ROADWAY. JIGGLE BARS SHALL ALSO BE PLACED AT SUCH OTHER LOCATIONS AS SHOWN IN PLANS OR AS DIRECTED BY THE ENGINEER.

MARKERS, BUTTONS AND JIGGLE BAR TILES SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY AND NOT INTENDED TO SPECIFY ANY PARTICULAR PRODUCT. ALL PAVEMENT MARKERS PROVIDED SHALL BE OF THE SAME MANUFACTURER.

ALL DIMENSIONS ARE ± 1/8 " UNLESS OTHERWISE NOTED.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

RAISED PAVEMENT MARKERS REFLECTIVE PAVEMENT MARKERS, TRAFFIC BUTTONS & JIGGLE BAR TILE

RPM(1)-92

©TxDOT January 1981

DN: LR	CK:	DW: DN	CK:	MEG NO.:

REVISIONS
2-82 10-86
7-85 12-90
11-85 4-92
7-86

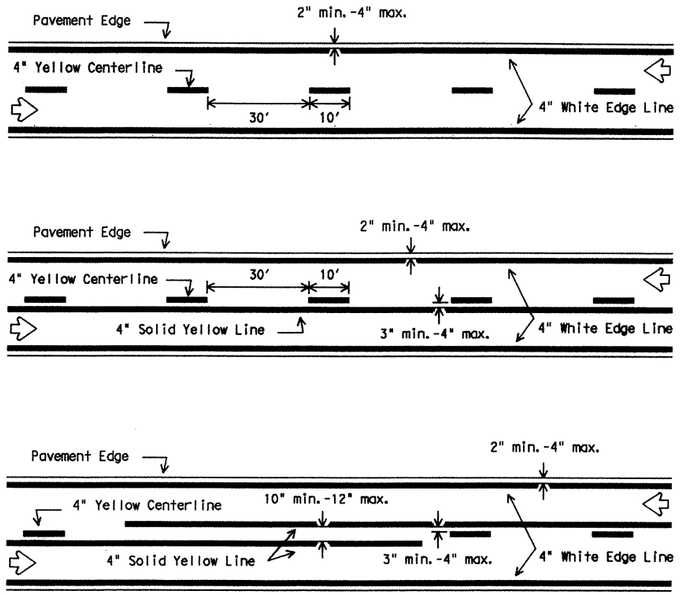
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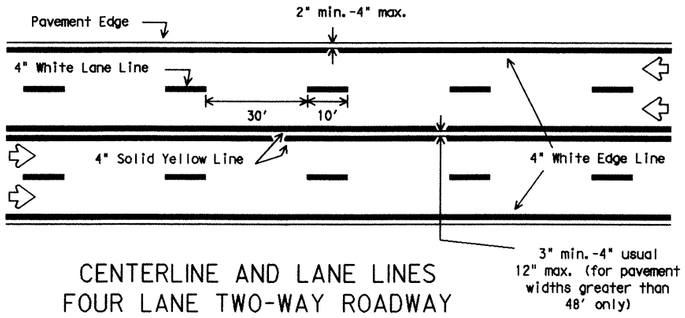
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

21A

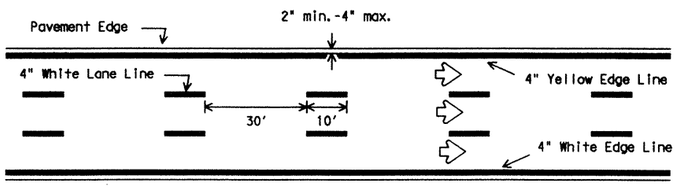
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DW: DN
CK: MT
ACC: d58hplc/usr/d580504
FILE:

TWO LANE TWO-WAY ROADWAY

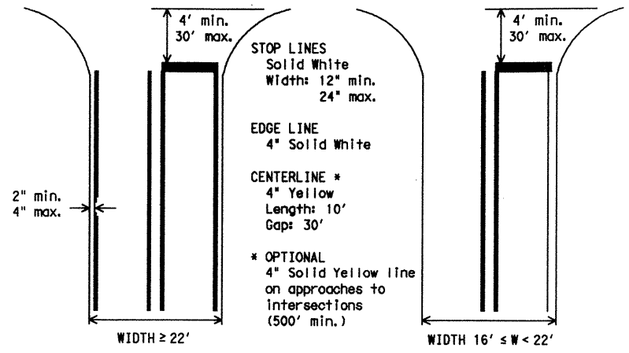




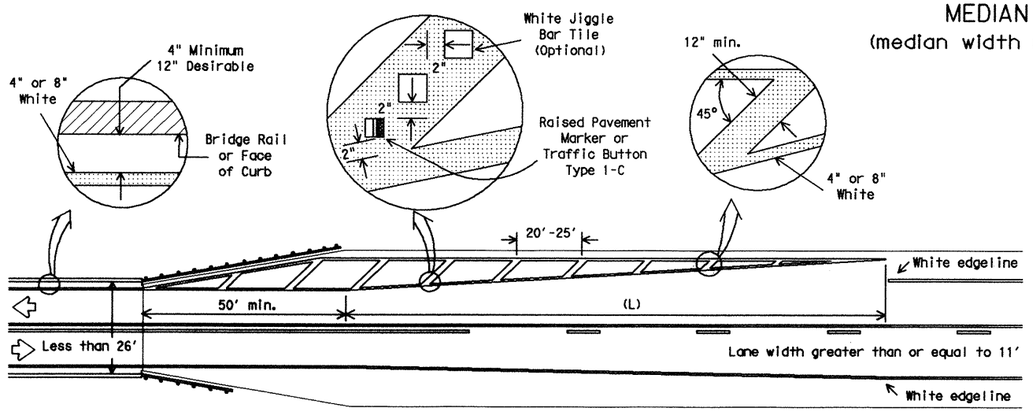
CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY



EDGE LINE AND LANE LINES
ONE-WAY ROADWAY



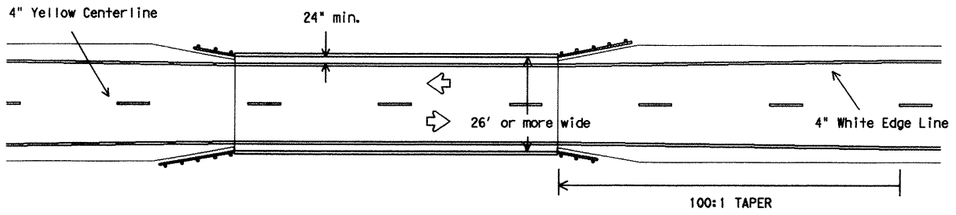
GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE



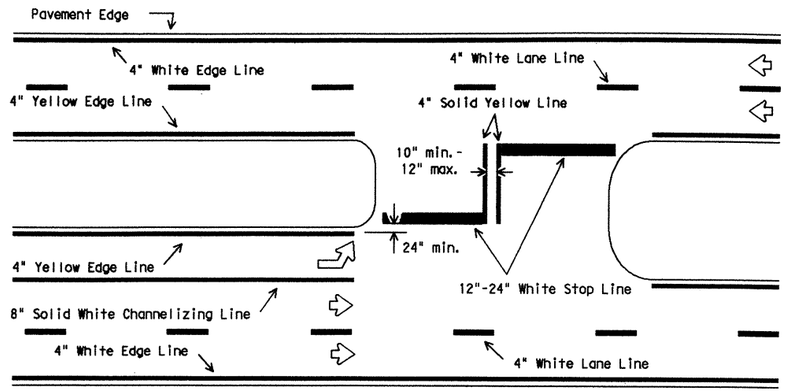
NOTES:

1. No-passing zone on bridge approach is optional but if used, it shall be a minimum 500 feet long.
2. 12 inch crosshatching is optional. See plan quantities.
3. For taper length (L) see Table 1.

NARROW BRIDGES (less than 26')
TWO LANE TWO-WAY ROADWAY



BRIDGES (26' or greater in width)
TWO LANE TWO-WAY ROADWAY



FOUR LANE DIVIDED ROADWAY INTERSECTIONS
MEDIAN WIDTH GREATER THAN 30 FEET
(median width measured between crossover stop lines)

TABLE 1
TYPICAL TAPER LENGTH (L)

Posted Speed*	Formula	Minimum Desirable Taper Lengths** 10' Offset	11' Offset	12' Offset
30	$L = \frac{WS^2}{60}$	150'	165'	180'
35		205'	225'	245'
40		265'	295'	320'
45	L=WS	450'	495'	540'
50		500'	550'	600'
55		550'	605'	660'
60		600'	660'	720'
65		650'	715'	780'

* 85th Percentile Speed may be used on roads where traffic speeds normally exceed the posted speed limit.
** Taper lengths have been rounded.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-95

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DN: LR	CK: -	DW: DN	CK: -	MSG NO.:

REVISIONS
2-82 7-92
11-85 8-95
7-86
4-92

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH 99 (367)	410

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

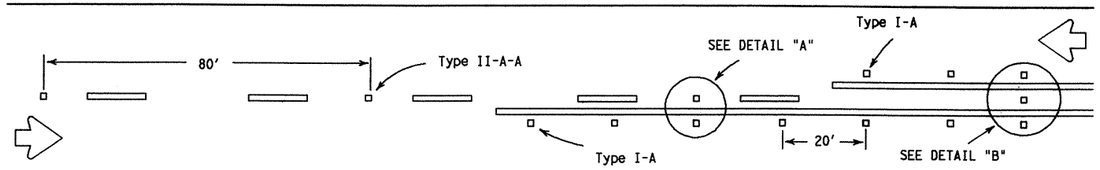
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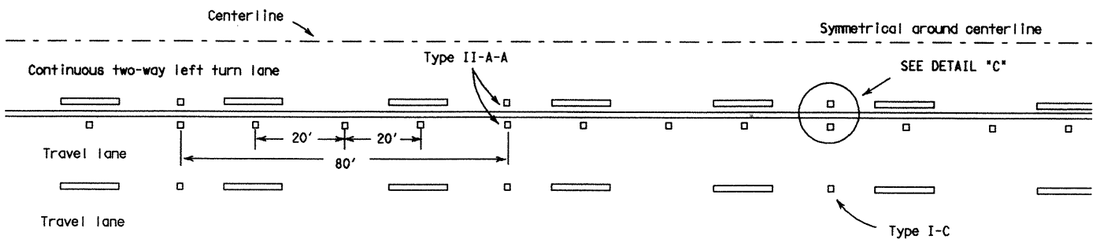
Raised pavement markers supplement painted lines

CENTERLINE & NO-PASSING LINES FOR TWO LANE TWO-WAY HIGHWAYS

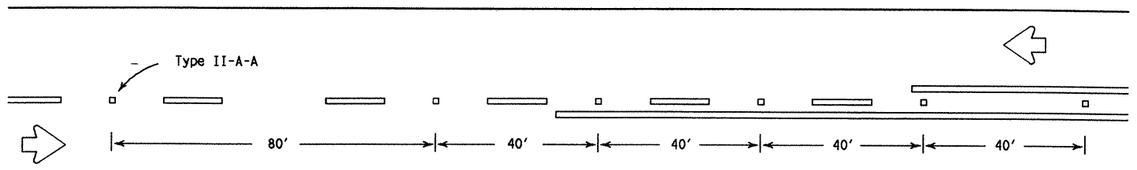
Raised pavement markers as vehicle positioning guides



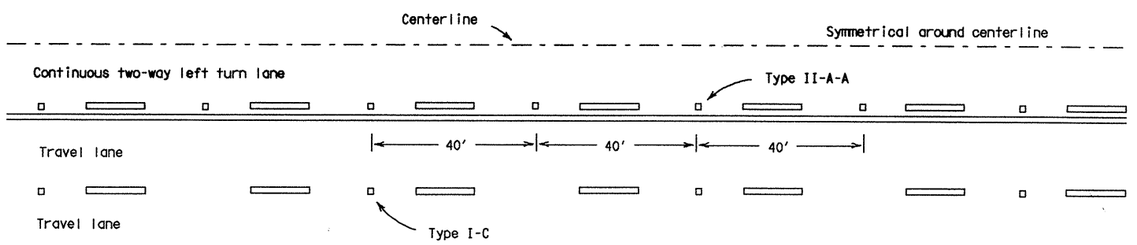
(FOR ROADWAYS 24 FEET OR WIDER)



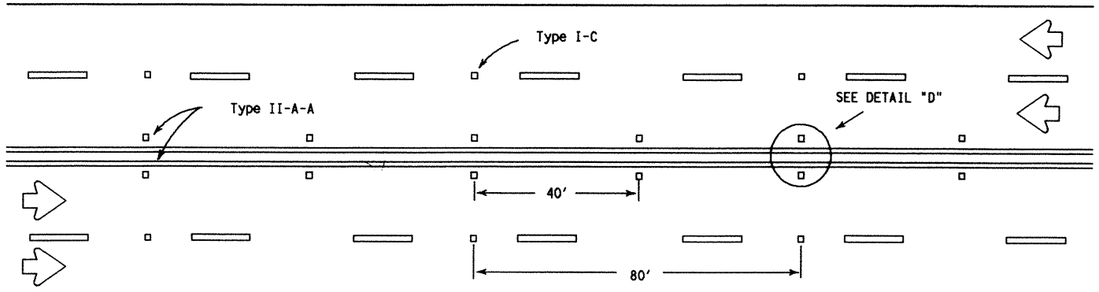
TWO-WAY LEFT TURN LANE



(FOR ALL ROADWAYS)

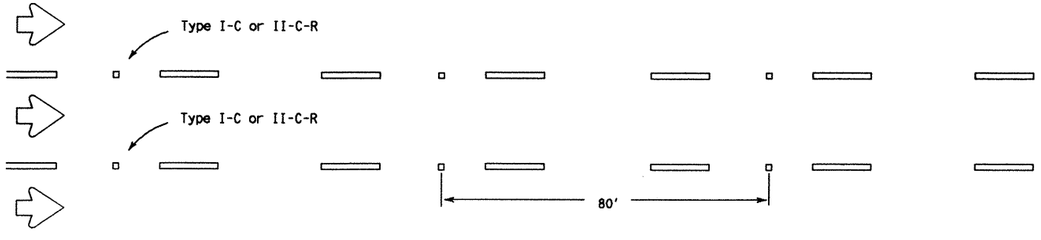


TWO-WAY LEFT TURN LANE



CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.

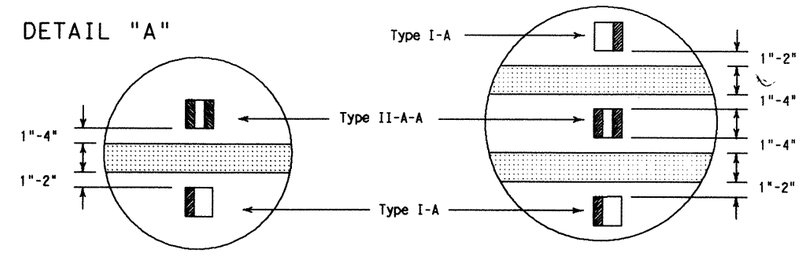


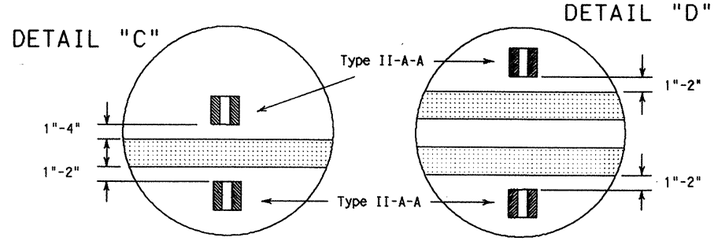
LANE LINES FOR ONE-WAY ROADWAY

Raised pavement markers Type II-C-R, clear face toward normal traffic and red face toward wrong-way traffic, shall be spaced on 80-foot centers.

As required by the Engineer or shown elsewhere in the plans, Type II-C-R markers shall be placed on 40-foot centers for the below listed conditions:

1. Vertical curves with grades over 2 percent and less than 1000 feet long,
2. horizontal curves,
3. or continously illuminated sections.





GENERAL NOTES:

All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.

First and last raised pavement markers in a no-passing line are to be located adjacent to either the midpoint of the gap of the centerline marking or the midpoint of the broken line of the centerline marking.

On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

TYPICAL STANDARD PAVEMENT MARKINGS WITH RAISED PAVEMENT MARKERS

PM(2)-92

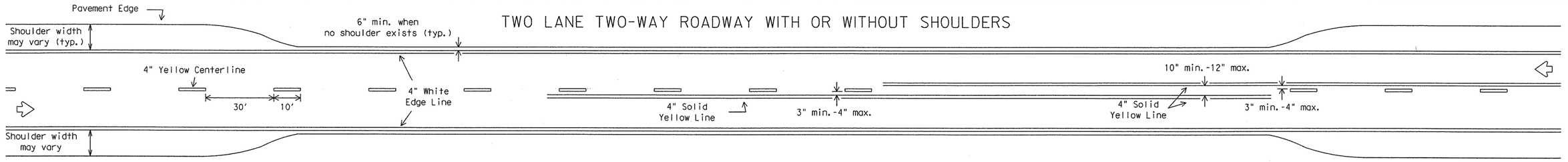
© TxDOT April 1977	DN: LR	CK: -	DW: DN	CK: -	MSG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
2-82 4-92	18	6	NH99(367)		411
11-85	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
7-86	ROCKWALL		0009	04	039	SH 66
10-86						

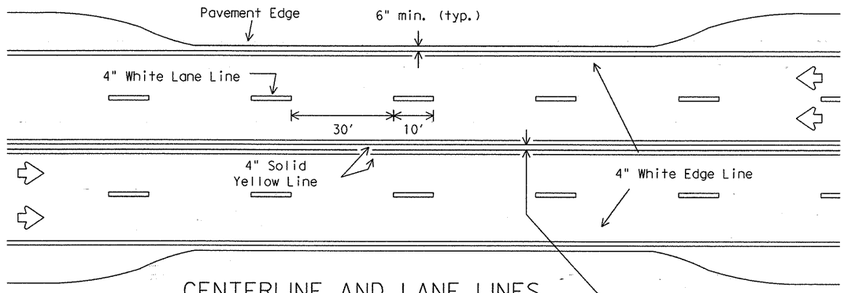
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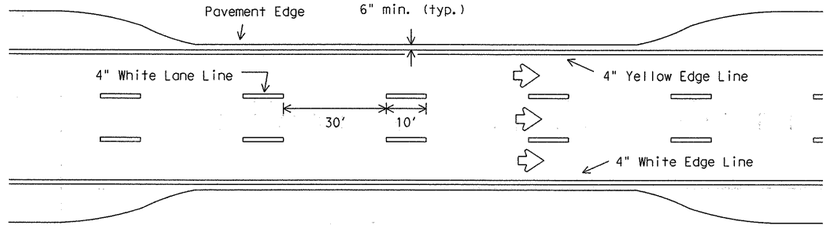
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TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

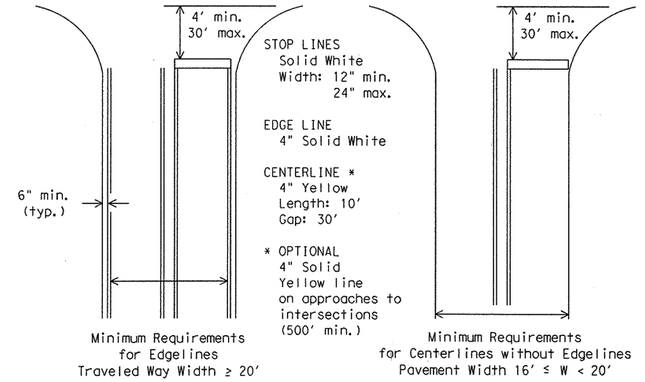




CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



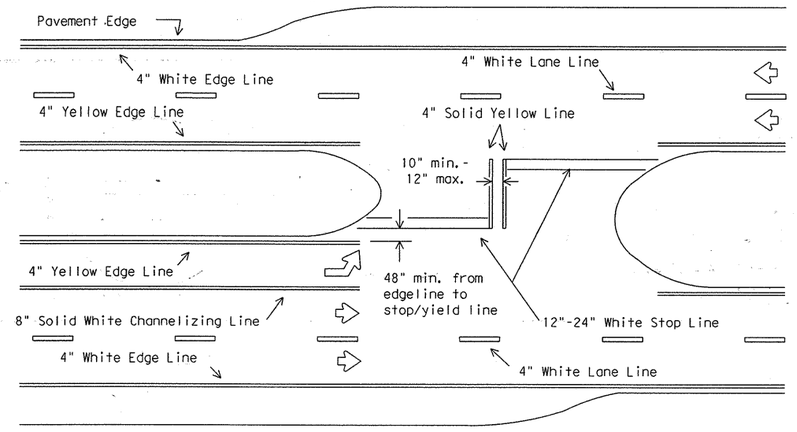
EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

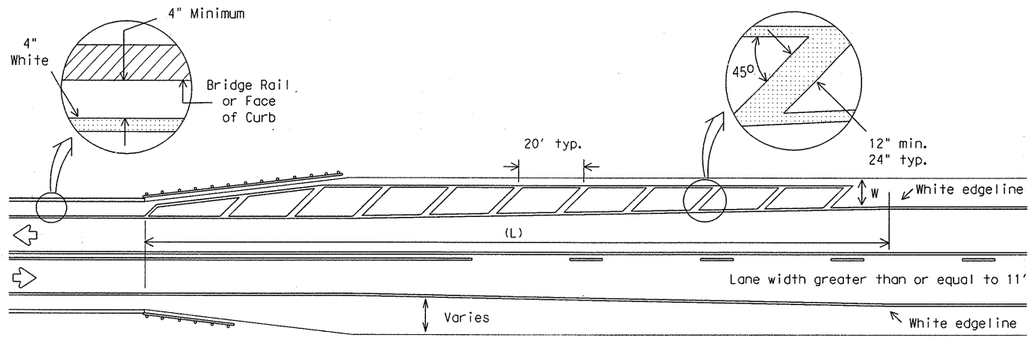
Based on Traveled Way and Pavement Widths for Undivided Highways

FOUR LANE DIVIDED ROADWAY INTERSECTIONS



All medians shall be field measured to determine the location of necessary striping. Stop/Yield bars and centerlines shall be placed when the longitudinal distance between the inside of the Stop/Yield bars is 30 feet or greater. If the placement of the Stop/Yield bars would not allow a minimum of 30 ft distance between the Stop/Yield bars, then no Stop/Yield signs or markings should be installed in the median, unless directed by the Engineer.

ROADWAYS WITH REDUCED SHOULDER WIDTHS ACROSS BRIDGE OR CULVERT



NOTES:

1. No-passing zone on bridge approach is optional but if used, it shall be a minimum 500 feet long.
2. For crosshatching length (L) see Table 1.
3. The width of the offset (W) and the required crosshatching width is the full shoulder width in advance of the bridge.
4. The crosshatching should be required if the shoulder width in advance of the bridge is 4 foot or wider and any reduction in shoulder width across the bridge occurs.
5. For guard fence details, refer elsewhere in the plans.

TABLE 1 - TYPICAL LENGTH (L)

Posted Speed *	Formula
30, 35, 40	$L = \frac{WS^2}{60}$
45, 50, 55, 60, 65, 70	L=WS

* 85th Percentile Speed may be used on roads where traffic speeds normally exceed the posted speed limit. Crosshatching length should be rounded up to nearest 5 foot increment.

L=Length of Crosshatching (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

EXAMPLES:

An 8 foot shoulder in advance of a bridge reduces to 4 feet on a 70 MPH roadway. The length of the cross-hatching should be:

$L = 8 \times 70 = 560$ ft.

A 4 foot shoulder in advance of a bridge reduces to 2 feet on a 40 MPH roadway. The length of the cross-hatching should be:

$L = 4(40)^2 / 60 = 106.67$ ft. rounded to 110 ft.

GENERAL NOTES:

Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should typically be placed a minimum of 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.

The traveled way includes only that portion of the roadway used for vehicular travel and not the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to inside of edgeline of a two lane roadway.

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

SPECIFICATION REFERENCE TABLE

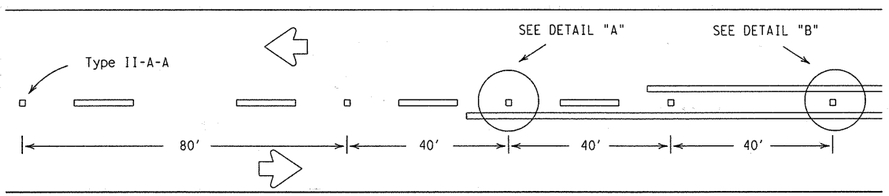
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECT.)	DMS-4200
EPOXY	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130

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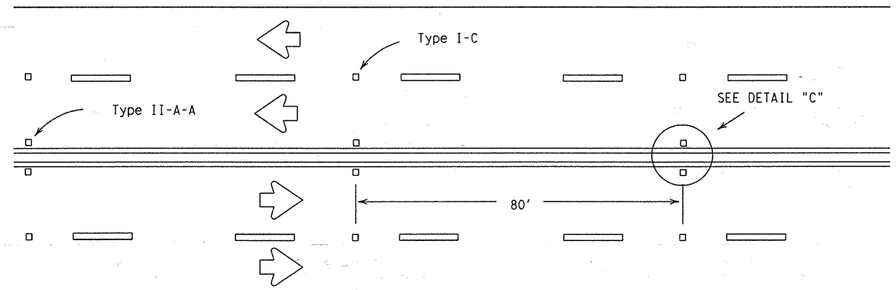
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REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

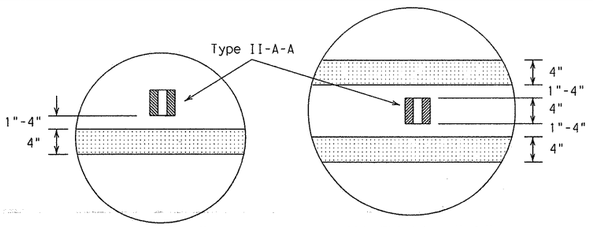


CENTERLINE FOR ALL TWO LANE ROADWAYS

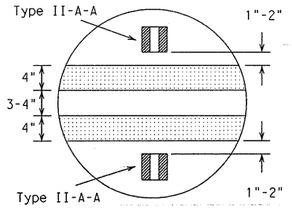


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

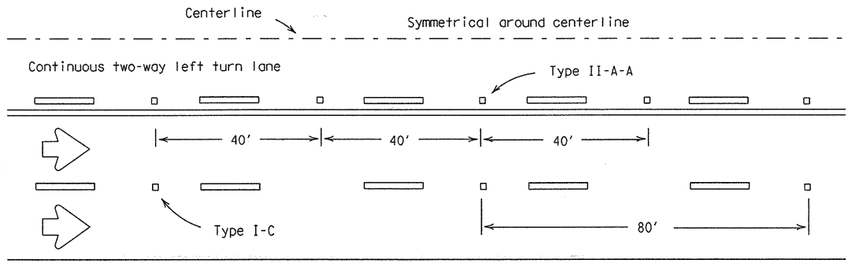
Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.



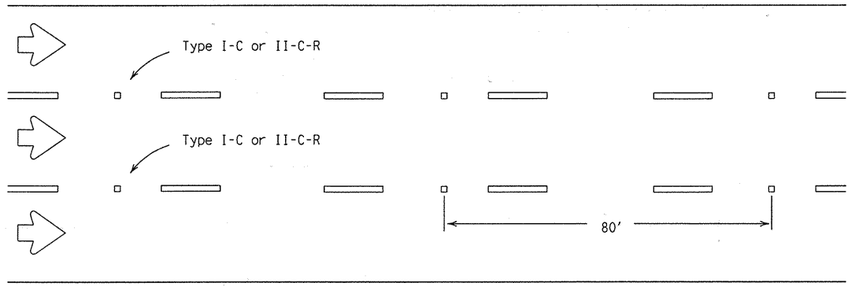
DETAIL "A" DETAIL "B"



DETAIL "C"



CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

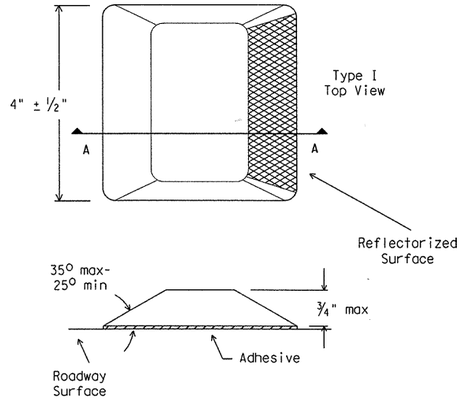
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

As required by the Engineer or shown elsewhere in the plans, Type II-C-R or Type I-C markers may be placed on 40-foot centers for the below listed conditions:

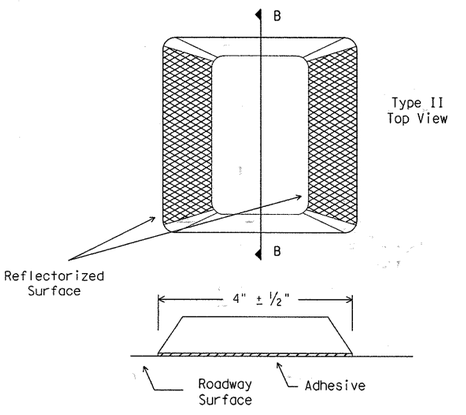
1. horizontal curves,
2. continuously illuminated sections,
3. high volume roadways
4. or roadways where safety concerns exist.

RAISED PAVEMENT MARKERS

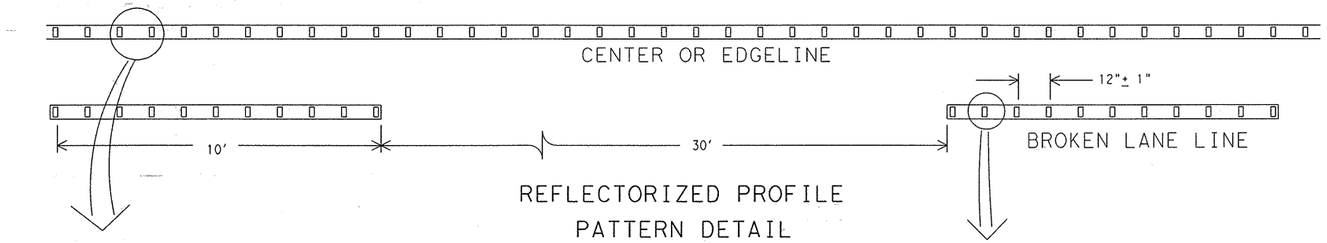
(REFLECTORIZED)



SECTION A

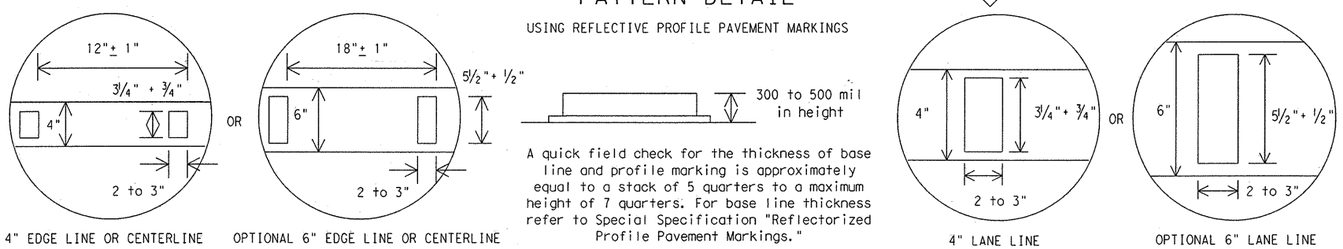


SECTION B



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



4" EDGE LINE OR CENTERLINE — OPTIONAL 6" EDGE LINE OR CENTERLINE — 4" LANE LINE — OPTIONAL 6" LANE LINE

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters. For base line thickness refer to Special Specification "Reflectorized Profile Pavement Markings."

GENERAL NOTES:

All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.

On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

SPECIFICATION REFERENCE TABLE

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECT.)	DMS-4200
EPOXY	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130

CHANGE ORDER NO. 38

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

POSITION GUIDANCE USING RAISED MARKERS
REFLECTORIZED PROFILE MARKINGS
PM(2)-00A

© TxDOT April 1977	DN: BAS	CK: GRB	DW: FDN	CK: CAL

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
10-86	DAL	6	(See Title Sheet)	411B
4-92				
5-00				
8-00				

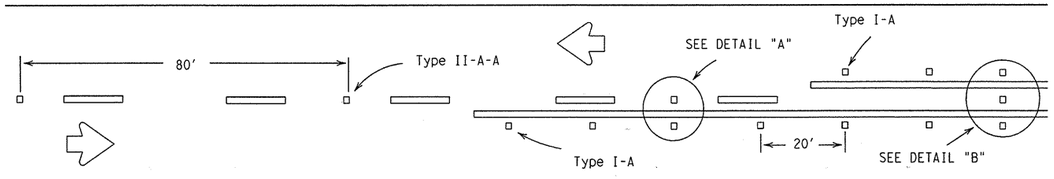
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
DALLAS	0009	11	039	SH 66

22B

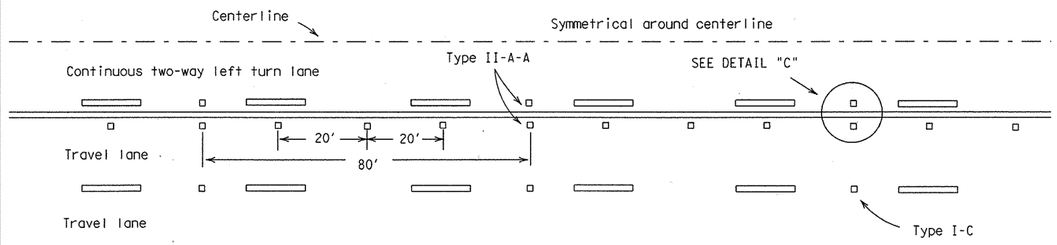
PLOTTED — LEVEL — ACC:

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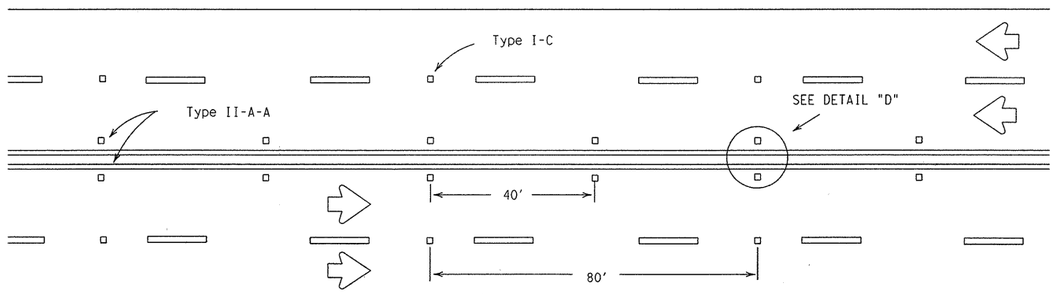
REFLECTIVE RAISED PAVEMENT MARKERS USED TO SUPPLEMENT STANDARD PAVEMENT MARKINGS



CENTERLINE & NO-PASSING LINES FOR 2 LANE TWO-WAY HWYS 24 FT. OR WIDER

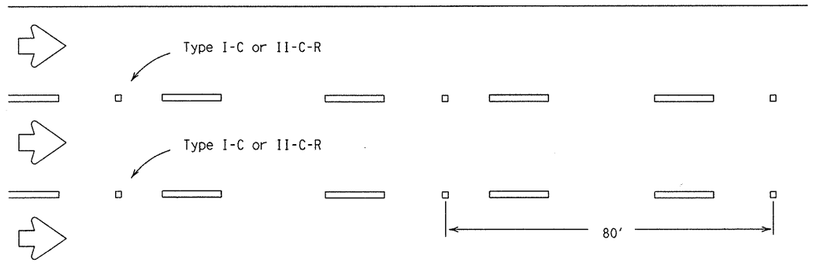


CENTERLINES & LANE LINES FOR TWO-WAY LEFT TURN LANE



CENTERLINE & LANE LINES FOR 4 LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.

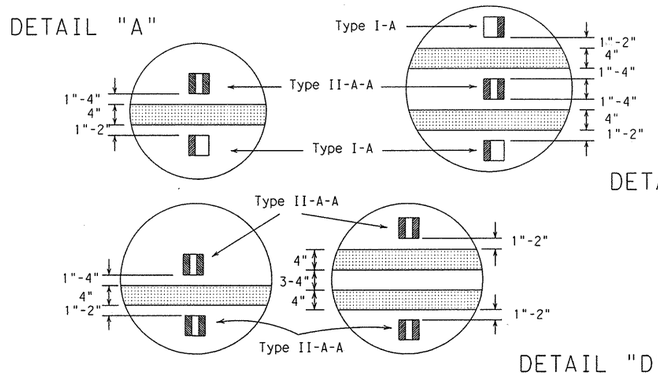


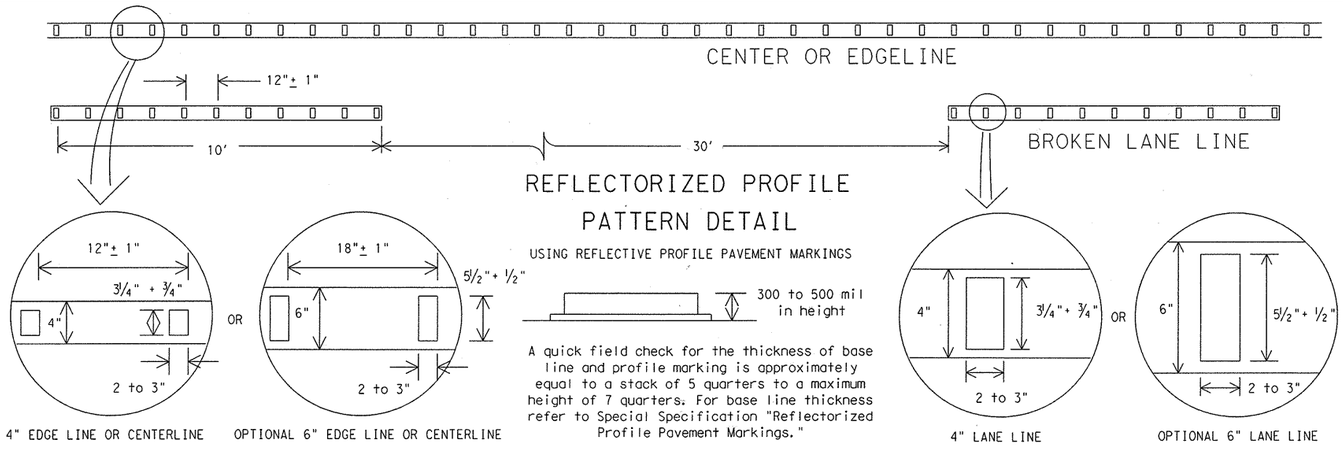
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

As required by the Engineer or shown elsewhere in the plans, Type II-C-R or Type I-C markers may be placed on 40-foot centers for the below listed conditions:

1. horizontal curves,
2. continuously illuminated sections,
3. high volume roadways
4. or roadways where safety concerns exist.





GENERAL NOTES:

All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.

On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

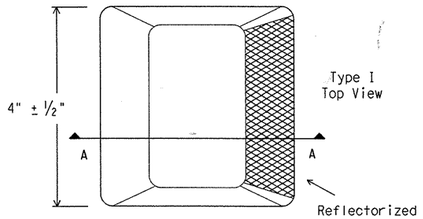
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

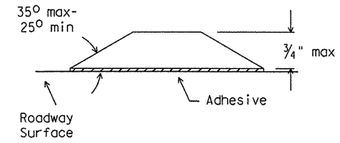
SPECIFICATION REFERENCE TABLE

MATERIAL SPECIFICATIONS	
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EPOXY	DMS-6100
BITUMINOUS ADHESIVE FOR PAVE. MKS.	DMS-6130

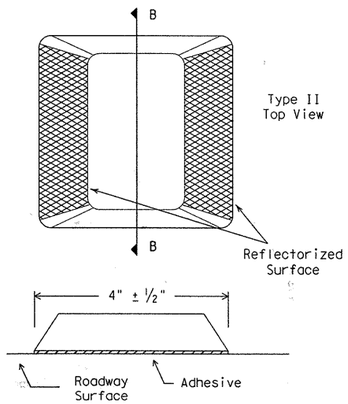
RAISED PAVEMENT MARKERS

(REFLECTORIZED)





SECTION A



SECTION B

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

SUPPLEMENTAL MARKINGS USING RAISED PAVEMENT MARKERS REFLECTORIZED PROFILE MARKINGS

PM(3)-00A

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DN: BAS	CK: GRB	DW: FDN	CK: CAL	REG NO.:

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
10-86 4-92 5-00 8-00	DAL	6	(See Title Sheet)	477C
	COUNTY		CONTROL / SECTION / JOB	HIGHWAY
	DALLAS		0009 / 11 / 039	SH 66

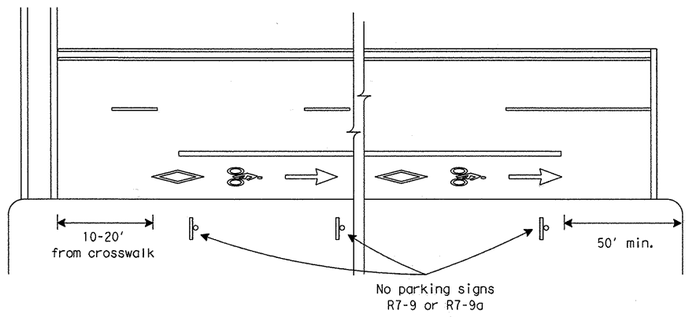
38 CHANGE ORDER NO. 38

22C

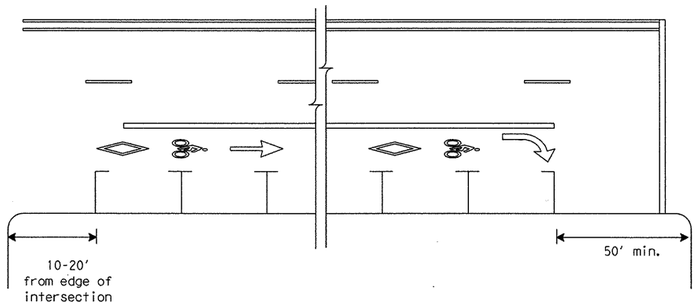
SPLAYED
LG: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
ACC: 1 2 3 4 5 6

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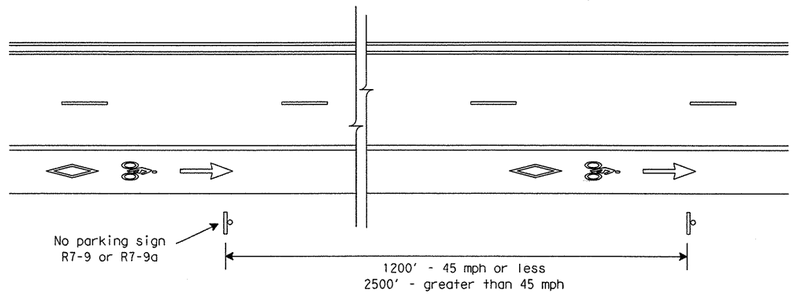
No Parking Along Bicycle Lane



Parking Along Bicycle Lane

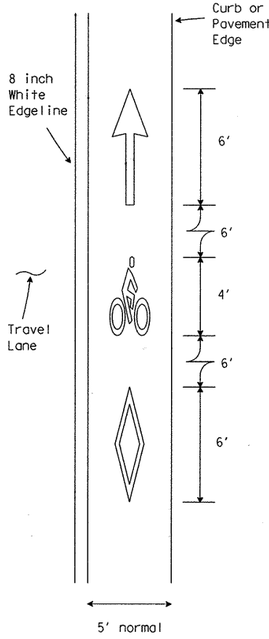


Roadways with Few Intersections

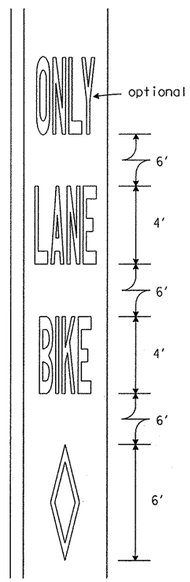


Adjacent to Travel Lane

Preferred

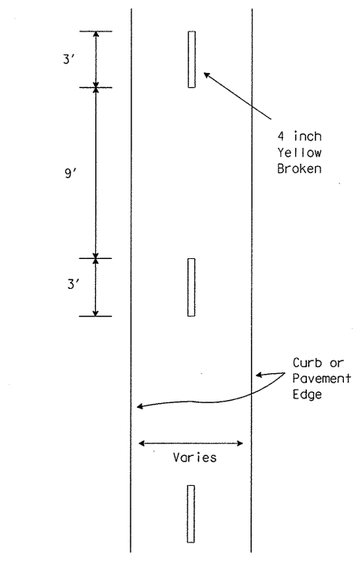


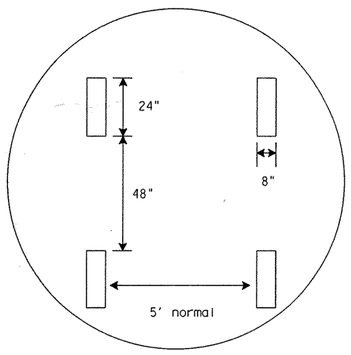
Alternate



Bicycle Lane Path

(Separate roadway with no motorized traffic)

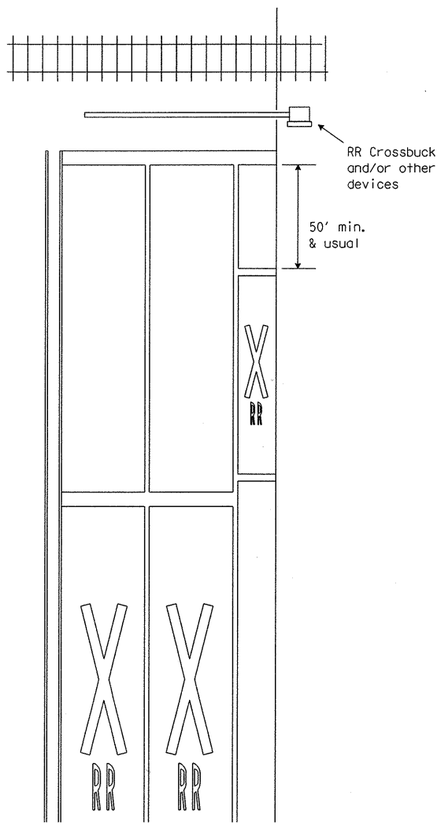




Detail "A"

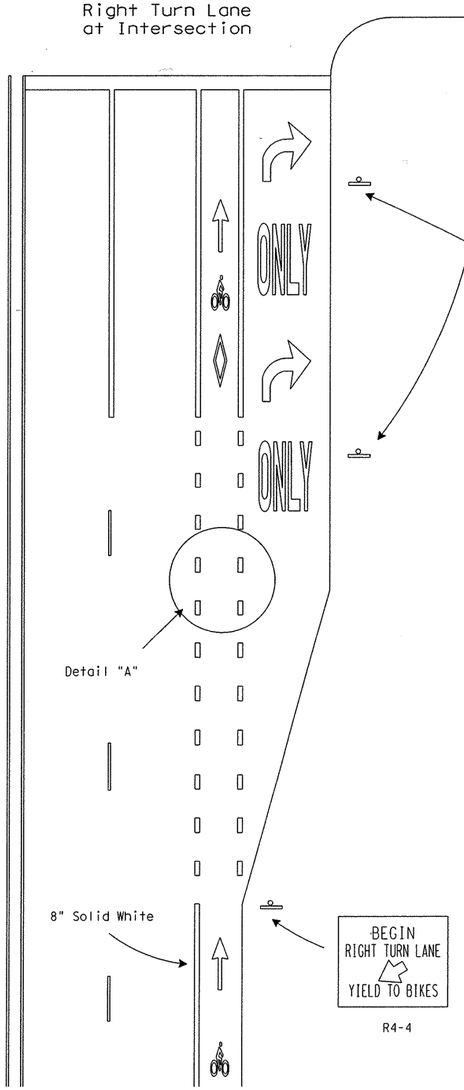
Railroad Crossing Approach

(with designated bicycle lane adjacent to travel lane)



(See RCPM for travel lane details)

Right Turn Lane at Intersection



SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS

TRAFFIC PAINT	D-9-8200
THERMOPLASTIC, HOT APPLIED	D-9-8220
PREFABRICATED PAVEMENT MARKINGS-PERMANENT	D-9-8240
GLASS BEADS	D-9-8290

GENERAL NOTES:

All pavement markings shall be white except when noted otherwise.

Pavement markings shall be of the materials specified and shall be in conformance with Department Material Specifications.

Exact sign placement and details are shown elsewhere in the plans.

Additiona References: TMUTCD
Guide for the Development of
Bicycles Facilities, AASHTO, 1991.

38 CHANGE ORDER NO. 38

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BICYCLE LANE PAVEMENT MARKINGS

BL(PM-2)-97

©TxDOT January 1997

DN: MT	CK: -	DW: DN	CK: -	MEC NO.:

REVISIONS

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
DAL	6	(See Title Sheet)	4110

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
DALLAS	0009	11	039	SH 66

17B

LEVELS USED
1 2 3 4 5 6 7 8 13 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 59 60 61 62 63

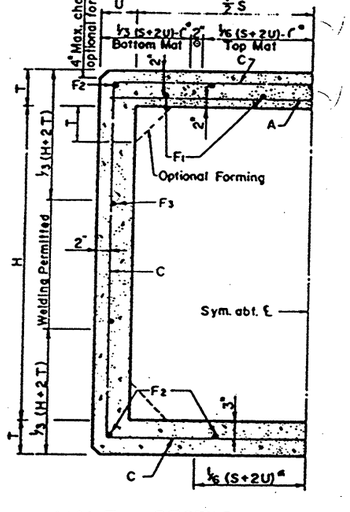
DATE:
ACC: d58hp1c/usr/d580504
FILE:

DN: LR
CK: CW
DW: DN
CK: MT

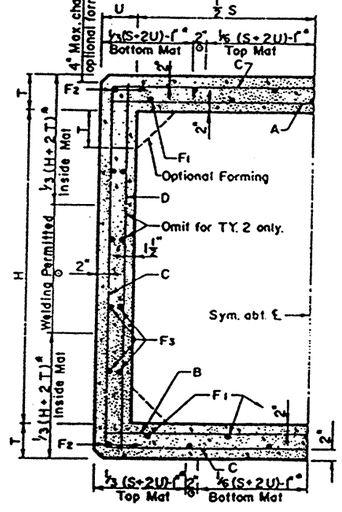
BILL OF REINFORCING STEEL FOR L=8'

CULV. SIZE S	CULV. SIZE H	TYPE SECT.	DIMENSIONS T	DIMENSIONS U	MAX. FILL	TOTAL QUANTITIES FOR L=8' CONC. C.Y.	TOTAL QUANTITIES FOR L=8' REINF. LBS.	QUANTITIES P.L.F. OF BARREL CONC. C.Y.	QUANTITIES P.L.F. OF BARREL REINF. LBS.
3	2	1	6"	6"	14'	1.778	193	.2222	24.13
	3	1	6"	6"	14'	2.074	230	.2592	28.88
4	2	1	6"	6"	12'	2.074	295	.2592	36.88
	3	1	6"	6"	12'	2.370	346	.2963	43.75
	4	1	6"	6"	12'	2.667	395	.3333	49.38
5	2	2	6"	6"	8'	2.370	385	.2963	48.25
	3	2	6"	6"	8'	2.667	426	.3333	53.25
	4	2	6"	6"	8'	2.963	444	.3704	57.00
	5	3	6"	7"	8'	3.556	548	.4445	68.50
6	3	2	6"	6"	8'	2.963	568	.3704	71.00
	4	2	6"	6"	8'	3.259	605	.4074	75.63
	5	3	6"	7"	8'	3.852	684	.4815	85.50
	6	3	6"	7"	8'	4.198	746	.5248	93.25
7	3	2	6½"	6"	6'	3.457	746	.4321	93.25
	4	2	6½"	6"	6'	3.753	778	.4691	97.25
	5	3	6½"	7"	6'	4.350	879	.5438	109.88
	6	3	6½"	7"	6'	4.695	956	.5869	119.50
	7	3	6½"	7"	6'	5.041	1011	.6301	126.38
8	4	2	6½"	6"	6'	4.074	979	.5093	122.38
	5	3	6½"	7"	6'	4.671	1050	.5838	131.25
	6	3	6½"	7"	6'	5.017	1107	.6271	138.38
	7	3	6½"	7"	6'	5.362	1178	.6703	147.25
	8	3	6½"	8"	6'	6.157	1202	.7696	150.25
9	5	3	7"	7"	6'	5.242	1222	.6553	152.75
	6	3	7"	7"	6'	5.588	1297	.6985	162.13
	7	3	7"	7"	6'	5.934	1372	.7417	171.50
	8	3	7"	8"	6'	6.733	1399	.8416	174.88
	9	3	7"	8"	6'	7.128	1460	.8909	182.50
10	5	3	7"	7"	6'	5.588	1470	.6985	183.75
	6	3	7"	7"	6'	5.934	1537	.7417	192.13
	7	3	7"	7"	6'	6.279	1604	.7849	200.50
	8	3	7"	8"	6'	7.078	1623	.8848	202.88
	9	3	7"	8"	6'	7.473	1686	.9342	210.75
	10	3	7"	8"	6'	7.868	1817	.9835	227.13

	BARS A TOP SLAB NO.	SIZE	SPA.	LG.	WT.	BARS B BOTTOM SLAB NO.	SIZE	SPA.	LG.	WT.	BARS C NO.	SIZE	SPA.	LG.	WT.	#4 BARS D @18"± C. TO C. NO.	LG.	WT.	# 4 BARS F @ 18" MAX. LENGTH L-7" F1	SPA.	F2	SPA.	F3	SPA.	TOTAL	WT.	LIFT. WEIGHT L=8' LBS.
3	9	#4	12"	3'-6"	21						12	#4	8½"	13'-6"	108				3	14"	8	14"	2	15"	13	64	7,330
	9	#4	11½"	3'-6"	21						13	#4	7½"	15'-6"	135				3	14"	8	14"	4	14"	15	74	8,560
4	8	#5	14"	4'-6"	38						11	#5	9"	15'-6"	178				4	18"	10	18"	2	15"	16	79	8,600
	8	#5	12"	4'-6"	38						12	#5	8"	17'-6"	219				4	18"	10	18"	4	14"	18	89	9,840
	9	#5	12"	4'-6"	42						13	#5	7½"	19'-6"	264				4	18"	10	18"	4	18"	18	89	11,070
5	10	#5	10"	5'-6"	57	11	#5	9"	5'-6"	63	9	#5	11"	17'-8"	166				8	17"	10	17"	2	15"	20	99	9,860
	11	#5	9"	5'-6"	63	12	#5	8½"	5'-6"	69	9	#5	12"	19'-8"	185				8	17"	10	17"	4	14"	22	109	11,100
	11	#5	8½"	5'-6"	63	12	#5	7½"	5'-6"	69	9	#5	12"	21'-8"	203				8	17"	10	17"	4	18"	22	109	12,310
6	11	#5	9"	5'-8"	65	12	#5	8"	5'-8"	71	8	#5	13"	24'-0"	200	12	5'-6"	44	10	17"	12	17"	12	18"	34	168	14,780
	14	#5	7"	6'-6"	95	15	#5	6½"	6'-6"	102	11	#5	9"	21'-8"	249				10	15"	12	15"	4	14"	26	129	12,390
	14	#5	7"	6'-8"	97	15	#5	6½"	6'-8"	104	11	#5	9½"	23'-8"	272				10	15"	12	15"	4	18"	26	129	13,620
	15	#5	6½"	6'-8"	102	16	#5	6"	6'-8"	111	10	#5	10"	26'-0"	271	12	5'-6"	44	10	16"	12	16"	12	18"	34	168	16,070
7	12	#6	9"	7'-6"	124	12	#6	8"	7'-6"	135	10	#5	10"	28'-0"	292	12	6'-6"	52	10	16"	12	16"	16	16"	38	189	17,520
	13	#6	7½"	7'-6"	146	13	#6	7½"	7'-6"	146	10	#6	10"	23'-10"	358				10	18"	12	18"	4	14"	26	129	14,520
	12	#6	8"	7'-8"	127	12	#6	8"	7'-8"	138	9	#6	11"	25'-10"	349				12	18"	14	18"	4	18"	30	148	15,740
	13	#6	8½"	7'-8"	138	13	#6	8½"	7'-8"	150	9	#6	11½"	28'-2"	381	12	5'-6"	44	12	17"	14	17"	12	18"	38	189	18,220
	13	#6	8½"	7'-8"	138	13	#6	7½"	7'-8"	150	9	#6	12"	30'-2"	408	12	6'-6"	52	12	17"	14	17"	16	16"	42	208	19,670
8	14	#6	8½"	8'-6"	192	14	#6	7"	8'-6"	179	9	#6	11½"	32'-2"	435	12	7'-6"	60	12	17"	14	17"	20	15"	46	228	21,110
	14	#6	7"	8'-8"	182	14	#6	7"	8'-8"	182	11	#6	9"	27'-10"	460				12	17"	14	17"	4	18"	30	148	17,180
	14	#6	7"	8'-8"	182	14	#6	7"	8'-8"	182	10	#6	10"	30'-2"	453	12	5'-6"	44	12	17"	14	17"	12	18"	38	189	19,640
	14	#6	7"	8'-8"	182	14	#6	7"	8'-8"	182	10	#6	10"	32'-2"	483	12	6'-6"	52	12	17"	14	17"	16	16"	42	208	21,080
	14	#6	7"	8'-8"	182	15	#6	6½"	8'-8"	195	10	#6	10"	34'-2"	513	12	7'-6"	60	12	17"	14	17"	20	15"	46	228	22,530
	13	#6	7½"	8'-10"	172	14	#6	7"	8'-10"	186	10	#6	10½"	36'-6"	548	12	8'-6"	68	12	18"	14	18"	20	18"	46	228	25,770
9	15	#6	6½"	9'-8"	218	15	#6	6½"	9'-8"	218	11	#6	9"	32'-4"	534	12	5'-6"	44	14	17"	16	17"	12	18"	42	208	22,070
	16	#6	6"	9'-8"	232	15	#6	6½"	9'-8"	218	11	#6	9"	34'-4"	567	12	6'-6"	52	14	17"	16	17"	16	16"	46	228	23,530
	16	#6	6"	9'-8"	232	16	#6	6"	9'-8"	232	11	#6	9"	36'-4"	600	12	7'-6"	60	14	17"	16	17"	20	15"	50	248	24,980
	15	#6	6½"	9'-10"	222	15	#6	6½"	9'-10"	222	11	#6	9½"	38'-8"	639	12	8'-6"	68	14	17"	16	17"	20	18"	50	248	28,230
	15	#6	6½"	9'-10"	222	15	#6	6½"	9'-10"	222	11	#6	9"	40'-8"	672	12	9'-6"	76	14	17"	16	17"	24	17"	54	268	29,880
10	17	#6	5½"	10'-8"	272	16	#6	6"	10'-8"	256	13	#6	7½"	34'-4"	670	12	5'-6"	44	16	16"	18	16"	12	18"	46	228	23,650
	17	#6	5½"	10'-8"	272	16	#6	6"	10'-8"	256	13	#6	7½"	36'-4"	709	12	6'-6"	52	16	16"	18	16"	16	16"	50	248	25,090
	17	#6	5½"	10'-8"	272	17	#6	5½"	10'-8"	256	13	#6	7½"	38'-4"	748	12	7'-6"	60	16	16"	18	16"	20	15"	54	268	26,540
	17	#6	5½"	10'-10"	277	17	#6	5½"	10'-10"	277	12	#6	8"	40'-8"	733	12	8'-6"	68	16	16"	18	16"	20	18"	54	268	29,790
	17	#6	5½"	10'-10"	277	17	#6	5½"	10'-10"	277	12	#6	8"	42'-8"	769	12	9'-6"	76	16	16"	18	16"	24	17"	58	287	31,430
	17	#6	5½"	10'-10"	277	17	#6	5½"	10'-10"	277	13	#6	7½"	44'-8"	872	12	10'-6"	84	16	16"	18	16"	28	16"	62	307	33,120



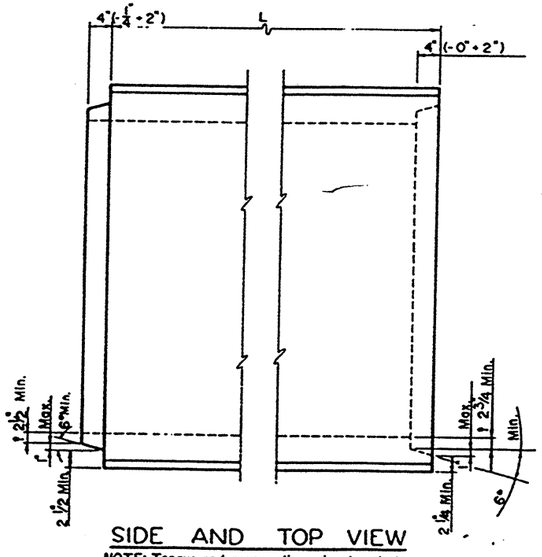
HALF SECTION
TYPE 1



HALF SECTION
TYPES 2 & 3

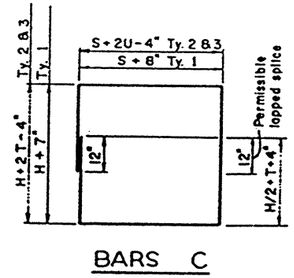
* These dimensions shall be sufficiently different to allow a ¼ (± 1/16) nominal space between the sloping faces.

*Permissible tack welding on mats shown.
⊙Permissible tack welding both mats.

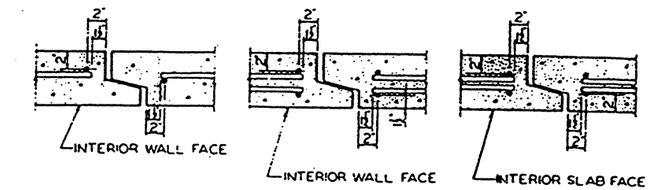


SIDE AND TOP VIEW

NOTE: Tongue and groove dimensional controls shown are intended to allow either a 4" long 1" slope joint, a 6" long 6" slope joint or any joint configuration within these limits.
Dimensions shown as minimums shall be maintained around the perimeter of the box.

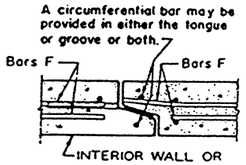


BARS C



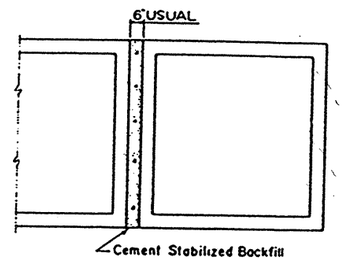
SINGLE MAT PLACEMENT

DOUBLE MAT PLACEMENT



STEEL SUPPORT DETAIL

NOTE: As many Bars F as necessary may be extended to end of box to support steel during manufacture. Bars may be slightly bent to clear slope on groove lip as shown in detail. Alternatively the steel may be supported by bar extensions welded to Bars F.



MULTIPLE UNIT PLACEMENT

GENERAL NOTES:

All welding to be done by qualified welder.

Additional splices in reinforcing steel not shown hereon, must be submitted to the Bridge Division for approval prior to fabrication.

Grade 60 Bars or Wire Fabric may be used in place of Grade 40 Steel by supplying 82% of the area of steel per linear foot shown in the Tables for Bars A, B, C and D.

Longitudinal steel shall have at least as much area as Bars F and shall be spaced at 18" c.c. maximum.

These designs are adequate for HS 20 live loading and any fill depth from 2'-0" to the maximum shown in the the tables.

In lieu of furnishing the designs shown on this detail the contractor may use designs from either Std. PC-3, PC-7 or ASTM C-789, Table I. In either case, the substituted design must equal or exceed the maximum fill height for the maximum fill height for the same sized box in the table on this detail. For boxes reinforced with wire fabric the minimum cover shall be three times the wire diameter but not less than one inch. Placing of reinforcement shall otherwise conform to specification "Reinforcing Steel."

TEXAS HIGHWAY DEPARTMENT

PRECAST CONCRETE BOX CULVERTS

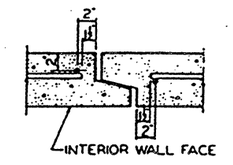
PC-1

ORIGINAL DRAWING DATE: MARCH 1983	REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
DR.:-ADC		18	6	NH 99(367)	412
CK.:-CCT		COUNTY		CONTROL	SECTION	JOB	HIGHWAY
DR.:-EDS	Rev. 9-96 (Gen. Notes)	ROCKWALL		0047	04	052	5146
CK.:-CCT	Rev. 7-95 (Gen. Notes)						

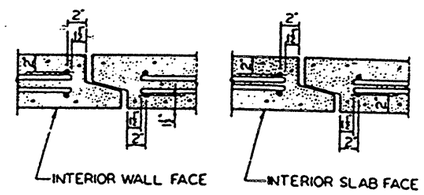
BILL OF REINFORCING STEEL FOR L=8'

CULV. SIZE S	CULV. SIZE H	TYPE SECT.	DIMENSIONS T	DIMENSIONS U	MAX. FILL	TOTAL QUANTITIES FOR L=8' CONC. C.Y.	TOTAL QUANTITIES FOR L=8' REINF. LBS.	QUANTITIES P.L.F. OF BARREL CONC. C.Y.	QUANTITIES P.L.F. OF BARREL REINF. LBS.
3'	2'	1	4"	4"	26'	1.185	272	.1481	34.00
	3'	1	4"	4"	26'	1.383	339	.1728	42.38
4'	2'	1	5"	5"	24'	1.790	393	.2238	49.13
	3'	1	5"	5"	24'	2.037	474	.2546	59.25
	4'	1	5"	5"	24'	2.284	522	.2855	65.25
5'	2'	2	6"	6"	22'	2.518	615	.3148	76.88
	3'	2	6"	6"	22'	2.815	652	.3519	81.50
	4'	2	6"	6"	22'	3.111	650	.3889	81.25
	5'	3	6"	6"	22'	3.407	760	.4259	95.00
6'	3'	2	7"	7"	22'	3.714	893	.4643	111.63
	4'	2	7"	7"	22'	4.060	909	.5075	113.63
	5'	3	7"	7"	22'	4.405	988	.5506	123.50
	6'	3	7"	7"	22'	4.751	1049	.5939	131.13
7'	3'	2	8"	8"	23'	4.742	1127	.5928	140.88
	4'	2	8"	8"	23'	5.138	1159	.6423	144.88
	5'	3	8"	8"	23'	5.533	1262	.6916	157.75
	6'	3	8"	8"	23'	5.928	1283	.7410	160.38
	7'	3	8"	8"	23'	6.323	1347	.7904	168.38
8'	4'	2	8"	8"	20'	5.533	1415	.6916	176.88
	5'	3	8"	8"	20'	5.928	1489	.7410	186.13
	6'	3	8"	8"	20'	6.323	1581	.7904	197.63
	7'	3	8"	8"	20'	6.719	1673	.8399	209.13
	8'	3	8"	8"	20'	7.114	1670	.8893	208.75
9'	5'	3	9"	9"	20'	7.222	1936	.9208	242.00
	6'	3	9"	9"	20'	7.665	2003	.9581	250.38
	7'	3	9"	9"	20'	8.111	2007	1.014	250.88
	8'	3	9"	9"	20'	8.555	2064	1.069	258.00
	9'	3	9"	9"	20'	8.999	2141	1.125	267.63
10'	5'	3	10"	10"	21'	8.640	2300	1.080	287.50
	6'	3	10"	10"	21'	9.133	2369	1.142	296.13
	7'	3	10"	10"	21'	9.627	2376	1.203	297.00
	8'	3	10"	10"	21'	10.120	2460	1.265	307.50
	9'	3	10"	10"	21'	10.614	2526	1.327	315.75
	10'	3	10"	10"	21'	11.108	2611	1.389	326.38

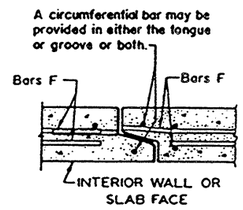
CULV. SIZE S	CULV. SIZE H	BARS A TOP SLAB NO.	SIZE	SPA.	LG.	WT.	BARS B BOTTOM SLAB NO.	SIZE	SPA.	LG.	WT.	BARS C NO.	SIZE	SPA.	LG.	WT.	#4 BARS D @18"± C. TO C. NO.	LG.	WT.	#4 BARS F @ 18" MAX. LENGTH L-7" F1	SPA.	F2	SPA.	F3	SPA.	TOTAL	WT.	LIFT. WEIGHT L=8' LBS.
3'	2'											12	#6	8"	12'-4"	222						8	14"	2	15"	10	50	5,000
	3'											13	#6	7½"	14'-4"	280						8	14"	4	14"	12	59	5,850
4'	2'											15	#6	6½"	14'-10"	334						10	14"	2	15"	12	59	7,530
	3'											16	#6	6"	16'-10"	405						10	14"	4	14"	14	69	8,590
	4'											16	#6	6"	18'-10"	453						10	14"	4	18"	14	69	9,620
5'	2'	10	#7	10½"	5'-6"	112	10	#7	10"	5'-6"	112	11	#6	9"	17'-8"	292						8	17"	10	17"	2	15"	20	99	10,620
	3'	11	#7	9½"	5'-6"	124	11	#7	9½"	5'-6"	124	10	#6	10"	19'-8"	295						8	17"	10	17"	4	14"	22	109	11,850
	4'	11	#7	9½"	5'-6"	124	11	#7	9"	5'-6"	124	9	#6	11"	21'-8"	293						8	17"	10	17"	4	18"	22	109	13,050
	5'	11	#7	9½"	5'-6"	124	11	#7	9"	5'-6"	124	9	#6	11"	23'-8"	320	12	5'-6"	44			8	17"	10	17"	12	17"	30	148	14,320
6'	3'	12	#7	8½"	6'-8"	164	12	#7	8"	6'-8"	164	13	#6	7½"	22'-4"	436						10	16"	12	16"	4	15"	26	129	15,660
	4'	12	#7	8"	6'-8"	164	13	#7	7½"	6'-8"	177	12	#6	8½"	24'-4"	439						10	16"	12	16"	4	18"	26	129	17,070
	5'	12	#7	8"	6'-8"	164	13	#7	7½"	6'-8"	177	11	#6	9"	26'-4"	435	12	5'-6"	44			10	16"	12	16"	12	17"	34	168	18,520
	6'	12	#7	8"	6'-8"	164	13	#7	7½"	6'-8"	177	11	#6	9"	28'-4"	468	12	6'-6"	52			10	16"	12	16"	16	16"	38	188	19,970
7'	3'	13	#7	7½"	7'-10"	208	13	#7	7½"	7'-10"	208	15	#6	6½"	25'-0"	563						12	16"	14	16"	4	15"	30	148	19,980
	4'	13	#7	7½"	7'-10"	208	14	#7	7"	7'-10"	224	14	#6	7"	27'-0"	568						12	16"	14	16"	6	15"	32	159	21,610
	5'	14	#7	7"	7'-10"	224	15	#7	6½"	7'-10"	240	13	#6	7½"	29'-0"	566	12	5'-6"	44			12	16"	14	16"	12	18"	38	188	23,280
	6'	14	#7	7"	7'-10"	224	15	#7	6½"	7'-10"	240	12	#6	8"	31'-0"	559	12	6'-6"	52			12	16"	14	16"	16	17"	42	208	24,890
	7'	14	#7	7"	7'-10"	224	15	#7	6½"	7'-10"	240	12	#6	8"	33'-0"	595	12	7'-6"	60			12	16"	14	16"	20	16"	46	228	26,540
8'	4'	15	#7	6½"	8'-10"	270	16	#7	6"	8'-10"	289	16	#6	6"	29'-0"	697						12	18"	14	18"	6	15"	32	159	23,390
	5'	15	#7	6½"	8'-10"	270	16	#7	6"	8'-10"	289	15	#6	6½"	31'-0"	698	12	5'-6"	44			12	18"	14	18"	12	18"	38	188	25,040
	6'	15	#7	6½"	8'-10"	270	16	#7	6"	8'-10"	289	15	#6	6½"	33'-0"	743	12	6'-6"	52			12	18"	14	18"	16	17"	42	208	26,700
	7'	16	#7	6"	8'-10"	289	16	#7	6"	8'-10"	289	15	#6	6½"	35'-0"	789	12	7'-6"	60			12	18"	14	18"	20	16"	46	228	28,370
	8'	16	#7	6"	8'-10"	289	17	#7	5½"	8'-10"	307	14	#6	7"	37'-0"	778	12	8'-6"	68			12	18"	14	18"	20	18"	46	228	29,960
9'	5'	13	#8	7½"	10'-0"	347	14	#8	7"	10'-0"	374	14	#7	7"	33'-8"	963	12	5'-6"	44	14	18"	16	18"	12	18"	42	208	30,580
	6'	14	#8	7"	10'-0"	374	15	#8	6½"	10'-0"	401	13	#7	7½"	35'-8"	948	12	6'-6"	52	14	18"	16	18"	16	17"	46	228	32,430
	7'	14	#8	7"	10'-0"	374	15	#8	6½"	10'-0"	401	12	#7	8"	37'-8"	924	12	7'-6"	60	14	18"	16	18"	20	16"	50	248	34,230
	8'	14	#8	7"	10'-0"	374	15	#8	6½"	10'-0"	401	12	#7	8"	39'-8"	973	12	8'-6"	68	14	18"	16	18"	20	18"	50	248	36,070
	9'	14	#8	7"	10'-0"	374	15	#8	6½"	10'-0"	401	12	#7	8"	41'-8"	1022	12	9'-6"	76	14	18"	16	18"	24	17"	54	268	37,920
10'	5'	15	#8	6½"	11'-2"	447	15	#8	6½"	11'-2"	447	15	#7	6½"	36'-4"	1114	12	5'-6"	44	16	17"	18	17"	16	15"	50	248	36,580
	6'	15	#8	6½"	11'-2"	447	15	#8	6½"	11'-2"	447	15	#7	6½"	38'-4"	1175	12	6'-6"	52	16	17"	18	17"	16	18"	50	248	38,620
	7'	15	#8	6½"	11'-2"	447	15	#8	6½"	11'-2"	447	15	#7	7"	40'-4"	1154	12	7'-6"	60	16	17"	18	17"	20	17"	54	268	40,630
	8'	15	#8	6½"	11'-2"	447	15	#8	6½"	11'-2"	447	14	#7	7"	42'-4"	1211	12	8'-6"	68	16	17"	18	17"	24	16"	58	287	42,680
	9'	15	#8	6½"	11'-2"	447	15	#8	6½"	11'-2"	447	14	#7	7"	44'-4"	1269	12	9'-6"	76	16	17"	18	17"	24	18"	58	287	44,730
	10'	15	#8	6½"	11'-2"	447	15	#8	6½"	11'-2"	447	14	#7	7"	46'-4"	1326	12	10'-6"	84	16	17"	18	17"	28	17"	62	307	46,790



SINGLE MAT PLACEMENT

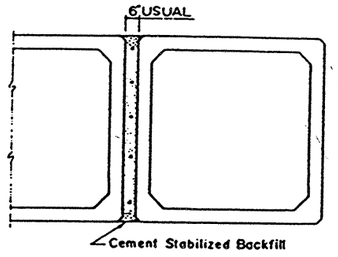


DOUBLE MAT PLACEMENT

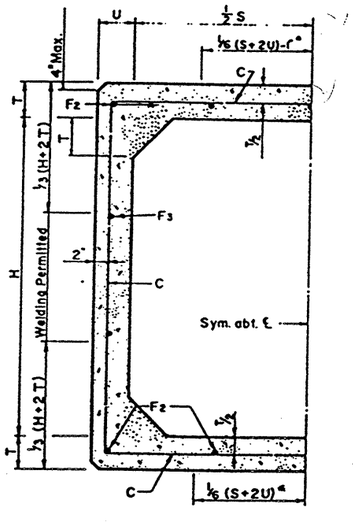


STEEL SUPPORT DETAIL

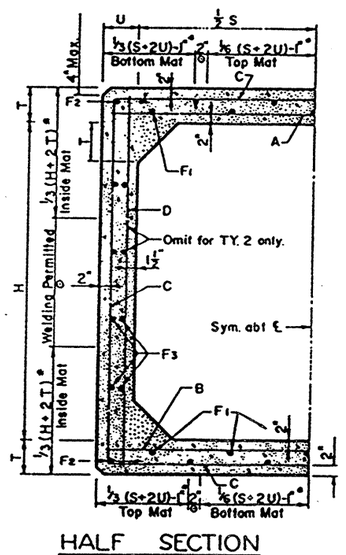
NOTE: As many Bars F as necessary may be extended to end of box to support steel during manufacture. Bars may be slightly bent to clear slope on groove lip as shown in detail. Alternatively the steel may be supported by bar extensions welded to Bars F.



MULTIPLE UNIT PLACEMENT



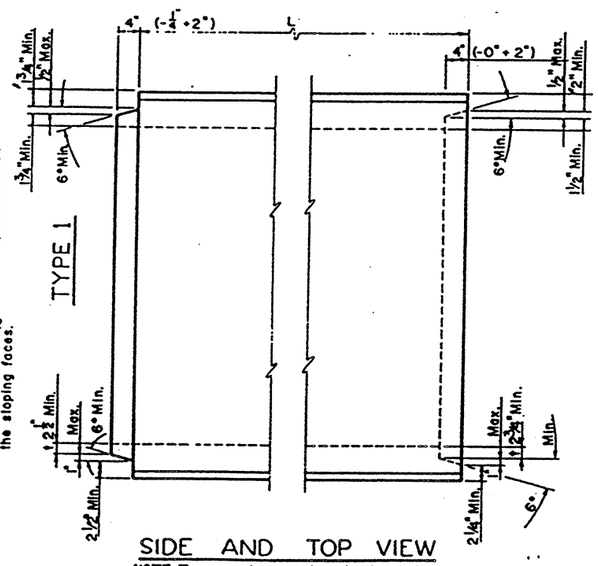
HALF SECTION
TYPE 1



HALF SECTION
TYPES 2 & 3

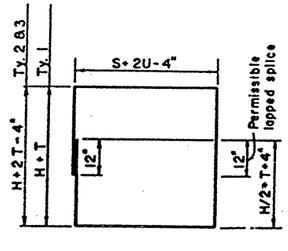
* These dimensions shall be sufficiently different to allow a ¼" (± 1/16") nominal space between the sloping faces.

*Permissible tack welding on mats shown.
°Permissible tack welding both mats.



SIDE AND TOP VIEW

NOTE: Tongue and groove dimensional controls shown are intended to allow either a 4" long 1° slope joint, a 6" long 6° slope joint or any joint configuration within these limits. Dimensions shown as minimums shall be maintained around the perimeter of the box.



BARS C

GENERAL NOTES:

All welding to be done by qualified welder.

Additional splices in reinforcing steel not shown hereon, must be submitted to the Bridge Division for approval prior to fabrication.

Grade 60 Bars or Wire Fabric may be used in place of Grade 40 Steel by supplying 82 % of the area of steel per linear foot shown in the Tables for Bars A.

Longitudinal steel shall have at least as much area as Bars F and shall be spaced at 18" c.c. maximum.

These designs are adequate for HS 20 live loading and any fill from 2'-0" to the maximum shown in the tables.

In lieu of furnishing the designs shown on this detail the contractor may use designs from ASTM C-789, Table 1. In either case, the substituted design must equal or exceed the maximum fill height for the same sized box in the table on this detail. For boxes reinforced with wire fabric the minimum cover shall be three times the wire diameter but not less than one inch. Placing of reinforcement shall otherwise conform to specification "Reinforcing Steel."

TEXAS HIGHWAY DEPARTMENT

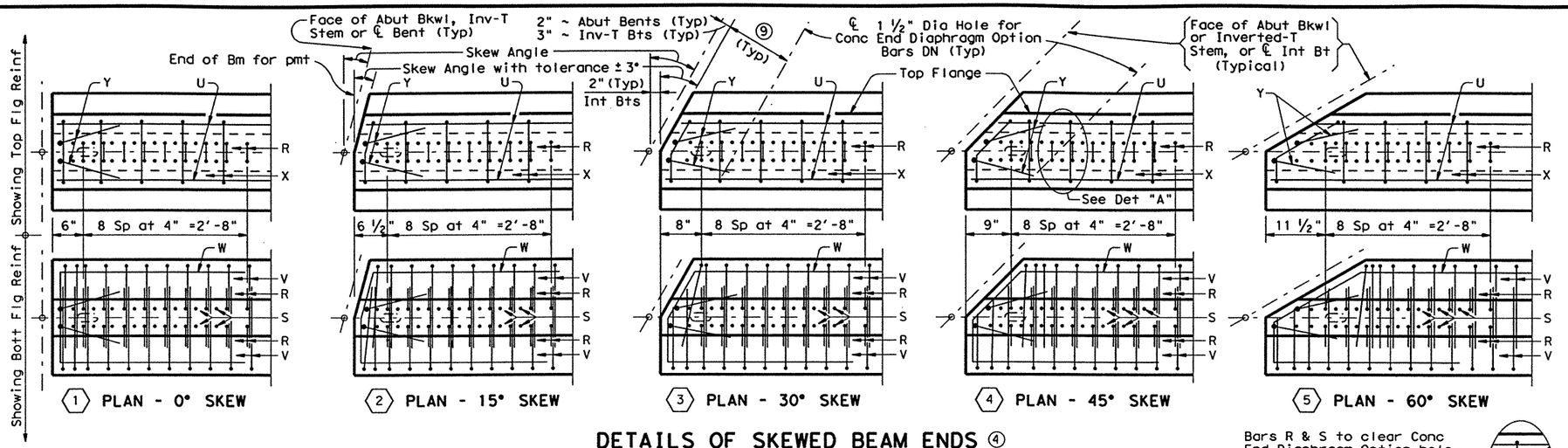
PRECAST CONCRETE BOX CULVERTS

PC-5

ORIGINAL DRAWING DATE: MARCH 1983	REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
DR.:-ADC	Rev. 9-96 (Gen. Notes)	18	6	NH 99(367)	113
CK.:-CCT	Rev. 7-86 (Gen. Notes)	COUNTY			
DW.:-EDS		ROCKWALL			
CK.:-CCT					

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ACC: (LV=1,2 for English)
LEVELS DISPLAYED 1 2



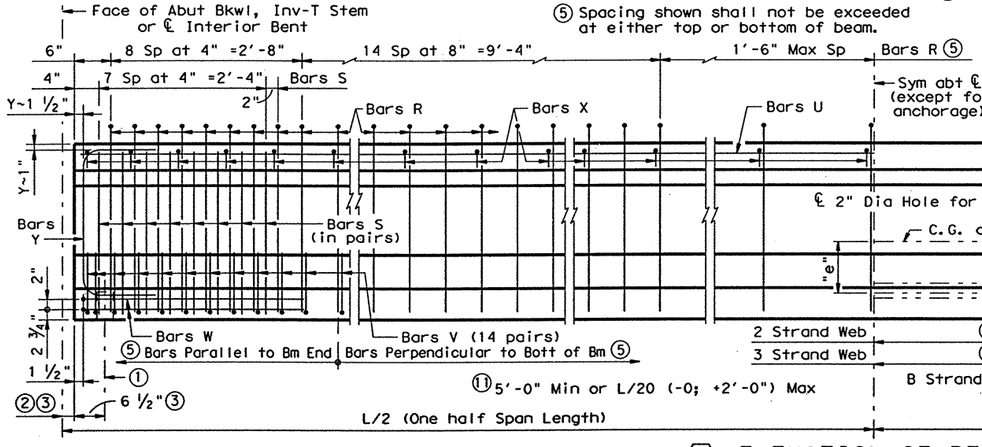
DETAILS OF SKEWED BEAM ENDS ④

④ Reinforcing patterns shown above are to be used as guides in determining the reinforcement for the actual beam type (Type C shown) and the skew angle used. In general, the distance between consecutive Bars R and/or S shall be 2". This spacing may be varied in order to avoid Dowel Holes or Conc End Diaphragm Option holes (See Detail "A"). However, a minimum cross sectional area equivalent to that of Bars R & S in square beam end shall be provided.

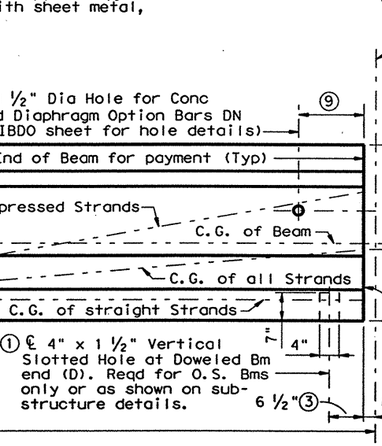
Note: It is permissible for bars or strands to come in contact with materials used in forming anchor and diaphragm holes.

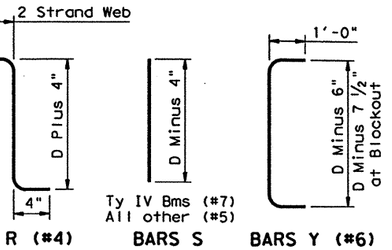
Note: See span details for location of interior diaphragms, if any. For skewed spans, location of diaphragms may vary from beam to beam.

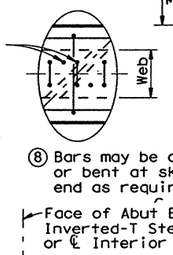
① Note: Anchorage holes may be tapered (4 ¾" x 1 ⅝") at base. If holes are formed with sheet metal, forms may be left in place.



⑥ ELEVATION OF BEAM



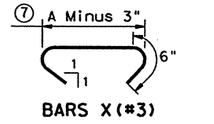




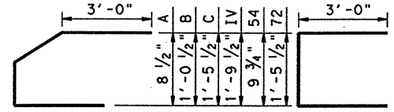
A	11 ½"
B	1'-1 ½"
C	1'-3 ½"
IV	1'-5 ½"
54	11 ½"
72	1'-3 ½"

⑧ BARS V (#4)

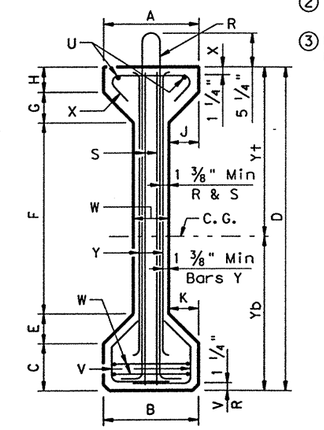
At the fabricator's option, bottom leg may be extended to tie to outside strand, in lieu of tying to inside strand.



⑦ Increase for first bar at skewed end



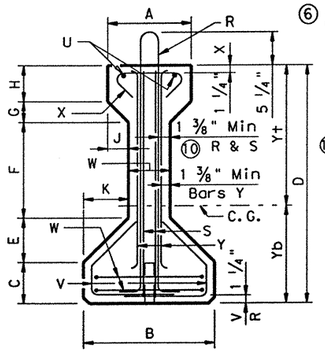
GENERAL NOTES:
Designed in accordance with current AASHTO Specifications.
All concrete shall be Class H.
Bottom corners of all beam flanges and outside corners of exterior beam ends shall be chamfered ¾" or rounded to a 1 ½" radius.
Diaphragm holes in ends of beam only for use with concrete end diaphragm option.
The use of diaphragm holes for lifting purposes will not be permitted.
All reinforcing bars for beams shall be Grade 60.
An equal area of welded wire fabric may be substituted for Bars R, V, S or X if approved by the Engineer.



⑦ TYPES 54 & 72 BEAMS

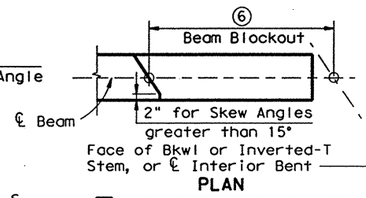
② 3" ~ Inv-T Stem
2" ~ Abut Bkwl & Int Bts

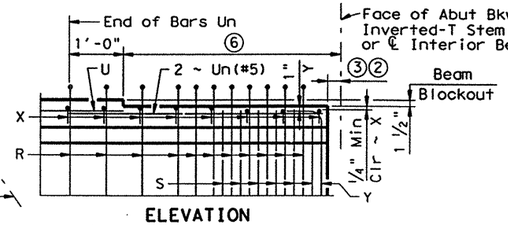
③ Measured along ℄ beam at Int Bts; perpendicular to Abut Bkwl or Inv-T Stem



⑧ TYPES A, B, C & IV BEAMS

⑥ 4'-0" / Cosine of Skew Angle





⑩ 2 ¾" for Bars S ~ with 3-Strand Web only

⑨ BLOCKOUT DETAIL FOR THICKENED SLAB END

Note: Beam blockout required only when beam haunch at ℄ Brg is less than 2".

