

Sub: 8-18-88

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

FED. ROAD DIST. NO.	STATE	F.A. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	OKLA	MAM-4030(21)	87	1	26

Bridge Ident. 9-8-88

INDEX OF SHEETS

SHEET NO	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS
3	SUMMARY OF QUANTITIES
4	JOINT LAYOUT & MISC. SUMMARIES
5	SUMMARY OF DRAINAGE STRUCTURES
6	SUMMARY OF PAY QUANTITIES
7	PAY QUANTITY AND CONSTRUCTION NOTES
8	GENERAL DRAINAGE MAP
9	SPECIAL DETAILS STRUCTURE NO. 18
10	RAILROAD APPROACH & DETAILS SPECIAL DROP INLET STR. NO. 23
11	BRIDGE BOX EXTENSION DETAILS BRIDGE A
12-14	PLAN & PROFILE
15	SIGNING & STRIPING PLAN
16-17	SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC
18-26	CROSS SECTIONS

PLAN OF PROPOSED
STATE HIGHWAY
FEDERAL AID PROJECT NO. MAM-4030(21)
STATE HIGHWAY 92, GRAND AVE.
GRADY COUNTY
CONTROL SECTION 92-26-37
STATE JOB NUMBER 05782 (04)

DESIGN DATA

ADT-1988 = 6,000
ADT-2088 = 10,000
DHV = 1,000
D = 55%
T = 1.5%
V = 40 MPH

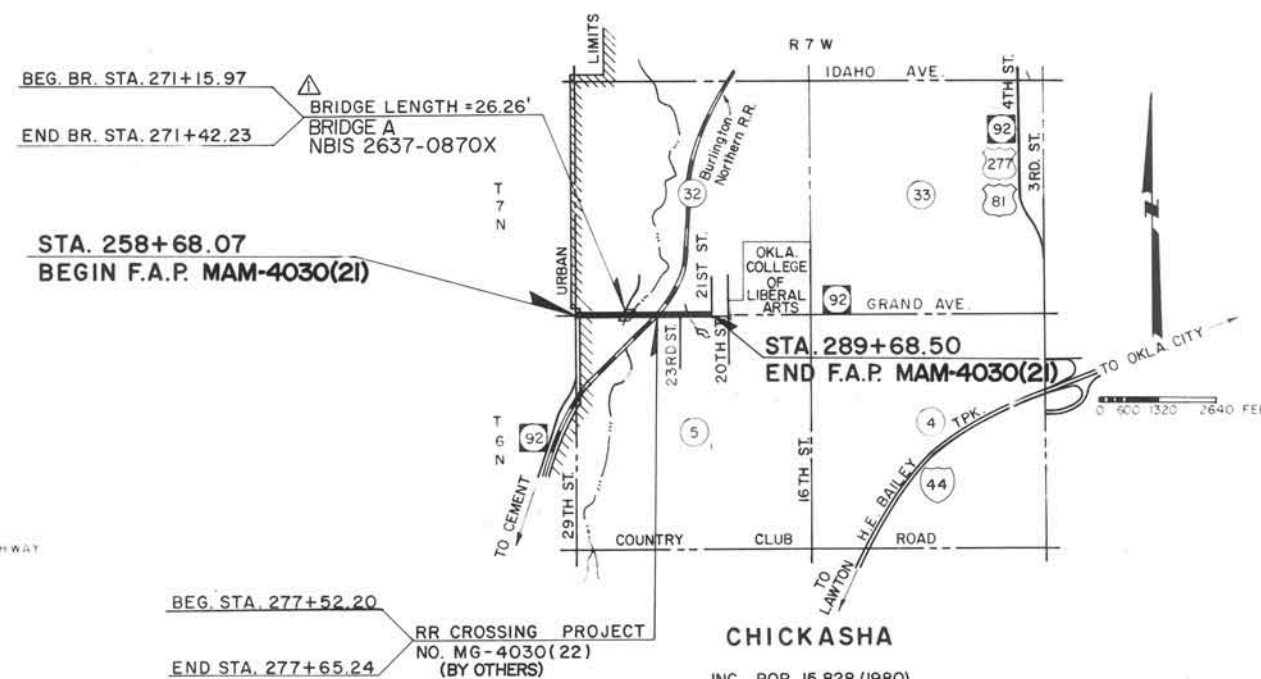
SCALES

PLAN 1" = 50'
PROFILE 1" = 50'
VER 1" = 10'
LAYOUT MAP 1" = 2000'
LEVEL DATUM IS MEAN SEA LEVEL (U.S.C. & G.S.)
BEARINGS ARE GRID BEARINGS IN THE U.S.N.D.
PLANE COORDINATE SYSTEM

CONVENTIONAL SIGNS

- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP LINES
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- OIL WELLS
- BUILDINGS
- DRAINAGE STRUCTURES-IN PLACE
- DRAINAGE STRUCTURES-NEW
- RIGHT-OF-WAY LINES-EXISTING
- RIGHT-OF-WAY LINES-NEW
- RIGHT-OF-WAY MARKERS-IN PLACE
- RIGHT-OF-WAY MARKERS-REMOVE & RESET
- RIGHT-OF-WAY MARKERS-NEW
- CONTROLLED ACCESS
- SS-EXISTING SANITARY SEWERS
- G-EXISTING GAS LINES
- W-EXISTING WATER LINES
- UGTC-EXISTING UNDERGROUND TELEPHONE CABLES

1976 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN.
APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY
ADMINISTRATION, MAY 4, 1976.
SUPPLEMENTAL SPECIFICATIONS TO 1976 STANDARD SPECIFICATIONS GOVERN OVER THE STANDARD SPECIFICATIONS.
SPECIAL PROVISIONS GOVERN OVER STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS



THE FOLLOWING STANDARDS WILL BE REQUIRED FOR THIS PROJECT

BC-1254 LF-7	CICI-1-8	LTU-2-1	WSD-3-6	TCD-9-2
BC-5A2	SSIF-2-3	PUD-1-22	WSD-5-8	CMS-4-6
CDI-2-11	CIG-1-1	PM-1-14	RSD-1-23	CMS-5-5
SMD-1-20	GCN-2-22	PM-3-8	RSD-2-4	CMS-8-5
SPI-2-1	FHTOP-1-0	PM-4-9	RSD-4-6	PBD-1-6
SBI-2-0	RWF-2-3	PM-5-2	MSD-1-16	PBD-1-6
GPI-2-3	RWF-4-1	PM-6-3	MSD-3-10	CCD-1-1
MFC-2-3	ASCD-3-1	PM-8-1	MSD-4-3	DC-1-20
MJB-1-1	CSCD-3-2	GMS-1-20	TCD-1-5	RDSO-1-1
SSCD-1-14	LECS-2-1	F6S-1-33	TCD-3-2	TCD-10-3

SUBMITTED FOR APPROVAL BY

PCE & ASSOCIATES, INC.
OKLAHOMA CITY

JERRY W. EDGIN
REGISTERED PROFESSIONAL
ENGINEER NO. 13501

9/17/86
DATE



THIS PROJECT IS WITHIN THE
CORPORATE LIMITS OF CHICKASHA

ROADWAY LENGTH	3,061.13 FT.	0.579 MI.
BRIDGE LENGTH	26.26 FT.	0.005 MI.
RAILROAD CROSSING LENGTH	13.04 FT.	0.002 MI.
PROJECT LENGTH	3,087.39 FT.	0.586 MI.

OKLAHOMA DEPARTMENT
OF TRANSPORTATION

APPROVED DATE

CHIEF ENGINEER

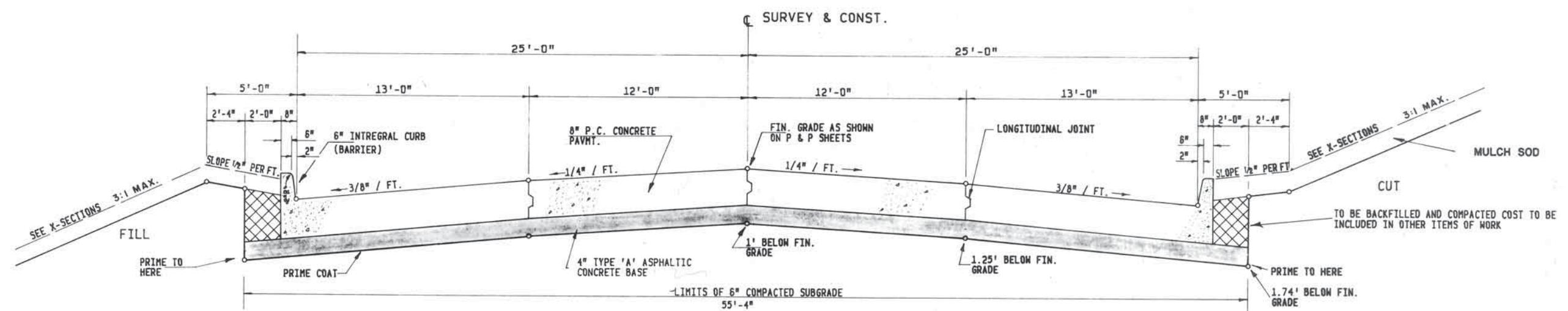
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED DATE

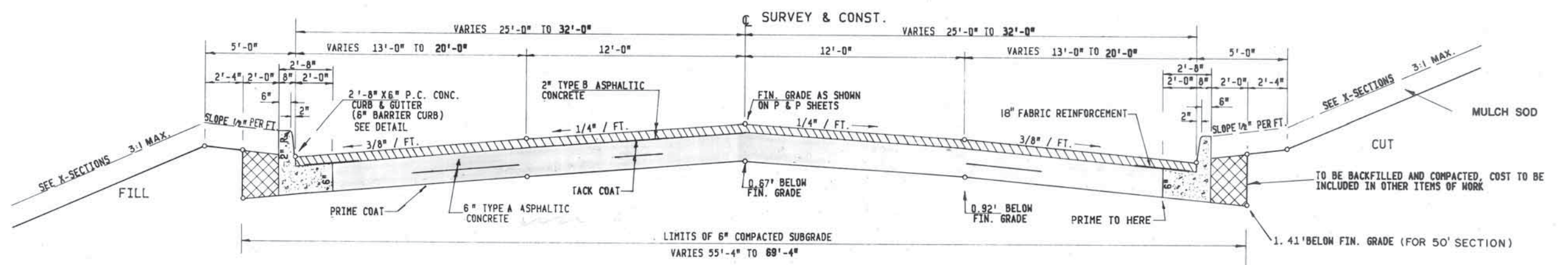
DIVISION ADMINISTRATOR

F.A. Project No MAM-4030(21) Sht. No. 1 of 26

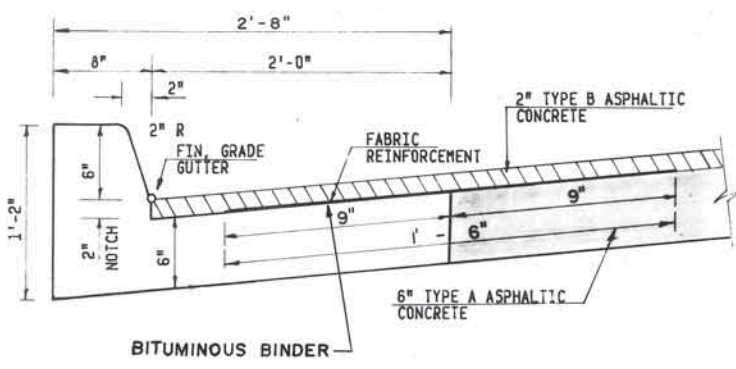
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
REVISIONS					DATE



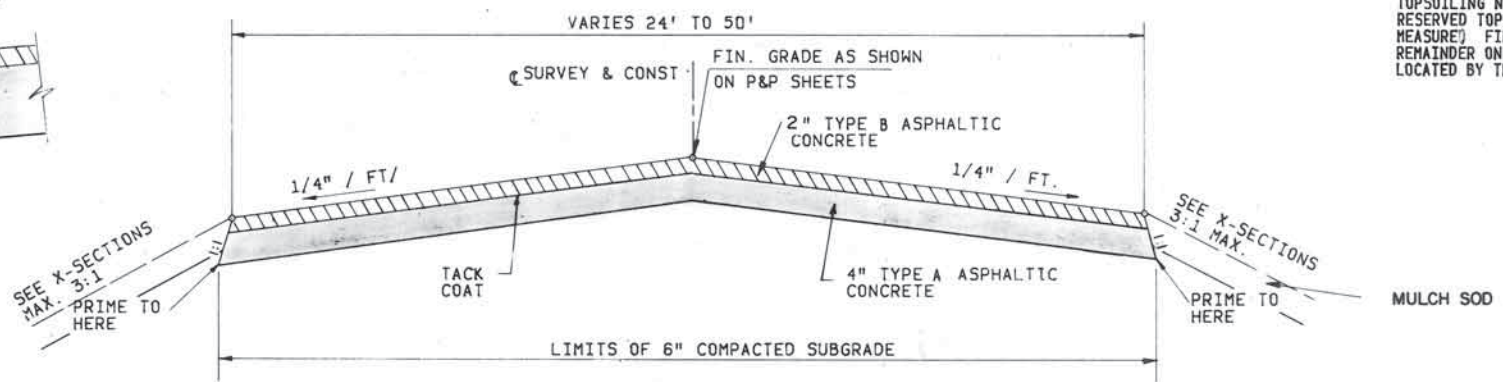
STA. 258+68.07 TO STA. 262+00



STA. 262+00 TO STA. 289+68.50



COMBINED CURB & GUTTER (NOTCHED) (6" BARRIER CURB)



TEMPORARY CONNECTIONS

TOPSOILING NOTE:
RESERVED TOPSOIL SHALL BE SPREAD APPROXIMATELY 5" THICK (LOOSE MEASURE) FIRST ON COMPLETED BACKSLOPES OF CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER.

Design	
Drawn	
Checked	
Approved	
Squad	

TYPICAL SECTIONS

SUMMARY OF SIGNS												
LOCATION	TYPE	SIGN	SIGN	AREA	POST		FOOTING	CL. 'A' CONC.	REINF. STEEL			
		DETAIL	BLANK		2" DIA.	2 1/2" DIA.				TYPE	C.Y.	LBS
		STD.	STD.		S.F.	L.F.						
29TH STREET												
- 2+15 RT. OF C	H3-1	WSD-3-6	B-30(0)	6.25	11.67		A-2	.06	NONE			
0+60 RT. OF C	ROUTE MARKER 1A	WSD-3-10/HSD-1-18 HSD-4-3	B-24(S)/B-2412 B-21(S)	9.06		13.25	A-3	.20	24			
0+75 LT. OF C	ROUTE MARKER 3B	WSD-3-10/HSD-1-18	B-24(S)/B-2412	6.00	11.09		A-2	.06	NONE			
2+60 RT. OF C *	R1-1 W/R1-3	RSD-1-23	B-30(0)/B-1206	6.75		11.09	A-3	.20	24			
3+50 LT. OF C *	R1-1 W/R1-3	RSD-1-23	B-30(0)/B-1206	6.75		10.84	A-3	.20	24			
3+50 RT. OF C	R1-2	RSD-1-23	B-36(T)	3.90	10.5		A-2	.06	NONE			
GRAND AVENUE												
258+68 RT. OF C *	R1-1 W/R1-3	RSD-1-23	B-30(0)/B-1206	6.75		8.34	A-3	.20	24			
258+83 LT. OF C	ROUTE MARKER 2B	WSD-3-10/HSD-1-18 HSD-4-3	B-24(S)/B-2412 B-21(S)	9.06		10.00	A-3	.20	24			
259+73 LT. OF C *	R1-1 W/R1-3	RSD-1-23	B-30(0)/B-1206	6.75		10.84	A-3	.20	24			
259+93 LT. OF C	ROUTE MARKER 2A	WSD-3-10/HSD-1-18 HSD-4-3	B-24(S)/B-2412 B-21(S)	9.06		10.0	A-3	.20	24			
261+63 RT. OF C	ROUTE MARKER 3A	WSD-3-10/HSD-1-18	B-24(S)/B-2412	6.00	11.09		A-2	.06	NONE			
262+50 LT. OF C	R3-7(R)	RSD-2-4	B-30(S)	6.25	9.25		A-2	.06	NONE			
264+50 LT. OF C	H3-1	WSD-3-6	B-30()	6.25	10.17		A-2	.06	NONE			
264+50 RT. OF C	R2-1A(40)	RSD-4-5	B-2430	5.00	10.5		A-2	.06	NONE			
266+00 LT. OF C	ROUTE MARKER 1B	WSD-3-10/HSD-1-18 HSD-4-3	B-24(S)/B-2412 B-21(S)	9.06		12.50	A-3	.20	24			
273+15 RT. OF C	W10-1	WSD-5-8	B-36(R)	9.00		11.50	A-3	.20	24			
279+37 RT. OF C	R1-1	RSD-1-23	B-30(0)	6.25	10.67		A-2	.06	NONE			
282+02 LT. OF C	W10-1	WSD-5-8	B-36(R)	9.00		11.50	A-3	.20	24			
283+13 RT. OF C	R1-1	RSD-1-23	B-30(0)	6.25	10.17		A-2	.06	NONE			
284+60 LT. OF C	R2-1A(40)	RSD-4-5	B-2430	5.00	11.00		A-2	.06	NONE			
285+00 LT. OF C	W9-1		B-30(0)	6.25	10.67		A-2	.06	NONE			
				144.64	116.78	109.86		2.66	240			

* TO BE MOUNTED ON SAME POST, FACING SAME DIRECTION.

