



SHEET NUMBER

OFFICE CALCULCS 196

FIG. 1307-3(b)  
DATE: JANUARY 2017

SEE SHEET NO. CALCULATED JKP CHECKED FGW

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.		
<b>PAVEMENT</b>							
312	251	312	SY	PARTIAL DEPTH PAVEMENT REPAIR (441)			
4140	253	4140	SY	PAVEMENT REPAIR			
9005	255	9005	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS OC1, AS PER PLAN	16		
2894	255	2894	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS OC MS, AS PER PLAN	16		
34828	255	34828	FT	FULL DEPTH PAVEMENT SAWING			
17759	304	17759	CY	AGGREGATE BASE			
3892	305	3892	SY	9" CONCRETE BASE, CLASS OC1			
127	407	127	GAL	TACK COAT			
5813	408	5813	GAL	PRIME COAT			
1029	451	1029	SY	9" REINFORCED CONCRETE PAVEMENT, CLASS OC1, AS PER PLAN	12		
31690	451	31690	SY	10" REINFORCED CONCRETE PAVEMENT, CLASS OC1, AS PER PLAN	12		
6783	452	6783	SY	9" NON-REINFORCED CONCRETE PAVEMENT, CLASS OC1, AS PER PLAN	12		
50342	452	50342	SY	VARIABLE THICKNESS NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN	12		
<b>WATER WORK</b>							
	3649	638	02504	3649	FT	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, MECHANICAL JOINTS AND FITTINGS	
	2481	638	02604	2481	FT	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, BOLTLESS-RESTRAINED, JOINTS AND FITTINGS	
	2107	638	02700	2107	FT	12" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 55, BALL AND SOCKET JOINTS AND FITTINGS	
	1142	638	02730	1142	FT	12" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA C900, DR18	
	1608	638	02800	1608	FT	12" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, ASTM SDR 26	
	438	638	04800	438	FT	3/4" COPPER SERVICE BRANCH	
	464	638	05300	464	FT	3/4" POLYETHYLENE SERVICE BRANCH	
	212	638	06704	212	FT	20" STEEL PIPE ENCASEMENT, OPEN CUT	
	310	638	07310	310	FT	24" STEEL PIPE ENCASEMENT, BORED OR JACKED	
	18	638	08100	18	EACH	12" GATE VALVE AND VALVE BOX	
	16	638	09200	16	EACH	12" CUTTING-IN SLEEVE, VALVE AND VALVE BOX	
	12	638	09700	12	EACH	12" X 6" TAPPING SLEEVE, VALVE AND VALVE BOX	
	36	638	10200	36	EACH	6" FIRE HYDRANT	
	10	638	10300	10	EACH	FIRE HYDRANT EXTENDED AND ADJUSTED TO GRADE	
	8	638	10500	8	EACH	FIRE HYDRANT REMOVED AND RESET	
	8	638	10600	8	EACH	FIRE HYDRANT AND GATE VALVE REMOVED AND RESET	
	12	638	10800	12	EACH	VALVE BOX ADJUSTED TO GRADE	
	6	638	10900	6	EACH	SERVICE BOX ADJUSTED TO GRADE	
	4	638	11100	4	EACH	METER AND CHAMBER REMOVED AND RESET	

