

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

202 CONCRETE BARRIER REMOVED AS PER PLAN

THIS ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REMOVE THE EXISTING PORTABLE CONCRETE BARRIER ON WESTBOUND S.R. 32 AS SHOWN IN THE PLANS. THE BARRIER SHALL BECOME PROPERTY OF THE CONTRACTOR. APPROXIMATELY 906 LF OF THE EXISTING PORTABLE CONCRETE BARRIER HAS BEEN DETERMINED TO NOT MEET THE QUALITY STANDARDS PER 614.03 AND CANNOT BE REUSED.

SAWCUT TO SOUND PAVEMENT

THE EXISTING PAVEMENT EDGES SHALL BE SAW CUT TO LOCATE A SOUND PAVEMENT EDGE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PAVEMENT REMOVED.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE WORK DESCRIBED ABOVE HAS BEEN INCLUDED IN THE QUANTITIES SHOWN IN THE UNDERDRAIN SUBSUMMARY. SEE SHEET 127.

ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 [60 MPH, 36" WIDTH, UNIDIRECTIONAL], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

VEGETATED FILTER STRIP

THIS PLAN UTILIZES VEGETATED FILTER STRIP(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670, SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS.

ITEM 204 - GEOTEXTILE FABRIC

THIS ITEM WILL BE PLACED BENEATH ITEM 304 - AGGREGATE BASE AT THE TOE OF PROPOSED BARRIER WALLS ALONG RAMP I TO PREVENT WEED GROWTH IN AREA AROUND EXISTING BRIDGE PIERS.

ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN

A CONCRETE PAVED GUTTER WILL BE PLACED TO THE NORTH OF THE PROPOSED SOIL NAIL WALL PER THE WALL SECTION SHOWN ON SHEET 170. THIS WORK SHALL CONFORM TO CMS SECTION 601 AND SCD DM-2.1.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CMS SPECIFICATIONS 455 RESPECTIVELY.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S), ALL EQUIPMENT, AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIAN SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION (CONT.)

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TEST AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTOR'S DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING-RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE-TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR.

THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION.

THE ITEM WILL BE PAID FOR AS FOLLOWS:

- UPON APPROVAL OF CONSULTANT 20%
- PROGRESSIVE EQUIVALENT PAYMENTS 50%
- UPON SUBMISSION OF FINAL REPORT 30%.

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.



ITEM 614, MAINTAINING TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND TEMPORARY ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE PLANS AND SPECIFICATIONS, AND THE FOLLOWING:

ON SR 32 AND ALL RAMPS, ALL EXISTING LANES SHALL BE MAINTAINED AT ALL TIMES, EXCEPT LANES MAY BE CLOSED IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE TIMES NOTED, BY USE OF THE EXISTING PAVEMENT, ITEM 615 TEMPORARY PAVEMENT, AND THE COMPLETED PAVEMENT.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

- CHRISTMAS FOURTH OF JULY
- NEW YEAR'S LABOR DAY
- MEMORIAL DAY THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

SUNDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00AM FRIDAY
THURSDAY	(THANKSGIVING ONLY)
	6:00AM WEDNESDAY THROUGH 6:00AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE OF \$95 PER MINUTE PER LANE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE,	
TYPE A	25 CU. YD.
ITEM 614, ASPHALT CONCRETE FOR	
MAINTAINING TRAFFIC	25 CU. YD.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN IN THE PLANS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&M 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

IN ADDITION TO THE MOT SCHEMES IN THE PLANS, DROP-OFFS IN WORK ZONES SHALL BE SUBJECT TO SCD MT-101.90. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR MATERIALS, LABOR, OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS OF MT-101.90.

DRUM REQUIREMENTS

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER	3 M. GAL.
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WORK ZONE MARKINGS

SEE THE MAINTENANCE OF TRAFFIC SUBSUMMARY FOR ESTIMATED QUANTITIES TO BE USED AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF C&M 614.

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS, AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 50 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPEMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&M 614.03.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (CONT.)

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 2 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.) THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&M 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.



