

BENDS AND BRANCHES  
 FOR INFORMATION ONLY

SHEET NO.	202		601		611										605										
	CATCH BASIN ABANDONED	ROCK CHANNEL PROTECTION, TYPE D WITH FILTER	6" CONDUIT, TYPE B	12" CONDUIT, TYPE C	15" CONDUIT, TYPE C	21" CONDUIT, TYPE B	30" CONDUIT, TYPE B	CONDUIT, BORED OR JACKED (6", TYPE B)	6" CONDUIT, TYPE F	CATCH BASIN, NO. 4	CATCH BASIN, NO. 5, AS PER PLAN	CATCH BASIN ADJUSTED TO GRADE	CATCH BASIN RECONSTRUCTED TO GRADE	PRECAST REINFORCED CONCRETE OUTLET	4" SHALLOW PIPE UNDERDRAINS	4" UNCLASSIFIED PIPE UNDERDRAINS	4" ROCK CUT UNDERDRAINS				6"X45° BEND	6"X90° BEND	6"X6" TEE	6"X6" WYE	6"X6" CROSS
	EACH	CY	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT	FT				EACH	EACH	EACH	EACH	EACH
117								35	222					3	2793						3	2	1		1
118								42	42					1	4000						6	2	2		2
119	1				105				260	1				4	3783			267			4	2	2		
120									26					1	50			3947				4		2	1
121		23				6	6	50	180		1	1	1				4000					3	3		2
122								51	213			1		3				873			2				
123									112									1882			1			2	
124									90			1						3984			3	2	2		
125			25						98				1					3683	283		5			1	
126	1								160	1				2	4071						5	2	3		
127					108									1	3650	350					4				
128									113					4	4000						4		3		
129	1				107				188	1				4	4000						4		2		
130			25						130					1	4000						4		2		
131									198					4	4000						2	2	2	1	1
132									123					2	4000						2			2	
133									144					3	4000						2	2	2		1
134								27	171			1		3	4577					4	2	3	1		
135														2	3160						2	3			
135A			50						156					1	2024						2	2	2		
136									60					3	928								2		
137									26					1	836	47						2			
138									24					1	542	50						1		1	
139									40			1		2	958						2				1
142									56					3	1122							3			
143									18					1	720	50					2		1		
144									38					2	814							2			
145									38					2	1218							4			
146									40					2	822							2	2	1	
147									34					2	720							2			1
TOTALS CARRIED TO GENERAL SUMMARY	3	23	100	215	105	6	6	163	3196	3	1	5	2	56	71997	780	9087								

**DRAINAGE SUBSUMMARY**

**STA - 6 - 18.84**

SHEET NUMBER

OFFICE  
CALCS

196

ITEM  
ITEM  
EXT.

GRAND  
TOTAL

UNIT

DESCRIPTION

FIG. 1307-3(b)  
DATE: JANUARY 2019

SEE  
SHEET  
NO.

CALCULATED  
JKP  
CHECKED  
FGW

PAVEMENT

312										251	01000	312	SY	PARTIAL DEPTH PAVEMENT REPAIR	
4140										253	01000	4140	SY	PAVEMENT REPAIR	
9005										255	10011	9005	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC1P, AS PER PLAN	16
2894										255	10161	2894	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC MS, AS PER PLAN	16
34828										255	20000	34828	FT	FULL DEPTH PAVEMENT SAWING	
17759										304	20000	17759	CY	AGGREGATE BASE	
3892										305	13000	3892	SY	9" CONCRETE BASE	
127										407	10000	127	GAL	TACK COAT	
5813										408	10000	5813	GAL	PRIME COAT	
1029										451	14001	1029	SY	9" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	12
31690										451	15001	31690	SY	10" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	12
6783										452	13001	6783	SY	9" NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN	12
50342										452	17001	50342	SY	VARIABLE THICKNESS NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN	12