BEAM DIMENSIONS AND SECTION PROPERTIES

BEAM TYPE	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.	K In.	M In.	N In.	W In.	Yt In.	Yb In.	AREA In.²	I In.⁴	Wt/LF Lb.
A	12	16	5	28	5	11	3	4	3	5	13	15	6	15.39	12.61	275.4	22,658	287
B	12	18	6	34	5 ¾	14	2 ¾	5 ½	2 ¾	5 ¾	17	15	6 ½	19.07	14.93	360.3	43,177	375
C	14	22	7	40	7 ½	16	3 ½	6	3 ½	7 ½	21	15	7	22.91	17.09	494.9	82,602	516
IV	20	26	8	54	9	23	6	8	6	9	33	18	8	29.25	24.75	788.4	260,403	821
54	16	16	8	54	5	32	5	4	5	5	35	15	6	28.47	25.53	493.4	164,023	514
72	22	22	11	72	7 ½	40 ½	7 ½	5 ½	7 ½	7 ½	47	15	7	38.27	33.73	863.4	532,060	899

Note: Tolerance for Dimensions M & N = (+ ½" ; -1") (Same toerance to be applied to all holes for a given Diaphragm Bar DN).

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

PRESTRESSED CONCRETE I-BEAM DETAILS

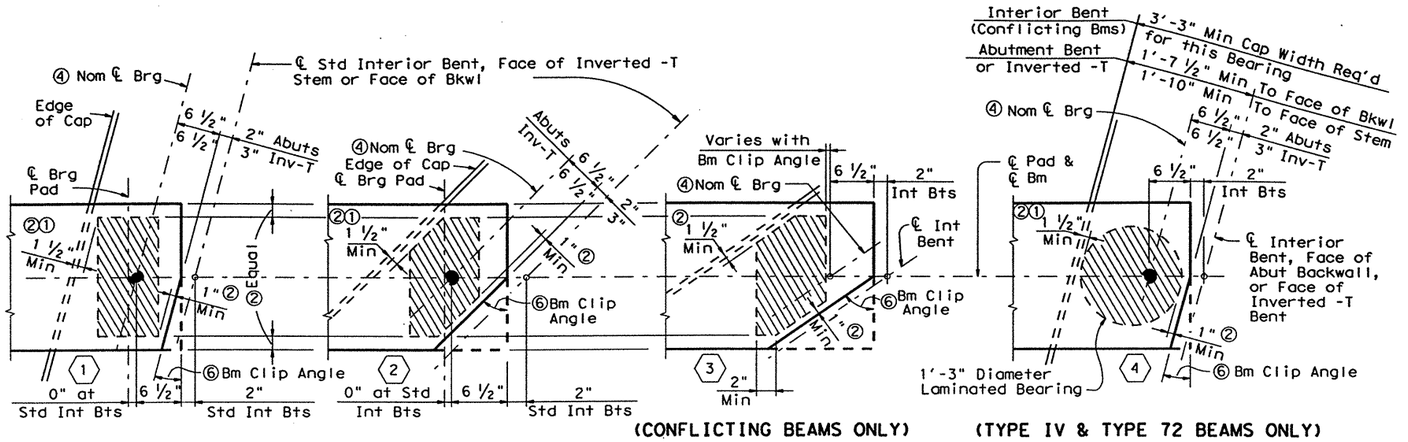
IBA

FILE: ibastdet.dgn	DN: THD	CK: MLR	DW: DRG	CK: LDS	STD: B207
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		414
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

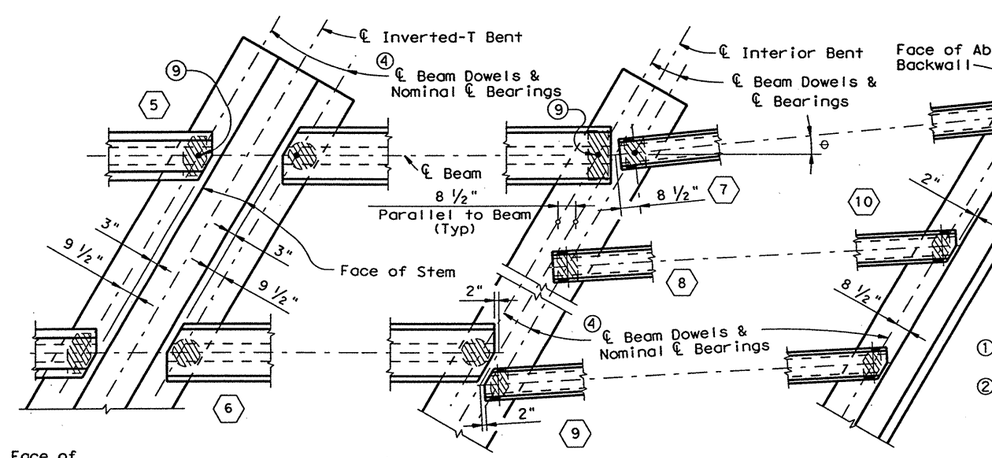
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LEVELS DISPLAYED 1 2



ELASTOMERIC BEARING PLACEMENT DIAGRAMS



BEAM END DETAILS

Note:
For Transition Bents with backwall, beams and elastomeric bearings shall receive the same treatment as shown for Abutment Bents

① 3" for Corbels of Inverted -T.

② Factors controlling laminated bearing placement if no dowel is present. Place ℄ Pad as near Nominal ℄ Brg as possible between limits shown.

③ Provide 2" Dia Hole (always on beam end side of centerline pad) only at locations required. See substructure details for location.

④ For purposes of computing Bearing Seat Elevations, nominal center-line of bearing shall be defined as shown. The actual center of bearing pad may vary from this line, according to the "C" value shown in Table. If table shows no "C" value, See ②

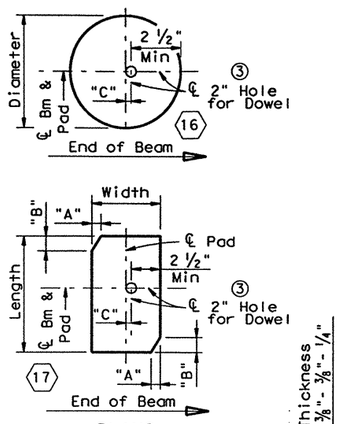
⑤ Interpolate "C" values for angles not shown between 30° & 40°, 40° & 50°, 50° & 60°.

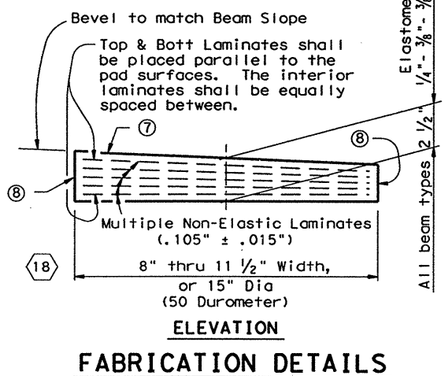
⑥ Complement of Beam Angle except at some conflicting beams. See ⑮

⑦ Locate "BRG TYPE" identification here

⑧ Locate Permanent Mark here

⑨ Provide Beam Dowels for outside beams only when shown (D) on Layout (Beams adjacent to a longitudinal joint at the median are considered as outside beams).





FABRICATION DETAILS

GENERAL NOTES:
Beams shall be seated on elastomeric bearings of the dimensions shown.
Constant thickness bearings may be used for moderate beam slopes if the variation is within the allowable dimensional tolerances given in the specifications.
Shop drawings will be required for all pads not shown or modified in the table.
Cost of furnishing and installing elastomeric bearings shall be included in unit price bid for "Prestressed Concrete Beams".

Note: The use of Polyisoprene (natural rubber), for the manufacture of bearing pads, shall not be permitted.

ELASTOMERIC BEARING FABRICATION DATA TABLE

Loc.	Beam Type	Brg Type	Bm End Clip Angle Range	Pad Size Width x Lgth	"A"	"B"	"C" ③
AT ABUTMENTS, INVERTED - T & TRANSITION BENTS WITH BACKWALLS	A	A-1	0° thru 15°	8" x 14"	—	—	½"
	A	A-2	15°+ thru 45°	8" x 14"	2 ¾"	2 ¾"	½"
	A	A-3	45°+ thru 60°	8" x 14"	4 ¾"	2 ¾"	½"
	B	B-1	0° thru 10°	8" x 16"	—	—	½"
	B	B-2	10°+ thru 45°	8" x 16"	3 ¾"	3 ¾"	½"
	B	B-3	45°+ thru 60°	9" x 16"	7"	4 ¼"	½"
	C	C-1	0° thru 5°	9" x 19"	—	—	½"
	C	C-2	5°+ thru 15°	9" x 19"	1 ½"	4 ½"	½"
	C	C-3	15°+ thru 45°	10" x 19"	6 ¼"	6 ¼"	½"
	C	C-4	45°+ thru 60°	11 ½" x 19"	10 ½"	7"	¾"
	54	54-1	0° thru 10°	9" x 14"	—	—	½"
	54	54-2	10°+ thru 20°	9" x 14"	1"	2 ½"	½"
	54	54-3	20°+ thru 45°	9" x 14"	3 ¼"	3 ¼"	½"
	54	54-4	45°+ thru 60°	9" x 14"	5 ¼"	3 ¼"	½"
	IV	IV-1	0° thru 15°	9" x 22"	—	—	2"
	IV	IV-2	15°+ thru 29°	9" x 22"	2 ½"	4 ½"	2"
	IV & 72	IV-3	⑤ 30°	15" Dia	—	—	2 ⅜"
	IV & 72	IV-4	⑤ 40°	15" Dia	—	—	2 ⅝"
	IV & 72	IV-5	⑤ 50°	15" Dia	—	—	3 ⅛"
	IV & 72	IV-6	⑤ 60°	15" Dia	—	—	4"
	72	72-1	0° thru 15°	9" x 20"	—	—	2"
	72	72-2	15°+ thru 29°	9" x 20"	2"	3 ½"	2"
AT INTERIOR BENTS ⑨ & ⑮ ~ See Clipped Bm Ends — Square Bm Ends	A	A-4	ALL	8" x 14"	—	—	0
	B	B-4	ALL	8" x 16"	—	—	0
	C	C-5	0° thru 10°	9" x 19"	—	—	0
	C	C-6	10°+ thru 58°	9" x 19"	1 ½"	2 ¼"	0
	C	C-7	58°+ thru 60°	9" x 19"	—	—	0
	54	54-5	ALL	9" x 14"	—	—	0
	IV	IV-7	ALL	9" x 22"	—	—	0
	72	72-3	ALL	9" x 20"	—	—	0
	A	A-5	0° thru 15°	8" x 14"	—	—	¾"
	A	A-6	15°+ thru 45°	8" x 14"	2 ¼"	2 ¼"	—
	A	A-7	45°+ thru 60°	8" x 14"	3 ½"	2 ¼"	—
	B	B-5	0° thru 15°	8" x 16"	—	—	¾"
	B	B-6	15°+ thru 45°	8" x 16"	3 ¼"	3 ¼"	—
	B	B-7	45°+ thru 60°	8" x 16"	5"	3 ¼"	—
	C	C-8	0° thru 5°	9" x 19"	—	—	¾"
	C	C-9	5°+ thru 20°	9" x 19"	1 ¾"	4 ¾"	1"
	C	C-10	20°+ thru 45°	10" x 19"	6"	6"	—
	C	C-11	45°+ thru 60°	11 ½" x 19"	9 ¼"	6 ½"	—
	54	54-6	0° thru 13°	9" x 14"	—	—	¾"
	54	54-7	13°+ thru 45°	9" x 14"	2 ¾"	2 ¾"	—
	54	54-8	45°+ thru 60°	9" x 14"	3 ¾"	2 ¾"	—
	IV	IV-8	0° thru 15°	9" x 22"	—	—	2"
	IV	IV-9	15°+ thru 29°	9" x 22"	2 ¼"	4"	—
	IV & 72	IV-10	30° thru 60°	15" Dia	—	—	—
	72	72-4	0° thru 15°	9" x 20"	—	—	1 ¾"
	72	72-5	15°+ thru 29°	9" x 20"	1 ½"	2 ¾"	—

Table based on 3'-3" cap width for Type 72 and IV Beams; 2'-9" cap width for all other type beams.
Table based on 1'-10" Inverted - T corbel width for Type 72 and IV Beams; 1'-8" corbel width for all other type beams.

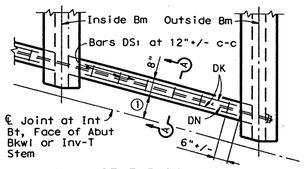
HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

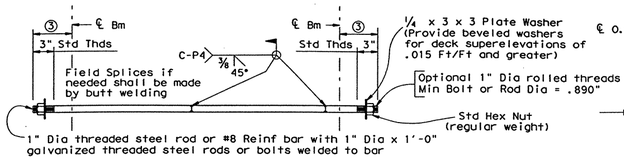
ELASTOMERIC BEARING AND BEAM END DETAILS
(FOR PRESTR CONC I-BEAMS)

IBB

FILE: ibbstde1.dgn	DN: TxDOT	CK: JMH	DW: TxDOT	CK: LDS	STD: B208
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		415
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

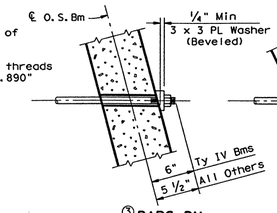


PLAN OF END DIAPHRAGMS

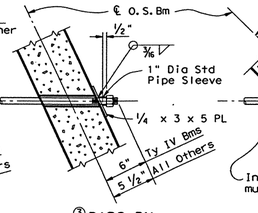


Note: After fabrication, the nuts, plates, sleeves, and not less than 10" of each end of the threaded bar shall be galvanized. Plate washers, nuts, and pipe sleeves are to be considered subsidiary to reinforcing steel.

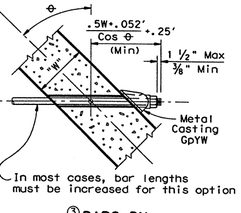
BARS DN



③BARS DN (SKEWS THRU 15°)



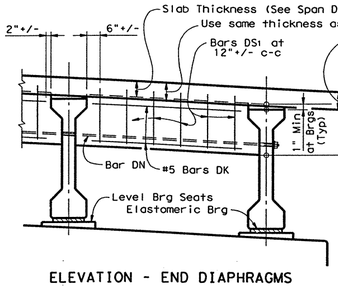
③BARS DN (SKEWS OVER 15°)



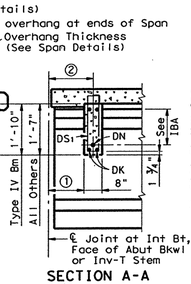
In most cases, bar lengths must be increased for this option.

③BARS DN WITH OPTIONAL CASTING FOR ALL SKEWS

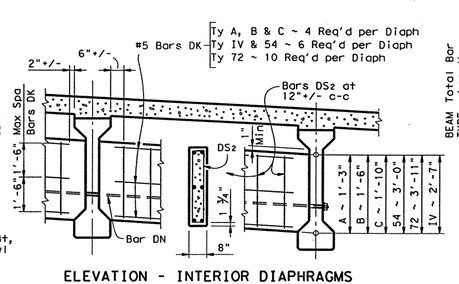
①11 1/2" ~ Inv-T Bts
10 1/2" ~ Abut Bts & Int Bts



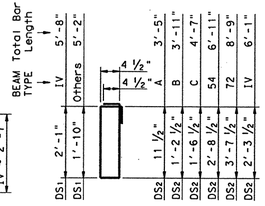
ELEVATION - END DIAPHRAGMS



SECTION A-A

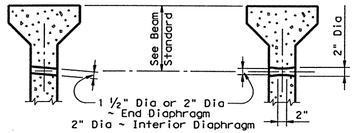


ELEVATION - INTERIOR DIAPHRAGMS



#4 BARS DS1 & DS2

Note: Details of metal casting GpYW are available upon request from the Texas Department of Transportation. No additional payment will made for castings or extra bar length furnished under this option. Castings are to be considered subsidiary to reinforcing steel.



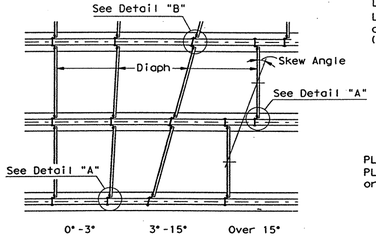
Form holes parallel to roadway slope if superelevation is greater than .03'/Ft for 1 1/2" Dia holes or .06'/Ft for 2" Dia holes.

DIAPHRAGM HOLE LOCATIONS

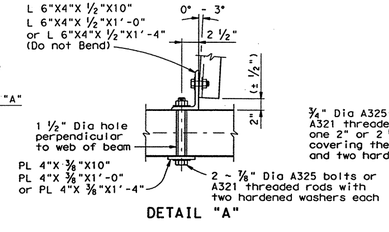
②1'-3 1/2" ~ Inv-T Bts
1'-2 1/2" ~ Abut Bts & Int Bts

CONCRETE DIAPHRAGM OPTION

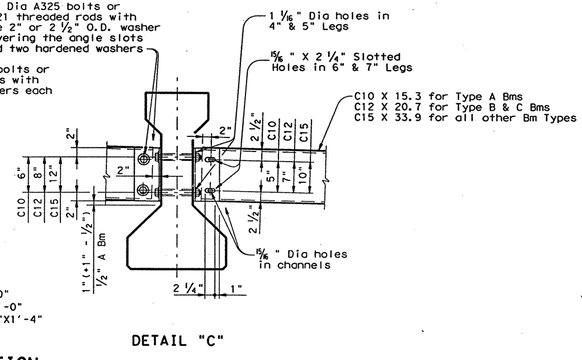
CONCRETE DIAPHRAGM NOTES:
All Cast-in-place concrete shall be Class S unless otherwise shown on span details.
No concrete shall be placed in the bridge slab until the diaphragms are in place, the diaphragm concrete has reached a minimum flexural strength of 300 psi, and the nuts of bars DN have subsequently been firmly tightened.



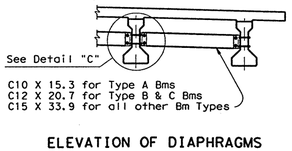
PLAN OF DIAPHRAGM FRAMING



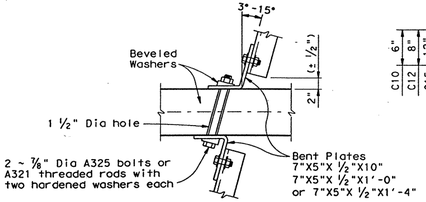
DETAIL "A"



DETAIL "C"



ELEVATION OF DIAPHRAGMS



DETAIL "B"

STEEL INTERIOR DIAPHRAGM OPTION

STEEL DIAPHRAGM NOTES:
All parts of steel diaphragms shall be galvanized after fabrication. After erection, all scratched or otherwise damaged galvanized parts shall be repaired in accordance with Item "Galvanizing".

GENERAL NOTES:
Designed in accordance with current Specifications.
End Diaphragm options hereon may be used in lieu of the Thickened Slab Ends shown on the IBTS Sheet or Span Details.
Number and location of Interior Diaphragms shall be shown elsewhere in the plans.
Contractor shall notify prestressed beam fabricator as to which diaphragm option he intends to use. Option selected shall be incorporated in shop drawings.
Payment for any diaphragm option used shall be included in the price bid for Reinforced Concrete Slab.
All reinforcing shall be Grade 60.

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Design Division (Bridge)

DIAPHRAGM OPTIONS FOR PRESTRESSED I-BEAMS

IBDO

FILE: ibdostde.dgn	DN: THD	CK: THD	DW: DRG	CK: LDS	STD: B209
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		416
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

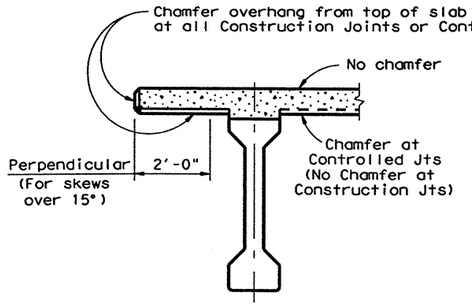
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No liability of any kind is assumed by the Texas Department of Transportation for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ACC: (LV=1,2 for English)
LEVELS DISPLAYED
1 2

DISCLAIMER:
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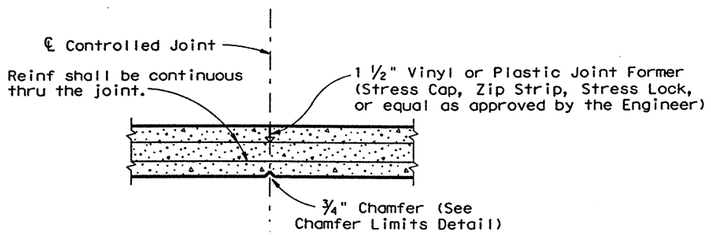
ACC: (LV=1,2 for English)

LEVELS DISPLAYED 1 2



CHAMFER LIMITS DETAIL

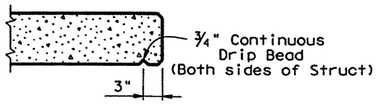
Note: See Span details for type of joint and joint locations.



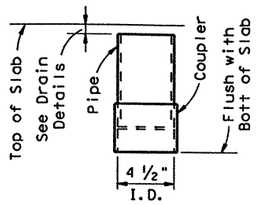
CONTROLLED JOINT DETAIL

(Controlled Joints shall not be used for simple spans)

Note: For continuous placement, the minimum rate of concrete placing and finishing shall not be less than 30 linear feet of bridge deck per hour.

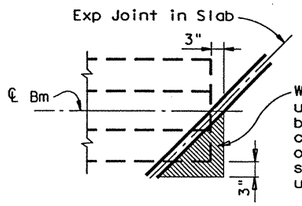


DRIP BEAD DETAIL



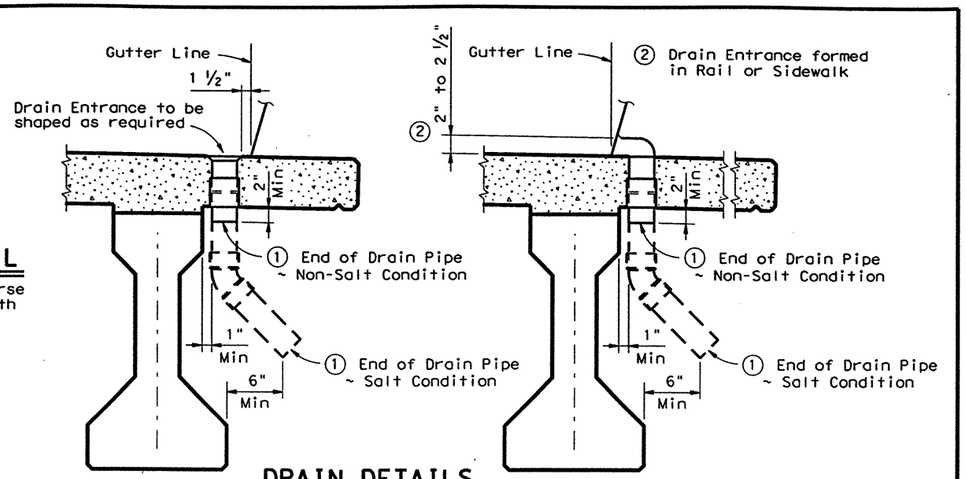
C.I.P. DRAIN DETAIL

Note: Roughen outside of PVC with coarse rasp or equal to ensure bond with cast-in-place concrete.



Where corners of Beam Flanges project under slab of adjacent span, care shall be taken to provide a minimum of ½" clearance between top of beam and bottom of adjacent slab. Polystyrene or other suitable compresssible material may be used as a filler.

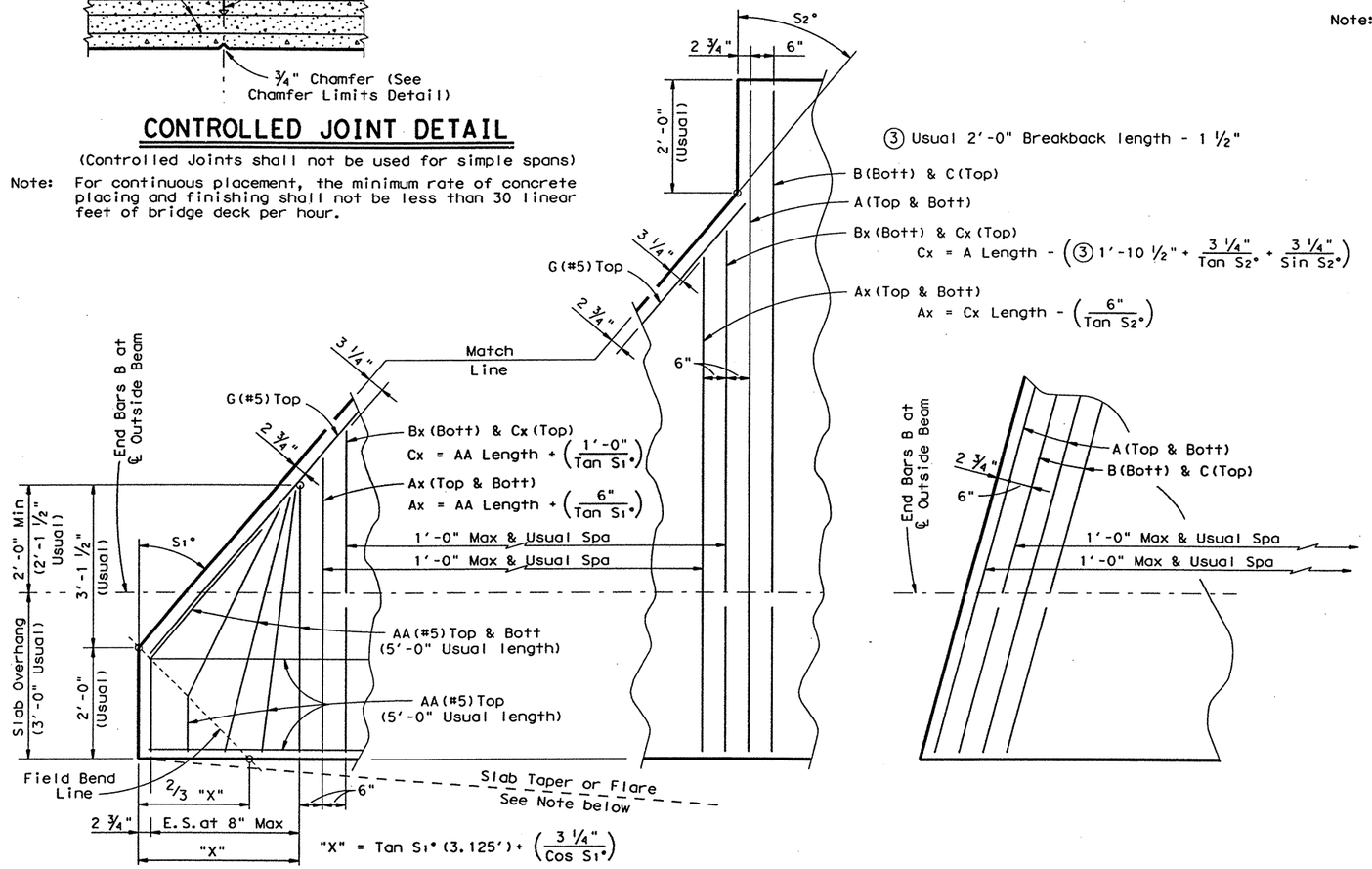
TREATMENT AT BEAM END FOR SKEWED SPANS



DRAIN DETAILS

① The longer drain length shown shall be used on structures where the use of deicing salts is anticipated.

Note: All drain pipe and fittings to be 4" diameter (Sch 40) PVC. See Item 481 "PVC Pipe for Bridge Drains" for pipe, connections and solent welding. Bend reinforcing steel to clear PVC 1". Drain length and location shall be as directed by the Engineer. No drains shall be permitted over roadways or railways, or within 10'-0" of Bent Caps. Degrease outside of exposed PVC, apply acrylic water base primer, then coat with same surface finishing material as used for outside girder face. Variations of the above designs, as required for the type of rail used and it's location on the structure, shall be installed with the approval and direction of the Engineer. No water shall be discharged onto girders.



PARTIAL PLAN OF SLAB END WITH BREAKBACK

(For use with Concrete End Diafram Option ~ See IBDO Standard)

Note: Bar length formulas shown for constant width slabs. Adjustment shall be made for slab taper or flare.

PARTIAL PLAN OF SLAB END WITHOUT BREAKBACK

(For use with Concrete End Diafram Option ~ See IBDO Standard)

GENERAL NOTES:

Designed in accordance with current AASHTO Specifications.

All cast-in-place concrete shall be Class S unless otherwise shown on span details.

All reinforcing steel shall be Grade 60. See Span Detail sheet for epoxy coating requirements and lap lengths, if required.

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Texas Department of Transportation
Design Division (Bridge)

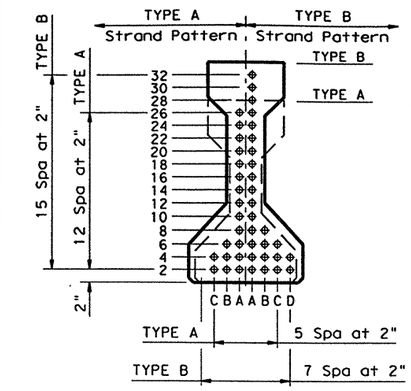
MISCELLANEOUS SLAB DETAILS FOR PRESTRESSED I-BEAMS

IBMS

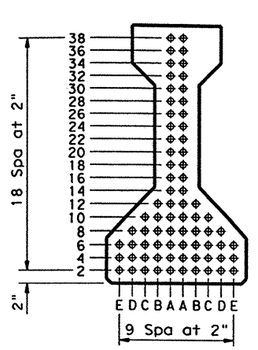
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©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		417
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

DESIGNED BEAMS (DEPRESSED STRANDS)

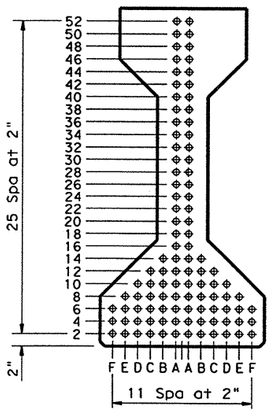
STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	NON-STD STRAND PATTERN	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE (in)	TOTAL STRGTH f's (ksi)	TOTAL "e" ℄ (in)	TOTAL "e" END (in)	DEPRESSED NO.	DEPRESSED TO (in)	CONCRETE RELEASE STRGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP STRGTH f'c (psi)	OPTIONAL DESIGN DESIGN LOAD COMP STRESS (TOP ℄) fct (psi)	DESIGN LOAD TENSILE STRESS (BOTT ℄) fcb (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (ft-kips)
EAST FORK OF TRINITY RIVER																
EASTBOUND BRIDGE	1&2	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000	2505	-2866	5055
	3-42	ALL	IV		40	½	270K	20.35	11.55	8	52.0	4479	5000	3073	-3450	5956
	43&44	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000	2505	-2866	5055
WESTBOUND BRIDGE	1&103	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000	2514	-2921	5149
	2-102	ALL	IV		42	½	270K	20.18	11.80	8	52.0	4739	5000	3085	-3520	6076



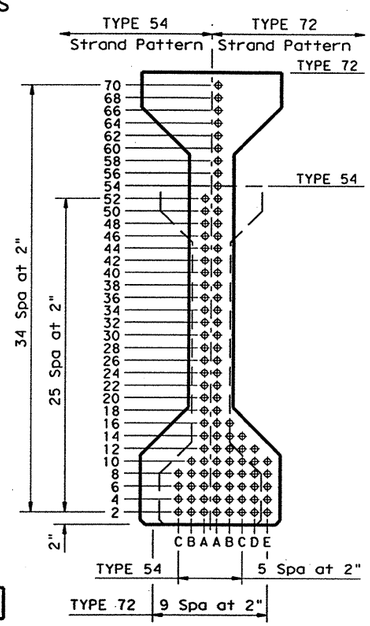
TYPE A & TYPE B BMS



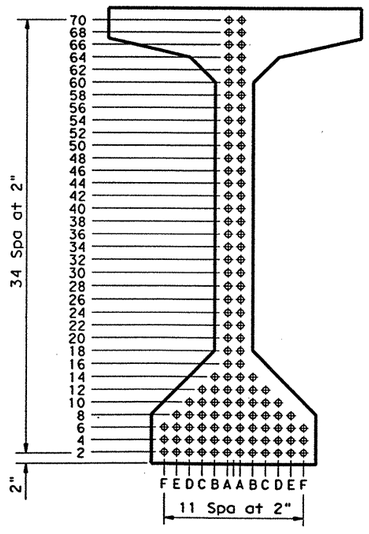
TYPE C BM



TYPE IV BM
(AASHTO TYPE IV BM)



TYPE 54 & TYPE 72 BMS



TYPE VIM BM
(AASHTO TYPE VI (MOD) BM)

NON-STANDARD STRAND PATTERNS

PATTERN	STRAND ARRANGEMENT AT ℄ OF BEAM

GENERAL NOTES:

Designed in accordance with current AASHTO Standard Specifications.

All concrete shall be Class H. All reinforcing bars shall be Grade 60.

When shown on this sheet, the Fabricator has the option of furnishing either the designed depressed strand beam or an approved optional design. All optional design submittals and shop drawings shall be signed, sealed and dated by a registered Professional Engineer.

Optional designs for beams 120 feet or longer shall have a calculated residual camber equal to or greater than that of the designed beam.

Prestress losses for the designed beams have been calculated for a relative humidity of percent. Optional designs shall likewise conform.

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3. The debonding pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be debonded so that the centers of gravity of the depressed strands and the straight strands will remain within one inch of their original location.
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6. Revised shop drawings will not be required.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system unless a Non-Standard Strand Pattern is indicated. Fill row "2", then row "4", then row "6", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position shall be depressed, maintaining the 2" spacing so that, at the beam ends, the upper two strands are in the position shown in the table.

Strands for the designed beam shall be ½" 270 ksi low relaxation strands pretensioned to 31.0 k each.

Type 54 Beams shall not be used for new structures, but may be used to widen existing bridges built with Type 54 Beams.

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
4/27/99

Texas Department of Transportation
Design Division (Bridge)

PRESTRESSED CONCRETE I-BEAMS
(NON-STANDARD SPANS)

IBNS

FILE: 5691MI01.DGN	DN: MDH	CK:	DW: TKW	CK: MDH	STD: B211
ORIG DATE: MARCH 99	DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS	18	6	NH 99(367)		418
©TxDOT September 1998	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

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LEVELS DISPLAYED 1 2 | ACC: D48PC3Q: TWHALEY (LV=1,2 for English)

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ACC: D48PC3Q: TWHALEY

(LV=1,2 for English)

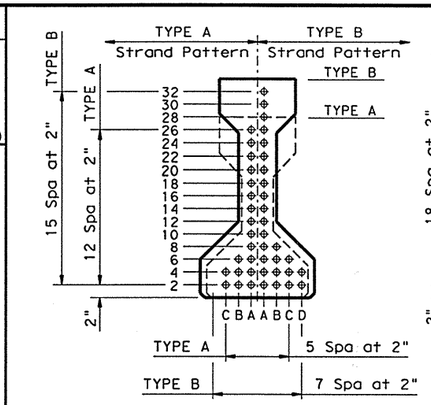
LEVELS: 1 2

DESIGNED BEAMS (DEPRESSED STRANDS)

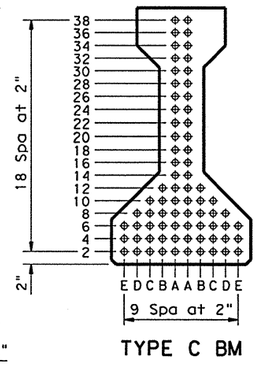
STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	NON-STD STRAND PATTERN	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE (in)	TOTAL STRGTH f's (ksi)	TOTAL "e" ℄ (in)	TOTAL "e" END (in)	DEPRESSED NO.	DEPRESSED TO (in)	CONCRETE RELEASE STRGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP STRGTH f'c (psi)
EAST FORK OF TRINITY RIVER													
EASTBOUND BRIDGE	1&2	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000
	3-42	ALL	IV		40	½	270K	20.35	11.55	8	52.0	4479	5000
	43&44	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000
WESTBOUND BRIDGE	1&103	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000
	2-98, 101 & 102	ALL	IV		42	½	270K	20.18	11.80	8	52.0	4739	5000
9	99	ALL	IV		36	½	270K	20.75	13.08	6	52.0	4294	5000
	100	ALL	IV		50	½	270K	19.47	11.07	10	52.0	5447	5447

OPTIONAL DESIGN

DESIGN LOAD COMP STRESS (TOP ℄) fct (psi)	DESIGN LOAD TENSILE STRESS (BOTT ℄) fcb (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (ft-kips)
2505	-2866	5055
3073	-3450	5956
2505	-2866	5055
2514	-2921	5149
3085	-3520	6076
2736	-3514	5513
3518	-3969	6760

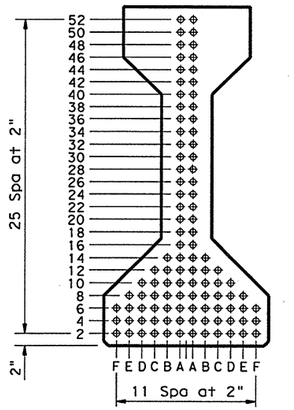


TYPE A & TYPE B BMS

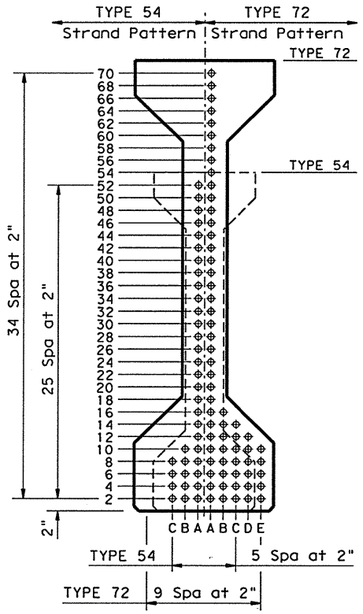


TYPE C BM

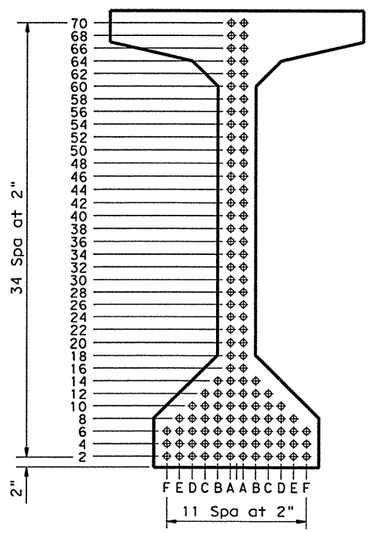
9



TYPE IV BM
(AASHTO TYPE IV BM)



TYPE 54 & TYPE 72 BMS



TYPE VIM BM
(AASHTO TYPE VI (MOD) BM)

NON-STANDARD STRAND PATTERNS

PATTERN	STRAND ARRANGEMENT AT ℄ OF BEAM

GENERAL NOTES:

Designed in accordance with current AASHTO Standard Specifications.

All concrete shall be Class H. All reinforcing bars shall be Grade 60.

When shown on this sheet, the Fabricator has the option of furnishing either the designed depressed strand beam or an approved optional design. All optional design submittals and shop drawings shall be signed, sealed and dated by a registered Professional Engineer.

Optional designs for beams 120 feet or longer shall have a calculated residual camber equal to or greater than that of the designed beam.

Prestress losses for the designed beams have been calculated for a relative humidity of 65 percent. Optional designs shall likewise conform.

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4. Strands shall be debonded so that the centers of gravity of the depressed strands and the straight strands will remain within one inch of their original location.
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Strands for the designed beam shall be ½" 270 ksi low relaxation strands pretensioned to 31.0 k each.

Type 54 Beams shall not be used for new structures, but may be used to widen existing bridges built with Type 54 Beams.

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
11/14/00

CHANGE ORDER NO. 9

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

PRESTRESSED CONCRETE I-BEAMS (NON-STANDARD SPANS)

IBNS

FILE: 5691MI01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH	STD: B211
©TxDOT MARCH 99	DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS 8/00 ~ Revised bm. designs in WB spans # 99 & 100 MDH/RNP	18	6	NH 99(367)		418
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

9

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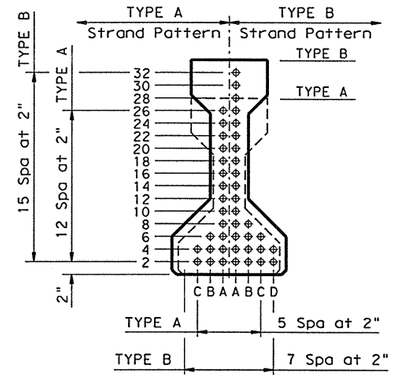
LEVEL 1|2 LAYED (LV=1,2 for English) ACC: D48PC3Q: TWHALEY

DESIGNED BEAMS (DEPRESSED STRANDS)

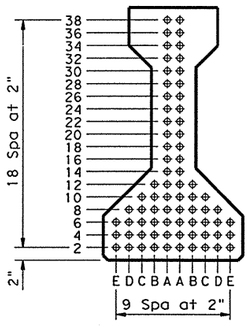
STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	NON-STD STRAND PATTERN	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE (in)	TOTAL STRGTH f's (ksi)	TOTAL "e" ℄ (in)	TOTAL "e" END (in)	DEPRESSED NO.	DEPRESSED TO (in)	CONCRETE RELEASE STRGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP STRGTH f'c (psi)
EAST FORK OF TRINITY RIVER													
EASTBOUND BRIDGE	1	ALL	IV		24	½	270K	21.75	17.08	4	32.0	4000	5000
	2-25, 28-42	ALL	IV		40	½	270K	20.35	11.55	8	52.0	4479	5000
	26	ALL	IV		44	½	270K	20.02	12.02	8	52.0	5011	5011
	27	ALL	IV		36	½	270K	20.75	13.08	6	52.0	4300	5000
	43&44	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000
WESTBOUND BRIDGE	1&103	ALL	IV		32	½	270K	21.00	13.88	6	44.0	4000	5000
	2-98, 101 & 102	ALL	IV		42	½	270K	20.18	11.80	8	52.0	4739	5000
	99	ALL	IV		36	½	270K	20.75	13.08	6	52.0	4294	5000
	100	ALL	IV		50	½	270K	19.47	11.07	10	52.0	5447	5447

OPTIONAL DESIGN

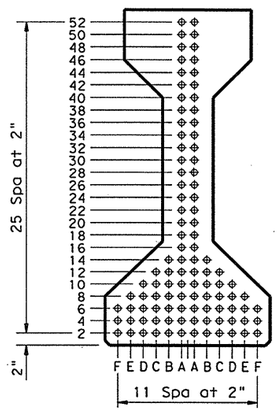
STRUCTURE	SPAN NO.	DESIGN LOAD COMP STRESS (TOP ℄) fct (psi)	DESIGN LOAD TENSILE STRESS (BOTT ℄) fcb (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (ft-kips)
EAST FORK OF TRINITY RIVER				
EASTBOUND BRIDGE	1	1993	-2331	4210
	2-25, 28-42	3073	-3450	5956
	26	3316	-3697	6331
	27	2839	-3210	5589
	43&44	2505	-2866	5055
WESTBOUND BRIDGE	1&103	2514	-2921	5149
	2-98, 101 & 102	3085	-3520	6076
	99	2736	-3514	5513
	100	3518	-3969	6760



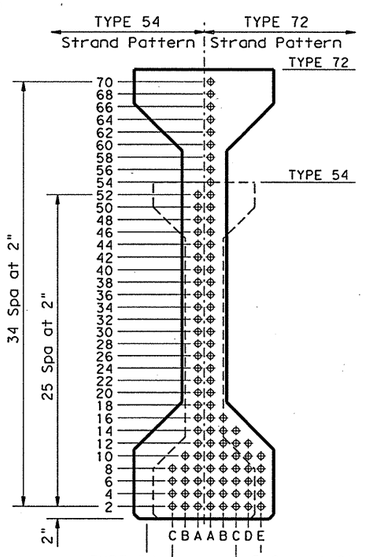
TYPE A & TYPE B BMS



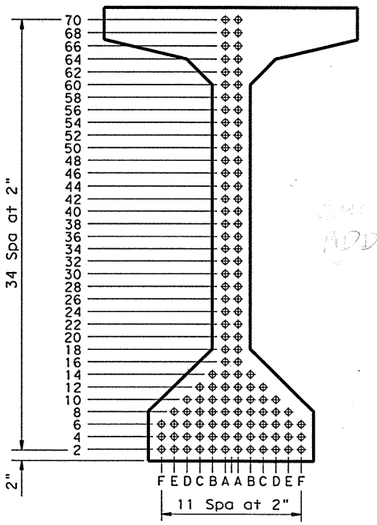
TYPE C BM



TYPE IV BM
(AASHTO TYPE IV BM)



TYPE 54 & TYPE 72 BMS



TYPE VIM BM
(AASHTO TYPE VI (MOD) BM)

NON-STANDARD STRAND PATTERNS

PATTERN	STRAND ARRANGEMENT AT ℄ OF BEAM

GENERAL NOTES:

Designed in accordance with current AASHTO Standard Specifications.

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When shown on this sheet, the Fabricator has the option of furnishing either the designed depressed strand beam or an approved optional design. All optional design submittals and shop drawings shall be signed, sealed and dated by a registered Professional Engineer.

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Type 54 Beams shall not be used for new structures, but may be used to widen existing bridges built with Type 54 Beams.

CHANGE ORDER NO. 9

HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

Texas Department of Transportation
Design Division (Bridge)

PRESTRESSED CONCRETE I-BEAMS (NON-STANDARD SPANS)

IBNS

FILE: 5691MI01.DGN	DN: MDH	CK: JBH	DW: TKW	CK: MDH	STD: B211
©TxDOT MARCH 99	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		418 B
8/00 ~ Revised bm. designs in WB spans # 99 & 100 MDH/RNP	COUNTY		CONTROL	SECT	JOB	HIGHWAY
7/01 ~ Revised bm. designs in eb spans # 1,26, & 27 MDH/RNP	ROCKWALL		0009	04	039	SH66

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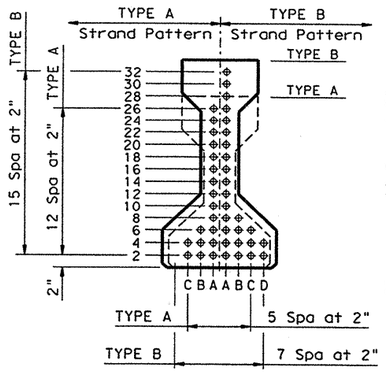
LEVEL: 1 2 LAYED
ACC: D48PC3Q: TWHALEY
(LV=1,2 for English)

DESIGNED BEAMS (DEPRESSED STRANDS)

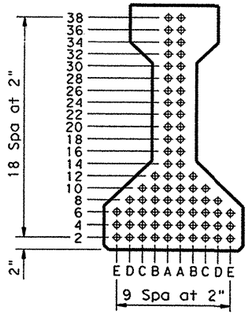
STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	NON-STD STRAND PATTERN	PRESTRESSING STRANDS TOTAL NO.	TOTAL SIZE (in)	TOTAL STRGTH f's (ksi)	TOTAL "e" ℄ (in)	TOTAL "e" END (in)	DEPRESSED NO.	DEPRESSED TO (in)	CONCRETE RELEASE STRGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP STRGTH f'c (psi)
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	2-98, 101 & 102	ALL	IV		42	½	270K	20.18	11.80	8	52.0	4739	5000
	99	ALL	IV		36	½	270K	20.75	13.08	6	52.0	4294	5000
	100	ALL	IV		50	½	270K	19.47	11.07	10	52.0	5447	5447

OPTIONAL DESIGN

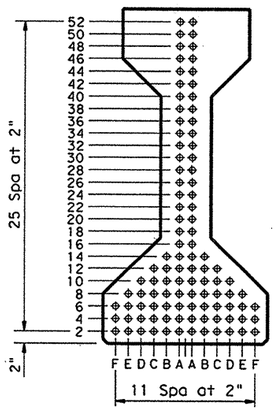
STRUCTURE	SPAN NO.	DESIGN LOAD COMP STRESS (TOP ℄) fct (psi)	DESIGN LOAD TENSILE STRESS (BOTT ℄) fcb (psi)	REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (ft-kips)
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	27	2839	-3210	5589
	43&44	2505	-2866	5055
WESTBOUND BRIDGE	1&103	2514	-2921	5149
	2-98, 101 & 102	3085	-3520	6076
	99	2736	-3514	5513
	100	3518	-3969	6760



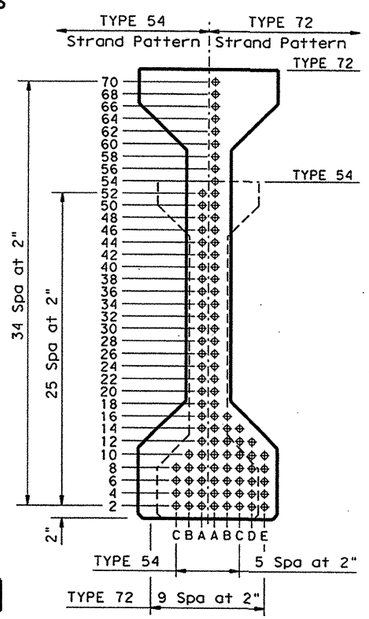
TYPE A & TYPE B BMS



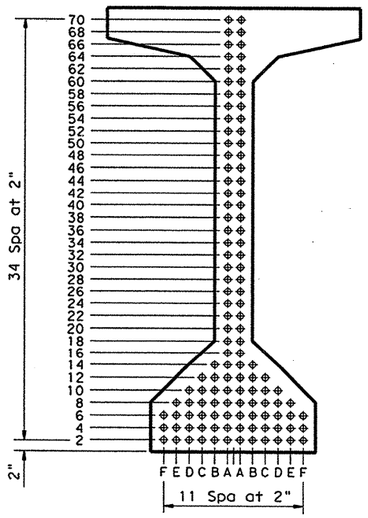
TYPE C BM



TYPE IV BM
(AASHTO TYPE IV BM)



TYPE 54 & TYPE 72 BMS



TYPE VIM BM
(AASHTO TYPE VI(MOD) BM)

NON-STANDARD STRAND PATTERNS

PATTERN	STRAND ARRANGEMENT AT ℄ OF BEAM

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Strands for the designed beam shall be ½" 270 ksi low relaxation strands pretensioned to 31.0 k each.

Type 54 Beams shall not be used for new structures, but may be used to widen existing bridges built with Type 54 Beams.

CHANGE ORDER NO. 25 PART
ADD'L STRANDS FOR SPANS Nos 1, 2, 26 & 27
HS20 LOADING

STATE OF TEXAS
JAMES CARROLL WALL
39966
REGISTERED PROFESSIONAL ENGINEER
8/15/01

7/01 ~ Revised bm. designs in eb spans # 1, 26, & 27 MDH/RNP

REVISIONS
8/00 ~ Revised bm. designs in WB spans # 99 & 100 MDH/RNP

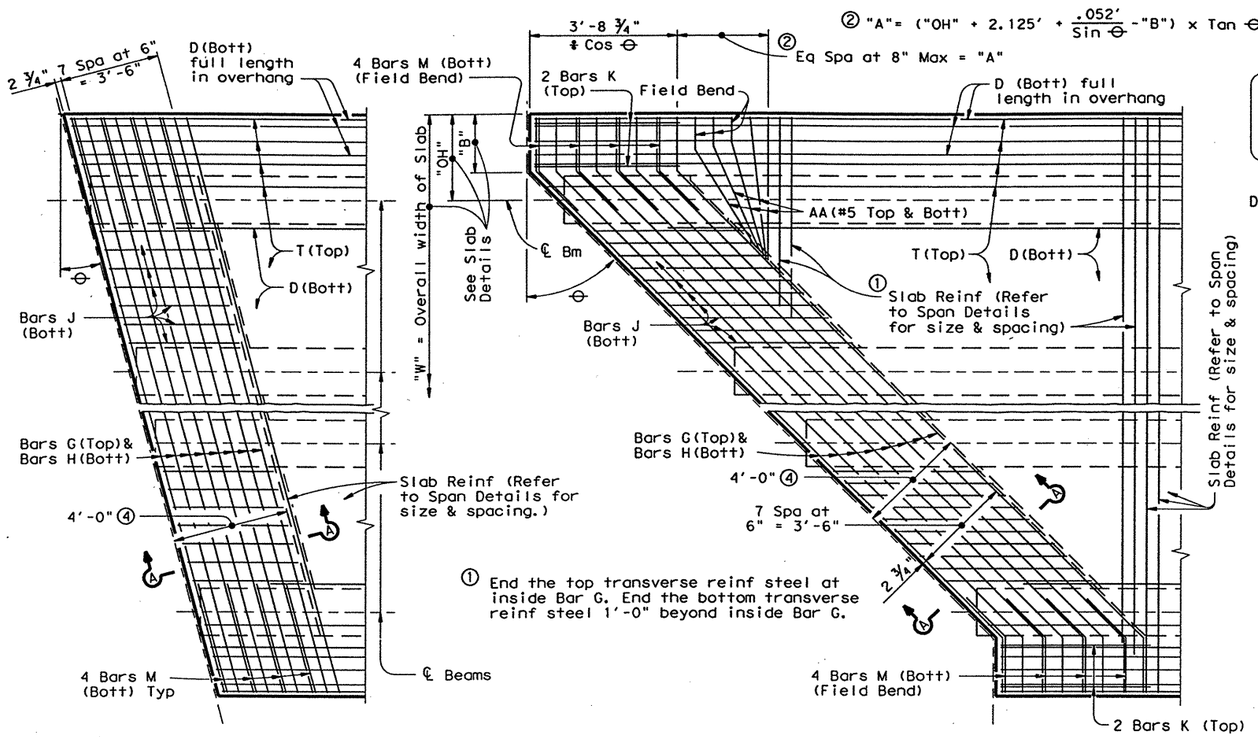
Texas Department of Transportation
Design Division (Bridge)

PRESTRESSED CONCRETE I-BEAMS
(NON-STANDARD SPANS)

IBNS

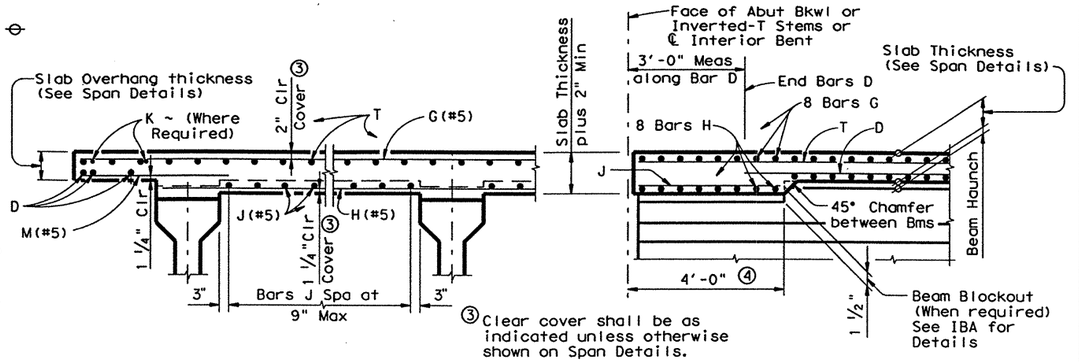
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©TxDOT MARCH 99	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
	18	6	NH 99(367)		418
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

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PARTIAL PLAN FOR SLABS WITHOUT BREAKBACK

PARTIAL PLAN FOR SLABS WITH BREAKBACK

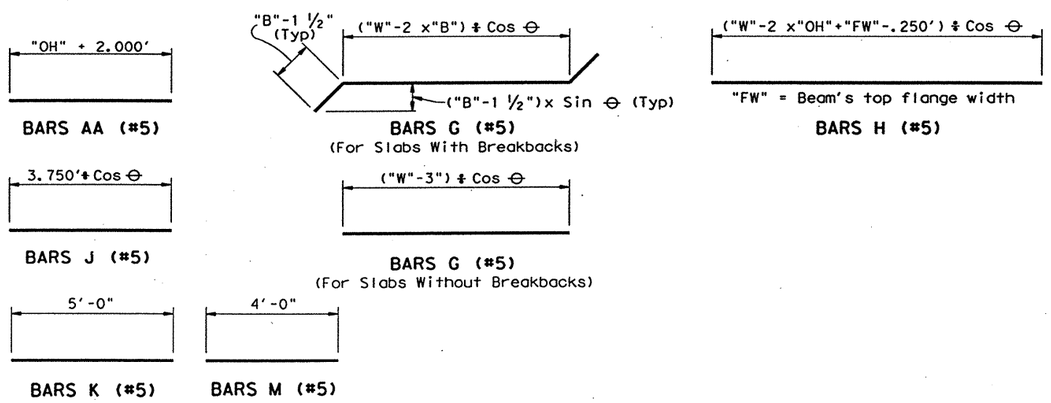


TYPICAL TRANSVERSE SECTION

SECTION A-A

③ Clear cover shall be as indicated unless otherwise shown on Span Details.

④ Thickened Slab End dimensioned perpendicular to Face of Abutment Backwall or Inverted-T Stems or ℄ Interior Bents.



GENERAL NOTES:

Designed according to current AASHTO Standard Specifications for Highway Bridges.

All reinforcing bars shall be Grade 60 steel.

Unless otherwise shown or noted hereon, all Span Details remain unchanged.

If the top and/or bottom layer of reinforcing steel is shown on the Slab Details to be epoxy coated, then the G & K and/or H, J & M bars shall be epoxy coated.

Bar laps, where required, shall be as follows:

Uncoated ~ #4	1'-5"
~ #5	1'-9"
Epoxy Coated ~ #4	2'-1"
~ #5	2'-7"

HS20 LOADING

Texas Department of Transportation
Design Division (Bridge)

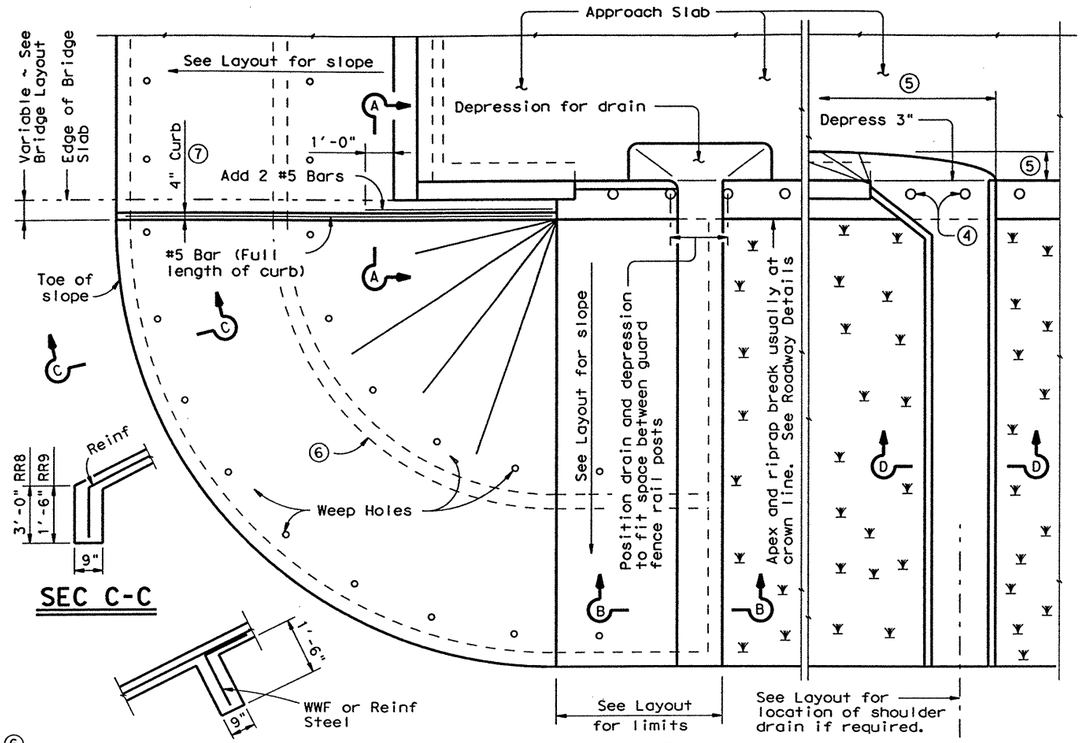
THICKENED SLAB END DETAILS FOR PRESTR I-BEAM SPANS

IBTS

FILE: ibtsstde.dgn	DN: THD	CK: DWM	DW: DRG	CK: LDS	STD: B212
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		419
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	ROCKWALL		0009	04	039	SH 66

LEVELS DISPLAYED 1 2 ACC: (LV=1,2 for English)

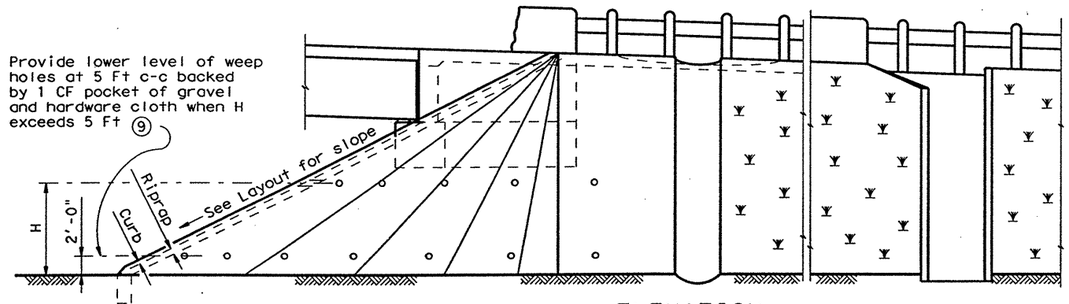
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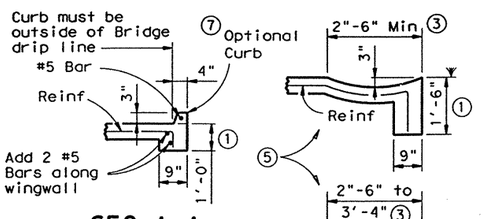
SEC C-C

⑥ OPTIONAL INTERMEDIATE TOEWALL

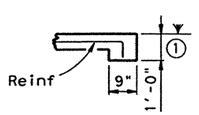
PLAN



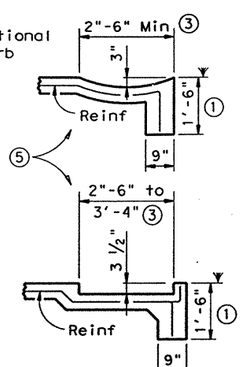
ELEVATION



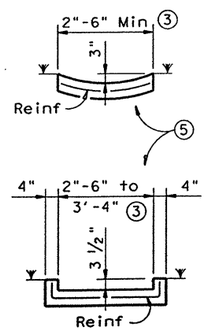
SEC A-A



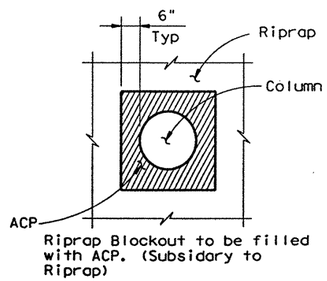
SEC B-B
(No Drain)



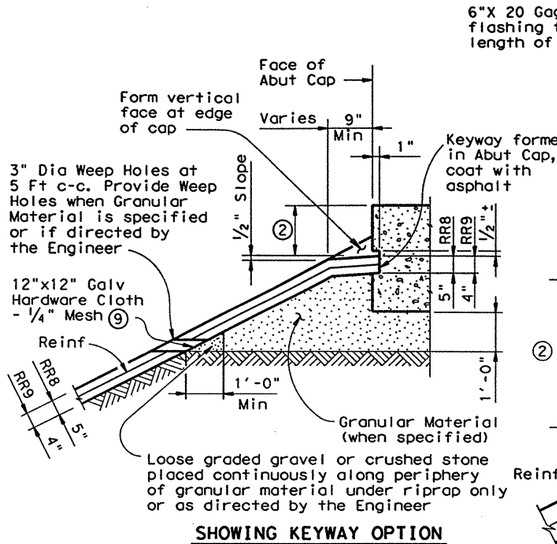
SEC B-B
(With Drain)



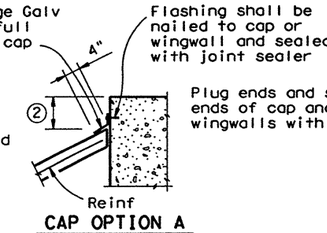
SEC D-D
(Shoulder Drain)



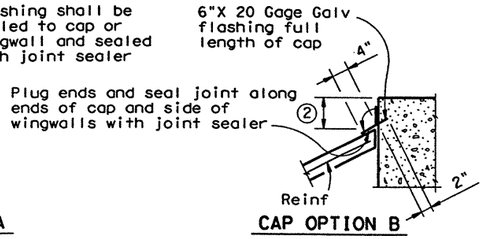
RIPRAP DETAIL AT COLUMNS
(As directed by the Engineer)



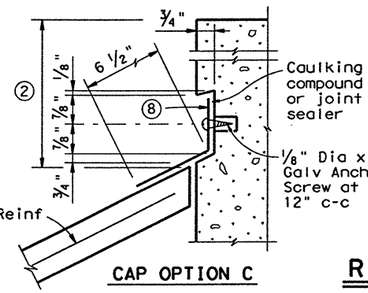
SHOWING KEYWAY OPTION



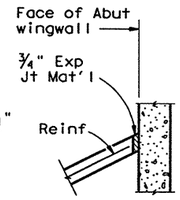
CAP OPTION A



CAP OPTION B



CAP OPTION C

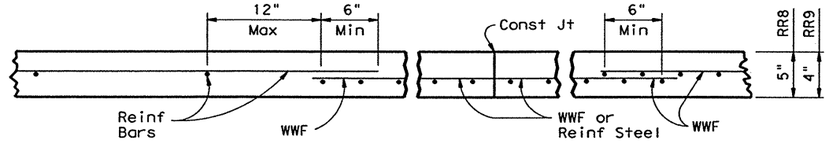


RIPRAP AT WINGWALL

Note: Flashing (shown in Cap Option A) may be used at wingwall in addition to Exp Jt Mat'l if shown on plans or directed by the Engineer.

SECTION THRU RIPRAP AT CAP

Note: The sealing option of the joint between the face of cap and riprap shall be as designated by the Engineer or as shown elsewhere on plans.



Note: Reinforcing bars shall be #3 at 18" spac c-c. Welded wire fabric shall be 6X6-W2.9XW2.9. Combinations of WWF and reinforcing bars may be used if both are permitted. Lap splices shall be a minimum of 6 inches, measured from the transverse wire of WWF, and the ends of reinforcing bars.

DETAILS OF WWF, REINF AND CONST JOINT

① Wall extension may be reduced or modified if approved by the Engineer. Wall extension shall be increased to 1'-6" whenever the optional Intermediate Toewall is called for in the plans.

② Top of cap to top of riprap dimension varies as directed by the Engineer. Should be 9" Min for stringer type bridges and 1'-6" for slab type bridges.

③ Wider or other drain configurations shall be used if shown elsewhere in plans or if directed by the Engineer.

④ A 12 in. Dia void should be provided in the riprap at the guard fence location. Backfill with 4 in. of ACP if directed by the Engineer.

⑤ Limits and configuration of drains and depressions shall be as shown elsewhere in plans or as directed by the Engineer.

⑥ The optional Intermediate toe wall shall be constructed when designated elsewhere in the plans or included in the specifications.

⑦ When riprap is shown extended around header on layout, extend slab and toewall as shown and eliminate 4" curb.

⑧ 8" x 18 Gage Galv Sheet Metal

⑨ If erodable soils occur in the embankment

FOR CONTRACTOR'S INFORMATION ONLY:
5" of RR8 = 0.015 CY/SF
4" of RR9 = 0.012 CY/SF
#3 Reinf at 18" c-c = 0.501 Lbs/SF
6X6-W2.9XW2.9 = 0.394 Lbs/SF

GENERAL NOTES

Concrete shall be Class B unless noted elsewhere in plans.

Reinforcing other than that shown may be used by substituting reinforcement of equal or greater unit cross-sectional area. The Maximum reinforcement spacing shall be 18 inches.

Construction joints or grooved joints extending the full slant slope height shall be at intervals of approximately 20 feet unless otherwise directed by the Engineer.

Porus Concrete Filter Blanket and Gravel Backfill shall be placed if shown elsewhere in the plans or if directed by the Engineer.

Hardware cloth, loose graded stone behind weep holes, flashing, or other sealing material shall not be paid for directly but shall be subsidiary to the bid item, Riprap.

Unless specified elsewhere in the plans to be only reinforcing bars, the riprap reinforcing may be composed of reinforcing bars, welded wire fabric, or any suitable combination of both types.

See Layout for limits of riprap.

RR8 is to be used on stream crossings.

RR9 is to be used on other embankments.

Texas Department of Transportation
Design Division (Bridge)

CONCRETE RIPRAP
FOR EMBANKMENT SLOPES UNDER BRIDGE ENDS (TYPES RR8 & RR9)

CRR

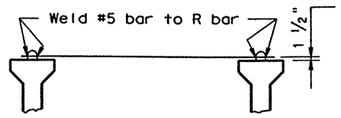
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REVISIONS	18	6	NH 99(367)			420
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

ACC: (LV=1,2 for English)
LEVELS DISPLAYED
1 2

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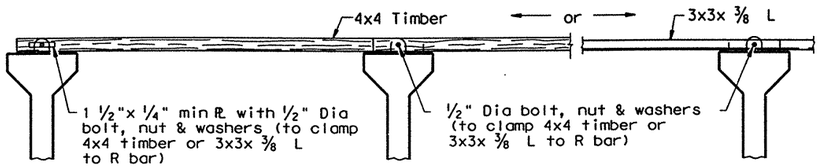
ACC: (LV=1,2 for English)

LEVELS DISPLAYED 1 2

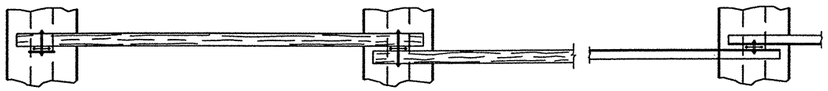


Place #5 bar in plane of bottom slab reinforcement for conventional or PMD Forming. #5 bars to rest on Panels and bent down to beam reinforcement when Prestressed Panels are used.

PERMANENT TOP BRACING (5)

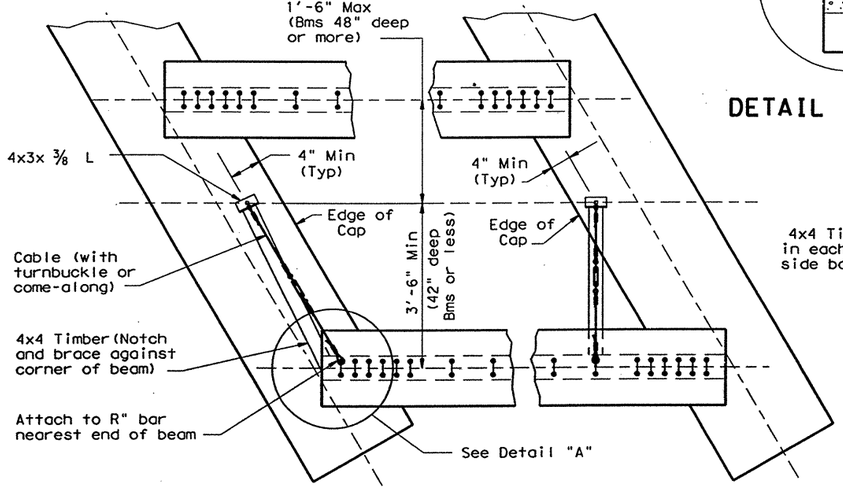


ELELVATION

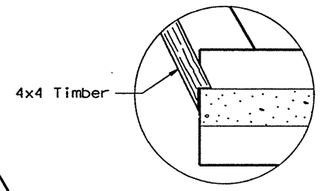


PLAN

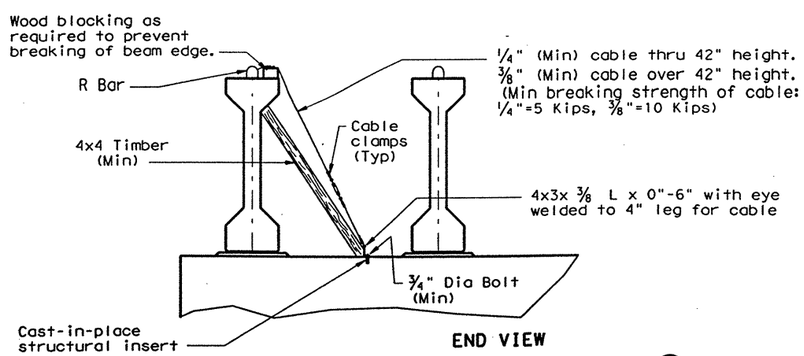
TEMPORARY TOP BRACING (4)



PLAN



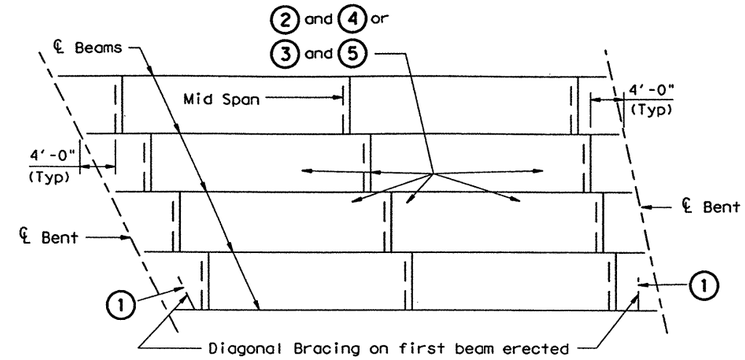
DETAIL "A"



END VIEW

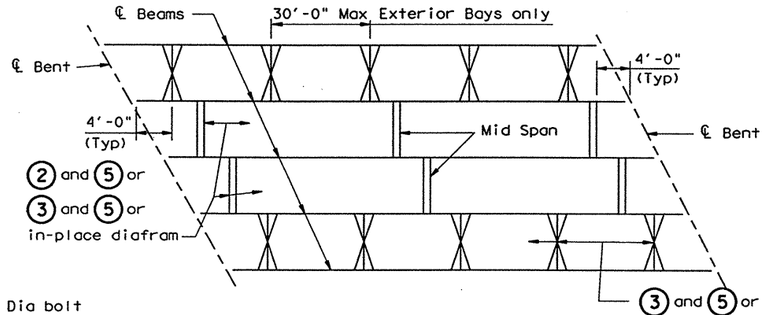
DIAGONAL BRACING DETAILS (1)

(To be used on both ends of the first beam erected in the span.)



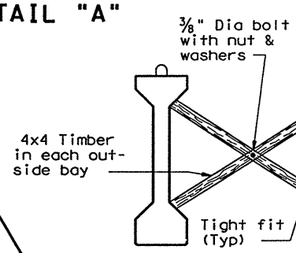
ERECTION BRACING

(NORMAL SPANS AND ALL SKEWS)



SLAB PLACEMENT BRACING

(NORMAL SPANS AND ALL SKEWS)



"X" BRACING (3)

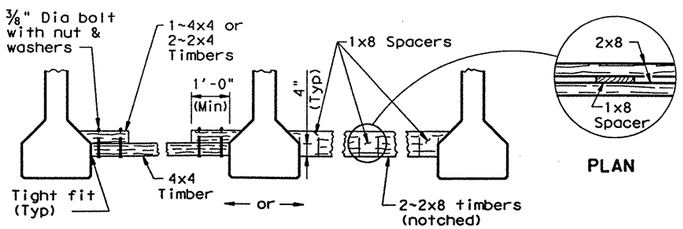
Indicates Diagonal Bracing (1)

Indicates Bottom Bracing (2) with Temporary Top Bracing or "X" Bracing (3) with Permanent Top Bracing (5). (4)

Indicates Permanent Top Bracing (5)

Indicates Bottom Bracing (2) or "X" Bracing (3), either one with Permanent Top Bracing (5) or an in-place diafram only.

Indicates "X" Bracing (3) & Permanent Top Bracing (5) or an in-place diafram only.



PLAN

ELELVATION

BOTTOM FLANGE BRACING DETAILS (2)

GENERAL NOTES:

ERECTION BRACING:

Erection bracing details are considered minimum for fulfilling the requirements of Specification Item 425 for bracing Types A,B,C,III, IV, and V prestressed concrete beams erected in the span over a traveled way or railroad, and in those spans generally parallel to a traveled way or railroad and within a distance equal to the difference in elevation between the top of cap upon which the beams are being erected and the traveled way, or 30 feet, whichever is greater.

Required erection bracing shall be placed immediately after erection of each beam and remain in place until diafram bars DN are tightened or additional bracing as required for slab placement is in place. This Standard is needed in all cases to meet requirements for Slab Placement Bracing.

SLAB PLACEMENT BRACING:

The details for slab placement bracing are considered minimum for fulfilling the requirements of Specification Item 420 regardless of where erected.

Required slab placement bracing shall remain in place until slab concrete has attained a flexural strength of 500 psi.

GENERAL:

Bracing details for closely spaced beams (as on ramps or railroad structures) are not included herein. The Contractor shall submit his proposed bracing details for such conditions to the Engineer for approval prior to erection.

Systems equal to or better than those shown may be used provided details of such systems are submitted to and approved by the Engineer prior to erection.

Use of these systems and/or details does not relieve the Contractor of the responsibility for the adequacy of the bracing and the safety of the structure.

Removal of bracing for short periods of time to align beams is permissible.

Bottom flange bracing at beam ends may be omitted when all beams are fixed with dowel bars or when erection is on steel caps or floor beams containing bearing seats which restrict lateral movement.

All turn-buckles, come-alongs and other connections shall be capable of developing the full strength of the cable shown hereon.

Texas Department of Transportation
Design Division (Bridge)

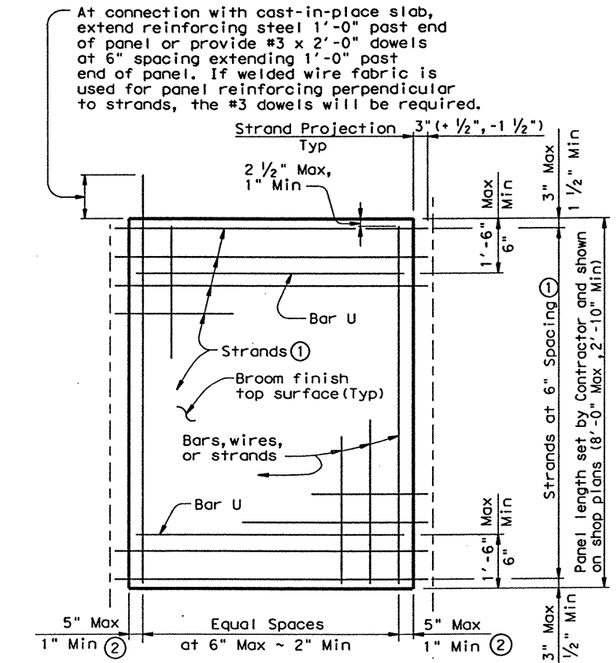
MINIMUM ERECTION AND BRACING REQUIREMENTS

PRESTRESSED CONCRETE BEAM TYPES A, B, C, III, IV & V

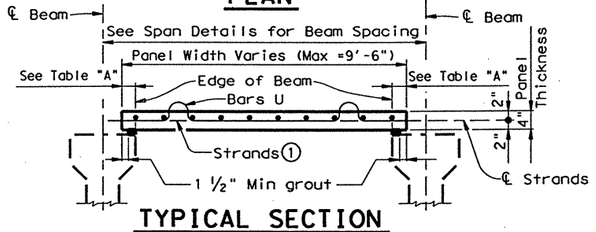
MEBR(C)-1

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	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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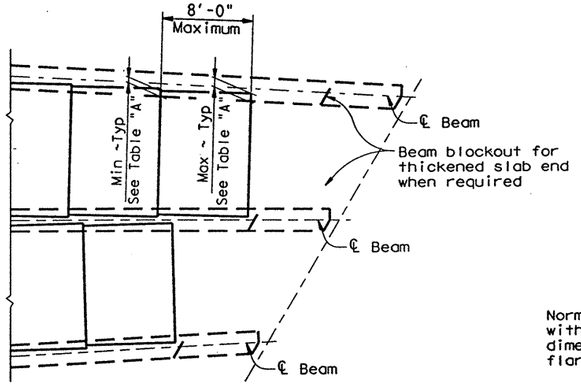
PLAN



TYPICAL SECTION

① Reinforcing steel #4 (Gr 60) at 6" spacing may be substituted for strands in panels 5'-0" in width or less and shall be required in panels 3'-6" in width or less. Non - prestressed concrete panels shall have the same dimensional tolerances as prestressed concrete panels in accordance with the Item "Precast Concrete Structures".

② May be reduced to 0" with welded wire fabric or welded bar mats.



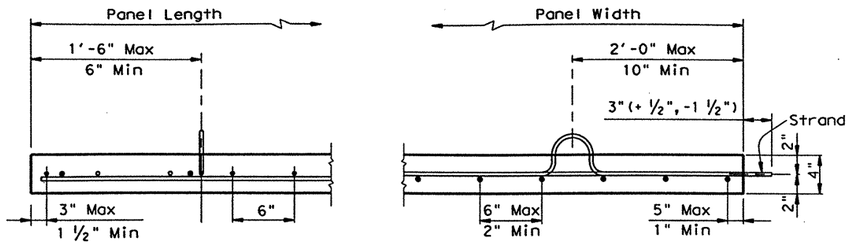
FLARED BEAM SPANS

PART PLAN

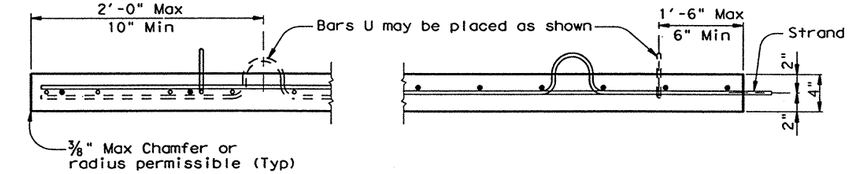
(Showing thickened slab end condition)

TABLE "A"			
Beam Type	Normal (In.)	Min (In.)	Max (In.)
A	3	2 ½	3 ½
B	3	2 ½	3 ½
C	3 ½	2 ½	4
54	4	3	5
IV	5 ½	3 ½	7
72	5 ½	3 ½	8

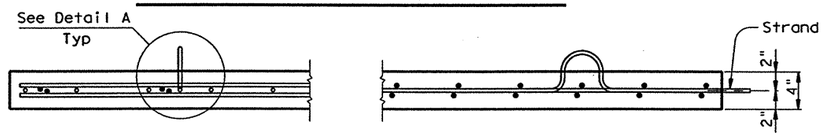
Normal dimensions shall be used on spans with parallel beams. Maximum and Minimum dimensions shall apply only to spans with flared beams.



REINFORCING BELOW STRANDS

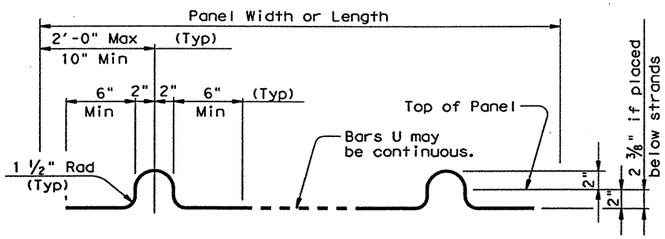


REINFORCING ABOVE STRANDS



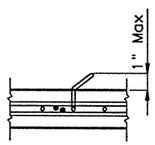
REINFORCING ABOVE & BELOW STRANDS

Reinforcing steel may be deformed reinforcing bars, welded wire fabric or welded deformed bar mats. Minimum area of reinforcing perpendicular to strands shall be 0.22 sq inches per foot. Prestressing strands may also be used, spaced at 6" for ½" strands and 4½" for ⅜" strands. Individual bars or wires shall be no larger than #3. Reinforcing parallel to strands shall be as required to ensure proper handling of the fabric or bar mat. A reasonable amount of form oil will be permitted on welded fabric or bar mats.



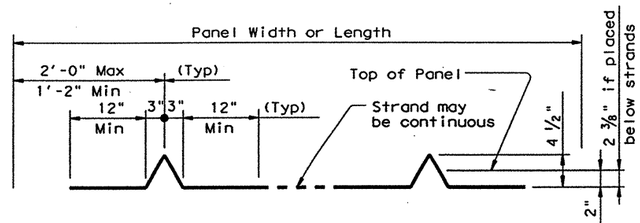
BARS U (#3)

Note: Four loops required per panel.



For Panels used with Epoxy Coated slab reinforcing, the loops of Bars U shall be field bent as shown. Bars U may be field bent to clear slab reinforcing.

DETAIL A



OPTIONAL STRAND FOR BARS U

Note: Four loops required per panel. ⅜" or ½" strands may be used.

GENERAL NOTES:

Designed for HS20 Loading in accordance with AASHTO 1992 Standard and Interim Specifications.

See Span Details for possible restrictions on the use of Prestressed Concrete Panels.

All concrete for panels to be Class H. Release strength f'ci=4000 psi. Minimum 28 day strength f'c=5000 psi.

Prestressing strands to be ⅜" Dia (270k) with an initial tension of 16.1 kips per strand. Larger strands may be used with the same spacing and initial tension.

Suitable holes or anchorage devices for lifting panels may be cast in the panels provided they are shown on the shop plans and approved by the Engineer.

Erected panels shall bear uniformly on bedding strips of fiberboard or extruded polystyrene placed along the outer edge of each beam. A ¼" gap shall be left at 4'-0" intervals to permit escape of trapped air in the cast-in-place concrete. If additional blocking is needed, special grading details for supporting the panels and extra reinforcing between beam and slab will be required. The cost of this additional blocking will be considered subsidiary to deck construction.

Care must be taken to ensure proper cleaning of construction debris and consolidation of concrete mortar under the edges of the panels. It is also important that the bedding strips be placed at the edges of beams so that adequate space is provided for the mortar to flow a minimum of 1 ½" under the panels as the slab concrete is placed. Roadway cross-slope reduces the opening required for proper entry of the mortar. Bedding strips varying in thickness across the beam are therefore required. To allow the proper amount of mortar to flow under the panel, the minimum opening shall be ¼".

All reinforcing steel in the cast-in-place slab shall be Grade 60. See Table on Sheet 2 of 3 for size and spacing of reinforcement. Orientation of reinforcement (normal or skewed) shall match that shown on the Span Details.

If the top and/or bottom layer of reinforcing steel is shown on the Span Details to be epoxy coated, then the OT, OC, OA, & OM and/or OD, OB, & OE bars shall be epoxy coated.

Bar laps, where required, shall be as follows:

Uncoated ~ #4 = 1'-5"
~ #5 = 1'-9"
Epoxy Coated ~ #4 = 2'-1"
~ #5 = 2'-7"

Contractor Note: Details as shown on the PCP Standard sheet are to be used in conjunction with the Span Details and applicable Standard sheets.

PRESTRESSED PANEL DETAILS

HS20 LOADING Sheet 1 of 3

Texas Department of Transportation
Design Division (Bridge)

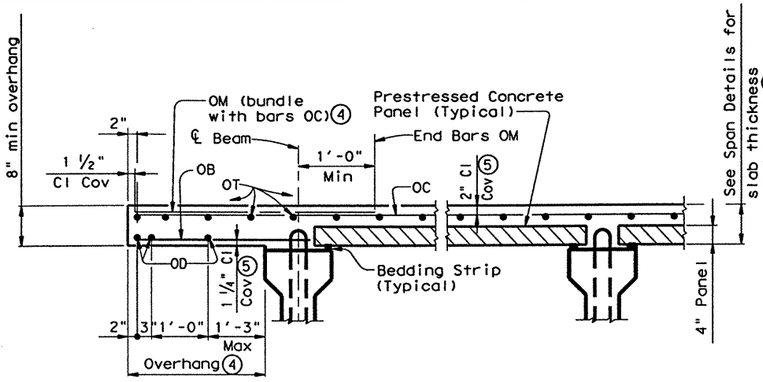
PRESTRESSED CONCRETE PANELS
OPTIONAL DECK DETAILS FOR PRESTRESSED CONC BEAM SPANS
PCP(C)

FILE: pcpcstde.dgn	DN: TxDOT	CK: DWM	DW: RNP	CK: DWM	STD: B489
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS	18	6	NH 99(367)		422
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

ACC: (LV=1,2 for English)
LEVELS DISPLAYED 1 2

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LEVELS DISPLAYED 1 2 | ACC: (LV=1,2 for English)



PART TRANSVERSE SECTION~TYPICAL

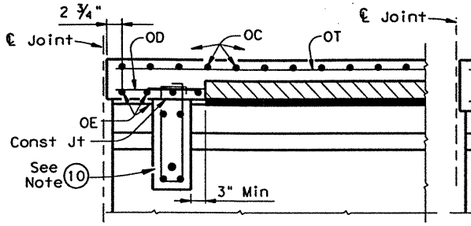
③ The actual thickness constructed may exceed the slab thickness shown on Span Details but, at mid-span of beams the extra thickness shall be no more than 2". Bearing Seat Elevations or finished grade may be adjusted.

