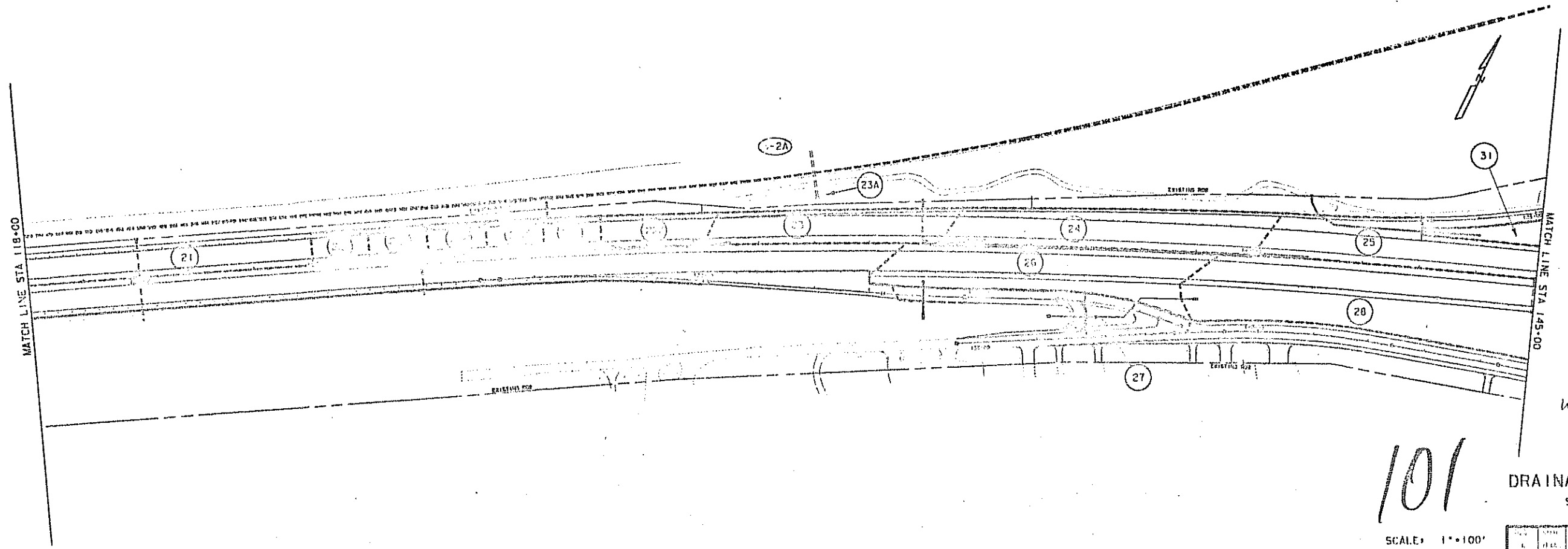
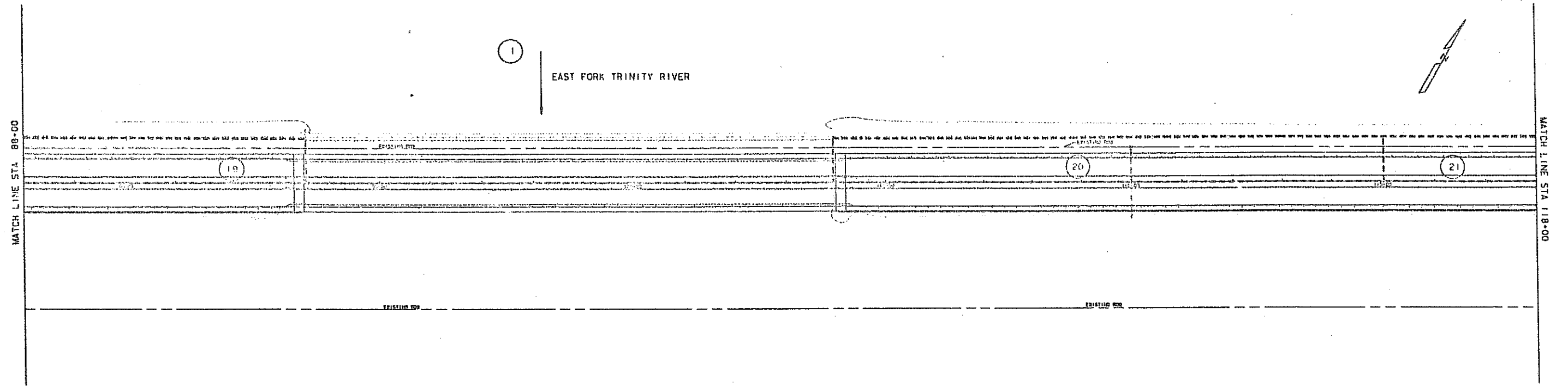




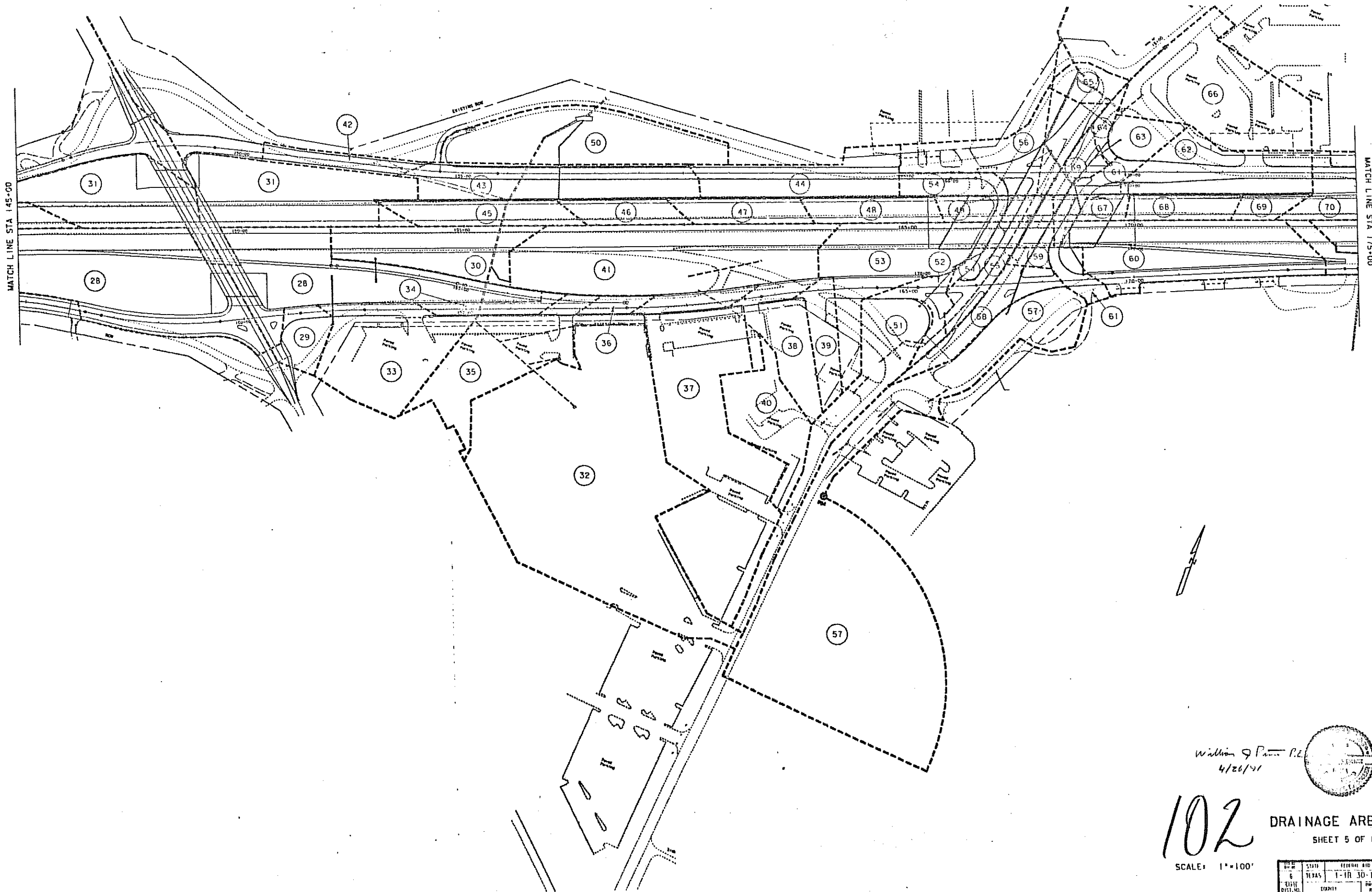
William G. Potts P.E.
9/5/91

101

SCALE: 1"=100'

DRAINAGE AREA MAP
SHEET 4 OF 8

DATE	1-19-30	1062	11-30
BY	W. G. Potts	W. G. Potts	W. G. Potts
PROJECT	INTERSTATE, ETC.	9-12-53, ETC.	101



William G. Patten, P.E.
4/26/91

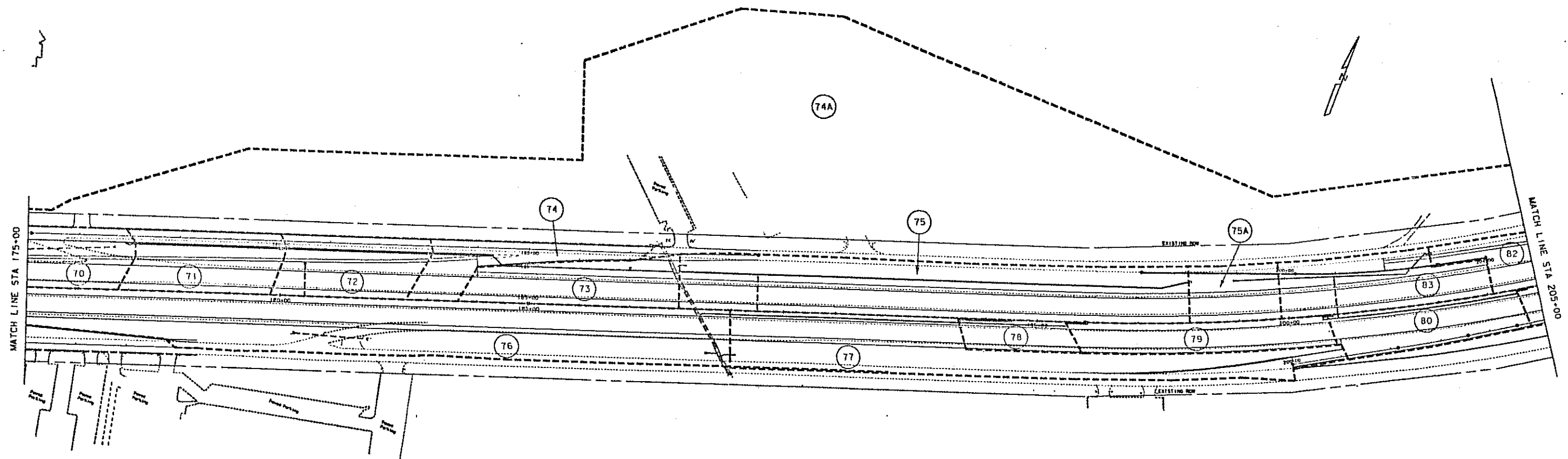


102

DRAINAGE AREA MAP
SHEET 5 OF 8

SCALE: 1"=100'