C FOR DETAILS SEE SHT. NO. 15

SUMMARY OF SURFACING QUANTITIES														
STATION TO STATION	414.06(A) 8" P.C. CONCRETE	411A.06(C-1) ASPHALT CONCRETE TYPE "A"	411A.06(C-2) ASPHALT CONCRETE TYPE "B"	609.06 (A) CONC. CURB 6" BARRIER INTEGRAL	609.06 (A) 2'-8" COMB CURB & GUTTER 6" BAR.-NOTCH	609.06 (C) CONCRETE HEADER CURB	407.06 TACK COAT	408.06 PRIME COAT	4209.06(A)SP FABRIC REINFORCEMENT	509.06(D) CLASS "C" CONCRETE	610.06(B-1) 6" CONCRETE DRIVEWAY ((HES)	624R.06(A) FENCE STYLE WHF	624R.06(C) FENCE STYLE SHF (5 BARBED WIRE)	420S.06(B) BITUMINOUS BINDER
	S.Y.	TON	TON	L.F.	L.F.	L.F.	GAL	GAL	S.Y.	S.Y.	S.Y.	L.F.	L.F.	GAL
GRAND														
STA.258+68.07 TO STA.271+00	2521.49	2335.80	665.74	622.41	180.8.00			536.03	2094.00	300		125.37		1460.00
STA. 271+00 TO STA. 286+00		2564.27	929.74		3011.00	145.18		793.72	1981.80	501.83	9.83	93.63	481.00	711
STA. 286+00 TO STA. 289+68.5		736.58	266.17		737.00			226.22	565.56	122.83		13.82		
29TH STREET														
STA. 0+00 TO STA. 5+00		379.23	189.08					86.52	439.70					43
TOTALS	2521.49	6015.88	2050.73	622.41	5556.00	145.18	1642.49	5081.06	924.66	9.83	232.82	481	2171.00	324

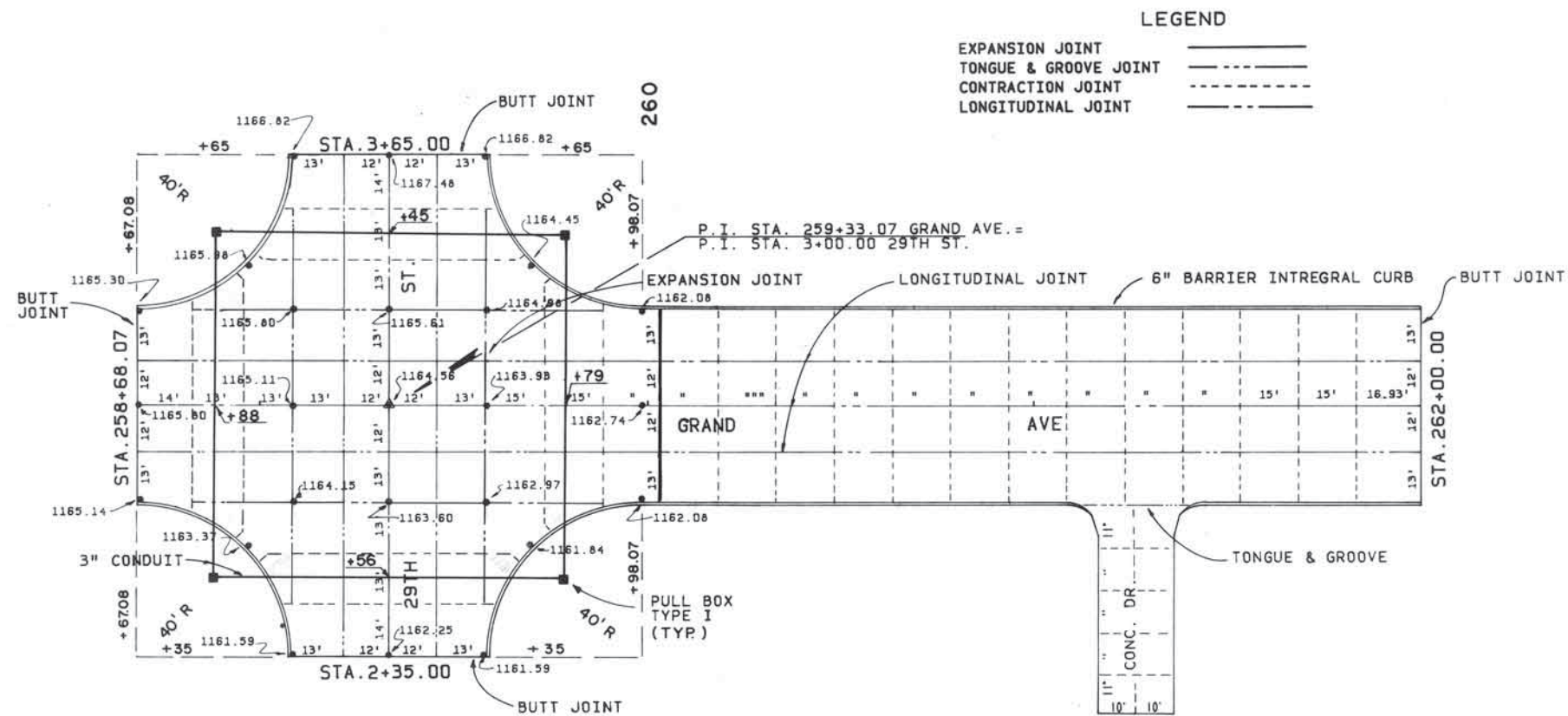
SUMMARY OF STRIPING			
TYPE	L.F.	4" EQUIVALENT LF	TOTAL EA.
YELLOW (PLASTIC)			
4" SOLID	35	35	
4" DOUBLE	3,260	6,520	
8" SOLID	183	366	
TOTALS	3,478	6,921	
WHITE (PLASTIC)			
4" DASH	3,356	3,356	
4" SOLID	375	375	
8" SOLID	345	690	
24" SOLID	280	1,680	
WORDS			2
ARROWS			2
SYMBOLS			4
TOTALS	4,356	6,101	
WHITE PAINT			
8" SOLID	735	1,470	
TOTALS	735	1,470	

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DESCRIPTION		REVISIONS		DATE	

SUMMARY OF EARTHWORK				
P & P SHEET NO.	STATION TO STATION	EMBANKMENT + 20 %	UNCLASSIFIED EXCAVATION	EXCESS EXCAVATION
		CU. YD.	CU. YD.	CU. YD.
	STA. 256+70 TO STA. 271+00	2416	2937	521
	STA. 271+00 TO STA. 286+00	2649	2982	333
	STA. 286+00 TO STA. 289+68.5	0	1448	1448
	29TH STREET			
	STA. 0+00 TO STA. 5+00	49	346	297
	TOTALS	5114	7713	2599 *

* WASTE TO BECOME THE PROPERTY OF THE CONTRACTOR AND TO BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER

Design			SUMMARY OF QUANTITIES
Drawn			
Checked			
Approved			
Squad			
F.A. Project No MAM-4030(21) Sheet No. 3			



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
REVISIONS					
DESCRIPTION	REVISIONS				DATE

SCHEDULE OF DRIVEWAYS					
P&P SHEET NO.	LOCATION	TYPE	WIDTH	QUANTITY	
				H.E.S. CONCRETE	
				LENGTH	SQ. YD.
	STA. 261+26 - RT.	I	20	55	125.37
	STA. 275+28 - LT.	I	10	15	19.82
	STA. 276+09 - LT.	I	10	15	19.82
	STA. 279+51 - RT.	I	10	8	12.14
	STA. 285+12 - LT.	I	25	8	25.37
	STA. 285+94 - LT.	I	15	8	16.48
	STA. 287+15 - LT.	I	12	8	13.82
	TOTAL				232.82

SUMMARY OF REMOVALS							
P & P SHEET NO.	STATION TO STATION	6/9/06(B)	6/9/06(B)	6/9/06(B)	6/9/06(B)	6/9/06(B)	6/9/06(B)
		REMOVAL OF ASPHALT PAVEMENT	REMOVAL OF CONCRETE PAVEMENT	REMOVAL OF EXISTING STRUCTURES	REMOVAL OF HEADWALLS	REMOVAL OF FENCES	REMOVAL OF FENCE
		S.Y.	L.F.	EA.	EA.	L.F.	L.F.
	GRAND AVE.						
	STA. 256+70 TO STA. 271+00	3,813				160	1,414
	STA. 271+00 TO STA. 286+00	4,236	26	1 *	2	65	1,238
	STA. 286+00 TO STA. 289+68.5	1,802				76	
	29TH ST.						
	STA. 0+00 TO STA. 5+15	1,080				204	
	TOTALS	10,931	26	1	2	505	2,652

* 6' X 3' X 41' RCB W/6' DROP INLET

● REMOVE HEADWALL & 1' OF BARREL OF 2-10' X 9' RCB (EACH SIDE)

Design				JOINT LAYOUT AND MISCELLANEOUS SUMMARIES
Drawn				
Checked				
Approved				
Squad				
F.A. Project No. MAM-4030(21) Sheet No. 4				

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
0	OKLA.				
DESCRIPTION		REVISIONS		DATE	

SUMMARY OF DRAINAGE STRUCTURES																																							
STRUCTURE NO.	P&P SHT NO.	STATION AND LOCATION	DESCRIPTION	DESIGN	DESIGN CRITERIA				TRENCH EXCAVATION	STANDARD BEDDING MAT'L	ELEVATIONS				CLASS "A" CONC.		INLET	INLET FRAME & GRATE			CAST IRON CURB INLET 8" BARR.	MANHOLE			ADDNL. DEPTH IN MANHOLE			REINFORCED CONC. PIPE					GRD. OUT						
					D.A.	Q	CARRY OVER	TOTAL Q			TOP OF CURB	TOP OF COVER OR GRATE	STR. FLOW LINE	STUB IN FLOW LINE	SMALL STRUCTURE	LARGE STRUCTURE		REINFORCING STEEL	TYPE A	TYPE B		TYPE C	4' DIA.	5' DIA.	6' DIA.	4' DIA.	5' DIA.	6' DIA.	18"	24"	30"	36"		42"	48"	54"			
																																					AC.	C.F.S.	C.F.S.
1A	12	STA. 257+00 (21.00' RT.)	CONST. STD. MEDIAN DRAIN W/ 112 LF 18" RCP TO STR. NO. 1	SMD 1	0.8	3.7	0	3.7	32.1	24.2		1166.10	1162.56		1.00		142																			1.20%			
1	12	STA. 258+00 (29.50' LT.)	CONST. STD. GRATED PIPE INLET W/ 103 LF 30" RCP TO STR. NO. 3	GPI-2 DES-2	5.5	24.3	0	24.3	159.3	59.9		1163.83	1160.18	18"=1161.25	1.52		174																			2.55%			
2	14	STA. 4+00 29TH ST. (29.00' LT.)	CONST. STD. GRATED PIPE INLET W/ 65 LF 30" RCP TO STR. NO. 3	GPI-2 DES-2	8.4	31.2	0	31.2	80.6	37.8		1166.50	1161.83		1.84		211																			6.37%			
3	12	STA. 259+05 (32.00' LT.)	CONST. 5' DIA. MANHOLE W/ 368 LF 36" RCP TO STR. NO. 6	MJB-1 MFC-2	15.5	58.6	0	58.6	519.2	226.6		1165.89	1157.00	30"=1157.50																						2.54%			
4	12	STA. 262+75 (25.00' LT.)	CONST. DBL. GRATED INLET W/ 2 ADD'L. OPNGS. W/ 6 LF 18" RCP TO STR. NO. 6	CICI-1 DES 2 (B)	1.9	7.8	0	7.8	2.3	1.3	1153.51	1152.97	1150.30		0.61		38.82	2	4																5.00%				
5	12	STA. 262+75 (43.00' LT.)	CONST. STD. GRATED PIPE INLET W/ 9 LF 24" RCP TO STR. NO. 6	GPI-2 DES 1	5.0	19.8	0	19.8	5.8	3.1	1154.75	1150.70	18"=1149.95		3.03		210																			10.00%			
6	12	STA. 262+75 (32.00' LT.)	CONST. 5' DIA. MANHOLE W/ 263 LF 42" RCP TO STR. NO. 9	MJB-1 MFC-2	37.9	78.2	0	78.2	540.0	261.4	1155.10	1147.10	24"=1149.60																							3.30%			
7	12	STA. 265+40 (25.00' LT.)	CONST. SGL. GRATE INLET W/ 4 ADD'L. OPNGS. W/ 6 LF 18" RCP TO STR. NO. 9	CICI-1 DES 1 (A-C)	0.4	2.2	2.7	4.9	2.3	1.3	1145.07	1144.53	1141.86		0.64		42.44	1	4																	10.00%			
8	12	STA. 265+40 (43.00' LT.)	CONST. STD. GRATED PIPE INLET W/ 9 LF 30" RCP TO STR. NO. 9	GPI-2 DES 2	7.3	27.2	0	27.2	6.4	3.9	1143.80	1140.53	18"=1141.36		1.52		174																			2.50%			
9	12	STA. 265+40 (32.00' LT.)	CONST. 6' DIA. MANHOLE W/ 428 LF 48" RCP TO STR. NO. 12	MJB-1 MFC-2	45.5	106.0	0	106.0	1108.0	484.4	1146.20	1137.86	30"=1140.25																							2.50%			
10	12	STA. 269+70 (25.00' LT.)	CONST. DBL. GRATE INLET W/ 6 ADD'L. OPNGS. W/ 6 LF 18" RCP TO STR. NO. 12	CICI-1 DES 2 (B-D)	2.1	9.9	0.9	10.8	2.1	1.3	1137.14	1136.60	1133.93		1.01		59.69	2	8																	10.00%			
11	12	STA. 269+95 (65.00' LT.)	CONST. STD. MEDIAN DRAIN W/ 39 LF 18" RCP TO STR. NO. 12	SMD-1	2.3	10.6	0	10.6	9.7	12.8	1134.00	1130.90	18"=1127.11		0.89		130																			3.15%			
12	12	STA. 269+70 (32.00' LT.)	CONST. 5' DIA. MANHOLE W/ 166 LF 54" RCP TO STR. NO. 13	MJB-1 MFC-2	49.8	121.4	0	121.4	376.3	211.6	1137.40	1126.61	18"=1129.61																							1.00%			
13	13	STA. 271+29.10 (25.00' RT.)	REMOVE HDWL'S. & WINGS ON EX. 2-10' X 9' RCB EXTEND 32.56 LF LT. & 34.18 LF RT. = 47.54' RT. & LT. (60" SKEW LT. & FWD)	BC 12 S4 LF 60" SK	1.590	2.160	0	2.160					LT. 1123.01 RT. 1123.77	18"=1125.78																						0.80%			
14	13	STA. 273+49.25 (25.00' RT.)	CONST. SGL. GRATE INLET W/ 2 ADD'L. OPNGS. W/ 48 LF 18" RCP TO STR. NO. 15	CICI-1 DES 1 (B) *	1.2	8.3	0	8.3	15.6	10.4	1133.59	1133.05	1130.05		0.44		35.81	1	3																	2.00%			
15	13	STA. 273+49.25 (25.00' LT.)	CONST. SGL. GRATE INLET W/ 2 ADD'L. OPNGS. W/ 190 LF 24" RCP TO STR. NO. 13	CICI-1 DES 1 (B) *	0.5	3.6	0	11.7	174.8	91.3	1133.59	1133.05	1128.55	18"=1129.05	0.44		48.87	1	3																	1.50%			
16	13	STA. 277+19 (40.00' RT.)	CONST. 40 LF 18" MILL PRECOATED C6SP ACROSS BURLINGTON NORTHERN R.R.		5.2	21.8	0	21.8					IN 1139.98 OUT 1138.38																							4.00%			
17	13	STA. 282+38 (25.00' RT.)	CONST. SGL. GRATE INLET W/ 2 ADD'L. OPNGS. W/ 85 LF 18" RCP TO STR. NO. 19	CICI-1 DES 1 (B)	0.9	4.4	0	4.4	29.8	18.4	1144.89	1144.35	1141.35		0.44		35.81	1	3																	1.15%			
18	13	STA. 282+84 (59.84' RT.)	CONST. 3.0' X 2.8' X 25.33' LONG RCB W/ SPECIAL DRAINAGE W/ 37 LF 24" RCP TO STR. NO. 19	SPECIAL	4.2	15.1	0	15.1	18.8	12.9	1145.14	1144.47	1141.68		12.91	1,265																				4.76%			
19	13	STA. 283+23 (32.00' RT.)	CONST. 4' DIA. MANHOLE W/ 54 LF 24" RCP TO STR. NO. 21	MJB-1 MFC-2	5.1	16.9	0	16.9	33.3	18.8	1144.40	1139.87	18"=1140.37																							2.00%			
20	13	STA. 283+80.61 (25.00' RT.)	CONST. SGL. GRATE INLET W/ 2 ADD'L. OPNGS. W/ 6 LF 18" RCP TO STR. NO. 21	CICI-1 DES 1 (2A) *	0.8	5.9	1.1	7.0	2.0	1.3	1144.38	1143.84	1140.84		0.44		37.03	1	3																	5.00%			
21	13	STA. 283+80.61 (32.00' RT.)	CONST. 5' DIA. MANHOLE W/ 7 LF 30" RCP TO STR. NO. 23	MJB-1 MFC-2	5.9	30.3	0	30.3	5.2	3.0	1144.20	1138.22	18"=1140.58																							2.10%			
22	13	STA. 283+80.61 (25.00' LT.)	CONST. SGL. GRATE INLET W/ 2 ADD'L. OPNGS. W/ 7 LF 18" RCP TO STR. NO. 23	CICI-1 DES 1 (B) *	0.6	4.1	3.9	8.0	2.3	1.3	1144.38	1143.84	1138.84		0.44		66.13	1	3																	10.00%			
23	13	STA. 283+96 (25.00' LT.)	CONST. 2-6' X 3' RCB W/ 80' RDY. 40' RT. & 40' LT. W/ SPECIAL 6' DROP INLET ON RT.	BC 5A2 DES 13 SPECIAL	65.0	257.0	0	257.0					LT. 1137.26 RT. 1137.70	18"=1137.98		95.79	9,109																			0.60%			
24	13	STA. 285+50 (25.00' LT.)	CONST. DBL. GRATE INLET W/ 6 ADD'L. OPNGS. W/ 6 LF 24" RCP TO STR. NO. 25	CICI-1 DES 2 (B-D)	2.1	10.3	6.1	16.4	3.2	2.1	1146.25	1145.71	1142.50		1.01		57.59	2	8																				