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SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
12	78	81	130	137						01/SAF/OT	EXT	TOTAL				
		4,492								4,492	202	23000	4,492	SY	ROADWAY	
		548								548	202	30700	548	FT	PAVEMENT REMOVED	
		4,974								4,974	202	30701	4,974	FT	CONCRETE BARRIER REMOVED	13
		577								577	202	38000	577	FT	CONCRETE BARRIER REMOVED, AS PER PLAN	
		1								1	202	58100	1	EACH	GUARDRAIL REMOVED	
			3,739							3,739	203	10000	3,739	CY	CATCH BASIN REMOVED	
			843							843	203	20000	843	CY	EXCAVATION	
	7,250									7,250	204	10000	7,250	SY	EMBANKMENT	
378										378	204	13000	378	CY	SUBGRADE COMPACTION	
378										378	204	30010	378	CY	EXCAVATION OF SUBGRADE	
															GRANULAR MATERIAL, TYPE B	
8										8	204	45000	8	hour	PROOF ROLLING	
1,134		265								1,399	204	50000	1,399	SY	GEOTEXTILE FABRIC	
		750								750	606	15050	750	FT	GUARDRAIL, TYPE MGS	
		2								2	606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E MASH 2016	
		2								2	606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
		1								1	606	35002	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		1								1	606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		1								1	606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL) 60 MPH, 36" WIDTH	
		18								18	609	24510	18	FT	CURB, TYPE 4-C	
		867								867	622	10060	867	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B	
		487								487	622	10160	487	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
		2								2	622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
		1								1	622	25001	1	EACH	CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN	11
		3								3	622	25004	3	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B	
		4								4	622	25050	4	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
										4	623	40500	4	EACH	REFERENCE MONUMENT	
										LS	878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
										LS	SPECIAL	69098400	LS		MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION	13
															EROSION CONTROL	
2										2	659	00100	2	EACH	SOIL ANALYSIS TEST	
713										713	659	00300	713	CY	TOPSOIL	
6,425										6,425	659	10000	6,425	SY	SEEDING AND MULCHING	
321										321	659	14000	321	SY	REPAIR SEEDING AND MULCHING	
321										321	659	15000	321	SY	INTER-SEEDING	
0.87										0.87	659	20000	0.87	TON	COMMERCIAL FERTILIZER	
1.33										1.33	659	31000	1.33	ACRE	LIME	
35.6										35.6	659	35000	35.6	MGAL	WATER	
14.5										14.5	659	40000	14.5	MSF	MOWING	
		956								956	670	00500	956	SY	SLOPE EROSION PROTECTION	
										LS	832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
										LS	832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
										LS	832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
										74,075	832	30000	74,075	EACH	EROSION CONTROL	
															DRAINAGE	
				0.25						0.25	511	46610	0.25	CY	CLASS QC1 CONCRETE, HEADWALL	
				273						273	601	37501	273	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	13
				2,353						2,353	605	11100	2,353	FT	6" SHALLOW PIPE UNDERDRAINS	
				451						451	605	13300	451	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
				4,674						4,674	605	14000	4,674	FT	6" BASE PIPE UNDERDRAINS	
				40						40	611	00510	40	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
				179						179	611	04600	179	FT	12" CONDUIT, TYPE C	
				53						53	611	05900	53	FT	15" CONDUIT, TYPE B	
				31						31	611	06100	31	FT	15" CONDUIT, TYPE C	
				3						3	611	98470	3	EACH	CATCH BASIN, NO. 2-2B	
				1						1	611	98630	1	EACH	CATCH BASIN ADJUSTED TO GRADE	
				1						1	611	99574	1	EACH	MANHOLE, NO. 3	
				1						1	611	99660	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER: ATW
 REVIEWER: JDH 11/12/21
 PROJECT ID: 111492
 SHEET TOTAL: 75 | 183