NO.	STATE	FEDERAL AID PROJECT NO.
6	TEXAS	1-10-30-1131062
STATE DIST. NO.	100011	
10	ROCKWALL, ETC	9-12-53, ETC



William G. Pate P.E.
4/21/41

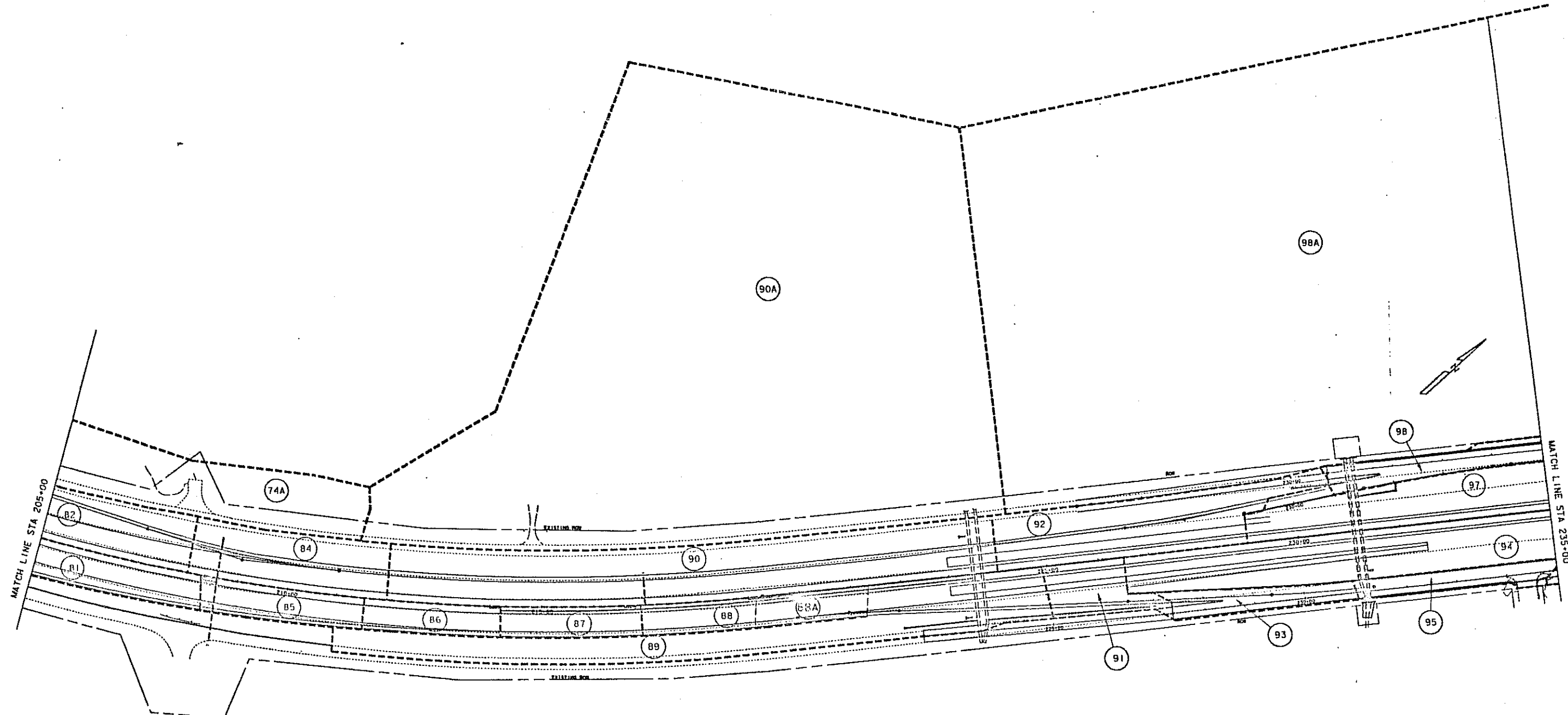


103

DRAINAGE AREA MAP
SHEET 6 OF 8

SCALE: 1"=100'

FILE NO.	STATE	FEDERAL AID PROJECT NO.	SECTION
6	TEXAS	1-1R 30-113 1062	1H 30
1B	ROCKWALL, ETC	5-12-53, ETC	2H 30



William C. Pate P.E.
4/26/91

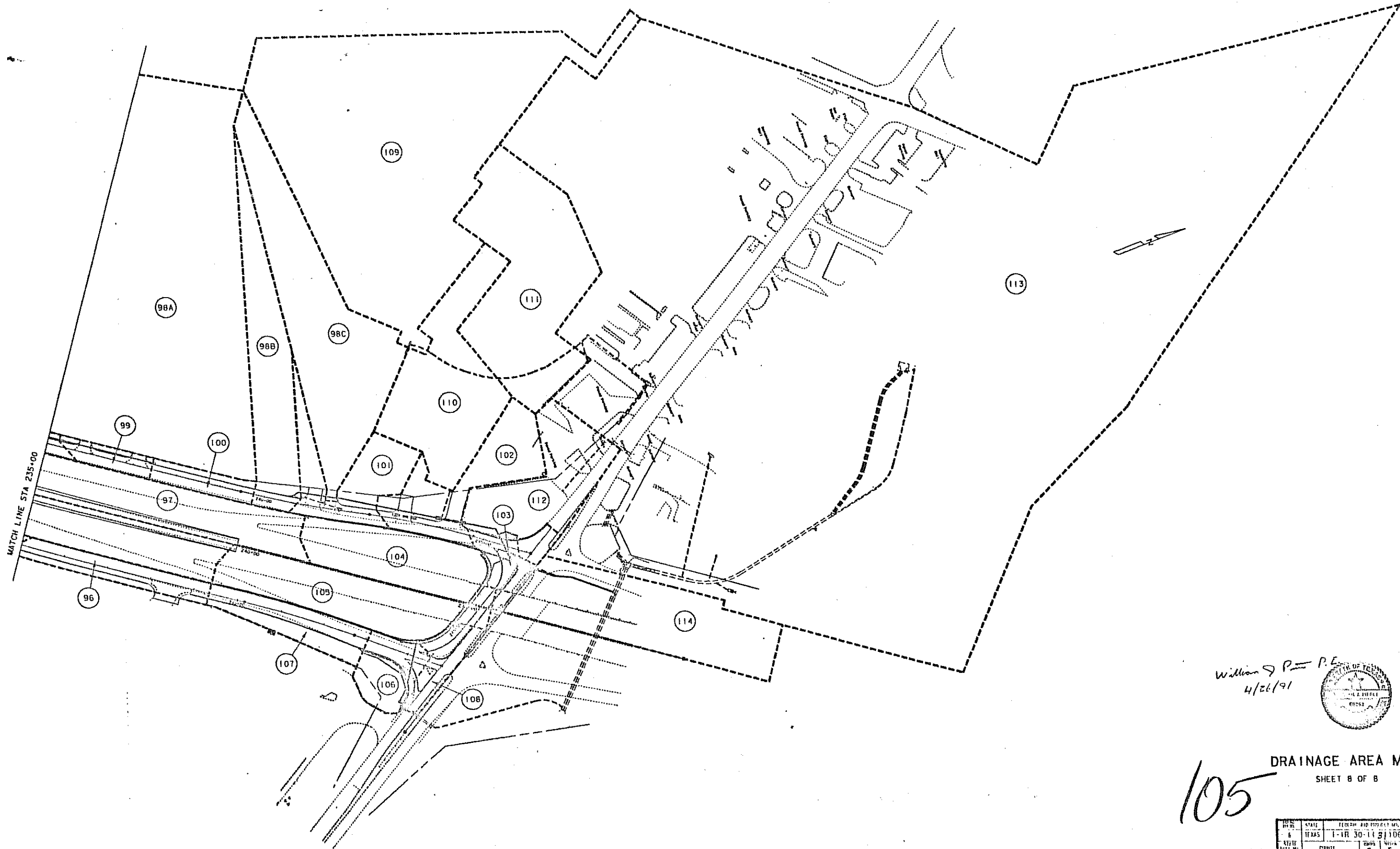


104

DRAINAGE AREA MAP
SHEET 7 OF 8

SCALE: 1"=100'

STATE	PROJECT NO.	DATE	BY
TEXAS	1-1R 30-11 811062	11/30	
COUNTY	DATE	BY	DATE
ROCKWALL, ETC	9-12-53, ETC		



William S. P. = P.E.
4/26/91



105 DRAINAGE AREA MAP
SHEET 8 OF 8

SCALE: 1"=100'

