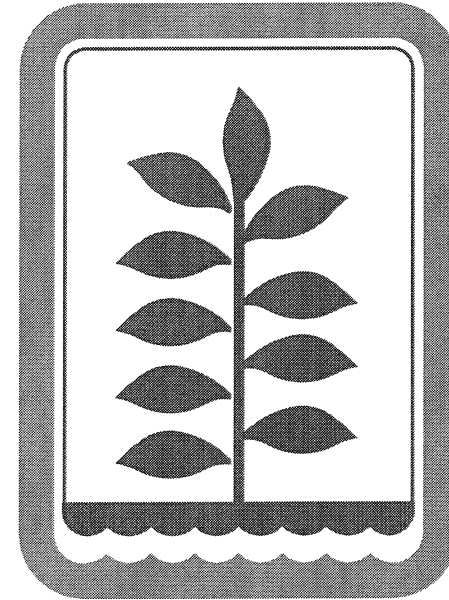


# NORTH TEXAS MUNICIPAL WATER DISTRICT

CONSTRUCTION PLANS FOR

## LAKE SIDE INTERCEPTOR REPLACEMENT

PROJECT NO. SRWWPCF 07-1(102)



**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
PROFESSIONAL ENGINEERS  
Texas Firm F526  
Dallas, Texas  
JUNE, 2009



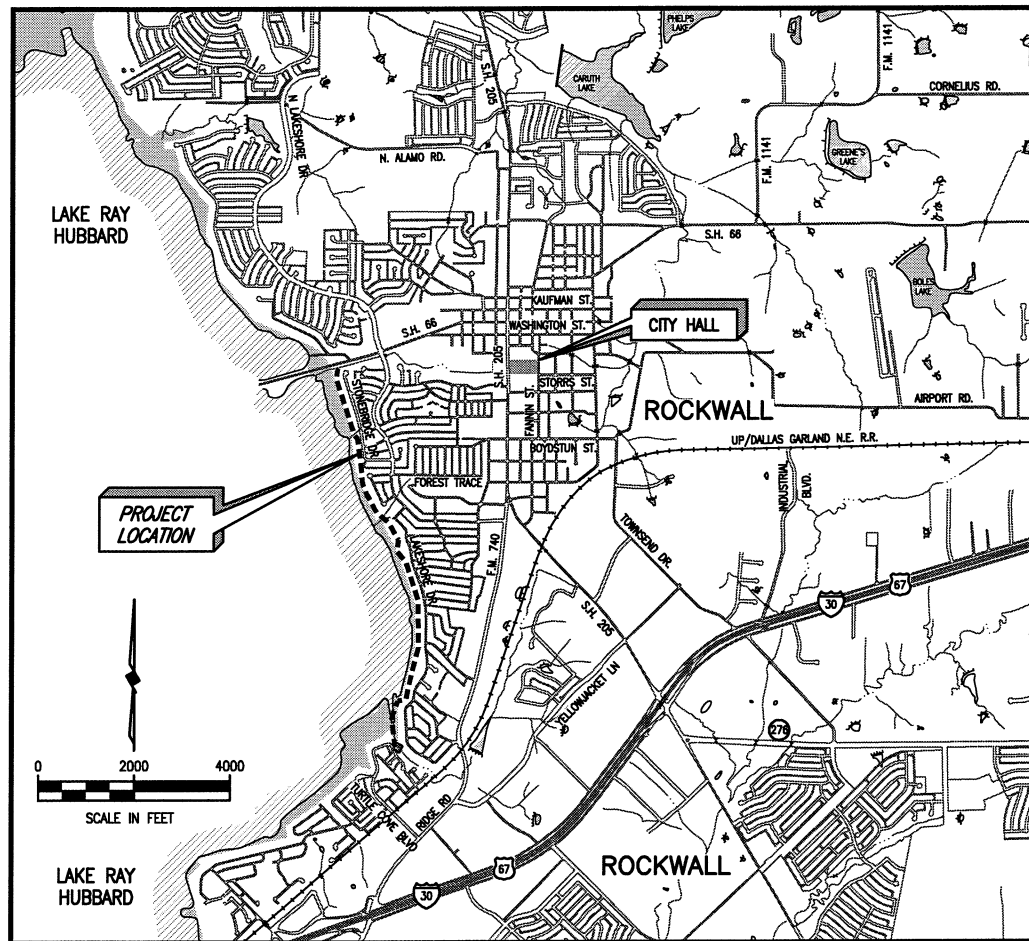
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6/29/09

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BY P.A.C. DATE 01/06/11

### CONFORMED SET

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**LOCATION MAP**  
NOT TO SCALE

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BY P.A.C. DATE 01/06/11

**PROJECT NOTES**  
(NO SEPARATE PAY ITEMS)

- 1) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE MEASURES FOR PREVENTING STORM WATER RUNOFF FROM ENTERING THE TRENCH DURING CONSTRUCTION.
- 2) ALL TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 6 INCHES. THE REPLACED TOPSOIL SHALL BE DISC HARROWED AND SMOOTHED.
- 3) FINISHED GROUND SHALL NOT CONTAIN ANY MORE ROCK OR DEBRIS THAN THE SURROUNDING UNDISTURBED GROUND.
- 4) UNLESS OTHERWISE SHOWN ON THE PLANS THE CONTRACTOR SHALL RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- 5) CONTRACTOR SHALL NOT REMOVE ANY TREES LARGER THAN 4 INCHES IN DIAMETER UNLESS IT IS SHOWN WITH A BOLD "X" ON THE PLANS WITHOUT WRITTEN PERMISSION OF THE OWNER.
- 6) CONTRACTOR MAY TRIM TREES AS NECESSARY UNDER OWNERS SUPERVISION.
- 7) ALL CUT LIMBS OVER 1 INCH IN DIAMETER SHALL BE PAINTED WITH TREE WOUND PAINT IMMEDIATELY AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED IN THIS AREA.
- 8) ALL TREES OVER 4 INCHES IN DIAMETER THAT ARE REMOVED OR SEVERELY DAMAGED BY CONSTRUCTION OPERATIONS WITHOUT PERMISSION SHALL BE REPLACED WITH AN EQUIVALENT TYPE AND DIAMETER OF TREE AT THE SOLE EXPENSE OF THE CONTRACTOR OR THE CONTRACTOR SHALL PAY THE FAIR MARKET VALUE TO THE OWNER.
- 9) THE CONTRACTOR SHALL TAKE SPECIAL CARE IN AVOIDING DAMAGE TO PLANT MATERIAL OR TREES WITHIN THE SITE OR PROPERTY ADJACENT TO THE WORK. ANY AND ALL DAMAGE TO PLANT MATERIAL OR TREES AS A RESULT OF THE CONTRACTOR'S WORK SHALL BE PAID FOR AND CORRECTED AT THE EXPENSE OF THE CONTRACTOR IN ACCORDANCE WITH THE TEXAS A&M FORMULA FOR SHADE TREE EVALUATION.
- 10) ANY FENCES DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES NOT NOTED ON PLANS SHALL BE REPLACED WITH A FENCE OF EQUAL OR SUPERIOR QUALITY AT CONTRACTOR'S EXPENSE.
- 11) CONTRACTOR SHALL INCLUDE ALL COSTS FOR REMOVAL AND/OR REPLACEMENT OF PAVEMENT, FENCES, GATES, AND OTHER IMPROVEMENTS DAMAGED BY RELATED CONSTRUCTION ACTIVITIES IN THE APPROPRIATE ITEM OF THE BID SCHEDULE.
- 12) THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN IN THE PLANS IS APPROXIMATE AND BASED ON THE INFORMATION AVAILABLE TO THE ENGINEER DURING DESIGN OF THE PROJECT. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF THE CONSTRUCTION SO THAT, IF IT IS NECESSARY TO CHANGE OR MOVE THE UTILITY THE PROGRESS OF THE WORK WILL NOT BE DELAYED.
- 13) CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING PUBLIC & PRIVATELY OWNED SERVICE LINES AND IRRIGATION SYSTEMS CROSSED OR EXPOSED BY HIS CONSTRUCTION OPERATIONS. WHERE THEY ARE CUT, BROKEN OR DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPLACE THEM WITH THE SAME TYPE AS THE ORIGINAL CONSTRUCTION OR SUPERIOR.
- 14) ANY CONCRETE PAVEMENT OR SIDEWALK, NOT SHOWN TO BE REMOVED IN THE PLANS, REMOVED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT HIS SOLE EXPENSE.
- 15) CONTRACTOR SHALL PROVIDE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL APPURTENANCES WHICH COMPLY WITH THE LATEST TCEQ SWPPP REGULATIONS.
- 16) IF CONTRACTOR ENCOUNTERS GROUNDWATER ON THE PROJECT, HE SHALL PROVIDE ADEQUATE MEASURES FOR DEWATERING THE TRENCH. ALL COSTS FOR PUMPS AND/OR OTHER RELATED APPURTENANCES SHALL BE INCLUDED IN THE APPROPRIATE ITEM OF THE BID SCHEDULE.
- 17) REMOVAL AND REPLACEMENT OF GRAVEL DRIVES, PARKING AREAS, AND WALKWAYS NOT SHOWN IN THE PLANS SHALL BE SUBSIDIARY. ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ITEM OF THE BID SCHEDULE.
- 18) CONTRACTOR SHALL CONSTRUCT TEMPORARY ASPHALT RAMP TO PROTECT CURBS AT THE CONCRETE PAVEMENT USED BY CONSTRUCTION TRAFFIC, AND SHALL REMOVE ASPHALT AT END OF PROJECT.
- 19) NO TRENCHES SHALL BE LEFT OPEN WHILE CONTRACTOR IS NOT WORKING.
- 20) CONTRACTOR SHALL CONTAIN ALL WORK WITHIN THE EASEMENTS PROVIDED FOR THIS PROJECT AS SHOWN ON THE PLANS.
- 21) CONTRACTOR SHALL PROVIDE WHATEVER MEASURES NECESSARY TO LIMIT TRENCH WIDTH TO 8 FEET THROUGHOUT THIS PROJECT UNLESS OTHERWISE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SAFETY MEASURES AND PROGRAMS.
- 22) THE CONTRACTOR SHALL PROVIDE BARRICADES, FLAGMEN AND OTHER TRAFFIC CONTROL DEVICES AS REQUIRED BY THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR ANY CITY STREET LANE CLOSURES AND AS REQUIRED BY THE TEXAS DEPARTMENT OF TRANSPORTATION FOR WORK WITHIN TxDOT RIGHT-OF-WAY.
- 23) THE CONTRACTOR MAY EMPLOY TWO OR MORE CONSTRUCTION CREWS ON THE PROJECT SIMULTANEOUSLY IN ORDER TO EXPEDITE COMPLETION.
- 24) THE CONTRACTOR SHALL CONTINUOUSLY RESTORE THE CONSTRUCTION AREA SO THAT NO MORE THAN 500 L.F. ALONG THE EASEMENT HAS NOT BEEN RESTORED TO ORIGINAL GRADE AND SECTION.
- 25) ABANDONMENT OF EXISTING SANITARY SEWER SHOWN IN THESE CONSTRUCTION PLANS SHALL BE ACHIEVED BY MANHOLE ABANDONMENT AND PLUGS AND PAID FOR UNDER THESE ITEMS OF THE BID SCHEDULE.
- 26) CONTRACTOR SHALL PROVIDE PRE AND POST CONSTRUCTION VIDEO OF ENTIRE DALLAS TAKE AREA. (NO PAY ITEM) CONTRACTOR SHALL PROVIDE VIDEO ON DVD FORMAT TO N.T.M.W.D.
- 27) CONTRACTOR SHALL STAKE PERMANENT AND TEMPORARY EASEMENT PRIOR TO CONSTRUCTION. STAKES SHALL BE MAINTAINED BY THE CONTRACTOR. (NO PAY ITEM)
- 28) CONTRACTOR SHALL PROTECT ALL DRAINAGE STRUCTURES.
- 29) CONTRACTOR SHALL PROVIDE BYPASS PUMPING AS REQUIRED. PLAN FOR BYPASS PUMPING TO BE SUBMITTED TO N.T.M.W.D. 7 DAYS PRIOR TO INSTALLATION.
- 30) CONTRACTOR SHALL PROTECT ALL SEAWALLS AND REPAIR ANY DAMAGED BY THEIR OPERATIONS.

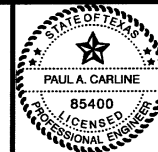
**SUMMARY OF ABBREVIATIONS AND DEFINITIONS**

GENERAL TOPOGRAPHY & HORIZONTAL/ VERTICAL CONTROL				TREES & BUSHES	
ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
B.C.	BACK OF CURB	P.I.	POINT OF INTERSECTION	B.D.	BOIS D'ARC TREE
B-B	BACK TO BACK	E	PROPERTY LINE	B.T.	BLACK THORN TREE
Q	CENTERLINE	P.P. OR U.P.	POWER POLE OR UTILITY POLE	C.B.	CHINABERRY TREE
C.M.A.P.	CORRUGATED METAL ARCH PIPE	P.R.C.	POINT OF REVERSE CURVATURE	CDR.	CEDAR TREE
C.M.P.	CORRUGATED METAL PIPE	P.T.	POINT OF TANGENCY	C.E.	CEDAR ELM TREE
C.I.	CAST IRON	P.V.C.	PLASTIC PIPE	C.M.	CRAPE MYRTLE TREE
C.O.	CLEANOUT	P.V.I.	POINT OF VERTICAL INTERSECTION	C.P.	CHINESE PISTACHIO TREE
CONN.	CONNECTION	R.	RADIUS	C.W.	COTTONWOOD TREE
CULV.	CULVERT	R.C.	REINFORCED CONCRETE	CYP.	CYPRESS TREE
E.L.	DUCTILE IRON PIPE	R.C.P.	REINFORCED CONCRETE PIPE	H.B.	HACKBERRY TREE
ELEV.	ELEVATION	R.C.P.P.	REINF. CONCRETE CYLINDER PIPE	HICK.	HICKORY TREE
ENG.	BURIED ELECTRICAL POWER LINE	R.O.W.	RIGHT OF WAY	H.W.	HAWTHORNE TREE
E.P.	ENCASEMENT	SAN. SEW. OR S.S.	SANITARY SEWER	JAP.	JAPONICA TREE
ESMT.	EASEMENT	S.H.	LAWN SPRINKLER HEAD SURVEY LINE	L.G.	LIGUSTRUM BUSH
F-F	FACE TO FACE	S.S.	SANITARY SEWER	L.O.	LIVE OAK TREE
F.H.	FIRE HYDRANT	S.S.M.H.	SANITARY SEWER MANHOLE	LOC.	LOCUST TREE
F.M.	SANITARY SEWER FORCE MAIN	ST. SEW.	STORM SEWER	MAG.	MAGNOLIA TREE
F.L.	FLOW LINE	S.V.B.	LAWN SPRINKLER VALVE BOX	MAP.	MAPLE TREE
G.L.M.	GAS LINE MARKER	T.B.	TELEPHONE CABLE BOX	MSQ.	MESQUITE TREE
G.M.	GAS METER	T.C.	TOP OF CURB	MIM.	MIMOSA TREE
G.V.	GAS VALVE	TEL.	BURIED TELEPHONE CABLE	MUL.	MULBERRY TREE
GUT.	GUTTER	T.M.H.	TELEPHONE CABLE MANHOLE TO FACE (OF CURB)	NAN.	NANDENA BUSH
HDWL	HEADWALL	TO F.	TELEPHONE CABLE MANHOLE TO FACE (OF CURB)	PEC.	PECAN TREE
I.P.F. OR I.R.F.	IRON PIN (ROD) FOUND	TRANS.	ELECTRICAL TRANSFORMER	PER.	PERSIMMON TREE
LL	LANDSCAPING LIGHT	T.V.	BURIED TELEVISION CABLE	PHOT.	RED TIPPED PHOTINIA BUSH
L.P.	LIGHT POLE	T.V.B.	CABLE TELEVISION BOX	PST.	CHINESE PISTACHIO TREE
L.S.	SANITARY SEWAGE LIFT STATION	U.G.C.M.	UNDERGROUND CABLE MARKER	R.B.	REDBUD TREE
L.S.T.	LANDSCAPING TIMBERS	U.P.M.	UNDERGROUND PIPELINE MARKER	R.O.	RED OAK TREE
M.B.	MAILBOX	V.C.	VERTICAL CURVE	S.G.	SWEET GUM TREE
M.B.G.F.	METAL BEAM GUARD FENCE	W. OR W.L.	WATER LINE	SYC.	SYCAMORE TREE
M.H.	MANHOLE	W.M.	WATER METER	WIL.	WILLOW TREE
P.C.	POINT OF CURVATURE	W.V.	WATER VALVE		

**SHEET INDEX**

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**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
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*Paul A. Carlisle*  
01/29/09

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
LAKESIDE INTERCEPTOR REPLACEMENT  
**LOCATION MAP, PROJECT NOTES AND SHEET INDEX**

BHC  
PROJECT NO.  
2007-104  
June, 2009

SHEET NO.  
**2**

**LEGEND OF SYMBOLS**

	CONCRETE PAVEMENT
	GRAVEL PAVEMENT
	STONE OR ROCK PAVEMENT
	PROPERTY OR SUB-DIVISION LINE
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	SLOPE OR TOP BANK
	CREEK OR DITCH
	BURIED TELEPHONE CABLE
	TREES, BUSH OR BRUSH
	WOOD FENCE
	WROUGHT IRON FENCE
	CHAIN LINK FENCE

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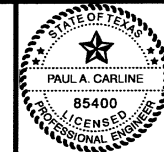
**EXISTING UTILITY OWNERS**

NORTH TEXAS MUNICIPAL WATER DISTRICT	DENNIS McSHERRY BRUCE COLE	(972) 442-5405	
CITY OF ROCKWALL	CHUCK TODD	(972) 771-7746	CITY ENGINEER
COMCAST	-	(800) 252-1133	
SOUTHWESTERN BELL TELEPHONE	-	(800) 395-0440 (800) 545-6005	
TCI CABLE	-	(214) 328 5000	
TEXAS ONE CALL SYSTEM	-	(800) 245-4545	
TEXAS EXCAVATION SAFETY SYSTEM	-	(800) 344-8377	
ONCOR	RICHARD BREWSTER	(214) 486-4245	
ATMOS ENERGY	LINE LOCATE EMERGENCY BEN CURTIS RONNEY LINTON	(800) 344-8377 (800) 817-8090 (800) 344-8377 (469) 261-2023	PROJECT MANAGER
LEVEL 3 FIBER OPTIC	-	(877) 366-8344	
METRO MEDIA FIBER OPTIC	-	(972) 771-7746	DIG/EMERGENCY

