END PROJECT
STA 531+73.91
SLM = 10.16

BEGIN PROJECT
STA 493+09.24
SLM = 9.43

LOCATION MAP

LATITUDE: N39°11'51" LONGITUDE: W84°28'18"

SCALE IN MILES
0 1/2 1

N

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

DESIGN DESIGNATION - I.R. 75

	I.R. 75
CURRENT ADT (2010)	173,800
DESIGN YEAR ADT (2030)	203,000
DESIGN HOURLY VOLUME (2030)	17,050
DIRECTION DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	14%
DESIGN SPEED	60
LEGAL SPEED	55
DESIGN FUNCTIONAL CLASSIFICATION	01 URBAN INTERSTATE
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

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:

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Fax: 614.775.4600
M C M X X V I

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAM-75-8.91
CITY OF CINCINNATI
HAMILTON COUNTY

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
GEOMETRIC PLAN	3 - 4
HORIZONTAL AND VERTICAL CONTROL	5
GENERAL NOTES	6 - 14
MAINTENANCE OF TRAFFIC	15 - 25
GENERAL SUMMARY	26 - 28
SUBSUMMARIES AND ESTIMATED QTYS	29 - 31
PROJECT SITE PLAN	32 - 34
PLAN AND PROFILE - I.R. 75	35 - 38
CROSS SECTION LAYOUT INDEX	39 - 40
CROSS SECTIONS	41 - 68
DRAINAGE PLANS	69 - 72
STORM SEWER PROFILES	73 - 75
SANITARY SEWER PROFILES	76
STORMWATER DETENTION SYSTEM DETAILS	77
COMBINED SEWER RELOCATION (CSO 490)	78 - 91 90A
PUMP STATION PLANS	92 - 142
ROADSIDE BARRIER PLAN	144 - 143
MISCELLANEOUS DETAILS	145 - 147
TRAFFIC CONTROL	148 - 152
LIGHTING PLANS	153 - 157
FENCING PLAN	158 - 160
SOIL PROFILE	160A - 160Z

RIGHT OF WAY PLANS WERE PREPARED AS PART OF PID 77889 HAM-75-7.85 AND ARE NOT INCLUDED IN THIS PLAN SET.

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF INSTALLATION OF A NEW PUMP STATION AND COMBINED SEWER OUTFLOW. WORK ALSO INCLUDES INSTALLATION OF DRAINAGE DETENTION AND STORM SEWER. THE IS PHASE 8B OF THE MILL CREEK EXPRESSWAY PROJECT.

PROJECT EARTH DISTURBED AREA:	6.13 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	7.13 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2023 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

ODOT APPROVALS

Tammy K. Campbell
Tammy K. Campbell, P.E.
District 08 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS

BP-5.1	7/15/22	MGS-1.1	7/16/21	HL-60.21	7/20/18
		MGS-2.1	1/19/18		
CB-5	7/16/21	MGS-3.1	1/19/18	MT-95.30	7/19/19
CB-4A,5A,8A	7/16/21	MGS-4.2	7/19/13	MT-95.45	7/21/23
		MGS-4.3	1/18/13	MT-98.21	7/21/23
DM-4.3	1/15/16	MGS-5.2	7/15/16	MT-101.70	4/21/23
DM-4.4	1/15/16	MGS-5.3	7/15/16	MT-101.75	7/21/23
				MT-101.90	7/17/20
I-3D	7/15/22	RM-4.1	1/17/20	MT-103.10	1/21/22
		RM-4.2	4/17/20	MT-105.10	1/17/20
MH-3	7/16/21	RM-4.5	7/21/17		
		RM-4.6	7/19/13	TC-41.10	7/19/13
F-1.1	7/19/13			TC-41.20	10/18/13
F-3.1	7/19/13	HL-20.11	7/21/23	TC-41.30	4/21/23
F-3.2	7/18/14	HL-20.21	1/15/21	TC-42.10	10/18/13
F-3.3	7/19/13	HL-30.11	7/21/23	TC-42.20	10/18/13
F-3.4	7/19/13	HL-30.21	4/17/20	TC-72.20	7/21/23
		HL-60.11	7/21/17		

MSD STANDARD DRAWINGS

49005
49031
49032
49037
49040
49048
49058A

SUPPLEMENTAL SPECIFICATIONS

800-2023	10/20/23
832	7/21/23

SPECIAL PROVISIONS

WATERWAY PERMIT (11/15/23)
PUMP STATION SPECIFICATIONS (10/13/23)

ENGINEERS SEAL:
PUMP STATION UNDERGROUND BUILDING: SHEETS 92-108
STATE OF OHIO · RYAN M. ANDREWS E-70263 · REGISTERED PROFESSIONAL ENGINEER

ENGINEERS SEAL:
FOR ROADWAY:
STATE OF OHIO · HEATH R. BRENDLINGER E-77786 · REGISTERED PROFESSIONAL ENGINEER

ENGINEERS SEAL:
PUMP STATION UNDERGROUND BUILDING: SHEETS 109-129
STATE OF OHIO · CRAIG A. SCHRADER E-77433 · REGISTERED PROFESSIONAL ENGINEER

ENGINEERS SEAL:
TEMPORARY SHORING WALLS:
STATE OF OHIO · TYLER D. ADAMS E-80227 · REGISTERED PROFESSIONAL ENGINEER

FEDERAL PROJECT NO. E220(584)
PID NO. 117526
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
HAM-75-8.91
1 / 160

J:\2022\0947\ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GT001.dgn 2/1/2024 9:12:42 AM hbrendlinger

ITEM 611 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 6 FEET TO THE (EDGE OF PAVEMENT) (NEAREST RAIL). PROVIDE A 0.50 INCH UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST	2 EACH
659, TOPSOIL	1,104 CU. YD.
659, SEEDING AND MULCHING	9,939 SQ. YD.
659, REPAIR SEEDING AND MULCHING	497 SQ. YD
659, INTER-SEEDING	497 SQ. YD.
659, COMMERCIAL FERTILIZER	1.39 TON
659, LIME	2.06 ACRES
659, WATER	57 M. GAL.
659, MOWING	23 M. SQ. FT.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

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 REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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.

SPECIAL - TEMPORARY 600 KW GENERATOR

THIS WORK SHALL CONSIST OF PROVIDING A TEMPORARY 600 KW GENERATOR FOR THE PUMP STATION CONTROL BUILDING FROM THE TIME THE BUILDING IS OPERATIONAL UNTIL THE PERMANENT GENERATOR CAN BE INSTALLED. THE ITEM INCLUDES CONNECTION TO PUMP STATION BUILDING, MAINTENANCE, EQUIPMENT, LABOR AND FUEL NECESSARY FOR OPERATION. THE CONTRACTOR SHALL OPERATE THE GENERATOR 15 MINUTES EACH WEEK TO VERIFY OPERATION IN CASE OF EMERGENCY USE

ELECTRONIC TICKETING

PURPOSE:
PROVIDE ELECTRONIC MATERIAL TICKETS IN AN ELECTRONIC FORMAT DIRECTLY RECORDED FROM THE MATERIAL LOADING SOURCE.

PROVIDE ELECTRONIC MATERIAL TICKETS FOR THE FOLLOWING MATERIALS:

AGGREGATE
ASPHALT CONCRETE
PORTLAND CONCRETE

THIS NOTE IN NO WAY SUPERSEDES ANY OTHER COMMERCIAL REGULATIONS OR ANY OTHER LEGAL REQUIREMENTS REGULATING THE TRANSPORTATION OF COMMERCIAL MATERIALS.

REQUIREMENTS:
AT THE PRE-CONSTRUCTION MEETING, SUBMIT AN ELECTRONIC TICKETING PLAN TO THE ENGINEER DESCRIBING THE PROPOSED ELECTRONIC TICKET DELIVERY METHOD. THE ELECTRONIC MATERIAL TICKET SHALL CONTAIN INFORMATION AS REQUIRED PER THE APPLICABLE MATERIAL SPECIFICATION FOR WEIGHT MEASUREMENT AND OTHER MATERIAL CHARACTERISTICS; PROVIDE AN EXAMPLE(S) OR A MOCK-UP OF THE PROPOSED ELECTRONIC TICKET TO SHOW THE DETAILS ON WHAT IS TO BE TRANSMITTED TO THE DEPARTMENT. NAMING OF THE ELECTRONIC MATERIAL TICKET FILES SHALL BE DISTINCT SUCH THAT THE TICKET S REPRESENTED MATERIAL IS EASILY DETERMINED; INCLUDE THE PROPOSED NAMING CONVENTION. DELIVERY MAY BE THROUGH A PRODUCER WEBSITE UPLOAD ACCESSIBLE TO THE ENGINEER, ODOT PROJECT SPECIFIC SHAREPOINT DOCUMENTATION SITE UPLOAD, OR ANOTHER SECURE ELECTRONIC TRANSMITTAL MEANS. EMAILING OF A TICKET TO AN ODOT CONTACT IS ACCEPTABLE BUT IS NOT PREFERRED. THE ELECTRONIC TICKETING PLAN SHALL IDENTIFY A CONTINGENCY METHOD FOR MANUALLY CAPTURING AND DELIVERING TICKET INFORMATION IF ELECTRONIC TRANSMISSION IS TEMPORARILY UNAVAILABLE. AN ELECTRONIC TICKETING PLAN WHICH INCLUDES SOLELY THE USE OF DIGITAL PHOTOS OF PAPER TICKETS IS NOT ACCEPTABLE.

THE DEPARTMENT RECOGNIZES THAT VARIOUS DIGITAL TICKETING SYSTEMS MAY BE COMMERCIALLY AVAILABLE AND USED TO ACCOMMODATE INDIVIDUAL CONTRACTORS AND MATERIAL SUPPLIER CAPABILITIES. THE CONTRACTOR MAY PROVIDE A DIGITAL TICKETING SYSTEM GIVING SECURE ACCESS TO ORGANIZED DIGITAL DATA. IF UTILIZED, THE DIGITAL TICKETING SYSTEM MAY ALSO BE ACCESSIBLE BY REAL-TIME MONITORING WITH A MOBILE COMMUNICATION DEVICE SUCH AS A TABLET, SMARTPHONE, ETC. THROUGH MOBILE DEVICE APPLICATIONS (MOBILE APP) IF ACCEPTABLE TO THE DEPARTMENT. IF A DIGITAL TICKETING SYSTEM REQUIRES A MOBILE APP, THE MOBILE APP SHALL BE AT NO COST TO THE DEPARTMENT. THE DIGITAL DATA MUST BE ABLE TO BE EXPORTED IN A FORMAT USABLE BY THE ENGINEER UPON REQUEST (I.E. MICROSOFT WORD, MICROSOFT EXCEL, PDF FORMATS).

DELIVER EACH ELECTRONIC MATERIAL TICKET TO THE ENGINEER PRIOR TO THE PLACEMENT OF MATERIAL, BUT NOT PRIOR TO THE LOADING OF MATERIAL AT THE SOURCE.

PROVIDE THE ENGINEER A DAILY MATERIAL SUMMARY REPORT BY THE END OF THE DAY S HAULING ACTIVITIES, OR AT A TIME AS APPROVED BY THE ENGINEER. THE DAILY MATERIAL SUMMARY REPORT INCLUDES SUMMARY INFORMATION LISTED FOR EACH MATERIAL AS OUTLINED IN THE RESPECTIVE MATERIAL SPECIFICATION.

PAYMENT:
COSTS FOR THE ELECTRONIC TICKETING SHALL BE INCIDENTAL TO THE PROJECT.

FIELD OFFICE, TYPE C AS PER PLAN

IN ADDITION, TO THE REQUIREMENTS OF ITEM 619, THE CONTRACTOR SHALL CO-LOCATE WITH DEPARTMENT STAFF FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE/LEASE A SUITABLE FIELD OFFICE WITH A MINIMUM OF 2000 SF OF USABLE OFFICE SPACE. OFFICE TO INCLUDE A SEPARATE MINIMUM 12'X36' CONFERENCE ROOM, AND TEN (10) SEPARATE OFFICES WITH SHELVING UNITS. FURTHER ITEMS ARE AS FOLLOWED:

1) FURNITURE:
- -ELEVEN (11) SETS OF DESKS, OFFICE CHAIRS, AND FOUR DRAWER FILE CABINETS
- -TWO (2) LOCKABLE FILE CABINETS
- -TEN (10) 2'X8' COLLAPSIBLE TABLES
- -TWENTY (20) FOLDING CHAIRS

COPY MACHINE WITH SCAN/PRINT/FAX/INTERNET HOOKUP CAPABILITIES. THE COPIER WILL PRINT 25PPM AND CAPABLE OF PRINTING SHEETS 8.5"X11", 8.5"X14", AND 11"X17". COPIER PAPER SUPPLIES AND MAINTENANCE TO BE INCLUDED.
CONTRACTOR TO PROVIDE INTERNET SERVICES WITH A MINIMUM SPEED OF 100 MBPS. THE CONTRACTOR SHALL SUPPLY THE PROJECT WITH THE IP ADDRESS SO THAT ODOT CAN ATTACH AN ODOT OWNED HUB. ODOT'S OWNED HUB WILL PROVIDE THE STAFF WITH A WIRELESS ROUTER AND ODOT FIREWALL.
ONE (1) SEPARATE WATER COOLER AND SERVICE.
FIELD OFFICE SHALL INCLUDE A SECURE PARKING AREA NOT LESS THAN 4000 SF CAPABLE OF SUPPLYING 20 EA ALL WEATHER PARKING SPOTS. "ALL WEATHER" SHALL BE DEFINED AS A HARD SMOOTH SURFACE THAT WILL ALLOW FOR SNOW REMOVAL. GRAVEL SURFACE IS NOT ACCEPTABLE. PARKING AREA TO BE SURROUNDED BY A 6' HIGH SECURITY FENCE WITH A LOCKABLE GATE INCLUDING KEYS AND ILLUMINATED BY SECURITY LIGHTING.
SNOW REMOVAL SHALL BE REQUIRED FOR PARKING AREA.
BI-WEEKLY CLEANING SERVICE.
DUMPSTER WITH NECESSARY SERVICE.
FIVE (5) EACH TELEPHONES.

THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE PROPOSED FACILITY FROM THE ENGINEER PRIOR TO USE. THE FACILITY SHALL BE AVAILABLE FOR ODOT USE NOT MORE THAN 30 DAYS FROM THE AWARD OF CONTRACT.

CALCULATED SEA
CHECKED DLR

GENERAL NOTES

HAM-75-8.91

J:\2022094?\ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GN001.dgn 12/6/2023 10:26:07 AM bmccutchen

ENVIRONMENTAL COMMITMENTS

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

PERMITS

THE CONTRACTOR MUST ENSURE THAT A NOTICE OF INTENT (NOI) IS SUBMITTED TO THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO CONSTRUCTION FOR COVERAGE UNDER THE NPDES CONSTRUCTION STORMWATER GENERAL PERMIT. AS REQUIRED BY THE PERMIT, A STORMWATER POLLUTION PREVENTION PLAN MUST BE DEVELOPED AND IMPLEMENTED PRIOR TO PROJECT CONSTRUCTION IN ACCORDANCE WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS.

EARTH DISTURBANCE

NO VEGETATION SHALL BE REMOVED/DAMAGED OUTSIDE OF THE PHYSICAL WORK LIMITS. THE CONTRACTOR WILL BE REQUIRED TO NOTIFY THE ENGINEER IF THE VEGETATION OUTSIDE OF THE WORK LIMITS WILL BE IMPACTED PRIOR TO COMMENCING WORK.

ITEM SPECIAL PUMP STATION BUILDING AND CONTROLS

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND PERMITTING NECESSARY FOR CONSTRUCTING THE NEW PUMP STATION BUILDING, PUMP STATION CONTROLS, ELECTRICAL SERVICE AND BACKUP GENERATOR AS DETAILED IN THE PLANS, DETAILS, NOTES AND SPECIFICATIONS.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITTING NECESSARY FOR CONSTRUCTION.

ALL WORK SHALL BE INCLUDED IN THE LUMP SUM ITEM SPECIAL PUMP STATION BUILDING AND CONTROLS.

ITEM SPECIAL STORMWATER PUMP STATION STRUCTURE

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT NECESSARY FOR CONSTRUCTING THE UNDERGROUND PUMP STATION INCLUDING ALL CONCRETE, REINFORCING, PUMPS, PIPING AND APPUTENANCES AS DETAILED IN THE PLANS, DETAILS, NOTES AND SPECIFICATIONS.

ALL WORK SHALL BE INCLUDED IN THE LUMP SUM ITEM SPECIAL STORMWATER PUMP STATION STRUCTURE.

ITEM SPECIAL PRESSURE RELEASE VALVE AND STRUCTURE

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT NECESSARY FOR CONSTRUCTING THE PRESSURE RELEASE VALVE AND STRUCTURE AS DETAILED IN THE PLANS, DETAILS, NOTES AND SPECIFICATIONS.

ALL WORK SHALL BE INCLUDED IN THE LUMP SUM ITEM SPECIAL PRESSURE RELEASE VALVE AND STRUCTURE

ITEM 611 - 15" CONDUIT, TYPE C, 706.02, JOINTS PER 706.11
ITEM 611 - 36" CONDUIT, TYPE C, WITH CLASS II BEDDING
ITEM 611 - 48" CONDUIT, TYPE B, WITH CLASS II BEDDING
ITEM 611 - 48" CONDUIT, TYPE C, WITH CLASS II BEDDING

BACKFILL SHALL BE IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION DRAWING ACC. NO. 49032

MSD SANITARY SEWER NOTES

1. ALL PLANS AND CONSTRUCTION WITHIN HAMILTON COUNTY SHALL COMPLY WITH THE LATEST EDITION OF THE "RULES AND REGULATIONS" MANUAL GOVERNING THE DESIGN, CONSTRUCTION, MAINTENANCE, OPERATION , AND USE OF SANITARY AND COMBINED SEWERS IN THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI, HAMILTON COUNTY, OHIO, EFFECTIVE MARCH 1, 2001. COPIES MAY BE OBTAINED FROM THE DIVISION OF WASTEWATER ENGINEERING MSD, 1600 GEST STREET, CINCINNATI, OHIO 45204.
2. ALL SANITARY SEWERS SHALL BE CONSTRUCTED UNDER THE INSPECTION OF THE CHIEF ENGINEER, MSD.
3. THE OWNERS OF ALL PROPERTIES SHOWN ON THIS IMPROVEMENT PLAN SHALL BE SUBJECT TO ALL APPLICABLE SEWER SERVICE CHARGES, ASSESSMENTS, TAP-IN CHARGES OR FEES WHICH HAVE BEEN OR MAY BE ESTABLISHED BY THE BOARD OF COUNTY COMMISSIONERS.
4. APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO BREAKING GROUND FOR THE PURPOSE OF VERIFYING BY FIELD INSPECTION THE EXACT LOCATION OF UNDERGROUND UTILITIES.
5. ALL SANITARY SEWER PIPE SHALL BE PVC, SDR35, ASTM D-3034 IN ACCORDANCE WITH MSD RULES AND REGULATIONS, EXCEPT WHERE NOTED.
6. ALL MANHOLES ON SANITARY SEWERS SHALL BE TYPE "S" MSD ACCESSION NO. 49037.
7. SANITARY MANHOLES SHALL BE TEMPORARILY CONSTRUCTED TO AN ELEVATION OF TWO FEET ABOVE THE SURROUNDING GRADE BY MEANS OF AN ADDITIONAL MANHOLE SECTION OR BRICK MASONRY ON TOP OF THE CONE.
8. SANITARY BUILDING SEWERS FOR PUBLIC AND PRIVATE SEWERS SHALL NOT BE EXTENDED MORE THAN TEN (10) FEET BEYOND THE PROPOSED RIGHT-OF-WAY LINE, EASEMENT LINE OR, IN CASES OF PRIVATE SEWERS, NO MORE THAN TEN (10) FEET BEYOND THE MAIN LINE SEWER PRIOR TO ISSUANCE OF TAP PERMITS.
9. TWO-WAY CLEANOUTS SHALL BE INSTALLED AT THE RIGHT-OF-WAY LINE OR SANITARY SEWER EASEMENT, WHERE APPLICABLE, IN ACCORDANCE TO MSD ACCESSION NO. 61979.
10. ALL LOWEST FINISHED FLOOR ELEVATIONS SHALL BE AT LEAST 36 INCHES ABOVE THE CROWN OF THE SEWER AT THE POINT OF TAP CONNECTION TO SAID SEWER, WHETHER PUBLIC OR PRIVATE, AND/OR IN ACCORDANCE WITH CITY OF CINCINNATI SUPPLEMENT CC-51-49. ANY BUILDING TO BE SERVED BY MEANS OTHER THAN GRAVITY MUST BE SO NOTED ON THE PLANS.
11. ALL MANHOLES ON PUBLIC SANITARY SEWERS SHALL HAVE STANDARD LIDS AND FRAMES, MSD ACCESSION. NO 49005, EXCEPT WHERE NOTED. THE FRAME SHALL BE SECURELY FASTENED TO THE TOP MANHOLE SECTION BY FOUR 3/4-INCH STAINLESS STEEL CINCH ANCHORS.
12. CONTRACTOR'S LICENSE - ALL WORK DONE ON SANITARY AND/OR COMBINED SEWERS WITHIN THE JURISDICTION OF THE METROPOLITAN
SEWER DISTRICT MUST BE DONE BY A CONTRACTOR WHO IS AN APPROVED SEWER TAPPER PROPERLY LICENSED BY THE DEPARTMENT AND BONDED.
13. SANITARY BUILDING SEWERS SHALL BE CONNECTED TO THE MAIN LINE WITH WYES. TEE FITTINGS ARE TO BE USED ONLY WHERE SHOWN ON THE APPROVED PLAN.
14. A TAP PERMIT IS REQUIRED FOR EACH BUILDING. BOND OR FINAL APPROVAL OF THE MAIN LINE IS REQUIRED PRIOR TO ISSUANCE OF A TAP PERMIT.
15. SANITARY SEWER CONSTRUCTION MUST COMMENCE WITHIN 12 MONTHS AND BE COMPLETED WITHIN 36 MONTHS OF THE DATE OF APPROVAL SHOWN HEREON OR THESE PLANS BECOME VOID.

MSD SANITARY SEWER NOTES CON'T

16. FOR SANITARY SEWER MANHOLES CONSTRUCTED IN PARKING LOTS, THE RIM ELEVATION SHALL BE 1" HIGHER THAN THE SURROUNDING GRADE AND THE PAVEMENT SHALL BE FEATHERED AWAY FROM THE MANHOLE RIM AT A GRADUAL SLOPE.
17. FOR SANITARY MANHOLES CONSTRUCTED IN GRASS AREAS, THE RIM ELEVATION SHALL BE 3" HIGHER THAN THE SURROUNDING GRADE, AND THE FILL SHALL BE FEATHERED AWAY FROM THE MANHOLE RIM AT A GRADUAL SLOPE.
18. ROOF DRAINS, FOUNDATION DRAINS, COOLING WATER, SWIMMING POOL WATER OR OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
19. TO ASSURE THAT STORMWATER DOES NOT ENTER THE SANITARY SEWER SYSTEM, A SCHEMATIC PLAN OF THE FOOTING AND FOUNDATION DRAINAGE SYSTEM, INCLUDING THE POINT OF DISCHARGE, IS NECESSARY.
20. THE CONTRACTOR SHALL TEST ALL MANHOLES LEAKAGE BY MEANS OF VACUUM TESTING. THE VACUUM TESTING CANNOT BE DONE UNTIL AFTER THE MANHOLES ARE SET TO FINAL GRADE AND THE MANHOLE CASTINGS ARE BOLTED DOWN. ALL LIFT HOLES SHALL BE PLUGGED. ANY OTHER OPENINGS, SUCH AS FOR PRESSURE RELIEF VALVES, SHALL BE TEMPORARILY PLUGGED TO ALLOW THE VACUUM TEST. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED AND CARE SHALL BE TAKEN TO SECURELY BRACE THE PLUGS FROM BEING DRAWN INTO THE MANHOLE. THE VACUUM EQUIPMENT TEST HEAD SHALL BE PLACED IN THE OPENING OF THE CASTING ONLY, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. VACUUM TESTING SHALL BE IN ACCORDANCE WITH ASTM C1244. A VACUUM OF 10 INCHES MERCURY (10" HG) SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. WITH THE VALVES CLOSED, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO NINE INCHES MERCURY (9" HG). THE MANHOLE SHALL PASS IF THE TIME MEETS OR EXCEEDS THE ALLOWABLE TIMES AS CALCULATED FROM ASTIM C1244, OR AS APPROVED BY THE ENGINEER. ALL MANHOLE REPAIR AND RETESTING REQUIRED BECAUSE OF THE FAILURE TO MEET THE TESTING REQUIREMENTS SHALL BE BORNE BY THE CONTRACTOR AT HIS COST.

MSD SANITARY SEWER BY-PASS PUMPING

SANITARY AND COMBINED SEWER FLOWS MUST BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL SUBMIT A BYPASS PUMPING PLAN TWO (2) WEEKS PRIOR TO WORK. CONTRACTOR WILL BE RESPONSIBLE FOR ANY SEWER BACKUPS THAT OCCUR DURING CONSTRUCTION IF THE CONSTRUCTION WORK IS PROVEN TO BE THE CAUSE.

CALCULATED SEA
CHECKED DLR

GENERAL NOTES

HAM-75-8.91

J:\2022094\7\ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GN001.dgn 11/3/2023 3:13:36 PM hbrendlinger

SHEET NUM.											PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8	29	30	31	91	155						01/IMS/03							
																	DRAINAGE	
		20									20		611	20900	20	FT	48" CONDUIT, TYPE B	
		1,442	40								1,482		611	21100	1,482	FT	48" CONDUIT, TYPE C	
		657									657		611	26400	657	FT	72" CONDUIT, TYPE C	
		167									167		611	96600	167	FT	CONDUIT, BORED OR JACKED, 36" TYPE B	
		149									149		611	96600	149	FT	CONDUIT, BORED OR JACKED, 42" TYPE B	
		197									197		611	96600	197	FT	CONDUIT, BORED OR JACKED, 48" TYPE C	
		1									1		611	98300	1	EACH	CATCH BASIN, NO. 5	
		5									5		611	98341	5	EACH	CATCH BASIN, NO. 5A	
		1									1		611	98434	1	EACH	CATCH BASIN, NO. 8A	
		3									3		611	99115	3	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D, AS PER PLAN	13
		1									1		611	99115	1	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D, AS PER PLAN, A	14
		4									4		611	99574	4	EACH	MANHOLE, NO. 3	
			1								1		611	99690	1	EACH	MANHOLE, MISC.: TRASH RACK STRUCTURE	
5											5		611	99710	5	EACH	PRECAST REINFORCED CONCRETE OUTLET	
			528								528		638	07330	528	FT	54" STEEL PIPE ENCASEMENT, BORED OR JACKED	
			1,368								1,368		638	98600	1,368	FT	WATER WORK, MISC.: 36" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, MECHANICAL JOINTS AND FITTINGS	
			LUMP								LUMP		SPECIAL	69098400	LS		PRESSURE RELEASE VALVE AND STRUCTURE	11
		LUMP									LUMP		SPECIAL	69098400	LS		STORMWATER DETENTION SYSTEM 6	9
																	PAVEMENT	
				216							216		253	01001	216	SY	PAVEMENT REPAIR, AS PER PLAN	84
			70								70		301	56000	70	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
			140								140		304	20000	140	CY	AGGREGATE BASE	
			84								84		407	20000	84	GAL	NON-TRACKING TACK COAT	
			35								35		441	50000	35	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
	717			39							756		609	26000	756	FT	CURB, TYPE 6	
																	SANITARY SEWER	
		521									521		611	06100	521	FT	15" CONDUIT, TYPE C, 706.02, JOINTS PER 706.11	11
				51							51		611	20900	51	FT	48" CONDUIT, TYPE B, WITH CLASS II BEDDING	11
				171							171		611	21100	171	FT	48" CONDUIT, TYPE C, WITH CLASS II BEDDING	11
		368									368		611	96600	368	FT	CONDUIT, BORED OR JACKED, 15" TYPE B	
				LUMP							LUMP		SPECIAL	61197910	LS		SANITARY SEWER MSD SANITARY SEWER PROTECTION	90
		3		1							4		611	99690	4	EACH	MANHOLE, MISC.: SANITARY MANHOLE PER MSD STD ACC. NO. 49037	
		3		2							5		611	99690	5	EACH	MANHOLE, MISC.: SANITARY MANHOLE PER MSD STD ACC. NO. 49040	
				1							1		611	99690	1	EACH	MANHOLE, MISC.: SANITARY MANHOLE PER MSD STD ACC. NO. 49058-A	
																	LIGHTING	
					8						8		625	00450	8	EACH	CONNECTION, FUSED PULL APART	
					4						4		625	00460	4	EACH	CONNECTION, UNFUSED PULL APART	
					12						12		625	00480	12	EACH	CONNECTION, UNFUSED PERMANENT	
					4						4		625	10503	4	EACH	LIGHT POLE (INSTALLATION ONLY), AS PER PLAN	153
					4						4		625	14001	4	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP, AS PER PLAN	153
					1						1		625	15201	1	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP, AS PER PLAN	153
					3,033						3,033		625	23300	3,033	FT	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	
					941						941		625	25500	941	FT	CONDUIT, 3", 725.04	
					941						941		625	29000	941	FT	TRENCH	
					2						2		625	30700	2	EACH	PULL BOX, 725.08, 18"	
					1						1		625	30710	1	EACH	PULL BOX, 725.08, 32"	
					3						3		625	32000	3	EACH	GROUND ROD	
					941						941		625	36010	941	FT	UNDERGROUND WARNING/MARKING TAPE	
					LUMP						LUMP		SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	153
					4						4		625	60010	4	EACH	LIGHT POLE REMOVED FOR REERECTION	
					1						1		625	75360	1	EACH	LIGHT TOWER REMOVED FOR STORAGE	
					4						4		625	75500	4	EACH	LIGHT POLE FOUNDATION REMOVED	
					1						1		625	75540	1	EACH	LIGHT TOWER FOUNDATION REMOVED	
					3						3		625	75800	3	EACH	DISCONNECT CIRCUIT	
					1						1		625	98000	1	EACH	LIGHTING, MISC.: LIGHT TOWER INSTALLATION ONLY	

CALCULATED DLR CHECKED EDK

GENERAL SUMMARY

HAM-75-8.91

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GG001.dgn 1/4/2024 5:44:18 PM bmccutchen

SHEET NUM.													PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	12	31	17	91	148	147							01/IMS/03							
																			ELECTRICAL	
		620											620		625	25600	620	FT	CONDUIT, 4", 725.04	
		240											240		625	25902	240	FT	CONDUIT, JACKED OR DRILLED, 725.04, 4"	
		2											2		625	25930	2	EACH	CONDUIT, MISC.: CONDUIT RISER, 4" DIAMETER	
	1												1		625	34301	1	EACH	TRANSFORMER PAD, CONCRETE, AS PER PLAN	12
																			TRAFFIC CONTROL	
					98								98		630	03100	98	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					2								2		630	08600	2	EACH	SIGN POST REFLECTOR	
					2								2		630	09000	2	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
					2								2		630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
					10								10		630	85100	10	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
					6								6		630	86002	6	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					3								3		630	86250	3	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND REERECTION	
					370								370		644	01510	370	FT	DOTTED LINE, 6"	
																			MISCELLANEOUS STRUCTURE	
				LUMP									LUMP		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	9
						LUMP							LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, WALL 1	147
						LUMP							LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, WALL 2	147
						LUMP							LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN, WALL 3	147
LUMP													LUMP		503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN STORMWATER DETENTION SYSTEM 6	9
		LUMP											LUMP		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING, JACKING PIT	
		LUMP											LUMP		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING, RECEIVING PIT	
				LUMP									LUMP		503	21300	LS		UNCLASSIFIED EXCAVATION	
				8,329									8,329		509	10000	8,329	LB	EPOXY COATED STEEL REINFORCEMENT	
				27									27		511	46010	27	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
				47									47		511	46510	47	CY	CLASS QC1 CONCRETE, FOOTING	
				63									63		512	10100	63	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
				44									44		517	73501	44	FT	RAILING, PIPE, AS PER PLAN	86
				28									28		518	21201	28	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	91
				90									90		601	32004	90	CY	ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC	
													1		611	99900	1	EACH	DRAINAGE STRUCTURE, MISC.: REAR GATE	89
				LUMP									LUMP		611	99920	LS		DRAINAGE STRUCTURE, MISC.: CSO VAULT 25' L X 13' W, AS PER PLAN	85
		LUMP											LUMP		SPECIAL	69098400	LS		PUMP STATION BUILDING AND CONTROLS	11
		LUMP											LUMP		SPECIAL	69098400	LS		STORMWATER PUMP STATION STRUCTURE	11
																			MAINTENANCE OF TRAFFIC	
			1										1		606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL), 60 MPH, 48 INCH WIDTH	
			50										50		614	11110	50	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
			4										4		614	12380	4	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
			89										89		614	13310	89	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
			3										3		614	13312	3	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
			92										92		614	13350	92	EACH	OBJECT MARKER, ONE WAY	
			370										370		614	23010	370	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12"	
			LUMP										LUMP		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
			558										558		615	20000	558	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
			18										18		616	10000	18	MGAL	WATER	
			1										1		622	41060	1	EACH	DUAL PORTABLE BARRIER TRANSITION/TERMINATION	
			4,090										4,090		622	41100	4,090	FT	PORTABLE BARRIER, UNANCHORED	
																			INCIDENTALS	
													LUMP		614	11000	LS		MAINTAINING TRAFFIC	
													14		619	16021	14	MNTH	FIELD OFFICE, TYPE C, AS PER PLAN	10
													LUMP		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LUMP		624	10000	LS		MOBILIZATION	

CALCULATED DLR CHECKED EDK

GENERAL SUMMARY

HAM-75-8.91

28
160

J:\2022094\7\ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GG001.dgn 1/30/2024 2:59:57 PM hbrendlinger