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
78	81	144	145	165							01/SAF/OT	EXT	TOTAL				
PAVEMENT																	
42,904											42,904	254	01000	42,904	SY	PAVEMENT PLANING, ASPHALT CONCRETE, VARIABLE THICKNESS	
2,058											2,058	302	56000	2,058	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
1,699	44										1,743	304	20000	1,743	CY	AGGREGATE BASE	
6,895											6,895	407	20000	6,895	GAL	NON-TRACKING TACK COAT	
3,944											3,944	442	00100	3,944	CY	ANTI-SEGREGATION EQUIPMENT	
2,053											2,053	442	10000	2,053	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
694											694	442	20200	694	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)	
1,891											1,891	442	10100	1,891	CY	VARIABLE THICKNESS (1.75" - 8.95") ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
LIGHTING																	
				2							2	625	00450	2	EACH	CONNECTION, FUSED PULL APART	
				1							1	625	14306	1	EACH	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	
				1,020							1,020	625	23308	1,020	FT	DISTRIBUTION CABLE, MISC.: NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
				100							100	625	23400	100	FT	NO. 10 AWG POLE AND BRACKET CABLE	
				340							340	625	25604	340	FT	CONDUIT, 4", 725.051	
				1							1	625	27520	1	EACH	REMOVAL OF LUMINAIRE AND REERECTION	
				3							3	625	29930	3	EACH	MEDIAN JUNCTION BOX	
				1							1	625	32000	1	EACH	GROUND ROD	
				1							1	625	35010	1	EACH	REMOVE AND REERECT EXISTING LIGHT POLE	
				1							1	625	75500	1	EACH	LIGHT POLE FOUNDATION REMOVED	
				840							840	625	75550	840	FT	DISTRIBUTION CABLE REMOVED	
				2							2	625	75800	2	EACH	DISCONNECT CIRCUIT	
TRAFFIC CONTROL																	
		37									37	620	31200	37	EACH	REMOVAL OF DELINEATOR	
		26									26	620	60000	26	EACH	DELINEATOR, POST SURFACE MOUNTED, WHITE	
		247									247	621	00100	247	EACH	RPM	
			3								3	625	32000	3	EACH	GROUND ROD	
	16										16	626	00102	16	EACH	BARRIER REFLECTOR, TYPE 1, 1WAY	
	24										24	626	00110	24	EACH	BARRIER REFLECTOR, TYPE 2, 1WAY	
			307								307	630	03100	307	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
			38								38	630	06500	38	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	
			2								2	630	09000	2	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
			1								1	630	72340	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 12	
			1								1	630	72420	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2	
			2								2	630	79611	2	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN	
			229								229	630	80100	229	SF	SIGN, FLAT SHEET	
			44								44	630	80224	44	SF	SIGN, OVERHEAD EXTRUSHEET	
			1								1	630	84010	1	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50	
			2								2	630	84500	2	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
			2								2	630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
			8								8	630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
			3								3	630	85400	3	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
			8								8	630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
			5								5	630	86102	5	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
			3								3	630	86320	3	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION	
			1								1	630	87400	1	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
			2								2	630	89706	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	
			1								1	630	89804	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-15.115	
		1.51									1.51	644	00104	1.51	MILE	EDGE LINE, 6", WHITE	
		1.48									1.48	644	00104	1.48	MILE	EDGE LINE, 6", YELLOW	
		2.07									2.07	644	00204	2.07	MILE	LANE LINE, 6"	
		3,776									3,776	644	00404	3,776	FT	CHANNELIZING LINE, 12"	
		36									36	644	00500	36	FT	STOP LINE	
		91									91	644	00700	91	FT	TRANSVERSE/DIAGONAL LINE	
		249									249	644	00701	249	FT	TRANSVERSE/DIAGONAL LINE, AS PER PLAN	
		266									266	644	00720	266	FT	CHEVRON MARKING	
		33									33	644	00900	33	SF	ISLAND MARKING	
		565									565	644	01510	565	FT	DOTTED LINE, 6"	

GENERAL SUMMARY	
DESIGN AGENCY	
DESIGNER	ATW
REVIEWER	JDH 11/12/21
PROJECT ID	111492
SHEET	76
TOTAL	183

SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	79	80	144	159	160	166	173	02/BRO/14	01/SAF/OT								
			1,450							1,450	644	01520	1,450	FT	DOTTED LINE, 12"		
			407							407	644	30010	407	SF	REMOVAL OF PAVEMENT MARKING		
															TRAFFIC SIGNALS		
				20						20	625	25402	20	FT	CONDUIT, 2", 725.05		
				40						40	625	25502	40	FT	CONDUIT, 3", 725.05		
				8						8	625	29000	8	FT	TRENCH		
				3						3	625	32000	3	EACH	GROUND ROD		
				4						4	630	79000	4	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE		
				33						33	630	80100	33	SF	SIGN, FLAT SHEET		
				2						2	632	04802	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 1-SECTION, 12" LENS, 1-WAY, POLYCARBONATE		
				6						6	632	05006	6	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE		
				8						8	632	25000	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD		
				407						407	632	30400	407	FT	MESSANGER WIRE, 7 STRAND, 1/2" DIAMETER WITH ACCESSORIES		
				407						407	632	30600	407	FT	TETHER WIRE, WITH ACCESSORIES		
				1,045						1,045	632	40700	1,045	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		
				2						2	632	64000	2	EACH	STRAIN POLE FOUNDATION		
				55						55	632	67200	55	FT	POWER CABLE, 2 CONDUCTOR, NO. 8 AWG		
				110						110	632	69400	110	FT	SERVICE CABLE, 2 CONDUCTOR, NO. 8 AWG		
				1						1	632	70001	1	EACH	POWER SERVICE, AS PER PLAN	160	
				2						2	632	86140	2	EACH	STRAIN POLE, TYPE TC-81.11, DESIGN 12		
					1					1	632	90100	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION		
										1	632	90104	1	EACH	REUSE OF TRAFFIC CONTROL ITEM, UNINTERRUPTIBLE POWER SUPPLY		
										1	632	90104	1	EACH	REUSE OF TRAFFIC CONTROL ITEM, HIGH-SPEED ETHERNET RADIO		
										1	632	90212	1	EACH	REUSE OF CONTROLLER		
										1	633	65520	1	EACH	CABINET, TYPE 332		
										1	633	67100	1	EACH	CABINET FOUNDATION		
										1	633	67200	1	EACH	CONTROLLER WORK PAD		
				60						60	809	64550	60	FT	ETHERNET CABLE, OUTDOOR-RATED		
															RETAINING WALLS (SOIL NAIL WALL)		
						356				356	503	21101	356	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	166	
						10,944				10,944	509	10000	10,944	LB	EPOXY COATED REINFORCING STEEL		
						147				147	511	46010	147	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING		
						388				388	512	10100	388	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
						320				320	518	20000	320	SY	PREFABRICATED GEOCOMPOSITE DRAIN		
						24				24	518	21200	24	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
						3,342				3,342	520	10001	3,342	SF	PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN	166	
						119				119	SPECIAL	53051100	119	EACH	RETAINING WALL, SOIL NAIL	166	
						1				1	SPECIAL	53051110	1	EACH	RETAINING WALL, SOIL NAIL VERIFICATION TEST	166	
						8				8	SPECIAL	53051120	8	EACH	RETAINING WALL, SOIL NAIL PROOF TEST	166	
															STRUCTURE REPAIR (CLE-275-1040L SFN 1305735)		
							100			100	509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	173	
							8			8	512	10101	8	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	173	
							56.5			56.5	519	11101	56.5	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	173	
															MAINTENANCE OF TRAFFIC		
		25								25	410	10000	25	CY	TRAFFIC COMPACTED SURFACE, TYPE A		
		500								500	614	11110	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE		
		7	4							11	614	12380	11	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)		
		50								50	614	12600	50	EACH	REPLACEMENT DRUM		
		496	963							1,459	614	12800	1,459	EACH	WORK ZONE RAISED PAVEMENT MARKER		
										25	614	13000	25	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
										200	614	13310	200	EACH	BARRIER REFLECTOR, TYPE 1, UNIDIRECTIONAL		
										200	614	13350	200	EACH	OBJECT MARKER, ONE WAY		
										15	614	18600	15	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN		
										0.7	614	20056	0.7	MILE	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT		
										2.33	614	22056	2.33	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT, YELLOW		
										2.63	614	22056	2.63	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT, WHITE		
										9,189	614	23100	9,189	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8", 807 PAINT		
										3,089	614	24102	3,089	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT		
										LS	615	10000	LS		ROADS FOR MAINTAINING TRAFFIC		