* DEPICTS 50 YEAR STORM FREQUENCY

▲ REQUIRES 41 L.F. PIPE HANDRAIL

① SEE STD. DWG. SSIF-2 & CIG-1

■ STR. NO. 16 TO BE CONSTRUCTED UNDER PROJECT NO. MG-4030(22) BY RAILROAD FORCES.

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SUMMARY OF DRAINAGE STRUCTURES

F.A. Project No. MAM-4030(21) Sheet No. 5

PAY QUANTITIES			
MAM-4030(021) ROADWAY			
ITEM	DESCRIPTION	UNIT	QUANTITY
201	CLEARING AND GRUBBING (1)(9)	L.SUM	1.00
202(C)	UNCLASSIFIED EXCAVATION (11)(F-1)	C.Y.	6,961.00
205R	TYPE A SALVAGED TOPSOIL (2)	C.Y.	1,793.00
210	OBLITERATING ABANDONED ROAD	STA.	4.00
229S	DITCH LINER PROTECTION (18)	L.F.	60.00
230(A)	SOLID SLAB SODDING (19)	S.Y.	145.00
230(B)	MULCH SODDING	S.Y.	16,250.00
230(G)	WATERING (H-2)	H-GAL.	243.00
233(A)	VEGETATIVE MULCHING (H-13)	AC.	3.35
234(A)	FERTILIZING (10-20-10) (H-5)	TON	1.20
241	MOWING	AC.	4.00
403(A)	TRAFFIC BOUND SURF.CSE. TYPE A (F-7)(F-17)	TON	40.00
407	TACK COAT (F-25)	GAL.	1,642.00
414(A)	8"R.C. CONCRETE PAVEMENT (F-70)	S.Y.	2,521.00
420S(A)	FABRIC REINFORCEMENT	S.Y.	925.00
420S(B)	BITUMINOUS BINDER (14)	GAL.	324.00
501(A)	STRUCTURAL EXCAVATION UNCL. (10)	C.Y.	39.00
509(B)	CLASS A CONCRETE (F-24)	C.Y.	95.80
509(B)	CLASS A CONCRETE FOR SMALL STR. (F-27)	C.Y.	29.20
509(D)	CLASS C CONCRETE (8)	C.Y.	9.80
511	REINFORCING STEEL	LB.	11,415.00
609(A)	CONCRETE CURB(6"BAR.-INTEGRAL)	L.F.	622.00
609(B)	2'-8"COMB.CRB.&GUT. (6"BAR.-NOTCH.)	L.F.	5,556.00
609(C)	CONCRETE HEADER CURB.(12"x18")	L.F.	145.00
610(B-1)	6"CONCRETE DRIVEWAY (H.E.S.) (F-38)	S.Y.	233.00
611(A)	MANHOLE (4'DIAMETER)	EA.	3.00
611(A)	MANHOLE (5'DIAMETER)	EA.	4.00
611(A)	MANHOLE (6'DIAMETER)	EA.	1.00
611(B)	ADD'L.DEPTH IN MANHOLE (6'DIA.)	V.F.	3.00
611(B)	ADD'L.DEPTH IN MANHOLE (5'DIA.)	V.F.	14.00
611(D)	MANHOLE FRAME & COVER	EA.	8.00
611(E)	INLET	C.F.	498.00
611(G)	INLET FRM&GRT (SSIF-2,FRM,CIG GRT.) (3)	EA.	14.00
611(K)	CAST IRON CURB INLETS (F-54)	EA.	48.00
611(L)	DROP INLET GRATE (GPI TYPE A)	EA.	4.00
611(L)	DROP INLET GRATE (GPI TYPE B)	EA.	4.00
611(L)	DROP INLET GRATE (SMD TYPE 2)	EA.	2.00

*****MAM-4030(021) ROADWAY

ITEM	DESCRIPTION	UNIT	QUANTITY
613(B)	18"R.C.PIPE CLASS III	L.F.	315.00
613(B)	24"R.C.PIPE CLASS III	L.F.	506.00
613(B)	30"R.C.PIPE CLASS III	L.F.	327.00
613(B)	36"R.C.PIPE CLASS III	L.F.	368.00
613(B)	42"R.C.PIPE CLASS III	L.F.	263.00
613(B)	48"R.C.PIPE CLASS III	L.F.	428.00
613(B)	54"R.C.PIPE CLASS III	L.F.	166.00
613(Q)	8"PERFORATED PIPE UNDERDRAIN RND. (4)	L.F.	500.00
613(R)	8"NON-PERF.PIPE UNDERDRAIN RND. (4)	L.F.	200.00
613(S)	PIPE UNDERDRAIN COVER MATERIAL (F-31)(5)	C.Y.	150.00
613(T)	TRENCH EXCAVATION (F-68A)(6)	C.Y.	3,550.00
613(U)	STANDARD BEDDING MATERIAL (F-68)(7)	C.Y.	1,663.00
619(B)	REMOVAL OF FENCE (F-43)	L.F.	2,652.00
619(B)	REMOVAL OF ASPHALT PAVEMENT (F-43)(F-37)	S.Y.	10,731.00
619(B)	REMOVAL OF EXISTING STRUCTURES (16)(F-43)	EA.	1.00
619(C)	SAWING PAVEMENT	L.F.	505.00
622(A)	PIPE RAILING	L.F.	41.00
624R(A)	FENCE-STYLE WWF (F-32)	L.F.	491.00
624R(C)	FENCE-STYLE SWF (5 BARBED WIRE) (F-32)	L.F.	2,214.00
640	FIELD OFFICE	EA.	1.00
641	MOBILIZATION	L.SUM	1.00
802(B)	3"PVC SCH.40 PLASTIC CONDUIT TRENCHED	L.F.	360.00
803	PULL BOX(SIZE I) (T-1)	EA.	4.00
804	STRUCTURAL CONCRETE (T-2)	C.Y.	2.70
804	REINFORCING STEEL (T-2)	LB.	240.00
850(A/C)	SHEET METAL SIGNS(AL./G.STL.)	S.F.	145.00
851(B)	2"33.65 G. STL.PIPE POSTS	L.F.	117.00
851(B)	2 1/2"35.79 G.STL.PIPE POSTS	L.F.	110.00
854	TRAFFIC STRIPE (PAINT)(WHITE) (S-1)	L.F.	1,470.00
855(A)	TRAFFIC STRIPE(PLASTIC)(WHITE) (S-1)	L.F.	6,101.00
855(A)	TRAFFIC STRIPE(PLASTIC)(YELLOW) (S-1)	L.F.	6,921.00
855(B)	TRAFFIC STRIPE(PLASTIC)(ARROWS) (S-1)	EA.	2.00
855(C)	TRAFFIC STRIPE(PLASTIC)(WORDS) (S-1)	EA.	2.00
855(D)	TRAFFIC STRIPE(PLASTIC) (SYMBOLS) (S-1)	EA.	4.00
857	PAVE. MARKERS CLASS A TYPE 2-D	EA.	30.00
880S(D)	SIGNS 0 TO 6.25 SF (T-5)	S.D.	3,360.00
880S(E)	SIGNS 6.26 TO 15.99 SF (T-5)	S.D.	2,400.00
880S(F)	SIGNS 16.0 SF & OVER (T-5)	S.D.	3,360.00
880S(G)	BARRICADES(TYPE I) (T-5)	S.D.	960.00
880S(H)	BARRICADES(TYPE II) (T-5)	S.D.	480.00
880S(I)	BARRICADES(TYPE III) (T-5)	S.D.	1,680.00
880S(J)	WING BARRICADES (T-5)	S.D.	1,440.00
880S(K)	VERTICAL PANELS (T-5)	S.D.	2,640.00
880S(L)	TYPE A LIGHT (T-5)	S.D.	8,160.00
880S(N)	TYPE C LIGHT (T-5)	S.D.	6,480.00
880S(O)	DRUMS (T-5)	S.D.	3,840.00
930.00SP	HEAVY WELD STEEL GRATE (F-40)	LB.	1,788.00
960.77SP	8" DIA. RAISED PAV. MARKER (WHITE) (T-3)	EA.	56.00
	***** ALTERNATE NO.AA1 *****		
411A(C1)	ASPHALT CONCRETE TYPE A (F-66)(F-69)	TON	6,016.00
	***** ALTERNATE NO.AA2 *****		
411A(A1)	TYPE A AGGREGATE (F-23)	TON	5,715.00
411A(B1)	ASPHALT (F-23A)	TON	301.00
	***** ALTERNATE NO.BB1 *****		
411A(C2)	ASPHALT CONCRETE TYPE B (F-66)	TON	2,051.00
	***** ALTERNATE NO.BB2 *****		
411A(A2)	TYPE B AGGREGATE (F-23)	TON	1,938.00
411A(B2)	ASPHALT (F-23A)	TON	113.00

PAY QUANTITIES			
BR A WID 2-10X9X24RCB60LF TO 80RDY			
ITEM	DESCRIPTION	UNIT	QUANTITY
202(C)	UNCLASSIFIED EXCAVATION	C.Y.	120.00
501(A)	STRUCTURAL EXC.UNCL.	C.Y.	72.00
509(B)	CLASS A CONCRETE'	C.Y.	226.90
511	REINFORCING STEEL	LB.	21,020.00
900.33SP	REMOVAL OF EXISTING BRIDGE ITEMS (15.) (F-43)	L.SUM	1.00

PAY QUANTITIES			
STAKING			
ITEM	DESCRIPTION	UNIT	QUANTITY
642S	STAKING	L.SUM	1.00

PAY QUANTITIES			
NON-PARTICIPATING (CITY)			
ITEM	DESCRIPTION	UNIT	QUANTITY
612(G)	VALVE BOXES ADJUST TO GRADE	EA.	3.00

NOTE: PRIME COAT WILL NOT BE PAID FOR AS A SEPARATE ITEM, BUT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK. THE ESTIMATED QUANTITY IS 5,100 GAL. EST. AT 0.25 GAL. PER SQ. YD.

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SUMMARY OF PAY QUANTITIES

FA Project No. MAM-4030(21) Sheet No. 6

PAY QUANTITY NOTES

- (F-1) INCLUDES 100 CU. YDS FOR RAMPS, DIKES, AND MISCELLANEOUS EARTHWORK WHERE NO QUANTITY IS SHOWN ON THE P & P SHEETS.
- (F-25) EST. AT 0.05 GAL. PER SQ. YD. PRIOR TO DILUTION.
- (F-26) FOR STRUCTURES OF MORE THAN 10.0 CU. YDS. EACH.
- (F-27) FOR STRUCTURES OF 10.0 CU. YDS. OR LESS EACH.
- (F-31) EST. AT 30 CU. YDS. PER STA.
- (F-35) INCLUDES 2% FOR GROUND MEASUREMENT.
- (F-37) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SEC. 202.06 UNCLASSIFIED EXCAVATION.
- (F-38) TRANSVERSE GROOVING (SUBSECTION 414.04(K)7.3) WILL NOT BE REQUIRED.
- (F-40) WEIGHT SHOWN ARE THE WEIGHTS OF THE DRAINAGE AND DO NOT INCLUDE THE WEIGHT OF STEEL ANGLES, ANCHOR BOLTS OR WASHERS. PRICE BID PER POUND OF DRAINAGE SHALL INCLUDE THE COST OF GRATES, STEEL ANGLES, ANCHOR BOLTS, AND WASHERS COMPLETE AND ACCEPTED IN PLACE.
- (F-7) EST. AT 120 LBS. PER CU. FT.
- (F-43) TO BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF BY HIM IN A MANNER APPROVED BY THE ENGINEER.
- (F-54) PRICE BID TO INCLUDE THE COST OF 0 4" MOUNTABLE CURBS, 0 6" MOUNTABLE CURB INLETS, 48 6" BARRIER CURB INLETS, AND 0 8" BARRIER CURB INLETS.
- (F-66) EST. AT 110 LBS. PER SQ. YD. PER 1" THICK.
- (F-67) EST. .25 GAL. PER SQ. YD.
- (F-70) ALL LONGITUDINAL JOINTS SHALL BE SAWED AND SEALED WITH SILICONE SEALANT.
- (F-68) INCLUDES 40 C.Y. FOR PIPE UNDERDRAIN.
- (F-68A) INCLUDES 210 C.Y. FOR PIPE UNDERDRAIN (TRENCH EXCAVATION). EXCESS EXCAVATED MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM IN A MANNER APPROVED BY THE ENGINEER.
- (F-69) BITUMINOUS MIXTURES CONTAINING 25 PERCENT OR LESS RECLAIMED ASPHALTIC CONCRETE PAVEMENT WILL BE ACCEPTED EXCEPT IN THE WEARING COURSE, PROVIDED THAT THE MIXTURE MEETS ALL REQUIREMENTS OF SECTION 708R.

EROSION CONTROL PAY QUANTITY NOTES

- (H-2) EST. AT 15 GAL. PER SQUARE YARD OF SODDING AND SPRIGGINGS.
- (H-5) EST. AT 150 POUNDS OF 10-20-10 FERTILIZER PER 1,000 SQUARE YARDS OF SODDING AND SPRIGGING.
- (H-13) THE QUANTITY ESTIMATED FOR TEMPORY EROSION AND POLLUTION CONTROL IS 3.35 ACRES.