**GENERAL PROJECT NOTES**

- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE MEASURES FOR PREVENTING STORM WATER RUNOFF FROM ENTERING THE TRENCH DURING CONSTRUCTION.
- CONTRACTOR SHALL SECURE EXCAVATION AT THE END OF EACH DAY. THE OWNER MAY REQUIRE THAT NO TRENCHES BE LEFT OPEN OVERNIGHT IN STREETS OR POPULATED AREAS.
- TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 6 INCHES AND DISC HARROWED TO A MINIMUM DEPTH OF 4 INCHES.
- FINISHED GROUND SHALL HAVE NO MORE ROCKS OVER 1 INCH THAN SURROUNDING UNDISTURBED GROUND.
- RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF ALL POWER AND TELEPHONE POLES AND GUY WIRES WITHIN 15 FEET OF PROPOSED SANITARY SEWER AND SHALL REPAIR DAMAGED POLES AND GUY WIRES OR RELOCATE POLES AND GUY WIRES AS REQUIRED BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR MUST CONTACT & COORDINATE ALL WORK AND FEES W/ UTILITY OWNER AT NO ADDITIONAL COST TO NTMWD.
- TRIMMING OF TREES SHALL BE ACCOMPLISHED USING A SAW OR PRUNING SHEARS. ALL CUT LIMBS OVER 1 INCH IN DIAMETER SHALL BE PAINTED WITH TREE WOUND PAINT IMMEDIATELY AFTER TREE TRIMMING.
- CONTRACTOR SHALL REPLACE ANY TREES REMOVED OR DESTROYED WITHOUT THE OWNER'S PERMISSION OR SHALL PAY FAIR MARKET VALUE (AS DETERMINED BY THE OWNER) TO THE OWNER.
- ANY FENCES DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE SAME LOCATION WITH A FENCE OF EQUAL OR SUPERIOR QUALITY.
- TEMPORARY FENCING SHALL BE REQUIRED WHERE INDICATED ON THE DRAWINGS, WHERE THERE IS LIVESTOCK, AND WHERE DAMAGED OR REMOVED FENCES ARE NOT TO BE REPLACED BY END OF SAME WORK DAY, OR AS DIRECTED BY OWNER. CONTRACTOR TO VERIFY PRESENCE OF LIVESTOCK WITH LANDOWNER PRIOR TO ENTERING PROPERTY.
- CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING PUBLIC & PRIVATE UTILITIES PRIOR TO ORDERING PIPE AND SUFFICIENTLY IN ADVANCE OF THE CONSTRUCTION SO THAT IF IT IS NECESSARY TO CHANGE OR MOVE THE UTILITY, THE PROGRESS OF THE WORK WILL NOT BE DELAYED, & ALL COSTS INCURRED FOR UTILITY CONFLICTS WILL BE AT NO ADDITIONAL COST TO NTMWD.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING PUBLIC & PRIVATE SERVICE LINES CROSSED OR EXPOSED BY HIS CONSTRUCTION OPERATIONS. WHERE EXISTING SERVICE LINES ARE CUT, BROKEN OR DAMAGED THE CONTRACTOR SHALL IMMEDIATELY REPLACE THE SERVICE LINES IN KIND WITH LIKE OR BETTER MATERIALS.
- CONTRACTOR SHALL PROVIDE A STORM WATER POLLUTION PREVENTION PLAN AND PROVIDE ALL APPURTENANCES TO COMPLY WITH THE LATEST TCEQ STORM WATER POLLUTION PREVENTION REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FILING A NOTICE OF INTENT (NOI) AT THE START OF CONSTRUCTION WITH THE TCEQ AND A NOTICE OF TERMINATION (NOT) AT THE END, ALSO WITH THE TCEQ.
- CONTRACTOR SHALL PROVIDE ADEQUATE MEASURES FOR DEWATERING AS NECESSARY.
- CONTRACTOR SHALL REMOVE FENCES AS REQUIRED FOR CONSTRUCTION. BARBED WIRED, WROUGHT IRON, CHAIN AND CHAIN LINK FENCES SHALL BE REPLACED OR RECONSTRUCTED. NEW MATERIALS SHALL MATCH EXISTING FENCES. ALL WOOD FENCES SHALL BE REPLACED WITH NEW CEDAR WITH THE POSTS MATCHING THE EXISTING POSTS. ANY FENCING REMOVED SHALL BE REPLACED IN KIND WITH LIKE OR BETTER MATERIALS, AND BE PAINTED OR STAINED TO MATCH EXISTING FENCE.
- CONTRACTOR SHALL PROTECT ALL UNDERGROUND IRRIGATION SYSTEMS (KNOWN AND UNKNOWN). ALL DAMAGE SHALL BE REPAIRED BY IRRIGATOR LICENSED IN THE STATE OF TEXAS.
- CONTRACTOR SHALL SUBMIT A WRITTEN PLAN AND SCHEDULE 14 DAYS IN ADVANCE OF CONSTRUCTION ACTIVITIES REQUIRING REPLACEMENT OR SUPPORT OF EXISTING SANITARY SEWER PIPE, WATER PIPE OR STORM DRAIN PIPE. THE PLAN SHALL DESCRIBE IN DETAIL THE METHOD FOR REPLACING OR SUPPORTING EXISTING PIPE AND ASSOCIATED SCHEDULE. (I.E. SHUTDOWN/TIE-IN)
- CONTRACTOR SHALL PROVIDE THE OWNER AS-BUILT ELEVATIONS OF MANHOLE COVERS AND ELEVATION OR HEIGHT TO GRADE RINGS.
- FOLLOWING INSTALLATION OF INTERCEPTOR ACROSS WATERWAYS, WATERWAY BOTTOM AND BANKS SHALL BE RESTORED TO THEIR ORIGINAL CONFIGURATION AND REVEGETATED.
- THE CONTRACTOR SHALL EMPLOY ADEQUATE METHODS TO MINIMIZE TURBIDITY IN WATERWAYS DURING ALL PHASES OF THE PROJECT. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS CONCERNING WATER POLLUTION AND CONTROL OF EROSION.
- CONTRACTOR SHALL CLEAN THE RIGHT-OF-WAY OF ANY AND ALL TRASH.
- NO FIRES WILL BE ALLOWED. BRUSH AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE.
- LIFT STATION GATE SHALL BE KEPT CLOSED TO CONTROL ACCESS TO THE PROJECT SITE.
- ANY EXISTING UTILITY DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED IMMEDIATELY WITH LIKE OR BETTER MATERIALS.
- CONTRACTOR SHALL NOT DAMAGE EXISTING TREES LARGER THAN 4 INCHES IN DIAMETER (MEASURED 4 FT. ABOVE THE GROUND) THAT ARE MORE THAN TWELVE FEET FROM CENTERLINE OF NEW INTERCEPTOR. THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE BEFORE ANY TREES MORE THAN 10-FT FROM CENTERLINE OF INTERCEPTOR CAN BE REMOVED OR TRIMMED.
- CONTRACTOR SHALL BE REQUIRED TO INSTALL TEMPORARY TEST PLUGS FOR HYDROSTATIC TESTING AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR, AT HIS DISCRETION, MAY TUNNEL UNDER EXISTING UTILITIES OR ROADWAYS OTHER THAN THOSE CROSSINGS SPECIFICALLY SHOWN ON THE DRAWINGS, AT NO ADDITIONAL COST TO THE OWNER.
- IT SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO REBUILD THE CONCRETE OR ASPHALT PAVEMENT REPLACEMENT SECTIONS TO THE SAME LINE AND GRADE AS WAS EXISTING PRIOR TO PIPELINE CONSTRUCTION. SEE NOTE ON TEMP. ASPHALT RAMPS.
- ALL NEW TREES REQUESTED BY THE OWNER SHALL BE PLANTED BY A NURSERYMAN LICENSED IN THE STATE OF TEXAS.
- SURVEY POINTS INDICATED AS "CONTROL POINT" (IRON ROD SETS, "X" IN CONC, AND 60D NAILS POINT) SHALL BE USED FOR HORIZONTAL AND VERTICAL SURVEY CONTROL FOR THE PROJECT.
- THE CONTRACTOR SHALL RESTORE AT HIS OWN EXPENSE, TEMPORARY ROADS AND CONSTRUCTION WORK AREAS.
- IN ACCORDANCE WITH TEXAS STATE LAW, AT LEAST 2 DAYS PRIOR TO BEGINNING EXCAVATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING A TEXAS REGISTERED NOTIFICATION CENTER (I.E. TEXAS ONE CALL, DIG TESS, ETC.). IN ORDER TO HAVE EXISTING UTILITIES LOCATED. DIGTESS: 1-800-344-8377.
- BLASTING WILL NOT BE ALLOWED.
- CONTRACTOR SHALL STAKE BOTH PERMANENT AND TEMPORARY EASEMENTS & CUT STAKES (OFFSETS) PRIOR TO CONSTRUCTION. CONSTRUCTION SURVEYING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR INCLUDING BUT NOT LIMITED TO LIMITS OF PERMANENT EASEMENT, TEMPORARY EASEMENT, CENTERLINE, ETC. THE CONTRACTOR SHALL VERIFY ALL CONTROL MONUMENTATION PRIOR TO BEGINNING CONSTRUCTION.
- CLEARING AND GRUBBING MAY BEGIN NO SOONER THAN TWO WEEKS PRIOR TO PIPE TRENCHING OPERATIONS. PIPE STRINGING SHALL BE NO MORE THAN TWO WEEKS PRIOR TO PIPE LAYING. BACKFILL, CLEAN-UP, AND SURFACE RESTORATION SHALL BE COMPLETED NO MORE THAN TWO WEEKS AFTER PIPE LAYING AND NO MORE THAN 500 FEET FROM PIPE LAYING OPERATIONS. THE SITE SHALL BE KEPT CLEAN OF TRASH AT ALL TIMES. FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN WITHHOLDING SOME OR ALL PAYMENT TO THE CONTRACTOR.
- CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC ON ALL ROADS AT ALL TIMES, AND CONSTRUCT TEMPORARY BYPASS, IF NECESSARY, IF THE ROADWAY MUST BE CLOSED TO FACILITATE CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER AND THE RIGHT-OF-WAY OWNER FOR THE ROADWAY FOR APPROVAL NO LESS THAN 14 DAYS IN ADVANCE OF THE PROPOSED ROADWAY CLOSURE. ANY COMMENTS RECEIVED ON THE PLAN BY THE OWNER OR RIGHT-OF-WAY OWNER SHALL BE INCORPORATED INTO THE PLAN. THE PLAN SHALL BE PREPARED SPECIFICALLY FOR THIS PROJECT AND SHALL BE SEALED AND SIGNED BY AN ENGINEER LICENSED IN THE STATE OF TEXAS. THE COST TO PREPARE THE TRAFFIC CONTROL PLAN, WHEN REQUIRED, SHALL BE MADE INCIDENTAL TO THE PROJECT. IF AT ANYTIME DURING CONSTRUCTION THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR THE SAFE, COMFORTABLE MOVEMENT OF TRAFFIC, THE CONTRACTOR SHALL IMMEDIATELY CHANGE HIS OPERATIONS TO CORRECT THE UNSATISFACTORY CONDITIONS.
- CONTRACTOR SHALL PROVIDE APPROPRIATE SIGNAGE, BARRICADES, FLAGMEN, ETC. REQUIRED TO MAINTAIN SAFE TRAFFIC FLOW AT ALL TIMES FOR ANY WORK ACTIVITY ON OR ADJACENT TO ANY CITY, COUNTY OR TXDOT ROADWAY. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH TXDOT'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR'S OPERATIONS MUST STAY WITHIN THE PERMANENT AND TEMPORARY EASEMENTS AND CONTRACTOR'S WORK AREA DESIGNATED ON THE PLAN SHEETS. ANY DAMAGE OUTSIDE THESE OPERATIONS SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTOR'S EXPENSE. ACCESS ROUTES OR OPERATIONS WHICH FALL OUTSIDE THE DESIGNATED AREAS WILL ONLY BE ALLOWED WITH PRIOR LANDOWNER CONSENT. CONTRACTOR SHALL PROVIDE THE OWNER WITH A COPY OF ANY AGREEMENTS MADE BETWEEN THE LANDOWNER AND THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE A VIDEO TAPE TO THE OWNER DOCUMENTING THE CONDITION OF THE PIPELINE ROUTE, INCLUDING THE PERMANENT EASEMENT, TEMPORARY EASEMENT AND SURROUNDING AREA PRIOR TO THE START OF ANY CONSTRUCTION. VIDEO TO BE PROVIDED PRIOR TO FIRST PAYMENT TO CONTRACTOR.
- PROVIDE ACCESS FOR LANDOWNERS AT EXISTING ROADS AND DRIVES AT ALL TIMES.
- WHEN NEW INTERCEPTOR CONSTRUCTION CROSSES UNDER EXISTING PIPELINES, CONTRACTOR SHALL BACKFILL EXISTING PIPELINE WITH CRUSHED CONCRETE FROM TOP OF PIPE ZONE OF NEW WATERLINE TO ONE FOOT ABOVE EXISTING PIPELINE.
- WHERE NEW INTERCEPTOR CROSSES EXISTING SANITARY SEWER PIPE, CONTRACTOR SHALL CENTER ONE JOINT OF NEW PIPE OVER EXISTING SEWER PIPE SUCH THAT ENDS OF THE NEW PIPE JOINT ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE SEWER PIPE.
- WHERE IT IS NECESSARY FOR LANDOWNERS TO MOVE TRAILERS, SHEDS, OR OTHER FACILITIES OR IMPROVEMENTS, OR WHEN THE CONTRACTOR INTENDS TO MOVE SUCH FACILITIES OR IMPROVEMENTS, CONTRACTOR SHALL NOTIFY THE LAND OWNER AND THE OWNER NO LESS THAN 14 DAYS PRIOR TO MOVING THE FACILITIES OR IMPROVEMENTS.
- WHERE NOT OTHERWISE NOTED BY GRADING PLAN RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL PROTECT ALL TREES, LANDSCAPING AND STRUCTURES LOCATED WITHIN THE TEMPORARY AND PERMANENT EASEMENTS. TREES, LANDSCAPING AND STRUCTURES NOT INDICATED FOR REMOVAL OR TRANSPLANT ON THE PLANS SHALL NOT BE REMOVED OR TRANSPLANTED WITHOUT RECEIVING WRITTEN APPROVAL FROM THE N.T.M.W.D. OR CITY OF ROCKWALL.
- CONTRACTOR SHALL NOT PUMP OR USE WATER FROM LAKE RAY HUBBARD UNDER ANY CIRCUMSTANCES.

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 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900



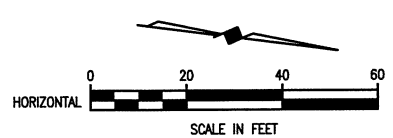
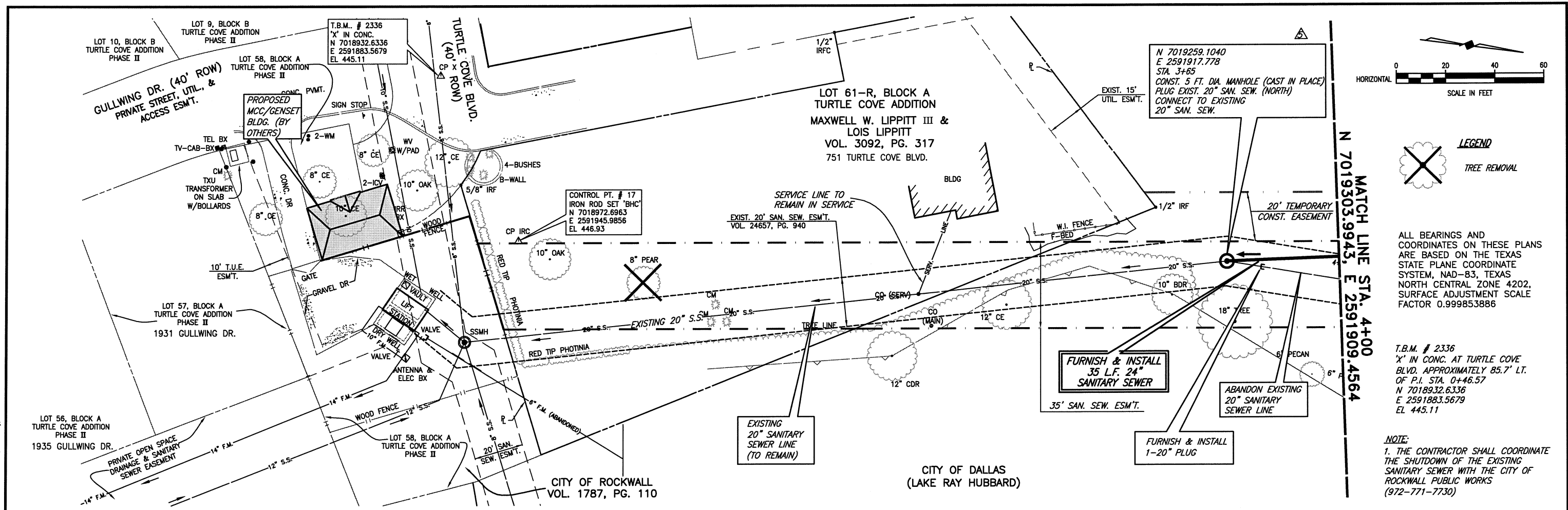
*Paul A. Carlisle*  
 6/29/09

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT  
**GENERAL NOTES**

BHC  
 PROJECT NO.  
 2007-104  
 June, 2009

SHEET NO.  
**3**

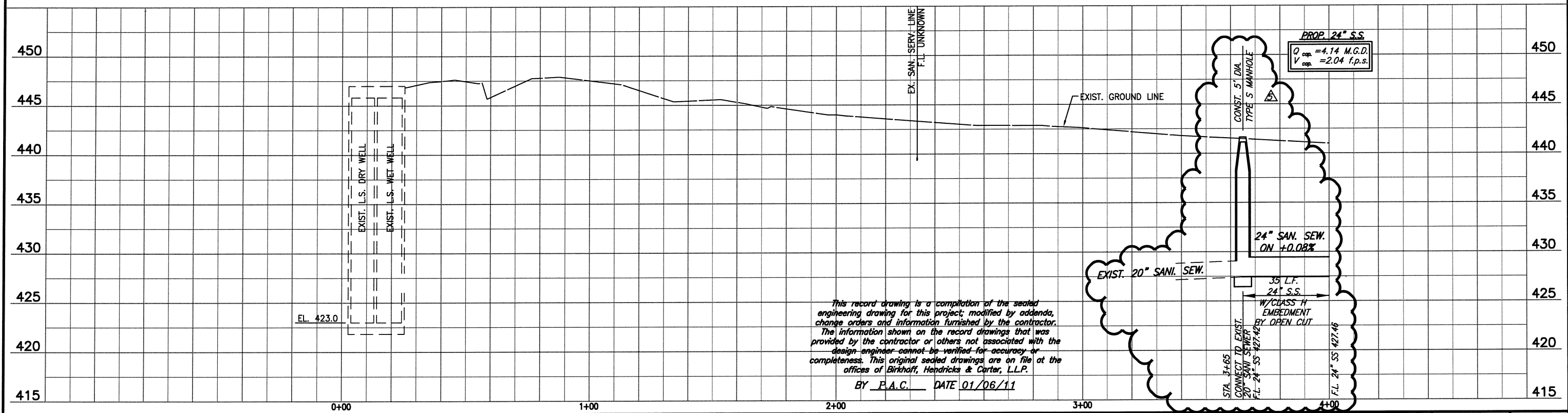
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T.B.M. # 2336  
 'X' IN CONC. AT TURTLE COVE BLVD. APPROXIMATELY 85.7' LT. OF P.I. STA. 0+46.57  
 N 7018932.6336  
 E 2591883.5679  
 EL 445.11

