

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 MORAIN DEPOSITS WITH MANY BURIED VALLEYS ALTERNATING BETWEEN BROAD FLOODPLAINS AND BEDROCK GORGES. THE SITE AREA CONTAINS SILTY LOAM TILL DEPOSITED AS GROUND MORAIN 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 FROM 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 ALIGNMENT 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 PERFORMED 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 ENCOUNTERED 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./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.			
<i>wc</i>	INDICATES WATER CONTENT IN PERCENT.		
	INDICATES FREE WATER ELEVATION.		
	INDICATES STATIC WATER ELEVATION.		
<i>X/Y/Z</i>	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		
<i>N₆₀</i>	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.		

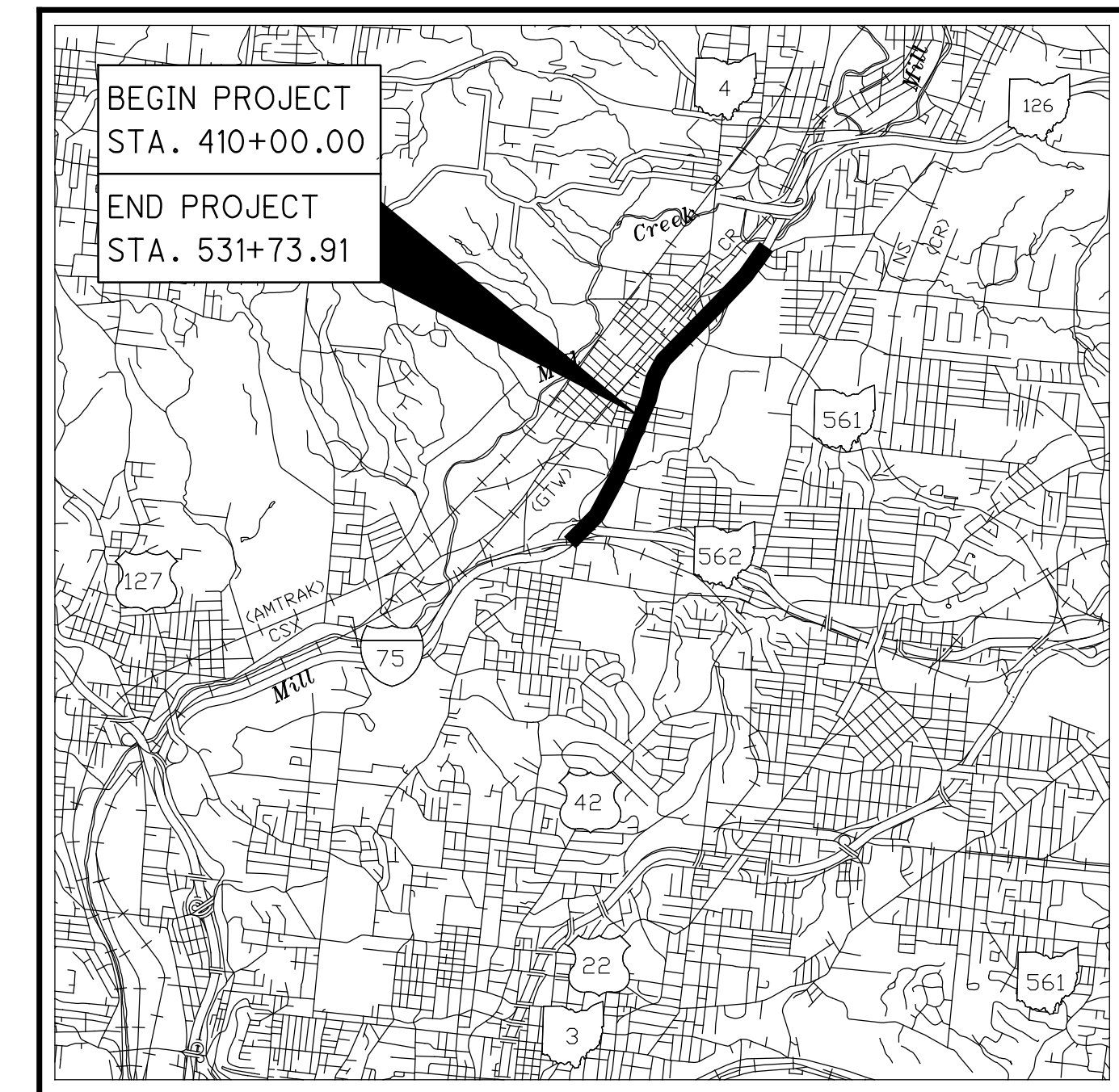
EXPLORATION FINDINGS (CONTINUED)

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).

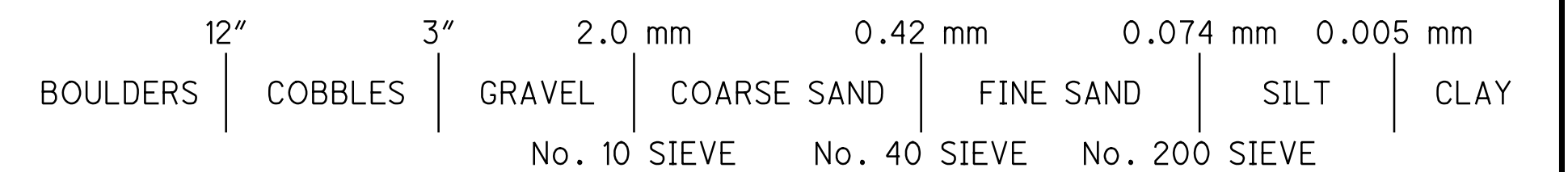
BEDROCK WAS NOT ENCOUNTERED IN ANY OF THE BORINGS PERFORMED FOR THE VARIOUS SUBGRADE EXPLORATIONS.

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

PARTICLE SIZE DEFINITIONS



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
 DRAWN - RRM 06/26/15
 REVIEWED - BRT 06/26/15
 DRILLING - CTL 07/09/07 - 08/03/07
 RII - IC 08/17/06 & 08/20/06
 RII - CM 08/17/06 - 09/11/06