EROSION CONTROL CONSTRUCTION NOTES

- (H-26) SEASONAL PLANTING RESTRICTIONS:
- (H-27) THE PLANTING OF MULCH SOD SHALL BE RESTRICTED TO THE PERIOD FROM MARCH 15 TO JUNE 15.

PAY ITEM NOTES

- (1) PRICE BID FOR "CLEARING AND GRUBBING" SHALL INCLUDE THE REMOVAL OF ANY TREES, VEGETATION, DEBRIS, POLES, SIGNS, CGM PIPES OR TEMPORARY DRAINAGE PIPES OR STRUCTURES AND OTHER ITEMS NOT PAID FOR AS REMOVAL ITEMS WITHIN THE PROJECT RIGHT-OF-WAY.(ESTIMATED AT 1 ACRE)
- (2) SALVAGED TOPSOIL SHALL BE OBTAINED FROM AREAS OF ROADWAY EXCAVATION AND EMBANKMENT AS SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER. STOCKPILING OF SALVAGED TOPSOIL SHALL BE WITHIN THE RIGHT-OF-WAY LIMITS OF NON-CONSTRUCTION AREAS (AFTER CLEARING AND GRUBBING). AS APPROVED BY THE ENGINEER.
- (3) INCLUDES 6 TYPE A AND 8 TYPE B FRAMES. (SEE STD. SSIF-2).
- (4) ESTIMATED 500 L.F. 8" PERF. AND 200 L.F. NON-PERF. PIPE UNDERDRAIN. LOCATION, IF AND WHERE REQUIRED, TO BE DETERMINED BY THE ENGINEER.

PAY ITEM NOTES (CONT.)

- (5) ESTIMATED 150 CU. YDS. FOR PIPE UNDERDRAIN TO BE USED, IF NEEDED, AS DETERMINED BY THE ENGINEER.
- (6) INCLUDES 3,340 CU.YDS. FOR DRAINAGE PIPES AND ESTIMATED 210 CU.YDS FOR PIPE UNDERDRAIN TO BE USED IF NEEDED, AS DETERMINED BY THE ENGINEER.
- (7) INCLUDES 1,623 CU.YDS. FOR DRAINAGE PIPES AND ESTIMATED 40 CU.YDS. FOR PIPE UNDERDRAIN TO BE USED IF NEEDED, AS DETERMINED BY THE ENGINEER.
- (8) INCLUDES 8.2 CU.YDS. TO BE USED ON CONCRETE SEWER LINE ENCASEMENT AND 1.63 CU.YDS. TO BE USED ON SLOPE DRAINS.
- (9) THE CONTRACTOR SHALL REMOVE, STORE ON R/W AND RELOCATE IF NECESSARY UPON THE INSTRUCTIONS OF THE ENGINEER ANY SIGNS IN PLACE AT START OF CONSTRUCTION THAT INTERFERE WITH HIS OPERATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING SIGNS. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.
- (10) INCLUDES 3 CU.YDS. FOR STR. NO. 18 AND 36 CU.YDS. FOR STR. NO. 23.
- (11) INCLUDES 452 CU.YDS. UNCLASSIFIED EXCAVATION FOR STRUCTURES 18 AND 23.
- (14) ESTIMATED AT 0.35 GAL. PER S.Y. OF FABRIC REINFORCEMENT.
- △(15) AT BRIDGE A , STA. 271+29.10
- (16) INCLUDES 6' X 3' RCB WITH 6' X 6' DROP INLET AT STA. 283+96.
- (17) TO BE USED, IF NEEDED, IN A MANNER APPROVED BY THE ENGINEER.
- (18) INCLUDES 80 L.F. TO BE PLACED ADJACENT TO CONCRETE VALLEYS AT STA. 277+90 AND STA. 278+38. SEE STD. DC-1-19.
- △(19) TO BE PLACED AROUND HEADWALLS IN ACCORDANCE WITH STD. RDSO-1. INCLUDES 120 S.Y. FOR BRIDGE A AND 25 S.Y. FOR STR. NO. 23.

GENERAL CONSTRUCTION NOTES (ROADWAY)

- SEE STANDARD GENERAL CONSTRUCTION NOTES (STD. GNC-2 LATEST REVISION). ONLY THE FOLLOWING GENERAL CONSTRUCTION NOTES WILL APPLY: E-3, E-5, E-6 E-7, E-8, E-10, E-15, AND E-25.
1. UNLESS SHOWN ON THE PLANS AS A CONTRACT ITEM, ALL UTILITY PIPE LINES, VALVES, TELEPHONE CABLE, AND POWER FACILITIES ABOVE AND BELOW GROUND WHICH INTERFERE WITH CONSTRUCTION AND NEED TO BE RELOCATED OR ADJUSTED SHALL BE DONE BY THE OWNER TO THE SATISFACTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL CHECK LOCATION OF ALL WATER SERVICES, WATER MAINS, SANITARY SEWERS, GAS MAINS, GAS SERVICES AND OTHER UTILITIES SHOWN AND NOT SHOWN ON THE PLANS, BEFORE ANY CONSTRUCTION OPERATIONS ARE BEGUN. HE SHALL SO CARRY ON HIS CONSTRUCTION THAT HE WILL NOT DAMAGE UTILITIES. ANY DAMAGE TO UTILITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED BY HIM AT HIS OWN EXPENSE.
3. ALL WORK AND/OR MATERIALS NOT CLASSIFIED AS A "CONTRACT PAY ITEM" SHALL BE CONSIDERED INCIDENTAL AND THE COST THEREOF SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS WHICH ARE CLASSIFIED FOR PAYMENT.
4. TEMPORARY FENCING: IN AREAS WHERE TEMPORARY RIGHT-OF-WAY HAS BEEN OBTAINED FROM ADJACENT FENCED PROPERTIES, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY FENCES AND GATES WHERE REQUIRED TO MAINTAIN NORMAL USE OF THE REMAINING PROPERTY. THESE FENCES SHALL BE MAINTAINED UNTIL THE WORK HAS PROGRESSED TO A STAGE WHERE THE TEMPORARY RIGHT-OF-WAY MAY BE RELINQUISHED TO THE OWNER. THE PERMANENT FENCE SHALL THEN BE CONSTRUCTED AS SHOWN ON THE PLANS AND THE TEMPORARY FENCE REMOVED. THE COST OF TEMPORARY FENCING IS TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
REVISIONS					DATE
△ Note (15) (19)					9-8-88

PAY QUANTITY NOTES (TRAFFIC)

- (T-1) ALL PULL BOXES SHALL BE INSTALLED WITH CONCRETE APRON UNLESS INSTALLED IN A SURFACED AREA OR OTHERWISE SPECIFIED BY THE ENGINEER.
- (T-2) TO CONSTRUCT SIGN POLE FOOTINGS.
- (T-3) THE CONTRACTOR SHALL PURCHASE AND INSTALL PERMARK MODEL P-18 ID (ONE WAY CHANNELIZING MARKER W/2 REFLECTORS) RAISED PAVEMENT MARKER OR APPROVED EQUAL.
- (T-5) THIS ITEM FOR TEMPORARY TRAFFIC CONTROL AND MAY BE USED IN ANY AMOUNT FROM 0% TO 100% AT THE DISCRETION OF THE ENGINEER.

- (S-1) SEE SPECIAL PROVISION

GENERAL CONSTRUCTION NOTES (TRAFFIC)

- (G-1) PAY ITEMS COST OF EQUIPMENT AND MATERIALS WHICH ARE NOT COVERED BY PAY ITEMS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
- (G-2) PLASTIC PAVEMENT MARKINGS HOT APPLIED PLASTIC PAVEMENT MARKINGS SHALL BE INSTALLED.

PAY QUANTITY NOTES (CONT.)

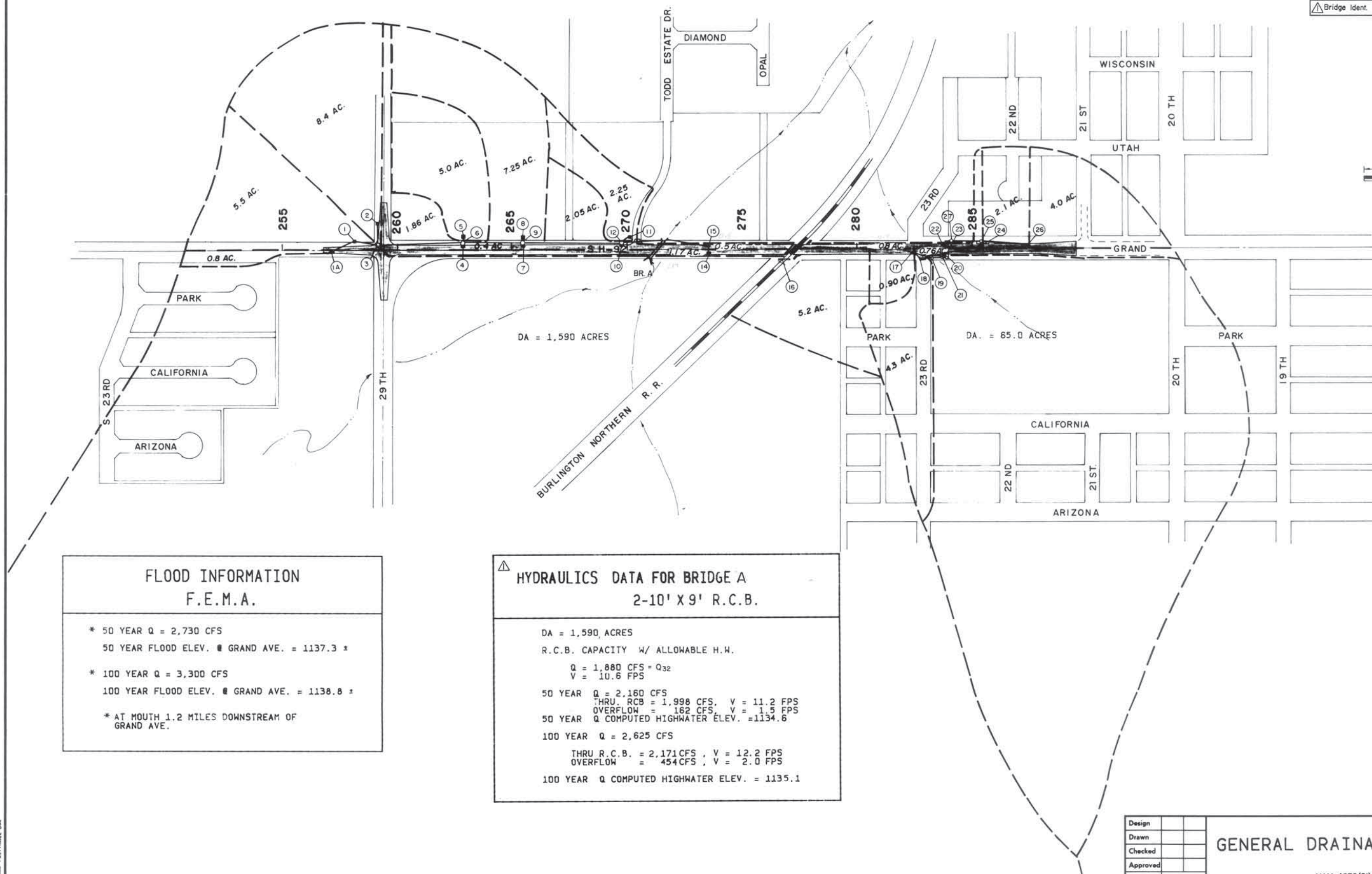
- (F-23) TYPE A EST. AT 95% OF ASPHALT CONCRETE, TYPE B EST. AT 94.5% OF ASPHALT CONCRETE. ASPHALT CONC. EST. AT 110 LBS. PER SQ. YD., PER 1" THICK.
- (F-23A) EST. AT 5% OF ASPHALT CONCRETE (TYPE A AGGR.), EST. AT 5.5% OF ASPHALT CONCRETE (TYPE B AGGR.).

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PAY QUANTITY AND CONSTRUCTION NOTES

F. A. Project No. MAM-4030(21) Sheet No. 7

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	OKLA.				
REVISIONS					DATE
DESCRIPTION					
Bridge Ident.					9-8-88



FLOOD INFORMATION	
F.E.M.A.	
* 50 YEAR Q = 2,730 CFS	50 YEAR FLOOD ELEV. @ GRAND AVE. = 1137.3 *
* 100 YEAR Q = 3,300 CFS	100 YEAR FLOOD ELEV. @ GRAND AVE. = 1138.8 *
* AT MOUTH 1.2 MILES DOWNSTREAM OF GRAND AVE.	

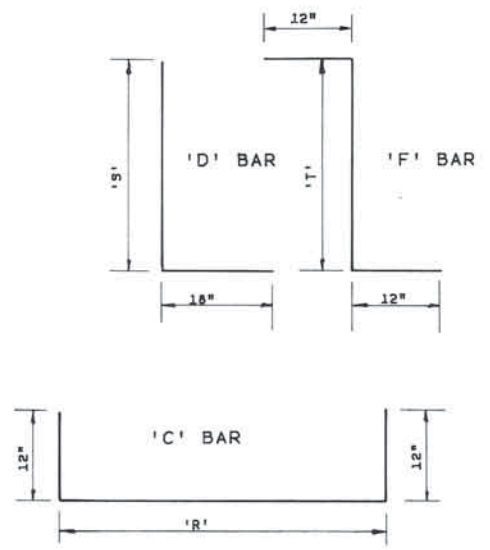
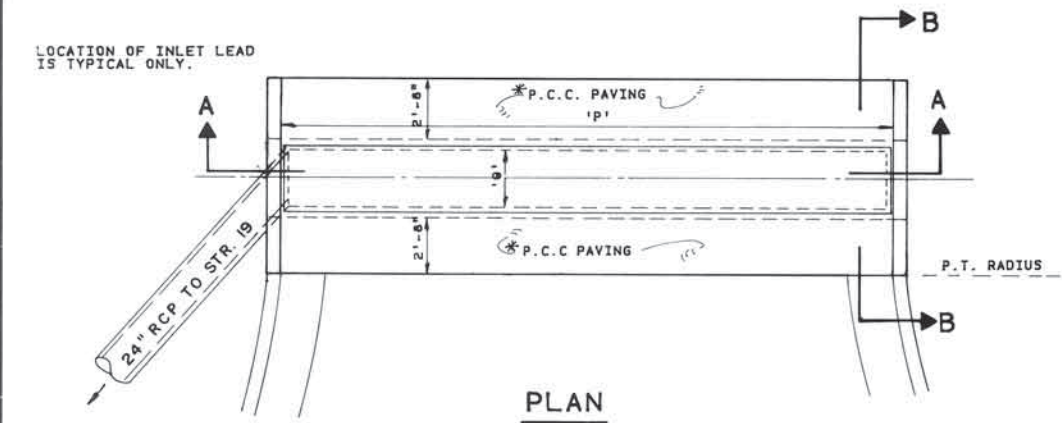
HYDRAULICS DATA FOR BRIDGE A	
2-10' X 9' R.C.B.	
DA = 1,590 ACRES	
R.C.B. CAPACITY W/ ALLOWABLE H.W.	
Q = 1,880 CFS = Q ₃₂	
V = 10.6 FPS	
50 YEAR Q = 2,160 CFS	
THRU R.C.B. = 1,998 CFS, V = 11.2 FPS	
OVERFLOW = 162 CFS, V = 1.5 FPS	
50 YEAR Q COMPUTED HIGHWATER ELEV. = 1134.6	
100 YEAR Q = 2,625 CFS	
THRU R.C.B. = 2,171 CFS, V = 12.2 FPS	
OVERFLOW = 454 CFS, V = 2.0 FPS	
100 YEAR Q COMPUTED HIGHWATER ELEV. = 1135.1	

