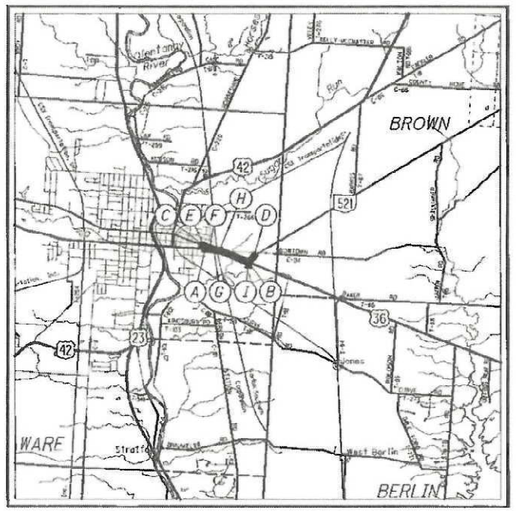
DEL - US 36 - 11.03
230002 PID - 103626
Dist 6 1/26/2023



LOCATION MAP

LATITUDE: 40°17'50" N LONGITUDE: 83°02'40" W

SCALE IN MILES
0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION	US-36/SR-37	US-36 W. OF RR	SR-37 W OF RR	SR521
CURRENT ADT (2020)	25,500	16,400	17,400	10,200
DESIGN YEAR ADT (2040)	34,600	21,800	22,100	15,700
DESIGN HOURLY VOLUME (2040)	4,330	2,110	2,220	970
DIRECTIONAL DISTRIBUTION	51%	55%	59%	66%
TRUCKS (24 HOUR B&C)	10%	8%	8%	5%
DESIGN SPEED	40 MPH	40 MPH	40 MPH	40 MPH
LEGAL SPEED	35 MPH	35 MPH	35 MPH	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
US-36/SR-37 / US-36 / SR-37 - 03 PRINICIPAL ARTERIAL (URBAN)
SR 521 - 04 MINOR ARTERIAL

NHS PROJECT YES

DESIGN EXCEPTIONS
NONE REQUIRED

ADA DESIGN WAIVER
NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
Gannett Fleming
2500 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

Ⓐ BEGIN PROJECT (US-36) STA 585+90.00 SLM 11.09
Ⓑ END PROJECT (US-36) STA 620+58.20 SLM 11.75
Ⓒ BEGIN WORK (SR-37) STA 13+78.00 SLM 11.27
Ⓓ END WORK (SR-521) STA 60+24.00 SLM 1.94
Ⓔ END WORK EAST ST STA 120+69.00
Ⓕ END WORK MOORE ST STA 110+83.00
Ⓖ END WORK (EAST POINT CROSSING) STA 78+25.30
Ⓗ END WORK BOWTOWN RD STA 73+84.00
Ⓘ END WORK (MILL RUN CROSSING) STA 4+50.00

CITY OF DELAWARE, OHIO

RAILROAD BRIDGE REPLACEMENT & US36 / SR37 / SR 521 IMPROVEMENTS

DEL-36-11.03

CITY OF DELAWARE
DELAWARE COUNTY

INDEX OF SHEETS:

ENGINEERS SEAL:
ROADWAY SHEETS 1 - 111, 125 - 300
STATE OF OHIO SHANE S. CAMPBELL E-70897 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 9/08/2022

ENGINEERS SEAL:
BRIDGE SHEETS 399 - 474
STATE OF OHIO ERIC F DUES E-75309 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 9/8/2022

ENGINEERS SEAL:
TRAFFIC, LIGHTING, RAIL SHEETS 112-124, 301 - 397, 475 - 600
STATE OF OHIO PHILIP H. FRY 62452 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 09/30/2022

ENGINEERS SEAL:
LANDSCAPING SHEETS 388 - 397
STATE OF OHIO FRANCO S. MARINO 637 REGISTERED LANDSCAPE ARCHITECT
SIGNED:
DATE: 08/30/2022

ENGINEERS SEAL:
LANDSCAPING/STRUCTURAL SHEETS 397, 398
STATE OF OHIO ROBERT M WEGER PE.82935 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 08/30/2022

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/21/22	HW-2.1	7/20/18	HL-50.11	1/16/15	MT-101.90	7/17/20	TC-74.10	1/21/22	800	SEE PROPOSAL
BP-5.1	7/15/22	HW-2.2	7/20/18	HL-60.11	7/21/17	MT-105.10	1/17/20	TC-81.22	7/15/22	809	7/15/22
BP-7.1	1/21/22	I-2	7/16/21	HL-60.12	7/16/21	MT-110.10	7/19/13	TC-82.10	7/19/19	816	10/18/19
CB-2-2A, 2B	7/15/22	MH-3	7/16/21	HL-60.31	1/17/20	TC-12.31	4/15/22	TC-83.10	1/17/20	821	4/20/12
CB-2-3,2-4	7/16/21	RM-1.1	1/15/21	ITS-14.10	1/21/22	TC-21.21	7/15/22	TC-83.20	7/15/22	832	7/15/22
CB-3	7/16/21	RM-2.1	7/19/13	ITS-14.11	1/21/22	TC-41.20	10/18/13	TC-85.10	4/17/20	895	4/16/14
CB-3A	7/16/21	RM-3.1	7/20/18	ITS-14.20	1/15/21	TC-41.30	10/18/13	TC-85.20	7/20/18	921	4/20/12
DM-1.1	7/17/20	RM-5.2	1/18/19	ITS-15.11	1/15/21	TC-41.50	10/18/13			878	1/21/22
DM-1.2	7/16/21	HL-10.11	7/15/22	MT-95.30	7/19/19	TC-42.20	10/18/13			876	1/21/22
DM-4.4	1/15/16	HL-10.12	1/20/17	MT-95.70	1/17/20	TC-51.11	01/15/16			813	10/19/18
MGS-1.1	7/16/21	HL-10.13	4/17/20	MT-97.10	4/19/19	TC-52.10	10/18/13			OEPA PTI: 1513749	
MGS-2.1	1/19/18	HL-20.11	1/15/21	MT-99.30	1/17/20	TC-52.20	1/15/21			1/06/23	
MGS-4.2	7/19/13	HL-30.11	1/15/21	MT-100.00	7/16/21	TC-61.10	1/17/20				
MGS-5.3	7/15/16	HL-30.22	1/15/21	MT-101.60	1/17/20	TC-65.10	1/17/14				
		HL-40.10	7/17/20	MT-101.70	1/17/20	TC-65.11	7/15/22				
		HL-40.20	7/15/22	MT-101.75	1/17/20	TC-71.10	7/15/22				

SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
	WATERWAY
	PERMIT
	9/2/22

PROJECT DESCRIPTION

REPLACEMENT OF THE NORFOLK SOUTHERN RAILROAD BRIDGE OVER US-36/SR-37. RECONSTRUCTION OF 0.66 MILES OF US-36/SR-37. RECONSTRUCITON OF EAST WILLIAM ST, CENTRAL AVE, BOWTOWN RD, EAST POINT CROSSING. WIDENING AND RESURFACING OF SR-521 AND MILL RUN RD. ADDITONAL WORK CONSISTS OF INTERSECTION , SIDEWALK, SIGNAL, SHARED USE PATH, LIGHTING, AND DRAINAGE IMPROVEMENTS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	17.2 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	18.2 ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 52 - 58.

APPROVED Wm Ferrigno
DATE 9/14/22 CITY ENGINEER, CITY OF DELAWARE

APPROVED
DATE 9/15/22 DISTRICT DEPUTY DIRECTOR

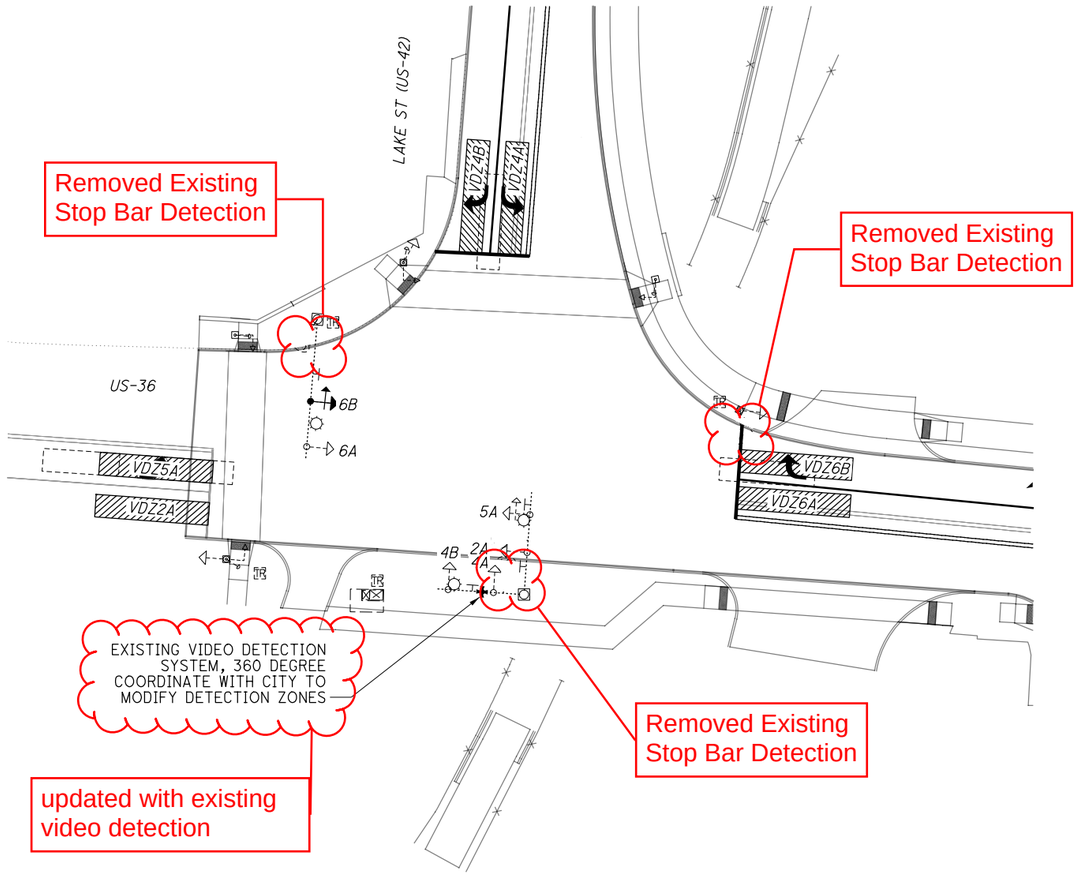
APPROVED
DATE 11-14-22 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E180 (007)
PID NO. 103626
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NORFOLK SOUTHERN
DEL-36-11.03
1 644

SR-37 (CENTRAL AV) AT LAKE ST
PHASE 3 - SR-37 DETOUR

NOTES:

1. CONTRACTOR SHALL REARRANGE EX. SIGNAL HEADS OR FURNISH TEMPORARY HEADS AS NECESSARY AND SHALL COVER ANY CONFLICTING SIGNS/SIGNAL INDICATIONS.
2. FOR MOT DETAILS, SEE SHEET 53 .
3. CONTRACTOR SHALL ADJUST AND COORDINATE SIGNAL PHASING AND TIMING FOR SIGNALS IN THE PROJECT AREA AS APPROVED BY PROJECT ENGINEER.



US-36 (WILLIAM ST) AT LAKE ST
PHASE 3 - SR-37 DETOUR

NOTES:

1. CONTRACTOR SHALL REARRANGE EX. SIGNAL HEADS OR FURNISH TEMPORARY HEADS AS NECESSARY AND SHALL COVER ANY CONFLICTING SIGNS/SIGNAL INDICATIONS.
2. FOR MOT DETAILS, SEE SHEET 52 .
3. CONTRACTOR SHALL ADJUST AND COORDINATE SIGNAL PHASING AND TIMING FOR SIGNALS IN THE PROJECT AREA AS APPROVED BY PROJECT ENGINEER.

LEGEND

	PROP	EXIST
TEMP. TRAFFIC SIGNAL, 3 UNIT HEAD, 12"		
TEMP. TRAFFIC SIGNAL, 3 UNIT HEAD, 12" WITH ARROWS		
TEMP. TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	OR	
SIGNAL SUPPORT POLE		

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MAS
CHECKED PHF

MAINTENANCE OF TRAFFIC PLAN - PHASE 3
TRAFFIC SIGNAL DETAILS - US 42 (LAKE ST) AT US 36 & AT SR 37

DEL-36-11.03

123
644

SHEET NUMBER																	FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
23	27	34	132	133	146	235	262	270	274	297	302	313	348	366	388	476	01/NHS/PV	02/S>2/PV	03/NHS/BR	04/NHS/PV	05/S>2/PV	06/ENH/31						
																											ROADWAY - CONTINUED FROM PREVIOUS PAGE	
				6													6						SPECIAL	69050100	6	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	26
	LS																LS						SPECIAL	69070000	LS		ENVIRONMENTAL (DISPOSAL OF OIL/WATER SEPARATOR)	27
																											EROSION CONTROL	
10			4														14						601	21050	14	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
			35														35						601	21051	35	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT, AS PER PLAN	28
			6														3	3					601	32204	6	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
2																4	1	1	4				659	00100	6	EACH	SOIL ANALYSIS TEST	
2833																4960	2624	209	4960				659	00300	7793	CY	TOPSOIL	
25519																44634	23635	1884	44634				659	10000	70153	SY	SEEDING AND MULCHING	
1022																2231	928	94	2231				659	14000	3253	SY	REPAIR SEEDING AND MULCHING	
1022																2231	928	94	2231				659	15000	3253	SY	INTER-SEEDING	
2.76																6.22	2.50	0.26	6.22				659	20000	8.98	TON	COMMERCIAL FERTILIZER	
4.22																9.22	3.83	0.39	9.22				659	31000	13.44	ACRE	LIME	
110																367	100	10	367				659	35000	477	MGAL	WATER	
5108																201	4637	471	201				659	40000	5309	MSF	MOWING	
				1041													911	130					670	00710	1041	SY	DITCH EROSION PROTECTION MAT, TYPE A	
																	LS	LS					832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
																	LS	LS					832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
																	LS	LS					832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
																	121952	25260					832	30000	147212	EACH	EROSION CONTROL	
																											DRAINAGE	
							LS										LS						202	11000	LS		STRUCTURE REMOVED	
							LS										LS						503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	262
							876										876						503	21100	876	CY	UNCLASSIFIED EXCAVATION	
							4168										4168						509	10000	4168	LB	EPOXY COATED REINFORCING STEEL	
							11										11						511	46010	11	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
							30										30						511	46510	30	CY	CLASS QC1 CONCRETE, FOOTING	
							3										3						511	46610	3	CY	CLASS QC1 CONCRETE, HEADWALL	
							42										42						512	10100	42	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
							252										252						512	33000	252	SY	TYPE 2 WATERPROOFING	
							225										225						512	33010	225	SY	TYPE 3 WATERPROOFING	
							4										4						516	13600	4	SF	1" PREFORMED EXPANSION JOINT FILLER	
							7										7						518	21200	7	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
							345										345						SPECIAL	53013000	345	SF	FORM LINER	262
							120										120						601	32104	120	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC	
			2.7														2.5	0.2					602	20000	2.7	CY	CONCRETE MASONRY	
150								2265									1393	1022					605	13300	2415	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
								7542									6971	571					605	14000	7542	FT	6" BASE PIPE UNDERDRAINS	
50																	50						605	31100	50	FT	AGGREGATE DRAINS	
								760									640	120					611	00510	760	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
50																	50						611	01500	50	FT	6" CONDUIT, TYPE F	
			7														7						611	02000	7	FT	8" CONDUIT, TYPE C	
			686														644	42					611	04400	686	FT	12" CONDUIT, TYPE B	
			1293														1158	135					611	04600	1293	FT	12" CONDUIT, TYPE C	
			682														601	81					611	04900	682	FT	12" CONDUIT, TYPE D	
			283														283						611	05900	283	FT	15" CONDUIT, TYPE B	
				357													160	197					611	06100	357	FT	15" CONDUIT, TYPE C	
				126													126						611	06400	126	FT	15" CONDUIT, TYPE D	
				113													105	8					611	07400	113	FT	18" CONDUIT, TYPE B	
				132													132						611	07600	132	FT	18" CONDUIT, TYPE C	
				194													69	125					611	08900	194	FT	21" CONDUIT, TYPE B	
				17													17						611	09100	17	FT	21" CONDUIT, TYPE C	
				188													110	78					611	10400	188	FT	24" CONDUIT, TYPE B	
				849													849						611	10600	849	FT	24" CONDUIT, TYPE C	
				251													251						611	10900	251	FT	24" CONDUIT, TYPE D	
				193													193						611	11900	193	FT	27" CONDUIT, TYPE B	
				43													43						611	12400	43	FT	27" CONDUIT, TYPE D	

CALCULATED CJM CHECKED PEK

GENERAL SUMMARY

DEL-36-11.03

SHEET NUMBER																	FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
23	27	34	132	133	146	235	262	270	274	297	302	313	348	366	388	476	01/NHS/PV	02/S>2/PV	03/NHS/BR	04/NHS/PV	05/S>2/PV	06/ENH/31						
																											WATER WORK - CONTINUED FROM PREVIOUS PAGE	
									2								2						638	98000	2	EACH	WATER WORKS, MISC.: CURB STOP ADJUSTED TO GRADE (CITY OF DELAWARE)	278
									7								7						638	98000	7	EACH	WATER WORKS, MISC.: METER PIT ADJUSTED TO GRADE (CITY OF DELAWARE)	278
									5								5						638	98000	5	EACH	WATER WORKS, MISC.: CURB STOP REMOVED (CIYT OF DELAWARE)	278
									3								3						638	98000	3	EACH	WATER WORKS, MISC.: METER PIT REMOVED (CITY OF DELAWARE)	278
									19								18	1					638	98000	19	EACH	WATER WORKS, MISC.: VALVE AND VALVE BOX REMOVED	279
									4								4						638	98000	4	EACH	WATER WORKS, MISC.: WATER SERVICE LOWERING (CITY OF DELAWARE, WTRD-1.1)	279
									735								735						638	98600	735	FT	WATER WORKS, MISC.: PIPE REMOVED	279
									155								155						638	98600	155	FT	WATER WORKS, MISC.: PIPE ABANDONED (CITY OF DELAWARE)	279
									168								168						638	98600	168	FT	WATER WORKS, MISC.: 30" STEEL PIPE ENCASEMENT, OPEN CUT	278
																											SANITARY SEWER	
										56							56						202	35100	56	FT	PIPE REMOVED, 24" AND UNDER	
										2							2						202	58000	2	EACH	MANHOLE REMOVED	
										2							2						202	58001	2	EACH	MANHOLE REMOVED, AS PER PLAN	295
										837							837						611	01800	837	FT	8" CONDUIT, TYPE B (748.02)	
										143							143						611	02000	143	FT	8" CONDUIT, TYPE C (748.02)	
										8							8						611	99574	8	EACH	MANHOLE, NO. 3	
										8							8						611	99654	8	EACH	MANHOLE ADJUSTED TO GRADE	
																											LIGHTING	
														160			120	40					625	00450	160	EACH	CONNECTION, FUSED PULL APART	
														84			66	18					625	00480	84	EACH	CONNECTION, UNFUSED PERMANENT	
														48								48	625	10481	48	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN	364
														20			20						625	10490	20	EACH	LIGHT POLE, CONVENTIONAL, AT8B37	
														68			50	18					625	14100	68	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP	
														17761			17122	639					625	23200	17761	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	
														1731			1731						625	23308	1731	FT	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE	365
														4920			4200	720					625	23400	4920	FT	NO. 10 AWG POLE AND BRACKET CABLE	
														6504			4454	2050					625	24400	6504	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES	365
														856			856						625	24400	856	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES	365
														554			537	17					625	25400	554	FT	CONDUIT, 2", 725.04	
														1549			1347	202					625	25902	1549	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"	
														3814			3702	112					625	25920	3814	FT	CONDUIT, MISC.: DUCT BANK	365
														200			200						625	25920	280	FT	CONDUIT, MISC.: UNDERDRAIN OUTLET	365
														21			21						625	26253	21	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTTOFF-MEDIUM, 3000K-CCT, AS PER PLAN	365
														48								48	625	27403	48	EACH	LUMINAIRE, POST TOP, SOLID STATE (LED) IES-III-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	364
														7715			5648	2067					625	29000	7715	FT	TRENCH	
														3702			3702						625	29001	3702	FT	TRENCH, AS PER PLAN	365
														34			30	4					625	30700	34	EACH	PULL BOX, 725.08, 18"	
														8			6	2					625	31600	8	EACH	PULL BOX, MISC.: 30"x48" POLYMER PULL BOX	365
														68			50	18					625	32000	68	EACH	GROUND ROD	
														1			1						625	34001	1	EACH	POWER SERVICE, AS PER PLAN	364
														11417			9350	2067					625	36010	11417	FT	UNDERGROUND WARNING/MARKING TAPE	
														2								2	625	98000	2	EACH	LIGHTING MISC.: LANDSCAPE-MONUMENT SIGN LIGHT	365
														4								4	625	98000	4	EACH	LIGHTING MISC.: LANDSCAPE-ABUTMENT LIGHT	365
																											TRAFFIC CONTROL	
											407						366	41					621	00100	407	EACH	RPM	
										2							2						625	32000	2	EACH	GROUND ROD	
										203.0							139.0	64.0					630	02100	203.0	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
										1545.0							1285.0	260.0					630	03100	1545.0	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
										94.0							56.0	38.0					630	08520	94.0	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
										39							32	7					630	08600	39	EACH	SIGN POST REFLECTOR	
										1							1						630	21200	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12	
										1							1						630	21201	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN	301
										6							6						630	75000	6	EACH	SIGN ATTACHMENT ASSEMBLY	
										975							762	213					630	80100	975	SF	SIGN, FLAT SHEET	
										252							252						630	80224	252	SF	SIGN, OVERHEAD EXTRUSHEET	
										14							8	6					630	80500	14	EACH	SIGN, DOUBLE FACED, STREET NAME	
										252							252						630	81200	252	SF	SIGN ERECTED, EXTRUSHEET	
										2							2						630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	