DESIGN AGENCY
 RESOURCE INTERNATIONAL GATEWAY
 6350 PRESIDENTIAL GATEWAY
 COLUMBUS, OHIO 43231

PID NO.
77889

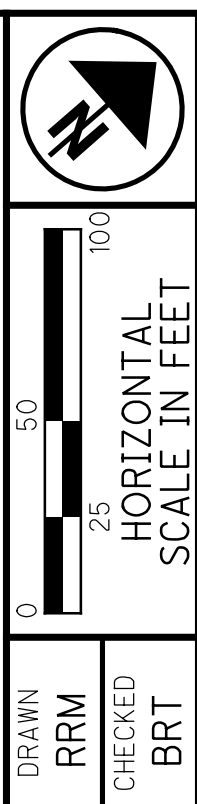
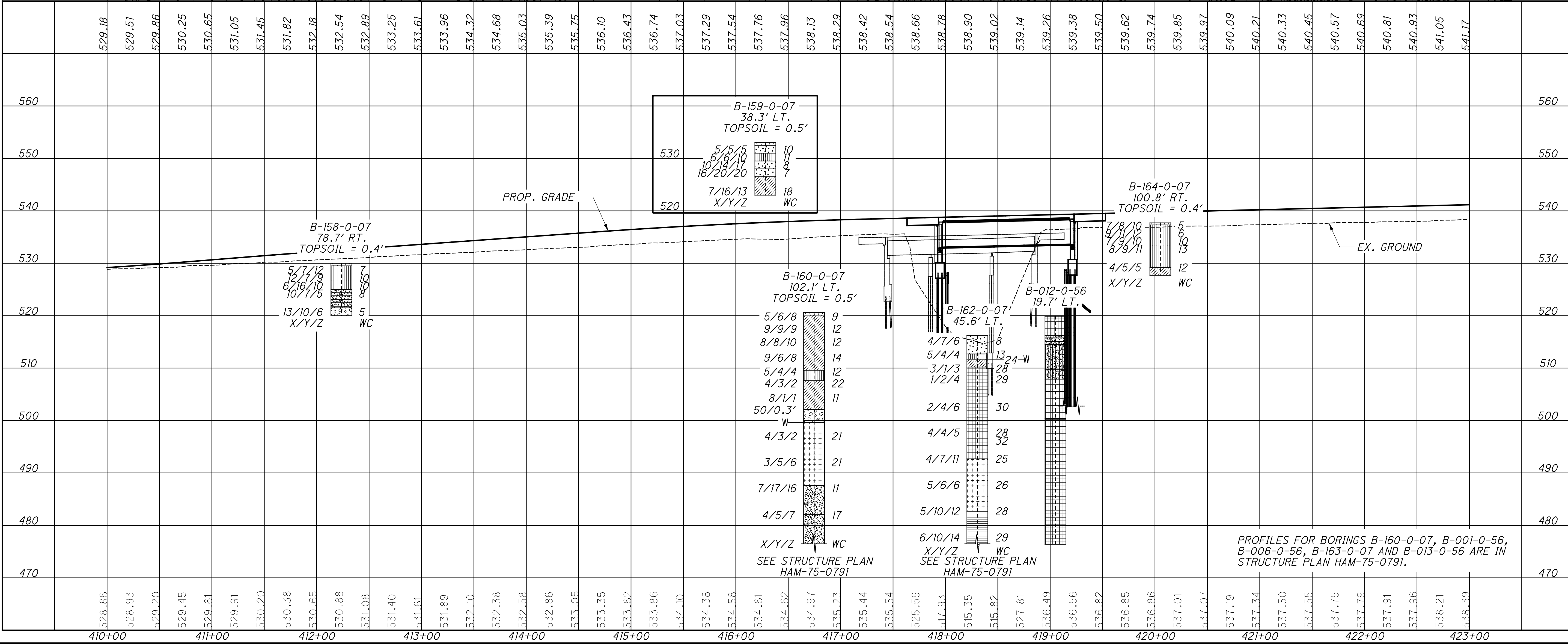
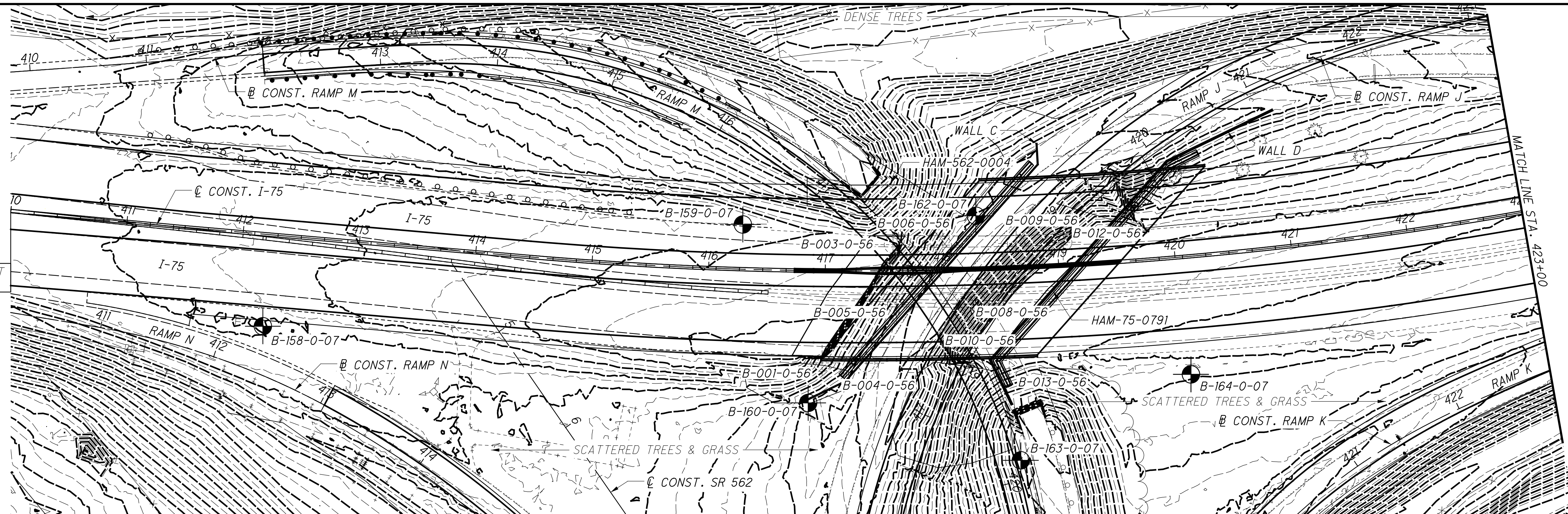
SOIL PROFILE

HAM - 75 - 7.85

1 / 13

1346
 1534

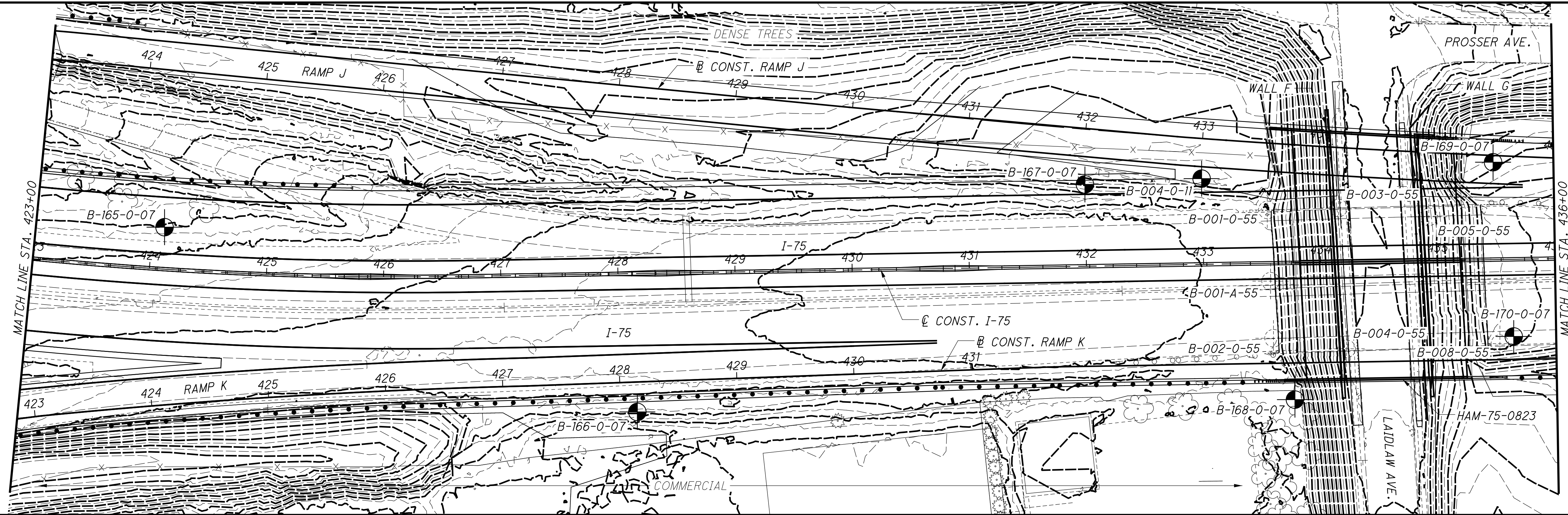
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P101.dgn 6/21/2023 12:53:20 PM bmcutchen