④ Bars OM required where slab overhang exceeds the following:
2.75' at end of unit or other slab discontinuity
5.0' at midspan

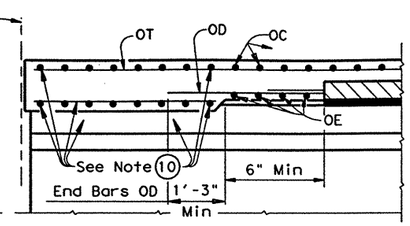
⑤ Clear cover shall be as indicated unless otherwise shown on Span Details. Bars OT may rest on top of prestressed concrete panels if necessary to maintain clear cover.

TABLE OF REINFORCING STEEL		
BAR	SIZE	MAX SPA (in.)
OA	#5	~
OB	#4	18
OC	#5	6
OD	#5	9
OE	#5	6
OM	#4	~
OT	#4	9

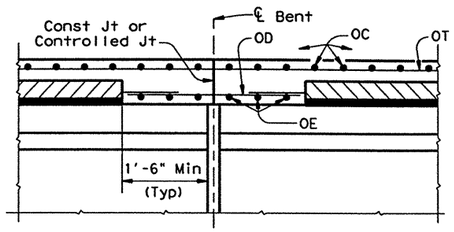
Max Spa as listed unless otherwise shown.



SECTION AT END DIAPHRAGM

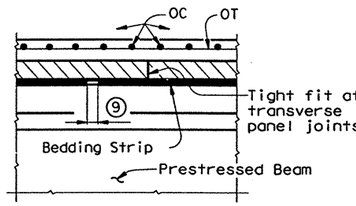


SECTION AT THICKENED SLAB ENDS



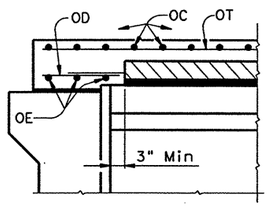
SECTION AT CONVENTIONAL INTERIOR BENT w/o DIAPHRAGM

⑩ For size and spacing of reinforcing steel, see appropriate details elsewhere in plans.

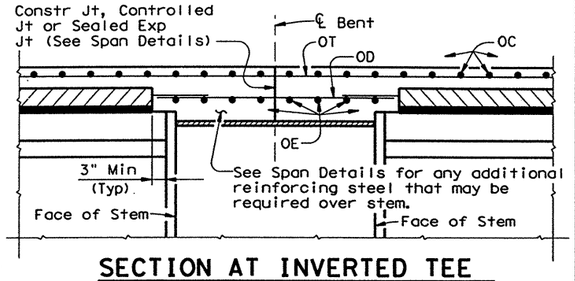


⑨ ¼" Open Joint in bedding strip at 4'-0"c/c ±. Place 6" long piece of bedding strip ¼" behind opening if necessary to reduce grout leakage.

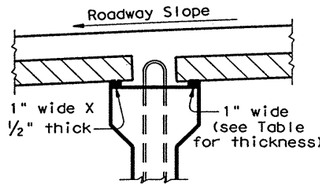
SECTION AT TRANSVERSE PANEL JOINTS



SECTION AT ABUTMENT WITH SLAB OVER BACKWALL



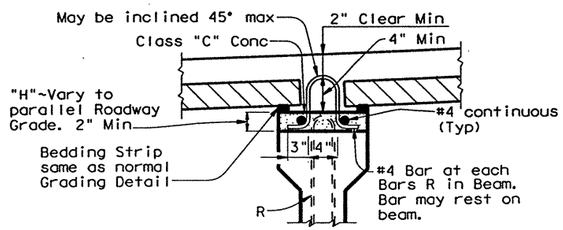
SECTION AT INVERTED TEE INTERIOR BENT



BEDDING STRIP THICKNESS (INCHES)				
	MAXIMUM ROADWAY SLOPE			
BEAM	.08'/ft	.06'/ft	.04'/ft	.02'/ft
A, B, C	1	¾	¾	¾
S4	1	1	¾	¾
IV, 72	1 ¼	1	1	¾

NORMAL GRADING DETAIL

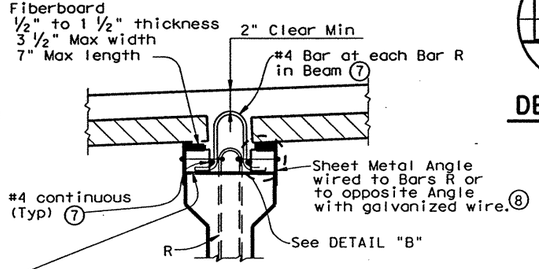
Minimum bedding strip dimensions shall be as shown above. To reduce the quantity of cast-in-place concrete, thickness shown may be increased by ¼" increments to a maximum of 1 ½". Strips may be comprised of one layer or two, except that no layer shall be less than ½" thick. All layers of bedding strips shall be bonded to the beam and to each other with an approved adhesive. The same thickness strip shall be used under any one panel edge and the maximum change in thickness between adjacent panels shall be ¼". Panels may be supported by an alternate method, using a commercial product, if approved by the Engineer of Bridge Design, Design Division.



⑥ Concrete blocks used for special grading shall be any convenient plan dimension with a minimum of 2" x 4" and a maximum of 4" x 8". Heights may be from 1 ⅛" to 5 ½".

⑦ Concrete blocks from 1 ⅛" high to 2" high may be used without the additional R bar extensions or longitudinal No. 4 bars.

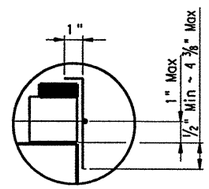
⑧ For blocks up to 3 ½" high, Use 1" x 6" 16 gage galvanized sheet metal angle and for blocks 3 ½" to 5 ½" high, use 1" x 8" 16 gage galvanized sheet metal angle. Tie sheet metal thru holes in angle at 12" centers with 14 gage minimum galvanized wire. Sheet metal angles are to be overlapped at splices and left in place. Vent holes ⅜" in diameter are to be placed in angles within the upper 1", spaced at 36" centers.



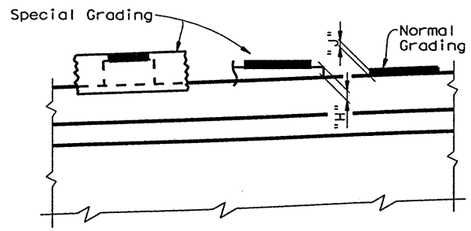
Place concrete blocks ⑥ at ¼ pts of panel edges (±2" along beam). For panels 4 ft long and less the blocks may be at panel corners and common to two panels. Blocks not to be used with Types A and B beams. Extruded polystyrene shall not be used for panel bedding with concrete blocks.

SPECIAL GRADING DETAILS

For use where the distance between top of beam and finished grade can not be achieved within tolerances on cast-in-place slab thickness and thickness of bedding strips. Panels may be supported by an alternate method, using a commercial product, if approved by the Engineer of Bridge Design, Design Division.

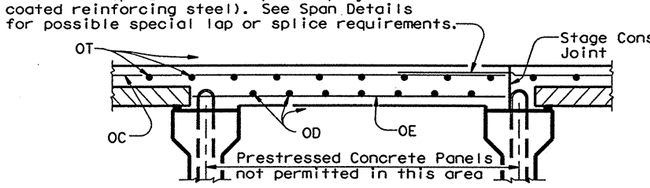


DETAIL "B"

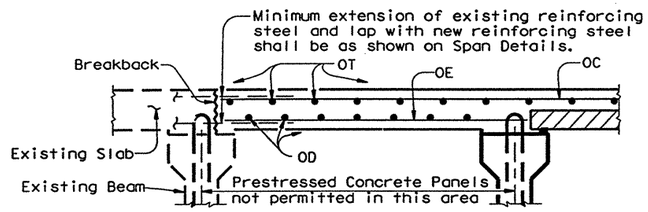


At grading method changes along the beam, the special grading "H" dimension may be reduced to 1 ¾" and the normal grading "J" dimension may be increased to 2". Some cross-slope conditions may require further H and J adjustments as directed by the Engineer.

1'-9" Min lap (2'-7" Min lap for epoxy coated reinforcing steel). See Span Details for possible special lap or splice requirements.



STAGE CONSTRUCTION



BRIDGE WIDENINGS

PART TRANSVERSE SECTIONS

Examples of potential situations where prestressed concrete panels may not be permitted. Refer to Span Details for limitations on their use.

HS20 LOADING

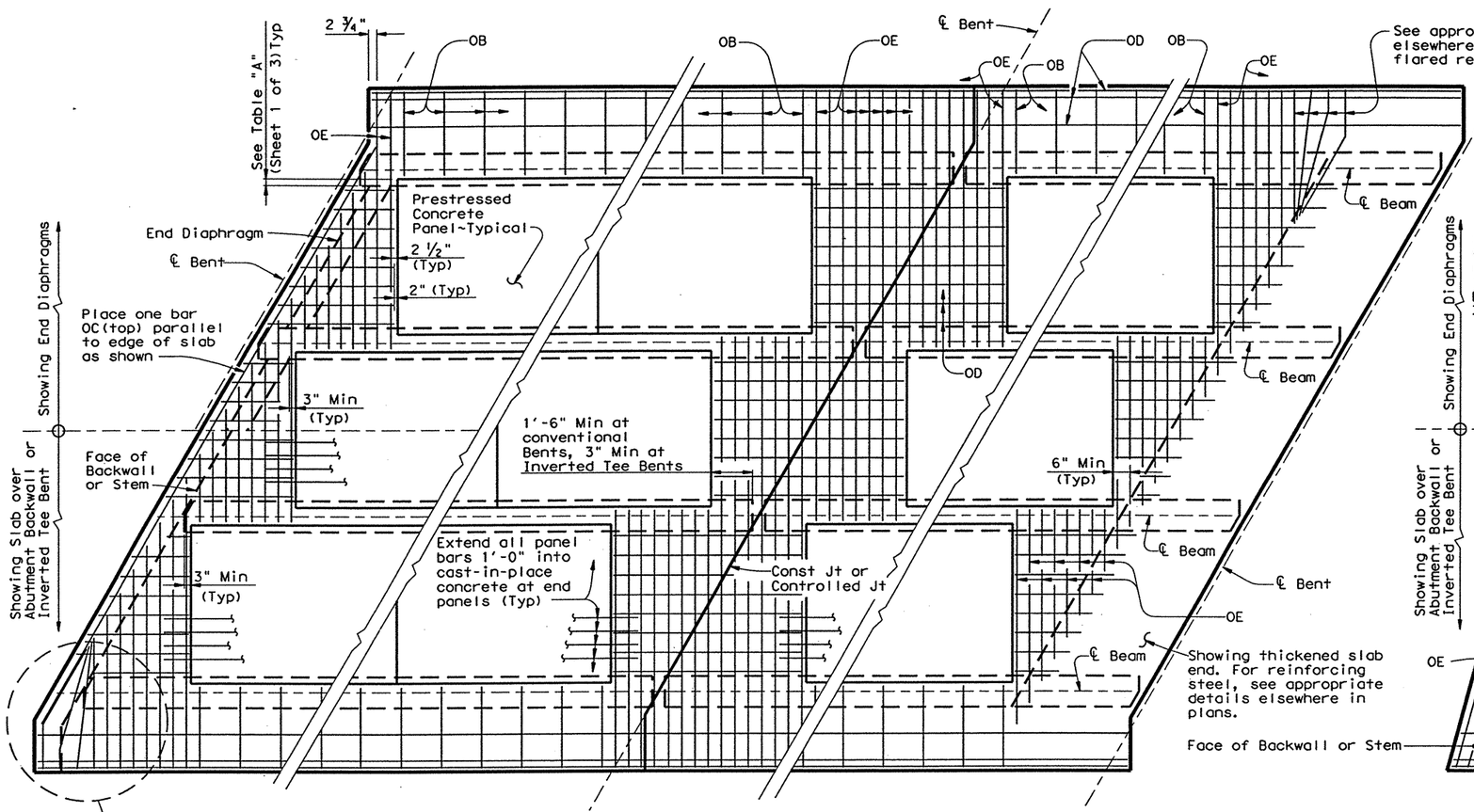
Texas Department of Transportation
Design Division (Bridge)

PRESTRESSED CONCRETE PANELS
OPTIONAL DECK DETAILS FOR PRESTRESSED CONC BEAM SPANS

PCP(C)

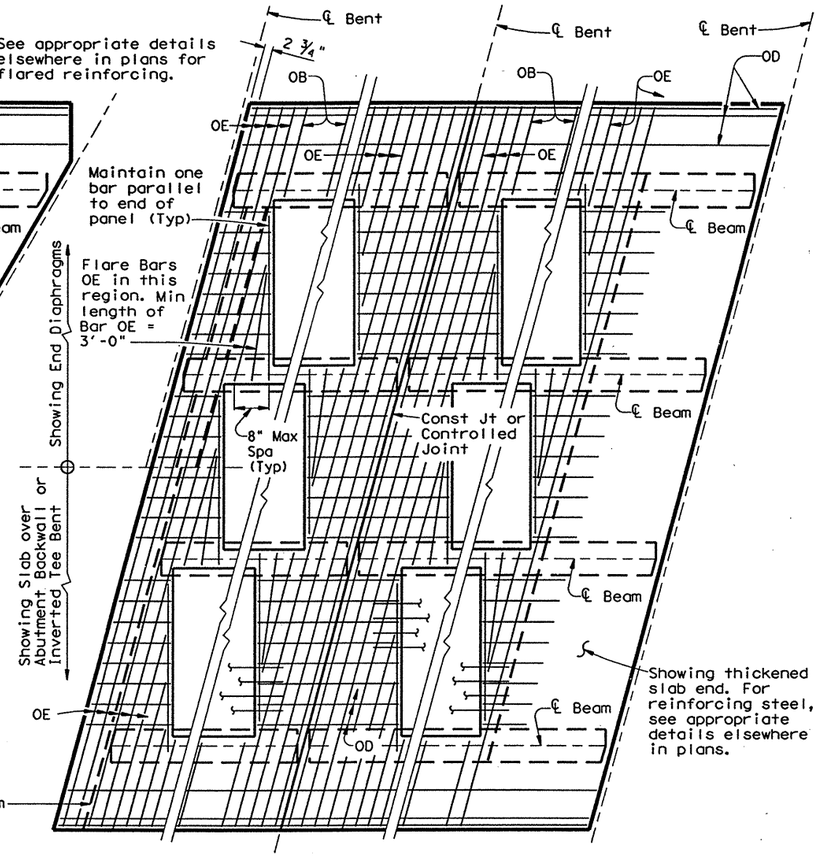
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©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS	18	6	NH 99(367)		423
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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PLAN~SLABS WITH NORMAL REINFORCEMENT

(Showing bottom reinforcing steel. For top reinforcement see Transverse Sections on Sheet 2 of 3 and Detail "A".)



PLAN~SLABS WITH SKEWED REINFORCEMENT

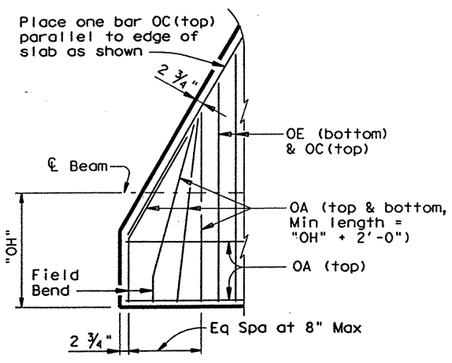
(Showing bottom reinforcing steel. For top reinforcement see Transverse Sections on Sheet 2 of 3.)

APPROXIMATE QUANTITIES FOR ONE SQUARE FOOT OF SLAB

(FOR CONTRACTOR'S INFORMATION ONLY)

Slab Thickness (In.)	Reinf Steel (Lb)	Class S Concrete (CY)
7 ¼	2.98	0.0100
7 ½	2.98	0.0108
7 ¾	2.98	0.0116
8	2.98	0.0123
8 ¼	2.98	0.0131

These approximate quantities are for a typical square foot of cast-in-place slab over the PCP. They do not include an allowance for slab overhangs, thickened ends or diaframs, or the portion between panels over the beams.



DETAIL "C"

HS20 LOADING Sheet 3 of 3

Texas Department of Transportation
Design Division (Bridge)

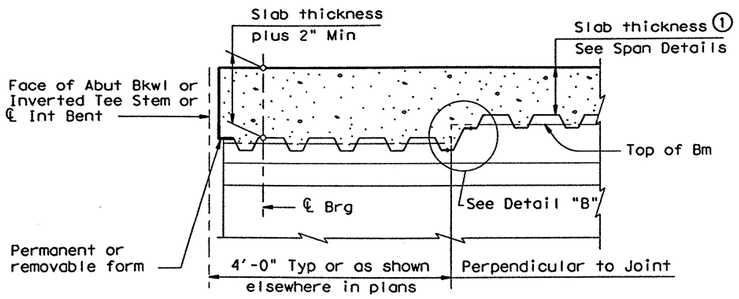
PRESTRESSED CONCRETE PANELS
OPTIONAL DECK DETAILS FOR PRESTRESSED CONC BEAM SPANS
PCP(C)

FILE: pcpcstde.dgn	DN: TxDOT	CK: DWM	DW: RNP	CK: DWM	STD: B489
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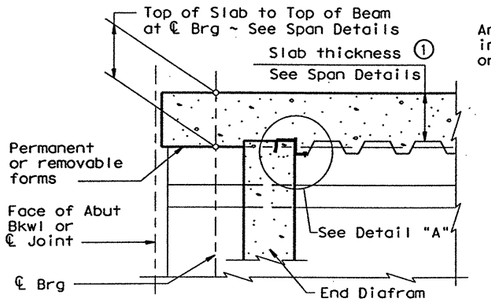
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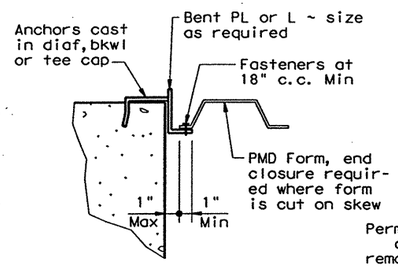
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THICKENED SLAB END AT ABUTMENT OR INTERIOR BENT



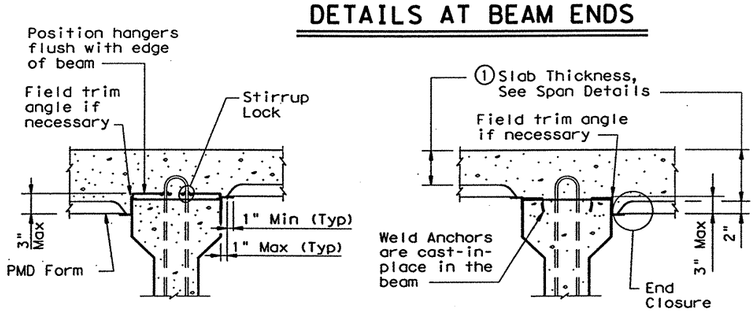


DETAIL "A"

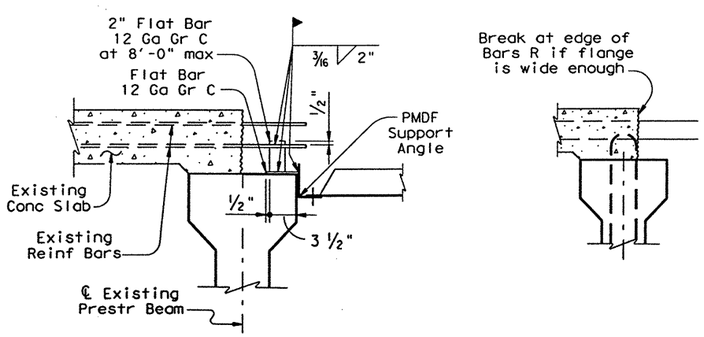
SLAB END WITH CONC END DIAF OPTION AT ABUTMENT OR INTERIOR BENT

① Slab thickness minus ⅝" if corrugations match reinforcing bars

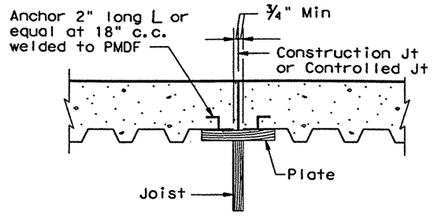
DETAILS AT BEAM ENDS



TYPICAL TRANSVERSE SECTIONS



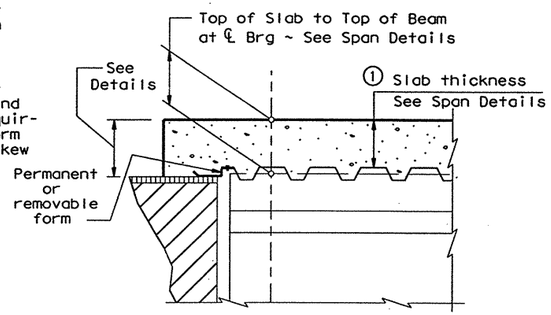
SECTION THRU BREAKBACK FOR WIDENING



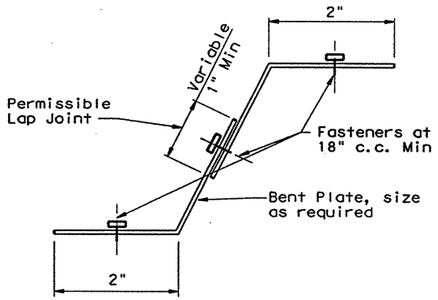
SECTION THRU CONSTRUCTION JOINT

Note: In spans where PMD forms are used, timber forms shall be used at construction joints.

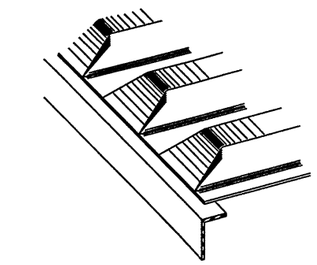
Adequate provision shall be made to support edge of metal form and to provide anchorage of metal form to slab concrete where joined to wood forms.



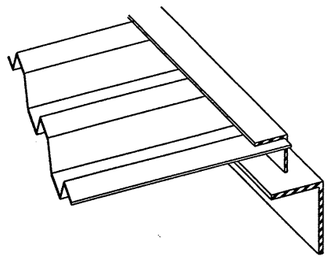
SECTION THRU SLAB OVER ABUTMENT BACKWALL OR INVERTED TEE STEM



DETAIL "B"



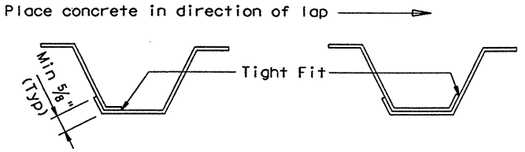
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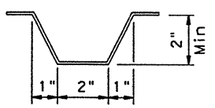
ANGLE HEADER

NOTE: This type is to be used for skewed ends only.

TYPES OF END CLOSURES



SIDE LAP DETAILS

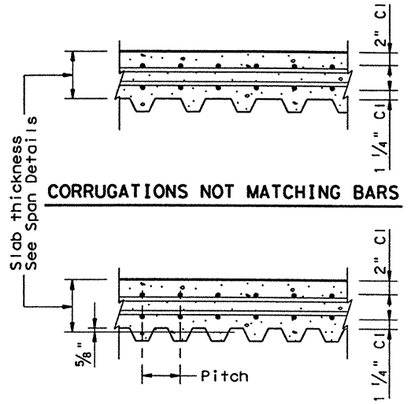


TYPICAL CORRUGATION

APPROXIMATE QUANTITIES FOR ONE SQUARE FOOT OF SLAB (for Contractors information only)

Slab Thickness inches	Reinf Steel Lb/SF	Class S Concrete CY/SF
7.25	6.66	0.0255
7.50	6.66	0.0262
7.75	6.66	0.0270
8.00	6.66	0.0278
8.25	6.66	0.0285

These approximate quantities are for a typical square foot of cast-in-place slab over the average PMDF with corrugations not matching bars. The quantities do not include an allowance for slab overhangs, thickened slab ends, or possible haunch over beams.



CORRUGATIONS MATCHING BARS

The Contractor has the option of furnishing either system, if practical.

TYPICAL LONGITUDINAL SLAB SECTIONS

GENERAL NOTES:

Permenant Metal Deck Forms (PMDF) shall be designed for the dead load of form, reinforcement and concrete plus 50 pounds per square foot for construction loads. The following allowable stresses shall be used in the design:

ASTM A653, Grade	Yield (psi)	Allowable Stress (psi)
33	33,000	23,900
37	37,000	26,800
40	40,000	29,000
50	50,000	36,000
80	80,000	36,000
Weld Metal		12,400

Maximum deflection under the weight of forms, reinforcement and concrete, or a minimum of 120 pounds per square foot shall not exceed 1/180 of the form span or ½inch, whichever is less. The design span for forms shall be clear distance between beam flanges measured parallel to the form flutes minus 2 inches. The minimum thickness of the forms shall be 20 gage and that of the support angles shall be 14 gage. All forms shall be securely fastened to supports.

This Standard shall be used as a guide in the preparation of shop detail drawings.

Texas Department of Transportation
Design Division (Bridge)

PERMANENT METAL DECK FORMS (CONCRETE)

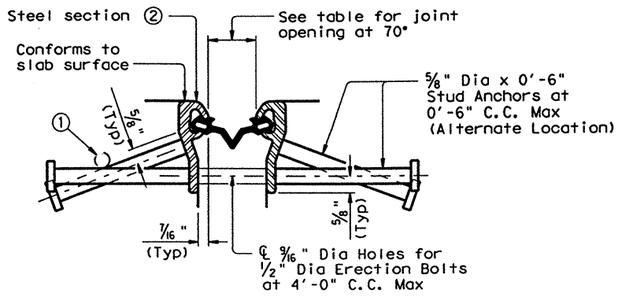
PMDF (C)

FILE: mdfcstde.dgn	DN: THD	CK: THD	DW: LW	CK: LDS	STD: B488
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT		SHEET
REVISIONS	18	6	NH 99(367)		425
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

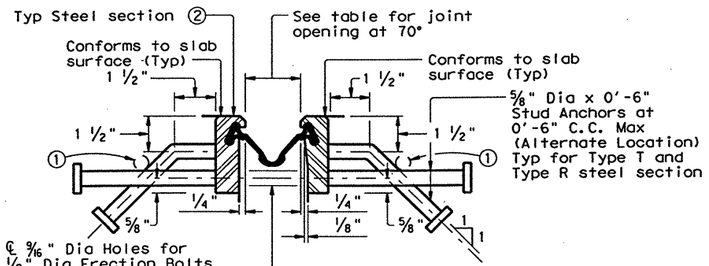
DISCLAIMER:
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LEVELS DISPLAYED 1 2 | ACC: (LV=1,2 for English)

① Transverse bars in conflict with SEJ studs in either the bridge slab or approach slab shall be moved to rest at the junction of the studs.



D S BROWN COMPANY



WATSON BOWMAN & ACME CORP

SECTIONS THRU SEALED EXPANSION JOINT

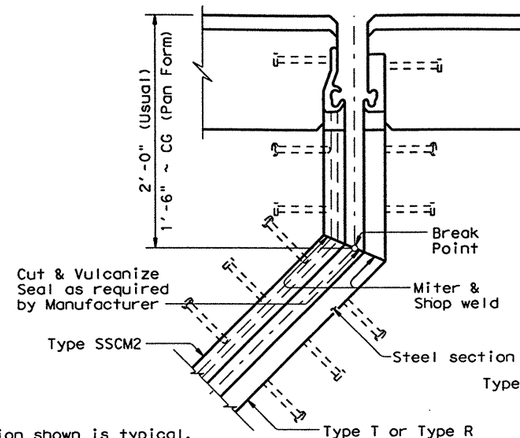
NOTES:
Steel sections shall be shipped in convenient lengths of 24'-0" Max and 10'-0" Min unless otherwise necessary for stage construction or widenings. One shop splice will be permitted in each shipping length provided no piece is less than 2'-0" in length and sufficient studs are added to limit the stud to shop or field splice distance to 2" Min and 4" Max .
Shop and field splices shall be made by butt welding with areas in contact with preformed joint sealer to be ground smooth.
Corresponding sections shall be match marked and bolted together for shipment.
All steel parts are not to be painted or primed unless designated elsewhere on the plans.

D.S. BROWN COMPANY

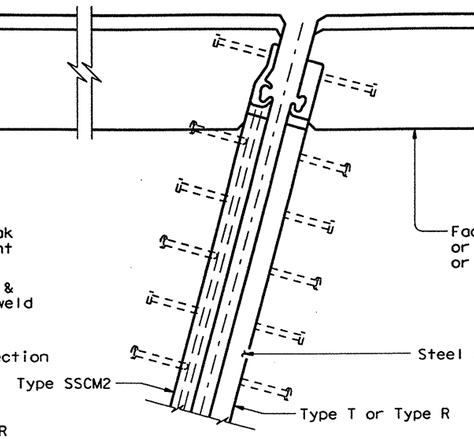


WATSON BOWMAN & ACME CORP

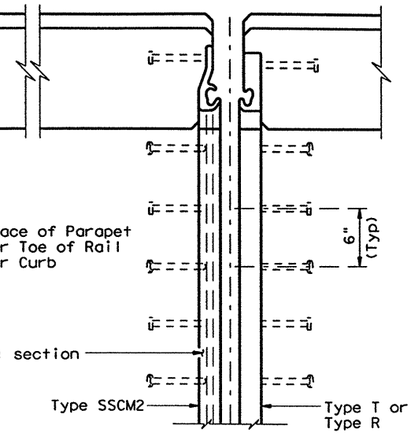
NEOPRENE SEAL



SKEWS WITH SLAB BREAK



SKEWS WITHOUT SLAB BREAK



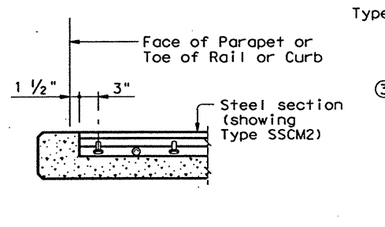
NORMAL

② Shape of steel section shown is typical. Variations depending on manufacturer are permissible.

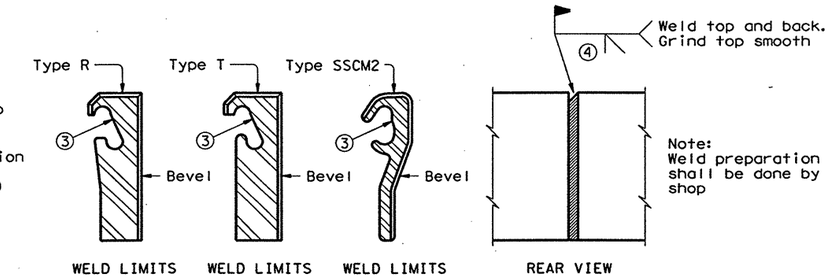
③ Remove all burrs which will be in contact with seal prior to making splice.

MANUFACTURER	STEEL SECTION ②	NEOPRENE STRIP SEAL 4" JOINT	
		Seal Type	Joint Opening
D.S. Brown	Type SSCM2	A2X	1 ¾"
Watson Bowmon & Acme Corp	Type T	SE400	1 ¾"
Watson Bowmon & Acme Corp	Type R	SE400	1 ¾"

PLANS OF END CONDITIONS



SECTION THRU SLAB
(HIGH SIDE)

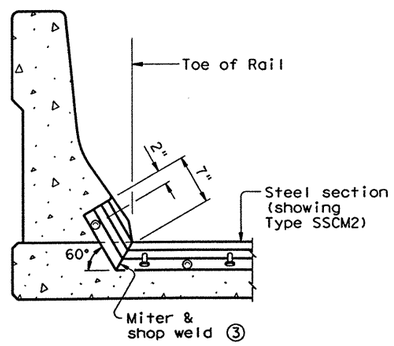


BEVEL AT FIELD SPLICE
(Not to Scale)

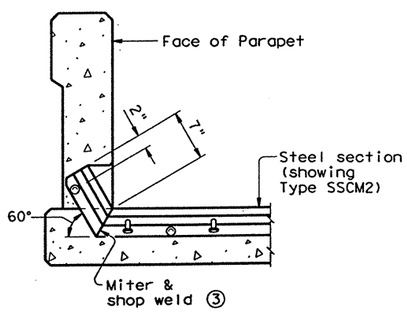
④ ⅛ Bevel weld, for Type SSCM2 steel section.
3/16 Bevel weld, for Type T and Type R steel sections.

GENERAL NOTES:

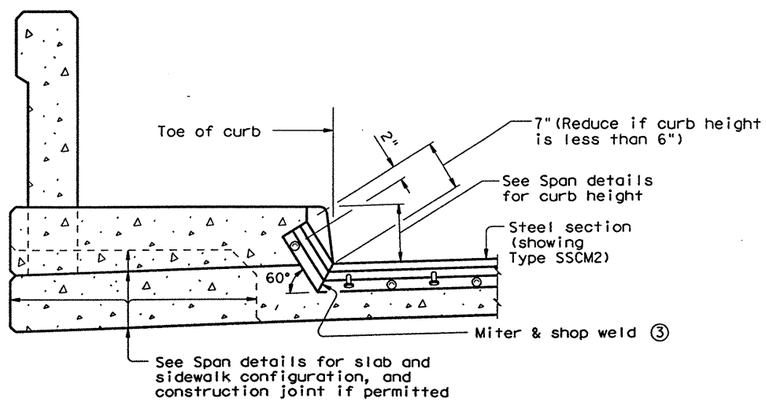
Sealed Exp Jts shall be provided in the size and at locations shown on plans.
Minimum slab thickness required for the use of SEJ-A is 6 ½" .
Shop fabrication will be required at all intersections of cross slope and at break points.
Corresponding sections of Sealed Exp Jts shall be temporarily shop assembled, checked for fit, and match marked for shipment.
Erection holes shall be punched so as to line up when Sealed Exp Jts are in their final position.
Stud anchors shall be electric arc end-welded with complete fusion.
The neoprene seal shall be continuous and included in the price bid for Sealed Exp Jt .
The Contractor shall arrange for securing the Sealed Exp Jt in position, and placing to the proper grade and alignment by welding braces to adjacent reinf steel, to prestressed beam stirrups, or to anchors cast in concrete diaframs. Cost of temporary bracing is to be included in the price bid for Sealed Exp Jt .
After bracing and welding the steel section, the erection bolts and spacers shall be removed and erection holes sealed before placing slab concrete.



SECTION THRU BARRIER RAIL
(LOW SIDE)



SECTION THRU OTHER PARAPET RAILS
(LOW SIDE)



SECTION THRU SIDEWALK
(LOW SIDE)

Texas Department of Transportation
Design Division (Bridge)

SEALED EXPANSION JOINT DETAILS

WITHOUT OVERLAY

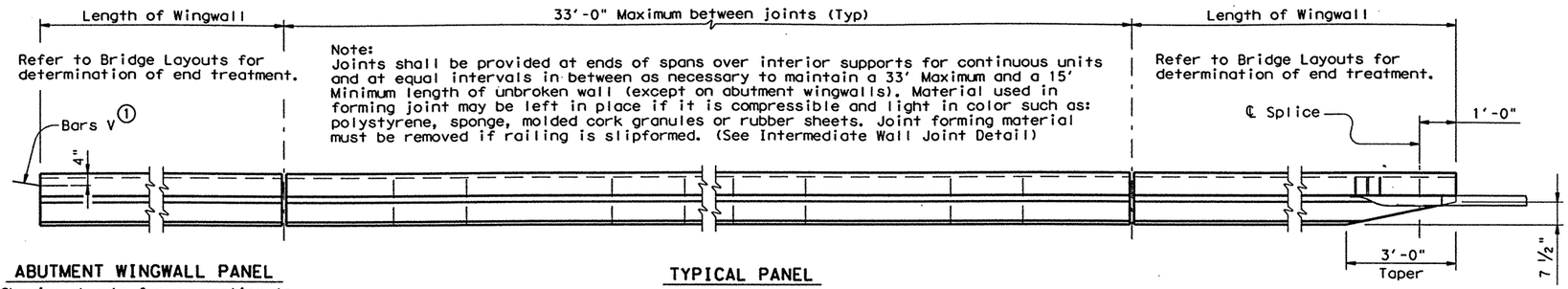
SEJ-A

FILE: sejastde.dgn	DN: THD	CK: THD	DW: JTR	CK: LDS	NEG:	B272
©TxDOT September 1998	DIST	FED REG	FEDERAL AID PROJECT #			SHEET
REVISIONS	18	6	NH 99(367)			426
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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ACC: (LV=1,2 for English; 1,3 for Metric)

LEVELS DISPLAYED 1 2

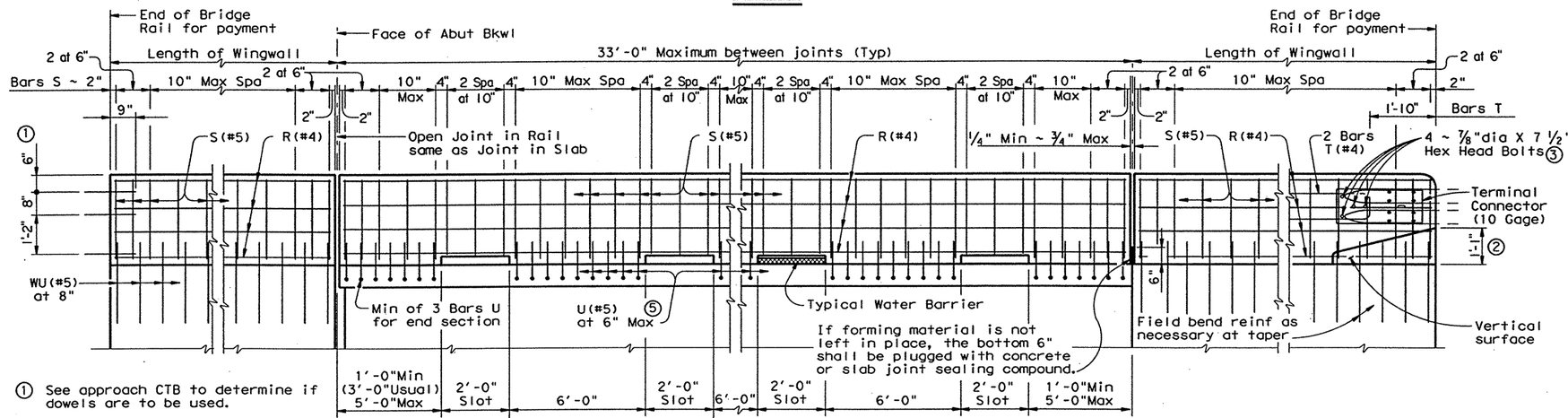


ABUTMENT WINGWALL PANEL
(Showing dowels for connection to approach Concrete Traffic Barrier)

TYPICAL PANEL

PLAN

ABUTMENT WINGWALL PANEL
(Showing MBGF Attachment)



① See approach CTB to determine if dowels are to be used.

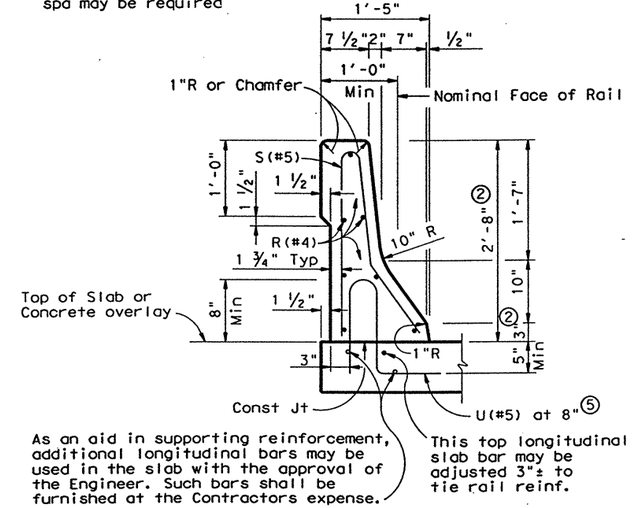
② Increase 2" for structures with overlay.

③ 1 ¾" Dia washer required under ⅞" Dia Bolt Heads and Nuts.

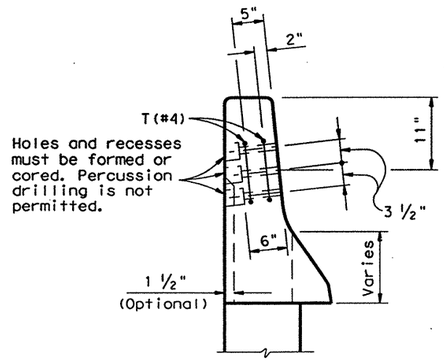
④ Back offset may optionally be continued to end of railing.

⑤ For ACP Overlay exceeding 75 mm reduced bar spa may be required

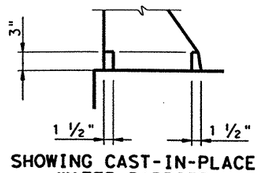
ROADWAY ELEVATION OF RAIL



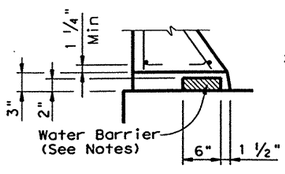
TYPICAL SECTION
(SHOWING CONVENTIONAL REINF)



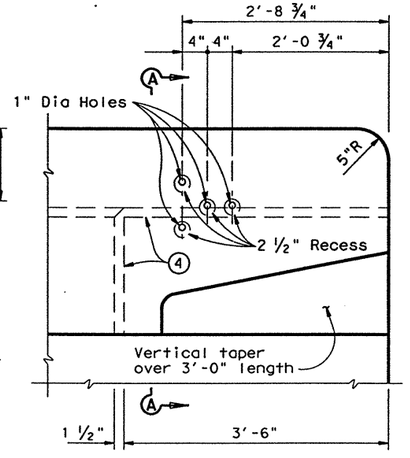
SECTION A-A



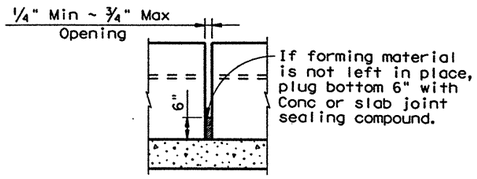
SHOWING CAST-IN-PLACE WATER BARRIER



SEC AT 3 IN. OPENING



END TREATMENT AT MBGF



INTERMEDIATE WALL JOINT DETAIL

GENERAL NOTES:

This rail has been structurally evaluated to be equivalent or greater in strength to other safety shape railings which have been crash tested to NCHRP Report 230 SL-2 criteria. Also equivalent to railings tested to 1989 AASHTO Guide Specification PL-2 criteria.

All parts of the railing including concrete parapet wall, reinforcing, terminal connector, bolts, nuts and washers are included in the price bid per linear foot of rail.

All steel components except reinforcing shall be galvanized unless otherwise shown in plans.

All concrete for railing wall shall be Class "C".

All reinforcing steel shall be Grade 60.

Metal Beam Guard Fence or Concrete Traffic Barrier is usually attached to the abutment wingwall panel. See plan sheet for details and length for payment. The splice between the approach guard fence and the terminal connector shall be with the normal eight bolts. The dowel connection to the approach traffic barrier shall be grouted the same as other barrier joints.

Shop drawings will not be required for this rail.

This railing may be constructed with slip-forms when shown on the plans or approved by the Engineer, with equipment approved by the Engineer. Sensor control for both line and grade must be provided. When slip-forming is used, the concrete may be cured with membrane curing compound.

Additional reinforcing may be tack welded to the upper two thirds of the reinforcing cage to provide bracing when slip-forming is used. Additional anchorage devices may be added when welding is necessary in the lower one third of the cage. Do not weld to U or S bars in the lower one third of the cage.

The back of railing shall be vertical unless otherwise shown on the plans or approved by the Engineer.

Deformed welded wire fabric may be used as an option to conventional reinforcement and shall be made in accordance with ASTM A497 (Deformed Wire).

Welded Wire Fabric Detail shown is for D8.5 longitudinal wires and D8.3 vertical wires. Combinations of Reinforcing Steel and Welded Wire Fabric or configurations of Welded Wire Fabric other than shown will be permitted when the conditions in the table are satisfied and the dimension from end of section to first welded vertical wire does not exceed 3".

Water barriers shall be provided at openings draining onto undercrossing roadways and sidewalks. They may be cast in place or precast in conveient length and bonded to the bridge deck with an apporved epoxy cement.

Epoxy coat bars U and WU if slab bars are epoxy coated.

Average weight of railing (with no overlay) is 313 plf.

Texas Department of Transportation
Design Division (Bridge)

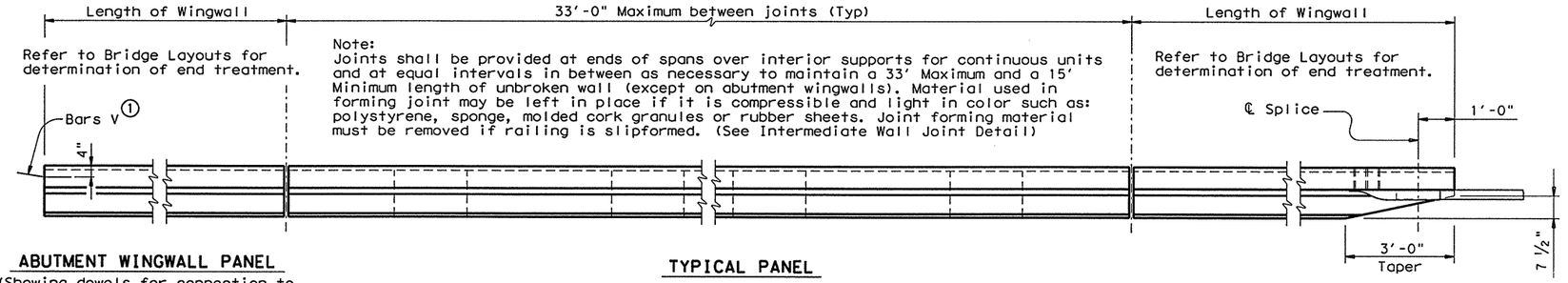
TRAFFIC RAIL

TYPE T502

FILE: rlstd017.dgn	DN: JJP	CK: THD	DW: RNP	CK: LDS	STD: B590
©TxDOT January 1996	DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS	18	6	NH 99(367)		427
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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ACC: BRG-RPORTER-1
5692md03.dgn
(LV=1,2 for English; 1,3 for Metric)
LEVELS 1 2
YED

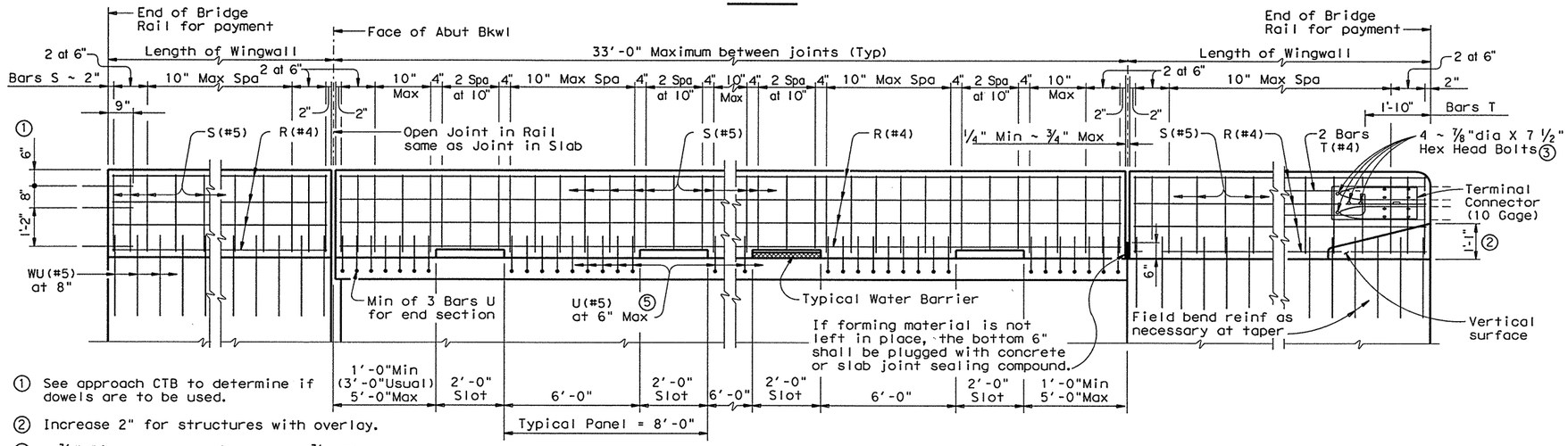


ABUTMENT WINGWALL PANEL
(Showing dowels for connection to approach Concrete Traffic Barrier)

TYPICAL PANEL

PLAN

ABUTMENT WINGWALL PANEL
(Showing MBGF Attachment)



① See approach CTB to determine if dowels are to be used.

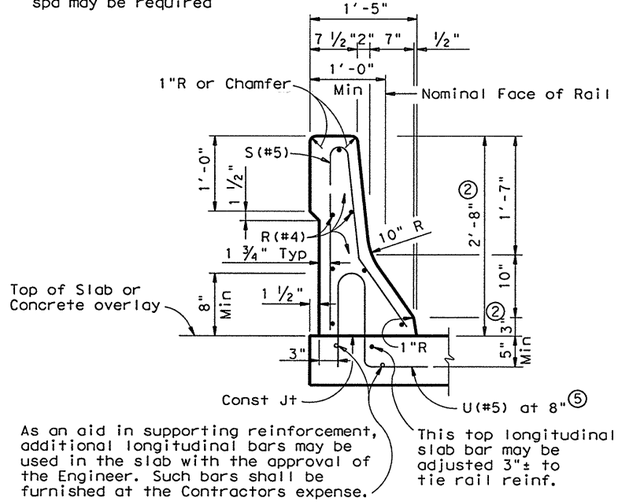
② Increase 2" for structures with overlay.

③ 1 ¾" Dia washer required under ⅞" Dia Bolt Heads and Nuts.

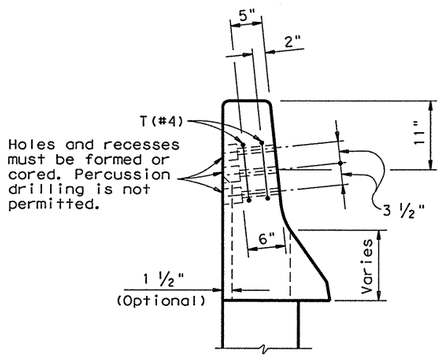
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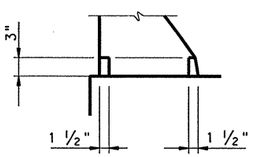
ROADWAY ELEVATION OF RAIL



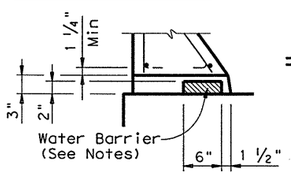
TYPICAL SECTION
(SHOWING CONVENTIONAL REINF)



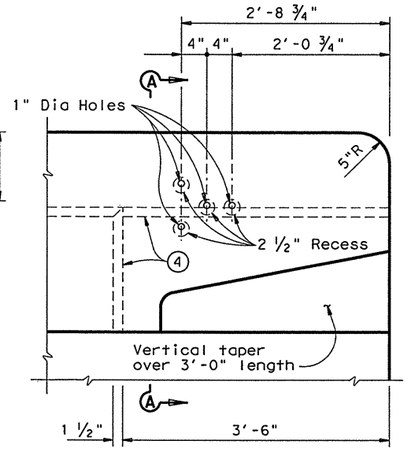
SECTION A-A



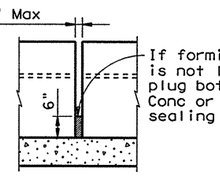
SHOWING CAST-IN-PLACE WATER BARRIER



SEC AT 3 IN. OPENING



END TREATMENT AT MBGF



INTERMEDIATE WALL JOINT DETAIL

GENERAL NOTES:

This rail has been structurally evaluated to be equivalent or greater in strength to other safety shape railings which have been crash tested to NCHRP Report 230 SL-2 criteria. Also equivalent to railings tested to 1989 AASHTO Guide Specification PL-2 criteria.

All parts of the railing including concrete parapet wall, reinforcing, terminal connector, bolts, nuts and washers are included in the price bid per linear foot of rail.

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All concrete for railing wall shall be Class "C".

All reinforcing steel shall be Grade 60.

Metal Beam Guard Fence or Concrete Traffic Barrier is usually attached to the abutment wingwall panel. See plan sheet for details and length for payment. The splice between the approach guard fence and the terminal connector shall be with the normal eight bolts. The dowel connection to the approach traffic barrier shall be grouted the same as other barrier joints.

Shop drawings will not be required for this rail.

This railing may be constructed with slip-forms when shown on the plans or approved by the Engineer, with equipment approved by the Engineer. Sensor control for both line and grade must be provided. When slip-forming is used, the concrete may be cured with membrane curing compound.

Additional reinforcing may be tack welded to the upper two thirds of the reinforcing cage to provide bracing when slip-forming is used. Additional anchorage devices may be added when welding is necessary in the lower one third of the cage. Do not weld to U or S bars in the lower one third of the cage.

The back of railing shall be vertical unless otherwise shown on the plans or approved by the Engineer.

Deformed welded wire fabric may be used as an option to conventional reinforcement and shall be made in accordance with ASTM A497 (Deformed Wire).

Welded Wire Fabric Detail shown is for D8.5 longitudinal wires and D8.3 vertical wires. Combinations of Reinforcing Steel and Welded Wire Fabric or configurations of Welded Wire Fabric other than shown will be permitted when the conditions in the table are satisfied and the dimension from end of section to first welded vertical wire does not exceed 3".

Water barriers shall be provided at openings draining onto undercrossing roadways and sidewalks. They may be cast in place or precast in conveient length and bonded to the bridge deck with an apporved epoxy cement.

Epoxy coat bars U and WU if slab bars are epoxy coated.

Average weight of railing (with no overlay) is 313 plf.

CHANGE ORDER NO. _____

SHEET 1 OF 2

Texas Department of Transportation
Bridge Division

TRAFFIC RAIL

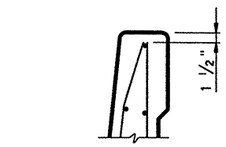
TYPE T502 (MOD)

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

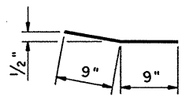
Lloyd M. Wolf
6-1-01

FILE: rlstd017.dgn	DN: JJP	CK: THD	DW: RNP	CK: LDS	STD: B590
©TxDOT January 1996	DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS	18	6	NH 99(367)		427
5/01 Added detail for installation with adhesive anchors -MDH/RNP	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

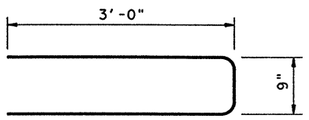
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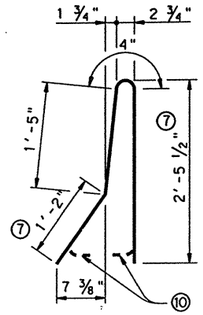
Bars S may be constructed as two separate bars at the contractors's option.



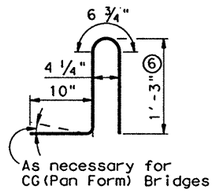
BARS V (#8)
(3 at each connection)



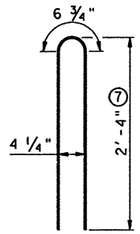
BARS T (#4)
(2 at each terminal)



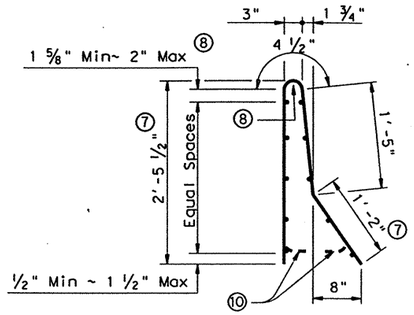
BARS S (#5)



BARS U (#5)



BARS WU (#5)



WELDED WIRE FABRIC
(OPTIONAL)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES
Minimum (Cumulative Total) Wire Area	1.100 Sq In.	0.295 Sq In. per Ft
	No. of Wires	Spacing
Minimum	6	4"
Maximum	11	12"
Maximum Wire Size Differential	The smaller wire shall have an area of 40% or more of the larger wire.	

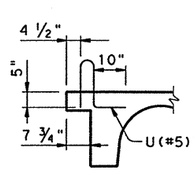
⑥ Increase to slab thickness plus 5 ½" for slabs over 10". Dimension given is permissible without increase for slabs 10" or less. Increase by nominal overlay thickness if over 2".

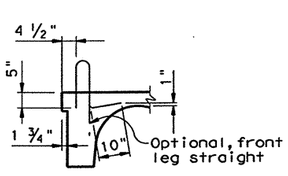
⑦ Dimension given is permissible for structures with up to 2" of overlay.

⑧ No longitudinal wires may be within upper bend.

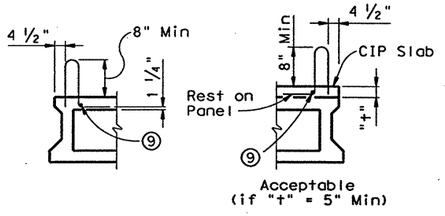
⑨ Place additional No. 4 longitudinal bar (included as part of railing reinforcement) when U bars are embedded less than 5".

⑩ Bend or cut as required to clear drain slots.

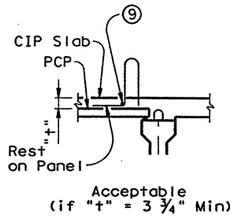




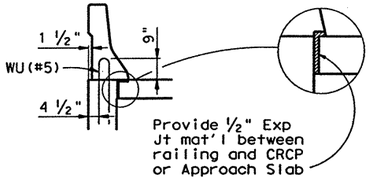
PAN FORM BRIDGES



PRESTRESSED BOXES

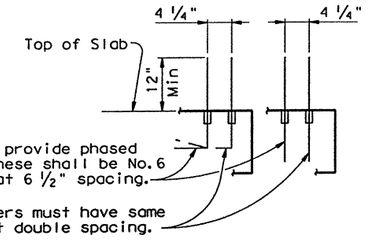


PRECAST PANELS



WINGWALLS AND CIP RETAINING WALLS

TYPICAL U AND WU BAR PLACEMENT



OPTIONAL BARS U(#6) OR WU(#6)

SHEET 2 OF 2

Texas Department of Transportation
Design Division (Bridge)

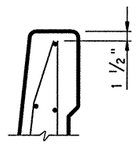
TRAFFIC RAIL

TYPE T502

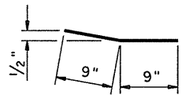
FILE: rlstd017.dgn	DN: JJP	CK: THD	DW: RNP	CK: LDS	STD: B590
©TxDOT January 1996	DIST	FED REG	FEDERAL AID PROJECT #		SHEET
REVISIONS		6	NH 99(367)		428
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

ACC: (LV=1,2 for English; 1,3 for Metric)
LEVELS DISPLAYED 1 2

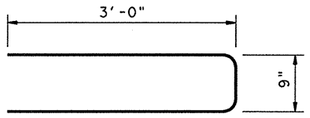
DISCLAIMER:
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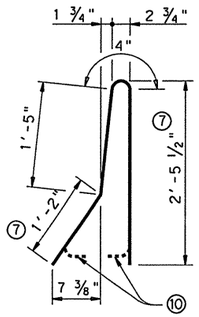
Bars S may be constructed as two separate bars at the contractors's option.



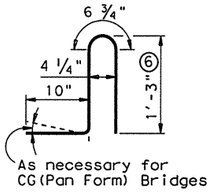
BARS V (#8)
(3 at each connection)



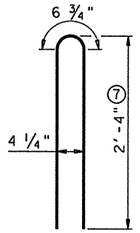
BARS T (#4)
(2 at each terminal)



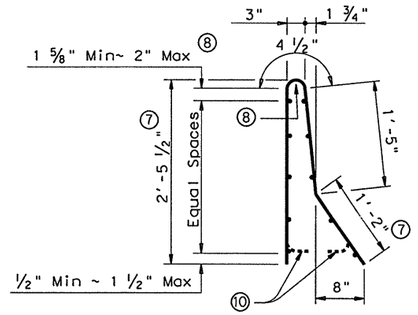
BARS S (#5)



BARS U (#5)

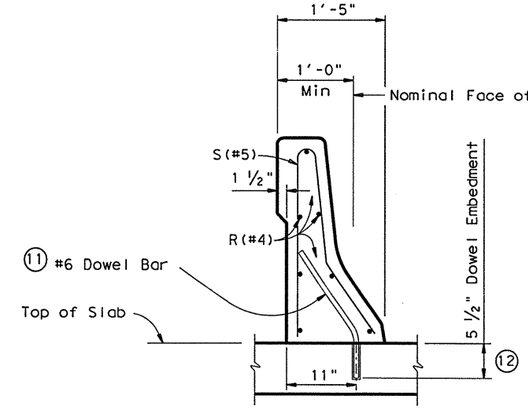


BARS WU (#5)



WELDED WIRE FABRIC
(OPTIONAL)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES
Minimum (Cumulative Total) Wire Area	1.100 Sq In.	0.295 Sq In. per Ft
	No. of Wires	Spacing
Minimum	6	4"
Maximum	11	12"
Maximum Wire Size Differential	The smaller wire shall have an area of 40% or more of the larger wire.	



TYPICAL SECTION
(SHOWING ALTERNATE ANCHORAGE)

⑥ Increase to slab thickness plus 5 ½" for slabs over 10". Dimension given is permissible without increase for slabs 10" or less. Increase by nominal overlay thickness if over 2".

⑦ Dimension given is permissible for structures with up to 2" of overlay.

⑧ No longitudinal wires may be within upper bend.

⑨ Place additional No.4 longitudinal bar (included as part of railing reinforcement) when U bars are embedded less than 5".

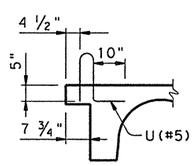
⑩ Bend or cut as required to clear drain slots.

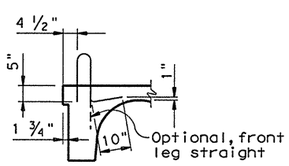
⑪ Longitudinal Spacing of Anchors = 14" Max. Anchors shall be located 3" longitudinally from drain slots and joint openings. For regions without drain slots (i.e. T501 rail), longitudinal spacing of anchors = 17 ½" Max.

⑫ Anchor embedment shown is for Hilti HVA Adhesive Anchoring System. An equivalent anchoring system, as approved by the Engineer, may be used. Ultimate Bond Tensile Strength required = 36.3 kips for #6 reinforcing in 4000 psi concrete.

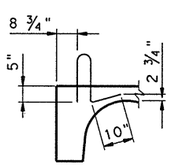
The holes shall be drilled with rotary (coring or masonry drill) type equipment. Percussion (star drill) type equipment is not allowed. The holes shall be clean and dry. Compressed air, if used to clean holes, shall have no oil in suspension.

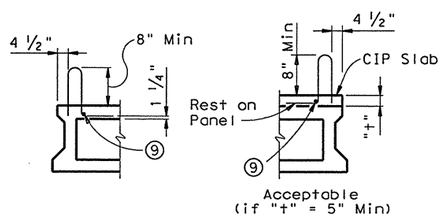
Installation shall be in accordance with manufacturer's recommendations.



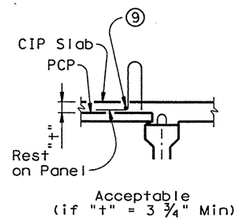


PAN FORM BRIDGES

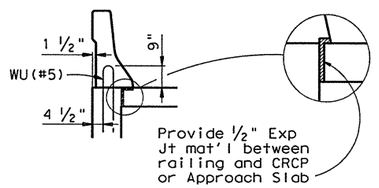




PRESTRESSED BOXES

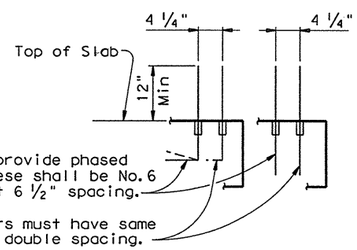


PRECAST PANELS



WINGWALLS AND CIP RETAINING WALLS

TYPICAL U AND WU BAR PLACEMENT



OPTIONAL BARS U(#6) OR WU(#6)

CHANGE ORDER NO. _____

SHEET 2 OF 2

Texas Department of Transportation
Bridge Division

TRAFFIC RAIL

TYPE T502 (MOD)

STATE OF TEXAS
LLOYD M. WOLF
73649
REGISTERED PROFESSIONAL ENGINEER

Lloyd M. Wolf
6-1-01

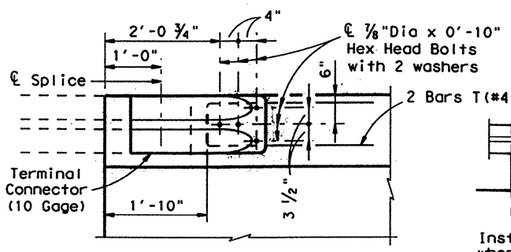
FILE:	ristd017.dgn	DN: JJP	CK: THD	DW: RNP	CK: LDS	STD: B590
©TxDOT January 1996		DIST	FED REG	FEDERAL AID PROJECT •		SHEET
REVISIONS		18	6	NH 99(367)		428
5/01 Added detail for installation with adhesive anchors -MDH/RNP		COUNTY		CONTROL	SECT	JOB	HIGHWAY
		ROCKWALL		0009	04	039	SH 66

ACC: BRG-RPORTER-1
5692md03.dgn
(LV=1,2 for English; 1,3 for Metric)
LEVELS ON
1 2

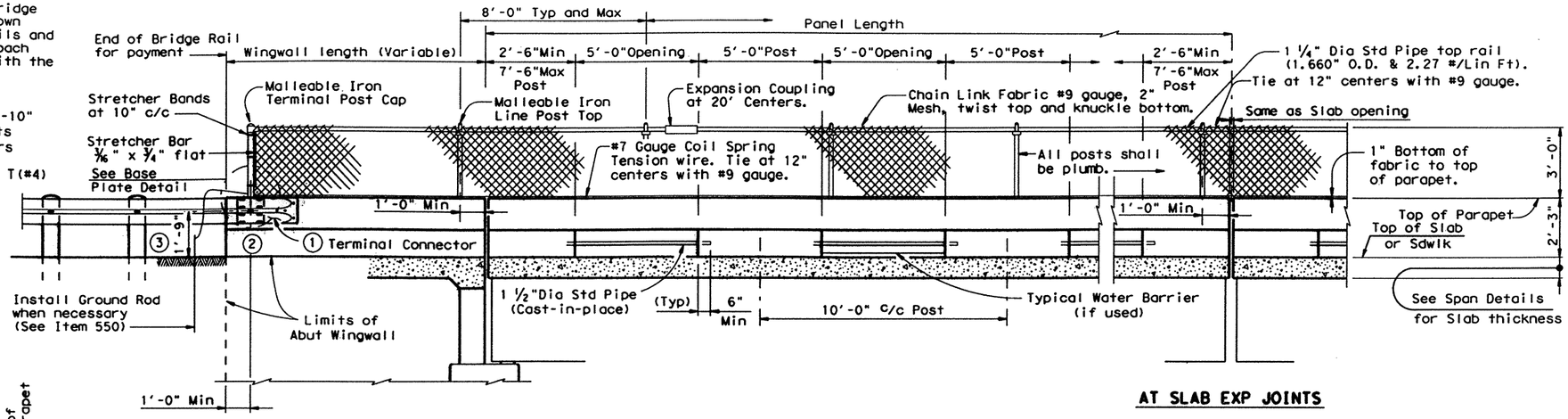
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ACC:
(LV=1,2 for English; 1,3 for Metric)
LEVELS DISPLAYED
1 | 2 | 3

② Metal Beam Guard Fence must be attached to the bridge rail and extended along the embankment unless shown otherwise on the plans. See plan sheet for details and length for payment. The Splice between the approach guard rail and the Terminal Connector shall be with the normal 8 bolts.



TERMINAL CONNECTION

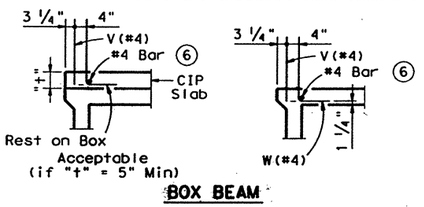


AT ABUTMENT BENTS

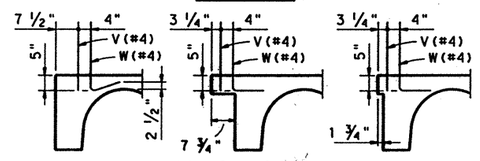
INSIDE ELEVATION OF RAIL

AT SLAB EXP JOINTS

⑥ Place additional longitudinal bar (included as part of railing reinforcement) when W bars are embedded less than 5".

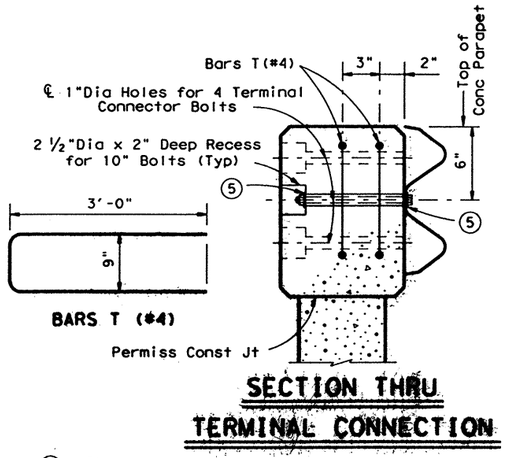


BOX BEAM



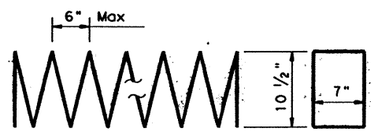
CG (PAN FORM)

TYPICAL REINFORCEMENT PLACEMENT DETAILS



SECTION THRU TERMINAL CONNECTION

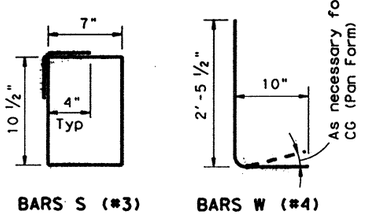
⑤ 1 3/4" O.D. Washers req'd under bolt Heads & Nuts



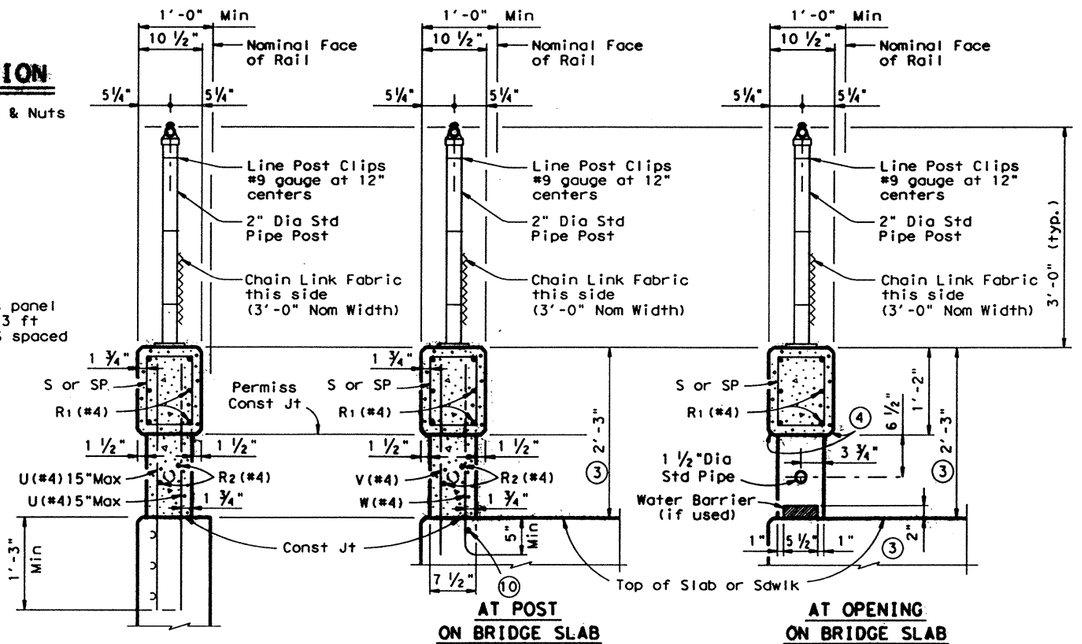
If two or more SP bars are used in a continuous panel length, they shall be butted within the center 3 ft of a rail post. At Contractor's option, Bars S spaced at 6" may be substituted for Bars SP.

BARS SP (.207" Smooth Wire)

⑦ Length shown for 5" bar embedment with no overlay. Adjust as required.



BARS S (#3) BARS W (#4)



ON ABUT WING OR CIP RETAINING WALL

AT POST ON BRIDGE SLAB

AT OPENING ON BRIDGE SLAB

③ Increase 2" for Structures with Overlay
④ 1 1/2"x 3/4" or 3/4"x 3/4" Chamfer (Typ at all openings)
⑩ Top longitudinal slab bar may be adjusted laterally 3" ± to tie reinforcing.

SECTIONS THRU RAIL

STATE OF TEXAS
A.C.H. CRAFOR
62389
REGISTERED ENGINEER
2-27-98

SHEET 1 OF 2

Texas Department of Transportation

COMBINATION RAIL

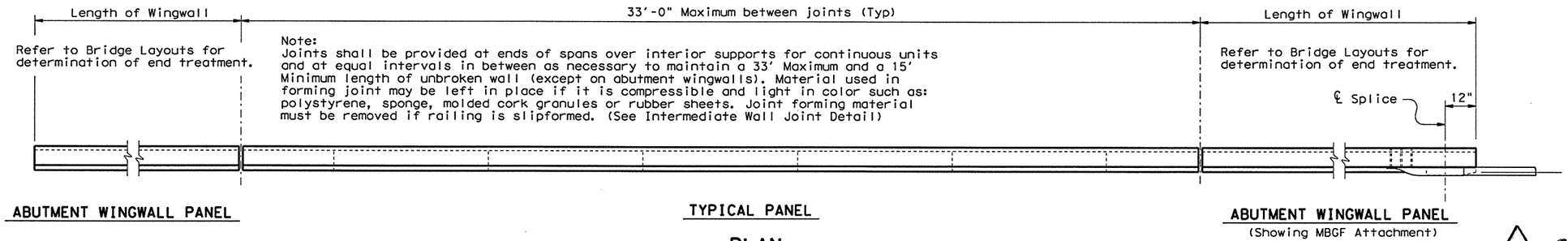
TYPE C202(MOD)

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ORIG DATE: JANUARY 1996	DIST	FED REG	FEDERAL AID PROJECT		SHEET
REVISIONS Jan '98- Bike style fence & top of rail	18	6	NH 99(367)		129
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

EXT. 6204

d:\geodata\standards\bikec202.dgn

26 FEB 98 08:12:09

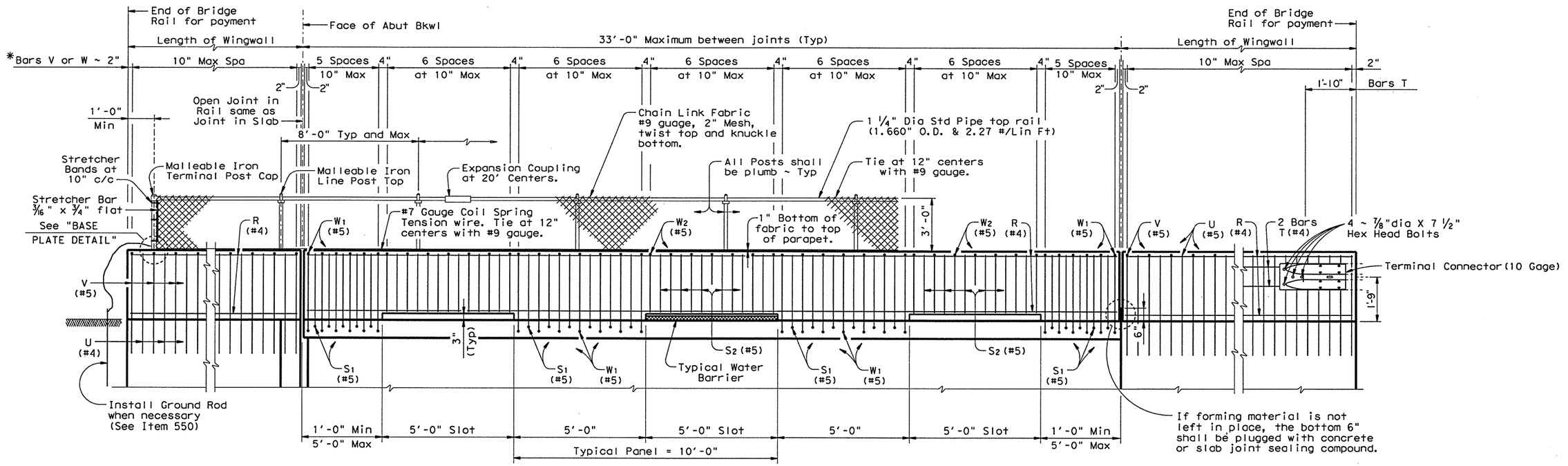


ABUTMENT WINGWALL PANEL | **TYPICAL PANEL** | **ABUTMENT WINGWALL PANEL** (Showing MBGF Attachment)

PLAN

(BICYCLE RAIL OMITTED FOR CLARITY)

10 C.O #10



ROADWAY ELEVATION OF RAIL

*Bars U alternate with Bars V. Bars S alternate with Bars W.

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LEVELS UNDERLAYED: 1|2|4|5|6|7|8|9|10|11|12|13|14|15|16 ACC:
(LV=1,2 for English; 1,3 for Metric)

STATE OF TEXAS
GREGG A. FREEBY
70727
REGISTERED PROFESSIONAL ENGINEER
4/24/01

SHEET 1 OF 3

Texas Department of Transportation
Design Division (Bridge)

BICYCLE RAILING

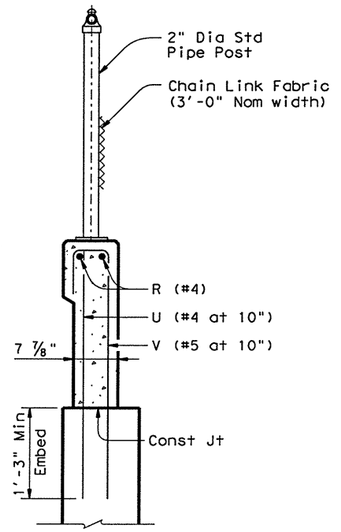
TYPE B201 (MOD)

FILE: B201(MOD).DGN	DN: MAS	CK: THD	DW: MFG	CK: MAS	STD:	
Tx DOT FEB2K	DIST	FED REG	FEDERAL AID PROJECT •			SHEET
REVISIONS	18	6				429 A
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

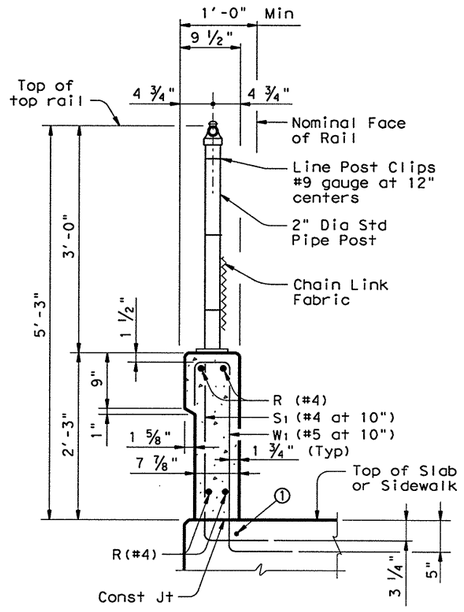
DISCLAIMER:
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LEVELS Layer/LAYER ACC: (LV=1,2 for English; 1,3 for Metric)

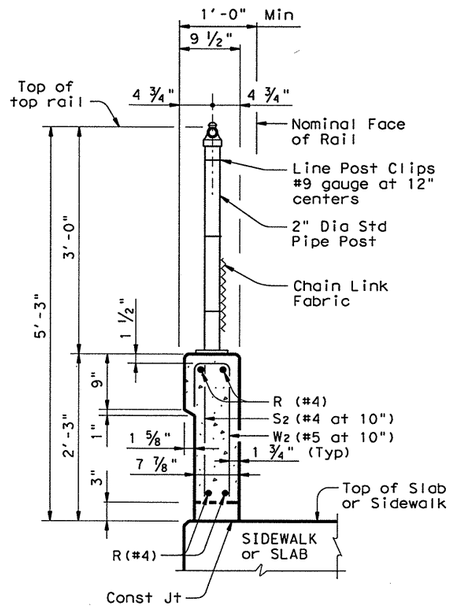
	1	2	3	4	5	6	7	8	9	10	11	21	31	41	51	61
LV																



ON ABUTMENT WING OR CIP RETAINING WALL



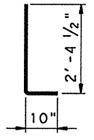
ON BRIDGE SLAB (AT STEM)



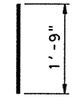
ON BRIDGE SLAB (AT SLOT)

SECTIONS THRU RAIL

① Top longitudinal Slab bar may be adjusted laterally 3" ± to tie reinforcing.



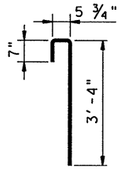
BARS S1 (#4)



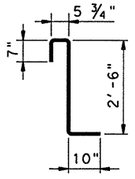
BARS S2 (#4)



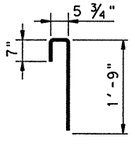
BARS U (#4)



BARS V (#5)

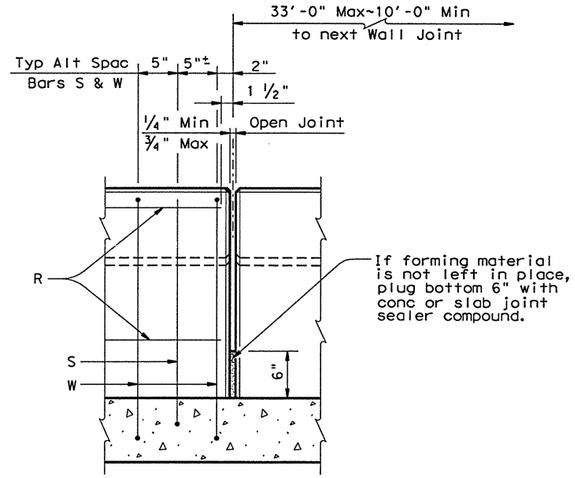


BARS W1 (#5)



BARS W2 (#5)

△10 C.O #10



INTERMEDIATE WALL JOINT

NOTE:
Provide intermediate wall joints over all slab const joints, over interior supports on continuous units, and at equal intervals in between as necessary to maintain a 33' max length of unbroken wall.
Material used in forming joint may be left in place if it is compressible and light in color such as the following materials; polystyrene, molded cork granules, sponge rubber sheet, etc.

STATE OF TEXAS
GREGG A. FREEBY
70727
REGISTERED PROFESSIONAL ENGINEER
4/24/01

SHEET 2 OF 3

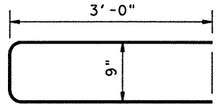
Texas Department of Transportation
Design Division (Bridge)

BICYCLE RAILING

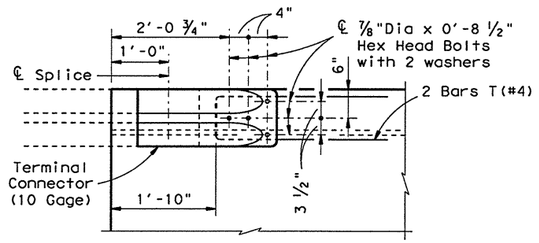
TYPE B201 (MOD)

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Tx DOT FEB2K	DIST	FED REG	FEDERAL AID PROJECT •			SHEET
REVISIONS	18	6				429B
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

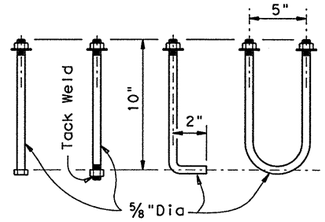
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BARS T (#4)

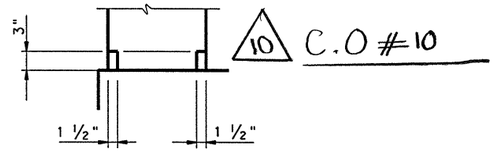


TERMINAL CONNECTION

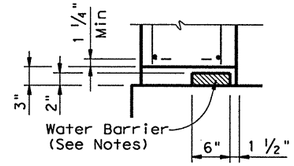


HANDRAIL ANCHOR BOLT OPTIONS

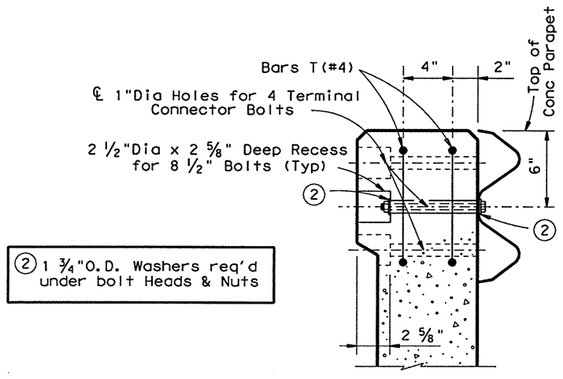
Note: Anchor bolts shall be 5/8" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Threaded rods may be 0.557" Min Dia with rolled threads. Nuts shall conform to A563 Grade A requirements. The untapped blanks shall be galvanized prior to cutting the threads. Threads for bolts and nuts shall have class 2A and 2B fit tolerances in accordance with ANSI B1.1.



SHOWING CAST-IN-PLACE WATER BARRIER

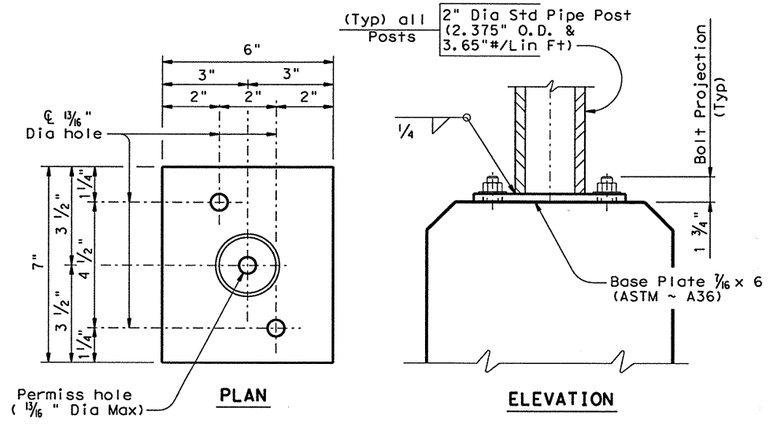


SEC AT 3 IN. OPENING



SECTION THRU TERMINAL CONNECTION

NOTE: Metal Beam Guard Fence must be attached to the Bridge Rail and extended along the embankment unless shown otherwise on the plans. See plan sheet for details and length for payment. The splice between the Approach Guard Rail and the Terminal Connector shall be with the normal eight(8) bolts.



BASE PLATE DETAILS

GENERAL NOTES:

Designed in accordance with current AASHTO Standard Specifications for Highway Bridges (Pedestrian load only).

All parapet concrete and reinforcing , including that enbedded in the slab or wingwalls, base plates and anchor bolts, all Chain Link Fence materials including all miscellanous fittings, braces, post caps, line wires, connection clips or wires are considered part of this railing for payment.

Concrete for railing wall shall be Class "C". Chamfer all exposed corners 3/4" unless otherwise shown.

All steel components except reinforcing shall be galvanized unless otherwise shown in plans.

Face of Rail, posts and parapet shall be vertical transversely unless otherwise approved by the Engineer. Rail posts shall be perpendicular to top of adjacent concrete parapet grade. Grout may be used under base plates if necessary.

All Chain Link Fence materials shall conform to TxDot Standard Specifications, Item "Chain Link Security Fence".

Erection drawings showing panel lengths and post spacing shall be submitted to the Area Engineer for approval. Drawings may be submitted as 11" x 17" prints provided they are clearly legible.

Epoxy coat Bars V,U,S & W if slab bars are epoxy coated.

All reinforcing steel shall be Grade 60.

Average Weight of railing is 213 plf (Conc) and 6 plf (Steel).