WATER WORK

										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	
										1608	638	02800	1608	FT	12" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, ASTM SDR 26	
										1142	638	02900	1142	FT	12" WATER MAIN POLYVINYL CHLORIDE PIPE AND FITTINGS, AWWA CLASS 150	
										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		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SP. 1307-3(c)		SEE SHEET NO.	CALCULATED	JKP CHECKED	FGW		
16	18	23	55	192	262	DATE: JANUARY 2019																			
<b>RETAINING WALLS (WALL 1) OPTION A: REINFORCED EARTH WALL</b>																									
										1710	203	20000	1710	CY	EMBANKMENT										
										3474	203	35000	3474	CY	GRANULAR EMBANKMENT										
										LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING										
										1124	503	21101	1124	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN								108		
										4766	SPECIAL	61050010	4766	SF	RETAINING WALL, MISC.: REINFORCED EARTH WALL SYSTEM								190		
<b>RETAINING WALLS (WALL 1) OPTION B: RETAINED EARTH WALL</b>																									
										1636	203	20000	1636	CY	EMBANKMENT										
										3584	203	35000	3584	CY	GRANULAR EMBANKMENT										
										LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING										
										1150	503	21101	1150	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN								108		
										4738	SPECIAL	61050010	4738	SF	RETAINING WALL, MISC.: RETAINED EARTH WALL SYSTEM								190		
<b>BUILDING DEMOLITION</b>																									
										LS	202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 11-WD-1, 1 STORY BRICK BUILDING										
										LS	202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 13-T, 1 STORY BLOCK BUILDING										
										LS	202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 13-WL, 2 STORY BRICK BUILDING										
										LS	202	56000	LS		BUILDING DEMOLISHED: PARCEL NO. 19-T, 1 STORY METAL BUILDING										
<b>STRUCTURES OVER 20 FOOT SPAN</b>																									
															STRUCTURE TRU-99-1924 GENERAL SUMMARY								229		
															STRUCTURE TRU-99-2056 GENERAL SUMMARY								236		
										878	SPECIAL	51272000	878	SY	EPOXY WATERPROOFING OVERLAY (1/4" THICK)								190		
<b>MAINTENANCE OF TRAFFIC</b>																									
	10										614	11110	10	HOURLY	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE										
	5										614	12460	5	EACH	WORK ZONE MARKING SIGN										
		38									614	12470	38	EACH	WORK ZONE SPEED LIMIT SIGN										
	100										614	12500	100	EACH	REPLACEMENT SIGN										
	200										614	12600	200	EACH	REPLACEMENT DRUM										
							1528				614	12800	1528	EACH	WORK ZONE RAISED PAVEMENT MARKER										
				1201							614	13310	1201	EACH	BARRIER REFLECTOR, TYPE I (BIDIRECTIONAL)										
	14.00										614	20300	14.00	MILE	WORK ZONE LANE LINE, CLASS I, 4", 740.06, TYPE II										
				0.11							614	21300	0.11	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE II										
	0.26										614	21700	0.26	MILE	WORK ZONE CENTER LINE, CLASS II, 740.06, TYPE II										
				4.33							614	22000	4.33	MILE	WORK ZONE EDGE LINE, CLASS I, 4"										
				7.34							614	22300	7.34	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE II										
				48							614	26600	48	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE II										
	5692										614	28600	5692	FT	WORK ZONE GORE MARKING, CLASS II, 740.06, TYPE II										
				LS							615	10000	LS		ROADS FOR MAINTAINING TRAFFIC										
				944							615	20001	944	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN								17		
	30										616	10000	30	M GAL	WATER										
	10										616	20000	10	TON	CALCIUM CHLORIDE										
				30280							622	41001	30280	FT	PORTABLE BARRIER, 32", AS PER PLAN								58		
<b>INCIDENTALS</b>																									
											614	11000	LS		MAINTAINING TRAFFIC										
											619	16020	8	MNTH	FIELD OFFICE, TYPE C										
											623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING										
											624	10000	LS		MOBILIZATION										