ESTIMATED QUANTITIES

CALCULATED SEA
CHECKED DLR

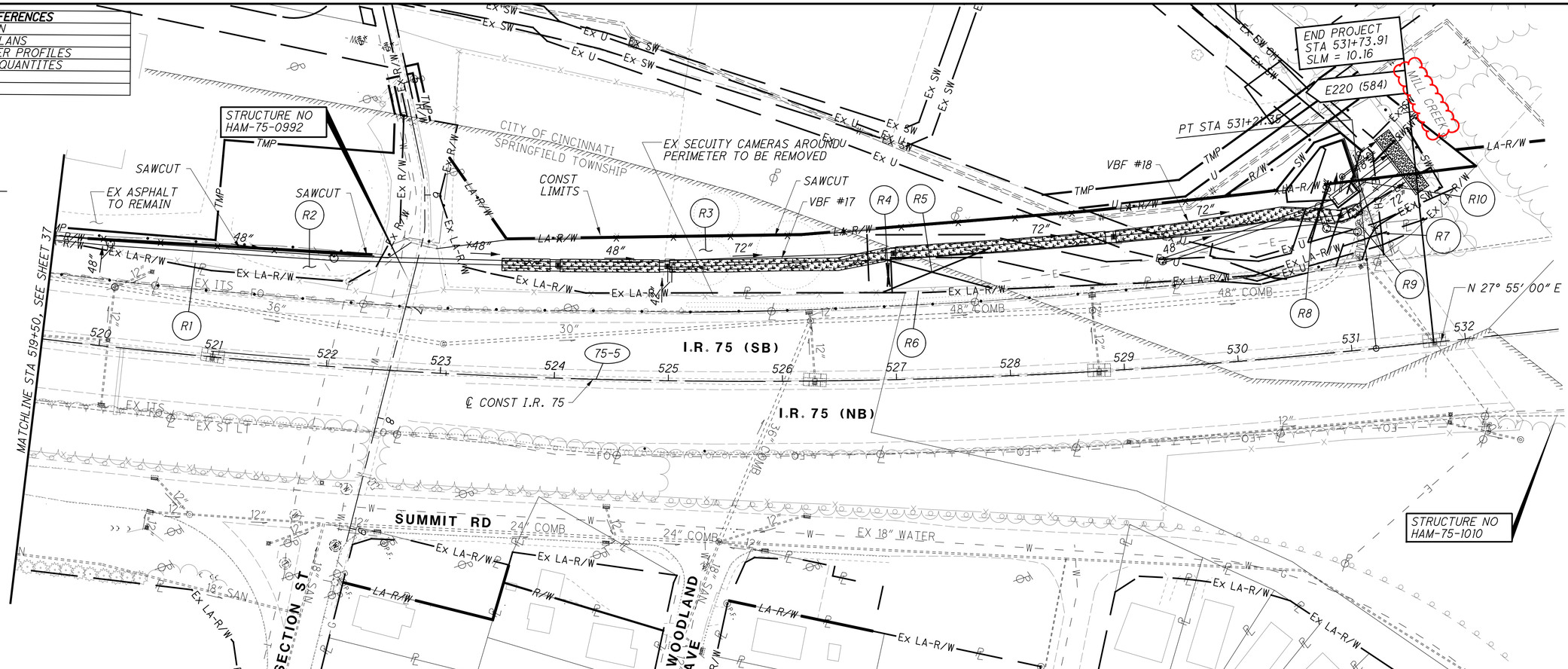
REF NO.	SHEET NO.	STATION TO STATION	204 SUBGRADE COMPACTION	301 ASPHALT CONCRETE BASE, PG64-22, (449)	304 AGGREGATE BASE	407 NON-TRACKING TACK COAT	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	503 COFFERDAMS AND EXCAVATION BRACING, JACKING PIT	503 COFFERDAMS AND EXCAVATION BRACING, RECEIVING PIT	608 4" CONCRETE WALK	611 48" CONDUIT, TYPE C	611 MANHOLE, MISC.:TRASH RACK STRUCTURE	625 CONDUIT, 4", 725.04	625 CONDUIT, JACKED OR DRILLED, 725.04, 4"	625 CONDUIT, MISC.:CONDUIT RISER, 4" DIAMETER	638 54" STEEL PIPE ENCASEMENT, BORED OR JACKED	638 WATER WORK, MISC.:36" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, MECHANICAL JOINTS AND FITTINGS	690 SPECIAL - BOLLARD	690 SPECIAL -STORMWATER PUMP STATION STRUCTURE	690 SPECIAL -PUMP STATION BUILDING AND CONTROLS	690 SPECIAL -PRESSURE RELEASE VALVE AND STRUCTURE	690 SPECIAL -TEMPORARY 600KW GENERATOR
			SY	CY	CY	GAL	CY			SF	FT	EACH	FT	FT	EACH	FT	FT	EACH				MNTH
	92 - 142		842	70	140	84	35	LUMP	LUMP	15	40	1	620	240	2	528	1368	32	LUMP	LUMP	LUMP	4
SUBTOTALS			842	70	140	84	35			15	40	1	620	240	2	528	1368					4
TOTALS CARRIED TO GENERAL SUMMARY			842	70	140	84	35	LS	LS	15	40	1	620	240	2	528	1368	LS	LS	LS	LS	4

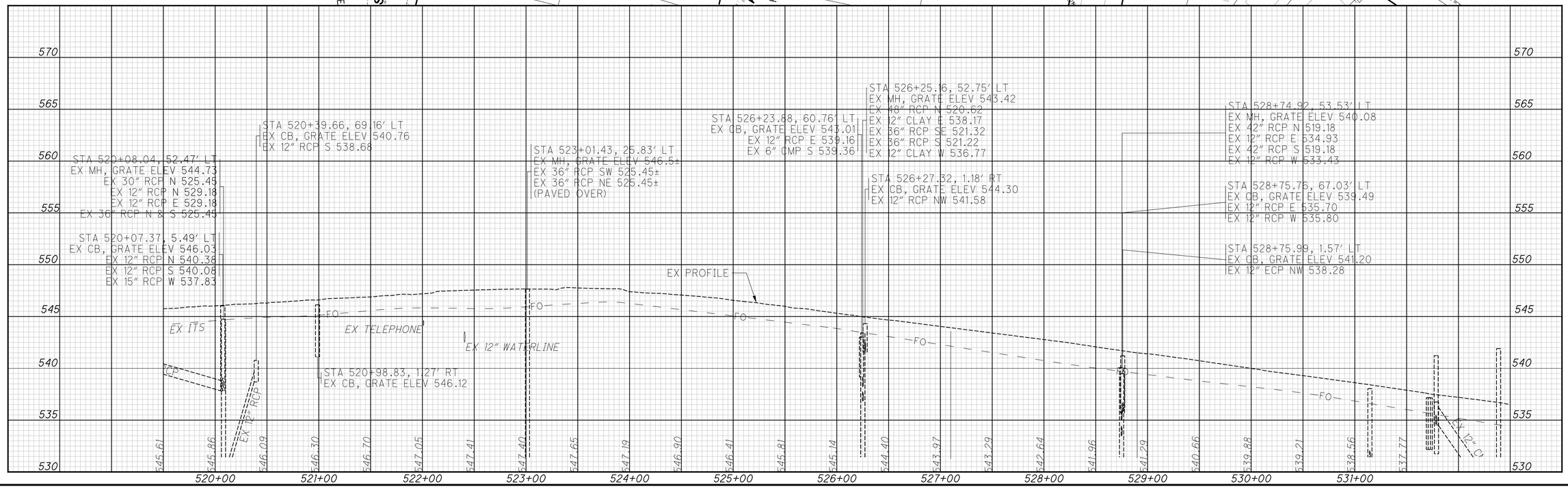
HAM-75-8.91

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GS001_Roadway.dgn 1/30/2024 3:02:34 PM hbrendlinger

CROSS REFERENCES	
SHEET NO	DESCRIPTION
69 -72	DRAINAGE PLANS
73 -75	STORM SEWER PROFILES
29 -31	ESTIMATED QUANTITES
-	
-	

CURVE 75-5
PI STA 523+96.89
Δ = 16°02'37" (LT)
Dc = 1°06'00"
R = 5,208.71'
T = 734.06'
L = 1,458.52'
E = 51.47'
emax = 0.030





PLAN AND PROFILE - I.R. 75
STA 519+50 TO STA 531+72.45

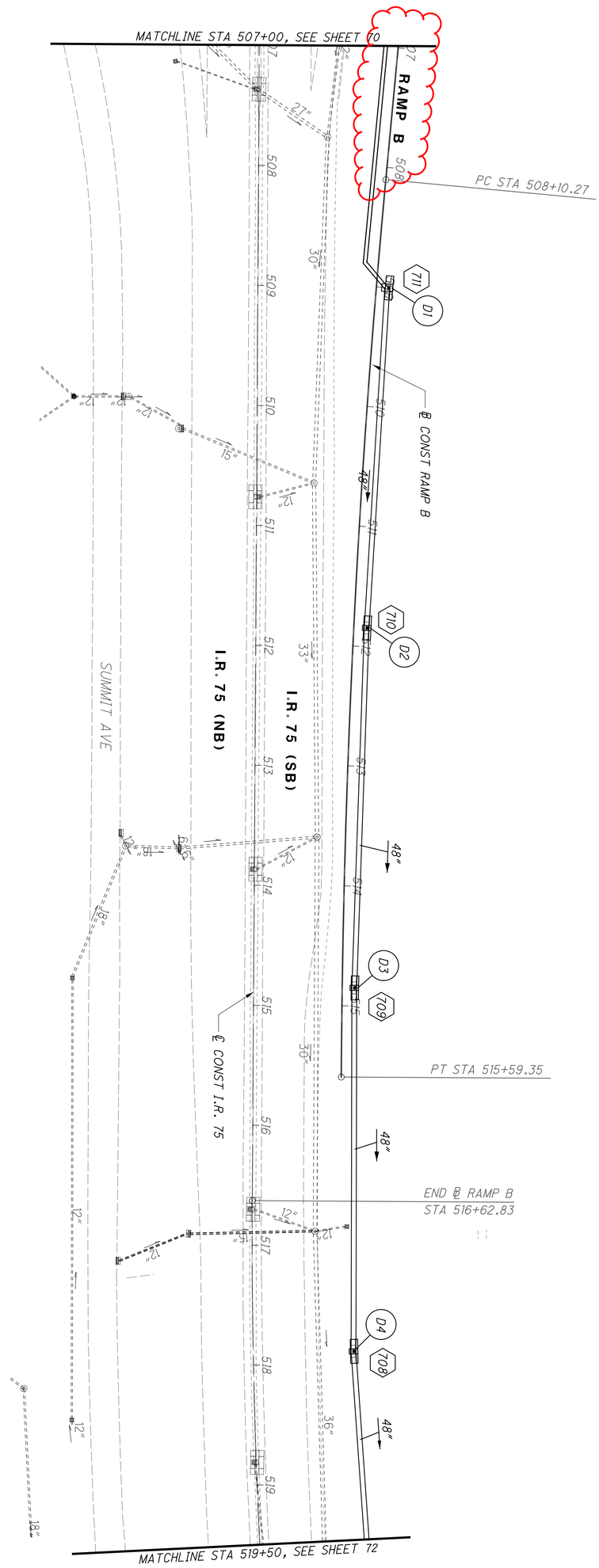
HAM-75-8.91

38
160

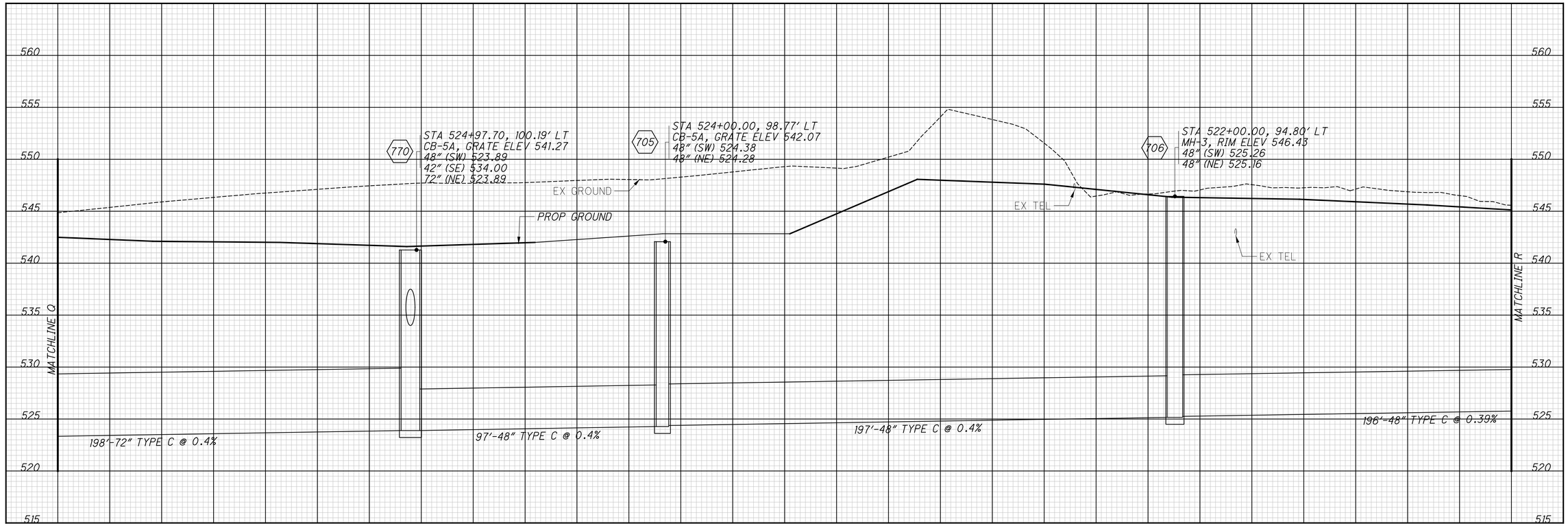
CALCULATED CFR
CHECKED JLM

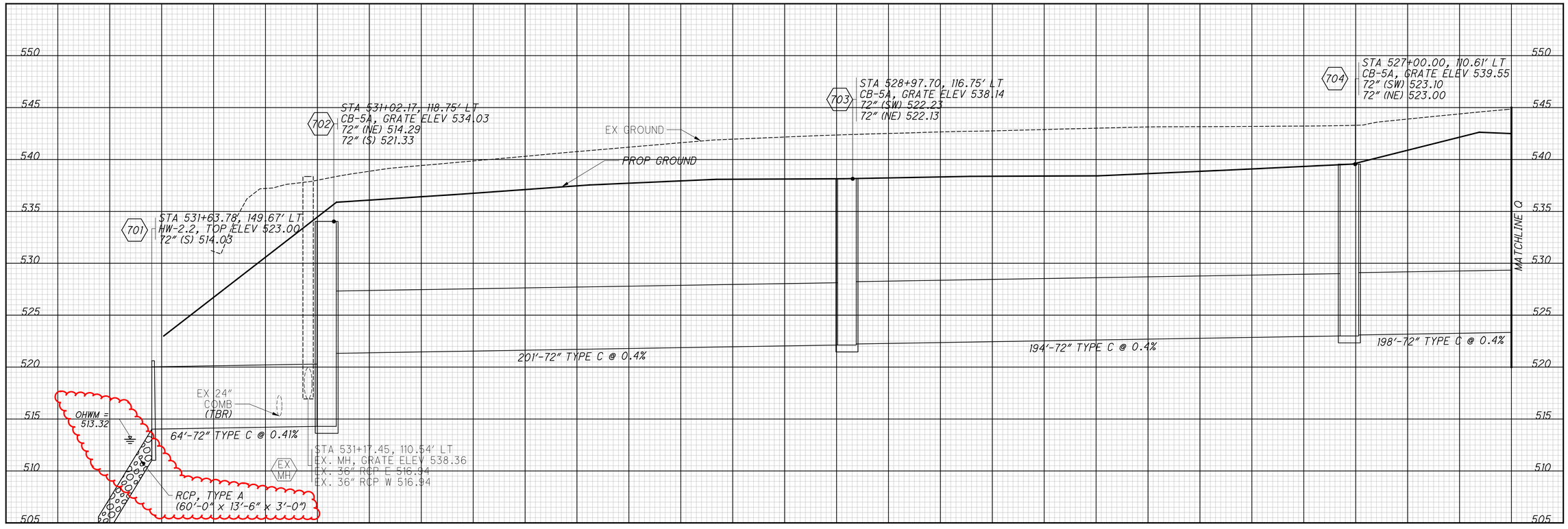
HORIZONTAL SCALE IN FEET
0 25 50 100

J:\2022094\7_ODOT\HAM\117526_HAM-75-8.91\roadway\sheets\77889GP407.dgn 12/6/2023 4:43:33 PM bmccutchen



71 / 160	HAM-75-8.91	DRAINAGE PLANS - I.R. 75 STA 507+00 TO STA 519+50	CALCULATED CT CHECKED SSK	0 50 25 100 HORIZONTAL SCALE IN FEET





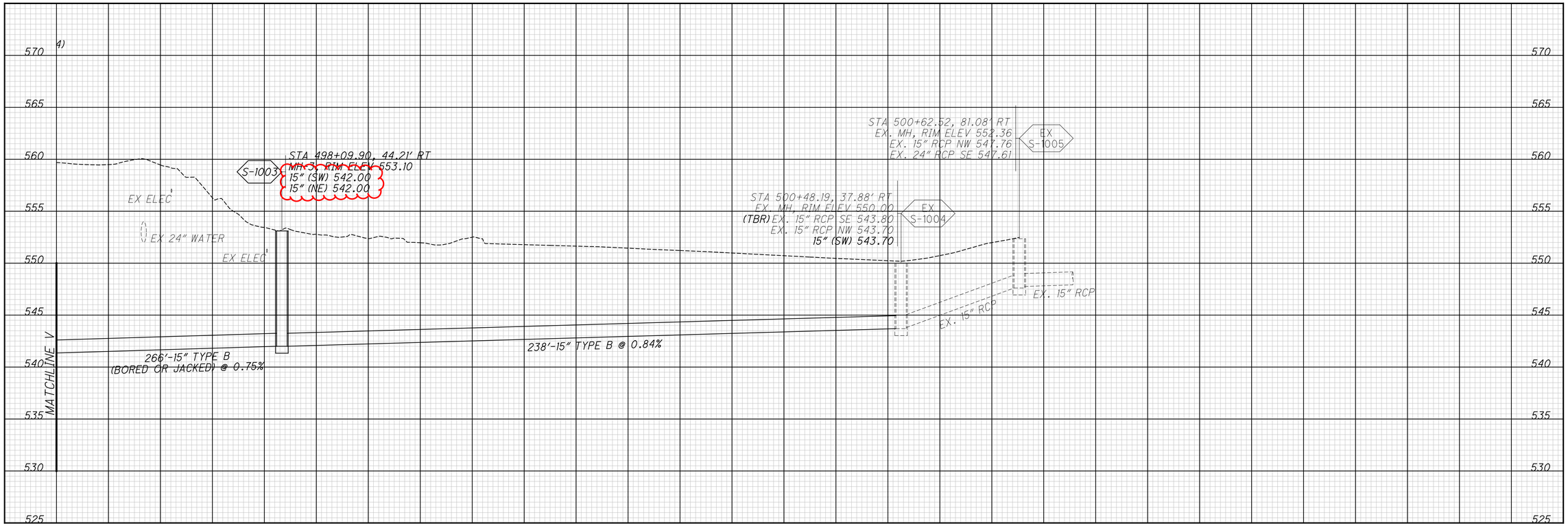
CALCULATED ECH
CHECKED SSK

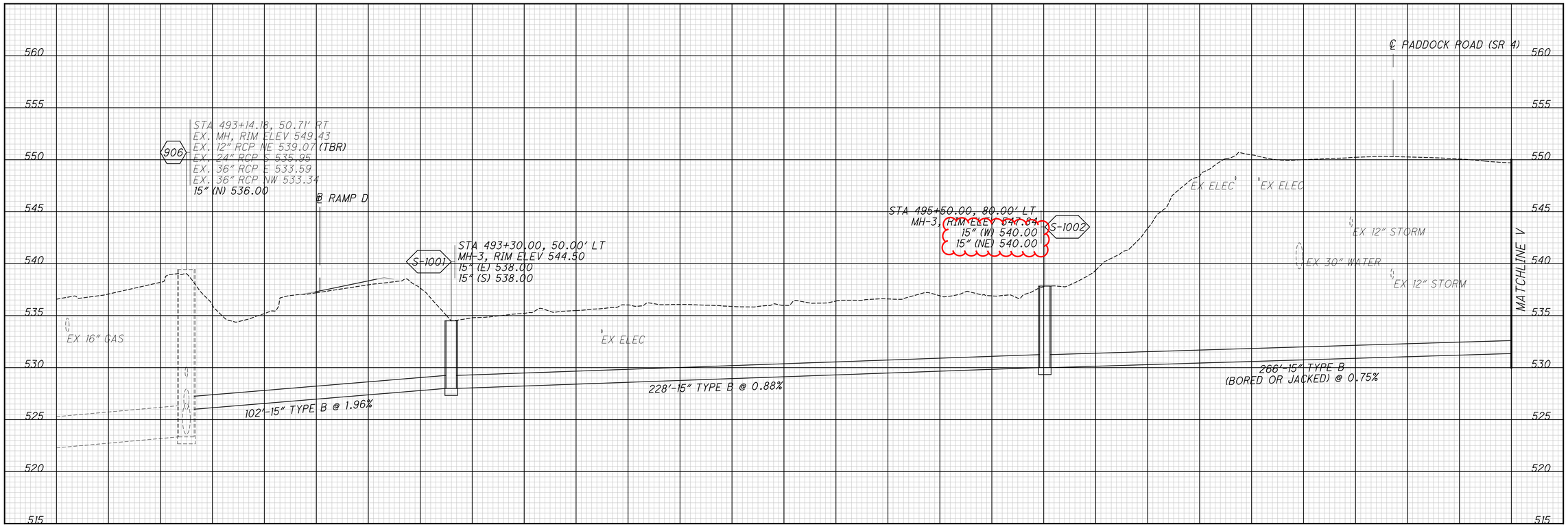
STORM SEWER PROFILES

HAM-75-8.91

J:\2022094\7\ODOT\HAM\117526_HAM-75-8.91\drainage\sheets\77889DF415.dgn 1/4/2024 1:41:50 PM bmccutchen

J:\2022094?\ODOT\HAM\117526_HAM-75-8.91\drainage\sheets\77889DF423.dgn 1/29/2024 4:01:46 PM hbrendlinger





CALCULATED ECH
CHECKED SSK

SANITARY SEWER PROFILES

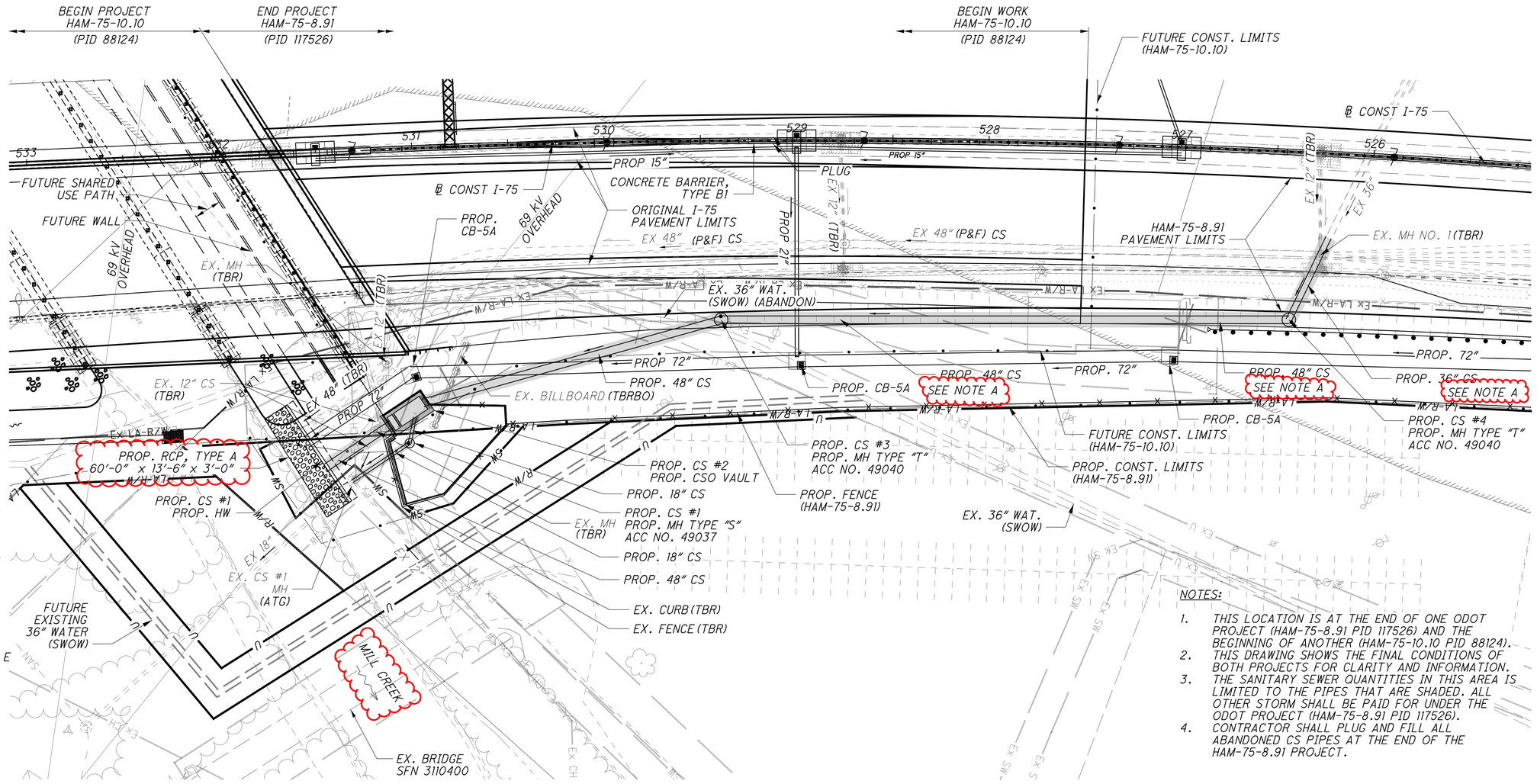
HAM-75-8.91

NOTE:

THE PURPOSE OF THIS SHEET IS TO SHOW THE FINAL CONSTRUCTION CONDITIONS OF THE MSD CSO 490, HAM-75-8.91, AND HAM-75-10.10. ALL SHEETS FROM HERE FORTH WILL JUST SHOW THE CONSTRUCTION OF THE MSD CSO 490 AND HAM-75-8.91.

NOTE A:

THIS PORTION OF THE SYSTEM WILL BE INSTALLED WITH PID 117525.



I-75 CURVE DATA
P.I. Sta. 523+96.89
Δ = 16° 02' 37" (LT)
Dc = 1° 06' 00"
R = 5,208.71'
T = 734.06'
L = 1,458.52'
E = 51.47'
C = 1,453.75'
C.B. = N 35° 56' 18" E
e_{max} = 0.029

ABBREVIATIONS:

THESE FOLLOWING ABBREVIATIONS ARE USED THROUGHOUT THESE PLANS:

℄ = BASELINE
℄ = CENTERLINE
℄ = FLOW LINE
℄ = PLATE
EL. = ELEVATION
EX. = EXISTING
PROP. = PROPOSED
BOTT. = BOTTOM
E.F. = EACH FACE
B.F. = BACK FACE
F.F. = FRONT FACE
FTG. = FOOTING
PEJF = PREFORMED EXPANSION JOINT FILLER
SPA. = SPACES
ATG = ADJUST TO GRADE
DND = DO NOT DISTURB
TBR = TO BE REMOVED
TBRO = TO BE REMOVED BY OTHERS
TBRR = TO BE REMOVED AND REPLACED
TYP. = TYPICAL
P&F = PLUG & FILL

NOTES:

1. THIS LOCATION IS AT THE END OF ONE ODOT PROJECT (HAM-75-8.91 PID 117526) AND THE BEGINNING OF ANOTHER (HAM-75-10.10 PID 88124).
2. THIS DRAWING SHOWS THE FINAL CONDITIONS OF BOTH PROJECTS FOR CLARITY AND INFORMATION.
3. THE SANITARY SEWER QUANTITIES IN THIS AREA IS LIMITED TO THE PIPES THAT ARE SHADED. ALL OTHER STORM SHALL BE PAID FOR UNDER THE ODOT PROJECT (HAM-75-8.91 PID 117526).
4. CONTRACTOR SHALL PLUG AND FILL ALL ABANDONED CS PIPES AT THE END OF THE HAM-75-8.91 PROJECT.

PATH: J:\PRE-INT\TS\06\06-386_HAM-75\HAM\88124\UTILITIES_MSD\SHEETS\88124_MSDUB001.DGN
DATE: MONDAY, AUGUST 14, 2023 11:31:59 AM
PLOTTED BY: sean.buchanan

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS		
BY:	DATE:	DESCRIPTION:

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)
NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3
SCALE: HORIZ. 1"=30'

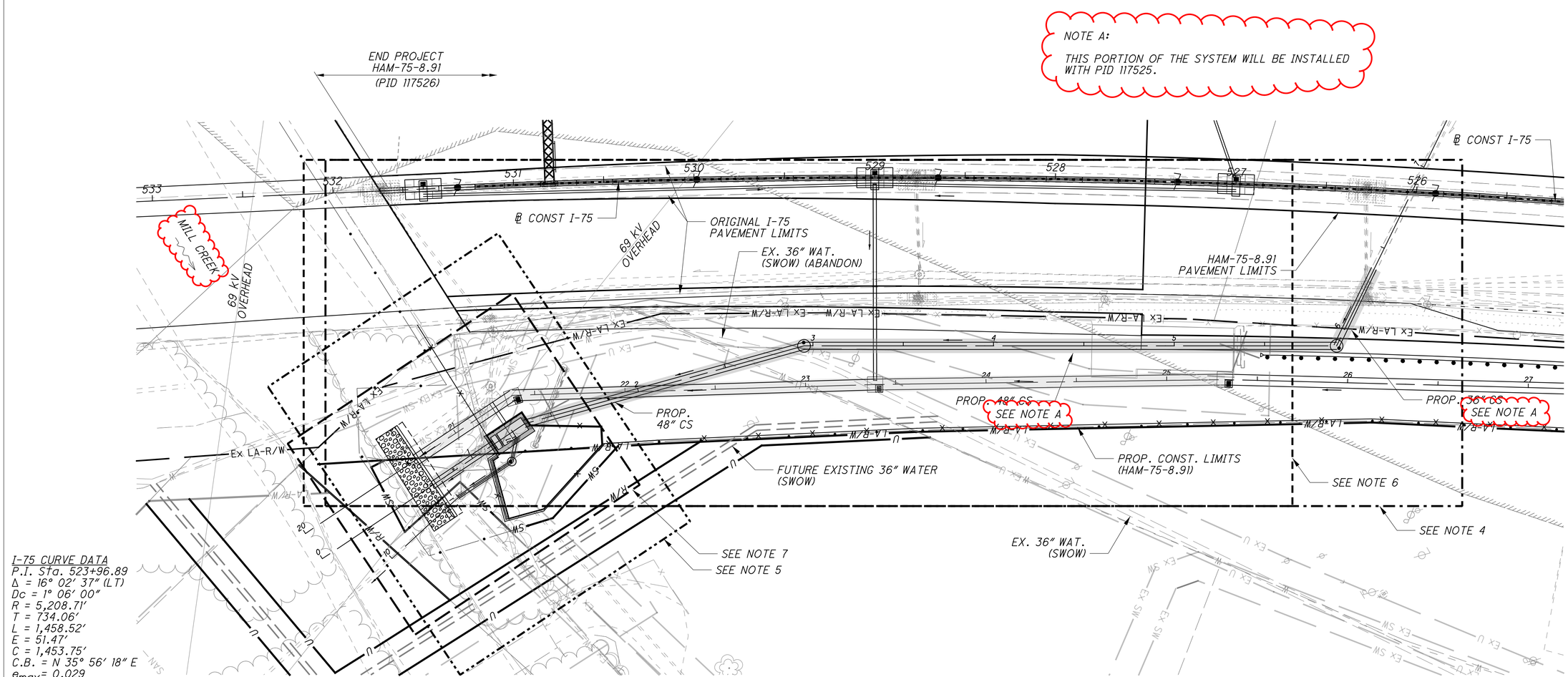
COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

SCHEMATIC PLAN

ACAD DRAWING NAME: 88124_MSDUB001.DGN

ACC. NO. _____

SHEET 2 OF 14 SS# _____



NOTES:

1. THIS LOCATION IS AT THE END OF ONE ODOT PROJECT (HAM-75-8.91 PID 117526) AND THE BEGINNING OF ANOTHER (HAM-75-10.10 PID 88124).
2. THIS DRAWING SHOWS THE ITEM CONSTRUCTED WITH ODOT PROJECT (HAM-75-8.91 PID 117526) FOR CLARITY AND INFORMATION.
3. THE SANITARY SEWER QUANTITIES IN THIS AREA IS LIMITED TO THE PIPES THAT ARE SHADED. ALL OTHER STORM SEWER SHALL BE PAID FOR UNDER THE ODOT PROJECT (HAM-75-8.91 PID 117526).
4. SEE SHEET 4 OF 14 FOR DETAILS OF PROP. COMBINED SEWER SYSTEM OVERFLOW AND OUTFALL.
5. SEE SHEET 5 OF 14 FOR DETAILS OF PROP. COMBINED SEWER CONNECTION TO EXISTING COMBINED SEWER SYSTEM.
6. SEE SHEET 6 OF 14 FOR DETAILS OF PROP. STORM SEWER SYSTEM.
7. SEE SHEET 7-9 OF 14 FOR ADDITIONAL DETAILS FOR THE COMBINED SEWER OUTLET STRUCTURE.

80
160

PATH: J:\PRE-INT\TS\06\06-386_HAM-75\HAM-88124\UTILITIES_MSD\SHEETS\88124_MSDUB002.DGN
DATE: MONDAY, SEPTEMBER 27, 2021 7:15:28 PM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS		
BY:	DATE:	DESCRIPTION:

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)

NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

SCALE: HORIZ. 1"=30'

COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

SHEET INDEX

ACAD DRAWING NAME: 88124_MSDUB002.DGN

ACC. NO. _____

SHEET 3 OF 14 SS# _____

PROP. 48" CONDUIT, TYPE B, CLASS I BEDDING

PROP. 48" CONDUIT, TYPE C, CLASS II BEDDING

PROP. 36" CONDUIT, TYPE C, CLASS II BEDDING

50.87' @ 0.33%

170.47' @ 0.33%

294.78' @ 0.33% SEE NOTE A

47.33' @ 14.13% SEE NOTE A

EX. GROUND

PROP. GRADE

2.95:1 TO 1.8

MILL CREEK

OHWM = 513.32

3.05'± CLR

PROP. 72" STM.

EX. 36" WATER (TBRBO)

STA. 2+79.71

FUTURE 21" STM.

FUTURE UNDERDRAIN

PROP. RCP, TYPE A 60'-0" X 13'-6" X 3'-0"

PROP. CS #1
PROP. HW
STA. 0+73.82
PROP. 48" INV = 514.03
W/FLAP GATE
CHECK VALVE

PROP. CS #2
PROP. CSO VAULT
STA. 1+24.27
T.C. = 538.81
PROP. 48" INV = 514.30
PROP. 48" INV = 514.20
PROP. 18" INV = 514.20

℄ CONST I-75

PROP. CS #3
PROP. MH TYPE "T"
ACC. NO. 49040
STA. 2+95.11
T.C. = 539.10
PROP. 48" INV = 514.97
PROP. 48" INV = 514.87

NOTE A:

THIS PORTION OF THE SYSTEM WILL BE INSTALLED WITH PID 117525.

PROP. CS #4
PROP. MH TYPE "T"
ACC. NO. 49040
STA. 5+89.89
T.C. = 545.04
PROP. 36" INV = 516.05
PROP. 48" INV = 515.95
(TBR) EX. CS #2
EX. MH
STA. 6+27.22
EX. 12" INV = 538.17±
EX. 12" INV = 536.77±
EX. 36" INV = 521.32±
EX. 36" INV = 521.22±
EX. 48" INV = 520.62±
PROP. CONCRETE COLLAR ON CONDUITS
ACC. NO. 49031
STA. 6+31.22
PROP. 36" INV = 522.74±

532 531 530 529 528 527 526

PROP. 15"

PROP. CB-5A

PROP. CS #2
PROP. CSO VAULT
PROP. 48" INV = 514.30
PROP. 48" INV = 514.20
PROP. 18" INV = 514.20

69 KV OVERHEAD

ORIGINAL I-75 PAVEMENT LIMITS

CONCRETE BARRIER, TYPE B1

PLUG

PROP. 21"

EX 12" (TBR)

SEE NOTE A

PROP. 48" CS

EX 48" (P&G) CS

PROP. CONCRETE COLLAR ON CONDUITS
ACC. NO. 49031
PROP. 36" INV = 522.74±

(TBR) EX. CS #2
EX. MH
EX. 12" INV = 538.17±
EX. 12" INV = 536.77±
EX. 36" INV = 521.32±
EX. 36" INV = 521.22±
EX. 48" INV = 520.62±
END FILL AND PLUG (SEE NOTE 4)

PROP. 36" CS SEE NOTE A

PT Sta. 531+21.35

VARIES

BEGIN FILL AND PLUG (SEE NOTE 4)

EX. MH
EX. 48" INV = 518.29±
EX. 48" INV = 516.94±
EX. 36" INV = 516.94±
(TBR)

EX. 36" WAT. (SWOW) (ABANDON)

PROP. 48" CS

EX. BILLBOARD (TBRBO)

PROP 72"

FUTURE EXISTING 36" WATER (SWOW)

PROP. CS #3
PROP. MH TYPE "T"
ACC. NO. 49040
PROP. 48" INV = 514.97
PROP. 48" INV = 514.87

PROP. CB-5A

PROP. 72"

PROP. FENCE (HAM-75-8.91)

EX. 36" WAT. (SWOW)

PROP. CS #4
PROP. MH TYPE "T"
ACC. NO. 49040
PROP. 36" INV = 516.05
PROP. 48" INV = 515.95

EX. 12" CSO (TBR)

PROP. RCP, TYPE A 60'-0" X 13'-6" X 3'-0"

PROP. CS #1
PROP. HW
PROP. 48" INV = 514.03
W/FLAP GATE
CHECK VALVE

EX. 48" (TBR)

EX. FENCE (TBR)

EX. CURB (TBR)

EX. MH (TBR)
EX. 8" INV = 522.73±
EX. 24" INV = 513.73±
EX. 36" INV = 513.23±

1 2 3 4 5 22 23 24 25 26

N

NOTES:

1. SEE SHEET 5 OF 14 FOR DETAILS OF PROP. COMBINED SEWER CONNECTION TO EXISTING COMBINED SEWER SYSTEM.
2. SEE SHEET 6 OF 14 FOR DETAILS OF PROP. STORM SEWER SYSTEM.
3. SEE SHEET 7 OF 14 FOR ADDITIONAL DETAILS FOR THE COMBINED SEWER OUTLET STRUCTURE.
4. CONTRACTOR SHALL PLUG AND FILL ALL ABANDONED CS PIPES AT THE END OF THE HAM-75-8.91 PROJECT. THIS ITEM IS PAID FOR WITH ITEM 202, SPECIAL - FILL AND PLUG EXISTING CONDUIT.