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER: ATW
 REVIEWER: JDH 11/12/21
 PROJECT ID: 111492
 SHEET TOTAL: 77 | 183

SHEET NUM.

PART.
01/SAF/
OT

ITEM

ITEM
EXT

GRAND
TOTAL

UNIT

DESCRIPTION

SEE
SHEET
NO.

17 79 80
3
5,596 4,021

397 615 20000 397
3 616 10000 3
9,617 622 41100 9,617
4 808 18700 4

SY PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
MGAL WATER
FT PORTABLE BARRIER, UNANCHORED
SNMT DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY

23-36

INCIDENTALS

LS 614 11000 LS
12 619 16010 12 MNTH
LS 623 10000 LS
LS 624 10000 LS

MAINTAINING TRAFFIC
FIELD OFFICE, TYPE B
CONSTRUCTION LAYOUT STAKES AND SURVEYING
MOBILIZATION

GENERAL SUMMARY

DESIGN AGENCY

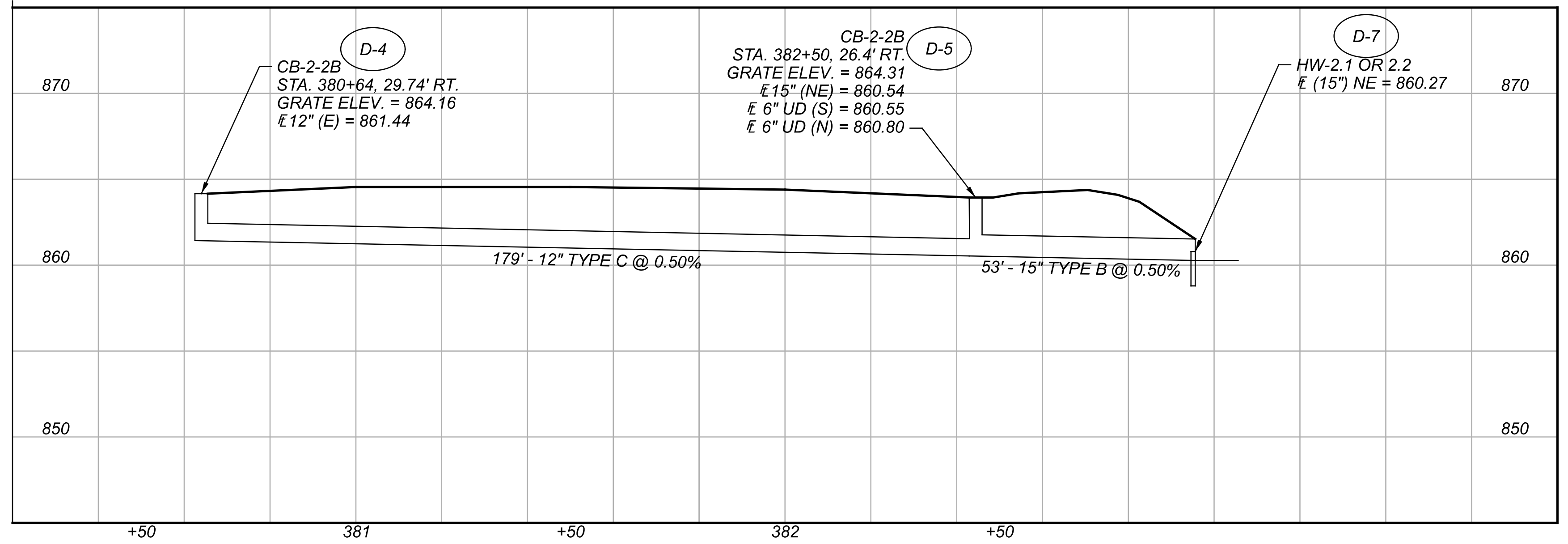
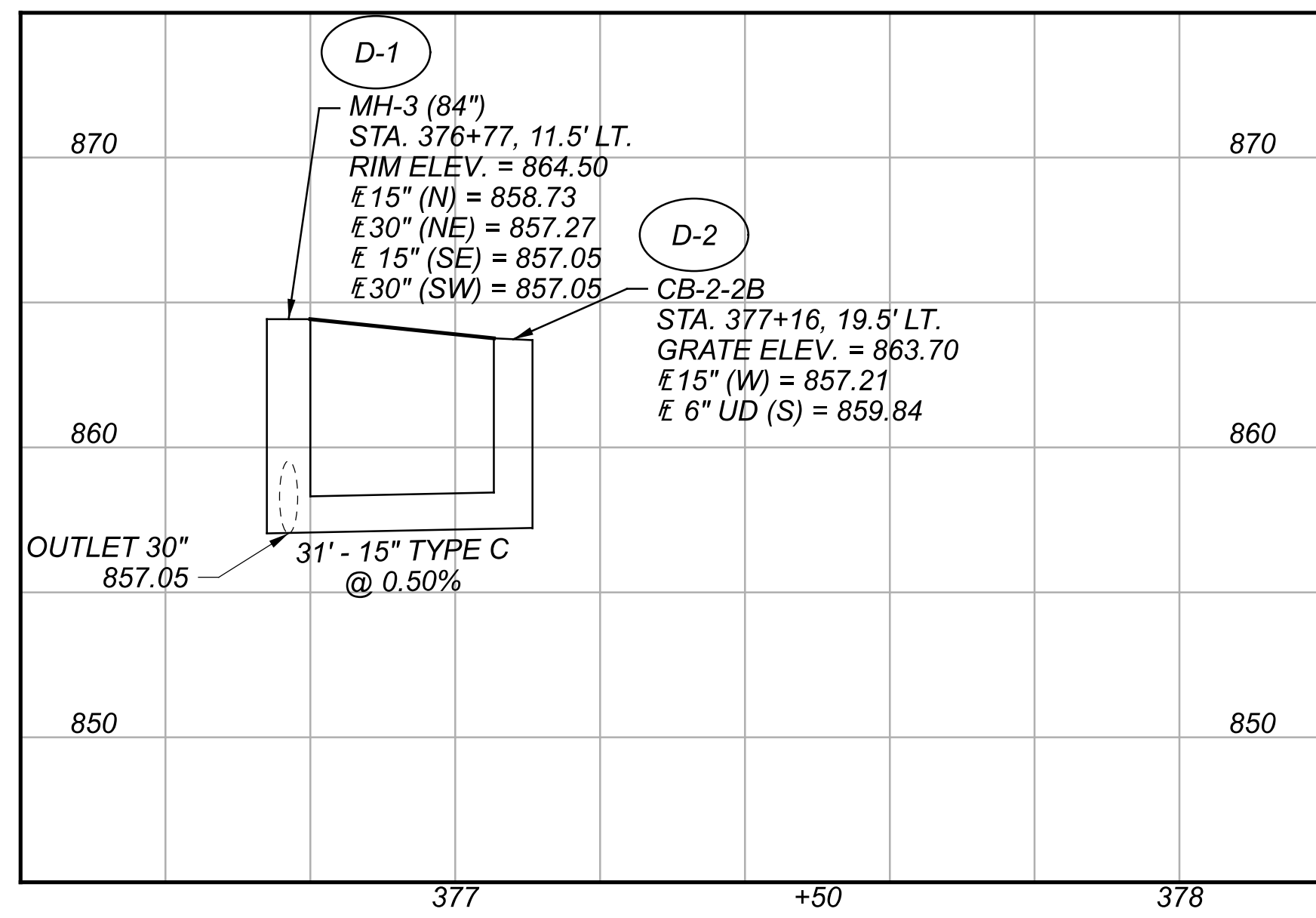
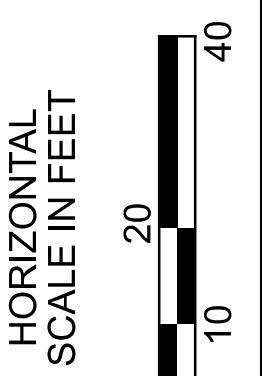
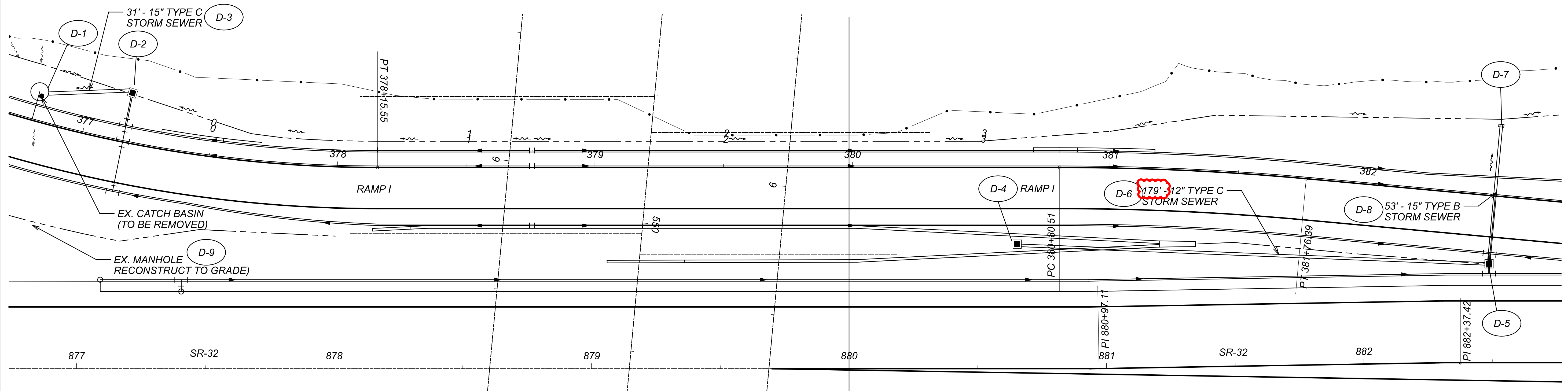