Texas Department of Transportation
Design Division (Bridge)

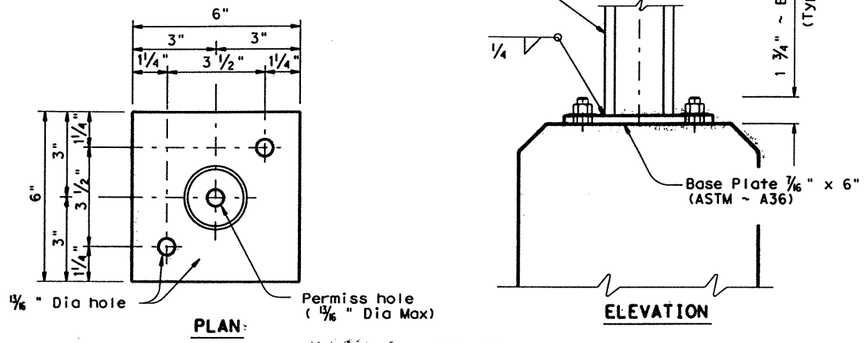
BICYCLE RAILING

TYPE B201 (MOD)

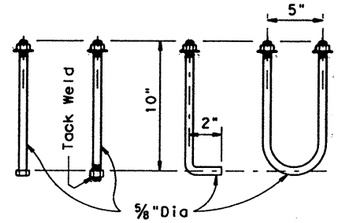
FILE: B201(MOD).DGN	DN: MAS	CK: THD	DW: MFG	CK: MAS	STD:	
Tx DOT FEB2K	DIST	FED REG	FEDERAL AID PROJECT •			SHEET
REVISIONS	18	6				429C
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

LEVELS DISPLAYED: 1 2 4 5 6 7 8 9 10 11 12 13 14 15 16 19
ACC:
(LV=1,2 for English; 1,3 for Metric)

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BASE PLATE DETAILS



HANDRAIL ANCHOR BOLT OPTIONS

Note: Anchor bolts shall be ⅝" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Threaded rods may be 0.557" Min Dia with rolled threads. Nuts shall conform to A563 Grade A requirements. The untapped blanks shall be galvanized prior to cutting the threads. Threads for bolts and nuts shall have class 2A and 2B fit tolerances in accordance with ANSI B1.1.

RAIL DATA FOR HORIZONTAL CURVES

	RADIUS TO FACE OF RAIL	MAX CHORD LENGTH	CONSTRUCT OR FABRICATE
Fence	Over 2800'	29'-0"	Straight rail sections
	Over 1400' thru 2800'	14'-6"	(16) To required radius or to chords shown
	Over 700' thru 1400'	7'-3"	(16) To required radius or to chords shown
	Thru 700'	Zero	(16) To required radius

(16) Shop drawings required (may be submitted as 11"x 17" prints provided they are clearly legible).

For railing not requiring shop drawings, erection drawings showing fence section lengths, post spacing, and anchor bolt setting shall be submitted to the Area Engineer for approval. If fence requires shop and erection drawings, these drawings shall be submitted to the Bridge Engineer for approval.

GENERAL NOTES:

This rail has been successfully evaluated without handrail by full scale crash tests to meet NCHRP Report 230 SL-2 criteria.

Rail Type C202(MOD) is comprised of the following parts: concrete parapet, concrete posts, concrete above wingwall, all reinforcing shown, including that embedded in the slab or wingwalls, base plates and anchor bolts, water barrier, Terminal Connector, CIP pipe, all Chain Link Fence materials including all miscellanous fittings, braces, post caps, line wires, connectionn clips or wires and all anchorage provisions including bolts, nuts and washers.

All these parts are included in price bid per linear foot of rail.

All steel components except reinforcing shall be galvanized unless otherwise shown on plans.

All concrete shall be Class C. Chamfer all exposed corners ¾" unless otherwise shown.

Epoxy coat Bars V, W and U if slab bars are epoxy coated.

All reinforcing shall be grade 60 except spirals.

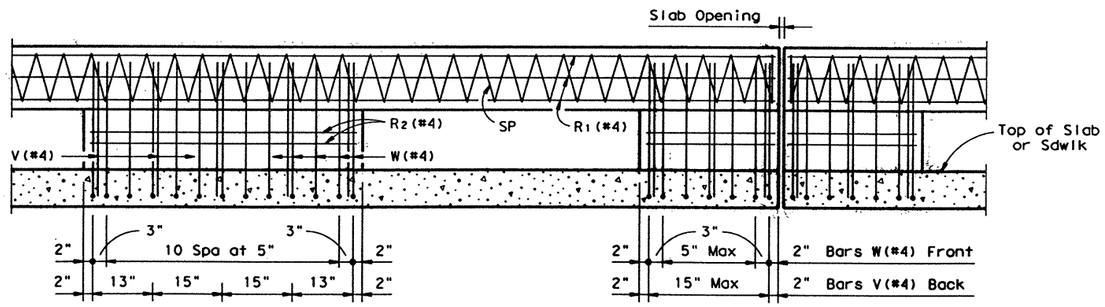
Anchor bolts shall be ⅝" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Threaded rods may be 0.557" minimum diameter with rolled threads. Nuts shall conform to A563 requirements. The untapped blanks shall be galvanized prior to cutting the threads. Threads for bolts and nuts shall have Class 2A and 2B fit tolerances in accordance with ANSI B1.1.

Face of rail, posts and parapet shall be vertical transversely unless otherwise approved by the Engineer. Fence posts and opening end faces shall be perpendicular to top of adjacent concrete parapet grade. Grout may be used under fence post base plates if necessary.

Water barriers shall be provided at openings draining onto undercrossing roadways and sidewalks. They may be cast-in-place or precast in convenient lengths and bonded to the bridge deck with an approved epoxy cement.

All Chain Link Fence materials shall conform to TxDot Standard Specifications, Item 550 "Chain Link Fence".

Average weight of railing: 204 plf ~ Conc (with no Overlay)
6 plf ~ Steel



ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT

LEVELS DISPLAYED 1 2 63
ACC:
(LV=1,2 for English; 1,3 for Metric)

A.C.N. OKAFOR 62389 REGISTERED PROFESSIONAL ENGINEER
2-27-98

SHEET 2 OF 2

Texas Department of Transportation

COMBINATION RAIL

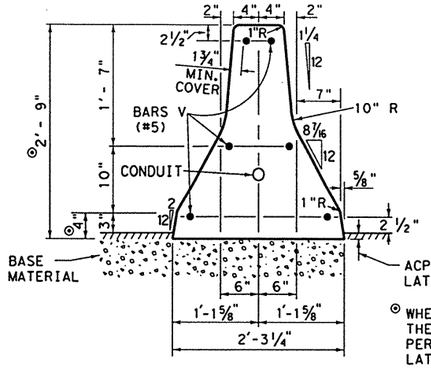
TYPE C202(MOD)

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ORIG DATE: JANUARY 1996	DIST	FED REG	FEDERAL AID PROJECT #			SHEET
REVISIONS Jan '98- Bike style fence @ top of rail	DAL	6	NH 99(367)			430
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH66

26 FEB 98 08:14:17

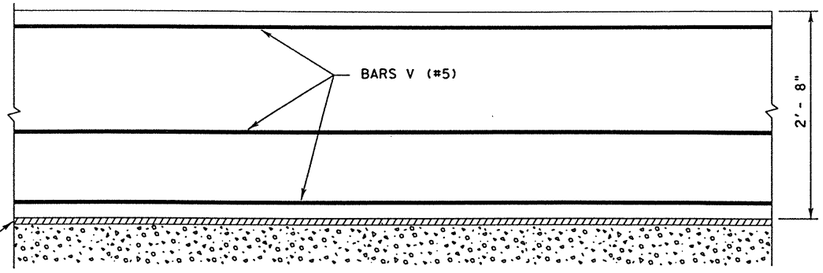
d:\enadata\standards\bikec202.dgn

FY 2003 1.43



TYPICAL SECTION CTB TYPE 2

(ROADWAY CAST-IN-PLACE)

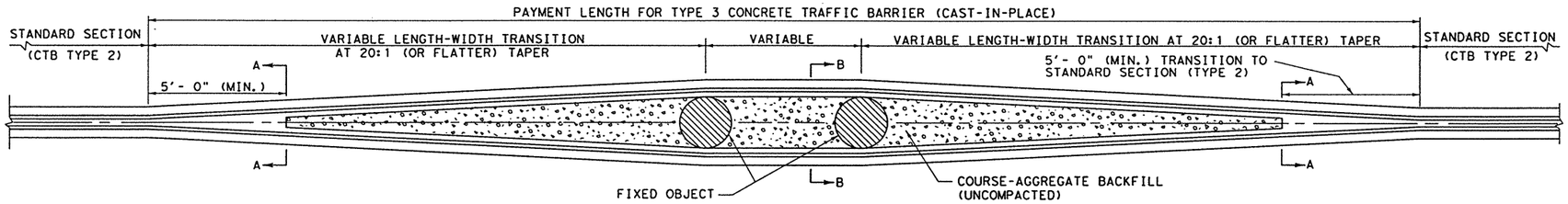


ELEVATION OF ROADWAY BARRIER CTB TY2

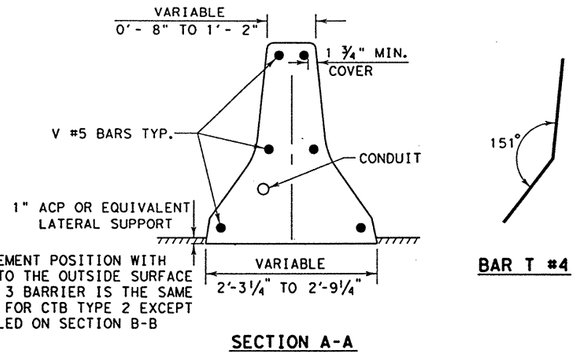
ⓒ WHEN 1" ACP IS NOT USED FOR LATERAL SUPPORT, THESE DIMENSIONS SHALL BE ADJUSTED ACCORDINGLY. PERMISSIBLE METHODS OF ATTAINING EQUIVALENT LATERAL SUPPORT INCLUDE: (1) PROVISION OF #8 DOWEL BARS, 12" IN LENGTH, 4' C-C SPACING, PLACED VERTICALLY WITH APPROXIMATELY ONE-HALF THE BAR LENGTH EMBEDDED BELOW THE CONCRETE TRAFFIC BARRIER, OR (2) 1" (MIN) DEEP KEYWAY IN CONCRETE PAVEMENT, EXCESS WIDTH IN KEYWAY BACKFILL WITH GROUT.

GENERAL NOTES

1. AXIS OF TRAFFIC BARRIER SHALL BE VERTICAL, EXCEPT WHERE ROADWAY IS SUPERELEVATED, THEN AXIS SHALL BE NORMAL TO ROADWAY SURFACE.
2. ALL STEEL FITTINGS SHALL BE GALVANIZED AFTER FABRICATION.
3. UNLESS OTHERWISE SHOWN IN THE PLANS THE CONTRACTOR HAS THE OPTION OF PLACING EITHER PRECAST OR CAST-IN-PLACE CONCRETE TRAFFIC BARRIER.
4. BID PRICE PER LINER FOOT OF CTB TY 2 & 3, INCLUDING TERMINAL AND ANCHOR SECTIONS, SHALL INCLUDE ALL OF THE CONCRETE, REINFORCEMENT, DRILLED SHAFT FOUNDATIONS AND AGGREGATE BACKFILL.
5. ALL CONCRETE FOR CTB TY 2 & 3, INCLUDING DRILLED SHAFT FOUNDATION, SHALL BE CLASS A, C OR H, UNLESS OTHERWISE SPECIFIED.
6. LONGITUDINAL AND VERTICAL BARS FOR ROADWAY BARRIER SHALL CONFORM TO ASTM A-615 (GRADE 40), UNLESS OTHERWISE SPECIFIED.
7. AT CONSTRUCTION JOINTS FOR THE ROADWAY BARRIER, THE LONGITUDINAL BARS SHALL EXTEND BEYOND THE JOINT SO THAT BAR SPLICES WILL BE A MINIMUM OF TWO FEET FROM THE CONSTRUCTION JOINT.
8. BAR SPLICES FOR ROADWAY BARRIER SHALL BE A MINIMUM OF 24 TIMES THE NOMINAL DIAMETER OF THE BAR.
9. ANY METHOD DEVISED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER THAT WILL ASSURE THE LONGITUDINAL ROADWAY STEEL FOR CTB TY 2 & 3 WILL BE POSITIONED ± 1/2 -INCH AS DIMENSIONED WILL BE SATISFACTORY.
10. CONDUIT TO BE PROVIDED ONLY WHEN CALLED FOR ELSEWHERE IN THE PLANS. POSITION OF CONDUIT MAY BE ADJUSTED TO FACILITATE CONSTRUCTION SUBJECT TO THE APPROVAL OF THE ENGINEER.
11. SEE SHEET CTBI(4) FOR LIGHTING, ANCHOR BOLT, AND CONDUIT DETAILS. SEE CTBI(3) FOR DESIGN DETAILS OF BARRIER WITH ILLUMINATION.



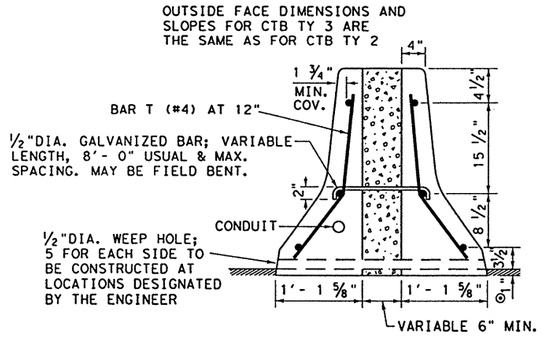
PLAN TYPE 3 BARRIER



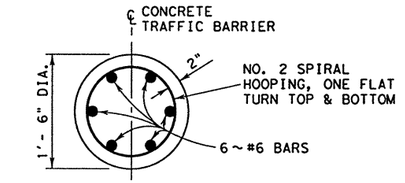
REINFORCEMENT POSITION WITH RESPECT TO THE OUTSIDE SURFACE FOR TYPE 3 BARRIER IS THE SAME AS SHOWN FOR CTB TYPE 2 EXCEPT AS DETAILED ON SECTION B-B

SECTION A-A TYPE 3 BARRIER

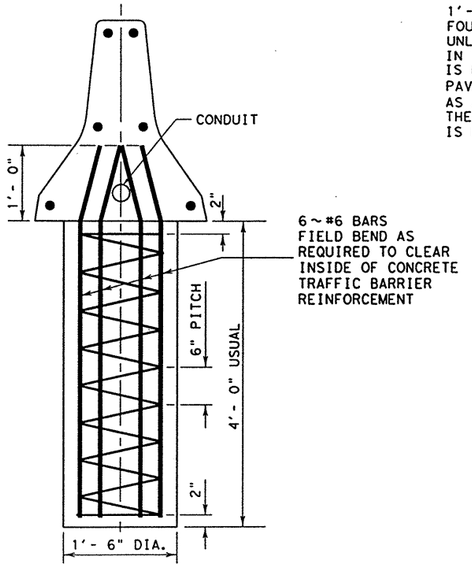
BAR T #4



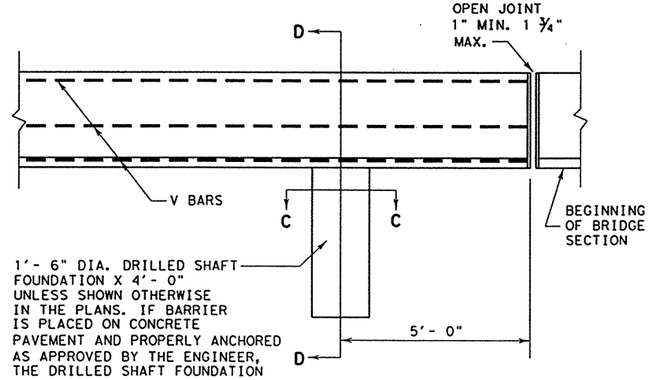
SECTION B-B TYPE 3 BARRIER



SECTION C-C



ANCHOR DETAIL - SECTION D-D



ANCHOR OR TERMINAL - ELEVATION

TEXAS DEPARTMENT OF TRANSPORTATION

CONCRETE TRAFFIC BARRIER TYPE 2 & 3

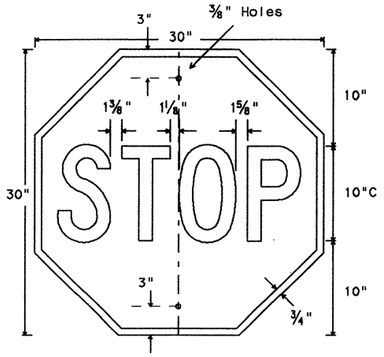
ROADWAY CTB CAST-IN-PLACE

CTB(2)-92

ⓒTxDOT MAY 1992

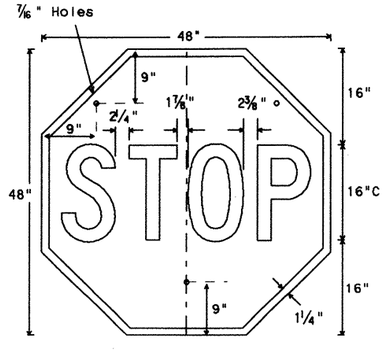
MODIFICATIONS

FED. RD. DIV. NO.	STATE	FEDERAL AID PROJECT NO.			SHEET NO.
6	TEXAS	NH 99 (367)			431
STATE DIST. NO.	COUNTY		CONT.	SECT.	JOB	HIGHWAY NO.
DAL	ROCKWALL		9	4	39	SH66



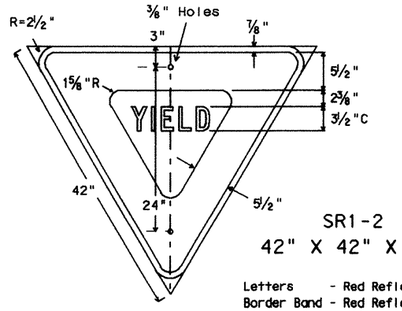
R1-1
30" X 30"

Letters - White Reflective
Border - White Reflective
Background - Red Reflective



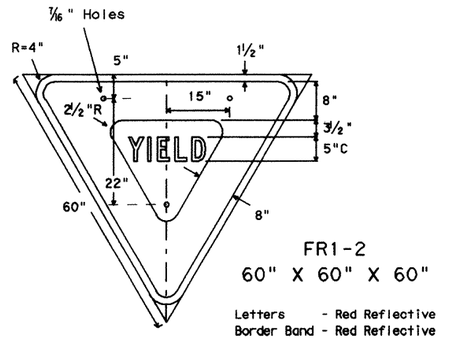
SR1-1
48" X 48"

Letters - White Reflective
Border - White Reflective
Background - Red Reflective



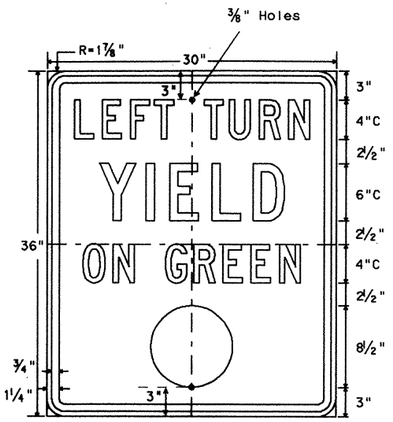
SR1-2
42" X 42" X 42"

Letters - Red Reflective
Border Band - Red Reflective
Background - White Reflective



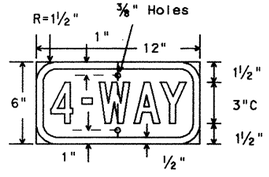
FR1-2
60" X 60" X 60"

Letters - Red Reflective
Border Band - Red Reflective
Background - White Reflective



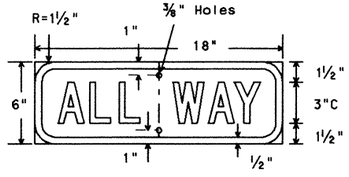
R10-12
30" X 36"

Letters - Black
Border - Black
Circle - Green Refl.
Background - White Refl.



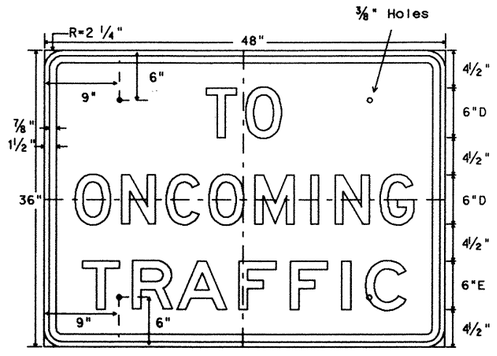
R1-3
12" X 6"

Letters - White Reflective
Border - White Reflective
Background - Red Reflective



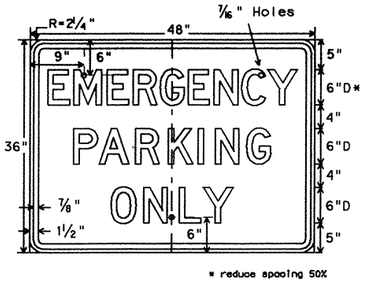
R1-4
18" X 6"

Letters - White Reflective
Border - White Reflective
Background - Red Reflective



SR1-2b
48" X 36"

Legend - Black
Background - White Refl.



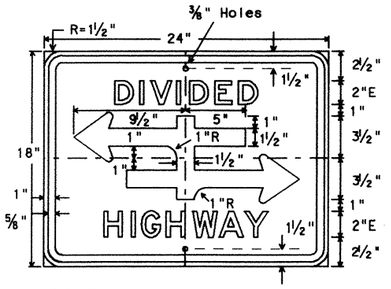
* reduce spacing 50%

FR8-4
48" X 36"

Legend - Black
Background - White Refl.

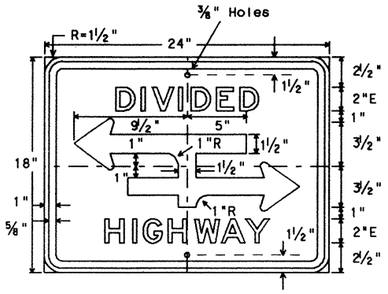
STOPPING 6"D

FR8-7



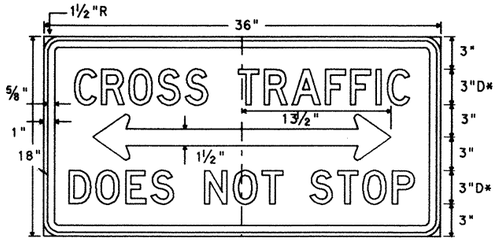
R6-3
24" X 18"

Legend - Black
Background - White Refl.



R6-3a
24" X 18"

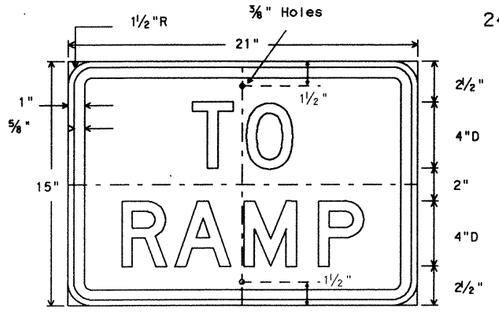
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Background - White Refl.



* reduce spacing 15%

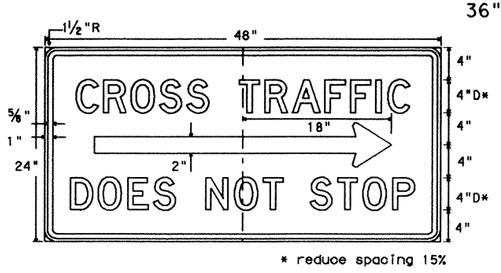
R1-5b
36" X 18"

Legend - Black
Background - White Refl.



R1-2a
21" X 15"

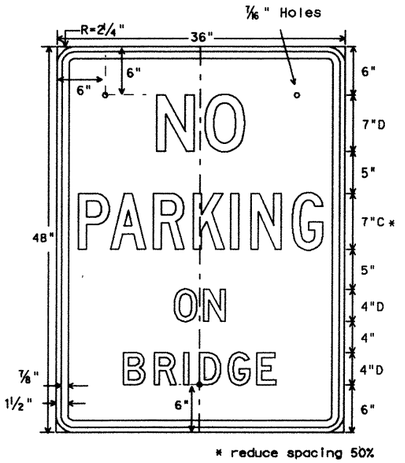
Legend - Black
Background - White Refl.



* reduce spacing 15%

SR1-5R
48" X 24"

Legend - Black
Background - White Refl.



* reduce spacing 50%

ER8-1T
36" X 48"

Letters -Red Reflective
Border -Red Reflective
Background - White Reflective

SPECIFICATION REFERENCE TABLE

MATERIALS AND TESTS DIVISION SPECIFICATIONS	
PLYWOOD SIGN BLANKS	D-9-7100
REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE) (FOR BLACK AND WHITE SIGNS ON THIS SHEET)	D-9-8300
REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY) (FOR RED SERIES SIGNS ON THIS SHEET)	D9--8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be applied by screening process of black and/or transparent colored ink, cut-out black vinyl non-reflective decal sheeting, and/or reflective sheeting or combination thereof. Legend on R1-1, SR1-1, R1-3 and R1-4 shall be applied by reverse screening process with transparent colored ink or cut-out white reflective sheeting applied to colored background or combination thereof. Background shall be reflective sheeting.

Sign blanks shall be one piece 5/8 inch thick plywood (Type A), unless otherwise noted elsewhere in the plans.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

REGULATORY SIGNS

R(1)-98

©TxDOT February 1976

DW: LR/MT	CK: -	DW: DN	CK: -	MSG NO.:

REVISIONS
1-85
7-90
8-95
4-98

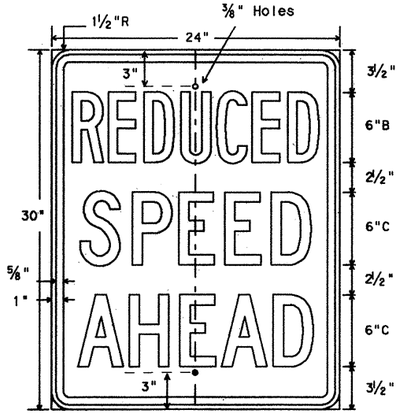
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH 99 (367)	442

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

7A

CK: CW
DW: DN
CK: MT

FILE: d58nplc/usr/d580504 ACC:

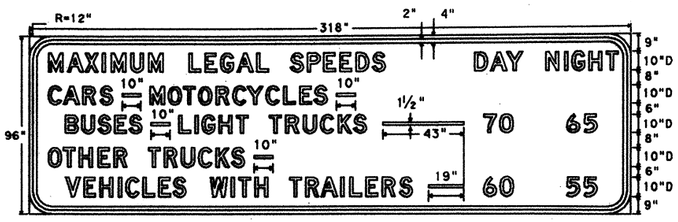


R2-5a
24" X 30"
Legend - Black
Background - White Refl.

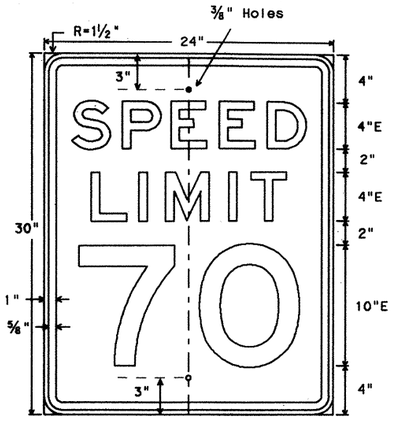


R2-4T
138" X 42"
Legend - Black
Background - White Refl.

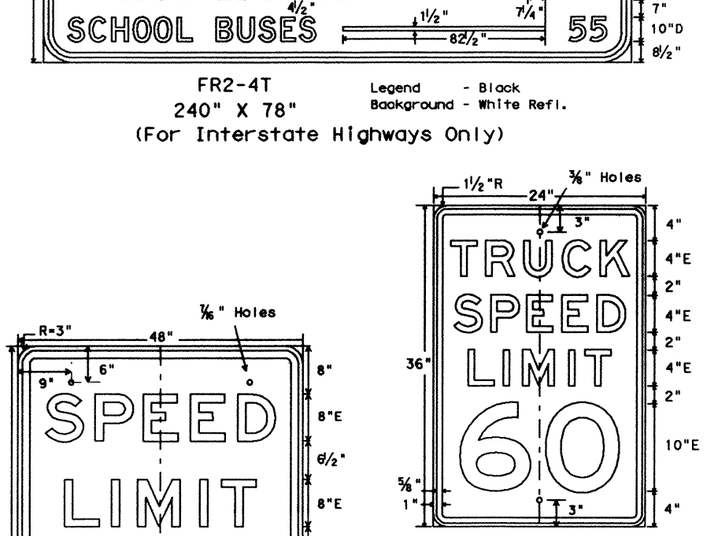
(For Non-Interstate Highways)



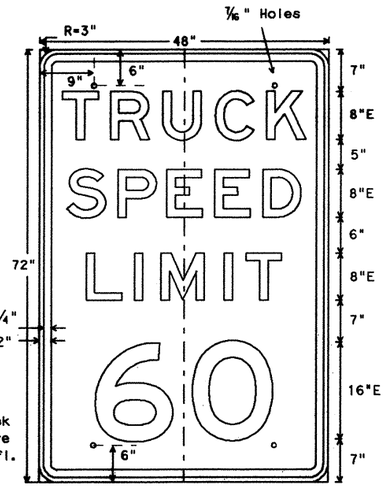
FR2-4Ta
318" X 96"
Legend - Black
Background - White Refl.



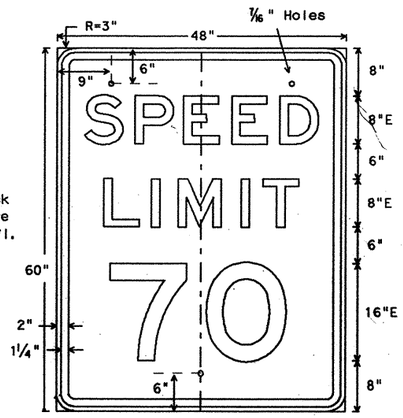
R2-1
24" X 30"
Legend - Black
Background - White Refl.



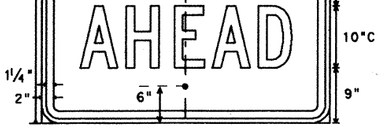
R2-2a
24" X 36"
Legend - Black
Background - White Refl.



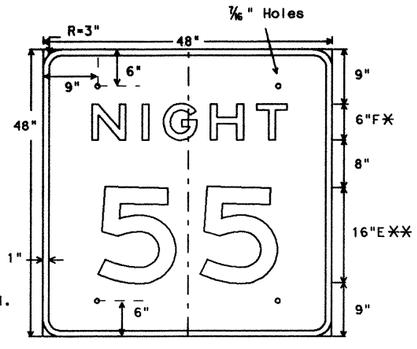
FR2-2a
48" X 72"
Legend - Black
Background - White Refl.



FR2-1
48" X 60"
Legend - Black
Background - White Refl.

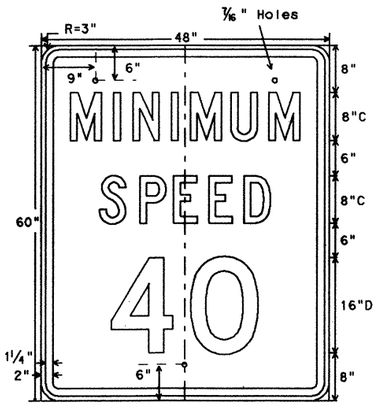


FR2-5a
48" X 60"
Legend - Black
Background - White Refl.

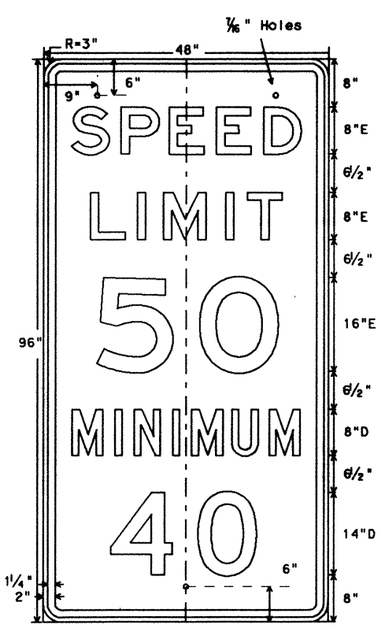


FR2-3
48" X 48"
Legend - White Refl.
Background - Black

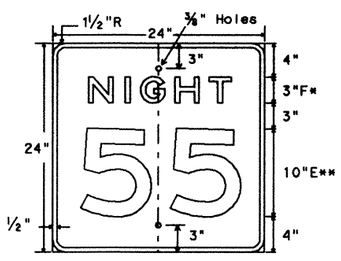
** optically space numerals about vertical centerline
* increase spacing 50%



FR2-4
48" X 60"
Legend - Black
Background - White Refl.



FR2-4a
48" X 96"
Legend - Black
Background - White Refl.



** optically space numerals about vertical centerline
* increase spacing 50%

R2-3
24" X 24"
Legend - White Refl.
Background - Black

SPECIFICATION REFERENCE TABLE

MATERIALS AND TESTS DIVISION SPECIFICATION	
PLYWOOD SIGN BLANKS	D-9-7110
REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be black and applied by screening process, cut-out vinyl non-reflective decal sheeting or combination thereof. Legend on FR2-3 shall be applied by reverse screening process, cut-out black vinyl non-reflective decal sheeting and/or cut-out white reflective sheeting or combination thereof. Background shall be reflective sheeting (Type A).

Sign blanks shall be one piece 5/8 inch thick plywood (Type A), unless otherwise noted elsewhere in the plans.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

REGULATORY SIGNS

R(4)-98

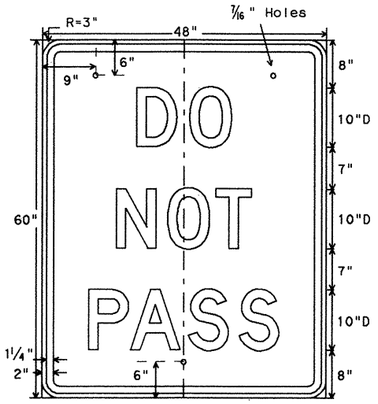
© TxDOT August 1995

DN: LR	CK: -	DW: DN	CK: -	MEG NO.:

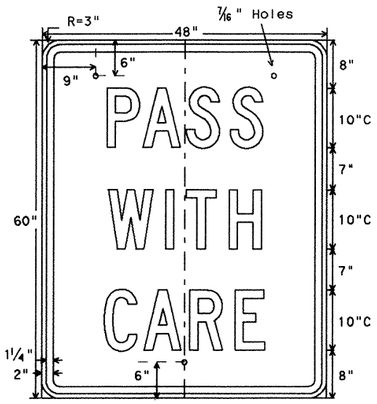
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
12-95	18	6	NH 99 (367)443	
4-98	COUNTY		CONTROL SECTION JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

7D

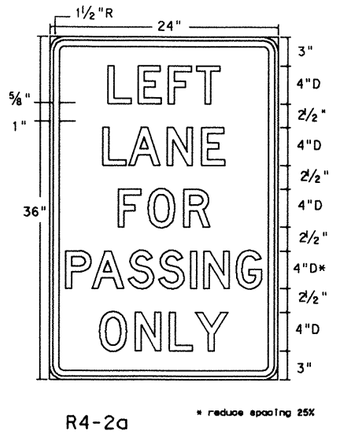
DN: CW
CK: CW
DW: DN
CK: MT
ACC: d58hplc/usr/d580504
FILE:



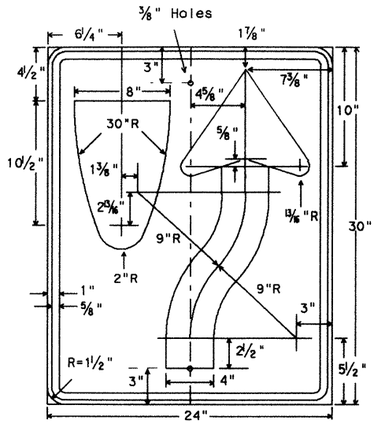
FR4-1
48" X 60"



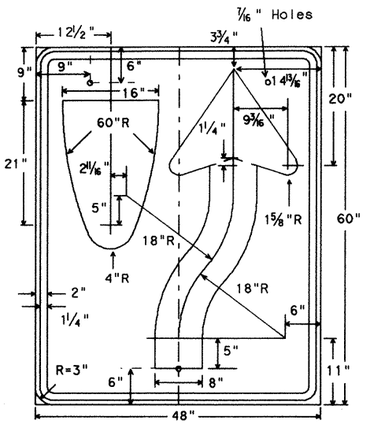
FR4-2
48" X 60"



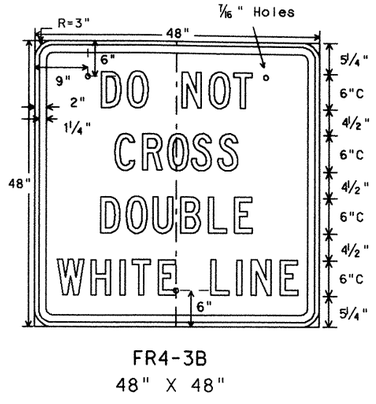
R4-2a
24" X 36"



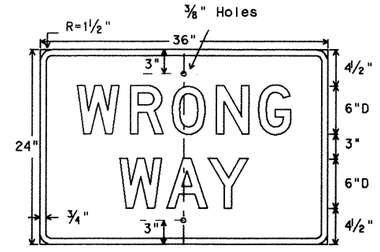
R4-7
24" X 30"



FR4-7
48" X 60"

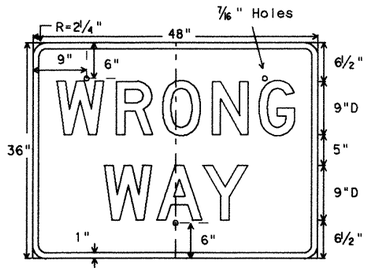


FR4-3B
48" X 48"



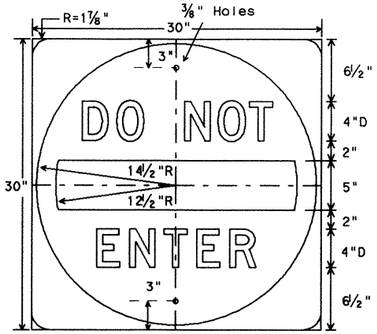
R5-1a
36" X 24"

Letters - White Reflective
Border - White Reflective
Background - Red Reflective



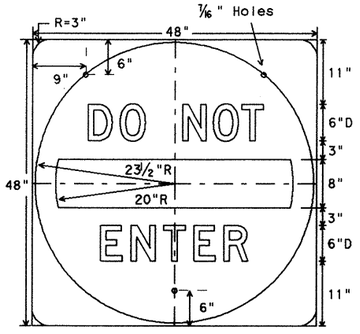
SR5-1a
48" X 36"

Letters - White Reflective
Border - White Reflective
Background - Red Reflective



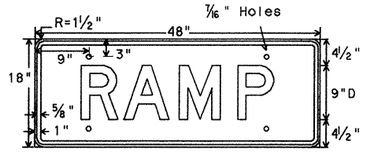
R5-1
30" X 30"

Letters - White Reflective
Bar - White Reflective
Background - Red Reflective



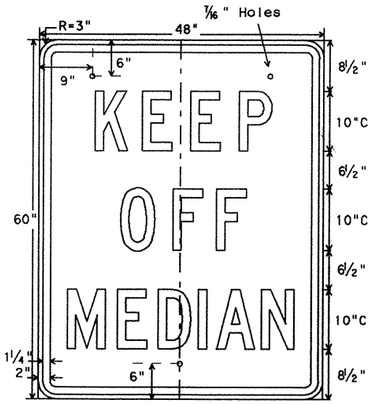
SR5-1
48" X 48"

Letters - White Reflective
Bar - White Reflective
Background - Red Reflective

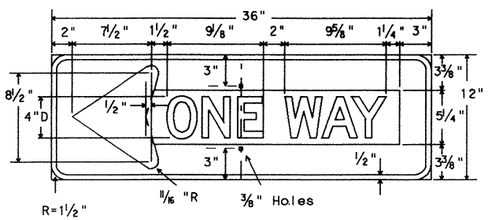


R5-1T
48" X 18"

Letters -Red Reflective
Border -Red Reflective
Background - White Reflective

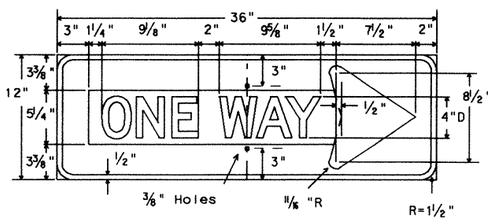


FR11-1
48" X 60"



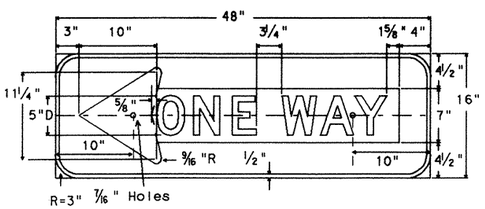
R6-1L
36" X 12"

Letters - Black
Symbol - White Reflective
Border - White Reflective
Background - Black



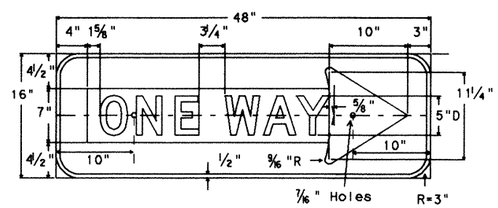
R6-1R
36" X 12"

Letters - Black
Symbol - White Reflective
Border - White Reflective
Background - Black



FR6-1L
48" X 16"

Letters - Black
Symbol - White Reflective
Border - White Reflective
Background - Black



FR6-1R
48" X 16"

Letters - Black
Symbol - White Reflective
Border - White Reflective
Background - Black

SPECIFICATION REFERENCE TABLE	
MATERIALS AND TESTS DIVISION SPECIFICATIONS	
PLYWOOD SIGN BLANKS	D-9-7100
REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE) (FOR BLACK AND WHITE SIGNS ON THIS SHEET)	D-9-8300
REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY) (FOR RED SERIES SIGNS ON THIS SHEET)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be black and applied by screening process, cut-out vinyl non-reflective decal sheeting, and/or reflective sheeting or combination thereof. Legend on R5-1, ER5-1, SR5-1, R5-1T, R5-1a and SR5-1a shall be applied by reverse screening process with transparent colored ink or cut-out white reflective sheeting applied to colored background or combination thereof. Background shall be reflective sheeting.

Sign blanks shall be one piece 5/8 inch thick plywood (Type A), unless otherwise noted elsewhere in the plans.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

REGULATORY SIGNS

R(2)-97

© TxDOT February 1976

DN: LR	CK:	DW: DN	CK:	MEG NO.:

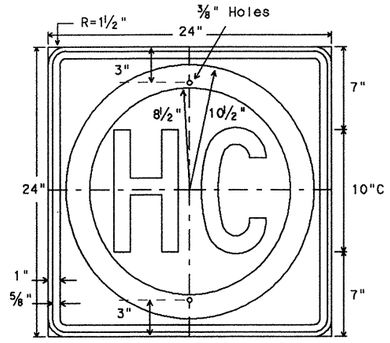
REVISIONS
1-85
7-90
8-95
12-97

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH 99 (367)	444

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

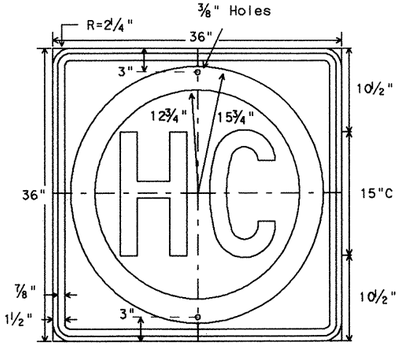
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Ce: LW
DW: DN
CK: MT
ACC: d58npic/usr/d580504
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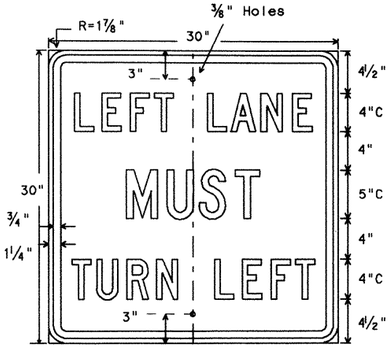
R14-2
24" X 24"

Letters - Black
Border - Black
Ring - Green Reflective
Background - White Reflective

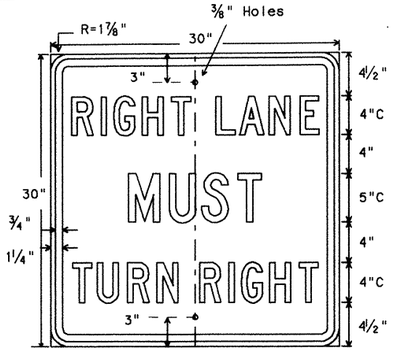


ER14-2
36" X 36"

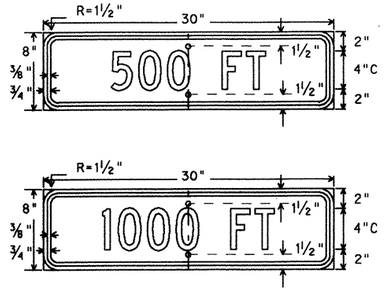
Letters - Black
Border - Black
Ring - Green Reflective
Background - White Reflective

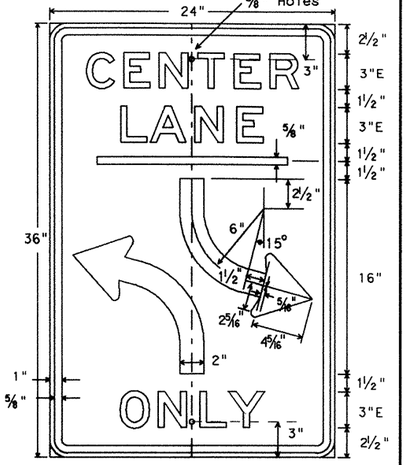


R3-7L
30" X 30"

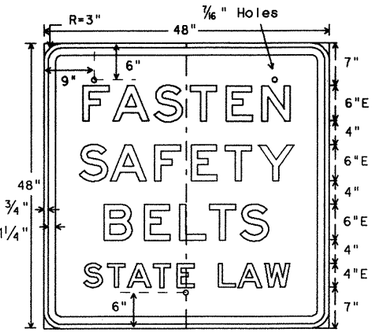


R3-7R
30" X 30"

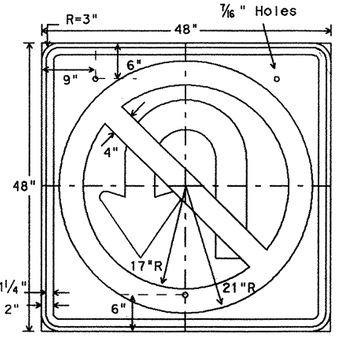




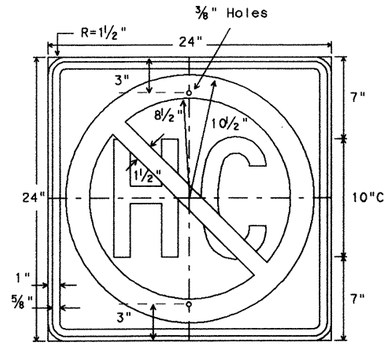
R3-9b
24" X 36"



FR19-8
48" X 48"

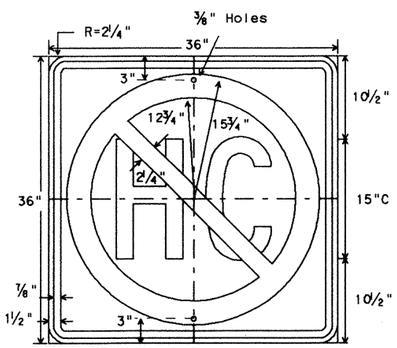


SR3-4
48" X 48"



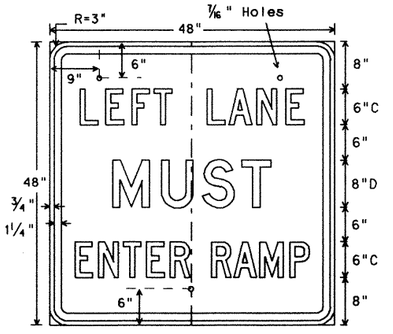
R14-3
24" X 24"

Letters - Black
Border - Black
Ring/Slash - Red Reflective
Background - White Reflective

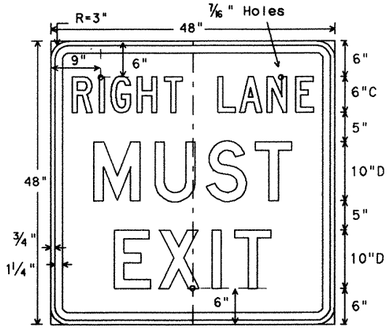


ER14-3
36" X 36"

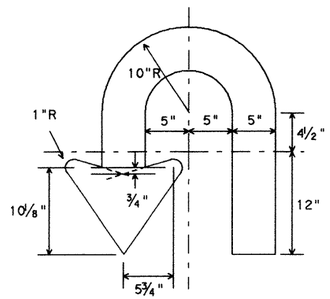
Letters - Black
Border - Black
Ring/Slash - Red Reflective
Background - White Reflective



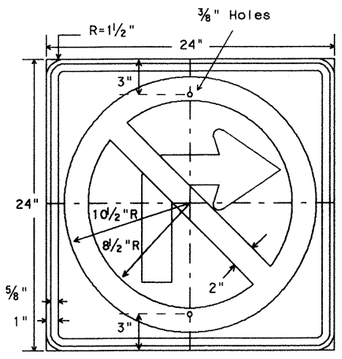
R3-20
48" X 48"



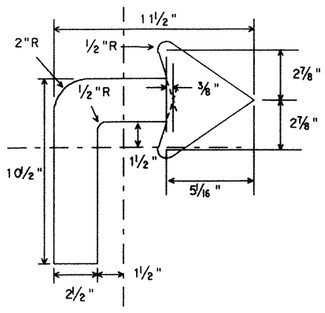
R3-21R
48" X 48"

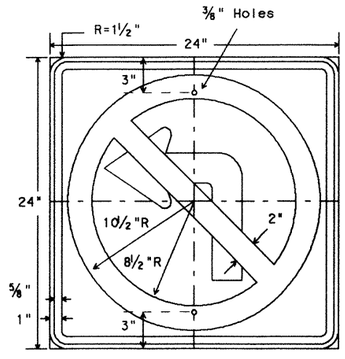


Letters	- Black
Arrow	- Black
Border	- Black
Circle & Diagonal	- Red Reflective
Background	- White Reflective



R3-1
24" X 24"





R3-2
24" X 24"

Letters	- Black
Arrow	- Black
Border	- Black
Circle & Diagonal	- Red Reflective
Background	- White Reflective

SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS

PLYWOOD SIGN BLANKS	D-9-7100
REFLECTIVE SHEETING,	
TYPE A (ENGINEER GRADE)	D-9-8300
TYPE C (HIGH SPECIFIC INTENSITY)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be applied by screening process of black and/or transparent colored ink, cut-out black vinyl non-reflective decal sheeting and/or reflective sheeting or combination thereof. Background shall be white reflective sheeting (Type A). R14-2, ER14-2, R14-3, ER14-3, R3-1, R3-2 and SR3-4 signs shall use reflective sheeting (Type C).

Sign blanks shall be one piece 5/8 inch thick plywood (Type A), unless otherwise noted elsewhere in the plans.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

REGULATORY SIGNS

R(3)-95

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DN: LR	CK: -	DW: DN	CK: -	MEG NO.:

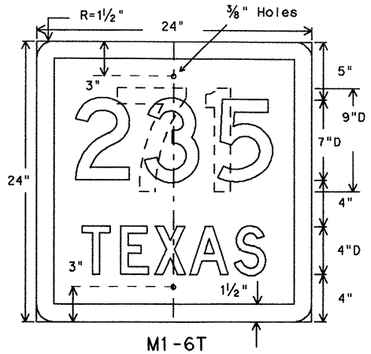
REVISIONS
8-95

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH 99(367)	445

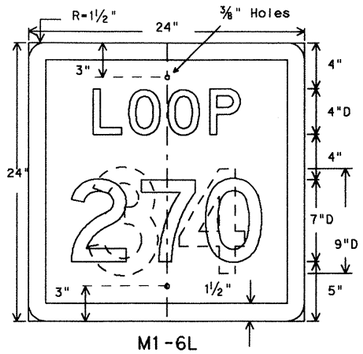
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

7C

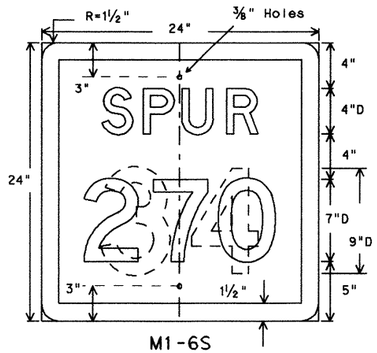
Unit: ACC: d58mpic/usr/d560504 FILE: DW: DN CK: MT Ch: CW



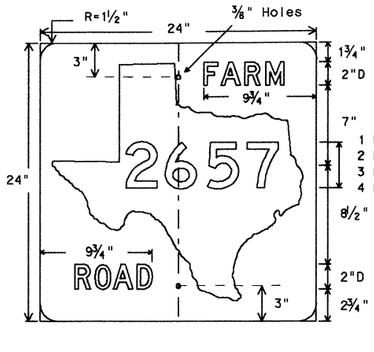
M1-6T
24" X 24"



M1-6L
24" X 24"



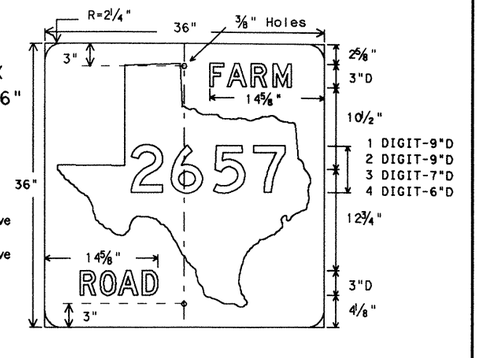
M1-6S
24" X 24"

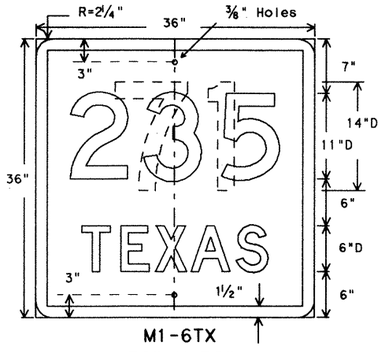


Letters - White Reflective
Numerals - Black
Symbol - White Reflective
Background - Black

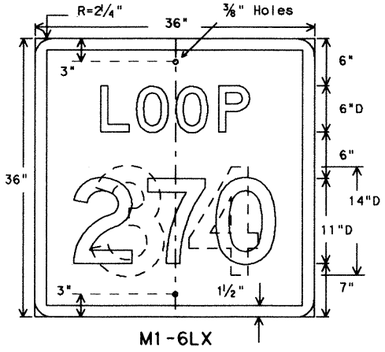
M1-6F
24" X 24"

M1-6FX
36" X 36"

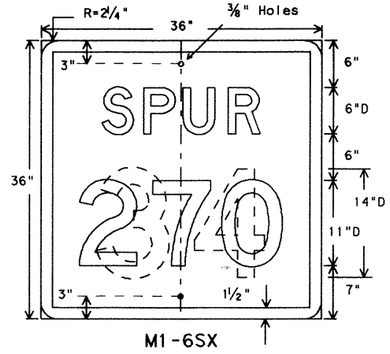




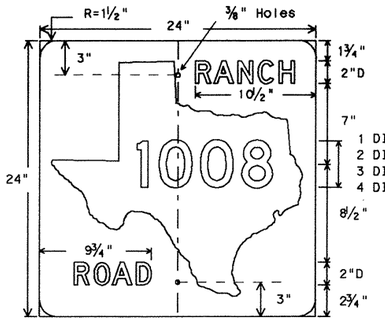
M1-6TX
36" X 36"



M1-6LX
36" X 36"



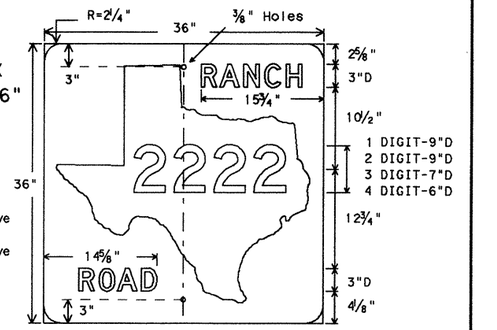
M1-6SX
36" X 36"

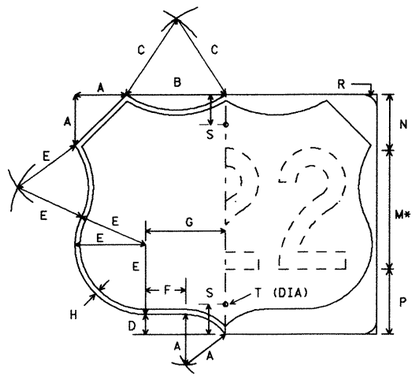


Letters - White Reflective
Numerals - Black
Symbol - White Reflective
Background - Black

M1-6R
24" X 24"

M1-6RX
36" X 36"





Numerals - Black
Border - Black
Background - White Reflective

		SIZE	A	B	C	D	E
MI-4A2	12" NUMERALS 2 DIGIT	24x24	5	7	5	2	7
MI-4A3	12" NUMERALS 3 DIGIT	30x24	5	10	9	2	7
MI-4B2	18" NUMERALS 2 DIGIT	36x36	7½	10½	7½	3	10½
MI-4B3	18" NUMERALS 3 DIGIT	45x36	7½	15	13½	3	10½

F	G	H	M*	N	P	R	S	T	AREA
1	5	½	12D	5½	6½	1½	3	⅜	3.18
4	8	½	12D	5½	6½	1½	3	⅜	4.05
1½	7½	¾	18D	8¼	9¾	2¼	3	⅜	7.15
6	12	¾	18D	8¼	9¾	2¼	3	⅜	9.11

SPECIFICATION REFERENCE TABLE

MATERIALS AND TESTS DIVISION SPECIFICATION	
ALUMINUM SIGN BLANKS	D-9-7110
FLAT SURFACE REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

Route Markers are to be used as confirming and reassurance route markers and as component parts of a Junction, Route Turn, Directional, or Trailblazer assembly.

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be black and applied by screening process, cut-out vinyl non-reflective decal sheeting or combination thereof. Legend on M1-6F, M1-6FX, M1-6R, M1-6RX and U.S. route markers shall be applied by reverse screening process, cut-out black vinyl non-reflective decal sheeting or combination thereof. Background shall be white reflective sheeting (Type A).

A print of the Texas state outline may be obtained from the Department to be used in making a stencil.

Sign blanks shall be one piece sheet aluminum alloy (Type A). 24" x 24" blanks shall be 0.08 inch thick, 36" x 36" and larger blanks shall be 0.10 inch thick, unless otherwise noted elsewhere in the plans.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

U.S. & STATE ROUTE MARKERS FOR INDEPENDENT MOUNTING

M(1)-95

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DN: LR	CK: -	DW: DN	CK: -	MSG NO.:

REVISIONS
10-73 8-95
1-82
1-85
7-90

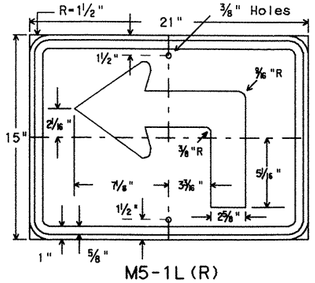
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH99(367)	446

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

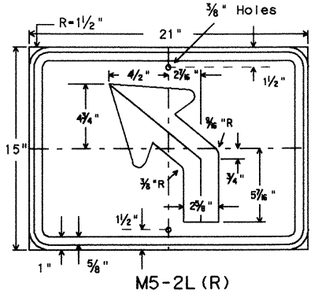
5A

FILE: DW: DN CK: MT

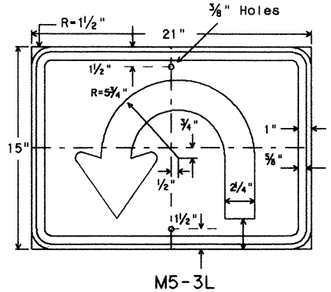
DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



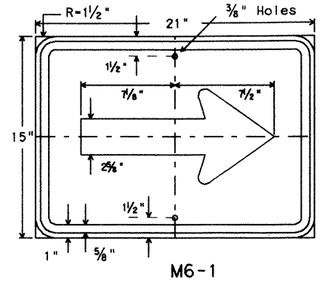
M5-1L(R)
21" X 15"



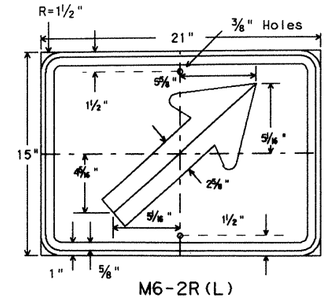
M5-2L(R)
21" X 15"



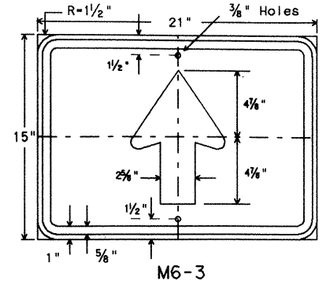
M5-3L
21" X 15"



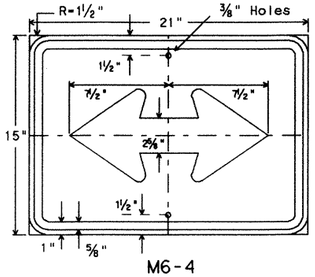
M6-1
21" X 15"



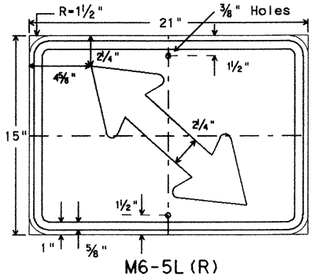
M6-2R(L)
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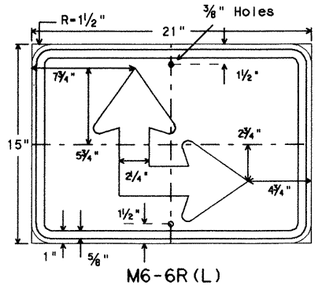
M6-3
21" X 15"



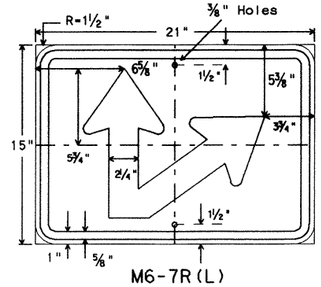
M6-4
21" X 15"



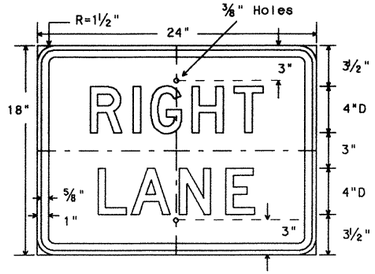
M6-5L(R)
21" X 15"



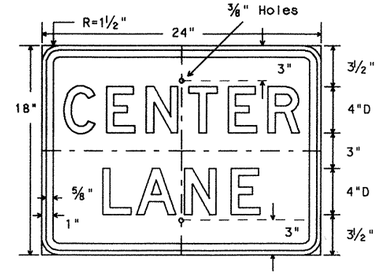
M6-6R(L)
21" X 15"



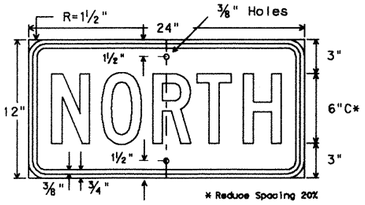
M6-7R(L)
21" X 15"



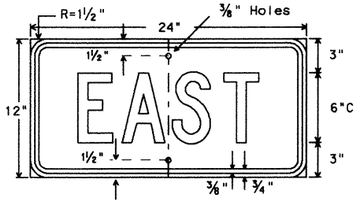
M6-8R(L)
24" X 18"



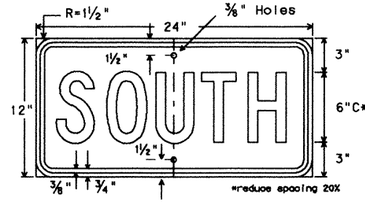
M6-8C
24" X 18"



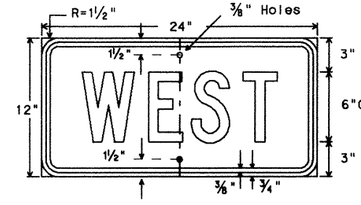
M3-1
24" X 12"



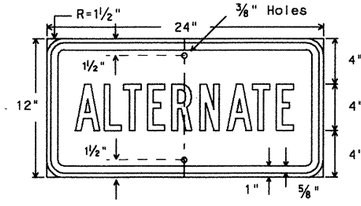
M3-2
24" X 12"



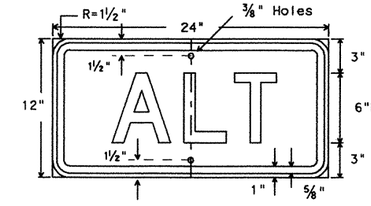
M3-3
24" X 12"



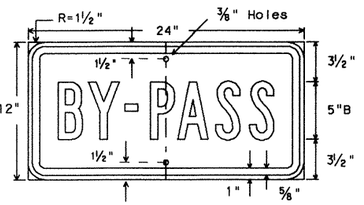
M3-4
24" X 12"



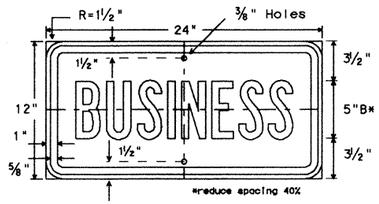
M4-1
24" X 12"



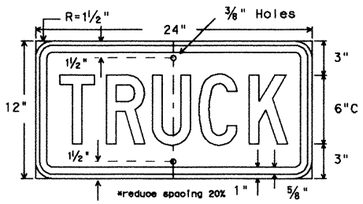
M4-1a
24" X 12"



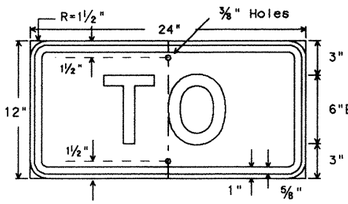
M4-2
24" X 12"



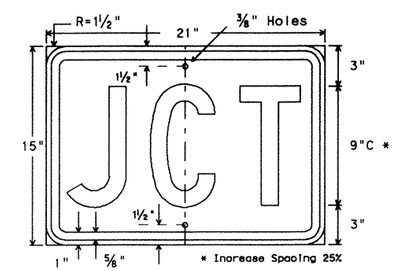
M4-3
24" X 12"



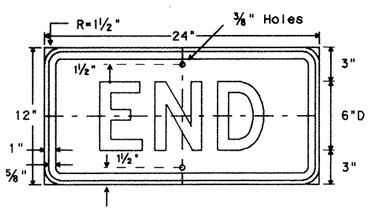
M4-4
24" X 12"



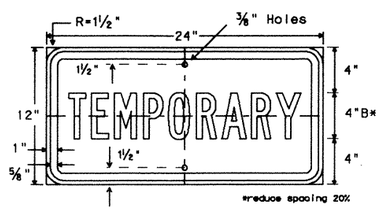
M4-5
24" X 12"



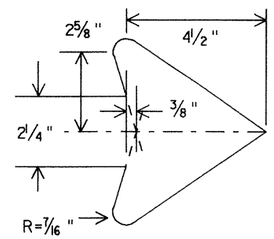
M2-1
21" X 15"

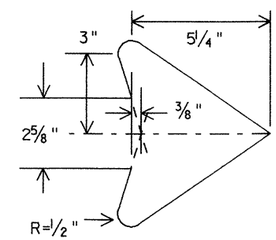


M4-6
24" X 12"



M4-7
24" X 12"





SPECIFICATION REFERENCE TABLE

MATERIALS AND TESTS DIVISION SPECIFICATIONS	
ALUMINUM SIGN BLANKS	D-9-7110
REFLECTIVE SHEETING, TYPE A (ENGINEER GRADE)	D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING	D-9-8320

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be black and applied by screening process, cut-out vinyl non-reflective decal sheeting or combination thereof. Background shall be white reflective sheeting (Type A).

Sign blanks shall be one piece 0.08 inch thick sheet aluminum alloy (Type A), unless otherwise noted elsewhere in the plans.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ROUTE MARKER AUXILIARIES

M(3)-97

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DN: - LR/MT	CK: -	DW: - DN	CK: -	WEG NO.:

REVISIONS
8-95
4-97

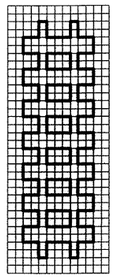
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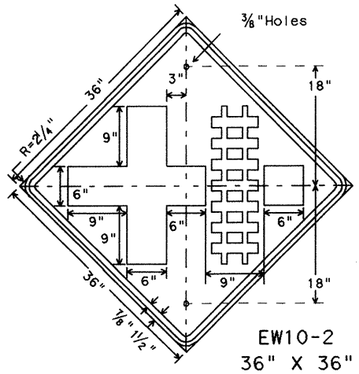
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

5C

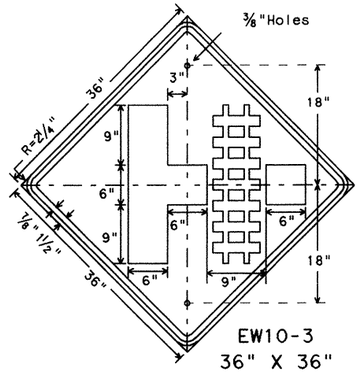
LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DN:
CK:
DW:
CK:
DATE:
ACC:
FILE:

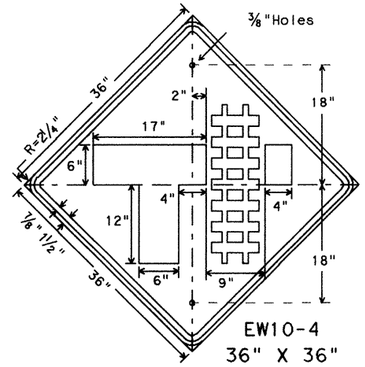




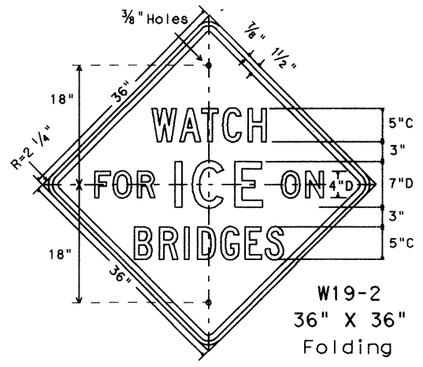
EW10-2
36" X 36"



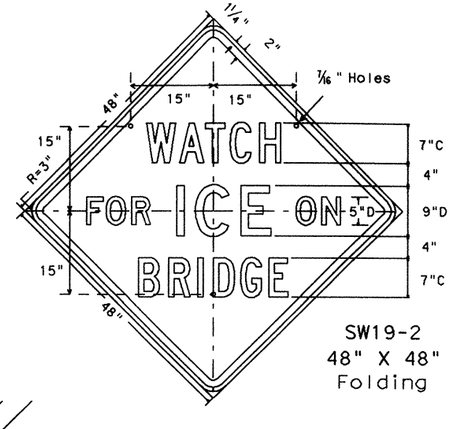
EW10-3
36" X 36"



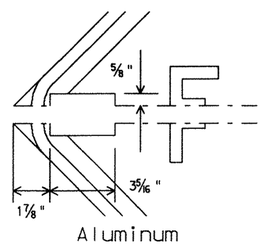
EW10-4
36" X 36"



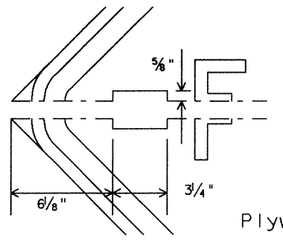
W19-2
36" X 36"
Folding



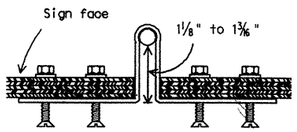
SW19-2
48" X 48"
Folding



Aluminum



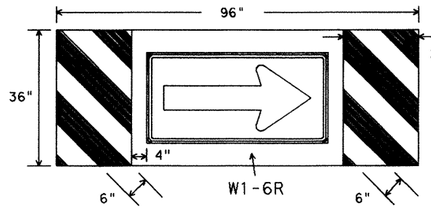
Plywood



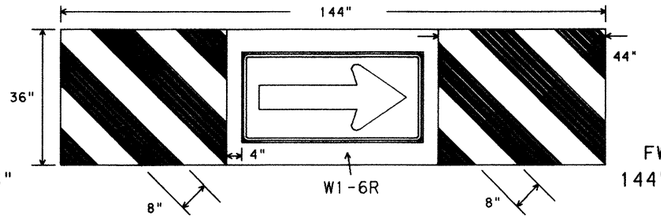
Folding Sign Hinge Details

Aluminum folding signs shall use 3" flat hinges, three per sign. The hinge slot on each half of sign is 5/8" deep by 3 5/16" wide. The sign halves are seperated by 3/32" when hinges are installed to the back of the sign with four 3/16" pop rivets. Location of hinges on the sign are as shown on above detail.

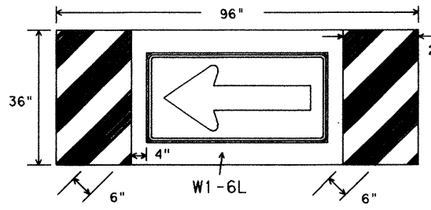
Plywood folding signs shall use 6" strap hinges, three per sign. The hinge slot on each half of sign is 5/8" deep by 3 1/4" wide. The hinges are bent with tapered side of holes on the external side, and attached to the back of sign with pivot extending through to front of sign. Attachment of each hinge will be with four each of 10x24x1" flat head screws with a tapered head shank, 5/16"x 3/16" flat washers and 3/16" bolt x 7/16" wrench hex nuts. Hinge bending and location on sign are as shown on above details.



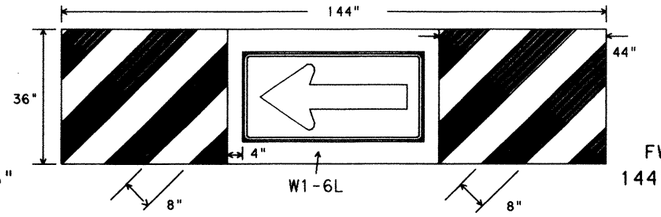
W1-9R
96" x 36"



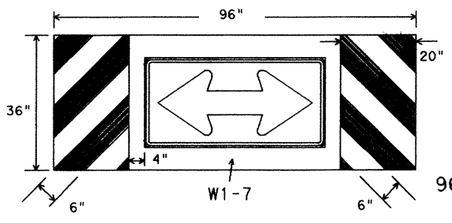
FW1-9R
144" x 36"



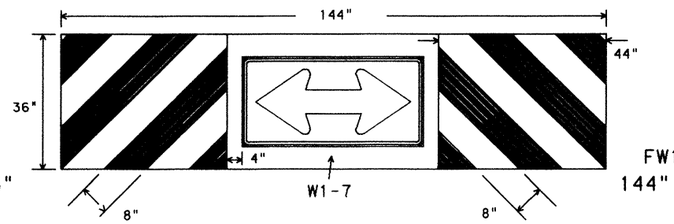
W1-9L
96" x 36"



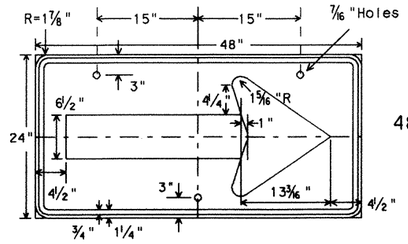
FW1-9L
144" x 36"



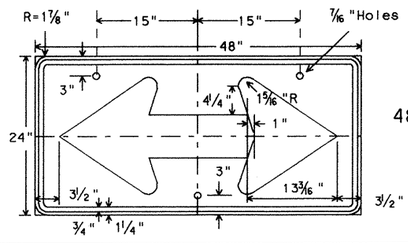
W1-10
96" x 36"



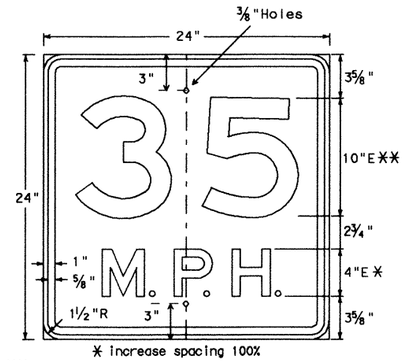
FW1-10
144" x 36"



W1-6
48" X 24"

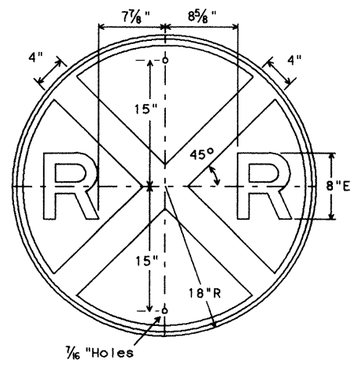


W1-7
48" X 24"



SW13-1
24" X 24"

Speed value to be determined at the site by the Engineer.



W10-1
36" Diameter

SPECIFICATION REFERENCE TABLE		
MATERIALS AND TESTS DIVISION SPECIFICATIONS		
PLYWOOD SIGN BLANKS		D-9-7100
ALUMINUM SIGN BLANKS		D-9-7110
Square Ft.	Min. Thickness	
Less than 7.5	0.080	
7.5 to 15	0.100	
Greater than 15	0.125	
REFLECTIVE SHEETING, TYPE C (HIGH SPECIFIC INTENSITY)		D-9-8300
VINYL NON-REFLECTIVE DECAL SHEETING		D-9-8320

GENERAL NOTES:

The alphabets and lateral spacing between letters and numerals shall conform with the Texas "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition, and any approved changes thereto. Lateral spacing of text shall provide a balanced appearance. All materials shall conform to Department Specifications.

Legend (except where noted), shall be black and applied by screening process, cut-out vinyl non-reflective decal sheeting or combination thereof. Background shall be yellow reflective sheeting (Type C).

Sign blanks shall be fabricated as specified in the plans of one piece 5/8 inch thick plywood (Type A) or one piece aluminum alloy (Type A) of the approved thickness.

Large arrow signs W1-9, W1-10, FW1-9 and FW1-10 shall be composed of a standard W1-6 or W1-7 sign attached directly to the background material.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

WARNING SIGNS

W(3)-95

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DN: LR	CK: -	DW: DN	CK: -	MEG NO.:

REVISIONS
8-90
8-95

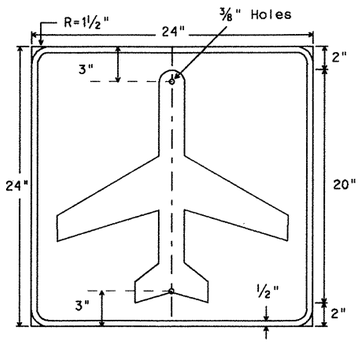
STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH99(367)	448

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

9C

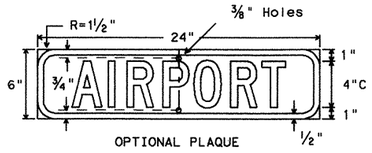
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CK:MT
ACC: 0586010/usr/d586504
FILE:

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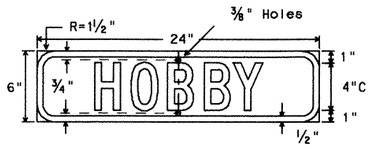


I-5
24" X 24"

Symbol - White Reflective
Border - White Reflective
Background - Green Reflective

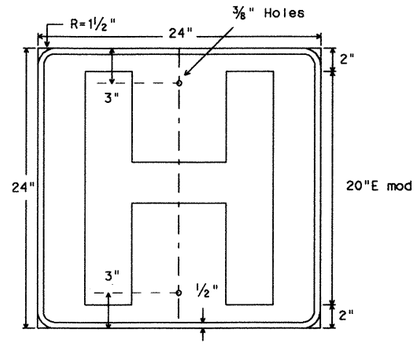


OPTIONAL PLAQUE



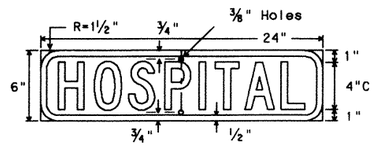
OPTIONAL AIRPORT NAME PLAQUE

Symbol - White Reflective
Border - White Reflective
Background - Green Reflective



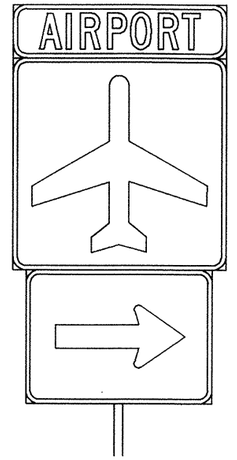
D9-2
24" X 24"

Symbol - White Reflective
Border - White Reflective
Background - Blue Reflective

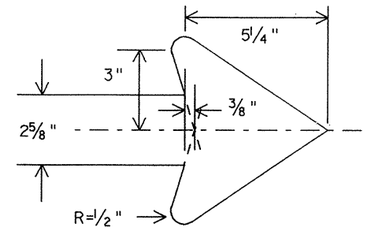


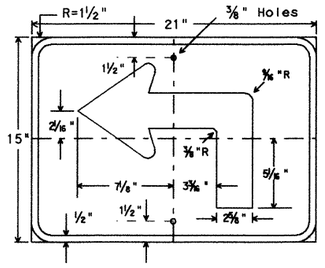
OPTIONAL PLAQUE

Symbol - White Reflective
Border - White Reflective
Background - Blue Reflective



TYPICAL ASSEMBLY



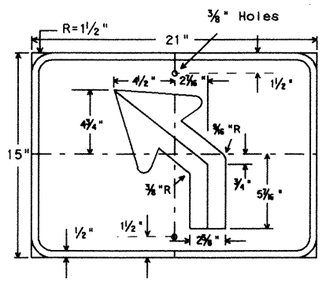


M5-1BL
M5-1BR
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

M5-1GL
M5-1GR
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Green Refl.

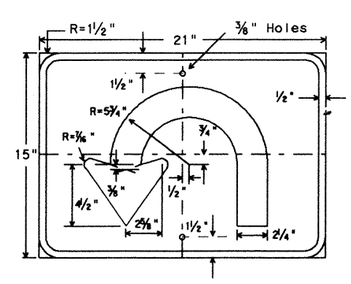


M5-2BL
M5-2BR
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

M5-2GL
M5-2GR
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Green Refl.

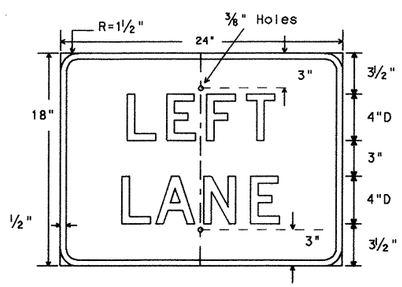


M5-3BL
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

M5-3GL
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Green Refl.

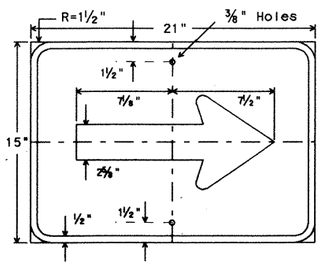


M6-8BL
24" X 18"

Letters - White Refl.
Border - White Refl.
Background - Blue Refl.

M6-8GL
24" X 18"

Letters - White Refl.
Border - White Refl.
Background - Green Refl.

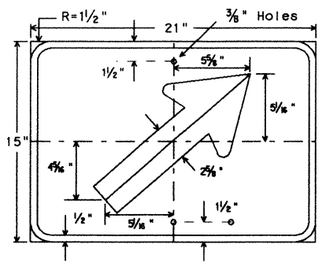


M6-1B
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

M6-1G
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Green Refl.

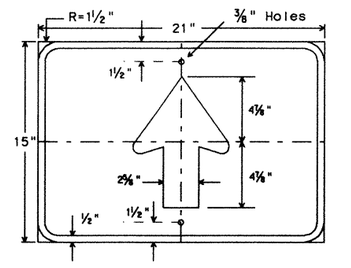


M6-2BR
M6-2BL
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

M6-2GR
M6-2GL
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Green Refl.

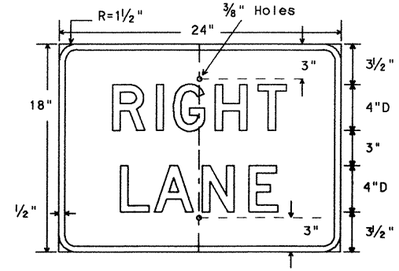


M6-3B
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Blue Refl.

M6-3G
21" X 15"

Symbol - White Refl.
Border - White Refl.
Background - Green Refl.



M6-8BR
24" X 18"

Letters - White Refl.
Border - White Refl.
Background - Blue Refl.

M6-8GR
24" X 18"

Letters - White Refl.
Border - White Refl.
Background - Green Refl.

SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS
ALUMINUM SIGN BLANKS D-9-7110
REFLECTIVE SHEETING, TYPE C
(HIGH SPECIFIC INTENSITY) D-9-8300

GENERAL NOTES:

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Legend shall be applied by reverse screening process with transparent colored ink, cut-out white reflective sheeting applied to colored background or combination thereof. Background shall be reflective sheeting (Type C).

Sign blanks shall be 0.080 inch thick one piece sheet aluminum alloy conforming with Department Specification "Aluminum Signs (Type A)".

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

AIRPORT, HOSPITAL AND DIRECTIONAL MARKERS FOR INDEPENDENT MOUNTING

IM(5)-93

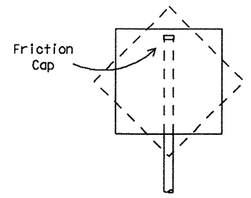
© TxDOT July 1990	DN: LR	CK: -	DW: DN	CK: -	MCC NO.:
REVISIONS 9-93	STATE DISTRICT 18	FEDERAL REGION 6	FEDERAL AID PROJECT NH 99(367)		SHEET 44
COUNTY ROCKWALL	CONTROL 0009	SECTION 04	JOB 039	HIGHWAY SH 66	

3E

DN: LR
CK: CW
DW: DN
CK: MT
DATE:
FILE:

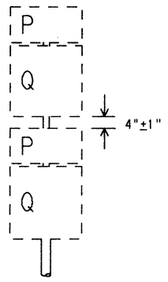
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17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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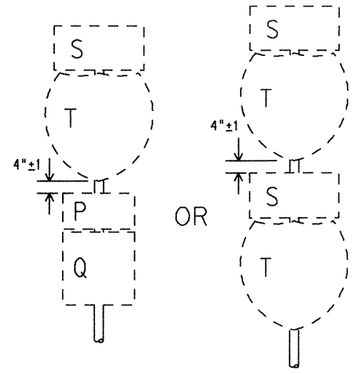
Type A

This type of mount which uses thin wall tubing or fiberglass reinforced plastic (FRP) pipe may be used to support any sign or combination of signs with a a total area less than the maximum areas given for that support on SMD(1-4) with the exception of the following signs: FR6-1, W1-6 and W1-7. These signs should be mounted on a Type D-1 support.



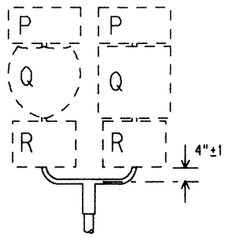
Type A-1

This type of mount may be used for up to two route markers (along with the appropriate cardinal direction markers). A 36" or 45" Interstate route marker may not be used on this support. May be used as a specified optional substriture for Type B. Post shall be 2½" Sch. 10.



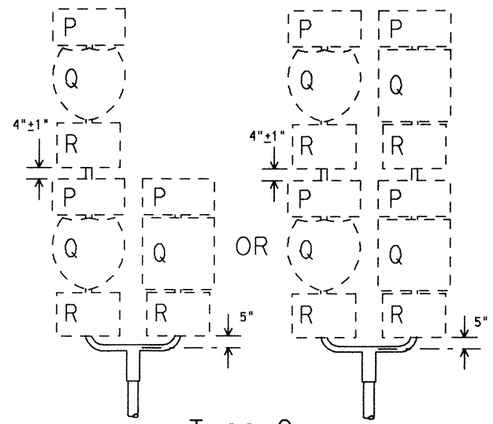
Type A-2

This type of mount may be used for up to two route markers (along with the appropriate cardinal direction markers). 36" or 45" Interstate route markers are allowable on this support. May be used as a specified optional substriture for Type B. Post shall be 2½" Sch. 80.