81
160

PATH: J:\PRE-INT\TS\06\06-386_HAM-75\HAM\88124\UTILITIES_MSD\SHEETS\88124_MSDUP001.DGN
DATE: TUESDAY, SEPTEMBER 28, 2021 2:40:36 PM
PLOTTED BY: TIM WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS

BY:	DATE:	DESCRIPTION:

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)

NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

SCALE: HORIZ. 1"=20'
VERT. 1"=10'

0 20 40

COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

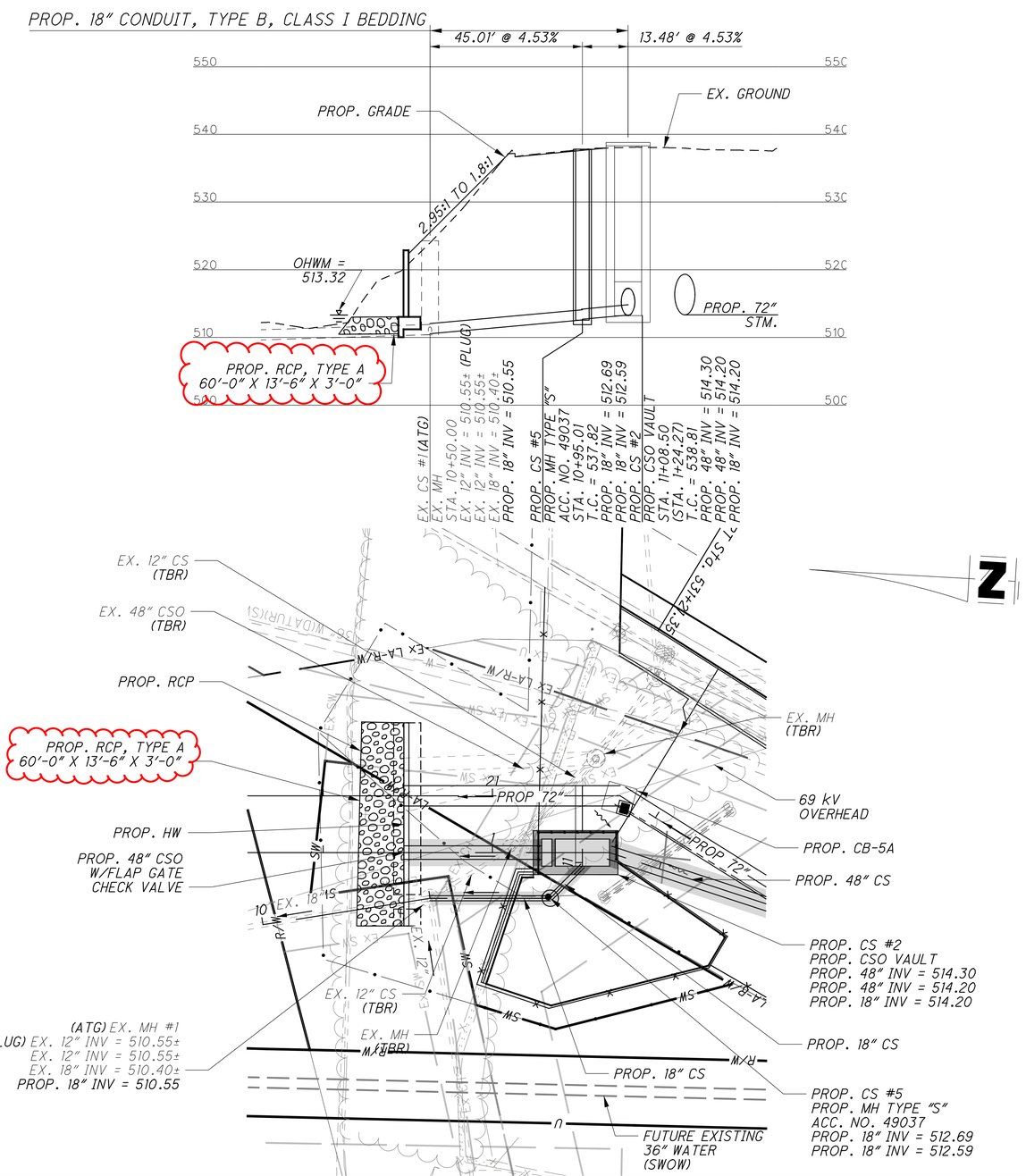
COMBINED SEWER PLAN AND PROFILE

ACAD DRAWING NAME: 88124_MSDUP001.DGN

ACC. NO. _____

SHEET 4 OF 14

SS# _____



NOTES:

1. SEE SHEET 4 OF 14 FOR DETAILS OF PROP. COMBINED SEWER SYSTEM OVERFLOW AND OUTFALL.
2. SEE SHEET 6 OF 14 FOR DETAILS OF PROP. STORM SEWER SYSTEM.
3. SEE SHEET 7 OF 14 FOR ADDITIONAL DETAILS FOR THE COMBINED SEWER OUTLET STRUCTURE.

PATH: J:\PRE-INT\TS\06\06-386_HAM-75\HAM-88124\UTILITIES_MSD\SHEETS\88124_MSDUP002.DGN
DATE: TUESDAY, SEPTEMBER 28, 2021 2:27:25 PM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS

BY:	DATE:	DESCRIPTION:

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)
NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

SCALE: HORIZ. 1"=20'
VERT. 1"=10'
0 20 40

COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

COMBINED SEWER PLAN AND PROFILE

ACAD DRAWING NAME: 88124_MSDUP002.DGN

ACC. NO. _____

SHEET 5 OF 14

SS# _____

PROP. 72" CONDUIT (SEE HAM-75-8.91 PLANS FOR ADDITIONAL DETAILS & QUANTITIES)

PROP. 72" CONDUIT (SEE HAM-75-8.91 PLANS FOR ADDITIONAL DETAILS & QUANTITIES)

63.91' @ 0.40%

200.81' @ 0.40%

PROP. 193.42' @ 0.40%

SEE HAM-75-8.91 PLANS FOR ADDITIONAL DETAILS

550 540 530 520 510 500

PROP. GRADE

2.0% MIN.

2.95:1 TO 1.8:1

PROP. RCP, TYPE A
60'-0" x 13'-6" x 3'-0"

OHWM = 513.32

PROP. HW
TOP ELEV = 523.00
STA. 531+63.78, 149.67' LT.
72" INV = 514.03
(STATION, OFFSET, & INVERTS MODIFIED FOR CSO 490)

PROP. CB-5A
GRATE ELEV = 534.03
STA. 531+02.17, 118.75' LT.
72" INV = 521.33
72" INV = 514.29
(STATION, OFFSET, & INVERTS MODIFIED FOR CSO 490)

PROP. 48" CS

3.05'± CLR

NOTE A:

THIS PORTION OF THE SYSTEM WILL BE INSTALLED WITH PID 117525.

PROP. CB-5A
RIM ELEV = 538.14
STA. 528+97.70, 116.75' LT.
21" INV = 528.42
72" INV = 522.23
72" INV = 522.13
(INVERTS MODIFIED FOR CSO 490)

(PER HAM-75-7.85)
PROP. CB-5A
GRATE ELEV = 539.55
STA. 527+00.00, 110.61' LT.
6" (UD) INV = 537.31
36" INV = 523.10
72" INV = 523.00

532 531 530 528

PROP. 15"

℄ CONST I-75

CONCRETE BARRIER, TYPE B1

PLUG

PROP. 15"

PROP. CB-5A
GRATE ELEV = 534.03
72" INV = 521.33
72" INV = 514.29

69 kV OVERHEAD

ORIGINAL I-75 PAVEMENT LIMITS

PROP. 21" (DND)

EX 12" (TBR)

EX 48" (P&F) CS

EX 48" (P&F) CS

EX. LA-R/W

EX. MH
EX. 48" INV = 518.29±
EX. 48" INV = 516.94±
EX. 36" INV = 516.94±
(TBR)

EX 12" (TBR)

PROP. MH NO. 1

PROP. 48" CS

EX. BILLBOARD (TBRBO)

PROP 72"

APPROX. PROP. ℄ DITCH (HAM-75-8.91)

EX. 36" WAT. (SWOW) (ABANDON)

SEE NOTE A

PROP. 72"

PROP. FENCE (HAM-75-8.91)

PROP. CSO VAULT

PROP. 18" CS

(TBR) EX 48"

PROP 72"

PROP. RCP, TYPE A
60'-0" X 13'-6" X 3'-0"

PROP. MH NO. 3

PROP. HW
72" INV = 514.03

EX. MH NO. 1 (ATG)

PROP. 18" CS

EX. FENCE (TBR&R)

EX. CURB (TBR&R)

PROP. 36" WAT. (SWOW)

PROP. CONST. LIMITS (HAM-75-8.91)

PROP. CB-5A
RIM ELEV = 538.14
21" INV = 528.42
72" INV = 522.23
72" INV = 522.13

EX. 36" WAT. (SWOW) (DND)

(PER HAM-75-7.85)
PROP. CB-5A
GRATE ELEV = 539.55
6" (UD) INV = 537.31
36" INV = 523.10
72" INV = 523.00

N

NOTES:

1. SEE SHEET 4 OF 14 FOR DETAILS OF PROP. COMBINED SEWER SYSTEM OVERFLOW AND OUTFALL.
2. SEE SHEET 5 OF 14 FOR DETAILS OF PROP. COMBINED SEWER CONNECTION TO EXISTING COMBINED SEWER SYSTEM.
3. SEE SHEET 7 OF 14 FOR ADDITIONAL DETAILS FOR THE COMBINED SEWER OUTLET STRUCTURE.
4. CONTRACTOR SHALL PLUG AND FILL ALL ABANDONED CS PIPES.

83
160

PATH: J:\PRE-INT\TS\06\06-386_HAM-75\HAM\88124\UTILITIES_MSD\SHEETS\88124_MSDUP003.DGN
DATE: TUESDAY, SEPTEMBER 28, 2021 2:26:47 PM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS

BY:	DATE:	DESCRIPTION:

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)

NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

SCALE: HORIZ. 1"=20'
VERT. 1"=10'

0 20 40

COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

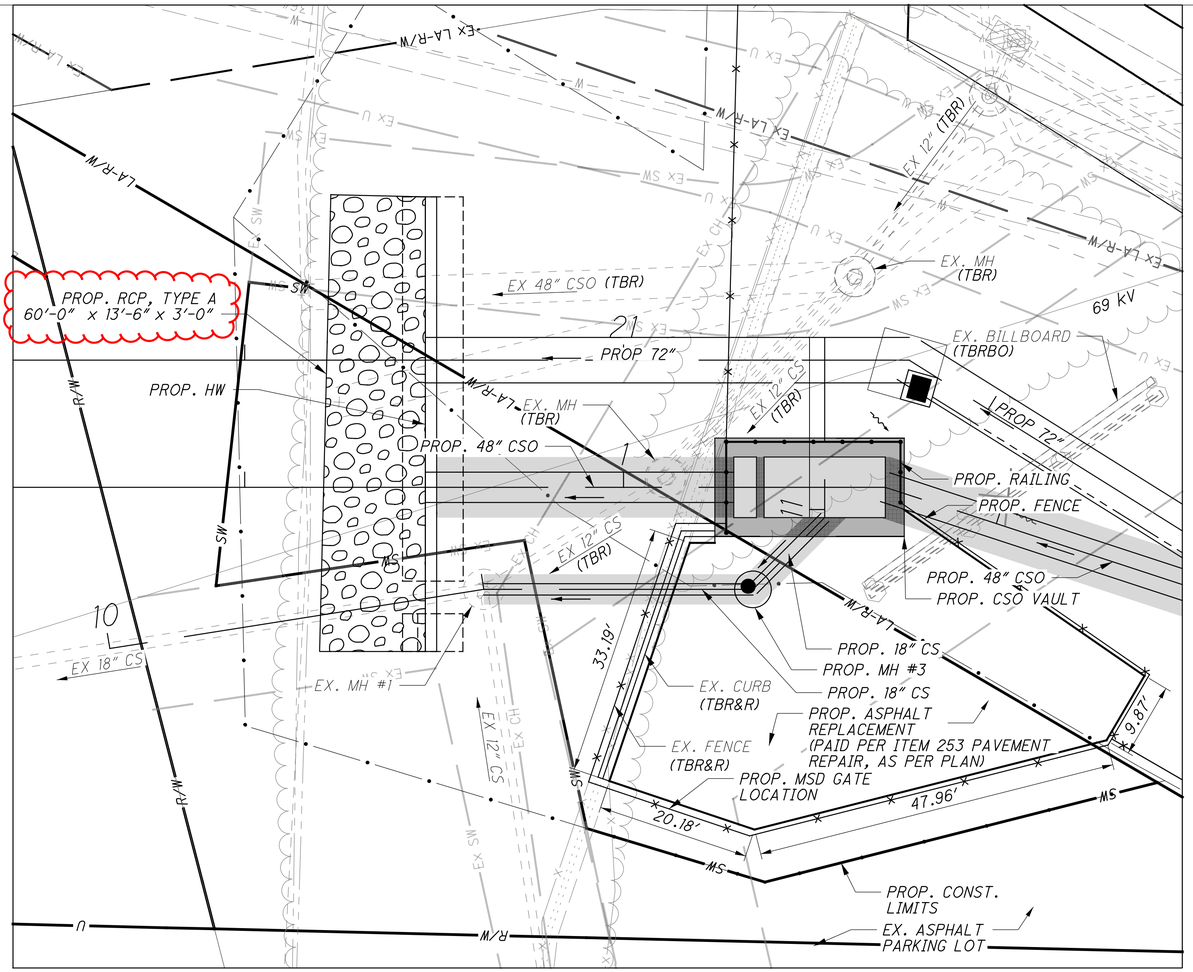
STORM SEWER PLAN AND PROFILE

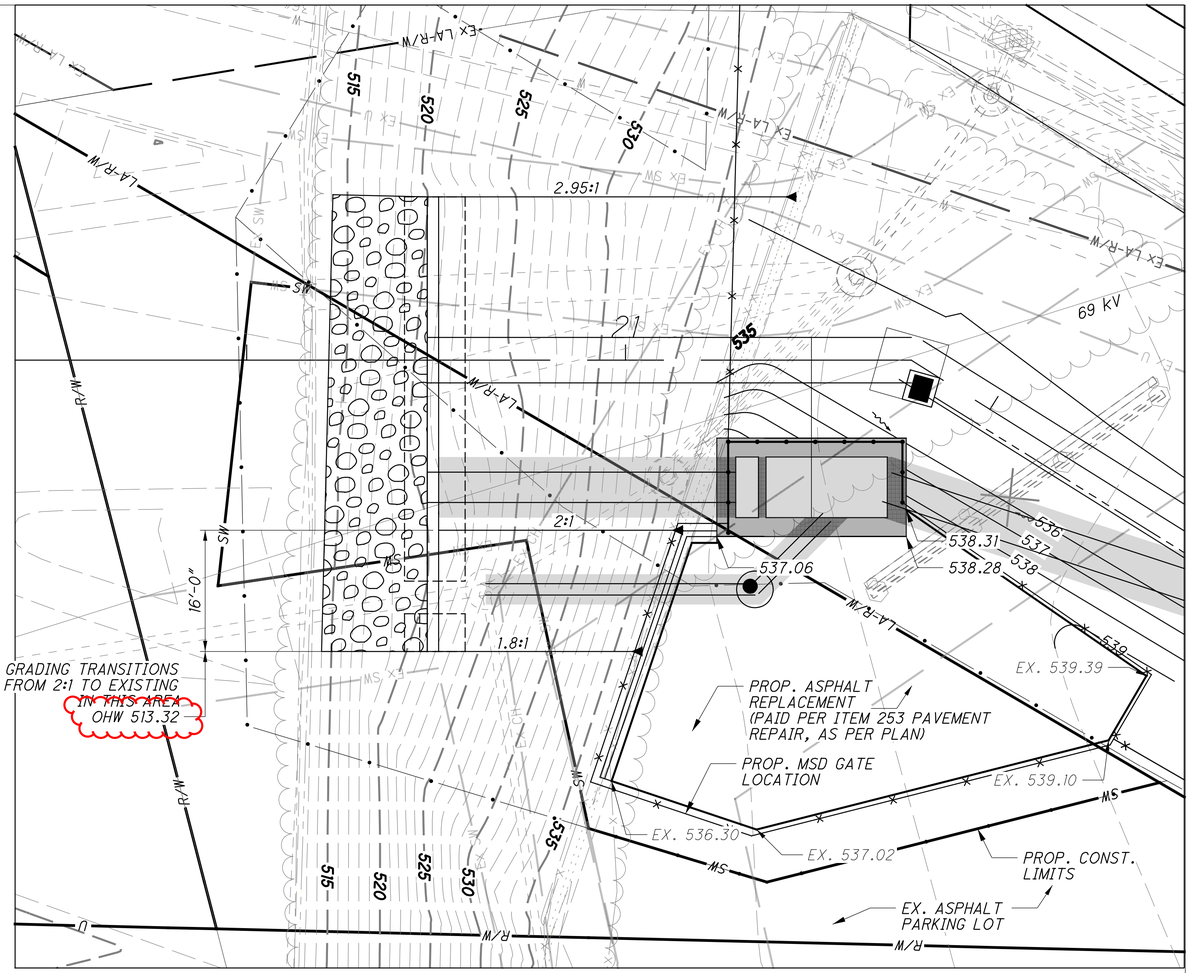
ACAD DRAWING NAME: 88124_MSDUP003.DGN

ACC. NO. _____

SHEET 6 OF 14

SS# _____

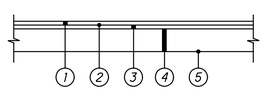




NOTES:

1. ITEM 253 PAVEMENT REPAIR, AS PER PLAN: PRIOR TO REPLACING THE EXISTING ASPHALT PARKING LOT PAVEMENT, THE CONTRACTOR SHALL VERIFY THE EXISTING PAVEMENT THICKNESS WITH THE ODOT PROJECT ENGINEER. MODIFICATION OF THE PROPOSED PAVEMENT BUILD-UP SHOWN ON THIS SHEET MAY BE NECESSARY AS A RESULT OF THE VERIFIED PARKING LOT THICKNESS. PAYMENT FOR ALL WORK NECESSARY TO VERIFY THE PAVEMENT THICKNESS AND IF NECESSARY TO INCREASE THE PAVEMENT BUILD UP THICKNESS TO MATCH EXISTING CONDITIONS WILL BE PAID FOR BY ITEM 253 PAVEMENT REPAIR, AS PER PLAN.
2. CONTRACTOR SHALL ENSURE THE FINAL GRADES DRAIN AWAY FROM MSD CSO STRUCTURE.

SITE PLAN
SCALE 1"=10'



COMMERCIAL ASPHALT DRIVEWAY PAVEMENT SECTION

LEGEND

1. ITEM 441 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
2. ITEM 407 - NON-TRACKING TACK COAT (APPLIED AT A RATE OF 0.06 GAL./SQ. YD.)
3. ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)
4. ITEM 304 - 8" AGGREGATE BASE
5. ITEM 204 - SUBGRADE COMPACTION

GRADING PLAN
SCALE 1"=10'

PATH: J:\PRE-INT\TS\06\06-386-HAM-75\HAM-88124-UTILITIES_MSD\SHEETS\88124_MSDUM001.DGN
DATE: MONDAY, AUGUST 14, 2023 1:42:16 PM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK	REVISIONS		
DRAWN BY: TW	BY:	DATE:	DESCRIPTION:

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)
NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3
SCALE: HORIZ. 1"=10'

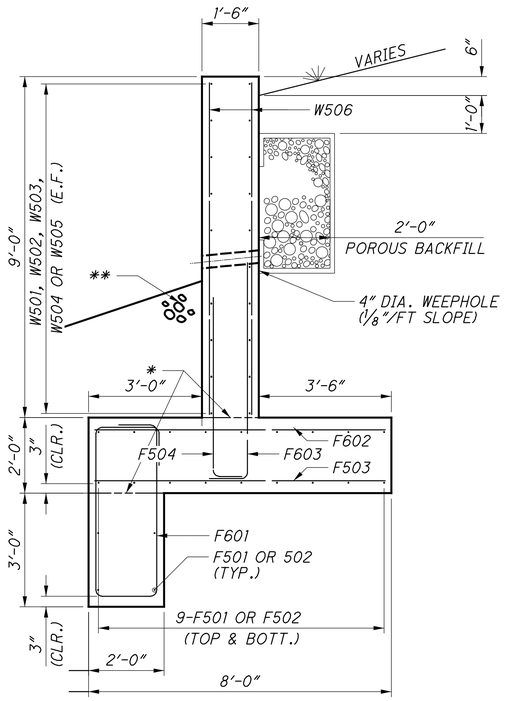
COMBINED SEWER RELOCATION
SOUTHBOUND I-75 AT MILL CREEK
HAM-75-8.91 (PID 117526)
COMBINED SEWER OUTLET SITE PLAN

ACAD DRAWING NAME: 88124_MSDUM001.DGN

ACC. NO. _____

SHEET 7 OF 14

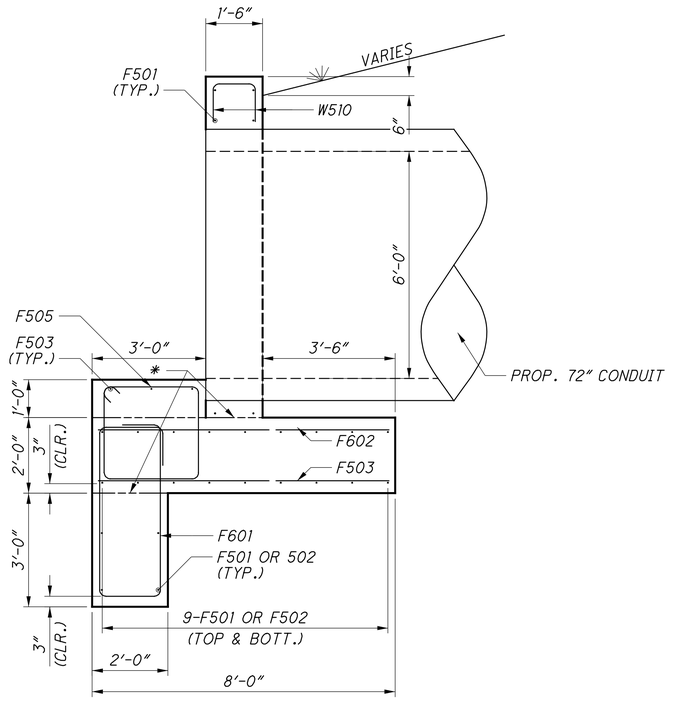
SS• _____



SECTION A-A

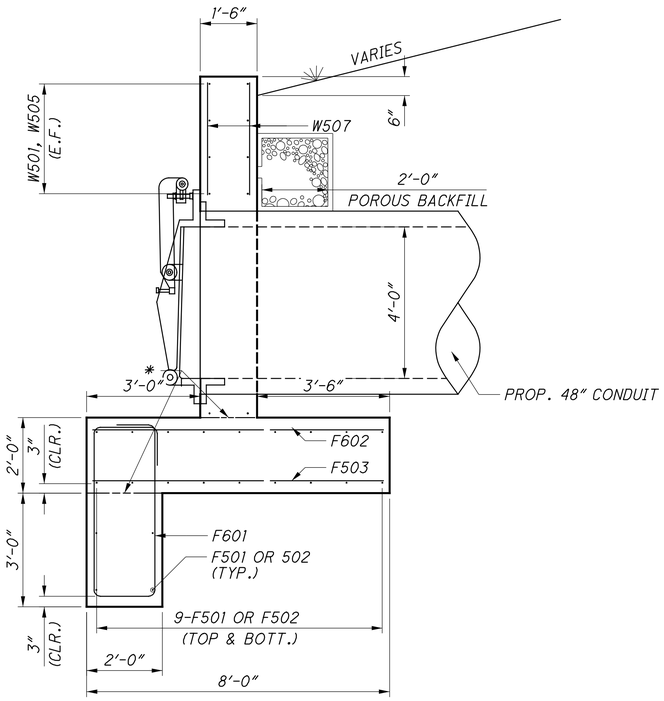
* = CONST. JT.

** = ROCK CHANNEL PROTECTION TYPE A W/GEOTEXTILE FABRIC (3'-0" THICK TYP.)



SECTION B-B

* = CONST. JT.



SECTION C-C

* = CONST. JT.

NOTES:

1. SEE SHEET 10 OF 14 FOR LOCATION OF SECTION A-A, B-B AND C-C

88
160

PATH: J:\PRE-INT\TS\06-386_HAM-75\HAM\88124\UTILITIES_MSD\SHEETS\88124_MSDUM005.DGN
DATE: MONDAY, APRIL 6, 2020 1:56:12 PM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS		
BY:	DATE:	DESCRIPTION:

IBI GROUP
23 Triangle Park Drive
Cincinnati OH 45246
tel 513 942 3141 fax 513 881 2263
ibigroup.com

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)

NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

SCALE: HORIZ. 1"=2'
VERT. 1"=2'

COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

HEADWALL DETAILS

ACAD DRAWING NAME: 88124_MSDUM005.DGN

ACC. NO. _____

SHEET 11 OF 14 SS• _____

REQUIREMENTS OF PACP/LACP CCTV AND MANHOLE SEWER INSPECTIONS

MSD CONFORMS TO THE NATIONAL ASSOCIATION OF SEWER SERVICE COMPANIES' (NASSCO) PIPELINE ASSESSMENT CERTIFICATION PROGRAM (PACP), LATERAL ASSESSMENT CERTIFICATION PROGRAM (LACP), AND MANHOLE INSPECTION UTILIZING MSD INSPECTION FORMS. THESE INSPECTIONS WILL BE MAINTAINED WITHIN MSD'S LIBRARY OF SEWER INSPECTIONS, AND IT IS IMPERATIVE THAT THEY MEET ALL APPROPRIATE MSD REQUIREMENTS.
ALL PACP AND LACP CCTV WORK TO BE PERFORMED VIA THIS CONTRACT SHALL THEREFORE CONFORM TO ALL CURRENT NASSCO STANDARDS EXCEPT WHERE SPECIFICALLY INSTRUCTED OTHERWISE BY THE MSDGC PROJECT MANAGER (PM). THESE STANDARDS INCLUDE BUT ARE NOT LIMITED TO SPEED OF CAMERA TRAVEL, CENTERING OF CAMERA IN PIPE, CODING OF DEFECTS/STRUCTURAL FEATURES/OBSERVATIONS, PANNING OF DEFECTS/STRUCTURAL FEATURES, CAMERA LIGHTING, HEADER INFORMATION, FLOW CONTROL, AND REVERSAL INSPECTIONS. MSD GIS STANDARDS AND DESIGNATIONS SHALL APPLY FOR HEADER INFORMATION INCLUDING, BUT NOT LIMITED TO MANHOLE NUMBERS, ASSET ID NUMBERS, CITYWORKS WORK ORDER NUMBERS, BUILDING SEWER NAMES AND IDENTIFICATION, AND PREVIOUSLY UNDOCUMENTED MANHOLES. MSD REQUIRES THAT THE SNAPSHOT FEATURE IS TURNED ON WITHIN THE CCTV SOFTWARE PROGRAM TO DOCUMENT EACH CODED ENTRY.

ALL PACP AND LACP CCTV WORK TO BE PERFORMED VIA THIS WORK ORDER SHALL BE CARRIED OUT UTILIZING A COLOR PAN AND TILT ROTATING HEAD CAMERA SPECIFICALLY DESIGNED AND CONSTRUCTED FOR SEWER INSPECTION. ALL CCTV WORK SHALL BE RECORDED ENTIRELY IN DIGITAL MP4 FORMAT ENCODED WITH A FILE COMPRESSION OF HIGH EFFICIENCY VIDEO CODING (HEVC OR H.265) (OTHER FORMATS NEED MSDGC PM APPROVAL) WITH AN APPROPRIATE PACP/LACP DATABASE FILE (NASSCO PACP/LACP V7.0 CERTIFIED ACCESS DATABASE HAVING COMPATIBILITY WITH PIPETECH PIPELINE INSPECTION SOFTWARE), AND ALL VIDEOS MUST BE CONTINUOUSLY METERED.

THE PERSON CODING THE PIPELINE INSPECTION MUST BE NASSCO PACP AND LACP CERTIFIED WITH A MINIMUM OF THREE YEARS OF FULL-TIME EXPERIENCE CODING DEFECTS USING THE NASSCO STANDARD. PACP AND LACP CERTIFICATION NUMBERS MUST BE PROVIDED TO MSDGC, AND PROOF OF EXPERIENCE MUST BE DEMONSTRATED BY DOCUMENTATION SUCH AS A RESUME WITH REFERENCES.

ROBOTIC PACP/LACP & MANHOLE INSPECTION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR:

CONDUCTING A FINAL MANHOLE-TO-MANHOLE (MH-MH), TELEVISING OF THE MAINLINE SEWER SECTION TO EVALUATE THE CONDITION OF THE SEWER AFTER ALL APPROPRIATE CLEANING, TRIMMING, GRINDING, AND FLUSHING HAS BEEN PERFORMED. IN THE EVENT AN INSPECTION CANNOT BE COMPLETED FROM ONE SET-UP DUE TO A STRUCTURAL OR MAINTENANCE DEFECT, THE INSPECTOR SHALL PERFORM A REVERSE INSPECTION FROM AN ADDITIONAL SET-UP THE SAME DAY. THE INSPECTOR SHALL SUBMIT TWO INSPECTION REPORTS AS THE FINAL INSPECTION. THIS FINAL TELEVISING SHALL BE IN PACP AND SHALL FOLLOW ALL PACP V 7.0 STANDARDS.

EMPLOYING VARIOUS FLOW CONTROL METHODS AS APPROPRIATE TO ENSURE VISIBILITY OF THE ENTIRE CIRCUMFERENCE OF THE SEWER. THESE MAY INCLUDE, BUT ARE NOT LIMITED TO, FLUSHERS, JETTERS AND FLOW-THROUGH PLUGS AND ANY COSTS INCURRED SHALL BE INCIDENTAL TO THIS CONTRACT. ADDITIONAL BYPASS PUMPING COSTS MAY BE APPROVED BY THE MSDGC PM AND WOULD NOT BE INCIDENTAL. IT MAY ALSO BE NECESSARY FOR THE CONTRACTOR TO DELAY INSPECTIONS AFTER MAJOR RAIN EVENTS UNTIL THE SEWER LEVEL HAS RECEDED TO A MORE TYPICAL DRY WEATHER FLOW.

CONDUCTING A FINAL TELEVISING OF EACH INDIVIDUAL BUILDING SEWER FROM THE MAIN SEWER LINE TO THE PUBLIC RIGHT OF WAY DESIGNATION OR SEWER EASEMENT LIMIT. UNLESS OTHERWISE DIRECTED BY MSD PERSONNEL, THE EASEMENT LIMIT SHOULD BE ASSUMED TO BE A MINIMUM OF 10'. THIS FINAL TELEVISING SHALL BE IN LACP AND SHALL FOLLOW ALL LACP V7.0 STANDARDS. IF A FULL MAINLINE TO RIGHT OF WAY OR EASEMENT INSPECTION IS UNABLE TO BE COMPLETED DUE TO AN OBSTRUCTION OF ANY SORT, SAID OBSTRUCTION MUST BE LOCATED AND REPORTED TO THE MSD PM IMMEDIATELY.

ROBOTIC LACP INSPECTION SHALL BE DONE FROM THE MAIN SEWER OR AVAILABLE CLEANOUT OR ACCESS POINT. THE CONTRACTOR SHALL USE ROBOTIC TECHNOLOGY TO PUSH OR "LAUNCH" THE LATERAL CAMERA INTO THE BUILDING SEWER FROM THE MAINLINE. MANY BUILDING SEWERS ARE 6 INCHES IN DIAMETER AND ARE MADE OF VARIOUS MATERIALS. IF THE CONTRACTOR IS UNABLE TO PERFORM AN INSPECTION OF THE LATERAL DUE TO DEBRIS, ROOTS, OR OTHER OBSTACLES IN THE BUILDING SEWER LATERAL, THEY SHALL CONTACT THE MSD PM FOR DIRECTION.

WALK THROUGH PACP/LACP INSPECTION (MANNED ENTRY)
THE CONTRACTOR SHALL BE RESPONSIBLE FOR:

THE OPERATOR ENTERING LARGE DIAMETER SEWERS TO CONDUCT A FINAL MANHOLE-TO-MANHOLE (MH-MH) TELEVISING OF THE SEWER TO EVALUATE THE CONDITION OF THE SEWER AFTER ALL APPROPRIATE CLEANING, TRIMMING, GRINDING, AND FLUSHING HAS BEEN COMPLETED. THE FINAL TELEVISING SHALL BE IN PACP AND SHALL FOLLOW ALL PACP V7.0 STANDARDS. THE CONTRACTOR MAY UTILIZE ROBOTIC EQUIPMENT TO PERFORM A PACP INSPECTION IN PIPE SIZES GREATER THAN 60 INCHES AT THE DIRECTION/APPROVAL OF THE MSD PM.

ALL MAN ENTRY INTO THE SEWER WILL FOLLOW THE CONTRACTOR'S HEALTH AND SAFETY PLAN WITH REGARDS TO CONFINED SPACE ENTRY.

CONDUCTING A FINAL TELEVISING OF EACH INDIVIDUAL BUILDING SEWER FROM THE MAIN SEWER LINE TO THE PUBLIC RIGHT OF WAY DESIGNATION OR SEWER EASEMENT LIMIT. THIS FINAL TELEVISING SHALL BE IN LACP AND SHALL FOLLOW ALL LACP V7.0 STANDARDS. IF A FULL MAINLINE TO RIGHT OF WAY OR SEWER EASEMENT INSPECTION IS UNABLE TO BE COMPLETED DUE TO AN OBSTRUCTION OF ANY SORT, SAID OBSTRUCTION MUST BE REPORTED TO THE MSD PM IMMEDIATELY.

THE CONTRACTOR SHALL SUBMIT WORK IN THE FORMAT REQUIRED BY MSDGC AND SHALL FOLLOW GUIDELINES FROM THE MSDGC PROJECT PM. TO CONTINUE IMPROVING THE UPLOADING OF DATA AND SUBMITTALS, THE MSDGC PM MAY UPDATE THE REQUIREMENTS AT ANY TIME, BUT WILL GIVE THE CONTRACTOR SUFFICIENT ACCESS TO MSD'S PROGRAMS.

SUBMITTAL OF WORK TO MSDGC
WORK COMPLETED AND SUBMITTED TO MSDGC SHALL FOLLOW THE SPECIFICATIONS DETAILED IN THE SUBSECTIONS BELOW.
REQUIREMENTS OF ALL PACP AND LACP CCTV SUBMITTALS AND MANHOLE INSPECTION SUBMITTALS
ALL SUBMITTALS OF PACP AND LACP INSPECTIONS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

EACH SUBMITTAL THE PACP/LACP DATABASE FILE AND ITS CORRESPONDING VIDEO FILES SHALL CONTAIN WORK FROM ONLY 1 (ONE) INSPECTOR AND ONLY 1 (ONE) CCTV WORK CATEGORY FROM THE LIST BELOW:
- O SANITARY AND/OR COMBINED MAINLINE SEWER INSPECTIONS (PACP)
- O SANITARY AND/OR COMBINED BUILDING SEWER INSPECTIONS (LACP)
- O STORM MAINLINE SEWER INSPECTIONS (PACP)
- O STORM BUILDING SEWER INSPECTIONS (LACP)

EACH SUBMITTAL SHALL BE ASSIGNED A UNIQUE TRACKING IDENTIFIER.
- O IF A SUBMITTAL IS REJECTED/UNACCEPTABLE, THE MSD PM SHALL DIRECT THE CONTRACTOR WHETHER TO REUSE THE ORIGINAL OR TO ASSIGN A NEW TRACKING IDENTIFIER.