DESIGNER
ATW

REVIEWER
JDH 11/12/21

PROJECT ID
111492

SHEET TOTAL
77A 183



STORM SEWER PROFILES

DESIGN AGENCY



DESIGNER	KCS
REVIEWER	JDH 11/12/21
PROJECT ID	111492
SHEET	TOTAL
138	183

REF. NO.	SHEET	ALIGNMENT	STATION	CODE	SIZE (INCHES)	630																		
						SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN	SIGN, FLAT SHEET	GROUND MOUNTED SUPPORT, NO. 3 POST	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-15.115	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 12	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2	SIGN OVERHEAD EXTRUSHEET	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W6X9	BREAKAWAY STRUCTURAL BEAM CONNECTION	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION
EA	SQ FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	FT	EA	EA			
R-11	147	RAMP I	375+29				1				1													
R-12	147	RAMP I	375+87				1				1													
R-13	147	S.R. 32	77+00							1		2												
R-14	147	RAMP I	377+16				1				2													
R-15	148	S.R. 32	80+50						1						1									
R-16	148	S.R. 32	80+66				1				1													
R-19	149	S.R. 32	84+25				2				1													
R-21	149	S.R. 32	86+05							1		2												
R-23	149	S.R. 32	87+22				1				1													
R-24	150	RAMP H	588+88				1				1													
R-25	150	S.R. 32	90+10							1		1												
R-26	150	S.R. 32	91+75						2				1		1									
R-27	151	S.R. 32	98+00											1	1									
S-1	147	RAMP I	374+36	W1-8R-36	36 X 48		12.0	11.8																
S-2	147	RAMP I	375+29	I-H25b-12	12 X 12		1.0	12.7																
S-3	147	RAMP I	375+56	W1-8R-36	36 X 48		12.0	11.8																
S-4	147	RAMP I	375+97	R5-H10d-36	36 X 36		9.0	13.8																
S-5	147	RAMP I	376+76	W1-8R-36	36 X 48		12.0	11.8																
S-6	147	S.R. 32	77+00	M3-4-36	36 X 18		4.5	15.2																
S-7	147	RAMP I	377+11	M1-5-36-2	36 X 36		9.0																	
S-8			NOT USED																					
S-9	147	RAMP I	377+96	W1-8R-36	36 X 48		12.0	11.8																
S-10			NOT USED																					
S-11	148	S.R. 32	82+55	E5-H1c-48	48 X 84		28.0	19.8/19.8																
S-12			NOT USED																					
S-13	149	S.R. 32	83+91	W4-3L-48	48 X 48		1	16.0	37.2															
S-14	149	S.R. 32	86+05	W1-7-60	60 X 30		1	12.5																
S-15			NOT USED																					
S-16	150/158	S.R. 32	89+00	D12-2-96	96 X 66													44	18.35 / 18.92	2	2			
S-17	150	RAMP H	589+09	W1-8R-36	36 X 48		12.0	11.8																
S-18	150	RAMP H	589+16	R5-H10d-36	36 X 36		9.0	13.8																
S-19	150	RAMP H	590+24	W1-8R-36	36 X 48		12.0	11.8																
S-20	150	RAMP H	590+35	W13-3-48	48 X 60		20.0	16.5 / 16.83																
S-21	150	S.R. 32	90+56	E5-H1c-48	48 X 84		28.0	19.16/19.16																
OS-1	149/157	S.R. 32	85+67		180 X 120											1				1				
OS-2	151/157	S.R. 32	93+58		192 X 132 144 X 132												1			1	1			
TOTALS CARRIED TO GENERAL SUMMARY						2	229	307	8	3	3	8	5	1	2	1	1	1	2	1	44	38	2	2