NO.	STATE	FEEDBACK AND PROPERTY NO.	DATE
6	TEXAS	1-1R 30-11 811062	10/30/88
18	ROCKWALL, ETC	9-12-53, ETC	9/23/53

RUNOFF COMPUTATIONS

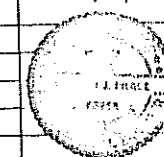
DRAIN AREA		ACRES - DRAINED				TOTAL C A	TIME OF CONCENTRATION MINUTES	FREQ (YRS)	I IN/HR	O cfs	REMARKS
		PAVT C=0.9	COMM C=0.70	R O W (AVG) C=0.7	RESID C=0.55						
1								50		40000	EAST FORK TRINITY RIVER
1A	0.51	0.51				0.46	500/(3.0x60)+2.8	10	8.01	3.7	DALLAS COUNTY
1B								50		67136	ROWLETT CREEK
1C	0.33	0.33				0.30	300/(3.0x60)+1.67	10	8.01	2.4	DALLAS COUNTY
2	3.41	1.41		2.00		2.67	560/(2.0x60)+4.7	10	8.01	21.4	DALLAS COUNTY
3	2.99	1.27		1.72		2.35	440/(1.5x60)+4.9	10	8.01	18.8	DALLAS COUNTY
4	0.35	0.35				0.31	300/(2.0x60)+2.5	10	8.01	2.5	DALLAS COUNTY
5	0.35	0.35				0.31	300/(2.0x60)+2.5	10	8.01	2.5	DALLAS COUNTY
6	0.09	0.05		0.04		0.08	50/(2.0x60)+0.4	5	6.89	0.6	DALLAS COUNTY
7	0.61	0.31		0.30		0.49	230/(2.5x60)+1.5	5	6.89	3.4	DALLAS COUNTY
8	8.03	2.87		5.16		6.20	1610/(2.0x60)+13.4	10	7.04	43.7	DALLAS COUNTY
9	3.27	0.48		2.79		2.39	810/(2.0x60)+6.8	5	6.89	16.5	DALLAS COUNTY
10	4.56	2.00		2.56		3.60	850/(2.0x60)+7.1	10	8.01	28.8	DALLAS COUNTY
11	0.23	0.14		0.09		0.19	151/(2.0x60)+1.3	5	6.93	1.3	ROCKWALL COUNTY
12	2.06	0.87		1.19		1.62	300/(2.0x60)+2.5	10	7.98	12.9	ROCKWALL COUNTY
13	0.46	0.23		0.23		0.37	190/(1.0x60)+3.2	5	6.93	2.6	ROCKWALL COUNTY
14	2.09	1.33		0.76		1.73	300/(1.0x60)+8.3	10	7.98	13.8	
15	2.09	1.33		0.76		1.73	500/(1.0x60)+8.3	10	7.98	13.8	
16	2.09	1.33		0.76		1.73	500/(1.0x60)+8.3	10	7.98	13.8	
17	2.09	1.33		0.76		1.73	500/(1.0x60)+8.3	10	7.98	13.8	
18	2.09	1.33		0.76		1.73	500/(1.0x60)+8.3	10	7.98	13.8	
19	2.61	1.66		0.95		2.16	500/(1.0x60)+8.3	10	7.98	17.2	
20	2.29	1.46		0.83		1.90	500/(1.0x60)+8.3	10	7.98	15.2	
21	2.02	1.08		0.94		1.63	500/(1.0x60)+8.3	10	7.98	13.0	
22A	0.15	0.15				0.14	58/(1.0x60)+1.0	10	7.98	1.1	
22B	0.14	0.14				0.13	58/(1.0x60)+1.0	10	7.98	1.0	
22C	0.14	0.14				0.13	58/(1.0x60)+1.0	10	7.98	1.0	
22D	0.14	0.14				0.13	58/(1.0x60)+1.0	10	7.98	1.0	
22E	0.14	0.14				0.13	58/(1.0x60)+1.0	10	7.98	1.0	
22F	0.22	0.22				0.20	120/(1.5x60)+1.33	10	7.98	1.6	
23	0.62	0.62				0.56	390/(2.8x60)+2.3	10	7.98	4.5	
24	0.96	0.96				0.86	490/(4.5x60)+1.8	10	7.98	6.9	
25	1.04	1.04				0.94	600/(4.5x60)+2.2	10	7.98	7.5	
26	1.31	0.92		0.76		1.10	500/(3.1x60)+2.7	5	6.93	7.6	
27	0.28	0.14		0.14		0.22	140/(2.5x60)+0.9	5	6.93	1.5	
28	5.86	2.34		3.52		4.57	1700/(2.8x60)+10.1	5	6.89	31.5	
29	0.34	0.07		0.27		0.25	130/(2.5x60)+0.9	5	6.93	1.7	
30	0.99	0.59		0.40		0.81	300/(1.0x60)+5.0	5	6.93	5.6	
31	3.01	1.00		2.01		2.31	1200/(2.5x60)+8.0	5	6.93	16.0	
32	5.61	5.61				5.05	953/(4.0x60)+4.0	5	6.93	35.0	
33	1.42	0.71		0.71		1.14	303/(3.8x60)+1.3	5	6.93	7.9	
34	0.21	0.21				0.19	110/(3.6x60)+0.5	5	6.93	1.3	
35	1.37	1.37				1.23	491/(6.3x60)+1.3	5	6.93	8.5	
36	0.12	0.12				0.11	186/(7.2x60)+0.4	5	6.93	0.8	
37	3.26	3.26				2.94	761/(4.7x60)+2.7	5	6.93	20.4	
38	0.80	0.80				0.72	324/(5.8x60)+0.9	5	6.93	5.0	
39	0.40	0.40				0.36	175/(3.0x60)+1.0	5	6.93	2.5	
40	0.97	0.97				0.87	420/(4.5x60)+1.6	5	6.93	6.0	
41	2.23	0.89		1.34		1.74	745/(2.0x60)+6.2	5	6.93	12.1	
42	0.21	0.21				0.19	350/(3.5x60)+1.7	5	6.93	1.2	
43	0.55	0.18		0.37		0.42	360/(2.0x60)+3.0	5	6.93	2.9	
44	0.72	0.26		0.46		0.55	510/(2.0x60)+4.3	5	6.93	3.8	
45	0.57	0.57				0.51	400/(3.5x60)+1.9	10	7.98	4.1	
46	0.34	0.34				0.31	250/(2.8x60)+1.5	10	7.98	2.4	
47	0.41	0.41				0.37	300/(2.4x60)+2.1	10	7.98	2.9	
48	0.41	0.41				0.37	300/(2.0x60)+2.5	10	7.98	2.9	
49	0.36	0.36				0.32	260/(1.5x60)+2.9	10	7.98	2.6	
50	1.58	0.18				1.40	300/(3.0x60)+1.7	5	6.93	9.7	
51	1.18			1.18		0.82	850/(4.0x60)+3.5	5	6.93	5.7	
52	0.27	0.27				0.24	250/(2.8x60)+1.5	5	6.93	1.7	
53	1.55	0.78		0.77		1.24	450/(3.6x60)+2.1	5	6.93	8.6	
54	0.38	0.38				0.34	270/(3.8x60)+1.2	5	6.93	2.4	

DRAIN AREA		ACRES - DRAINED				TOTAL C A	TIME OF CONCENTRATION MINUTES	FREQ (YRS)	I IN/HR	O cfs	REMARKS
		PAVT C=0.9	COMM C=0.70	R O W (AVG) C=0.7	RESID C=0.55						
55	0.25	0.25				0.22	270/(3.0x60)+1.5	5	6.93	1.5	
56	1.09	0.55		0.54		0.87	320/(3.6x60)+1.5	5	6.93	6.0	
57	5.86			5.86		4.10	1260/(4.8x60)+4.4	5	6.93	28.4	
58	0.51	0.51				0.45	410/(4.9x60)+1.4	5	6.93	3.1	
59	0.29	0.29				0.26	220/(3.1x60)+1.2	5	6.93	1.8	
60	1.68	0.84		0.84		1.34	730/(3.7x60)+3.3	5	6.93	9.3	
61	0.37	0.37				0.34	210/(4.4x60)+0.8	5	6.93	2.4	
62	0.74	0.30		0.44		0.58	420/(2.1x60)+3.3	5	6.93	4.0	
63	0.28			0.28		0.20	160/(1.6x60)+1.7	5	6.93	1.4	
64	0.12	0.12				0.11	140/(4.7x60)+0.5	5	6.93	0.8	
65	0.25	0.15		0.10		0.21	90/(1.6x60)+0.9	5	6.93	1.5	
66	1.79	1.43		0.36		1.54	390/(2.1x60)+3.1	5	6.93	10.7	
67	0.22	0.22				0.20	160/(1.4x60)+1.9	10	7.98	1.6	
68	0.34	0.34				0.31	250/(1.7x60)+2.5	10	7.98	2.5	
69	0.22	0.22				0.20	190/(2.5x60)+1.3	10	7.98	1.6	
70	1.04	0.65		0.39		0.86	400/(2.4x60)+2.8	5	6.93	6.0	
71	0.74	0.61		0.13		0.64	300/(2.4x60)+2.1	5	6.93	4.4	
72	0.86	0.73		0.13		0.75	300/(2.4x60)+2.1	5	6.93	5.2	
73	0.79	0.59		0.20		0.67	350/(1.5x60)+3.9	5	6.93	4.6	
74	0.61	0.56		0.05		0.54	460/(2.0x60)+3.8	5	6.93	3.7	
74A	16.90	3.80		13.10		12.59	2010/(1.0x60)+33.5	50	5.63	70.9	
75	2.32	1.49		0.83		1.92	1000/(1.7x60)+9.8	5	6.93	13.3	
75A	0.49	0.25		0.24		0.39	185/(1.7x60)+1.8	5	5.98	17.7	
76	3.56	2.34		1.22		2.96	1500/(1.8x60)+13.9	5	6.93	8.7	
77	1.62	0.64		0.98		1.26	1200/(2.0x60)+10.0	5	6.93	8.7	
78	0.18	0.18				0.16	210/(1.4x60)+2.5	10	7.98	1.3	
79	0.69	0.69				0.62	540/(3.2x60)+2.8	10	7.98	4.9	
80	0.76	0.76				0.68	400/(2.4x60)+2.8	10	7.98	5.4	
81	0.62	0.62				0.56	380/(2.0x60)+3.2	10	7.98	4.5	
82	1.07	0.92		0.15		0.94	490/(2.2x60)+3.7	5	6.93	6.5	
83	1.03	0.79		0.24		0.88	415/(2.1x60)+3.3	5	6.93	6.1	
84	1.03	0.69		0.34		0.86	340/(1.4x60)+4.1	10	7.98	6.9	
85	0.44	0.44				0.40	330/(1.4x60)+3.9	10	7.98	3.2	
86	0.37	0.37				0.33	270/(1.4x60)+3.2	10	7.98	2.6	
87	0.37	0.37				0.33	280/(1.4x60)+3.3	10	7.98	2.6	
88	0.31	0.31				0.28	320/(1.4x60)+3.8	10	7.98	2.2	
88A	0.29	0.29				0.26	260/(1.4x60)+3.1	10	7.98	2.1	
89	2.74	1.44		1.30		2.21	1100/(1.3x60)+14.1	5	5.93	13.1	
90	3.14	1.96		1.18		2.59	1033/(1.0x60)+17.2	5	5.37	13.9	
90A	24.00			24.00		16.80	1230/(2.0x60)+10.3	50	10.36	174.1	
91	0.44	0.09		0.35		0.33	200/(2.0x60)+1.7	5	6.93	2.3	
92	1.45	0.99		0.46		1.21	600/(2.0x60)+5.0	5	6.93	8.4	
93	0.40	0.40				0.36	400/(1.2x60)+1.6	5	6.93	2.5	
94	3.08	1.59		1.49		2.47	795/(2.0x60)+6.6	5	6.93	17.1	
95	0.32	0.32				0.29	250/(1.4x60)+3.0	5	6.93	2.0	
96	0.49	0.33		0.16		0.41	470/(2.0x60)+3.9	5	6.93	2.8	
97	2.66	1.38		1.28		2.14	900/(2.0x60)+7.5	5	6.93	14.8	
98	0.46	0.40		0.06		0.40	370/(2.0x60)+3.1	5	6.93	2.8	
98A	40.00	5.60		34.40		29.12	1550/(1.8x60)+14.4	50	8.91	259.5	
98B	1.40	0.28		1.12		1.04	860/(2.7x60)+5.3	5	6.93	7.2	
98C	2.80	0.56		2.24		2.07	960/(2.8x60)+5.7	5	6.93	14.3	
99	0.23	0.16		0.07		0.19	220/(2.0x60)+1.8	5	6.93	1.3	

RUNOFF COMPUTATIONS

[illegible][illegible]