Type B

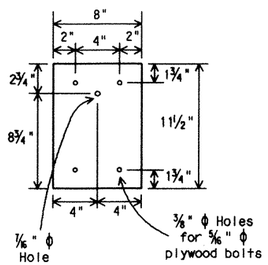
This type of mount may be used with two route markers (along with the appropriate cardinal direction markers). A 36" or 45" Interstate route marker may not be used on this support. Post shall be 2½" Sch. 10.



Type C

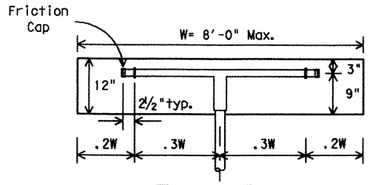
This type of mount is to be used when 3 or 4 route markers are required. If a 36" or 45" Interstate route marker is required, it shoud be mounted independently using a Type A mount or in conjunction with another 36" or 45" Interstate route marker using a Type A-2 mount. Post shall be 2½" Sch. 80.

P = 24"x12" Cardinal Direction Marker
Q_1 = 24"x24" Interstate, US or State Route Marker
Q_2 = 30"x24" Interstate or US Route Marker
R = 21"x15" Direction Arrow
S = 30"x15" Cardinal Direction Marker
T_1 = 36"x36" (2) digit Interstate Route Marker
T_2 = 45"x36" (3) digit Interstate Route Marker



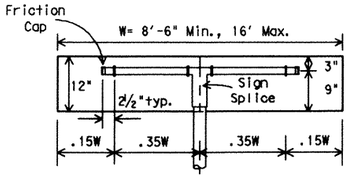
Splice Plate

Splice plates shall be 1/8 " steel plate (ASTM A36) or 1/8 " aluminum plate (ASTM B209 ALLOY 6061-T6 or 5052-H38). Steel shall be galvanized in accordance with ASTM A123.



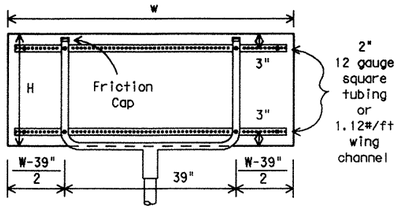
Type D-1

1. Mounting clamps are spaced 28" apart for "ONE WAY" signs (FR6-1, 48"x16"). Top of sign is 8" above centerline of "T" bar.
2. For "LARGE ARROW" signs (W1-6, 48"x24"), mounting clamps are spaced 30" apart.
3. Prefabricated 2" thin wall "T" mounted on a 2½" Sch. 10 post.



Type D-3

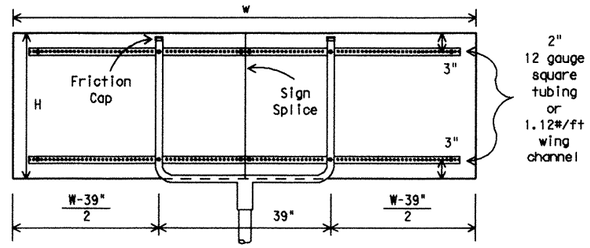
Prefabricated 2" thin wall "T" mounted on a 2½" Sch. 10 post.



Type D-2

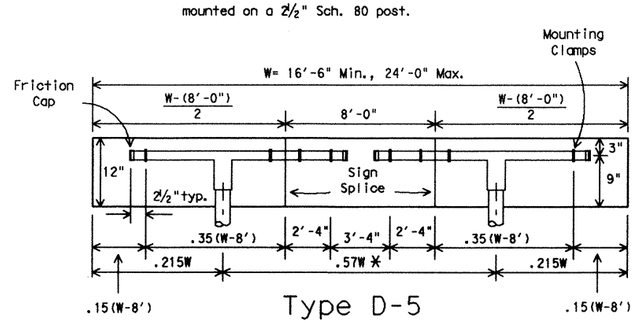
Prefabricated 2" thin wall "U" mounted on a 2½" Sch. 10 post.

MOUNT TYPE	H	W Min	W Max
D-2	24"	n/a	8'
	30"	n/a	6'6"
	36"	n/a	5'6"
D-4	24"	8'6"	13'6"
	30"	8'0"	11'0"
	36"	6'0"	9'0"



Type D-4

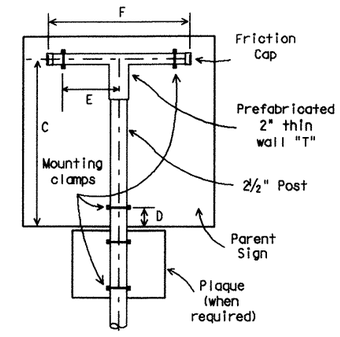
Prefabricated 2" thin wall "U" mounted on a 2½" Sch. 80 post.



Type D-5

1. Post spacing may vary ± 5% of total sign width to fit field conditions.
2. Prefabricated 2" thin wall "T" mounted on a 2½" Sch 10 post.

NOTES: (FOR TYPES D-1 THROUGH D-5)
1. Splice plate required on D-3 and D-5 mounts.
2. Sign blanks shall be 5/8 " thick plywood conforming with Departmental Material Specification D-9-7100, unless otherwise noted elsewhere in the plans.



Type F

Type of Sign		2½" Post	C	D	E	F	
Regulatory Signs	SR1-1	SCH 10	39"	9"	15"	35"	
	FR1-2	SCH 10	43"	21"	11"	27"	
	36"X48"	SCH 10	42"	6"	9"	23"	
	48"X36"	SCH 10	30"	6"	15"	35"	
	48"X48"	SCH 10	42"	6"	15"	35"	1 2
	48"X60"	SCH 80	54"	6"	12"	29"	2
Warning Signs	48"X48"	SCH 10	49"	19"	15"	35"	1
	48"X60"	SCH 80	54"	6"	12"	29"	
School Signs	SS1-1	SCH 10	30"	6"	12"	29"	3
	SS2-1	SCH 10	30"	6"	12"	29"	3

1 Includes parent signs of this size which have supplementary plaque. Example: when "DO NOT ENTER" sign (SR5-1, 48" X 48") is mounted in combination with the "RAMP" plaque (R5-1T, 48" X 18"), the "DO NOT ENTER" sign is mounted as a 48" X 48" regulatory sign and the "RAMP" sign is mounted as a plaque.

2 "SPEED LIMIT" signs FR2-2, FR2-3 AND FR2-4 are mounted only in combination with "SPEED LIMIT" sign FR2-1 on Type G mount. "TRUCK SPEED LIMIT" sign (FR2-2A, 48" X 72") is to be mounted independently on Type G mount, see standard SMD (TY G) for details. When "WRONG WAY" sign (SR5-1A, 48" X 36") is mounted in combination with "DO NOT ENTER" sign (SR5-1, 48" X 48"), Type G mount is used.

3 "SCHOOL ADVANCE" (SS1-1, 48" X 48") and "SCHOOL CROSSING" (SS2-1, 48" X 48") symbol signs shall be mounted on a Type F mount.

SIGN SUPPORTS SHALL NOT BE SPLICED EXCEPT AS SHOWN ELSEWHERE ON SMD STANDARDS

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

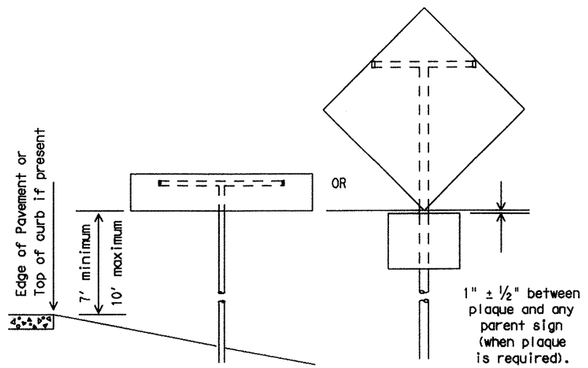
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

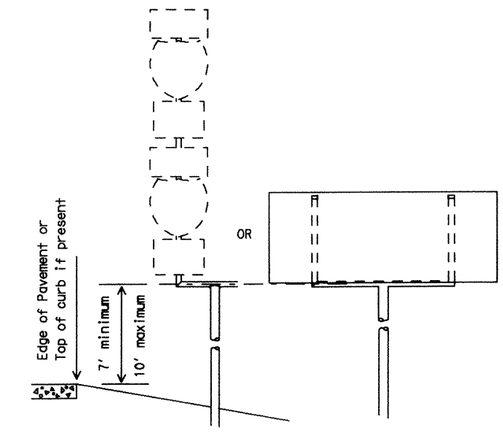
SMD(1-1)-98

© TxDOT August 1995	DN: GRB	CK: JDM	DW: FDN	CK: DTN
REVISIONS 1-97 12-98 1-99	STATE DISTRICT 18	FEDERAL REGION 6	FEDERAL AID PROJECT NH 99 (367)	SHEET 450
	COUNTY ROCKWALL	CONTROL 0009	SECTION 04	JOB 039	HIGHWAY SH 66

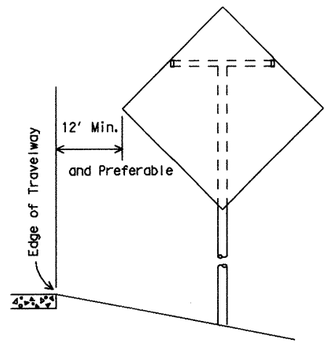
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DATE: ACC: FILE:
LEVELS SUPPLIED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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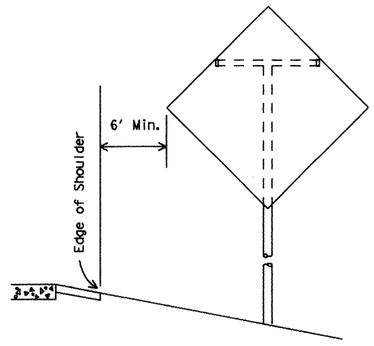




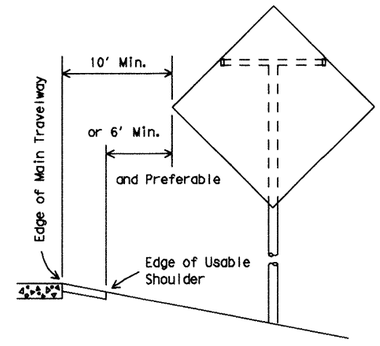
VERTICAL CLEARANCE OF SMALL SIGNS
ALL TYPES OF ROADWAYS



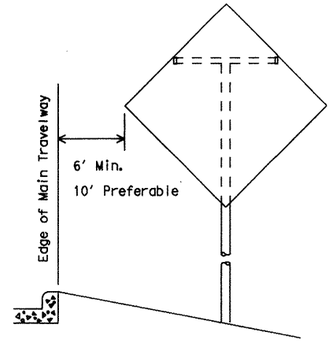
Rural Conventional Highway without shoulder.



Rural Conventional Highway with shoulder.

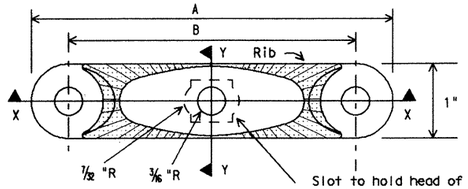


Expressways or Freeways without curb or with mountable curb.

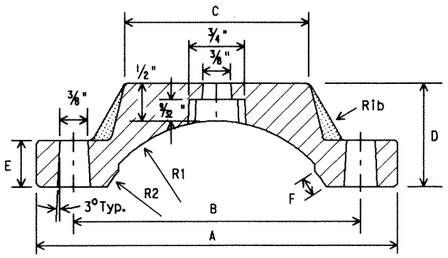


Expressways or Freeways with unmountable curb.

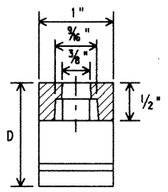
LATERAL CLEARANCE OF SMALL SIGNS TO THE RIGHT OR LEFT SIDE OF ROADWAY



Slot to hold head of 5/16" sq. head bolt. The bolt shall be 1" long for metal signs and 1 3/4" long for plywood signs, with full threads, a medium washer, and galv. steel or aluminum self-locking hex head nut. The bolt head must not turn in slot.



Section X-X

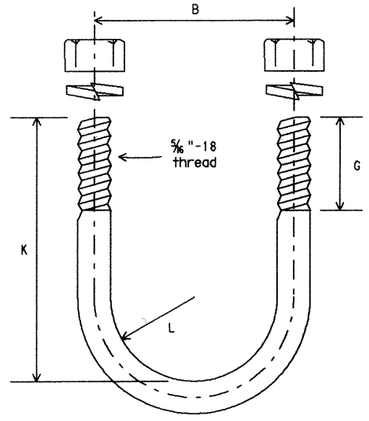


Section Y-Y

Pipe Clamp Casting

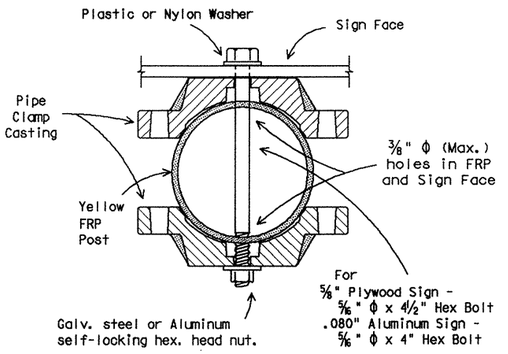
Pipe clamp casting shall be ASTM B26 or B108 aluminum alloy A444.0-T4 or 356.0-F.

All sign mounting clamp parts not made from aluminum shall be galvanized steel in conformance with ASTM A153 Class A or stainless steel.



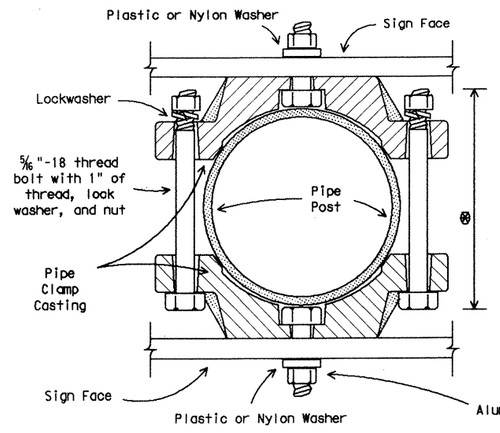
U-Bolt

U-Bolt to be made in accordance with standard manufacturing procedure. 9/32" dia. stock is permissible. American standard regular semi-finished hex. nuts and spring lockwashers.



NOTE: Type A support shall be pipe or Yellow FRP. FRP mounts shall meet Departmental Material Specification D-9-4410.

Typical Detail
Yellow Fiberglass Reinforced Plastic (FRP) Mounting



⊛ Approx. Bolt Length ~ Pipe Size

2⅛"	1¼"ϕ
2⅜"	1½"ϕ
2⅝"	2"ϕ
2⅞"	2½"ϕ
3⅛"	3"ϕ

Bolt Length to be adjusted to fit field conditions.

Typical Detail
Back to Back Mounting of Signs

Dimensions for Mounting Clamp

Standard Pipe Size	A	B	C	D	E	F	G	K	L	R1	R2
1¼	3 5/64	2 5/64	¾	15/16	7/16	3/16	5/8	2 9/64	27/32	57/64	53/64
1½	3 9/32	2 9/32	1	1 1/16	7/16	3/16	5/8	2 7/16	63/64	31/32	15/16
2	3 3/4	2 3/4	1½	1⅛	½	3/16	1	2 11/16	1 7/32	1¼	1 3/16
2½	4¼	3¼	2	1¼	½	¼	1	3 3/16	1 15/32	1½	1 7/16
3	4 7/8	3 7/8	2½	1 3/8	5/8	¼	1	3 13/16	1 25/32	1 13/16	1¾

All dimensions shown are in inches.

MOUNTING CLAMP DETAILS

GENERAL NOTES:

1. All clearances apply to both rural and urban locations, except as noted.
2. Where physical features of the roadway will permit, maximum lateral clearances are desirable. For frontage roads, ramps and other connecting roadways, lesser clearances may be used, but generally no less than six feet is recommended between the edge of the travelway and the edge of the sign. At intersections, signs should be positioned in the optimum location for viewing by traffic.
3. Where necessary, the minimum allowable clearance of two feet may be used in urban locations on conventional highways.
4. Where a sign is to be located behind guardrail, the allowable minimum clearance may be used, measured from the face of the guardrail to the near edge of the sign.
5. Lateral clearances of signs mounted on left side of roadway are the same as shown above where space will permit.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS

SMD(1-2)-98

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DN-LR	CK-	DW-DN	CK-MT	MEG NO.:

REVISIONS
1-97
4-98

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH99(367)	451

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

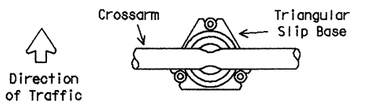
26B

LEVELS DISPLAYED
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37 38 39 40 41 42 43 44 45 46 47 48
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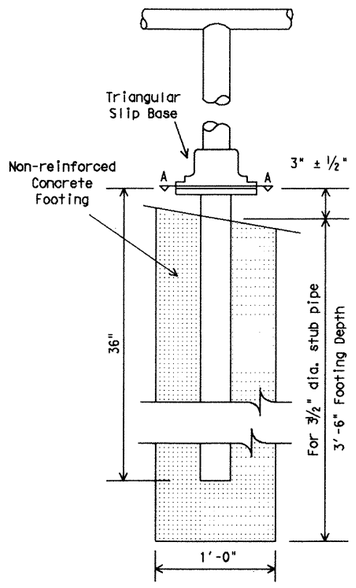
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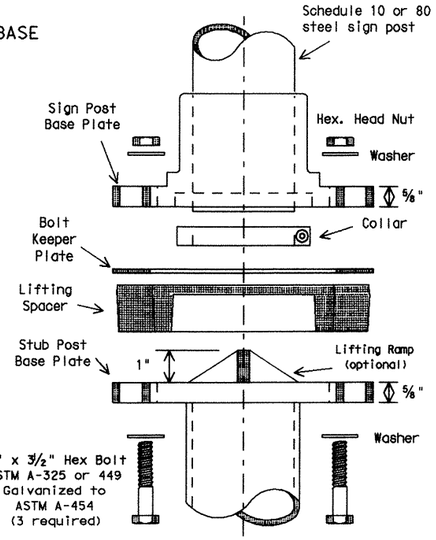
TEXAS UNIVERSAL TRIANGULAR SLIP BASE



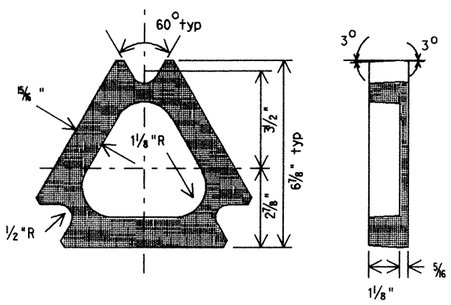
The crossarm should be parallel to one side of the triangular slip base.



Texas Universal Triangular Slip Base shall be used for signs supported on 2½" diameter pipe posts.

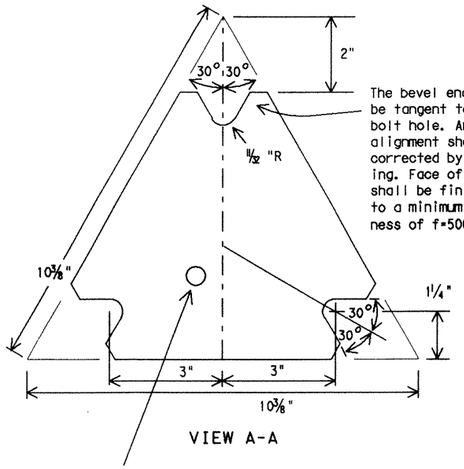


NOTE: If stub post base plate does not have lifting ramp, lifting spacer should be deleted from assembly, unless plumbing shims are required.



LIFTING SPACER

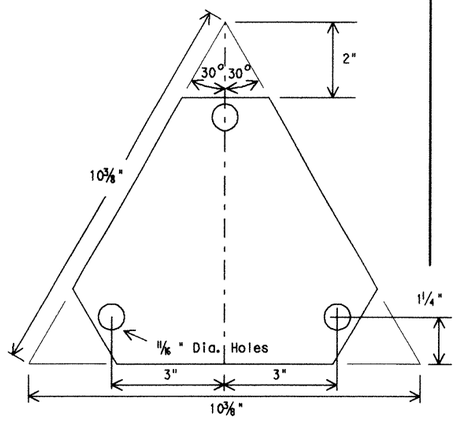
100% Recycled ABS or Polycarbonate



The bevel end shall be tangent to the bolt hole. Any misalignment shall be corrected by grinding. Face of bevel shall be finished to a minimum smoothness of f=500.

VIEW A-A

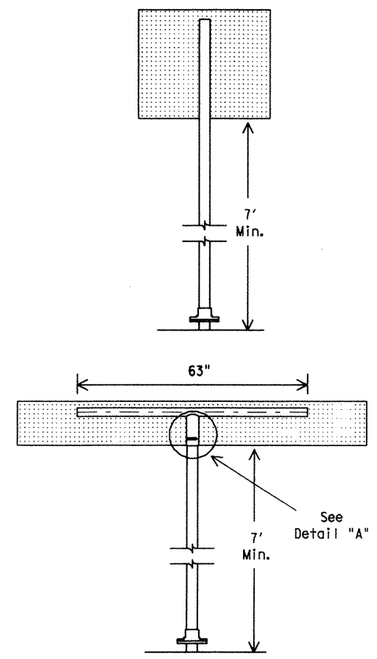
Provide 1/2 " dia. (max.) hole in the Stub Post Base Plate within the inside radius of the stub post for galvanized drainage.

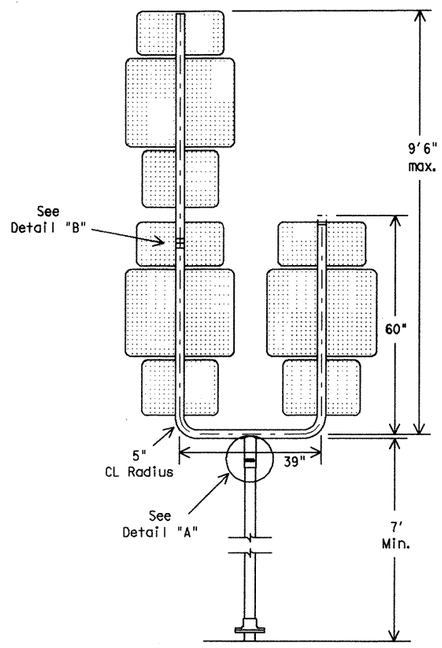


BOLT KEEPER PLATE

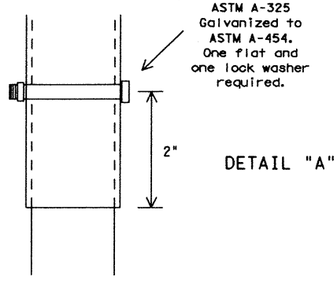
Bolt Keeper Plate shall be 30 gauge galvanized steel.

PREFABRICATED T'S AND U'S

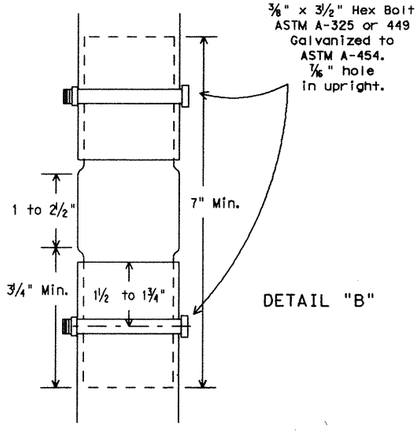




Refer to SMD(1-1) for "T" and "U" pipe lengths and marker combinations.



DETAIL "A"



DETAIL "B"

NOTE:
1. 2⅜" OD x .080" wall tubing swaged to 2⅛" OD.
2. Splices will only be allowed behind the sign substrate.

GENERAL NOTES:

Support and design shall conform with AASHTO Standard Specifications for structural supports of Highway signs, luminaires and traffic signals with a design wind speed of 60 mph.

Steel pipe shall be galvanized in accordance to ASTM Designation A123.

Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18 inches. When solid rock is encountered below ground level, the foundation shall extend into the solid rock a minimum depth of 18 inches or provide a minimum foundation depth of 30 inches. Only concrete foundations shall be used in rock.

TRIANGULAR SLIP BASE NOTES:

1. The Sign Post Base Plate of the Triangular Slip Base shall have the same exterior dimensions as the bottom plate.

2. The Base Plates shall conform with the requirements of ASTM-A36, A441 or A572 Grade 50.

3. All structural steel shall be galvanized in accordance with ASTM A153. The entire support shall be galvanized from the top down to a minimum depth of 6 inches into the foundation. All nuts, bolts and washers shall be galvanized in accordance with the zinc specification of ASTM B454.

4. All high strength bolts shall conform to ASTM-A325 (ASTM_A449 may be substituted for ASTM-A325 provided proper bolt head, nut and/or washer clearances are maintained). All high strength nuts shall be of such capacity as to develop the bolt strength.

BOLTING PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

1 Assemble Sign Post, Bolt Keeper Plate and Stub Post with bolts and flat washers as shown.

2 Shim as required to plumb post. If shims are needed lifting spacer must be used. Shims shall be placed between stub post base plate and lifting spacer.

3 Tighten all bolts the maximum possible with a 12 to 15 inch wrench to clean bolt threads and to bed washers and shims.

4 Loosen each bolt in sequence and retighten bolts in a systematic order to the prescribed torque of 480 inch pounds or 40 foot pounds.
DO NOT OVERTIGHTEN.

5 To prevent nut loosening, burr threads of bolt at junction with nut using a center punch.

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
ACC:
FILE:
DN:
CK:
DW:
CK:

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

SMD(1-3)-98

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DN: GRB	CK: JDM	DW: FDN	CK: DTN

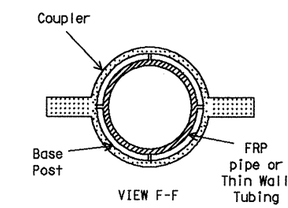
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
1-96	18	6	NH 99 (367)	452
1-97	COUNTY		CONTROL / SECTION / JOB	HIGHWAY
12-98	ROCKWALL		0009 / 04 / 039	SH 66
1-99				

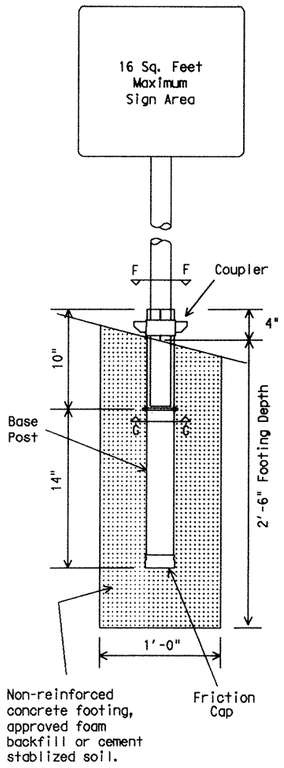
26C

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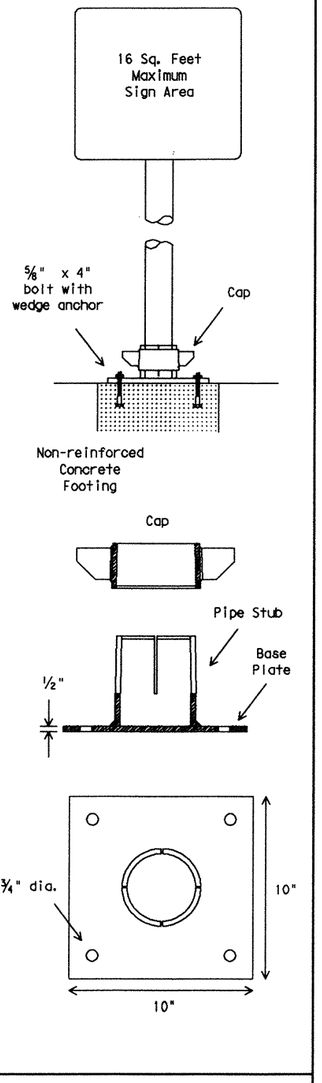
UNIVERSAL ANCHOR SYSTEM TYPE A

For FRP or Thin Wall Tubing



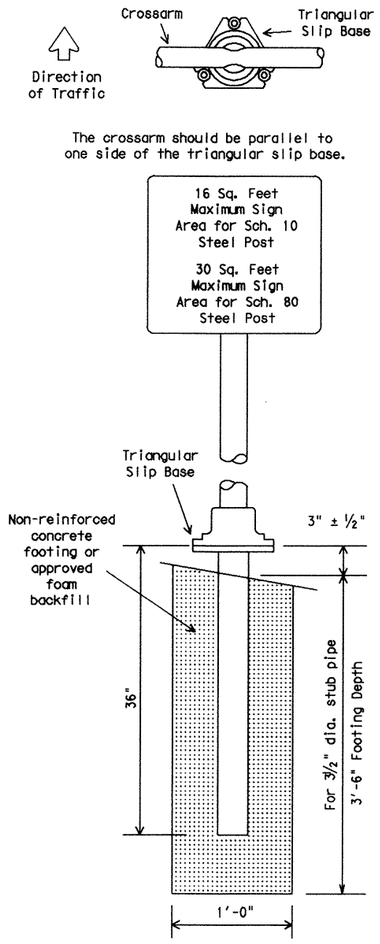


BOLT DOWN SIGN SUPPORT TYPE A



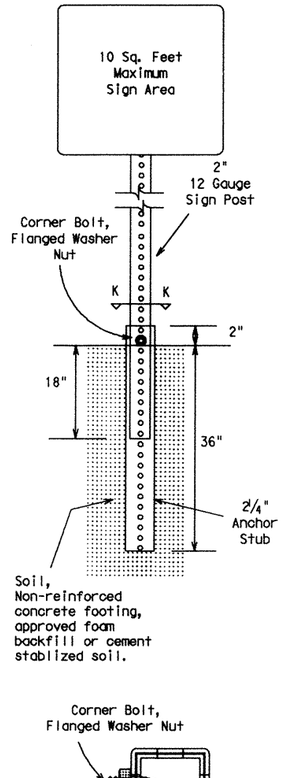
TEXAS UNIVERSAL TRIANGULAR SLIP BASE

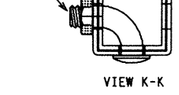
Types A, A-1, A-2, B, C, D-1, D-2, D-3, D-4, D-5 and F. For additional information on types, refer to SMD(1-1).



Triangular Slip Base shall be used for signs supported on 2½" diameter pipe posts.

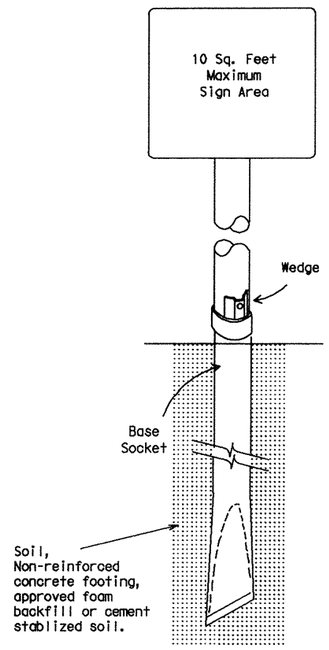
PERFORATED SQUARE METAL TUBING (DRIVEABLE) TYPE U





Perforated square metal tubing or other sign support system shall be installed ONLY if required in the project General Notes.

WEDGE ANCHOR THIN WALL (DRIVEABLE) TYPE A



For additional information refer to SMD(1-5)

GENERAL NOTES:

The project General Notes may specify a particular sign support.

Support and design shall conform with AASHTO Standard Specifications for structural supports of Highway signs, luminaires and traffic signals with a design wind speed of 70 mph.

Steel pipe shall be galvanized in accordance to ASTM Designation A123.

Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18 inches. When solid rock is encountered below ground level, the foundation shall extend into the solid rock a minimum depth of 18 inches or provide a minimum foundation depth of 30 inches. Only concrete foundations shall be used in rock.

FRP SUPPORTS

Materials and fabrication shall conform to the requirements of Department Material Specification D-9-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.

Thickness of FRP sign support is 0.125 inch + 0.031 inch, - 0.0 inch.

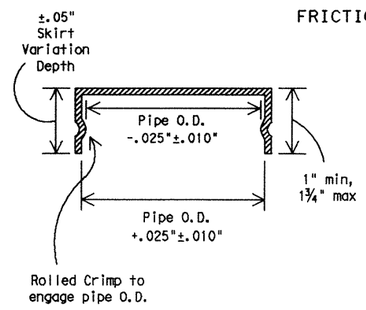
For FRP sign supports, all bolts, nuts, screws, washers and other miscellaneous hardware, shall be type 304 stainless steel or galvanized in accordance to ASTM Designation: A-153, Class C or D, B-695 Class 50 or B633 Class FE/ZN 8 unless otherwise specified.

FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.

FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:

TX DOT
Traffic Operations Division
125 E. 11th Street
Austin, Tx 78701-2483.

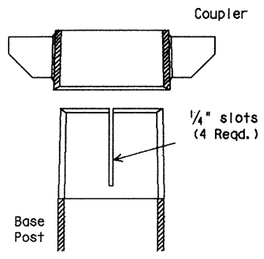
FRICTION CAP DETAIL



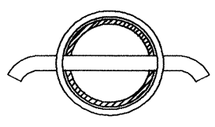
Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 guage for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

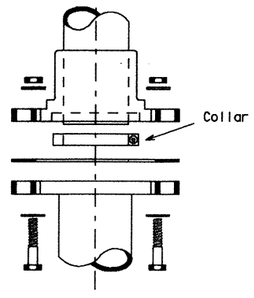
Caps shall have an electrodeposited coating of zinc in accordance with the requirement of ASTM B633 Class FE/ZN 8.



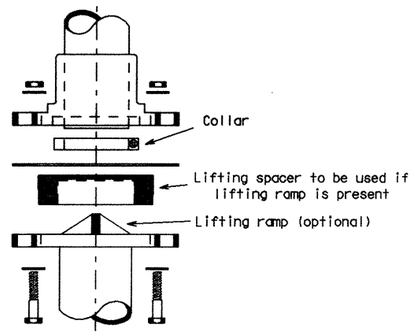
NOTE: When Thin Wall Tubing is used, rubber insert must be placed in base post.



SIGN POST SELECTION	
MOUNT TYPE	2½" POST
A, A-1	Sch. 10
A-2	Sch. 80
B	Sch. 10
C	Sch. 80
D-1, D-2, D-3, D-5	Sch. 10
D-4	Sch. 80



For additional information refer to SMD(1-3)



RETROFIT FOR EXISTING STUB BASES

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

SMD(1-4)-98

© TxDOT August 1995	DN: GRB	CK: JDM	DW: FDN	CK: DTN
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
1-97	18	6	NH99(367)	453
12-98	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
1-99	ROCKWALL		0009	04	039	SH 66

26D

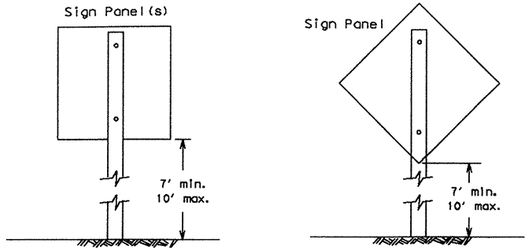
DN: CK: DW: CK:

DATE: FILE:

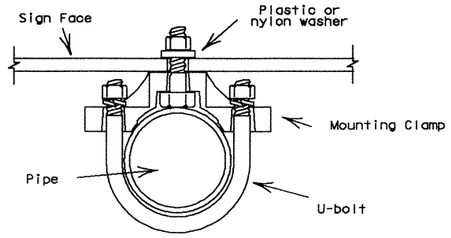
LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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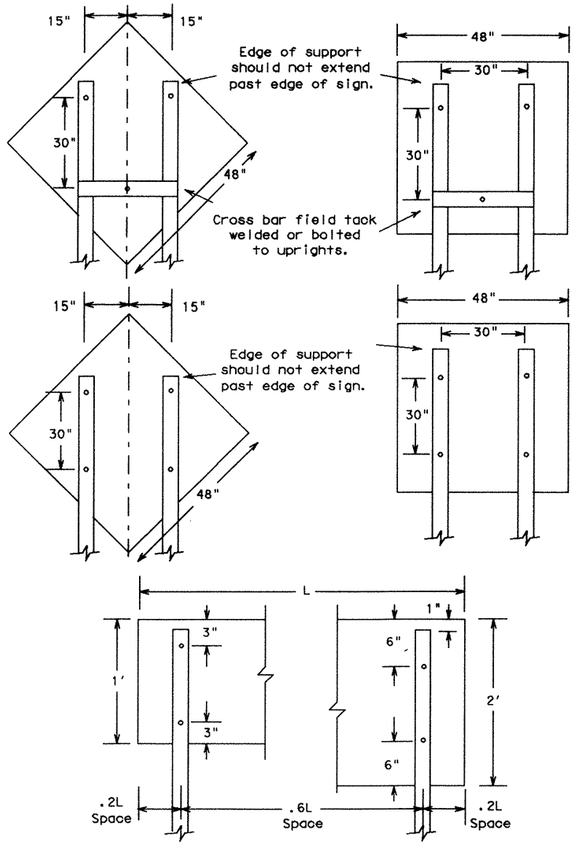
SINGLE POST INSTALLATION TYPE 1



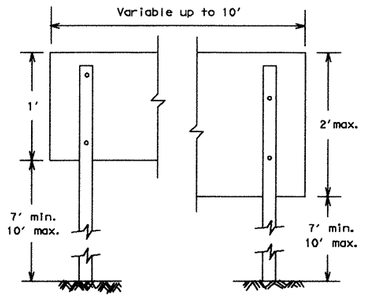
TYPICAL CLAMP DETAIL

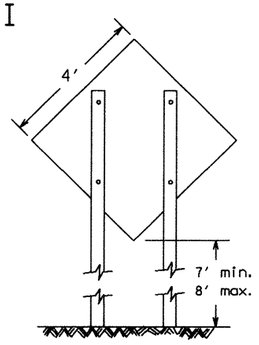


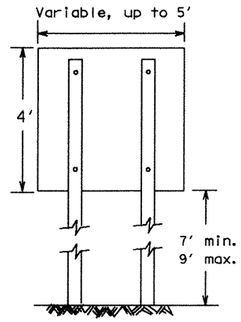
SIGN ATTACHMENT DETAILS



DOUBLE POST INSTALLATION TYPE II

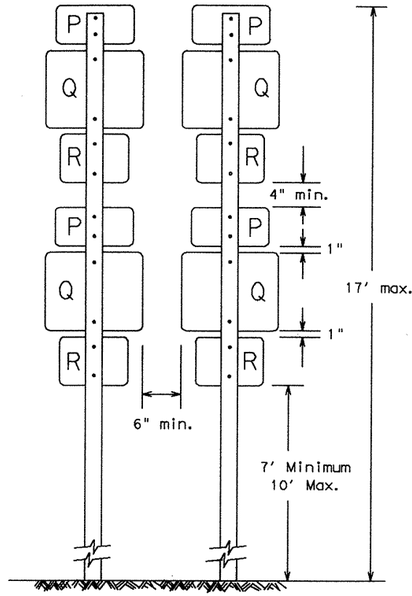






1. This sheet should be used with SMD(1-2) and SMD(1-4).
2. See standard sheet SMD(1-2) and TMUTCD for horizontal and vertical clearances.
3. Type I or Type II supports may be used for various sign combinations and or shapes not to exceed the specified maximum sign area.
4. A cross bar between supports and/or behind sign may be used to prevent supports from leaning in areas of soft soils.
5. Cross bars may be made of winged channel post 1.12#/ft., 2.0#/ft., 2" perforated square metal tubing (12 ga) or other similar material.
6. Educational plaques may be installed below parent signs or single supports for sign areas up to 9 square feet.

ROUTE MARKER ASSEMBLY FOR TWO POST SUPPORT

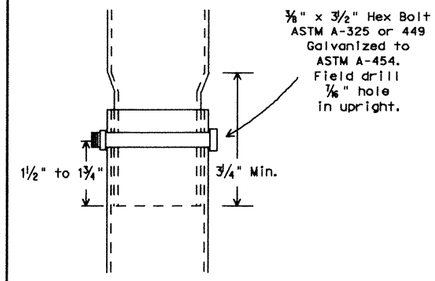


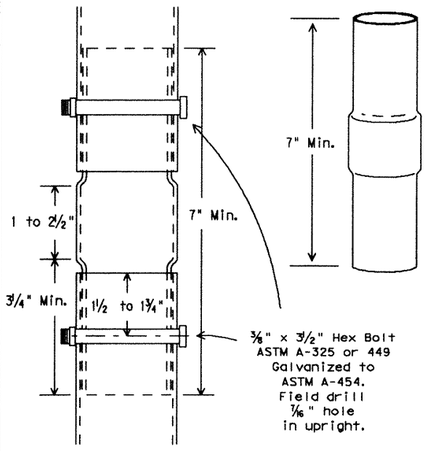
P1 = 24"x12" Cardinal Direction Marker
Q1 = 24"x24" Interstate, U.S. or State Route Marker
Q2 = 30"x24" Interstate or U.S. Route Marker
R = 21"x15" Direction Arrow
P2 = 30"x15" Cardinal Direction Marker
Q3 = 36"x36" (2) digit Interstate Route Marker
Q4 = 45"x36" (3) digit Interstate Route Marker

EQUIV. SIGN AREA SQ. FT.		EQUIV. SIGN AREA SQ. FT.	
P1	= 1	P2	= 3
Q1	= 3	Q3	= 6
Q2	= 4	Q4	= 7
R	= 1		

TYPICAL MARKER COMBINATIONS FOR EACH SUPPORT	EQUIV. AREA
2P1 + 2Q1 + 2R	10 sq. ft.
P1 + 2Q1 + 2R	9 sq. ft.
2Q1 + 2P1	8 sq. ft.
Q1 + R	4 sq. ft.
P2 + Q3	9 sq. ft.
P1 + Q1 + R	5 sq. ft.
P2 + Q4	10 sq. ft.

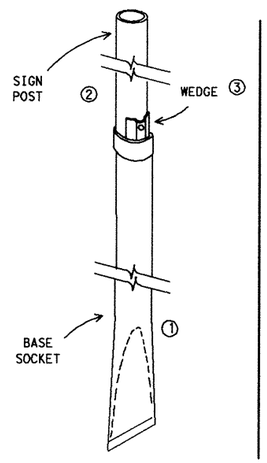
SPLICE TECHNEQUES THIN WALL TUBE

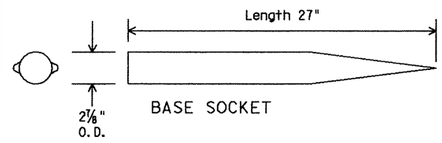


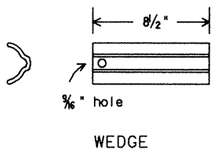


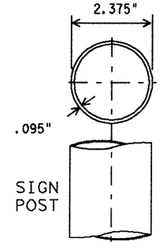
NOTE:
1. 2⅜" OD x .080" wall tubing swaged to 2⅛" OD.
2. Splices will only be allowed behind the sign substrate.

TYPICAL ASSEMBLY









GENERAL NOTES FOR WEDGE ANCHOR THIN WALL TUBE SIGN SUPPORT:

1. The BASE SOCKET is formed from 2⅞" O.D. x 12 gauge galvanized pipe.
2. The WEDGE is formed from 11 gauge steel galvanized per ASTM A525.
3. The SIGN POST is 2.375" O.D. x .095" thin wall steel tubing.
4. Steel Supports shall be made from new material and shall be corrosion resistant. Steel supports shall be galvanized in accordance with ASTM Designations A123 or A525 (G-90 or better).
5. Supports shall be straight within ¼ inch per 5 feet of length and shall have a smooth, uniform finish free from defects affecting strength or appearance. Any bolt holes and sheared ends shall be free from burrs. Bases of multisection supports shall not extend more than 5 inches above ground when installed.
6. Bolts, nuts, screws, washers and other miscellaneous hardware shall be galvanized in accordance to ASTM Designation: A153 Class C or D, or B695 Class 50.

RECOMMENDED ASSEMBLY PROCEDURE

① Drive the BASE SOCKET into the ground until the top of BASE SOCKET is approximately flush with ground level. A flanged tool placed on top of the BASE SOCKET may be helpful. BASE SOCKET MUST be driven plumb.
② Insert SIGN POST into BASE SOCKET and align the sign face with the roadway.
③ Drive the WEDGE between the BASE SOCKET and SIGN POST, thereby locking the SIGN POST inside the BASE SOCKET.

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DN: DATE:
CK: ACC:
DW: FILE:
CK:

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS

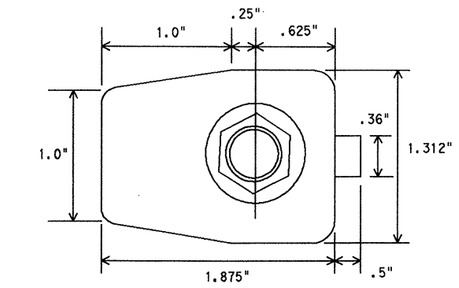
SMD(1-5)-98

© TxDOT August 1995	DN: - LR	CK: - JDN	DW: - FDN	CK: - DTN

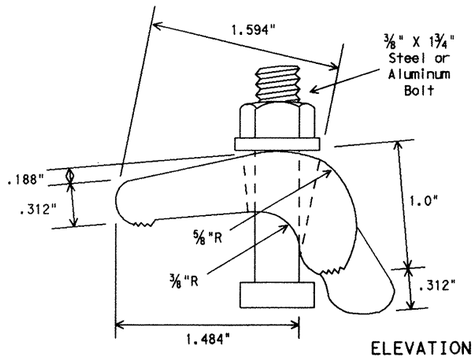
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
1-97 12-98 1-99	18	6	NH 99 (367)	454

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

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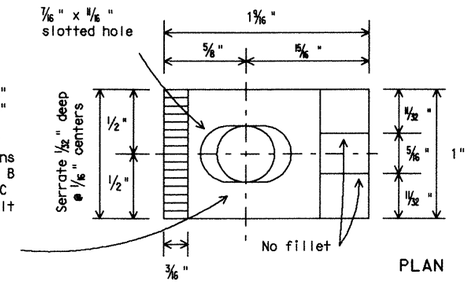
PLAN



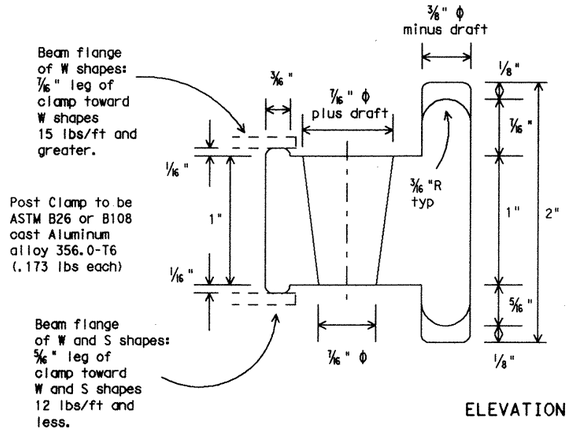
ELEVATION

ALTERNATE POST CLAMP DETAIL

NOTE: centerline of hole for 3/8" diameter squarehead bolt x 2 1/4" long with a flat washer and self-locking nut, or lock washer and hex. nut. Bolt head dimensions shall be in accordance with ANSI B 18.2.1 as referred to in the AISC Manual of steel construction. Bolt assembly shall be galvanized.

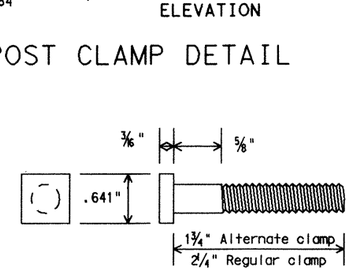


PLAN



ELEVATION

POST CLAMP DETAIL



POST CLAMP BOLT DETAIL

WIND BEAM TABLES

For sign widths not in whole foot increments, select next larger sign width from tables for maximum wind beam spacing.

Example: Sign Code = 120, Sign Width = 14'6" ⟶ select 15' Sign Width
Max. Wind Beam Spacing = 3'0"

CODE

SIGN TYPE 1 3 0
- 1 — Wind Design Zone
- 3 — Series No. (Zero Denotes Plywood; 1 Denotes Aluminmum)
- 0 — No. of Posts

ZONE 1 (Types 100)

	Two Posts (120)							Three Posts (130)									
Sign Width (W)	4' thru 12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'	23'	24'	25'	26'	27'	28'
Max. Wind Beam Spacing	4'-0"	3'-8"	3'-4"	3'-0"	2'-8"	2'-4"	2'-0"	4'-0"		3'-9"	3'-6"	3'-3"	3'-0"	2'-9"	2'-6"	2'-3"	2'-0"

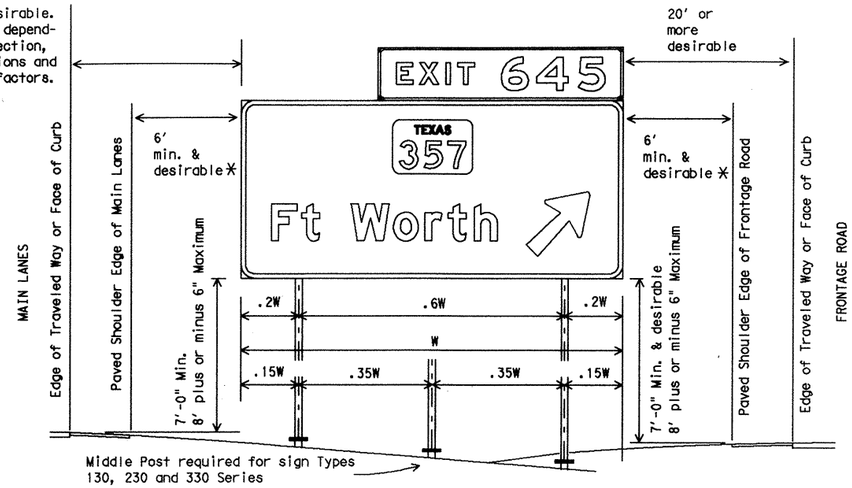
ZONE 2 (Types 200)

	Two Posts (220)			Three Posts (230)			
Sign Width (W)	4' thru 16'	17'	18'	19' thru 24'	25'	26'	27'	28'
Max. Wind Beam Spacing	4'-0"	3'-9"	3'-6"	4'-0"	3'-9"	3'-6"	3'-3"	3'-0"

ZONE 3 (Types 300)

	Two Posts (320)	Three Posts (330)
Sign Width (W)	4' thru 18'	19' thru 28'
Max. Wind Beam Spacing	4'-0"	4'-0"

30' or more desirable. May be reduced depending on cross section, viewing conditions and other related factors.



TYPICAL SIGN INSTALLATION AND LOCATION

LATERAL CLEARANCE NOTES:

Lateral clearances of signs mounted on median side of main lanes are the same as shown above where space will permit.

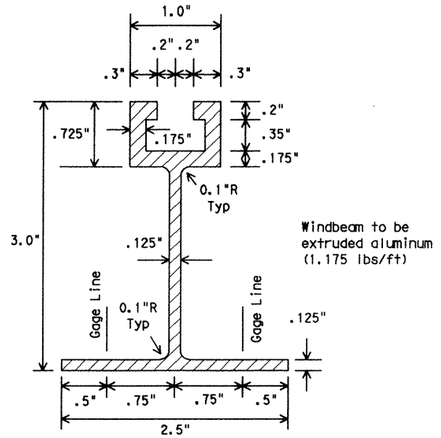
Where a sign is to be located behind guardrail, an allowable minimum clearance of two feet may be used, measured from the face of the guardrail to the near edge of sign.

* - 6' minimum and desirable may be used only in areas of limited lateral clearance and when approved by the Engineer.

POST SPACING NOTES:

Post spacing on a two post sign may vary a maximum of plus or minus 10% of total sign width to fit field conditions.

Post spacing on a three post sign may vary a maximum of plus 5% of total sign width to fit field conditions.



WINDBEAM CROSS SECTION

SIGN SUPPORTS SHALL NOT BE SPLICED EXCEPT AS SHOWN ELSEWHERE ON SMD STANDARDS

SPECIFICATION REFERENCE TABLE
MATERIALS AND TESTS DIVISION SPECIFICATIONS
SIGN HARDWARE D-9-7120

GENERAL NOTES:

1. Design conforms with AASHTO Specifications for the design and construction of structural supports for highway signs.
2. Materials and fabrication shall conform to the requirements of the Department material specifications.
3. Structural steel shall be high strength steel (HS) in accordance with the Item 442, "Metal For Structures."
4. Parts shall be saw cut either before galvanizing and the galvanized cut cleaned of zinc build-up, or saw cut after galvanizing and the cut surface treated with zinc-based solder or zinc-rich paint in accordance with ASTM A780. (Cut surface will not be treated until plate is installed and all bolts fully tightened.)
5. Exit number panel shall be mounted to the right hand side of the parent sign for right exits and to the left for left hand exits. The number panel shall be mounted with two uprights so its right edge is even with the right edge of the parent sign or vice-versa for left hand exits.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS- LARGE ROADSIDE SIGNS STRUCTURE

SMD(2-1)-98

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DN: - LR	CK: - MT	DW: - DN	CK: -	MEG NO.:

REVISIONS: 6-96, 1-97, 4-98

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
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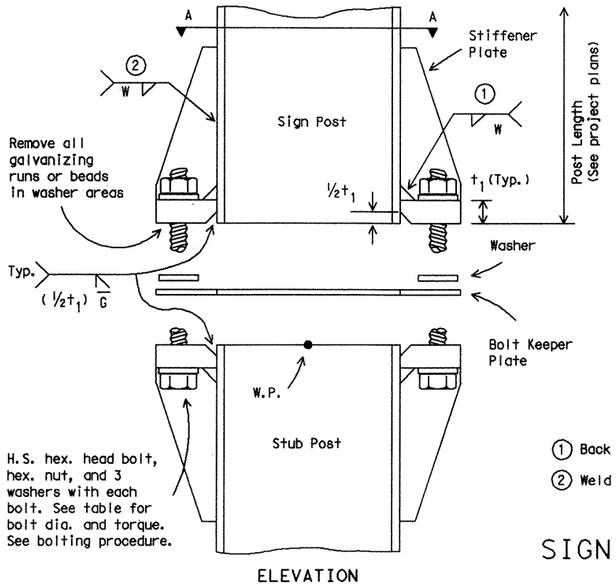
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

27A

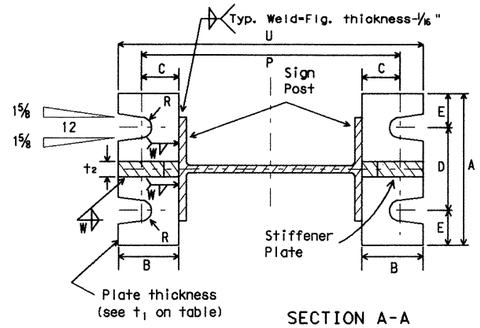
ACC:

LEVELS DISPLAYED

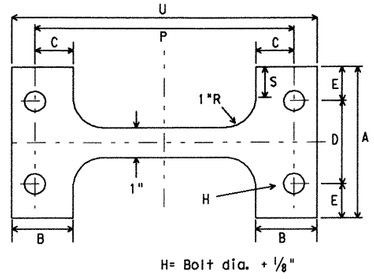
| | | | | | | | | |



ELEVATION



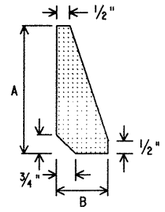
SECTION A-A



H= Bolt dia. + 1/8"

BOLT KEEPER PLATE

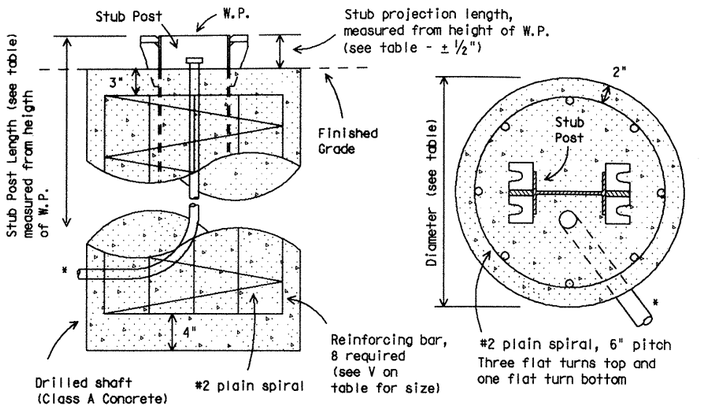
30 Ga galv. sheet steel



STIFFENER PLATE DETAIL

Steel Plate (thickness = t_2)

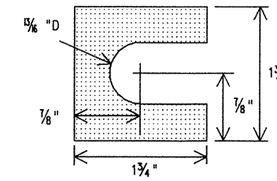
(See table for dimensions)



ELEVATION PLAN

FOUNDATION DETAIL

*Note: For signs with electrical apparatus, see ED(10) for conduit required in founation.



SHIM DETAIL

Furnish two .012"+ thick and two .032"+ thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to ASTM B36.

BOLTING PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

1. Assemble sign post, BOLT KEEPER PLATE and stub post with bolts and three flat washers per bolt as shown.
2. Shim as required to plumb post.
3. Tighten all bolts the maximum possible with a 12 to 15 inch wrench to clean bolt threads and to bed washers and shims.
4. Loosen each bolt in sequence and retighten bolts in a systematic order to the prescribed torque. Do not overtighten.
5. To prevent nut loosening, burr threads of bolt at junction with nut using a center punch.

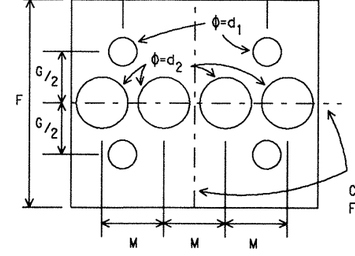
Dimensions / Post Size	Base Connection Data Table: Bolt Size & Torque	A	B	C	D	E	t_1	t_2	W	R
W6x9	5/8"ϕ x 2 3/4" 440-450 inch pounds 36-38 foot pounds	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"
W6x12										
W6x15										
W8x18										
W8x21	3/4"ϕ x 3 1/2" 740-750 inch pounds 62-63 foot pounds	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	13/32"
W10x22										
W10x26										
W12x26										
S3x5.7	1/2"ϕ x 2 1/2" 440-450 inch pounds 36-38 foot pounds	See Detail Below								
S4x7.7										

Perforated Fuse Plate Data Table											
F	G	J	K	M	d_1	d_2	t_3	Bolt Dia.	Wt. (ea.) (lbs.)	Bolt length
4 1/4"	2"	4"	2 1/4"	1"	9/16"	3/4"	1/4"	1/2"	1.01	1 1/2"
5"	2 1/2"	6"	3 1/2"	1 1/2"	11/16"	1 1/4"	3/8"	5/8"	2.51	2 1/4"
5"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	11/16"	1 1/16"	3/8"	5/8"	2.26	2 1/4"
5 1/2"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	13/16"	1"	1/2"	3/4"	3.35	2 1/4"
6"	3"	5 3/4"	2 3/4"	1 3/8"	13/16"	1 1/8"	1/2"	3/4"	4.03	2 1/4"
6"	3"	6 1/2"	3 1/2"	1 5/8"	13/16"	1 5/16"	1/2"	3/4"	4.47	2 1/4"
3 3/4"	1 1/2"	2 5/8"	1 1/2"	5/8"	9/16"	3/8"	1/4"	1/2"	0.60	1 1/2"

Bolt Keeper Data			
P	S	U	
8 3/8"	1"	9 7/8"	
8 1/2"		10"	
8 1/2"		10"	
10 5/8"		12 1/8"	
11"	1 1/2"	12 3/4"	
12 7/8"		14 5/8"	
13 1/8"		14 7/8"	
15"		16 3/4"	
See Detail Below			

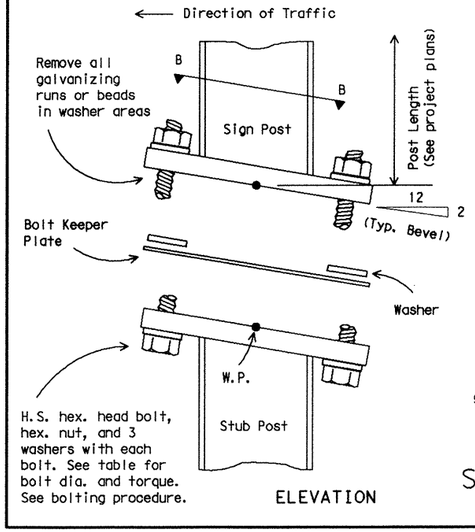
Foundation Data			
Stub length	Stub projection	Dr. Shaft diameter	Bar V Size
2'-0"	3"	24"	#5
2'-0"	3"		#5
2'-6"	3"		#6
2'-6"	3"		#7
3'-0"	2 1/2"		#8
3'-0"	2 1/2"		#9
3'-0"	2 1/2"		#10
3'-0"	2 1/2"		#11
3'-3 1/2"	3 1/2"	12"	Non-reinforced ③

③ Foundation design shall be Type G Mount, see SMD (TY G).

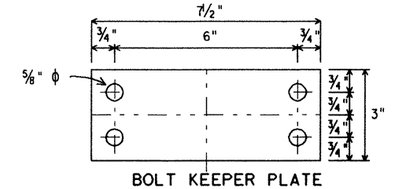


PERFORTED FUSE PLATE DETAIL

Use H.S. hex head bolts, hex head nut and bevel or flat washer (where req'd) under nut. All holes shall be drilled. All plate cuts shall preferably be saw cuts. However; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be permitted. Steel fuse plates shall conform to the requirements of ASTM A36. ASTM A572 Grade 50 or ASTM A588 may be substituted for A36 at the option of the fabricator. Mill test reports shall be submitted for Fuse Plates. Steel used shall have an ultimate tensile strength not to exceed 80 KSI.

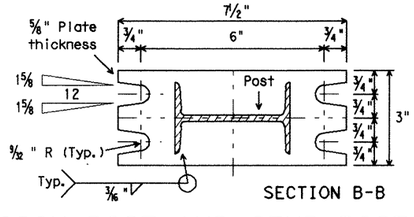


ELEVATION



BOLT KEEPER PLATE

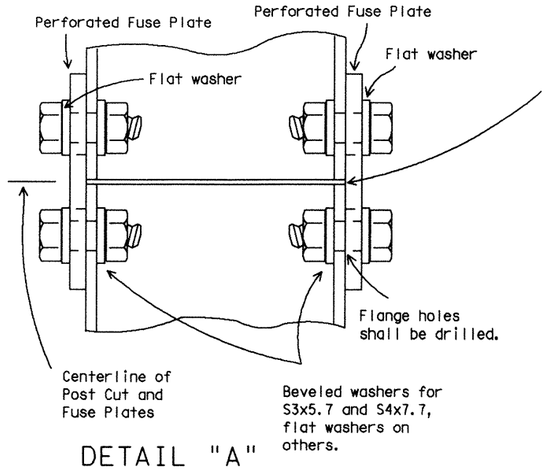
30 Ga galv. sheet steel



SECTION B-B

SIGN POST AND STUB POST

(For S4x7.7 and S3x5.7)



DETAIL "A"

Parts shall be saw cut either before galvanizing and the galvanized cut cleaned of zinc build-up, or saw cut after galvanizing and the cut surface treated with zinc-based solder or zinc-rich paint in accordance with ASTM A780. (Cut surface will not be treated until plate is installed and all bolts fully tightened.)

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS- LARGE ROADSIDE SIGNS FOUNDATION & STUB

SMD (2-2)-98

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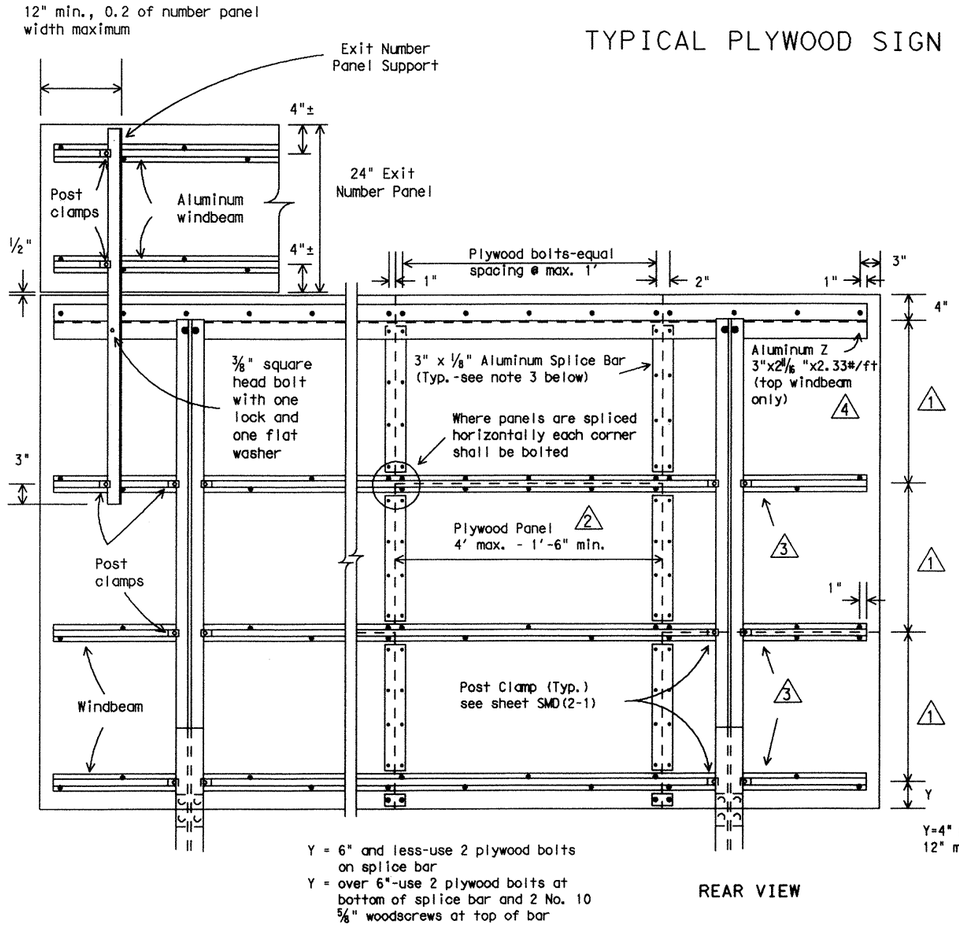
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
4-98	18	6	NH99 (367)	456

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

27B

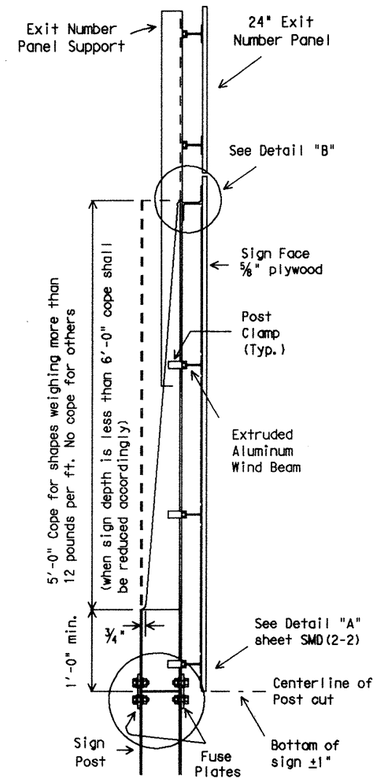
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TYPICAL PLYWOOD SIGN & EXIT PANEL ASSEMBLY DETAILS

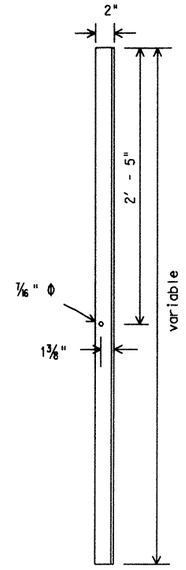


Y = 6" and less-use 2 plywood bolts on splice bar
Y = over 6"-use 2 plywood bolts at bottom of splice bar and 2 No. 10 ⅝" woodscrews at top of bar

REAR VIEW

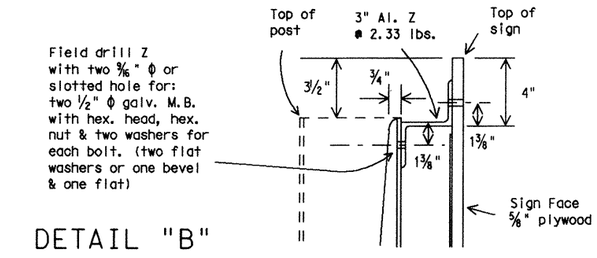


SIDE VIEW

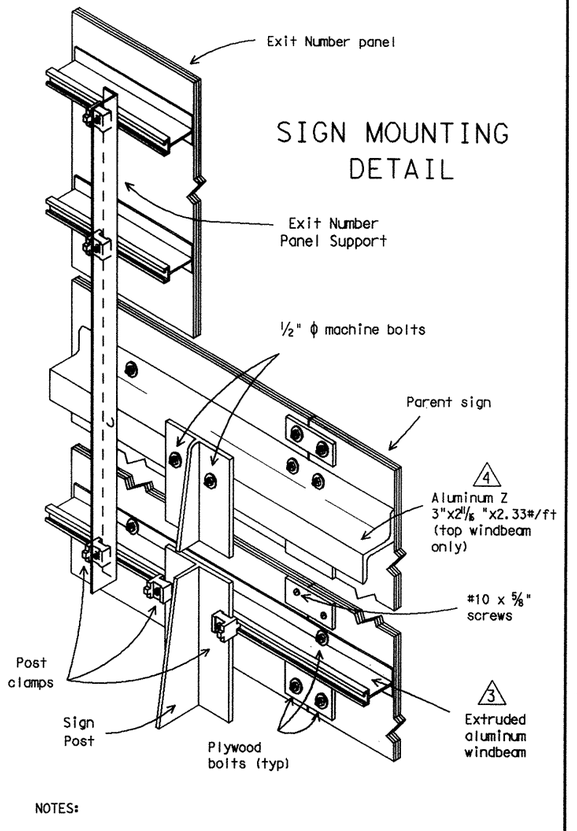


L3" x 2" x ¼" Steel Upright or
L3" x 2" x ⅜" Aluminum Upright or
3" Windbeam

EXIT NUMBER PANEL SUPPORT



DETAIL "B"



NOTES:

1. A tolerance of plus or minus ¼inch will be permitted in the plan dimensions for fabrication of each single increment sign panel when necessary for squaring. A tolerance of plus or minus ¼inch will be permitted for each increment of a multi-increment sign panel where necessary to secure square, tight-fitting joints.
2. Plywood bolts shall be ⅝" x 1½" elevator type steel with flat or slightly hemispherical head and ¾" minimum thread length. The head shall have a minimum diameter of 1⅛" and a minimum of two fins on the underside. Each bolt shall be provided with one ⅝" steel hex nut, one ⅝" steel flat washer, and one ⅝" steel lock washer. Bolts, nuts and washers shall be galvanized in accordance with ASTM Designation: B695, Class 50, or A153 Class C or D.
3. Splice bars shall be secured with ⅝" long x #10 round head, stainless steel wood screws spaced at 6" maximum along double row spacing with the exception at extreme ends of splice bars, along outside edge of sign, where plywood bolts shall be used as shown. A maximum of one horizontal joint per vertical section will be permitted using a ⅛" gap between panels.
4. Splices shall be kept to a minimum. Panels 4'x8' or larger shall be used to the maximum extent possible in the fabrication of any sign. Signs or sign sections which cannot be fabricated from at least a 4'x8' panel shall be of one piece construction.

1. Approximately equal spacing, fabricator may vary spacing for least interference with message and to utilize wind beam for horizontal splice. Wind beam spacing will not exceed the maximum shown in table on sheet SMD(2-1). Staggered arrangement of horizontal splices as shown is preferred. However, a single horizontal joint across the sign face is permissible.
2. For signs 4'-0" or less in height the plywood panel may exceed 4'-0" in width.
3. Extruded aluminum wind beams shall be continuous with no splices. (see sheet SMD(2-1).
4. Aluminum Z will be provided unless stated otherwise in the plans. If noted elsewhere in the plans, 1.175 lb/ft extruded aluminum windbeam may be used.

NOTES:

1. Exit number panel shall be mounted to the right hand side of the parent sign for right exits and to the left for left hand exits. The number panel shall be mounted with two uprights so its right edge is even with the right edge of the parent sign or vice-versa for left hand exits.
2. Exit number panel support shall be symmetrical about number panel centerline.
3. Exit number panel support shall be of ASTM A36 structural steel galvanized after fabrication, or ASTM B221 aluminum alloy 6061-T6.
4. All bolts, nuts and washers shall be galvanized per ASTM Designation: B695 Class 50, or A153 Class C or D.
5. When splice bars are required to fabricate the number panel, the splice bar detail as shown for the parent sign is to be used. Splice bars on number panel need not align with those on parent sign.
6. Posts, parent sign panels and exit number panels shall comply with notes on sheets SMD(2-1) and SMD(2-2).
7. Signs (such as exit number panels) attached above a parent sign shall be made of the same type material as the parent sign.
8. Exit number panel support and other connection hardware required to fasten exit number panel to parent sign shall be subsidiary to the sign blank.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS-LARGE ROADSIDE SIGNS, PLYWOOD

SMD(2-3)-95

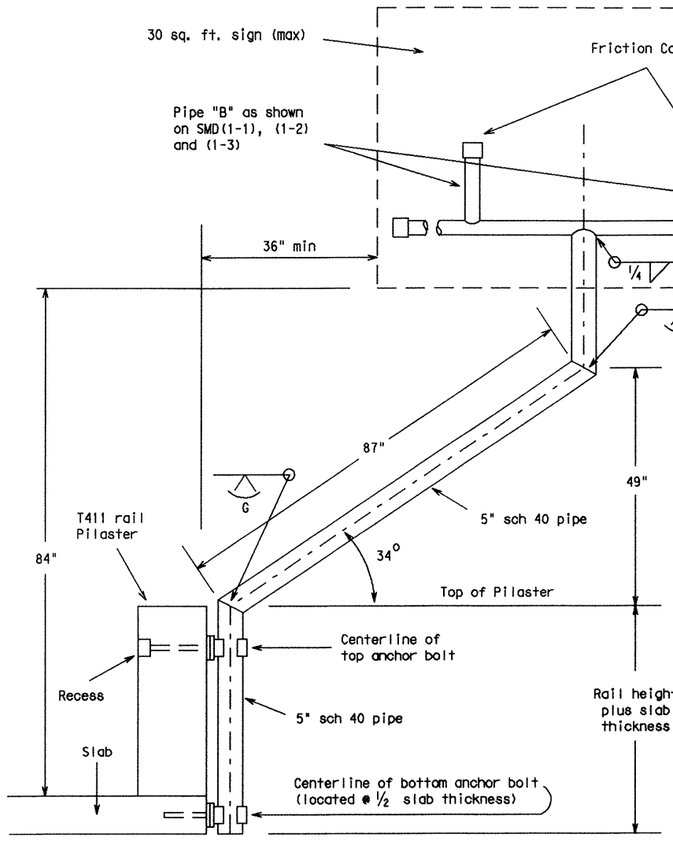
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REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
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COUNTY			CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL			0009	04	039	SH 66

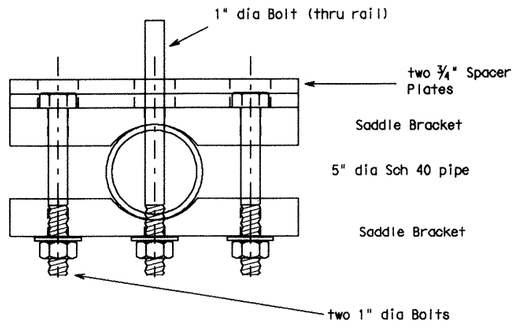
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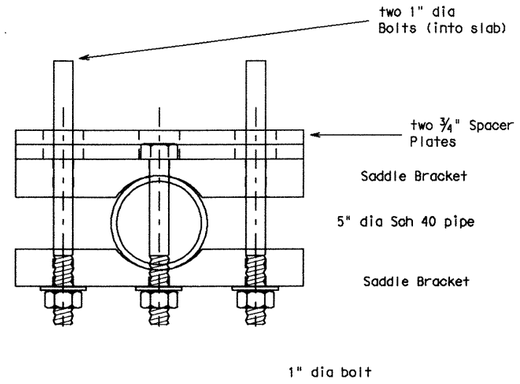
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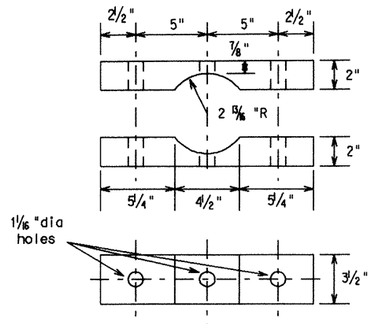
MOUNTING DETAIL



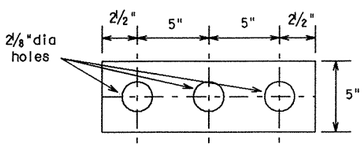
TOP ANCHOR ASSEMBLY



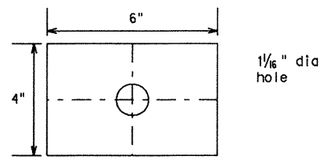
BOTTOM ANCHOR ASSEMBLY



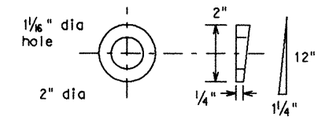
SADDLE CLAMP DETAILS



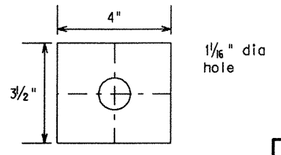
¾" SPACER PLATE



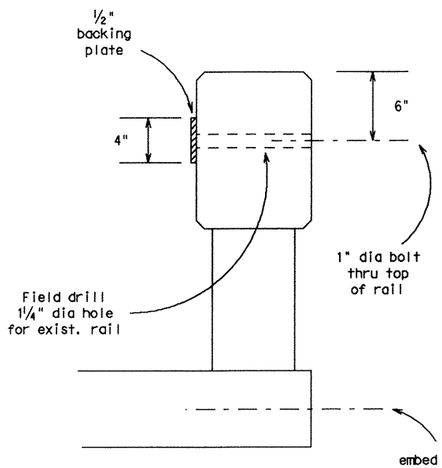
BACKING PLATE DETAIL
(For T2 &T5 Rail)



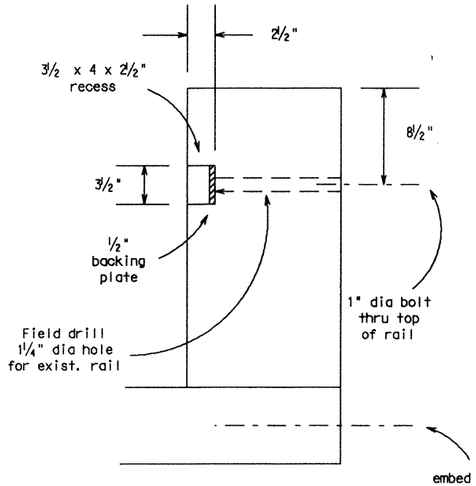
TAPERED SPACER
(For T5 Rail)



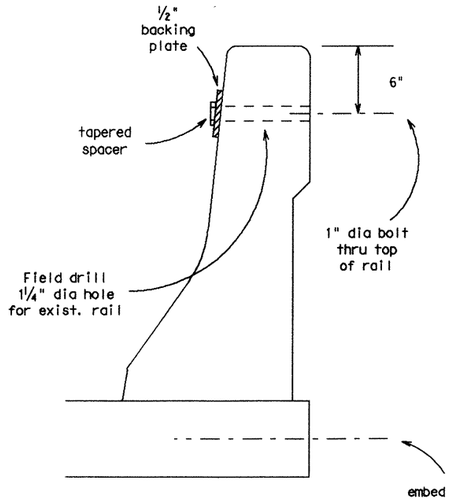
BACKING PLATE DETAIL
(For T411 Rail)



T2 RAIL



T411 RAIL



T5 RAIL

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Sukpports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 70 mph plus 1.3 gust factor.

Material for pipe shall be ASTM A53 Gr B, or A501. Saddle clamps and base plates shall conform to Special Specification A36M55 or ASTM M193B7 or A687. Nuts for anchor bolt shall comform to ASTM A563 Grade D or better. Bolt, nut and washers shall be galvanized in accordance with specifications.

Bottom anchor bolts for pipe attached to the concrete slab shall be placed using an adhesive doweling system approved by the engineer. Bottom anchor bolts shall have an allowable capacity of 36 kips in tension and 20 kips in shear. Installation of the bottom anchor bolts, including hole depth and diameter, shall be in accordance with the manufacturers' recommendation. If required by the engineer, 3 of the first 10 anchor bolts, and 5% of the remaining anchor bolts shall be tested to 70% of minimum specified yield. The contractor shall provide a suitable ram, pump, pressure gauge and reaction system.

Saddle clamp connection bolts shall comform to ASTM A325 or A449. Bolts, washers and nuts shall be galvanized in accordance with specifications.

Contractor shall verify applicable field dimensions before fabrication.

Core drilling shall be permitted to obtain the hole diameter and recess on existing rails. Percission drilling is not permitted. Patch if spall occors.

For Type 411 Rail, the roadside sign can only be erected by attaching to the pilaster.

NOTE:
Sign panel area is a maximum of 30 square feet. Pipe mounting supports for the sign panel shall refer to SMD(1-1), (1-2) and (1-3). The diameter of "B" support as shown on these standards shall be 2½ inches.

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DN: CK: DW: CK:
DATE: ACC: FILE:

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

SIGN MOUNTING DETAILS-RAIL MOUNTINGS

SMD (RM) -98

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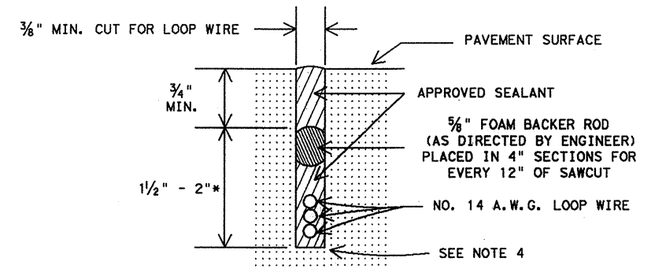
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REVISIONS

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
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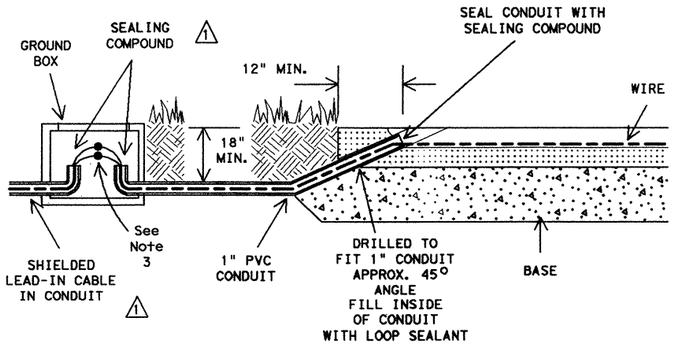
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

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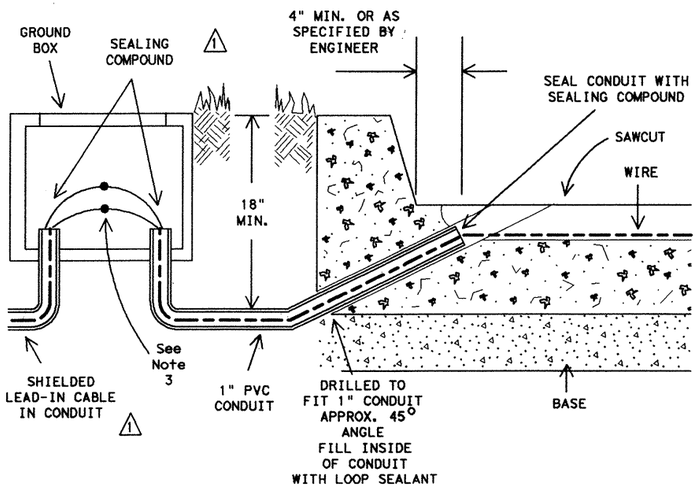


LOOP SAW CUT CROSS-SECTION

* SAWCUTS IN BRIDGE DECKS ARE TYPICALLY 1" DEPTH MAXIMUM
SAWCUTS IN BRIDGE DECKS AND ACROSS EXPANSION JOINTS
SHALL BE AS APPROVED BY ENGINEER

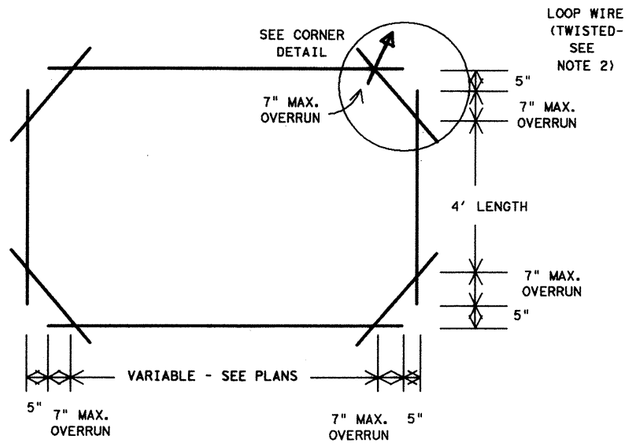


TYPICAL LEAD IN CONFIGURATION (WITHOUT CURBING)

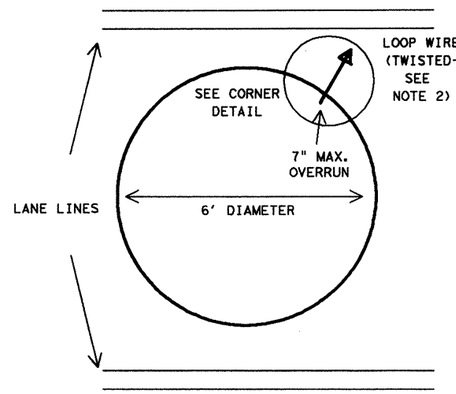


TYPICAL LEAD IN CONFIGURATION (WITH CURBING)

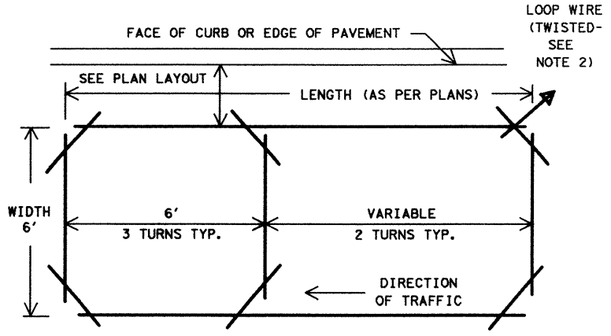
TYPICAL LOOP LAYOUTS



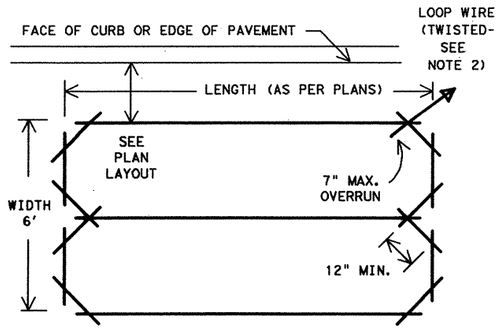
RECTANGULAR LOOP DETECTOR



CIRCULAR LOOP DETECTOR
(AS SPECIFIED IN PLANS)



POWER HEADER LOOP DETECTOR
(AS SPECIFIED IN PLANS)



QUADRAPOLE LOOP DETECTOR
(AS SPECIFIED IN PLANS)

GENERAL NOTES:

1. The pavement cut is to be made with a concrete saw to neat lines and loose material removed. The cut shall be clean and dry when the wire and sealing compound is placed.
2. Loop wire shall be 14 AWG Stranded Type XHHW. Wire from the loop to the ground box shall be twisted a minimum of 5 turns per foot. No splices shall be permitted in the loop or in the run to the ground box.
3. The home run cable from the pull box to the controller shall be IMSA 50-2 shielded cable and shall be soldered to the loop wire. The solder joints shall be sealed with Scotchcast or other method acceptable to the Engineer. The shield shall be grounded only at the controller end. Loop home run cable shall be two conductor 14 AWG shielded, Type XHHW.
4. All wire placed in the saw cut shall be sealed by fully encapsulating it in a sealant acceptable to the Engineer. Sealing compound shall be in accordance with special specification Item 6003.
5. The loop location, configuration and number of turns shall be as indicated on the plans or as directed by the Engineer.