CALCULATED CJM
CHECKED PEK

GENERAL SUMMARY

DEL-36-11.03

SHEET NUMBER																	ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
US 36/SR 37									SR 521												
134	135	136	137	138	139	140	141	142		143	144	145									
					2						3						202	5	EACH	HEADWALL REMOVED	
2082	414									153							202	2649	SY	PAVEMENT REMOVED	
1209	2030		23							494							202	3756	SF	WALK REMOVED	
			7														202	7	FT	STEPS REMOVED	
		3															202	3	SY	CONCRETE MEDIAN REMOVED	
	43																202	43	SY	TRAFFIC ISLAND REMOVED	
3669	1893									553							202	6115	FT	CURB REMOVED	
44	2236																202	2280	FT	CURB AND GUTTER REMOVED	
	18																202	18	FT	GUTTER REMOVED	
					3792						473						202	4265	FT	PIPE REMOVED, 24" AND UNDER	
760																	202	760	FT	GUARDRAIL REMOVED	
			6														202	6	EACH	MAILBOX REMOVED	
	LUMP																202	LUMP		BUILDING DEMOLISHED, PARCEL NO. 7-WDV, 1 STORY FRAME	
	LUMP																202	LUMP		BUILDING DEMOLISHED, PARCEL NO. 7-T, 1 STORY FRAME	
	LUMP																202	LUMP		BUILDING DEMOLISHED, PARCEL NO. 8-WDV, 1 STORY BRICK	
					5						2						202	7	EACH	MANHOLE REMOVED	
					34						3						202	37	EACH	CATCH BASIN REMOVED	
					3												202	3	EACH	INLET REMOVED	
			131														202	131	FT	FENCE REMOVED	
		LUMP															202	LUMP		REMOVAL MISC.: FENCE, GATE, BRICK COLUMNS	
										LUMP							202	LUMP		REMOVAL MISC.: CONCRETE LAWN ORNAMENTS	
		LUMP															202	LUMP		REMOVAL MISC.: COLUMN	
		LUMP															202	LUMP		REMOVAL MISC.: CONCRETE PADS	
	3	5								6							202	14	EACH	REMOVAL MISC.: LANDSCAPE BOULDER	
	8	1								2							202	11	EACH	REMOVAL MISC.: SIGN	
	4	10								2							202	16	EACH	REMOVAL MISC.: WOOD/STEEL POST	
	2	1								6							202	9	EACH	REMOVAL MISC.: IRRIGATION/SPRINKLER	
	1	1															202	2	EACH	REMOVAL MISC.: DUMPSTER/DONATION BIN	
										4							202	4	EACH	REMOVAL MISC.: CONCRETE PLANTERS	
	22																202	22	EACH	REMOVAL MISC.: LANDSCAPE, TIMBER	
	20																202	20	FT	REMOVAL MISC.: WOOD BARRIER	
	134																202	134	FT	REMOVAL MISC.: WALL	
	23																202	23	FT	REMOVAL MISC.: CHAIN	
		32															202	32	FT	REMOVAL MISC.: WOODEN FENCE	
		14															202	14	FT	REMOVAL MISC.: HANDRAIL	
		70															202	70	FT	REMOVAL MISC.: CHAIN LINK FENCE	
	31									30							202	61	FT	REMOVAL MISC.: LANDSCAPE STONE EDGING	
										5							202	5	SY	REMOVAL MISC.: RIPRAP	
										224							203	224	CY	GRANULAR MATERIAL, TYPE C	
		1															203	1	EACH	ROADWAY, MISC.: MANHOLE ADJUSTED TO GRADE	
			2808	3752						671							204	7231	SY	SUBGRADE COMPACTION	
			469	634						112							304	1215	CY	AGGREGATE BASE	
			118														441	118	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
								4									601	4	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
								35									601	35	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT, AS PER PLAN	
								3				3					601	6	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	
						0.8	1.7					0.2					602	2.7	CY	CONCRETE MASONRY	
			112														606	112	FT	GUARDRAIL, TYPE MGS	
			1														606	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
			1														606	1	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
			131														607	131	FT	FENCE, TYPE CLT	
			400														607	400	FT	FENCE, MISC.: BIKE RAILING	
			17544							2451							608	19995	SF	4" CONCRETE WALK	
			7														608	7	FT	CONCRETE STEPS, TYPE A	
			975	153						476							608	1604	SF	CURB RAMP	
			208	40						128							608	376	SF	DETECTABLE WARNING	
				9541						1724							609	11265	FT	COMBINATION CURB AND GUTTER, TYPE 2	
				3352						105							609	3457	FT	CURB, TYPE 6	
				584						205							609	789	FT	CURB, TYPE 6, AS PER PLAN	
				520													609	520	SY	6" CONCRETE TRAFFIC ISLAND, AS PER PLAN	
							7										611	7	FT	8" CONDUIT, TYPE C	
						201	443					42					611	686	FT	12" CONDUIT, TYPE B	
						660	498					135					611	1293	FT	12" CONDUIT, TYPE C	
							601					91					611	682	FT	12" CONDUIT, TYPE D	
						140	143										611	283	FT	15" CONDUIT, TYPE B	

CALCULATED WWM CHECKED PEK

ROADWAY AND DRAINAGE SUBSUMMARY

DEL-36-11.03

SHEET NUMBER																ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
US 36/SR 37									SR 521											
134	135	136	137	138	139	140	141	142		143	144	145								
						44	116					197				611	357	FT	15" CONDUIT, TYPE C	
							126									611	126	FT	15" CONDUIT, TYPE D	
						105						8				611	113	FT	18" CONDUIT, TYPE B	
						132										611	132	FT	18" CONDUIT, TYPE C	
						69						125				611	194	FT	21" CONDUIT, TYPE B	
						17										611	17	FT	21" CONDUIT, TYPE C	
						110						78				611	188	FT	24" CONDUIT, TYPE B	
						531	318									611	849	FT	24" CONDUIT, TYPE C	
						251										611	251	FT	24" CONDUIT, TYPE D	
						193										611	193	FT	27" CONDUIT, TYPE B	
						43										611	43	FT	27" CONDUIT, TYPE D	
						200	162									611	362	FT	36" CONDUIT, TYPE C	
						238	500									611	738	FT	36" CONDUIT, TYPE D	
												80				611	80	FT	14" X 23" CONDUIT, TYPE B, 706.04	
												76				611	76	FT	14" X 23" CONDUIT, TYPE C, 706.04	
						8	1					2				611	11	EACH	CATCH BASIN, NO. 3	
						1										611	1	EACH	CATCH BASIN, NO. 3, AS PER PLAN	
						16	18					8				611	42	EACH	CATCH BASIN, NO. 3A	
						1						1				611	2	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	
						1	1									611	2	EACH	CATCH BASIN, NO. 2-2B	
							2					1				611	3	EACH	CATCH BASIN, NO. 2-3	
							1									611	1	EACH	CATCH BASIN, NO. 2-4	
												1				611	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
							1									611	1	EACH	INLET, NO. 2-6	
						19	16					9				611	44	EACH	MANHOLE, NO. 3	
						1										611	1	EACH	MANHOLE, NO. 3 WITH 108" BASE I.D. AND 12" WEIR	
							2									611	2	EACH	MANHOLE ADJUSTED TO GRADE	
												1				611	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	
								911				130				670	1041	SY	DITCH EROSION PROTECTION MAT, TYPE A	
			6													SPECIAL	6	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	
						1										895	1	EACH	MANUFACTURED WATER QUALITY STRUCTURE, TYPE 4	

CALCULATED WWM
CHECKED PEK

ROADWAY AND DRAINAGE SUBSUMMARY

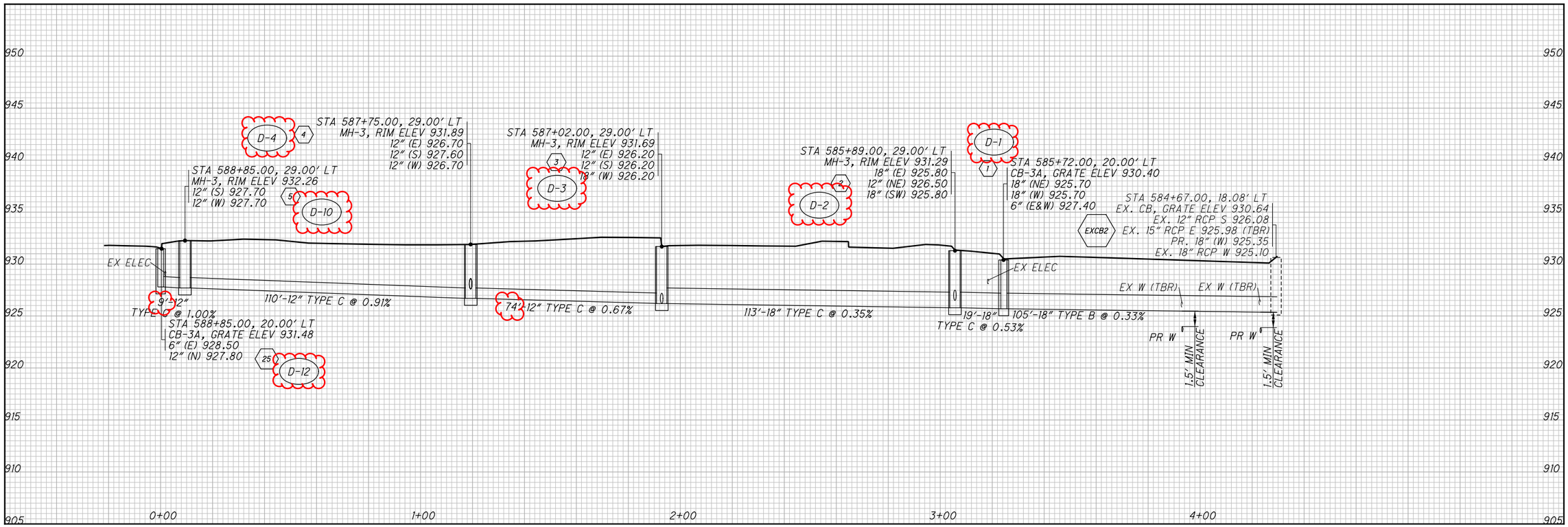
DEL-36-11.03

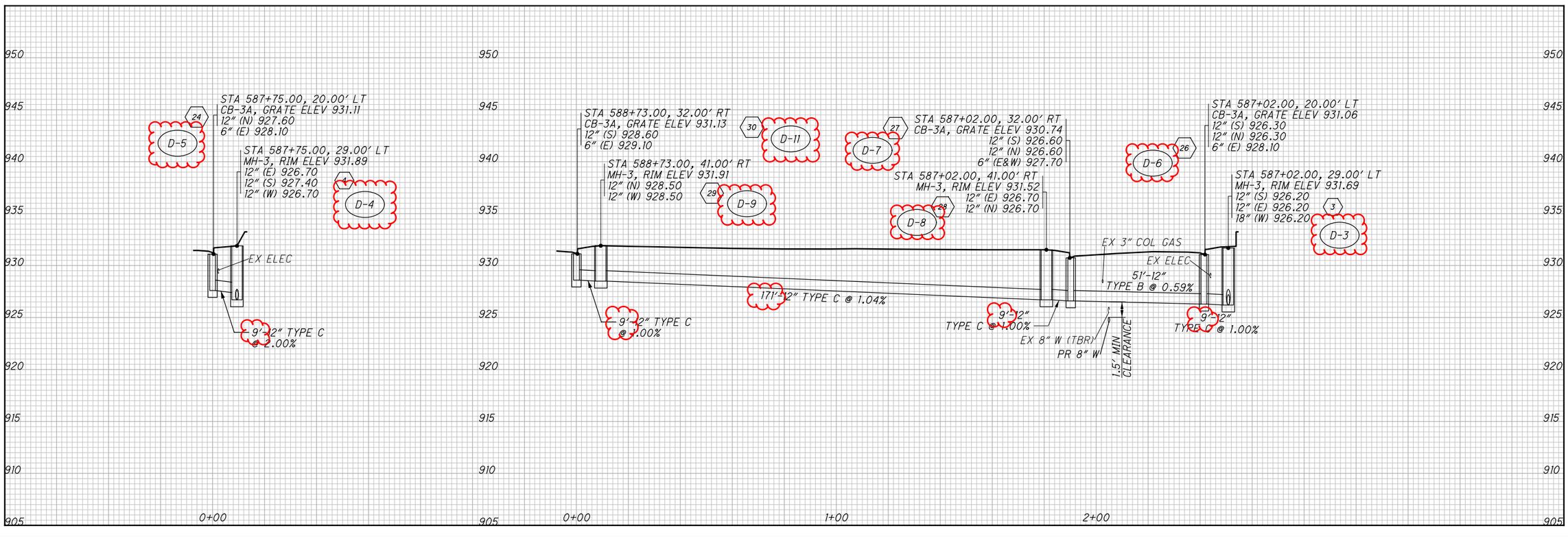
REF NO.	SHEET NO.	STATION FROM		STATION TO		SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	602 CONCRETE MASONRY		611 12" CONDUIT, TYPE B	611 12" CONDUIT, TYPE C	611 12" CONDUIT, TYPE D	611 15" CONDUIT, TYPE C		611 18" CONDUIT, TYPE B		611 21" CONDUIT, TYPE B		611 24" CONDUIT, TYPE B	611 14" X 23" CONDUIT, TYPE B, 706.04	611 14" X 23" CONDUIT, TYPE C, 706.04	611 CATCH BASIN, NO. 3	611 CATCH BASIN, NO. 3A	611 CATCH BASIN, NO. 3A, AS PER PLAN		611 CATCH BASIN, NO. 2-3	611 CATCH BASIN ADJUSTED TO GRADE	611 MANHOLE RECONSTRUCTED TO GRADE		611 MANHOLE, NO. 3	670 DITCH EROSION PROTECTION MAT, TYPE A											
		FROM		TO			CY	CY		FT	FT	FT	FT		FT		FT		FT	FT	FT	EACH	EACH	EACH		EACH	EACH	EACH		EACH	SY											
D-94	164	SR-521	52+15.00	SR-521	52+15.00	RT				8													1																			
D-95	164	SR-521	51+35.00	SR-521	52+15.00	RT													78											1												
D-96	164	SR-521	52+40.00	SR-521	52+40.00	RT				8												1																			
D-97	164	SR-521	52+15.00	SR-521	52+40.00	RT											25																								
D-98	164	SR-521	52+65.00	SR-521	52+78.00	RT					15																														
D-99	164	SR-521	52+65.00	SR-521	52+65.00	RT				8													1																		
D-100	164	SR-521	52+40.00	SR-521	52+65.00	RT											25																								
D-101	164	SR-521	52+65.00	SR-521	53+42.00	RT											75																								
D-102	164	SR-521	53+42.00	SR-521	53+48.00	RT					10				8												1														
D-103	164	SR-521	53+42.00	SR-521	54+23.00	RT														80		1																		
D-104	164	SR-521	55+00.00	SR-521	55+00.00	RT					7												1																		
D-105	164	SR-521	54+23.00	SR-521	55+00.00	RT															76							1												
D-106	165	SR-521	56+50.00	SR-521	56+50.00	RT					13												1																		
D-107	165	SR-521	55+00.00	SR-521	56+50.00	RT							147																												
D-108	165	SR-521	57+00.00	SR-521	57+00.00	RT					16												1																		
D-109	165	SR-521	56+50.00	SR-521	57+00.00	RT							50																												
D-110	165	SR-521	57+83.00	SR-521	57+94.00	RT					21												1																		
D-111	165	SR-521	57+00.00	SR-521	57+83.00	RT						81																													
D-112	165	SR-521	57+83.00	SR-521	57+92.00	RT		0.2			9																														
D-113	164	SR-521	52+40.00	SR-521	52+40.00	LT					16												1																		
D-114	164	SR-521	52+32.00	SR-521	52+48.00	LT					16																														
D-115	165	SR-521	59+02.00	SR-521	59+14.00	RT					12																														
D-116	164	SR-521	51+66	SR-521	51+82	RT				18													1					1												
EC-13	165	521	56+52.00	521	58+08.00	LT	1.2																																	
EC-14	165	521	57+92.00	521	57+97.00	RT	1.2																																	
SUBTOTAL							2.4	0.2		42	135	81	197		8		125		78	80	76	2	8	1		1	1	1		9	130									
TOTALS CARRIED TO SUBSUMMARY ON SHEET 132 - 133							3	0.2		42	135	81	197		8		125		78	80	76	2	8	1		1	1	1		9	130									