William J. P. P.E.
4/21/91



107

RUNOFF COMPUTATIONS SHEET
 SHEET 2 OF 2

STATE DIST. NO.	STATE	PERIOD AND PRODUCT NO.	DATE
6	ALAB	1-1R 30-11 3/1062	110-3
STATE DIST. NO.	COMPANY	PERIOD NO.	PRODUCT NO.
1R	ROCKWELL, ETC.	9-12-53, ETC	100-2

INLET COMPUTATIONS

INLET NO.	LOCATION	RUN OFF COMPUTATIONS									CURB INLET DESIGN										DROP INLET DESIGN				REMARKS			
		DA NO.	CA	TIME OF CONCENTRATION		DESIGN FREQ.	INTENSITY	O _A	CARRY OVER	TOTAL O _A	Z	Z/N	S	Y	PONDED WIDTH Y+Z	A	Q _L	L _A =O _A /Q _L	L	L/L _A	A/Y	O/O _A	O	ALLOW HEAD		ACTUAL HEAD	NO OF GRATES	CARRY OVER
				ACTUAL (MIN)	DESIGN (MIN)																							
DI-1	92.0' RT "G" STA 759+32	3,6-7	2.92	4.9	10	10	6.01	23.4	-	23.4													23.4	1.0	0.55	3		DROP INLET (3-GRATE)
DI-2	39.0' RT RAMP "H" STA 760+57	6	0.08	0.4	10	5	6.89	0.6	-	0.6													0.6	0.5	<0.5	1		DROP INLET
SET-5	45' LT CONN "H" STA 760+84	7	0.49	1.5	10	5	6.89	3.4	-	3.4													3.4	2.5	1.44			SAFETY END TREATMENT
DI-3	101.0' RT "G" STA 1+67	10	3.60	7.1	10	10	8.01	28.8	-	28.8													28.8	2.0	1.6	2		DROP INLET (2-GRATE)
SET-6	54.58' LT CONN "H" STA 770+88.8	9	2.39	6.8	10	5	6.89	16.5	-	16.5													16.5	3.0	2.45			SAFETY END TREATMENT
DI-4	37' RT CONN "H" STA 771+80	11	0.19	1.3	10	5	6.93	1.3	-	1.3													1.3	<0.5	1			DROP INLET
DI-5	186.34' LT C/L STA 10+00	13	0.37	3.2	10	5	6.93	2.6	-	2.6													2.6	1.0	<0.5	1		DROP INLET
DI-6	74.2' LT "G" STA 10+99.40	12	1.62	2.5	10	10	7.98	12.9	-	12.9													12.9	1.0	<0.5	1		DROP INLET
DI-7	70.0' LT "G" STA 35+99	14	1.73	8.3	10	10	7.98	13.8	-	13.8													13.8	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-8	70.0' LT "G" STA 45+99	15	1.73	8.3	10	10	7.98	13.8	-	13.8													13.8	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-9	70.0' LT "G" STA 55+99	16	1.73	8.3	10	10	7.98	13.8	-	13.8													13.8	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-10	70.0' LT "G" STA 65+00	17	1.73	8.3	10	10	7.98	13.8	-	13.8													13.8	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-11	70.0' LT "G" STA 76+00	18	1.73	8.3	10	10	7.98	13.8	-	13.8													13.8	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-12	70.0' LT "G" STA 87+00	19	2.16	8.3	10	10	7.98	17.2	-	17.2													17.2	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-13	70.0' LT "G" STA 110+00	20	1.90	8.3	10	10	7.98	15.2	-	15.2													15.2	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-14	70.0' LT "G" STA 119+99	21	1.63	8.3	10	10	7.98	13.0	-	13.0													13.0	0.5	<0.5	2		DROP INLET (2-GRATE)
DI-15	69.5' RT C/L STA 134+00	26	1.10	2.7	10	5	6.93	7.6	-	7.6													7.6	1.1	<0.5	1		DROP INLET
DI-16	124.0' RT C/L STA 137+24	27	0.22	0.9	10	5	6.93	1.5	-	1.5													1.5	1.0	<0.5	2		DROP INLET (2-GRATE) (DUE TO PIPE SIZE)
DI-17	84.0' RT C/L STA 139+00	28-30	5.63	10.1	0.1	5	6.93	38.8	-	38.8													38.8	2.0	1.4	3		DROP INLET (3-GRATE)
DI-18	68.47' LT C/L STA 144+00	31	2.31	8.0	10	5	6.93	16.0	-	16.0													16.0	2.0	1.3	1		DROP INLET
DI-19	223.0' RT C/L STA 152+00	29	0.25	0.8	10	5	6.93	1.7	-	1.7													1.7	2.0	<0.5	1		DROP INLET
DI-20	73.5' RT C/L STA 153+00	30	0.81	5.0	10	5	6.93	5.6	-	5.6													5.6	2.0	<0.5	1		DROP INLET
BNI-1, 1A, 1B	60.0' LT "G" STA 153+13	45	0.51	1.9	10	10	7.98	4.1	-	4.1	48	3205	0.0304	0.20	9.60	3	0.37	11.1	15				4.1					LOW POINT INLETS ON RETAINING WALL
CI-1	13.0' LT FR RD "T" STA 154+10	42	0.19	1.7	10	5	6.93	1.2	-	1.2	48	3205	0.0517	0.11	5.40	3	0.30	4.0	5				1.2					CURB INLET ON GRADE
CI-2	13.0' RT FR RD "R" STA 154+23.75	33	1.14	1.3	10	5	6.93	7.9	-	7.9	48	3200	0.0258	0.26	12.48	3	0.42	19.0	15	0.79	0.96	0.87	6.9			1.0		CURB INLET ON GRADE
CI-3	13.0' RT FR RD "R" STA 155+29.08	34	0.19	0.5	10	5	6.93	1.3	2.8	4.1	48					3		15				4.1					-	SAG CURB INLET
DI-21	129.1' RT "G" C/L STA 156+00	40-41	2.61	7.8	10	5	6.93	18.1	-	18.1													18.1	2.0	1.7	1		DROP INLET
CI-4	13.0' RT FR RD "R" STA 156+72.50	35	1.23	1.3	10	5	6.93	3.5	1.9	10.4	48	3200	0.0099	0.34	16.32	3	0.49	21.3	15	0.71	0.74	0.83	8.7			1.8		CURB INLET ON GRADE
BNI-2, 2A	60.0' LT "G" STA 157+15	46	0.31	1.5	10	10	7.98	2.4	0.8	3.2	48	3205	0.0237	0.19	9.10	3	0.36	8.9	10				3.2					RETAINING WALL INLETS ON GRADE
CI-5	13.0' LT FR RD "T" STA 157+18.77	43	0.42	3.0	10	5	6.93	2.9	0.2	3.1	48							10				3.1						LOW POINT CURB INLET
CI-6	13.0' RT FR RD "R" STA 157+59.31	36	0.11	0.4	10	5	6.93	0.8	9.3	10.1	48	3200	0.0147	0.32	15.36	3	0.47	21.7	15	0.69	0.78	0.81	8.2			1.9		CURB INLET ON GRADE
CI-7	13.0' RT FR RD "R" STA 158+82.70	37	2.94	2.7	10	5	6.93	20.4	-	20.4	48	3213	0.0185	0.39	18.79	3	0.53	38.1	15	0.39	0.64	0.54	11.1			9.3		CURB INLET ON GRADE
BNI-3	60.0' LT "G" STA 159+65	47	0.37	2.1	10	10	7.98	2.9	-	2.9	48	3205	0.0184	0.19	9.10	3	0.36	8.1	5	0.62	1.32	0.72	2.1			0.6		RETAINING WALL INLET ON GRADE
CI-8	13.0' LT FR RD "T" STA 160+18	44	0.55	4.3	10	5	6.93	3.8	-	3.8	48	3205	0.0341	0.19	9.10	3	0.36	10.8	10	0.93	1.30	0.96	3.6			0.2		CURB INLET ON GRADE
CI-9	13.0' RT FR RD "R" STA 161+00	38	0.72	0.9	10	5	6.93	5.0	-	5.0	47	3107	0.0100	0.26	12.12	3	0.42	11.9	15				5.0					CURB INLET ON GRADE
CI-10	13.0' RT FR RD "R" STA 162+49.83	39	0.36	1.0	10	5	6.93	2.5	-	2.5	29	1961	0.0284	0.20	5.88	3	0.36	6.8	10				2.5					CURB INLET ON GRADE
BNI-4, 4A	60.0' LT "G" STA 162																											