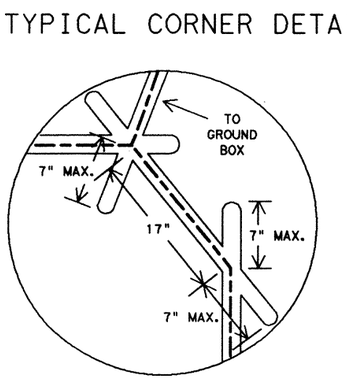
Reconnended Number of Turns for Loop Detectors

LOOP PERIMETER SIZE (FT.)	NUMBER OF TURNS	APPROXIMATE LOOP SIZES INCLUDED
24' or Less	3 or 4	5' x 5', 6' x 6'
25' - 110'	2 or 3	6' x 10', 6' x 45'
110' or More	1 or 2	6' x 50' or Longer

6. A separate saw cut shall be made from each loop to the edge of pavement or as specified by the Engineer.
7. Splices between the loop lead-in cable and loop detector shall be made only in the ground box near the loop it is serving.
8. Circular loops may use prewound loops encased in continuous pvc tubing. Sawcut width may be adjusted to accommodate tubing.
9. The lead-in wire in the circular loop shall be coiled at the 3 inch drilled corner to reduce bending stress.
10. Loop duct may be used as specified by Engineer.

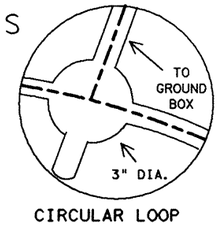
For additionnal information refer to "Texas Traffic Signal Detector" manual, TTI Report 1163-1.

TYPICAL CORNER DETAILS

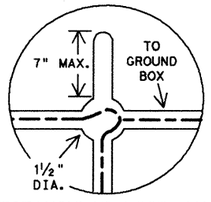


RECTANGULAR LOOP
SAWCUT CORNER DETAIL

7" OVERRUN BASED ON 24" DIAMETER SAW BLADE

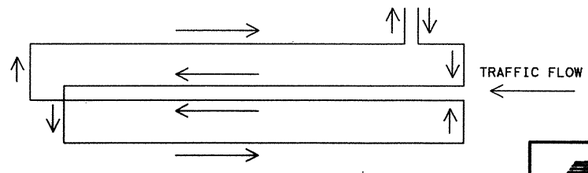


CIRCULAR LOOP
DRILLED CORNER DETAIL

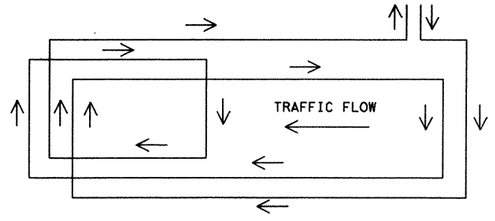


RECTANGULAR LOOP (ALT.)
DRILLED CORNER DETAIL

LOOP WINDING DETAILS



QUADRAPOLE LOOP



POWER HEADER LOOP

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

LOOP DETECTOR INSTALLATION DETAILS

LD1-98

© TxDOT December 1998	DN: CR	CK: -	DW: FDN	CK: DTN
REVISIONS 2-99	STATE DISTRICT 18	FEDERAL REGION 6	FEDERAL AID PROJECT NH 99 (367)	SHEET 459
COUNTY ROCKWALL	CONTROL 0009	SECTION 04	JOB 039	HIGHWAY SH 66

ACC: ---------- ---------- ----------

LEVELS DISPLAYED																
1	2	3	4	5	6	7	8	9	10	11	12	31	41	51	61	62
7	18	19	20	21	22	23	24	25	26	27	28	29	30	53	152	
33	34	35	56	57	58	59	94	104	243	244	245	246	247	248		
49	50	51	62	63	64	65	354	659	667	668	669	670	1626	3		

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LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
ACC:
FILE:
DN:
CK:
DW:
CK:

I. GENERAL REQUIREMENTS FOR ALL ELECTRICAL WORK

The location of all conductors, conduits, junction boxes, ground boxes, electrical services and transformer stations is diagrammatic only and may be shifted by the Engineer to accommodate local conditions.

Materials shall be new and unused, and materials and installation shall comply with the applicable provisions of the National Electrical Code (NEC) and National Electrical Manufacturers Association (NEMA) standards and be Underwriters Laboratories (UL) Listed. Faulty fabrication or poor workmanship in any material, equipment or installation shall be justification for rejection.

SUBMITTALS:

The contractor shall submit for approval no less than five (5) copies of catalog cut sheets on electrical services, ground boxes, including loading capicity certification, breakaway disconnects, heat shrink tubing and heat shrink filler tape, photocells, and, when required, verification of available fault current. Submittals shall be legible and shall be marked to indicate which product on a cut-sheet is to be supplied. Where manufacturers provide warranties and guarantees as a customary trade practice, Contractor shall furnish to the State such warranties or guarantees.

Grounding shall be as shown on the plans and in accordance with the NEC. Metallic conduit, lighting poles and luminaires on bridge structures shall be bonded to the system grounding conductor and to a ground rod in each ground box or junction box at the bridge ends, and in each ground box installed for underpass lighting. The grounding conductor shall be bare or, if insulated, shall be green. Ground rods, connectors, and bonding jumpers will not be paid for separately, but will be subsidiary to the various bid items.

II. CONDUIT

A. MATERIALS

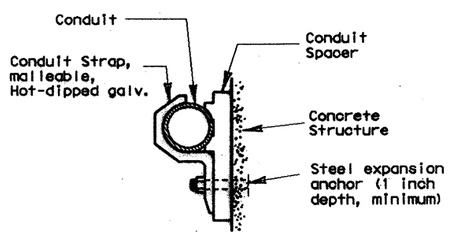
1. Conduit and fittings shall be UL Listed for the intended use shown on plan sheets.
2. Neither aluminum conduit, electrical metallic tubing (EMT), nor intermediate metal conduit (IMC) shall be permitted as a substitute for rigid metal conduit (RMC).
3. All exposed conduits shall be (RMC), unless otherwise specifically shown on the plans.
4. Fittings for RMC shall be steel or malleable iron, threaded, or threadless compression type, rain-tight, and shall be UL Listed for the intended use.
5. Expansion joints for metallic conduit shall be Appleton UNYL 50 Series, OZ/Gedney AX Series, or equal.
6. Junction box minimum sizes shall be in accordance with the following table which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes is present, the conductors shall be counted as if all are of the larger size. Situations not applicable to the table shall be sized in accordance with NEC 370-28.

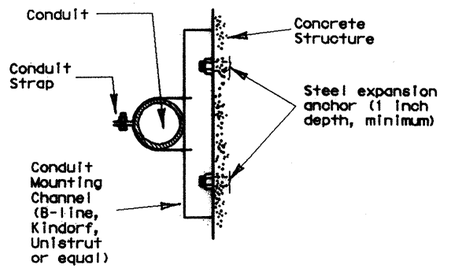
AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

7. RMC system junction boxes surface mounted and containing conductors #8 or larger, shall be hot dipped galvanized cast iron, or aluminum, minimum wall thickness shall be $\frac{3}{16}$ inch, and shall have mounting lugs, (Crouse Type WAB, OZ/Gedney Type YS, Adalet Type 3R, or approved equal).
8. Junction boxes containing only #10 and #12 AWG conductors shall be Crouse Hinds Type GRFX, Appleton Type JBOX, two-gang FD, or similar approved cast iron. Boxes shall be sized according to NEC Table 370-16(a).
9. Junction boxes in EMT conduit systems shall be made from galvanized sheeting and shall be UL Listed as approved for outdoor use, unless otherwise noted on the plans. Sheet metal junction boxes shall be sized in accordance with the NEC.
10. Junction boxes in PVC conduit systems shall be PVC, UL Listed for outdoor use, unless otherwise noted on the plans.
11. Elbows in PVC conduit systems one inch and larger shall be rigid metal. Rigid metal elbows buried less than 18 inches underground shall be grounded. Elbows installed at ground boxes and foundations shall be extended with rigid metal conduit to the inside of the ground box or the top of the foundation. At that point a grounding bushing shall be installed.

B. CONSTRUCTION METHODS

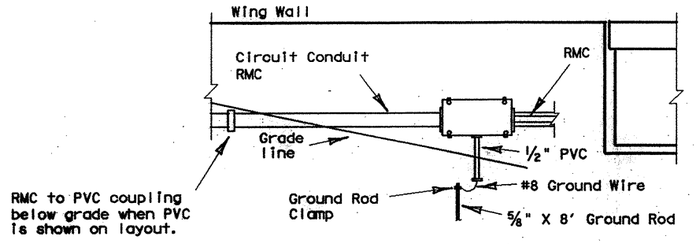
1. Conduit in structures shall have expansion fittings at structure expansion joints.
2. Conduit supports shall be spaced at maximum intervals of 5 feet. Conduit spacers shall be used with metal conduit placed on surfaces of concrete structures (See conduit mounting options).
3. Conduit supports shall not be attached directly to prestressed concrete beams except as shown specifically in the plans and approved by the Engineer.
4. Unless otherwise shown on the plans, conduit placed beneath existing roadways, driveways, or sidewalks, or after the base or surfacing operation has begun, shall be accomplished by jacking or boring. The Contractor shall back fill and compact the bore pits to the bottom of the conduit prior to installing connecting conduit or duct cable to prevent bending of the connection.
5. Conduit trenched in the subgrade of new roadways shall be back filled with excavated material, unless otherwise noted on the plans. Conduit trenched in the sub-base of new roadways shall be back filled with cement-stabilized base.
6. Open ends of all conduit and raceways shall be fitted with temporary caps or plugs to prevent entry of dirt, debris and rodents during construction. The temporary cap may be constructed of duct tape, but in all cases shall be tightly fixed to the conduit and shall be durable. The contractor shall clean out the conduit and prove it clear in accordance with Standard Specifications Item 618.3 prior to installing any conductors.
7. Conduit entry into the top of junction boxes and enclosures shall be made weathertight using threaded hubs.
8. A bonding jumper shall be installed from each grounding bushing to the nearest grounding rod, grounding lug, and/or system grounding conductor. At electrical services, grounding electrode conductor shall be #6 AWG. All other jumpers shall be the same size as supply conductors. Conduit used as casing under roadways for duct cable need not be grounded if duct extends full length through the casing.
9. Metal junction boxes shall be bonded to the grounding conductor in accordance with the NEC.
10. Conduits entering ground boxes shall be placed so that the conduit ends shall be not less that 5 inches nor more than 9 inches from the box cover (See ground box detail on sheet ED(2)).
11. Conduit ends shall be sealed with heat shrink boots with sealant, silicone caulking, urethane foam, or by other methods approved by the Engineer. Sealing shall be done after completion of any required pull tests. Duct tape shall not be used as a permanent conduit sealant.





CONDUIT MOUNTING OPTIONS

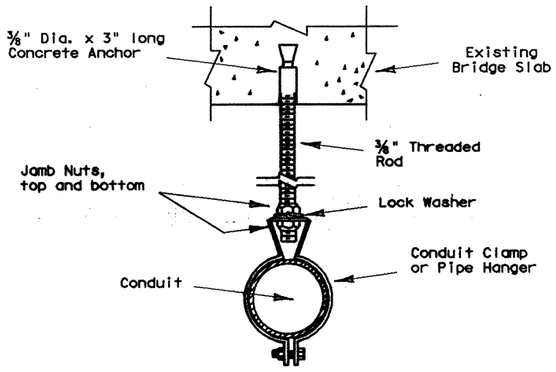
(Attachment to concrete surfaces)
(See para. II.B.2)



NOTES

1. Conduit shall be 2" RMC for duct cable entry to junction box.
2. Ground rod clamp to be Blackburn GG 5/8H, Weaver W5/8 or equal.
3. Surface mounting shown, for conduit to be placed in structure use flush-mounted box.
4. Bond junction box to grounding conductor.

TYPICAL CONDUIT ENTRY TO BRIDGE STRUCTURE DETAIL



CONDUIT HANGER DETAIL

(Attachment to horizontal surfaces)
(See para. II.B.2)

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS-CONDUIT

ED(1)-98

© TxDOT January 1992	DN: KB	CK: JM	DW: DN	CK: KB	MSG NO.:
REVISIONS 5-93 10-93 4-98	STATE DISTRICT 18	FEDERAL REGION 6	FEDERAL AID PROJECT NH 99 (367)		SHEET 460
	COUNTY ROCKWALL		CONTROL 0009	SECTION 04	JOB 039	HIGHWAY SH 66

71A

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I. GENERAL REQUIREMENTS FOR ALL ELECTRICAL WORK

The location of all conductors, conduits, junction boxes, ground boxes, and electrical services is diagrammatic only and may be shifted by the Engineer to accommodate local conditions.

Materials shall be new and unused. Materials and installation shall comply with the applicable provisions of the National Electrical Code (NEC), National Electrical Manufacturers Association (NEMA) standards, and shall be Underwriters Laboratories (UL) Listed unless otherwise shown on the plans or specifications or approved by the Engineer in writing. Faulty fabrication or poor workmanship in any material, equipment, or installation shall be justification for rejection. When reference is made to UL, it can be considered to mean a Nationally Recognized Independent Testing Lab (NRTL). Comparable standards of Canadian Standard Association, Electrical Testing Laboratories or Factory Mutual can be equal to the referenced UL standard. Where reference is made to NEMA listed devices, IEC listed devices shall not be considered to be an acceptable equal to a NEMA listed device. Acceptable devices may have both a NEMA and IEC listing.

Unless high strength bolts are are specified stainless steel hardware and miscellaneous nuts and bolts may be provided when galvanized is specified by the plans provided that bolts are 1/2 inch or less in diameter. The Contractor shall provide the following electrical test instruments as required by the Engineer to confirm compliance with the contract and the NEC. Those test instruments are voltmeter, amp probe, megger (1000 volt DC) and torque wrenches. All meters shall have been properly calibrated within one year. Calibration certification shall be provided to the Engineer upon request. Calibration certification tag shall also be applied to the meter. The Contractor shall operate meters during inspection as requested by the Engineer. Grounding shall be as shown on the plans and in accordance with the NEC. Metallic conduit, light poles, luminaires on bridge structures, and all metal enclosures shall be bonded to the system-grounding conductor. The ground rod in each ground box or junction box at the bridge ends, and in each ground box installed for underpass lighting will also be bonded to the system grounding conductor. The grounding conductor shall be bare or, if insulated, shall be green. Ground rods, connectors, and bonding jumpers will not be paid for separately, but will be subsidiary to the various bid items.

SUBMITTALS:

The contractor will submit for approval six (6) copies of catalog cut sheets for each of the following three (3) categories.
Category 1. Electrical services including photocell.
Catagory 2. Breakaway disconnects, heat shrink tubing, heat shrink filler tape and ground boxes which will include loading capacity certification.
Category 3. Highmast assembly kits, when applicable. See Item 614 "Texas Standard Specifications". Submittals shall be legible and shall be marked to indicate which product on a cut sheet is to be supplied. Where manufacturers provide warranties and guarantees as a customary trade practice, the Contractor shall furnish to the State such warranties and guarantees.
Any deviation from plans or specifications, including deviations due to plan error should be prominently displayed on the submittal. Any changes not prominently noted in submittal and incorporated into the work without proper authorization will constitute grounds for rejection of that portion of the work.

II. CONDUIT

A. MATERIALS

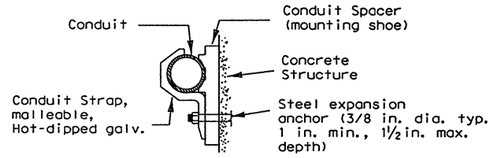
1. Conduit and fittings shall be UL Listed for the intended use shown on plan sheets.
2. Conduit shall be the type shown by descriptive code or shown elsewhere on the plans. Substitution of the various types of conduits will not be permitted. All flexible conduit in rigid metallic conduit systems shall be Liquidtight Flexible Metal (LFMC) conduit. All flexible conduit in PVC systems shall be Liquidtight Flexible Non-metallic conduit. Neither aluminum conduit, electrical metallic tubing (EMT), nor intermediate metal conduit (IMC) shall be permitted.
3. All exposed conduits shall be RMC, unless otherwise specifically shown on the plans. All metal conduit shall be properly grounded.
4. Couplings, connectors, conduit bodies, grounding bushings, and offset nipples for RMC shall be electro-zinc plated steel or hot dipped galvanized malleable iron, threaded or threadless compression type, rain-tight and shall be UL listed for the intended use.
5. Expansion joints for metal conduit shall be provided with an internal or external bonding jumper and shall be UL listed.
6. Unless otherwise shown on the plans, junction box minimum sizes shall be in accordance with the following table which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes are present, the conductors shall be counted as if all are of the larger size. Situations not applicable to the table shall be sized in accordance with NEC 370-28.

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

7. RMC system junction boxes equal to or smaller, in any dimension, than 12 x 12 x 6 (HxWxD), surface mounted and containing conductors #8 or larger, shall be hot dipped galvanized cast iron with minimum wall thickness of 3/16 inch, shall have external mounting lugs, and shall be UL listed Crouse-Hinds Type WAB, OZ/Gedney Type YS or approved equal. Unless otherwise shown elsewhere on the plans, RMC system junction boxes larger than the aforementioned boxes but equal to or smaller, in any dimension, than 18 x 18 x 6 (HxWxD) shall be 14-ga. stainless steel; RMC system junction boxes larger than 18 x 18 x 6 (HxWxD) shall be 12-ga. stainless steel. All metal junction boxes shall be equipped with a threaded hole or lug for grounding. Stainless steel boxes 12 x 12 x 6 and larger need not be UL Listed but shall meet the other requirements of the NEC and shall have ribs, stiffeners, or thicker metal and shall have external mounting feet. Junction boxes with an internal volume of more than 100 cu. in. may be supported by connection of two or more rigid metal conduits, where specifically shown on the plans or where approved by the Engineer.
8. Junction boxes containing only #10 or #12 AWG conductors shall be Crouse Hinds Type GRFX, Appleton Type JBOX, two-gang FD, or similar approved cast iron box. Boxes shall be sized according to NEC Table 370-16(a).
9. IMC and EMT conduit shall not be used unless specifically required by the plan layout sheets. Junction boxes in EMT conduit systems shall be made from galvanized sheeting and shall be UL listed and approved for outdoor use, unless otherwise noted on the plans. Sheet metal junction boxes shall be sized in accordance with the NEC. Junction boxes for IMC conduit systems shall meet the requirements of boxes used with RMC systems.
10. Junction boxes in PVC conduit systems shall be PVC, intended for outdoor use, unless otherwise noted on plans.
11. Elbows in PVC conduit systems one inch and larger shall be rigid metal, with the exception of traffic signal systems which may have PVC elbows instead of rigid. If any part of the rigid metal elbow is buried less than 18 inches underground the elbow and rigid metal extension will be grounded. Grounding will be accomplished by means of a grounding bushing installed on the extension. Unless specifically shown on the plans, rigid metal elbows containing, or entering ground boxes containing only communications conductors, loop detectors, or other low voltage power limited circuits need not be grounded unless a ground wire is present in the conduit or ground box. The rigid metal elbows located in concrete foundations may be extended with PVC conduit and need not be grounded provided that the end of the elbow nearest the end of the conduit run exiting the foundation is at least 2 inches below the concrete. RMC elbows will not be eliminated.
12. HDPE conduit shall meet the requirements of Item 622, Duct Cable, except that the HDPE conduit, when bid under Item 618, Conduit, shall not contain factory installed conductors. Fittings for HDPE conduit shall be UL listed as an electrical conduit connector or shall be thermally fused using an electrically heated wound wire resistance welding method. HDPE conduit may be substituted for bored schedule 40 or schedule 80 PVC conduit. When such substitution is made, bored HDPE shall be schedule 40 of the size PVC being replaced. The HDPE conduit shall transition back to PVC (or RMC elbow when required) of the size and schedule shown on the plans at the bore pit. Substituted conduit may not be extended to ground boxes or foundations; RMC elbows shall be installed at ground boxes and foundations. RMC elbows will not be eliminated.
13. All conduit support hardware including straps, nuts, bolts, screws, retaining anchors and washers shall be hot dipped galvanized or stainless steel. Strut type conduit straps shall be stainless steel or hot dipped galvanized. Strut type straps need not be made of malleable type material. Stamped-cadmium plated straps will not be allowed. Straps having only one mounting hole shall not be allowed for use on conduits 2 inches and larger. Two piece conduit straps designed to be used with a mounting shoe shall be installed only with the correctly sized shoe.

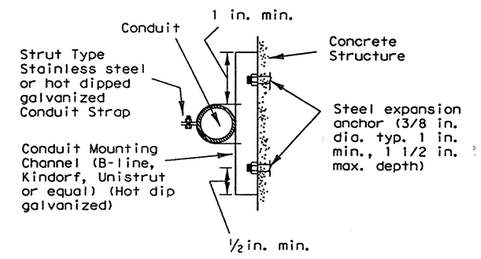
B. CONSTRUCTION METHODS

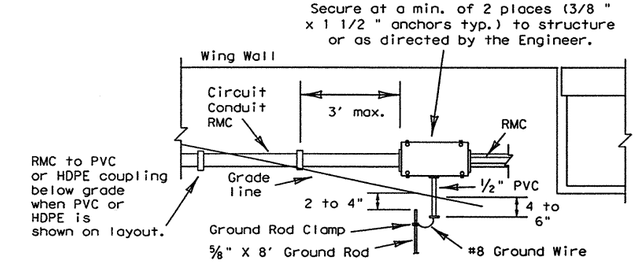
1. Conduit in structures shall have expansion fittings at structure expansion joints. All straight runs of RMC conduit exposed on structures such as bridges shall have expansion joints installed at maximum intervals of 150 feet. Expansion joints shall be installed so they allow for movement of the conduit. Installation of the joint in such a manner that will not allow for movement shall be repaired at no expense to the state. The method of determining the final setting length of the expansion joint shall be provided to the Engineer upon request.
2. Conduit supports shall be spaced at maximum intervals of 5 feet. Conduit spacers shall be used with metal conduit placed on surfaces of concrete structures (See conduit mounting options).
3. Conduit supports shall not be attached directly to prestressed concrete beams except as shown specifically in the plans and approved by the Engineer.
4. Unless otherwise shown on the plans, conduit placed beneath existing roadways, driveways, or sidewalks, or after the base or surfacing operation has begun, shall be accomplished by jacking or boring. The Contractor shall back fill and compact the bore pits to the bottom of the conduit prior to installing connecting conduit or duct cable to prevent bending of the connection.
5. Conduit trenched in the subgrade of new roadways shall be back filled with excavated material, unless otherwise noted on the plans. Conduit trenched in the sub-base of new roadways shall be back filled with cement-stabilized base.
6. Open ends of all conduit and raceways shall be fitted with temporary caps or plugs to prevent entry of dirt, debris and rodents during construction. The temporary cap may be constructed of duct tape, but in all cases shall be tightly fixed to the conduit and shall be durable. The contractor shall clean out the conduit and prove it clear in accordance with Standard Specifications Item 618.3 prior to installing any conductors.
7. Conduit entry into the top of enclosures such as safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes shall be made weatherproof using conduit sealing hubs, or threaded bosses.
8. A bonding jumper shall be installed from each grounding bushing to the nearest grounding rod, grounding lug, and/or equipment grounding conductor. All jumpers shall be the same size as equipment grounding conductor. Conduit used as casing under roadways for duct cable need not be grounded if duct extends full length through the casing. At electrical services, grounding electrode conductor shall be a solid Copper #6 AWG.
9. Metal junction boxes shall be bonded to the grounding conductor in accordance with the NEC.
10. Conduits entering ground boxes shall be placed so that the conduit ends shall be not less than 5 inches nor more than 9 inches from the box cover (See ground box detail on sheet ED (3).
11. Conduit ends shall be sealed with heat shrink boots with waterproof sealant, urethane foam, or by other methods approved by the Engineer. Sealing shall be done after completion of any required pull tests. Duct tape shall not be used as a permanent conduit sealant. Silicone caulking shall not be used as a sealant.
12. All strut mounting material and hardware shall be hot-dip galvanized or shall be stainless steel. The cut ends of strut and non-galvanized rigid metal conduit threads shall be coated with a zinc rich paint (90% or more zinc content). Zinc rich paint may only be used to touch up galvanized material as allowed under item 445.6 galvanizing. The painting of non-galvanized material with a zinc rich paint shall not be considered as an approved alternative for galvanized materials.
13.



CONDUIT MOUNTING OPTIONS

(Attachment to concrete surfaces)
(See para. II.B.2)

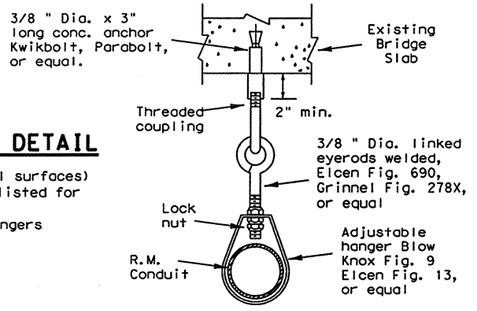




TYPICAL CONDUIT ENTRY TO BRIDGE STRUCTURE DETAIL

NOTES
1. Ground rod clamp to be Blackburn GG 5/8H, Weaver W5/8 or equal.
2. Surface mounting shown, for conduit to be placed in structure, use flush-mounted box.
3. Bond junction box and metal conduits to equipment grounding conductor and grounding electrode conductor using listed connector.
4. Seal all conduits entering the junction box from underground.
5. Install bell end or bushing on 1/2 " PVC conduit both ends.
6. Ground rod to be driven within 8 inches of 1/2 inch PVC conduit end.

CHANGE ORDER NO. 32



CONDUIT HANGER DETAIL

(Attachment to horizontal surfaces)
Hangers need not be UL listed for electrical use
ie: plumber pipe hangers are acceptable

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS-CONDUIT

ED(1)-00

© TxDOT January 1992	DN: KB	CK: JW	DW: DN	CK: GC	MCG NO.:
REVISIONS 5-93, 10-93, 4-98, 12-00	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99(367)		SHEET: 460A
	COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66

71A

LEVEL
1 2 3 4 5 6 7
7 8 9 10 11 12 13
17 18 19 20 21 22 23
33 34 35 36 37 38 39
49 50 51 52 53 54 55

LAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
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DW:
CK:

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I. ELECTRICAL CONDUCTORS

A. MATERIALS

1. Insulated conductors shall be NEC Type XHHW. Conductors shall be color coded in accordance with the NEC, articles 200, 250, and 310; i.e. Grounded conductors (neutrals) shall be white, Grounding conductors (ground wires) shall be bare or green, Ungrounded conductors (hots) shall be any color except green, white, or grey. Identification of conductors #10 AWG and smaller shall be by continuous jacket color. Color coding of electrical conductors #8 AWG and larger shall be either by continuous color jacket or by colored tape. Colored tape marker shall consist of a half-lap of tape covering a 6 inch length of conductor.

2. Where two or more circuits are present in one conduit or enclosure, the conductors of each circuit shall be identified by a permanent non-metallic tag at each accessible location. The tag shall be fastened to the conductors by plastic straps.

3. Grounding electrode conductors #6 AWG or smaller, for bonding to ground rods at electrical services, shall be solid. Connection of conductors to ground rods shall be made using UL Listed connectors designed for such purposes.

4. Heat Shrink Tape filler shall be used to seal the ends of heat shrink tubing around two or more conductors that are insulated with heat shrink tubing. Tape material shall have a minimum dielectric strength of 225 volts per mil and may be either cross-linked butyl rubber or silicone gel strip. Tape shall be supplied in rolls and shall have a backing (release paper) to prevent the tape from sticking to itself.

B. CONSTRUCTION METHODS

1. After conductors have been installed in conduit, a pull test will be made on conductors. When any length of conductor cannot be freely pulled, the Contractor shall make any needed alterations or repairs at no expense to the State.

2. Conductors in illumination poles shall be supported by a J-hook in the top of the pole.

3. A sufficient length of conductor for making up connections shall be left in ground boxes (2 feet minimum to point of splice, 3 feet minimum when conductor is pulled through with no splice), enclosures, and pole bases (1 foot minimum and typical).

4. Splices shall be made only in junction boxes, ground boxes, pole bases, or electrical enclosures and shall be made with approved compression sleeves or split bolt connectors. Splices shall be insulated with heavy wall heat shrink tubing containing factory applied sealant and shall be watertight. Heat shrink sleeve shall overlap conductor insulation a minimum of 2 inches on both sides of the splice. Heat shrink tape filler is required where two or more conductors enter one heat shrink tube to ensure watertight splice. Heat shrink tape shall be either butyl rubber or silicone gel strip.

5. Wire nuts may be used for #8 AWG and smaller conductors in above-ground junction boxes, but not in pole bases or ground boxes. Wire nuts shall be positioned upright to prevent the accumulation of water.

II. GROUND BOX

A. MATERIALS

1. Ground boxes shall be concrete or polymer concrete, as required by the descriptive code shown elsewhere.

2. All precast ground boxes and covers shall be permanently marked either by impress or by permanent ink, with manufacturer's model number, name or logo.

3. Covers shall be bolted down, and bolt holes in the box shall be arranged to drain dirt.

4. Ground box Types A, B, C, D & E shall be Polymer Concrete and shall meet the following requirements:

   a. Boxes shall be manufactured from Reinforced Polymer Concrete (RPM) composed of borosilicate glass fiber, a catalyzed polyester resin and an aggregate. Side walls may be fiber reinforced polymer.

   b. Minimum inside dimensions shall be as follows (width x length x depth):

      Type A shall be 11.5 inches x 21 inches x 10 inches , (122311)
      Type B shall be 11.5 inches x 21 inches x 20 inches , (122322)
      Type C shall be 15.25 inches x 28.25 inches x 10 inches , (162911)
      Type D shall be 15.25 inches x 28.25 inches x 20 inches , (162922)
      Type E shall be 11.5 inches x 21 inches x 16 inches , (122317)

   c. Bottom edge of box or extension shall be footed with a minimum 1 1/4 inch flange.

   d. Ground boxes shall withstand a test loading of 20,000 lbs. over a 10 in. by 10 in. area centered on the lid and 600 lbs. per sq. ft. applied over the entire side wall. The model of ground box proposed shall have been tested by a laboratory independent of the manufacturer to meet loading requirements. Certification of such tests shall be submitted to the Engineer for approval.

   e. Covers shall be 2 inch (nominal) thick polymer concrete. Cover shall be secured with two 1/2 inch stainless steel bolts. Bolts shall be captive and shall withstand a minimum of 70 ft-lbs torque and shall have a minimum 750 lbs straight pull out strength. Nuts shall be floating. Covers shall be skid resistant, minimum 0.5 coefficient of friction. Covers shall be interchangeable between manufacturers and shall conform to the dimensions shown below. Cover shall be legibly imprinted with the words "Danger High Voltage" in minimum 1 inch letters. When required, other cover lettering shall be as shown elsewhere on the plans.

5. Cast in place and precast concrete boxes shall be as shown elsewhere in the plans.

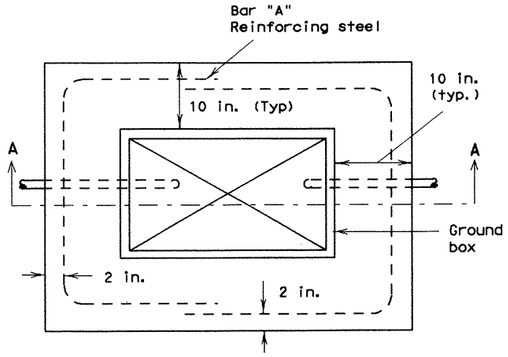
B. CONSTRUCTION METHODS

1. Ground boxes shall be set on a 9 inch (minimum) bed of course No. 1 aggregate as defined by Item 421. Gravel shall be in place prior to setting box and conduits shall be capped. Any gravel or dirt in conduit shall be removed.

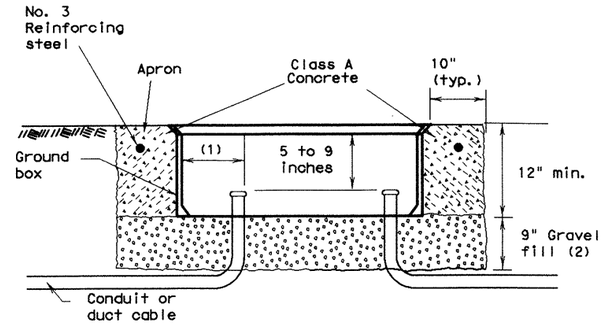
2. When required by Item descriptive code, construction of an apron encasing a ground box including concrete and reinforcing steel shall not be paid for directly but shall be subsidiary to the ground box. Reinforcing steel may be field bent. Concrete for aprons shall be considered miscellaneous concrete for testing purposes.

3. Conduit holes may be cut into the walls of deep boxes at least 18 inches beneath the cover.

4. Steel covers shall be bonded to grounding conductor with a 3 feet long flexible jumper.



PLAN VIEW



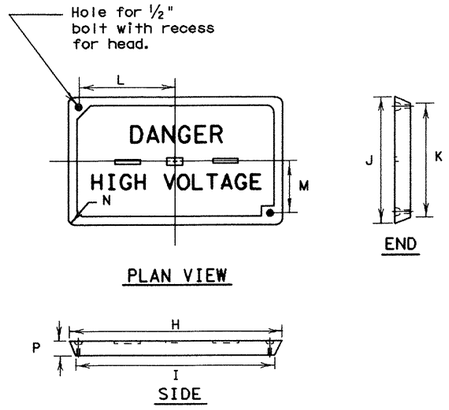
SECTION A - A

(1) Final position of end of conduit shall not exceed one-half of the distance to the side of the box opposite of the conduit entry.

(2) Place gravel "under" the box, not "in" the box. Gravel should not encroach on the interior volume of the box.

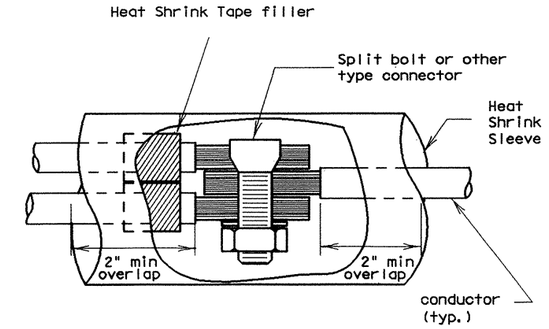
APRON FOR GROUND BOXES

(Where required)



GROUND BOX COVER

GROUND BOX COVER DIMENSIONS								
BOX	DIMENSIONS (INCHES)							
SIZE (WXL)	H	I	J	K	L	M	N	P
12 x 23	23 ¼	23	13 ¾	13 ½	9 ⅞	5 ⅛	1 ⅜	2
16 x 29	30 ½	30 ¼	17 ½	17 ¼	13 ¼	6 ¾	1 ⅜	2



SPLICE DETAIL

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- CONDUCTORS, GROUND BOXES

ED(2)-98

© TxDOT January 1992	DN: JM	CK: KB	DW: DN	CK: JM	MSG NO.:
REVISIONS 5-93 10-93 4-98	STATE DISTRICT 18	FEDERAL REGION 6	FEDERAL AID PROJECT NH99(367)		SHEET 461
	COUNTY ROCKWALL	CONTROL 0009	SECTION 04	JOB 039	HIGHWAY SH 66

71B

DN:
CK:
DW:
CK:

DATE:
ACC:
FILE:

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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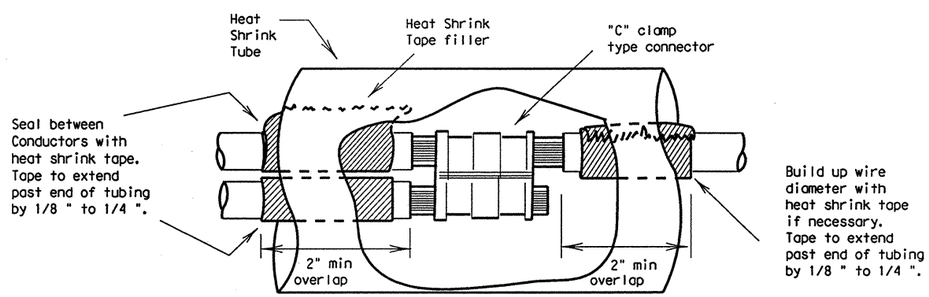
I. ELECTRICAL CONDUCTORS

A. MATERIALS

1. Insulated conductors shall be NEC Type XHHW. Conductors shall be color coded in accordance with the NEC, articles 200, 250, and 310; i.e. Grounded conductors (neutrals) shall be white, Grounding conductors (ground wires) shall be bare or green, Ungrounded conductors (hots) shall be any color except green, white, or gray. Identification of conductors #10 AWG and smaller shall be by continuous jacket color. Color coding of electrical conductors #8 AWG and larger shall be either by continuous color jacket or by colored tape. Colored tape marker shall consist of a half-lap of tape covering a 6-inch length of conductor.
2. Where two or more circuits are present in one conduit or enclosure, the conductors of each circuit shall be identified by a permanent non-metallic tag at each accessible location. The tag shall be fastened to the conductors by two plastic straps. Each tag shall indicate circuit number, letter, or other identification shown in the plans.
3. Grounding electrode conductor #6 AWG for bonding to ground rod at electrical service, shall be solid. Connection of conductor to ground rod shall be made using UL Listed connectors designed for such purposes.
4. Heat Shrink Tape filler shall be used to seal the ends of heat shrink tubing around two or more conductors that are insulated with heat shrink tubing. Tape material shall have a minimum dielectric strength of 225 volts per mil and may be either cross-linked butyl rubber. Tape shall be supplied in rolls and shall have a backing (release paper) to prevent the tape from sticking to itself.
5. Heat shrink tubing shall be heavy wall, UL listed for 600 volts or greater and shall have factory applied internal sealant.
6. Splicing materials, insulating materials, breakaway disconnects and fuse holders will not be paid for directly but shall be subsidiary to various bid items.

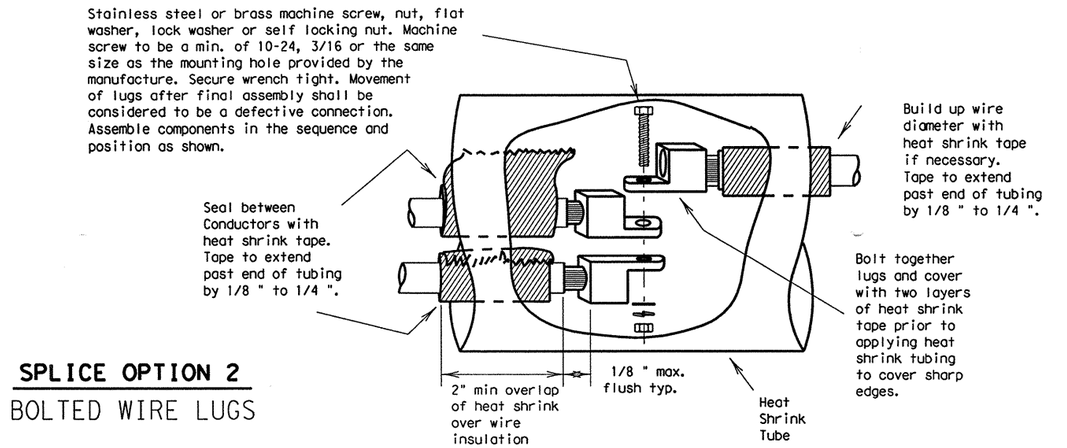
B. CONSTRUCTION METHODS

1. After conductors have been installed in conduit, a pull test will be made on conductors. When any length of conductor cannot be freely pulled, the Contractor shall make any needed alterations or repairs at no expense to the State.
2. The Contractor shall make insulation resistance tests in accordance with Item 620, Conductors. The contractor shall coordinate with the Engineer to witness the tests.
3. A sufficient length of conductor for making up connections shall be left in ground boxes (2 feet minimum, 3 feet maximum, to point of splice, 3 feet minimum, 4 feet maximum, when conductor is pulled through with no splice), enclosures, weatherheads and pole bases (1 foot minimum and typical, 1.5 feet maximum).
4. Splices shall be made only in junction boxes, ground boxes, pole bases, or electrical enclosures and shall be made with listed compression or screw type pressure connectors, terminal blocks, bolted lugs, or split bolt connectors. Splices shall be insulated with heavy wall heat shrink tubing and shall be made so as to provide a watertight splice. Heat shrink sleeve shall overlap conductor insulation a minimum of 2 inches on both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, the contractor shall build up the conductors insulation using heat shrink filler tape to provide a watertight seal between the individual conductors and the heat shrink tubing. Tape shall be visible after completion of all splices. Where filler tape is used but not visible, the Engineer shall approve each individual splice by conducting a physical inspection of each splice. Heat shrink tape shall be either butyl rubber. When it appears the tubing has been burned, or overheated the tubing shall be considered to be defective.
5. Wire nuts may be used for #8 AWG or smaller conductors in above-ground junction boxes, but not in pole bases or ground boxes. Wire nuts shall be positioned upright to prevent the accumulation of water. Wire nuts used at these locations shall have factory applied waterproof sealant (silicone).
6. Conductors in illumination poles shall be supported by a J-hook in the top of the pole.
7. All conductors bid under Item 620 shall have breakaway electrical disconnects installed anytime conductors pass through a break-away support.
8. For terminating the conductors, insulation-jacketing material shall be removed in such a manner as to not nick any of the individual strands of the conductor. When individual conductor strands are removed, the conductor shall be considered to be damaged.
9. When a conductor or cable has been damaged, or fails to pass an insulation resistance test, the conductor will be replaced.
10. Duct tape, black electrical tape, or wire nuts shall not be allowed to repair a damaged conductor.
11. For terminations, no more than one wire may be installed under a single pressure connector unless the device is listed for more than one wire.
12. Conductors connected to break-away in line fuse holders must be installed in accordance with the specific manufactures installation instructions. Where threaded connections are made, they shall be properly torqued. Where crimp type connections are made, crimps shall be made using properly sized crimping pliers. Proper conductor terminations are critical to the safe operation of break-away devices.
13. Waterproofing boots shall be properly trimmed to fit snugly around the conductor so as to provide a water proof connection. No more than one wire may enter a single opening in any one boot. Water proofing boots must provide the correct number of openings. Where only one wire is to be connected to a boot, the boot may not be a two wire type.



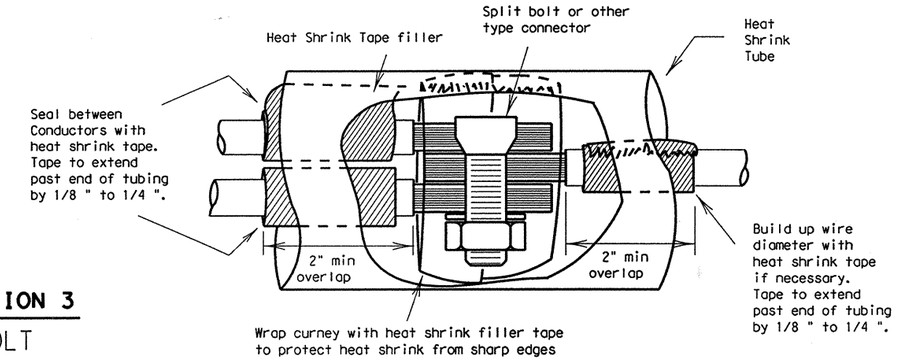
SPLICE OPTION 1

C-CLAMP



SPLICE OPTION 2

BOLTED WIRE LUGS



SPLICE OPTION 3

SPLIT BOLT

C. TEMPORARY WIRING

1. Temporary conductors and electrical equipment to provide power for utilization equipment, shall be installed in accordance with the NEC article 305. All temporary wiring materials and methods shall comply with the standard sheets. All power outlets for portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located out doors at grade, supplied from a utility power source, shall be provided with a ground fault circuit interrupter.
2. Residual current protective devices (GFCI) may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.
3. Where wire nuts are approved for temporary wiring, they shall be of the self-sealing type.
4. All conductor splices must be contained within a listed enclosure, ground box or be more than ten feet above grade vertically and more than five feet horizontally from any metal structure. Where temporary conductors are installed in any area that is likely to be subjected to vehicle traffic, or mobile construction equipment, the vertical clearance to ground shall be a least 18 feet when measured at the lowest point. Where power conductors are to be supported by a span wire, the span wire shall be properly grounded.

CHANGE ORDER NO. JZ

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS-CONDUCTORS

ED(2)-00

©TxDOT January 1992	DN: KB	CK: JW	DW: DN	CK: GC	REG NO.:		
REVISIONS 5-93 10-93 4-98 12-00	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET	
	DALLAS	6	NH 99(367)			71A	
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY	
	ROCKWALL		0009	04	039	SH 66	

DN: CK: DW: CK:

LEVEL:	1	2	3	4	5	6	7	8
	17	18	19	20	21	22	23	24
	33	34	35	36	37	38	39	40
	49	50	51	52	53	54	55	56

APPROVED	01	11	21	31	41	51	61
	02	12	22	32	42	52	62
	03	13	23	33	43	53	63
	04	14	24	34	44	54	64
	05	15	25	35	45	55	65
	06	16	26	36	46	56	66
	07	17	27	37	47	57	67
	08	18	28	38	48	58	68
	09	19	29	39	49	59	69
	10	20	30	40	50	60	70

DATE:
ACC:
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ELECTRICAL SERVICES NOTES

All work, materials, services, and incidentals, whether or not specifically shown on the plans, which may be necessary for a complete and proper electrical service installation as specified in the plans to obtain electrical power (except extending primary lines to electrical service) shall be paid for, performed, furnished and installed by the Contractor. The Contractor shall contact the Utility for metering and shall comply with all Utility requirements.

Primary line extensions, when required, shall be paid for under Force Account work. The Contractor shall consult with the appropriate Utility to determine costs and requirements, and shall coordinate the Utility's work as approved by the Engineer. The contractor shall be reimbursed only the amount billed by the Utility. No additional amount for supervision of the Utility's work will be paid.

Materials shall be new and unused, and materials and installation shall comply with the applicable provisions of the National Electrical Code (NEC) and National Electrical Manufacturers Association (NEMA) standards and shall be Underwriters Laboratories (UL) Listed. Electrical Service conduits, conductors, disconnects, contactors, circuit breaker panel sizes, and branch circuit breakers, shall be as shown in the Electrical Service Data elsewhere in the plans. Faulty fabrication or poor workmanship in any material, equipment, or installation shall be justification for rejection.

The Contractor shall submit for approval no less than five (5) copies of catalog cut sheets on electrical service materials. Submittals shall be legible and shall be marked to indicate which product on a cut-sheet is to be supplied. Where manufacturers provide warranties and guarantees as a customary trade practice, Contractor shall furnish to the State such warranties or guarantees.

I. Safety Switch. A safety switch, placed ahead of the meter, shall only be used when specified by the Utility and is shown on the Electrical Service Data. The switch shall be UL Listed, heavy duty type, 600 volt, unfused, with a UL type 3R enclosure and equipped with a solid neutral (s/n) assembly. The switch shall be padlockable in the "on" position.

II. Service Type. Electrical service types A, C, D, and T shall be as schematically detailed on ED(4). Other service types shall be as detailed elsewhere on the plans.

III. Branch Circuit Breakers. Circuit breakers shall be thermal magnetic and have a minimum interrupting capacity of 10,000 amps and a voltage rating compatible with their use. Circuit breakers shall be sized as shown on electrical service data table. Circuit breakers in panelboards and load centers shall be full size and designed exclusively for the panelboard or load center in use. Tandem and half-width breakers shall not be used. All circuit breakers shall be permanently and clearly marked identifying the circuit or device attached. Circuit breakers shall be UL Listed to UL489. Circuit breakers shall beswitch duty.

IV. Circuit Breaker Panelboard. Panelboards shall be UL Listed and shall meet Federal Specification W-P-115b, Type 1, Class 1 requirements. Panelboards shall have copper busses, a minimum of 12 one-pole spaces, and shall be rated for service equipment. Enclosure shall meet UL type 3R classification. Panelboards shall have a threaded hub conduit entry for conduit entering the top of the enclosure. Circuit breakers shall be bolt-in type only.

V. Circuit Breaker Load Center. Load centers shall be UL Listed, and shall meet Federal Specification W-P-115c, Type 1, Class 2 requirements. Load centers shall have copper busses, a minimum of 4 one-pole spaces, and shall be rated for service equipment. Enclosure shall meet UL type 3R classification. Load centers shall have a threaded hub conduit entry for conduit entering the top of the enclosure. Circuit breakers shall be plug-in type only. Load centers for type T services shall accomodate a maximum of 6 one-pole breakers.

EXPLANATION OF ELECTRICAL SERVICE DESCRIPTIVE CODE

ELEC SERV TY X (XXX/XXX) XXX (XX) XX (X) XX (X)

Schematic Type

Service Voltage (V / V)

Main Disconnect Amp Rating
(000 indicates none)

SS= Safety switch ahead of meter
NS= No switch ahead of meter and/or no meter required

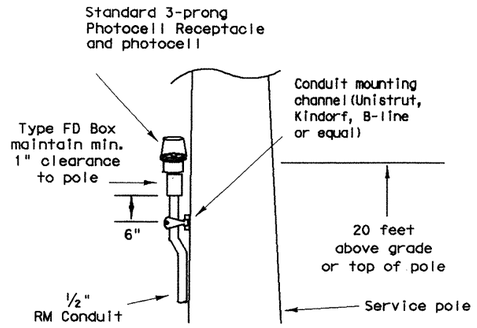
Enclosure Type
GS= Galvanized steel
SS= Stainless steel
1 PS= Pedestal Service

Photocell Location
T= Top of pole
E= Enclosure mounted
L= Luminaire mounted
N= None

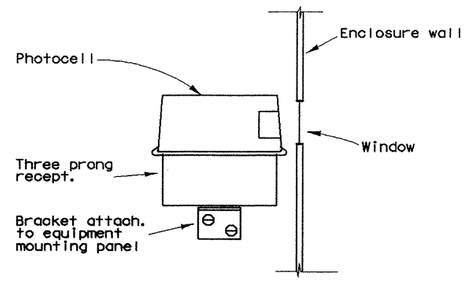
Service Support Type
GC= Granite concrete
OC= Other concrete
TP= Timber pole
SP= Steel pole
SF= Steel frame
OT= Pole by others or paid for separately
EX= Existing pole
TS= Switch gear to be placed on traffic signal pole
RT= Rectangular struotural tubing
PS= Pedestal Service

O= Overhead service
U= Underground service

Example: ELEC SERV TY D(120/240)070(NS)GS(T)TP(O)

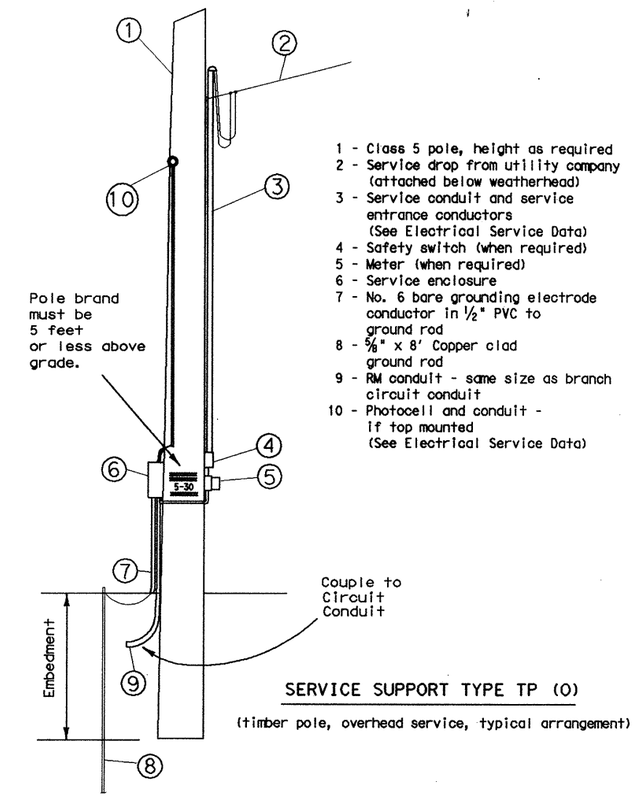


TOP MOUNTED PHOTOCELL



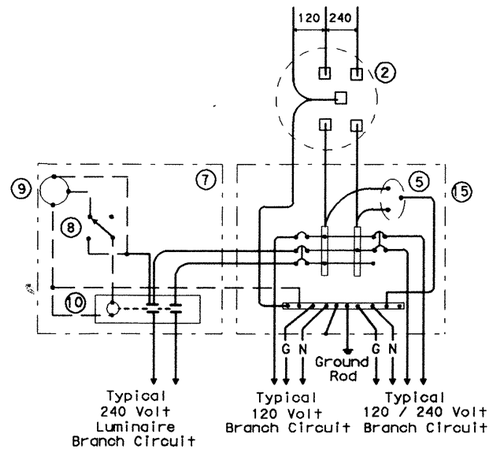
ENCLOSURE MOUNTED PHOTOCELL

For photocell specifications see ED(4),XII.



SERVICE SUPPORT TYPE TP (O)

(timber pole, overhead service, typical arrangement)



SCHEMATIC TYPE T

120/240 VOLTS - THREE WIRE

Install photocell and lighting contactor when shown on Electrical Service Data.

SCHEMATIC LEGEND

1 - Safety Switch (when required)
2 - Meter (when required)
3 - Service Assembly Enclosure
4 - Main Disconnect (Switch or Breaker, See Electrical Service Data)
5 - Lightning Arrestor
6 - Circuit Breaker, 15A
7 - Auxiliary Enclosure
8 - Control Station ("H-O-A" Switch)
9 - Photo Electric Control (enclosure-mounted shown)
10 - Lighting Contactor
11 - Power Distribution Terminal Blocks
12 - Neutral/Ground Bus
13 - Branch Circuit Breaker (See Electrical Service Data)
14 - Circuit Breaker Panelboard (See Electrical Service Data)
15 - Load Center (See Electrical Service Data)

——— Power Wiring
- - - - Control Wiring
——N—— Neutral Conductor (when required)
——G—— Grounding Conductor

1 Added pedestal service

TIMBER POLE NOTES

1. Conduit and conductors attached to service pole and underground within 12 inches of service pole shall not be paid for directly but shall be subsidiary to the service pole.
2. Install photo electric control on north side of pole or in service enclosure as required. See Electrical Service Data.
3. Attach service enclosure with galvanized channel (Unistrut, Kindorf, or equal). Gain pole two places to provide flat surfaces. Paint ends of channel with zinc rich paint.
4. Embedment depth shall be as required in Item 627 Treated Timber Poles.
5. Poles trimmed for excess length shall be trimmed from the top end only.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- SERVICE SCHEMATICS AND SUPPORT-TYPE TP (OVERHEAD)

ED(3)-98

©TxDOT April 1998	DN: KB	CK: TB	DW: DN	CK: JM	NEG NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
	18	6	NH99(367)		462
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

71C

LEVEL	PLAYED	DATE:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16		
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32		ACC:
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48		DW:
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63		FILE:

DN:
CK:
DW:
CK:

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II. GROUND RODS

A. MATERIALS

1. All ground rods installed at electrical services, including supplemental lightning protection ground rods specified by the plans in other locations such as pole bases, shall be copper coated steel and listed by a NRTL. Rods shall be a minimum diameter of 5/8 inch. The length shall be a minimum of 8 feet. Larger diameter or longer length rods may be called for in some specific locations, see the individual plans sheets.
2. Ground rod clamps shall be listed to be in direct contact with the soil. Where concrete encasement is required, the clamp shall be listed for concrete encasement.

B. CONSTRUCTION METHODS

1. Ground rods installed in locations such as pole bases, to provide supplemental lightning protection need not be totally in contact with the soil. Where called for by the plans, rods may be encased in soil or concrete or any combination of soil and concrete. When concrete encased, the connection of the conductor to the rod shall be readily accessible for inspection or repairs. When driven into the soil the upper end shall be between 2 to 4 inches below finished grade. Ground rods shall not be placed in the same drilled hole as a timber pole.
2. Ground rods shall be installed such that the end imprinted with the rod's part number is installed as being the upper end.
3. Non-conductive coatings such as concrete splatter shall be removed from the rod at the clamp location.
4. Routing of lightning protection ground rod wires shall be run as short and straight as possible. Where bends are required they shall have a minimum radius of four inches.
5. Unless specifically called for by the plans, conduits used for ground rod wires shall be non-metallic. Where metal conduits are specified, a grounding bushing and properly sized bonding jumper shall be provided and properly installed on each end.
6. Where rocky soil or a solid rock bottom is encountered when driving a ground rod and the horizontal trench placement method is the only viable solution, written authorization from the Engineer must be aquired.

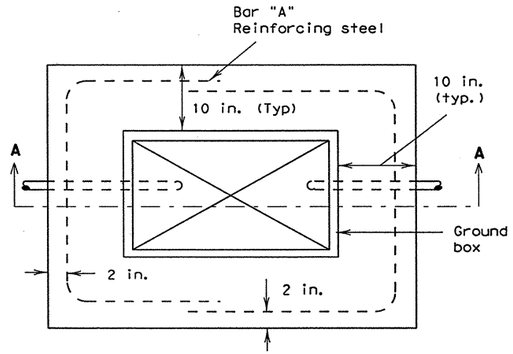
III. GROUND BOX

A. MATERIALS

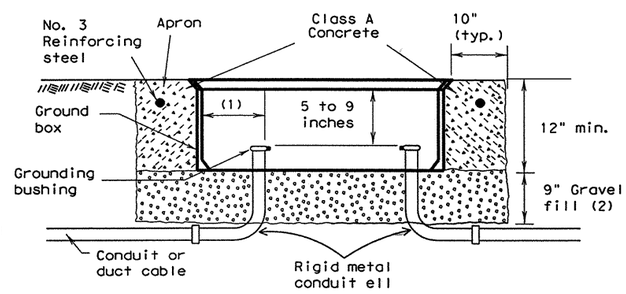
1. Ground boxes 16x30x24 inches (WxLxD) or smaller shall be polymer concrete of the type required by the descriptive code shown elsewhere. Larger ground boxes shall be as shown elsewhere in the plans.
2. All ground boxes and covers shall be permanently marked either by impress or by permanent ink, with manufacturer's model number and manufacturer's name or logo.
3. Covers shall be bolted down, and bolt holes in the box shall be arranged to drain dirt.
4. Ground box Types A, B, C, D & E shall meet the following requirements:
   a. Ground boxes and covers will be manufactured from polymer concrete reinforced with continuous strands of woven or stitched borosilicate fiberglass cloth. The polymer concrete shall be made from catalyzed polyester resin, sand and aggregate, and shall have a minimum compressive strength of 11,000 psi. Polymer concrete containing chopped fiberglass or fiberglass reinforced plastic is not acceptable.
   b. Minimum inside dimensions shall be as follows (width x length x depth):
      Type A shall be 11.5 inches x 21 inches x 10 inches, (122311)
      Type B shall be 11.5 inches x 21 inches x 20 inches, (122322)
      Type C shall be 15.25 inches x 28.25 inches x 10 inches, (162911)
      Type D shall be 15.25 inches x 28.25 inches x 20 inches, (162922)
      Type E shall be 11.5 inches x 21 inches x 16 inches, (122317)
   c. Bottom edge of box or extension shall be footed with a minimum 1 1/4 inch flange.
   d. Ground boxes shall withstand 600 lbs. per sq. ft. applied over the entire sidewall with less than 1/4 inch deflection per foot length of box. Ground boxes and covers shall withstand a test loading of 20,000 lbs. over a 10 inch by 10 inch area centered on the cover with less than 1/2 inch deflection. Ground boxes and covers shall meet Western Underground Standards 3.6. Manufacturer shall supply certification by an independent laboratory or sealed by a Texas-Licensed Professional Engineer.
   e. Covers shall be 2 inch (nominal) thick polymer concrete. All hardware shall be stainless steel. Cover shall be secured with two 1/2 inch stainless steel bolts. Bolts shall be self-retaining and shall withstand a minimum of 70 ft-lbs. torque and shall have a minimum 750 lbs. straight pull out strength. Nuts shall be floating and shall provide a minimum of 1/2 inch movement from the center of the nut. Covers shall be skid resistant, minimum 0.5 coefficient of friction. Covers shall be interchangeable between manufacturers and shall conform to the dimensions shown herein. Unless otherwise approved by the Engineer, cover shall be legibly imprinted with the following words in minimum 1 inch letters:
      Ground Boxes containing wiring for traffic signals shall be labeled, Danger High Voltage Traffic Signals.
      Ground boxes containing wiring for illumination systems shall be labeled, Danger High Voltage Illumination.
      Ground boxes containing wiring for traffic management systems shall be labeled, Danger High Voltage Traffic Management.
      Ground boxes containing wiring for sign illumination systems shall be labeled, Danger High Voltage Sign Illumination.
      Ground boxes containing wiring for traffic signals that also contain illumination, powered by the signal electrical service, shall be labeled, Danger High Voltage Traffic Signal.

B. CONSTRUCTION METHODS

1. Ground boxes shall be set on a 9 inch (minimum) bed of coarse No. 1 aggregate as defined by Item 421. Gravel shall be in place prior to setting box and conduits shall be capped. Any gravel or dirt in conduit shall be removed.
2. When required by Item descriptive code, construction of an apron encasing a ground box including concrete and reinforcing steel shall not be paid for directly but shall be subsidiary to the ground box. Reinforcing steel may be field bent. Concrete for aprons shall be considered miscellaneous concrete for testing purposes. Aprons shall be cast in place.
3. Conduit holes may be cut in the walls of type B & D boxes at least 18 inches beneath the cover.
4. If, within the limits of this project, the Contractor must utilize an existing ground box equipped with a metal cover, the Contractor shall bond the cover to the grounding conductor with a 3 foot long flexible standed jumper the same size as the grounding conductor. Connection of bonding jumper to metal ground cover shall not be paid for directly but shall be subsidiary to various bid items. The box(es) must be clearly shown on the plans with plan notes fully describing the work required.
5. If there are other ground boxes with metal Covers within the project limits but not involved in the contract, the Engineer may direct the Contractor to ground the covers, designating and identifying the specific boxes in writing. This work will be paid for separately.
6. Termination to metal ground box covers shall be made using a tank ground type lug.



PLAN VIEW

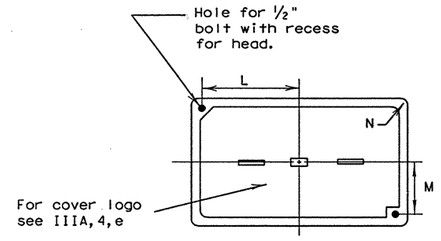


SECTION A - A

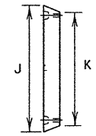
APRON FOR GROUND BOXES

(Where required)

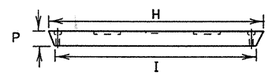
(1) Final position of end of conduit shall not exceed one-half the distance to the side of box opposite the conduit entry.
(2) Place gravel "under" the box. not "in" the box. Gravel should not encroach on the interior volume of the box.
(3) Install bushing on the upper end of all ells.
(4) Where a ground rod is present in the ground box, connect it to any and all equipment grounding conductors using a listed connector.
(5) Maintain sufficient space between all conduits so as to allow for proper installation of bushings.
(6) All conduits shall be installed in a neat and workmanlike manner.



PLAN VIEW



END



SIDE

GROUND BOX COVER

GROUND BOX COVER DIMENSIONS								
BOX	DIMENSIONS (INCHES)							
SIZE	H	I	J	K	L	M	N	P
A, B & E	23 1/4	23	13 3/4	13 1/2	9 7/8	5 1/8	1 3/8	2
C & D	30 1/2	30 1/4	17 1/2	17 1/4	13 1/4	6 3/4	1 3/8	2

CHANGE ORDER NO. 32

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- GROUND BOXES

ED(3)-00

© TxDOT January 1992	DN-KB	CK-JW	DW-DN	CK-GC	MEG NO.:
REVISIONS 5-93 10-93 4-98 12-00	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99(367)		SHEET: 462A
COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66	

71C

LEVEL SAVED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DN: CK: DW: CK:
DATE: ACC: FILE:

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SERVICE ENCLOSURE NOTES

VI. Service Assembly Enclosures. All service assemblies and enclosures shall be UL Listed for the intended purpose.

A. Shop built or shop assembled service assemblies (all types except Type T and Type D without lighting contactor) shall be built or assembled by a UL Listed Industrial Control Panel shop and shall have a unique serial numbered UL Label with the words "LISTED ENCLOSED INDUSTRIAL CONTROL PANEL". The same or an additional label shall have the name, location, and phone number of the shop, the UL file number of the shop, the shop order or drawing number, date of manufacture or assembly, and the line voltage. The enclosure shall also be labeled "SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT".

B. Conduit entries into the top of all enclosures shall have threaded hubs.

C. All enclosures shall be permanently labeled on the front door "DANGER HIGH VOLTAGE" and the equipment supplied (i.e. LIGHTING, LANDSCAPING, SIGNALS, TRAFFIC MANAGEMENT). Unless otherwise approved by the Engineer, the labeling shall be minimum 1 inch letters and shall be applied by stenciled paint or stick-on decal.

D. Type GS enclosures for service types D, T, and the circuit breaker panelboard of service type C shall be made from pre-galvanized steel sheeting, hot dipped galvanized steel, or powder coat painted steel. Painted enclosures shall be painted inside and outside; galvanized enclosures may be painted. Unless otherwise approved by the engineer, painted enclosures shall be gray, beige, or white. Panelboard/loadcenter enclosures shall be UL type 3R, shall have a dead front trim, and shall have a door with provisions for padlocking. Auxiliary enclosures, when required for illumination or other control equipment, shall be UL type 12 as described in III.E. below for service types A and C.

E. Type GS enclosures for service types A and C shall meet the requirements of type GS in III.D. above for service types D and T except that the enclosure shall be a UL type 12 enclosure conforming to UL 50 and shall meet additional requirements of this paragraph. The enclosure door shall have a rolled lip around all sides of the enclosure opening, a continuous hinge, and a padlock handle. The door shall have a mechanically attached data pocket constructed of either thermoplastic or metal and measuring at least 12 inches by 12 inches. The main disconnect operator shall be flange-mounted, shall interlock the door when in the "on" position, and shall be pad lockable in both the "on" or the "off" positions. Enclosure shall include an equipment mounting panel installed inside the enclosure on collar studs or tapped bosses, and constructed of either 12-gauge steel or 0.10 inch thick aluminum. Enclosure shall be either hot dip galvanized, pre-galvanized sheeting or prime and painted. Paint shall be powder coat paint as show below. Color shall be white or gray. Condensation drainage shall be provided through 0.25 inch drain holes drilled in the bottom of the enclosure at two diagonal opposing corners. The contractor shall place in the service enclosure a laminated copy of the "as built" electrical plans showing the equipment supplied by that electrical service and all applicable wiring diagrams, layouts, and ED and RID standard sheets.

F. Type SS Stainless steel enclosure shall be meet all the requirements above for the respective type GS except that the enclosure shall be UL type 4X conforming to UL 50. Type GS circuit breaker panel housed in a stainless steel UL type 4X enclosure conforming to UL 50 shall be considered complying with the Type SS requirements for Service types D & T.

G. Type PS enclosure shall be as detailed and specified on ED(8).

VII. Powder Coat Paint. Powder coating shall be either a polyester thermosetting resin, a zinc rich primer with a TGIC (triglycidyl isocyanurate) powder overcoating, or a zinc-rich epoxy powder, applied by either electrostatic spray or fluidized bed immersion, high temperature oven cured, high density, low gloss, 4 mil thick (minimum), coating. Adhesion shall meet the 5A or 5B classifications of ASTM D3359. Finish shall be uniform in appearance and free of scratches.

VIII. Main Disconnect. Main disconnect device shall be either a fusible switch or a circuit breaker, as specified in the Electrical Service Data, shall be two pole, and rated for the voltage and amperage specified.

A. Switch shall be UL and NEMA Type HD (heavy duty) flange-mounted in the service assembly enclosure. Switch shall have clips for Class R fuses.

B. Circuit breaker shall be a UL Listed thermal-magnetic circuit breaker flange-mounted in the service assembly enclosure. Circuit breakers shall have a minimum interrupting rating of 14,000 Amps. Contractor shall verify that the available fault current is less than the circuit breaker amps interrupting capacity (AIC) rating and shall provide documentation from the Utility to the Engineer. Documentation shall be submitted at the same time as other electrical submittals. Circuit breaker shall be UL Listed to UL489.

IX. Lightning Arrester. Arresters shall be MOV-type secondary surge arresters rated 650 volts for 240/480 volt services or 175 volts for 120/240 volt services and shall meet ANSI, IEEE, UL, and NEMA standards. Mounting brackets shall be provided for mounting the arresters inside the service assembly enclosures, unless otherwise specified by the Engineer. Lightning arrester leads shall be run as straight and short as practical.

X. Control Circuit. Control circuit protection shall be either a 10 or 15 amp circuit breaker.

XI. Control Station ("H-O-A" Switch). Control station shall be a maintained-contact, three position selector switch in a UL type enclosure. Switch shall be rated 600 volts and shall be fitted with "Hand-Off-Auto" legend.

XII. Photo Electric Control. Photo electric control shall consist of a photocell, internal lightning arrester, and relay or bimetallic switch mounted inside a weatherproof enclosure with standard 3-prong twist lock photocell plug and receptacle. The enclosure shall be made of poly-acrylic with clear acrylic window. Enclosure chassis shall be molded phenolic plastic. The photocell shall have a polyethylene gasket, and shall have a hermetically sealed cadmium sulfide cell. The arrester shall have an enclosed type expulsion arrester rated 2.0 kV sparkover with 10,000 amps follow-through. Relay or switch shall be time delay type with normally closed contacts. Photo electric control shall be rated 1800 VA, 105-285 volts.

Enclosure mounted photocells shall be the same as above except that the photocell shall be mounted inside the enclosure. The enclosure shall have two acrylic paned windows, or other material approved by the Engineer, one on each side of the enclosure. Each window shall be rectangular approximately 1 inch by 2 inch, round 2 inch diameter, or as otherwise approved by the Engineer. The photocell shall be mounted in a position to receive light from one window. Top of pole mounted photocells shall be mounted as shown on ED(4).

The Contractor shall be responsible for proper operation of the photo-electric control. The Contractor shall move and/or adjust or shield the photocell from stray or ambient nighttime light or shall make any other adjustments required for proper operation. The photocell shall face North when practicable. Unless otherwise shown on the plans, the photocell shall turn on the illumination system at 1.0 +(-) 0.5 footcandle and turn off the illumination system at 2 footcandles higher than turn on.

XIII. Lighting Contactor. Lighting contactor shall be a UL Listed lighting contactor, two-pole or multipole as required, electrically held type designed to control high pressure sodium lighting loads, with silver alloy double break contacts rated at 480 volts or 600 volts.

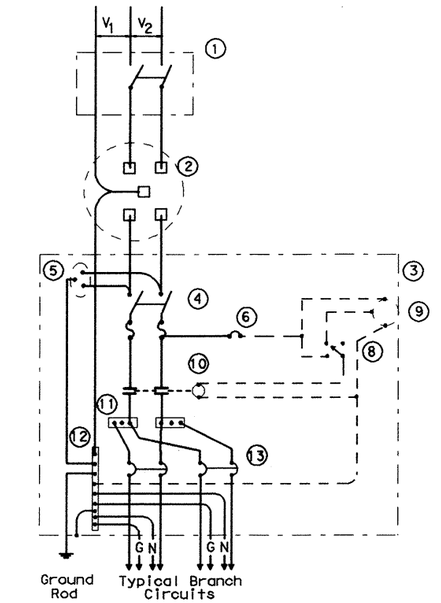
XIV. Power Distribution Terminal Blocks. Power distribution terminal blocks shall be rated for 600 volts and shall be used for line side connections to branch circuit breakers where more than one circuit breaker is required. Lugs on blocks shall be properly sized for conductors being used. Only one conductor shall be placed under each lug.

XV. Neutral/Ground Bus. Neutral/ground bus shall be a factory made bus permanently bonded to the enclosure with properly sized lugs for grounding and neutral conductors.

SCHEMATIC LEGEND

1 - Safety Switch (when required)
2 - Meter (when required)
3 - Service Assembly Enclosure
4 - Main Disconnect (Switch or Breaker, (See Electrical Service Data)
5 - Lightning Arrestor
6 - Circuit Breaker, 15A
7 - Auxiliary Enclosure
8 - Control Station ("H-O-A" Switch)
9 - Photo Electric Control (enclosure-mounted shown)
10 - Lighting Contactor
11 - Power Distribution Terminal Blocks
12 - Neutral/Ground Bus
13 - Branch Circuit Breaker (See Electrical Service Data)
14 - Circuit Breaker Panelboard (See Electrical Service Data)
15 - Load Center

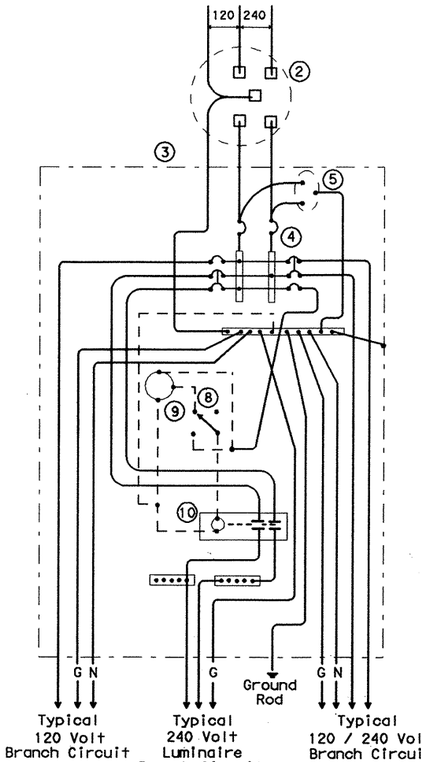
——— Power Wiring
– – – – Control Wiring
——N—— Neutral Conductor (when required)
——G—— Grounding Conductor



SCHEMATIC TYPE A

THREE WIRE

Maximum feeder circuit size (High Mast Poles): 100 amps for two pole 480V, 125 amps for one or two pole 120V or 240V. Maximum branch circuit size: 50 amps.



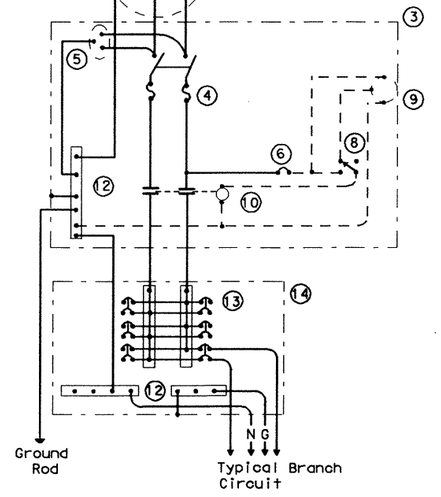
SCHEMATIC TYPE D

120/240 VOLTS - THREE WIRE

Install photocell and lighting contactor when shown on Electrical Service Data. See Type D service notes.

TYPE D SERVICE NOTE

Photocell and lighting contactor shall be located in the same UL type 3R enclosure. Photocells shall have a window on each side of enclosure to allow operation. Photocell/contactor and breaker area shall have separate dead front trim. Enclosure, except for RT and PS supports, shall not exceed 36 inches in height or 15 inches in width unless approved by the engineer.



SCHEMATIC TYPE C

THREE WIRE

Maximum feeder circuit size (High Mast Poles): 100 amps for two pole 480V, 125 amps for one or two pole 120V or 240V. Maximum branch circuit size: 50 amps.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- SERVICE ENCLOSURE & NOTES

ED(4)-98

© TxDOT April 1998		DN: KB	CK: TB	DW: DN	CK: JM	REQ NO.:
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
	18	6	NH 99(367)			463
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

71D

LEVEL: OVERLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
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ELECTRICAL SERVICES NOTES

All work, materials, services, and incidentals, whether or not specifically shown on the plans, which may be necessary for a complete and proper electrical service installation as specified in the plans to obtain electrical power (except extending primary lines to electrical service) shall be paid for, performed, furnished and installed by the Contractor. The Contractor shall contact the Utility for metering and shall comply with all Utility requirements.

Primary line extensions, when required, shall be paid for under Force Account work. The Contractor shall consult with the appropriate Utility to determine costs and requirements, and shall coordinate the Utility's work as approved by the Engineer. The contractor shall be reimbursed only the amount billed by the Utility. No additional amount for supervision of the Utility's work will be paid.

Materials shall be new and unused, materials and installation shall comply with the applicable provisions of the National Electrical Code (NEC) and National Electrical Manufacturers Association (NEMA) standards and shall be Underwriters Laboratories (UL) Listed. Electrical Service conduits, conductors, disconnects, contactors, circuit breaker panel sizes, and branch circuit breakers, shall be as shown in the Electrical Service Data elsewhere in the plans. Faulty fabrication or poor workmanship in any material, equipment, or installation shall be justification for rejection.

The Contractor shall submit for approval no less than six (6) copies of catalog cut sheets on electrical service materials. Submittals shall be legible and shall be marked to indicate which product on a cut-sheet is to be supplied. Where manufacturer's provide warranties and guarantees as a customary trade practice, Contractor shall furnish to the State such warranties or guarantees.

The Contractor shall provide locks keyed with Master #2195 for all lockable electrical enclosures. Unless otherwise approved by the Engineer, enclosures shall not be energized until locks are provided and all bolts are installed.

Circuit directories, where provided, shall be filled out. All breakers and components in shop built panels and enclosures shall be labeled with duo-colored plastic labels. Color shall be white letters with red background. Letters shall be a minimum 3/8 " in height.

Enclosures with external disconnects that de-energize all equipment inside the enclosure, need not have dead front trim, except that incoming line terminations shall be protected from incidental contact.

Stainless steel nuts, screws, bolts and miscellaneous hardware may be used when galvanized is specified. All wiring and components shall be rated for 75 degrees C. Minimum size for service entrance conductors shall be #6XHHW.

I. Safety Switch. A safety switch, placed ahead of the meter, shall only be used when specified by the Utility and when shown on the Electrical Service Data. The switch shall be UL Listed, heavy duty type, 600 volt, unfused, with a UL type 3R enclosure and equipped with a solid neutral (s/n) assembly. The switch shall be padlockable in the "on" position.

II. Service Type. Electrical service types A, C, D, and T shall be as schematically detailed on ED(4) or ED(5). Other service types shall be as detailed elsewhere on the plans.

III. Branch Circuit Breakers. Circuit breakers shall be thermal magnetic and have a minimum interrupting capacity of 10,000 amps and a voltage rating compatible with their use. Circuit breakers shall be sized as shown in the electrical service data. Circuit breakers in panelboards and load centers shall be full size and designed exclusively for the panelboard or load center in use. Tandem and half-width breakers shall not be used. All circuit breakers shall be permanently and clearly marked identifying the circuit or device attached. Circuit breakers shall be UL Listed to UL489.

IV. Circuit Breaker Panelboard. Panelboards shall be UL Listed and shall meet Federal Specification W-P-115b, Type 1, Class 1 requirements. Panelboards shall have copper busses, a minimum of 6 one-pole spaces or as required in the electrical service data, and when required will be rated for service equipment. Enclosure shall meet UL type 3R classification. Panelboards shall have a threaded hub conduit entry for conduit entering the top of the enclosure. Circuit breakers shall be bolt-in type only.

V. Circuit Breaker Load Center. Load centers shall be UL Listed, and shall meet Federal Specification W-P-115c, Type 1, Class 2 requirements. Load centers shall have copper busses, a minimum of 4 one-pole spaces, and shall be rated for service equipment. Enclosure shall meet UL type 3R classification. Load centers shall have a threaded hub conduit entry for conduit entering the top of the enclosure. Circuit breakers shall be plug-in type only. Load centers for type T services shall accomodate a maximum of 6 one-pole breakers.

VI. Separate or Auxiliary Enclosure. Separate enclosures for HOA, photocell and lighting contactors for types D & T Services shall be a UL Listed assembly and shall have dead front trim. HOA switch operator shall extend through the dead front trim. Photocell shall be mounted inside the enclosure as described in paragraph XIII, when required by descriptive code. Separate enclosures shall meet the construction requirements of paragraph VII. E. except that separate enclosure shall not have external operating handle, need not have a data pocket and door may latch at only one point. Contractor may install all equipment in one enclosure instead of two, when approved by the Engineer.

VII. Where a Type D or T service is provided, laminated "as built" drawings are required as shown on ED(5) VIII E; shall be delivered before completion of the work, to the Engineer in lieu of placement within these smaller enclosures. Conduit may not enter the back wall of a service enclosure penetrating the equipment mounting panel. Provide grounding bushings on all metal conduits, terminate bonding jumper to grounding bus. Grounding bushing is not required when the end of the metal conduit is fitted with a conduit sealing hub or threaded boss such as a meter base.

EXPLANATION OF ELECTRICAL SERVICE DESCRIPTIVE CODE

ELEC SERV TY X (XXX/XXX) XXX (XX) XX (X) XX (X) Example: ELEC SERV TY D(120/240)070(NS)GS(T)TP(0)

Schematic Type

Service Voltage (V / V)

Disconnect Amp Rating
(000 indicates main lug only)

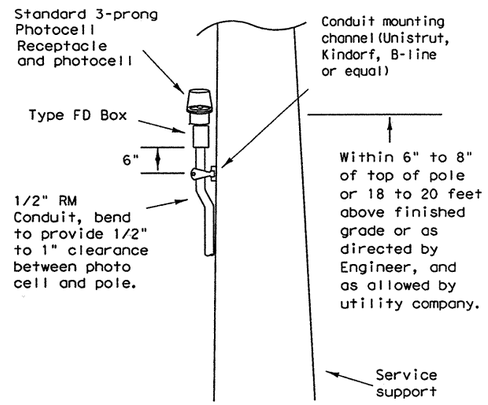
SS= Safety switch ahead of meter
NS= No switch ahead of meter and/or no meter required

Enclosure Type
GS= Galvanized steel
SS= Stainless steel
AL= Aluminum

Photocell Mounting Location
T= Top of pole
E= Inside service/separate enclosure
L= Luminaire mounted
N= None

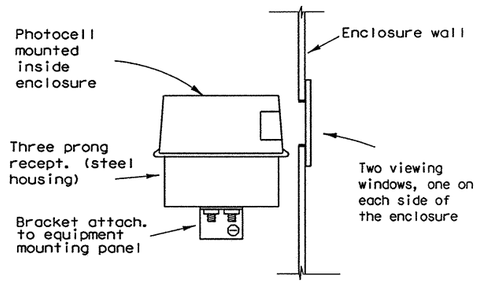
Service Support Type
GC= Granite concrete
OC= Other concrete
TP= Timber pole
SP= Steel pole
SF= Steel frame
OT= Pole by others or paid for separately
EX= Existing pole
TS= Switch gear to be placed on traffic signal pole
RT= Rectangular structural tubing
PS= Pedestal Service

O= Overhead service
U= Underground service



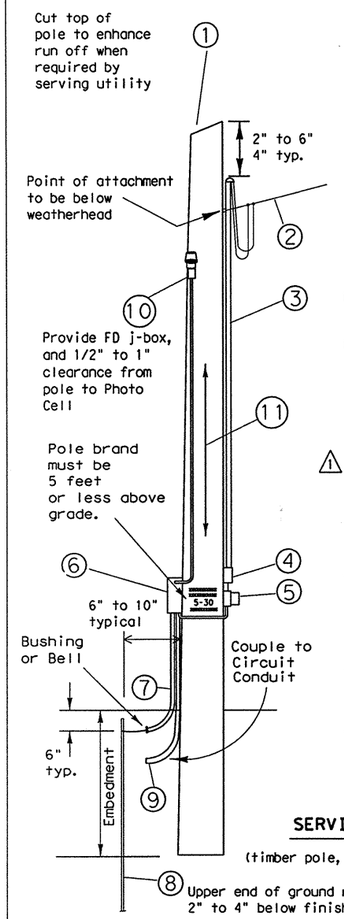
TOP MOUNTED PHOTOCELL

Conduit support spacing 3 feet from enclosure; 5 feet max.



ENCLOSURE MOUNTED PHOTOCELL

For photocell specifications see ED(5),XIII.



1 - Class 5 pole, height as required
2 - Service drop from utility company (attached below weatherhead)
3 - Service conduit and service entrance conductors(RMC) (See Electrical Service Data)
4 - Safety switch (when required)
5 - Meter (when required)
6 - Service enclosure
7 - No. 6 bare grounding electrode conductor in 1/2 " PVC to ground rod - extend 1/2 " PVC 6" underground.
8 - 5/8 " x 8' Copper clad ground rod - drive ground rod completely underground unless otherwise approved by the Engineer.
9 - RM conduit - some size as branch circuit conduit.
10 - Photocell and conduit - if top mounted. (See Electrical Service Data)
11 - When required by the serving utility provide bare #6 awg copper conductor. Run wire from pole top to butt wrap or copper butt plate. Protect conductor to a height of 8 ft above finish grade.

⚠1 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

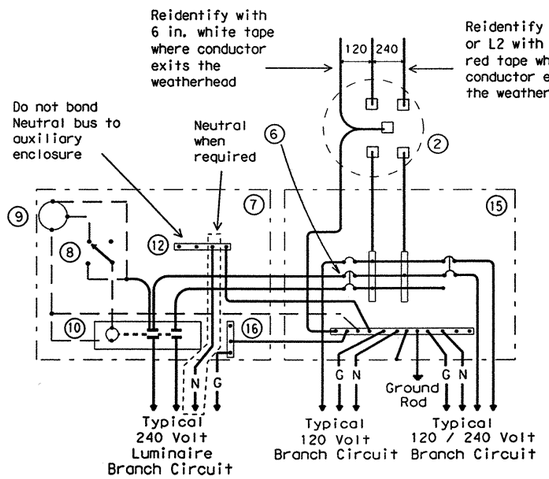
(If applicable)
- Liquidtight flexible metal conduit, may be used when meter and service enclosure are mounted 90 to 180 degrees to each other.
- LFMC shall not exceed 3 ft. and shall be securely supported within one ft. of each end.
- Each end of LFMC must have a grounding bushing or be terminated with a grounding fitting.
- A neutral conductor must be installed within the LFMC.
- Bend in liquidtight flexible metal conduit shall not exceed 180 degrees.
- A pull test is required on all installed conductors, at least six inches of free conductor movement shall be demonstrated to the satisfaction of the Engineer.

SERVICE SUPPORT TYPE TP (O)

(timber pole, overhead service, typical arrangement)

TIMBER POLE NOTES

1. Conduit and conductors attached to service pole and underground within 12 inches of service pole shall not be paid for directly but shall be subsidiary to the service pole.
2. Pole top mounted photocell, install on north side of pole or in service enclosure as required. See Electrical Service Data.
3. Attach meter and service equipment with stainless steel or galvanized channel (Unistrut, Kindorf, or equal). Gain pole as required to provide flat surfaces for each strut. Paint ends of galvanized channel with zinc rich paint. Gain depth 5/8" max. Gain height 1 7/8" max. Strut to be 1" max. deep, and 1 5/8" wide max. Secure each strut section to timber pole with two galvanized or SS lag bolts, 1/4" diameter min. by 1 1/2" length min. Place flat cut galvanized or SS washer on each lag bolt. Gain pole in a neat and workman-like manner.
4. Embedment depth shall be as required in Item 627 Treated Timber Poles.
5. Poles trimmed for excess length shall be trimmed from the top end only.



SCHEMATIC TYPE T
120/240 VOLTS - THREE WIRE

Install photocell and lighting contactor when shown on Electrical Service Data.

SCHEMATIC LEGEND

1 - omitted
2 - Meter (when required)
3 - Service Assembly Enclosure
4 - Main Disconnect Breaker (See Electrical Service Data)
5 - omitted
6 - Circuit Breaker, 15A typical and max. for control circuit wiring
7 - Auxiliary Enclosure
8 - Control Station ("H-O-A" Switch)
9 - Photo Electric Control (enclosure-mounted shown)
10 - Lighting Contactor
11 - Power Distribution Terminal Blocks
12 - Neutral Bus required when 120 v. lights are controlled by lighting contactor
13 - Branch Circuit Breaker (See Electrical Service Data)
14 - Circuit Breaker Panelboard (See Electrical Service Data)
15 - Load Center
16 - Ground Bus

——— Power Wiring
– – – – Control Wiring
—N— Neutral Conductor (when required-to serve 120 v. loads only)
—G— Equipment grounding conductor-always required

⚠1 12-22-00 Revision
Modify legend numbers

CHANGE ORDER NO. 32

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- SERVICE SCHEMATICS AND SUPPORT-TYPE TP (OVERHEAD)

ED(4)-00

©TxDOT April 1998	DN: KB	CK: JW	DW: DN	CK: GC	MCG NO.:		
REVISIONS 12-00	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT				SHEET
	DALLAS	6	NH 99(367)				463A
	COUNTY			CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL			0009	04	039	SH 66

71D

LEVEL 1 2 3 4 5 6 7 — LAYED 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 — DATE: — ACC: — FILE: — DN: — CK: — DW: — CK:

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SERVICE ENCLOSURE NOTES

VIII. Service Assembly Enclosures. All service assemblies and enclosures shall be UL Listed for the intended purpose.

A. Shop built or shop assembled service assemblies (all types except Type T and Type D without lighting contactor) and all auxilliary equipment enclosures mounted with service equipment and paid for as part of Item 628, "Electrical Services", shall be built or assembled by a UL Listed Industrial Control Panel shop and shall have a unique serial numbered UL Label with the words "LISTED ENCLOSED INDUSTRIAL CONTROL PANEL". The same or an additional label shall have the name, location, and phone number of the shop, the UL file number of the shop, the shop order or drawing number, date of manufacture or assembly, and the line voltage. The enclosure shall also be labeled "SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT".