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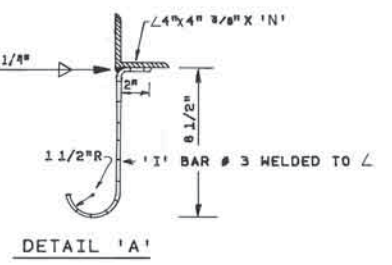
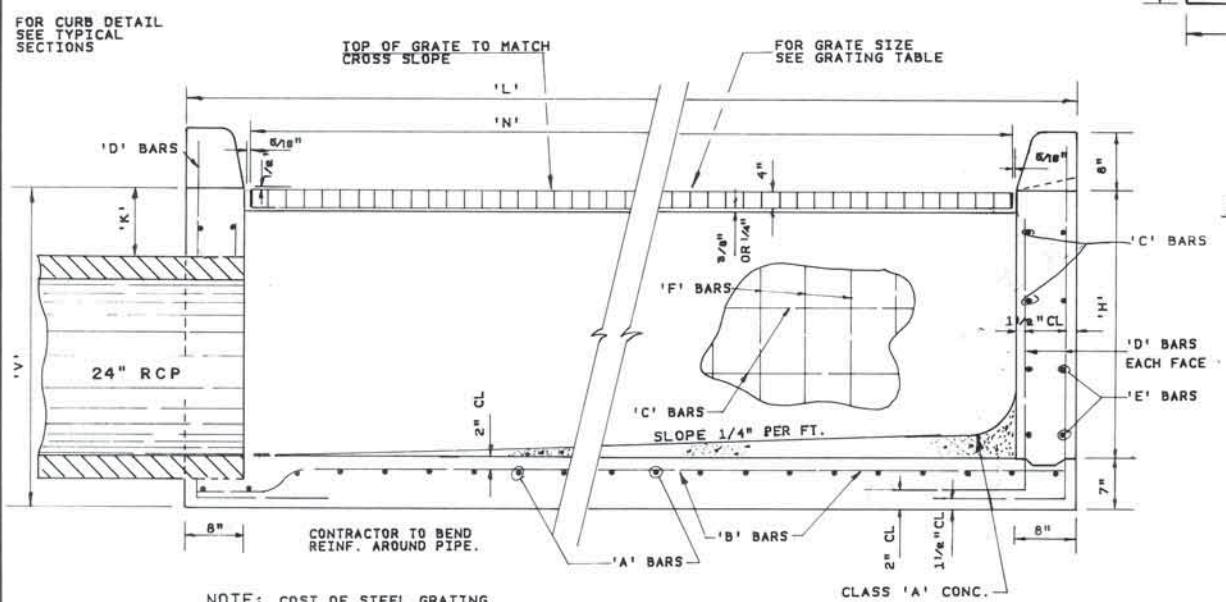
GENERAL DRAINAGE MAP

F.A.U.S. Project No. MAM-4030(21) Sheet No. 8

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA				
REVISIONS					
DESCRIPTION	REVISIONS		DATE		



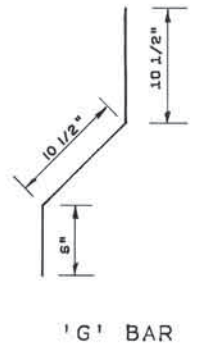
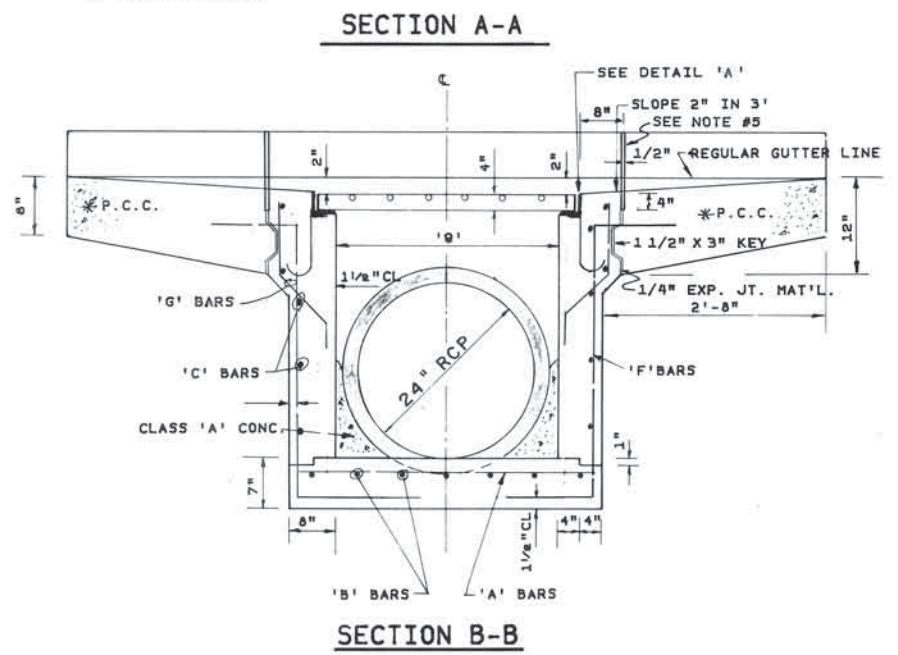
DIMENSION										
'V'	'K'	'H'	'L'	'N'	'P'	'Q'	'R'	'S'	'T'	
3'-4 1/8"	6 1/8"	2'-9 1/8"	27'-4"	25'-11 1/2"	26'-0"	3'-0"	26'-4"	3'-4 3/8"	2'-10"	



BAR LIST					
MARK	SIZE	FORM	SPACE	NUMBER	LENGTH
A	#5	STR.	8" O/C	54	4'-1"
B	#5	STR.	6" O/C	8	27'-1"
C	#4	BNT.	9" O/C	12	28'-4"
D	#4	BNT.	9" O/C	20	4'-10" AVG
E	#4	STR.	12" O/C	8	4'-1"
F	#4	BNT.	6" O/C	102	4'-10"
G	#4	BNT.	12" O/C	51	2'-3"
I	#3	BNT.	12" O/C	54	1'-2"

GRATING			
SPAN	TYPE	LBS/SQ. FT.	DIMENSIONS
3'-0"	HW1-E-400	19.3	4" X 1 1/4" X 2 3/8" C/C

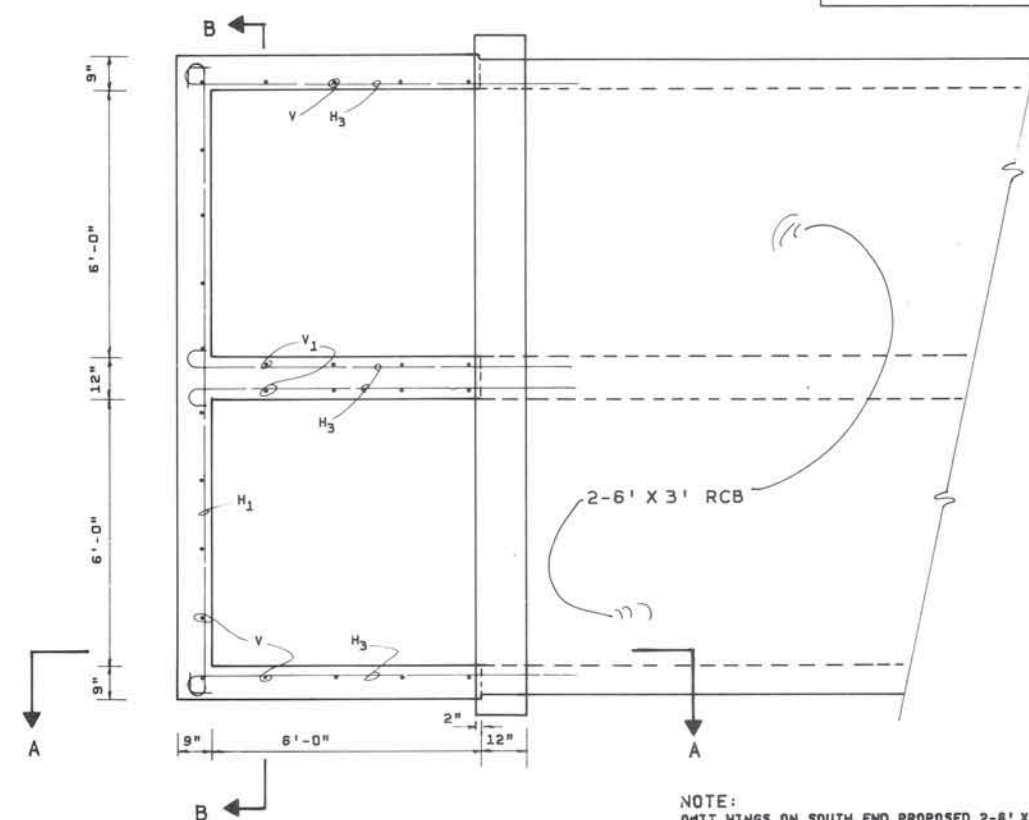
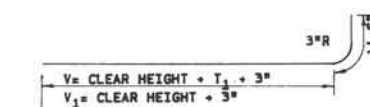
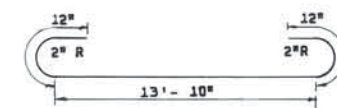
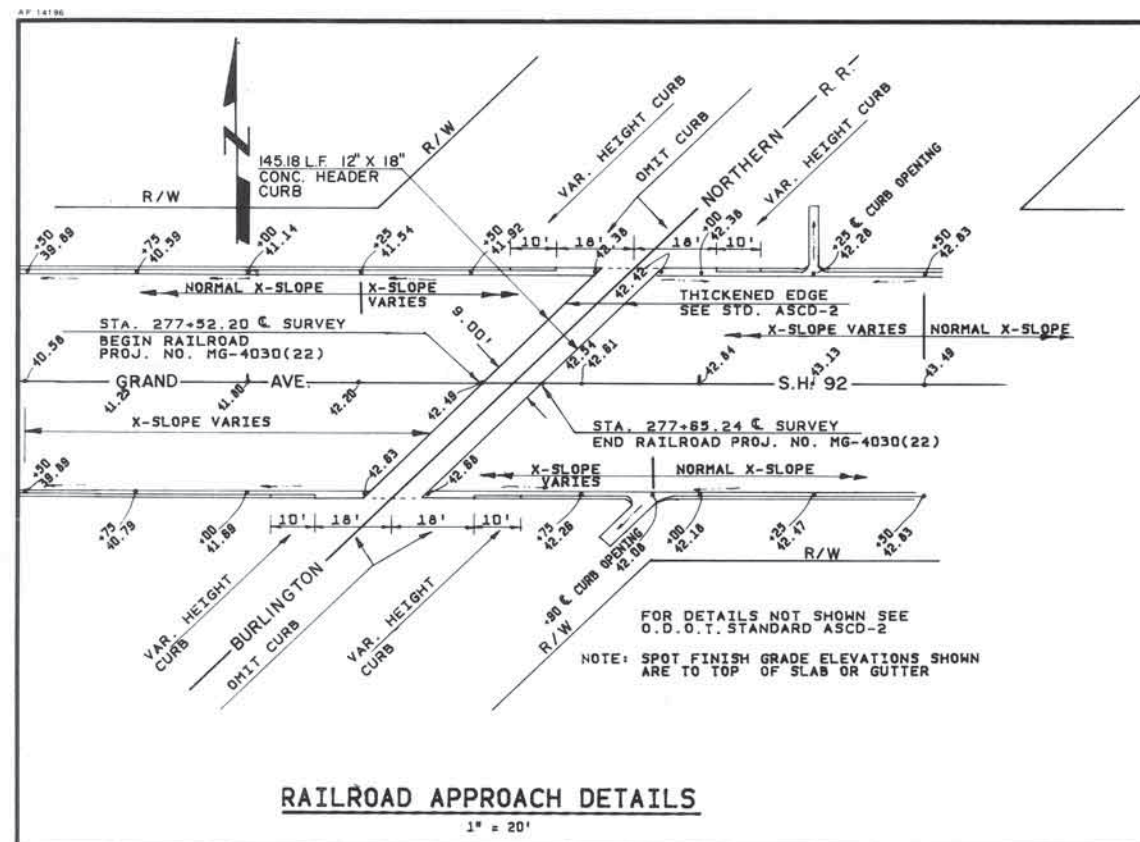
- NOTE:
- USE TYPE AND DIMENSION SHOWN ABOVE FOR GARY HEAVY-WELD STEEL GRATING OR EQUAL.
 - GRATE SPAN = 'Q' + 7".
 - GRATES SHALL HAVE TRIM BANDING AT THE ENDS OF ALL PANELS.
 - GRATE PANELS SHALL BE SPOT WELDED TOGETHER WITH THE EXCEPTION OF THE END PANEL OVER THE OUTLET PIPE TO BE USED FOR MAINTENANCE ACCESS.
 - SEE STD. LECS-2 FOR ADDITIONAL DETAILS. PROVIDE 1/4" EXP. JT. MAT'L. TO WITHIN 4" OF TOP SURFACE. TOP 4" TO BE 1/2" IN WIDTH TO CONFORM TO DIMENSIONS FOR 1/2" EXPANSION JOINT ON STANDARD LECS-2



Design	
Drawn	
Checked	
Approved	
Squad	

SPECIAL DETAILS STRUCTURE NO. 18

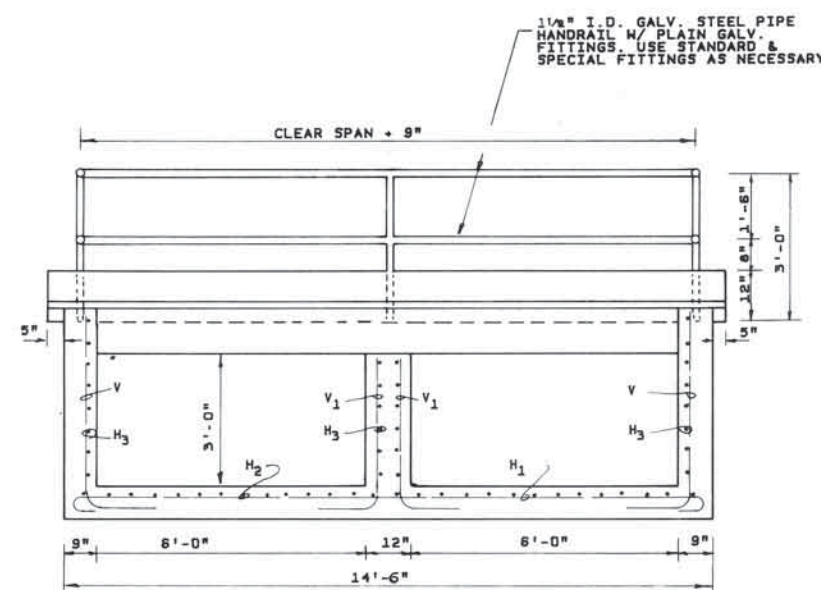
F. A. Project No MAM-4030(21) Sheet No 9



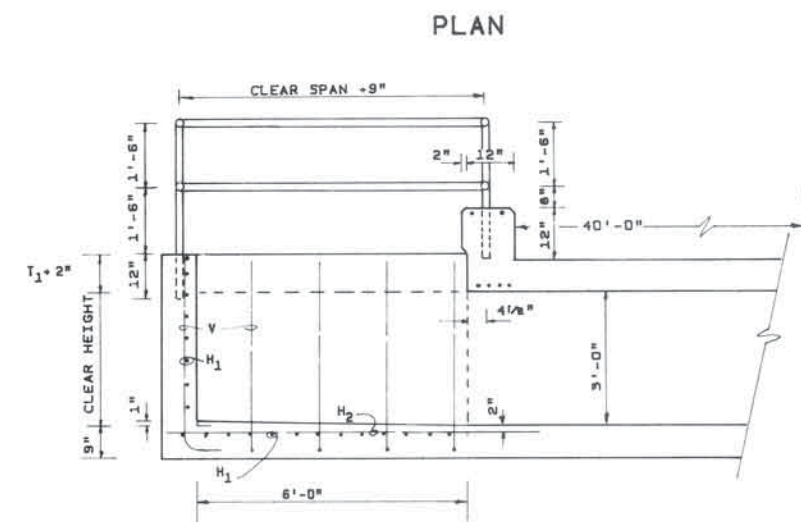
NOTE:
OMIT WINGS ON SOUTH END PROPOSED 2-8' X 3' RCB
FOR DETAILS ON 2'-8' X 3' RCB SEE STD. BC-5A₂
FOR ADDITIONAL INFORMATION ON CONCRETE DROP
INLET SEE STD. CDI-2

DIMENSIONS & QUANTITIES - DROP INLET												
-REINFORCING STEEL										QUANTITIES		
H ₁ -BARS BENT		H ₂ -BARS STRAIGHT		H ₃ -BARS BENT		V-BARS BENT		V ₁ -BARS BENT		CLASS 'A' CONC.	REINF. STEEL	L.F. PIPE HAND RAIL
NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	C.Y.	LBS.	L.F.
21	15'-10"	28	8'-7"	56	9'-5"	18	5'-6"	8	4'-7"	6.4	826	41