NOTE:  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Carter, L.L.P.  
 BY P.A.C. DATE 01/06/11

▲	FIELD CHANGE NO.1	1/14/09	- PIPE INSTALLATION METHOD REVISED (STA. 2+52 TO STA. 3+52)
▲	FIELD CHANGE NO.2	2/12/09	- REVISED TREE REMOVAL LOCATIONS
①	CHANGE ORDER NO.1	2/12/09	- REVISED BORE LOCATIONS & ENCASEMENT
▲	FIELD CHANGE NO.3	5/04/09	- REVISED CONNECTION AT WET WELL
▲	FIELD CHANGE NO.4	6/29/09	- REVISED VERTICAL ALIGNMENT
▲	FIELD CHANGE NO.5	6/11/10	- CAST IN PLACE MANHOLE

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 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

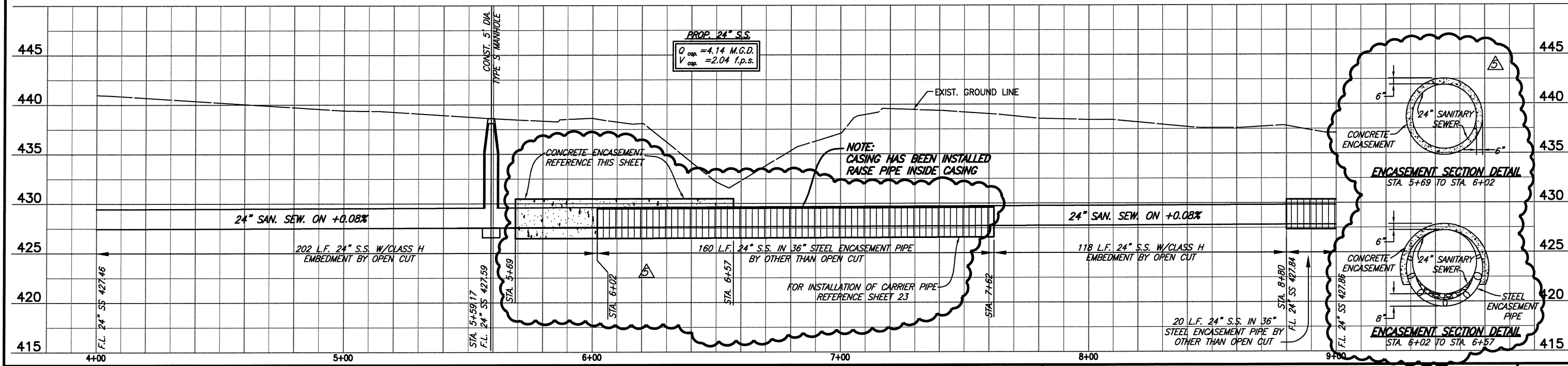
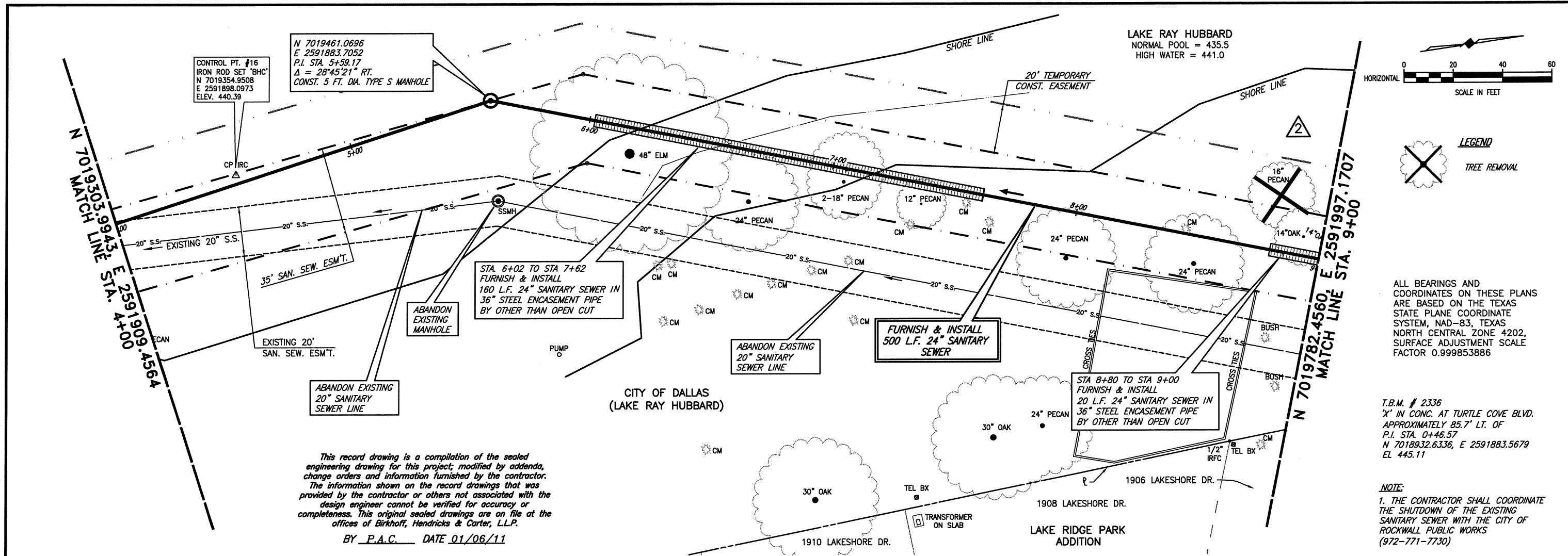
**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 3+54.39 TO STA. 4+00

BHC PROJECT NO. 2007-104  
 June, 2009

SHEET NO. **4**





△	FIELD CHANGE NO.2	2/12/09	- REVISED TREE REMOVAL LOCATIONS
①	CHANGE ORDER NO.1	2/12/09	- REVISED BORE LOCATIONS & ENCASEMENT
△	FIELD CHANGE NO.4	6/29/09	- REVISED VERTICAL ALIGNMENT
△	FIELD CHANGE NO.5	11/07/09	- PER INSTALLATION

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PROFESSIONAL ENGINEERS  
Texas Firm F526  
11910 Greenville Ave., Suite 600  
Dallas, Texas (214) 361-7900

STATE OF TEXAS  
PAULA CARLINE  
85400  
LICENSED PROFESSIONAL ENGINEER

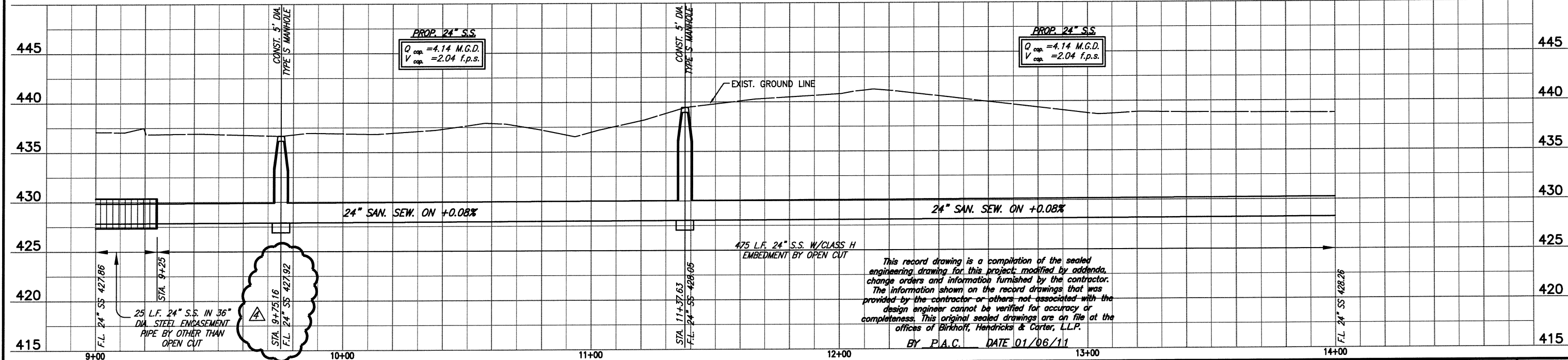
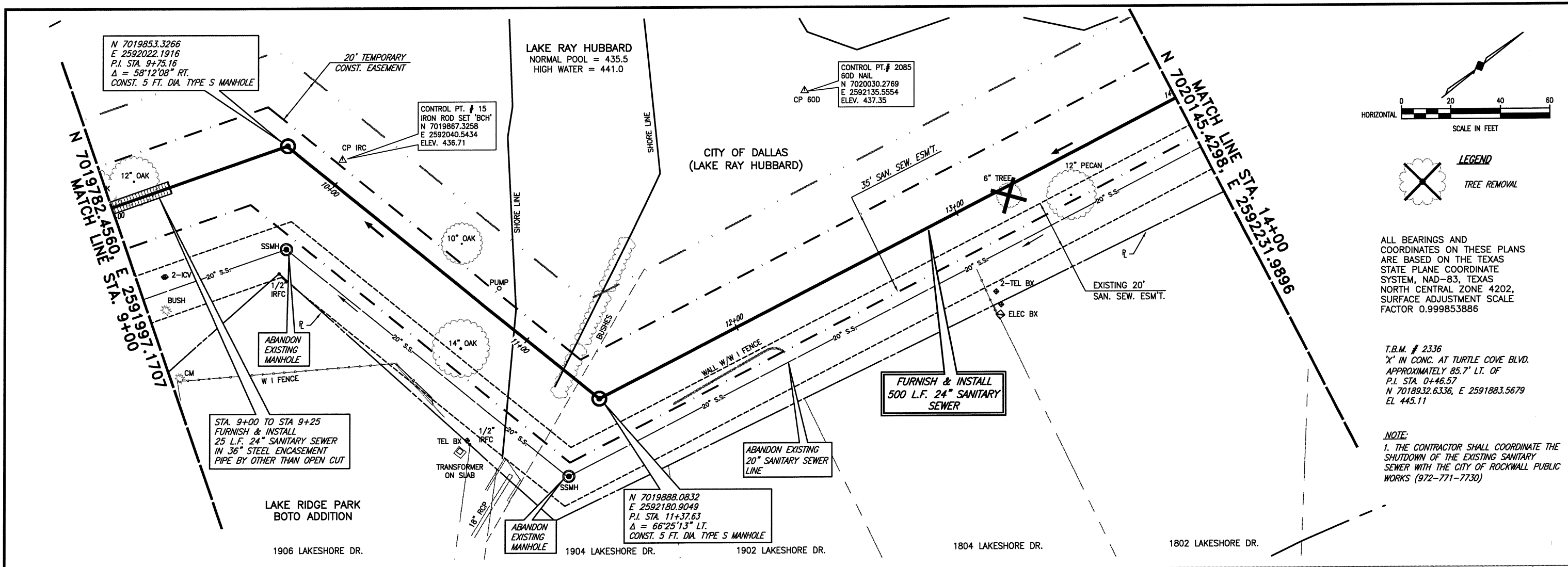
*6/29/09*

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
STA. 4+00 TO STA. 9+00

BHC  
PROJECT NO.  
2007-104  
June, 2009

SHEET NO.  
**5**



CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

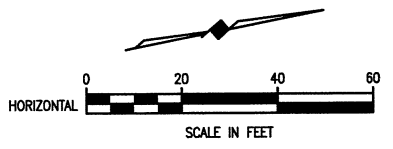
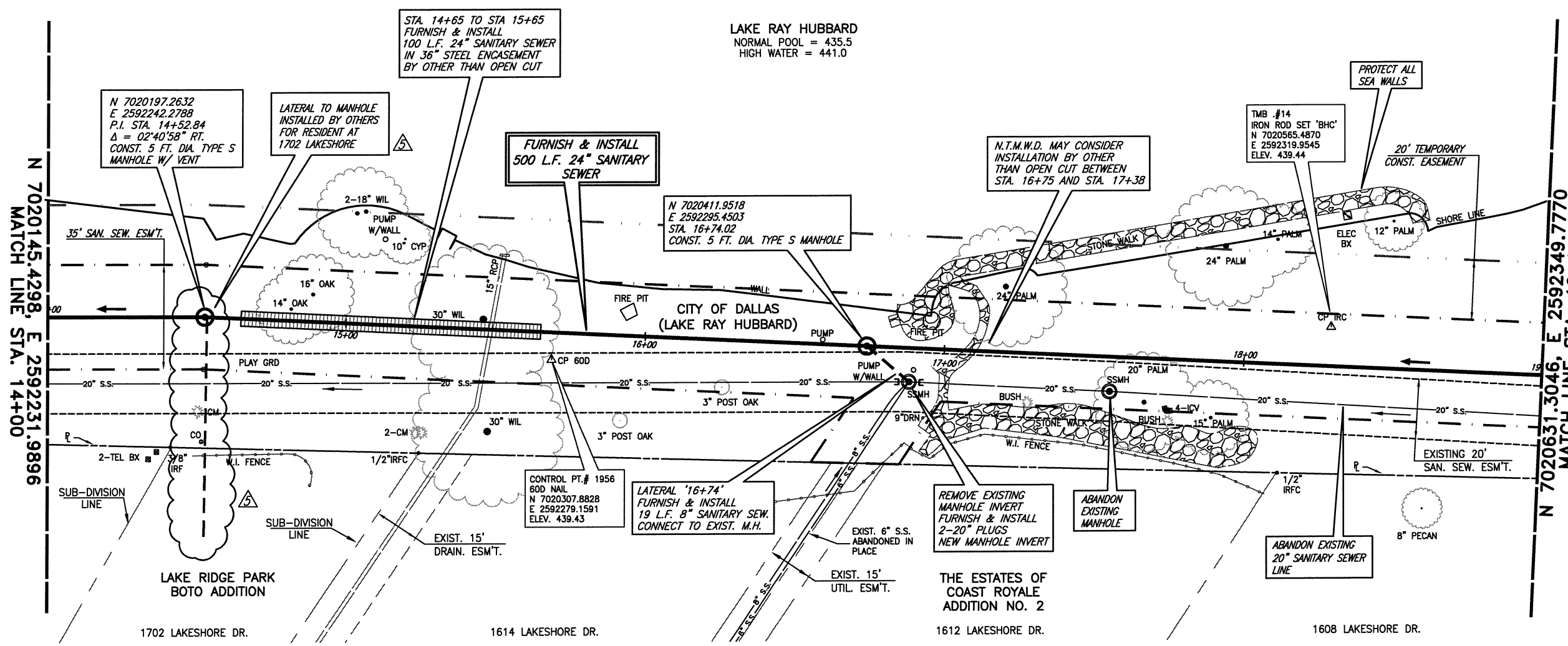
**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

STATE OF TEXAS  
 PAUL A. CARLINE  
 85400  
 LICENSED PROFESSIONAL ENGINEER

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT  
 PLAN AND PROFILE  
 STA. 9+00 TO STA. 14+00

BHC PROJECT NO. 2007-104  
 June, 2009

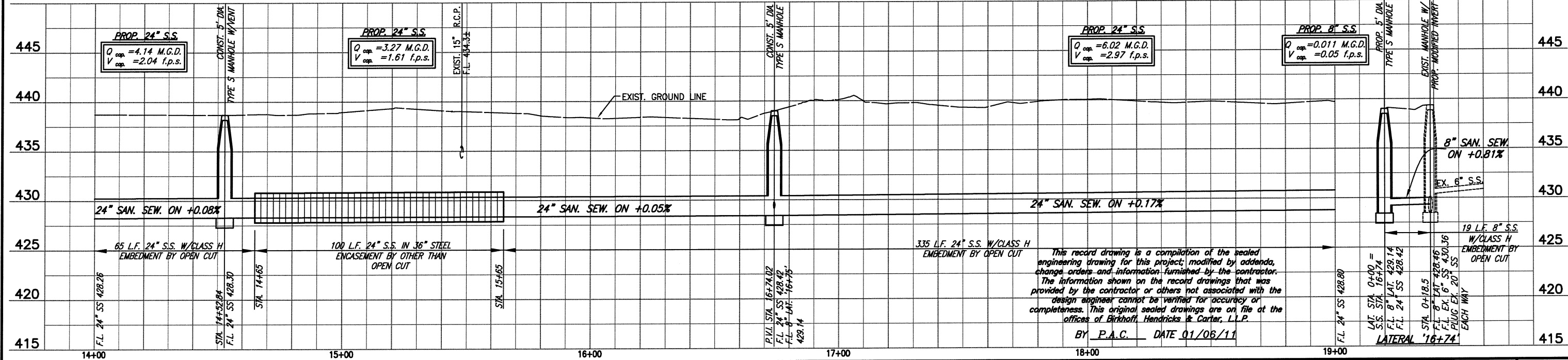
SHEET NO. **6**



ALL BEARINGS AND COORDINATES ON THESE PLANS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202, SURFACE ADJUSTMENT SCALE FACTOR 0.999853886

T.B.M. #14  
 IROD SET WITH 'BHC' CAP AT STA. 18+29.92, 13.13' LT. OF SANITARY SEWER LINE  
 N 7020565.4870, E 2592319.9545  
 ELEV. 439.44

- NOTE:
1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)
  2. EXISTING MANHOLES WITH PROPOSED PLUGS AND INVERT MODIFICATIONS SHALL DIVERT ALL FLOWS TOWARDS PROPOSED SAN. SEW. MAIN LINE.
  3. HARDSCAPING BETWEEN STA. 16+75 & 17+38 MAY BE REMOVED BY OTHERS PRIOR TO CONSTRUCTION. IF SO SANITARY SEWER TO BE INSTALLED BY OPEN CUT. IF NOT SANITARY SEWER TO BE INSTALLED BY OTHER THAN OPEN CUT.