DRAWN: RRM
CHECKED: BRT

SOIL PROFILE
STA. 410+00 TO STA. 423+00 I-75

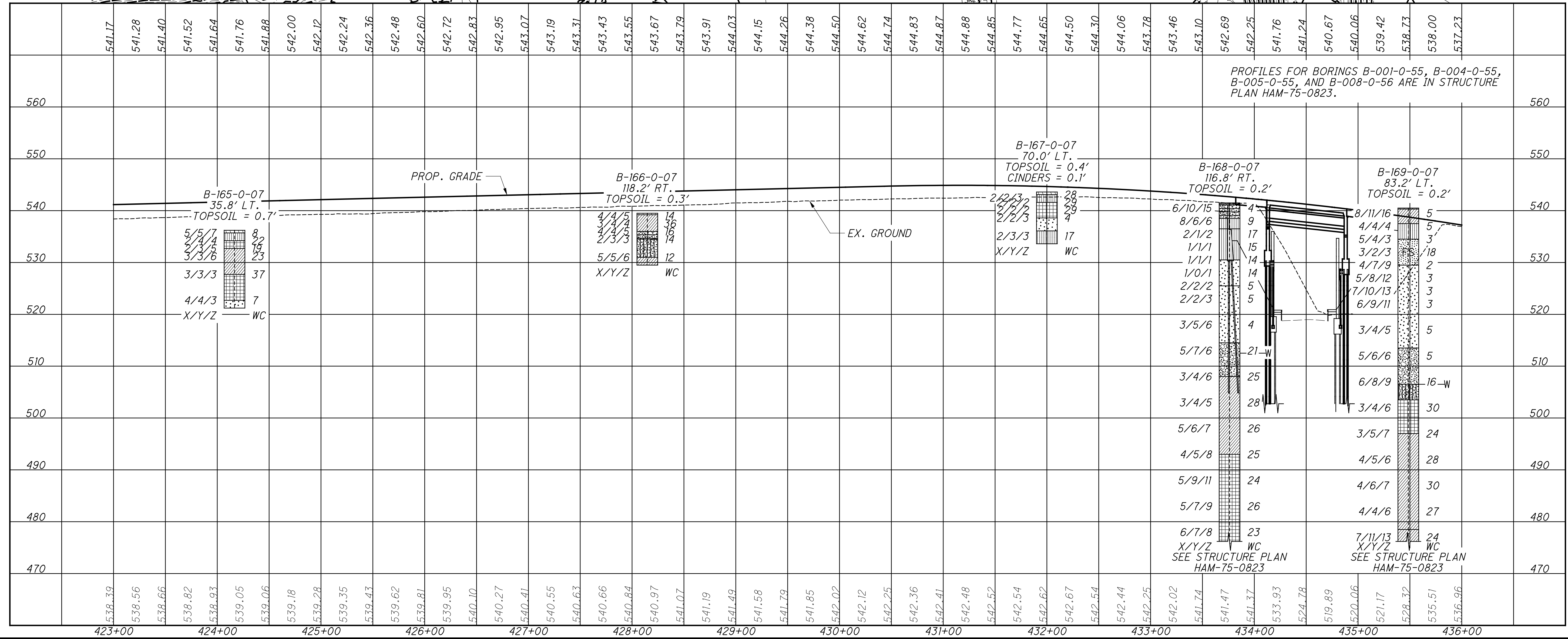
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889IP102.dgn 6/21/2023 12:53:21 PM bmcclutchen



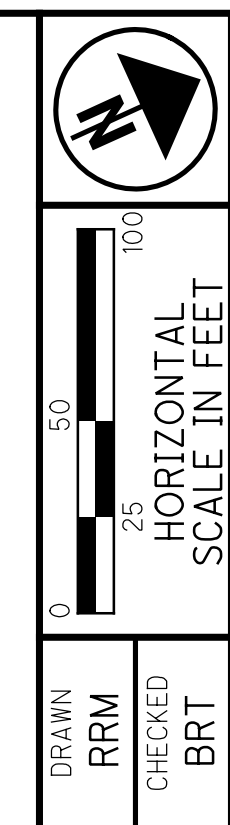
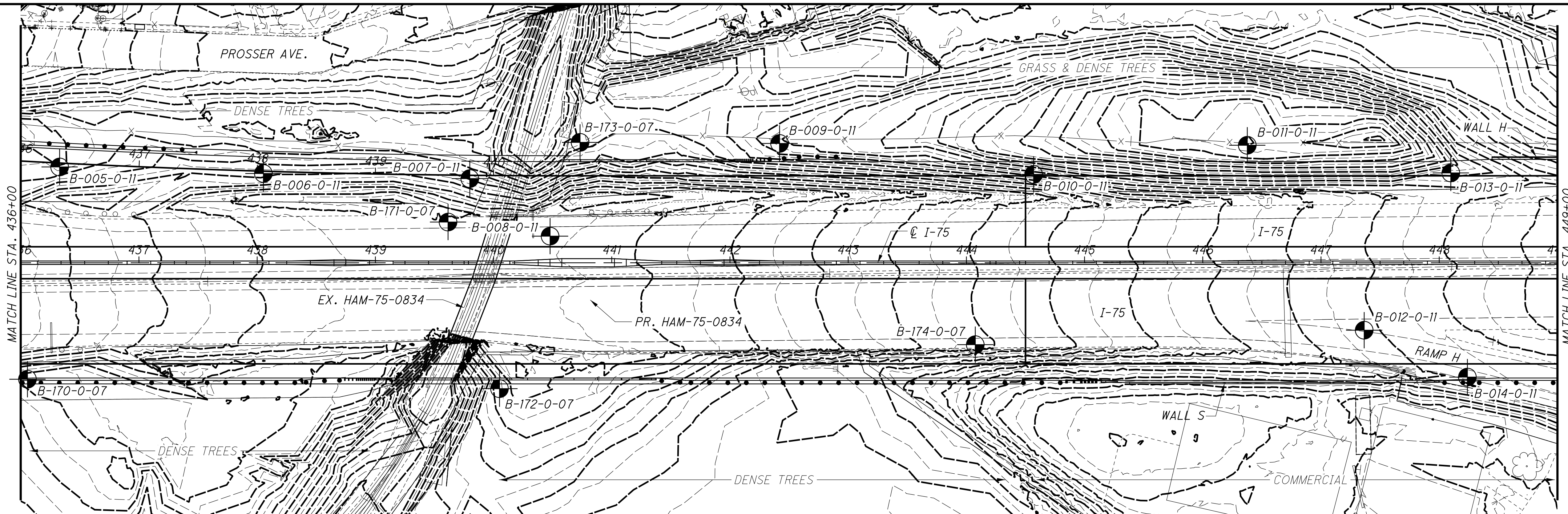
DRAWN RRM
 CHECKED BRT
 0 25 50 100
 HORIZONTAL SCALE IN FEET