NOTE:
ALL REINFORCING STEEL TO BE 1/2" Ø
PIPE HANDRAIL TO INCLUDE ALL FITTINGS



SECTION B-B



SECTION A-A

DETAILS CONCRETE DROP INLET

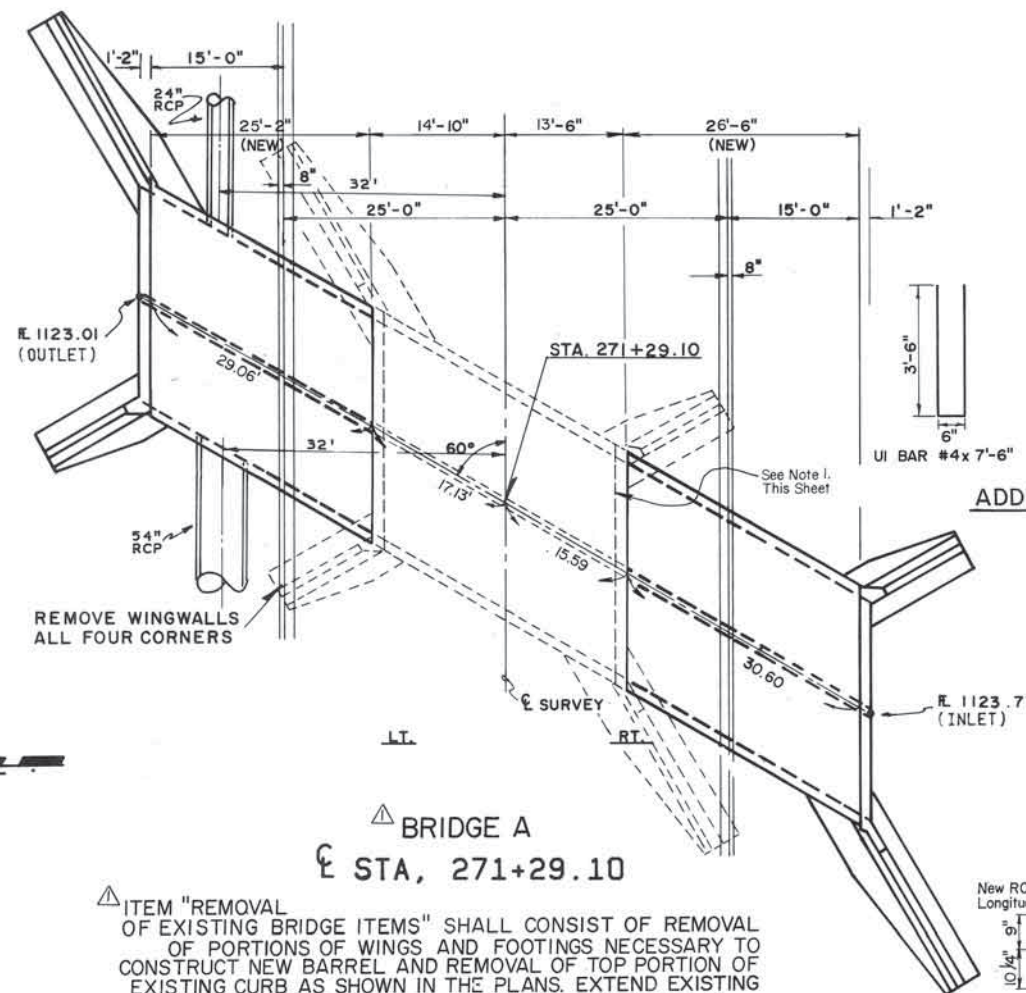
STRUCTURE 23

Design		
Drawn		
Checked		
Approved		
Squad		

RAILROAD APPROACH DETAIL
&
DETAILS SPECIAL DROP INLET STR. 23

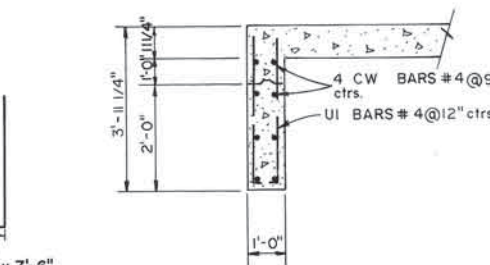
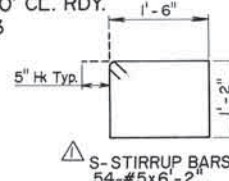
F. A. Project No. MAM-4030(2I) Sheet No. 10

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
REVISIONS					DATE
Notes, Quant., Details					9-8-88

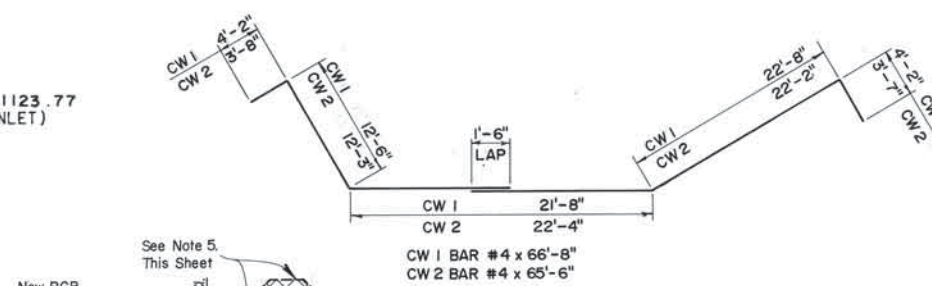


BRIDGE A
STA. 271+29.10

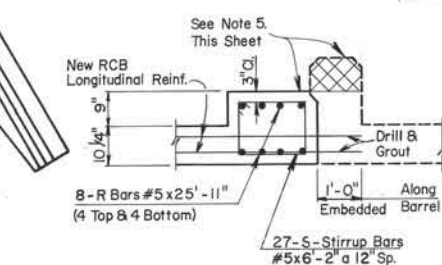
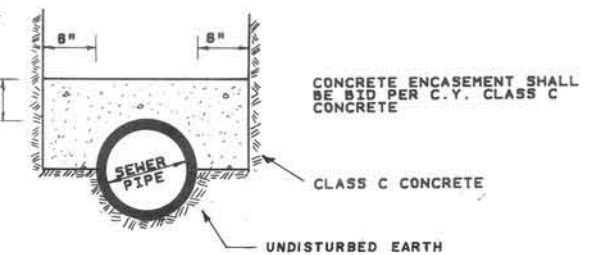
ITEM "REMOVAL OF EXISTING BRIDGE ITEMS" SHALL CONSIST OF REMOVAL OF PORTIONS OF WINGS AND FOOTINGS NECESSARY TO CONSTRUCT NEW BARREL AND REMOVAL OF TOP PORTION OF EXISTING CURB AS SHOWN IN THE PLANS. EXTEND EXISTING 2'-10" x 9' R.C.BOX, 26' CL. RDY. APPROX. 26.4' LT. & 27.6' RT. (90° TO ϕ SURVEY), TO NEW 80' CL. RDY. STD. BC 12 S₄ LF 60° SK, DESIGN NO. 13



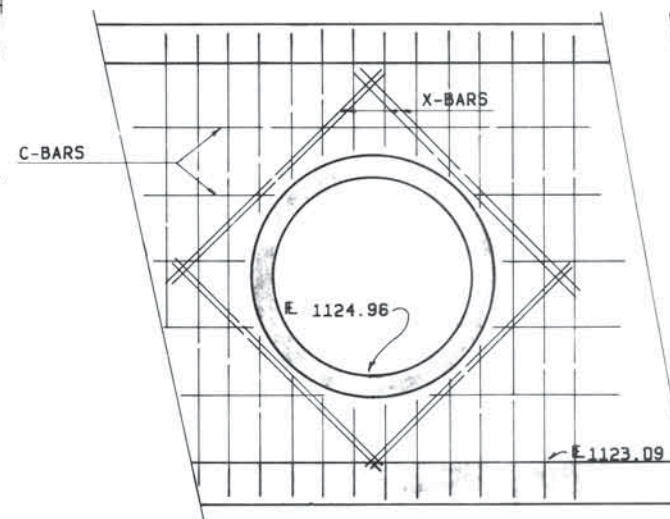
ADDITIONAL CURTAIN WALL DETAIL



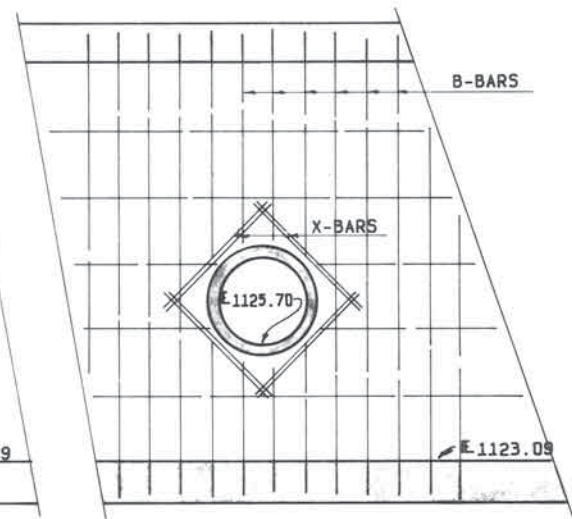
CONCRETE ENCASEMENT DETAIL
SANITARY SEWER
STA. 284+30



CONSTRUCTION JOINT DETAIL



STUB IN DETAIL
54" RCP - 32' LT. STA. 271+35.50
X-BARS - 8 REQD. #5
LENGTH = 6'-6"



STUB IN DETAIL
24" RCP - 32' LT. STA. 271+59.66
X-BARS - 8 REQD. #5
LENGTH = 3'-6"

FLOOD INFORMATION F.E.M.A.

- * 50 YEAR Q = 2,730 CFS
50 YEAR FLOOD ELEV. @ GRAND AVE. = 1137.3±
- * 100 YEAR Q = 3,300 CFS
100 YEAR FLOOD ELEV. @ GRAND AVE. = 1138.8±
- * AT MOUTH 1.2 MILES DOWNSTREAM OF GRAND AVE.

HYDRAULICS DATA FOR BRIDGE A 2-10' X 9' R.C.B.

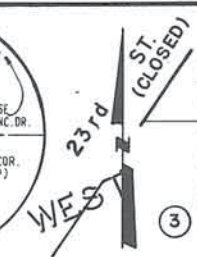
DA. = 1,590 ACRES
R.C.B. CAPACITY W/ ALLOWABLE H.W.
Q = 1,880 CFS
V = 10.6 FPS
50 YEAR Q = 2,160 CFS
THRU RCB = 1,998 CFS, V = 11.2 FPS
OVERFLOW = 162 CFS, V = 1.5 FPS
50 YEAR Q COMPUTED HIGHWATER ELEV. = 1134.6
100 YEAR Q = 2,625 CFS
THRU R.C.B. = 2,171 CFS, V = 12.2 FPS
OVERFLOW = 454 CFS, V = 2.0 FPS
100 YEAR Q COMPUTED HIGHWATER ELEV. = 1135.1

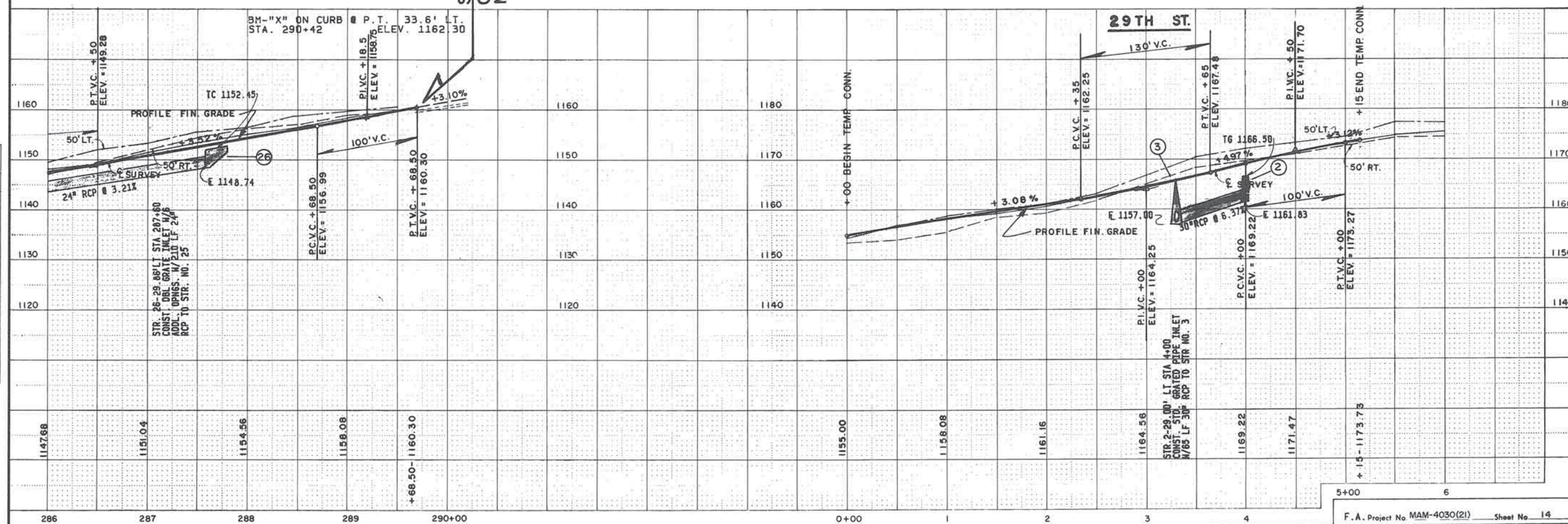
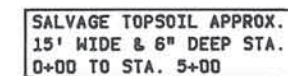
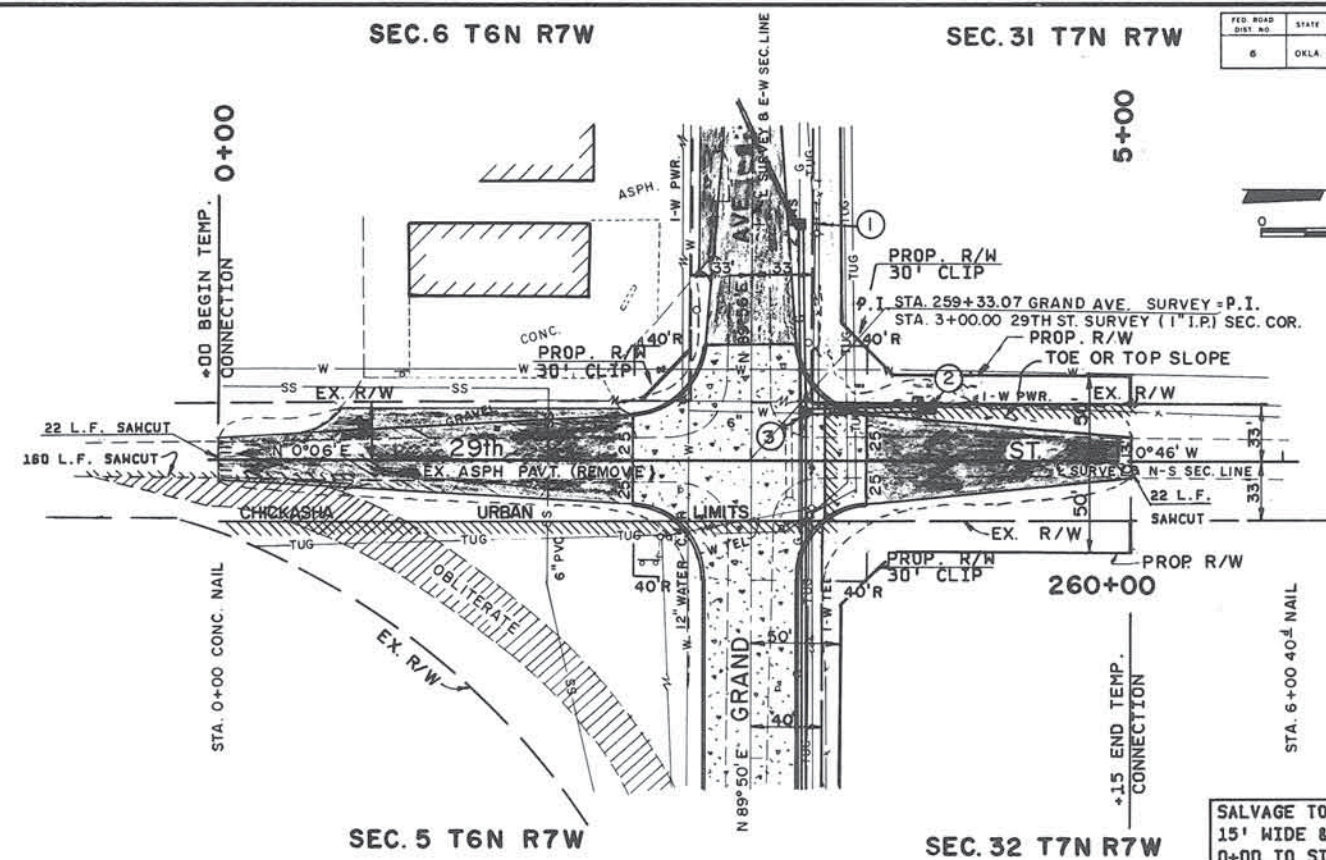
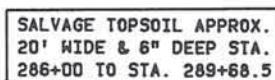
Design	
Drawn	
Checked	
Approved	
Squad	