CHANGE ORDER NO.1	2/12/09	REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4	6/29/09	REVISED VERTICAL ALIGNMENT
INSTALLED BY OTHERS	8/20/2010	

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 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

PAUL A. CARLISLE  
 7/11/09

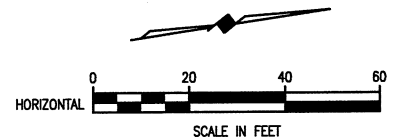
**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 14+00 TO STA. 19+00

BHC PROJECT NO. 2007-104  
 June, 2009

SHEET NO. **7**

LAKE RAY HUBBARD  
 NORMAL POOL = 435.5  
 HIGH WATER = 441.0

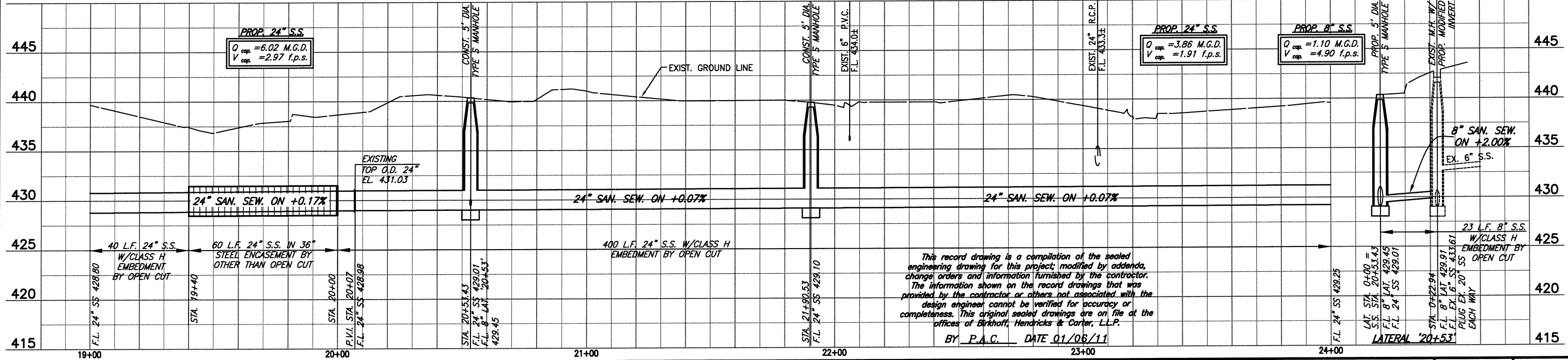
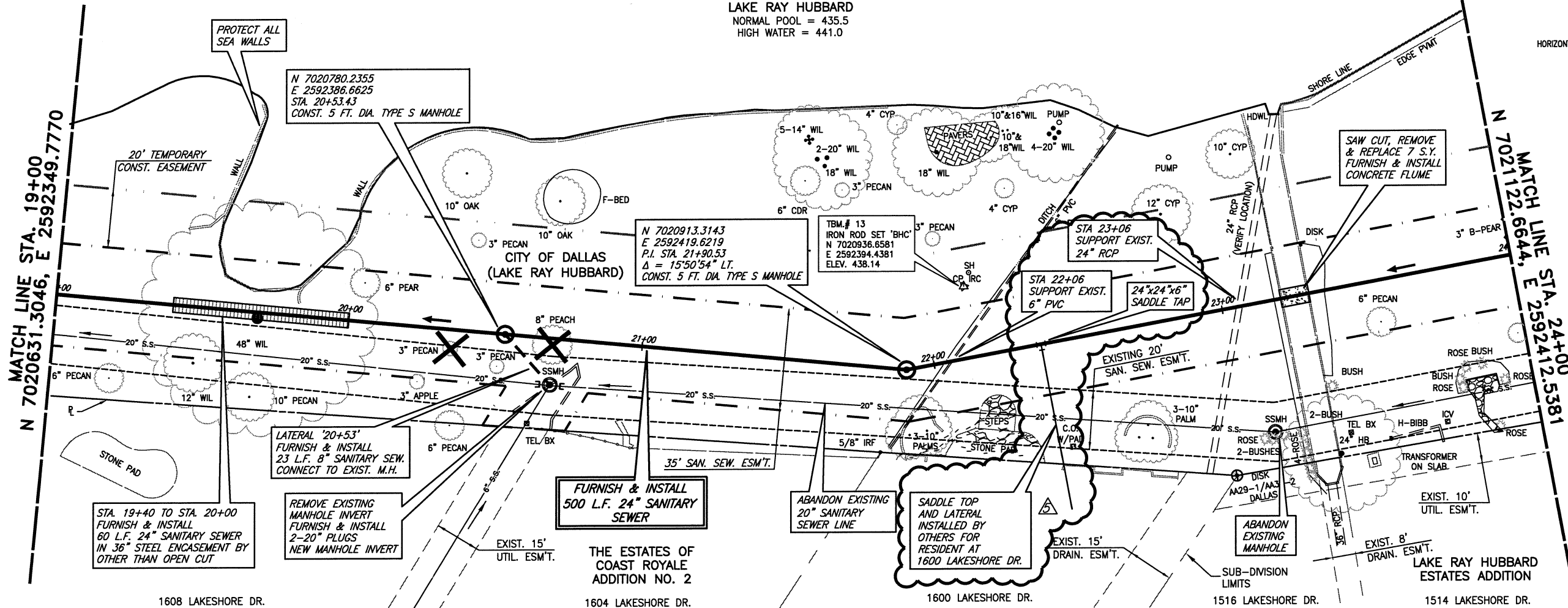


**LEGEND**  
 TREE REMOVAL

ALL BEARINGS AND COORDINATES ON THESE PLANS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202, SURFACE ADJUSTMENT SCALE FACTOR 0.999853886

T.B.M. # 13  
 IRON ROD SET WITH 'BHC' CAP AT STA. 22+15.69, 15.69' LT. OF SANITARY SEWER LINE N 7020936.6581, E 2592394.4381 ELEV. 438.14

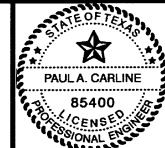
**NOTE:**  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)  
 2. EXISTING MANHOLES WITH PROPOSED PLUGS AND INVERT MODIFICATIONS SHALL DIVERT ALL FLOWS TOWARDS PROPOSED SAN. SEW. MAIN LINE.



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- △ FIELD CHANGE NO.2 2/12/09 - REVISED TREE REMOVAL LOCATIONS
- ① CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
- △ FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT
- △ FIELD CHANGE NO.5 INSTALLED BY OTHERS 11/13/09

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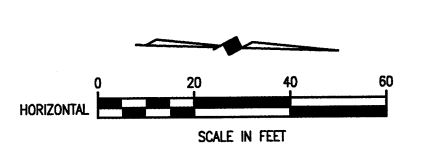
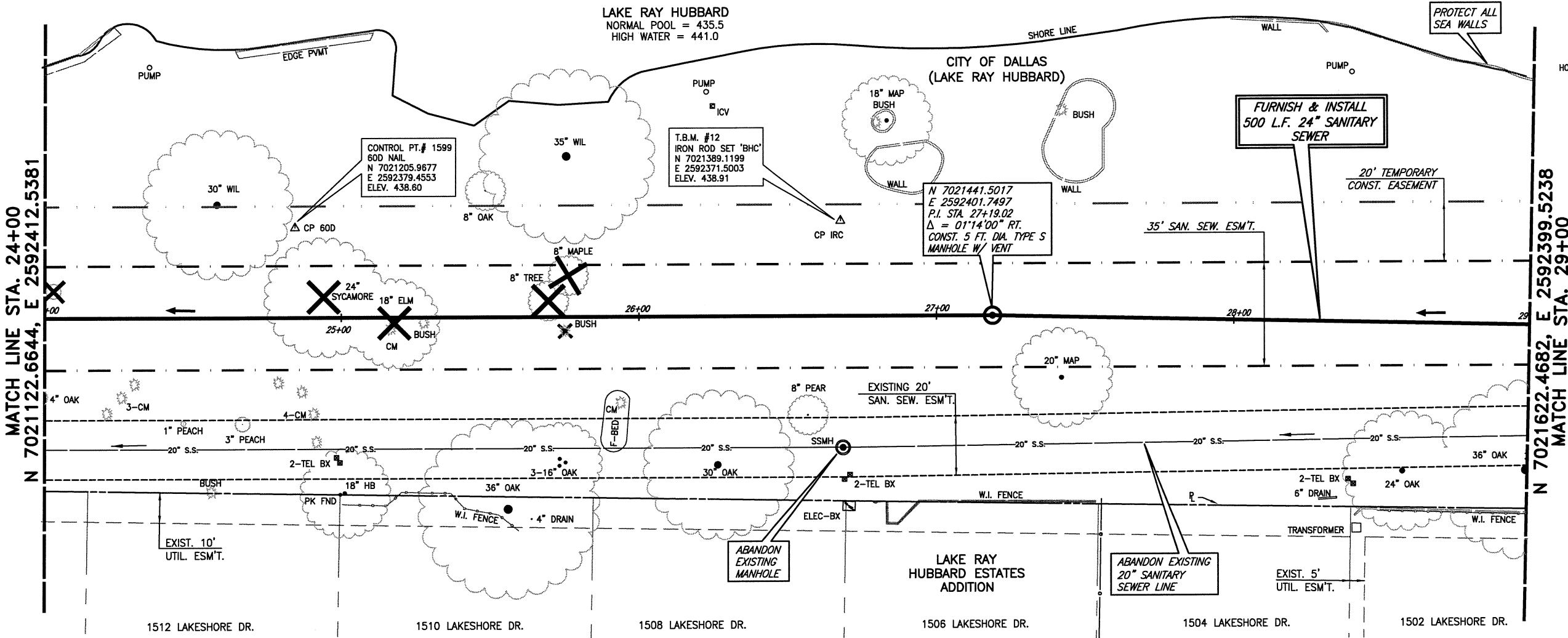


BY *P.A.C.* DATE 01/06/11

<b>NORTH TEXAS MUNICIPAL WATER DISTRICT</b>		BHC PROJECT NO. 2007-104	SHEET NO. 8
LAKESIDE INTERCEPTOR REPLACEMENT		June, 2009	
<b>PLAN AND PROFILE</b> STA. 19+00 TO STA. 24+00			



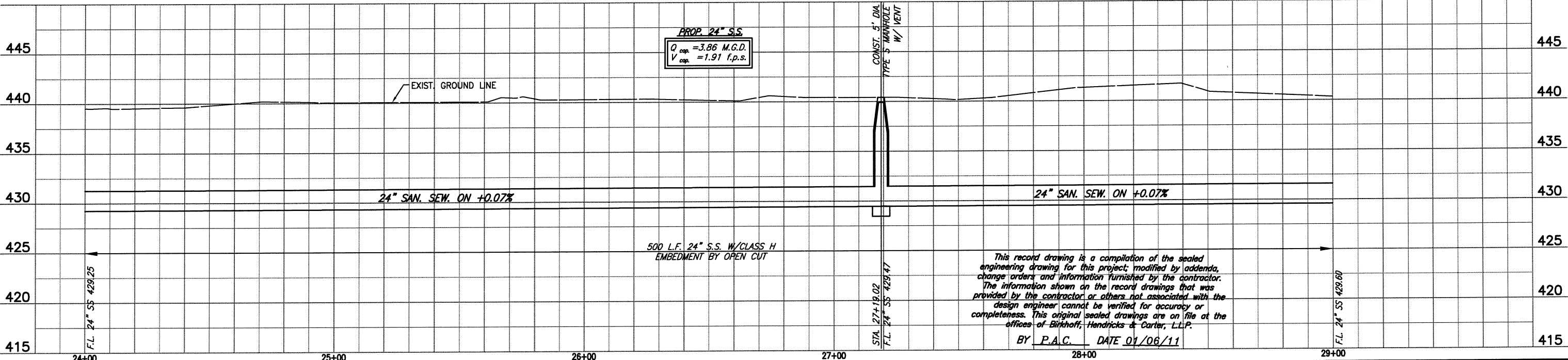
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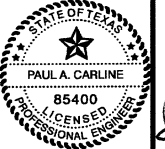
T.B.M. #12  
 IROD SET WITH 'BHC' CAP AT STA. 26+68.67, 32.00' LT. OF SANITARY SEWER LINE  
 N 7021389.1199, E 2592371.5003  
 ELEV. 438.91

NOTE:  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



FIELD CHANGE NO.2	2/12/09	REVISED TREE REMOVAL LOCATIONS
FIELD CHANGE NO.2	2/12/09	REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4	6/29/09	REVISED VERTICAL ALIGNMENT

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 Texas Firm F526  
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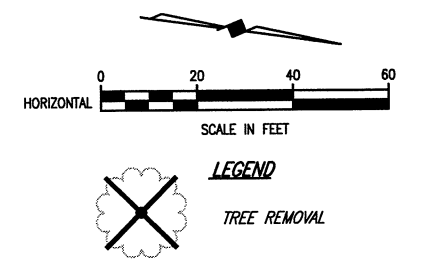
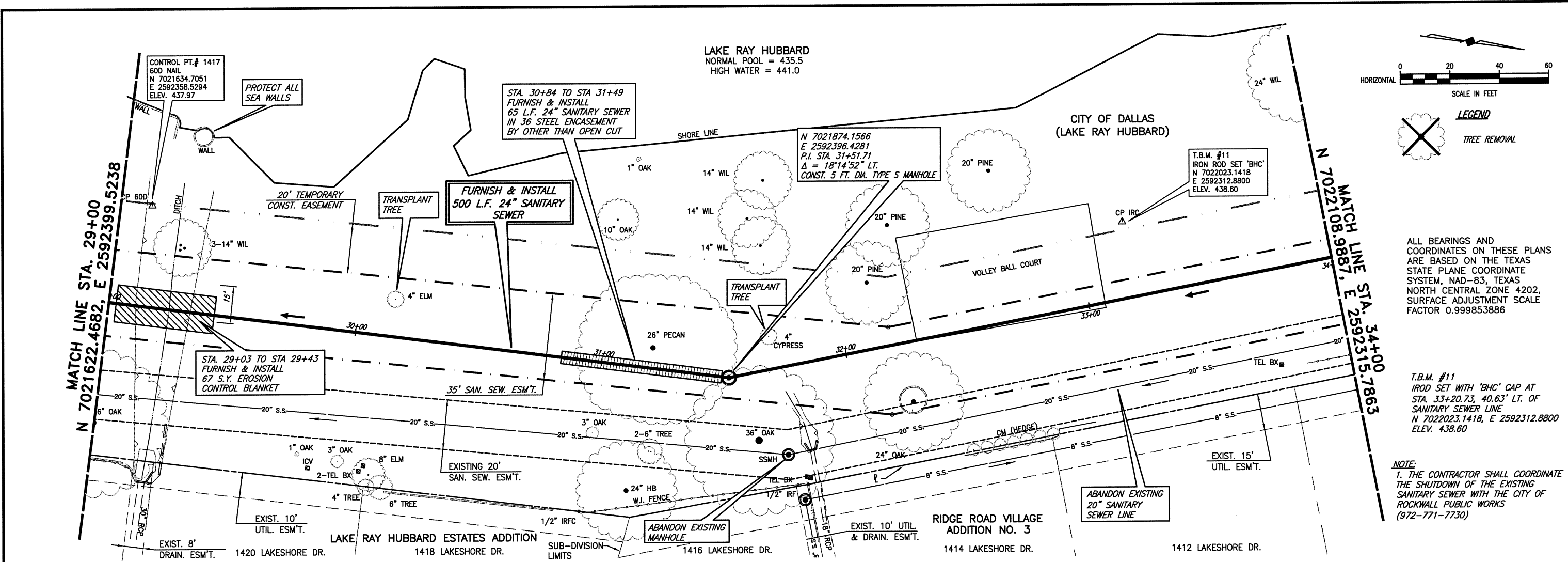


*Paul A. Carline*  
 1/16/09

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT  
 PLAN AND PROFILE  
 STA. 24+00 TO STA. 29+00

BHC  
 PROJECT NO.  
 2007-104  
 June, 2009  
 SHEET NO.  
**9**

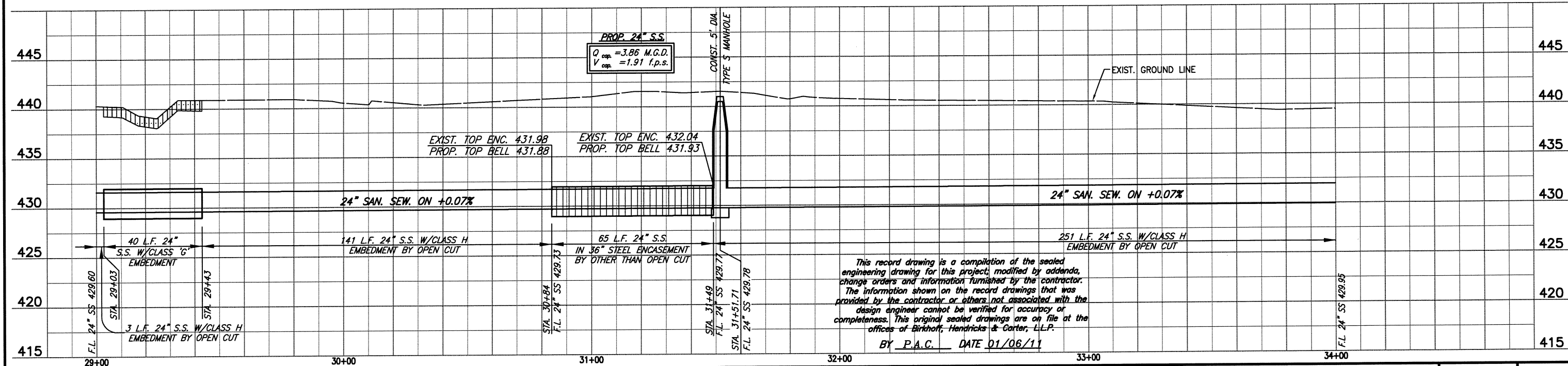
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T.B.M. #11 IRON ROD SET WITH 'BHC' CAP AT STA. 33+20.73, 40.63' LT. OF SANITARY SEWER LINE N 7022023.1418, E 2592312.8800 ELEV. 438.60

NOTE:  
1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



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BY P.A.C. DATE 01/06/11

△	FIELD CHANGE NO.2	2/12/09	- REVISED TREE REMOVAL LOCATIONS
①	CHANGE ORDER NO.1	2/12/09	- REVISED BORE LOCATIONS & ENCASEMENT
△	FIELD CHANGE NO.4	6/29/09	- REVISED VERTICAL ALIGNMENT

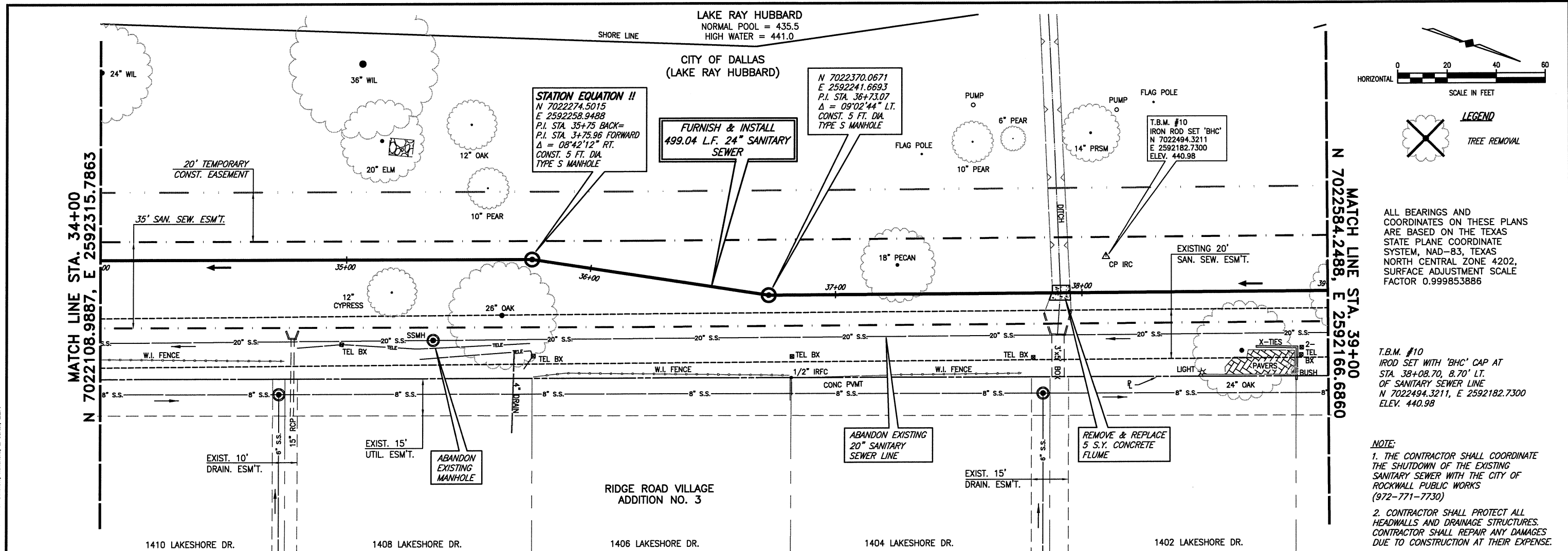
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 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 29+00 TO STA. 34+00