CALCULATED WWM
CHECKED TQD

DRAINAGE QUANTITIES - SR-521

DEL-36-11.03

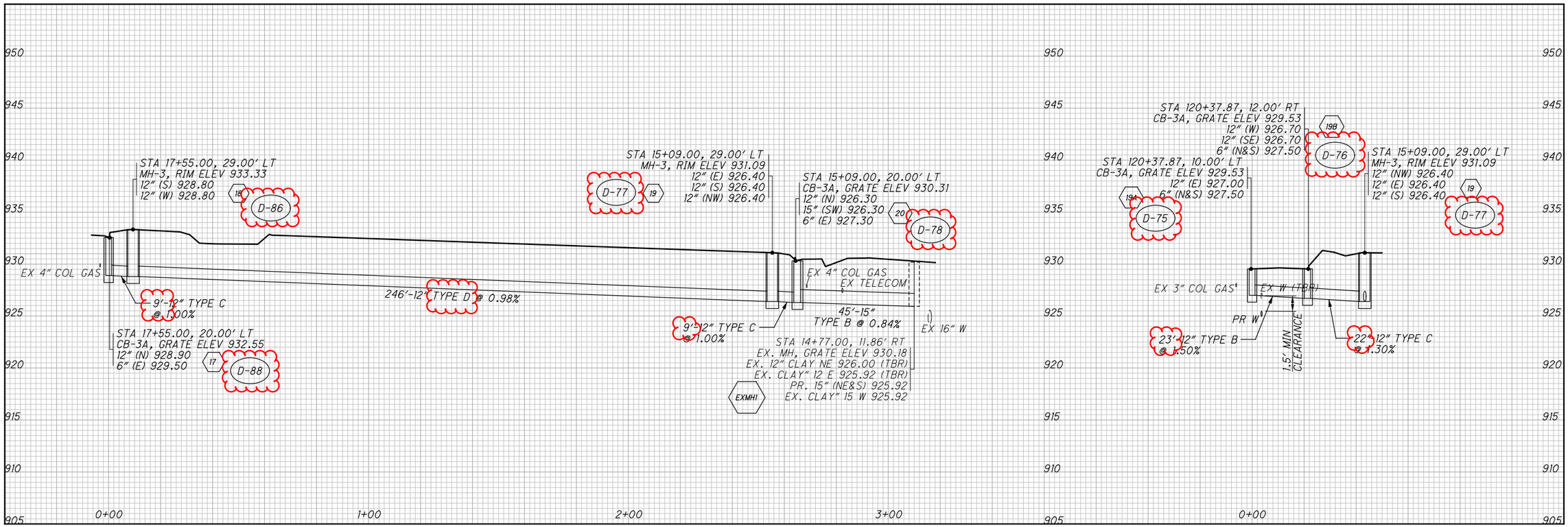


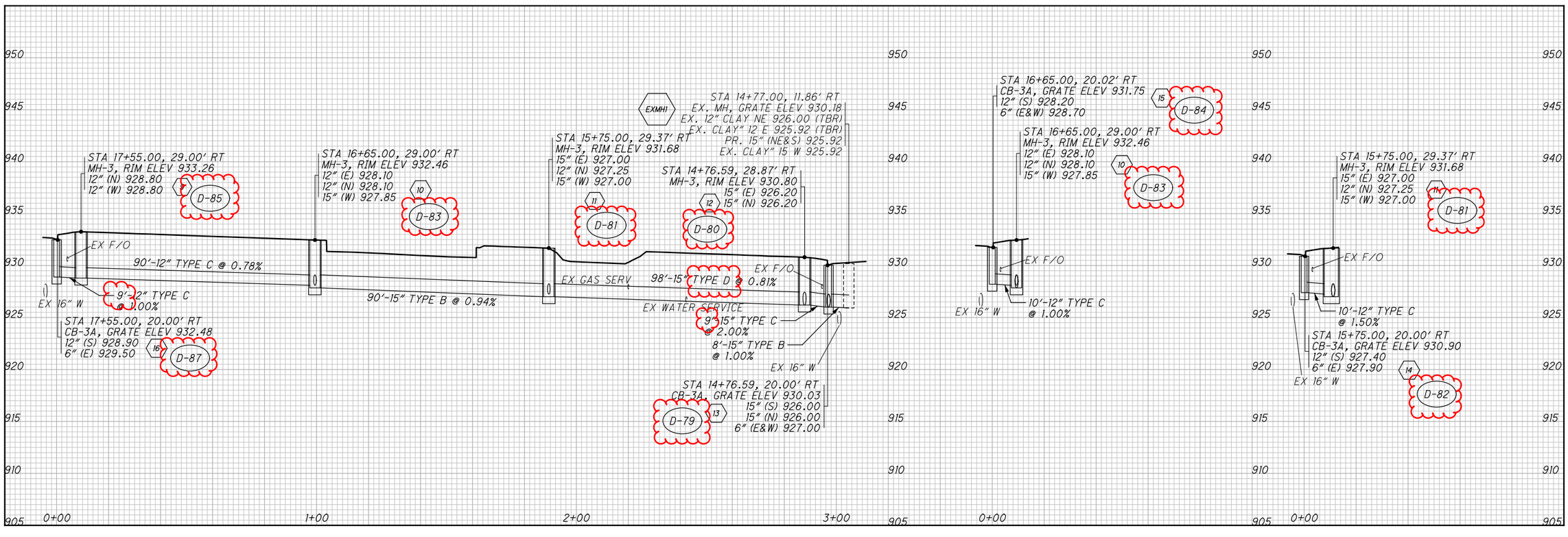


CALCULATED CJM
CHECKED PEK

STORM SEWER PROFILE - US-36

DEL-36-11.03





CALCULATED CJM
CHECKED PEK

STORM SEWER PROFILE - SR-37

DEL-36-11.03

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644

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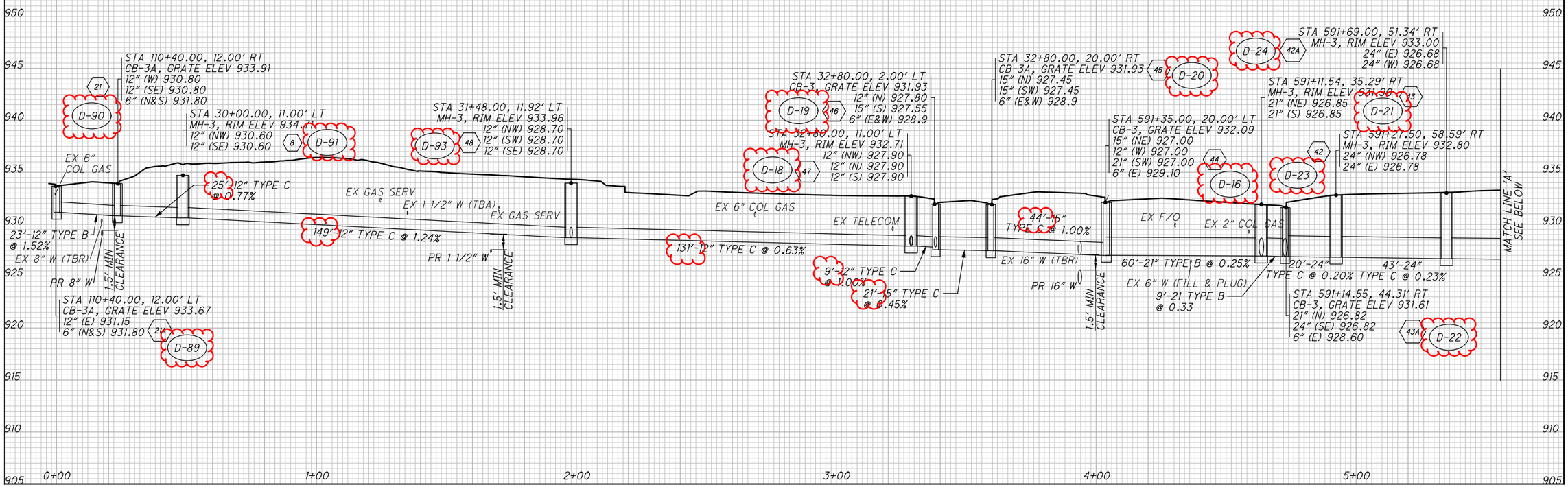
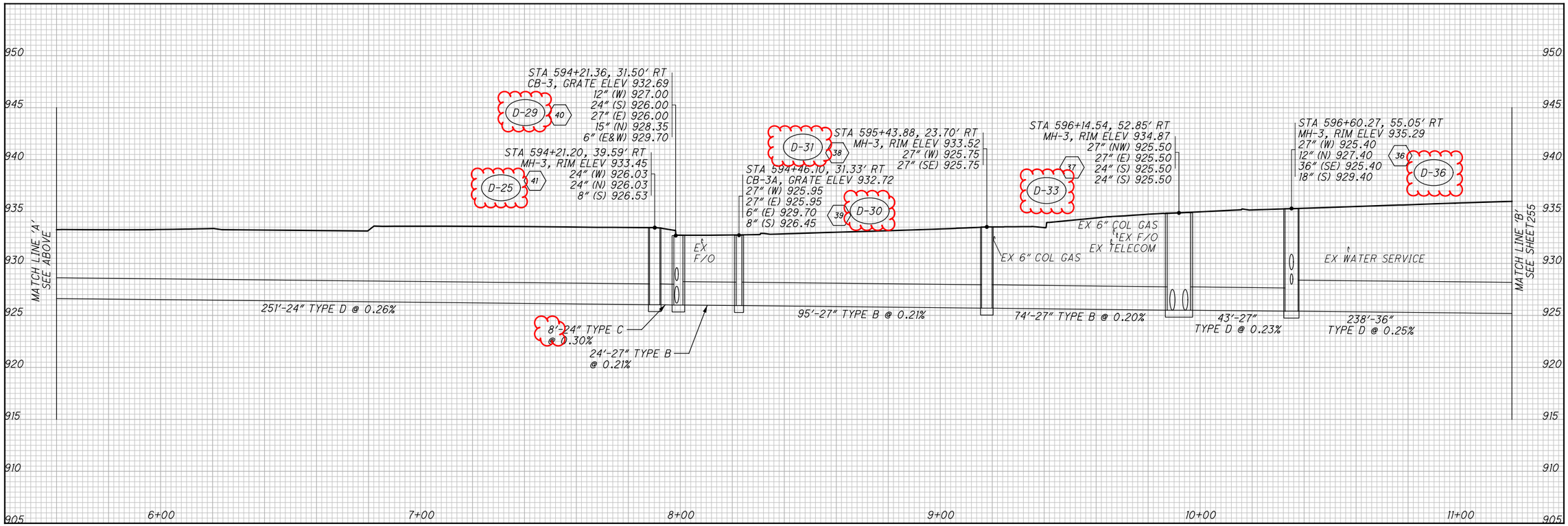
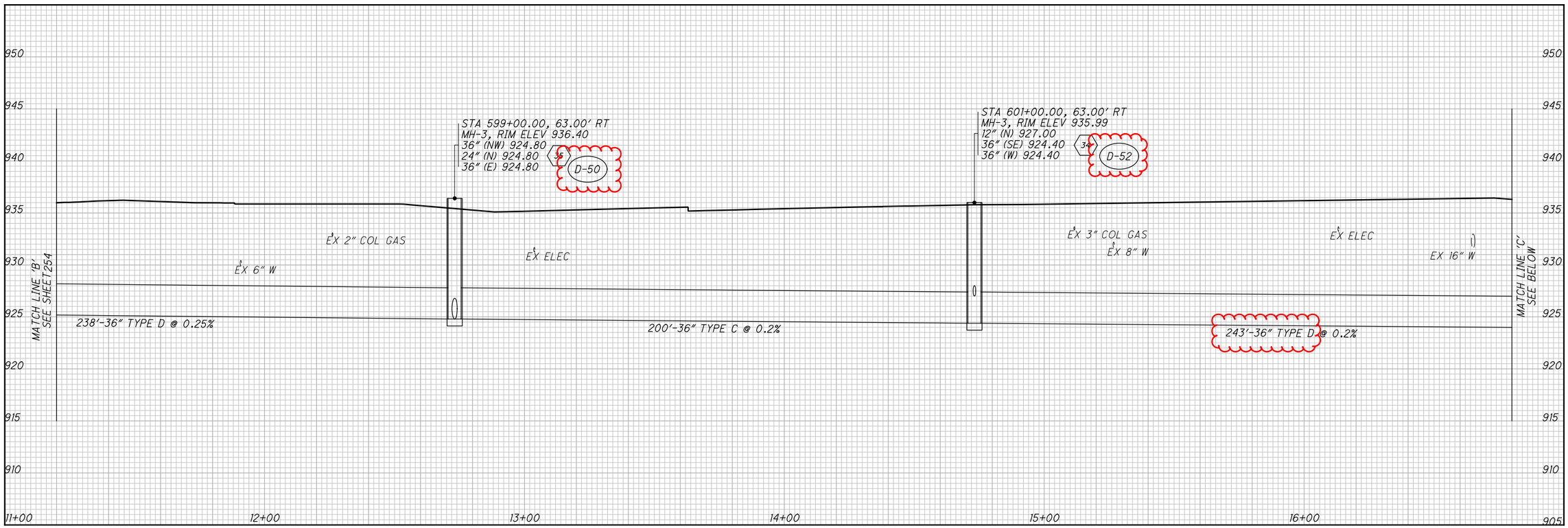
STORM SEWER PROFILE - US-36 / SR-37