EACH SUBMITTAL SHALL INCLUDE INSPECTIONS FROM ONLY ONE CALENDAR MONTH.

EACH PACP VIDEO FILE MUST BE IN STANDARD *.MP4 FORMAT AND NAMED AS DESCRIBED BELOW:
- O [MONTH]_[DAY]_[YEAR]-[HOUR]_[MINUTE]_[AM/PM]-[INSPECTOR NAME]-[WORK ORDER NUMBER].MP4
- O E.G., " 03 2012-11 23 AM-M LONGMIRE-411032.MP4"

EACH LACP VIDEO FILE MUST BE IN STANDARD *.MP4 FORMAT AND NAMED AS DESCRIBED BELOW:
- O [MONTH]_[DAY]_[YEAR]-[HOUR]_[MINUTE]_[AM/PM]-[INSPECTOR NAME]-[ADDRESS]_[STREET]-[WORK ORDER NUMBER].MP4
- O E.G., "1 02 2012-07 51 PM-E SCHNEIDER-842 SUNDERLAND DR-405623.MP4"

EACH MANHOLE INSPECTION SHALL FOLLOW THE FORMAT PROVIDED BY MSD UTILIZING THEIR MANHOLE INSPECTION FORM.

ALL PACP, LACP AND MANHOLE INSPECTIONS MUST BE SUBMITTED WITHIN FOURTEEN (14) CALENDAR DAYS OF THE DATE OF WORK.

- O MSDGC SHALL HAVE THE RIGHT TO DEDUCT 10% OF THE PRICE OF ANY SUCH SUBMITTALS FOR THOSE SUBMITTALS THAT ARE SUBMITTED LATER THAN FOURTEEN (14) DAYS OF THE DATE OF WORK.

- O MSDGC SHALL HAVE THE RIGHT TO DEDUCT UP TO 10% OF THE PRICE OF ANY SUBMITTAL WHICH IS REJECTED BY MSDGC AS UNACCEPTABLE.

IN THE CASE OF REJECTION OF A WHOLE OR ANY PART OF A SUBMITTAL, CONTRACTOR SHALL HAVE FOURTEEN (14) CALENDAR DAYS FROM THE DATE OF NOTIFICATION OF SAID REJECTION TO ADDRESS, CORRECT, AND/OR RE-PERFORM AND THEN RE-SUBMIT SAID WORK TO MSDGC.

- O MSDGC SHALL HAVE THE RIGHT TO DEDUCT 10% OF THE PRICE OF ANY SUCH RESUBMITTALS FOR THOSE RESUBMITTALS THAT ARE SUBMITTED LATER THAN FOURTEEN (14) DAYS AFTER THE DATE OF NOTIFICATION OF REJECTION.

- O MSDGC SHALL HAVE THE RIGHT TO DEDUCT UP TO 10% OF THE PRICE OF ANY RESUBMITTAL WHICH IS REJECTED BY MSDGC AS UNACCEPTABLE UP TO A MAXIMUM OF 50% OF THE TOTAL PRICE OF THE ORIGINAL SUBMITTAL.

THE CONTRACTOR SHALL USE THE FOOTAGES FOR BILLING PURPOSES PROVIDED BY MSD LISTED IN THE CITYWORKS WORK ORDER UNDER ASSETS OR FOOTAGE APPROVED BY MSDGC PM.

THE CONTRACTOR SHALL SUBMIT VIDEO TO TOM VOGEL, COPYING TIM DAVIDSON, AND THE ODOT ENGINEER.

TOM VOGEL
ENGINEERING TECHNICAL SUPERVISOR
513-352-4942
TOM.VOGEL@CINCINNATI-OH.GOV

TIM DAVIDSON
TIMOTHY.DAVIDSON@CINCINNATI-OH.GOV

90A
160

PATH: J:\PRE-INT\TS\06-386_HAM-75\HAM\88124\UTILITIES_MSD\SHEETS\88124_MSDUN002.DGN
DATE: MONDAY, APRIL 6, 2020 2:08:35 PM
PLOTTED BY: TIM WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS

BY:	DATE:	DESCRIPTION:

IBI GROUP
23 Triangle Park Drive
Cincinnati OH 45246
tel 513 942 3141 fax 513 881 2263
ibigroup.com

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)
NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

COMBINED SEWER RELOCATION
SOUTHBOUND I-75 AT MILL CREEK
HAM-75-8.91 (PID 117526)

NOTES

ACAD DRAWING NAME: 88124_MSDUN002.DGN

ACC. NO.

SHEET 13A OF 14 SS*

ITEM 611, DRAINAGE STRUCTURE, MISC.: FLAP GATE - CONT.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. HANDLING:

1. HANDLE ALL SLUICE GATES AND APPURTENANCES VERY CAREFULLY.

2. FLAP GATES WHICH ARE CRACKED, CHIPPED, DISTORTED OR OTHERWISE DAMAGED OR DROPPED WILL NOT BE ACCEPTABLE.

3. PROTECT ALL THREADS, SEATS, ENDS, ETC. FROM DAMAGE AND CORROSION.

B. STORAGE:

1. STORE ALL FLAP GATES AND APPURTENANCES OFF THE GROUND IN ENCLOSED SHELTER UNLESS OTHERWISE APPROVED BY ENGINEER.

PART 2 PRODUCTS

2.01 SUPPLEMENT

A. SEE SUPPLEMENT TO THIS SECTION FOR ADDITIONAL PRODUCT INFORMATION.

2.02 PERFORMANCE REQUIREMENTS

A. THE FLAP GATE SHALL BE INSTALLED TO OPEN WHEN THERE IS A DIFFERENTIAL HEAD ACROSS THE GATE OF 0.2 FEET OR LESS.
B. THE SEATING HEAD SHALL BE 50 FEET.
C. THE FLAP GATE SHALL PROVIDE A WATER TIGHT SEAL TO PREVENT BACKWATER FROM ENTERING THE UPSTREAM SIDE OF THE FLAP GATE.
D. THE MAXIMUM HEADLOSS THROUGH THE GATE VALVE SHALL NOT EXCEED 0.4 FEET.

2.03 FLAP GATES

A. GENERAL:

1. THE FLAP GATE SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS AND SHALL BE FLANGE FRAME WITH BRONZE SEAT IN THE COVER AND RESILIENT SEAT IN THE SEAT, SUITABLE FOR MOUNTING TO THE WALL WITH ADHESIVE STYLE ANCHOR BOLTS AS RECOMMENDED BY THE MANUFACTURER

2. THE FLAP GATE SHALL BE HEAVILY CONSTRUCTED TO WITHSTAND THE SERVICE FOR WHICH IT IS INTENDED.

3. SIMILAR INSTALLATIONS SHALL HAVE OPERATED SUCCESSFULLY FOR FIVE YEARS OR MORE.

4. ALL COMPONENT PARTS SHALL BE OF THE TYPE MATERIAL SHOWN IN THE "MATERIALS" SECTION OF THIS SPECIFICATION.

ITEM 611, DRAINAGE STRUCTURE, MISC.: FLAP GATE - CONT.

B. ALL FLAP GATES TO BE FLANGE FRAMED WITH BRONZE SEATS. THE BODY WILL BE CAST IRON, ASTM A126 CLASS B. THE ANGLE OF THE COVER TO THE VERTICAL, WHEN SEATED SHALL BE BETWEEN 2 DEGREES AND 5 DEGREES FROM THE VERTICAL AND BE CONSISTENT WITH THE PROPER OPERATION OF THE GATE. BRONZE SEATS, SHALL BE ASTM B21 C464 OR ASTM B133 C110, PNEUMATICALLY IMPACTED INTO DOVETAILED GROOVES MACHINED IN THE CAST IRON BODY AND COVER AND MACHINED TO A 63 MICRO-INCH FINISH FOR MAXIMUM WATER TIGHTNESS. THE COVER, OR FLAP, WILL BE CAST IRON, ASTM A126 CLASS B, WITH SPHERICALLY DISHED DESIGN TO WITHSTAND MAXIMUM OPERATING LOADS. COVER SHALL BE EQUIPPED WITH A LIFTING EYE TO ALLOW FOR THE REMOVAL OF ENTRAPPED DEBRIS. THE HINGE ARMS WILL BE NO. 1 MANGANESE BRONZE, ASTM B584 C865. THE HINGE PINS, DESIGNED IN DOUBLE SHEAR, WILL BE TYPE 304 STAINLESS STEEL. EACH HINGE PIN SHALL BE SECURED TO THE GATE IN SOME FASHION TO PREVENT LARCENY. EACH HINGE ARM WILL HAVE TWO PIVOT POINTS, AN ADJUSTABLE LOWER PIVOT WITH LIMITED ROTATION AND A THREADED UPPER HINGE POST TO ADJUST FLAP VALVE SENSITIVITY. A STAINLESS STEEL LUBRICATION FITTING WILL BE SUPPLIED FOR EACH PIVOT. THE FLAP GATE SHALL BE FACTORY LUBRICATED PRIOR TO DELIVERY TO THE SITE. A TWO YEAR SUPPLY OF LUBRICANT SHALL BE SUPPLIED WITH EACH GATE TO PROVIDE FOR FIELD LUBRICATION AT SIX MONTH INTERVALS.

C. BASIS OF DESIGN MANUFACTURER:

1. HYDRO GATE HEAVY-DUTY FLAP GATES

2. RODNEY HUNT SERIES FV-AC.

3. OR ENGINEER APPROVED EQUAL.

2.04 SHOP/FACTORY FINISHING

A. SHOP PAINTING:

1. STAINLESS STEEL AND MACHINED SURFACES SHALL NOT BE PAINTED. COMPLETELY COVER MACHINED SURFACES INCLUDING DRILLED AND TAPPED HOLES WITH A HEAVY COAT OF PROTECTIVE GREASE.

2. SURFACE PREPARATION:

a. ALL CAST IRON PARTS SHALL BE SHOP BLAST CLEANED AND COATED WITH A CORROSION RESISTANT COATING SYSTEM.
b. THE PARTS SHALL BE WHITE METAL BLAST CLEANED WITH THE BLAST PROFILE NOT EXCEEDING FIFTY PERCENT OF THE TOTAL DRY FILM THICKNESS.
c. BLASTED SURFACES SHALL BE COATED AS SOON AS PRACTICAL AFTER EXPOSURE.
d. IN NO CASE SHALL A BLAST CLEANED SURFACE BE LEFT OVERNIGHT PRIOR TO APPLYING ANY PAINTS.
e. WELD AREAS SHALL BE WASHED WITH A MILD SOLUTION OF PHOSPHORIC ACID PRIOR TO APPLYING ANY PAINTS.
f. REMOVE OIL, DIRT, GREASE, MILL SCALE AND ALL FOREIGN MATERIALS FROM ALL SURFACES BEFORE APPLYING PAINTS.

3. COATINGS:

a. THE PRIME COAT SHALL BE TNEMEC 66-1211 EPOXILINE PRIMER OR APPROVED EQUAL WITH A DRY FILM THICKNESS OF 3 MILS.
b. THE FINISH COATS SHALL CONSIST OF TWO (2) COATS OF TNEMEC 46-413 TNEMEC TAR OR APPROVED EQUAL. EACH FINISH COAT SHALL HAVE A DRY FILM THICKNESS OF 8 MILS. THE TOTAL DRY FILM THICKNESS FOR THE PAINTING SYSTEM SHALL BE 19 MILS.

ITEM 611, DRAINAGE STRUCTURE, MISC.: FLAP GATE - CONT.

2.05 SPARE PARTS

A. PROVIDE ONE FULL SET OF RESILIENT GATE SEALS FOR EACH GATE SPECIFIED HEREIN.

PART 3 - EXECUTION

3.01 INSTALLATION

A. IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

1. INSTALLATION OF ALL PARTS SHALL BE DONE BY THE CONTRACTOR IN A WORK MAN LIKE MANNER AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HANDLE, STORE AND INSTALL THE GATE IN STRICT ACCORD WITH THE MANUFACTURER'S DRAWINGS AND RECOMMENDATIONS.

3.02 FIELD QUALITY CONTROL

A. FUNCTIONAL TESTS: CONDUCT ON EACH FLAP GATE.
B. PERFORMANCE TEST:

1. CONDUCT ON EACH FLAP GATE.

2. PERFORM UNDER ACTUAL OR APPROVED SIMULATED OPERATING CONDITIONS.

3. TEST FOR A CONTINUOUS 3-HOUR PERIOD WITHOUT MALFUNCTION.

4. IF ANY FLAP GATE MALFUNCTIONS OR DOES NOT DEMONSTRATE COMPLIANCE WITH THESE SPECIFICATIONS DURING TESTING THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO ODOT, ADJUST, REALIGN, OR MODIFY UNITS AND RETEST IF NECESSARY, AS MANY TIMES AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH THESE SPECIFICATIONS DURING TESTING.

3.03 MANUFACTURER'S SERVICES

A. PROVIDE THE SERVICE OF A QUALIFIED, FACTORY-TRAINED REPRESENTATIVE OF THE MANUFACTURER TO CHECK AND ADJUST EACH PART OF THE INSTALLATION BEFORE IT IS PLACED IN OPERATION. THIS INDIVIDUAL SHALL COMPLETE A MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION.
B. TRAINING SERVICES:

1. TRAINING SHALL BE PROVIDED AS CALLED FOR BELOW.

2. THE MANUFACTURER SHALL PROVIDE TRAINING IN THE OPERATION AND MAINTENANCE FOR THE EQUIPMENT UNDER THIS SECTION.

3. TRAINING SHALL "HANDS-ON" INSTRUCTION DESIGNED TO COMPLETELY FAMILIARIZE OPERATING PERSONNEL WITH THE THEORY; STANDARD OPERATING PROCEDURES SAFETY FEATURES AND EMERGENCY PROCEDURES; AND GENERAL MAINTENANCE OF ALL COMPONENTS.

4. ALL TRAINING SHALL BE TARGETED AT JOURNEYMAN OPERATORS AND MAINTENANCE PERSONNEL.

ITEM 611, DRAINAGE STRUCTURE, MISC.: FLAP GATE - CONT.

3.04 SUPPLEMENT

A. THE SUPPLEMENT LISTED BELOW, FOLLOWING "END OF SECTION," IS A PART OF THIS SPECIFICATION.

1. FLAP GATES SCHEDULE.

SCHEDULE					
FLAP GATE					
NO. REQ'D	SIZE WXH	MOUNTING TYPE	OPERATING HEAD		CSO
			SEATING	UNSEATING	
1	48"	DIRECT WALL MOUNT	50'	0.2'	490

SUPPLEMENTAL NOTES AND REQUIREMENTS

ALL PROPOSED COMBINED SEWER AND SANITARY PIPING AND RELATED APPURTENANCES WORK TO BE PROVIDED TO THE METROPOLITAN SEWER DISTRICT MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH MSD RULES AND REGULATIONS, POLICIES, AND STANDARD DRAWINGS. ALL MATERIALS MUST CONFORM TO MSD RULES AND REGULATIONS, POLICIES AND STANDARD DRAWINGS. SEPARATE SANITARY PLANS MUST BE SUBMITTED AND APPROVED BY MSD. MSD MUST BE CONTACTED FOR INSPECTION 48 HOURS PRIOR TO THE BEGINNING OF ANY MSD WORK. THE PERMIT TO INSTALL FOR THE SANITARY AND COMBINED SEWER WORK MUST BE OBTAINED FROM OEPA PRIOR TO THE START OF ANY WORK, AND IT MUST BE PROCESSED THROUGH MSD'S DEVELOPMENT SERVICES OFFICE. ALL STORMWATER CONNECTIONS TO THE COMBINED SEWER REQUIRE A STORMWATER CONNECTION PERMIT FROM MSD'S DEVELOPMENT SERVICES OFFICE. ALL EXISTING SEWERS TO REMAIN IN SERVICE MUST BE DIGITALLY VIDEOTAPED PRE- AND POST-CONSTRUCTION AND A COPY PROVIDED TO THE MSD INSPECTOR. ANY DAMAGE CAUSED TO THE SEWERS DURING CONSTRUCTION MUST BE REPAIRED TO THE SATISFACTION OF MSD. ACCESS TO SEWERS MUST BE MAINTAINED AT ALL TIMES.

ALL SEWER WORK MUST BE VERIFIED AND LOCATED WITH AS-BUILTS PERFORMED BY A SURVEYOR TO INCLUDE RIM ELEVATIONS, INVERT ELEVATIONS OF ALL CONNECTIONS AT STRUCTURES (ALONG WITH THE DIRECTION OF CONNECTION AND DESIGNATION MATERIALS AND DIMENSIONS, STRUCTURE TYPES WITH HORIZONTAL COORDINATE LOCATION, GRATE AND LID SIZES/DIMENSIONS, AND NOTE PERTINENT "FLOW IN" OR "FLOW OUT" OF THE STRUCTURE), PIPE RESPECT TO OTHER UTILITIES (WATER, GAS, STORM, ETC.), STRUCTURES (MANHOLES, INLETS, PIERS, FOOTINGS, WALLS, ETC.), AND FINAL COVER SHALL ALSO BE VERIFIED AND INDICATED WHERE DEVIATIONS FROM PLANS OCCUR. DATUM (HORIZONTAL AND VERTICAL) FOR THE SURVEY SHALL BE NOTED AND PER MSD STANDARDS OR THE ORIGINAL PLANS. THE AS-BUILT SHALL BE SIGNED, SEALED, AND DATED BY A SURVEYOR LICENSED IN OHIO.

UNLESS OTHERWISE NOTED IN THE PLAN SET, THE COST OF THE ABOVE WORK IS INCIDENTAL TO THE OVERALL BID PRICE.

90
160

PATH: J:\PRE-INT\TS\06\06-386_HAM-75\HAM-88124\UTILITIES_MSD\SHEETS\88124_MSDUN002.DGN
DATE: THURSDAY, DECEMBER 14, 2023 9:23:50 AM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS		
BY:	DATE:	DESCRIPTION:

IBI GROUP
23 Triangle Park Drive
Cincinnati OH 45246
tel 513 942 3141 fax 513 881 2263
ibigroup.com

THE METROPOLITAN SEWER DISTRICT
OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D
WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)
NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

COMBINED SEWER RELOCATION
SOUTHBOUND I-75 AT MILL CREEK
HAM-75-8.91 (PID 117526)
NOTES

ACAD DRAWING NAME: 88124_MSDUN002.DGN

ACC. NO. _____

SHEET 13 OF 14 SS# _____

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
HEADWALL REINFORCING STEEL											
F501	44	26′ - 9″	1,228	STR.							
F502	22	4′ - 8″	108	STR.							
F503	88	7′ - 8″	704	STR.							
F504	48	5′ - 10″	293	1	10″	5′ - 1″					
F505	9	11′ - 1″	105	3	2′ - 8″	2′ - 7″					
F601	85	13′ - 8″	1,745	33	1′ - 8″	4′ - 7″					
F602	85	7′ - 8″	979	STR.							
F603	69	6′ - 10″	709	1	1′ - 0″	6′ - 0″					
W501	12	31′ - 5″	394	STR.							
W502	14	17′ - 8″	258	STR.							
W503	10	10′ - 5″	109	STR.							
W504	10	18′ - 11″	198	STR.							
W505	4	34′ - 6″	144	STR.							
W506	127	8′ - 9″	1,160	STR.							
W507	12	3′ - 3″	41	STR.							
W508	8	6′ - 0″	51	STR.							
W509	8	4′ - 6″	38	STR.							
W510	2 SER. OF 6	3′ - 0″ TO 7′ - 4″	65	2	1′ - 0 5/8″ TO 3′ - 2 5/8″	1′ - 2″	1′ - 0 5/8″ TO 3′ - 2 5/8″				5 1/4″
		SUB-TOTAL	8,329								

ESTIMATED QUANTITIES

COMPUTED BY: SS/TDW DATED: 10-23-19
CHECKED BY: AIS/JAG DATED: 10-25-19

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	REF. SHEET
				CSO 490 & INCIDENTALS	
202	32000	48	FT	CURB REMOVED	
202	58000	1	EACH	MANHOLE REMOVED	
202	70000	531	FT	SPECIAL - FILL AND PLUG EXISTING CONDUIT	
253	01001	216	SY	PAVEMENT REPAIR, AS PER PLAN	7 / 14
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
517	73501	44	FT	RAILING, PIPE, AS PER PLAN	8-9 / 14
602	20000	0.14	CY	CONCRETE MASONRY	
607	23000	130.00	FT	FENCE, TYPE CLT	
607	61200	1	EACH	GATE, TYPE CLT	
609	26000	39	FT	CURB, TYPE 6	
611	07400	59	FT	18″ CONDUIT, TYPE B	
611	16600	0	FT	36″ CONDUIT, TYPE C, WITH CLASS II BEDDING	
611	20900	51	FT	48″ CONDUIT, TYPE B, WITH CLASS I BEDDING	
611	21100	171	FT	48″ CONDUIT, TYPE C, WITH CLASS II BEDDING	
611	99690	1	EACH	MANHOLE, MISC.: SANITARY MANHOLE PER MSD STD ACC. NO. 49037	
611	99690	2	EACH	MANHOLE, MISC.: SANITARY MANHOLE PER MSD STD ACC. NO. 49040	
611	99690	1	EACH	MANHOLE, MISC.: SANITARY MANHOLE ADJUST TO GRADE PER MSD STD ACC. NO. 49058-A	
611	99900	1	EACH	DRAINAGE STRUCTURE, MISC.: FLAP GATE	10-13 / 14
611	99920	LS		DRAINAGE STRUCTURE, MISC.: CSO VAULT 25′ L x13′ W, AS PER PLAN	8 / 14
SPECIAL	61197910	LS		SANITARY SEWER, MSD SANITARY SEWER PROTECTION	13A / 14
				HEADWALL	
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
503	21300	LS		UNCLASSIFIED EXCAVATION	
509	10000	8,329	LB	EPOXY COATED REINFORCING STEEL	
511	46010	27	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46510	47	CY	CLASS QC1 CONCRETE, FOOTING	
512	10100	63	SY	SEALING OF CONCRETE SUFACES (EPOXY-URETHANE)	
518	21201	28	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	
601	32004	90	CY	ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC	

DESIGN SPECIFICATIONS:

THESE STRUCTURES CONFORM TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 7TH EDITION, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA:

THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL = 30°
TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
INTERNAL ANGLE OF FRICTION (DRAINED),
FOUNDATION SOIL = 30°
UNIT WEIGHT OF CONCRETE = 150 PCF
SLOPE BACKFILL = 1.8:1
HEIGHT OF LIVE LOAD SURCHARGE = 2 FT

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)

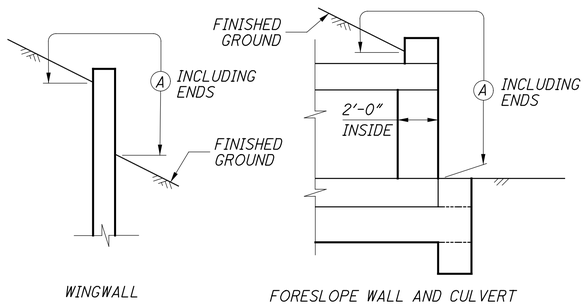
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

POROUS BACKFILL WITH FILTER FABRIC:

2′-0″ THICK SHALL BE PLACED BEHIND THE HEADWALL AND SHALL EXTEND TO 12″ BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6″ ABOVE THE TOP ELEVATION OF THE WEEPHOLE. WEEPHOLES SHALL BE PLACED 6″ TO 12″ ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10′-0″. A MINIMUM OF TWO WEEPHOLES SHALL BE PROVIDED PER WINGWALL.

SEALING OF FORESLOPE WALL AND WINGWALLS:

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).



WINGWALL FORESLOPE WALL AND CULVERT

LIMITS OF ITEM 512 - SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

FOUNDATION BEARING RESISTANCE:

THE HEADWALL FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 2.98 KIPS PER SQUARE FOOT AND MAXIMUM STRENGTH LOAD PRESSURE OF 2.76 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 3.7 KIPS PER SQUARE FOOT.

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS ARE USED THROUGHOUT THESE PLANS:

℄ = BASELINE
B.F. = BACK FACE
CIP = CAST IN PLACE
CLR. = CLEARANCE
BOTT. = BOTTOM
℄ = CENTERLINE
C.J. = CONSTRUCTION JOINT

CMP = CORRUGATED METAL PIPE
CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONST. JT. = CONSTRUCTION JOINT

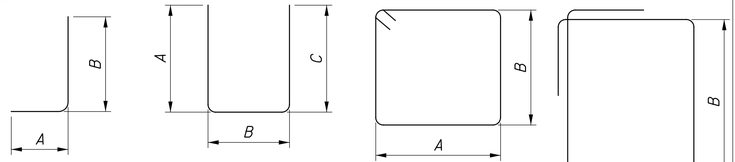
CU YD = CUBIC YARD
E.F. = EACH FACE
EL. = ELEVATION
FTG. = FOOTING
MAX. = MAXIMUM
N.F. = NEAR FACE
DWG. = DRAWING
E.J. = EXPANSION JOINT
EX. = EXISTING
F.F. = FRONT FACE
MIN. = MINIMUM

PEJF = PREFORMED EXPANSION JOINT FILLER

PROP. = PROPOSED
SPA. = SPACES
STD. = STANDARD
SER. = SERIES
STR. = STRAIGHT
TYP. = TYPICAL

RETAINING WALL AND FOOTING:

RETAINING WALL AND FOOTING SHALL BE CAST-IN-PLACE AND CONFORM TO CMS 511. THE USE OF PRECAST RETAINING WALL AND/OR PRECAST FOOTING SHALL NOT BE ALLOWED



REINFORCING STEEL NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.
4. "SER" DENOTES SERIES.
5. REFER TO C.M.S. SECTION 509.05 FOR STANDARD BEND DIMENSIONS.
6. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

91
160

PATH: J:\PRE-INT'S\06\06-386-HAM-75\HAM-88124\UTILITIES_MSD\SHEETS\88124_MSDUL001.DGN
DATE: TUESDAY, AUGUST 15, 2023 11:15:04 AM
PLOTTED BY: TIM.WILLIAMS

DESIGNED BY: JBK
DRAWN BY: TW

REVISIONS BY:	DATE:	DESCRIPTION:
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___

IBI GROUP
23 Triangle Park Drive
Cincinnati OH 45246
tel 513 942 3141 fax 513 881 2263
ibigroup.com

THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI
HAMILTON COUNTY, OHIO

M S D WASTEWATER ENGINEERING

HAM-75-8.91 (PID 117526)
NORTH OF PADDOCK ROAD INTERCHANGE ALONG I-75 SOUTHBOUND
SOUTH OF STRUCTURE OVER MILL CREEK AND RONALD REAGAN CROSS COUNTY HIGHWAY
CITY OF CINCINNATI SEC.1 E.R.1 T.3

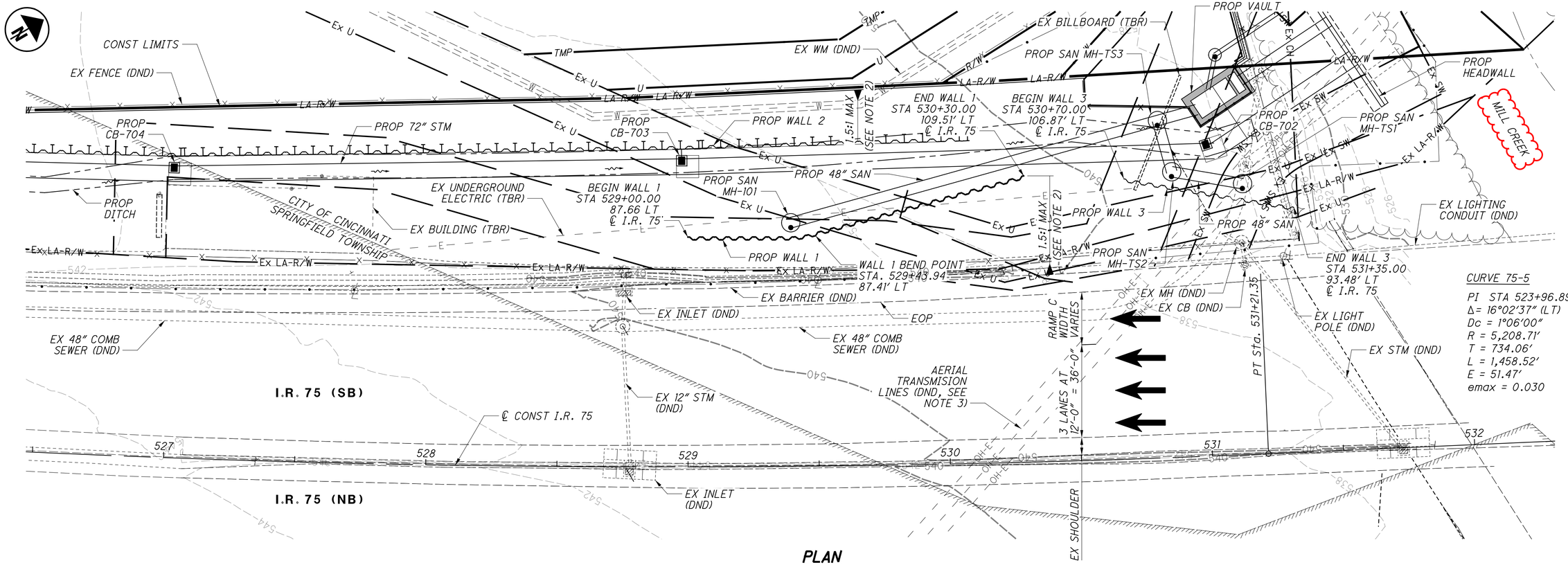
COMBINED SEWER RELOCATION SOUTHBOUND I-75 AT MILL CREEK HAM-75-8.91 (PID 117526)

REINFORCING STEEL LIST

ACAD DRAWING NAME: 88124_MSDUL001.DGN

ACC. NO. _____

SHEET 14 OF 14 SS# _____



PLAN

NOTES:

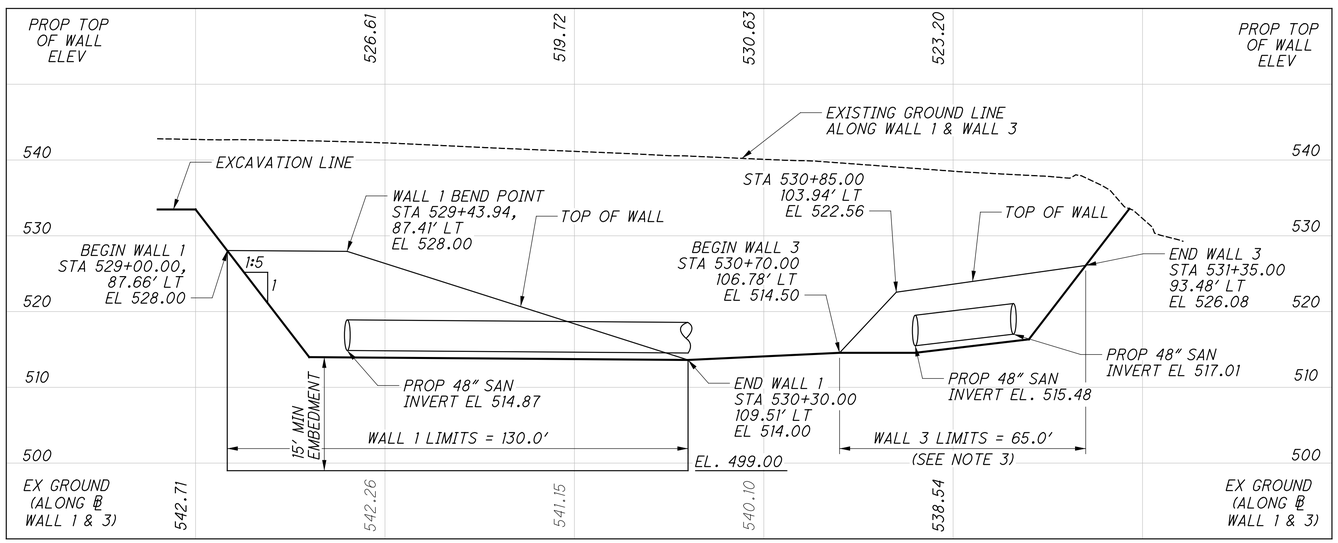
1. ALL STATIONS AND OFFSETS SHOWN ARE BASED ON THE ℄ I.R. 75 UNLESS NOTED OTHERWISE.

2. SEE SHEET 3/3 FOR ADDITIONAL NOTES, TYPICAL SECTION, CUT SLOPE DETAILS AND ABBREVIATION LEGEND.

3. THE CONTRACTOR SHALL EXERCISE CAUTION WHILE WORKING AROUND AERIAL TRANSMISSION LINES TO BE LEFT IN PLACE. WALL TYPE UTILIZED BY CONTRACTOR AND PROPOSED INSTALLATION/CONSTRUCTION EQUIPMENT SHALL PERMIT CONSTRUCTION BELOW TRANSMISSION LINES AND PROVIDE OSHA REQUIRED MINIMUM CLEARANCE.

4. ALL WALL STATION AND OFFSET ARE PROVIDED AT THE FRONT FACE (EXPOSED FACE) OF WALL.

5. THE CONTRACTOR SHALL EXERCISE CAUTION WHILE WORKING ABOVE PORTIONS OF THE EXISTING 48" COMBINED SEWER TO BE LEFT IN PLACE. WALL TYPE UTILIZED BY CONTRACTOR AND PROPOSED INSTALLATION/CONSTRUCTION EQUIPMENT SHALL PERMIT CONSTRUCTION WITHOUT DAMAGING PIPE.