INLET COMPUTATIONS

INLET NO.	LOCATION	RUN OFF COMPUTATIONS									CURB INLET DESIGN													DROP INLET DESIGN				REMARKS
		DA NO.	CA	TIME OF CONCENTRATION		DESIGN FREQ.	INTENSITY	Q _A	CARRY OVER	TOTAL Q _A	Z	Z/N	S	Y	PONDED WIDTH Y ₂ Z	A	OL	L _A =Q _A /OL	L	L/L _A	A/Y	Q/Q _A	Q	ALLOW HEAD	ACTUAL HEAD	NO OF GRATES	CARRY OVER (CFS)	
				ACTUAL (MIN)	DESIGN (MIN)																							
CI-20	13.0' RT FR RD *T* STA 177+00	70	0.86	2.8	10	5	6.93	6.0	-	6.0	48	3205	0.0191	0.25	12.00	3	0.41	14.5	15				6.0					CURB INLET ON GRADE
CI-21	13.0' RT FR RD *T* STA 180+00	71	0.64	2.1	10	5	6.93	4.4	-	4.4	48	3205	0.0128	0.25	12.00	3	0.41	12.5	15				4.4					CURB INLET ON GRADE
CI-22	13.0' RT FR RD *T* STA 183+00	72	0.75	2.1	10	5	6.93	5.2	-	5.2	48	3205	0.0172	0.24	11.50	3	0.40	12.0	15				5.2					CURB INLET ON GRADE
DI-20	79.0' RT C/L STA 187+00	73	0.67	3.9	10	5	6.93	4.6	-	4.6													4.6	1.7	<0.5	1		DROP INLET
CI-23	13.0' LT FR RD *T* STA 187+40	74	0.54	3.8	10	5	6.93	3.9	-	3.9	48	3205	0.0058	0.26	12.50	3	0.42	9.3	10				3.9					CURB INLET ON GRADE
DI-29	88.0' RT C/L STA 188+53	76	2.96	13.9	3.9	5	5.98	17.7	-	17.7													17.7	1.8	1.65	1		DROP INLET
SET-18	87' LT *G* STA 188+00	75	1.92	9.8	10	5	6.93	13.3	-	13.3													13.3	3.3	3.24			SAFETY END TREATMENT
SET-17	90' RT *G* STA 189+00	77	1.26	10.0	10	5	6.93	8.7	-	8.7													8.7	3.3	2.68			SAFETY END TREATMENT
DI-290	84' LT *G* STA 198+00	75A, 80-83	3.45	5.5	10	5	6.93	23.9	-	23.9													23.9	1.5	0.96	2		DROP INLET (2-GRADE)
DI-30	80.07' LT C/L STA 200+00	83	0.88	3.3	10	5	6.93	6.1	-	6.1													6.1	1.0	<0.5	1		DROP INLET
DI-31	99.33' LT C/L STA 203+00	82	0.94	3.7	10	5	6.93	6.5	-	6.5													6.5	0.8	<0.5	1		DROP INLET
DI-32	93.0' RT *G* STA 222+00	89	2.21	14.1	14.1	5	5.93	13.1	-	13.1													13.1	0.5	<0.5	2		DROP INLET (2-GRADE)
DI-33	105.0' RT *G* STA 227+00	91	0.33	1.7	10	5	6.93	2.3	-	2.3													2.3	0.5	<0.5	1		DROP INLET
DI-EX	77.0' LT *G* STA 223+33	90	2.59	17.2	17.2	5	5.37	13.9	-	13.9													13.9	0.5	<0.5	2		EXISTING INLET TO REMAIN IN PLACE
DI-34	100.0' LT C/L STA 230+00	92	1.21	5.0	10	5	6.93	8.4	-	8.4													8.4	2.0	<0.5	1		DROP INLET
DI-35	82.0' RT *G* STA 231+35	94	2.47	6.6	10	5	6.93	17.1	-	17.1													17.1	1.0	<0.5	2		DROP INLET (2-GRADE)
DI-36	73.0' LT *G* STA 232+00	97	2.14	7.5	10	5	6.93	14.8	-	14.8													14.8	2.0	1.0	1		DROP INLET
CI-24	12.0' RT FR RD *K* STA 231+00	93	0.36	1.6	10	5	6.93	2.5	-	2.5	48	3200	0.0064	0.22	10.6	3	0.38	6.6	5	0.76	1.1	0.84	2.1				0.4	CURB INLET ON GRADE
CI-25	32.48' RT FR RD *O* STA 232+02	98	0.40	3.1	10	5	6.93	2.8	-	2.8													2.8					LOW POINT CURB INLET
CI-26	12.0' RT FR RD *K* STA 232+67.18	95	0.29	3.0	10	5	6.93	2.0	-	2.0													2.0					LOW POINT CURB INLET
CI-27	12.0' RT FR RD *K* STA 234+80	96	0.41	3.9	10	5	6.93	2.8	-	2.8	48	3200	0.0250	0.18	8.7	3	0.35	8.0	10				2.8					CURB INLET ON GRADE
CI-28	12.0' LT FR RD *O* STA 235+30	99	0.19	1.8	10	5	6.93	1.3	-	1.3	95	6319	0.0230	0.10	9.5	3	0.29	4.5	5				1.3					CURB INLET ON GRADE
CI-29	12.0' LT FR RD *O* STA 237+45	100	0.23	2.0	10	5	6.93	1.6	-	1.6	48	3200	0.0095	0.17	8.2	3	0.34	4.7	5				1.6					CURB INLET ON GRADE
CI-30	23.0' RT FR RD *O* STA 242+85	101	0.76	2.7	10	5	6.93	5.3	6.3	11.6	64	4267	0.0202	0.28	17.9	3	0.43	27.0	15	0.56	0.89	0.69	8.0				3.6	MODIFIED CURB INLET ON GRADE
CI-30A	12.0' LT FR RD *O* STA 240+64.40	98B	1.04	5.3	10	5	6.93	7.2	-	7.2	40	2667	0.0088	0.33	13.2	3	0.48	15.0	15				7.2					CURB INLET ON GRADE
CI-30B	27.1' LT FR RD *O* STA 241+63.05	98C	2.07	5.7	10	5	6.93	14.3	-	14.3	48	3200	0.0779	0.26	12.5	3	0.42	34.1	15	0.44	0.96	0.56	8.0				6.3	CURB INLET ON GRADE
CI-31	23.0' RT FR RD *K* STA 243+30	107	0.45	3.1	10	5	6.93	3.1	-	3.1	40	2667	0.0139	0.22	8.8	3	0.38	8.2	10				3.1					CURB INLET ON GRADE
CI-32	38.88' RT FR RD *K* STA 244+02.5	108	0.41	7.0	10	5	6.93	2.8	-	2.8	40								10				2.8					LOW POINT CURB INLET
CI-33	23.0' RT FR RD *O* STA 244+79	102	0.79	4.5	10	5	6.93	5.5	3.6	9.1	48	3200	0.0086	0.34	16.3	3	0.48	19.0	15	0.79	0.74	0.89	8.1				1.0	MODIFIED CURB INLET ON GRADE
CI-34	TURNOFFROAD *E* STA 246+38	103	0.41	3.7	10	5	6.93	2.8	1.0	3.8	64								10				3.8					LOW POINT CURB INLET
DI-37	7.9' LT TURNRD *E* STA 244+12.42	105	1.15	4.3	10	5	6.93	8.0	-	8.0													8.0		<0.5	1		DROP INLET
DI-38	7.9' LT TURNRD *E* STA 247+05.96	104	0.99	3.8	10	5	6.93	6.9	-	6.9													6.9		<0.5	1		DROP INLET
DI-39	51.98' LT *F* STA 246+96.99	106	0.20	1.5	10	5	6.93	1.4	-	1.4													1.4		<0.5	1		DROP INLET
DI-40	30.5' LT FR RD *O* STA 245+68.26	112	1.06	3.0	10	5	6.93	7.4	-	7.4													7.4		<0.5			DROP INLET

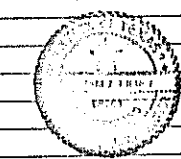
William J. Pano

P.E.

4/24/21

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W. Allen J. P. 4/24/91

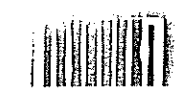


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SHEET 2 OF 2

INLET COMPUTATIONS

STATE	TEXAS	EXPIRATION DATE	12-31-91
PROJECT NO.	109	PROJECT NAME	1-1R 30-1T 311062
DATE	4/24/91	BY	W. Allen J. P.
CHECKED BY		DATE	



STORM SEWER COMPUTATIONS

LINE	FROM	TO	DRAINAGE AREA NO.	TOTAL D. A. AC.	TOTAL C. A.	LGTH. FT.	TIME OF CONCENTRATION-MINUTES										DESIGN					REMARKS
							ALONG SEWER LINE		INLET TIME	USED IN DES.	FREQ. YRS.	1 IN. HR	0 CFS	DIA. IN.	SLOPE %		CAP. CFS	VEL. FT/SEC				
JCT-1A	JCT-1B	1A	0.51	0.46	250	-	2.8	10	10	8.01	3.7	18	1.76		15.1	7.0						
JCT-1B	OUTFALL	1A, 1C	0.84	0.76	170	2.8*250/(7.0*60)=3.4	0.8	10	10	8.01	6.1	18	1.59		14.3	8.0						
JCT-3	JCT-1	5	0.35	0.31	507	-	2.5	10	10	8.01	2.5	18	0.48		7.9	3.9						
JCT-1	DI-1	4-5	0.70	0.63	255	2.5*507/(3.9*60)=4.7	2.5	10	10	8.01	5.0	18	0.62		9.0	5.1						
DI-1	SET-3	3-7	4.39	3.61	68	4.7*255/(5.1*60)=5.5	4.9	10	10	8.01	20.90	30	0.37	0.42	27.0	5.9						
SET-5	JCT-2	7	0.61	0.49	25	-	1.5	10	5	6.89	3.4	18	0.30		6.2	3.7						
DI-2	JCT-2	6	0.09	0.08	84	-	0.4	10	5	6.89	0.6	18	4.38		23.9	10.4						
JCT-2	SET-4	6-7	0.70	0.57	69	1.5*25/(3.7*60)=1.6	-	10	5	6.89	3.9	18	0.30		6.2	3.8						
SET-6	JCT-4	9	3.27	2.39	116	-	6.8	10	5	6.89	16.5	24	1.74		32.3	9.8						
DI-4	JCT-4	11	0.23	0.19	37	-	1.3	10	5	6.93	1.3	18	1.35		13.2	4.5						
JCT-4	SET-8A	9, 11	3.50	2.58	31	6.8*116/(9.8*60)=7.0	-	10	5	6.93	17.9	24	0.71		20.7	7.7						
DI-3	SET-7	10	4.56	3.60	74	-	7.1	10	10	8.01	28.8	24	1.53		30.2	10.7						
SET-9B	JCT-5	8	0.03	6.20	269	-	13.4	13.4	10	7.04	43.6	36	0.44		47.9	7.6						
DI-6	JCT-5	12	2.06	1.62	18	-	2.5	10	10	7.98	12.9	18	2.39		17.6	10.6						
JCT-5	JCT-6	8, 12	10.09	7.82	19	13.4*269/(7.6*60)=14.0	-	14.0	10	6.87	53.7	36	0.53	0.55	52.6	8.5						
JCT-6	OUTFALL	6, 12	10.09	7.82	118	14.0*19/(8.5*60)=14.0	-	14.0	10	6.87	53.7	36	1.15		88.5	11.0	EXIST RCP					
DI-5	SET-9	13	0.46	0.37	109	-	3.2	10	5	6.93	2.6	18	0.30		6.2	3.4						
DI-7	JCT-7	14	2.09	1.73	15	-	8.3	10	10	7.98	13.8	15	19.20		30.7	24.3						
JCT-7	"	"	"	"	53	-	-	"	"	"	13.8	18	0.40	1.5	7.2	7.8	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	13.8	18	0.57	1.5	8.6	7.8	EXIST RCP					
DI-8	JCT-8	15	2.09	1.73	15	-	8.3	10	10	7.98	13.8	18	18.00		48.4	23.6						
JCT-8	"	"	"	"	53	-	-	"	"	"	13.8	18	0.18	1.5	4.8	7.8	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	13.8	18	0.62	1.5	9.0	7.8	EXIST RCP					
DI-9	JCT-9	16	2.09	1.73	15	-	8.3	10	10	7.98	13.8	18	14.20		43.0	21.6						
JCT-9	"	"	"	"	53	-	-	"	"	"	13.8	18	0.40	1.5	7.2	7.8	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	13.8	18	1.01	1.5	11.5	7.8	EXIST RCP					
DI-10	JCT-10	17	2.09	1.73	15	-	8.3	10	10	7.98	13.8	18	15.30		44.6	22.2						
JCT-10	"	"	"	"	53	-	-	"	"	"	13.8	18	9.90		35.9	19.0	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	13.8	18	0.66	1.5	9.3	7.8	EXIST RCP					
DI-11	JCT-11	18	2.09	1.73	15	-	8.3	10	10	7.98	13.8	18	14.60		43.6	21.8						
JCT-11	"	"	"	"	53	-	-	"	"	"	13.8	18	0.85	1.5	10.5	7.8	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	13.8	18	0.84	1.5	10.4	7.8	EXIST RCP					
DI-12	JCT-12	19	2.61	2.16	15	-	8.3	10	10	7.98	17.2	18	14.90		44.0	23.4						
JCT-12	"	"	"	"	53	-	-	"	"	"	17.2	18	1.03	2.3	11.6	9.7	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	17.2	18	1.35	2.3	13.2	9.7	EXIST RCP					
DI-13	JCT-13	20	2.29	1.90	15	-	8.3	10	10	7.98	15.2	18	10.30		36.6	19.7						
JCT-13	"	"	"	"	53	-	-	"	"	"	15.2	18	3.10		20.1	8.6	EXIST RCP					
"	OUTFALL	"	"	"	79	-	-	"	"	"	15.2	18	1.41	1.8	13.5	8.6	EXIST RCP					
JCT-14A	JCT-14B	22A	0.15	0.14	103	-	1.0	10	10	7.98	1.1	18	0.54		8.4	3.2						
JCT-14B	JCT-14C	22A	0.15	0.14	91	1.0*103/(3.2*60)=1.5	1.0	10	10	7.98	1.1	18	0.54		8.4	3.2						
JCT-14C	JCT-14D	23	0.62	0.56	180	-	2.3	10	10	7.98	4.5	18	0.55		8.4	4.8						
JCT-14D	"	22E, 23	0.98	0.88	20	2.3*180/(4.7*60)=2.9	3.2	10	10	7.98	7.1	18	0.55		8.4	5.3						
"	JCT-14E	27E, 23	0.98	0.88	84	3.2*20/(5.3*60)=3.3	-	10	10	7.98	7.1	18	0.35	0.39	6.7	4.0	PRESSURE FL					
JCT-14E	JCT-14F	22E, 23	0.98	0.88	103	3.3*84/(4.0*60)=3.7	3.2	10	10	7.98	7.1	18	0.35	0.39	6.7	4.0	PRESSURE FL					
JCT-14F	JCT-14G	22D-E, 23	1.12	1.01	103	3.7*103/(4.0*60)=4.1	1.0	10	10	7.98	8.1	18	0.35	0.51	6.7	4.6	PRESSURE FL					
JCT-14G	JCT-14H	22D-E, 23	1.40	1.26	12	4.1*103/(4.6*60)=4.5	1.0	10	10	7.98	10.1	18	0.35	0.79	6.7	5.7	PRESSURE FL					
JCT-14H	OUTFALL	22A-E, 23	1.55	1.40	71	4.5*12/(5.7*60)=4.5	-	10	10	7.98	11.2	18	2.53		18.1	10.8	EXIST PIPE					