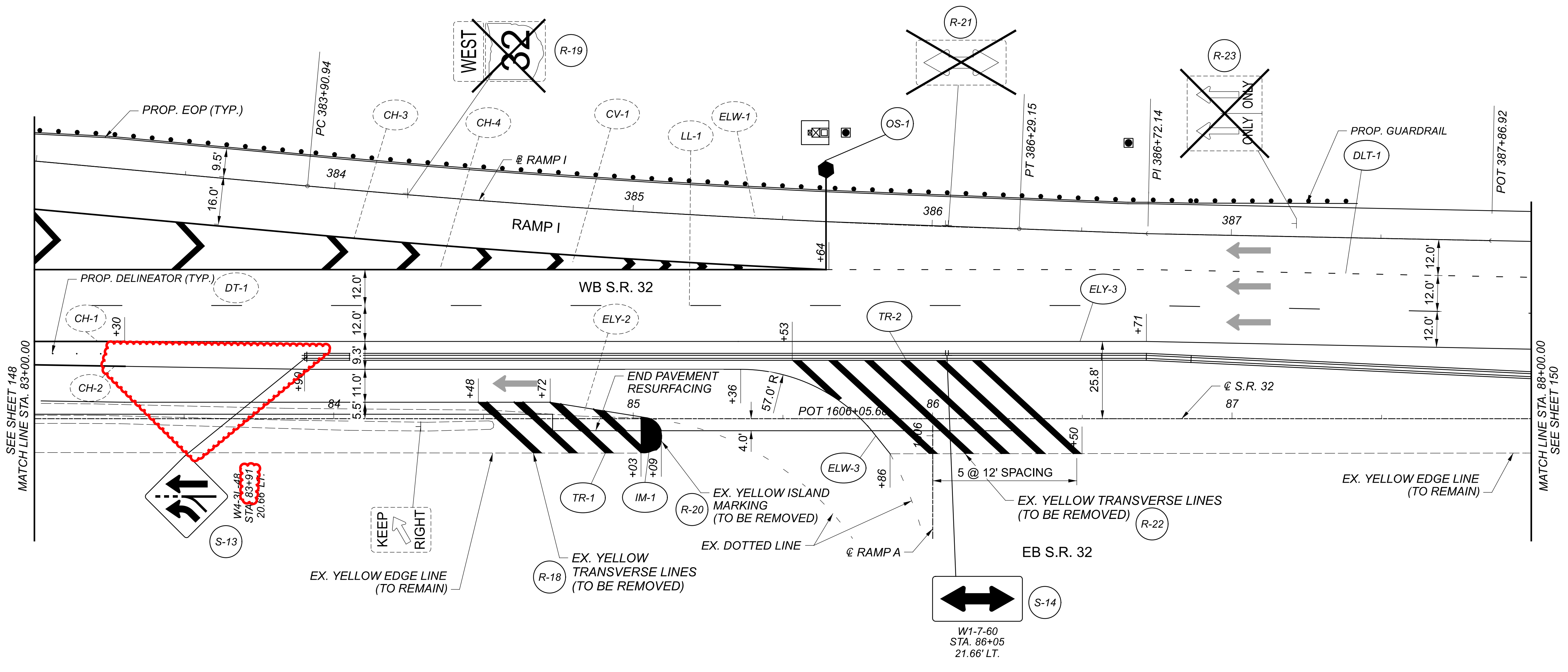
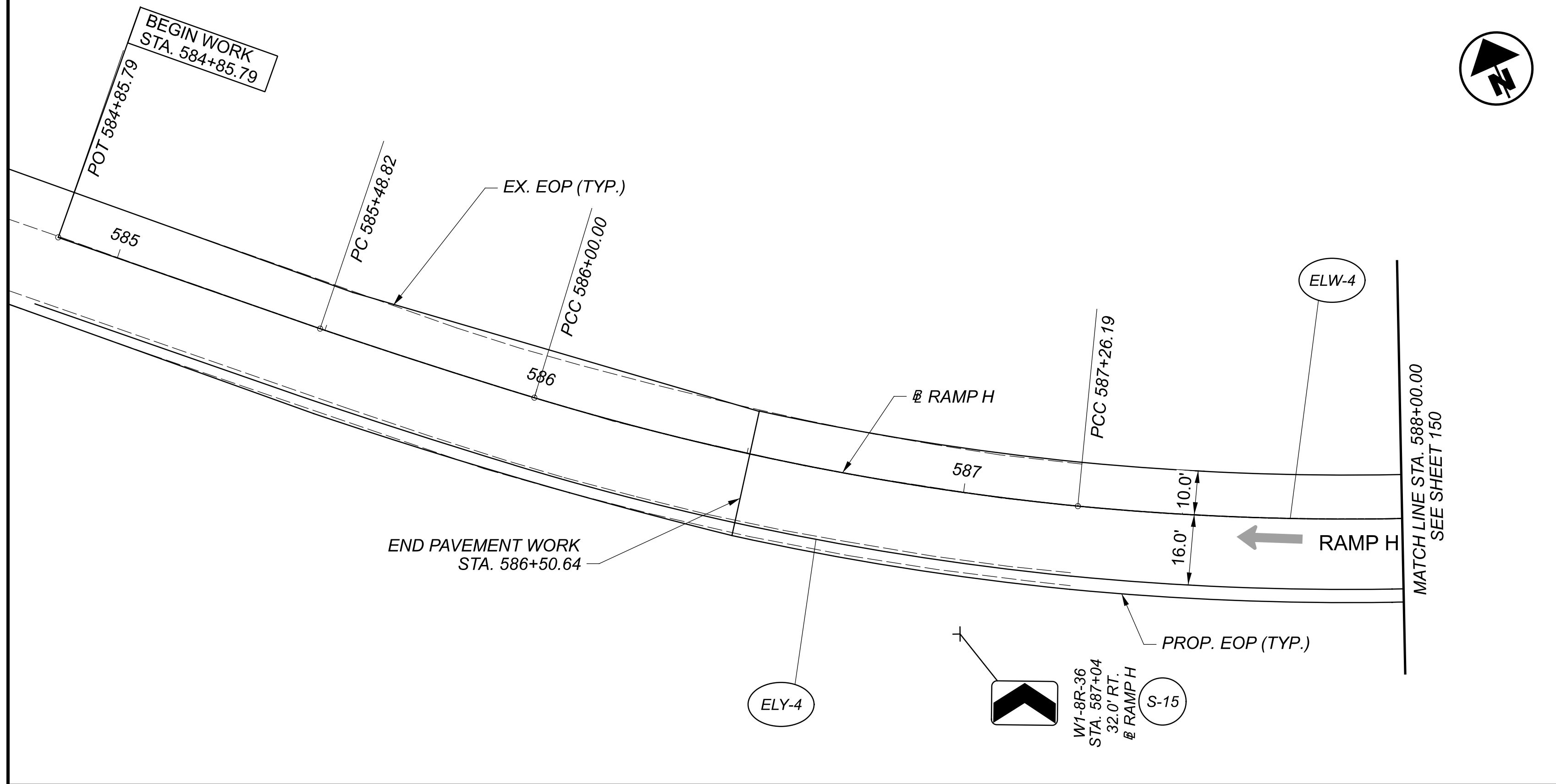
SIGNING SUBSUMMARY