SOIL PROFILE STA. 423+00 TO STA. 436+00 I-75

HAM-75-7.85

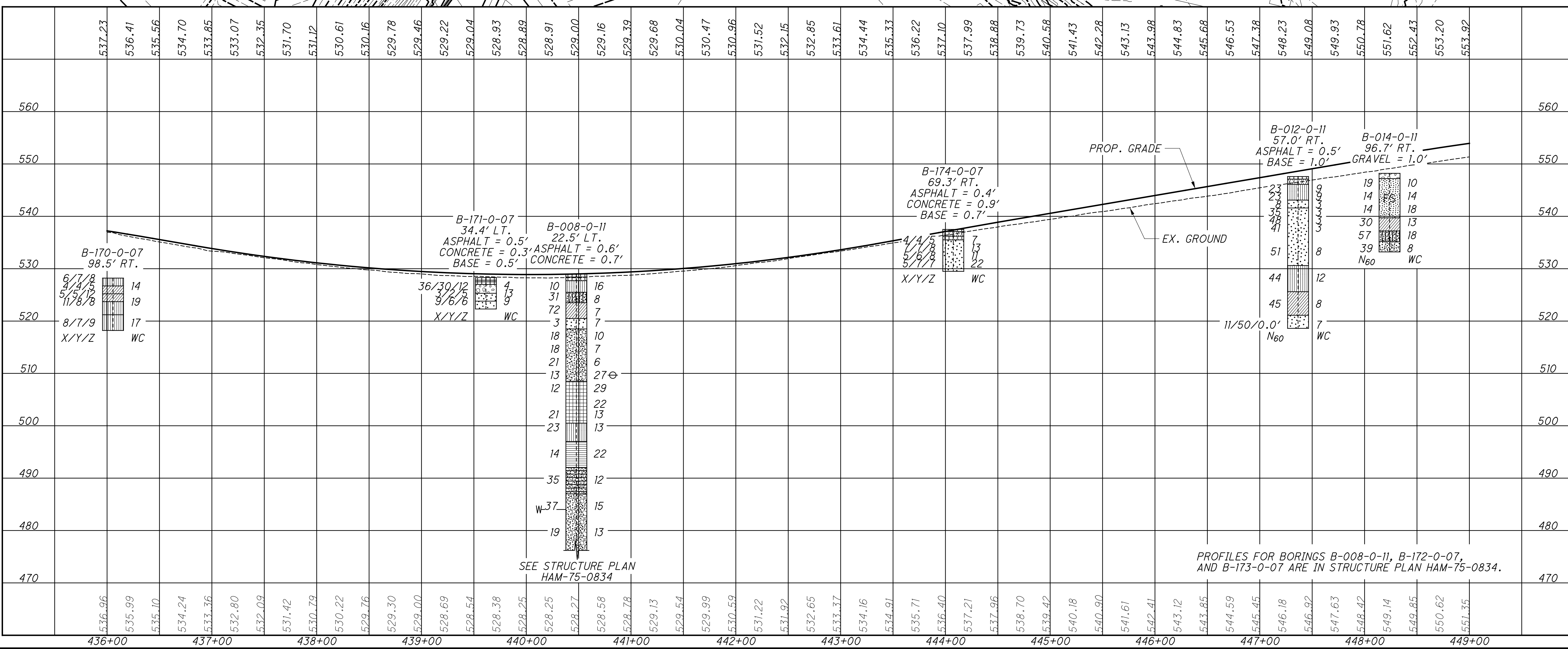


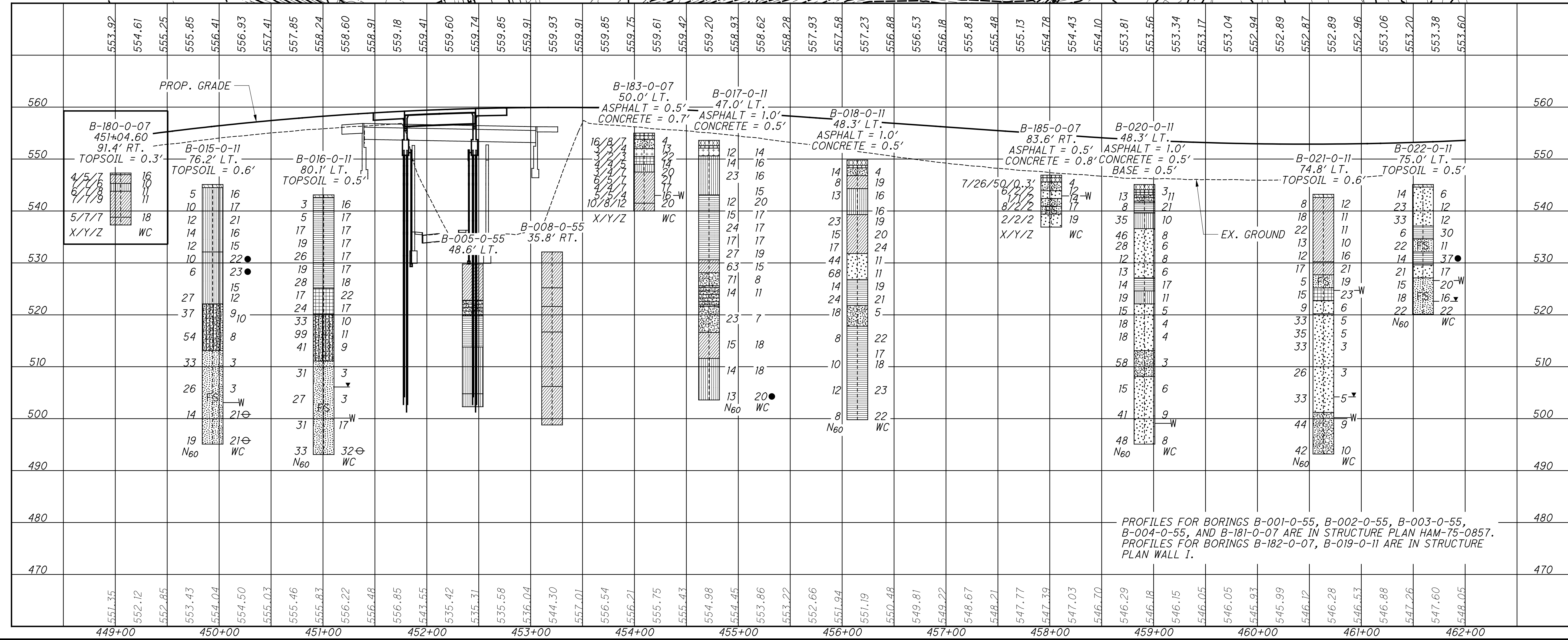
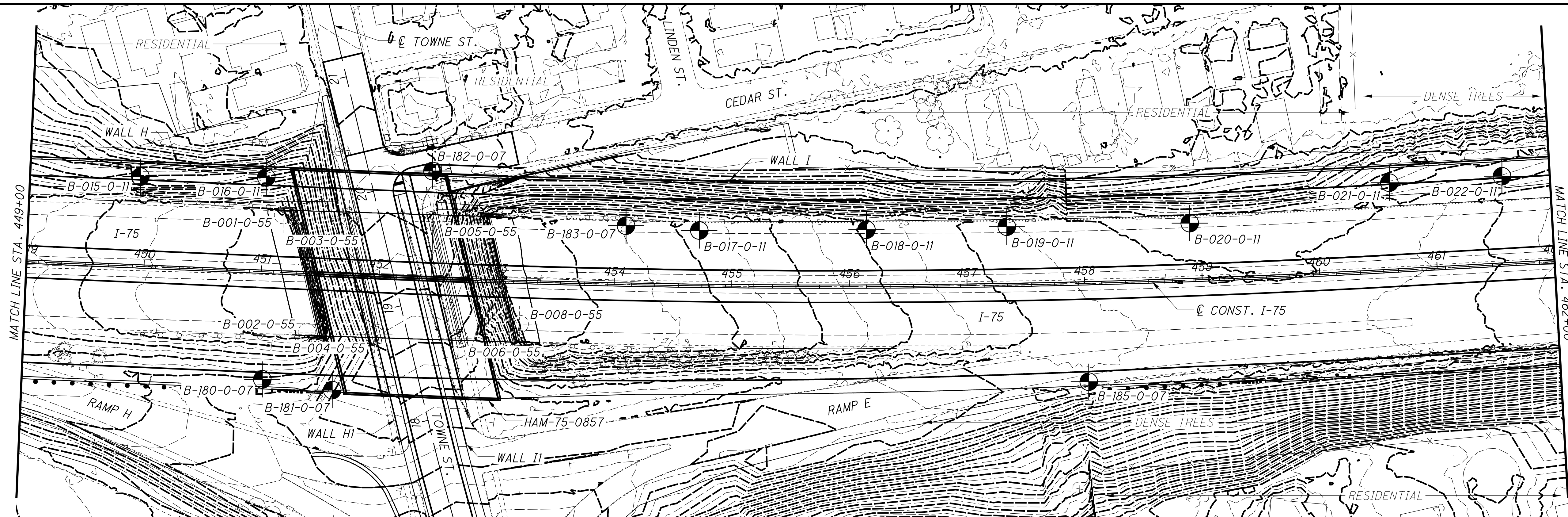
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P103.dgn 6/21/2023 12:53:23 PM bmccutchen