BHC PROJECT NO. 2007-104	SHEET NO. 10
June, 2009	

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**LEGEND**

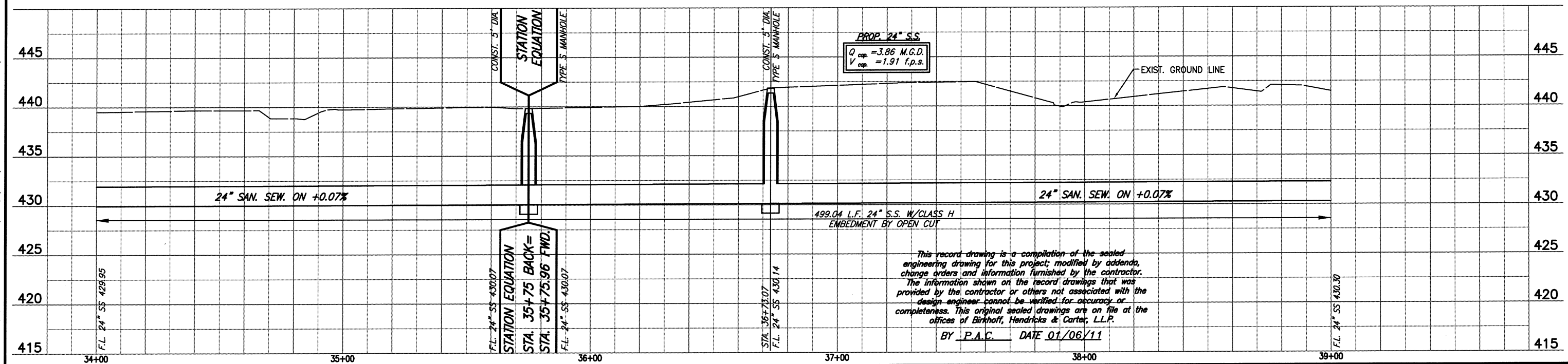
(Symbol: X in a circle) TREE REMOVAL

ALL BEARINGS AND COORDINATES ON THESE PLANS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202, SURFACE ADJUSTMENT SCALE FACTOR 0.999853886

T.B.M. #10  
 IRON ROD SET WITH 'BHC' CAP AT STA. 38+08.70, 8.70' LT. OF SANITARY SEWER LINE  
 N 7022494.3211, E 2592182.7300  
 ELEV. 440.98

**NOTE:**

1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)
2. CONTRACTOR SHALL PROTECT ALL HEADWALLS AND DRAINAGE STRUCTURES. CONTRACTOR SHALL REPAIR ANY DAMAGES DUE TO CONSTRUCTION AT THEIR EXPENSE.



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BY P.A.C. DATE 01/06/11

CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

PAUL A. CARLINE  
 85400  
 LICENSED PROFESSIONAL ENGINEER

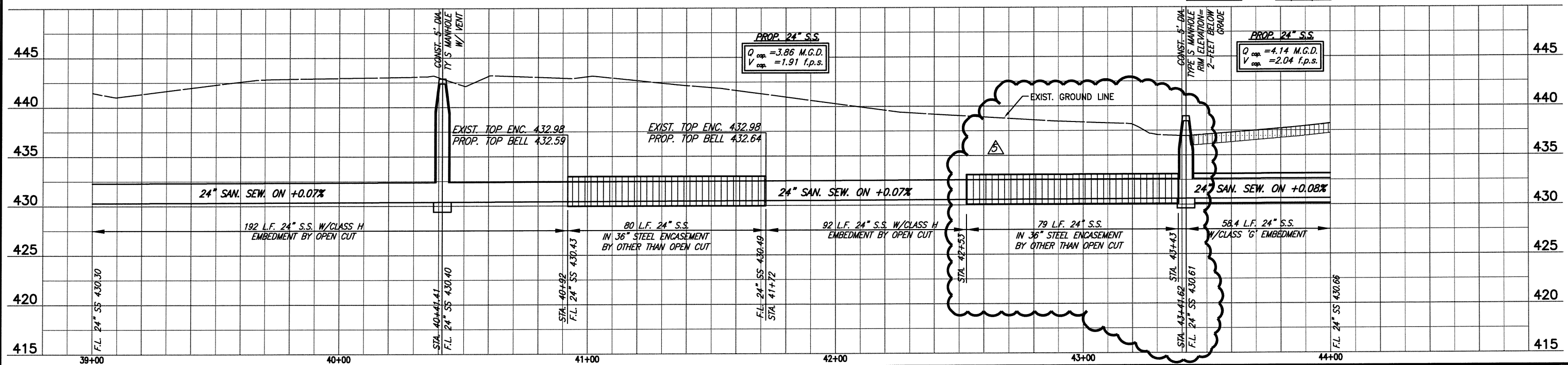
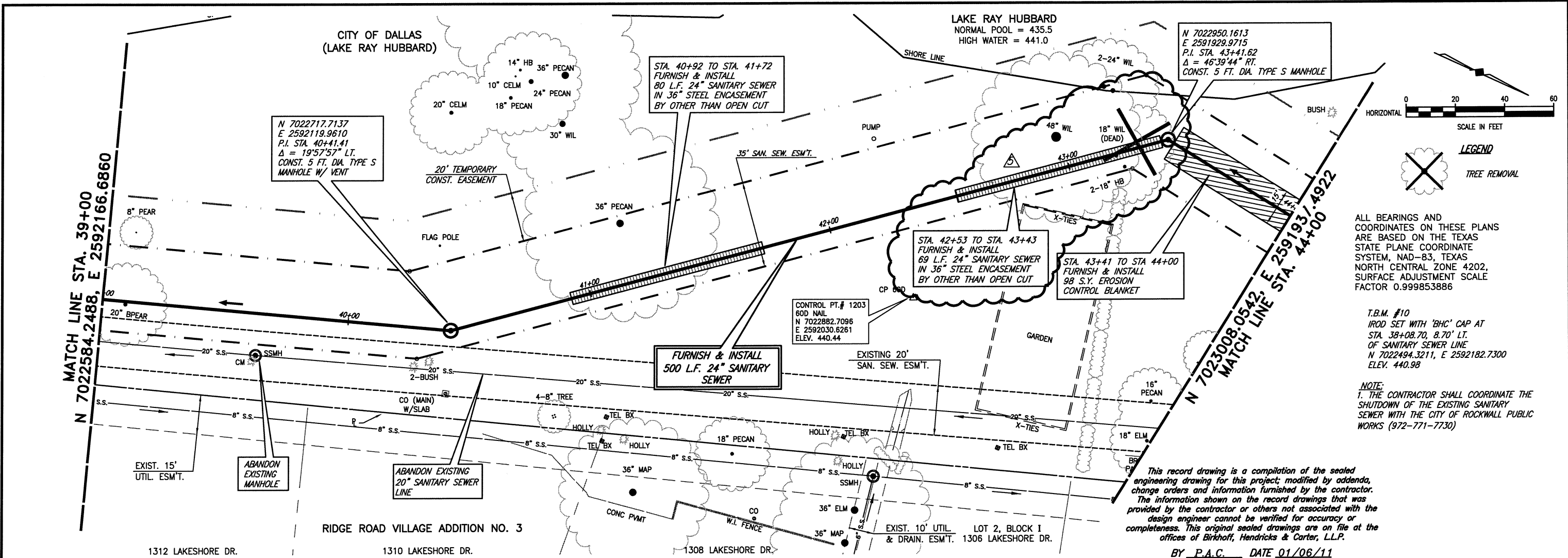
7/11/11

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 34+00 TO STA. 39+00

BHC PROJECT NO. 2007-104  
 SHEET NO. 11  
 June, 2009

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CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT
FIELD CHANGE NO.5 8/2009 - EXTENDED BORE

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 PROFESSIONAL ENGINEERS  
 Texas Firm FS26  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

PHIL A. CARLINE  
 85400  
 LICENSED PROFESSIONAL ENGINEER

ANGEL

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 39+00 TO STA. 44+00

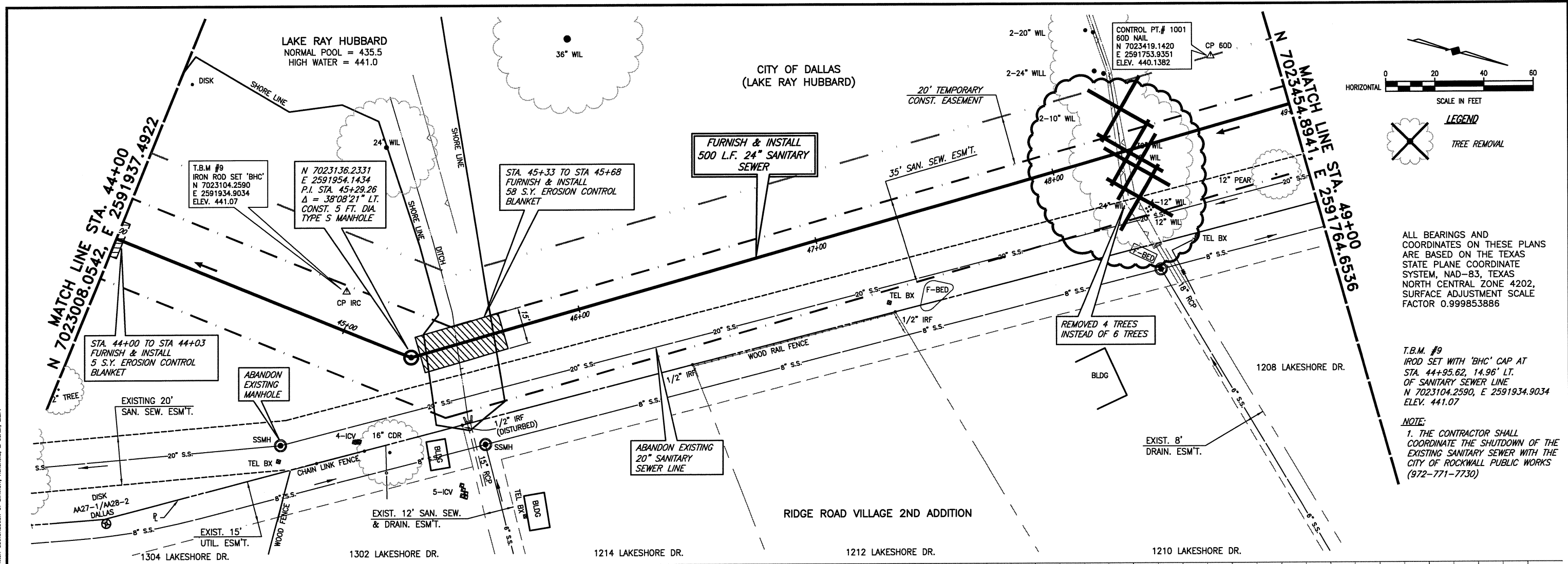
BHC  
 PROJECT NO.  
 2007-104

June, 2009

SHEET NO.  
**12**



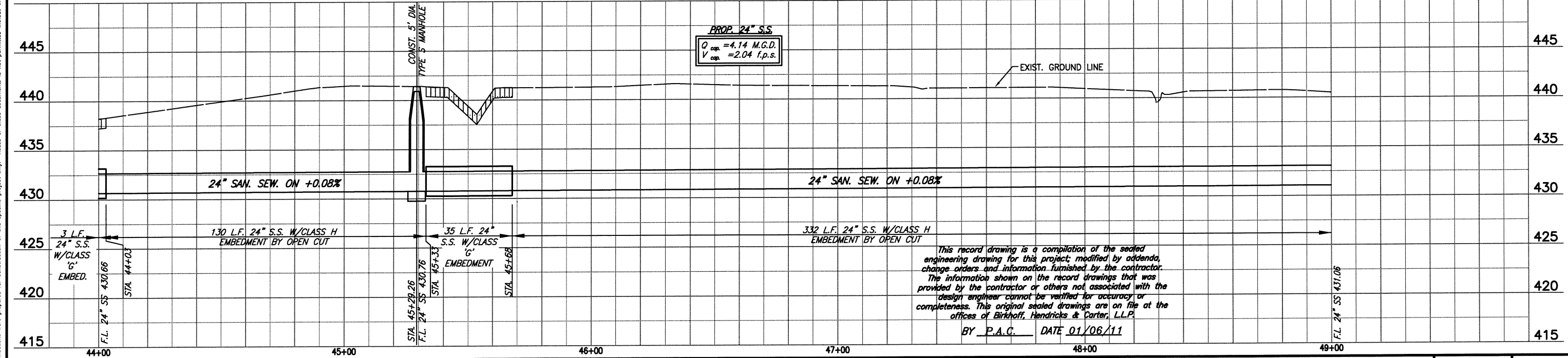
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T.B.M. #9  
 IROD SET WITH 'BHC' CAP AT STA. 44+95.62, 14.96' LT. OF SANITARY SEWER LINE N 7023104.2590, E 2591934.9034 ELEV. 441.07

**NOTE:**  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



FIELD CHANGE NO.2 2/12/09 - REVISED TREE REMOVAL LOCATIONS
CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

PAUL A. CARLINE  
 85400  
 LICENSED PROFESSIONAL ENGINEER

DATE 01/29/09

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 44+00 TO STA. 49+00

BHC PROJECT NO. 2007-104  
 June, 2009

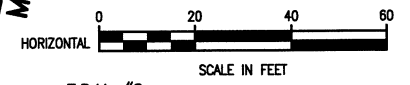
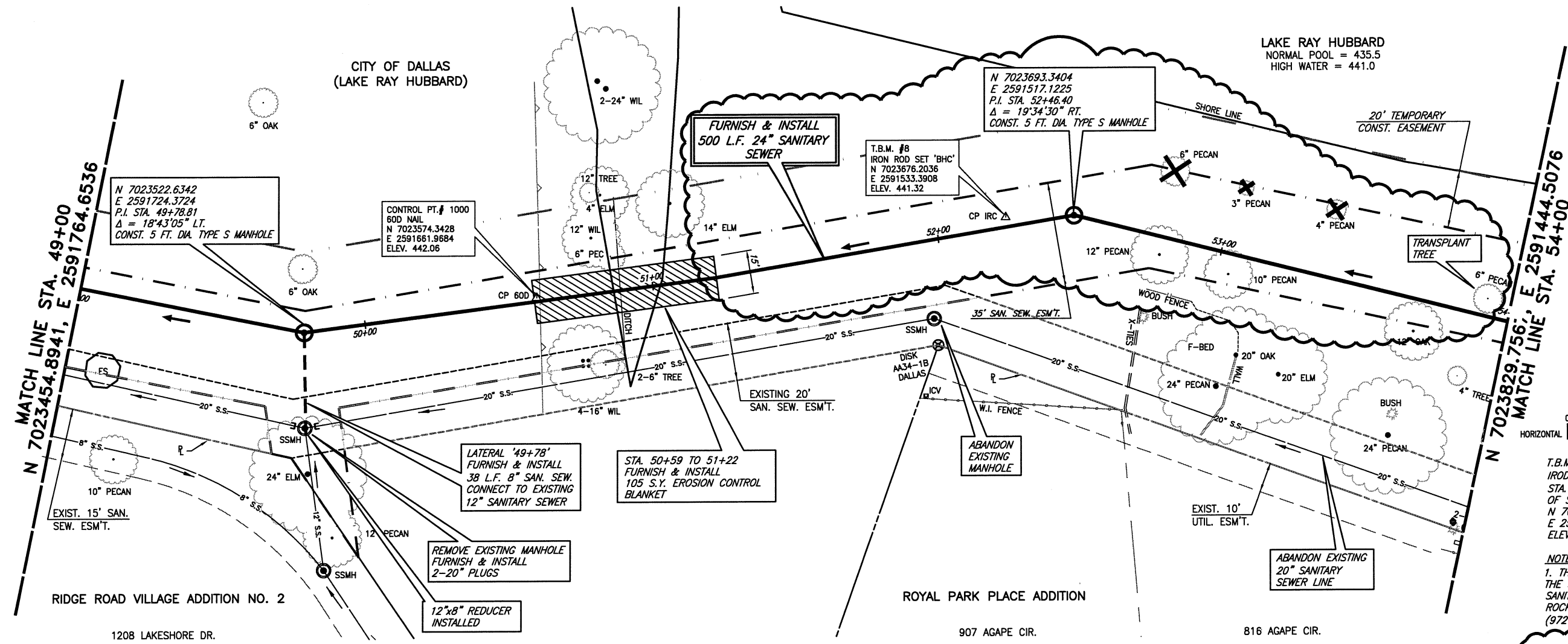
SHEET NO. **13**

**LEGEND**



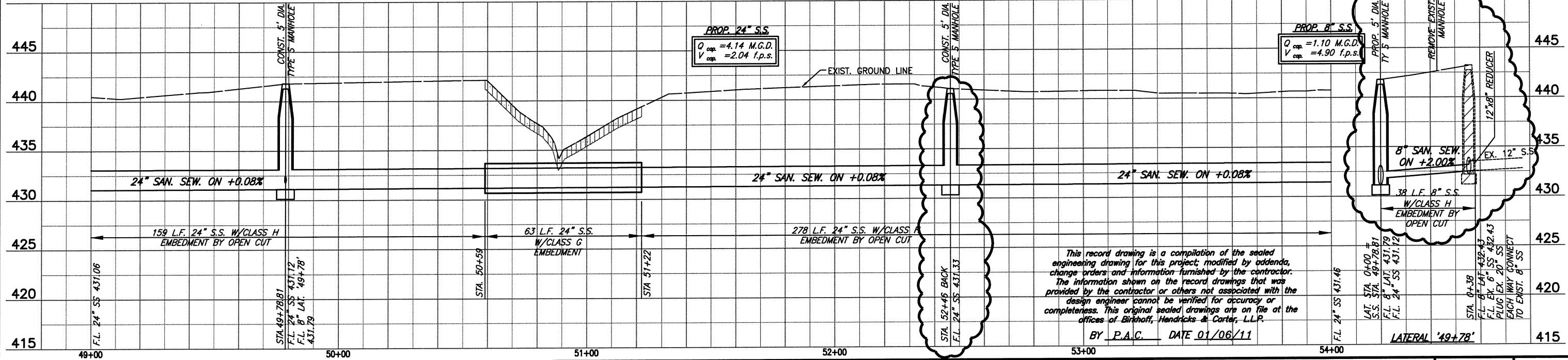
ALL BEARINGS AND COORDINATES ON THESE PLANS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202, SURFACE ADJUSTMENT SCALE FACTOR 0.999853886

LAKE RAY HUBBARD  
NORMAL POOL = 435.5  
HIGH WATER = 441.0



T.B.M. #8  
IRON ROD SET WITH 'BHC' CAP AT  
STA. 52+31.59, 8.30' LT.  
OF SANITARY SEWER LINE  
N 7023676.2036  
E 2591533.3908  
ELEV. 441.32

**NOTE:**  
1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



This record drawing is a compilation of the sealed engineering drawing for this project, modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Carter, L.L.P.