GENERAL SUMMARY

TRU-99-13.48

SHEET NUMBER				PARTICIPATION						ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	<div style="border: 1px solid black; padding: 2px;">           SP 1307-4            DATE: JANUARY 2017         </div>	SEE SHEET NO.	CALCULATED	DMK CHECKED	CML
OFFICE CALCS	64	68	97	165	175	01/NHS/PV/COLS	02/NHS/PV	03/STR/PV												
														<b>ROADWAY</b>						
1000								1000			202	23000	1000	SY	PAVEMENT REMOVED					
	12										202	58700	12	EACH	MANHOLE ABANDONED					
						225					202	75000	225	FT	FENCE REMOVED					
						1					202	75250	1	EACH	GATE REMOVED					
															<b>ROADWAY ALTERNATES</b>					
				500				500	X	606	98000	500	FT	GUARDRAIL, MISC.: TENSIONED CABLE (BRIFEN) (ALTERNATE 1)						
				20				20	X	606	98100	20	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL (BRIFEN) (ALTERNATE 1)						
				500				500	X	606	98000	500	FT	GUARDRAIL, MISC.: TENSIONED CABLE (TRINITY) (ALTERNATE 2)						
				2				2	X	606	98100	2	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL (TRINITY) (ALTERNATE 2)						
				500				500	X	606	98000	500	FT	GUARDRAIL, MISC.: TENSIONED CABLE (MARION STEEL) (ALTERNATE 3)						
				2				2	X	606	98100	2	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL (MARION STEEL) (ALTERNATE 3)						
															<b>EROSION CONTROL</b>					
				2				2		659	00100	2	EACH	SOIL ANALYSIS TEST						
				44				44		659	00300	44	CY	TOPSOIL						
				400				400		659	10000	400	SY	SEEDING AND MULCHING						
				20				20		659	14000	20	SY	REPAIR SEEDING AND MULCHING						
				20				20		659	15000	20	SY	INTER-SEEDING						
				0.05				0.05		659	20000	0.05	TON	COMMERCIAL FERTILIZER						
				0.08				0.08		659	31000	0.08	ACRE	LIME						
				2.2				2.2		659	35000	2.2	MGAL	WATER						
				0.9				0.9		659	40000	0.9	MSF	MOWING						
										832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN						
										832	30000	5000	EACH	EROSION CONTROL						
															<b>PAVEMENT</b>					
1844								1844		254	01000	1844	SY	PAVEMENT PLANING, ASPHALT CONCRETE (1 1/2")						
1265								1265		301	46000	1265	CY	ASPHALT CONCRETE BASE, PG64-22						
50								50		301	48000	50	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)						
2627								986		304	20000	2627	CY	AGGREGATE BASE						
5333								5333		305	12000	5333	SY	8" CONCRETE BASE, CLASS OCI						
5695								3647	2048	407	10000	5695	GAL	TACK COAT						
18								18		441	50400	18	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)						
415								226	189	442	10000	415	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446)						
497								268	229	442	10100	497	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A, (446)						
4000								4000		609	12000	4000	FT	COMBINATION CURB AND GUTTER, TYPE 2						
															<b>WATER WORK</b>					
			896					896		SPECIAL	63820184	896	FT	12" WATER MAIN DIP CLASS 54 MECHANICAL JOINTS AND FITTINGS (COL. 801)						
			14					14		SPECIAL	63820538	14	EACH	6" GATE VALVE WITH VALVE BOX (COL. 802)						
			260					260		SPECIAL	63820750	260	EACH	6" FIRE HYDRANT FURNISHED (COL. 809)						
			8					8		SPECIAL	63820844	8	FT	INSTALL 1 1/2" COPPER WATER SERVICE CONNECTION (COL. 805)						
			4					4		SPECIAL	63820902	4	EACH	SERVICE BOX ADJUSTED TO GRADE (COL. 807)						
															<b>SANITARY SEWER</b>					
			200					200		611	00900	200	FT	6" CONDUIT, TYPE B, 706.01 OR 706.08 WITH 706.11 OR 706.12 JOINTS						
			284					284		611	02000	284	FT	8" CONDUIT, TYPE C, 706.08 WITH 706.12 JOINTS						
			273					273		611	04400	273	FT	12" CONDUIT, TYPE B, 706.03 WITH 706.11 JOINTS						
			28					28		611	05900	28	FT	15" CONDUIT, TYPE B, 706.03 WITH 706.11 JOINTS						
			230					230		611	07400	230	FT	18" CONDUIT, TYPE B, 706.03 WITH 706.11 JOINTS						
			5					5		611	99574	5	EACH	MANHOLE, NO. 3 WITH 706.11 JOINTS						
			8					8		611	99654	8	EACH	MANHOLE ADJUSTED TO GRADE						
				3				3		611	99660	3	EACH	MANHOLE RECONSTRUCTED TO GRADE						