LINE		DRAINAGE AREA NO.	TOTAL D. A. AC.	TOTAL C. A.	LGTH. FT.	TIME OF CONCENTRATION-MINUTES						DESIGN				REMARKS			
FROM	TO					ALONG SEWER LINE		INLET TIME	USED IN DES.	FREQ. YRS.	I IN. HR	O CFS	DIA. IN.	SLOPE 2 PIPE	H. G.		CAP. CFS	VEL. FT/SEC	
DI-14	JCT-14	21	2.02	1.63	15				8.3	10	10	7.98	13.0	18	16.87		46.8	22.7	
JCT-14	"				53								13.0	18	1.18	1.3	12.4	7.4	
"	OUTFALL				79								13.0	18	1.03	1.3	11.6	7.4	
JCT-15	"	25	1.04	0.94	348				2.2	10	10	7.98	7.5	18	5.58		26.9	13.1	
"	JCT-16A	25	1.04	0.94	221					10	10	7.98	7.5	18	3.30		20.7	10.8	
JCT-16A	JCT-16B	24-25	2.00	1.80	37	2.2*348/(113.1x60)+221/(10.8x60)+3.0			1.8	10	10	7.98	14.4	18	3.30		20.7	12.8	
JCT-16B	JCT-16C	24-25	2.00	1.80	48					10	10	7.98	14.4	18	0.79	1.593	10.1	8.1	EXIST RCP
JCT-16C	OUTFALL	24-25	2.00	1.80	19					10	10	7.98	14.4	18	0.79	1.593	10.1	8.1	
DI-15	SET-10	26	1.31	1.10	68				2.7	10	5	6.93	7.6	18	0.50		8.0	5.0	
DI-17	DI-16	28-30	7.19	5.63	190				10.1	10.1	5	6.89	38.8	24	7.71		68.0	22.0	
DI-16	SET-11	27-30	7.47	5.85	94	10.1+190/(22.0x60)+10.2			0.9	10.2	5	6.87	40.2	36	0.54		53.1	8.2	
DI-18	SET-12	31	3.01	2.31	331				8.0	10	5	6.93	16.0	18	5.75		27.3	10.6	
CI-2	CI-3	33	1.42	1.14	105				1.3	10	5	6.93	7.9	18	1.29		12.9	7.7	
CI-10	CI-9	39	0.40	0.36	149				1.0	10	5	6.93	2.5	18	1.56		14.2	5.9	
CI-9	CI-7	38-39	1.20	1.08	219	1.0+149/(5.9x60)+1.4			0.9	10	5	6.93	7.5	18	1.44		13.7	7.9	
CI-7	CI-6	37-39	4.46	4.02	124	1.4+219/(7.9x60)+1.9			2.7	10	5	6.93	27.9	24	1.74		32.3	11.3	
CI-6	CI-4	36-39	4.58	4.13	87	2.7+124/(11.3x60)+2.9			0.4	10	5	6.93	28.6	30	1.23		49.3	10.4	
CI-4	CI-3	35-39	5.95	5.36	144	2.9+87/(10.4x60)+3.0			1.3	10	5	6.93	37.1	30	0.71		37.4	8.8	
JCT-17	CI-3	32	5.61	5.05	18				4.0	10	5	6.93	35.0	30	13.67		164.3	25.8	EXIST RCP
CI-3	"	32-39	13.19	11.74	5	4.0+18/(25.8x60)+4.0			0.5	10	5	6.93	81.4	30	8.21		127.3	27.0	EXIST RCP
"	"				78								81.4	30	3.97		88.6	20.3	EXIST RCP
"	JCT-18A				31								81.4	30	10.33		142.8	29.7	EXIST RCP
DI-21	JCT-18A	40-41	3.20	2.61	60				7.8	10	5	6.93	18.1	30	27.43		232.7	27.9	
JCT-18A	"	33-41	16.39	14.35	132	7.8+60/(27.9x60)+7.8				10	5	6.93	99.5	30	10.33		142.8	29.7	EXIST RCP
"	JCT-18B												99.5	36	0.59	1.90	55.3	14.1	EXIST RCP
JCT-18B	SET-15				87								99.5	36	1.10	1.90	75.8	14.1	PROPOSED RCP
DI-22	CI-11	51	1.18	0.82	112				3.5	10	5	6.93	5.7	18	2.00		16.1	8.1	
CI-11	JCT-19	51-52	1.45	1.06	13	3.5+112/(8.1x60)+3.7			1.5	10	5	6.93	7.4	18	6.44		28.9	14.0	
DI-23	JCT-19	53	1.55	1.24	7				2.1	10	5	6.93	8.6	18	1.27		12.8	7.7	
JCT-19	CI-12	51-53	3.00	2.30	137	3.7+13/(14x60)+3.7				10	5	6.93	15.9	24	0.93		23.6	8.1	
CI-13	CI-12	55	0.25	0.22	22				1.5	10	5	6.93	1.5	18	5.98		27.8	8.4	
CI-12	CI-15	51-55	3.63	2.86	219	3.7+137/(8.1x60)+4.0			1.2	10	5	6.93	19.8	24	0.75		21.2	7.8	
DI-24	CI-14	57	5.86	4.10	113				4.4	10	5	6.93	28.4	24	1.43		29.3	10.3	
CI-14	CI-16	57-58	6.37	4.55	220	4.4+113/(10.3x60)+4.6			1.4	10	5	6.93	31.5	30	0.77		39.0	8.9	
DI-26	CI-17	60	1.68	1.34	155				3.3	10	5	6.93	9.3	18	2.23		17.0	10.0	
CI-17	JCT-22	60-61	2.05	1.68	58	3.3+155/(10.0x60)+3.6			0.8	10	5	6.93	11.6	24	0.69		20.4	6.6	
CI-19	JCT-22	62, 67-69	1.54	1.31	116				2.5	10	10	7.98	10.5	18	2.70		18.7	10.7	
JCT-22	CI-16	60-62, 67-69	3.59	2.99	6	3.6+58/(6.6x60)+3.7				10	10	7.98	23.9	24	4.83		53.9	16.4	
DI-27	JCT-21	63	0.28	0.20	72				1.7	10	5	6.93	1.4	18	1.08		11.8	4.5	
CI-18	JCT-21	64	0.17	0.11	52				0.5	10	5	6.93	0.8	18	1.37		13.3	2.5	
JCT-21	CI-16	63-64	0.40	0.31	76	1.7+72/(4.5x60)+2.0				10	5	6.93	2.1	18	1.37		13.3	5.6	
CI-16	CI-15	57-64, 67-69	10.65	8.11	114	4.6+220/(8.9x60)+5.0			1.2	10	10	7.98	64.7	36	0.86		67.0	10.4	
DI-25	JCT-20	65	0.25	0.21	14				3.0	10	5	6.93	1.5	18	1.43		13.6	5.0	
CI-15	JCT-20A	51-64, 67-69	15.35	11.82	165	5.0+114/(10.4x60)+5.2			1.5	10	10	7.98	94.5	36	3.34		132.0	20.3	
EXIST	JCT-200	66	1.79	1.54	54				3.1	10	5	6.93	10.67	18	0.93		10.97	7.1	
JCT-200	JCT-20C	66	1.79	1.54	9					10	5	6.93	10.67	18	26.49		58.56	25.2	
JCT-20C	JCT-20B	66	1.79	1.54	68					10	5	6.93	10.67	36	0.77		63.39	6.7	
JCT-20B	JCT-20A	66	1.79	1.54	54					10	5	6.93	10.67	36	13.97		270.0	18.6	
JCT-20A	JCT-20	51-64, 66-69	17.14	13.36	13	5.2+165/(20.3x60)+5.3				10	10	7.98	106.6	36	3.34		132.0	20.8	
JCT-20	JCT-20E	51-69	17.39	13.57	6					10	10	7.98	108.3	36	0.67	2.246	59.13	15.3	
JCT-20E	OUTFALL	51-69	17.39	13.57	-					10	10	7.98	108.3	36	0.67	2.246	59.13	15.3	