DRAWN
RRM
CHECKED
BRT

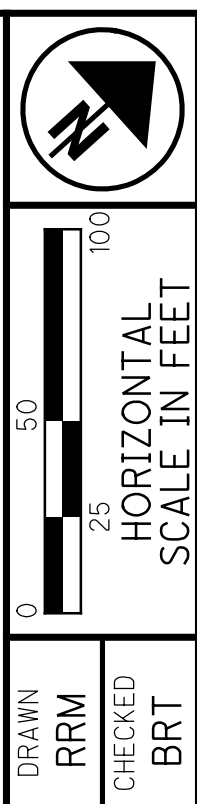
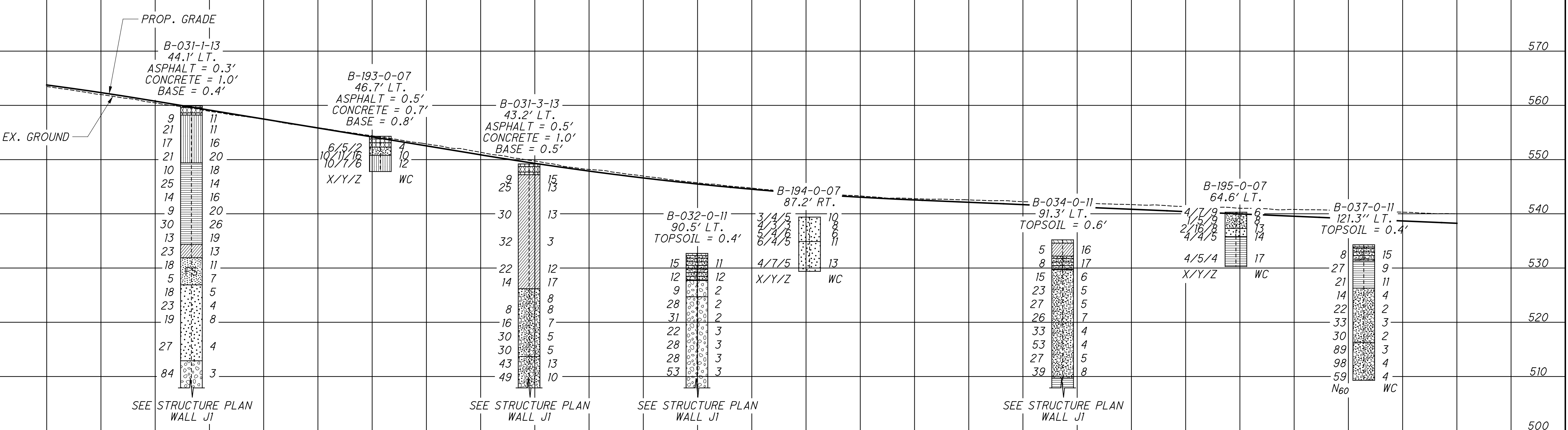
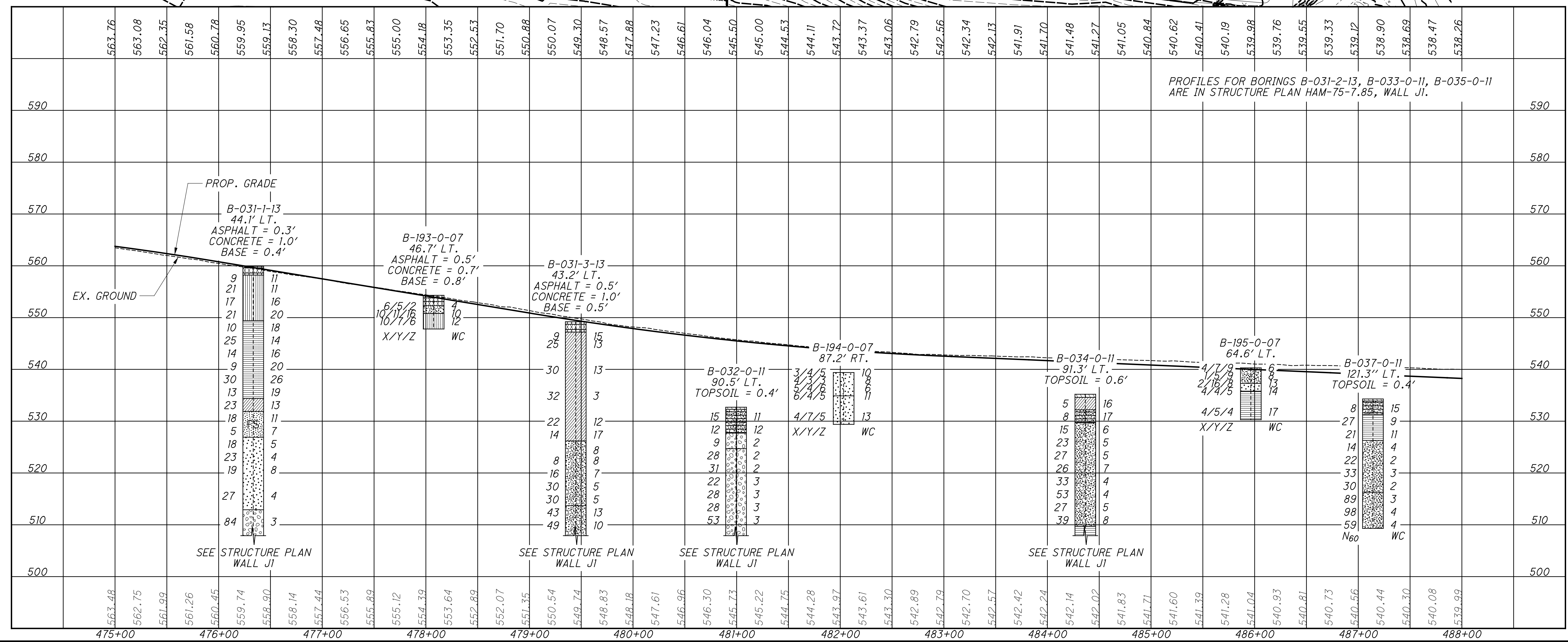
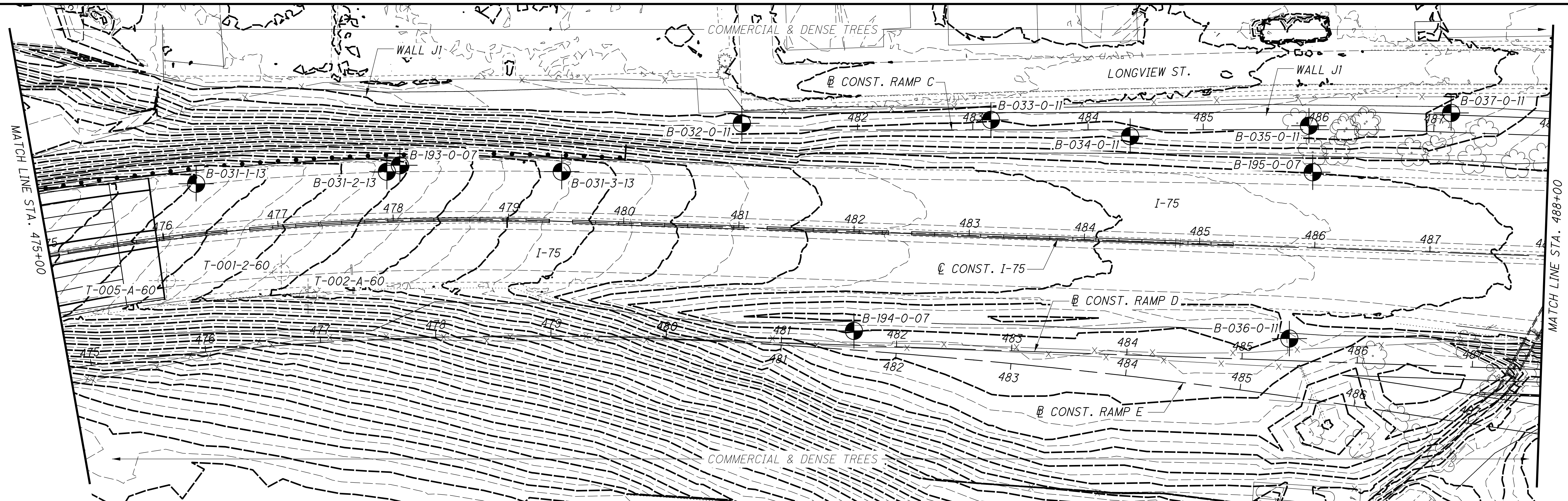
SOIL PROFILE
STA. 436+00 TO STA. 449+00 I-75