**GENERAL SUMMARY**

**FRA-11-26.48**

SHEET NUMBER				PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
87	96			01/NHS/PV	02/SK2/PV/ATB						
										TRAFFIC CONTROL	
						621	00100	161	EACH	RPM	
						630	02100	146	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
						630	03100	229	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
						630	79500	4	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
						630	80100	96	SF	SIGN, FLAT SHEET	
						630	85000	11	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	
						630	86002	14	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						644	00100	3.29	MILE	EDGE LINE, 4"	
						644	00200	1.36	MILE	LANE LINE, 4"	
						644	00300	1.25	MILE	CENTER LINE	
						644	00400	1368	FT	CHANNELIZING LINE, 8"	
						644	00500	146	FT	STOP LINE	
						644	00600	313	FT	CROSSWALK LINE	
						644	00700	450	FT	TRANSVERSE/DIAGONAL LINE	
						644	00900	24	SF	ISLAND MARKING	
						644	01300	9	EACH	LANE ARROW	
						644	01410	8	EACH	WORD ON PAVEMENT, 96"	
										TRAFFIC SIGNALS	
						625	25400	122	FT	CONDUIT, 2", 725.04	
						625	25500	180	FT	CONDUIT, 3", 725.04	
						625	29000	182	FT	TRENCH	
						625	29600	120	FT	TRENCH IN PAVED AREA, TYPE B	
						625	30706	2	EACH	PULL BOX, 725.08, 24"	
						625	32000	7	EACH	GROUND ROD	
						632	04910	4	EACH	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 1-WAY, ALUMINUM	
						632	04916	1	EACH	VEHICULAR SIGNAL HEAD, (LED), 3 SECTION, 12" LENS, 2-WAY, ALUMINUM	
						632	05080	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, ALUMINUM	
						632	25000	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
						632	27004	2	EACH	LOOP DETECTOR UNIT	
						632	27008	3	EACH	LOOP DETECTOR UNIT, DELAY AND EXTENSION TYPE	
						632	30200	139	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	
						632	40300	823	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
						632	40500	1168	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
						632	62810	100	FT	INTERCONNECT CABLE, MISC.: INTEGRAL MESSENGER WIRE TYPE, 7 CONDUCTOR, NO. 12 AWG	
						632	65200	1601	FT	LOOP DETECTOR LEAD-IN CABLE	
						632	67200	25	FT	POWER CABLE, 2 CONDUCTOR, NO. 8 AWG	
						632	70001	1	EACH	POWER SERVICE, AS PER PLAN	95
						632	85000	2	EACH	COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 10	
						632	89900	5	EACH	PEDESTAL, 8', TRANSFORMER BASE	
						632	90100	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	
						633	01661	1	EACH	CONTROLLER UNIT, TYPE 2070E WITH SEPAC SOFTWARE, WITH CABINET, TYPE 332, AS PER PLAN	95
						633	67100	1	EACH	CABINET FOUNDATION	
						633	67200	1	EACH	CONTROLLER WORK PAD	

CALCULATED: JKP  
 CHECKED: FGW  
**GENERAL SUMMARY**  
**ATB-208-13.43**  
 36  
 108

SHEET									ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
GEN	DEL	MRW	FRA1	FRA2	MAD	MRW	PIC	UNI						
5	15	16	17	18	19	20	21	22						
													<b>TRAFFIC CONTROL</b>	
	209.9	48.6	12.2	12.6	34.2	152.7	100.6	120.2	642	00090	691	MILE	EDGE LINE, 4"	
	113.0	33.3	369.9	298.0	29.9	59.8	94.3		642	00094	885.2	MILE	EDGE LINE, 6"	
	70.0	32.7	273.0	314.1	22.2	30.6	59.6		642	00194	732	MILE	LANE LINE, 6"	
	106.0	23.4	8.4	6.7	17.4	79.7	50.1		642	00290	185.7	MILE	CENTER LINE	
	9201.0	3171.0	8512.0	4512.0	528.0		7548.0		642	00394	24271	FT	CHANNELIZING LINE, 12"	
		106.0	7689.0	5459.0	897.0		950.0		642	01508	14995	FT	DOTTED LINE, 6"	
LS									642	20000	LS		TWO WAY RADIO EQUIPMENT	
													<b>MAINTENANCE OF TRAFFIC</b>	
240									611	11110	240	HOUR	LAW ENFORCEMENT WITH PATROL CAR FOR ASSISTANCE	
													<b>INCIDENTALS</b>	
LS									614	11000	LS		MAINTAINING TRAFFIC	4
LS									614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	4
LS									624	10001	LS		MOBILIZATION, AS PER PLAN	4