PROFILE ALONG WALL 1 & 3

DESIGN AGENCY
EMH&T
DESIGNED AI
DRAWN AI
CHECKED RMW
REVIEWED CAS
DATE 09/29/23
REVISED -
STRUCTURE FILE NUMBER N/A

SITE PLAN
WALL 1 AND WALL 3
TEMPORARY SHORING WALL

HAM-75-8.91
PID No. 117526

\\cmhdata01\project01\20220947\ODOT\HAM\117526 HAM-75-8.9\structures\WALL_001\sheets\117526_WP001.dgn 12/6/2023 4:45:52 PM bmccutchen

PROJECT: HAM-75-8.91 | DRILLING FIRM / OPERATOR: ODOT / SPROUSE | DRILL RIG: CME 850R TRACKED | STATION / OFFSET: | EXPLORATION ID B-001-0-23

TYPE: RETAINING WALL | SAMPLING FIRM / LOGGER: ODOT / LEWIS | HAMMER: CME AUTOMATIC | ALIGNMENT: CL IR 75

PID: 117526 SFN: | DRILLING METHOD: 3.75" HSA / NQ2 | CALIBRATION DATE: 4/25/23 | ELEVATION: 549.6 (ft) EOB: 50.0 ft. | PAGE 1 OF 1

START: 9/26/23 END: 9/26/23 | SAMPLING METHOD: SPT / NQ2 | ENERGY RATIO (%): 89 | LAT / LONG: 39.200247, -84.469478

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT (5")	549.6																	
MEDIUM DENSE, GRAY, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, (FILL), WET	549.2		7 8 12	30	61	SS-1	-	49	19	13	12	7	46	40	6	19	A-1-b (0)	
@3.5'; VERY DENSE			5 23 19	62	67	SS-2	-	42	28	16	11	3	NP	NP	NP	14	A-1-b (0)	
@6.0'; DENSE			11 9 19	41	78	SS-3	-	-	-	-	-	-	-	-	-	25	A-1-b (V)	
@8.5'; MEDIUM DENSE			7 9 9	27	61	SS-4	-	42	27	17	10	4	NP	NP	NP	16	A-1-b (0)	
			6 9 7	24	50	SS-5	-	-	-	-	-	-	-	-	-	22	A-1-b (V)	
@13.3' - 14.0'; CONCRETE SLAB WITH REBAR	536.3		0		100	NQ2-1											CORE	
MEDIUM DENSE, BROWN, **GRAVEL AND STONE FRAGMENTS WITH SAND**, LITTLE SILT, TRACE CLAY, MOIST	535.6		5 7 10	25	39	SS-6	-	42	21	18	15	4	NP	NP	NP	11	A-1-b (0)	
@18.5'; DAMP			8 11 9	30	50	SS-7	-	28	31	26	11	4	NP	NP	NP	7	A-1-b (0)	
@21.0'; DENSE			9 8 14	32	67	SS-8	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
			10 16 14	44	56	SS-9	-	46	28	12	11	3	NP	NP	NP	4	A-1-b (0)	
			9 13 12	37	67	SS-10	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
@28.5'; MEDIUM DENSE			7 8 8	24	56	SS-11	-	16	49	22	10	3	NP	NP	NP	4	A-1-b (0)	
			5 7 11	27	67	SS-12	-	50	24	8	15	3	NP	NP	NP	6	A-1-b (0)	
	W 512.4																	
MEDIUM DENSE, YELLOWISH BROWN, **COARSE AND FINE SAND**, TRACE SILT, TRACE CLAY, TRACE GRAVEL AND STONE FRAGMENTS, WET	511.1		3 5 6	16	89	SS-13	-	1	0	87	9	3	NP	NP	NP	28	A-3a (0)	
	▽ 508.1																	
DENSE, GRAYISH BROWN, **FINE SAND**, TRACE SILT, TRACE CLAY, WET	506.1		6 10 12	32	78	SS-14	-	0	0	90	7	3	NP	NP	NP	22	A-3 (0)	
@48.5'; MEDIUM DENSE	499.6		6 7 12	28	83	SS-15	-	-	-	-	-	-	-	-	-	23	A-3 (V)	
		EOB																

NOTES: LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM USGS 3DEP MAP SERVICE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED 10 LB. BENTONITE CHIPS; TREMIED 60 GAL. BENTONITE GROUT

STANDARD ODOT SOIL BORING LOG (11 X 17) - OH DOT GDT - 11/20/23 07:35 - X:\GINTPROJECTS\60\093.GPJ

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\117526IF101.dgn 12/6/2023 4:51:15 PM bmccutchen

CALCULATED SEA | CHECKED DLR

SOIL BORING LOG

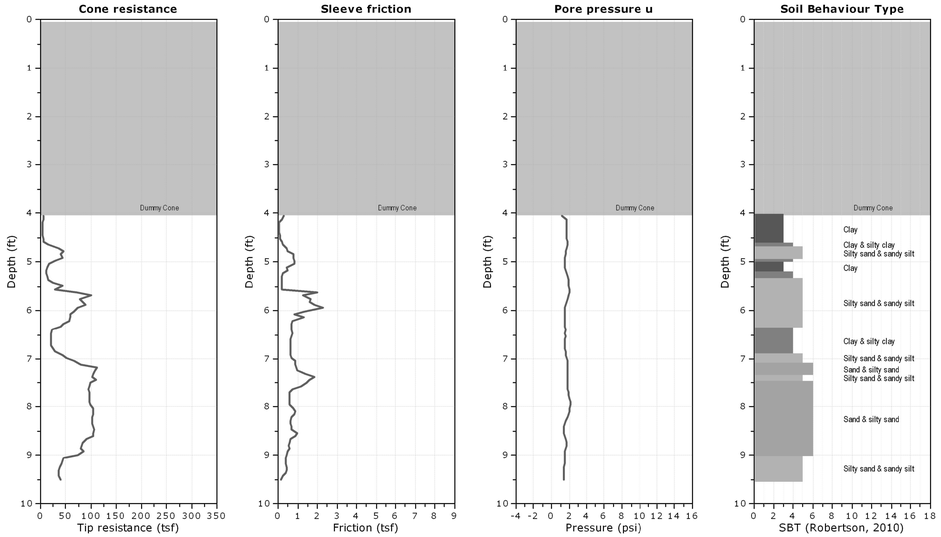
HAM-75-8.91

160A
160

Office of Geotechnical Engineering
Geology, Exploration and, Laboratory Section
http://www.dot.state.oh.us/Divisions/Engineering/Geotechnical

Project: HAM-75-8.91
Location: Hamilton County

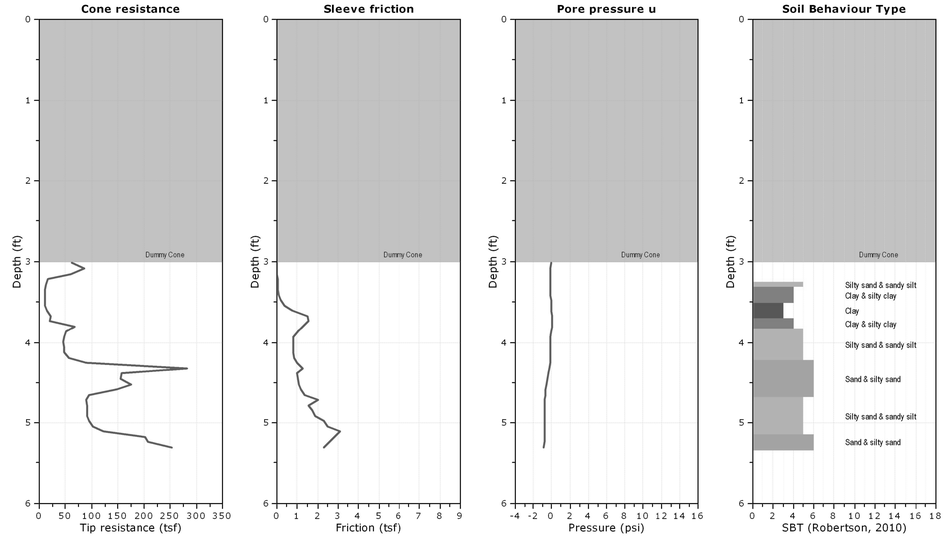
CPT: C-001-1-23
Total depth: 9.50 ft, Date: 8/30/2023
Surface Elevation: 547.1 ft
Coords: lat 39.200117° lon -84.469588°



Office of Geotechnical Engineering
Geology, Exploration and, Laboratory Section
http://www.dot.state.oh.us/Divisions/Engineering/Geotechnical

Project: HAM-75-8.91
Location: Hamilton County

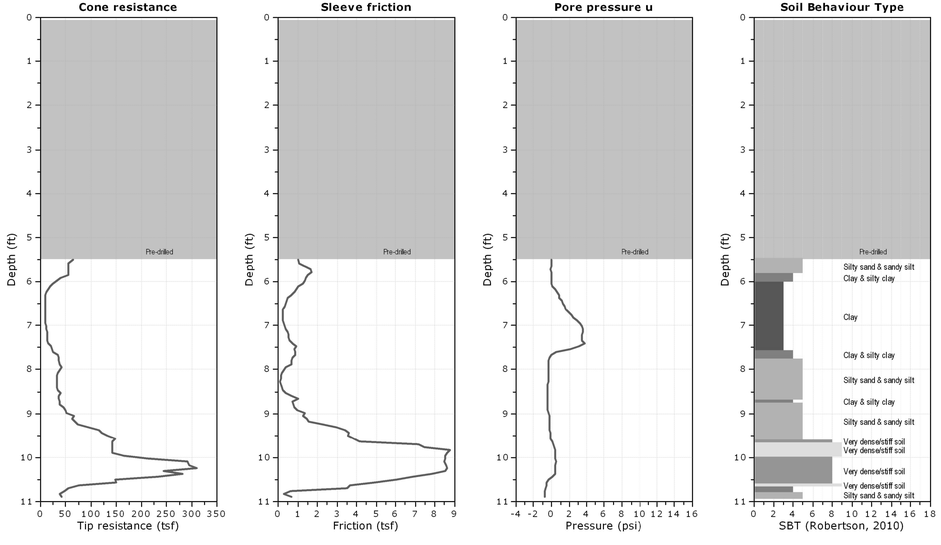
CPT: C-001-2-23
Total depth: 5.30 ft, Date: 8/29/2023
Surface Elevation: 546.1 ft
Coords: lat 39.200225° lon -84.469447°



Office of Geotechnical Engineering
Geology, Exploration and, Laboratory Section
http://www.dot.state.oh.us/Divisions/Engineering/Geotechnical

Project: HAM-75-8.91
Location: Hamilton County

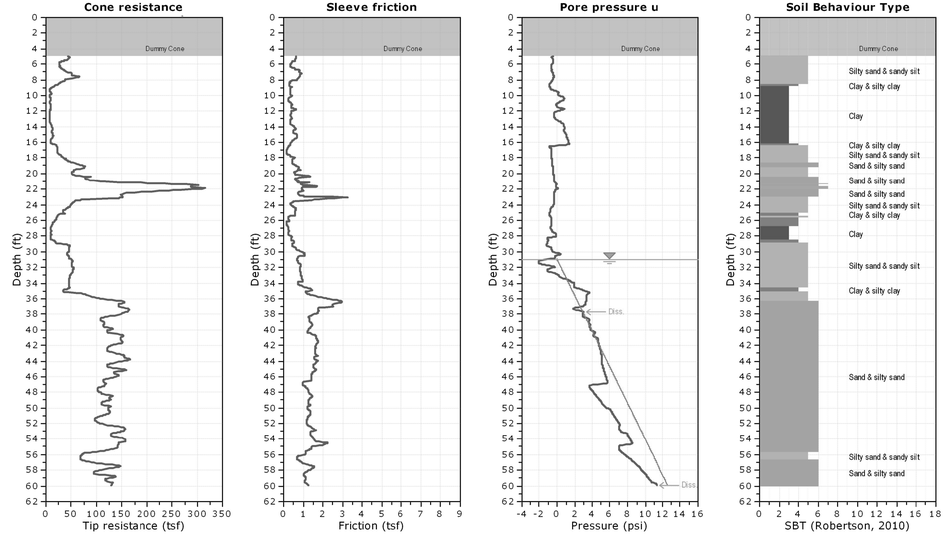
CPT: C-001-4-23
Total depth: 10.89 ft, Date: 8/29/2023
Surface Elevation: 545.9 ft
Coords: lat 39.20024° lon -84.469478°



Office of Geotechnical Engineering
Geology, Exploration and, Laboratory Section
http://www.dot.state.oh.us/Divisions/Engineering/Geotechnical

Project: HAM-75-8.91
Location: Hamilton County

CPT: C-002-0-23
Total depth: 59.88 ft, Date: 8/30/2023
Surface Elevation: 542.5 ft
Coords: lat 39.201065° lon -84.468821°



CALCULATED SEA
CHECKED DLR

EXPLORATION SECTIONS

HAM-75-8.91

160B
160

J:\2022094?\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\117526IF101.dgn 12/6/2023 4:52:52 PM bmccutchen

N:\2022\2094\ODOT\HAM\177526-HAM-75-8.91\geotechnical sheets\77889ICT01.dgn 2/7/2024 1:00:45 PM hbrendinger

PROJECT DESCRIPTION

THE ROADWAY EXPLORATION PERFORMED FOR THE HAM-75-7.85 PROJECT IN HAMILTON COUNTY, OHIO. THIS PROJECT REPRESENTS THE NORTHERN PORTION OF THE HAM-75-2.30 MILL CREEK EXPRESSWAY IMPROVEMENTS BETWEEN I-75 MAINLINE STATION 410+00 AND 531+73.91. THE OVERALL PROJECT WILL CONSIST OF ROADWAY IMPROVEMENTS, AND SEVERAL RETAINING WALL AND BRIDGE REPLACEMENTS ALONG I-75 FROM VINE STREET TO STATE ROUTE 126. IT IS UNDERSTOOD THAT THE EXISTING ROADWAY WILL BE WIDENED FROM THREE LANES IN BOTH DIRECTIONS TO ADD AN ADDITIONAL LANE TO THE OUTSIDE OF THE EXISTING ALIGNMENT. BASED ON THE PROPOSED PROFILE INFORMATION PROVIDED, CUTS OF UP TO 3.0 FEET FILL HEIGHTS OF UP TO 7.0 FEET WILL BE REQUIRED TO ACHIEVE THE PROPOSED SUBGRADE ELEVATION. INTERCHANGE RAMPS ARE PROPOSED AT THE INTERCHANGES WITH SR-562M SEYMOUR AVENUE, AND PADDOCK ROAD. THESE RAMPS ARE NOT INCLUDED IN THIS ROADWAY EXPLORATION SET AS BORINGS WERE NOT OBTAINED ALONG THESE ALIGNMENTS.

HISTORIC RECORDS

BORINGS FROM THE HAM-75-7.16 MILLCREEK EXPRESS WAY/HAM-562-0.28 NORWOOD LATERAL, HAM-4W-7.81 AND HAM-75-9.75 PROJECTS ARE PRESENTED IN THIS ROADWAY EXPLORATION.

GEOLOGY

THE SITE LIES WITHIN THE ILLINOIAN TILL PLAIN OF THE TILL PLAINS SECTION. THIS AREA IS CHARACTERIZED BY ROLLING GROUND MORAINE DEPOSITS WITH MANY BURIED VALLEYS ALTERNATING BETWEEN BROAD FLOODPLAINS AND BEDROCK GORGES. THE SITE AREA CONTAINS SILTY LOAM TILL DEPOSITED AS GROUND MORAINE COVERED WITH LOESS AND DISSECTED BY THE MODERN DAY MILL CREEK. BASED ON BEDROCK GEOLOGY AND TOPOGRAPHY MAPS OF THE AREA, FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE UNDERLYING BEDROCK CONSISTS OF THE ORDOVICIAN-AGED POINT PLEASANT FORMATION. ALONG THE PROJECT ALIGNMENT, THE BEDROCK SURFACE DIRECTLY BENEATH I-75 LIES ALONG THE SLOPE OF A BEDROCK VALLEY AND THE BEDROCK SURFACE RANGES BETWEEN APPROXIMATE ELEVATIONS OF 385 TO 425 FEET MSL. OVERALL, THE BEDROCK SURFACE ALONG THE MAJORITY OF THE PROJECT ALIGNMENT SLOPES DOWNWARD TO THE NORTHWEST. ACCORDING TO BEDROCK TOPOGRAPHY MAPPING, THE DEPTH TO TOP OF BEDROCK IN THE VICINITY OF THE PROJECT RANGES FROM APPROXIMATELY 120 TO 170 FEET BELOW THE EXISTING GROUND SURFACE.

RECONNAISSANCE

CTL ENGINEERING PERSONNEL PERFORMED A SITE RECONNAISSANCE IN 2007 TO LOCATE ALL OF THE SUBGRADE BORING LOCATIONS. RESOURCE INTERNATIONAL PERFORMED A SITE RECONNAISSANCE IN 2006 TO LOCATE BORING LOCATIONS AS A PART OF HAM-75-10.10 (PID 76256) PRELIMINARY EXPLORATION. THE PROJECT ALIGNMENT STARTS AT THE SOUTH END OF THE I-75 AND SR 562 INTERCHANGE AND EXTENDS NORTH TO THE MILL CREEK CROSSING, JUST SOUTH OF THE I-75 AND SR 126 INTERCHANGE. THE IMPROVEMENTS ALSO INCLUDE RECONFIGURING THE INTERCHANGE RAMPS BETWEEN I-75 AND SR 562 AND WIDENING OF SR 562 NEAR THE INTERCHANGE. THE EXISTING I-75 MAINLINE ALONG THE PROJECT ALIGNMENT IS A SIX-LANE, ASPHALT PAVED ROADWAY AND THERE ARE EXISTING INTERCHANGES WITH SR 562, TOWNE STREET AND PADDOCK ROAD. THE EXISTING SR 562 IS A FOUR-LANE, ASPHALT PAVED ROADWAY THAT CONNECTS I-75 WITH I-71 TO THE EAST. THE EXISTING NORFOLK SOUTHERN IS A SINGLE TRACK RAILWAY WHERE IT CROSSES OVER PROSSER AVENUE AND I75, WHICH TURNS SOUTH ALONG THE EAST SIDE OF I-75 AND CROSSES LAIDLAW AVENUE INTO BERRY YARD, AND THEN EXITS THE YARD TO THE SOUTH WHERE UP TO SIX TRACKS CROSS OVER SR 562. THE LAND USAGE AROUND THE PROJECT IS PRIMARILY COMMERCIAL AND RESIDENTIAL.

SUBSURFACE EXPLORATION

BETWEEN AUGUST 17 AND SEPTEMBER 11, 2006, A TOTAL OF THIRTEEN (13) SUBGRADE BORINGS, DESIGNATED AS N-001-0-06 THROUGH N-007-0-06 AND S-001-0-06 THROUGH S-006-0-06, WERE DRILLED BY RII TO DEPTHS RANGING FROM 7.3 TO 26.8 FEET BELOW EXISTING GRADE ALONG THE PROPOSED ALIGNEMNT OF I-75. IN ADDITION TO THE AFOREMENTIONED BORINGS, BETWEEN JULY 9 AND OCTOBER 5, 2007, A TOTAL OF TWENTY NINE (29) SUBGRADE BORINGS, DESIGNATED AS B-158-0-07, B-159-0-07, B-164-0-07 THROUGH B-167-0-07, B-170-0-07, B-171-0-07, B-174-0-07, B-180-0-07, B-183-0-07,B-185-0-07, B-187-0-07, B-189-0-07, B-190-0-07, B-191-0-07, B-193-0-07, B-194-0-07 THROUGH B-196-0-07, B-199-0-07 THROUGH B-202-0-07, B-207-0-07, B-209-0-07, B-213-0-07, B-215-0-07, AND B-216-0-07, WERE DRILLED BY CTL ENGINEERING TO DEPTHS RANGING FROM 6.0 TO 15.0 FEET BELOW EXISTING GRADE ALONG THE PROPOSED ALIGNMENT OF I-75.

THE BORINGS WERE DRILLED WITH TRUCK, TRACK AND ATV-MOUNTED ROTARY DRILL RIGS USING A 3.25-INCH INSIDE DIAMETER, HOLLOW-STEM AUGER, OR A 4.5-INCH OUTSIDE DIAMETER, SOLID FLIGHT AUGER TO ADVANCE THE HOLES. IN GENERAL, STANDARD PENETRATION TEST (SPT) AND SPLIT SPOON SAMPLING WAS PEFORMED IN CONTINUOUSLY TO A DEPTH OF 6.0 FEET BELOW THE PAVEMENT SECTION AND AT 2.5 TO 5.0 FOOT INTERVALS THEREAFTER USING AN AUTOMATIC HAMMER SYSTEM. NO CALIBRATION DATA IS AVAILABLE FOR THE HAMMER USED DURING THE SPT TESTING FOR THE EXPLORATIONS PERFORMED IN 2006 BY RII OR IN 2007 BY CTL ENGINEERING.

EXPLORATION FINDINGS

FOURTEEN (14) BORINGS ENCOUNTERED 0.2 TO 0.7 FEET OF TOPSOIL AT THE EXISTING GROUND SURFACE. TWENTY-THREE (23) BORINGS WERE DRILLED THROUGH THE EXISTING PAVEMENT OF I-75. NINETEEN (19) BORINGS ENCOUTERED 0.4 TO 1.0 FEET OF ASPHALT AT THE EXISTING GROUND SURFACE. EIGHTEEN (18) BORINGS ENCOUNTERED 0.3 TO 0.9 FEET OF CONCRETE BELOW THE ASPHALT OR AT THE GROUND SURFACE. SIXTEEN (16) BORINGS ENCOUNTERED 0.2 TO 0.1 FEET OF AGGREGATE BASE BENEATH THE ASPHALT AND/OR CONCRETE.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
GRAVEL AND/OR STONE FRAGMENTS	*A-1-a*	*2*	*4*
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b*	*14*	*7*
GRAVEL AND/OR ST. FRAGS. WITH SAND AND SILT	*A-2-4*	*6*	*1*
GRAVEL AND/OR ST. FRAGS. WITH SAND, SILT AND CLAY	*A-2-6*	*1*	*3*
FINE SAND	*A-3*	*0*	*8*
COARSE AND FINE SAND	*A-3a*	*14*	*28*
SANDY SILT	*A-4a*	*22*	*22*
SILT	*A-4b*	*5*	*4*
SILT AND CLAY	*A-6a*	*12*	*27*
SILTY CLAY	*A-6b*	*3*	*6*
CLAY	*A-7-6*	*4*	*3*
	TOTAL	*83*	*116*

PAVEMENT OR BASE = X = APPROXIMATE THICKNESS *VISUAL*

SOD AND TOPSOIL = X = APPROXIMATE THICKNESS *VISUAL*

EXPLORATION LOCATION - PLAN VIEW

HISTORIC BORING LOCATION - PLAN VIEW

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC INDICATES WATER CONTENT IN PERCENT.

W INDICATES FREE WATER ELEVATION.

INDICATES STATIC WATER ELEVATION.

X/Y/Z NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
X= NUMBER OF BLOWS FOR FIRST 6 INCHES
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES
Z= NUMBER OF BLOWS FOR THIRD 6 INCHES

N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

● INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.

⊖ INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25% OR GREATER THAN 19% WITH A WET APPEARANCE.

* INDICATES A SAMPLE TAKEN WITHIN 3 FT OF PROPOSED GRADE.

SS INDICATES A SPLIT-SPOON SAMPLE.

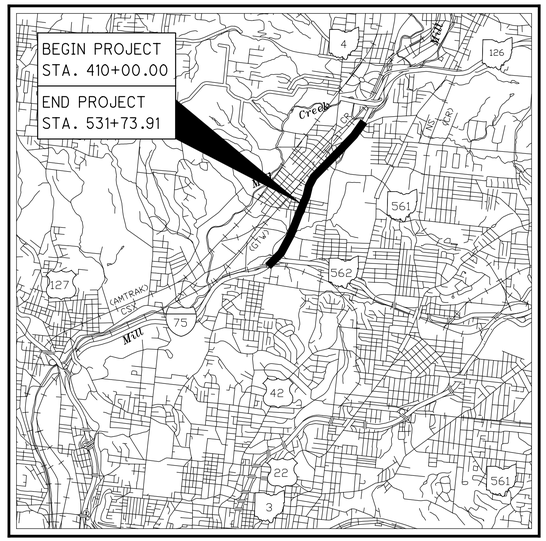
EXPLORATION FINDINGS (CONTINUED)

BENEATH THE TOPSOIL IN BORINGS B-158-0-07, B-202-0-07 AND BELOW THE CONCRETE LAYER IN BORING B-216-0-07, EXISTING FILL CONSISTING OF VERY LOOSE TO MEDIUM DENSE GRAVEL WITH SAND, SILT AND CLAY AND SILT (ODOT A-1-b, A-4b), AND STIFF TO VERY STIFF SANDY SILT AND SILT AND CLAY (ODOT A-4a, A-6a) WAS ENCOUNTERED EXTENDING TO DEPTHS RANGING FROM 4 TO 10 FEET BELOW THE GROUND SURFACE.

UNDERLYING THE SURFACE MATERIALS, AND FROM THE GROUND SURFACE IN BORINGS B-170-0-07, B-189-0-07, B-194-0-07, B-195-0-07 AND B-201-0-07, NATURAL COHESIVE AND GRANULAR SOILS WERE ENCOUNTERED. THE COHESIVE SOILS WERE GENERALLY DESCRIBED AS MEDIUM STIFF TO HARD SANDY SILT, SILT, SILT AND CLAY, SILTY CLAY AND CLAY (ODOT A-4a, A-4b, A-6a, A-6b, A-7-6). THE GRANULAR SOILS WERE GENERALLY DESCRIBED AS LOOSE TO MEDIUM DENSE GRAVEL, GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, COARSE AND FINE SAND AND SILT (ODOT A-1-a, A-1-b, A-2-4, A-3a, A-4b).

BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE BORINGS PERFORMED FOR THE VARIOUS SUBGRADE EXPLORATIONS.

GROUNDWATER WAS ENCOUNTERED IN BORINGS S-003-0-06, B-183-0-07 AND B-185-0-07 AT ELEVATIONS RANGING FROM 542 TO 543 FEET MSL.



LOCATION MAP
SCALE IN MILES
0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
12″	3″	2.0 mm (No. 10 SIEVE)	0.42 mm (No. 40 SIEVE)	0.074 mm (No. 200 SIEVE)		0.005 mm

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2008.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE OR THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

INDEX OF SHEETS

LOCATION FROM STA.	TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CROSS-SECTION SHEET	CUT MAX.	FILL EMB. MAX.
I-75						
410+00	423+00	4	4	-	- FT	3 FT
423+00	436+00	5	5	-	- FT	3 FT
436+00	449+00	6	6	-	- FT	2 FT
449+00	462+00	7	7	-	- FT	7 FT
462+00	475+00	8	8	-	<1 FT	5 FT
475+00	488+00	9	9	-	<1 FT	2 FT
488+00	501+00	10	10	-	3 FT	- FT
501+00	514+00	11	11	-	1 FT	- FT
514+00	527+00	12	12	-	<1 FT	<1 FT
527+00	533+00	13	13	-	<1 FT	<1 FT

RECON. - CTL 2007
RII - IC 08/02/06 - 08/04/06

DRILLING - CTL 07/09/07 - 08/03/07
RII - IC 08/17/06 & 08/20/06
RII - CM 08/17/06 - 09/11/06

DRAWN - RRM 06/26/15

REVIEWED - BRT 06/26/15

DESIGN AGENCY
RESOURCE INTERNATIONAL
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231

PID NO. 77889

SOIL PROFILE

HAM-75-7.85

1 / 7

160C
160

SUMMARY OF SOIL TEST DATA
℄ CONST. I-75

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
B-158-0-07	00.50	02.00	SS-1	-	-	15	14	31	14	26	NP	NP	NP	7	A-4a (1)	
STA. 412+23.60, 78.7' RT.	02.00	03.50	SS-2	-	-	14	19	26	20	21	27	17	10	10	A-4a (1)	
LATITUDE = 39.173936372	03.50	05.00	SS-3	-	-	SAME AS SS-2								10	A-4a (VISUAL)	
LONGITUDE = -84.490090156	05.00	06.50	SS-4	-	-	FILL: MD. DE., DK. BR. & GY. GRAVEL WITH SAND, SILT, & CLAY								8	A-2-6 (VISUAL)	
	08.50	10.00	SS-5	-	-	FILL: MD. DE., BLACK GRAVEL AND/OR STONE FRAGMENTS								5	A-1-a (VISUAL)	
B-159-0-07	00.50	02.00	SS-1	-	-	20	26	29	9	16	NP	NP	NP	10	A-3a (0)	
STA. 416+28.20, 38.3' LT.	02.00	03.50	SS-2	-	-	3	6	34	40	17	23	14	9	11	A-4a (5)	
LATITUDE = 39.174957199	03.50	05.00	SS-3	-	-	DE., BROWN COARSE AND FINE SAND, LI. CL., LI. SI.								8	A-3a (VISUAL)	
LONGITUDE = -84.489397775	05.00	06.50	SS-4	-	-	SAME AS SS-3								7	A-3a (VISUAL)	
	08.50	10.00	SS-5	-	-	V. ST., BROWN SILT AND CLAY, LI. SA., TR. GR.								18	A-6a (VISUAL)	
B-164-0-07	00.50	02.00	SS-1	-	-	6	8	37	21	28	NP	NP	NP	5	A-4a (3)	
STA. 420+05.10, 100.8' RT.	02.00	03.50	SS-2	-	-	8	7	50	27	8	NP	NP	NP	6	A-4a (0)	
LATITUDE = 39.175541607	03.50	05.00	SS-3	-	-	SAME AS SS-1								10	A-4a (VISUAL)	
LONGITUDE = -84.488183121	05.00	06.50	SS-4	-	-	SAME AS SS-1								13	A-4a (VISUAL)	
	08.50	10.00	SS-5	-	-	ST., BROWN SILT AND CLAY, TR. GR., SM. SA.								12	A-6a (VISUAL)	
B-165-0-07	00.50	02.00	SS-1	-	-	ST., BROWN SANDY SILT, SM. CL., TR. GR.								8	A-4a (VISUAL)	
STA. 424+16.67, 35.8' LT.	02.00	03.50	SS-2	-	-	2	5	13	38	42	44	16	28	22	A-7-6 (16)	
LATITUDE = 39.176695801	03.50	05.00	SS-3	-	-	5	5	15	44	31	31	16	15	19	A-6a (10)	
LONGITUDE = -84.487842203	05.00	06.50	SS-4	-	-	SAME AS SS-3								23	A-6a (VISUAL)	
	08.50	10.00	SS-5	-	-	MD. ST., GRAY CLAY, LI. SI.								37	A-7-6 (VISUAL)	
	13.50	15.00	SS-6	-	-	LO. BR. COARSE AND FINE SAND, TR. CL., TR. SI., TR. GR.								7	A-3a (VISUAL)	
B-166-0-07	00.50	02.00	SS-1	-	-	ST. TO MD. ST., DK. BR. & BLK. SILT AND CLAY, LI. GR., LI. SA								14	A-6a (VISUAL)	
STA. 428+14.70, 118.2' RT.	02.00	03.50	SS-2	-	-	SAME AS SS-1								36	A-6a (VISUAL)	
LATITUDE = 39.177529221	03.50	05.00	SS-3	-	-	60	5	9	16	10	36	22	14	16	A-2-6 (0)	
LONGITUDE = -84.486751434	05.00	06.50	SS-4	-	-	27	11	35	22	5	NP	NP	NP	14	A-2-4 (0)	
	08.50	10.00	SS-5	-	-	ST., BR. SILT AND CLAY, "AND" SA., TR. GR.								12	A-6a (VISUAL)	
B-167-0-07	00.50	02.00	SS-1	-	-	MD. ST., BROWN SANDY SILT, TR. GR.								28	A-4a (VISUAL)	
STA. 432+00.00, 70.0' LT.	02.00	03.50	SS-2	-	-	1	1	3	47	48	42	23	19	29	A-7-6 (12)	
LATITUDE = 39.178704664	03.50	05.00	SS-3	-	-	0	3	11	38	48	42	25	17	29	A-7-6 (11)	
LONGITUDE = -84.486825089	05.00	06.50	SS-4	-	-	LO., BROWN COARSE AND FINE SAND, TR. GR.								4	A-3a (VISUAL)	
	08.50	10.00	SS-5	-	-	MD. ST., BROWN SANDY SILT, SM. CL.								17	A-4a (VISUAL)	
B-170-0-07	00.00	01.50	SS-1	-	-	ST., BROWN SANDY SILT, SM. CL., LI. GR.								8	A-4a (VISUAL)	
STA. 436+05.70, 98.5' RT.	01.50	03.00	SS-2	-	-	SAME AS SS-3								14	A-6a (VISUAL)	
LATITUDE = 39.179545951	03.00	04.50	SS-3	-	-	4	7	37	14	38	26	14	12	13	A-6a (4)	
LONGITUDE = -84.485714254	04.50	06.00	SS-4	-	-	2	3	50	20	25	NP	NP	NP	19	A-4a (2)	
	08.50	10.00	SS-5	-	-	SAME AS SS-4								17	A-4a (VISUAL)	
B-171-0-07	01.50	03.00	SS-1	-	-	54	17	14	12	3	NP	NP	NP	4	A-1-a (0)	
STA. 439+61.50, 34.4' LT.	03.00	04.50	SS-2	-	-	19	18	36	11	16	NP	NP	NP	13	A-3a (0)	
LATITUDE = 39.180587478	04.50	06.00	SS-3	-	-	SAME AS SS-2								9	A-3a (VISUAL)	
LONGITUDE = -84.485649732																
B-174-0-07	02.00	03.50	SS-1	-	-	SAME AS SS-1								7	A-3a (VISUAL)	
STA. 444+07.50, 69.3' RT.	03.50	05.00	SS-2	-	-	0	0	85	7	8	NP	NP	NP	13	A-3a (0)	
LATITUDE = 39.181600209	05.00	06.50	SS-3	-	-	3	13	70	7	7	NP	NP	NP	11	A-3a (0)	
LONGITUDE = -84.484692771	06.50	08.00	SS-4	-	-	SAME AS SS-1								22	A-3a (VISUAL)	
B-180-0-07	00.50	02.00	SS-1	-	-	0	1	5	32	62	36	21	15	16	A-6a (10)	
STA. 451+04.60, 91.4' RT.	02.00	03.50	SS-2	-	-	8	5	27	35	25	23	15	8	10	A-4a (5)	
LATITUDE = 39.183334761	03.50	05.00	SS-3	-	-	V. ST. TO ST., DK. BR. SILT AND CLAY, TR. GR., SM. SA.								11	A-6a (VISUAL)	
LONGITUDE = -84.483650708	05.00	06.50	SS-4	-	-	SAME AS SS-3								11	A-6a (VISUAL)	
	08.50	10.00	SS-5	-	-	SAME AS SS-3								18	A-6a (VISUAL)	
B-183-0-07	01.50	03.00	SS-1	-	-	61	12	11	13	3	NP	NP	NP	4	A-1-b (0)	
STA. 454+09.30, 50.0' LT.	03.00	04.50	SS-2	-	-	3	4	25	55	13	21	16	5	13	A-4b (7)	
LATITUDE = 39.184255514	04.50	06.00	SS-3	-	-	MD. ST., DK. BR. CLAY, TR. GR., TR. SA., LI. SI.								22	A-7-6 (VISUAL)	
LONGITUDE = -84.483694022	06.00	07.50	SS-4	-	-	ST., BROWN SANDY SILT, TR. GR., SM. CL.								14	A-4a (VISUAL)	
	07.50	09.00	SS-5	-	-	1	1	4	56	38	33	20	13	20	A-6a (9)	
	09.00	10.50	SS-6	-	-	SAME AS SS-5								21	A-6a (VISUAL)	
	10.50	12.00	SS-7	-	-	SAME AS SS-5								17	A-6a (VISUAL)	
	12.00	13.50	SS-8	-	-	1	2	15	53	29	30	17	13	16	A-6a (9)	
	13.50	15.00	SS-9	-	-	SAME AS SS-8								20	A-6a (VISUAL)	