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WILLIAM J. PARS P
9/6/91



STORM SEWER COMPUTATIONS

LINE		DRAINAGE AREA NO.	TOTAL D. A. AC.	TOTAL C. A.	LGTH. FT.	TIME OF CONCENTRATION-MINUTES		USED IN DES.	REQ. YRS.	I IN. HR	O CFS	DESIGN				REMARKS	
						ALONG SEWER LINE	INLET TIME					DIA. IN.	SLOPE % PIPE	H. G.	CAP. CFS		VEL. FT/SEC
BNI-5	BNI-4	49	0.36	0.32	295		2.9	10	10	7.98	2.6	18	0.88		10.7	5.1	
BNI-4, 4A	BNI-3	48-49	0.77	0.69	295	2.9+295/(5.1x60)+3.7	2.5	10	10	7.98	5.5	18	1.52		14.1	7.3	
BNI-3	BNI-2	47-49	1.18	1.06	245	3.7+295/(7.3x60)+4.4	2.1	10	10	7.98	8.5	18	2.09		16.1	9.4	
BNI-1, 1A, 1B	BNI-2	45	0.57	0.51	397		1.5	10	10	7.98	4.07	18	0.49		7.96	4.5	
BNI-2, 2A	CI-5	45-49	2.09	1.88	73	4.4+245/(9.4x60)+4.8	1.9	10	10	7.98	15.0	18	7.79		31.8	18.5	
CI-1	CI-5	42	0.21	0.19	304		1.7	10	10	7.98	1.5	18	2.28		17.2	6.0	
CI-8	CI-5	44	0.72	0.55	294		4.3	10	10	7.98	4.4	18	2.23		17.0	8.0	
CI-5	SET-16	42-49	3.57	3.04	119	4.3+294/(8.0x60)+4.9	3.0	10	10	7.98	24.26	18	17.10		47.05	26.6	
SET-BA, 0	BNI-7	69	0.22	0.20	150		1.3	10	10	7.98	1.6	18	0.55		8.5	3.8	
BNI-7	BNI-6	68-69	0.56	0.51	245	1.3+150/(3.8x60)+2.0	2.5	10	10	7.98	4.1	18	0.54		8.4	4.6	
BNI-6	CI-19	67-69	0.78	0.71	27	2.5+245/(4.6x60)+3.4	1.9	10	10	7.98	5.7	18	6.75		29.6	12.8	
CI-20	CI-21	70	1.04	0.86	295		2.8	10	5	6.93	5.9	18	1.13		12.1	6.7	
CI-21	CI-22	70-71	1.78	1.50	295	2.8+295/(6.7x60)+3.5	2.1	10	5	6.93	10.4	18	1.82		15.4	9.4	
CI-22	JCT-23	70-72	2.64	2.25	409	3.5+295/(9.4x60)+4.0	2.1	10	5	6.93	15.6	24	0.80		21.9	7.6	
DI-28	JCT-23	73	0.79	0.67	4		3.9	10	5	6.93	4.6	18	1.25		12.7	6.5	
JCT-23	JCT-25	70-73	3.43	2.92	84	4.0+409/(7.6x60)+4.9	-	10	5	6.93	20.2	24	0.80		21.9	7.9	
DI-29	JCT-28	76	3.56	2.96	20		13.9	13.9	5	5.98	17.7	18	2.40		17.7	10.0	
SET-17	JCT-29	77	1.62	1.26	21		10.0	10	5	6.93	8.7	18	5.74		27.3	10.4	
JCT-31	JCT-30	79	0.69	0.62	236		2.8	10	10	7.98	5.3	18	0.83		10.4	5.8	
JCT-30	JCT-27	78-79	0.87	0.78	485	2.8+236/(5.8x60)+3.5	2.5	10	10	7.98	6.6	18	0.58		8.7	5.2	
JCT-35	JCT-33	81	0.62	0.56	354		3.2	10	10	7.98	4.5	18	1.16		12.2	6.4	
JCT-32	JCT-33	80	0.76	0.68	32		2.8	10	10	7.98	5.4	18	0.30		6.2	4.1	
JCT-33	JCT-34	80-81	1.38	1.24	76	3.2+354/(6.4x60)+4.1	-	10	10	7.98	9.9	18	0.59	0.75	8.8	5.6	
DI-31	JCT-34	82	1.07	0.94	207		3.7	10	5	6.93	6.5	18	2.20		16.9	8.9	
JCT-34	DI-30	80-82	2.45	2.18	98	4.1+76/(5.6x60)+4.3	-	10	10	7.98	17.4	24	1.33		28.26	9.5	
DI-30	SET-19	80-83	3.48	3.06	98	4.3+98/(9.5x60)+4.5	3.3	10	10	7.98	24.4	24	1.33		28.26	10.1	
SET-20	JCT-37	84	1.03	0.86	82		4.1	10	10	7.98	6.86	18	1.84		15.5	8.5	
JCT-36	JCT-37	85	0.44	0.40	31		3.9	10	10	7.98	3.2	18	0.30		6.2	3.6	
JCT-37	OUTFALL	84-85	1.47	1.26	120	4.1+82/(8.5x60)+4.3	-	10	10	7.98	10.05	18	1.42		13.6	8.4	EXIST PIPE
JCT-38	JCT-39	86	0.37	0.33	270		3.2	10	10	7.98	2.6	18	0.40		7.2	3.8	
JCT-39	JCT-40	86-87	0.74	0.66	223	3.2+270/(3.8x60)+4.3	3.3	10	10	7.98	5.3	18	0.78		10.1	5.5	
JCT-40	JCT-40A	86-88	1.05	0.94	208	4.3+223/(5.5x60)+5.0	3.8	10	10	7.98	7.6	18	0.98		11.3	7.0	
JCT-40A	JCT-41	86-88A	1.34	1.21	227	5.0+208/(7.0x60)+5.5	3.1	10	10	7.98	9.7	18	1.51		14.0	8.2	
DI-32	JCT-42	89	2.74	2.21	144		14.1	14.1	5	5.93	13.1	18	1.95		15.9	10.1	
DI-33	JCT-43	91	0.44	0.33	329		1.7	10	5	6.93	2.3	18	0.60		8.8	4.1	
DI-34	JCT-44	92	1.45	1.21	104		5.0	10	5	6.93	8.4	18	3.07		20.0	10.9	
CI-24	JCT-45	93	0.40	0.36	10		1.6	10	5	6.93	2.5	18	3.57		21.5	7.7	
DI-35	JCT-47	94	3.08	2.47	8		6.6	10	5	6.93	17.1	18	2.86		19.3	12.0	
CI-25	DI-36	98	0.46	0.40	18		3.1	10	5	6.93	2.8	18	5.28		26.2	9.0	
DI-36	JCT-46	97-98	3.12	2.54	79	3.1+18/(9.0x60)+3.1	7.5	10	5	6.93	17.6	24	1.08		25.4	8.9	
CI-27	CI-26	96	0.49	0.41	208		3.9	10	5	6.93	2.8	18	0.97		11.2	5.3	
CI-26	JCT-48	95-96	0.81	0.70	138	3.9+208/(5.3x60)+4.6	3.0	10	5	6.93	4.9	18	0.36		7.7	4.3	
CI-29	CI-28	100	0.27	0.23	215		2.0	10	5	6.93	1.6	18	1.31		13.0	4.8	
CI-28	JCT-49	99-100	0.50	0.42	408		1.8	10	5	6.93	2.9	18	1.92		15.8	7.0	

LINE FROM TO	DRAINAGE AREA NO.	TOTAL D. A. AC.	TOTAL C. A.	LGTH. FT.	TIME OF CONCENTRATION-MINUTES ALONG SEWER LINE	DESIGN										REMARKS
						INLET TIME	USED IN DEFS.	REQ. YRS.	I IN. HR	O CFS	DIA. IN.	SLOPE %		CAP. CFS	VEL. FT/SEC	
DI-19	SET-13	29	0.34	0.25	111	0.9	10	5	6.93	1.7	18	6.38		32.9	9.1	
DI-20	SET-14	30	0.99	0.81	55	5.0	10	5	6.93	5.6	18	0.64		9.1		
CI-30	CI-33	101	0.90	0.76	190	2.7	10	5	6.93	5.3	18	1.63		14.5	7.4	
CI-33	JCT-53	101-102	1.96	1.55	36	4.5	10	5	6.93	10.7	24	1.19		26.7	8.1	
DI-38	JCT-53	104	1.25	0.99	13	3.8	10	5	6.93	6.9	18	7.47		31.1	12.1	
JCT-53	JCT-54	101-2, 104	3.21	2.54	43	-	10	5	6.93	17.6	24	1.19		26.7	9.1	
CI-34	JCT-54	103	0.45	0.41	66	3.7	10	5	6.93	2.8	18	0.38		7.0	3.7	
JCT-54	JCT-54B	101-104	3.67	2.95	17	-	10	5	6.93	20.4	24	1.19		26.7	9.6	
CI-30A	CI-30B	98B	1.40	1.04	105	5.3	10	5	6.93	7.2	18	0.90		10.8	6.6	
CI-30B	JCT-54C	98B-C	4.20	3.11	373	5.7	10	5	6.93	21.6	24	1.85		33.3	11.2	
DI-40	JCT-54C	112	1.25	1.06	45	3.0	10	5	6.93	7.4	18	2.09		16.5	9.0	
JCT-54C	JCT-54B	98B-C, 112	5.45	4.17	68	-	10	5	6.93	28.9	24	1.85		33.3	11.6	
JCT-54B	JCT-55	98B, 98C	9.12	7.12	243	-	10	5	6.93	49.3	30	1.24		49.5	11.7	
		101-4, 112														
CI-31	JCT-50	107	0.55	0.45	7	3.1	10	5	6.93	3.1	18	0.82		10.3	5.0	
JCT-50	JCT-51	107	0.55	0.45	99	-	10	5	6.93	3.1	18	0.82		10.3	5.0	
CI-32	JCT-51	108	0.45	0.41	7	7.0	10	5	6.93	2.8	18	3.29		20.6	8.0	
JCT-51	JCT-52	107-108	1.00	0.86	37	-	10	5	6.93	6.0	18	1.36		13.3	7.1	
DI-37	JCT-52	105	1.44	1.15	115	4.3	10	5	6.93	8.0	18	1.38		13.4	10.1	
JCT-52	DI-39	105, 107-108	2.44	2.01	33	-	10	5	6.93	13.9	18	1.65		14.6	9.4	
DI-39	MH-1	105-108	2.72	2.21	10	1.5	10	5	6.93	15.3	24	1.40		29.0	9.0	
CI-23	JCT-24	74	0.61	0.54	15	3.8	10	5	6.93	3.74	18	1.09		11.88	6.0	
SET-18	JCT-26	75	2.32	1.92	17	9.8	10	5	6.93	13.31	18	6.67		29.38	16.2	
DI-29B	"	75A, 80-83	3.97	3.45	298	5.5	10	5	6.93	23.91	24	1.40		28.99	10.3	
"	JCT-26A	75A, 80-83	3.97	3.45	711	-	10	5	6.93	23.91	24	0.35	0.952	14.50	7.6	PRESSURE FLOW

STORM SEWER COMPUTATIONS
SHEET 2 OF 2

Walter Q. P. P. 2
4/26/91

1-1R 30-11311062
1B ROCKWALL, ETC. 9-12-53, ETC.