0 5 10 20  
HORIZONTAL  
SCALE IN FEET

CALCULATED  
MRV  
CHECKED  
MLC

**EXISTING STRUCTURE**

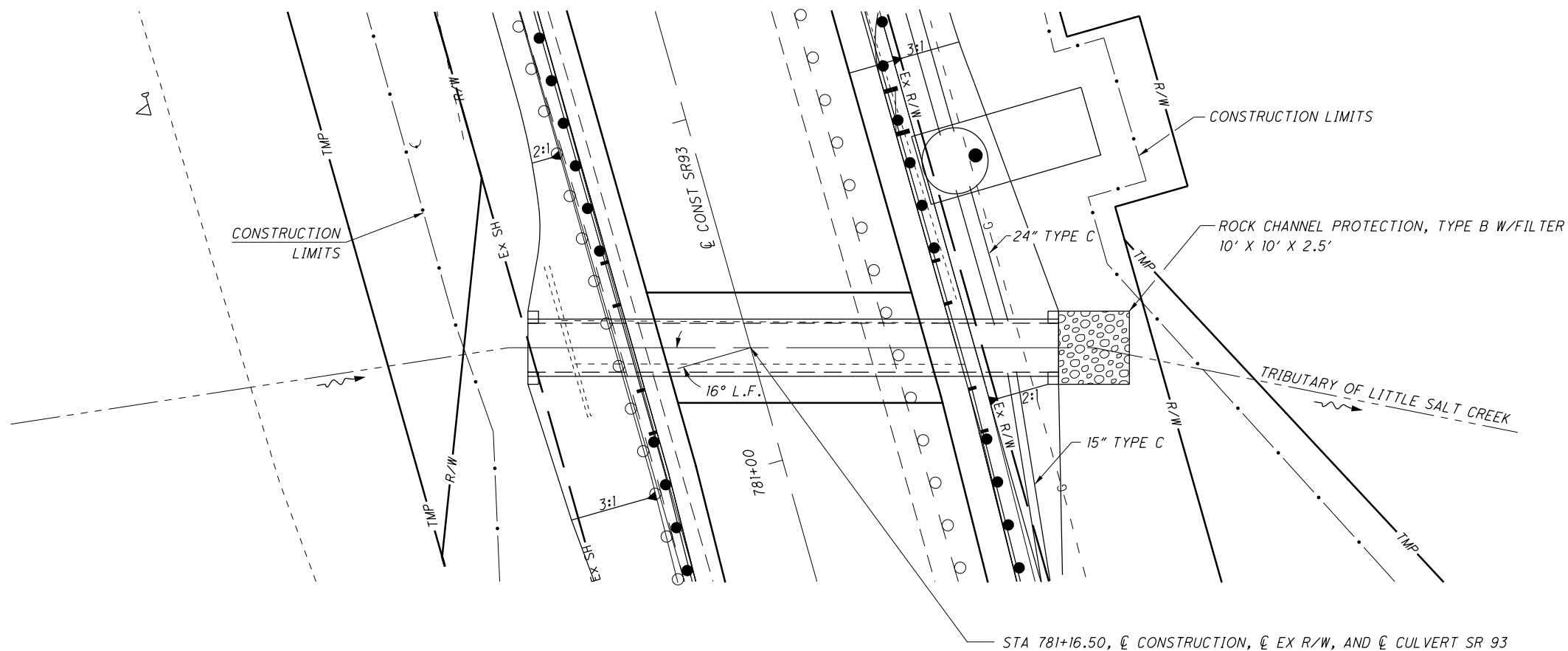
TYPE: 48" AND 54" CORRUGATED METAL PIPES  
SKEW: 16° L.F.  
ALIGNMENT: TANGENT  
CFN: 400930123