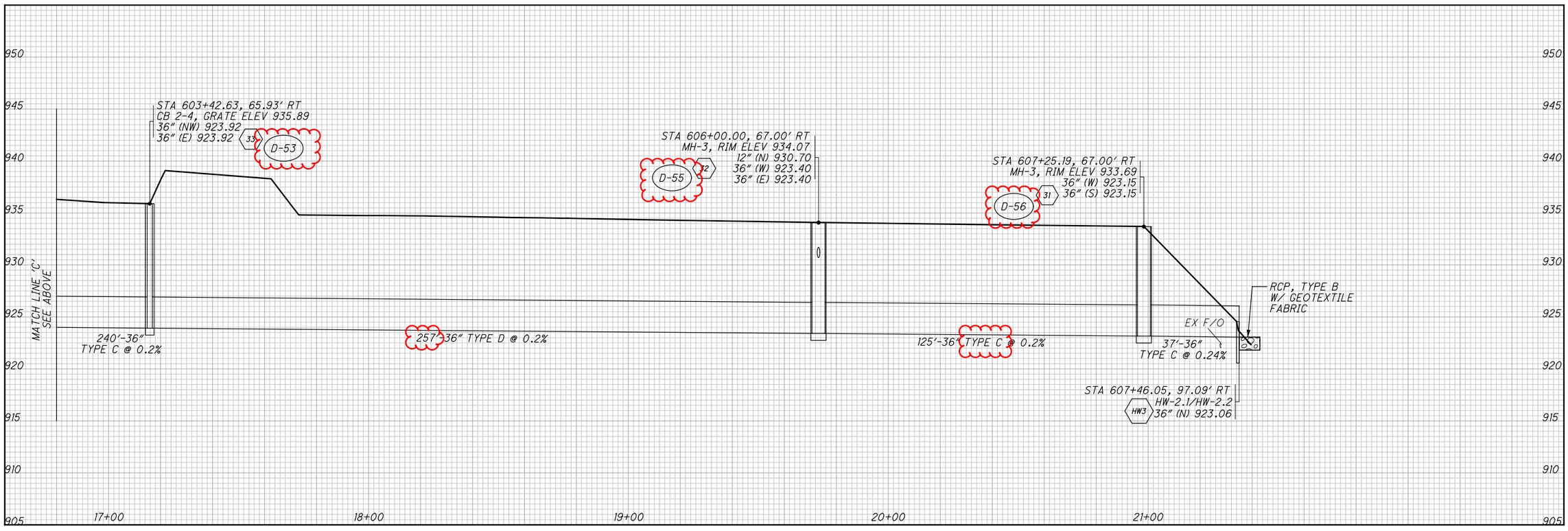
CALCULATED CJM
CHECKED PEK





DEL-36-11.03

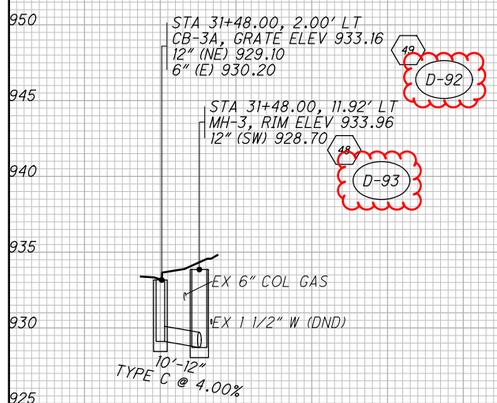


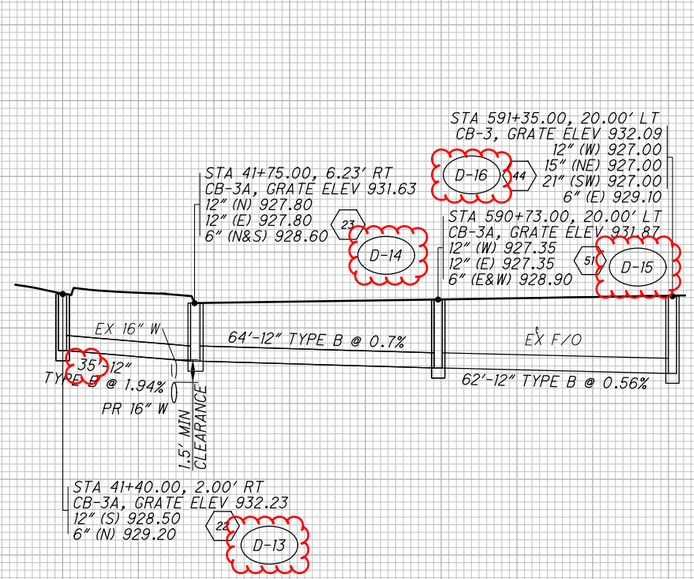


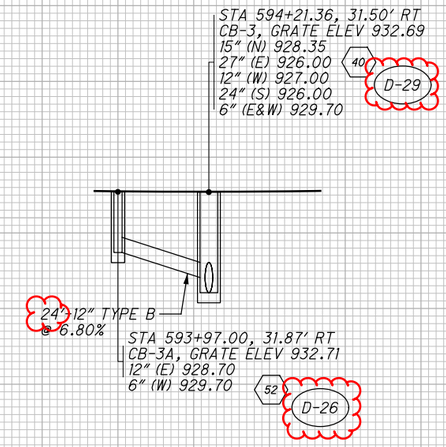
CALCULATED CJM
CHECKED PEK

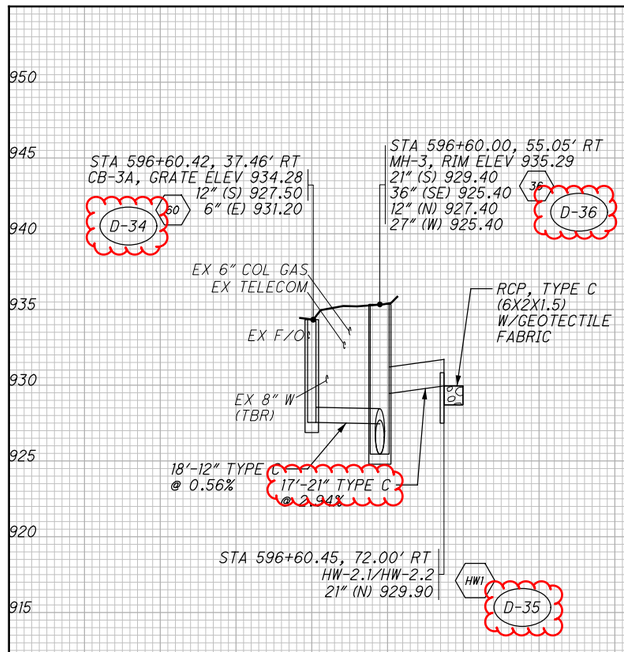
STORM SEWER PROFILE - US-36 / SR-37

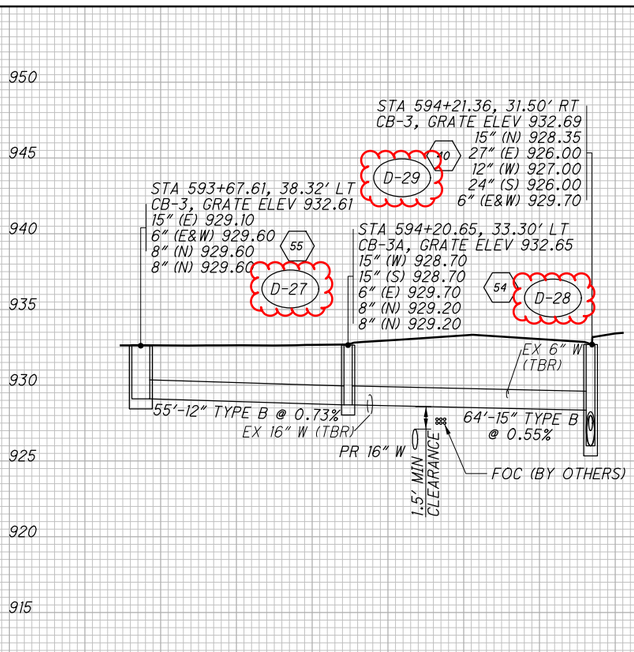
DEL-36-11.03

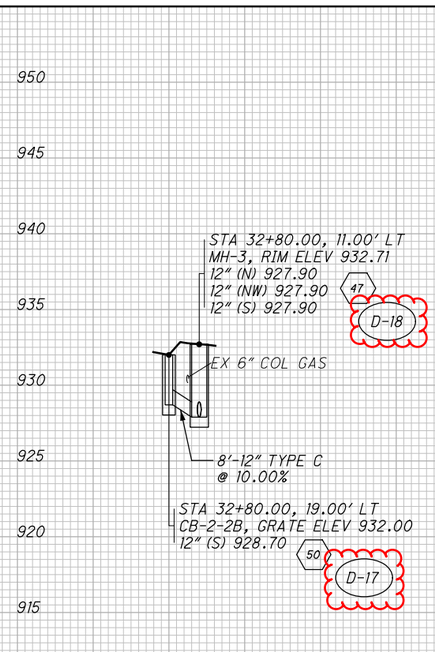








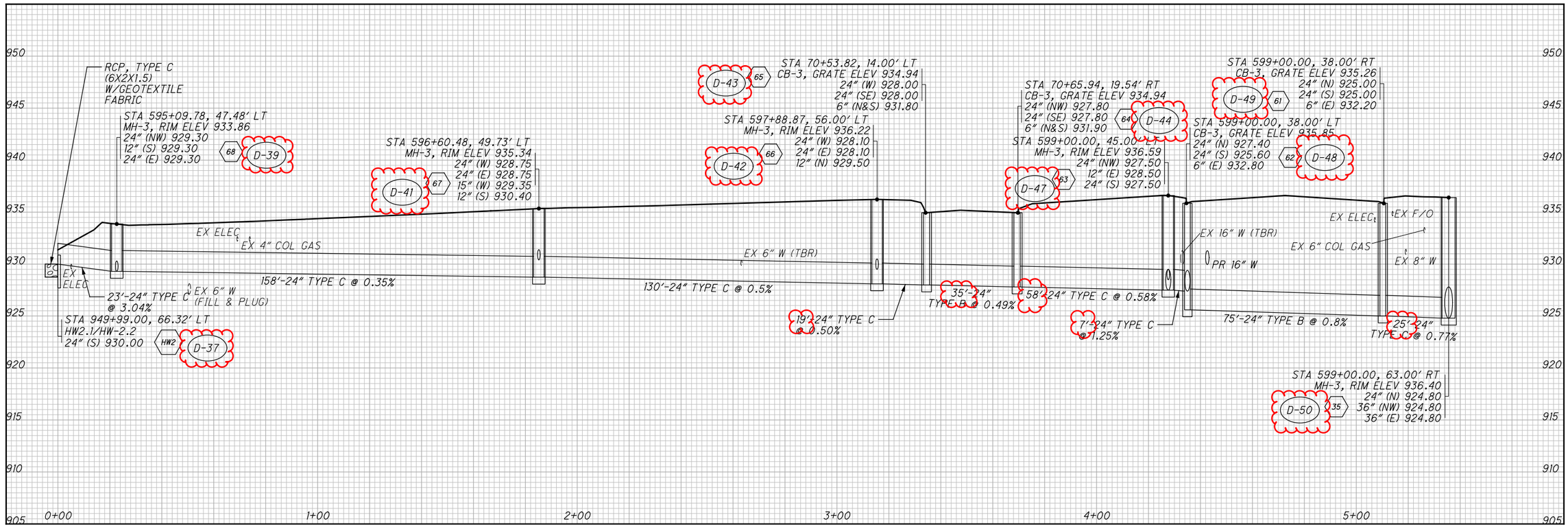


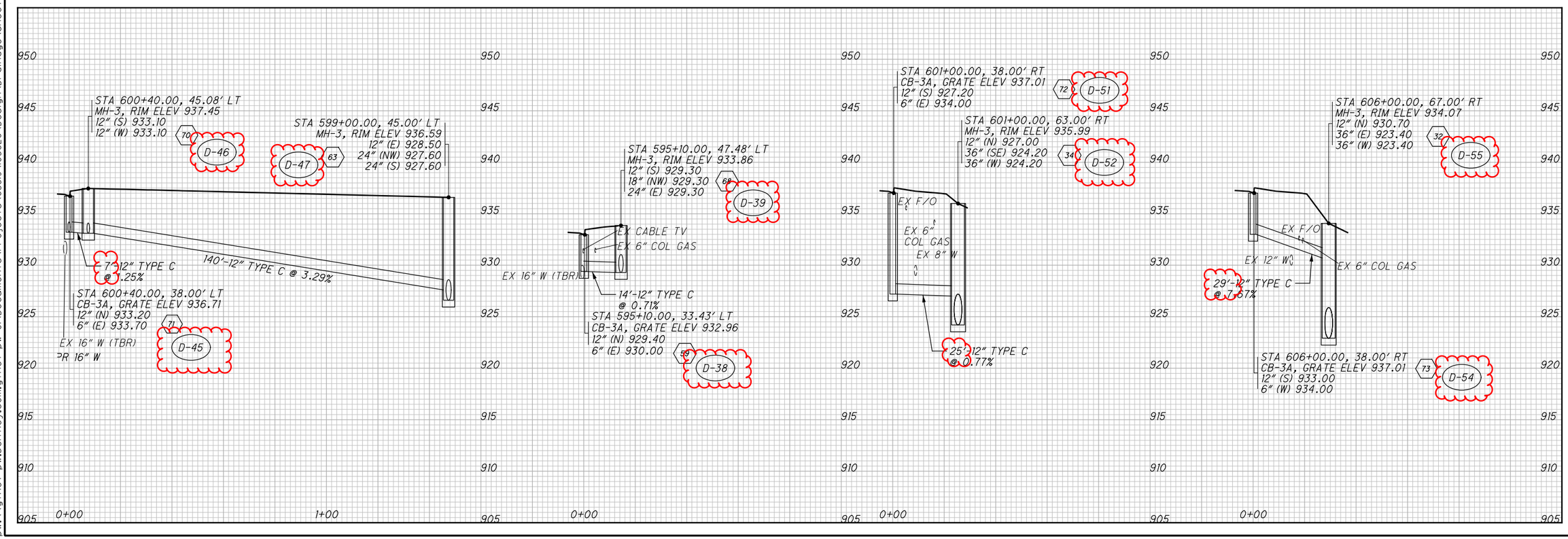


CALCULATED CJM
CHECKED PEK

STORM SEWER PROFILE - US-36/SR-37

DEL-36-11.03





CALCULATED CJM
CHECKED PEK

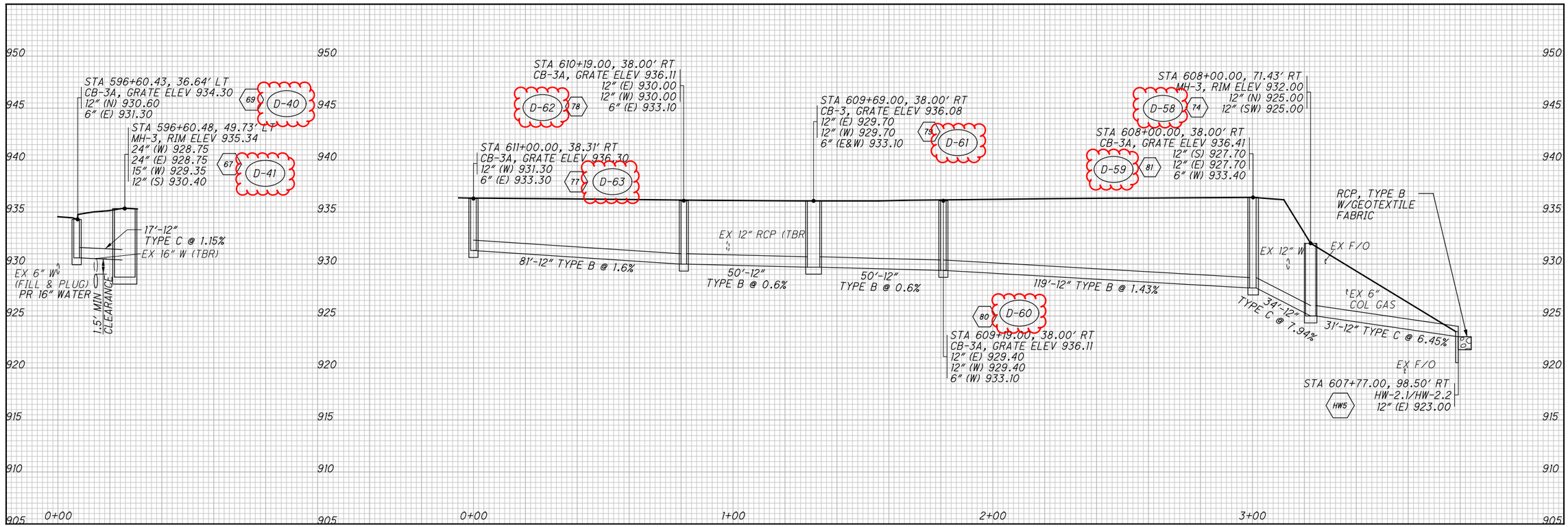
STORM SEWER PROFILE - US-36

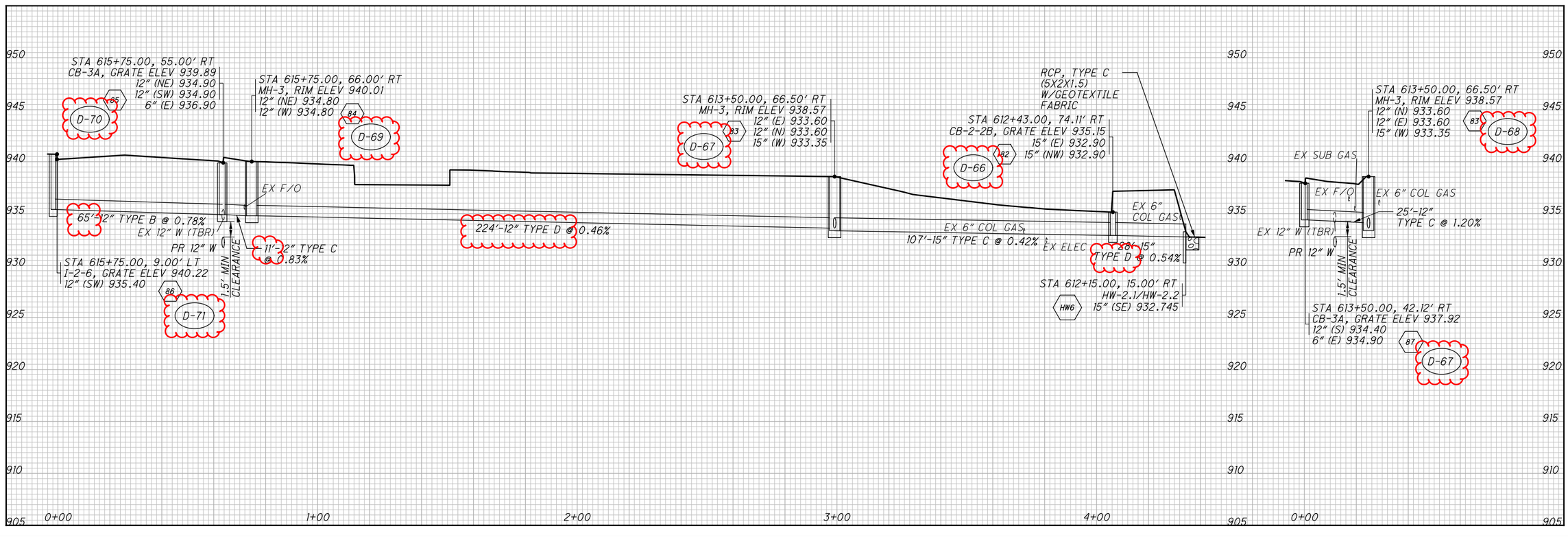
DEL-36-11.03

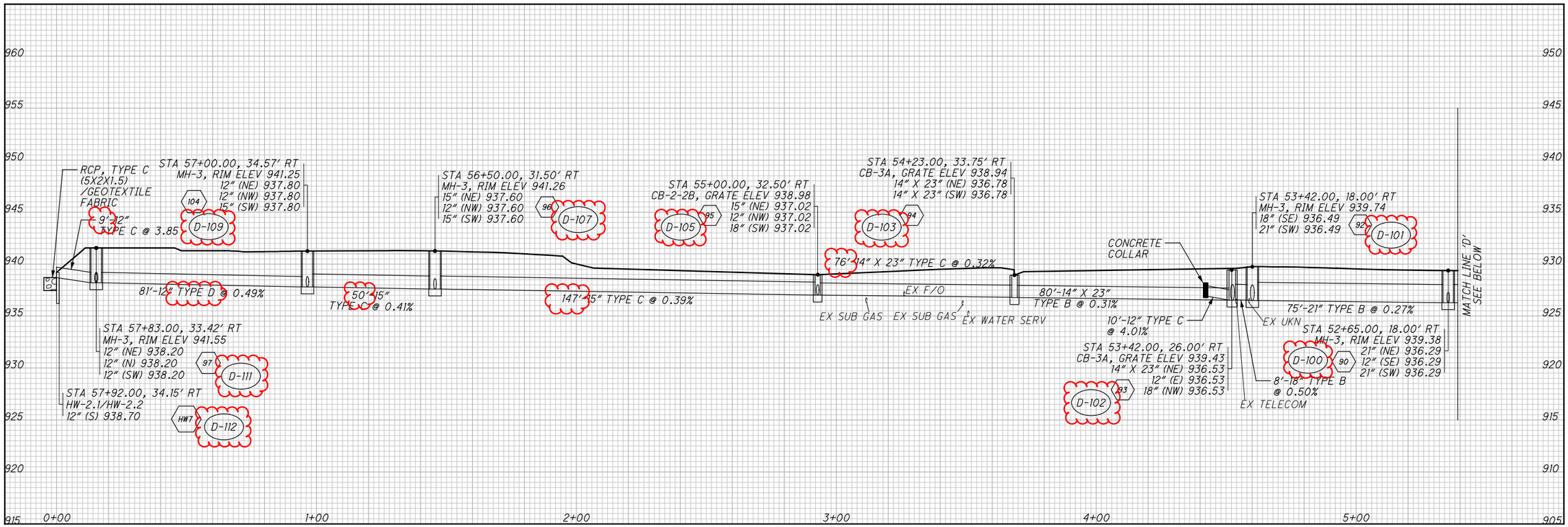
CALCULATED CJM
CHECKED PEK

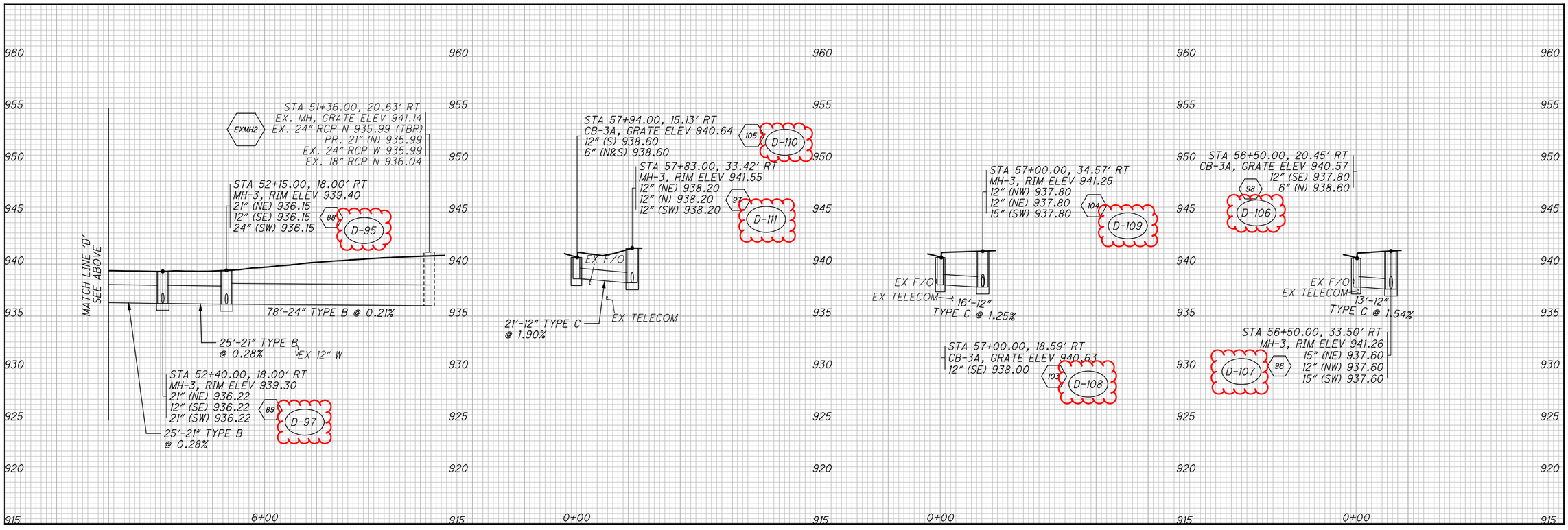
STORM SEWER PROFILE - US-36

DEL-36-11.03









CALCULATED CJM
CHECKED PEK

STORM SEWER PROFILE - SR-521

DEL-36-11.03

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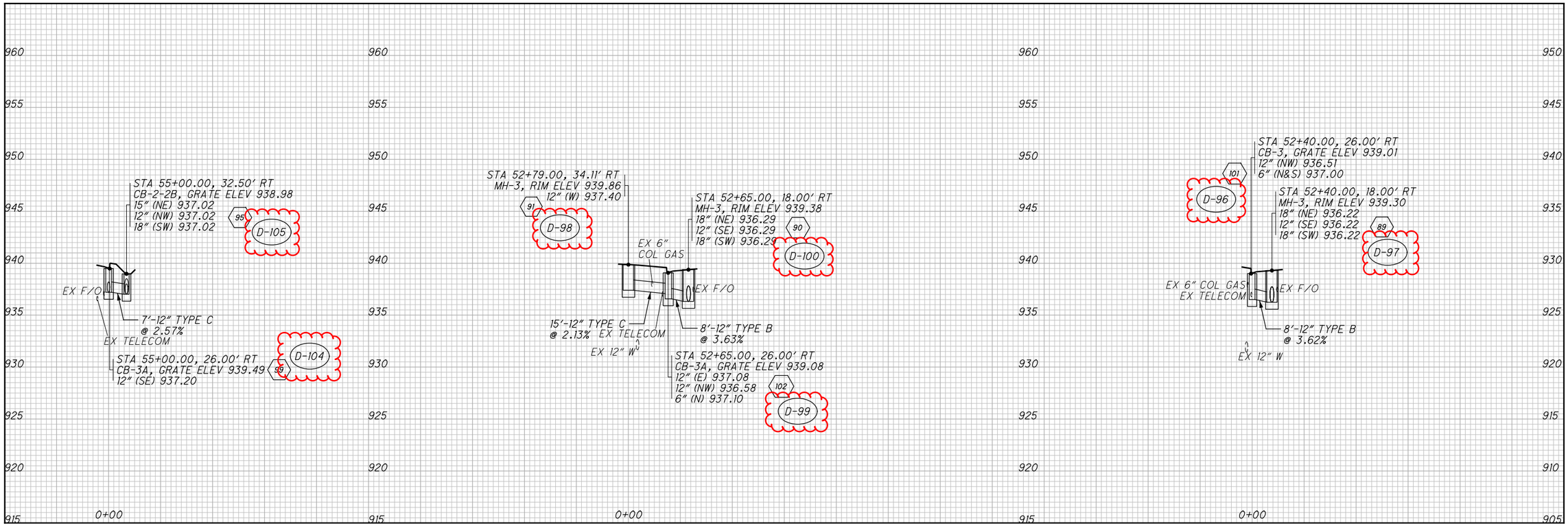
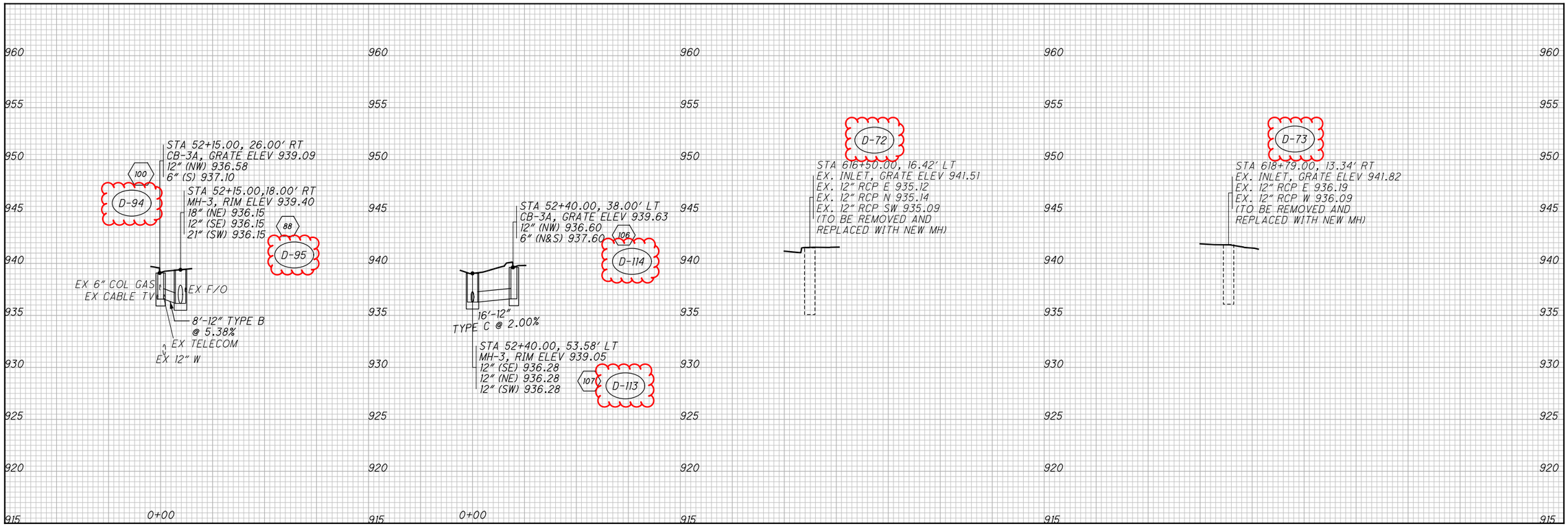


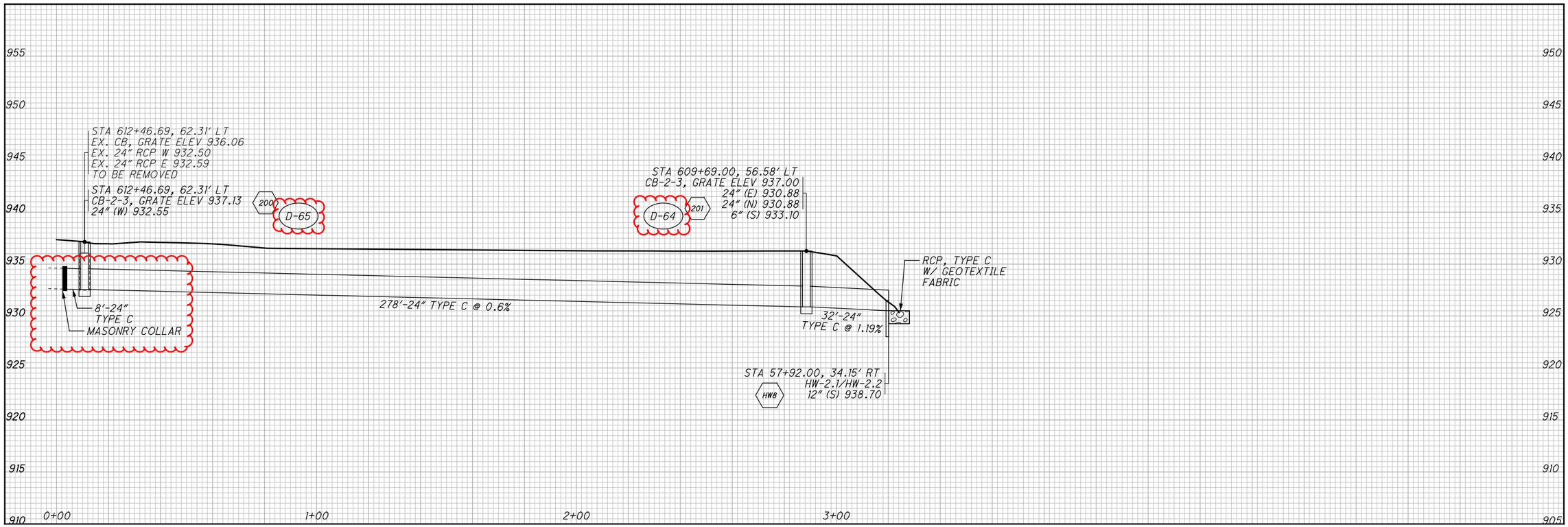


CALCULATED CJM
CHECKED PEK

PROFILE - SR-521 AND EXISTING US-36

STORM SEWER PROFILE

DEL-36-11.03



CALCULATED CJM
CHECKED PEK

STORM SEWER PROFILE - US-36

DEL-36-11.03

SHEET NUM.														PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			301	303	304	305	306	307	308	309	310	311	307	338	01/NHS/PV	02/S\2/PV					
							1			1					2		625	32000	2	EACH	GROUND ROD	
				12				27	14	60	40	50	27		139	64	630	02100	203	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
				220	165	242	196	138	53	81	151	152	138		1,285	260	630	03100	1,545	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
						13				43		13			56	38	630	08520	94	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
				4	1	9	3	7	1	2	5	2	7		32	7	630	08600	39	EACH	SIGN POST REFLECTOR	
										1					1		630	21200	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12	
							1								1		630	21201	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN	301
							3			3					6		630	75000	6	EACH	SIGN ATTACHMENT ASSEMBLY	
				118	101	127	123	79	50	62	95	118	79		782	213	630	80100	995	SF	SIGN, FLAT SHEET	
							126			126					252		630	80224	252	SF	SIGN, OVERHEAD EXTRUSHEET	
						2				6		2			8	6	630	80500	14	EACH	SIGN, DOUBLE FACED, STREET NAME	
							126			126					252		630	81200	252	SF	SIGN ERECTED, EXTRUSHEET	
							1			1					2		630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
				19	38	8	25	28	7	13	13	15	28		150	30	630	84900	180	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
														2	2		630	85000	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	338
				11	20	5	12	17	8	9	11	11	17		92	24	630	86002	116	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
														2	2		630	97700	2	EACH	SIGNING, MISC.: FOUNDATION GROUND MOUNTED SIGN	338
			1												1		630	97700	1	EACH	SIGNING, MISC.: PORTABLE CHANGEABLE MESSAGE SIGN	301
			12												12		631	97700	12	EACH	SIGN LIGHTING MISC.: RECTANGULAR RAPID-FLASHING BEACONS	301