J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P104.dgn 6/21/2023 12:53:24 PM bmccutchen

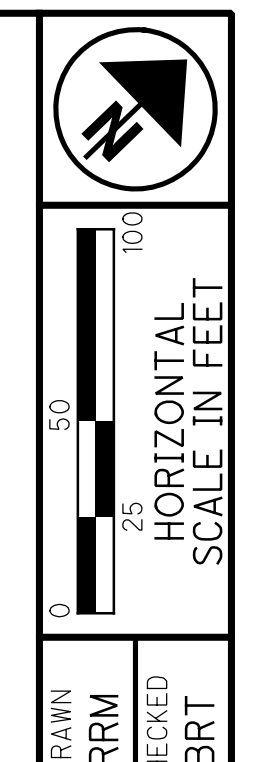
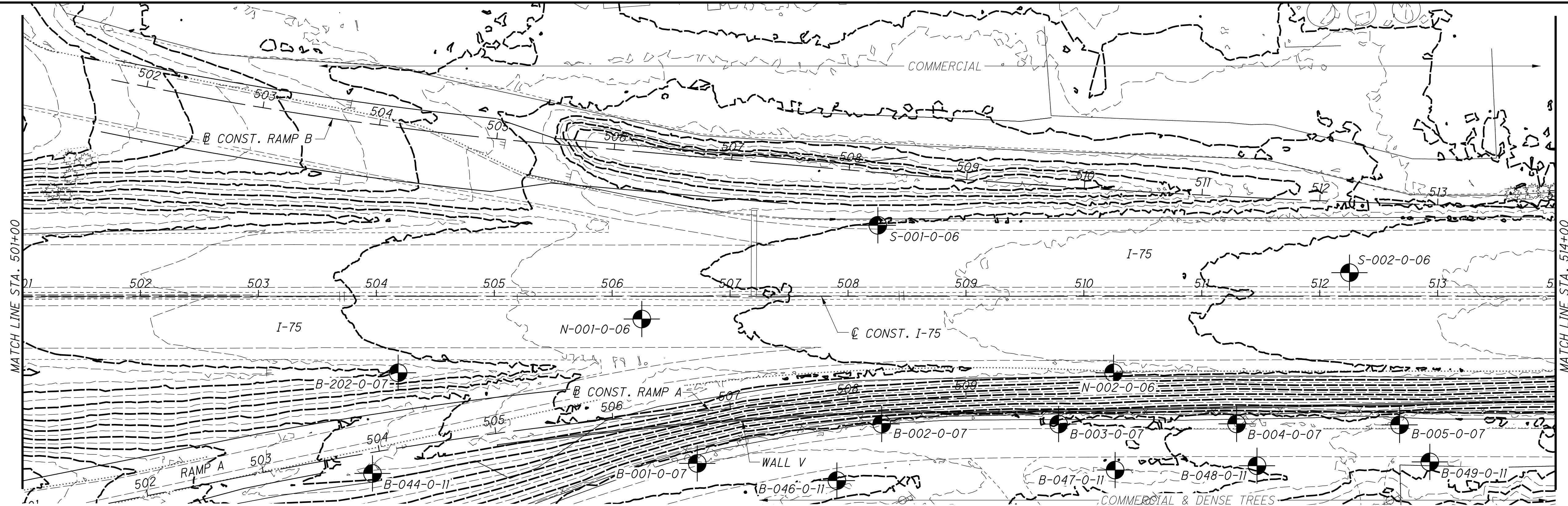
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P106.dgn 6/21/2023 12:53:27 PM bmccutchen



SOIL PROFILE
STA. 475+00 TO STA. 488+00 I-75

HAM-75-7.85

J:\20110903\DOT\HAM\77889\geotechnical\sheets\77889P108.dgn 6/21/2023 12:53:30 PM bmccutchen