**PROPOSED STRUCTURE**

TYPE: 53"X83" ELLIPTICAL CONCRETE PIPE  
SKEW: 16° L.F.  
ALIGNMENT: TANGENT

**HYDRAULIC DESIGN DATA**

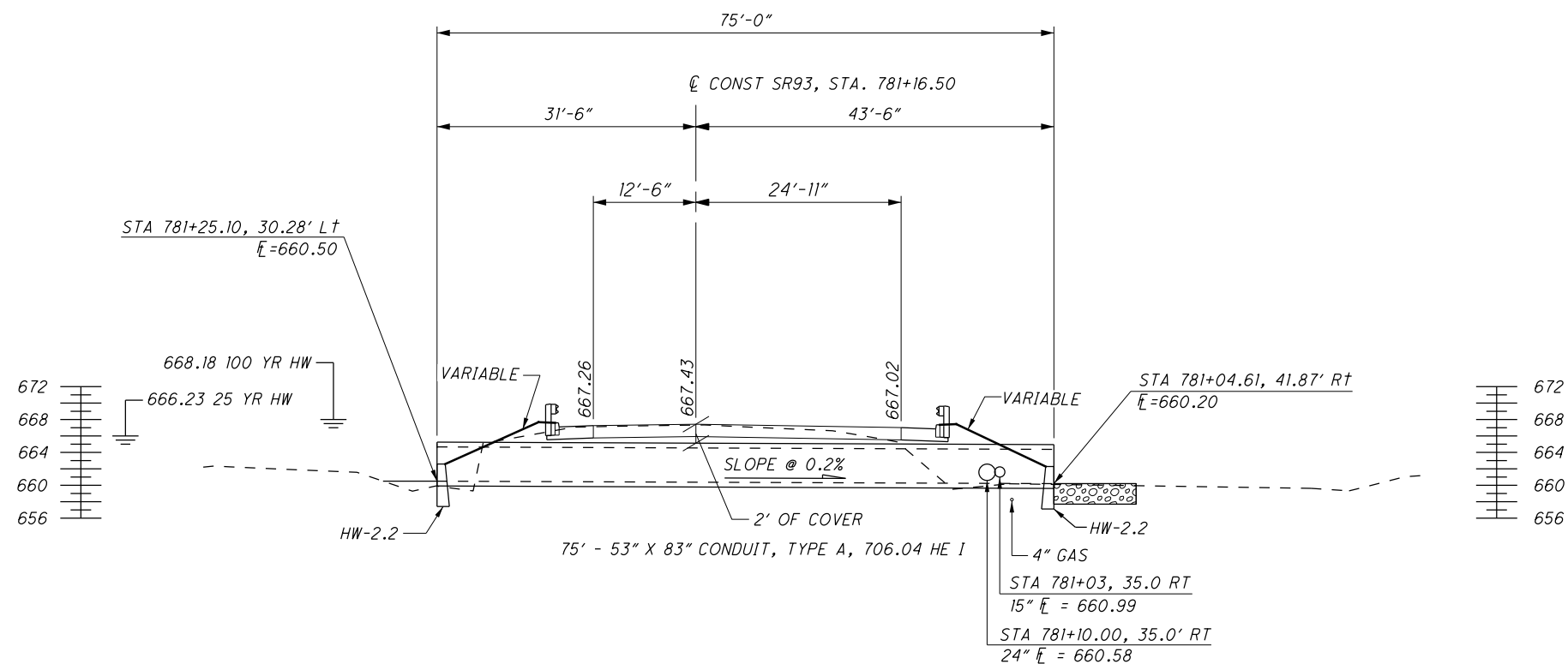
DRAINAGE AREA: 344 ACRES  
Q(25): 230 CFS  
HW(25): 666.24 FT  
V(25): 11 FT/S  
Q(100): 325 CFS  
HW(100): 668.81 FT  
V(100): 13 FT/S  
ORDINARY HIGH WATER MARK: 661.0'  
DESIGN SERVICE LIFE: 50 YRS  
pH: 6.8  
NON-ABRASIVE



STA 781+16.50,  $\varnothing$  CONSTRUCTION,  $\varnothing$  EX R/W, AND  $\varnothing$  CULVERT SR 93

**ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY**

ITEM	QUANTITY	UNIT	DESCRIPTION
601	9	CY	ROCK CHANNEL PROTECTION, TYPE B, W/FILTER
602	3.3	CY	CONCRETE MASONRY
611	75	FT	53" X 83" CONDUIT, TYPE A, 706.04 HE I



CULVERT DETAIL  
STA 781+16.50

JAC-93-14.35