CALCULATED TJS
CHECKED SA

SIGNING SUBSUMMARY

DEL-36.11.03

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SHEET NO.	REF NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN EACH	630 STREET NAME SIGN SUPPORT, NO. 3 POST FT	630 SIGN, DOUBLE FACED, STREET NAME EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, FLAT SHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 SIGN ERECTED, EXTRUSHEET SF	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	625 GROUND ROD EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH		
324	S1	US 36	603+16	LT	R2-1-30	30"x36"		13.50							7.50			1.00	1.00				
324	S2	US 36	603+70	MED	R6-1R-36	36"x12"		11.50	1.00						3.00								
324	R1	US 36	604+05	RT					1.00									1.00	1.00				
324	S3	US 36	604+50	LT	W3-3-36	36"x36"		13.50							9.00								
324	S4	US 36	604+58	RT	R2-1-30	30"x36"		13.50							7.50			1.00	1.00				
324	R2	US 36	604+60	LT														1.00	1.00				
324	R3	US 36	605+25	LT														1.00	1.00				
324	S5	US 36	605+50	LT	M4-5-24	24"x12"		32.00							2.00			8.00	2.00				
					M3-3-24	24"x12"									2.00								
					M1-4-24-2	24"x24"									4.00								
					M5-4-24	24"x18"									3.00								
					M4-5-24	24"x12"									2.00								
					M3-1-24	24"x12"									2.00								
					M1-4-24-2	24"x24"									4.00								
					M5-6-24	24"x18"									3.00								
324	S6	US 36	606+60	RT	R3-H8ca-48	48"x24"		12.50							8.00								
324	S7	US 36	607+00	LT	LEVEL 3	216"x84"					1.00			3.00		126.00	126.00				1.00	1.00	
325	S1	US 36	609+07	MED	R5-1-36	36"x36"		14.50							9.00								
					R6-1R-36	36"x12"									3.00								
325	S2	US 36	609+54	MED	R5-1-36	36"x36"		13.50							9.00								
325	S3	US 36	611+20	MED	W3-3-36	36"x36"		30.00							9.00			5.00	2.00				
					W16-H8aP-48	48"x16"									5.32								
					M2-1-21	21"x15"									2.19								
					M1-5-30-3	30"x24"									5.00								
					M6-1-21	21"x15"									2.19								
325	S4	US 36	611+20	RT	W3-3-36	36"x36"		30.00							9.00			5.00	2.00				
					W16-H8aP-48	48"x16"									5.32								
					M2-1-21	21"x15"									2.19								
					M1-5-30-3	30"x24"									5.00								
					M6-1-21	21"x15"									2.19								
325	R1	US 36	611+90	LT														2.00	1.00				
325	S5	US 36	612+35	MED	R6-1R-36	36"x12"		11.50	1.00						3.00								
TOTALS CARRIED TO SUBSUMMARY ON SHEET 302								196.00	3.00		1.00			3.00	129.00	126.00	126.00	25.00	12.00	1.00	1.00		

SIGNING QUANTITIES (4 OF 10)

DEL -36.11.03

SHEET NO.	REF NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 12, AS PER PLAN EACH	630 STREET NAME SIGN SUPPORT, NO. 3 POST FT	630 SIGN, DOUBLE FACED, STREET NAME EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 SIGN, FLAT SHEET SF	630 SIGN, OVERHEAD EXTRUSHEET SF	630 SIGN ERECTED, EXTRUSHEET SF	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	625 GROUND ROD EACH	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH		
328	R1	US 36	625+20	LT	W3-H4a-48	48"x48"												1.00	1.00				
328	S1	US 36	626+93	LT	LEVEL 3	216"x84"				1.00				3.00		126.00	126.00			1.00	1.00		
329	S1	SR 37	12+15	RT	R7-1-12	12"x18"	12.00								1.50								
					R7-2a-12	12"x18"									1.50								
329	S2	SR 37	13+50	RT	R7-1-12	12"x18"	12.00								1.50								
329	S2A	SR 37	14+60	LT	R9-3-18	18"x18"		13.50							2.25								
					R9-2-12	12"x18"									1.50								
329	S3	EAST ST	120+34	LT	R1-1-30	30"x30"			1.00			15.00			6.25			1.00	1.00				
					D3-1-30	24"x12"							1.00		2.00								
					D3-1-24	24"x12"							1.00		2.00								
329	S3A	SR 37	15+00	LT	R9-3-18	18"x18"		13.50							2.25								
					R9-2-12	12"x18"									1.50								
329	R1	SR 37	15+00	LT														2.00	1.00				
329	S4	SR 37	15+75	RT	R7-1-12	12"x18"	12.00								1.50			1.00	1.00				
					R7-2a-12	12"x18"									1.50								
329	S4A	SR 37	16+00	RT	R9-3-18	18"x18"		13.50							2.25								
					R9-2-12	12"x18"									1.50								
329	S5	FOLEY ST	102+16	RT	R1-1-30	30"x30"			1.00			15.00			6.25			3.00	1.00				
					D3-1-30	24"x12"							1.00		2.00								
					D3-1-24	24"x12"							1.00		2.00								
329	S5A	SR 37	16+60	RT	R9-3-18	18"x18"		13.50							2.25								
					R9-2-12	12"x18"									1.50								
329	S6	SR 37	16+70	RT	R7-1-12	12"x18"	12.00								1.50			1.00	1.00				
					R7-2a-12	12"x18"									1.50								
330	S1	SR 37	17+82	RT	R3-H8be-30	30"x30"		13.00							6.25								
330	R1	SR 37	18+45	RT														1.00	1.00				
330	S2	SR 37	19+04	LT	R7-1-12	12"x18"	12.00								1.50			1.00	1.00				
330	S2A	SR 37	19+30	LT	R9-3-18	18"x18"		13.50							2.25								
					R9-2-12	12"x18"									1.50								
330	S3	SR 37	19+39	LT	D3-1-24	24"x12"						12.50	1.00		2.00								
					D3-1-24	24"x12"							1.00		2.00								
330	R2	SR 37	19+39	LT														2.00	1.00				
TOTALS CARRIED TO SUBSUMMARY ON SHEET 302							60.00	81.00	2.00	1.00		43.00	6.00	3.00	62.00	126.00	126.00	13.00	9.00	1.00	1.00		

SIGNING QUANTITIES (7 OF 10)

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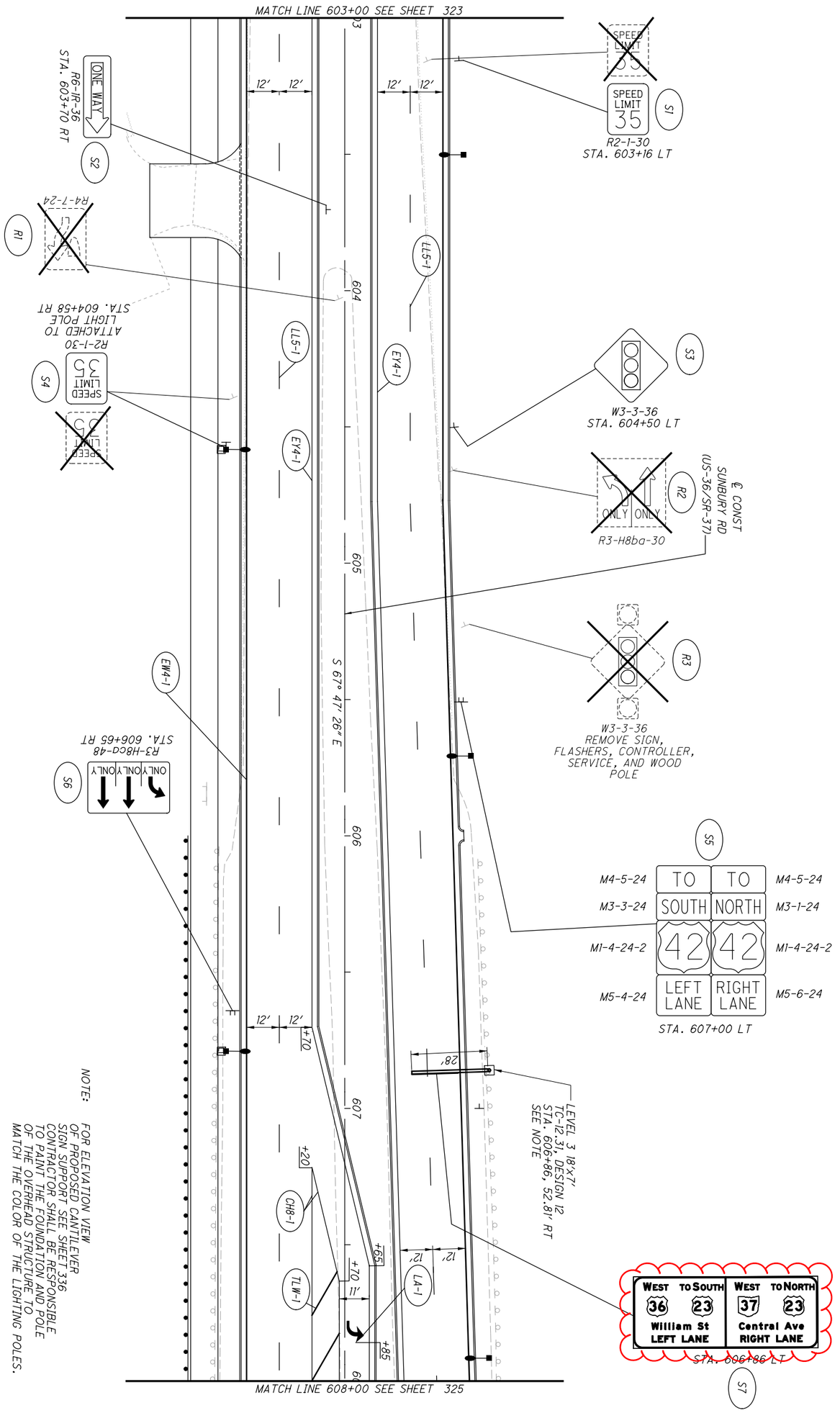


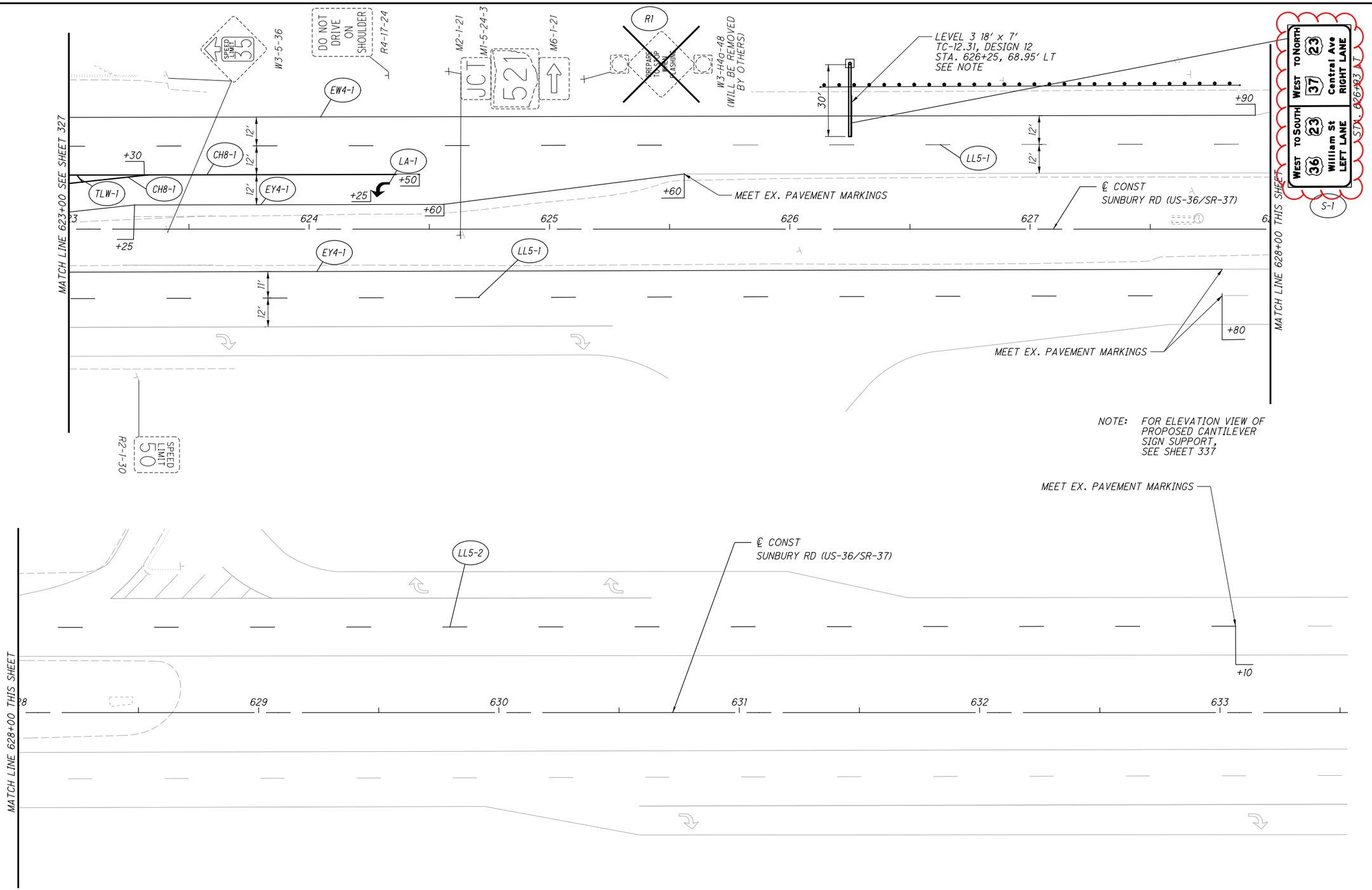
NOTE:
FOR ELEVATION VIEW OF PROPOSED CANTILEVER SIGN SUPPORT SEE SHEET 336
CONTRACTOR SHALL BE RESPONSIBLE TO PAINT THE FOUNDATION AND POLE OF THE OVERHEAD STRUCTURE TO MATCH THE COLOR OF THE LIGHTING POLES.