SUMMARY OF SOIL TEST DATA
℄ CONST. I-75

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
B-185-0-07	01.50	03.00	SS-1	-	-	V. DE., BROWN GRAVEL WITH SAND, TR. SI.								4	A-1-b (VISUAL)	
STA. 458+01.40, 83.6' RT.	03.00	04.50	SS-2	-	-	2	7	58	16	17	NP	NP	NP	12	A-3a (0)	
LATITUDE = 39.185136055	04.50	06.00	SS-3	-	-	60	6	22	8	4	NP	NP	NP	14	A-1-b (0)	
LONGITUDE = -84.48276418	06.00	07.50	SS-4	-	-	V. LO., DARK BROWN FINE SAND, SM. SI., LI. CL.								17	A-3 (VISUAL)	
	08.50	10.00	SS-5	-	-	V. LO., BR. COARSE AND FINE SAND, LI. SI., TR. GR., TR. CL.								19	A-3a (VISUAL)	
B-187-0-07	01.50	03.00	SS-1	-	-	29	7	38	21	5	NP	NP	NP	7	A-2-4 (0)	
STA. 462+07.30, 49.5' LT.	03.00	04.50	SS-2	-	-	1	8	73	16	2	NP	NP	NP	7	A-3a (0)	
LATITUDE = 39.186311991	04.50	06.00	SS-3	-	-	SAME AS SS-2								36	A-3a (VISUAL)	
LONGITUDE = -84.482763147																
B-189-0-07	01.50	03.00	SS-1	-	-	0	1	6	69	24	26	18	8	15	A-4b (8)	
STA. 466+02.20, 56.9' RT.	03.00	04.50	SS-2	-	-	2	1	7	44	46	38	16	22	18	A-6b (13)	
LATITUDE = 39.187257495	04.50	06.00	SS-3	-	-	SAME AS SS-2								21	A-6b (VISUAL)	
LONGITUDE = -84.48198496	06.00	07.50	SS-4	-	-	SAME AS SS-2								23	A-6b (VISUAL)	
	07.50	09.00	SS-5	-	-	ST., GY. AND BR. SILT AND CLAY, TR. GR., TR. SA.								17	A-6a (VISUAL)	
	09.00	10.50	SS-6	-	-	SAME AS SS-5								25	A-6a (VISUAL)	
B-190-0-07	00.50	02.00	SS-1	-	-	0	0	4	74	22	NP	NP	NP	20	A-4b (8)	
STA. 470+08.70, 69.4' LT.	02.00	03.50	SS-2	-	-	SAME AS SS-1								16	A-4b (VISUAL)	
LATITUDE = 39.188426115	03.50	05.00	SS-3	-	-	0	0	3	83	14	NP	NP	NP	24	A-4b (8)	
LONGITUDE = -84.481977075	05.00	06.50	SS-4	-	-	ST., GRAY SILT AND CLAY								21	A-6a (VISUAL)	
	08.50	10.00	SS-5	-	-	ST., GRAY SILTY CLAY								21	A-6b (VISUAL)	
B-191-0-07	00.50	02.00	SS-1	-	-	ST., BROWN SILT AND CLAY, TR. GR.								16	A-6a (VISUAL)	
STA. 474+01.30, 59.3' RT.	02.00	03.50	SS-2	-	-	1	1	5	48	45	35	19	16	17	A-6b (10)	
LATITUDE = 39.189287104	03.50	05.00	SS-3	-	-	0	1	4	59	36	33	19	14	23	A-6a (10)	
LONGITUDE = -84.481029826	05.00	06.50	SS-4	-	-	SAME AS SS-3								30	A-6a (VISUAL)	
	08.50	10.00	SS-5	-	-	SAME AS SS-3								28	A-6a (VISUAL)	
	13.50	15.00	SS-6	-	-	SAME AS SS-3								29	A-6a (VISUAL)	
	18.50	20.00	SS-7	-	-	V. ST., BROWN SILTY CLAY, SM. SA.								14	A-6b (VISUAL)	
B-193-0-07	02.00	03.50	SS-1	-	-	60	12	8	14	6	NP	NP	NP	4	A-1-b (0)	
STA. 478+07.50, 46.7' LT.	03.50	05.00	SS-2	-	-	17	15	31	18	19	NP	NP	NP	10	A-4a (0)	
LATITUDE = 39.190372496	05.00	06.50	SS-3	-	-	SAME AS SS-2								12	A-4a (VISUAL)	
LONGITUDE = -84.480554481																
B-194-0-07	00.00	01.50	SS-1	-	-	2	6	58	16	18	NP	NP	NP	10	A-3a (0)	
STA. 482+03.30, 87.2' RT.	01.50	03.00	SS-2	-	-	0	4	69	11	16	NP	NP	NP	8	A-3a (0)	
LATITUDE = 39.190935729	03.00	04.50	SS-3	-	-	SAME AS SS-1								6	A-3a (VISUAL)	
LONGITUDE = -84.479264071	04.50	06.00	SS-4	-	-	SAME AS SS-1								11	A-3a (VISUAL)	
	08.50	10.00	SS-5	-	-	SAME AS SS-1								13	A-3a (VISUAL)	
B-195-0-07	00.00	01.50	SS-1	-	-	42	19	21	7	11	NP	NP	NP	6	A-1-b (0)	
STA. 485+96.30, 64.6' LT.	01.50	03.00	SS-2	-	-	48	11	22	8	11	NP	NP	NP	8	A-1-b (0)	
LATITUDE = 39.192011082	03.00	04.50	SS-3	-	-	MD. DE., BROWN COARSE AND FINE SAND, SM. CL.								13	A-3a (VISUAL)	
LONGITUDE = -84.478716718	04.50	06.00	SS-4	-	-	ST., BROWN SILTY CLAY, SM. SA.								14	A-6b (VISUAL)	
	08.50	10.00	SS-5	-	-	SAME AS SS-4								17	A-6b (VISUAL)	
B-196-0-07	00.50	02.00	SS-1	-	-	LO., BR. COARSE AND FINE SAND, SM. GR., LI. CL.								8	A-3a (VISUAL)	
STA. 490+10.80, 87.3' RT.	02.00	03.50	SS-2	-	-	SAME AS SS-2								6	A-3a (VISUAL)	
LATITUDE = 39.192564052	03.50	05.00	SS-3	-	-	45	24	20	10	1	NP	NP	NP	6	A-1-b (0)	
LONGITUDE = -84.477330796	05.00	06.50	SS-4	-	-	34	33	21	5	7	NP	NP	NP	5	A-1-b (0)	
	08.50	10.00	SS-5	-	-	SAME AS SS-4								5	A-1-b (VISUAL)	
B-199-0-07	00.50	02.00	SS-1	-	-	11	16	47	19	7	NP	NP	NP	9	A-3a (0)	
STA. 494+09.80, 109.6' LT.	02.00	03.50	SS-2	-	-	47	23	17	9	4	NP	NP	NP	5	A-1-b (0)	
LATITUDE = 39.193735511	03.50	05.00	SS-3	-	-	SAME AS SS-2								5	A-1-b (VISUAL)	
LONGITUDE = -84.47688592	05.00	06.50	SS-4	-	-	MD. DE., BROWN COARSE AND FINE SAND, LI. GR.								5	A-3a (VISUAL)	
	06.50	08.00	SS-5	-	-	SAME AS SS-4								4	A-3a (VISUAL)	
	08.50	10.00	SS-6	-	-	SAME AS SS-4								4	A-3a (VISUAL)	
B-200-0-07	00.50	02.00	SS-1	-	-	SAME AS SS-3								3	A-1-b (VISUAL)	
STA. 497+01.40, 70.2' RT.	02.00	03.50	SS-2	-	-	SAME AS SS-3								3	A-1-b (VISUAL)	
LATITUDE = 39.193988636	03.50	05.00	SS-3	-	-	32	37	21	10	0	NP	NP	NP	3	A-1-b (0)	
LONGITUDE = -84.475721864	05.00	06.50	SS-4	-	-	51	37	9	3	0	NP	NP	NP	3	A-1-a (0)	
	08.50	10.00	SS-5	-	-	SAME AS SS-4								3	A-1-a (VISUAL)	

DRAWN RRM
CHECKED BRT

SOIL PROFILE
SUMMARY OF SOIL TEST DATA

HAM-75-7.85

2 / 7

160D
160

JN\2022094\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77869ID101.dgn 2/1/2024 1:00:46 PM hbrendlinger

SUMMARY OF SOIL TEST DATA
℄ CONST. I-75

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
B-201-0-07	00.50	02.00	SS-1	-	-	MD. DE., BR. GRAVEL WITH SAND, SILT & CLAY								6	A-2-6 (VISUAL)	
STA. 500+11.40, 60.4' LT.	02.00	03.50	SS-2	-	-	SAME AS SS-1								7	A-2-6 (VISUAL)	
LATITUDE = 39.194857096	03.50	05.00	SS-3	-	-	19	16	31	22	12	NP	NP	NP	10	A-2-4 (0)	
LONGITUDE = -84.475318193	05.00	06.50	SS-4	-	-	21	18	29	18	14	NP	NP	NP	9	A-2-4 (0)	
	08.50	10.00	SS-5	-	-	NO RECOVERY										
B-202-0-07	00.50	02.00	SS-1	-	-	26	25	32	9	8	NP	NP	NP	15	A-1-b (0)	
STA. 504+18.48, 64.9' RT.	02.00	03.50	SS-2	-	-	41	20	25	7	7	NP	NP	NP	15	A-1-b (0)	
LATITUDE = 39.195444702	03.50	05.00	SS-3	-	-	SAME AS SS-1									A-1-b (VISUAL)	
LONGITUDE = -84.474017347	05.00	06.50	SS-4	-	-	FILL: LO., BR., BLK. & GR. SILT, SM. CL., TR. GR.								13	A-4b (VISUAL)	
	08.50	10.00	SS-5	-	-	SAME AS SS-4									A-4b (VISUAL)	
N-001-0-06	02.10	04.10	SS-1	75	4.50	10	12	37	23	18	22	14	8	7	A-4a (1)	
STA. 506+25.14, 19.3' RT.	04.10	06.10	SS-2	79	4.25	2	6	25	16	51	42	18	24	15	A-7-6 (12)	
LATITUDE = 39.195946436	06.10	08.10	SS-3	75	4.50	SAME AS SS-2								21	A-7-6 (VISUAL)	
LONGITUDE = -84.473640897																
S-001-0-06	01.80	03.80	SS-1	58	4.50	22	13	20	32	13	26	15	11	16	A-6a (2)	
STA. 508+25.27, 60.1' LT.	03.80	05.80	SS-2	88	2.00	1	4	28	24	43	22	16	6	15	A-4a (6)	
LATITUDE = 39.196498176	05.80	07.80	SS-3	92	1.50	SAME AS SS-2								15	A-4a (VISUAL)	
LONGITUDE = -84.473368054	10.30	11.80	SS-4	100	2.00	SAME AS SS-2								21	A-4a (VISUAL)	
	15.30	16.80	SS-5	100	3.00	1	5	27	18	49	28	17	11	15	A-6a (7)	
	20.30	21.80	SS-6	100	3.25	SAME AS SS-5								20	A-6a (VISUAL)	
	25.30	26.80	SS-7	89	2.75	SAME AS SS-5								20	A-6a (VISUAL)	
N-002-0-06	01.20	03.20	SS-1	17	3.00	32	8	11	35	14	24	16	8	10	A-4a (3)	
STA. 510+25.17, 64.9' RT.	03.20	05.20	SS-2	92	2.00	0	2	5	77	16	NP	NP	NP	26	A-4b (8)	
LATITUDE = 39.196668541	05.20	07.20	SS-3	79	3.00	SAME AS SS-2								20	A-4b (VISUAL)	
LONGITUDE = -84.472565378	09.70	11.20	SS-4	89	-	0	5	86	9					18	A-3 (VISUAL)	
	14.70	16.20	SS-5	71	-	LO., BR. COARSE AND FINE SAND, TR. SI., TR. CL.								4	A-3 (VISUAL)	
	19.70	21.20	SS-6	71	-	SAME AS SS-5								6	A-3 (VISUAL)	
S-002-0-06	01.40	03.40	SS-1	42	-	20	18	28	34					11	A-2-4 (VISUAL)	
STA. 512+25.21, 20.0' LT.	03.40	05.40	SS-2	83	4.5+	7	9	38	18	28	23	13	10	12	A-4a (2)	
LATITUDE = 39.197230213	05.40	07.40	SS-3	75	4.5+	7	14	43	36					13	A-4a (VISUAL)	
LONGITUDE = -84.472306834																
N-003-0-06	02.20	04.20	SS-1	79	-	3	10	51	36					13	A-4a (VISUAL)	
STA. 514+25.19, 25.1' RT.	04.20	06.20	SS-2	100	3.25	0	11	37	31	21	23	16	7	14	A-4a (3)	
LATITUDE = 39.1975497	06.20	08.20	SS-3	100	-	0	12	49	39					15	A-4a (VISUAL)	
LONGITUDE = -84.471711369																
B-207-0-07	01.00	02.50	SS-1	-	-	22	21	33	20	4	NP	NP	NP	7	A-3a (0)	
STA. 516+01.33, 49.2' LT.	02.50	04.00	SS-2	-	-	9	13	32	20	26	21	13	8	14	A-4a (2)	
LATITUDE = 39.198043447	04.00	05.50	SS-3	-	-	SAME AS SS-2								20	A-4a (VISUAL)	
LONGITUDE = -84.471482542	05.50	07.00	SS-4	-	-	SAME AS SS-2								17	A-4a (VISUAL)	
	08.50	10.00	SS-5	-	-	ST., DK. BR. SILTY CLAY, SM. SA., LI. GR.								14	A-6b (VISUAL)	
S-003-0-06	00.80	02.80	SS-1	75	-	75	13	6	6					3	A-1-a (VISUAL)	
STA. 516+24.71, 69.7' LT.	02.80	04.80	SS-2	79	2.25	8	24	31	20	17	20	14	6	13	A-4a (0)	
LATITUDE = 39.198128818	04.80	06.80	SS-3	83	-	30	17	23	14	16	24	15	9	20	A-2-4 (0)	
LONGITUDE = -84.471479765	09.30	10.80	SS-4	67	1.75	ST. TO V.ST., BR. SILT AND CLAY, SM. SA., TR. GR.								13	A-6a (VISUAL)	
	14.30	15.80	SS-5	100	2.00	SAME AS SS-4								13	A-6a (VISUAL)	
	19.30	20.80	SS-6	72	0.25	SAME AS SS-4								14	A-6a (VISUAL)	
N-004-0-06	00.90	02.90	SS-1	75	-	67	16	14	3					3	A-1-a (VISUAL)	
STA. 518+25.20, 55.2' RT.	02.90	04.90	SS-2	25	-	47	27	18	8					4	A-1-b (VISUAL)	
LATITUDE = 39.198308837	04.90	06.90	SS-3	83	2.50	4	17	37	24	18	20	15	5	14	A-4a (1)	
LONGITUDE = -84.470678665	09.40	10.90	SS-4	89	2.00	SAME AS SS-3								12	A-4a (VISUAL)	
	14.40	15.90	SS-5	83	-	10	18	39	33					23	A-3a (VISUAL)	
	19.40	20.90	SS-6	83	-	LO., BROWN FINE SAND, SM. SI., TR. GR.								5	A-3a (VISUAL)	
B-209-0-07	00.00	01.50	SS-1	-	-	SAME AS SS-2								7	A-6a (VISUAL)	
STA. 520+04.35, 60.1' RT.	01.50	03.00	SS-2	-	-	12	9	27	19	33	27	15	12	10	A-6a (4)	
LATITUDE = 39.198681501	03.00	04.50	SS-3	-	-	SAME AS SS-2								10	A-6a (VISUAL)	
LONGITUDE = -84.470255211	04.50	06.00	SS-4	-	-	20	19	34	13	14	NP	NP	NP	7	A-3a (0)	
	08.50	10.00	SS-5	-	-	SAME AS SS-4								8	A-3a (VISUAL)	

SUMMARY OF SOIL TEST DATA
℄ CONST. I-75

EXPLORATION NO., STATION & OFFSET	FROM	TO	SAMPLE ID	% REC	HP tsf	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)	SO4 ppm
S-004-0-06	01.30	03.30	SS-1	79	-	22	15	30	19	14	19	13	6	9	A-2-4 (0)	
STA. 520+25.06, 19.8' LT.	03.30	05.30	SS-2	83	4.50	12	5	32	24	27	22	13	9	13	A-4a (3)	
LATITUDE = 39.198863487	05.30	07.30	SS-3	67	2.75	SAME AS SS-2								13	A-4a (VISUAL)	
LONGITUDE = -84.470428717																
N-005-0-06	01.80	03.80	SS-1	83	3.00	25	16	19	24	16	26	16	10	13	A-4a (1)	
STA. 522+25.19, 20.1' RT.	03.80	05.80	SS-2	67	-	1	48	41	10					6	A-3a (VISUAL)	
LATITUDE = 39.199231691	05.80	07.80	SS-3	63	-	1	51	40	8					4	A-3a (VISUAL)	
LONGITUDE = -84.469886058																
B-213-0-07	01.00	02.50	SS-1	-	-	31	22	26	10	11	NP	NP	NP	16	A-1-b (0)	
STA. 524+21.91, 52.7' LT.	02.50	04.00	SS-2	-	-	23	22	40	12	3	NP	NP	NP	7	A-3a (0)	
LATITUDE = 39.199786134	04.00	05.50	SS-3	-	-	SAME AS SS-2								6	A-3a (VISUAL)	
LONGITUDE = -84.46969401	05.50	07.00	SS-4	-	-	SAME AS SS-2								6	A-3a (VISUAL)	
S-005-0-06	01.20	03.20	SS-1	83	1.50	16	19	21	29	15	26	16	10	13	A-4a (2)	
STA. 524+25.01, 55.0' LT.	03.20	05.20	SS-2	79	2.00	15	15	32	25	13	NP	NP	NP	9	A-4a (1)	
LATITUDE = 39.199796714	05.20	07.20	SS-3	67	2.25	SAME AS SS-2								12	A-4a (VISUAL)	
LONGITUDE = -84.469694689	09.70	11.20	SS-4	100	1.50	SAME AS SS-2								11	A-4a (VISUAL)	
N-006-0-06	01.30	03.30	SS-1	63	-	34	36	12	10	8	NP	NP	NP	3	A-1-b (0)	
STA. 526+25.18, 60.1' RT.	03.30	05.30	SS-2	79	-	17	11	55	7	10	NP	NP	NP	5	A-3a (0)	
LATITUDE = 39.200083572	05.30	07.30	SS-3	75	-	0	12	79	9					4	A-3 (VISUAL)	
LONGITUDE = -84.468967972	09.80	11.30	SS-4	89	-	MD. DE., BROWN FINE SAND, TR. SI.								4	A-3 (VISUAL)	
	14.80	16.30	SS-5	100	-	SAME AS SS-4								0	A-3 (VISUAL)	
	19.80	21.30	SS-6	39	-	SAME AS SS-4								5	A-3 (VISUAL)	
B-215-0-07	01.50	03.00	SS-1	-	-	1	1	19	42	37	30	18	12	18	A-6a (9)	
STA. 528+05.72, 59.0' RT.	03.00	04.50	SS-2	-	-	3	15	68	6	8	NP	NP	NP	7	A-3a (0)	
LATITUDE = 39.200514115	04.50	06.00	SS-3	-	-	SAME AS SS-2								4	A-3a (VISUAL)	
LONGITUDE = -84.468637958	06.00	07.50	SS-4	-	-	SAME AS SS-2								5	A-3a (VISUAL)	
	08.50	10.00	SS-5	-	-	SAME AS SS-2								5	A-3a (VISUAL)	
S-006-0-06	01.70	03.70	SS-1	54	-	53	12	11	24		NP	NP	NP	6	A-1-b (0)	
STA. 528+25.49, 20.1' LT.	03.70	05.70	SS-2	92	2.50	17	10	17	29	27	33	17	16	18	A-6b (7)	
LATITUDE = 39.200670064	05.70	07.70	SS-3	75	3.50	SAME AS SS-2								20	A-6b (VISUAL)	
LONGITUDE = -84.468844795																
N-007-0-06	02.10	04.10	SS-1	92	-	19	9	33	39					12	A-4a (VISUAL)	
STA. 530+25.28, 19.8' RT.	04.10	06.10	SS-2	75	3.50	6	9	30	38	17	23	16	7	11	A-4a (4)	
LATITUDE = 39.201097656	06.10	08.10	SS-3	50	-	20	17	24	24	15	24	13	11	10	A-6a (1)	
LONGITUDE = -84.468381398																
B-216-0-07	01.00	02.50	SS-1	-	-	12	13	13	33	29	25	14	11	12	A-6a (6)	
STA. 530+89.94, 68.7' LT.	02.50	04.00	SS-2	-	-	NO RECOVERY										
LATITUDE = 39.201366321	04.00	05.50	SS-3	-	-	15	16	19	22	28	22	14	8	13	A-4a (3)	
LONGITUDE = -84.468554415	05.50	07.00	SS-4	-	-	SO., BROWN SILTY CLAY, SM. SA., SM. GR.								17	A-6b (VISUAL)	

DRAWN RRM
CHECKED BRT

SOIL PROFILE
SUMMARY OF SOIL TEST DATA

HAM-75-7.85

3 / 7

160E
160

J:\2022\0947\ODOT\HAM\1526_HAM-75-8.9\Geotechnical\sheets\778890102.dgn 2/7/2024 10:04:47 PM hbrendinger

HORIZONTAL SCALE IN FEET
0 25 50 100

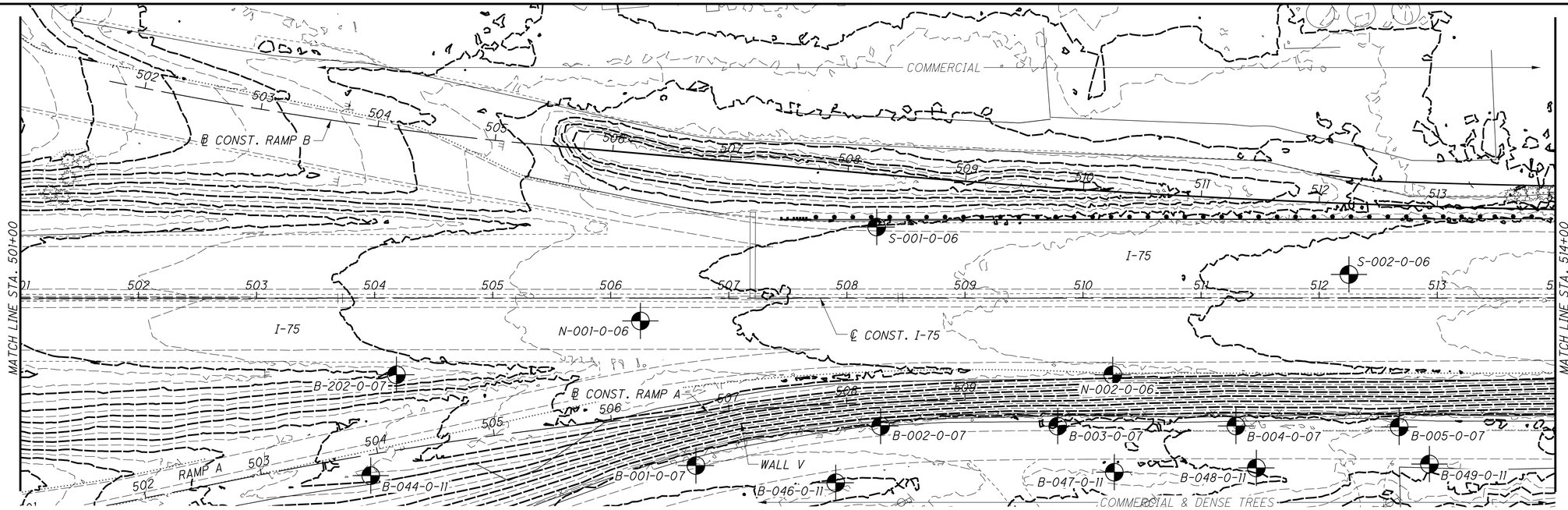
DRAWN RRM
CHECKED BRT

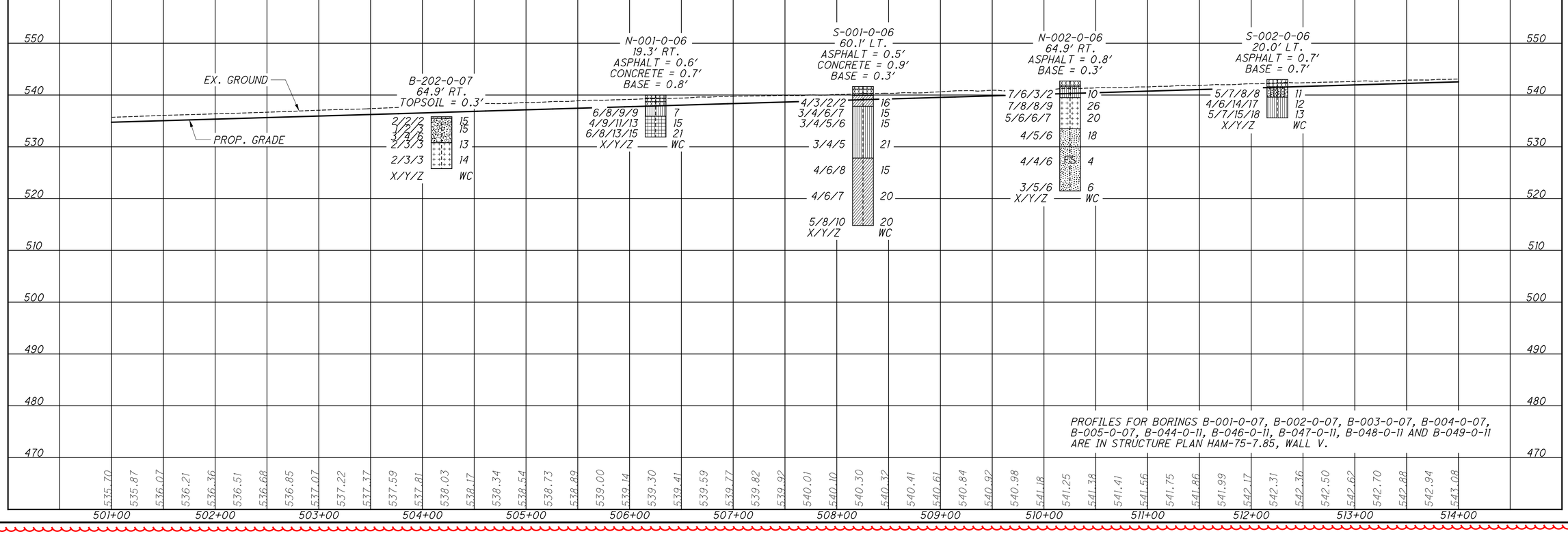
SOIL PROFILE
STA. 488+00 TO STA. 501+00 I-75
HAM-75-7.85

4 / 7

160F
160

J:\2022094\7\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889IP107.dgn 2/1/2024 1:00:49 PM hbrendlinger





HORIZONTAL SCALE IN FEET
0 25 50 100

DRAWN RRM
CHECKED BRT

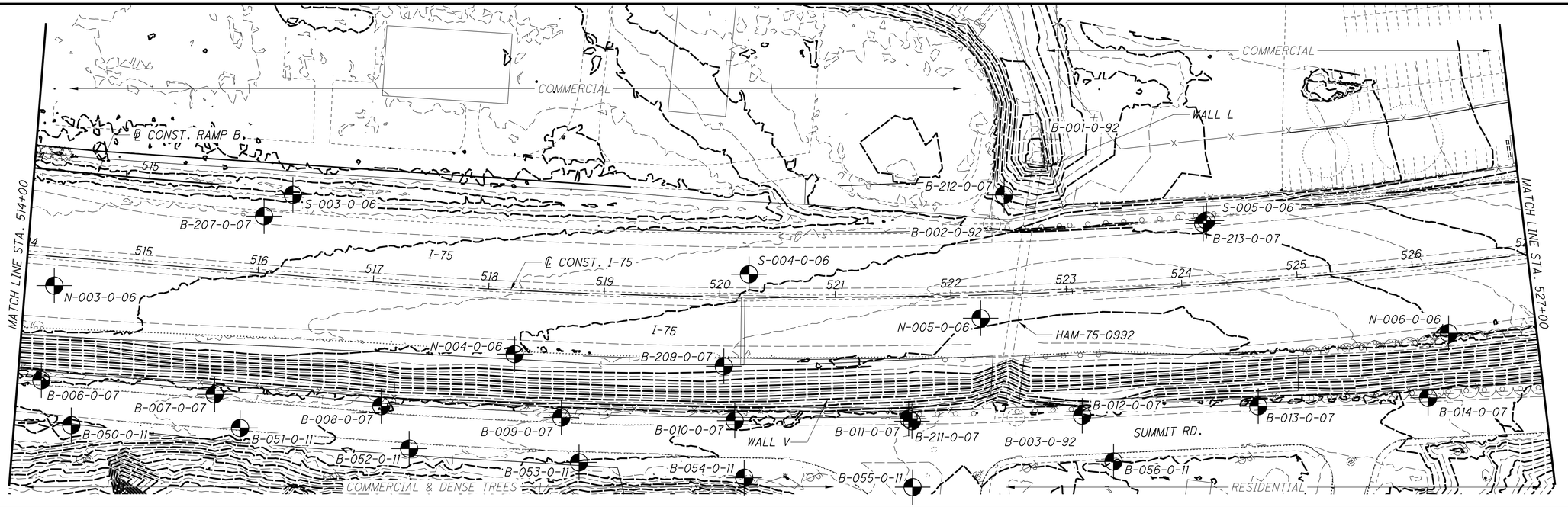
SOIL PROFILE
STA. 501+00 TO STA. 514+00 I-75

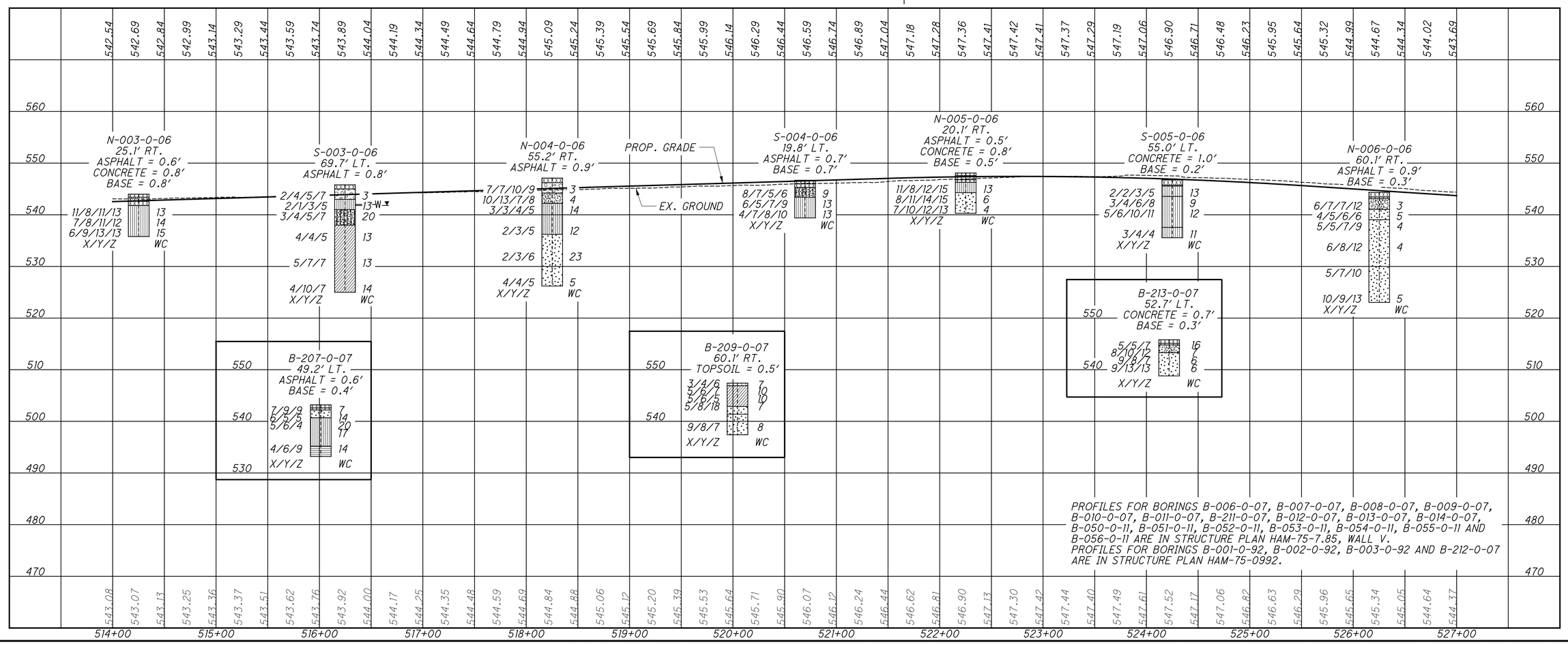
HAM-75-7.85

5 / 7

160G
160

J:\2022\094700\DOT\HAM\117526_HAM-75-8.91\Geotechnical\Sheets\778891108.dgn 2/1/2024 1:00:32 PM hbrendinger





HORIZONTAL SCALE IN FEET
0 25 50 100

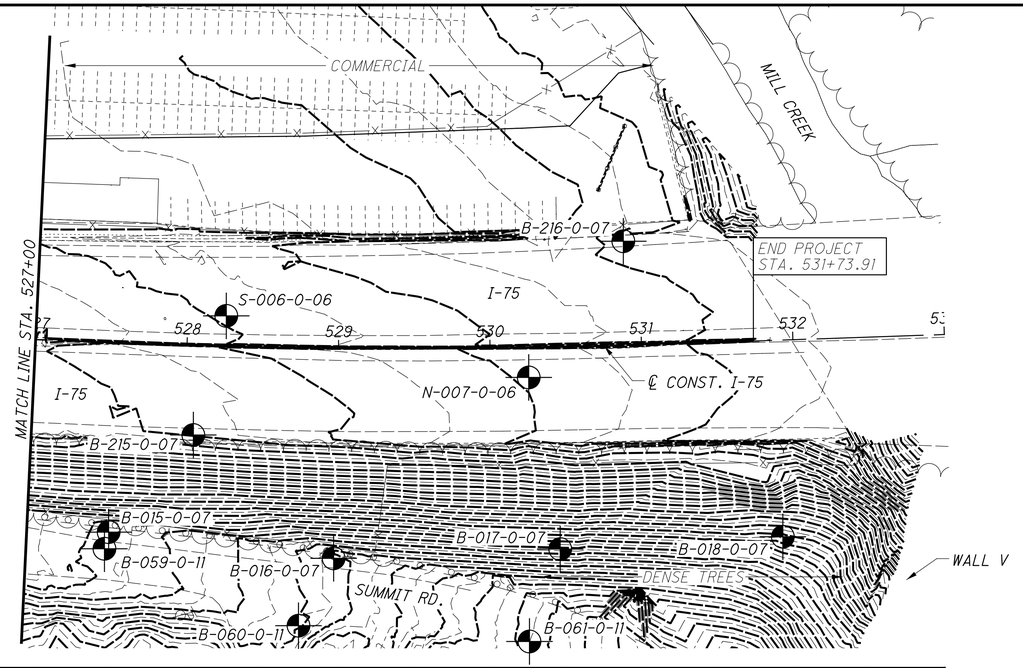
DRAWN RRM
CHECKED BRT

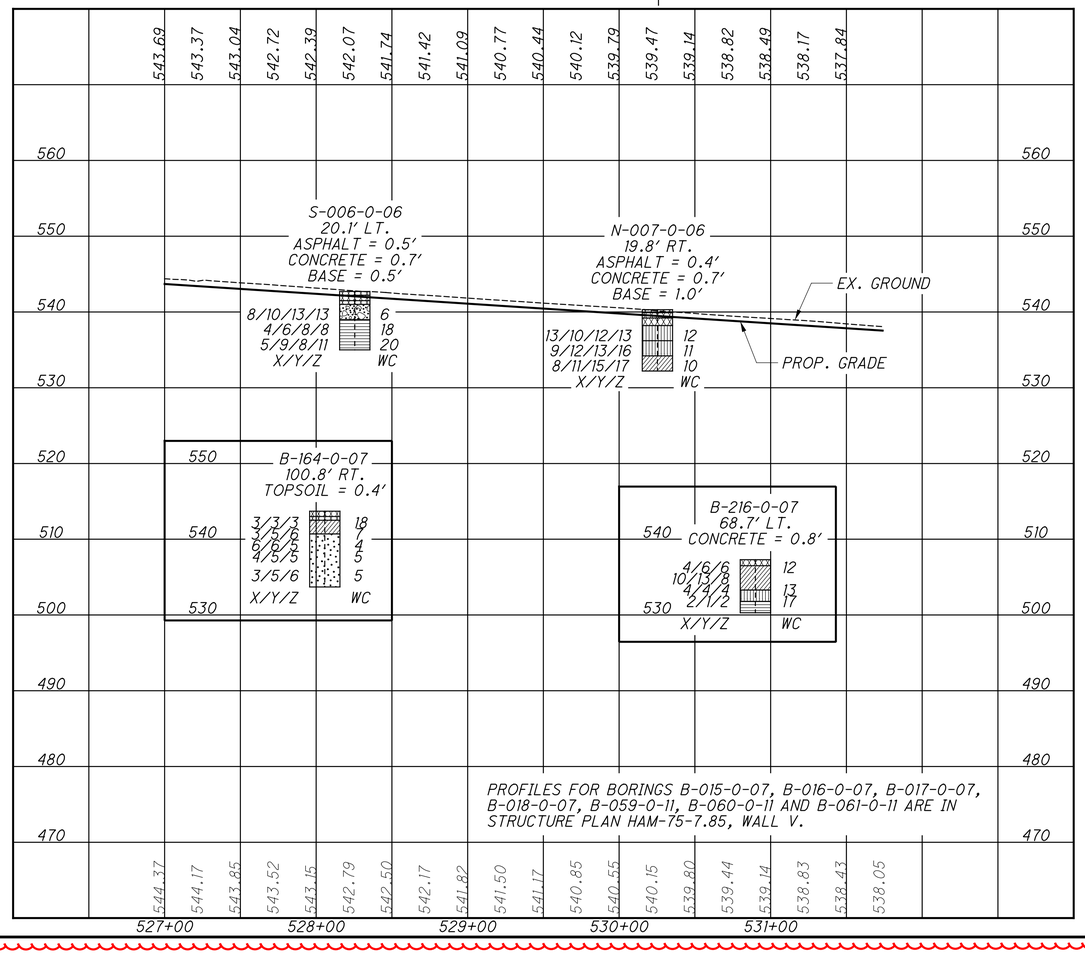
SOIL PROFILE
STA. 514+00 TO STA. 527+00 I-75
HAM-75-7.85

6 / 7

160H
160

J:\2022\0947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\7589PF09.dgn 2/1/2024 1:00:53 PM horendinger





SOIL PROFILE
STA. 527+00 TO STA. 533+00 I-75
HAM-75-7.85

HORIZONTAL SCALE IN FEET
0 25 50 100

DRAWN RRM
CHECKED BRT

7 / 7

1601
160

J:\2022\0947\ODOT\HAM\117526_HAM-75-8.9\geotechnical\sheets\77889IP110.dgn 2/7/2024 1:00:55 PM hbrendlinger

PROJECT DESCRIPTION

THE STRUCTURE FOUNDATION EXPLORATION PERFORMED FOR THE HAM-75-7.85 PROJECT IN HAMILTON COUNTY, OHIO. THIS PROJECT REPRESENTS THE NORTHERN PORTION OF HAM-75-2.30 MILL CREEK EXPRESSWAY IMPROVEMENTS BETWEEN I-75 MAINLINE STATION 410+00 AND 531+73.91. THIS STRUCTURE FOUNDATION EXPLORATION PLAN INCLUDES RETAINING WALLS H, I, J, K, S, U AND V. ALL OF THE WALLS ARE PROPOSED NEW STRUCTURES REQUIRED TO ACCOMMODATE THE PROPOSED WIDENED ALIGNMENT OF I-75.