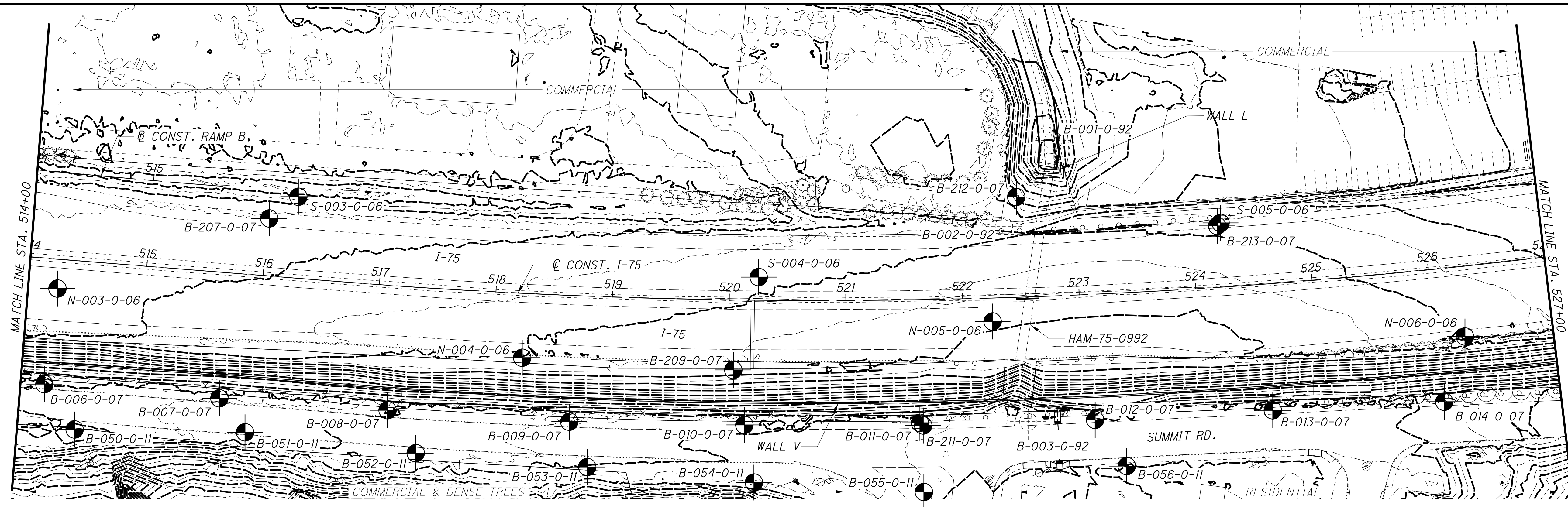


Station	Soil Profile	
	Profile Description	Soil Layers
560	EX. GROUND	
550	PROP. GRADE	
540	B-202-0-07 64.9' RT. TOPSOIL = 0.3'	<ul style="list-style-type: none"> 2/2/2 15 2/3/3 15 3/4/6 13 2/3/3 14 X/Y/Z WC
530	N-001-0-06 19.3' RT. ASPHALT = 0.6' CONCRETE = 0.7' BASE = 0.8'	<ul style="list-style-type: none"> 6/8/9/9 7 4/9/11/13 15 6/8/13/15 21 X/Y/Z WC
520	S-001-0-06 60.1' LT. ASPHALT = 0.5' CONCRETE = 0.9' BASE = 0.3'	<ul style="list-style-type: none"> 4/3/2/2 16 3/4/6/7 15 3/4/5/6 15 3/4/5 21 4/6/8 15 4/6/7 20 5/8/10 X/Y/Z 20 WC
510	N-002-0-06 64.9' RT. ASPHALT = 0.8' BASE = 0.3'	<ul style="list-style-type: none"> 7/6/3/2 10 7/8/8/9 26 5/6/6/7 20 4/5/6 18 4/4/6 4 3/5/6 X/Y/Z 6 WC
500	S-002-0-06 20.0' LT. ASPHALT = 0.7' BASE = 0.7'	<ul style="list-style-type: none"> 5/7/8/8 11 4/6/14/17 12 5/7/15/18 13 X/Y/Z WC
470	PROFILES FOR BORINGS B-001-0-07, B-002-0-07, B-003-0-07, B-004-0-07, B-005-0-07, B-044-0-11, B-046-0-11, B-047-0-11, B-048-0-11 AND B-049-0-11 ARE IN STRUCTURE PLAN HAM-75-7.85, WALL V.	

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

J:\20110903\ODOT\HAM\77889\geotechnical\sheet\77889\09.dgn 6/21/2023 12:53:31 PM bmccutchen