DEL-36-11.03

TRAFFIC CONTROL PLAN - US-36
STA 603+00 TO STA 608+00

CALCULATED SA
CHECKED PHF

0 10 20 40
HORIZONTAL SCALE IN FEET



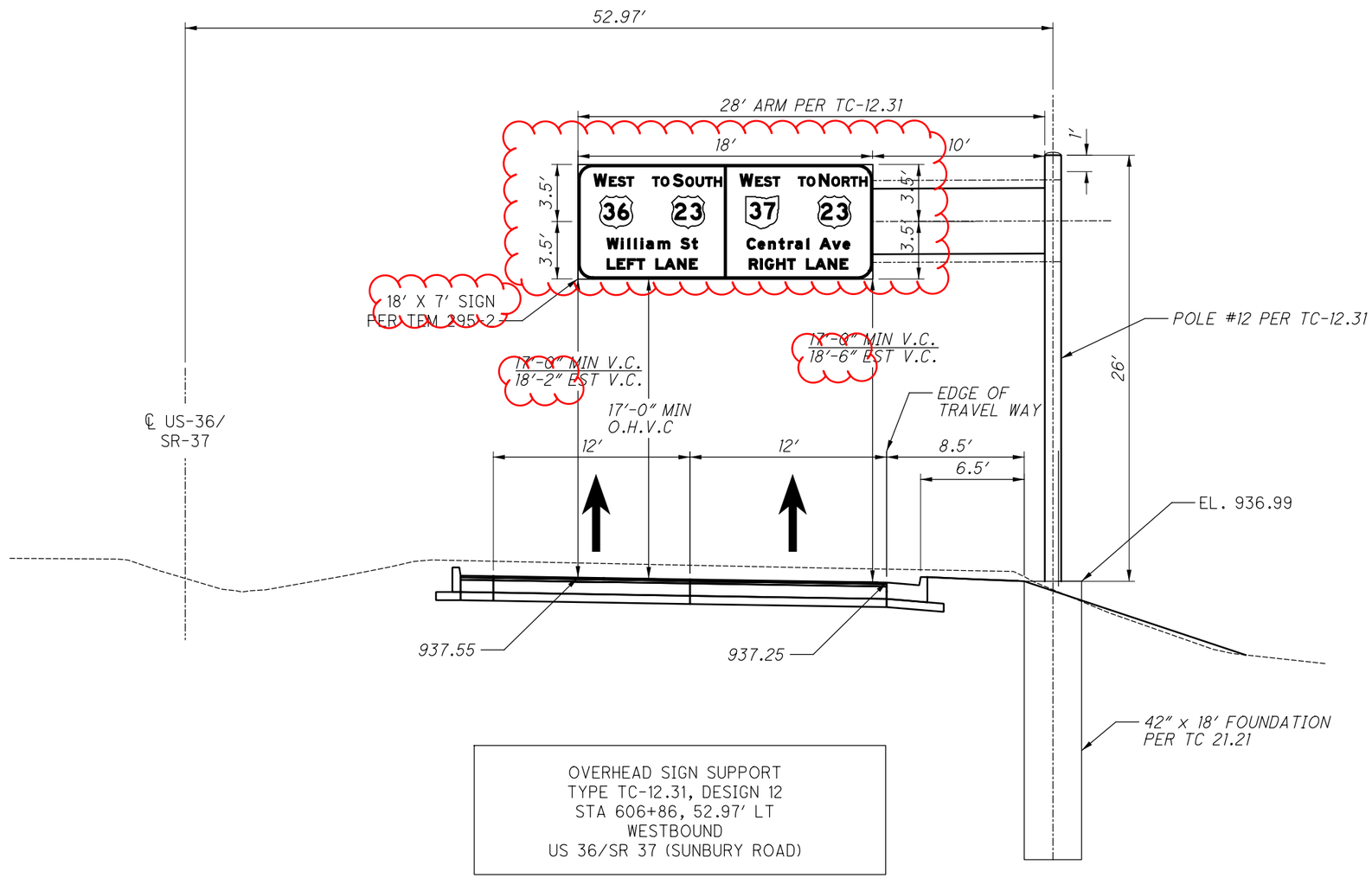
NOTE: FOR ELEVATION VIEW OF PROPOSED CANTILEVER SIGN SUPPORT, SEE SHEET 337

TRAFFIC CONTROL PLAN - US-36
STA 238+00 TO STA 633+50

CALCULATED SA
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

DEL-36-11.03

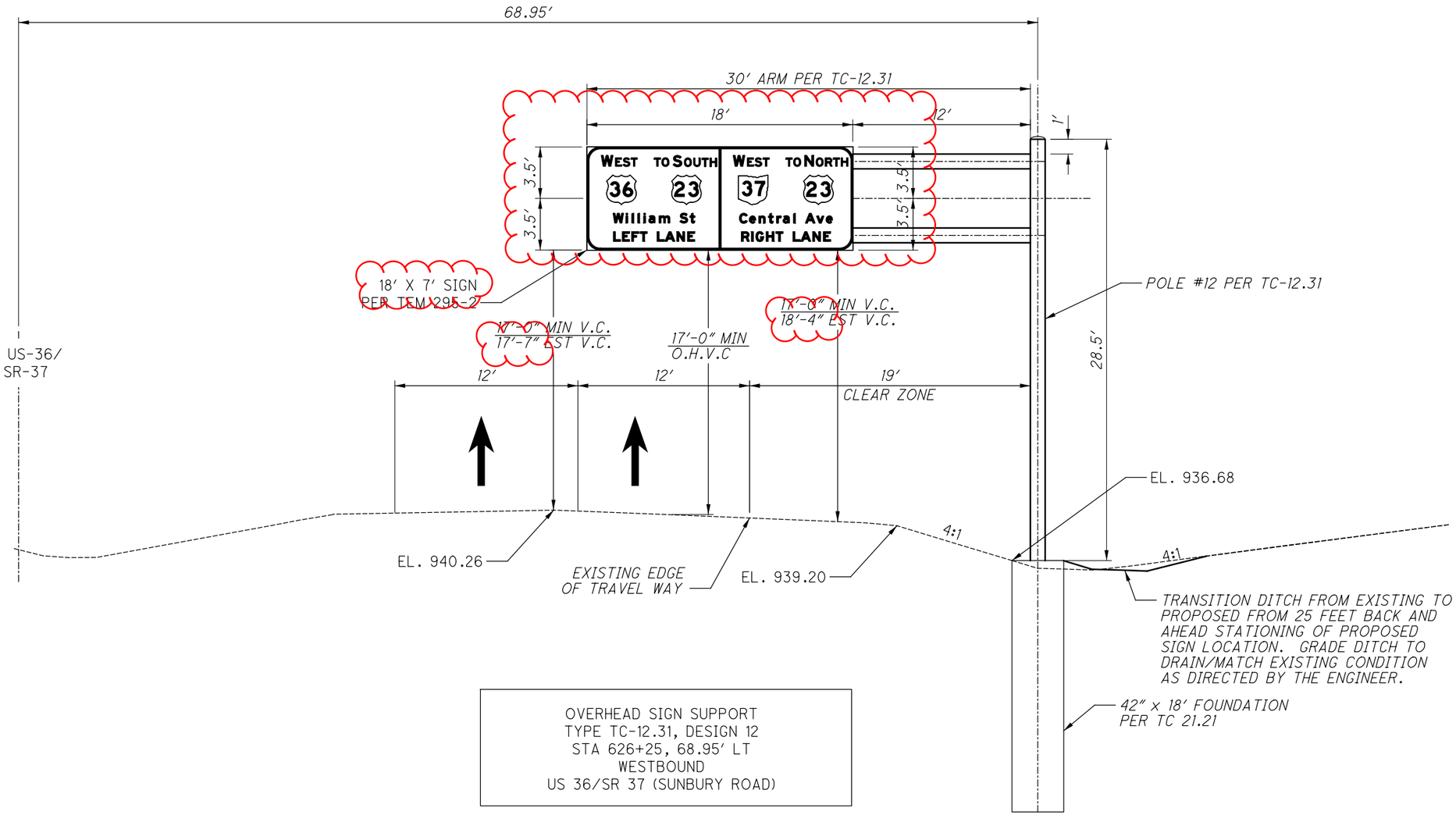


OVERHEAD SIGN SUPPORT
TYPE TC-12.31, DESIGN 12
STA 606+86, 52.97′ LT
WESTBOUND
US 36/SR 37 (SUNBURY ROAD)

CALCULATED DSP
CHECKED DCP

TRAFFIC CONTROL-OVERHEAD SIGN DETAILS
STA. 606+86 US 36/SR37 (SUNBURY ROAD) WESTBOUND

DEL-36-11.03



OVERHEAD SIGN SUPPORT
TYPE TC-12.31, DESIGN 12
STA 626+25, 68.95′ LT
WESTBOUND
US 36/SR 37 (SUNBURY ROAD)

CALCULATED DSP
CHECKED DCP

TRAFFIC CONTROL - OVERHEAD SIGN DETAILS
STA 626+93 US 36/SR 37 (SUNBURY ROAD) WESTBOUND

DEL-36-11.03

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SHEET NUM.												PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION
					365	367	368	369	370	371		01/NHS/PV	02/S>2/PV	06/ENH/31					
						30	28	32	30	40		120	40		625	00450	160	EACH	CONNECTION, FUSED PULL APART
						30		18	18	18		66	18		625	00480	84	EACH	CONNECTION, UNFUSED PERMANENT
						13	5	12		18				48	625	10481	48	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN
							8	5	9	1		23			625	10490	23	EACH	LIGHT POLE, CONVENTIONAL, AT8B37
						13	13	15	9	18		50	18		625	14100	68	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP
						2,475	12,388	2,151	108	639		17,122	639		625	23200	17,761	FT	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE
									1,731			1,731			625	23308	1,731	FT	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE
						664	1,616	894	1,026	720		4,200	720		625	23400	4,920	FT	NO. 10 AWG POLE AND BRACKET CABLE
						1,209		1,250	1,995	2,050		4,454	2,050		625	24400	6,504	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES
									856			856			625	24400	856	FT	DUCT CABLE, MISC.:2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES
						69	84	29	355	17		537	17		625	25402	554	FT	CONDUIT, 2", 725.05
						250	168	472	267	392		1,347	202		625	25902	1,549	FT	CONDUIT, JACKED OR DRILLED, 725.04, 3"
						693	2,545	464		112		3,702	112		625	25920	3,814	FT	CONDUIT, MISC.: DUCT BANK
					200							200			625	25920	200	FT	CONDUIT, MISC.: UNDERDRAIN OUTLET
							8	4	9			21			625	26253	21	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED) IES-III-FULL CUTTOFF-MEDIUM, 3000K-CCT, AS PER PLAN
						13	5	12		18				48	625	27403	48	EACH	LUMINAIRE, POST TOP, SOLID STATE (LED) IES-III-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN
						1,278	84	1,279	3,007	2,067		5,648	2,067		625	29000	7,715	FT	TRENCH
						693	2,545	464				3,702			625	29001	3,702	FT	TRENCH, AS PER PLAN
						8	13	8	1	4		30	4		625	30700	34	EACH	PULL BOX, 725.08, 18"
						2	1	2	1	2		6	2		625	31600	8	EACH	PULL BOX, MISC.: 30" x 48" POLYMER PULL BOX
						13	13	15	9	18		50	18		625	32000	68	EACH	GROUND ROD
									1			1			625	34001	1	EACH	POWER SERVICE, AS PER PLAN
						1,971	2,629	1,743	3,007	2,067		9,350	2,067		625	36010	11,417	FT	UNDERGROUND WARNING/MARKING TAPE
							1	1				2		2	625	98000	2	EACH	LIGHTING, MISC.: LANDSCAPE - MONUMENT LIGHT
						4						4		4	625	98000	4	EACH	LIGHTING, MISC.: LANDSCAPE - ABUTMENT LIGHT

CALCULATED TJS CHECKED JA

LIGHTING SUBSUMMARY

DEL-36.11.03

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REF.	SHEET	ROADWAY	STATION TO STATION	CONNECTION, FUSED, PULL APART	CONNECTION, UNFUSED, PERMANENT	LIGHT POLE, CONVENTIONAL, AT8B37	LIGHT POLE, DECORATIVE, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 8' DEEP	DISTRIBUTION CABLE, MISC: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	DUCT CABLE, MISC: 2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES	DUCT CABLE, MISC: 2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES	CONDUIT, 2", 725.05	CONDUIT, JACKED OR DRILLED, 725.04, 3"	CONDUIT, MISC.: DUCT BANK	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTTOFF-MEDIUM, 3000K-CCT LUMENS, AS PER PLAN	LUMINAIRE, POST TOP, SOLID STATE (LED),IES-III-SEMI CUTTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	TRENCH	TRENCH, AS PER PLAN	PULL BOX, 725.08, 18"	GROUND ROD	POWER SERVICE, AS PER PLAN	UNDERGROUND WARNING/MARKING TAPE	PULLBOX, MISC: 30" x 48" POLYMER PULL BOX						
				EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	FT	EACH	EACH	EACH	FT	EACH								
S1-A2	375	US-36	599+17 LT	2		1		1			114						1					1										
			599+17 LT 601+31 LT										214						214					214									
S1-A1	375	US-36	601+31 LT	2		1		1			114						1					1										
			601+31 LT 602+39 LT										107						107					107									
PB-A1	375	US-36	602+39 LT		6																				1							
			602+39 LT 602+46 LT							108				36					9					9									
			602+39 LT 603+50 LT										112						112					112									
CC S1	375	US-36	602+46 LT																						1							
S1-C1	376	US-36	603+50 LT	2		1		1			114						1					1										
			603+50 LT 605+71 LT										222						222					222									
S1-C2	376	US-36	605+71 LT	2		1		1			114						1					1										
			605+71 LT 607+92 LT										220						220					220									
S1-C3	376	US-36	607+92 LT	2		1		1			114						1					1										
			607+92 LT 610+11 LT										220						220					220									
S1-C4	377	US-36	610+11 LT	2		1		1			114						1					1										
			610+11 LT 612+32 LT										222						222					222									
S1-C5	377	US-36	612+32 LT	2		1		1			114						1					1										
			612+32 LT 614+53 LT										223						223					223									
S1-C6	378	US-36	614+53 LT	2		1		1			114						1					1										
			614+53 LT 616+74 LT										222						222					222									
S1-C7	378	US-36	616+74 LT	2		1		1			114						1					1										
			616+74 LT 619+08 LT										233						233					233									
PB-C1	379	US-36	619+08 LT																													
S2-F6	373	US-36	591+80 RT																													
			591+80 RT 592+48 RT							210				70					70					70									
PB-B8	373	US-36	592+48 RT	2																												
			592+48 RT 593+93 RT							435				145																			
PB-B7	374	US-36	593+93 RT	4																												
			593+93 RT 593+23 RT							90				30					30					30									
			593+93 RT 594+55 RT							195				65					65					65									
			593+93 RT 595+02 RT							318					106																	
S2-F5	374	US-36	593+23 RT																													
S2-F4	374	US-36	594+55 RT																													
PB-B6	374	US-36	595+02 RT																													
			595+02 RT 595+22 LT							231					77																	
PB-F1	374	US-36	595+22 LT	2	3																		1									
			595+22 LT 594+68 LT									55							55					55									
			595+22 LT 595+16 LT									20							20					20									
			595+22 LT 597+82 LT									270							270					270									
PB-A4	374	US-36	594+68 LT	4																												
			594+68 LT 594+03 LT									70							70					70									
			594+68 LT 594+33 LT									40							40					40									
S2-F3	374	US-36	594+33 LT																													
S2-F2	374	US-36	594+03 LT																													
S2-F1	374	US-36	595+16 LT																													
PB-A3	374	US-36	597+82 LT		3																											
			597+82 LT 598+65 LT							252					84																	
PB-A2	375	US-36	598+65 LT		3																											
			598+65 LT 602+39 LT									374							374					374									
PB-A1	375	US-36	602+39 LT		3																											
			602+39 LT 602+40 LT									27		9					9					9									
TOTALS CARRIED TO SUBSUMMARY				30	18	9	0	9	1731	108	1026	856	1995	355	267	0	9	0	3007	0	1	9	1	3007	1							

LIGHTING QUANTITIES

DEL-36-11.03

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REF.	SHEET	ROADWAY	STATION TO STATION		CONNECTION, FUSED, PULL APART	CONNECTION, UNFUSED, PERMANENT	LIGHT POLE, CONVENTIONAL, AT8B37	LIGHT POLE, DECORATIVE, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 8' DEEP	DISTRIBUTION CABLE, MISC: NO. 8 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	DUCT CABLE, MISC: 2" DUCT CABLE WITH THREE NO. 8 2400 VOLT CABLES	DUCT CABLE, MISC: 2" DUCT CABLE WITH THREE NO. 4 2400 VOLT CABLES	CONDUIT, 2", 725.05	CONDUIT, JACKED OR DRILLED, 725.04, 3"	CONDUIT, MISC.: DUCT BANK	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), IES-III-FULL CUTOFF-MEDIUM, 3000K-CCT LUMENS, AS PER PLAN	LUMINAIRE, POST TOP, SOLID STATE (LED),IES-III-SEMI CUTOFF-MEDIUM, 8800 LUMENS, AS PER PLAN	TRENCH	TRENCH, AS PER PLAN	PULL BOX, 725.08, 18"	GROUND ROD	POWER SERVICE, AS PER PLAN	UNDERGROUND WARNING/MARKING TAPE	PULLBOX, MISC: 30" x 48" POLYMER PULL BOX				
					EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	FT	FT	EACH	EACH	EACH	FT	EACH						
PB-D4	379	US-36	620+54 LT		2	3																				1					
			620+54 LT	52+02 RT										164						164					164						
			620+54 LT	620+48 LT							27				9					9					9						
S1-D4	379	US-36	620+48 LT																												
S1-D5	383	SR-521	52+02 RT		2			1	1			40							1			1									
			52+02 RT	53+12 RT										110						110					110						
S1-D6	383	SR-521	53+12 RT		2			1	1			40							1			1									
			53+12 RT	53+40 RT										27						27					27						
PB-D5	383	SR-521	53+40 RT			3																1									
			53+40 RT	54+43 RT							303					202															
PB-D6	383	SR-521	54+43 RT			3																1									
			54+43 RT	54+47 RT										3						3					3						
S1-D7	383	SR-521	54+47 RT		2			1	1			40							1			1									
			54+47 RT	55+41 RT										96						96					96						
S1-D8	383	SR-521	55+41 RT		2			1	1			40							1			1									
			55+41 RT	26+05 RT										109						109					109						
S1-D9	383	SR-521	26+05 RT		2			1	1			40							1			1									
			26+05 RT	57+99 RT										145						145					145						
S1-D10	384	SR-521	57+99 RT		2			1	1			40							1			1									
			57+99 RT	60+07 RT										206						206					206						
S1-D11	384	SR-521	60+07 RT		2			1	1			40							1			1									
			60+07 RT	61+23 RT										129						129					129						
S1-D12	384	SR-521	61+23 RT		2			1	1			40							1			1									
PB-C1	379	US-36	619+08 LT		2	3																				1					
			619+08 LT	619+03 LT							12				4					4					4						
			619+08 LT	51+39 LT										105						105					105						
SIG PB	379	US-36	619+03 LT																												
			619+03 LT	618+99 LT							12				4					4					4						
S1-C8	379	US-36	618+99 LT																												
S1-C9	379	SR-521	51+39 LT		2			1	1			40							1			1									
			51+39 LT	52+42 LT										110						110					110						
S1-C10	383	SR-521	52+42 LT		2			1	1			40							1			1									
			52+42 LT	53+51 LT										112						112					112						
S1-C11	383	SR-521	53+51 LT		2			1	1			40							1			1									
			53+51 LT	54+65 LT										116						116					116						
S1-C12	383	SR-521	54+65 LT		2			1	1			40							1			1									
			54+65 LT	55+86 LT										125						125					125						
S1-C13	383	SR-521	55+86 LT		2			1	1			40							1			1									
			55+86 LT	57+17 LT										132						132					132						
S1-C14	384	SR-521	57+17 LT		2			1	1			40							1			1									
			57+17 LT	58+92 LT										178						178					178						
S1-C15	384	SR-521	58+92 LT		2			1	1			40							1			1									
			59+92 LT	59+30 LT										51						51					51						
PB-C2	384	SR-521	59+29 LT		2	3																1									
			59+29 LT	60+21 LT							285				190																	
			59+29 LT	59+30 LT										3						3					3						
S1-C16	384	SR-521	59+30 LT					1	1			40							1			1									
PB-C3	384	SR-521	60+21 LT		2	3																1									
			60+21 LT	61+46 LT										126						126					126						
			60+21 LT	60+23 LT										3						3					3						
S1-C17	384	SR-521	60+23 LT					1	1			40							1			1									
S1-C18	384	SR-521	61+46 LT		2			1	1			40							1			1									
SIG	379	US-36	619+20 LT	620+31 LT													112				112										
TOTALS CARRIED TO SUBSUMMARY					40	18	0	18	18	0	639	720	0	2050	17	392	112	0	18	2067	112	4	18	0	2067	2						

LIGHTING QUANTITIES

DEL-36-11.03

371
644

STANDARD RAILROAD BRIDGE NOTES AND DETAILS

THE NOTES ON THIS SHEET ARE SPECIFIC TO THE SUBJECT BRIDGE STRUCTURE. FOR STANDARD NOTES AND DETAILS APPLICABLE TO ALL RAILROAD BRIDGE STRUCTURES ON THIS PROJECT, INCLUDING THIS STRUCTURE, SEE THE FOLLOWING SHEETS: 401/644 THROUGH 403/644

DRILLED SHAFT DESIGN LOADS

MAX SERVICE LOAD TO BE SUPPORTED BY EACH ABUTMENT SHAFT = 582 KIPS
ALLOWABLE TIP RESISTANCE = 105 KIPS
ALLOWABLE SKIN RESISTANCE = 622 KIPS (ASSUMED TO OCCUR ALONG THE BOTTOM 12' OF SHAFT)
FACTOR OF SAFETY: 2.5 (AREMA CH. 8 SECTION 24.3.2.5)
TOTAL ALLOWABLE RESISTANCE = 727 KIPS

SEE SHEET 403/644 FOR FULL DRILLED SHAFT PAY ITEM NOTES.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE PROPOSED TEMPORARY BRIDGE CARRYING RAILROAD TRAFFIC OVER US 36/37.

REMOVAL INCLUDES THE REMOVAL OF THE TEMPORARY BRIDGE DECK, GIRDERS, BEARINGS, TIED SHEETING WALLS, SOUTHERN SHEETING WALL, DRILLED SHAFTS TO 3'-0" BELOW FINAL GRADE, AND ALL OTHER ANCILLARY ITEMS.

REMOVAL OF TEMPORARY EARTHWORK, INCLUDING FILL BETWEEN THE TIED SHEETING WALLS, IS INCLUDED WITH THE TRACK EXCAVATION QUANTITIES.

ITEM 502 - STRUCTURE FOR MAINTAINING TRAFFIC (RAILROAD), AS PER PLAN - TEMPORARY BRIDGE DECK

THIS ITEM CONSISTS OF FURNISHING, INSTALLING, AND REMOVING BRIDGE DECK AND WALKWAY COMPONENTS. ALL COMPONENTS REQUIRED TO CONSTRUCT THE BRIDGE DECK SHALL BE INCLUDED FOR PAYMENT INCLUDING TIMBER TIES, TIMBER FILLS, STEEL OUTRIGGERS, STEEL ANGLES, STEEL CABLES, NEOPRENE PADS UNDER BACKWALL TIES, AND STEEL WALKWAY GRATING AND ASSOCIATED CLIPS. THIS ITEM SHALL ALSO INCLUDE ALL FASTENERS REQUIRED INCLUDING ANY BOLTS, SPIKES, AND WELDS. THE END TIE ANCHORED TO THE TOP OF THE BACKWALL, INCLUDING ANCHORAGES, AND REQUIRED SUBMITTAL AND APPROVALS BY NSRR, SHALL BE INCLUDED WITH THIS PAY ITEM.

ALL ROLLED STEEL SHAPES SHALL COMPLY WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 6, AS PER PLAN. (SECONDARY STEEL MATERIAL PROPERTIES)

TRACK COMPONENTS (TIE PLATES, SPIKES, AND RAILS) SHALL BE CONSIDERED PART OF THE FORCE ACCOUNT WORK TO BE PERFORMED BY THE RAILROAD OR THEIR DESIGNATED CONTRACTOR.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED DECK, WALKWAY, AND HANDRAIL AFTER COMPLETION AND APPROVAL BY NSRR.

ALL TIMBER TIES SHALL COMPLY WITH THE NSRR QUALITY ASSURANCE SPECIFICATIONS FOR TIES AND TIMBERS.

ITEM 502 - STRUCTURE FOR MAINTAINING TRAFFIC (RAILROAD), AS PER PLAN - TIED SHEETING WALLS

THIS ITEM CONSISTS OF FURNISHING, INSTALLING, AND LATER REMOVING THE SHEET PILING, WALERS, TIE RODS, AND UNDERDRAIN SYSTEM DETAILED IN THE PLANS.

SHEET PILING SHALL HAVE A MINIMUM SECTION MODULUS OF 30.2 CUBIC INCHES PER FOOT.

WALER SHALL HAVE A MINIMUM TOTAL SECTION MODULUS OF 41.4 CUBIC INCHES FOR BENDING IN THE HORIZONTAL PLANE. A DOUBLE CHANNEL WALER IS DETAILED IN THE PLANS.

TIE RODS SHALL BE ASTM A722 GRADE 150. TIE RODS ACT TO TIE BACK THE FACE OF SHEETING AND ARE INSTALLED WITH NO INITIAL PRETENSION. THE TERM TIE ROD AND TIEBACK ARE USED INTERCHANGEABLY IN THESE PLANS.

THE STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50 (CONSIDERED SECONDARY STEEL).

THE UNDERDRAIN SYSTEM SHALL BE 6" CORRUGATED PLASTIC PIPE. THE PIPE SHALL BE PERFORATED WITHIN IN THE WALL SYSTEM, AND NON-PERFORATED OUTSIDE OF THE FILL/WALL SYSTEM AND INCLUDE OUTLET TREATMENTS AND SPECIALS.