GENERAL SUMMARY

TRU-99-13.48

SHEET NUMBER										PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	FIG. 1307-3(d)	SEE SHEET NO.	CALCULATED	JKP CHECKED	FGW
10	18	25								01/352/OT/HEBR						DATE: JANUARY 2019				
<b>ADDITIVE ALTERNATE 1: SIDEWALK</b>																				
5985										5985	608	10000	5985	SF	4" CONCRETE WALK					
126										126	608	52000	126	SF	CURB RAMP					
	5									5	616	10000	5	MGAL	WATER					
	105									105	659	00300	105	CY	TOPSOIL					
	940									940	659	10000	940	SY	SEEDING AND MULCHING					
<b>ADDITIVE ALTERNATE 2: PEDESTRIAN CROSSWALK</b>																				
			52							52	630	02100	52	FT	GROUND MOUNTED SUPPORT, NO. 2 POST					
			1							1	630	08600	1	EACH	SIGN POST REFLECTOR					
			27.8							27.8	630	80100	27.8	SF	SIGN, FLAT SHEET					
			2							2	630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL					
			2							2	630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL					
			2							2	631	92001	2	EACH	SIGN FLASHER ASSEMBLY, AS PER PLAN					5
			13							13	644	00500	13	FT	STOP LINE					
			200							200	644	00600	200	FT	CROSSWALK LINE					
<b>INCIDENTALS</b>																				
											614	11000	LS		MAINTAINING TRAFFIC					
											619	16010	6	MNTH	FIELD OFFICE, TYPE B					
											623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING					
											624	10000	LS		MOBILIZATION					