BY P.A.C. DATE 01/06/11

FIELD CHANGE NO.2 2/12/09 - REVISED TREE REMOVAL LOCATIONS
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

DATE: 01/29/10

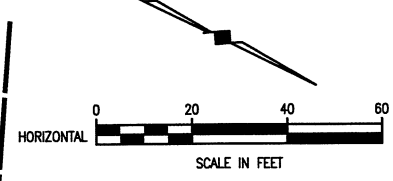
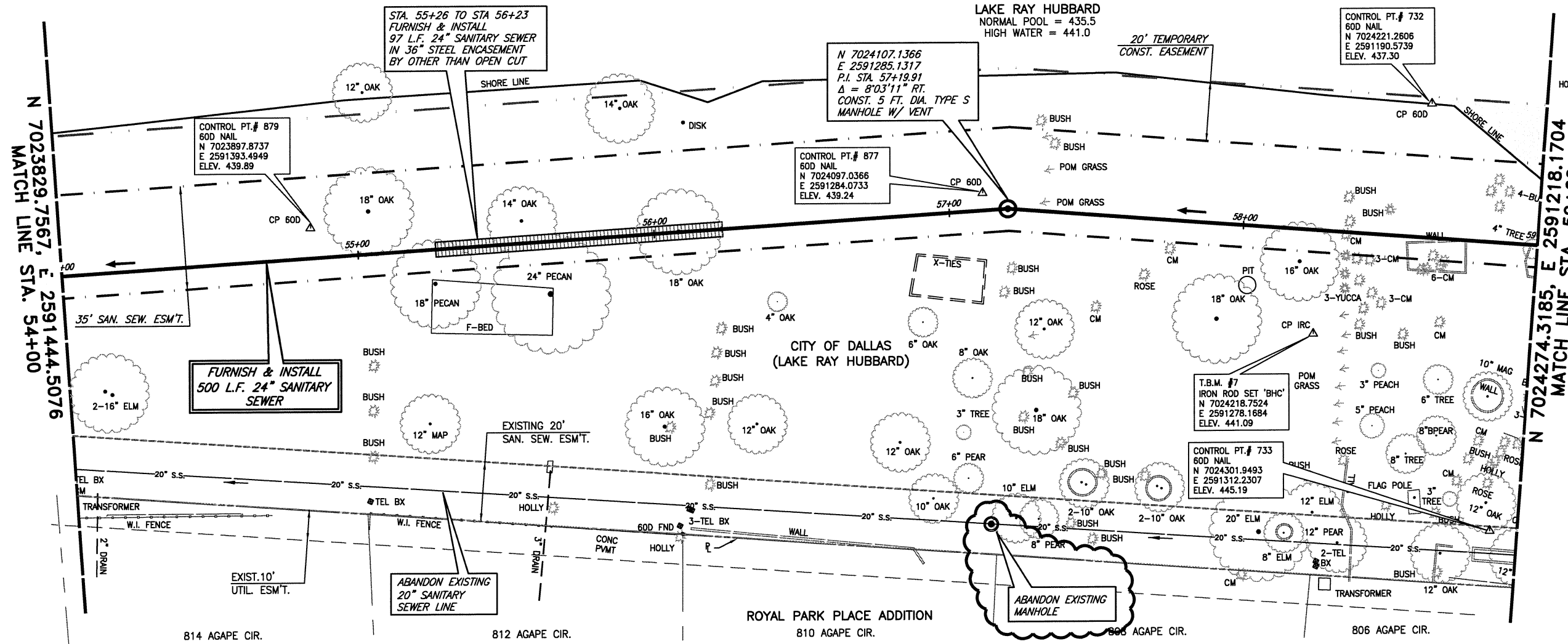
**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 49+00 TO STA. 54+00

BHC PROJECT NO. 2007-104  
 June, 2009

SHEET NO. **14**

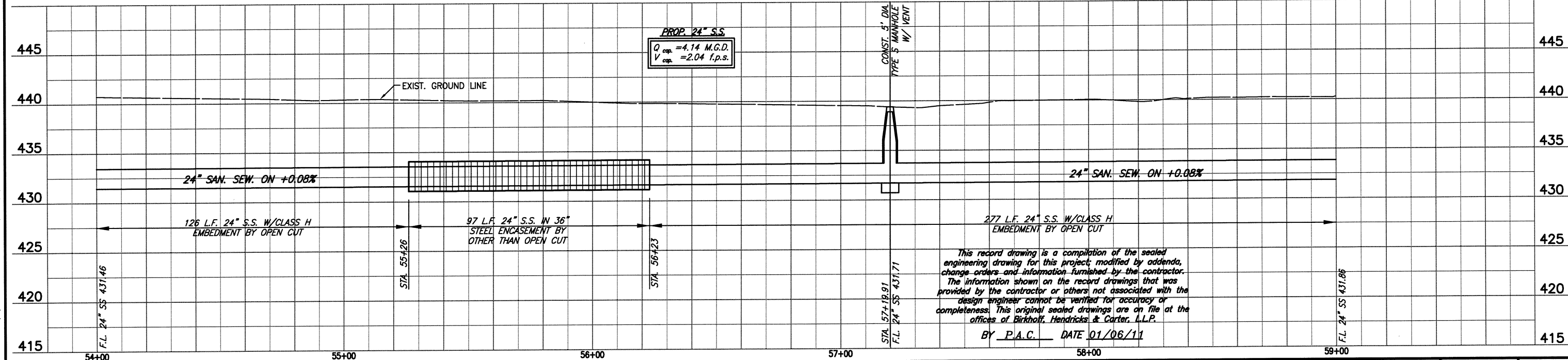
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T.B.M. #7  
 IRON ROD SET WITH 'BHC' CAP AT STA. 58+36.98, 45.08' RT. OF SANITARY SEWER LINE N 7024218.7524 E 2591278.1684 ELEV. 441.09

NOTE:  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



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 BY P.A.C. DATE 01/06/11

CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm FS26  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

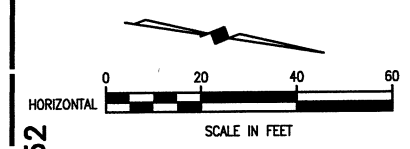
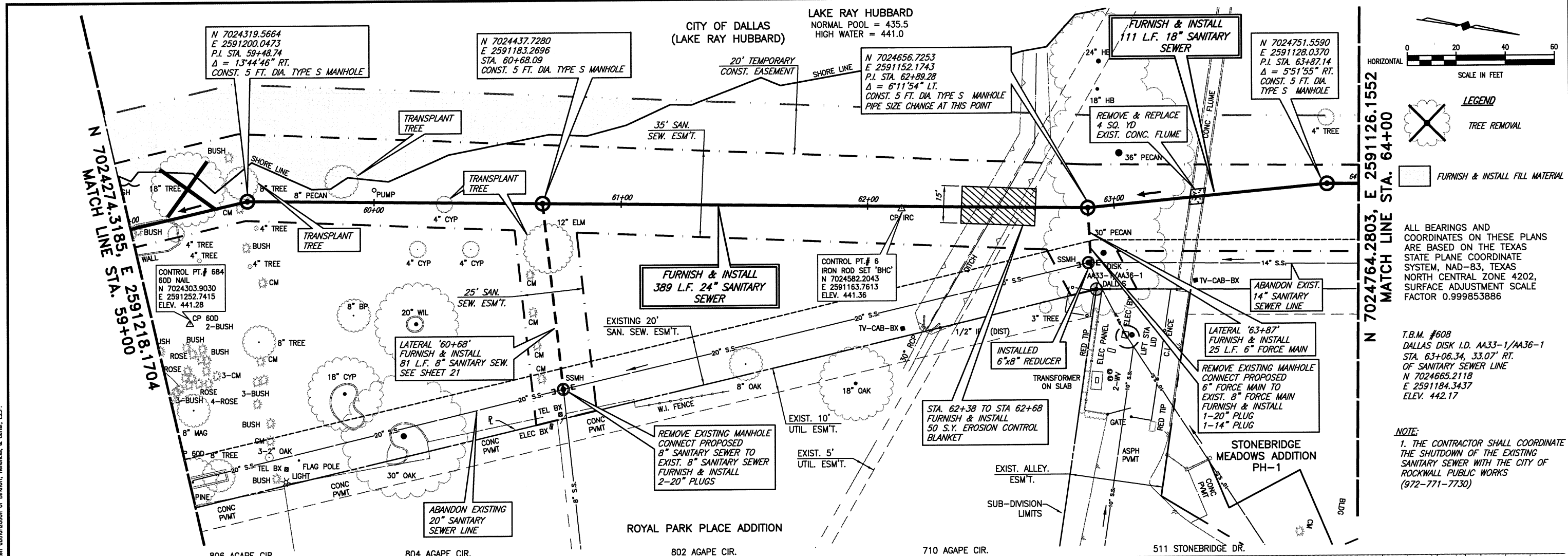
**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 54+00 TO STA. 59+00

BHC PROJECT NO. 2007-104  
 June, 2009

SHEET NO. **15**

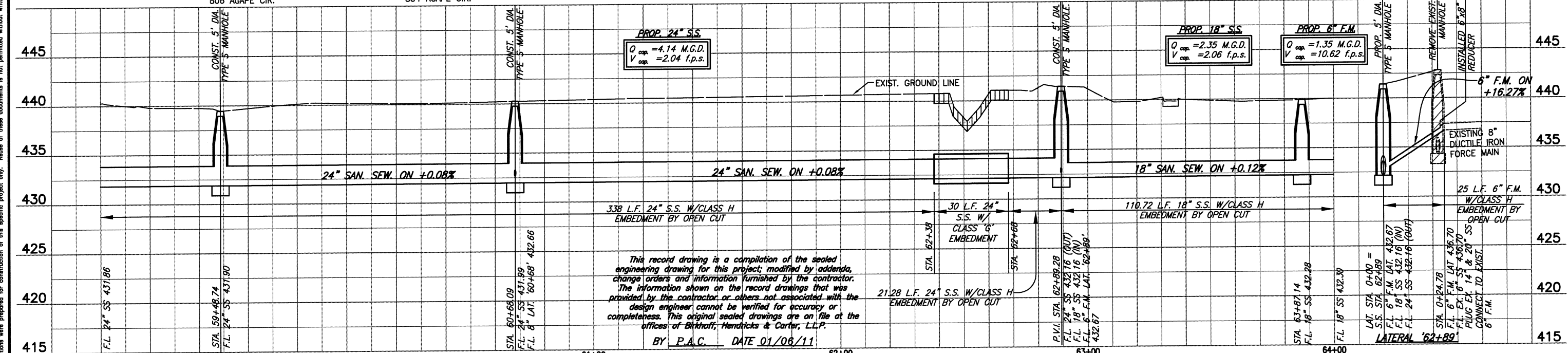
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T.B.M. #608  
DALLAS DISK I.D. AA33-1/AA36-1  
STA. 63+06.34, 33.07' RT.  
OF SANITARY SEWER LINE  
N 7024665.2118  
E 2591184.3437  
ELEV. 442.17

NOTE:  
1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)



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BY P.A.C. DATE 01/06/11

FIELD CHANGE NO.2 2/12/09 - REVISED TREE REMOVAL LOCATIONS
CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
PROFESSIONAL ENGINEERS  
Texas Firm F526  
11910 Greenville Ave., Suite 600  
Dallas, Texas (214) 361-7900

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
LAKESIDE INTERCEPTOR REPLACEMENT

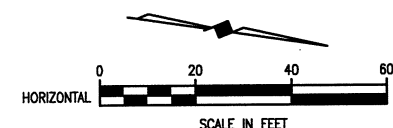
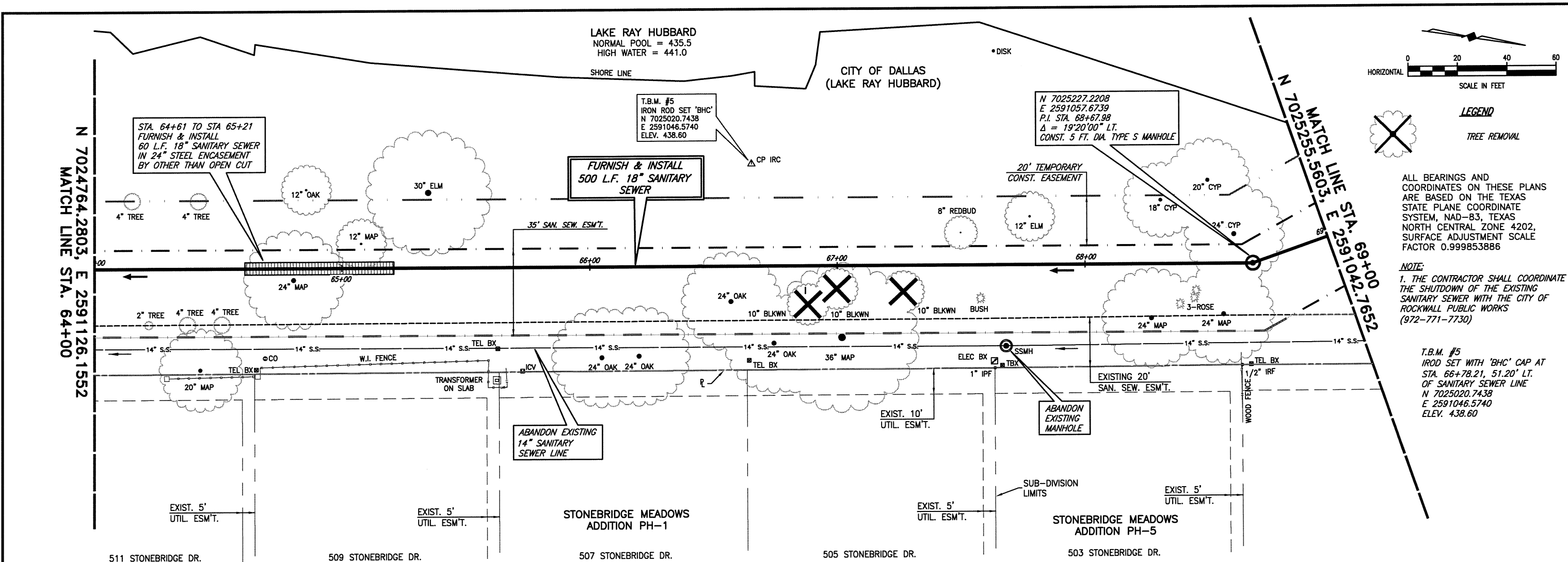
**PLAN AND PROFILE**  
STA. 59+00 TO STA. 64+00

BHC PROJECT NO. 2007-104  
June, 2009

SHEET NO. **16**



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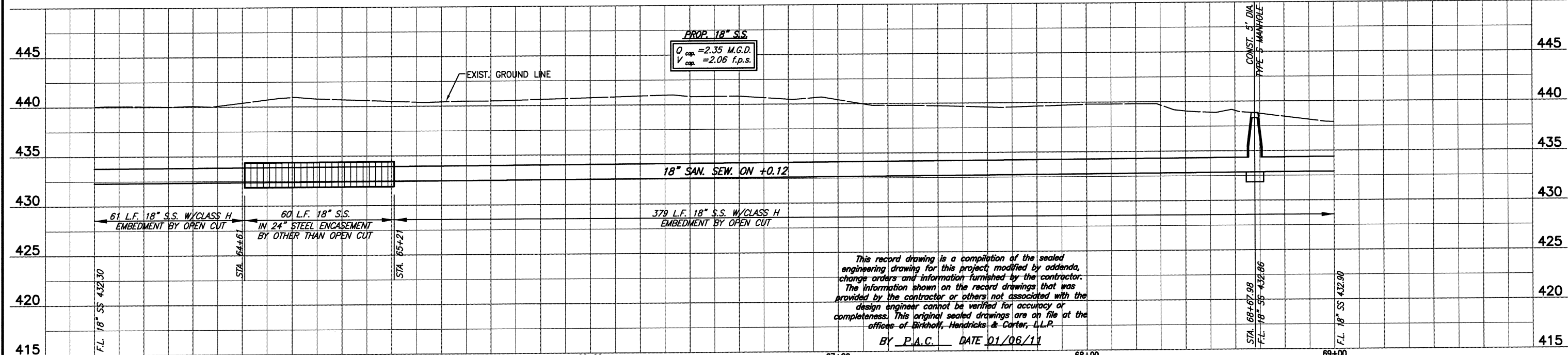


**LEGEND**  
 TREE REMOVAL

ALL BEARINGS AND COORDINATES ON THESE PLANS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, TEXAS NORTH CENTRAL ZONE 4202, SURFACE ADJUSTMENT SCALE FACTOR 0.999853886

**NOTE:**  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)

T.B.M. #5  
 IRON ROD SET WITH 'BHC' CAP AT STA. 66+78.21, 51.20' LT. OF SANITARY SEWER LINE N 7025020.7438 E 2591046.5740 ELEV. 438.60



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 BY P.A.C. DATE 01/06/11

CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

DATE 01/06/11

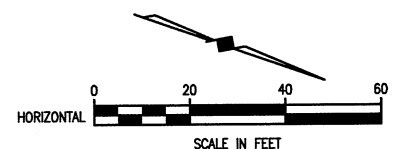
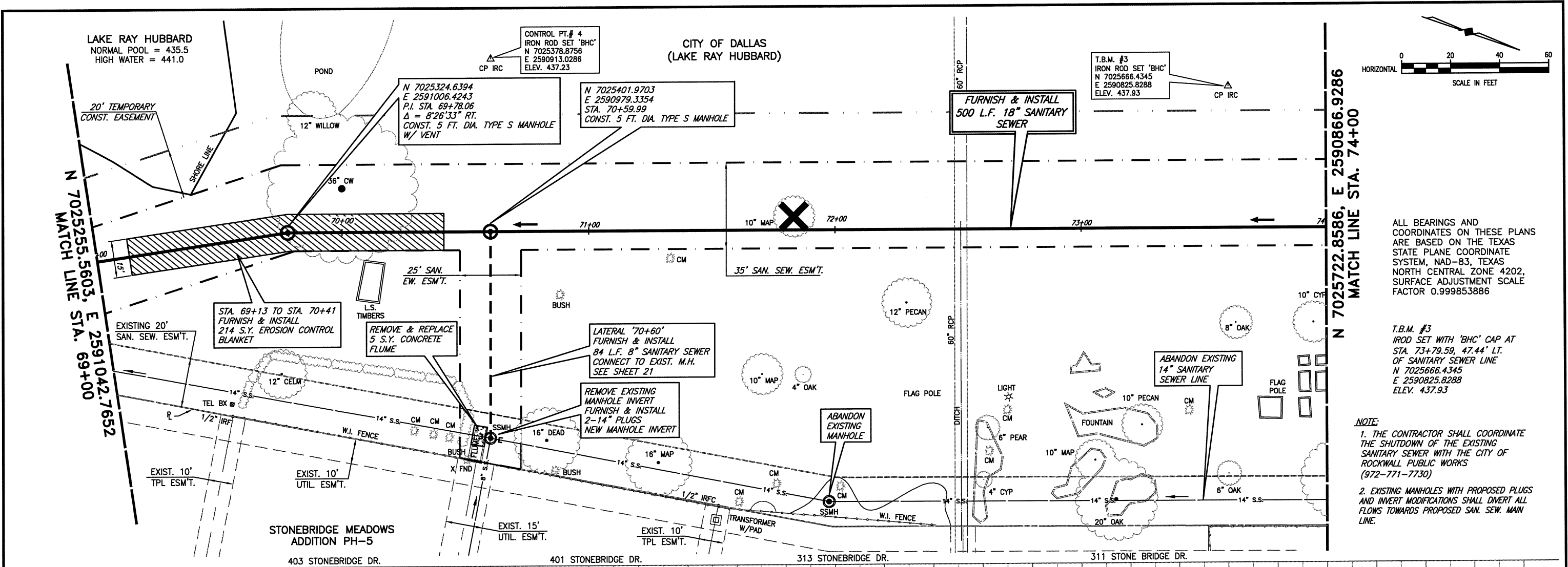
**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 64+00 TO STA. 69+00