FILL BETWEEN THE WALLS SHALL BE PAID FOR WITH ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED TIED SHEETING WALLS AFTER COMPLETION AND APPROVAL BY NSRR.

TEMPORARY BRIDGE SUBSET

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2500 CORPORATE EXCHANGE, SUITE 230
COLUMBIA, OHIO 43231

DESIGNED CTM | DRAWN CTM | CHECKED VDT | REVIEWED EFD | DATE 05/2021
REVISED
ODOT SFN: NONE (TEMP)
NSRR FILE: BR00019283

TEMPORARY BRIDGE GENERAL NOTES (1 OF 2)
BRIDGE NO. DEL-36-TEMP (TEMPORARY NS MP S-23.80)
NSRR OVER US 36 / 37 (CITY OF DELAWARE)

POINT PROJECT
PID No. 103626

ITEM 530 - SPECIAL - SURVEY AND MONITORING OF TRACK AND TEMPORARY SHORING

PART 1: QUALIFICATIONS OF PERSONNEL

PROVIDE QUALIFIED PERSONNEL UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEY OR LICENSED IN THE STATE OF OHIO WITH A MINIMUM OF TWO YEARS EXPERIENCE IN DEFORMATION MONITORING FOR STRUCTURES. PROVIDE THE NECESSARY EQUIPMENT AND MATERIALS TO OBTAIN, RECORD, COMPILE AND ANALYZE THE INSTRUMENTATION DATA AS SPECIFIED AND AS DIRECTED BY THE ENGINEER. SUBMIT THE NAMES, DUTIES, AND QUALIFICATIONS OF THE PERSONNEL AT LEAST FOUR WEEKS PRIOR TO COMMENCEMENT OF MONITORING. INCLUDE THE EQUIPMENT TO BE USED, INCLUDING INSTRUMENT CALIBRATION, AND THE FORM IN WHICH INFORMATION WILL BE PRESENTED TO THE ENGINEER. INCLUDE THE LOCATIONS AND METHODS THAT WILL BE USED TO MAINTAIN PERMANENT REFERENCE POINTS. THE ENGINEER MAY REQUEST A MEETING WITH THE MONITORING PERSONNEL WHEN EVALUATING THEIR QUALIFICATIONS. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER PRIOR TO COMMENCEMENT OF MONITORING.

PART 2: MONITORING MOVEMENT OF TRACK

1) DESCRIPTION
THIS WORK IS THE MONITORING OF VERTICAL AND HORIZONTAL MOVEMENT OF EXISTING, TEMPORARY AND PERMANENT TRACKS DURING THE TIME PERIOD OVER WHICH THE TRACKS ARE SUPPORTED BY TEMPORARY SHORING. COORDINATE INSTRUMENTATION MONITORING WITH THE PROVISIONS FOR MONITORING MOVEMENT OF TEMPORARY SHORING.

2) CONSTRUCTION
A) MONITORING
SURVEY THE TOP OF RAILS OF ANY TRACKS ALONG THE LENGTH OF TRACK THAT WILL BE SUPPORTED BY THE TEMPORARY SHORING PLUS AN ADDITIONAL 100 FEET IN BOTH DIRECTIONS BEYOND THE ENDS OF THE TEMPORARY SHORING. WHERE MORE THAN ONE TRACK MAY BE AFFECTED, ESTABLISH MONITORING POINTS ON EACH TRACK. COMPLETE THIS SURVEY BEFORE ANY WORK FOR THE TEMPORARY SHORING (EXCAVATION OR PLACEMENT OF SHORING) HAS BEGUN. PROVIDE THE SURVEY INFORMATION TO THE DEPARTMENT TO USE AS A REFERENCE FOR FUTURE SURVEYS TO ESTABLISH WHETHER MOVEMENT HAS OCCURRED. SURVEY EACH TOP OF RAIL AT A MAXIMUM SPACING OF TWENTY (20) FEET BETWEEN MONITORING POINTS. PROVIDE A SECOND SET OF BASELINE READINGS TO CONFIRM REPEATABILITY OF THE BASELINE READINGS WITHIN TWENTY FOUR (24) HOURS AFTER THE INITIAL BASELINE SURVEY AT THE SAME MONITORING POINTS. PROVIDE ADDITIONAL MONITORING SURVEY(S) IMMEDIATELY PRIOR TO AND AFTER SHORING INSTALLATION. FIELD-MARK AND LOCATE VERTICAL MONITORING POINTS WITH PAINT OR CRAYON ON THE FIELD SIDE OF THE RAIL AND A POINT ON THE TIE FOR HORIZONTAL MEASUREMENT TO ASSURE THAT SUCCESSIVE READINGS ARE MEASURED AT THE SAME LOCATION(S).

SURVEY AND MONITORING (CONTINUED)

PART 2: CONTINUED

B) MONITORING FREQUENCY
AS SOON AS ANY TRACK IS PARTIALLY SUPPORTED BY TEMPORARY SHORING, BEGIN THE MONITORING SURVEYS.

DURING THE FIRST THREE (3) DAYS THAT THE TRACK IS SUPPORTED BY THE TEMPORARY SHORING, SURVEY THE TOP OF RAIL LOCATIONS A MINIMUM OF THREE (3) TIMES PER DAY WITH EACH SURVEY BEING APPROXIMATELY EIGHT (8) HOURS APART. SURVEY THE TRACKS AT THE SAME LOCATIONS AS THE INITIAL SURVEY.

THE AMOUNT, FREQUENCY, AND DURATION OF MONITORING MAY BE CHANGED AT THE DISCRETION OF NSRR.
IF IT IS ESTABLISHED BY THE ENGINEER THAT NO MOVEMENT OF THE TRACKS IS OCCURRING, REDUCE THE FREQUENCY OF THE SURVEYS TO ONCE A DAY FOR THE NEXT FOUR (4) CALENDAR DAYS. IF, AFTER THIS PERIOD OF TIME, NO MOVEMENT OF THE TRACKS HAS OCCURRED, REDUCE THE FREQUENCY OF THE MONITORING SURVEY TO ONCE A WEEK. CONTINUE TO SURVEY THE TRACKS ONCE A WEEK UNTIL THE SHORING IS REMOVED OR AS DIRECTED BY THE ENGINEER.

IF VERTICAL OR HORIZONTAL MOVEMENT OF THE TRACK IS EQUAL TO OR GREATER THAN 0. 25 INCHES, IMMEDIATELY MAKE DIRECT CONTACT AND NOTIFY THE REPRESENTATIVE OF NORFOLK SOUTHERN CORPORATION. IF DEFLECTION CONTINUES TO INCREASE, DO NOT RESUME WORK UNTIL NORFOLK SOUTHERN CORPORATION HAS INSPECTED THE SITE AND APPROVED.

PART 3: MONITORING MOVEMENT OF TEMPORARY SHORING AND TIED SHEETING WINGWALLS

1) DESCRIPTION
THIS WORK IS THE MONITORING OF BOTH VERTICAL AND HORIZONTAL MOVEMENTS OF TEMPORARY SHORING AND TIED SHEETING WINGWALLS (OF THE TEMPORARY BRIDGE) DURING CONSTRUCTION. COORDINATE INSTRUMENTATION MONITORING WITH THE PROVISIONS FOR MONITORING MOVEMENT OF TRACK AND ITEM 503, COFFERDAMS AND EXCAVATION BRACING.

2) CONSTRUCTION
A) MONITORING
FOR TEMPORARY SHORING AND WINGWALLS SUPPORTING NSRR TRACKS, SURVEY THE TOP OF SHORING AT MONITORING POINTS THAT ARE SPACED AT MAXIMUM INTERVALS OF TEN (10) FEET.

ESTABLISH REFERENCE POINTS BY CENTER PUNCHING THE TOP OF SHORING AT A MINIMUM OF THREE (3) LOCATIONS, WHICH INCLUDE BOTH ENDS AND A THIRD POINT NEAR MID-LENGTH, ALONG EACH SHORING LINE. LOCATE THESE REFERENCE POINTS RELATIVE TO THE SUPPORTED TRACK. PROVIDE A DIRECT LINE OF SIGHT ALONG THE TOP OF THE SHORING BETWEEN THESE REFERENCE POINTS AND MEASURE THE PILE DEFLECTION AT EACH MONITORING POINT RELATIVE TO THIS REFERENCE LINE. MEASURE THE PLUMBNESS OF THE WALL AT EACH OF THESE MONITORING LOCATIONS. COMPLETE THIS SURVEY BEFORE ANY EXCAVATION IN FRONT OF THE SHORING HAS BEGUN. PROVIDE THE SURVEY INFORMATION TO THE ENGINEER TO USE AS A REFERENCE FOR FUTURE SURVEYS TO ESTABLISH WHETHER MOVEMENT HAS OCCURRED.

B) MONITORING FREQUENCY
AS SOON ANY TRACKS ARE SUPPORTED BY THE TEMPORARY SHORING, BEGIN THE MONITORING SURVEYS.

DURING THE FIRST THREE (3) DAYS THAT THE TRACKS ARE SUPPORTED BY THE TEMPORARY SHORING, SURVEY THE TOP OF SHORING LOCATIONS A MINIMUM OF THREE (3) TIMES PER DAY WITH EACH SURVEY BEING APPROXIMATELY EIGHT (8) HOURS APART. SURVEY THE TOP OF SHORING AT THE SAME LOCATIONS AS THE INITIAL SURVEY.

SURVEY AND MONITORING (CONTINUED)

PART 3: CONTINUED

IF IT IS ESTABLISHED THAT NO EXCESSIVE MOVEMENT OF THE SHORING IS OCCURRING, REDUCE THE FREQUENCY OF THE SURVEYS TO ONCE A DAY FOR THE NEXT FOUR (4) CALENDAR DAYS. IF, AFTER THIS PERIOD OF TIME, NO MOVEMENT OF THE SHORING HAS OCCURRED, REDUCE THE FREQUENCY OF THE SURVEYING TO ONCE A WEEK. CONTINUE TO SURVEY THE SHORING ONCE A WEEK UNTIL THE COMPLETION OF THAT PHASE OF CONSTRUCTION.

IF LATERAL MOVEMENT OF THE SHORING SYSTEM EXCEEDS THE LIMITS SET FORTH BELOW, IMMEDIATELY MAKE DIRECT CONTACT AND NOTIFY THE NSRR REPRESENTATIVE. IF DEFLECTION CONTINUES TO INCREASE, DO NOT RESUME WORK UNTIL NSRR HAS INSPECTED THE SITE AND APPROVED.

LIMIT FOR SHORING MORE THAN 18'-0" FROM THE NEAREST TRACK CENTER (INCLUDING THE SOUTHERN SHORING WALL): 0.50"

LIMIT FOR SHORING 18'-0" OR CLOSER TO THE NEAREST TRACK CENTER (INCLUDING THE TIED SHORING WALLS): 0.375"

THE AMOUNT, FREQUENCY, AND DURATION OF MONITORING MAY BE CHANGED AT THE DISCRETION OF NSRR.

PART 4: REPORTING AND INTERPRETATION OF RESULTS

1) MONITORING REPORT
RECORD AND STORE RAW INSTRUMENTATION DATA IN STANDARD UNITS OF MEASURE. REDUCE AND PRESENT INSTRUMENTATION DATA IN A CONSISTENT SPREADSHEET FORMAT. FURNISH A SUMMARY REPORT TO THE ENGINEER WITHIN 24 HOURS AFTER COLLECTION, WITH TABULATED RAW DATA, REDUCED RESULTS AND SUMMARY PLOTS. PROVIDE DATA IN A CHRONOLOGICAL FORMAT REPORTING ALL PREVIOUSLY REPORTED VALUES. PROVIDE THE REPORT IN BOTH HARD COPY AND DIGITAL FORMAT. HIGHLIGHT ANY SIGNIFICANT CHANGES IN MEASURED VALUES AND NOTE WHAT CONSTRUCTION OR ENVIRONMENTAL CHANGES OCCURRED THAT COULD HAVE PRODUCED THE CHANGES IN VALUES.

2) INTERPRETATION OF RESULTS
THE ENGINEER WILL INTERPRET THE INSTRUMENTATION RESULTS AND WILL MAKE SUCH INTERPRETATIONS AVAILABLE TO THE CONTRACTOR. DO NOT DISCLOSE MONITORING DATA TO THIRD PARTIES WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.

PART 5: MEASUREMENT AND PAYMENT

THE COST SHALL INCLUDE BASELINE READINGS AND SPECIFIED INSTRUMENT READING SETS FOR ALL SUPPORTED TRACKS AND ASSOCIATED SHORING. NO SEPARATE MEASUREMENT OR PAYMENT FOR ADDITIONAL READING SETS THAT ARE NOT AUTHORIZED BY THE ENGINEER. ADEQUATE MATERIAL AND EQUIPMENT REQUIRED SHALL BE FURNISHED AND INCLUDED IN THE COST.

FURNISHING AND INSTALLATION OF TEMPORARY EXCAVATION WILL BE MEASURED AND PAID FOR SEPARATELY.

THE DEPARTMENT WILL PAY FOR THE ACCEPTABLE MONITORING (LUMP) AT THE CONTRACT BID PRICE FOR EACH STRUCTURE.

ITEM 840 - SELECT GRANULAR BACKFILL, AS PER PLAN

MATERIAL SHALL BE PLACED IN 6" MAXIMUM LIFTS TO THE ELEVATIONS DETAILED IN THE PLANS. ALL PROVISIONS OF SS 840 THAT GOVERN THE SUPPLY AND INSTALLATION OF GRANULAR BACKFILL AND UNDERDRAINS APPLY EXCEPT SS840.03.E.3 AND SS840.03.E.4.

REMOVAL OF THE FILL VOLUME IS INCLUDED WITH THE TRACK EXCAVATION QUANTITIES.

DESIGN AGENCY
Gannett Fleming
ENGINEERS & ARCHITECTS, P.C.
2600 CORPORATE EXCHANGE DRIVE, SUITE 230
COLUMBUS, OHIO 43231

DESIGNED CTM | DRAWN CTM | REVIEWED EFD | DATE 05/2021
CHECKED VDT | REVISED | ODOT SPN: NONE (TEMP) | NSRR FILE: BR00I9283

TEMPORARY BRIDGE GENERAL NOTES (2 OF 2)
BRIDGE NO. DEL-36-TEMP (TEMPORARY NS MP S-23.80)
NSRR OVER US 36 / 37 (CITY OF DELAWARE)

POINT PROJECT
PID No. 103626

PENTABLE SUBSET: 1
SUBMITTAL: NSRR 100%
PID: 103626
PENTABLE: 103626_ODOTcadd_Pen.tbl
PLOT DRIVER: ODOTcadd_PDF_Levels.pltcfg
pw:\\gfnet-pw.bentley.com:gfnet-pw-01\Documents\Projects\635191\103626\Design\Structures\DEL-36-TEMP\sheets\007 sn007 Sheet 1/19/2023 4:43:00 PM pkeiffer
FILE:...\DEL-36-TEMP\sheets\007 sn007

NS OR NSRR = NORFOLK SOUTHERN RAILROAD

1. LOCATION OF THE PROJECT IS WITHIN THE CITY OF DELAWARE, DELAWARE COUNTY, OHIO.

2. THE PROJECT UNITS ARE U.S. SURVEY FEET OR DECIMALS OF A SURVEY FOOT UNLESS OTHERWISE NOTED.

3. PROPOSED TRACK ALIGNMENTS ARE SHOWN AS CENTERLINE OF TRACK.

4. PROPOSED VERTICAL ALIGNMENTS ARE SHOWN AS TOP OF GRADE RAIL. THE GRADE RAIL IS THE INSIDE (LOW) RAIL ON CURVES OR THE FIELD SIDE (OUTSIDE) RAIL ON TANGENTS. VERTICAL CURVES ARE PARABOLIC CURVES. GRADES ARE IN PERCENT, EXCEPT AS NOTED OTHERWISE.

5. SUPERELEVATION (Ea) IS THE VERTICAL HEIGHT IN INCHES OF THE OUTSIDE TOP OF RAIL ABOVE THE GRADE TOP OF RAIL WITHIN CURVES.

6. HORIZONTAL CURVATURE IS DEFINED BY THE CHORD METHOD.

7. SPIRAL TRANSITION CURVES ARE DEFINED BY THE AREMA CUBIC PARABOLA.

8. TRACK DESIGN AND CONSTRUCTION SHALL CONFORM TO CURRENT APPLICABLE FEDERAL RAILROAD ADMINISTRATION, AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA), TO THE STANDARDS AND SPECIFICATIONS OF THE OWNING RAILROAD, AND ODOT STANDARDS AND SPECIFICATIONS.

AREMA - AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION, CURRENT EDITION
NSRR - NORFOLK SOUTHERN RAILWAY PUBLIC PROJECT MANUAL, CURRENT EDITION, INCLUDING APPENDICES INFORMATION FOR CONSTRUCTION AND IMPROVEMENT PROJECTS THAT MAY INVOLVE THE RAILROAD, INCLUDING APPENDICES; STANDARD SPECS FOR ROADBED CONSTRUCTION; AND STANDARD SPECS FOR TRACK CONSTRUCTION.

9. ALL TRACKWORK (ABOVE SUBBALLAST) TO BE FURNISHED AND PERFORMED BY RAILROAD FORCE ACCOUNT UNLESS NOTED OTHERWISE.

NSRR WILL PROVIDE ALL MATERIALS ABOVE SUBBALLAST FOR TRACKS THAT NSRR WILL OPERATE ON. UPON COMPLETION OF PHASE 2, THE TEMPORARY TRACKWORK MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

SPECIFICATIONS AND SPECIAL PROVISIONS

ALL WORK AND MATERIALS, ON, OVER, UNDER OR ADJACENT TO NSRR RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE NS "SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS" AND STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION AS WELL AS APPLICABLE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION (AREMA) RECOMMENDED PRACTICES. CONTRACTOR SHALL ALLOW A MINIMUM OF 12 MONTHS FOR DELIVERY OF MATERIAL TO BE SUPPLIED BY NS AND/OR SPECIFIED SUPPLIERS.

ITEM SPECIAL - RAIL ITEM, MISC.: SURVEY LAYOUT FOR TRACKWORK ALIGNMENT AND PROFILE

THE CONTRACTOR IS TO PROVIDE ALL TRACKWORK ALIGNMENT AND PROFILE LAYOUT STAKING FOR CONSTRUCTION IN ACCORDANCE WITH ODOT CMS SECTION 623.08, AND NSRR REQUIREMENTS.

MAINLINE ALIGNMENT DESIGNS HERE-IN ARE TIED TO THE FIELD SURVEYED BY EMH&T CONSULTANTS DATED 5-30-2018. AS PART OF THIS PAY ITEM, THE CONTRACTOR WILL FIELD VERIFY LOCATION OF TRACKS AND APPURTENANCES, ALIGNMENT TIE-INS AND TOP OF RAIL ELEVATIONS PRIOR TO ANY WORK. FIELD ADJUSTMENT MAY BE REQUIRED.

ITEM SPECIAL, SURVEY LAYOUT FOR TRACKWORK ALIGNMENT AND PROFILE WILL BE PAID FOR AS A LUMP SUM AT THE CONTRACT PRICE BID.

QUANTITY VERIFICATION BY ODOT

ODOT SHALL VERIFY QUANTITIES AND INDICATE ANY MAJOR DISPARITY TO THE CITY OF DELAWARE.

APPLICABILITY 'ONE CALL' UTILITY SERVICES

"ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVES FIVE (5) DAYS IN ADVANCE OF THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE RAILROAD UNDERGROUND LINES ON RAILROAD PROPERTY. UPON REQUEST FROM THE CONTRACTOR OR AGENCY, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG RAILROAD UNDERGROUND SIGNAL, COMMUNICATION, AND POWER LINES LOCATED WITHIN THE AREA TO BE DISTURBED BY THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD SIGNAL, COMMUNICATION, OR POWER LINE, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BY THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF A RAILROAD SIGNAL REPRESENTATIVE.

RAILROAD OPERATIONS

THE CONTRACTOR'S WORK SHALL NOT INTERRUPT THE NORMAL OPERATIONS OF THE RAILROAD WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER IN CONSULTATION WITH THE NSRR REPRESENTATIVE.

THE LAYDOWN YARD LEAD SHALL NOT BE IMPEDED AT ANYTIME DURING CONSTRUCTION.

TRACKWORK NOTES

ALL JOINTS SHALL BE OF THE TYPES AND SIZES IN ACCORDANCE WITH NSRR AND AREMA STANDARDS. IF THE STANDARDS ARE CONFLICTING, THE MOST STRINGENT OF THE TWO SHALL APPLY. INSULATED JOINTS MUST BE SUPPORTED ON A SOUND, SMOOTH TIE, WELL TAMPED AND WELL DRAINED BALLAST.

SUPERELEVATION MARKING

AFTER CONSTRUCTION, CONTRACTOR SHALL MARK, ON THE WEB OF THE RAIL IN THE FIELD, LOCATIONS OF 'PC', 'FULL' AND 'PT' AND SUPERELEVATION DATA.

UTILITY INSTALLATION/RELOCATIONS

ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES.