BRIDGE BOX EXTENSION DETAILS BRIDGE A

F. A. Project No MAM-4030(21) Sheet No. 11



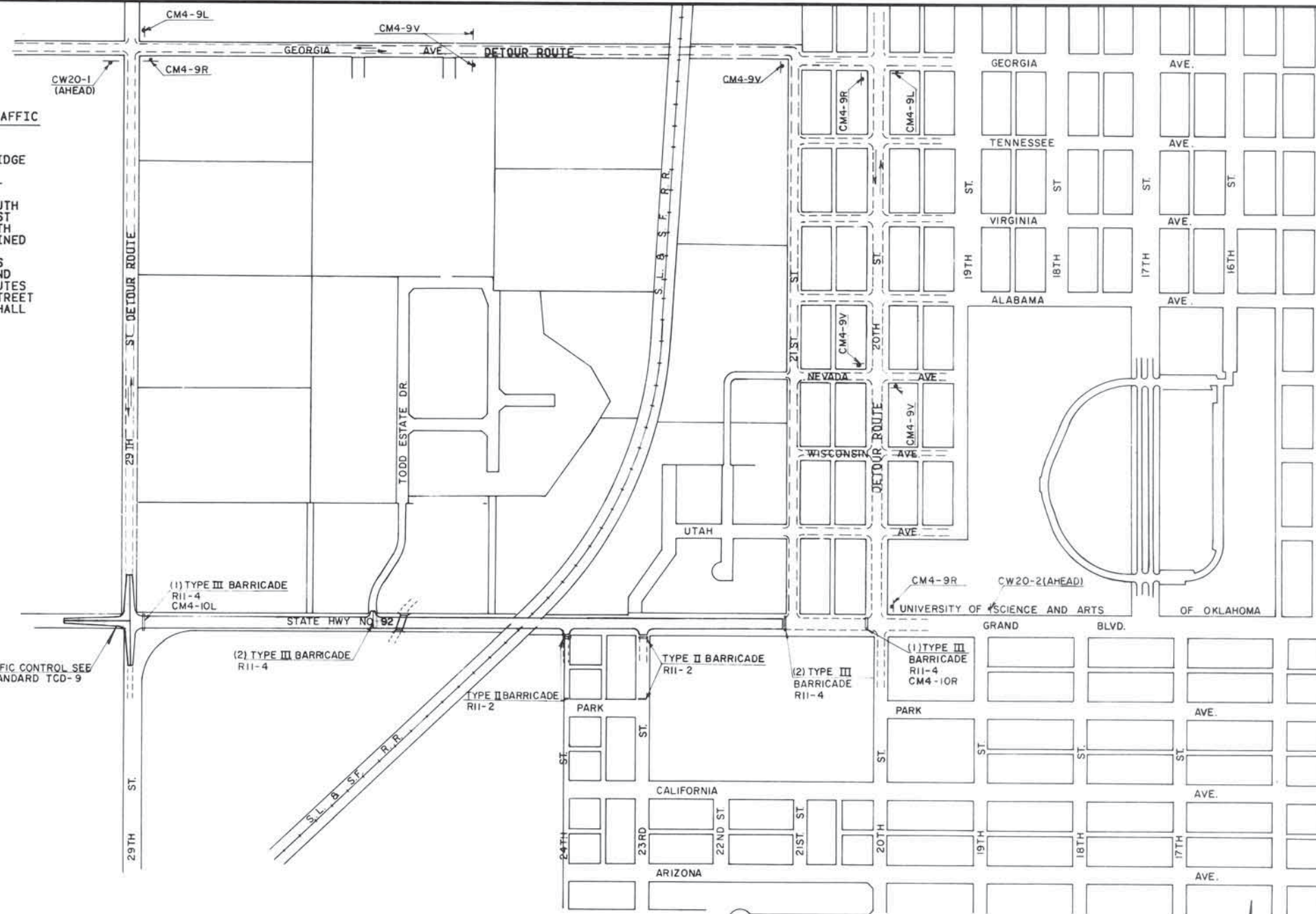




SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC

CONSTRUCTION SHOULD BE ACCOMPLISHED IN TWO PHASES. THE FIRST BEING CONSTRUCTION OF BRIDGE AND MAINLINE FROM TODD ESTATE DR. TO 21ST STREET AND THE WEST HALF OF 29TH STREET INTERSECTION. (SEE SHADED AREAS BELOW) NORTH BOUND 29TH TO WEST BOUND GRAND BLVD. AND SOUTH BOUND 29TH TO EAST BOUND GRAND BLVD. AND EAST BOUND GRAND BLVD. TO NORTH BOUND AND/OR SOUTH BOUND 29TH STREET TRAFFIC SHOULD BE MAINTAINED THROUGH OUT THE JOB. TRAFFIC CONTROL DURING PHASE 1 SHOULD BE AS SHOWN ON O.D.O.T. STANDARDS TCD-1, TCD-3 AND TCD-9 LATEST REVISION WITH MAJOR DETOUR ROUTES BEING 20TH STREET, GEORGIA AVE. AND 29TH STREET ACCESS TO LOCAL BUSINESSES AND RESIDENTS SHALL BE MAINTAINED DURING CONSTRUCTION.

FOR TRAFFIC CONTROL SEE O.D.O.T. STANDARD TCD-9



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA				
REVISIONS					
DESCRIPTION	DATE				



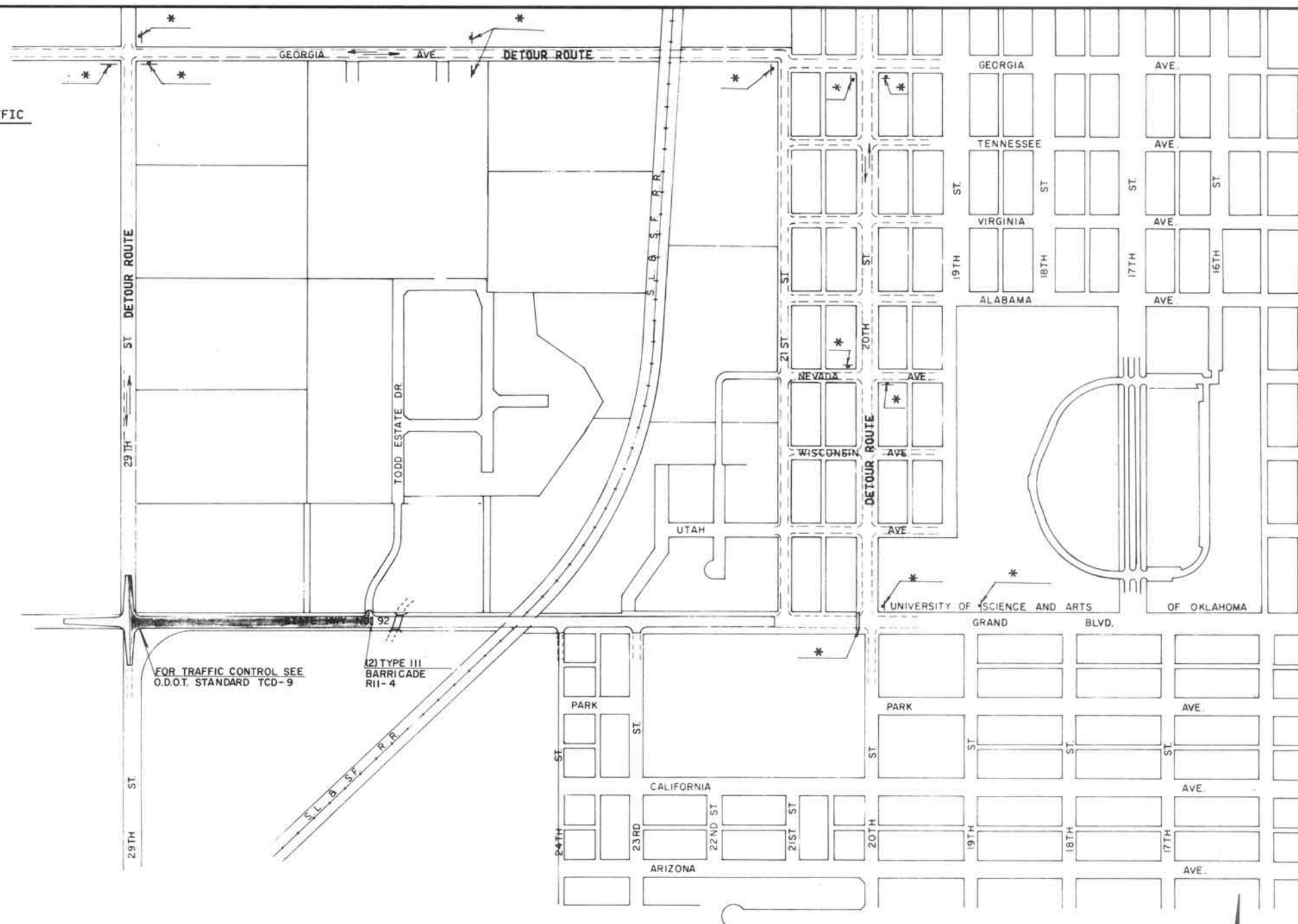
PHASE I SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC

Design	
Drawn	
Checked	
Approved	
Squad	

F.A. Project No MAM-4030(21) Sheet No 16

SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC

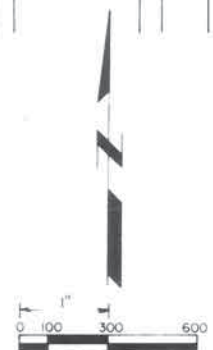
PHASE TWO OF CONSTRUCTION SHOULD COMPLETE EAST HALF OF INTERSECTION OF 29TH STREET AND MAINLINE TO C. TODD ESTATE DR. (SEE SHADED AREA BELOW).
TRAFFIC CONTROL DURING PHASE 2 SHOULD BE AS SHOWN ON O.D.O.T. STANDARDS TCD-1, TCD-3 AND TCD-9 LATEST REVISIONS WITH MAJOR DETOUR ROUTES BEING 20TH STREET, GEORGIA AVE. AND 29TH STREET.
ACCESS TO LOCAL BUSINESSES AND RESIDENTS SHALL BE MAINTAINED DURING CONSTRUCTION.



FOR TRAFFIC CONTROL SEE O.D.O.T. STANDARD TCD-9

(2) TYPE III BARRICADE R11-4

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA				
REVISIONS					
DESCRIPTION	REVISIONS		DATE		



* TRAFFIC CONTROL DEVICES FROM PHASE I THAT WILL REMAIN IN PLACE DURING PHASE II CONSTRUCTION.

PHASE II					
SEQUENCE OF CONSTRUCTION & MAINTENANCE OF TRAFFIC					
Design					
Drawn					
Checked					
Approved					
Squad					
F.A. Project No. MAM-4030(21)					Sheet No. 17

ORIGINAL SURVEY	BY	DATE
NOTE BOOK		
NO.		

FINAL SURVEY	BY	DATE
NOTE BOOK		
NO.		

AREAS CHECKED	BY
EX	BY

AREAS CHECKED	BY
EX	BY



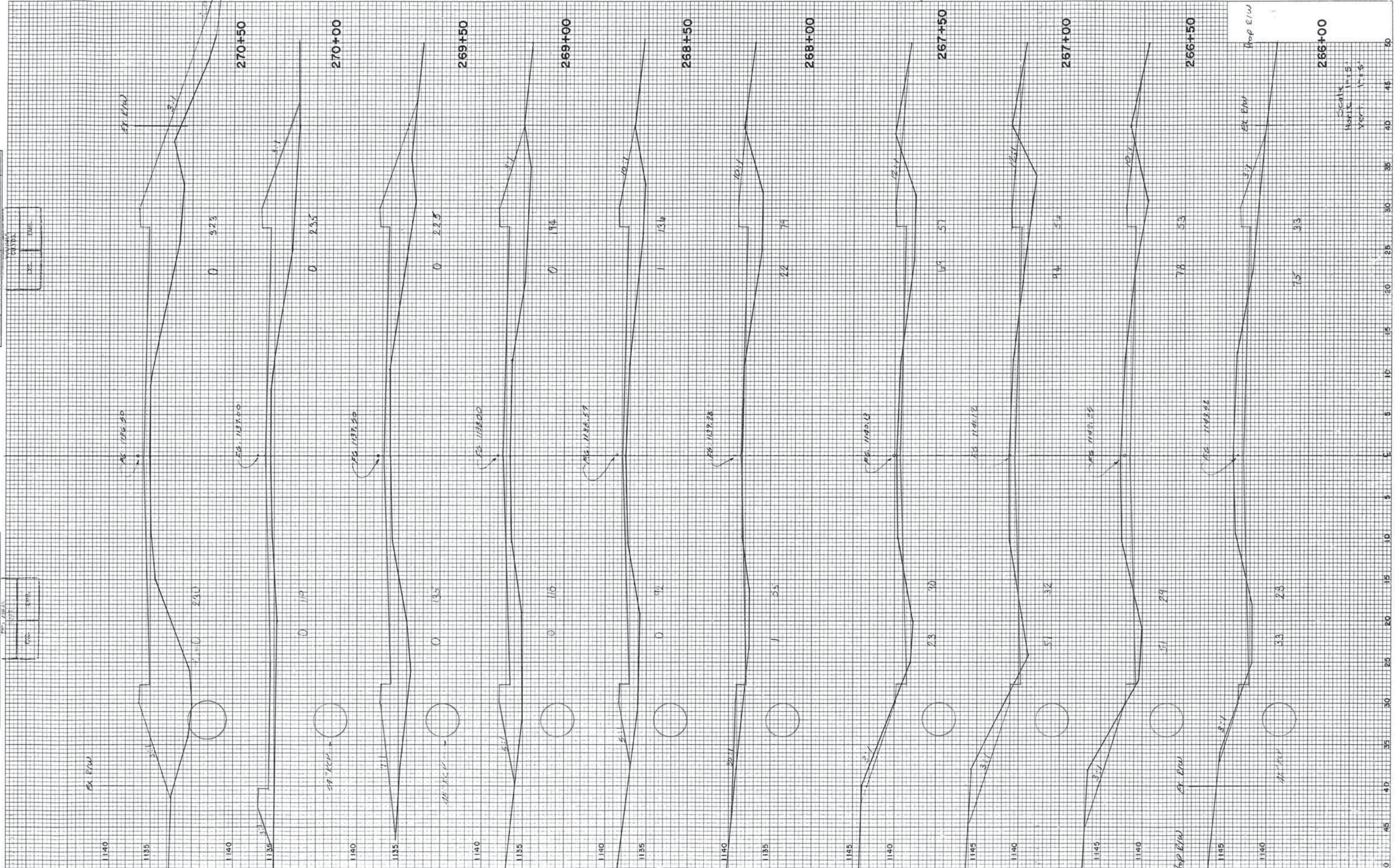
Scale
 Horiz. 1"=50'
 Vert. 1"=5'