BHC PROJECT NO. 2007-104  
 June, 2009

SHEET NO. **17**

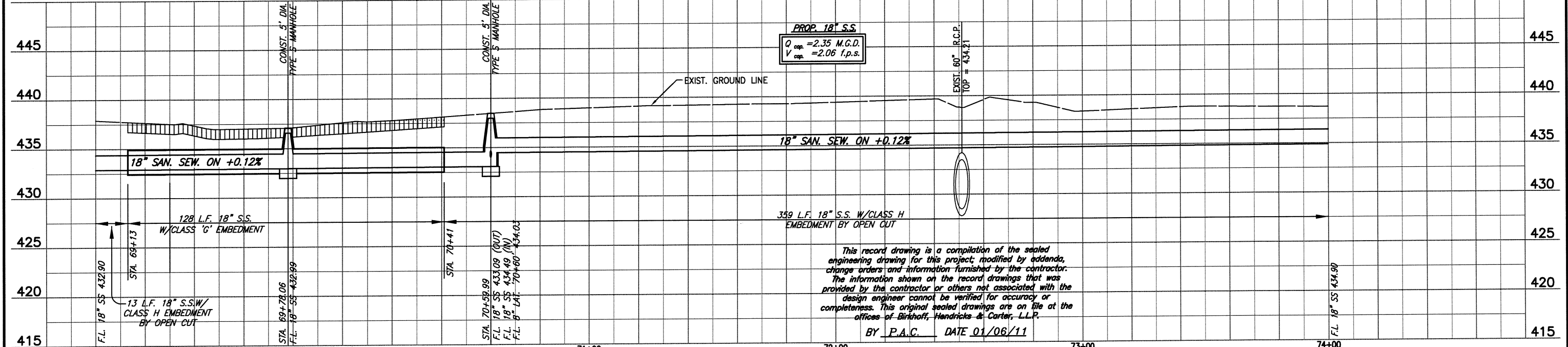
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T.B.M. #3  
 IRON ROD SET 'BHC' CAP AT STA. 73+79.59, 47.44' LT. OF SANITARY SEWER LINE N 7025666.4345 E 2590825.8288 ELEV. 437.93

**NOTE:**  
 1. THE CONTRACTOR SHALL COORDINATE THE SHUTDOWN OF THE EXISTING SANITARY SEWER WITH THE CITY OF ROCKWALL PUBLIC WORKS (972-771-7730)  
 2. EXISTING MANHOLES WITH PROPOSED PLUGS AND INVERT MODIFICATIONS SHALL DIVERT ALL FLOWS TOWARDS PROPOSED SAN. SEW. MAIN LINE.

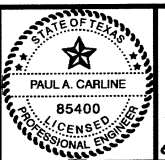


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BY P.A.C. DATE 01/06/11

FIELD CHANGE NO.2 2/12/09 - REVISED TREE REMOVAL LOCATIONS
CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900



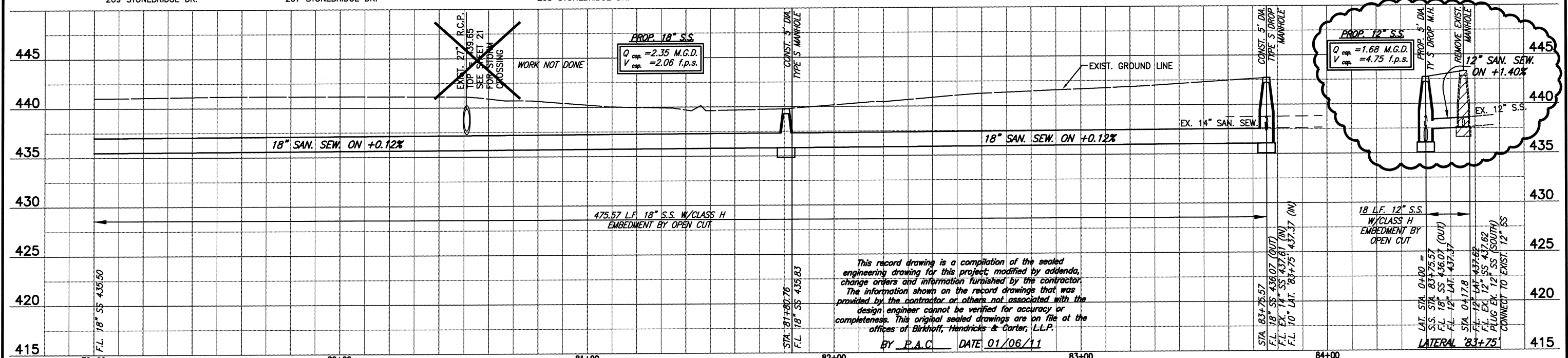
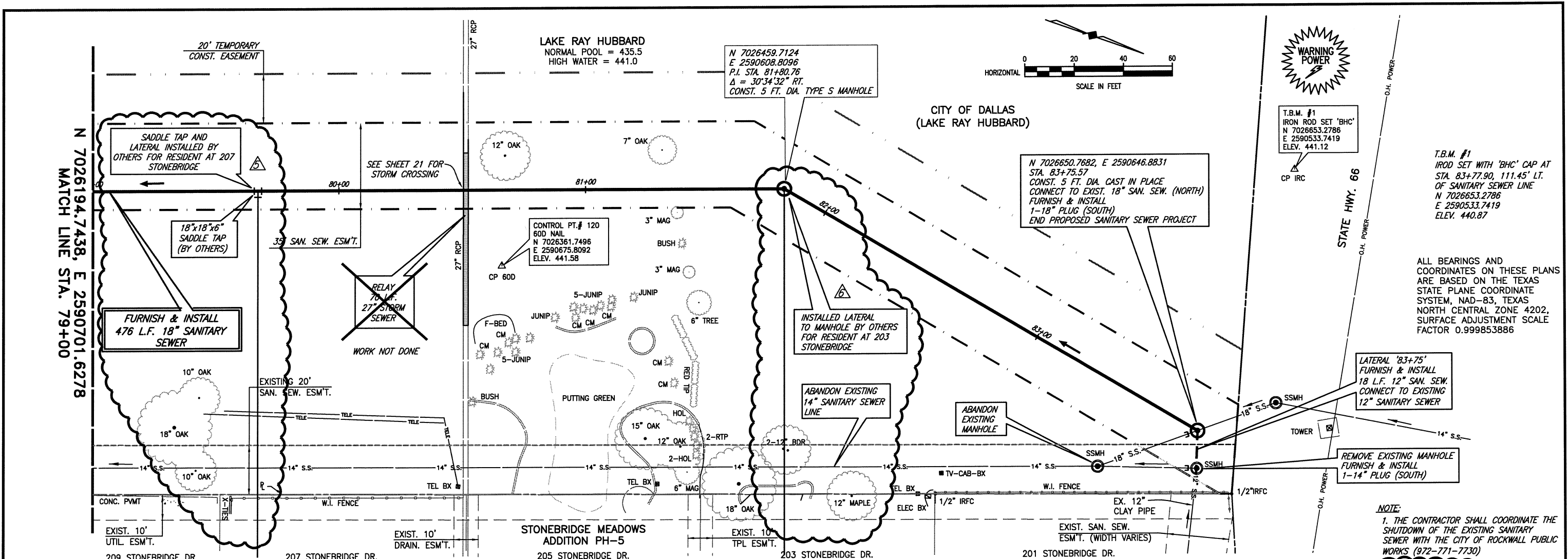
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 1/2/2011

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT  
 PLAN AND PROFILE  
 STA. 69+00 TO STA. 74+00

BHC PROJECT NO. 2007-104	SHEET NO. 18
June, 2009	



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 BY P.A.C. DATE 01/06/11

① CHANGE ORDER NO.1 2/12/09 - REVISED BORE LOCATIONS & ENCASEMENT
② FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT
③ FIELD CHANGE NO.5 11/13/09 - INSTALLED BY OTHERS
④ FIELD CHANGE NO.5 1/29/10 - INSTALLED BY OTHERS

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

STATE OF TEXAS  
 PAUL A. CARLINE  
 85400  
 LICENSED PROFESSIONAL ENGINEER

*[Signature]*  
 01/06/11

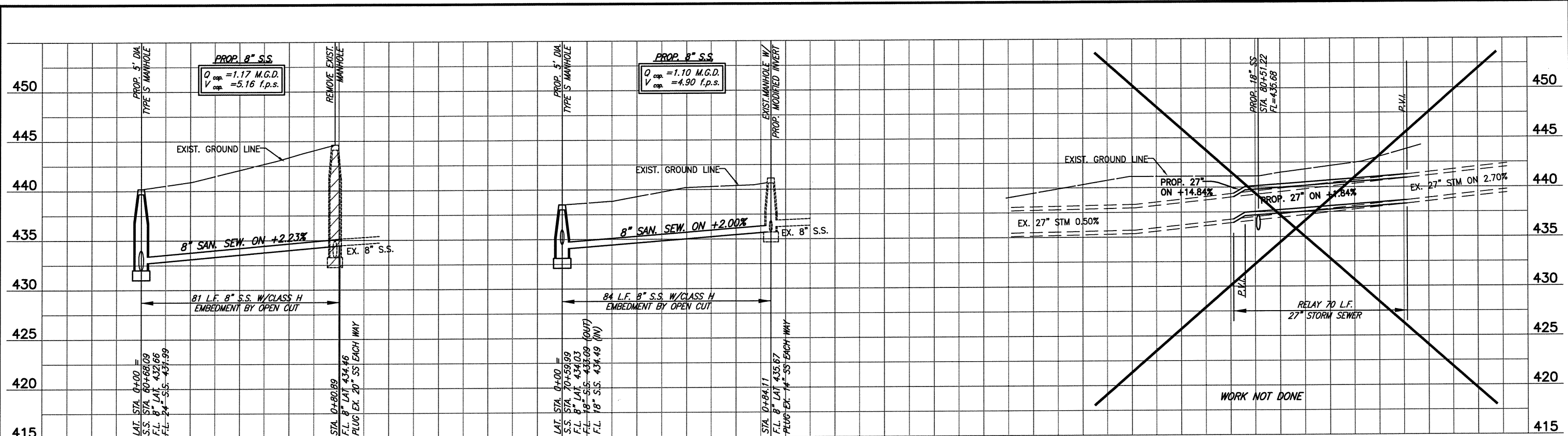
**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT

**PLAN AND PROFILE**  
 STA. 79+00 TO STA. 83+75.57

BHC PROJECT NO. 2007-104  
 June, 2009

SHEET NO. **20**





LATERAL '60+68'

LATERAL '70+60'

EXISTING 27" STORM SEWER CROSSING AT SS STA. 80+51.22

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 BY P.A.C. DATE 01/06/11

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FIELD CHANGE NO.4 6/29/09 - REVISED VERTICAL ALIGNMENT

**BIRKHOFF, HENDRICKS & CONWAY, L.L.P.**  
 PROFESSIONAL ENGINEERS  
 Texas Firm F526  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas (214) 361-7900

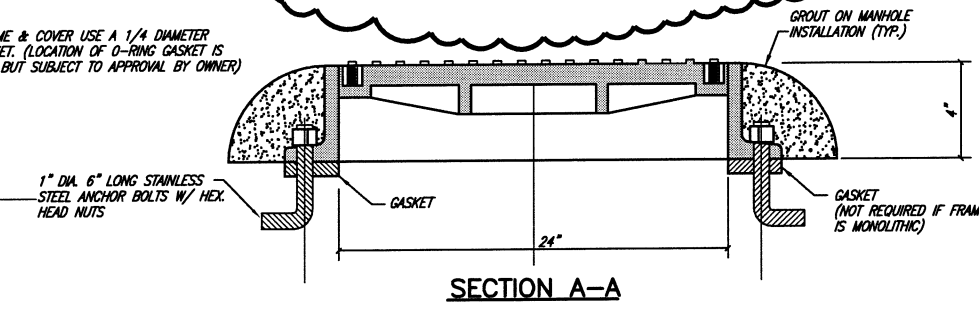
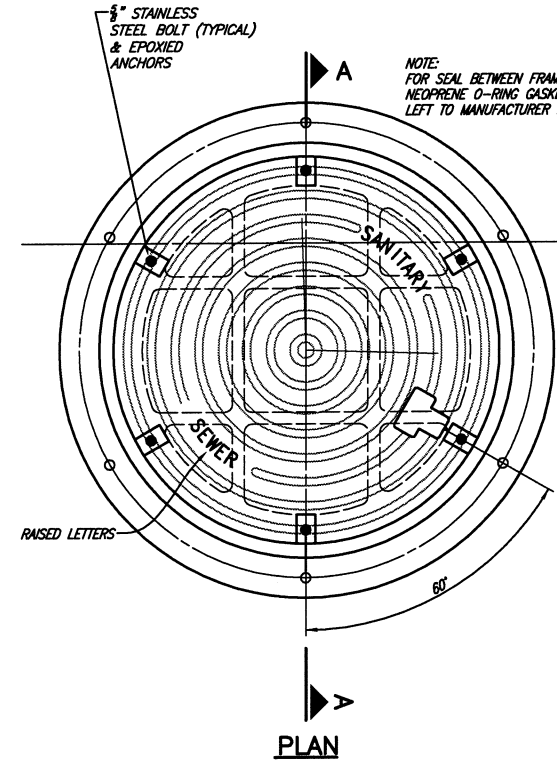
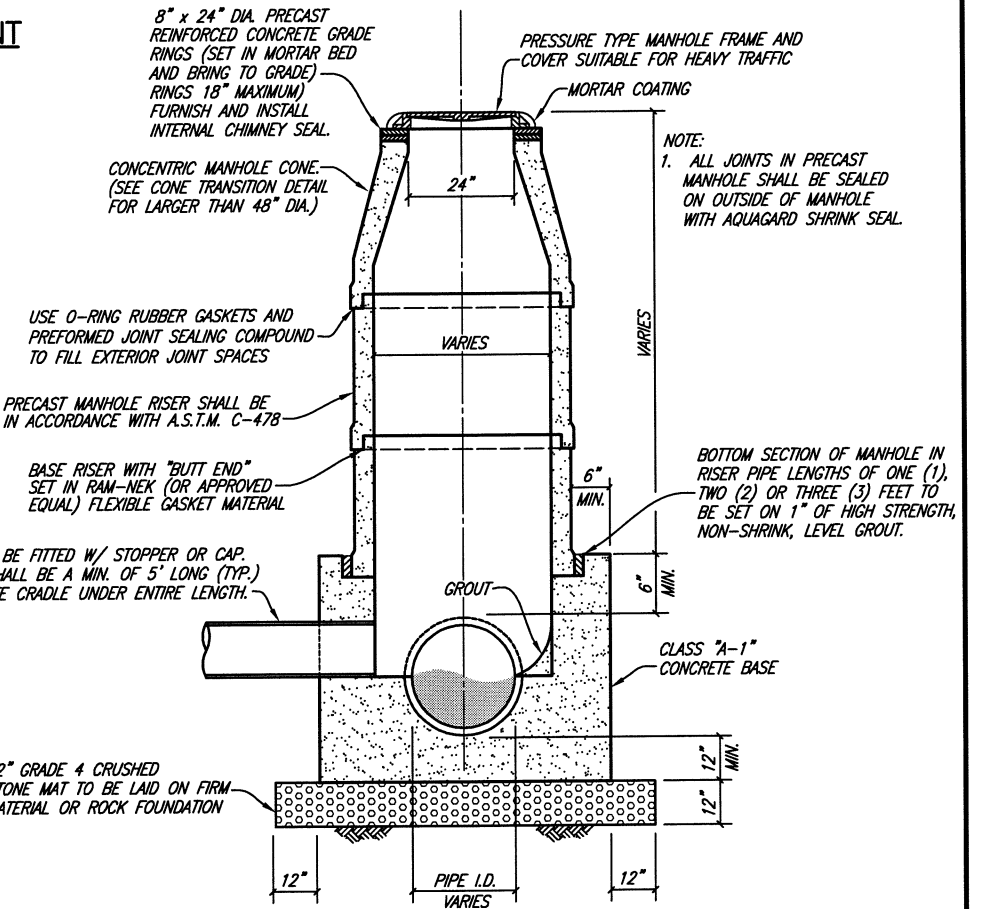
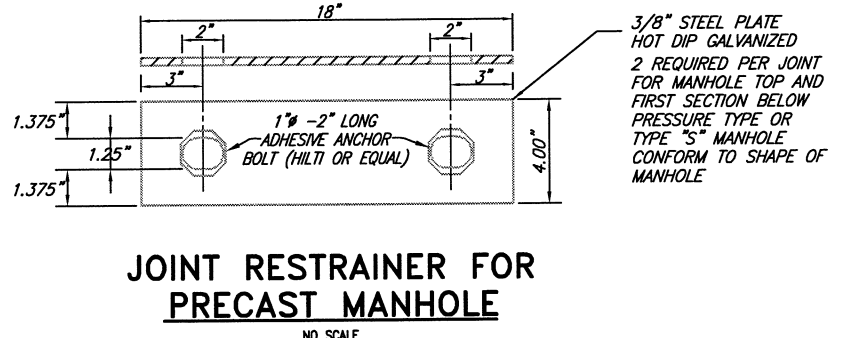
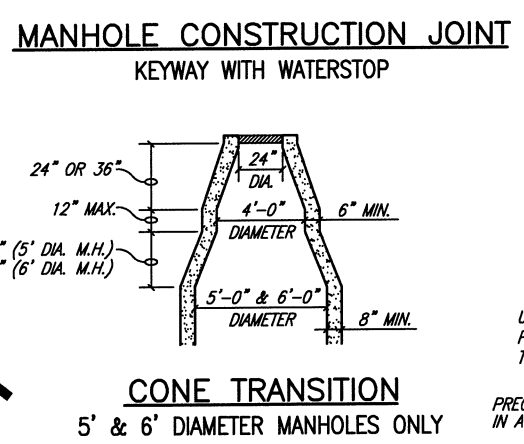
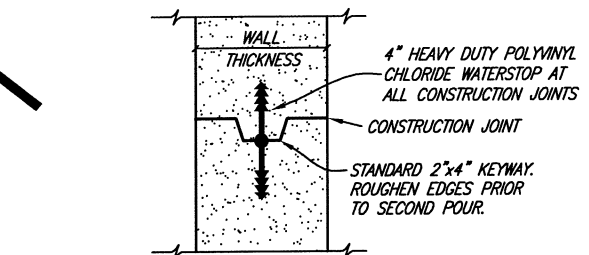
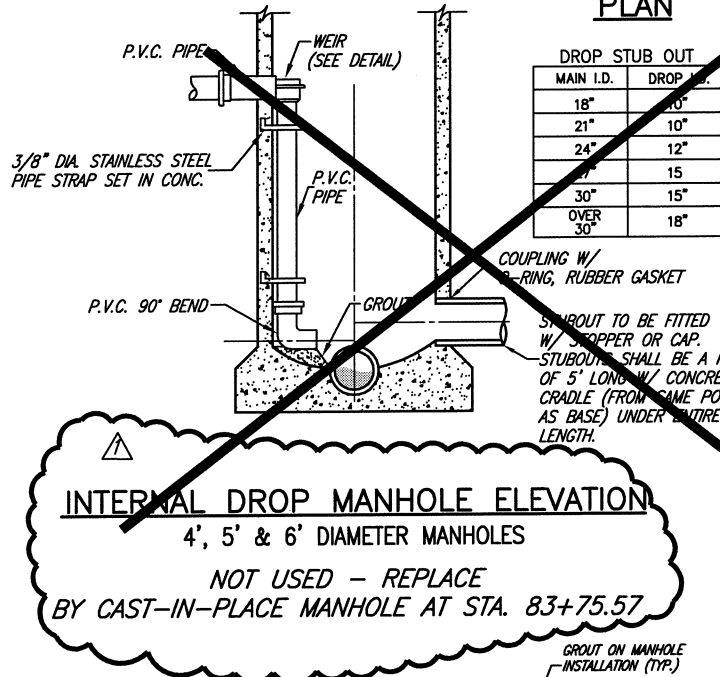
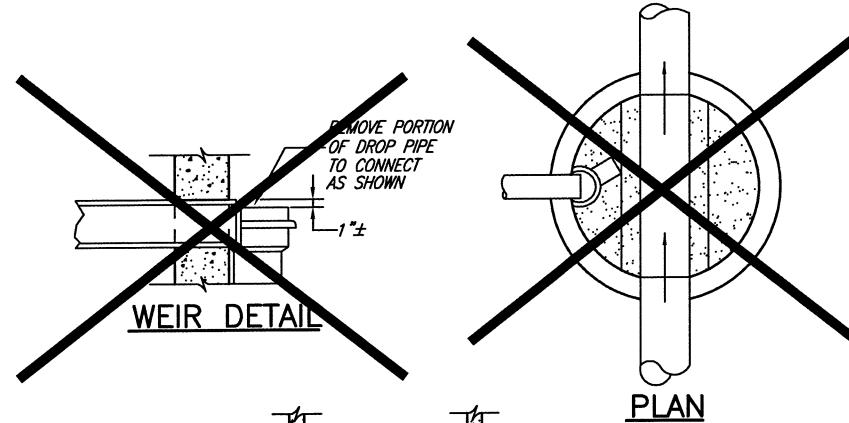
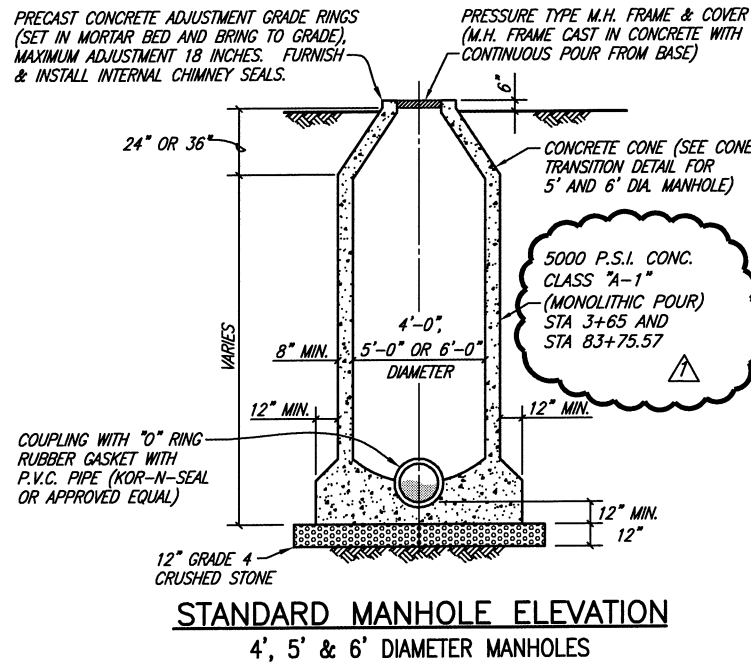