FOR NSRR UTILITY APPLICATIONS GO TO:

HTTP://WWW.NSCORP.COM/CONTENT/NSCORP/EN/REAL-ESTATE/NORFOLK-SOUTHERN-SERVICES/WIRE-PIPELINE-FIBER-OPTIC-PROJECTS.HTML

NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

EXISTING TRACK ROADBED HARDPAN

THE EXISTING TRACK ROADBED HARDPAN SHALL NOT BE DISTRUBED DURING CONSTRUCTION.

RAILROAD SAFETY

THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO PROTECT THE PUBLIC AND EMPLOYEES OF NS FROM ANY AND ALL DAMAGES, AND INJURIES FROM THEIR WORK.

THE CONTRACTOR SHALL REQUIRE ALL OF THEIR EMPLOYEES AT THE PROJECT SITE TO USE PERSONAL PROTECTIVE EQUIPMENT CONSISTENT WITH THE RAILROAD'S SAFETY RULES. THIS EQUIPMENT SHALL, AS A MINIMUM, INCLUDE SAFETY HAT, EYE PROTECTION WITH SIDE SHIELDS, AND 6" MINIMUM HEIGHT, LACE-UP SAFETY TOE SHOES WHILE PERSONS OCCUPY THE RAILROAD'S RIGHT OF WAY. WHEN CONDITIONS WARRANT, HEARING PROTECTION, FALL PROTECTION, AND RESPIRATORY PROTECTION SHALL ALSO BE FURNISHED AND UTILIZED, CONSISTENT WITH OSHA AND FRA REGULATIONS GOVERNING BRIDGE WORKERS SAFETY AND HEALTH.

PRIOR TO COMMENCING WORK ON THE RAILROAD'S RIGHT OF WAY, CONTRACTOR WILL PROVIDE RAILROAD WITH SIGNED DOCUMENTATION OF A TRAINING PROGRAM WITH REGARDS TO FRA FALL PROTECTION AS IT PERTAINS TO FRA 49 CFG PART 214.102 AND DOCUMENTION OF A ROADWAY WORKERS SAFEST PROGRAM IN ACCORDANCE WITH R49 PART 214(C). ROADWAY WORKER SAFETY TRAINING WORK SHALL ALSO BE PROVIDED IN ACCORDANCE WITH PARAGRAPH A, SECTION 12 OF THE NS SPECIAL PROVISIONS.

DOCUMENTATION WILL CONTAIN A LIST OF ALL CONTRACTORS' EMPLOYEES TO BE INVOLVED WITH THIS PROJECT (ON-SITE INVOLVEMENT). CONTRACTOR SHALL FURNISH RAILROAD MANDATORY "FRA ON TRACK SAFETY MANUAL" TRAINING CONFIRMATION AND DOCUMENTATION OF E-RAIL SAFE TRAINING AND REGISTRATION FOR ALL TO VISIT OR WORK ON THE SITE.

ALL PERSONNEL WILL BE RAILROAD SAFETY TRAINED PRIOR TO VISITING CONSTRUCTION SITE.

ITEM SPECIAL - RAIL ITEM, MISC.: SUBBALLAST

SUBBALLAST TO BE PAID FOR WITH ITEM SPECIAL - RAIL ITEM, MISC.: SUBBALLAST. THE CONTRACTOR SHALL SUPPLY AND INSTALL SUBBALLAST.

SUBBALLAST SHALL BE CRUSHED RUN STONE (DENSE GRADED AGGREGATE), LIMESTONE OR GRANITE MATERIAL AND SHALL MEET THE REQUIREMENTS AS SET OUT IN CHAPTER 1, PART 2, SECTION 2.11, "SUBBALLAST SPECIFICATIONS" OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA) MANUAL.

GRADATION AS FOLLOWS:

SIEVE SIZE	2"	1"	3/8"	NO. 10	NO. 40	NO. 200
% PASSING SIZE (OPTIMUM)	100	95	67	38	21	7
PERMISSIBLE RANGE % PASSING	100	90-100	50-84	26-50	12-30	5-12

SUBBALLAST SHALL BE SPREAD ON A GRADED ROADBED AS A BASE, WITH SUFFICIENT WIDTH TO ACCOMMODATE THE DESIRED NUMBER OF TRACKS. THE SUBBALLAST SHALL BE COMPACTED TO 95 PERCENT OF ITS MAXIMUM DRY DENSITY AND HAVE A MINIMUM DEPTH OF 12" PLACED IN (2) 6 INCH LIFTS SHALL BE USED.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST	4 EACH
659, TOPSOIL	4960 CU. YD.
659, SEEDING AND MULCHING	44632 SQ. YD.
659, REPAIR SEEDING AND MULCHING	2231 SQ. YD.
659, INTER-SEEDING	2231 SQ. YD.
659, COMMERCIAL FERTILIZER	6.22 TON
659, LIME	9.22 ACRES
659, WATER	367 M. GAL.
659, MOWING	201 M. SQ.FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL WITHIN THE CONSTRUCTION LIMITS. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

EROSION CONTROL

SEE ODOT SUPPLEMENTAL SPECIFICATION 832 FOR EROSION CONTROL MEASURES.

CALCULATED CDR CHECKED JLF

TRACK GENERAL NOTES

DEL-36-11.03

ITEM SPECIAL - RAIL ITEM, MISC.: BALLAST

MATERIAL FOR BALLAST SHALL BE CLEAN CRUSHED STONE WITH A MINIMUM DEPTH OF 12 INCHES. CRIBS (SPACING BETWEEN THE CROSSTIES) SHALL BE FILLED WITH BALLAST TO THE TOP OF THE TIES.

STONE FOR USE AS BALLAST ON TRACKS, OR PORTIONS OF TRACKS, TO BE OWNED BY THE RAILWAY COMPANY, SHALL BE FURNISHED BY RAILROAD APPROVED QUARRY, AND SHALL BE CRUSHED STONE (GRANITE) CONFORMING TO THE REQUIREMENTS OF NS RAILWAY CHIEF ENGINEER.

BALLAST UNDER TEMPORARY TRACKS IS TO BE SUPPLIED BY NSRR AND PLACED BY NSRR IN PHASE 1. TEMPORARY BALLAST SHALL NOT BE MODIFIED UNLESS APPROVED BY NSRR. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE BALLAST AS DIRECTED BY THE CITY.

OTHER BALLAST IS SUPPLIED AND PLACED BY THE RAILROAD.

BALLAST GRADATION SHALL CONFORM TO THE FOLLOWING TABLE:

SIEVE DESIGNATION	SIEVE OPENING	#3 BALLAST (MODIFIED) % PASSING SIEVE	#5 BALLAST % PASSING SIEVE
2-1/2"	2.5"	100	-
2"	2"	95-100	-
-	1.5"	30-65	-
1"	1"	0-15	90-100
-	0.75"	-	40-75
-	0.5"	0-5	15-35
3/8"	0.375"	-	0-15
NO. 4	0.187"	-	0-5
NO. 200	0.0029"	0.5 MAX	0.5 MAX

ITEM SPECIAL - RAILROAD FLAGGING

FLAGGING FOR WORK ON RAILROAD RIGHT OF WAY SHALL BE COORDINATED, OBTAINED AND PAID FOR BY THE CONTRACTOR. FLAGGING SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER REQUIRED BY THE NORFOLK SOUTHERN SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS (SECTION 7.A.2). NORFOLK SOUTHERN SHALL APPROVE THE FLAGGING SERVICE PROVIDER AND THEIR STAFF.

NORFOLK SOUTHERN HAS THE SOLE AUTHORITY TO DETERMINE THE NEED FOR PROTECTIVE SERVICES TO PROTECT ITS OPERATIONS. IN GENERAL, THE REQUIREMENTS OF SUCH SERVICES WILL BE WHENEVER THE CONTRACTOR'S PERSONNEL OR EQUIPMENT ARE OR ARE LIKELY TO BE, WORKING ON THE RAILROAD'S RIGHT-OF-WAY, OR ACROSS, OVER, ADJACENT TO, OR UNDER A TRACK, OR WHEN SUCH WORK HAS DISTURBED OR IS LIKELY TO DISTURB A RAILROAD STRUCTURE OR THE RAILROAD ROADBED OR SURFACE AND ALIGNMENT OF ANY TRACK TO SUCH EXTENT THAT THE MOVEMENT OF TRAINS MUST BE CONTROLLED BY FLAGGING.

THE TOTAL DAYS IN THE ESTIMATED QUANTITIES IS BASED UPON AN ESTIMATE OF TOTAL FLAGGING DAYS NEEDED TO COMPLETE THE PLANNED WORK.

ONLY THE FOLLOWING CERTIFIED FLAGGING PROVIDERS ARE ACCEPTABLE BY NORFOLK SOUTHERN:

RAILROAD CONSULTANTS
STEVE LLOYD
VP BUSINESS DEVELOPMENT
(615) 542-8901

RAILPROS
1320 GREENWAY DR., SUITE 490
IRVING, TX 75038
(877) 315-0513
https://railpros.com/contact-field-services/

PAYMENT PER DAY FOR ITEM 690 99500 - SPECIAL - RAILROAD FLAGGING SHALL INCLUDE ALL COSTS OF THE FLAGGING SERVICE FOR THE DAYS USED, INCLUDING ANY CONTRACTOR OVERHEAD FOR ADMINISTERING THE CONTRACT WITH THE FLAGGING SERVICE.

ITEM 203 - EXCAVATION, AS PER PLAN

EXCAVATION SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. IF BENCHING OF SLOPES CARRYING RAILROAD LIVE LOAD IS REQUIRED, THE HEIGHT SHALL NOT EXCEED 2'-0". BENCHING EXCAVATION QUANTITIES ARE NOT TABULATED HEREIN. IF BENCHING IS REQUIRED, THE QUANTITY AND COST OF EXCAVATING THE BENCH IS TO BE CONSIDERED INCIDENTAL TO THIS PAY ITEM.

PAYMENT FOR THE REMOVAL OF THE GRANULAR FILL BETWEEN THE TIED SHORING WALLS AT THE TEMPORARY BRIDGE IS TO BE INCLUDED WITH THIS PAY ITEM.

PRIOR TO PLACING THE FIRST LIFT OF EMBANKMENT FILL, PROOF ROLL THE PROPOSED LIMITS OF THE EMBANKMENT IN ACCORDANCE WITH ITEM 204 PROOF ROLLING. WHERE PROOF ROLLING INDICATES AREAS OF UNSTABLE OR UNSUITABLE SOILS, THE CONTRACTOR SHALL UNDERCUT THE FOUNDATION MATERIAL PER THE DETAILS SHOWN ON THE TYPICAL SECTION AND REPLACE WITH SUITABLE MATERIAL. THIS WORK IS INCIDENTAL TO ITEM 203 EMBANKMENT.

ITEM 611 - 36" CONDUIT, TYPE B, 707.19, AS PER PLAN

ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION. THIS WORK SHALL INCLUDE THE INSTALLATION OF ALUMINIZED STEEL TYPE 2 CORRUGATED PIPE USING THE OPEN CUT METHOD. THE ALUMINIZED STEEL TYPE 2 COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 274 OR ATSM A929. THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M 36 OR ASTM A760 AND SHALL HAVE CORRUGATIONS OF 2-2/3 INCHES BY 1/2 INCHES WITH A GAGE THICKNESS STRUCTURALLY DESIGNED FOR COOPER E-80 LOADING. COUPLING BANDS SHALL BE MADE OF THE SAME BASE METAL HAVING A MINIMUM GAGE OF ONE GAGE LESS THAN THE PIPE GAGE AND SHALL BE TWO (2) FEET WIDE. THE ENDS OF THE PIPE SHALL BE ROLLED WITH ANNUALR CORRUGATIONS FOR PROPER INDEXING. THE CONTRACTOR SHALL INSTALL AT LEAST THREE GALVANIZED OR STAINLESS STEEL FASTENERS PER COUPLING BAND. UNLESS OTHERWISE SUPERSEDED, PRESCRIBED OR INDICATED BY THE NORFOLK SOUTHERN STANDARD SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION OR HEREIN THIS NOTE, THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATION, ITEM 611 SHALL APPLY, IN PARTICULAR BUT NOT LIMITED TO: SUBMITTALS WHICH INCLUDES: SHOP DRAWINGS (INCLUDING SEALED STRUCTURAL DESIGN CALCULATIONS TO INCLUDE BUT NOT LIMITED TO PIPE GAGE, EXTERNAL RIBS / STRUTS, TRENCH, BACKFILL, ETC.), INSTALLATION PLAN, CONSTRUCTION INSPECTION FORMS, AND PERFORMANCE REPORTS; AS WELL AS PERFORMANCE INSPECTIONS, CONDUIT EVALUATION, AND METHOD OF MEASUREMENT. THIS WORK SHALL ALSO INCLUDE THE REMOVAL OF SAID CONDUIT IN ACCORDANCE WITH ODOT ITEM 202 PIPE REMOVED FOR REUSE OR STORAGE. THE CONTRACTOR SHALL STORE THE REMOVED PIPE AT AN ON-SITE LOCATION AS DIRECTED BY THE ENGINEER FOR ODOT TO PICKED UP AND HAULED OFF-SITE TO AN ODOT FACILITY TO A LOCATION TO BE DETERMINED. NO ADDITIONAL PAYMENT SHALL BE MADE FOR REMOVAL AND STORAGE OF THE PIPE. ALL COSTS ASSOCIATED WITH THE WORK PRESCRIBED IN THIS NOTE SHALL BE INCLUDED IN THE UNIT BID PRICE PER FOOT FOR ITEM 611 - 36" CONDUIT, TYPE B, 707.19 AS PER PLAN.

RAIL ITEM, MISC.: TRACK REMOVED

THE CONTRACTOR SHALL REMOVE THE TRACK AT THE DIRECTION OF THE NS SUPERVISOR. THE CONTRACTOR WILL RETAIN OWNERSHIP OF THE TRACK AND IS RESPONSIBLE FOR ITS DISPOSAL. THE CONTRACTOR'S REMOVAL RESPONSIBILITES ARE 1) REMOVAL OF EXISTING TRACK 1 & 2 ONCE REALIGNMENT ONTO THE SHOOFLY HAS OCCURED AND 2) REMOVAL OF TEMPORARY TRACKS AFTER REALIGMENT TO THE PERMANENT ALIGNMENT OCCURS.

RAIL ITEM, MISC.: TRACK LINING AND GRADING

TRACK LINING AND GRADING SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. WORK SHALL BE PERFORMED BY NSRR FORCES. ESTIMATED QUANTITY GIVEN FOR INFORMATION ONLY.

RAIL ITEM, MISC.: TIE AND RAIL

ALL RAILWAY TIES WILL BE IN ACCORDANCE WITH THE NORFOLK SOUTHERN RAILWAY QUALITY ASSURANCE SPECIFICATIONS FOR TIES AND TIMBERS. WORK SHALL BE PERFORMED BY NSRR FORCES. ESTIMATED QUANTITY GIVEN FOR INFORMATION ONLY.

RAIL ITEM, MISC.: CUT AND THROW

TRACK CUT AND THROW SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. WORK SHALL BE PERFORMED BY NSRR FORCES. ESTIMATED QUANTITY GIVEN FOR INFORMATION ONLY.

ITEM 203 - EMBANKMENT, AS PER PLAN

EMBANKMENT SHALL BE IN CONFORMANCE WITH NS STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION. IF BENCHING OF SLOPES CARRYING RAILROAD LIVE LOAD IS REQUIRED, THE HEIGHT SHALL NOT EXCEED 2'-0". FILL QUANTITIES DUE TO BENCHING ARE NOT INCLUDED IN THE VALUES TABULATED HEREIN. IF BENCHING IS REQUIRED, THE QUANTITY AND COST OF PLACING FILL IN THE BENCHED EXCAVATION IS TO BE CONSIDERED INCIDENTAL TO THIS ITEM. ITEM 204 SUBGRADE COMPACTION, APP AND ITEM 204 - PROOF ROLLING, APP ARE CONSIDERED INCIDENTAL TO THIS ITEM.

PLACEMENT OF GRANULAR FILL BETWEEN THE TIED SHORING WALLS AT THE TEMPORARY BRIDGE ARE INCLUDED FOR PAYMENT WITH THE TEMPORARY BRIDGE QUANTITIES.

STAGED CONSTRUCTION

THESE PLANS SHOW STAGED TRACK WORK/CONSTRUCTION. CONTRACTOR SHALL INTEGRATE, STAGE, AND COORDINATE ALL WORK WITH ADJACENT BRIDGE AND ROADWAY PROJECTS AS NECESSARY. SEE THE BRIDGE PLANS FOR PHASED CONSTRUCTION NOTES RELATED TO THE RAILROAD STRUCTURES AND THE ROADWAY'S MAINTENANCE OF TRAFFIC PLANS FOR PHASING NOTES RELATED TO THE CONSTRUCTION OF US 36 AND SR 37. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING THE CONSTRUCTION FROM THE TOP OF SUB BALLAST DOWN PRIOR TO NS RAILROAD FORCES SCHEDULING THE TRACK WORK.

NSRR RAILROAD FORCES

NSRR WILL PROVIDE AND INSTALL ALL MATERIALS ABOVE SUBBALLAST FOR BOTH TRACKS IN PHASE 1 AND PHASE 2. THE NS TEMPORARY TRACKWORK MATERIALS FROM PHASE 1 SHALL BECOME THE PROPERTY OF THE CONTRACTOR AFTER SHIFTING TRAIN TRAFFIC TO THE FINAL ALIGINMENT POSTION IN PHASE 2.

THE ESTIMATED QUANTITIES FOR NORFOLK SOUTHERN FORCES ARE PROVIDED FOR INFORMATION ONLY.

ITEM SPECIAL - RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING

THE CONTRACTOR SHALL SUPPLY AND PLACE AN INITIAL 6 INCHES OF BALLAST ATOP THE COMPLETED BRIDGE WATERPROOFING AT THE DIRECTION OF THE NS SUPERVISOR. THE BALLAST SHALL BE FROM A NS PREFERRED VENDOR (A LIST OF VENDORS IS AVAILABLE UPON REQUEST FROM NS). PAYMENT FOR THIS ITEM FOR THE AMOUNT OF BALLAST SUPPLIED AND PLACED ATOP THE BRIDGE PER NS REQUIREMENTS.

ITEM SPECIAL - RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING **107 CY**

US 36 AND SR 37 RAILROAD GENERAL SUMMARY

SHEET NUMBER										ITEM	TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
475	476	482	491 - 493	518	521 - 523	543	546 - 550	600						
													CONTRACTOR FORCES	
							2			202	2	EACH	HEADWALL REMOVED	
							850			202	850	FT	PIPE REMOVED, 24" AND UNDER	
							395			202	395	FT	PIPE REMOVED, OVER 24"	
							2			202	2	EACH	CATCH BASIN REMOVED	
							1			202	1	EACH	MANHOLE REMOVED	
						1265		69946		203	71211	CY	EXCAVATION, AS PER PLAN	476
						54937		3785		203	58722	CY	EMBANKMENT, AS PER PLAN	476
				4	4					601	8	CY	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
				2	2					602	4	CY	CONCRETE MASONRY	
			850							611	850	FT	8" CONDUIT, TYPE E, PERFORATED	
				100	295					611	395	FT	36" CONDUIT, TYPE B, 707.19, AS PER PLAN	476
				1	1					611	2	EACH	CATCH BASIN, NO. 4A	
					1					611	1	EACH	MANHOLE, NO. 3	
4										659	4	EACH	SOIL ANALYSIS TEST	
4960										659	4960	CY	TOPSOIL	
44634										659	44634	SY	SEEDING AND MULCHING	
2231										659	2231	SY	REPAIR SEEDING AND MULCHING	
2231										659	2231	SY	INTER-SEEDING	
6										659	6.22	TON	COMMERCIAL FERTILIZER	
9										659	9.22	ACRES	LIME	
367										659	367	MGAL	WATER	
201										659	201	MSF	MOWING	
	520									SPECIAL	520	DAY	RAIL ITEM, MISC.: RAILROAD FLAGGING	476
										SPECIAL	LUMP		RAIL ITEM, MISC.: SURVEY AND LAYOUT FOR TRACKWORK ALIGNMENT AND PROFILE	475
	107									SPECIAL	107	CY	RAIL ITEM, MISC.: BALLAST OVER BRIDGE WATERPROOFING	476
						3179		2358		SPECIAL	5537	CY	RAIL ITEM, MISC.: SUB-BALLAST - 12" DEPTH	475
		9030								SPECIAL	9030	LF	RAIL ITEM, MISC.: TRACK REMOVED	476
													NORFOLK SOUTHERN RAILROAD FORCES	
													(FOR INFORMATION ONLY)	
						5793		5615		SPECIAL	11408	CY	RAIL ITEM, MISC.: BALLAST	476
		5370								SPECIAL	5370	LF	RAIL ITEM, MISC.: TRACK LINING AND GRADING	476
		9030								SPECIAL	9030	LF	RAIL ITEM, MISC.: TIE AND RAIL	476
		8								SPECIAL	8	EACH	RAIL ITEM, MISC.: TRACK CUT AND THROW	476

CALCULATED CDR CHECKED JLF

TRACK GENERAL NOTES

DEL-36-11.03