ORIGINAL	SURVEY	DATE
NO.	BY	
NO.	DATE	

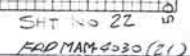
FINAL	SURVEY	DATE
NO.	BY	
NO.	DATE	

NO.	DATE
NO.	DATE

NO.	DATE
NO.	DATE



FINAL SURVEY	SURVEYED PLOTTED TEMPLATE AREAS	BY	DATE
NOTE BOOK			

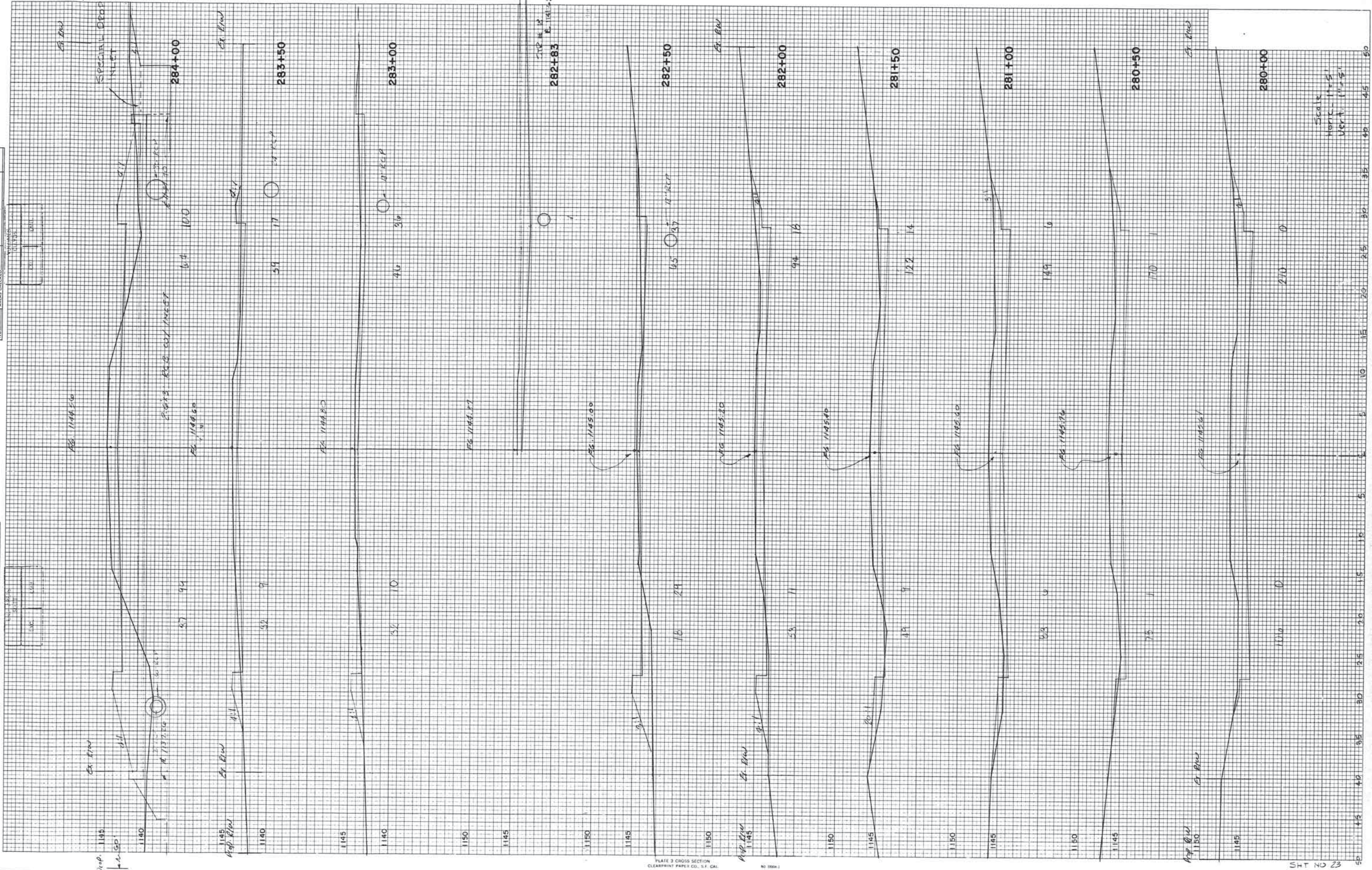
[illegible]

ORIGINAL SURVEY	SURVEYED	BY	DATE
NO.	NOTE BOOK		
	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NO.	NOTE BOOK		
	AREAS CHECKED		

DATE	BY

DATE	BY



ORIGINAL SURVEY NOTE BOOK NO.	SURVISED PLOTTER AREAS CHECKED	BY	DATE

Map 1111

FINAL SURVEY NOTE BOOK NO.	SURVISED PLOTTER AREAS CHECKED	BY	DATE

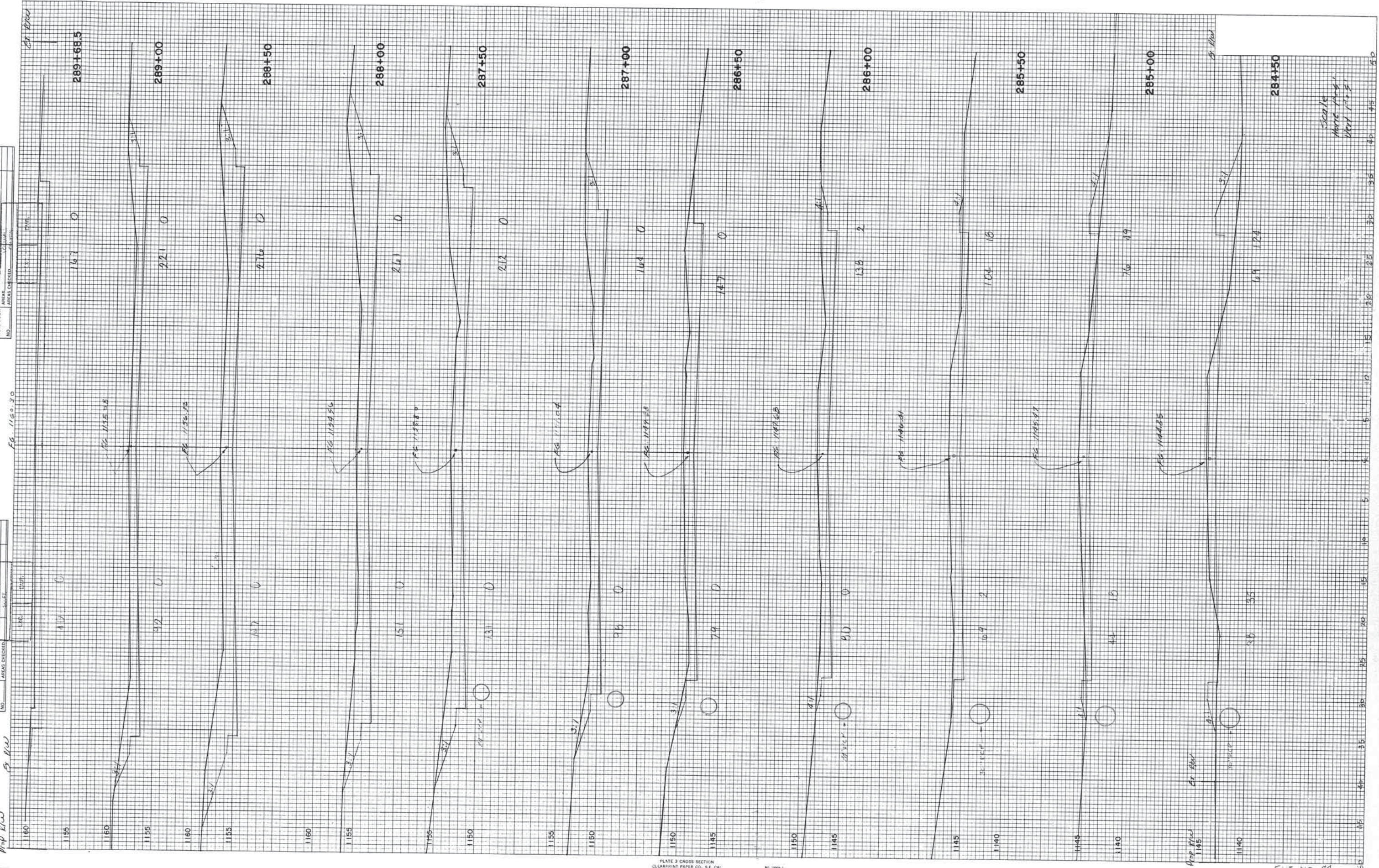


PLATE 3 CROSS SECTION
CLEARPRINT PAPER CO., ST. CAL.

NO 1000-3

S-T NO 24
ENR/MAM-4070 6.17

Scale
Horizontal 1" = 50'
Vertical 1" = 5'

ORIGINAL SURVEY NO.	SURVEYED PLOTTER NOTE BOOK AREAS CHECKED	BY	DATE
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FINAL SURVEY NO.	SURVEYED PLOTTER NOTE BOOK AREAS CHECKED	BY	DATE
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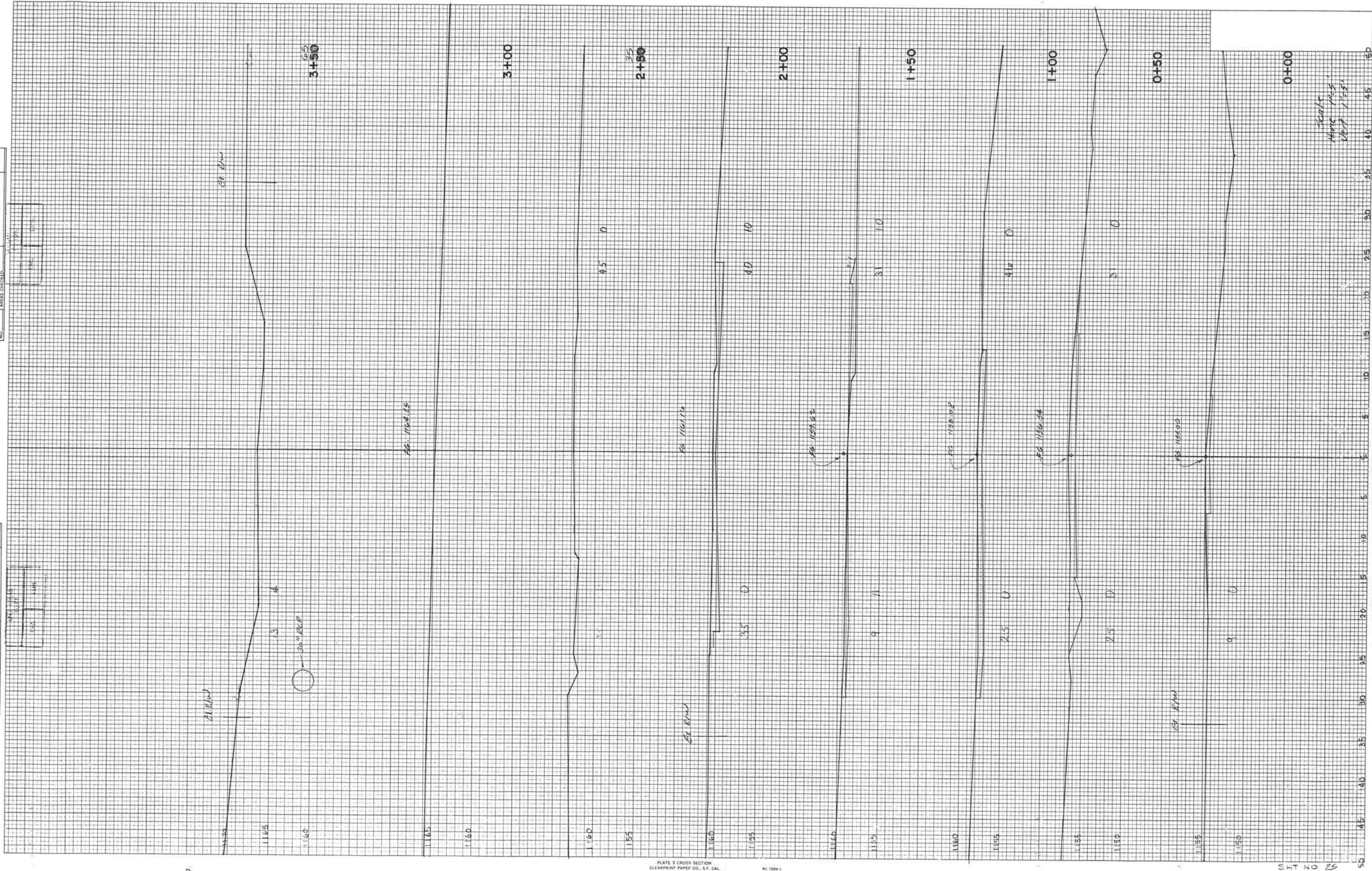


PLATE 3 CROSS SECTION
CLEARPRINT PAPER CO., S.F. CAL.

NO. 10004

SHT NO 25
FUTNAM-4030 612

SCALE
HORIZ. 1"=50'
VERT. 1"=5'

ORIGINAL SURVEY NOTE BOOK NO.	SURVEYED PLOTTED TEMPLATE AREAL CHECKED	BY	DATE
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EXC	END
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FINAL SURVEY NOTE BOOK NO.	SURVEYED PLOTTED TEMPLATE AREAL CHECKED	BY	DATE
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EXC	END
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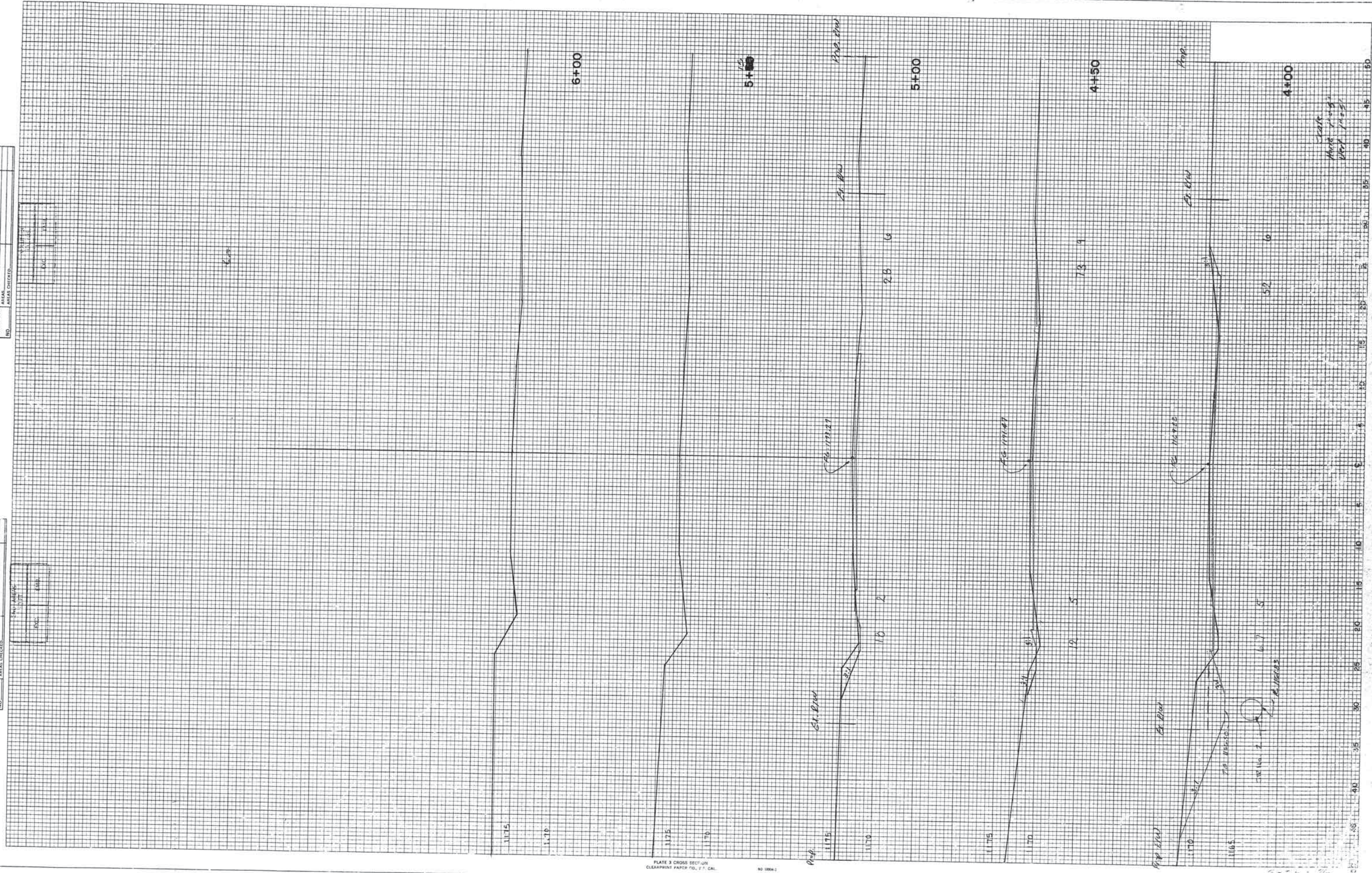


PLATE 3 CROSS SECTION
CLEARPRINT PAPER CO., U.S.A.

NO. 1000-2