HISTORIC RECORDS

BORINGS B-001-0-07 THROUGH B-018-0-07 PERFORMED FOR THE HAM-75-10.10 STEP 7 PRELIMINARY ENGINEERING, PID NO. 76256, WERE USED AS PART OF THE CURRENT EXPLORATION. SELECT BORINGS PERFORMED BY CTL ENGINEERING FOR THE HAM-75-2.30, PID NO. 76257, ARE ALSO REFERENCED IN THIS STRUCTURE FOUNDATION EXPLORATION.

GEOLOGY

THE SITE LIES WITHIN THE ILLINOIAN TILL PLAIN OF THE TILL PLAINS SECTION. THIS AREA IS CHARACTERIZED BY ROLLING GROUND MORAINE DEPOSITS WITH MANY BURIED VALLEYS ALTERNATING BETWEEN BROAD FLOODPLAINS AND BEDROCK GORGES. THE SITE AREA CONTAINS SILTY LOAM TILL DEPOSITED AS GROUND MORAINE COVERED WITH LOESS AND DISSECTED BY THE MODERN DAY MILL CREEK. BASED ON BEDROCK GEOLOGY AND TOPOGRAPHY MAPS OF THE AREA, FROM THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR), THE UNDERLYING BEDROCK CONSISTS OF THE ORDOVICIAN-AGED POINT PLEASANT FORMATION. THE BEDROCK SURFACE FORMS A VALLEY ROUGHLY BENEATH, AND FOLLOWING, THE ALIGNMENT OF MILL CREEK WHICH IS ALIGNED NORTHEAST-TO-SOUTHWEST. I-75 IS ALIGNED ROUGHLY PARALLEL TO THIS MAIN BEDROCK VALLEY FROM THE APPROXIMATE INTERSECTION WITH STATE ROUTE 126 TO THE APPROXIMATE INTERSECTION WITH REGINA GRAETER WAY, AND LIES JUST EAST OF THE BOTTOM OF THE BEDROCK VALLEY. ALONG THE PROJECT ALIGNMENT, THE BEDROCK SURFACE DIRECTLY BENEATH I-75 LIES ALONG THE SLOPE OF THE BEDROCK VALLEY AND THE BEDROCK SURFACE RANGES BETWEEN APPROXIMATE ELEVATIONS OF 385 TO 425 FEET MSL. A SMALLER BEDROCK VALLEY BRANCHES OFF TO THE SOUTHEAST OF THE BEDROCK VALLEY THAT FOLLOWS MILL CREEK JUST SOUTH OF THE INTERCHANGE WITH STATE ROUTE 562, AND RUNS ROUGHLY PARALLEL WITH ROSS RUN AND GENERALLY BENEATH THE SR 562 ALIGNMENT. OVERALL, THE BEDROCK SURFACE ALONG THE MAJORITY OF THE PROJECT ALIGNMENT SLOPES DOWNWARD TO THE NORTHWEST. ACCORDING TO BEDROCK TOPOGRAPHY MAPPING, THE DEPTH TO TOP OF BEDROCK IN THE VICINITY OF THE PROJECT RANGES FROM APPROXIMATELY 120 TO 170 FEET BELOW THE EXISTING GROUND SURFACE.

RECONNAISSANCE

THE PROJECT ALIGNMENT STARTS AT THE SOUTH END OF THE I-75 AND SR 562 INTERCHANGE AND EXTENDS NORTH TO THE MILL CREEK CROSSING, JUST SOUTH OF THE I-75 AND SR 126 INTERCHANGE. THE IMPROVEMENTS ALSO INCLUDE RECONFIGURING THE INTERCHANGE RAMPS BETWEEN I-75 AND SR 562 AND WIDENING OF SR 562 NEAR THE INTERCHANGE. THE EXISTING I-75 MAINLINE ALONG THE PROJECT ALIGNMENT IS A SIX-LANE, ASPHALT PAVED ROADWAY AND THERE ARE EXISTING INTERCHANGES WITH SR 562, TOWNE STREET AND PADDOCK ROAD. THE LAND USAGE AROUND THE PROJECT IS PRIMARILY COMMERCIAL AND RESIDENTIAL.

SUBSURFACE EXPLORATION

BETWEEN SEPTEMBER 27, 2011, AND JANUARY 32, 2012, FORTY-THREE (43) STRUCTURAL BORINGS, IDENTIFIED AS B-012-0-11, B-014-0-11 THROUGH B-023-0-11, B-025-0-11, B-027-0-11, B-029-0-11, B-032-0-11 THROUGH B-035-0-11 AND B-037-0-11 THROUGH B-061-0-11, WERE DRILLED TO DEPTHS RANGING FROM 15.0 TO 35.0 FEET BELOW THE GROUND SURFACE. THE BORING LOCATIONS WERE DETERMINED AND FIELD STAKED BY RII REPRESENTATIVES. THE BORINGS WERE DRILLED WITH AN ALL TERRAIN VEHICLE (ATV) MOUNTED ROTARY DRILLING MACHINE, UTILIZING EITHER A 3.25-INCH OR 4.25-INCH INSIDE DIAMETER, CONTINUOUS, HOLLOW-STEM AUGER OR A 4.5-INCH CONTINUOUS, SOLID FLIGHT AUGER TO ADVANCE THE HOLES. THE HAMMERS FOR THE CME-750X AND CME-750 ATV-MOUNTED DRILL RIGS USED FOR THIS PROJECT WERE CALIBRATED ON MAY 6, 2011, AND HAVE A DRILL ROD ENERGY RATIO OF 77.1 AND 78.4 PERCENT, RESPECTIVELY.

IN ADDITION TO THE AFOREMENTIONED BORINGS, EIGHTEEN (18) STRUCTURAL BORINGS, DESIGNATED AS B-001-0-07 THROUGH B-018-0-07, WERE DRILLED TO DEPTHS RANGING FROM 30.0 TO 50.0 FEET BELOW THE GROUND SURFACE AS PART OF THE 2007 STRUCTURE FOUNDATION EXPLORATION. THE BORINGS WERE DRILLED USING AN ATV-MOUNTED ROTARY DRILLING MACHINE UTILIZING A 2.25-INCH OR 3.75-INCH INSIDE DIAMETER, CONTINUOUS, HOLLOW-STEM AUGER TO ADVANCE THE HOLES. NO CALIBRATION DATA IS AVAILABLE FOR THE HAMMER USED DURING THE SPT TESTING FOR THE 2007 BORINGS PERFORMED FOR THIS PROJECT.

EXPLORATION FINDINGS

AT THE EXISTING GROUND SURFACE IN BORINGS B-012-0-11, B-017-0-11 THROUGH B-020-0-11, AND B-057-0-11 THROUGH B-061-0-11, 3.0 TO 12.0 INCHES OF ASPHALT OVERLYING 5.0 TO 10.0 INCHES OF CONCRETE WAS ENCOUNTERED AT THE GROUND SURFACE, WITH THE EXCEPTION OF B-012-0-11 WHICH DID NOT ENCOUNTER CONCRETE. UNDERLYING THE ASPHALT AND CONCRETE IN BORINGS B-012-0-11, B-020-0-11 AND B-058-0-11, 6.0 TO 12.0 INCHES OF AGGREGATE BASE MATERIAL WAS ALSO ENCOUNTERED. WITH THE EXCEPTION OF BORING B-014-0-11, THE REMAINING BORINGS ENCOUNTERED 3.0 TO 12.0 OF TOPSOIL AT THE GROUND SURFACE, IDENTIFIED BY THE SIGNIFICANT PRESENCE OF ORGANIC MATTER AND VEGETATION. BORING B-014-0-11 ENCOUNTERED 12.0 INCHES OF GRAVEL AT THE GROUND SURFACE.

(CONTINUED ON SHEET 2)

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	*A-1-a*	*7*	*23*
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b*	*22*	*92*
GRAVEL AND/OR STONE FRAGS. WITH SAND AND SILT	*A-2-4*	*1*	*13*
GRAVEL AND/OR STONE FRAGS. WITH SAND, SILT & CLAY	*A-2-6*	*4*	*6*
FINE SAND	*A-3*	*17*	*144*
COARSE AND FINE SAND	*A-3a*	*24*	*89*
SANDY SILT	*A-4a*	*30*	*52*
SILT	*A-4b*	*6*	*17*
ELASTIC SILT AND CLAY	*A-5*	*1*	*1*
SILT AND CLAY	*A-6a*	*32*	*83*
SILTY CLAY	*A-6b*	*35*	*61*
CLAY	*A-7-6*	*40*	*69*
	TOTAL	*219*	*659*
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	*VISUAL*		

2007 AND 2011 BORING LOCATION - PLAN VIEW

HISTORIC BORING LOCATION - PLAN VIEW

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

X/Y/Z — NUMBER OF BLOWS FOR STANDARD PENETRATION TEST
X= NUMBER OF BLOWS FOR FIRST 6 INCHES
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES
Z= NUMBER OF BLOWS FOR THIRD 6 INCHES

N_{60} — INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

WC — INDICATES WATER CONTENT IN PERCENT.

W — INDICATES FREE WATER ELEVATION.

INDICATES STATIC WATER ELEVATION.

INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.

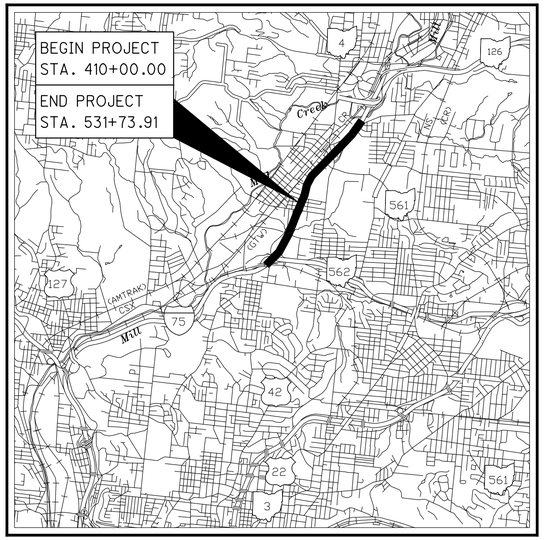
INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25% OR GREATER THAN 19% WITH A WET APPEARANCE.

AS — INDICATES AN AUGER SAMPLE.

SS — INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.

ST — INDICATES A SHELBY TUBE SAMPLE.

3S — FOR INSTANCES OF NO RECOVERY FROM STANDARD SS INTERVAL, A 3.0 INCH O.D. SPLIT SPOON IS DRIVEN THE FULL LENGTH OF THE STANDARD SS INTERVAL PLUS AN ADDITIONAL 6.0 INCHES TO OBTAIN A REPRESENTATIVE SAMPLE. ONLY THE FINAL 6.0 INCHES OF SAMPLE IS RETAINED. BLOW COUNTS FROM 3S SAMPLING ARE NOT CORRELATED WITH N60 VALUES.



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12″	3″	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

RECON. - RB 08/24/11 TO 08/31/11
DRILLING - TF, AB, SM 09/27/11 TO 01/23/12
DRAWN - RRM 02/06/15
REVIEWED - BRT 02/06/15

DESIGN AGENCY
RESOURCE INTERNATIONAL
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231

PID NO. 77889

STRUCTURE FOUNDATION EXPLORATION
WALLS H, I, J, K, S, U, V, Y AND Z

HAM-75-7.85

1 / 17

160J
160

A:\2022\094700DOT\HAM\17526_HAM-75-8.9\Geotechnical\Sheets\77889CC2201.dgn 2/7/2024 10:00:56 PM mbrendinger

EXPLORATION FINDINGS (CONTINUED FROM SHEET 1)

BENEATH THE SURFACE MATERIALS IN BORINGS B-015-0-11 THROUGH B-023-0-11, B-025-0-11, B-035-0-11, B-040-0-11, B-043-0-11, B-044-0-11 AND B-055-0-11, MATERIAL IDENTIFIED AS EXISTING FILL OR POSSIBLE WAS ENCOUNTERED EXTENDING TO DEPTHS RANGING FROM 3.0 TO 28.0 FEET BELOW THE GROUND SURFACE. THE FILL CONSISTED OF BROWN, GRAY, BROWNISH GRAY, DARK BROWN, DARK GRAY AND BLACK GRAVEL, GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, GRAVEL WITH SAND, SILT AND CLAY, FINE SAND, COARSE AND FINE SAND, SANDY SILT, SILT, SILT AND CLAY AND SILTY CLAY (ODOT A-1-a, A-1-b, A-2-4, A-2-6, A-3, A-3a, A-4a, A-4b, A-6a, A-6b).

UNDERLYING THE SURFACE MATERIALS AND EXISTING FILL, NATURAL COHESIVE AND GRANULAR SOILS WERE ENCOUNTERED. THE COHESIVE SOILS WERE GENERALLY DESCRIBED AS GRAY, BROWN, BROWNISH GRAY, GRAYISH BROWN, DARK BROWN, DARK GRAY AND BLACK SANDY SILT, SILT, ELASTIC SILT, SILT AND CLAY, SILTY CLAY AND CLAY (ODOT A-4a, A-4b, A-5, A-6a, A-6b, A-7-6). THE GRANULAR SOILS WERE GENERALLY DESCRIBED AS BROWN, GRAY, DARK BROWN, LIGHT BROWN AND BROWNISH GRAY GRAVEL, GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, GRAVEL WITH SAND, SILT AND CLAY, FINE SAND, COARSE AND FINE SAND, SANDY SILT AND SILT (ODOT A-1-a, A-1-b, A-2-4, A-2-6, A-2-7, A-3, A-3a, A-4a, A-4b).

THE SHEAR STRENGTH AND CONSISTENCY OF THE COHESIVE SOILS ARE PRIMARILY DERIVED FROM THE HAND PENETROMETER VALUES (HP). THE COHESIVE SOIL ENCOUNTERED RANGED FROM SOFT ($0.25 < HP \leq 0.5$ TSF) TO HARD ($HP > 4.0$ TSF). THE UNCONFINED COMPRESSIVE STRENGTH OF THE COHESIVE SOIL SAMPLES TESTED, OBTAINED FROM THE HAND PENETROMETER, RANGED FROM 0.5 TSF TO OVER 4.5 TSF (LIMIT OF THE INSTRUMENT). THE RELATIVE DENSITY OF GRANULAR SOILS IS PRIMARILY DERIVED FROM SPT BLOW COUNTS (N60). BASED ON THE SPT BLOW COUNTS OBTAINED, THE GRANULAR SOIL ENCOUNTERED RANGED FROM VERY LOOSE ($N60 < 5$ BLOWS PER FOOT [BPF]) TO VERY DENSE ($N60 > 50$ BPF). OVERALL BLOW COUNTS RECORDED FROM THE SPT SAMPLING RANGED FROM 0 BPF (SPLIT SPOON ADVANCED UNDER THE WEIGHT OF THE HAMMER [WOH] ALONE WITHOUT REQUIRING THE HAMMER TO LIFT AND DROP) TO SPLIT SPOON SAMPLER REFUSAL. SPLIT SPOON REFUSAL IS DEFINED AS OBTAINING IN EXCESS OF 50 BLOWS WITH LESS THAN 6 INCHES OF PENETRATION.

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 0 TO 37 PERCENT. THE NATURAL MOISTURE CONTENTS OF THE COHESIVE SOIL SAMPLES TESTED FOR PLASTICITY INDEX RANGED FROM 7 PERCENT BELOW TO 10 PERCENT ABOVE THEIR CORRESPONDING PLASTIC LIMITS. IN GENERAL, THE SOILS EXHIBITED NATURAL MOISTURE CONTENTS ESTIMATED TO BE SIGNIFICANTLY BELOW TO SIGNIFICANTLY ABOVE OPTIMUM MOISTURE LEVELS.

GROUNDWATER WAS ENCOUNTERED INITIALLY DURING THE DRILLING PROCESS IN BORINGS B-015-0-11, B-016-0-11, B-020-0-11 THROUGH B-022-0-11, B-032-0-11 THROUGH B-035-0-11, B-039-0-11 THROUGH B-041-0-11, B-047-0-11, B-051-0-11 AND B-058-0-11 AT DEPTHS RANGING FROM 15.5 TO 46.0 FEET BELOW THE GROUND SURFACE. AT THE COMPLETION OF DRILLING AND PRIOR REMOVING THE AUGERS, GROUNDWATER ACCUMULATED IN THE AUGER STEMS IN BORINGS B-016-0-11, B-021-0-11, B-022-0-11, B-035-0-11 AND B-039-0-11 TO DEPTHS RANGING FROM 25.4 TO 39.0 FEET BELOW THE GROUND SURFACE. THE REMAINING BORINGS WERE OBSERVED TO BE DRY, MEANING NO MEASUREABLE AMOUNT OF WATER HAD ACCUMULATED WITHIN THE BOREHOLES DURING OR AT THE COMPLETION OF DRILLING.

THE BORINGS FOR THE 2007 EXPLORATION WERE GENERALLY DRILLED ALONG THE WEST SIDE OF SUMMIT ROAD ALONG THE PROPOSED ALIGNMENT OF RETAINING WALL V. BORINGS B-001-0-07, B-003-0-07 THROUGH B-010-0-07 AND B-015-0-07 ENCOUNTERED 3.0 TO 9.0 INCHES OF TOPSOIL AT THE GROUND SURFACE, IDENTIFIED BY THE SIGNIFICANT PRESENCE OF ORGANIC MATTER AND VEGETATION. BORING B-002-0-07 ENCOUNTERED 4.0 INCHES OF CONCRETE OVERLYING 10.0 INCHES OF CONCRETE FOLLOWED BY 8.0 INCHES OF AGGREGATE BASE AT THE GROUND SURFACE.

UNDERLYING THE SURFACE MATERIALS AND FROM THE EXISTING GROUND SURFACE IN BORINGS B-011-0-07 THROUGH B-014-0-07 AND B-016-0-07 THROUGH B-018-0-07, NATURAL COHESIVE AND GRANULAR SOILS WERE ENCOUNTERED. THE COHESIVE SOILS WERE GENERALLY DESCRIBED AS BROWN, GRAY, REDDISH BROWN AND REDDISH GRAY SANDY SILT, SILT AND CLAY, SILTY CLAY AND CLAY (ODOT A-4a, A-6a, A-6b, A-7-6). THE GRANULAR SOILS WERE GENERALLY DESCRIBED AS BROWN AND GRAY GRAVEL AND SAND, GRAVEL WITH SAND, SILT AND CLAY, FINE SAND, COARSE TO FINE SAND, SANDY SILT AND SILT (ODOT A-1-b, A-2-6, A-3, A-3a, A-4a, A-4b).

THE SPT BLOW COUNTS INDICATE THAT THE RELATIVE CONSISTENCY OF THE COHESIVE SOIL RANGES FROM SOFT ($2 \leq N60 \leq 4$ BPF) TO HARD ($N60 > 30$ BPF) AND THE RELATIVE DENSITY OF THE GRANULAR SOIL RANGES FROM VERY LOOSE ($N60 < 5$ BPF) TO DENSE ($31 \leq N60 \leq 50$ BPF). THE SPT BLOW COUNTS RANGED FROM 4 BPF TO SPLIT SPOON SAMPLER REFUSAL, GENERALLY INCREASING WITH DEPTH. THE UNCONFINED COMPRESSIVE STRENGTH OF THE COHESIVE SOIL SAMPLES TESTED RANGED FROM 1.0 TSF TO OVER 4.5 TSF.

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 2 TO 37 PERCENT. THE NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED FOR PLASTICITY INDEX RANGED FROM 19 PERCENT BELOW TO 16 PERCENT ABOVE THEIR CORRESPONDING PLASTIC LIMITS. THE MOISTURE CONTENTS OF THE NATIVE SOILS ARE GENERALLY CONSIDERED TO BE SIGNIFICANTLY BELOW TO SIGNIFICANTLY ABOVE OPTIMUM MOISTURE LEVELS.

GROUNDWATER WAS NOT ENCOUNTERED IN ANY OF THE 2007 BORINGS PERFORMED FOR THIS EXPLORATION.

BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE 2007 OR 2011 BORINGS PERFORMED FOR THIS EXPLORATION.

SPECIFICATIONS

THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JULY 2011.

AVAILABLE INFORMATION

ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET.

DRAWN RRM
CHECKED BRT

STRUCTURE FOUNDATION EXPLORATION
WALLS H, I, J, K, S, U, V, Y AND Z

HAM-75-7.85

160K
160

J:\2022047\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77689ZC202.dgn 2/7/2024 10:05:57 PM hbrendinger

SEYMOUR AVE.

LONGVIEW ST.

BEGIN RETAINING WALL K
STA 491+72.30, 114.5' LT

END RETAINING WALL K
STA 496+10.94, 177.9' LT

WALL K

B-002-0-55

B-010-0-56

B-004-0-55

B-006-0-55

B-040-0-11

B-041-0-11

B-199-0-07

B-042-0-11

B-043-0-11

℄ RAMP C

RAMP C

I-75

℄ I-75

I-75

491

492

493

494

495

496

497

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN RRM
CHECKED BRT

STRUCTURE FOUNDATION EXPLORATION

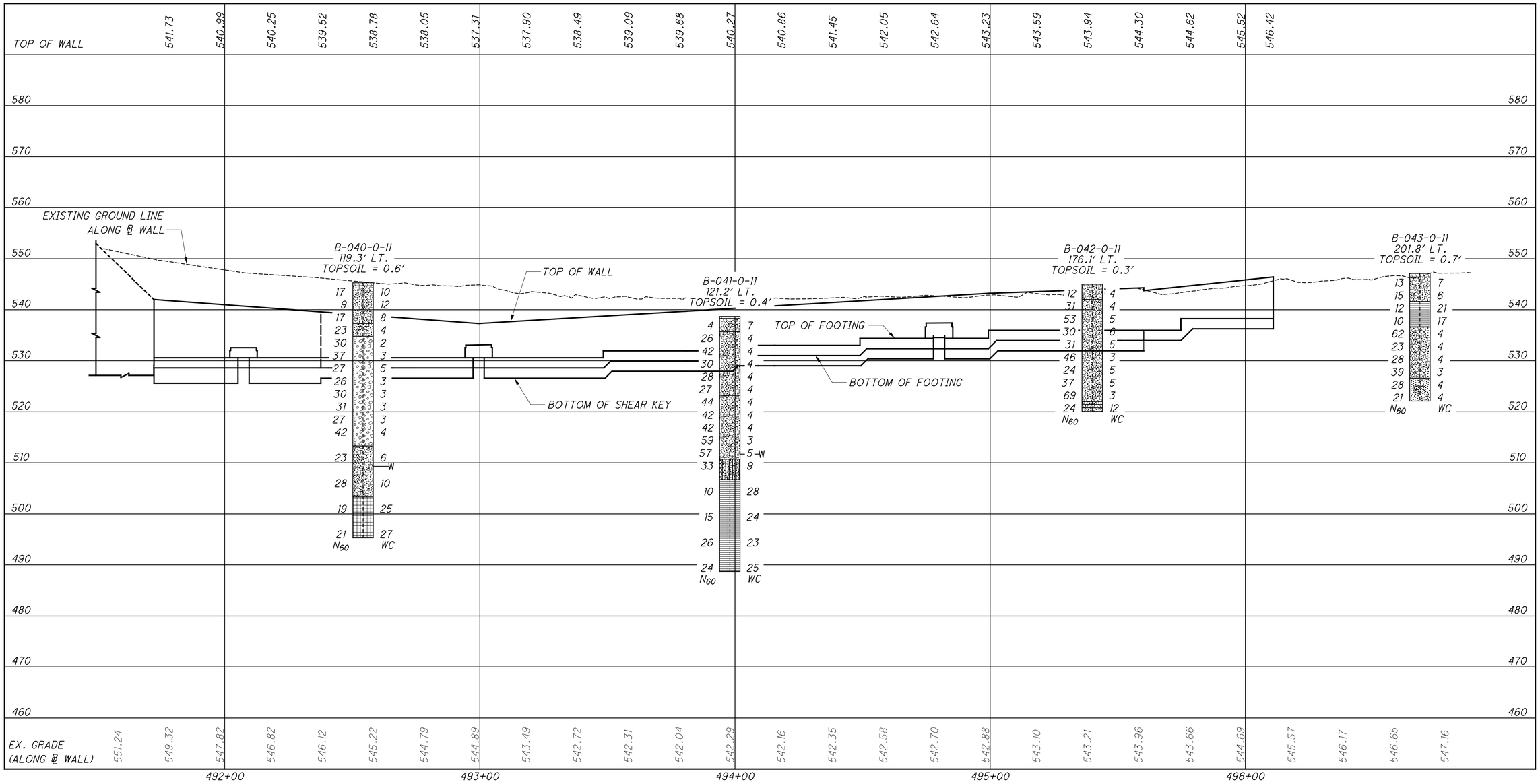
WALL K

HAM-75-7.85

3 / 17

160L
160

J:\2022\2022947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\streets\778927P209.dgn 2/1/2024 10:05:58 PM hbrendlinger



HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN RRM
CHECKED BRT

STRUCTURE FOUNDATION EXPLORATION
WALL K

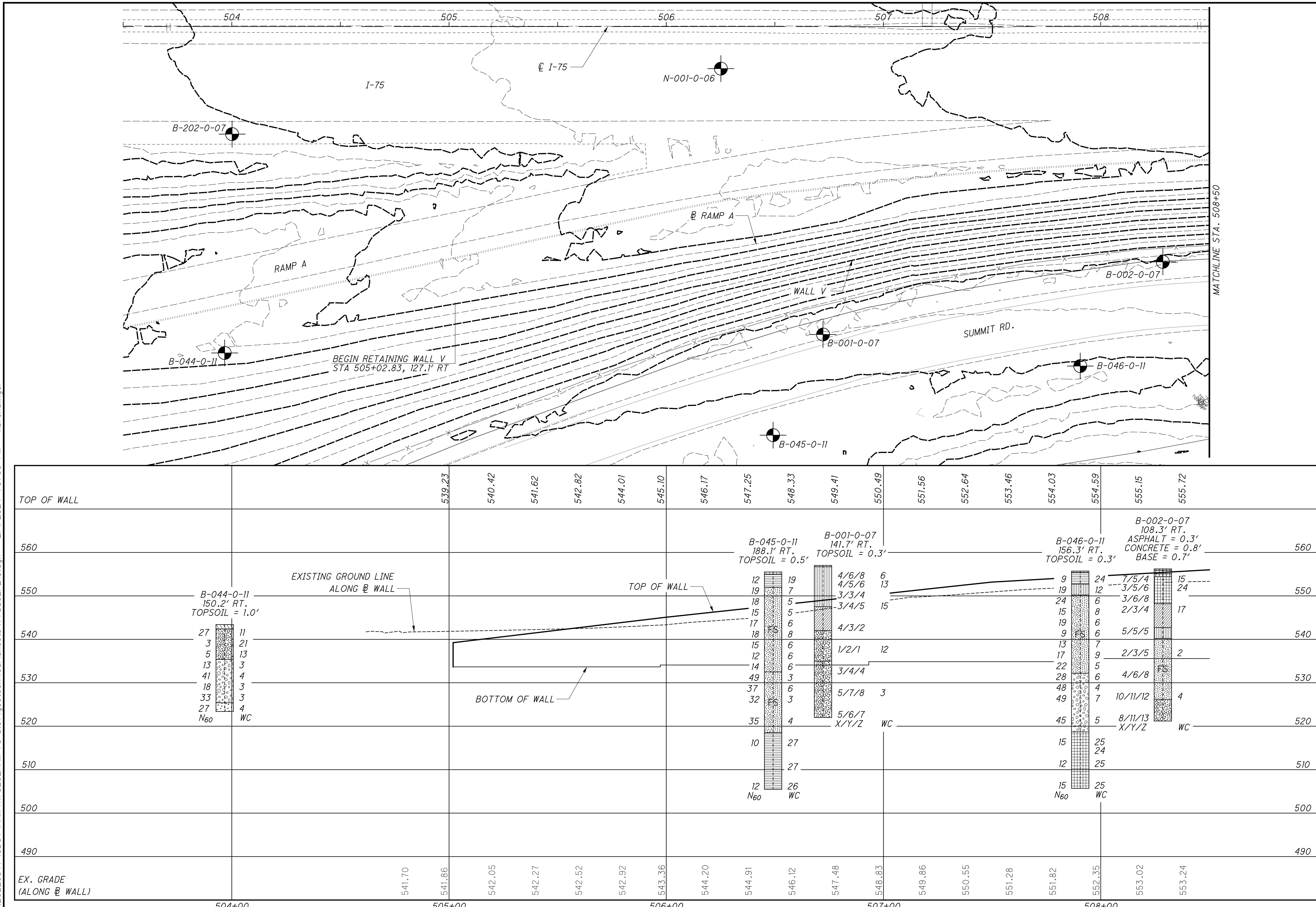
HAM-75-7.85

4 / 17

160M
160

J:\2022\0947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77892P210.dgn 2/7/2024 1:00:59 PM hbrendinger

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\117892P213.dgn 2/1/2024 1:01:00 PM hbrendlinger

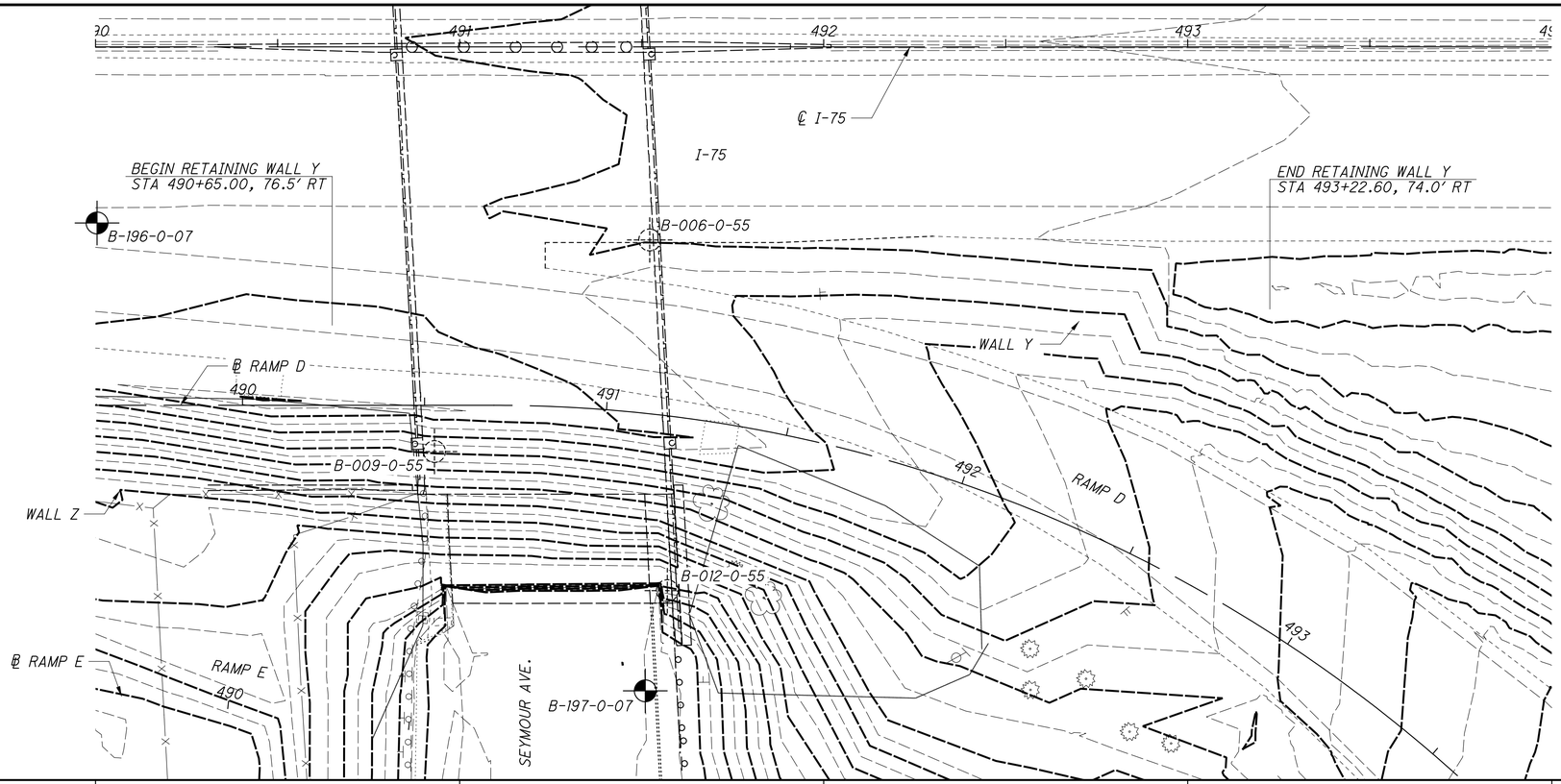


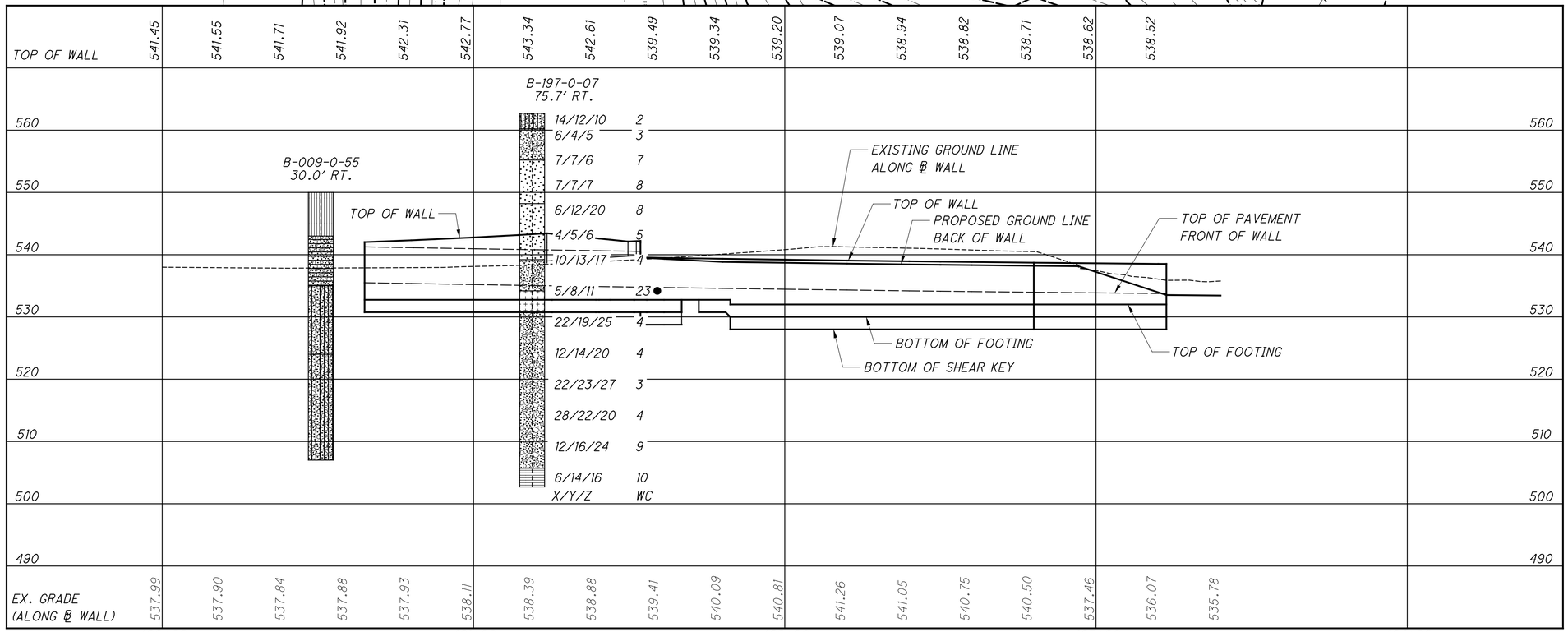
STRUCTURE FOUNDATION EXPLORATION
WALL V
STA. 504+00 TO STA. 508+50