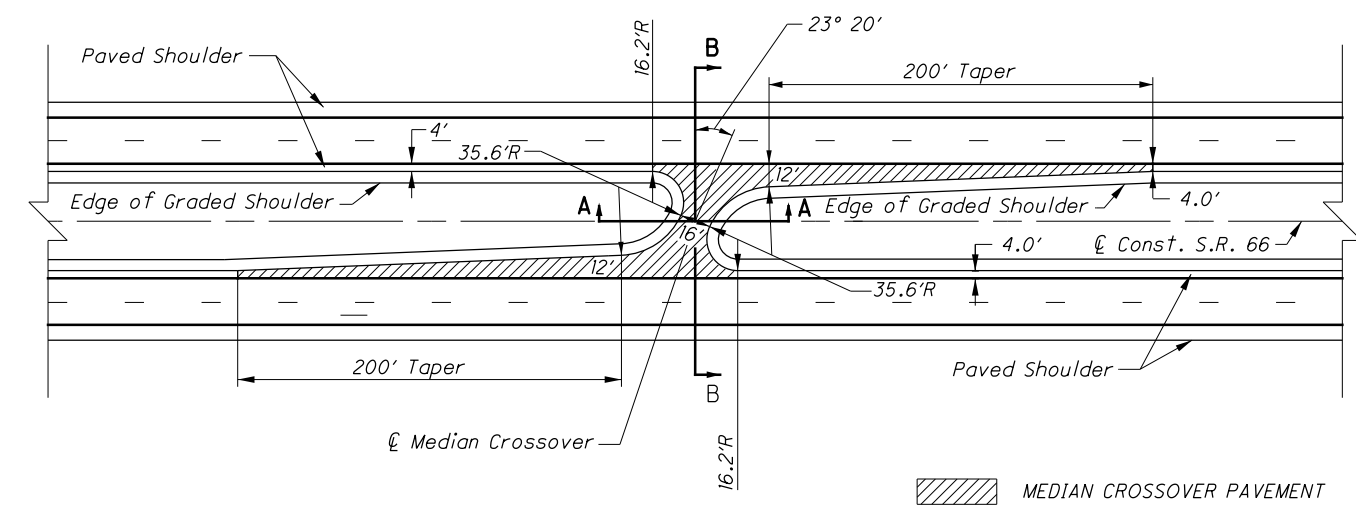
GENERAL SUMMARY

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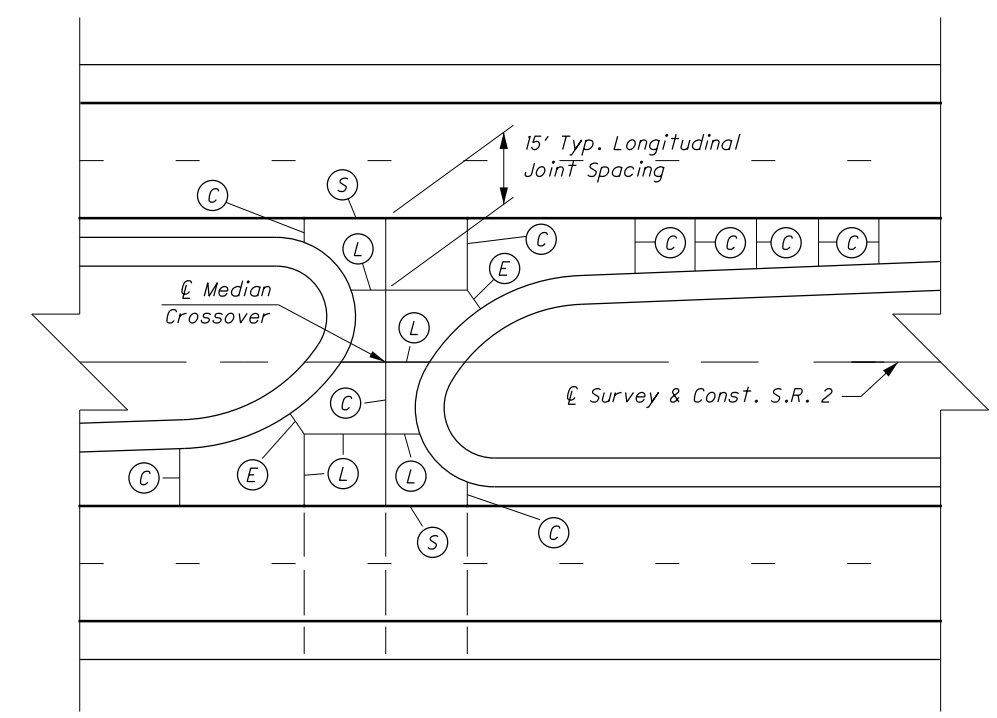
SHEET NUMBER							PARTICIPATION			ALT (X)	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SP 1307-4 DATE: JANUARY 2019	SEE SHEET NO.	CALCULATED DMK CHECKED CML
OFFICE CALCS	64	68	97	165	175	01/NHS/ PV/COLS	02/NHS/PV	03/STR/PV										
														<b>ROADWAY</b>				
1000								1000			202	23000	1000	SY	PAVEMENT REMOVED			
	12										202	58700	12	EACH	MANHOLE ABANDONED			
											202	75000	225	FT	FENCE REMOVED			
											202	75250	1	EACH	GATE REMOVED			
															<b>ROADWAY ALTERNATES</b>			
				500				500	X	606	98000	500	FT	GUARDRAIL, MISC.: TENSIONED CABLE (BRIFEN) (ALTERNATE 1)		9		
				20				20	X	606	98100	20	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL (BRIFEN) (ALTERNATE 1)		9		
				500				500	X	606	98000	500	FT	GUARDRAIL, MISC.: TENSIONED CABLE (TRINITY) (ALTERNATE 2)		9		
				2				2	X	606	98100	2	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL (TRINITY) (ALTERNATE 2)		9		
				500				500	X	606	98000	500	FT	GUARDRAIL, MISC.: TENSIONED CABLE (MARION STEEL) (ALTERNATE 3)		9		
				2				2	X	606	98100	2	EACH	GUARDRAIL, MISC.: TENSIONED CABLE ANCHOR TERMINAL (MARION STEEL) (ALTERNATE 3)		9		
															<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	15002	LS	STORM WATER POLLUTION PREVENTION INSPECTIONS				
											832	15010	LS	STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE				
											832	30000	5000	EACH	EROSION CONTROL			
															<b>PAVEMENT</b>			
1844								1844			254	01000	1844	SY	PAVEMENT PLANING, ASPHALT CONCRETE (1 1/2)			
1265											301	46000	1265	CY	ASPHALT CONCRETE BASE, PG64-22			
50											301	48000	50	CY	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)			
2627								986			304	20000	2627	CY	AGGREGATE BASE			
5333								5333			305	12010	5333	SY	8" CONCRETE BASE, CLASS QC1P			
5695								3647	2048		407	10000	5695	GAL	TACK COAT			
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 (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			611	99660	3	EACH	MANHOLE RECONSTRUCTED TO GRADE			