DESIGN AGENCY

 DESIGNER: ATW
 REVIEWER: JDH 11/12/21
 PROJECT ID: 111492
 SHEET TOTAL: 145 / 183

LEGEND

CH	ITEM 644 - CHANNELIZING LINE, 12"		EX. SIGN TO REMAIN
CV	ITEM 644 - CHEVRON MARKING		PROP. SIGN
DLT	ITEM 644 - DOTTED LINE, 12"		EX. SIGN TO BE REMOVED
DT	ITEM 620 - DELINEATOR, POST SURFACE MOUNTED (WHITE)		
ELW	ITEM 644 - EDGE LINE, 6" (WHITE)		
ELY	ITEM 644 - EDGE LINE, 6" (YELLOW)		
IM	ITEM 644 - ISLAND MARKING (YELLOW)		
LL	ITEM 644 - LANE LINE, 6"		
SL	ITEM 644 - STOP LINE		
TR	ITEM 644 - TRANSVERSE MARKINGS (YELLOW)		



SIGN AND PAVEMENT MARKING PLAN
 STA. 83+00 TO STA. 88+00



DESIGN AGENCY	STRAND ASSOCIATES
DESIGNER	ATW
REVIEWER	JDH 11/12/21
PROJECT ID	111492
SHEET	149
TOTAL	183