B. Conduit entries into the top of all enclosures shall have threaded hubs. No conduit entries through the equipment mounting back plate will be allowed.

C. All service enclosure front doors shall be permanently labeled "DANGER HIGH VOLTAGE". Label shall be a self sticking type, intended for outdoor installation. Lettering style, layout and colors of red, black and white shall be as required by OSHA. Label letters shall be 1 to 1 1/2 inches high or as high as the enclosure door width will permit for smaller Type T services. Separate or auxiliary lighting enclosures need not be OSHA labeled when mounted in the same viewing plane as the service enclosure front door. Where only one type of load is served by the service, the service door shall be marked using spray painted stenciled letters or self adhesive vinyl weather resistant labels, minimum of 1 inch high; applied in a neat and workman like manner, identifying the load served specifically such as lighting, landscaping, signals, traffic management or other wording as directed by the Engineer. Safety switches need not be OSHA labeled unless specifically required by the serving utility.

D. Type GS enclosures for service types D, T, and the circuit breaker panelboard of service type C shall be made from pre-galvanized steel sheeting, hot dipped galvanized steel, or powder coat painted steel. Painted enclosures shall be painted inside and outside; galvanized enclosures may be painted. Unless otherwise approved by the Engineer, painted enclosures shall be gray, beige, or white. Panelboard/loadcenter enclosures shall be UL type 3R, 4, 4X or 12 modified or built as shown in paragraph E (below), shall have a dead front trim, and shall have a door with provisions for padlocking. Types D and T shall not have a loadcenter exterior "can" mounted inside another enclosure meeting these specifications. The loadcenter shall be interior mounted in an enclosure with properly adapted dead front trim.

E. Type GS enclosures for service types A and C shall be a UL type 3R, 4, 4X or 12 enclosure and shall meet additional requirements of this paragraph. UL type 12 enclosures marked for indoor use only are approved for outdoor use when a drip shield or rolled lip is provided and drain fitting is supplied as specified. The enclosure door shall have a rolled lip around all sides of the enclosure opening and a padlock handle. All enclosures may have a continuous stainless steel piano hinge with stainless steel pin, enclosures less than 30 inches may have two heavy duty hinges, those over 30 inches must have three. Heavy duty two and three point hinges shall have a 3/8" minimum diameter electro-zinc plated steel pin or a stainless steel pin. Two point hinged doors shall be rated for 56 lbs of loading. Three point hinged doors shall be rated for 90 lbs of loading. The door shall have a mechanically attached data pocket constructed of either thermoplastic or metal. Pocket shall be 12" x 12", unless that size will not fit in enclosure. The pocket shall then be as large as possible, as approved by the Engineer, and mechanically attached with stainless steel nuts and bolts, or stainless steel or aluminum rivets. The main disconnect remote operator shall be flange-mounted, shall interlock the door when in the "on" position, and shall be pad lockable in both the "on" or the "off" positions. Enclosure shall include an equipment mounting panel installed inside the enclosure on collar studs or tapped bosses, and constructed of either 12-gauge steel or 0.10"-thick aluminum. Equipment mounting panels shall not be painted, but shall be hot-dipped galvanized or made from pre-galvanized sheeting. Enclosure shall have factory installed external mounting feet. Enclosure door shall be capable of opening at least 130 degrees, with arm to hold the door open. Door latch shall latch at two or more points, operate by a handle separate from disconnect switch and be capable of being locked. Lock must be keyed to Master #2195. Door shall be bonded with a #8 ground wire to the grounding bus or from door to enclosure grounding point if one is provided in enclosure. Enclosure shall be either hot dip galvanized, pre-galvanized sheeting or prime and painted. Paint shall be powder coat paint as shown below. Color shall be white or gray. Condensation drainage shall be provided by installation of a drain fitting (Crouse-Hinds CH-ECD11, Appleton ECDB or equal) in the bottom of the enclosure. The Contractor shall place in the service enclosure a laminated copy of the "as built" electrical plans showing the equipment supplied for that electrical service and all applicable wiring diagrams, layouts, and ED(4), ED(5), ED(7) and RID(3) when standard sheets are in the plan set.

F. Type SS Stainless steel enclosure shall meet all the requirements above for the respective type GS except that the enclosure shall be UL type 4X conforming to UL 50. Type GS circuit breaker panel interiors and load center interiors housed in a stainless steel UL type 4X enclosure conforming to UL 50 shall be considered complying with the Type SS requirements for service types D & T.

G. Type PS enclosure shall be as detailed and specified on ED(8).

IX. Powder Coat Paint. Powder coating shall be either a polyester thermosetting resin, a zinc rich primer with a TGIC (triglycidyl isocyanurate) powder overcoating, or a zinc-rich epoxy powder, applied by either electrostatic spray or fluidized bed immersion, high temperature oven cured, high density, low gloss, 4 mil thick (minimum), coating. Adhesion shall meet the 5A or 5B classifications of ASTM D3359. Finish shall be uniform in appearance and free of scratches.

X. Main Disconnect. Main disconnect device shall be a circuit breaker, as specified in the Electrical Service Data, shall be two or three pole, and rated for the voltage and amperage specified. Circuit breaker shall be a UL Listed thermal-magnetic circuit breaker with flange-mounted remote operator in the service assembly enclosure. Circuit breakers shall have a minimum interrupting rating of 10,000 Amps. When the utility company provides a transformer larger than 50 KVA, Contractor shall verify that the available fault current is less than the circuit breaker amps interrupting capacity (AIC) rating and shall provide documentation from the Utility to the Engineer. Documentation shall be submitted at the same time as other electrical submittals. Circuit breaker shall be UL Listed to UL489. No backfed breakers as main disconnects will be allowed.

XI. Control Circuit. Control circuit protection shall be either a 10 or 15 amp circuit breaker.

XII. Control Station ("H-O-A" Switch). Control station shall be a maintained-contact, three position selector switch in a UL type enclosure. Switch shall be rated 600 volts and shall be fitted with "Hand-Off-Auto" legend.

XIII. Photo Electric Control. Photo electric control shall consist of a photocell, internal lightning arrester, and relay or bimetallic switch mounted inside a weatherproof enclosure with standard 3-prong twist lock photocell plug and receptacle. The enclosure shall be made of poly-acrylic with clear acrylic window. Enclosure chassis shall be molded thermosetting plastic. The photocell shall have a polyethylene gasket, and shall have a hermetically sealed cadmium sulfide cell. The arrester shall have an enclosed type expulsion arrester rated 2.0 kV sparkover with 5,000 amps follow-through. Relay or switch shall be time delay type with normally closed contacts. Photo electric control shall be rated a minimum of 1800 VA, voltage as required.
Enclosure mounted photocells shall be the same as above except that the photocell shall be mounted inside the enclosure. The enclosure shall have two acrylic paned windows, or other material approved by the Engineer, one on each side of the enclosure. Each window shall be rectangular approximately one inch by two inches, round 2 inch diameter, or as otherwise approved by the Engineer. The photocell shall be mounted in a position to receive light from one window. Top of pole mounted photocells shall be mounted as shown on ED(4). The Contractor shall be responsible for proper operation of the photo-electric control. The Contractor shall move and/or adjust or shield the photocell from stray or ambient nighttime light or shall make any other adjustments required for proper operation. The photocell shall face North when practicable. Unless otherwise shown on the plans, the photocell shall turn on the illumination system at 1.0 +(-) 0.5 footcandle and turn off the illumination system at two footcandles higher than turn on.

XIV. Lighting Contactor. Lighting contactor shall be a UL Listed NEMA rated lighting contactor, two-pole or multipole as required, electrically held type designed to control high pressure sodium lighting loads, with silver alloy double break contacts rated at 240 volts, 480 volts or 600 volts as required. Lighting contactor shall not be the DIN rail mounted type.

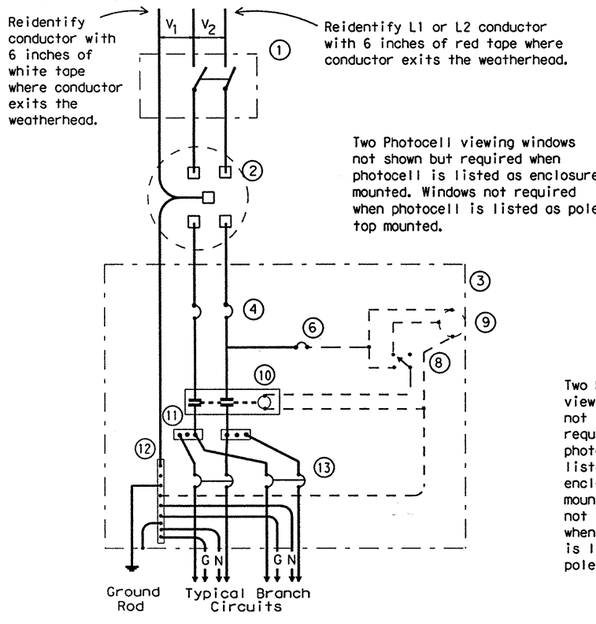
XV. Power Distribution Terminal Blocks. Power distribution terminal blocks shall be rated for 600 volts and shall be used for line side connections to branch circuit breakers where more than one circuit breaker is required. Lugs on blocks shall be properly sized for conductors being used. Only one conductor shall be placed under each lug.

XVI. Neutral/Ground Bus. Neutral/ground bus shall be a factory made bus permanently bonded to the enclosure with properly sized lugs for grounding and neutral conductors.

SCHEMATIC LEGEND

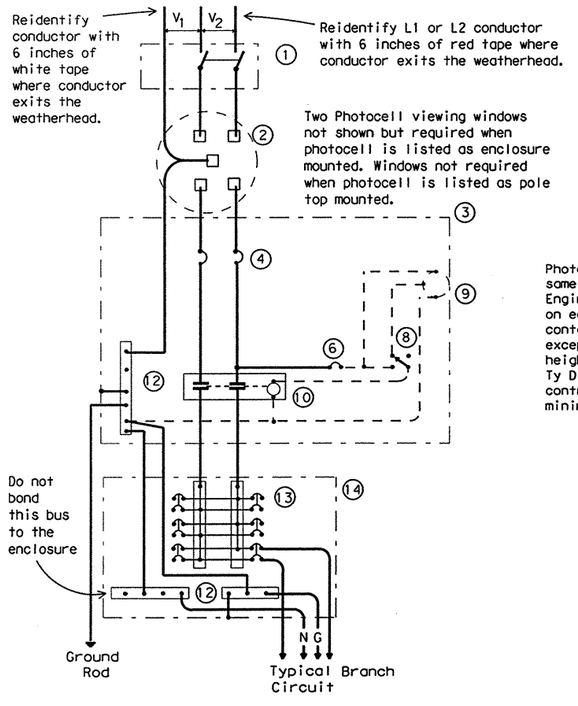
1 - Safety Switch (when required)
2 - Meter (when required)
3 - Service Assembly Enclosure
4 - Main Disconnect Breaker (See Electrical Service Data)
5 - Omit
6 - Circuit Breaker, 15A Typical for control wiring
7 - Auxiliary Enclosure
8 - Control Station ("H-O-A" Switch)
9 - Photo Electric Control (enclosure-mounted shown)
10 - Lighting Contactor
11 - Power Distribution Terminal Blocks
12 - Neutral/Ground Bus
13 - Branch Circuit Breaker (See Electrical Service Data)
14 - Circuit Breaker Panelboard (See Electrical Service Data)
15 - Load Center

——— Power Wiring
– – – – Control Wiring
——N—— Neutral Conductor (when required) serve 120 v. loads only)
——G—— Equipment grounding conductor-always required



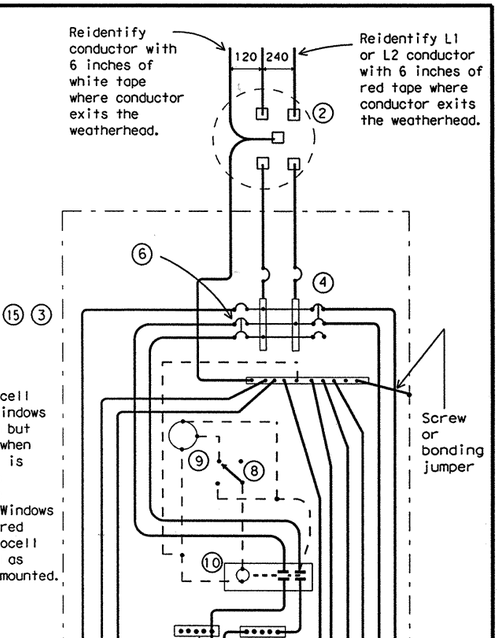
SCHEMATIC TYPE A
THREE WIRE

Maximum feeder circuit size (High Mast Poles): 100 amps for two pole 480V, 125 amps for one or two pole 120V or 240V. Maximum branch circuit size: 50 amps.



SCHEMATIC TYPE C
THREE WIRE

Maximum feeder circuit size (High Mast Poles): 100 amps for two pole 480V, 125 amps for one or two pole 120V or 240V. Maximum branch circuit size: 50 amps.



SCHEMATIC TYPE D
120/240 VOLTS - THREE WIRE

Install photocell and lighting contactor when shown on Electrical Service Data. See Type D service notes.

TYPE D SERVICE NOTES

Photocell and lighting contactor shall be located either in the same UL type 3R enclosure with load center or, if approved by Engineer, in separate enclosure. Photocells shall have a window on each side of enclosure to allow operation. Both photocell contactor and breaker area shall have dead front trim. Enclosure, except for RT and PS supports, shall not exceed 36 inches in height or 16 inches in width unless approved by the Engineer. Ty D load center with lighting controls or TY D seperate lighting control enclosure shall have power distribution blocks for a minimum of 4, #8 conductors per phase.

CHANGE ORDER NO. 02

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

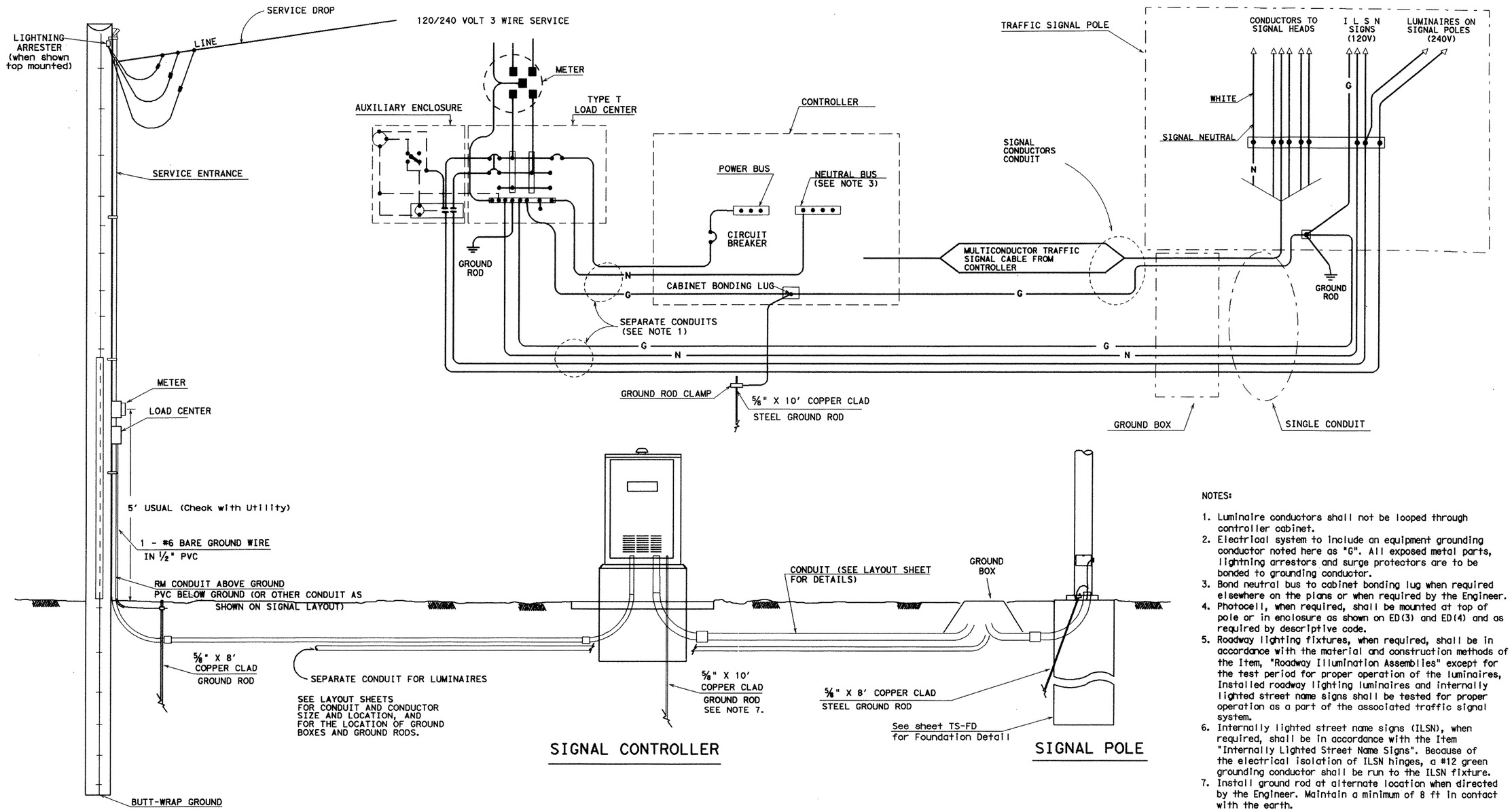
ELECTRICAL DETAILS- SERVICE ENCLOSURE & NOTES

ED(5)-00

©TxDOT April 1998	DN-KB	CK-JW	DW-DN	CK-GC	REQ NO.:
REVISIONS 12-00	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99(367)		SHEET: 463B
	COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66

DN: CK: DW: CK:
DATE: ACC: FILE:
LEVELS (USED): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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SIGNAL CONTROLLER

SIGNAL POLE

ELECTRICAL SERVICE

(TYPE T TIMBER POLE SHOWN AS EXAMPLE, SEE ELECTRICAL DETAILS, LAYOUT SHEETS, AND ELECTRICAL SERVICE DATA SHEET FOR SERVICE REQUIRED AND FOR DETAILS.)

NOTES:

1. Luminaire conductors shall not be looped through controller cabinet.
2. Electrical system to include an equipment grounding conductor noted here as "G". All exposed metal parts, lightning arrestors and surge protectors are to be bonded to grounding conductor.
3. Bond neutral bus to cabinet bonding lug when required elsewhere on the plans or when required by the Engineer.
4. Photocell, when required, shall be mounted at top of pole or in enclosure as shown on ED(3) and ED(4) and as required by descriptive code.
5. Roadway lighting fixtures, when required, shall be in accordance with the material and construction methods of the Item, "Roadway Illumination Assemblies" except for the test period for proper operation of the luminaires, Installed roadway lighting luminaires and internally lighted street name signs shall be tested for proper operation as a part of the associated traffic signal system.
6. Internally lighted street name signs (ILSN), when required, shall be in accordance with the Item "Internally Lighted Street Name Signs". Because of the electrical isolation of ILSN hinges, a #12 green grounding conductor shall be run to the ILSN fixture.
7. Install ground rod at alternate location when directed by the Engineer. Maintain a minimum of 8 ft in contact with the earth.

Unless shown elsewhere in the plans, electrical service data for Types D and T shall be as follows.

ELECTRICAL SERVICE DATA

ELECTRICAL SERVICE DESCRIPTION (SEE ED(3))	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT		TWO-POLE CONTACTOR AMPS	PANELBD./ LOADCENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CKT. BRK. POLE/AMPS	KVA LOAD
				SWITCH AMP/FUSES	CKT. BRK. POLE/AMP					
TY D (120/240)070(NS)GS(E)**(*)	1½	3/#4	N/A	N/A	2P/70	20	70	T.S. Lighting	1P/50 2P/20	<7.1
TY T (120/240)000(NS)GS(E)**(*)	1½	3/#4	N/A	None	None	20	70	T.S. Lighting	1P/50 2P/20	<7.1

** See descriptive code in estimate for service support type.
* See descriptive code in estimate for overhead or underground service.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations DIvision

ELECTRICAL DETAILS- TYPICAL TRAFFIC SIGNAL SYSTEM DETAILS

ED(7)-98

© TxDOT January 1992	DN: KB	CK: TB	DW: RS	CK: TB	MEG NO.:

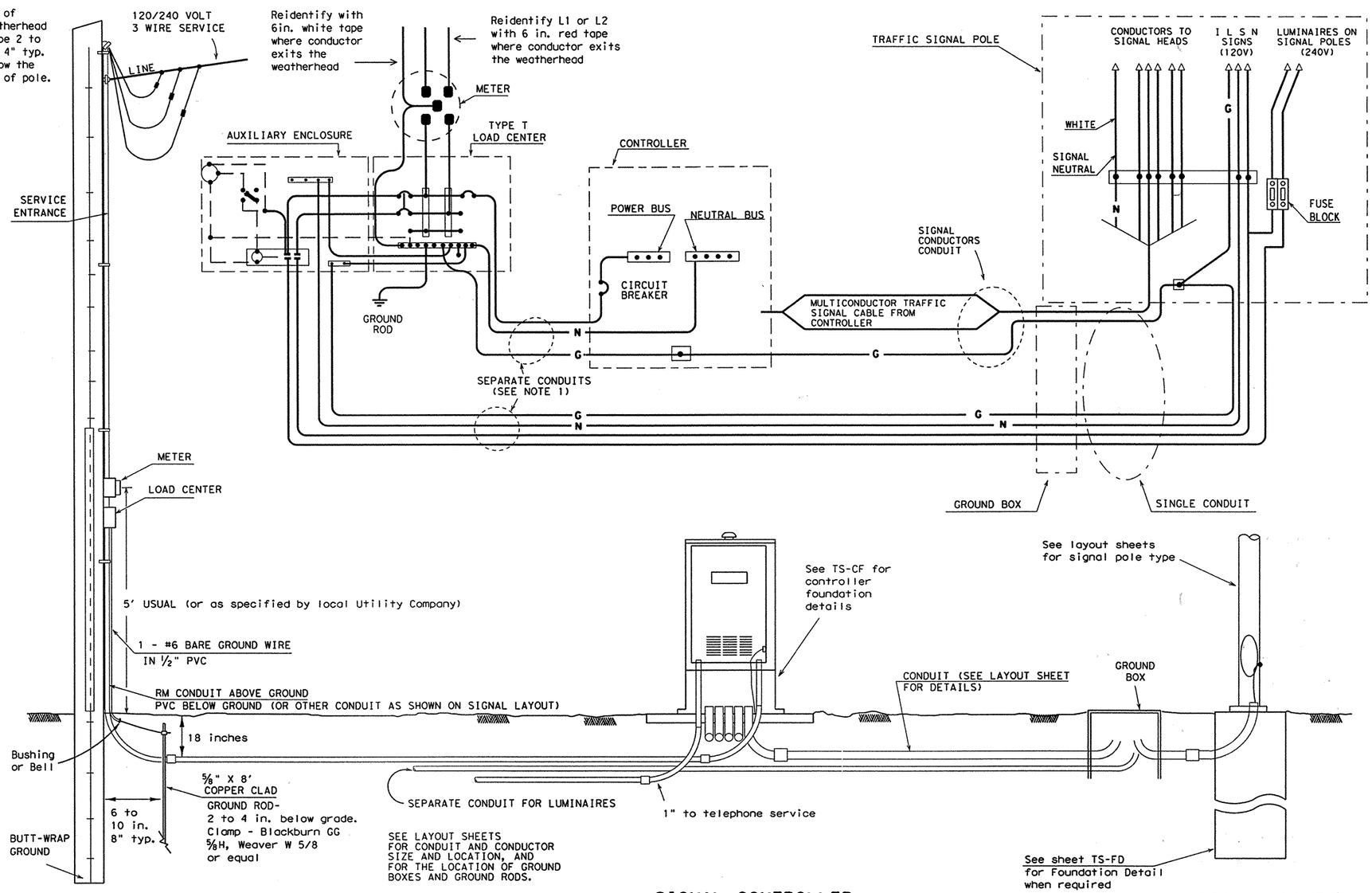
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
5-93	18	6	NH99(367)	464
10-93	COUNTY		CONTROL SECTION JOB	HIGHWAY
4-98	ROCKWALL		0009 04 039	SH 66

71G

LEVEL: DISPLAYED
DATE:
ACC: d58hplc/usr/d580504
FILE:
DN: LR
CK: CW
DW: DN
CK: MT

NOTES:

1. Luminaire conductors shall not be looped through controller cabinet.
2. Electrical system to include an equipment grounding conductor noted here as "G". All exposed metal parts are to be bonded to grounding conductor.
3. Photocell, when required, shall be mounted at top of pole or in enclosure as shown on ED(4) and ED(5) and as required by descriptive code.
4. Roadway lighting fixtures, when required, shall be in accordance with the material and construction methods of the Item, "Roadway Illumination Assemblies" except for the test period for proper operation of the luminaires. Installed roadway lighting luminaires and internally lighted street name signs shall be tested for proper operation as a part of the associated traffic signal system.
5. Internally lighted street name signs (ILSN), when required, shall be in accordance with the Item "Internally Lighted Street Name Signs". Because of the electrical isolation of ILSN hinges, a #12 green grounding conductor shall be run to the ILSN fixture.
6. Install ground rod at alternate location when directed by the Engineer. Maintain a minimum of 8 ft in contact with the earth.
7. Liquidtight flexible metal conduit, may be used when meter and service enclosure are mounted 90 to 180 degrees to each other. LFMC shall not exceed 3 ft. and shall be securely supported within one ft. of each end. Each end of LFMC must have a grounding bushing or be terminated with a grounding fitting. A neutral conductor must be installed within the LFMC. Bend in liquidtight flexible metal conduit shall not exceed 180 degrees.
8. Minimum embedment depth as per item 627 Treated Timber Poles.
9. Pole to be set plumb.
10. Back fill thoroughly tamped in 6 in. lifts. Place 6 inches additional backfill above grade around pole base to allow for settling, as per Item 627.
11. Excess pole length shall be trimmed from the top at a slope to aid water run off.
12. Gain pole two places for each meter, service, separate or auxiliary enclosure. See ED(4) for details.
13. All illumination and power conductors to be pull tested and megged. Do not meg traffic signal cable.
14. Enclosures are to be locked, and ground box covers are to be bolted before power is applied to the circuit.
15. Conduits entering top of enclosures to be fitted with conduit sealing hub or threaded boss, such as meter hub. Off-set nipple, when required, shall not be zinc-die-pressure cast. All metal conduits not connected to conduit sealing hub, or threaded boss must have a grounding bushing. Terminate bonding jumper to ground bus. All conduits entering enclosures shall be sealed. Silicone shall not be allowed.



ELECTRICAL SERVICE

(TYPE T TIMBER POLE SHOWN AS EXAMPLE, SEE ELECTRICAL DETAILS, LAYOUT SHEETS, AND ELECTRICAL SERVICE DATA SHEET FOR SERVICE REQUIRED AND FOR DETAILS.)

SIGNAL CONTROLLER

SIGNAL POLE

Unless shown elsewhere in the plans, electrical service data for Types D and T shall be as follows.

ELECTRICAL SERVICE DATA

ELECTRICAL SERVICE DESCRIPTION(SEE ED(4))	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT CKT. BRK. POLE/AMP	TWO-POLE CONTACTOR AMPS ***	PANELBD./ LOADCENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CKT. BRK. POLE/AMPS	KVA LOAD
TY D (120/240)070(NS)GS(E)**(*)	1½	3/#4	N/A	2P/70	30	70	T.S. Lighting	1P/50 2P/15	<7.1
TY T (120/240)000(NS)GS(E)**(*)	1½	3/#4	N/A	None	30	70	T.S. Lighting	1P/50 2P/15	<7.1

*** Eliminate photocell, contactor and seperate enclosure if lighting, or internally lighted signs are not required by plans
** See descriptive code in estimate for service support type.
* See descriptive code in estimate for overhead or underground service.

CHANGE ORDER NO. JZ

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

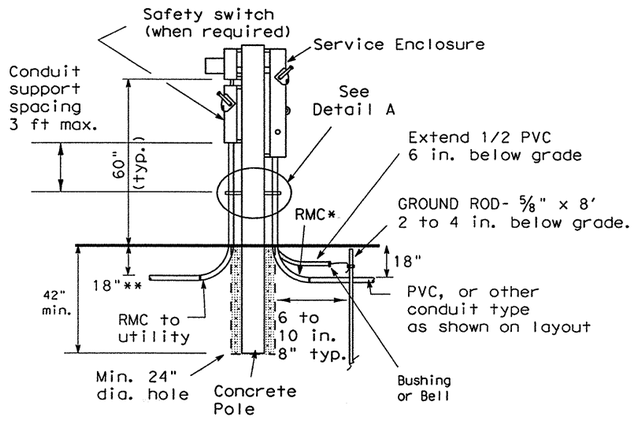
ELECTRICAL DETAILS- TYPICAL TRAFFIC SIGNAL SYSTEM DETAILS

ED(7)-00

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| LEVELS | | |

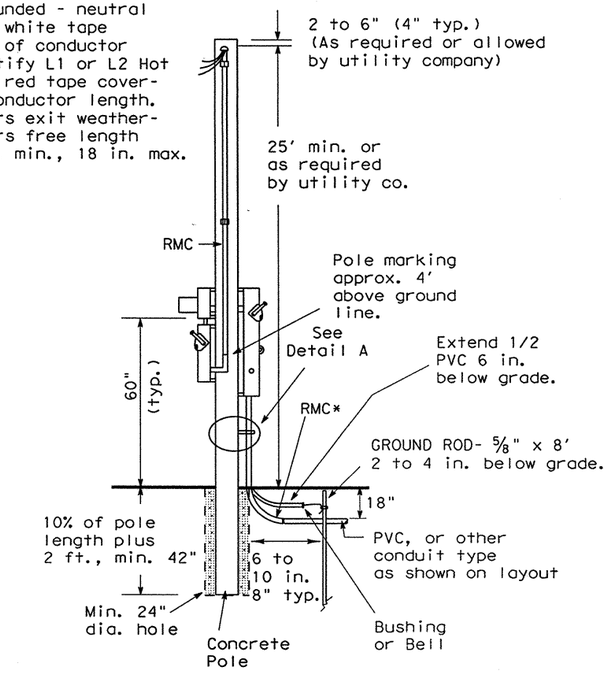
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CONCRETE SERVICE SUPPORT

(Underground)

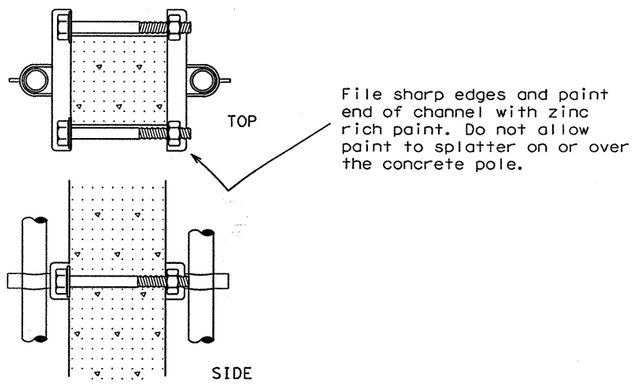
Reidentify grounded - neutral conductor with white tape covering 6 in. of conductor length. Reidentify L1 or L2 Hot conductor with red tape covering 6 in. of conductor length. Where conductors exit weatherhead, conductors free length shall be 12 in. min., 18 in. max.



CONCRETE SERVICE SUPPORT

(Overhead)

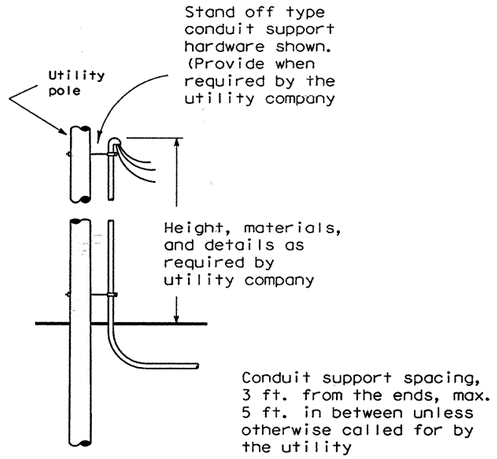
*same size as branch circuit conduit shown on layout sheets.
** or as required by utility company.



DETAIL A

Channel bracket or other arrangement approved by the Engineer. (Kindorf, Unistrut, B-line or equal)

Note: Attach channels with stainless steel concrete anchors (max. 1" depth), square U-bolts or back to back channel with long bolts, or other secure mounting as approved by the Engineer. Bolts galvanized in accordance with ASTM A153. Channel shall be galvanized.



UTILITY POLE CONNECTIONS

(When underground service is required by descriptive code and utility is overhead.)

NOTES:

Electrical service support structures bid as type GC or OC shall be concrete poles and shall meet the following specifications.

1. Poles shall be prestressed concrete and suitable for direct embedment into the ground without special foundations.
2. Poles bid as type "GC" shall be a granite concrete mixture consisting of gray Portland cement with exposed pink granite aggregate. Poles bid as type "OC" shall be other concrete mixture as shown elsewhere on the plans or as directed by the Engineer.
3. Poles greater than 10 ' shall be square in cross-section, with chamfered corners, and shall have a standard taper of 0.162 inch per foot. Cross sectional dimensions shall not deviate by more than 3/8 inch. Poles 10' or less may be tapered .162"/ft or may be non-tapered. The allowable tolerance shall be plus 3 inches and -2 inches in the overall length. The width of the bottom face of the pole as it is cast may be less than the top face. All small cavities shall be cleaned, saturated with water and then filled with mortar. A small cavity is defined as one larger than 1/4 inch but smaller than 3/4 inch in diameter, and less than 3/8 inch deep. Larger non-structural cavities and spalls shall be repaired by opening side of the damaged area on a 1 to 1 slope using a mechanical grinder, cleaning thoroughly and filling with a high-strength non-shrink concrete repair material. Poles with other defects may be repaired only upon authorization of and using the method prescribed by the Engineer.
4. The end of each steel reinforcing strand in the tip and butt shall be burned back to a minimum depth of 1/2 inch. The holes left by the removal of the strand shall be thoroughly cleaned of any loose residue. The holes shall then be completely filled with non-shrink grout and smoothed evenly with tip or butt surface.
5. Prestressing strands shall have a minimum concrete cover of 1 1/4 inch.
6. A straight line joining the edge of the pole at the butt and the edge of the pole at the top shall not be distant from the surface of the pole at any point by more than 3/8 inch for each 10 feet of length.
7. The chloride content of the concrete mix, including all ingredients shall be 0.4 pounds per cubic yard, or less.
8. Concrete used in poles shall have a compressive strength at transfer of not less than 4,000 PSI, and a 28-day compressive strength of not less than 7,000 PSI.
9. Materials shall comply with the latest version of the following standards:
   a) Portland Cement - ASTM C105
   b) Admixtures - ASTM C494
   c) Aggregates - ASTM C33 or C330
   d) Reinforcing Bars - ASTM A615
   e) Cold-Drawn Spiral Wire - ASTM A82
   f) Prestressing Strand, 270K - ASTM A416
10. Poles greater than 10' shall have a 6 inch tip and 1/2 inch strands. Poles 10' or less shall have a 5 1/2 inch min. tip and 1/2 inch strands. Pole shall have a load capacity of greater than 1188 lbs. applied 2 ft. below tip.
11. Poles shall be capable of withstanding single point pick up from the horizontal position when lifting from a point 30% of the overall length down from the tip.
12. All poles shall be marked by imprinting on one face. Marking shall indicate manufacturer's name, year of manufacture, length and name or type of pole. Marking shall be located approximately 4 ft above ground line.
13. Dunnage points, two-point pickup locations for handling pole in horizontal position, and one-point pickup locations for use in raising the pole to a vertical position and handling in setting operation shall be marked on the pole with durable ink or paint or cast into the pole. These marks shall be small but conspicuous.
14. Poles shall be embedded 42 inches or 10% of length plus 2 ft into the ground whichever is greater.
15. When required by utility company for overhead services, poles longer than 10 feet shall have a #6 solid ground wire running the entire length exiting within 6 inches from the top and bottom of the pole. The contractor shall connect the bottom to a butt wrap or butt plate grounding device.
16. All conduit and conductors attached to the service support and within 12 inches of the service pole will not be paid for directly, but shall be subsidiary to the service support. All conduit and conductors from the utility company pole to a point 12 inches from the service support, including conduit and conductors required for the utility pole riser when furnished by the Contractor, will be paid for separately.
17. All mounting hardware and installation details of services shall be in accordance with utility company specifications.
18. All conduit on service supports shall be rigid metal conduit except the conduit for grounding electrode conductor (ground rod wire) shall be 1/2 inch PVC. Service entrance conduit size shall be as shown elsewhere. Conduit for branch circuit entry to enclosure shall be the same size as that shown on the layout sheets for branch circuit conduit. Rigid metal conduit shall extend a minimum of six inches underground and then coupled to the type conduit shown on the layout for that particular branch circuit. RMC shall have grounding bushings in enclosures.
19. Backfill shall be in accordance with Item 400 except for measurement and payment. Backfilling will not be paid for directly but shall be subsidiary to the various bid items.
20. Liquid tight flexible metal conduit, may be used when meter and service enclosure are mounted 90 to 180 degrees to each other. Flexible metal conduit shall not exceed 3 ft. and shall be securely supported within one ft. of each end. Each end of flexible metal conduit must have a grounding bushing or be terminated with a grounding fitting. A neutral conductor must be installed within the flexible metal conduit. Bend in liquid tight flexible metal conduit shall not exceed 180 degrees. Liquid tight flexible metal conduit may not be installed on utility company owned poles. A pull test is required on all installed conductors, at least six inches of free conductor movement shall be demonstrated to the satisfaction of the Engineer.

CHANGE ORDER NO. 12

LEVELS	1	2	3	4	5	6	7	8	J	10	11	12	13	14	15	16
USED	1	7	33	49	2	8	9	35	50	2	9	22	35	51	52	53
	2	8	34	50	3	9	20	36	51	22	32	36	45	52	53	54
	3	9	35	51	4	20	21	37	52	23	33	37	46	53	54	55
	4	20	36	52	5	21	22	38	53	24	34	38	47	54	55	56
	5	21	37	53	6	22	23	39	54	25	35	39	48	55	56	57
	6	22	38	54	7	23	24	40	55	26	36	40	49	56	57	58
	7	23	39	55	8	24	25	41	56	27	37	41	50	57	58	59
	8	24	40	56	9	25	26	42	57	28	38	42	51	58	59	60
	9	25	41	57	10	26	27	43	58	29	39	43	52	59	60	61
	10	26	42	58	11	27	28	44	59	30	40	44	53	60	61	62
	11	27	43	59	12	28	29	45	60	31	41	45	54	61	62	63
	12	28	44	60	13	29	30	46	61	32	42	46	55	62	63	
	13	29	45	61	14	30	31	47	62	33	43	47	56	63		
	14	30	46	62	15	31	32	48	63	34	44	48	57			
	15	31	47	63	16	32	33	49		35	45	49	58			
	16	32	48				34	50		36	46	50	59			
												51	60			
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DN:
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DATE:
ACC:
FILE:

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- SERVICE SUPPORT TYPES GC AND OC

ED(9)-00

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DN: KB	CK: JW	DW: DN	CK: GC	HCG NO.:
REVISIONS 12-00	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
	DALLAS	6	NH 99(367)	464B
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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II. ROADWAY ILLUMINATION ASSEMBLIES (cont.)

B. Transformer Base

1. Transformer base shall be cast from aluminum, ASTM B-108 or B-26 Alloy 356.0-T6, or other material approved by the Engineer, and shall be furnished with eight 1/2 inch flat washers as recommended by the manufacturer. Transformer base bolt circles (Top and Bottom) shall match bolt circles for poles and foundations shown on RID (3).

2. Transformer base shall be approximately 15-20 inches high and shall have a door approximately 13 inches x 8 inches x 9 1/4 inches or as otherwise approved by the Engineer. Screw or bolts for attachment of door to base shall be stainless steel. Four machine bolts with four nuts, eight 1/2 inch flat washers and four lock washer, galvanized ASTM A-153 Class C or D, or B-695 Class 50, shall be provided with each transformer base for connecting the pole. Bolts shall be ASTM A325 or approved equal. Nuts shall be ASTM A-563 grade DH galvanized. A 1/2-13 NC female threaded grounding lug shall be provided inside the transformer base near the bottom.

3. The X-base shall be made from extruded aluminum channel and aluminum plate. The base breakaway features shall rely on bolt shear and not on bolt torque. Bolt shall have torque controlled break-off hex-head. Bolt shall be Aluminum Association type 2024-T4 aluminum. X-base channel shall be connected with aluminum bolts. Bolt shall be left hand thread and shall not be interchangeable with any other bolt not designed specifically for use with the X-base.

4. All breakaway bases shall meet the breakaway requirements of the AASTHO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," latest edition, and shall have been tested by FHWA-approved methods. All bases shall have been structurally tested to meet or exceed the full designed plastic moment capacity of the pole. Certification of the plastic moment load test and FHWA breakaway requirement test of the model of base being furnished shall be submitted with shop drawings. Shop drawings shall show breakaway base model number and manufacturer's name or logo.

5. Bases shall be stamped, incised or by other approved permanent means, marked to show fabricator's name or logo, and model number. Such information shall be placed in a readily seen location, inside or outside the base, but shall not be placed on the door.

6. Doors for transformer bases shall be made of plastic, fiberglass or other non-aluminum material approved by the Engineer. Transformer bases shall be cleaned by grit blast cleaning after heat treatment. Certification by the manufacturer of heat treatment shall be furnished with transformer bases. The certification shall show the metal alloy and temper and that the base meets those requirements, chemical and physical. The certification shall also show the material ASTM specification. Transformer bases shall be cast with a removable tab bar for material testing. Some bars may have been removed by the manufacturer for testing.

C. All Luminaires.

1. The luminaire housing shall be cast or drawn from a non-ferrous alloy and shall be free of cracks and excessive porosity. All nuts, screws, clips, washers and attaching hardware shall be made of stainless steel; steel electro-zinc-plated, minimum thickness 0.0002 inches with olive green drab or yellow chromate conversion coating; steel coated with an acidic chromate-phosphate-binder system primer, top coated with a polytetrafluoroethylene modified silicon primer, bright metallic in color, meeting the requirements of General Motors automotive specification GM 164M; or other approved conversion coatings except that brackets may be made from pre-galvanized steel. All threaded surfaces used in the housing shall be lubricated with a silicone grease.

2. The slipfitter shall securely clamp the luminaire to the mast arm. A positive means of vertical adjustments shall be provided. The refractor or lens shall be clear glass. The optic assembly shall be provided with resilient gaskets and so constructed that a positive seal against weather and other contaminants will be maintained. The latch shall provide a positive means of maintaining closure of the luminaire. The socket shell shall be nickel plated and shall be rigidly attached to a high grade porcelain mogul base which shall extend and enclose the metal shell. A locking means shall be incorporated in the shell of the socket to positively resist the removal of the lamp. Reflectors shall be polished aluminum with Alzak or equal coating and shall not be painted.

3. Mast-arm mounted luminaires shall be provided with a leveling indicator which is clearly visible from the ground. Leveling indicator shall be sensitive to one (1) degree (maximum) changes in position at any point within five (5) degrees (minimum) level position. Unless otherwise directed by the Engineer, mast-arm mounted luminaires will be installed in the level position.

4. Underpass luminaires shall be fused internally. Fuses shall be 10 amp time-delay type.

△1 5. The Contractor may be responsible for fixture testing costs. See Materials and Tests Section test method TEX-1110-T.

6. The Contractor shall furnish six (6) sets of submittals of the luminaire fixture to the Engineer at the project address. These submittals shall be approved by the Engineer before the Contractor begins work.

△1 D. High Pressure Sodium Vapor Luminaires

1. Photometrics

a. The U/P (SPL-CO) (.15KW)S (TY 1) and (TY 2) underpass luminaires shall be 150 watt high pressure sodium, IES TYPE M-C with flat tempered glass lens. The fixtures shall provide a minimum measured intensity of 0.2 footcandle in a rectangular area measuring 120 feet x 30 feet, when mounted 20 feet above the midpoint of either long side of the surface area.

The maximum to minimum horizontal illuminance uniformity ratio shall not exceed 25:1 within the above mentioned rectangular area.

b. The 250-watt mast arm mounted luminaire shall be IES Type full cutoff and, when mounted 40 feet above the midpoint of either long side of a rectangular area 190 feet by 45 feet, shall provide a measured minimum intensity of 0.2 footcandle at any point on the surface of this area. Light intensities measured in footcandles along a line parallel to and 20 feet in from the long side of the previously defined rectangular area above which the luminaire is mounted shall decrease at a rate not to exceed 0.5 footcandle in any 10 foot interval along the aforementioned line from 10 to 90 feet on both sides of the luminaire and shall not be less than 0.3 footcandle at any point along such line.

The maximum to minimum horizontal illuminance uniformity ratio shall not exceed 15:1 within the above mentioned rectangular area.

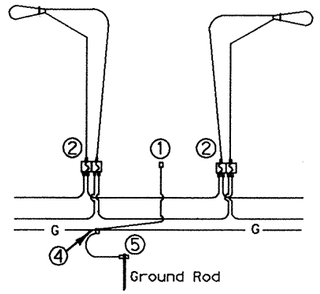
c. The 400-watt mast arm mounted luminaire shall be IES Type full cutoff and, when mounted 50 foot above the midpoint of either long side of a rectangular area 220 feet by 60 feet, shall provide a measured minimum intensity of 0.2 footcandle at any point on the surface of this area. Light intensities measured in footcandles along a line parallel to and 30 feet in from the long side of the previously defined rectangular area above which the luminaire is mounted shall decrease at a rate not to exceed 0.5 footcandle in any 10 foot interval along the aforementioned line from 10 to 90 feet on both sides of the luminaire and shall not be less than 0.3 footcandle at any point along such line.

The maximum to minimum horizontal illuminance uniformity ratio shall not exceed 15:1 within the above mentioned rectangular area.

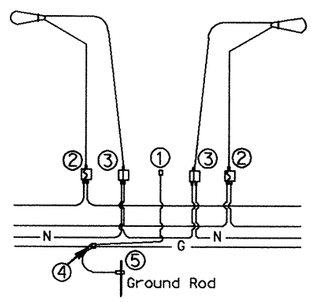
d. The luminaires shall meet the photometric requirements shown above, when energized at 100 percent of rated line voltage. Test will be run with the fixture in the level position as indicated on leveling indicator.

Fabrication Tolerances Table		
Part	Dimension	Tolerance
Pole Asssembly	Shaft length	± 1"
	I.D. of outside piece of slip fitting pieces	+ 1/8 " - 1/16 "
	O.D. of inside piece of slip fitting pieces	+ 1/32 " - 1/8 "
	Shaft diameter: other	+ 3/16 "
	Out of "round"	1/4 "
	Straightness of shaft	± 1/4 " in 10 ft
	Twist in shaft	4° in 50 ft
	Perpendicular to baseplate	1/8 " in 24"
	Pole centered on baseplate	± 1/4 "
	Location of Attachments	± 1/4 "
Arm Assembly	Arm Length	± 3"
	Arm Rise	± 1 3/4 " in 10 ft
	Arm Diameter	± 3/16 "
	Overall length or width	± 1/4 "
	Thickness	+ 1/4 " - 1/16 "
	Deviation from flat	1/8 " in 12"
	Spacing between holes	± 3/32 "
	Anchor bolt hole size	± 1/16 "
Anchor Bolt	Length	+ 1" - 1/4 "
	Threaded length	+ 1 1/2 " - 1/8 "
	Galvanized length (if required)	+ 8" - 1/4 "
Miscellaneous	Bolt hole spacing	± 1/16 "
	Strut location in truss arms	± 1 1/2 "

△1



FOR THREE-WIRE CIRCUIT-CENTER GROUNDED
LUMINAIRES SERVED AT 480V ON 240/480 VOLT SERVICE OR LUMINAIRES SERVED AT 240V FOR FOR 120/240 VOLT SERVICE.



FOUR-WIRE CIRCUIT-CENTER GROUNDED
LUMINAIRES SERVED AT 240V (240/480 VOLT SERVICE)

NOTES:

(1) Pole Bonding Connector Blackburn TTC3 or Weaver TGC3 or equal.
(2) Fused Connector-All electrical connectors for breakaway poles shall be watertight and shall be designed as breakaway (Buchannan 65U, Bussmann HEBW, Littelfuse LEB or equal). All fuses shall be time-delay types. 10 Amp (Littelfuse FLQ, Bussman FNQ or equal).
* (3) Un-fused Connector-All electrical connections for neutrals shall be watertight. For breakaway poles, connections shall be designed as breakaway, shall have a white color marking, and shall have a permanently installed solid neutral (Buchannan 20U, Bussmann HET, Littelfuse LET or equal). Dummy/Neutral fuse shall be Bussman NTS-R-3 or equal.
(4) Split Bolt or other connector.
(5) Ground Rod Clamp - Blackburn GG58H, Burndy GKP635, or equal.

*For Transformer Base Poles. On Shoe Base Poles omit un-fused connector for neutral conductor.

△1 10-98: clarified T-base washers; mod. fixture requirements; removed two wire diagram; revised breakaway connectors requirements

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ROADWAY ILLUMINATION DETAILS

RID(2)-98

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DN: RS	CK: KB	DW: FDN	CK: RS	MEG NO.:

REVISIONS
5-93
10-93
10-98

STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
18	6	NH99(367)	165

COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

72B

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE:
ACC: d58hplc/usr/d580504
FILE:

DN: LR
CK: CW
DW: DN
CK: MT

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II. ROADWAY ILLUMINATION ASSEMBLIES (cont.)

D. High pressure Sodium Vapor Luminaires (cont.)

2. Ballasts

a. All ballasts shall be isolated-winding lag-type magnetic regulators designed to operate high pressure sodium lamps unless otherwise shown on the plans.

b. When the circuit voltage indicated on the plans is applied, the ballast input wattage during fluctuations of the test voltage of +10 and -10 percent shall not exceed the following:

Nominal Lamp Rating, Watts	Maximum Wattage Input
150	220
250	440
400	552

c. During fluctuation of the test voltage of +10 and -10 percent, the lamp wattage fluctuation shall no exceed a total of 20 percent and ballast shall maintain lamp wattage within the following limits:

Nominal Lamp Watts	Minimum Lamp Watts	Maximum Lamp Watts
150	110	180
250	175	370
400	280	475

d. The power factor of any ballast when tested at the circuit voltage indicated in the plans shall be not less than 90 percent.

e. The electronic starting aid shall provide a starting pulse with an amplitude of 2500 volts minimum, 4000 volts maximum. The pulse width shall be a minimum of 0.8 microseconds at 2250 volts. The pulse shall occur when the open-circuit voltage is equal to or greater than 90 percent of peak open-circuit voltage. Pulse repetition rate shall be a minimum of one per cycle and pulse current shall be a minimum of 0.18 amperes. Electronic staring aids for mast-arm mounted poles shall be replaceable without the use of tools. The starting aid shall discontinue to pulse when the lamp starts.

f. Luminaires will be tested for satisfactory operation of the starter board under open-circuit (lamp-out) condition for a minimum of 72 hours. Any failures of starter boards will be considered grounds for rejection of the model starter board being supplied.

g. Ballasts shall permanently and clearly indicate the following: lamp type, catalog number, voltage rating, connection diagram, and manufacturer. Capacitors in all luminaires shall be non-PCB type.

3. Lamps

a. All lamps shall be new and shall be of recent manufacture.

b. 150 watt lamps shall be rated for 55 volts.

c. High pressure sodium lamps shall meet ANSI C78 requirements and shall be the type that extinguishes at the end of usable lamp life and remains extinguished without cycling. 400 watt lamps shall contain less than 4.0 mg of mercury, 250 watt lamps shall contain less than 3.0 mg of mercury. Lamps shall be lead free and shall pass the Federal Toxic Characteristic Leachate Procedure (TCLP).

4. Testing

a. Ballasts and luminaires will be tested using a lamp furnished for the same project.

b. Luminaires, ballasts, and lamps will be sampled and tested in accordance with the TXDOT Materials and Test Section's Manual of Testing Procedures.

III. ROADWAY ILLUMINATION ASSEMBLY FOUNDATIONS

A. Foundations will be paid for under the Item "Foundations for Signs, Traffic Signals and Roadway Illumination Assemblies", unless otherwise shown on the plans. Top 6 inches of foundation shall be formed and struck level.

B. Anchor bolts for all poles, except CTB-mounted poles, shall be A-36M55 Anchor Bolts. Anchor bolts for CTB mounted poles shall be steel, ASTM A-325 or A-321 threaded rod. Nuts for CTB anchor bolts shall be ASTM A-563 Grade D heavy hex, galvanized. The top 8 inches of all anchor bolts shall be galvanized per ASTM A-153. Anchor bolts in foundations shall be 1 1/4 inches x 30 inches for mounting heights 40 feet and greater, 1 inch x 30 inches for mounting heights less than 40 feet.* Anchor bolts shall have top end threaded not less than 5 inches and furnished with galvanized hex nuts, 1/2 inch flat washers (T-base), lock washers (shoe base) and template. The lower end of the bolt shall be threaded and furnished with nut and template. When bolts with rolled threads are furnished, bolt body need not be full size. See CTB and SSCB details for anchor bolts in concrete traffic barriers. Anchor bolts and nuts shall have Class 2A and 2B fit. Nuts shall be tapped and chased after galvanizing.

C. Concrete shall be Class A or C.

D. A minimum of two conduits shall be installed in each foundation. See lighting layout sheets for locations of foundations with more than two conduits. Any unused conduits in foundations shall be capped on both ends.

E. Unless otherwise dimensioned on the plans, breakaway roadway illumination assemblies should be located as shown in the placement table. Non-breakaway illumination assemblies should be protected from vehicular impact (i.e. 2 feet behind guard rail or mounted atop traffic barrier) or located outside the clear zone, except that 2.5 feet from curb face is minimum desired for light poles on city streets, 45 mph or less, see design guidelines for further information.

F. Anchor bolt template shall not be supplied with flat washers. Transformer base shall be held with 1/2 inch thick washers and nuts supplied with base. No washers or shims shall be used under transformer base.

G. Riprap shall be placed around the foundtion when called for elsewhere in the plans.

H. Conduit location in foundation is critical for new style breakaway devices. Conduits shall be placed 2 inches apart on centerline as shown in foundation details.

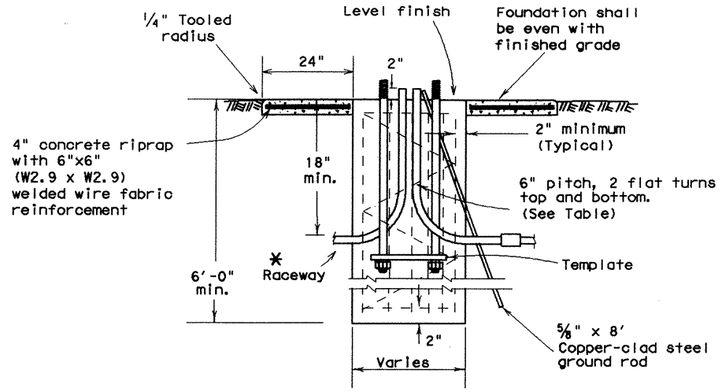
* Except that anchor bolts shall be 1 inch x 30 inches for all X-base poles.

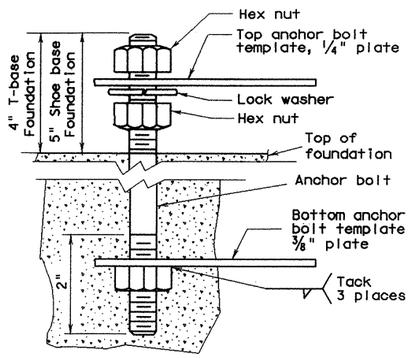
Breakaway Pole Placement, see Para. III. E.	
Roadway Functional Classification	** Pole Offset (distance to transformer base, tolerance + 6in.-0in.)
Freeway mainlanes (roadways with full control of access)	15 ft (minimum and typical) from lane edge
All curbed, 45 mph or less design speed	2.5 ft minimum (15 ft desirable) from curb face
All others	10 ft minimum* (15 ft desirable) from lane edge

*or as close to ROW line as is practicable

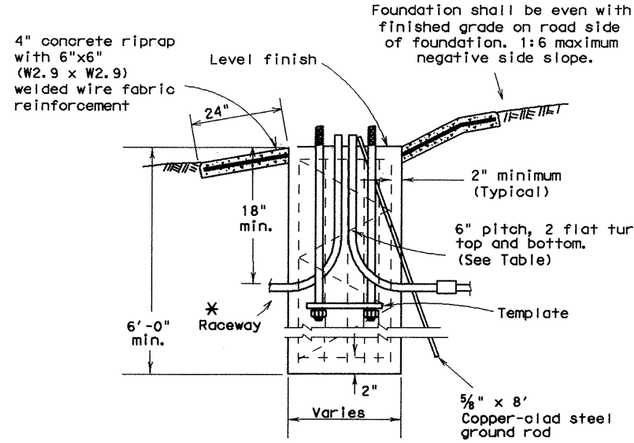
**all breakaway poles should have 2/5 of the luminaire mounting height behind the pole for "falling area" to prevent encroachment on other travel lanes. See design guidelines.

PAY QUANTITY OF RIPRAP PER FOUNDATION		
FOUNDATION DIAMETER	RIPRAP DIAMETER	RIPRAP (CONC) (CL A)
30 in.	78 in.	0.35 CY





ANCHOR BOLT DETAIL

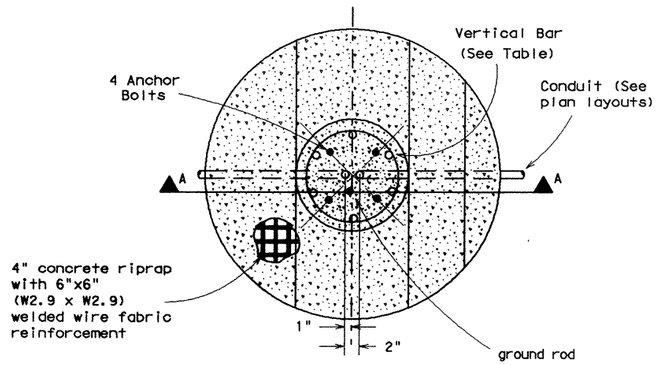


SECTION A-A

FOUNDATIONS				
FND. TYPE	DRILL SHAFT		REINFORCING	
	DIA.	LENGTH	BAR	SPIRAL
A	30 in	6 ft	6-#4	#2
B	30 in	8 ft	6-#5	#2
C	30 in	10 ft	6-#6	#3

BOLT CIRCLES AND ANCHOR BOLTS				
MOUNTING HEIGHT	POLE BASE PLATE	BOLT CIRCLE		BOLT SIZE
		SHOE BASE	*T-BASE	
LESS THAN 40 ft	13 in	13 in	14 in	1 in. X 30 in.
40 ft OR GREATER	15 in	15 in	17 1/4 in	** 1 1/4 in. X 30 in.

* AND X-BASE
** 1" FOR X-BASE



FOUNDATION DETAIL

* For duct cable, match duct size, see ED(10). For conductor in conduit system, same size as system conduit with standard radius bends.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ROADWAY ILLUMINATION DETAILS

RID(3)-98

© TxDOT January 1992	DN: RS	CK: KB	DW: FDN	CK: RS	MEG NO.:
REVISIONS: 5-93, 10-93, 2-94, 10-98	STATE DISTRICT: 18	FEDERAL REGION: 6	FEDERAL AID PROJECT: N499(367)		SHEET: 466
	COUNTY: ROCKWALL		CONTROL: 0009	SECTION: 04	JOB: 039
					HIGHWAY: SH 66

72C

LEVELS DISPLAYED
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CK: CW
DW: DN
CK: MT

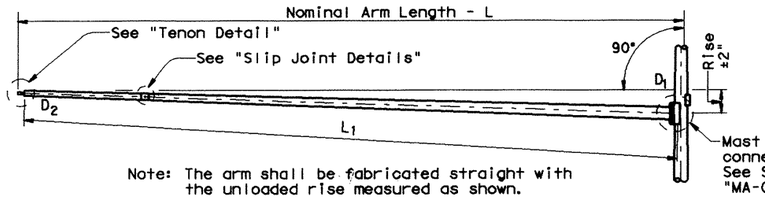
Arm Length	ROUND POLES					POLYGONAL POLES					Foundation Type
	D_B	D_{19}	D_{24}	D_{30}	① thk	D_B	D_{19}	D_{24}	D_{30}	① thk	
ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	10.5	7.8	7.1	6.3	.179	11.5	8.5	7.7	6.8	.179	30-A
24	11.0	8.3	7.6	6.8	.179	12.0	9.0	8.2	7.3	.179	30-A
28	11.5	8.8	8.1	7.3	.179	12.5	9.5	8.7	7.8	.179	30-A
32	12.5	9.8	9.1	8.3	.179	12.0	9.0	8.2	7.3	.239	30-A
36	11.5	8.8	8.1	7.3	.239	12.5	9.5	8.7	7.8	.239	30-A
40	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
44	12.5	9.8	9.1	8.3	.239	14.0	11.0	10.2	9.3	.239	36-A
48	13.0	10.3	9.6	8.8	.239	15.0	12.0	11.2	10.3	.239	36-A

Arm Length	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	① thk	Rise	L_1	D_1	② D_2	① thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	6.5	3.8	.179	1'-9"	19.1	7.0	3.5	.179	1'-8"
24	23.1	7.5	4.3	.179	1'-10"	23.1	7.5	3.5	.179	1'-9"
28	27.1	8.0	4.2	.179	1'-11"	27.1	8.0	3.5	.179	1'-10"
32	31.0	9.0	4.7	.179	2'-1"	31.0	9.0	3.5	.179	2'-0"
36	35.0	9.5	4.6	.179	2'-4"	35.0	10.0	3.5	.179	2'-1"
40	39.0	9.5	4.1	.239	2'-8"	39.0	9.5	3.5	.239	2'-3"
44	43.0	10.0	4.1	.239	2'-11"	43.0	10.0	3.5	.239	2'-6"
48	47.0	10.5	4.1	.239	3'-4"	47.0	11.0	3.5	.239	2'-9"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L = Nominal Arm Length

① Thickness shown are minimums, thicker materials may be used.

② D_2 may be increased by up to 1" for polygonal arms.



Note: The arm shall be fabricated straight with the unloaded rise measured as shown.

TRAFFIC SIGNAL ARM

(Fixed Mount)

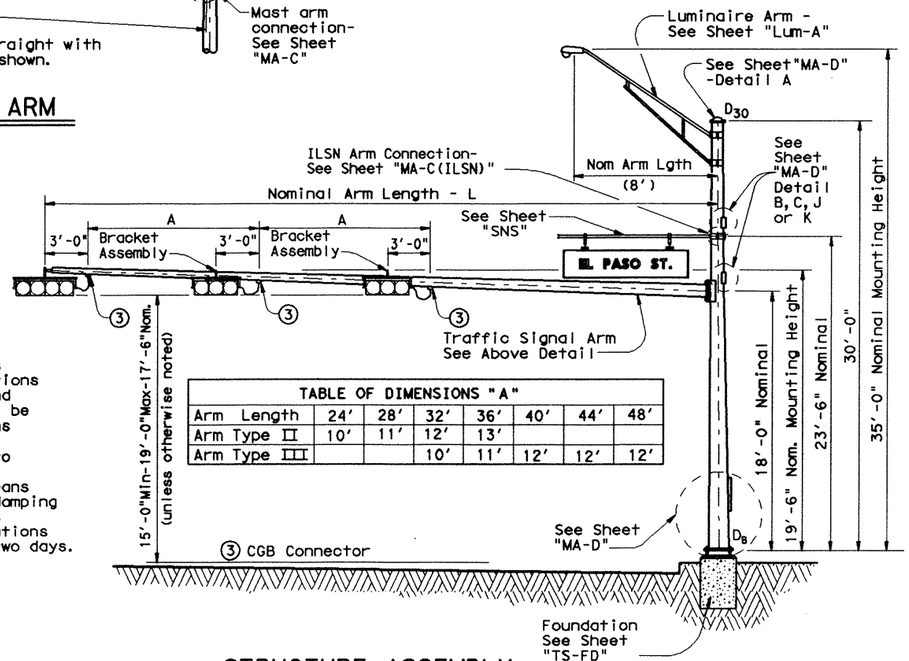


TABLE OF DIMENSIONS "A"

Arm Length	24'	28'	32'	36'	40'	44'	48'
Arm Type II	10'	11'	12'	13'			
Arm Type III			10'	11'	12'	12'	12'

STRUCTURE ASSEMBLY

VIBRATION WARNING

Mast Arms of approximately 40' or longer are subject to possible harmonic vertical vibrations in light wind conditions due to unusual combinations of signal numbers, weights or positions, arm-wind orientation, and arm-pole stiffness. Arms shall be visually inspected in 5 to 20 mph wind conditions after signal head installation and, if vertical movements with a total excursion (max positive to max negative) of more than approximately 8" are observed at arm tip, damping devices or other means shall be as recommended by the fabricator. Excessive vibrations shall not be allowed to continue for more than two days.

SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed-arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length	30' Poles With Luminaire		24' Poles With ILSN		19' Poles With No Luminaire and No ILSN	
	Above hardware plus: One (or two if ILSN attached) small hand hole, clamp-on simplex		Above hardware plus one small hand hole		See note above	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20L-80		20S-80	1	20-80	
24	24L-80		24S-80		24-80	
28	28L-80	1	28S-80		28-80	
32	32L-80	1	32S-80		32-80	4
36	36L-80		36S-80		36-80	
40	40L-80	2	40S-80	1	40-80	
44	44L-80	1	44S-80	1	44-80	
48	48L-80	1	48S-80		48-80	

Traffic Signal Arms (1 per Pole) Ship each arm with the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal)		Type II Arm (2 Signals)		Type III Arm (3 Signals)	
	1 CGB connector		1 Bracket Assembly ④ and 2 CGB Connectors		2 Bracket Assemblies ④ and 3 CGB Connectors	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-80		20II-80	1		
24	24I-80		24II-80			
28	28I-80		28II-80	1		
32			32II-80	5	32III-80	
36			36II-80		36III-80	
40			40II-80	1	40III-80	2
44			44II-80	1	44III-80	1
48					48III-80	1

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	5

④ Supply Option "A" unless otherwise noted

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	3
9' Arm	2

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 1/2"	3'-4"	7
1 3/4"	3'-10"	6

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, 4 lock washers and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(80 MPH WIND ZONE)

SMA-80(1)-96

FILE: SMA-80.DGN	DN: MS	CK: JSY	DW: MWF	CK: JSY
© TxDOT August 1995	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS 5-96		6	NH 99 (367)	467
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 39	SH 66

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LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 81 9 20 21 22 23 24 25 26 27 28 29 30 31 32
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LV-1,2 for English 1,3 for Metric

_1228

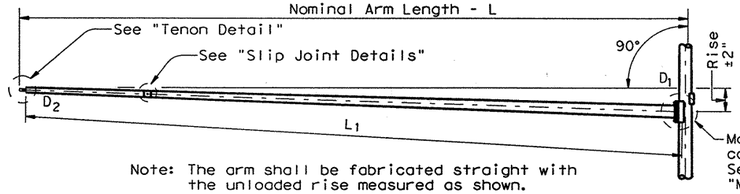
Arm Length	ROUND POLES					POLYGONAL POLES					Foundation Type
	D_B	D_{19}	D_{24}	D_{30}	① thk	D_B	D_{19}	D_{24}	D_{30}	① thk	
ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	10.5	7.8	7.1	6.3	.179	11.5	8.5	7.7	6.8	.179	30-A
24	11.0	8.3	7.6	6.8	.179	12.0	9.0	8.2	7.3	.179	30-A
28	11.5	8.8	8.1	7.3	.179	12.5	9.5	8.7	7.8	.179	30-A
32	12.5	9.8	9.1	8.3	.179	12.0	9.0	8.2	7.3	.239	30-A
36	12.0	9.3	8.6	7.8	.239	12.5	9.5	8.7	7.8	.239	36-A
40	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
44	12.5	9.8	9.1	8.3	.239	14.0	11.0	10.2	9.3	.239	36-A
48	13.0	10.3	9.6	8.8	.239	15.0	12.0	11.2	10.3	.239	36-A

Arm Length	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	① thk	Rise	L_1	D_1	② D_2	① thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	6.5	3.8	.179	1'-9"	19.1	7.0	3.5	.179	1'-8"
24	23.1	7.5	4.3	.179	1'-10"	23.1	7.5	3.5	.179	1'-9"
28	27.1	8.0	4.2	.179	1'-11"	27.1	8.0	3.5	.179	1'-10"
32	31.0	9.0	4.7	.179	2'-1"	31.0	9.0	3.5	.179	2'-0"
36	35.0	9.5	4.6	.179	2'-4"	35.0	10.0	3.5	.179	2'-1"
40	39.0	9.5	4.1	.239	2'-8"	39.0	9.5	3.5	.239	2'-3"
44	43.0	10.0	4.1	.239	2'-11"	43.0	10.0	3.5	.239	2'-6"
48	47.0	10.5	4.1	.239	3'-4"	47.0	11.0	3.5	.239	2'-9"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L = Nominal Arm Length

① Thickness shown are minimums, thicker materials may be used.

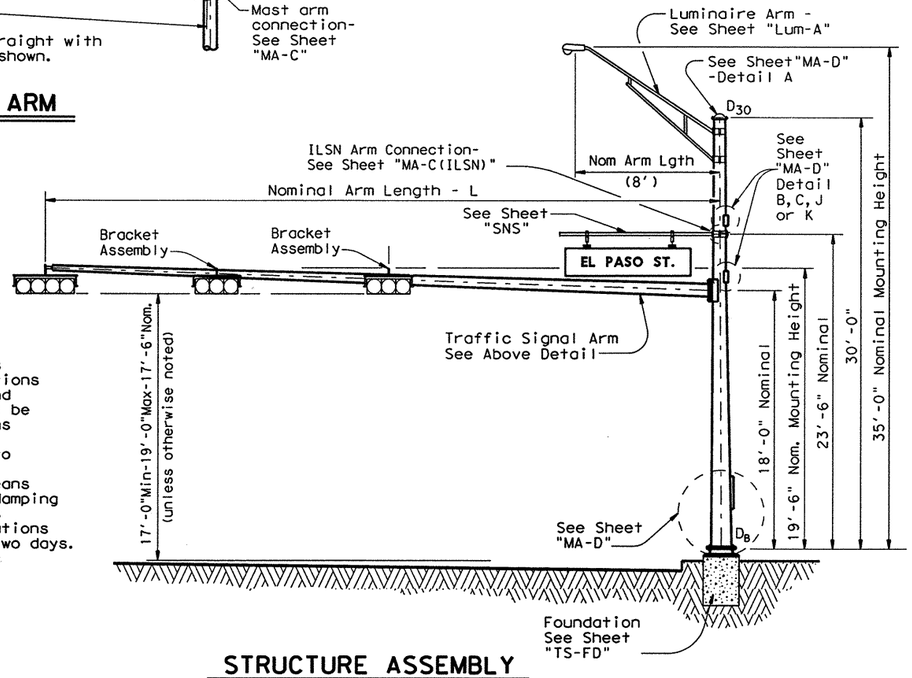
② D_2 may be increased by up to 1" for polygonal arms.



Note: The arm shall be fabricated straight with the unloaded rise measured as shown.

TRAFFIC SIGNAL ARM

(Fixed Mount)



STRUCTURE ASSEMBLY

VIBRATION WARNING

Mast Arms of approximately 40' or longer are subject to possible harmonic vertical vibrations in light wind conditions due to unusual combinations of signal numbers, weights or positions, arm-wind orientation, and arm-pole stiffness. Arms shall be visually inspected in 5 to 20 mph wind conditions after signal head installation and, if vertical movements with a total excursion (max positive to max negative) of more than approximately 8" are observed at arm tip, damping devices or other means shall be fitted to the arm(s). The necessary damping device(s) or other remedial measures shall be as recommended by the fabricator. Excessive vibrations shall not be allowed to continue for more than two days.

SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed-arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length	30' Poles With Luminaire		24' Poles With ILSN		19' Poles With No Luminaire and No ILSN	
	Above hardware plus: One (or two if ILSN attached) small hand hole, clamp-on simplex		Above hardware plus one small hand hole		See note above	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20L-80		20S-80		20-80	
24	24L-80	2	24S-80		24-80	2
28	28L-80		28S-80		28-80	
32	32L-80		32S-80		32-80	
36	36L-80		36S-80		36-80	
40	40L-80		40S-80		40-80	
44	44L-80		44S-80		44-80	
48	48L-80		48S-80		48-80	

Traffic Signal Arms (1 per Pole) Ship each arm with the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal)		Type II Arm (2 Signals)		Type III Arm (3 Signals)	
	1 Bracket Assembly		2 Bracket Assemblies		3 Bracket Assemblies	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-80					
24	24I-80		24II-80	4		
28	28I-80		28II-80			
32			32II-80		32III-80	
36			36II-80		36III-80	
40			40II-80		40III-80	
44			44II-80		44III-80	
48					48III-80	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	2

④ Supply Option "A" unless otherwise noted

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
¾"	1'-6"	
1 ½"	3'-4"	4
1 ¾"	3'-10"	

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, 4 lock washers and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

MODIFICATIONS

- (A) REMOVED BRACKET ASSEMBLY OPTIONS A AND B
- (B) REMOVED CGB CONNECTORS
- (C) REMOVED TENON DETAIL
- (D) REQUIRE MEASUREMENT OF POLE HEIGHT
- (E) MIN. AND MAX. SIGNAL HEAD HEIGHT DISTANCE

CHANGE ORDER NO. 32

SHEET 1 OF 2

11/99 Revision

⚠ Changed to Facilitate new terminal strip enclosure

Texas Department of Transportation

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(80 MPH WIND ZONE)

SMA-80(1)-99 (DAL)

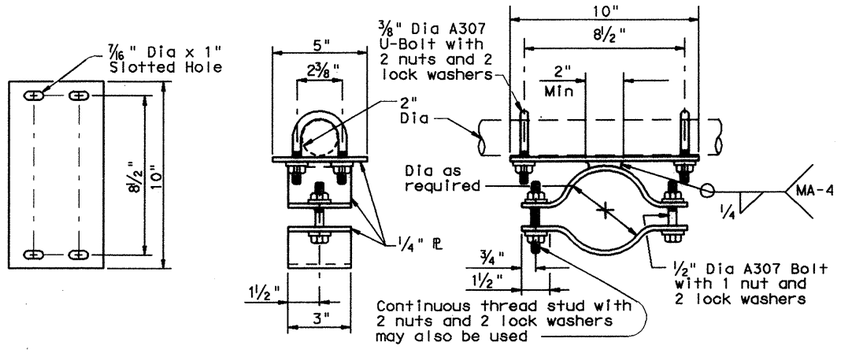
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© TxDOT 2001	DIST	FED REG	FEDERAL AID PROJECT NO. ●	SHEET
REVISIONS 5-96 11-99	DALLAS	6	NH 99(367)	467A
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 039	SH 66

122A

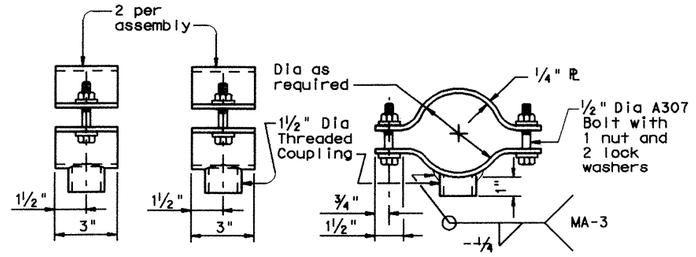
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ACC: d48hplq:/usr/d482517
LV=1,2 for English 1,3 for Metric

LEVELS DISPLAYED
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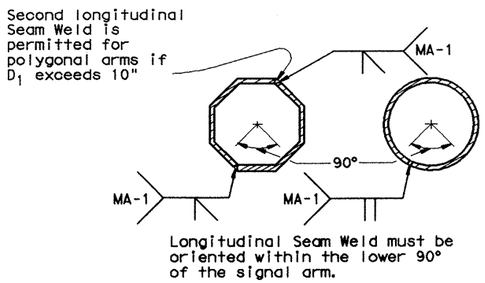
BRACKET ASSEMBLY DETAILS OPTION A



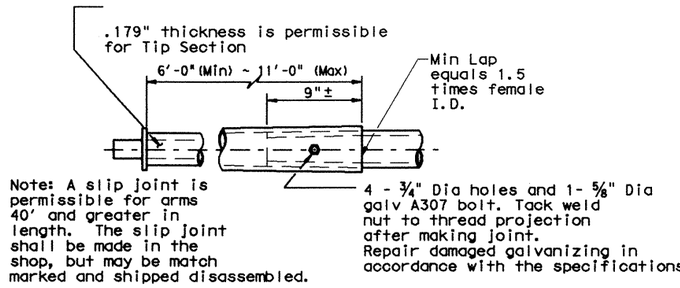
BRACKET ASSEMBLY DETAILS OPTION B

Stainless steel bands and cast bracket as in "Astro-Brac" with 1½" Dia Threaded Coupling.

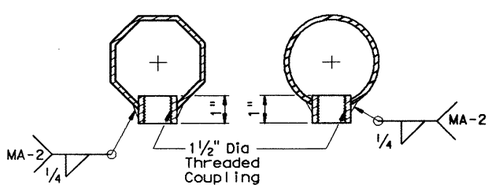
BRACKET ASSEMBLY OPTION C



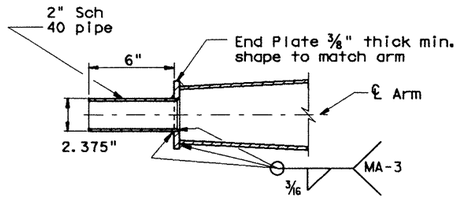
ARM WELD DETAIL



SLIP JOINT DETAIL



COUPLING DETAILS



TENON DETAIL

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 80 mph plus a 1.3 gust factor.

Poles are designed to support one 8'-0" luminaire arm, one 9'-0" internally lighted street name sign and one traffic signal arm with a length as tabulated. The specified luminaire load applied at the end of the luminaire arm equals 75 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.5 sq ft. The specified internally lighted street name sign load applied 4.5 ft from the centerline of the pole equals 85 lbs vertical dead load plus horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with the Specifications and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Miscellaneous welds which do not call for preapproved weld procedures are nevertheless subject to rejection for poor workmanship. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and the Specifications.

Unless otherwise noted, all parts shall be galvanized in accordance with the Specifications.

Special design require submission of shop drawings in accordance with the item "Steel Structures".

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LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
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49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACC: d98bala:/usr/d482517_
LV=1.2 for English 1.3 for Metric

SHEET 2 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(80 MPH WIND ZONE)

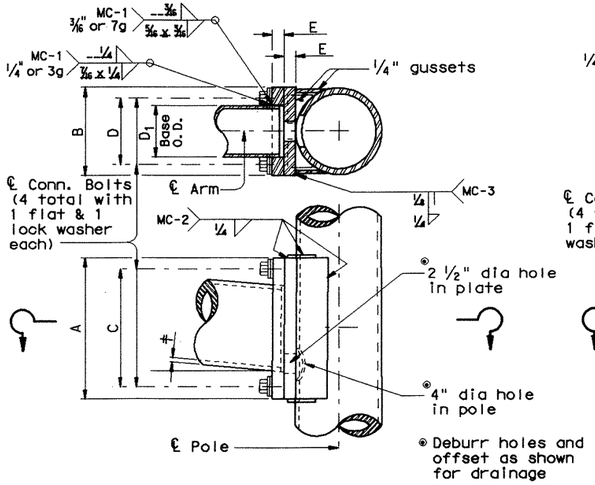
SMA-80(2)-96

FILE: SMA-80.DGN	DN: MS	CK: JSY	DW: MMF	CK: JSY
©TxDOT August 1995	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS 5-96	18	6	NH 99(367)	468
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

122B

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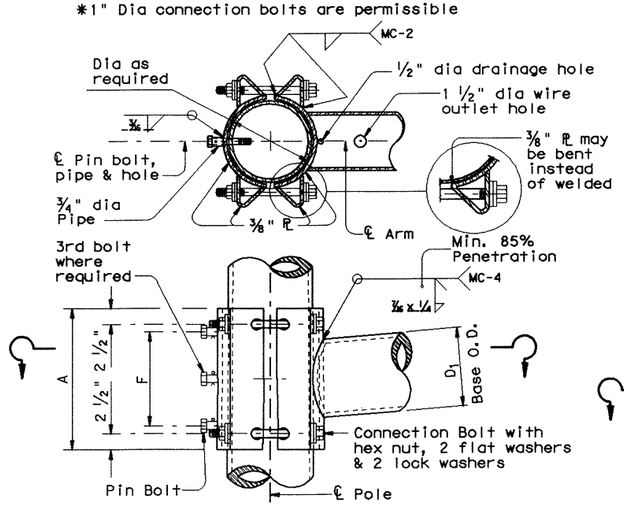
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8.0	.179	14	10	11	7	1 1/4	1 1/4
9.0	.179	16	11	13	8	1 1/4	1 1/4
9.5	.179	17	12	14	9	1 1/4	1 1/4
9.5	.239	18	12	15	9	1 1/4	1 1/4
10.0	.239	18	12	15	9	1 1/4	1 1/4
10.5	.239	18	13	15	10	1 1/2	1 1/2
11.0	.239	18	13	15	10	1 1/2	1 1/2



FIXED MOUNT DETAIL 1

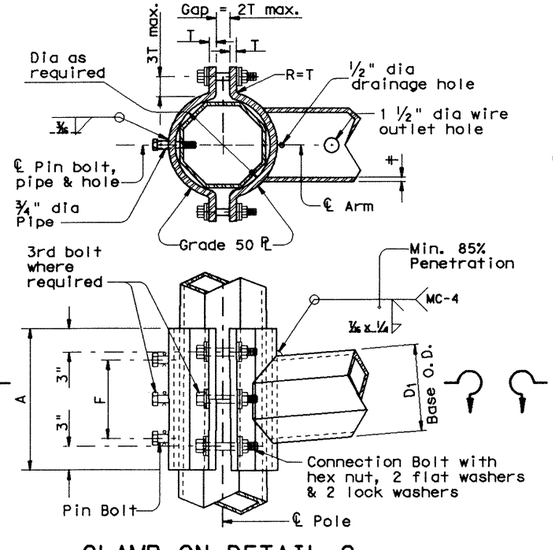
ARM SIZE D_1 in.	ARM SIZE ≠ in.	A in.	F in.	CONN. BOLTS No. ea.	CONN. BOLTS Dia in.	PIN BOLTS No. ea.	PIN BOLTS Dia in.
6.5	.179	12	8	4	*7/8	2	5/8
7.5	.179	14	8	4	1	2	5/8
8.0	.179	14	8	4	1	2	5/8
9.0	.179	16	10	4	1	2	5/8
9.5	.179	18	12	4	1 1/4	3	5/8
9.5	.239	18	12	4	1 1/4	3	5/8
10.0	.239	18	12	4	1 1/4	3	5/8

*1" Dia connection bolts are permissible



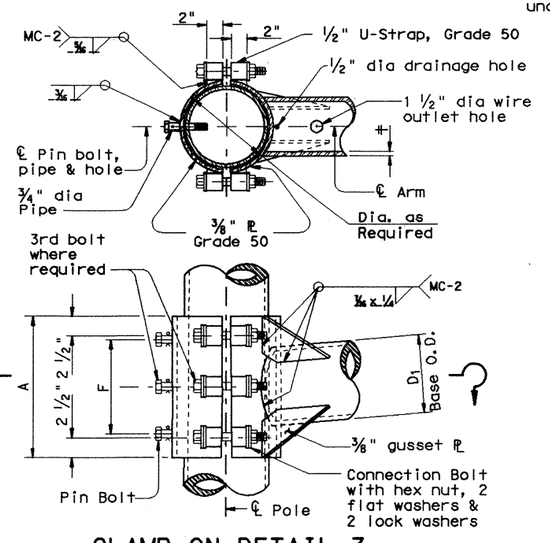
CLAMP-ON DETAIL 1

ARM SIZE D_1 in.	ARM SIZE ≠ in.	A in.	F in.	T in.	CONN. BOLTS No. ea.	CONN. BOLTS Dia in.	PIN BOLTS No. ea.	PIN BOLTS Dia in.
7.0	.179	12	8	3/4	4	3/4	2	5/8
7.5	.179	14	8	3/4	4	3/4	2	5/8
8.0	.179	14	8	3/4	4	3/4	2	5/8
9.0	.179	16	10	7/8	4	1	2	5/8
10.0	.179	18	10	7/8	4	1	2	5/8
9.5	.239	18	10	1	6	1	3	5/8
10.0	.239	18	10	1	6	1	3	5/8

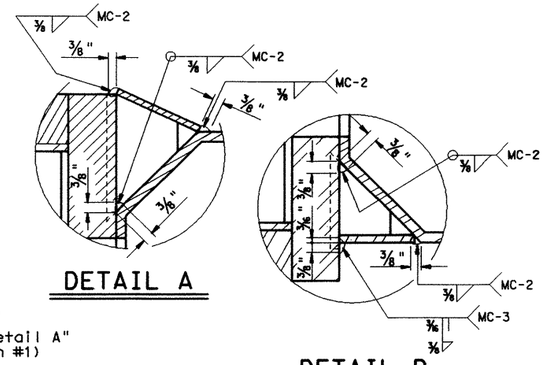


CLAMP-ON DETAIL 2

ARM SIZE D_1 in.	ARM SIZE ≠ in.	A in.	F in.	CONN. BOLTS No. ea.	CONN. BOLTS Dia in.	PIN BOLTS No. ea.	PIN BOLTS Dia in.
6.5	.179	12	8	4	1	2	5/8
7.5	.179	14	8	4	1	2	5/8
8.0	.179	14	8	4	1	2	5/8
9.0	.179	16	10	4	1	2	5/8
9.5	.179	18	12	6	1	3	5/8
9.5	.239	18	12	6	1	3	5/8
10.0	.239	18	12	6	1	3	5/8



CLAMP-ON DETAIL 3



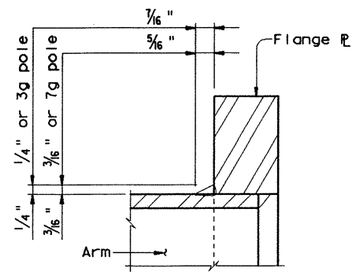
DETAIL A

DETAIL B

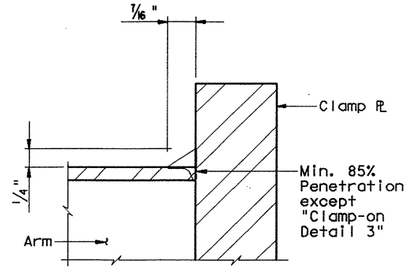
MATERIALS	
Round Shafts or Polygonal Shafts	ASTM A595 GR A, ASTM A570 GR 50, ASTM A607 GR 50, ASTM A572 GR 50 or A36M50
Plates (1)	ASTM A36 OR A572 GR 50 or A595(2) or A36M50
Connection Bolts	ASTM A325 except where noted
Pin Bolts	ASTM A325
Pipe	ASTM A53 GR A or B, or A501
Misc. Hardware	Galvanized steel or stainless steel or as noted

(1) Any of the materials listed for plates may be used where the drawings do not specify a particular Grade designation.

(2) If A595 material is used, it need not be cold worked to A595 requirments, but material must have 40 ksi minimum yield prior to fabrication.



FIXED MOUNT ARM



CLAMP-ON ARM

ARM BASE WELD DETAILS

GENERAL NOTES:

Clamp-on details are used for the second arm on dual mast arm assemblies. A Maximum 1 1/2" wide vertical slotted hole may be cut in the front clamp plate to facilitate drainage during galvanizing. The slot shall be centered behind the arm and shall be no longer than the arm diameter minus 1"

Fixed mount details are used for single mast arm assemblies and for the first arm on dual mast arm assemblies.

Where duplicate parts occur on a detail, welds shown for one part shall apply to all similar parts on the detail.

Pin bolts are required to prevent rotation of clamp-on arms under design wind forces.

NOTE:

Pin bolts shall be A325 with threads excluded from the shear plane. Pin bolt and 3/4" dia pipe shall have 5/16" dia holes for a 1/8" dia galvanized cotter pin. Back clamp plate shall be furnished with a 3/4" dia hole for each pin bolt. An 11/16" dia hole for each pin bolt shall be field drilled through the pole after arm orientations have been approved by the Engineer.

LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

ACC: d48b0a9a:/usc/gd82517..
LV=1,2 for English 1,3 for Metric

Texas Department of Transportation
Traffic Operations Division

STANDARD ASSEMBLY FOR TRAFFIC SIGNAL SUPPORT STRUCTURES

MAST ARM CONNECTIONS

MA-C-96

FILE: MA-C.DGN	DN: MS	CK: JSY	DW: MMF	CK: JSY
©TxDOT August 1995	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 5-96	18	6	NH 99 (367)	469
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

1264

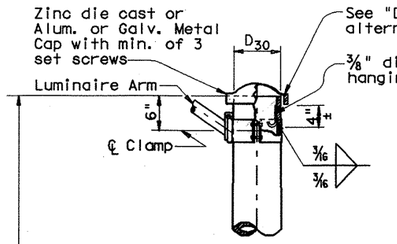
DISCLAIMER:
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| LEVELS DISPLAYED | | |

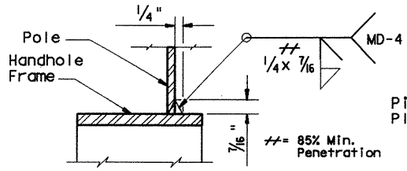
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LEVELS DISPLAYED
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Lv=1,2 for English 1,3 for Metric

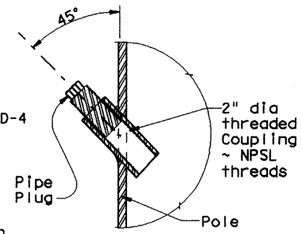
DETAIL A
(for pole with luminaire)



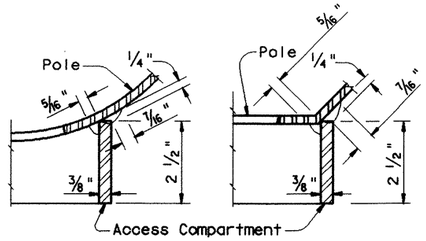
DETAIL E



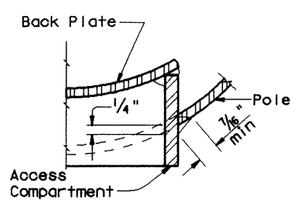
COUPLING DETAIL



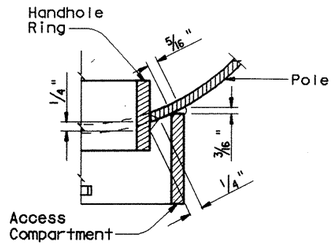
DETAIL H



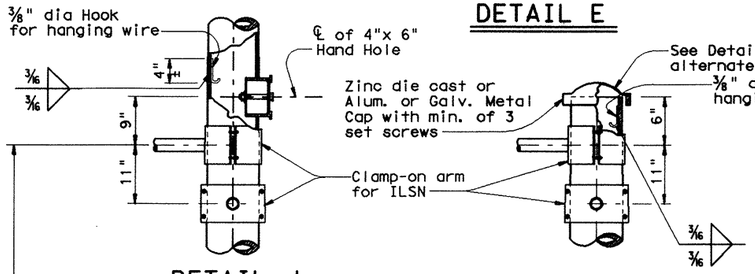
DETAIL G



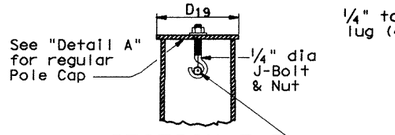
DETAIL F



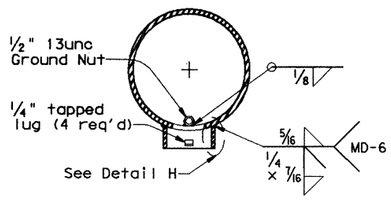
DETAIL J
(If ILSN applied)



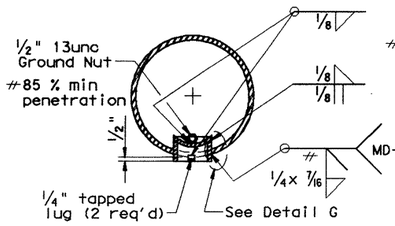
SECTION E-E



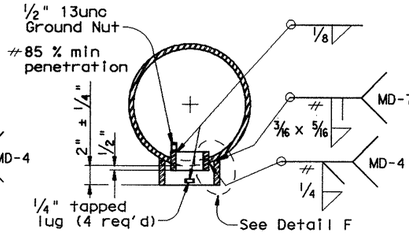
SECTION D-D



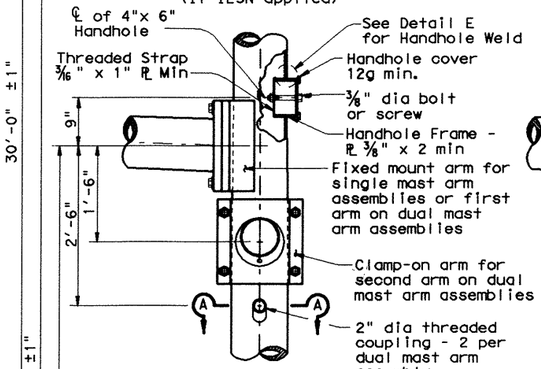
SECTION C-C



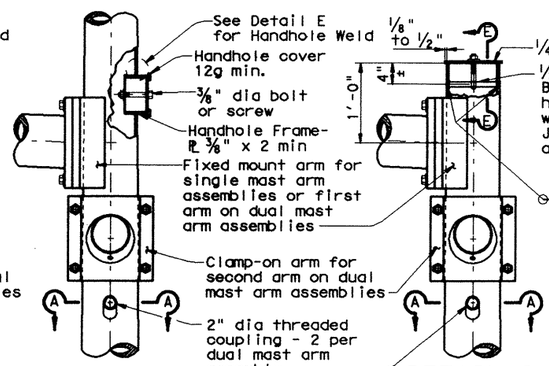
SECTION B-B



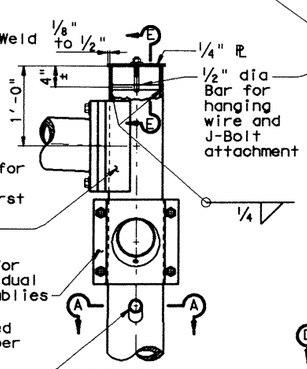
DETAIL B
(for 30' pole with luminaire and ILSN sign)



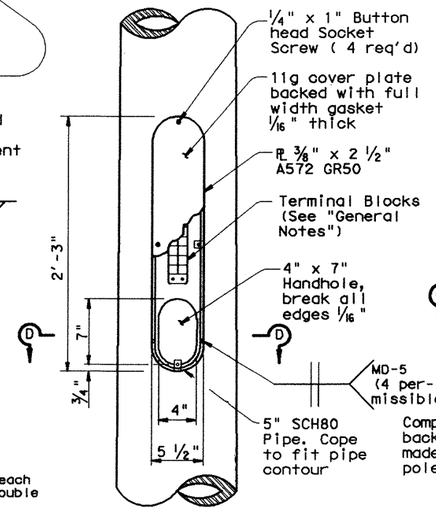
DETAIL K
(for 24' pole with ILSN sign and no luminaire)



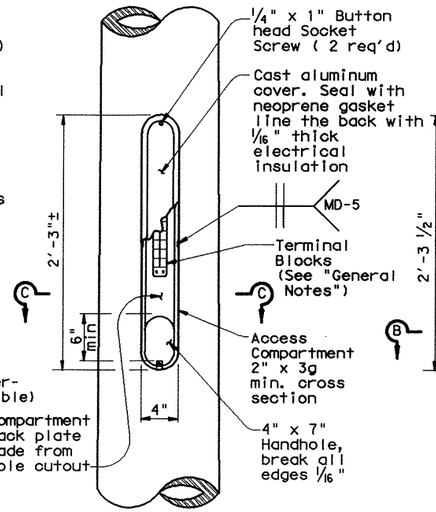
DETAIL C
(for 19' pole with no ILSN sign and no luminaire)



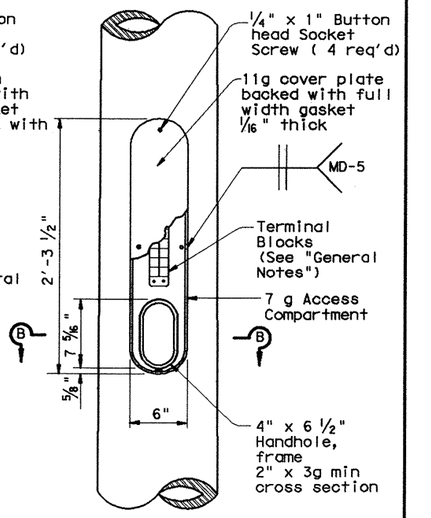
ACCESS COMPARTMENT
DETAIL 1



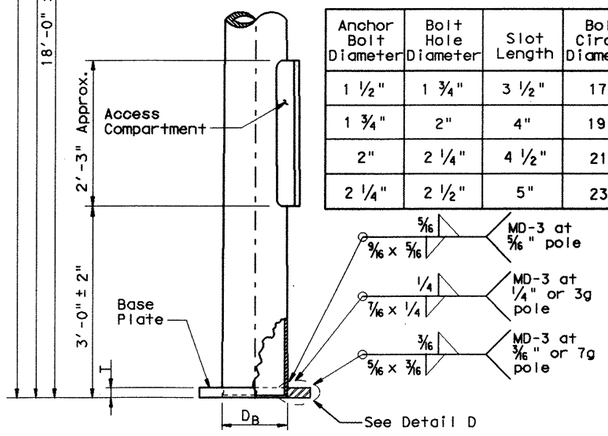
ACCESS COMPARTMENT
DETAIL 2



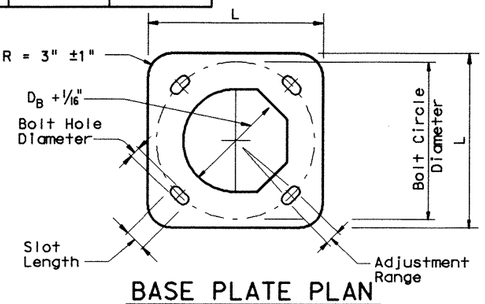
ACCESS COMPARTMENT
DETAIL 3



POLE ELEVATION



BASE PLATE PLAN

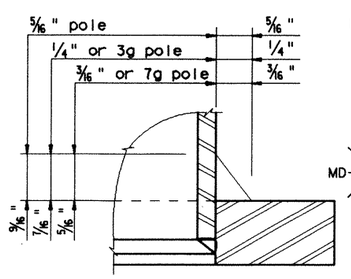


Anchor Bolt Diameter	Bolt Hole Diameter	Slot Length	Bolt Circle Diameter	Base PL Dim. L x T	Adjust. Range
1 1/2"	1 3/4"	3 1/2"	17"	18" x 1 1/2"	13.4°
1 3/4"	2"	4"	19"	20" x 1 3/4"	13.5°
2"	2 1/4"	4 1/2"	21"	22" x 2"	13.6°
2 1/4"	2 1/2"	5"	23"	24" x 2 1/4"	13.7°

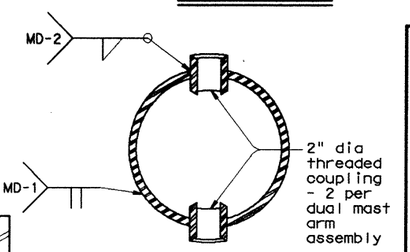
GENERAL NOTES:

The Fabricator shall furnish each pole with two twelve position, double posted, molded phenolic Terminal Blocks with insulating strip as necessary. The Terminal Blocks shall be provided with size 8-32 nickel plated screws and shall be T.R.W. Cinch No. 12-142 or equal.

DETAIL D



SECTION A-A



Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

MAST ARM POLE DETAILS

MA-D-96

FILE: MA-D.DGN	DN: MS	CK: JSY	DW: MWF	CK: JSY
©TxDOT August 1995	DIST	FED REG	FEDERAL AID PROJECT #	SHEET
REVISIONS 7-96	18	6	NH 99(367) 471	
	COUNTY		CONTROL SECT	JOB HIGHWAY
	ROCKWALL		0009 04	039 SH 66

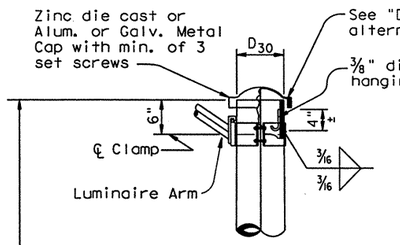
127

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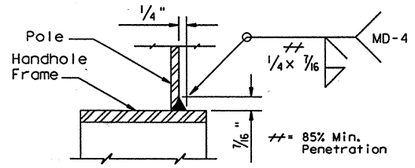
ACC:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
2	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
3	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	

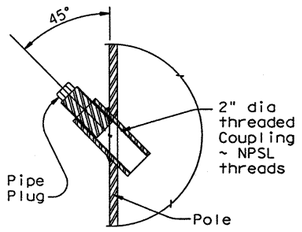
LS DISPLAYED



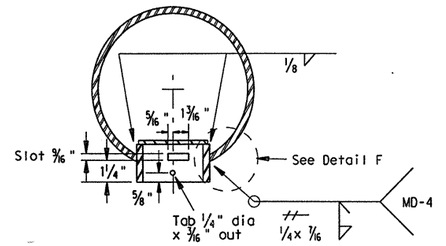
DETAIL A
(for pole with luminaire)



DETAIL E

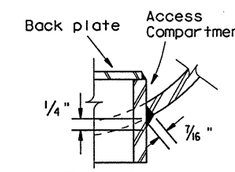


COUPLING DETAIL

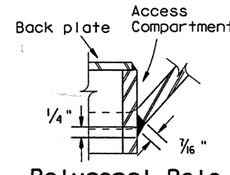


SECTION C-C

Opening for access compartment shall be no more than 1/16 inch wider than the access compartment itself.

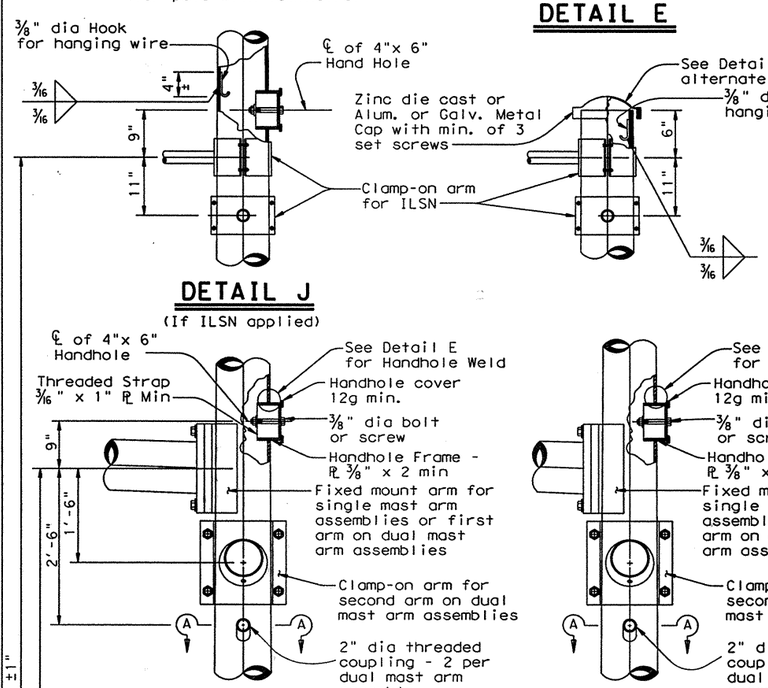


Round Pole

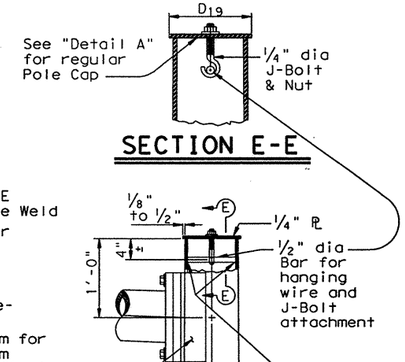


Polygonal Pole

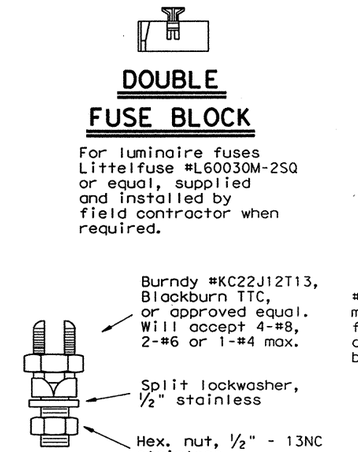
DETAIL F

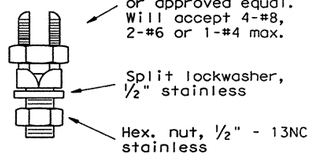


DETAIL J
(If ILSN applied)

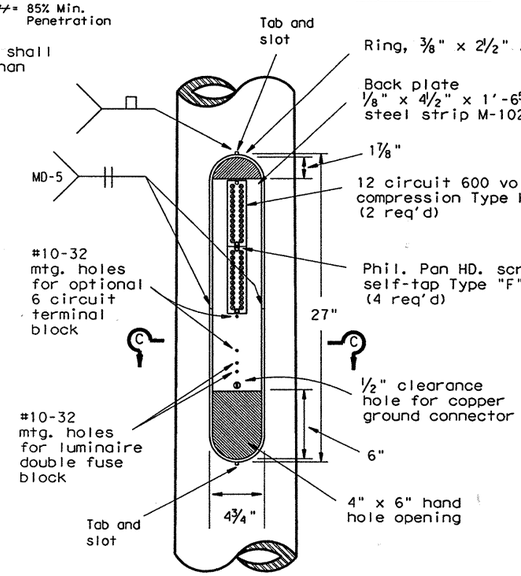


SECTION E-E

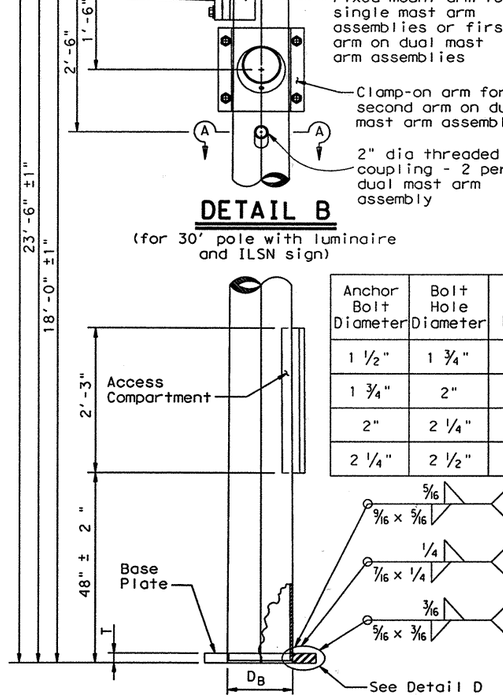




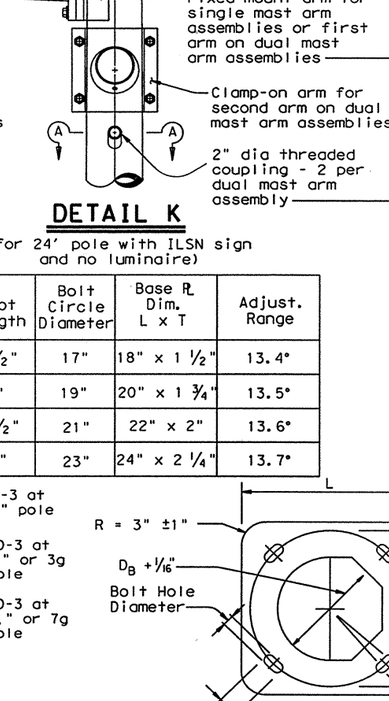
COPPER GROUND CONNECTOR



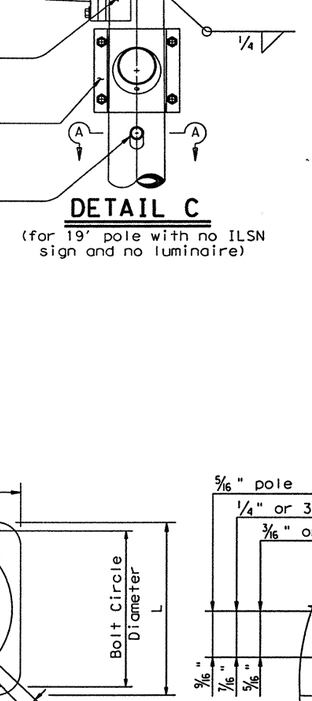
ACCESS COMPARTMENT



DETAIL B
(for 30' pole with luminaire and ILSN sign)



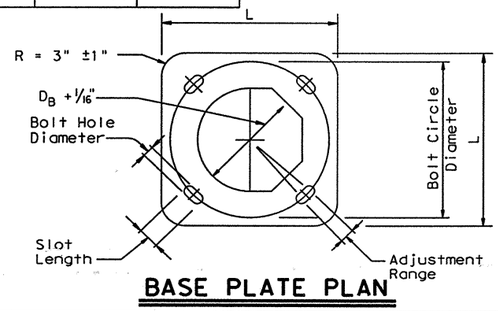
DETAIL K
(for 24' pole with ILSN sign and no luminaire)



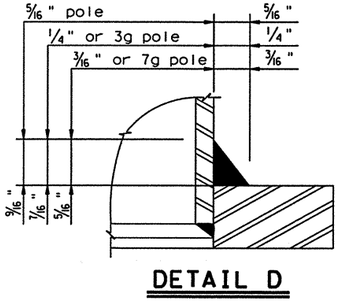
DETAIL C
(for 19' pole with no ILSN sign and no luminaire)

Anchor Bolt Diameter	Bolt Hole Diameter	Slot Length	Bolt Circle Diameter	Base ℞ Dim. L x T	Adjust. Range
1 1/2"	1 3/4"	3 1/2"	17"	18" x 1 1/2"	13.4°
1 3/4"	2"	4"	19"	20" x 1 3/4"	13.5°
2"	2 1/4"	4 1/2"	21"	22" x 2"	13.6°
2 1/4"	2 1/2"	5"	23"	24" x 2 1/4"	13.7°

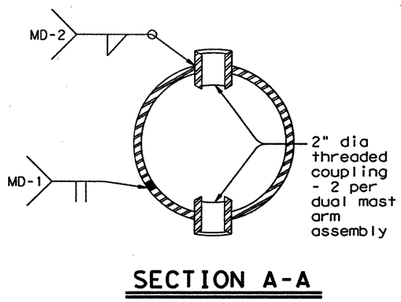
POLE ELEVATION



BASE PLATE PLAN



DETAIL D



SECTION A-A

1. The cover shall be one piece formed from ABS plastic, shall be a pearl gray color, and shall be suitable for exposure to harsh sunlight and extreme weather. Cover shall latch with two screw latches and shall fit tightly to the enclosure ring to create a rainproof seal. Latch screws shall be 1/4-20 stainless flat socket head screws with tamper proof feature.
2. The pole manufacturer shall provide with each pole a separate kit consisting of: one cover with two latching assemblies, two terminal strips (Marathon #985GP12CU or approved equal), four #10-32 x 1 1/4" self tapping type "F" stainless steel pan head screws, and one ground connector (Blackburn TTC, Burndy KC22J12T13, or Ilsco SSS-5). The traffic signal contractor shall install the kit items in the field.
3. The screw hole spacing on the enclosure back plate shall be for two Marathon #985GP12 terminal strips, one Marathon #985GP06CU terminal strip, and one Littelfuse #L60030M-2SQ fuse block. Arrangement of the items shall be as shown in the Access Compartment detail.

CHANGE ORDER NO. 32

MOD. ACCESS COMPARTMENT MT. HEIGHT

STANDARD PLANS
Texas Department of Transportation

TRAFFIC SIGNAL SUPPORT STRUCTURES MAST ARM POLE DETAILS

MA-D-00 (DAL)

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DN: MS	CK: JSY	DW: FDN	CK: CAL

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT NO.	SHEET
7-96	18	6	NH 99(367)	471A
8-99	COUNTY	CONTROL	SECTION	JOB	HIGHWAY
10-00	ROCKWALL	0009	04	039	SH 66

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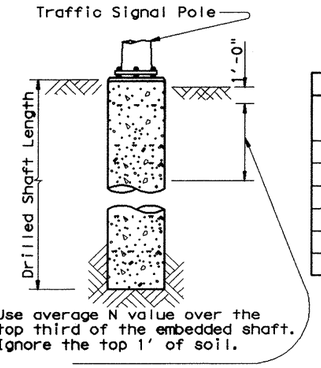
FOUNDATION DESIGN TABLE

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		DRILLED SHAFT LENGTH-ft ④, ⑤, ⑥			ANCHOR BOLT DESIGN ①				FOUNDATION DESIGN LOAD ②		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft _10	_15	_40	ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
24-A	24"	4-#5	#2 at 12"	5.7	5.3	4.5	¾"	36	12 ¾"	1	10	1	Pedestal pole, pedestal mounted controller.
30-A	30"	8-#9	#3 at 6"	11.3	10.3	8.0	1 ½"	55	17"	2	87	3	Mast arm assembly. (see Selection Table)
36-A	36"	10-#9	#3 at 6"	13.2	12.0	9.4	1 ¾"	55	19"	2	131	5	Mast arm assembly. (see Selection Table) 30' strain pole with or without luminaire.
36-B	36"	12-#9	#3 at 6"	15.2	13.6	10.4	2"	55	21"	2	190	7	Mast arm assembly. (see Selection Table) Strain pole taller than 30' & strain pole with mast arm
42-A	42"	14-#9	#3 at 6"	17.4	15.6	11.9	2 ¼"	55	23"	2	271	9	Mast arm assembly. (see Selection Table)

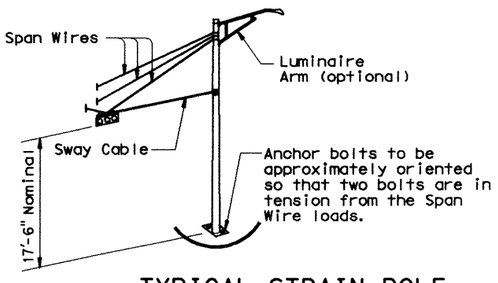
FOUNDATION SELECTION TABLE FOR STANDARD MAST ARM PLUS ILSN SUPPORT ASSEMBLIES (ft)

		FDN 30-A	FDN 36-A	FDN 36-B	FDN 42-A
80 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	36'	48'		
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS	24' X 24'			
		28' X 28'			
		32' X 28'	32' X 32'		
			36' X 36'		
			40' X 36'		
			44' X 28'	44' X 36'	
100 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	24'	36'	44'	
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS		24' X 24'		
			28' X 28'		
			32' X 24'	32' X 32'	
				36' X 36'	
				40' x24'	40' X 36'
					44' x 36'

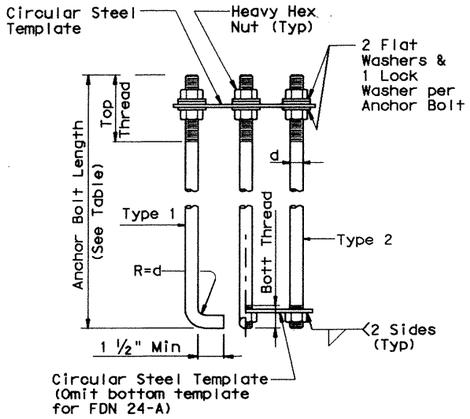
EXAMPLE:
1. For 80mph design wind speed, foundation 30-A can support up to a 32' arm with another arm up to 28'
2. For 100mph design wind speed, foundation 36-A can support a single 36' mast arm.



Use average N value over the top third of the embedded shaft. Ignore the top 1' of soil.



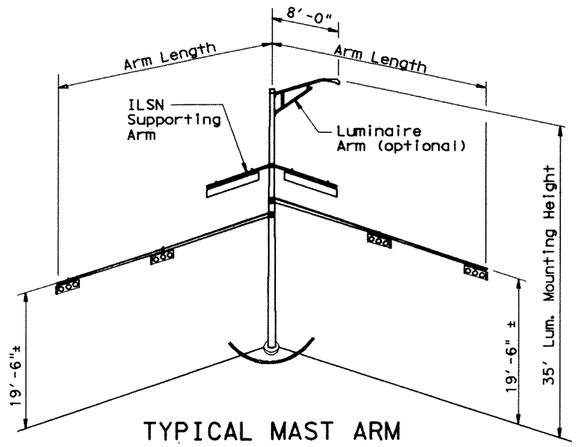
TYPICAL STRAIN POLE ASSEMBLY



HOOKED ANCHOR (TYPE 1) NUT ANCHOR (TYPE 2)

ANCHOR BOLT ASSEMBLY

INSTALLATION PROCEDURE:
Threads of anchor bolts shall be coated with pipe joint compound prior to installation of upper nuts when erecting pole. After pole is plumbed and in permanent alignment, the exposed threads of painted bolts shall be cleaned and an additional coating of zinc-rich paint applied to seal the bolt thread-nut joint.



TYPICAL MAST ARM ASSEMBLY

NOTES:

① Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

② Foundation Design Loads are the allowable moments and shears at the base of the structure.

③ Foundations may be listed seperately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

④ Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

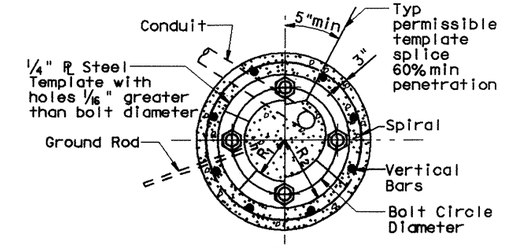
⑤ If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

⑥ Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

ANCHOR BOLT & TEMPLATE SIZES

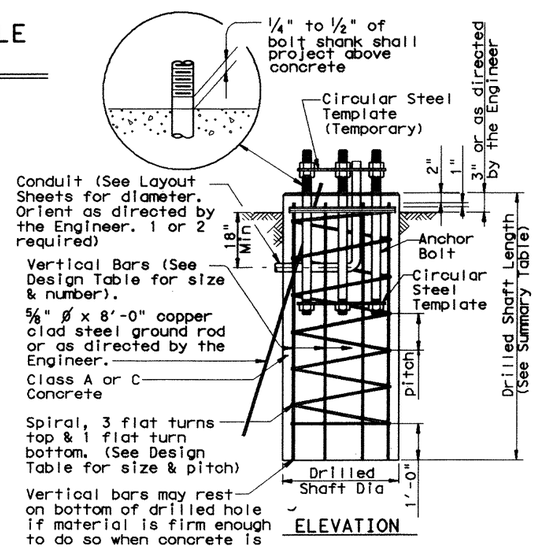
BOLT DIA IN.	⑦ BOLT LENGTH	TOP THREAD	BOTT THREAD	BOLT CIRCLE	R2	R1
¾"	1'-6"	3"	—	12 ¾"	7 ⅛"	5 ⅝"
1 ½"	3'-4"	6"	2"	17"	10"	7"
1 ¾"	3'-10"	7"	2 ¼"	19"	11 ¼"	7 ¾"
2"	4'-3"	8"	2 ½"	21"	12 ½"	8 ½"
2 ¼"	4'-9"	9"	3"	23"	13 ¾"	9 ¼"

⑦ Min dimensions given, longer bolts are acceptable.



R_1 may equal R_2 if plate is welded of 3 or more segments.

TOP VIEW



ELEVATION

FOUNDATION DETAILS

FOUNDATION SUMMARY TABLE ③

LOCATION IDENTIFICATION	AVG. N BLOW /ft.	FDN TYPE	NO. EA	DRILLED SHAFT LENGTH ⑥ (FEET) 24-A	30-A	36-A	36-B	42-A
DALROCK								
P2	10	36A	1			13.2		
SCENIC								
P1	10	36A	1			13.2		
P2	10	30A	1		11.3			
P3	10	36A	1			13.2		
P4	10	36A	1			13.2		
LAKESHORE								
P1	10	36A	1			13.2		
P2	10	30A	1		11.3			
P3	10	36A	1			13.2		
P4	10	30A	1		11.3			
WASH. / 205								
P1	10	30A	1		11.3			
P2	10	30A	1		11.3			
P3	10	30A	1		11.3			
P4	10	30A	1		11.3			
TOTAL DRILLED SHAFT LENGTHS					79.1	79.2		

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto.

Reinforcing steel shall conform to Item 440.

Concrete shall be Class A or C.

Threads for anchor bolts and nuts shall be rolled or cut threads of unified national coarse thread series except for A193B7 bolts which shall have 8 pitch thread series. Bolts and nuts shall have Class 2A and 2B fit tolerances. Galvanized nuts shall be tapped after galvanizing.

Anchor bolts that are 1" in diameter or less shall conform to ASTM A36. Anchor bolts larger than 1" in diameter shall conform to A36M55 in accordance with the Item, "Anchor Bolts" or ASTM A193B7 or A687. Galvanize or coat with zinc-rich paint a minimum of the upper 14 inches of all anchor bolts unless otherwise noted. Exposed nuts shall be galvanized or coated with zinc-rich paint. Washers shall be galvanized. Templates and embeded nuts need not be galvanized.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL POLE FOUNDATION

TS-FD-96

FILE: TS-FD.DGN	DN: MS	CK: JSY	DW: MAO/MWE	CK: JSY/TEB
©TxDOT August 1995	DIST	FED REG	FEDERAL AID PROJECT	SHEET
REVISIONS 5-96		6	NH 99(367)	472
	COUNTY		CONTROL SECT JOB	HIGHWAY
	ROCKWALL		0009 04 39	SH 66

128

LEVELS DISPLAYED
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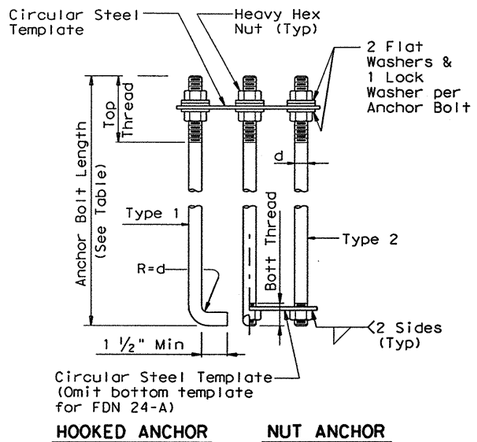
FOUNDATION DESIGN TABLE

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		DRILLED SHAFT LENGTH-ft ④, ⑤, ⑥ TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DESIGN ①				FOUNDATION DESIGN LOAD ②		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	10	15	40	ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
24-A	24"	4- #5	#2 at 12"	5.7	5.3	4.5	¾"	36	12 ¾"	1	10	1	Pedestal pole, pedestal mounted controller.
30-A	30"	8- #9	#3 at 6"	11.3	10.3	8.0	1 ½"	55	17"	2	87	3	Mast arm assembly. (see Selection Table)
36-A	36"	10- #9	#3 at 6"	13.2	12.0	9.4	1 ¾"	55	19"	2	131	5	Mast arm assembly. (see Selection Table) 30' strain pole with or without luminaire.
36-B	36"	12- #9	#3 at 6"	15.2	13.6	10.4	2"	55	21"	2	190	7	Mast arm assembly. (see Selection Table) Strain pole taller than 30' & strain pole with mast arm
42-A	42"	14- #9	#3 at 6"	17.4	15.6	11.9	2 ¼"	55	23"	2	271	9	Mast arm assembly. (see Selection Table)

FOUNDATION SELECTION TABLE FOR STANDARD MAST ARM PLUS ILSN SUPPORT ASSEMBLIES (ft)

		FDN 30-A	FDN 36-A	FDN 36-B	FDN 42-A
80 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	32' ⚠1	48'		
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS	24' X 24'			
		28' X 28'			
		32' X 28'	32' X 32'		
			36' X 36'		
			40' X 36'		
			44' X 28'	44' X 36'	
100 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	⚠1	36'	44'	
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS		24' X 24'		
			28' X 28'		
			32' X 24'	32' X 32'	
				36' X 36'	
				40' x24'	40' X 36'
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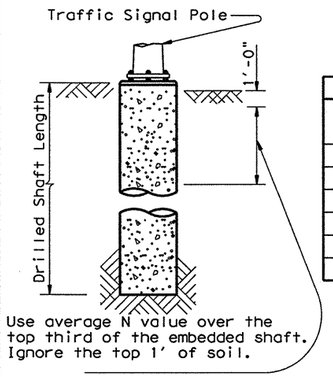
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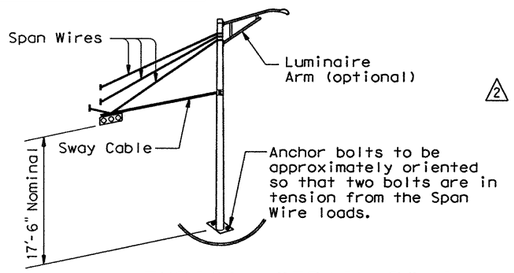
HOOKED ANCHOR (TYPE 1) **NUT ANCHOR (TYPE 2)**

ANCHOR BOLT ASSEMBLY

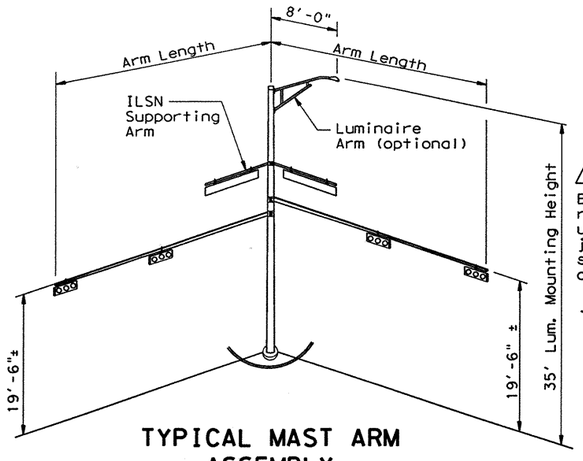
INSTALLATION PROCEDURE:
Threads of anchor bolts shall be coated with pipe joint compound prior to installation of upper nuts when erecting pole. After pole is plumbed and in permanent alignment, the exposed threads of painted bolts shall be cleaned and an additional coating of zinc-rich paint applied to seal the bolt thread-nut joint.



Use average N value over the top third of the embedded shaft. Ignore the top 1' of soil.



TYPICAL STRAIN POLE ASSEMBLY



TYPICAL MAST ARM ASSEMBLY

NOTES:

① Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

② Foundation Design Loads are the allowable moments and shears at the base of the structure.

③ Foundations may be listed seperately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

④ Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

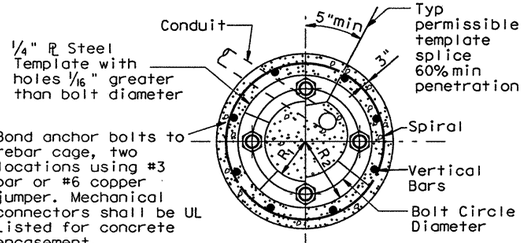
⑤ If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

⑥ Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

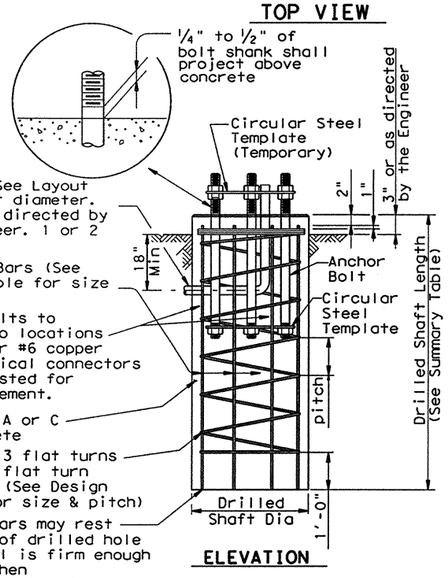
ANCHOR BOLT & TEMPLATE SIZES

BOLT DIA IN.	⑦ BOLT LENGTH	TOP THREAD	BOTT THREAD	BOLT CIRCLE	R2	R1
¾"	1'-6"	3"	—	12 ¾"	7 ⅛"	5 ⅝"
1 ½"	3'-4"	6"	2"	17"	10"	7"
1 ¾"	3'-10"	7"	2 ¼"	19"	11 ¼"	7 ¾"
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⑦ Min dimensions given, longer bolts are acceptable.



TOP VIEW



ELEVATION

FOUNDATION DETAILS

FOUNDATION SUMMARY TABLE ③

LOCATION IDENTIFICATION	AVG. N BLOW /ft.	FDN TYPE	NO. EA	DRILLED SHAFT LENGTH ⑥ (FEET) 24-A	30-A	36-A	36-B	42-A
SH 205 AT								
KAUFMAN ST								
P-1	10	30-A	1		11			
P-2	10	30-A	1		11			
P-3	10	30-A	1		11			
P-4	10	30-A	1		11			
TOTAL DRILLED SHAFT LENGTHS					44			

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto.

Reinforcing steel shall conform to Item 440.

Concrete shall be Class A or C.

Threads for anchor bolts and nuts shall be rolled or cut threads of unified national coarse thread series except for A193B7 bolts which shall have 8 pitch thread series. Bolts and nuts shall have Class 2A and 2B fit tolerances. Galvanized nuts shall be tapped after galvanizing.

Anchor bolts that are 1" in diameter or less shall conform to ASTM A36. Anchor bolts larger than 1" in diameter shall conform to A36M55 in accordance with the Item, "Anchor Bolts" or ASTM A193B7 or A687. Galvanize or coat with zinc-rich paint a minimum of the upper 14 inches of all anchor bolts unless otherwise noted. Exposed nuts shall be galvanized or coated with zinc-rich paint. Washers shall be galvanized. Templates and embeded nuts need not be galvanized.

CHANGE ORDER NO. 32

11/99 Revision

⚠1 Changed to Facilitate new terminal strip enclosure

⚠2 Changed from ground rod to UFER ground

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL POLE FOUNDATION

TS-FD-99

© TxDOT August 1995	DN: MS	CK: JSY	DW: MAO/MWF	CK: JSY/TEB
REVISIONS 5-96 11-99	STATE DISTRICT: DALLAS	FEDERAL REGION: 6	FEDERAL AID PROJECT: NH 99(367)	SHEET: 472A
	COUNTY: ROCKWALL	CONTROL: 0009	SECTION: 04	JOB: 039	HIGHWAY: SH 66

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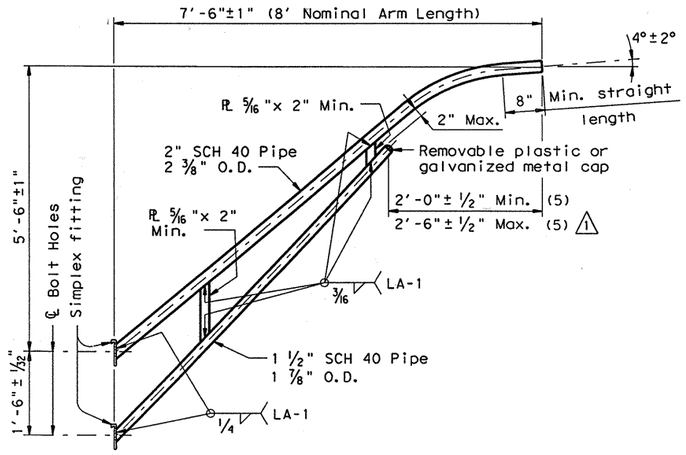
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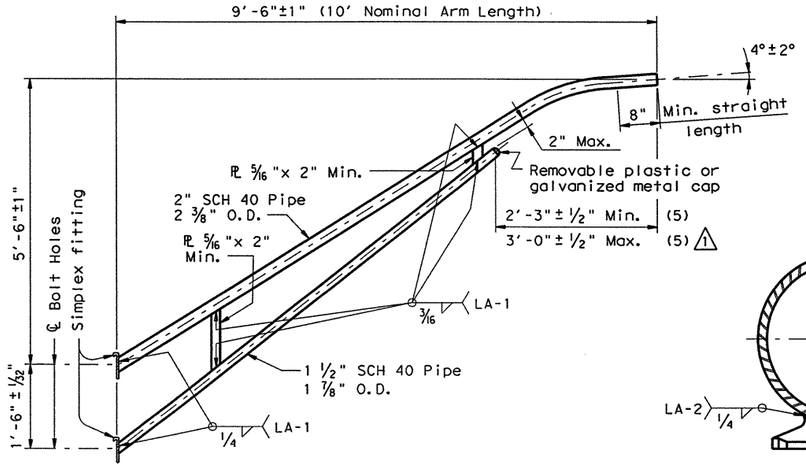
| LEVELS DISPLAYED | | |

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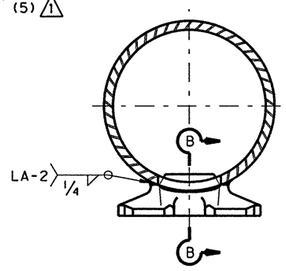
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49	50	51	52	53	54	55	56	57	58	59	60	61	62	63		



8-FOOT LUMINAIRE ARM



10-FOOT LUMINAIRE ARM



DIRECT ATTACHMENT DETAIL

MATERIALS	
Pole or Arm Simplex	ASTM A27 GR 65-35 or A148 GR 80-50 or A576 GR 1021 (4) or A36 (Arm only)
Arm Pipes	ASTM A53 GR A or B or A500 GR B or A501 or A595 (2) or A715 GR 50
Arm Plates (3)	ASTM A36 or A572 GR50 (1) or A595 GR A or A588
Misc.	ASTM designations as noted

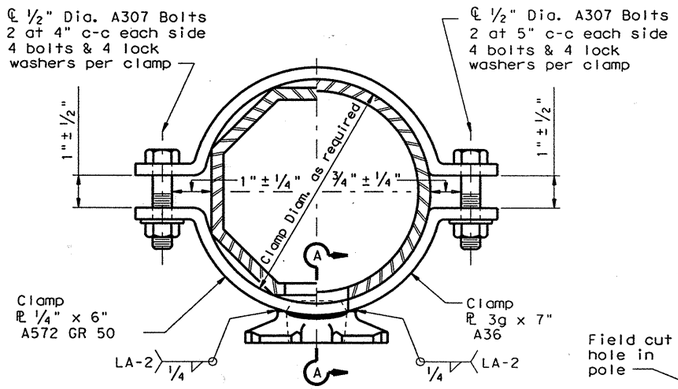
(1) ASTM A36M50 steel as described in Item 442 "Metal for Structures" may be used in lieu of A 572 GR 50.

(2) If A595 GR A material is used, arm need not be cold worked to A595 requiremants, but material must have 40 ksi minimum yield prior to fabrication.

(3) Either of the materials listed for pates may be used where the drawings do not specify a particular ASTM designation.

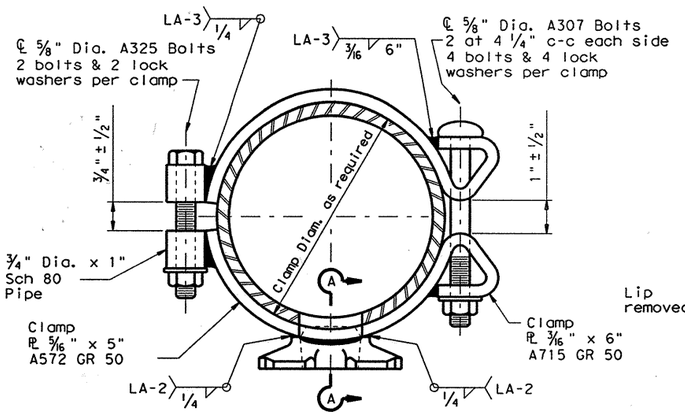
(4) A576 must be suitable for forging and also meet minimum tensile strength of 65 ksi, minimum yield of 35 ksi, and elongation in 2 inches of 22 percent.

(5) Dimensional limits are given to show acceptable variation in design. All of a Fabricator's production of a particular arm length shall have the same dimensions within specified tolerances.



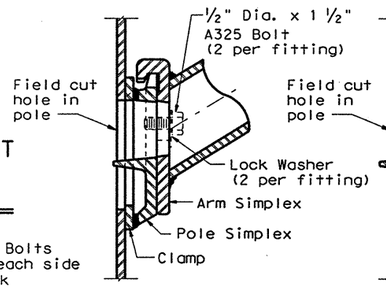
CLAMP ATTACHMENT DETAIL NO. 1 (HALF SECTION)

CLAMP ATTACHMENT DETAIL NO. 2 (HALF SECTION)

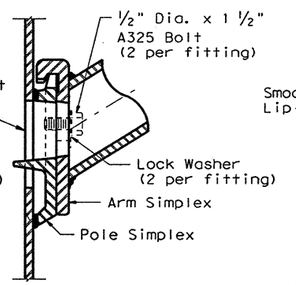


CLAMP ATTACHMENT DETAIL NO. 3 (HALF SECTION)

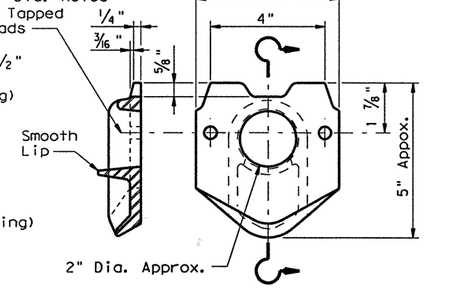
CLAMP ATTACHMENT DETAIL NO. 4 (HALF SECTION)



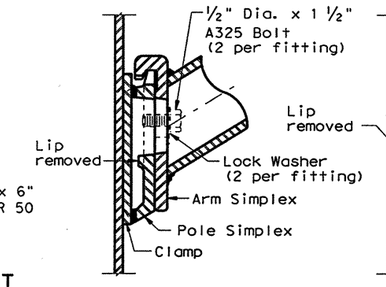
UPPER SIMPLEX FITTING



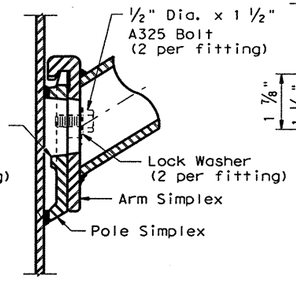
UPPER SIMPLEX FITTING



POLE SIMPLEX DETAIL



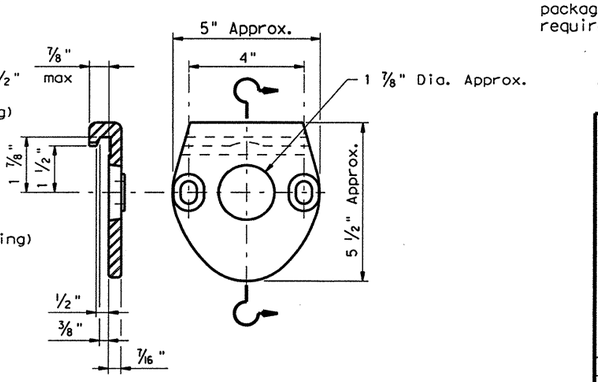
LOWER SIMPLEX FITTING



LOWER SIMPLEX FITTING

SECTON A-A

SECTON B-B



ARM SIMPLEX DETAIL

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto. Design Wind Speed equals 90 mph plus a 1.3 gust factor. Arms are designed to support a 75 lb. luminaire having an effective projected area (actual area times drag coefficient) of 1.5 sq. ft.

Materials and fabrication shall be in accordance with the Specificatons and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. In the absense of specified Fabricaton tolerances, dimensions shall be within the tolerances generally obtainable in normal fabrication practice.

Unless otherwise noted, all parts shall be galvanized after fabrication in accordance with the Specifications.

Special designs require submission of shop drawings in accordance with the item "Steel Structures".

Each pole simplex fitting shall be supplied with 2 A325 bolts and 2 lock washers of the size specified. The bolts and lock washers shall be secured to the pole with the other hardware items called for in the plans. When clamp attachment is specified, the Fabricator shall ship the clamp assembly securely attached to the pole at the location shown on the plans.

If clamp assemblies are ordered without poles, the Fabricator shall ship one upper and one lower clamp assembly together in a single package, including all nuts and washers required for the clamps and simplex fittings.

CHANGE ORDER NO. 32

1 Texas Department of Transportation
Traffic Operations Division

STANDARD ASSEMBLY DRAWINGS FOR LUMINAIRE SUPPORT STRUCTURES

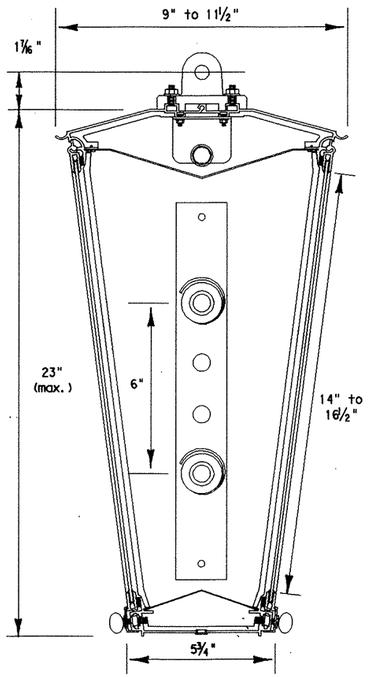
ARM DETAILS

LUM-A-99

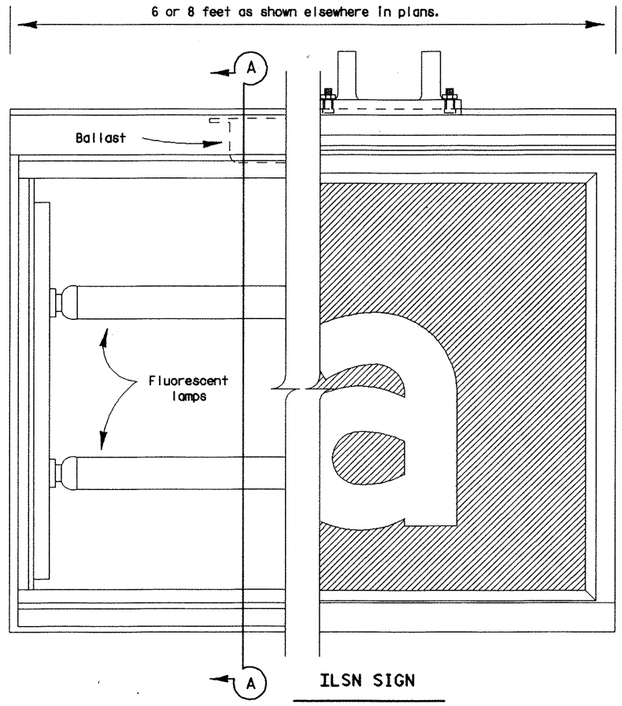
FILE: lum-a.dgn	DN: LEH	CK: JSY	DW: LTT	CK: TEB	STD:
©TxDOT August 1995	DIST	FED REG	FEDERAL AID PROJECT		SHEET
REVISIONS	DAL	6	NH 99(367)		473A
5-96	COUNTY		CONTROL	SECT	JOB	HIGHWAY
1-99	ROCKWALL		0009	04	039	SH 66

1 1-99 - minor typo correction

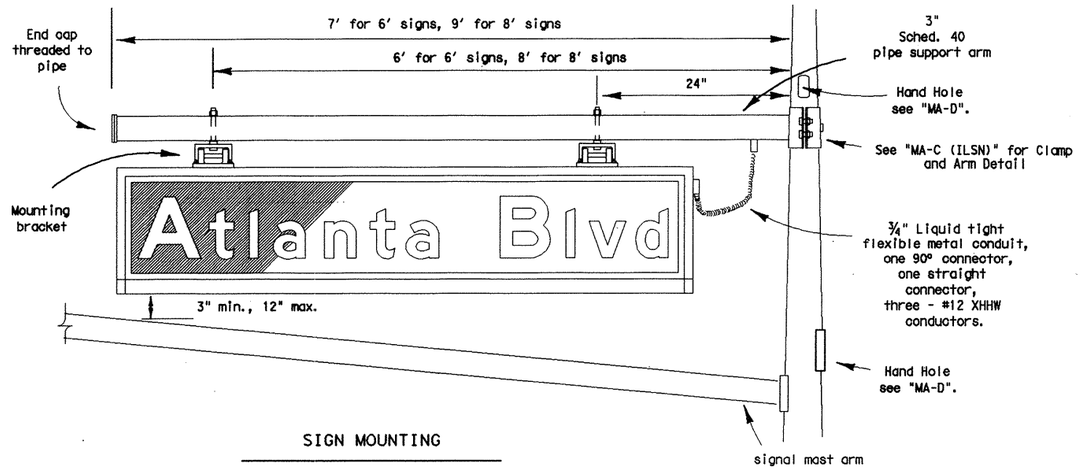
INTERNALLY LIGHTED STREET NAME SIGN DETAILS



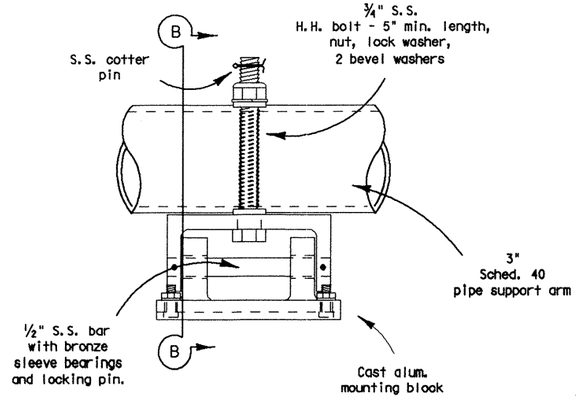
Section A-A



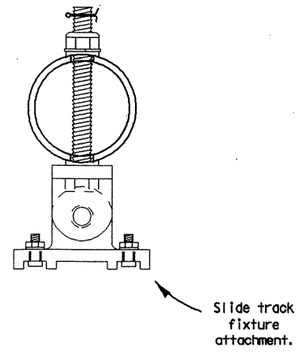
ILSN SIGN



SIGN MOUNTING



MOUNTING BRACKET



Section B-B

ILSN SIGN NOTES:

1. Eight foot ILSN sign shall not exceed 11.5 sq.ft. effective projected area (EPA) and shall not exceed a weight of 85 lbs.
   Six foot ILSN sign shall not exceed 8.7 sq.ft. EPA and shall not exceed a weight of 70 lbs.
2. Sign message shall be as shown elsewhere in the plans.
3. See Special Specification, "Internally Lighted Street Name Signs" for additional details.

EXPLANATION OF DESCRIPTION

ILSN Sign 6 S

- ILSN Sign: Internally lighted street name sign
- 6: Sign length; 6 or 8 ft.
- S: Single or double face

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DN: LR CK: CW DW: DN CK: MT

DATE:
ACC: d58hpic/usr/d580504
FILE:

LEVELS DISPLAYED

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STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

STREET NAME SIGN DETAILS (ILLUMINATED)

SNS-95

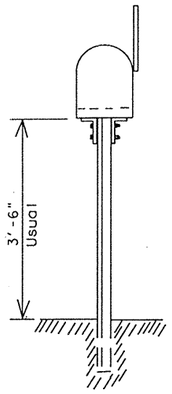
© TxDOT August 1995

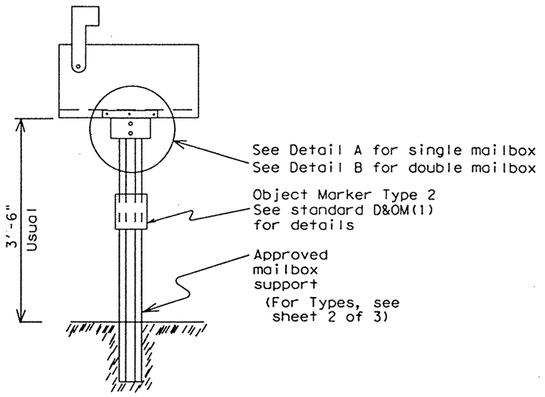
DW: CW	CK: CB	DW: DN	CK: -	MSG NO.:
REVISIONS				

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18	6	NH 99(367)	474

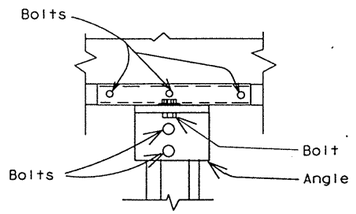
COUNTY	CONTROL	SECTION	JOB	HIGHWAY
ROCKWALL	0009	04	039	SH 66

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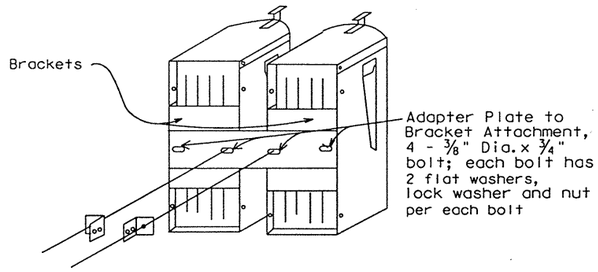
SINGLE AND DOUBLE MAILBOX MOUNT



For bolt sizes see notes for Standard Mailbox Attachment Details

DETAIL A

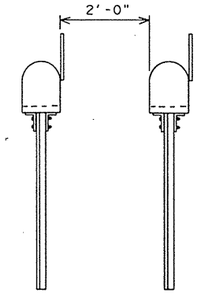
SINGLE MAILBOX MOUNT



DETAIL B

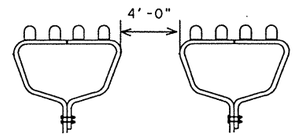
DOUBLE MAILBOX MOUNT

(Not permitted for No. 2 Mailboxes)



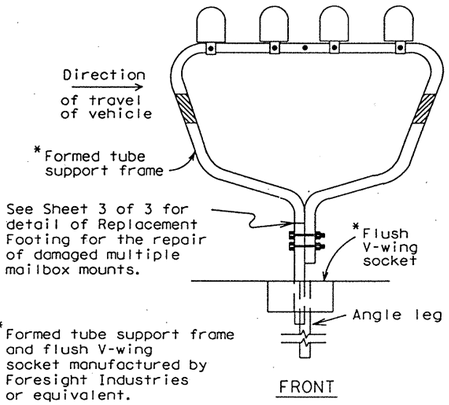
TWO SINGLE MAILBOX INSTALLATIONS

2' Clear Distance
between installations

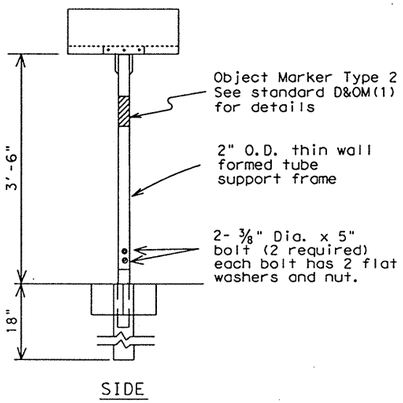


TWO OR MORE MULTIPLE MAILBOX INSTALLATIONS

4' Clear Distance
between installations.



FRONT

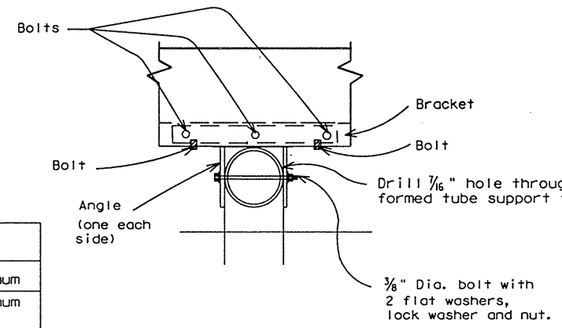


SIDE

*Formed tube support frame and flush V-wing socket manufactured by Foresight Industries or equivalent.

Maximum insertion depth of formed tube support frame into V-wing socket is 9". Minimum insertion depth is 7".

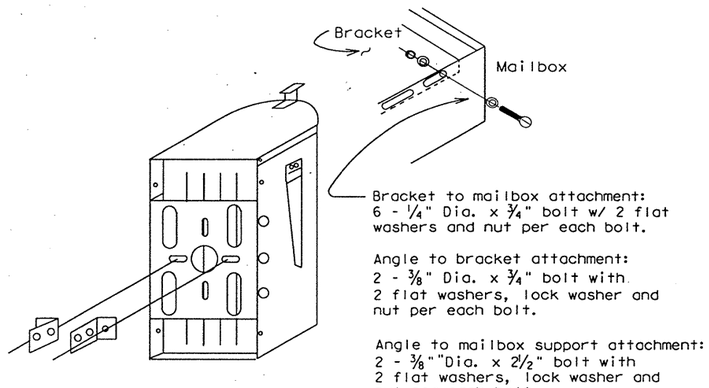
Permissible Number of Mailboxes on Multiple Support:	
All Size No. 1	- 5 Maximum
Combination Various Sizes with no more than 2 Size No. 2	- 4 Maximum
All Size No. 2	- 3 Maximum



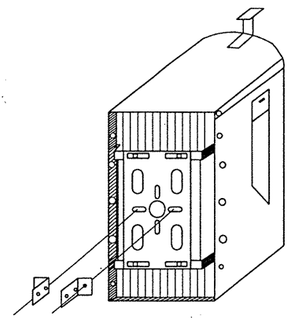
SECTION B-B

For bolt sizes see notes for Standard Mailbox Attachments Details

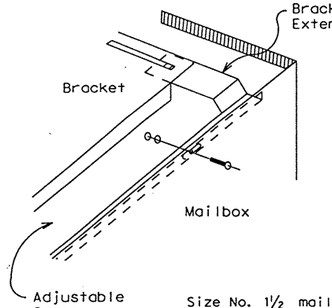
MULTIPLE MAILBOX MOUNT



SIZE NO. 1 MAILBOX



SIZE NO. 1 1/2 AND NO. 2 MAILBOX



Size No. 1½ mailbox may be installed using one bracket extension.

Bracket to mailbox attachment:
6 - 1/4" Dia. x 3/4" bolt w/2 flat washers and nut per each bolt.

Bracket to bracket extension attachment:
2 - 1/4" Dia. x 3/4" carriage bolt w/ flat washer, lock washer and nut per bolt (4 bolts required if 2 bracket extensions are used).

Angle to bracket attachment:
2 - 3/8" Dia. x 3/4" bolt w/2 flat washers, lock washer and nut per each bolt.

Angle to mailbox support attachment:
2 - 3/8" Dia. x 2 1/2" bolt w/2 flat washers, lock washer, and nut per each bolt.

STANDARD MAILBOX ATTACHMENT DETAILS

ADDED 6-20-99 VLWII

For General Notes See sheet 2 of 3.

See Sheet 3 of 3 for Adapter Plate, Angle Bracket and Bracket Extension Hardware Details.

Bracket may be installed with edge down on size No. 1 mailboxes.

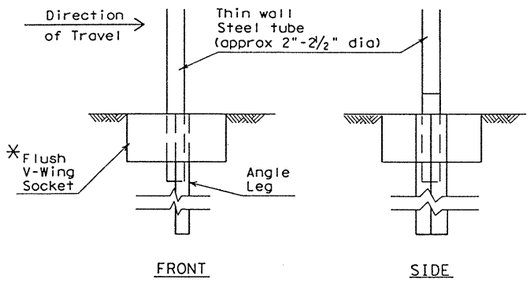
Texas Department of Transportation
Construction & Maintenance Division (Maintenance)

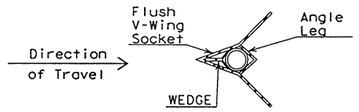
MAILBOX MOUNTING DETAILS

MB-96

Sheet 1 of 3

FILE: MB96.DGN	DN:	CK:	DW:	CK:	NEG:	
©TxDOT 1996	DIST	FED REG	FEDERAL AID PROJECT •			SHEET
REVISIONS	18	6	NH 99 (367)			475
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	ROCKWALL		0009	04	039	SH 66

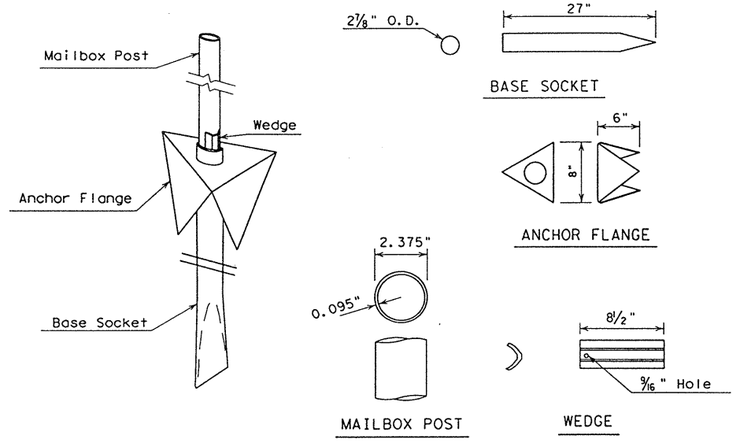




✳See General Note 6.

TYPE 1 SUPPORT/FOUNDATION

THIN WALL STEEL TUBE w/ V-LOC ANCHORAGE



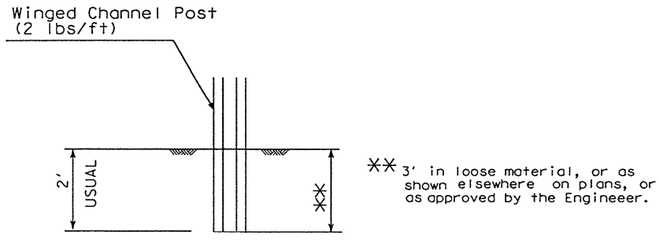
All dimensions may be varied to fit 2 inch thin wall steel tube post if approved by Engineer

TYPE 2 SUPPORT/FOUNDATION

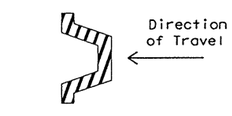
THIN WALL STEEL TUBE w/ANCHOR FLANGE

NOTES FOR TYPE 2 SUPPORT/FOUNDATION

1. The Base Socket is formed from 2 ⅞" O.D. x 12 gauge galvanized pipe.
2. The Anchor Flange is formed from 12 gauge galvanized steel made to A-525. Only needed for soft soils as determined by the Engineer.
3. The Wedge is formed from 11 gauge galvanized steel made to ASTM A-525.
4. The Mailbox Post is 2.375" O. D. 0.095" thin wall steel tubing.
5. Steel Support Foundation unit shall be made from new material and shall be corrosion resistant. The unit shall be galvanized in accordance with ASTM designation A-123, A-525, G-90 or better. In addition, steel members of the support that are in direct contact with earth must be galvanized to ASTM Designation G-90 and coated with one mil of clear approved coating, or galvanized in accordance with ASTM Designation A-123.



✳✳ 3' in loose material, or as shown elsewhere on plans, or as approved by the Engineeer.



Recommended orientation to facilitate attachment of Object Marker.

DELINEATOR POST
2 lbs/ft

TYPE 3 SUPPORT/FOUNDATION

DELINEATOR POST

ADDED 6-28-99 NLW II

GENERAL NOTES

1. Bolts, nuts, washers and other miscellaneous hardware shall be galvanized in accordance to ASTM Designation: A-153, Class C or D, or B-454, Class 40. All bolts shall meet ASTM designation A-307.
2. Foundation and post must be driven plumb. Recommended procedure is to drive post or foundation about 10"-12", stop and check for straightness, front to back, side to side. Make adjustments, continue to drive an additional 10"-12", repeat check, make final adjustments, complete installation.
3. The 2 lbs/ft. winged channel posts for the Type 3 support shall conform to the requirements of departmental materials specification D-9-7130.
4. Hardware for mounting mailboxes to support/foundation furnished by Foresight Industries or equivalent may be used when approved by the Engineer.
5. Where more than two mailboxes are to be mounted at one location a multiple mailbox mount shall be used.
6. The formed tube support frame for the multiple mailbox mount and the Type 1 mailbox support system are patented and manufactured by Foresight Products Inc.
7. Any support or foundation on these standards may be used for mounting single or double mailboxes.

Texas Department of Transportation
Construction & Maintenance Division (Maintenance)

MAILBOX SUPPORT/ FOUNDATION DETAILS

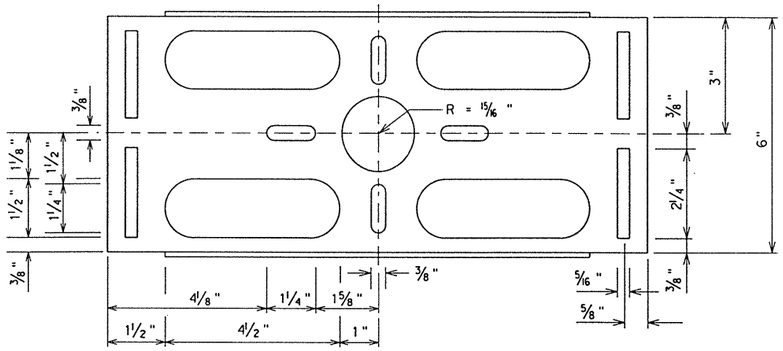
MB-96

Sheet 2 of 3

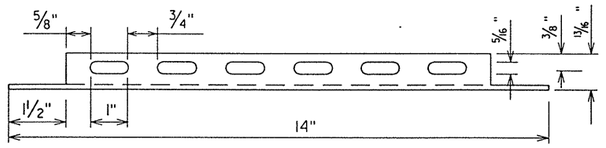
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©TxDOT 1996	DIST	FED REG	FEDERAL AID PROJECT #			SHEET
REVISIONS	18	6	NH 99 (367)			476
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

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LEVELS 0 1

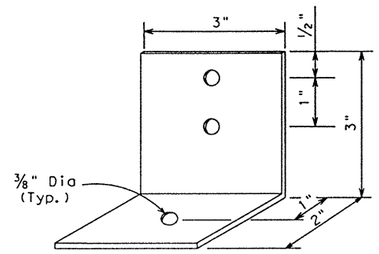


PLAN VIEW

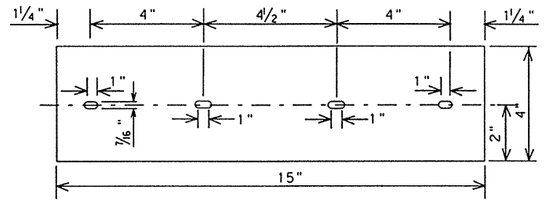


SIDE VIEW

BRACKET

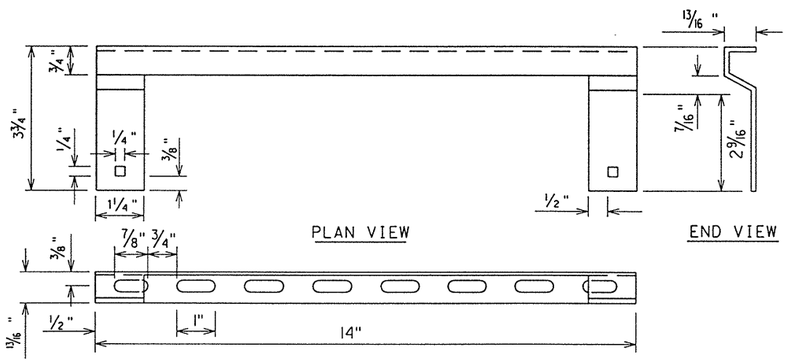


ANGLE



Holes Shall Have a Diameter of 7/16 ".

ADAPTER PLATE



BRACKET EXTENSION

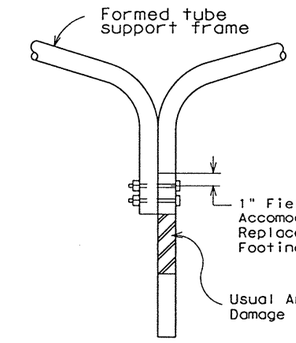
Object Marker Notes:

Object Markers for mailbox support should be the OM-2SR or OM-2VP (6" x 12"). Object markers shall conform to Department Material Specification D-9-8600. Attachment of Object Marker to support may be:

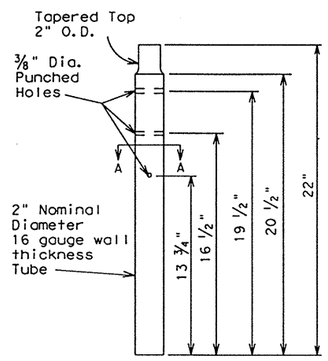
1) For round or tubular support, with pressure sensitive adhesive.
2) For winged channel support, with reflective material on aluminum or plastic substrate and attached by nut/bolt with washers or pop rivet.

The marker is to be placed between 6" and 8" below the bottom of the mailbox.

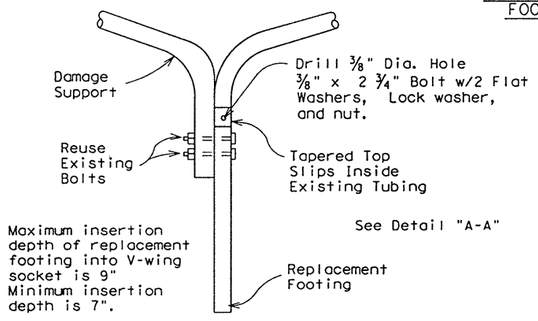
On two-way two lane highways, a marker is to be placed on each side of the support.



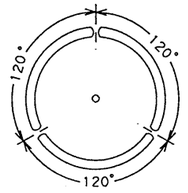
TYPICAL MULTIPLE MAILBOX MOUNT



REPLACEMENT FOOTING



REPAIR DETAIL



DETAIL "A-A"

3 - 0.375 Dia. Punched Holes to Create Weakened Section

NOTES:

Only damaged multiple mailbox mounts having no visible damage other than to the portion of the footing that is to be discarded may be repaired.

Material for the repair footing is to be AISI-1008 hot rolled carbon steel. The unit shall be galvanized.

Hardware for mounting mailboxes to support/foundation furnished by Foresight Industries or equivalent may be used when approved by the Engineer.

The bracket and bracket extension shall be constructed of 14 gauge galvanized steel sheet conforming to ASTM A-525(G-90).

The angle shall be constructed of 14 gauge steel sheet and the adapter plate shall be constructed of 12 gauge steel sheet. The angle and adapter plate shall be fabricated in accordance with ASTM A-123 or constructed of galvanized steel sheet conforming to ASTM A-525(G-90).

Items with evidence of damage to the galvanized coating or wet storage stains (white rust) will not be accepted.

DETAIL OF REPLACEMENT FOOTING

FOR REPAIR OF MULTIPLE MAILBOX MOUNT

ADDED 6-28-99 VLW II

Texas Department of Transportation
Construction & Maintenance Division (Maintenance)

STANDARD MAILBOX HARDWARE

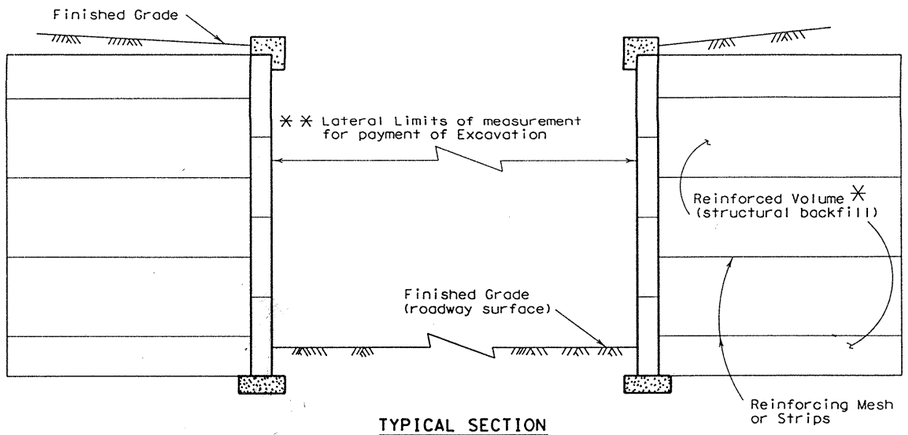
MB-96

Sheet 3 of 3

FILE: MB96.DGN	DN:	CK:	DW:	CK:	NEG:	
© TxDOT 1996	DIST	FED REG	FEDERAL AID PROJECT •			SHEET
REVISIONS	18	6	NH 99 (367)			477
	COUNTY		CONTROL	SECT	JOB	HIGHWAY
	ROCKWALL		0009	04	039	SH 66

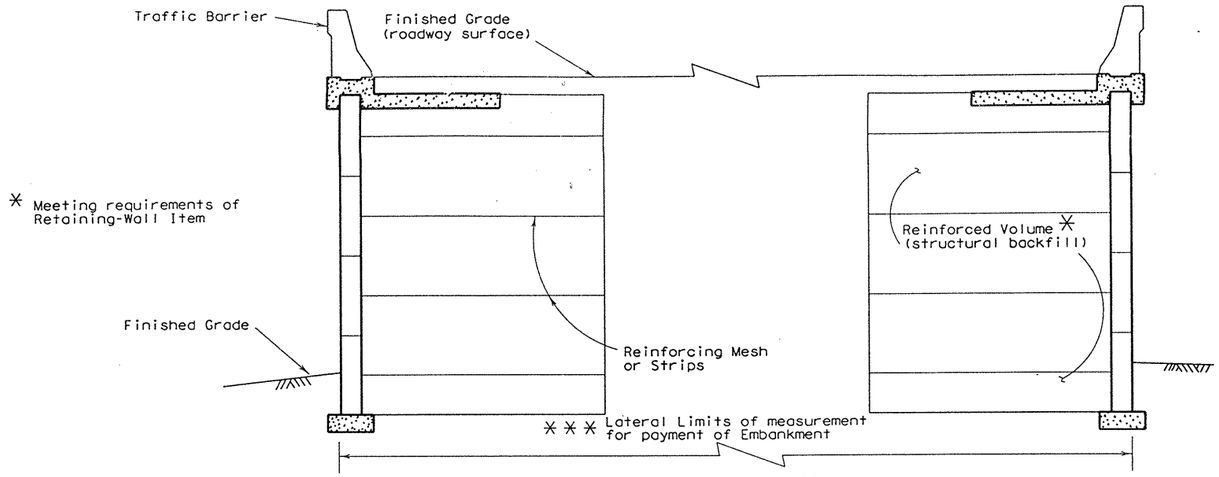
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LEVELS D



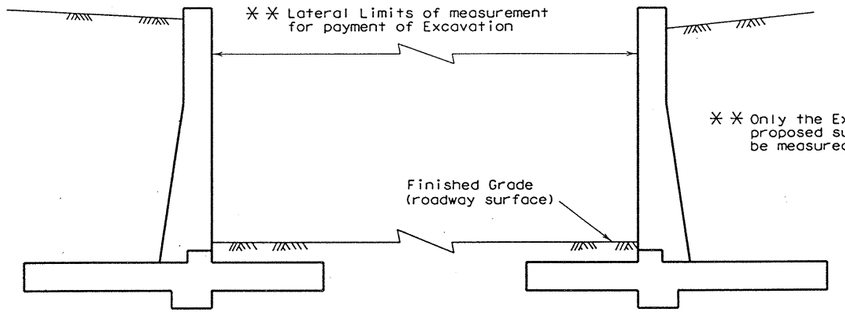
TYPICAL SECTION

Excavation Between Retained Earth or Reinforced Earth Retaining Walls



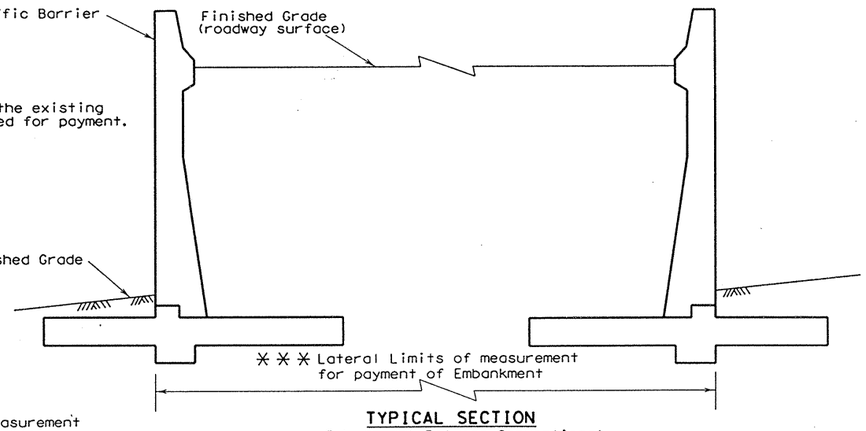
TYPICAL SECTION

Embankment Between Retained Earth or Reinforced Earth Retaining Walls



TYPICAL SECTION

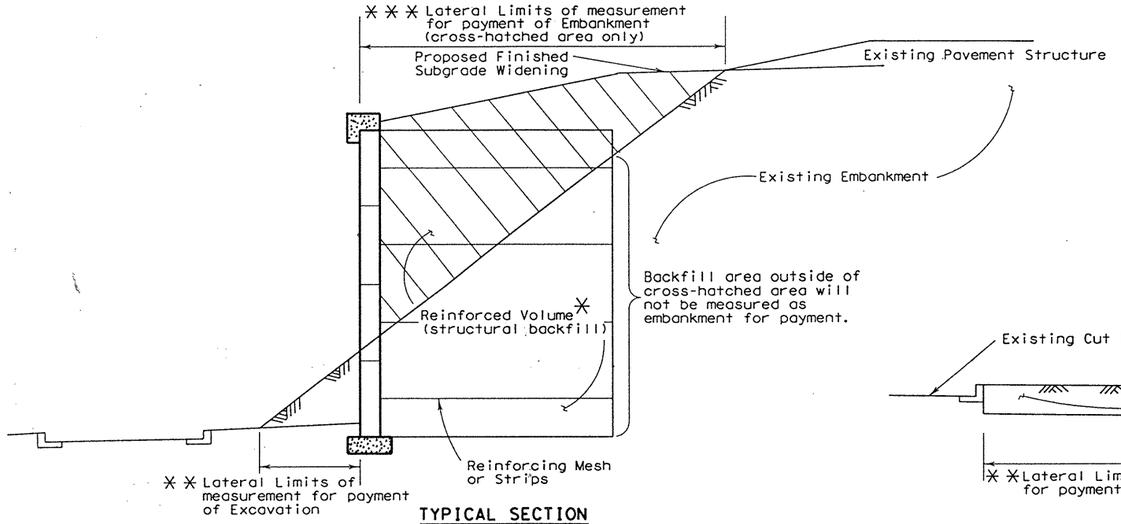
Excavation Between Conventional Retaining Walls



TYPICAL SECTION

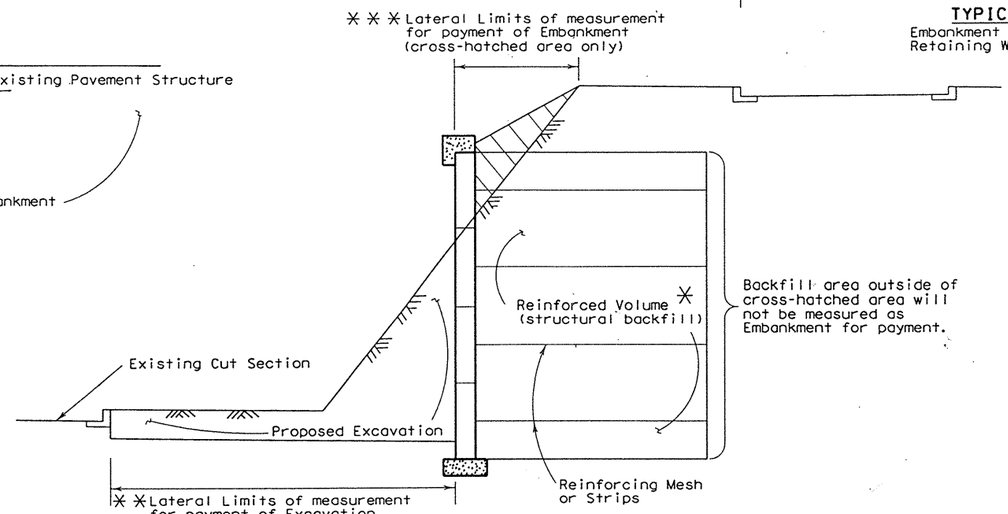
Embankment Between Conventional Retaining Walls

Earthwork measurement with other designs of retaining walls will be made to the outside finished face in the same manner.



TYPICAL SECTION

Widening Embankment with Retained Earth or Reinforced Earth Retaining Walls



TYPICAL SECTION

Widening Cut Section with Retained Earth or Reinforced Earth Retaining Walls

ADDED 6-28-99 VLW

Texas Department of Transportation
Design Division (Roadway)

EARTHWORK MEASUREMENT AT RETAINING WALLS

EMRW-94

ORIG DRAW DATE: MARCH 1994	DW: TGM	CK: TGM	DW: BGD	CK:	NEG NO.:	A12
©TxDOT 1994 MODIFICATIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
	18	6	NH 99 (367)			478
	COUNTY		CONTROL	SECTION	JOB	HIGHWAY
	ROCKWALL		0009	09	039	SH 66

ACC: /usr/d481303
FILE: EMRW94.DGN
LEVELS