GENERAL SUMMARY

FRA-11-26.48



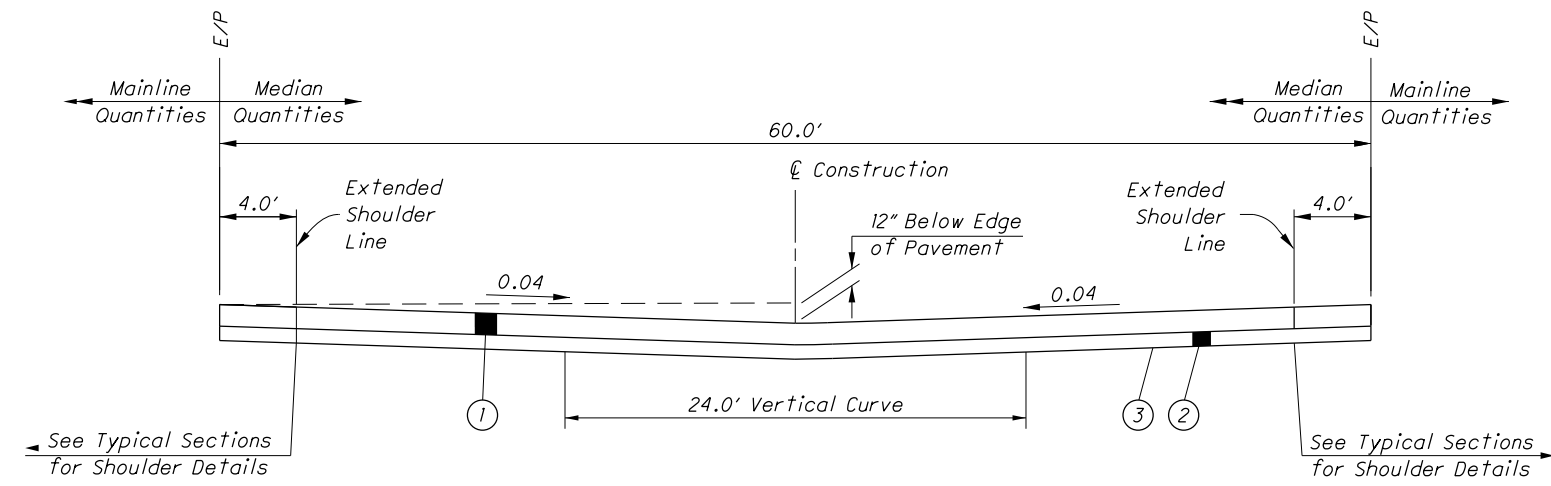
**TYPICAL MEDIAN CROSSOVER DETAIL**  
Applies: Sta. 5+00 and Sta. 124+00



**MEDIAN CROSSOVER JOINT DETAIL**

**NOTES:**

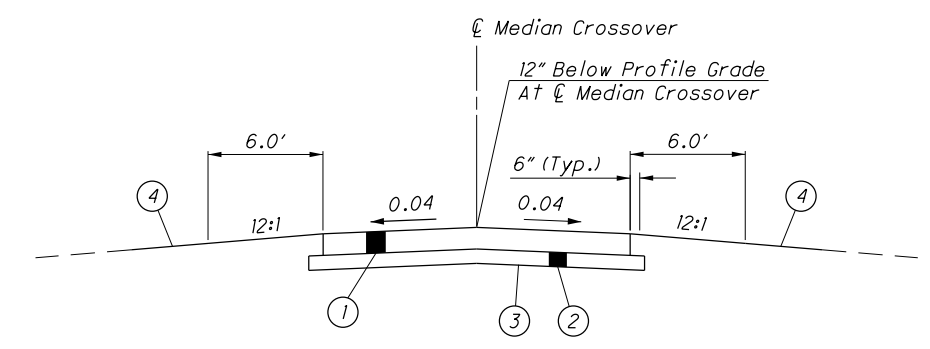
1. The above is a suggested joint diagram. The contractor may submit an alternate joint diagram to the Engineer for approval.
2. Align joints in median crossover to form continuous joints with traverse joints in the mainline pavement.



**SECTION B-B**

**LEGEND**

- |   |  |
|---|--|
| ① ITEM 452 - 9" Non-Reinforced Concrete Pavement, Class QCIP, As Per Plan | Ⓒ Contraction Joint As Per BP-2.2                              |
| ② ITEM 304 - 6" Aggregate Base  | Ⓓ Not Used   |
| ③ ITEM 204 - Subgrade Compaction  | Ⓔ Expansion Joint (Without Dowels), As Per BP-2.2              |
| ④ ITEM 659 - Seeding And Mulching   | Ⓢ Standard Longitudinal Joint, As Per BP 2.1 without Tie Bar 3 |
|   | Ⓛ Longitudinal Joint, As Per BP-2.1                            |



**SECTION A-A**