*Paula Carlisle*

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
 LAKESIDE INTERCEPTOR REPLACEMENT  
 PROFILE  
 LATERALS '60+68' & '70+60'

BHC  
 PROJECT NO.  
 2007-104  
 JUNE, 2009

SHEET NO.  
**21**



**PRESSURE TYPE MANHOLE FRAME AND COVER (VENTED)**  
NO SCALE

- PRESSURE TYPE MANHOLE FRAMES AND COVERS SHALL BE CERTAINTEEED "PAMTIGHT" OR APPROVED EQUAL.
- MANHOLE SHALL BE PLUMB TO WITHIN 1" FOR EVERY 5 FT. OF VERTICAL DEPTH, PRECAST OR CAST IN PLACE.
- MANHOLES OVER 12 FT. DEEP SHALL HAVE NO. 4 BARS @ 18" O.C.E.W. AND IF NOT POURED MONOLITHIC COLD JOINTS SHALL HAVE A FORMED GROOVE OR REINFORCING DOWELS FOR SHEAR PROTECTION; CONSTRUCTION JOINTS SHALL HAVE HEAVY DUTY P.V.C. WATERSTOP 9 INCHES IN THE DIRECTION PERPENDICULAR TO THE JOINT AS MANUFACTURED BY B.F. GOODRICH OR APPROVED EQUAL.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EACH BASE IS OF SUFFICIENT SIZE TO ACCOMMODATE THE PIPE SIZE SHOWN IN THE PLANS. IT IS PERMISSIBLE TO CAST IN PLACE THE BASE AND USE PRECAST RISERS. NO SEPARATE PAY ITEM WILL BE ALLOWED FOR CONTRACTOR MODIFICATION OF BASE DIMENSIONS.
- SEE SPECIFICATIONS REGARDING BARREL DIAMETER TRANSITIONS.

**MANHOLE NOTES:**

THE INTERIOR SURFACES OF MANHOLES SELECTED BY THE OWNER SHALL BE COATED WITH AN EPOXY COATING. THE EPOXY COATING SHALL BE A 125-MIL THICKNESS TO RAVEN LINING SYSTEM'S RAVEN 405, SAUERREISEN'S SEWERGARD - TROWABLE NO. 210 (FILL VOIDS IN CONCRETE SURFACE WITH SAUERREISEN FILLER 209 PRIOR TO COATING), OR TNEMEC'S PERMA-SHIELD H2S SERIES 434. ALL PRODUCTS SHALL BE APPLIED IN FULL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. COATINGS SHALL BE TESTED FOR THICKNESS DURING APPLICATION AND FOR HOLIDAYS ONCE THE COATING HAS CURED.

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BY P.A.C. DATE 01/06/11

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
PROFESSIONAL ENGINEERS  
Texas Firm F526  
11910 Greenville Ave., Suite 600  
Dallas, Texas (214) 361-7900



*Paul A. Carlisle*

**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
LAKESIDE INTERCEPTOR REPLACEMENT  
**DETAIL SHEET 1**

BHC PROJECT NO. 2007-104  
June, 2009  
SHEET NO. **22**

FIELD CHANGE NO.2 - APPROVED 9/24/09

REVISED: 6/9/10 - ANGEL

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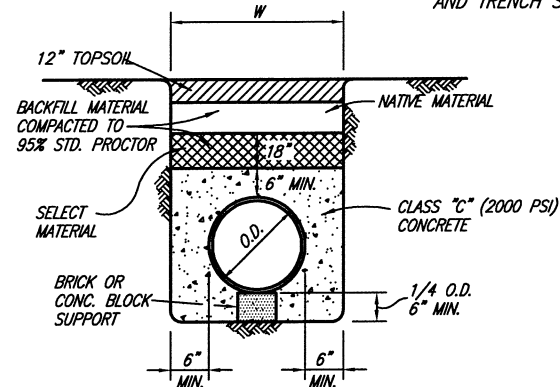
PLOT SCALE: 1:1

PLOT STYLE: -----

PLOTTED BY: ANGEL ON 1/6/2011

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W = TRENCH WIDTH PER SPECIFICATIONS AND TRENCH SAFETY PLANS

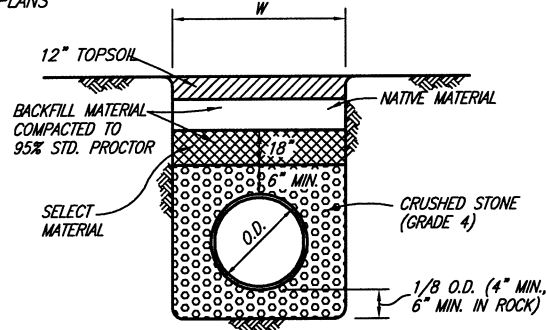


**CLASS G EMBEDMENT**

CONTRACTOR SHALL PREVENT PIPE FROM FLOATING AND SHALL MAINTAIN PROPOSED PIPE GRADE AND LOCATION DURING PLACEMENT OF CONCRETE ENCASEMENT.

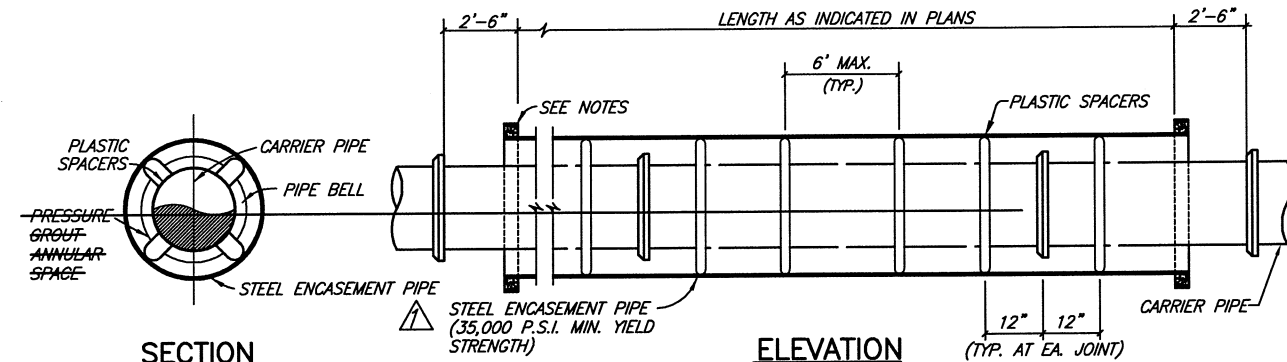
**AREAS OF INSTALLATION:**

1. STA. 29+03 TO STA. 29+43
2. STA. 43+43 TO STA. 44+03
3. STA. 45+33 TO STA. 45+68
4. STA. 50+59 TO STA. 51+22
5. STA. 62+38 TO STA. 62+68
6. STA. 69+13 TO STA. 70+41



**CLASS H EMBEDMENT**

PIPE SIZE	TRENCH WIDTH "W"	
	MINIMUM	MAXIMUM
18"	35"	41"
24"	41"	48"



**SECTION**

**ELEVATION**



**AREAS OF INSTALLATION:**

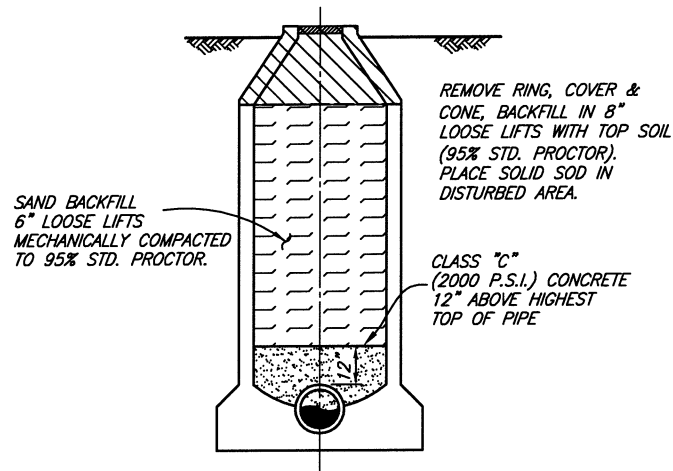
1. STA. 30+84 TO STA. 31+49
2. STA. 40+92 TO STA. 41+72
3. STA. 42+64 TO STA. 43+43
4. STA. 55+26 TO STA. 56+23
5. STA. 64+61 TO STA. 65+21

**ENCASED BORE**

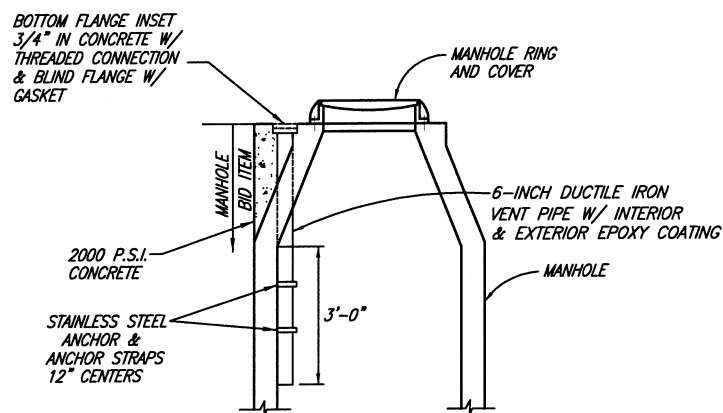
NO SCALE

**NOTES:**

1. PREFABRICATED PLASTIC SPACERS MUST BE APPROVED BY THE OWNER.
2. CONTRACTOR SHALL PROVIDE SUPPORT UNDER CARRIER PIPE TO HAVE MIN. 1" CLEARANCE BETWEEN PIPE BELL AND ENCASEMENT PIPE.
3. ENDS OF ENCASEMENT PIPE SHALL BE PLUGGED WITH BRICK AND MORTAR AND THE AREA BETWEEN THE CARRIER PIPE AND THE ENCASEMENT PIPE SHALL BE PRESSURE GROUTED. CARE SHALL BE TAKEN NOT TO FLOAT THE CARRIER PIPE DURING GROUTING.
4. GROUT AREA BETWEEN ENCASEMENT PIPE AND DIRT BORE.



**MANHOLE ABANDONMENT**  
OUTSIDE PAVEMENT AREA

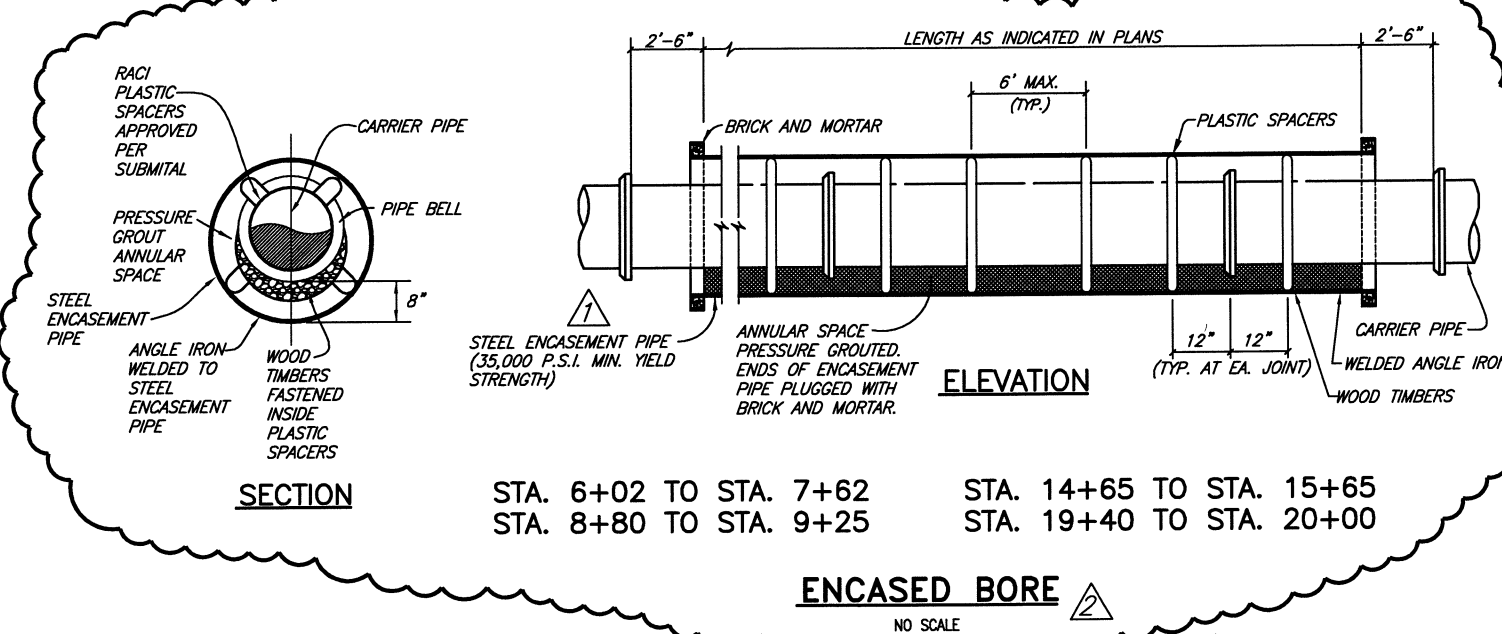


**CONE TOP MANHOLE VENT**

NO SCALE

**VENTS INSTALLED ON THE FOLLOWING MANHOLES:**

- ① STA. 14+52.84
- ② STA. 27+19.02
- ③ STA. 40+41.41
- ④ STA. 57+19.91
- ⑤ STA. 69+78.06
- ⑥ STA. 76+10.00



**SECTION**

**ELEVATION**

STA. 6+02 TO STA. 7+62  
STA. 8+80 TO STA. 9+25

STA. 14+65 TO STA. 15+65  
STA. 19+40 TO STA. 20+00

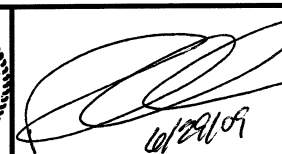
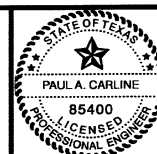
**ENCASED BORE**

NO SCALE

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BY P.A.C. DATE 01/06/11

**BIRKHOFF, HENDRICKS & CARTER, L.L.P.**  
PROFESSIONAL ENGINEERS  
Texas Firm F526  
11910 Greenville Ave., Suite 600  
Dallas, Texas (214) 361-7900



**NORTH TEXAS MUNICIPAL WATER DISTRICT**  
LAKESIDE INTERCEPTOR REPLACEMENT  
**DETAIL SHEET 2**

BHC  
PROJECT NO.  
2007-104  
June, 2009

SHEET NO.  
**23**

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CHANGE ORDER NO. 2 - APPROVED 9/24/09  
RFI -004 - APPROVED 4/22/09

REVISED: 6/10/10 - ANGEL

H:\Projects\NTMWD\2007104\Sheets\2007104-DET-02.dwg

PLOT SCALE: 1:1

PLOT STYLE: ----

PLOTTED BY: ANGEL ON 1/6/2011