HORIZONTAL SCALE IN FEET

DRAWN RRM
CHECKED BRT

HAM-75-7.85





J:\2022094.7\ODOT\HAM\117526_HAM-75-8.9\geotechnical\sheets\7-7885P219.dgn 2/1/2024 1:01:01 PM nbrendinger

HORIZONTAL SCALE IN FEET
0 10 20 40

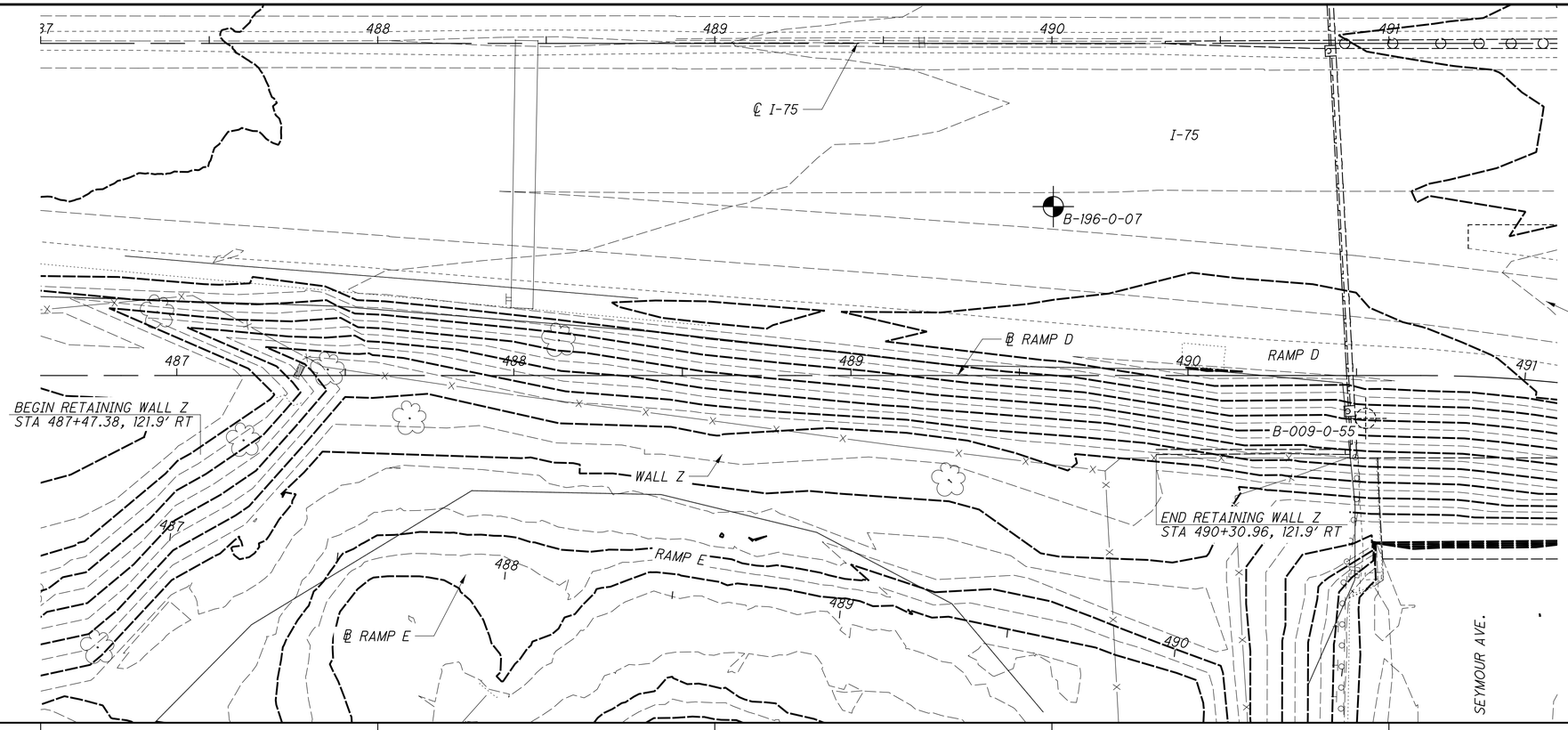
DRAWN RRM
CHECKED BRT

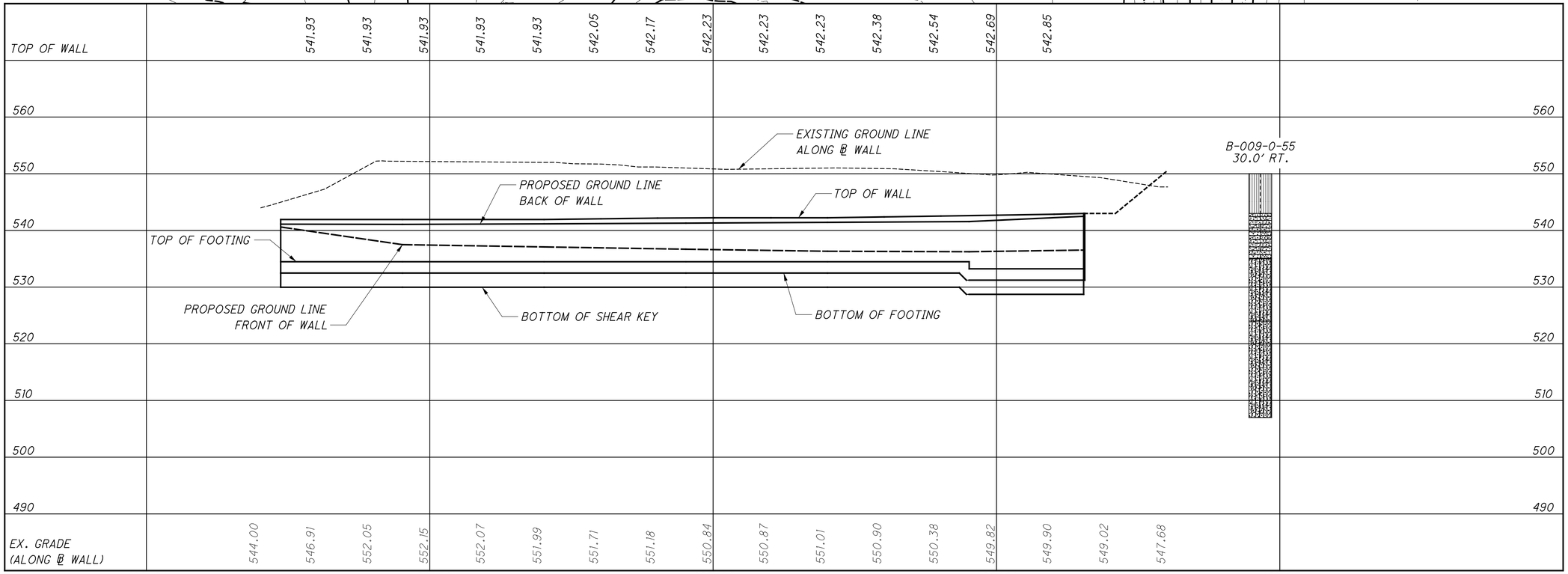
STRUCTURE FOUNDATION EXPLORATION
WALL Y

HAM-75-7.85

6 / 17

1600
160





HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN RRM
CHECKED BRT

FOUNDATION EXPLORATION
STRUCTURE WALL Z

HAM-75-7.85

7 / 17

160P
160

J:\2022094?\ODOT\HAM\17526_HAM-75-8.91\geotechnical sheets\778892P220.dgn 2/7/2024 10:03 PM hbrendinger

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889ZL228.dgn 2/1/2024 1:01:04 PM hbrendlinger

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 492+53.19 / 119.3' Lt	EXPLORATION ID B-040-0-11
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / S.M.	HAMMER: CME AUTOMATIC	ALIGNMENT: PR CL I-75	
PID: 77889 SFN: NA	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/6/11	ELEVATION: 545.3 (MSL) EOB: 50.0 ft.	PAGE 1 OF 1
START: 10/3/11 END: 10/3/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.193444319 ° N / 84.477287988 ° W	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.6' - TOPSOIL (7.0")	545.3 / 544.7																	
FILL: LOOSE TO MEDIUM DENSE, DARK BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, MOIST TO WET.		1	6 6 7	17	67	SS-1	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
-TRACE ROOT FIBERS PRESENT THROUGHOUT		4	7 4 3	9	22	SS-2	-	40	22	27	8	3	NP	NP	NP	12	A-1-b (0)	
		7	5 5 8	17	33	SS-3	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
	537.3																	
MEDIUM DENSE, BROWN **FINE SAND**, LITTLE COARSE SAND, LITTLE SILT, DRY.		9	7 9 9	23	11	SS-4	-	-	-	-	-	-	-	-	-	4	A-3 (V)	
-TRACE WOOD FRAGMENTS AND ORGANIC ODOR PRESENT IN SS-4	534.8																	
MEDIUM DENSE TO DENSE, BROWN **GRAVEL**, AND FINE TO COARSE SAND, LITTLE SILT, TRACE CLAY, DRY TO DAMP.		12	10 11 12	30	72	SS-5	-	-	-	-	-	-	-	-	-	2	A-1-a (V)	
		14	7 14 15	37	78	SS-6	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
		17	9 12 9	27	56	SS-7	-	50	21	15	11	3	NP	NP	NP	5	A-1-a (0)	
		19	6 9 11	26	61	SS-8	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
-COBBLES PRESENT THROUGHOUT		22	8 11 12	30	67	SS-9	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
		24	7 9 15	31	78	SS-10	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
		27	9 9 12	27	67	SS-11	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
		29	14 19 14	42	72	SS-12	-	-	-	-	-	-	-	-	-	4	A-1-a (V)	
	513.3																	
MEDIUM DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, DAMP TO MOIST.		34	5 8 10	23	67	SS-13	-	-	-	-	-	-	-	-	-	6	A-1-b (V)	
	W																	
		39	8 10 12	28	72	SS-14	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
	503.3																	
VERY STIFF, GRAY TO BROWNISH GRAY **CLAY**, SOME SILT, MOIST.		44	4 6 9	19	67	SS-15	2.50	0	0	0	27	73	45	20	25	25	A-7-6 (15)	
		49	3 7 9	21	78	SS-16	2.50	-	-	-	-	-	-	-	-	27	A-7-6 (V)	
	495.3	EOB 50																

NOTES: GROUNDWATER INITIALY ENCOUNTERED @ 36.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED 188 LBS CEMENT / 25 LBS BENTONITE POWDER / 40 GAL WATER

160Q 160	8 / 17	HAM-75-7.85	STRUCTURE FOUNDATION EXPLORATION WALLS H, I, J, K, S, U, V, Y, Z

DRAWN RRM
CHECKED BRT

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889ZL229.dgn 2/1/2024 1:02:52 PM nbrendlinger

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 493+96.89 / 121.2' LT	EXPLORATION ID B-041-0-11
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / S.M.	HAMMER: CME AUTOMATIC	ALIGNMENT: PR CL I-75	
PID: 77889 SFN: NA	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/6/11	ELEVATION: 538.7 (MSL) EOB: 50.0 ft.	PAGE 1 OF 1
START: 10/4/11 END: 10/4/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.193737748 ° N / 84.47694903 ° W	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.4' - TOPSOIL (5.0")	538.3																	
VERY LOOSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DAMP. -TRACE ROOT FIBERS PRESENT IN SS-1	535.7		2 1 2	4	56	SS-1	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
MEDIUM DENSE TO DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DAMP. -TRACE ROOT FIBERS PRESENT IN SS-2			2 6 14	26	67	SS-2	-	40	22	27	8	3	NP	NP	NP	4	A-1-b (0)	
			17 14 19	42	78	SS-3	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
			6 12 11	30	78	SS-4	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
			14 11 11	28	78	SS-5	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
	523.2		4 10 11	27	83	SS-6	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
DENSE TO VERY DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DRY TO DAMP.			13 15 19	44	78	SS-7	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
			4 14 19	42	89	SS-8	-	31	45	18	5	1	NP	NP	NP	4	A-1-b (0)	
			9 12 21	42	89	SS-9	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
			14 21 25	59	56	SS-10	-	-	-	-	-	-	-	-	-	3	A-1-b (V)	
		W	10 23 21	57	56	SS-11	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
	510.7																	
DENSE, BROWNISH GRAY **GRAVEL WITH SAND AND SILT**, DAMP.			13 13 13	33	89	SS-12	-	-	-	-	-	-	-	-	-	9	A-2-4 (V)	
	506.7																	
VERY STIFF, GRAY **SILTY CLAY**, TRACE COARSE TO FINE SAND, MOIST.			2 4 4	10	78	SS-13	2.50	-	-	-	-	-	-	-	-	28	A-6b (V)	
			2 4 8	15	89	SS-14	3.50	-	-	-	-	-	-	-	-	24	A-6b (V)	
			4 8 12	26	78	SS-15	3.50	0	1	1	39	59	37	20	17	23	A-6b (11)	
	488.7	EOB	6 8 11	24	89	SS-16	3.75	-	-	-	-	-	-	-	-	25	A-6b (V)	

NOTES: GROUNDWATER INITIALY ENCOUNTERED @ 27.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: TREMIED 188 LBS CEMENT / 25 LBS BENTONITE POWDER / 40 GAL WATER

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889ZL230.dgn 2/1/2024 1:04:42 PM hbrendlinger

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 495+29.72 / 176.1' Lt	EXPLORATION ID B-042-0-11
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / S.M.	HAMMER: CME AUTOMATIC	ALIGNMENT: PR CL I-75	
PID: 77889 SFN: NA	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/6/11	ELEVATION: 545.0 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 10/4/11 END: 10/4/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.194107936 ° N / 84.476773485 ° W	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.3' - TOPSOIL (4.0")	544.7																	
MEDIUM DENSE, BROWNISH GRAY **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DAMP.		1	5 4 5	12	50	SS-1	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
	542.0	2																
MEDIUM DENSE TO VERY DENSE, BROWNISH GRAY **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DRY TO DAMP.		3																
		4	4 9 15	31	44	SS-2	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
		5																
		6																
		7	14 21 20	53	78	SS-3	-	38	31	22	8	1	NP	NP	NP	5	A-1-b (0)	
		8																
		9	5 12 11	30	78	SS-4	-	-	-	-	-	-	-	-	-	6	A-1-b (V)	
-COBBLES PRESENT THROUGHOUT		10																
		11																
		12	8 10 14	31	67	SS-5	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
		13																
		14	14 17 19	46	33	SS-6	-	-	-	-	-	-	-	-	-	3	A-1-b (V)	
		15																
		16																
		17	14 7 12	24	78	SS-7	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
		18																
		19	9 16 13	37	78	SS-8	-	32	32	25	9	2	NP	NP	NP	5	A-1-b (0)	
		20																
		21																
		22	12 29 25	69	83	SS-9	-	-	-	-	-	-	-	-	-	3	A-1-b (V)	
	522.0	23																
MEDIUM DENSE, BROWNISH GRAY **GRAVEL WITH SAND, SILT, AND CLAY**, MOIST.		24	5 7 12	24	72	SS-10	-	-	-	-	-	-	-	-	-	12	A-2-6 (V)	
	520.0	EOB 25																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 10.4'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 496+53.86 / 201.8' Lt	EXPLORATION ID B-043-0-11
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / S.M.	HAMMER: CME AUTOMATIC	ALIGNMENT: PR CL I-75	
PID: 77889 SFN: NA	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/6/11	ELEVATION: 547.1 (MSL) EOB: 25.0 ft.	PAGE 1 OF 1
START: 10/4/11 END: 10/4/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.194406205 ° N / 84.47654299 ° W	

MATERIAL DESCRIPTION AND NOTES	ELEV. 547.1	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.7' - TOPSOIL (8.0")	546.4																	
FILL: MEDIUM DENSE, BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, DRY. BRICK FRAGMENTS PRESENT IN SS-1		1	6 4 6	13	44	SS-1	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
		2																
		3																
		4	5 5 7	15	44	SS-2	-	34	24	24	12	6	NP	NP	NP	6	A-1-b (0)	
	541.6	5																
STIFF, BROWN **SILTY CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.		6	4 5 4	12	56	SS-3	2.00	-	-	-	-	-	-	-	-	21	A-6b (V)	
		7																
		8																
		9	2 2 6	10	44	SS-4	1.50	10	13	16	35	26	36	19	17	17	A-6b (8)	
	536.6	10																
MEDIUM DENSE TO VERY DENSE, BROWNISH GRAY **GRAVEL AND SAND**, TRACE SILT, TRACE CLAY, DAMP.		11	17 23 25	62	78	SS-5	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
		12																
		13																
		14	4 9 9	23	78	SS-6	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
		15																
		16																
		17	8 10 12	28	72	SS-7	-	24	48	20	7	1	NP	NP	NP	4	A-1-b (0)	
		18																
		19	9 13 17	39	78	SS-8	-	-	-	-	-	-	-	-	-	3	A-1-b (V)	
	526.6	20																
MEDIUM DENSE, BROWNISH GRAY **FINE SAND**, LITTLE COARSE SAND, LITTLE FINE GRAVEL, DRY. F S		21	13 13 9	28	83	SS-9	-	-	-	-	-	-	-	-	-	4	A-3 (V)	
		22																
		23																
	522.1	24	6 7 9	21	78	SS-10	-	-	-	-	-	-	-	-	-	4	A-3 (V)	
		EOB 25																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 3.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 25 LBS BENTONITE CHIPS AND SOIL CUTTINGS

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889ZL232.dgn 2/1/2024 1:08:14 PM hbrendlinger

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 503+96.72 / 150.2' Rt	EXPLORATION ID B-044-0-11
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / S.M.	HAMMER: CME AUTOMATIC	ALIGNMENT: PROPOSED CL I-75	
PID: 77889 BR ID: NA	DRILLING METHOD: 4.5" CFA	CALIBRATION DATE: 5/6/11	ELEVATION: 543.4 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 11/22/11 END: 11/22/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.195249413 ° N / 84.473852731 ° W	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
1.0' - TOPSOIL (12.0")	543.4																	
	542.4																	
FILL: VERY LOOSE TO MEDIUM DENSE, DARK BROWN, BLACK AND REDDISH BROWN **GRAVEL AND SAND**, LITTLE SILT, TRACE CLAY, MOIST TO WET.		1	10 14 7	27	72	SS-1	-	-	-	-	-	-	-	-	-	11	A-1-b (V)	
		2																
		3																
		4	2 1 1	3	33	SS-2	-	42	20	21	14	3	NP	NP	NP	21	A-1-b (0)	
-BRICK, ASPHALT AND CONCRETE FRAGMENTS PRESENT THROUGHOUT		5																
		6																
		7	3 2 2	5	39	SS-3	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
	535.4																	
MEDIUM DENSE TO DENSE, BROWN **GRAVEL**, SOME FINE TO COARSE SAND, TRACE SILT, TRACE CLAY, DRY TO DAMP.		8																
		9	2 3 7	13	28	SS-4	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
		10																
		11																
		12	14 16 16	41	72	SS-5	-	59	20	14	6	1	NP	NP	NP	4	A-1-a (0)	
		13																
		14	15 8 6	18	78	SS-6	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
		15																
		16																
		17	9 11 15	33	83	SS-7	-	-	-	-	-	-	-	-	-	3	A-1-a (V)	
	525.4	18																
MEDIUM DENSE, BROWN **COARSE AND FINE SAND**, LITTLE SILT, TRACE FINE GRAVEL, DRY.		19	3 9 12	27	67	SS-8	-	-	-	-	-	-	-	-	-	4	A-3a (V)	
	523.4	EOB 20																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 16.3'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 50 LBS BENTONITE CHIPS AND SOIL CUTTINGS

160U	12 / 17	HAM-75-7.85	STRUCTURE FOUNDATION EXPLORATION WALLS H, I, J, K, S, U, V, Y, Z	DRAWN RRM CHECKED BRT

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889ZL233.dgn 2/1/2024 1:09:57 PM hbrendlinger

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 506+49.18 / 188.1' Rt	**EXPLORATION ID**	
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / A.D.	HAMMER: CME AUTOMATIC	ALIGNMENT: PROPOSED CL I-75	**B-045-0-11**	
PID: 77889 BR ID: NA	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/6/11	ELEVATION: 555.5 (MSL) EOB: 50.0 ft.	PAGE	
START: 11/15/11 END: 11/15/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.195680732 ° N / 84.473145925 ° W	1 OF 1	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.5' - TOPSOIL (6.0")	555.5																	
VERY STIFF, BROWN **SILTY CLAY**, SOME COARSE TO FINE SAND, DAMP.	555.0		5 4 5	12	56	SS-1	2.50	0	4	32	27	37	39	17	22	19	A-6b (11)	
	552.0																	
MEDIUM DENSE, BROWN **FINE SAND**, LITTLE COARSE SAND, TRACE SILT, TRACE CLAY, DAMP.			4 6 9	19	50	SS-2	-	-	-	-	-	-	-	-	-	7	A-3 (V)	
			6 7 7	18	61	SS-3	-	-	-	-	-	-	-	-	-	5	A-3 (V)	
			4 4 8	15	56	SS-4	-	-	-	-	-	-	-	-	-	5	A-3 (V)	
			6 6 7	17	67	SS-5	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
F.S.			3 7 7	18	61	SS-6	-	0	17	73	9	1	NP	NP	NP	8	A-3 (0)	
			5 6 6	15	61	SS-7	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
			3 4 5	12	56	SS-8	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
	532.5		8 5 6	14	61	SS-9	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
DENSE, BROWN **FINE SAND**, SOME COARSE SAND, SOME FINE GRAVEL, TRACE SILT, DRY TO DAMP.			7 20 18	49	67	SS-10	-	-	-	-	-	-	-	-	-	3	A-3 (V)	
			12 12 17	37	67	SS-11	-	23	26	44	7	0	NP	NP	NP	6	A-3 (0)	
			7 11 14	32	56	SS-12	-	-	-	-	-	-	-	-	-	3	A-3 (V)	
	518.5		4 11 16	35	67	SS-13	-	-	-	-	-	-	-	-	-	4	A-3 (V)	
VERY STIFF, GRAY **SILTY CLAY**, MOIST.			WOH 4 4	10	72	SS-14	1.50	-	-	-	-	-	-	-	-	27	A-6b (V)	
-qu @ 44.9' = 0.97 tsf					96	ST-15	1.50	0	0	0	48	52	35	19	16	27	A-6b (10)	
	505.5		3 5 4	12	94	SS-16	3.00	-	-	-	-	-	-	-	-	26	A-6b (V)	
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 19.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 100 LBS BENTONITE CHIPS AND SOIL CUTTINGS

160 V 160	13 / 17	HAM-75-7.85	STRUCTURE FOUNDATION EXPLORATION WALLS H, I, J, K, S, U, V, Y, Z

DRAWN RRM
CHECKED BRT

PROJECT: HAM-75-7.85	DRILLING FIRM / OPERATOR: RII / T.F.	DRILL RIG: CME-750X (SN 310218)	STATION / OFFSET: 507+90.55 / 156.3' Rt	EXPLORATION ID B-046-0-11
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / A.D.	HAMMER: CME AUTOMATIC	ALIGNMENT: PROPOSED CL I-75	
PID: 77889 BR ID: NA	DRILLING METHOD: 4.25" HSA	CALIBRATION DATE: 5/6/11	ELEVATION: 555.7 (MSL) EOB: 50.0 ft.	PAGE 1 OF 1
START: 11/15/11 END: 11/15/11	SAMPLING METHOD: SPT	ENERGY RATIO (%): 77.1	LAT / LONG : 39.196032716 ° N / 84.472894673 ° W	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
0.3' - TOPSOIL (4.0")	555.4																	
STIFF, BROWN **SILTY CLAY**, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST. -TRACE ORGANICS PRESENT IN SS-1	552.7	1	4 3 4	9	56	SS-1	2.00	-	-	-	-	-	-	-	-	24	A-6b (V)	
STIFF, DARK BROWN **SANDY SILT**, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	550.2	4	4 7 8	19	44	SS-2	2.00	1	12	29	41	17	22	13	9	12	A-4a (5)	
LOOSE TO MEDIUM DENSE, BROWN **FINE SAND**, SOME COARSE SAND, TRACE SILT, TRACE CLAY, TRACE FINE GRAVEL, DAMP.		6	9 9 10	24	56	SS-3	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
		9	3 5 7	15	61	SS-4	-	-	-	-	-	-	-	-	-	8	A-3 (V)	
		11	5 7 8	19	56	SS-5	-	3	34	53	9	1	NP	NP	NP	6	A-3 (0)	
		14	3 3 4	9	61	SS-6	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
		16	5 5 5	13	56	SS-7	-	-	-	-	-	-	-	-	-	7	A-3 (V)	
		19	4 5 8	17	56	SS-8	-	-	-	-	-	-	-	-	-	9	A-3 (V)	
	532.2	22	9 8 9	22	61	SS-9	-	-	-	-	-	-	-	-	-	5	A-3 (V)	
MEDIUM DENSE TO DENSE, BROWN **GRAVEL**, AND FINE TO COARSE SAND, TRACE SILT, DAMP TO MOIST.		24	5 11 11	28	50	SS-10	-	-	-	-	-	-	-	-	-	6	A-1-a (V)	
		27	20 19 18	48	56	SS-11	-	54	25	14	7	0	NP	NP	NP	4	A-1-a (0)	
		29	6 18 20	49	50	SS-12	-	-	-	-	-	-	-	-	-	7	A-1-a (V)	
	518.7	34	7 17 18	45	56	SS-13	-	-	-	-	-	-	-	-	-	5	A-1-a (V)	
STIFF TO VERY STIFF, GRAY **CLAY**, SOME SILT, MOIST.		39	3 5 7	15	61	SS-14	1.50	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
		41		92		ST-15	2.25	0	0	0	29	71	51	21	30	24	A-7-6 (18)	
		44	3 4 5	12	67	SS-16	2.25	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
	505.7	49	4 4 8	15	67	SS-17	2.50	-	-	-	-	-	-	-	-	25	A-7-6 (V)	
	EOB	50																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING; CAVE-IN DEPTH @ 17.3'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER 100 LBS BENTONITE CHIPS AND SOIL CUTTINGS

J:\20220947\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\77889ZL250.dgn 2/1/2024 1:13:26 PM hbrendlinger

PROJECT: HAM-75-10.10	DRILLING FIRM / OPERATOR: RII / C.M.	DRILL RIG: Mobile 53	STATION / OFFSET: 506+72.15 / 141.7' RT	EXPLORATION ID B-001-0-07
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / C.M.	HAMMER: AUTOMATIC	ALIGNMENT: I-75	
PID: 76256 BR ID: N/A	DRILLING METHOD: 2.25" HSA	CALIBRATION DATE: N/A	ELEVATION: 557.01 EOB: 35.0 ft.	PAGE 1 OF 1
START: 6/6/07 END: 6/6/07	SAMPLING METHOD: SPT	ENERGY RATIO (%): N/A	COORD: N=441680.317 / E=1409443.918	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS	INST.
4" - TOPSOIL	556.6																	
STIFF TO MEDIUM STIFF, BROWN **SANDY SILT**, SOME TO TRACE FINE GRAVEL, SOME CLAY, DRY TO DAMP.		1																
		2	4 6 8	14	83	SS-1	4.5	24	17	11	24	24	26	16	10	6	A-4a	
		3																
		4	4 5 6	11	0	AS-2	2.5	-	-	-	-	-	-	-	-	13	A-4a (V)	
		5																
		6																
		7	3 3 4	7	83	SS-3	4.0	-	-	-	-	-	-	-	-	-	A-4a (V)	
		8																
	547.5	9	3 4		89	SS-4A	3.5	0	10	39	22	29	25	15	10	15	A-4a	
MEDIUM STIFF, DARK BROWN **SILT AND CLAY**, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		10	5			SS-4B	2.0	-	-	-	-	-	-	-	-	-	A-6a (V)	
		11																
		12																
		13																
		14	4 3 2	5	67	SS-5	2.0	-	-	-	-	-	-	-	-	-	A-6a (V)	
	542.0	15																
VERY LOOSE, DARK BROWN **GRAVEL AND SAND**, SOME SILT, TRACE GLASS FRAGMENTS, MOIST.		16																
		17																
		18																
		19	1 2 1	3	44	SS-6		-	-	-	-	-	-	-	-	12	A-1-b (V)	
	535.0	20																
LOOSE TO MEDIUM DENSE, DARK BROWN **GRAVEL AND SAND**, SOME SILT, TRACE CLAY, DAMP.		21																
		22																
		23																
		24	3 4 4	8	89	SS-7		-	-	-	-	-	-	-	-	-	A-1-b (V)	
		25																
		26																
		27																
		28																
		29	5 7 8	15	89	SS-8		35	21	20	- 24 -		-	-	-	3	A-1-b	
		30																
		31																
		32																
		33																
		34	5 6 7	13	94	SS-9		-	-	-	-	-	-	-	-	-	A-1-b (V)	
	522.0	35	EOB															

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

160 X 160	15 / 17	HAM-75-7.85	STRUCTURE FOUNDATION EXPLORATION WALLS H, I, J, K, S, U, V, Y, Z

DRAWN RRM

CHECKED BRT

PROJECT: HAM-75-10.10	DRILLING FIRM / OPERATOR: RII / C.M.	DRILL RIG: CME 750X	STATION / OFFSET: 508+28.58 / 108.3' RT	EXPLORATION ID B-002-0-07
TYPE: RETAINING WALL	SAMPLING FIRM / LOGGER: RII / C.M.	HAMMER: AUTOMATIC	ALIGNMENT: I-75	
PID: 76256 BR ID: N/A	DRILLING METHOD: 3.75" HSA	CALIBRATION DATE: N/A	ELEVATION: 556.20 EOB: 35.0 ft.	PAGE 1 OF 1
START: 6/6/07 END: 6/6/07	SAMPLING METHOD: SPT	ENERGY RATIO (%): N/A	COORD: N=441687.423 / E=1409445.217	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS	INST.
4.0" - ASPHALT	556.2																	
10.0" - CONCRETE	555.8																	
8" - AGGREGATE BASE	555.0																	
FILL: STIFF, BROWN **CLAY**, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.	554.4		7 5 4	9	56	SS-1	4.5	-	-	-	-	-	-	-	-	15	A-7-6 (V)	
			3 5 6	11	100	SS-2	4.0	2	1	4	26	67	44	22	22	24	A-7-6	
			3 6 8	14	89	SS-3	3.0	-	-	-	-	-	-	-	-	-	A-7-6 (V)	
FILL: MEDIUM STIFF, BROWN **SILT AND CLAY**, LITTLE COARSE TO FINE SAND, TRACE COARSE TO FINE GRAVEL, DAMP.	548.2		2 3 4	7	100	SS-4	4.0	-	-	-	-	-	-	-	-	17	A-6a (V)	
FILL: LOOSE, BROWN **SANDY SILT**, TRACE COARSE TO FINE GRAVEL, TRACE GLASS FRAGMENTS, DAMP.	542.7		5 5 5	10	89	SS-5		-	-	-	-	-	-	-	-	-	A-4a (V)	
LOOSE TO MEDIUM DENSE, BROWN **FINE SAND AND COARSE SAND**, TRACE FINE GRAVEL, TRACE SILT, DRY.	540.2		2 3 5	8	94	SS-6		2	37	58	- 3	-	-	-	-	2	A-3	
			4 6 8	14	100	SS-7		-	-	-	-	-	-	-	-	-	A-3 (V)	
MEDIUM DENSE, BROWN **GRAVEL AND SAND**, TRACE SILT, DAMP.	526.2		10 11 12	23	78	SS-8		-	-	-	-	-	-	-	-	4	A-3 (V)	
	521.2	EOB	8 11 13	24	94	SS-9		-	-	-	-	-	-	-	-	-	A-1-b (V)	

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

6350 Presidential Gateway
Columbus, Ohio 43231
Telephone: (614) 823-4949
Fax Number: (614) 823-4990

UNCONFINED COMPRESSION

ASTM D -2166

PROJECT: HAM-75-7.85
JOB No.: B-10-020

BORING / SAMPLE No.: B-029-0-11 / ST-6
SAMPLE DEPTH: 14.8 feet
DATE OF TESTING: December 7, 2011
TESTED BY: J.H.

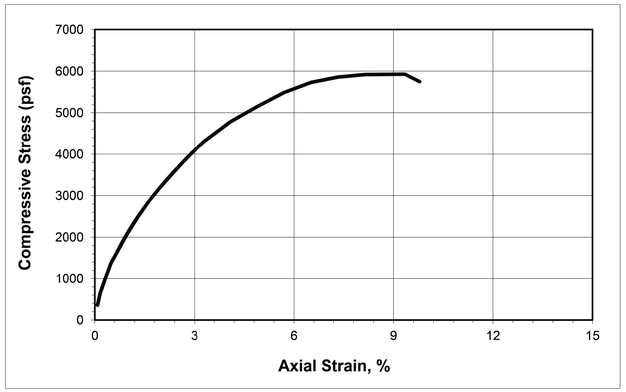
SOIL DESCRIPTION: Brown and brownish gray CLAY, and silt, little coarse to fine sand

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	53	22	31	0	3	9	37	51

DIAMETER, D_0	2.767 in	70.282 mm	STRAIN RATE	1.0	%/min
AREA, A_0	6.0132 in^2	38.795 cm^2	WET SOIL + PAN MASS	1391.1	g
HEIGHT, L_0	6.133 in	155.78 mm	PAN MASS	56.2	g
VOLUME, V_0	36.879 in^3	604.34 cm^3	DRY SOIL + PAN MASS	1175.4	g
MACH. RATE	0.613	in/min	WET DENSITY	137.89	lb/ft^3
WATER CONT.	19.27	%	DRY DENSITY	115.61	lb/ft^3
UNCONFINED COMPRESSION STRESS, q_u			**5927** psf	2.96	tsf
HAND PENETROMETER				2.75	tsf

Failure Sketch

Unconfined Compression Test



6350 Presidential Gateway
Columbus, Ohio 43231
Telephone: (614) 823-4949
Fax Number: (614) 823-4990

UNCONFINED COMPRESSION

ASTM D -2166

PROJECT: HAM-75-7.85
JOB No.: B-10-020

BORING / SAMPLE No.: B-045-0-11 / ST-15
SAMPLE DEPTH: 44.9 ft
DATE OF TESTING: 12/2/2011
TESTED BY: J.H.

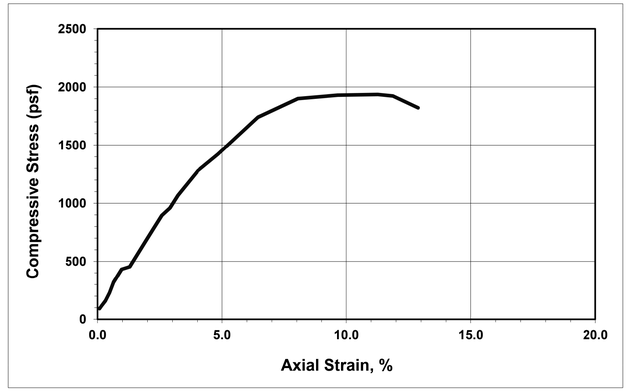
SOIL DESCRIPTION: Gray SILTY CLAY.
SOIL CLASSIFICATION: ODOT A-6b

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	35	19	16	0	0	0	48	52

DIAMETER, D_0	2.825 in	71.755 mm	STRAIN RATE	1	%/min
AREA, A_0	6.268 in^2	40.439 cm^2	WET SOIL + PAN MASS	1434.4	g
HEIGHT, L_0	6.211 in	157.76 mm	PAN MASS	127	g
VOLUME, V_0	38.93 in^3	637.96 cm^3	DRY SOIL + PAN MASS	1162.4	g
MACH. RATE	0.621	in/min	WET DENSITY	127.94	lb/ft^3
WATER CONT.	26.27	%	DRY DENSITY	101.32	lb/ft^3
UNCONFINED COMPRESSION STRESS, q_u			**1936** psf	0.97	tsf
HAND PENETROMETER				1.50	tsf

Failure Sketch

Unconfined Compression Test



DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
LABORATORY TEST DATA

HAM-75-7.85

17 / 17

160Z
160

J:\2022094\ODOT\HAM\117526_HAM-75-8.91\geotechnical\sheets\778897D205.dgn 2/1/2024 1:16:55 PM hbrendlinger