FILE NAME: 13213111305100A.1

SLOTTED DRAIN COMPUTATIONS

DRAINAGE AREA NUMBER	INLET NUMBER	LOCATION (UPSTREAM)	LOCATION (DOWNSTREAM)	TOTAL C A	TIME OF CONCEN	INTENSITY (INCH/HOUR)			Q ₀	CARRY OVER	TOTAL Q ₀	Z	Z/H	S FT/FT (AVG)	Y FT	POHDED WIDTH Y X Z FT	E FT	LR (REQ)	LA (ACT)	LA/LR	CARRY OVER CFS	O SLOT	O DESIGN DRAIN PIPE	N DRAIN PIPE	O REQ IN	D USED IN	CARRY OVER TO	REMARKS	
						I ₅	I ₁₀	I ₁₀₀																					
1A	SD- 1A	LT *G* STA 695+80	LT *G* STA 695+00	0.46	10		8.01		3.7	--	3.7	28	1867	0.0032	0.35	9.8	0.326	16.4	20	-	-	3.7	3.7	0.024	19.0	18		Sf = .0042'/'	
1C	SD- 1B	LT *G* STA 697+10	LT *G* STA 698+50	0.30	10		8.01		2.4	--	2.4			0.0032				140				2.4	2.4	0.024	16.1	18		IN CROSS-SLOPE TRANSITION	
4	SD- 1	RT *G* STA 759+49	RT *G* STA 757+49	0.31	10		8.01		2.5	--	2.5			0.0021				200				2.5	2.5	0.024	17.6	18		IN CROSS-SLOPE TRANSITION	
5	SD- 2	RT *G* STA 760+53	RT *G* STA 762+53	0.31	10		8.01		2.5	--	2.5			0.0027				200				2.5	2.5	0.024	16.9	18		IN CROSS-SLOPE TRANSITION	
22A	SD- 3A	LT *G* STA 123+09	LT *G* STA 124+08	0.14	10		7.98		1.1	--	1.1			0.0000				100				1.1	0.024	18.0	18			CONTINUOUS SLOTTED DUE TO 0% LONG. SLOPE	
22B	SD- 3B	LT *G* STA 124+10.50	LT *G* STA 125+10.50	0.13	10		7.98		1.0	--	1.0			0.0000				100				1.0	0.024	18.0	18			CONTINUOUS SLOTTED DUE TO 0% LONG. SLOPE	
22C	SD- 3C	LT *G* STA 126+13	LT *G* STA 125+13	0.13	10		7.98		1.0	--	1.0			0.0000				100				1.0	0.024	18.0	18			CONTINUOUS SLOTTED DUE TO 0% LONG. SLOPE	
22D	SD- 3D	LT *G* STA 127+15.50	LT *G* STA 126+15.50	0.13	10		7.98		1.0	--	1.0			0.0000				100				1.0	0.024	18.0	18			CONTINUOUS SLOTTED DUE TO 0% LONG. SLOPE	
22E	SD- 3E	LT *G* STA 128+18	LT *G* STA 127+18	0.20	10		7.98		1.6	--	1.6	48	3200	0.0015	0.25	12.2	0.313	16.0	20			1.6	1.6	0.024	16.0	18			
22F	SD- 3F	LT *G* STA 128+40.5	LT *G* STA 128+20.5	0.56	10		7.98		4.5	0.01	4.5	48	3200	0.0123	0.24	11.6	0.313	46.5	50	-	-	4.5	4.5	0.024	16.0	18			
23	SD- 4	LT *G* STA 130+50	LT *G* STA 130+00	0.86	10		7.98		6.9	0.04	6.9	48	3200	0.0345	0.23	11.1	0.299	81.4	80	0.98	0.01	6.9	6.9	0.024	15.3	18	SD-4		
24	SD- 5	LT *G* STA 135+10	LT *G* STA 134+30	0.94	10		7.98		7.5	--	7.5	48	3200	0.0547	0.22	10.6	0.270	105.5	100	0.95	0.04	7.5	7.5	0.024	14.5	18	SD-5		IN CROSS-SLOPE TRANSITION
25	SD- 6	LT *G* STA 141+00	LT *G* STA 140+00	0.16	10		7.98		1.3	--	1.3			0.0068				180				1.3	1.3	0.024	11.1	18			
78	SD- 7	RT *G* STA 195+04	RT *G* STA 193+24	0.62	10		7.98		4.9	0.40	5.3	36	2413	0.0157	0.27	9.8	0.338	38.1	40	-	-	5.3	5.3	0.024	16.1	18			
79	SD- 8	RT *G* STA 196+00	RT *G* STA 195+60	0.68	10		7.98		5.4	0.08	5.5	20	1307	0.0212	0.33	6.5	0.333	26.5	20	0.76	0.40	5.1	5.1	0.024	15.4	18	SD-8		
80	SD- 9	RT *G* STA 200+90	RT *G* STA 200+70	0.56	10		7.98		4.5	--	4.5	20	1307	0.0126	0.34	6.7	0.324	22.5	20	0.89	0.08	4.4	4.4	0.024	15.8	18	SD-9		
81	SD-10	RT *G* STA 204+80	RT *G* STA 204+60	0.40	10		7.98		3.2	--	3.2	20	1307	0.0057	0.34	6.7	0.320	15.3	20	-	-	3.2	3.2	0.024	16.1	18			
85	SD-11	RT *G* STA 208+50	RT *G* STA 208+30	0.33	10		7.98		2.6	--	2.6	20	1307	0.0040	0.34	6.7	0.312	12.1	20	-	-	2.6	2.6	0.024	15.9	18			
86	SD-12	RT *G* STA 214+00	RT *G* STA 214+20	0.33	10		7.98		2.6	--	2.6	22	1480	0.0040	0.33	7.3	0.319	12.9	20	-	-	2.6	2.6	0.024	15.9	18			
87	SD-13	RT *G* STA 216+70	RT *G* STA 216+90	0.28	10		7.98		2.2	--	2.2	46	3060	0.0040	0.23	10.6	0.318	22.3	20	0.90	0.03	2.2	2.2	0.024	15.0	18	SD-15		
88	SD-14	RT *G* STA 218+93	RT *G* STA 219+13	0.26	10		7.98		2.1	0.03	2.1			0.0040				160				2.1	2.1	0.024	14.7	18			IN CROSS-SLOPE TRANSITION
88A	SD-15	RT *G* STA 219+61	RT *G* STA 221+21																										

William J. Pate P.E.
4/21/91

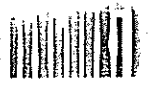


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SLOTTED DRAIN COMPUTATIONS

DATE	1-29-91	FILE NO.	1-18 30-1131062	INCH	1/2
BY	WJP	PROJECT	ROCKWALL, ETC.	9-12-53, ETC.	1/2

FILE NO. 1-18 30-1131062



CULVERT COMPUTATIONS

CULV. NO.	LOCATION, SIZE, LENGTH AND DESCRIPTION	DRAINAGE AREA NUMBER	TOTAL CA	TIME OF CONCENTRATION		FREQ YRS	I in/hr	Q
				ACTUAL	USED IN DES			
S-1	SET-2 TO SET-1 36" RCP x 67'	2	2.67	4.7	10.0	50	10.6	28.2
S-1A	275.91' LT "G" STA 20+25.31 EXISTING 48" x 53.25' RCP	9, 11, 13, 13A	19.58	26.7	26.7	10	4.87	95.4
S-2	SET-BB 98' LT "G" STA 8+22 36" RCP x 269'	8	6.20	13.4	13.4	50	9.29	57.6
S-2A	84.14' LT "G" STA 132+06.09 EXISTING 42" x 90.73' RCP	23A, 31	8.77	20.0	20.0	10	5.73	50.3
S-3	"G" STA 100+30 EXISTING CONC 5'x2' BOX	74A	12.59	33.5	33.5	50	5.63	70.9
S-4	82.38' LT "G" STA 208+59 18" SET-20 W/ EXISTING 18" RCP	B4	0.86	4.1	10.0	50	10.5	9.0
S-5	"G" STA 223+50 EXISTING 5'x3' CONC BOX	3/5 CF 90A	10.08	10.3	10.3	50	10.4	104.5
S-6	"G" STA 223+68 EXISTING 5'x2' CONC BOX W/ EXISTING 5'x3' EXTENSION DOWNSTREAM	2/5 OF 90A	6.72	10.3	10.3	50	10.4	69.6
S-7	"G" STA 231+10.00 EXISTING 5'x3' CONC BOX W/ EXTENSIONS BOTH ENDS	1/2 OF 98A	14.56	14.4	14.4	50	8.91	129.7
S-8	"G" STA 231+23.80 EXISTING 5'x3' CONC BOX W/ EXTENSIONS BOTH ENDS	1/2 OF 98A	14.56	14.4	14.4	50	8.91	129.7
S-9	"G" STA 247+95.2-42" EXISTING PIPES	109, 111, 113	39.97	13.6	13.6	10	6.97	278.6

CULVERT COMPUTATIONS

CULV. NO.	ALLOW HW (ft)	OUTLET CHANNEL					CULVERT												TYPE OPER.	REMARKS
		W	SS	n	S	TW	d _c (ft)	S _c (%)	S (%)	$\frac{v^2}{2g}$	Ce	he	hf	H	P	SL	HW (ft)	V out.		
S-1	3.90					3.0	1.72	0.37	0.91		0.5						2.86	3.99		
S-1A	5.83					4.0	2.96	0.47	1.54		0.5						4.98	7.59		EXISTING PIPE UNDER RAILROAD
S-2	6.40					3.0	2.46	0.63	0.44		0.5						5.08	8.15		
S-2A	6.80					3.5	2.24	0.39	1.05		0.5						3.44	5.22		EXISTING PIPE UNDER RAILROAD
S-3	3.40					3.0	1.84	0.36	0.44		0.4						3.27	8.33		SLOPE IS AN AVERAGE SLOPE ACROSS ENTIRE STRUCTURE
S-4	2.70					1.5	1.16	0.80	1.84		0.5						2.04	8.98		
S-5	4.54					3.0	2.38	0.39	7.86		0.5						4.29	18.6		EXISTING CULVERT
S-6	3.54					2.0	1.82	0.39	0.85		0.5						3.51	9.29		EXISTING CULVERT
S-7	6.40					3.0	2.75	0.41	0.81		0.5						5.35	12.7		
S-8	6.70					3.0	2.75	0.41	0.76		0.5						5.35	12.3		
S-9	8.80					3.5	3.35	1.42	1.13		0.5						8.74	17.4		EXISTING CULVERT

William J. P. P.E.
4/21/91



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HYDRAULIC DATA SHEET

DATE	STATE	PROJECT NO.	DATE
01-25-91	TEXAS	1-TH 30-11311067	11-30
BY	DATE	BY	DATE
W. J. P.	4/21/91	W. J. P.	4/21/91