0 50 100
HORIZONTAL SCALE IN FEET
DRAWN RRM
CHECKED BRT



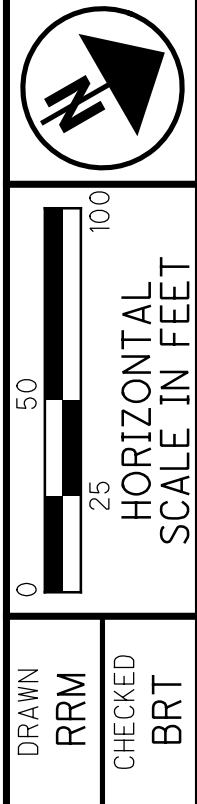
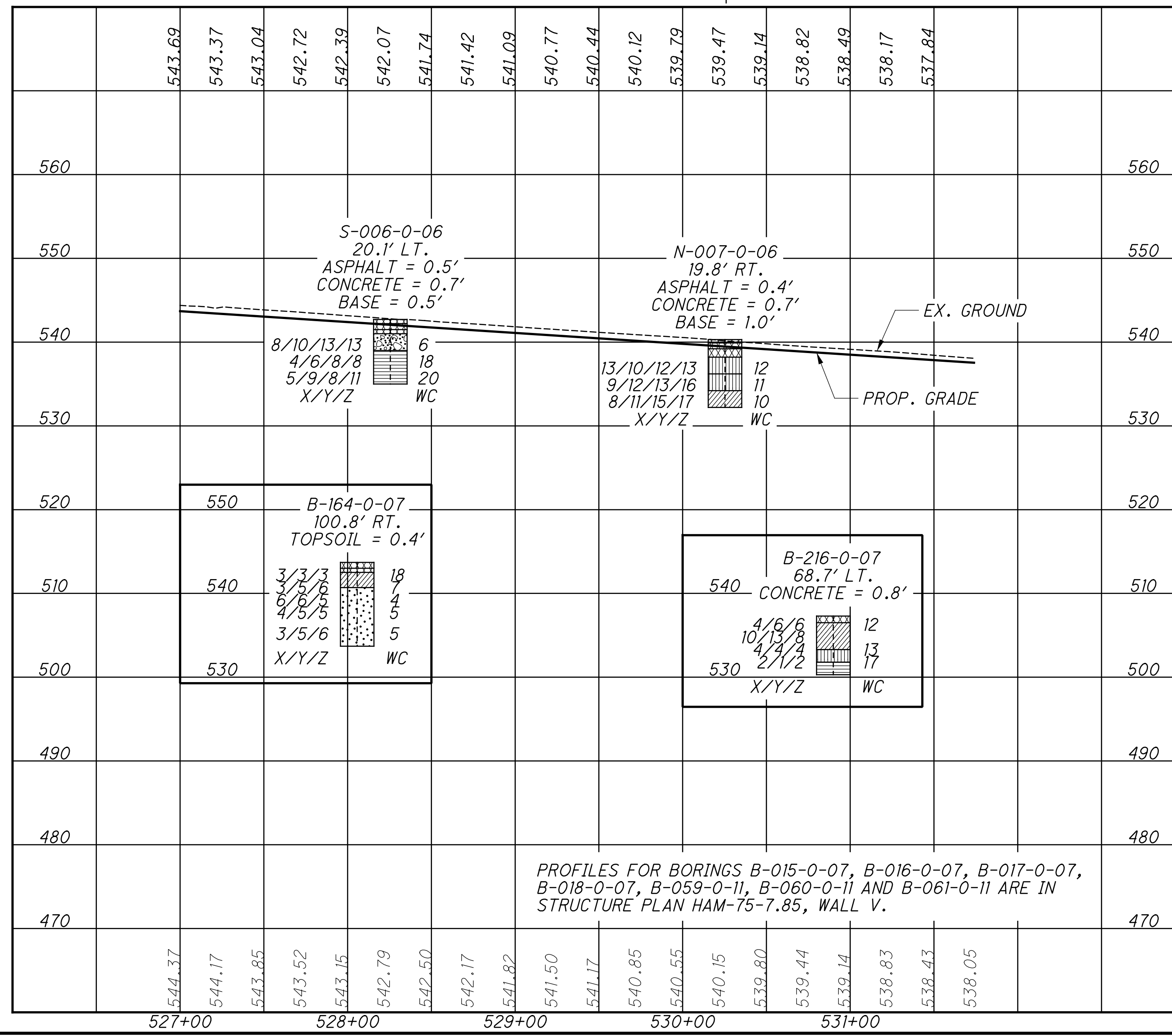
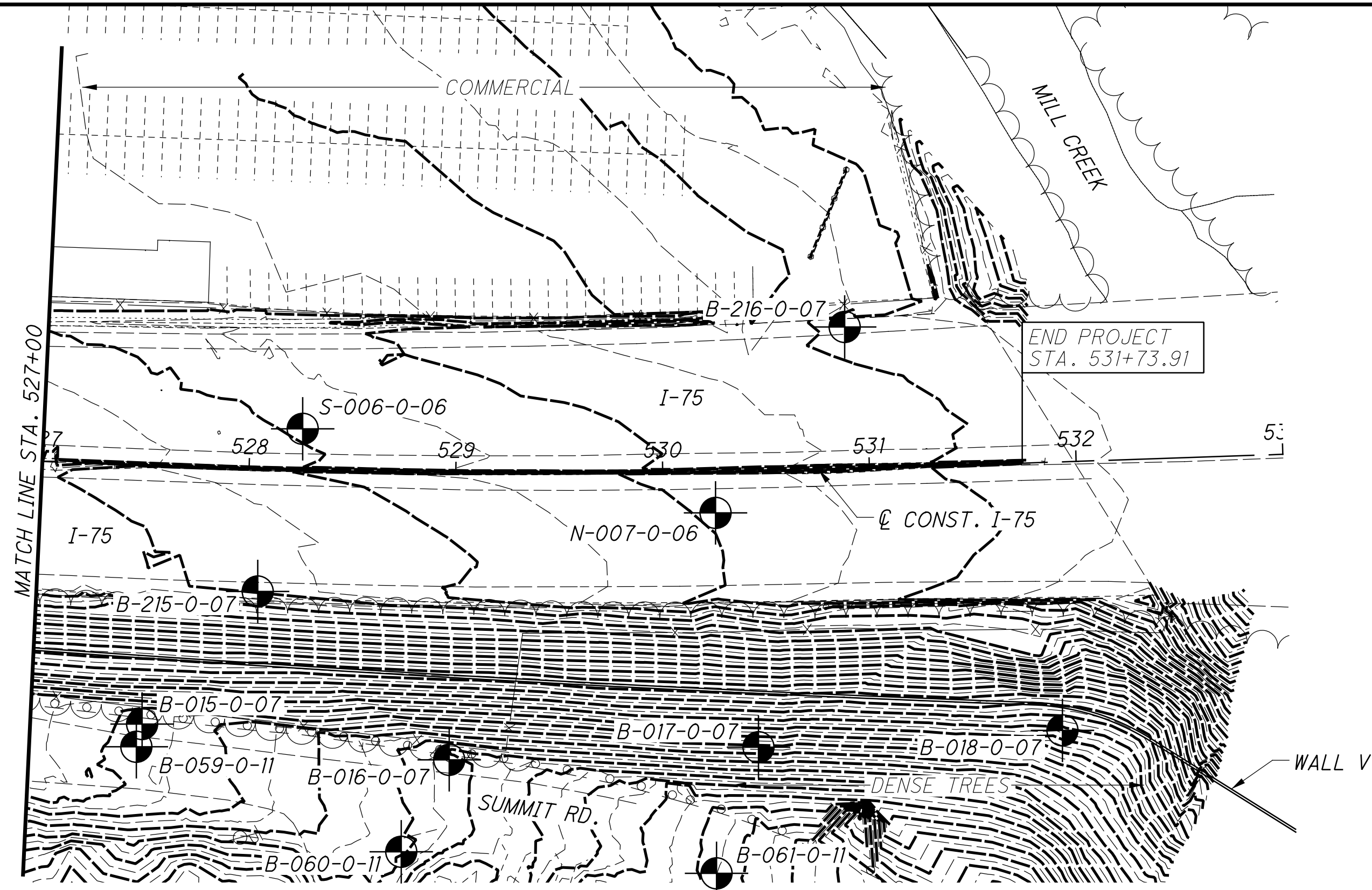
SOIL PROFILE
STA. 514+00 TO STA. 527+00 I-75

560	542.54	542.69	542.84	542.99	543.14	543.29	543.44	543.59	543.74	543.89	544.04	544.19	544.34	544.49	544.64	544.79	544.94	545.09	545.24	545.39	545.54	545.69	545.84	545.99	546.14	546.29	546.44	546.59	546.74	546.89	547.04	547.18	547.28	547.36	547.41	547.42	547.41	547.37	547.29	547.19	547.06	546.90	546.71	546.48	546.23	545.95	545.64	545.32	544.99	544.67	544.34	544.02	543.69	560
550	N-003-0-06 25.1' RT. ASPHALT = 0.6' CONCRETE = 0.8' BASE = 0.8'			S-003-0-06 69.7' LT. ASPHALT = 0.8'					N-004-0-06 55.2' RT. ASPHALT = 0.9'					S-004-0-06 19.8' LT. ASPHALT = 0.7' BASE = 0.7'		N-005-0-06 20.1' RT. ASPHALT = 0.5' CONCRETE = 0.8' BASE = 0.5'		S-005-0-06 55.0' LT. CONCRETE = 1.0' BASE = 0.2'				N-006-0-06 60.1' RT. ASPHALT = 0.9' BASE = 0.3'				550																												
540	11/8/11/13 7/8/11/12 6/9/13/13 X/Y/Z 13 14 15 WC			2/4/5/7 2/1/3/5 3/4/5/7 3 13-W 20					7/7/10/9 10/13/7/8 3/3/4/5 3 4 14					8/7/5/6 6/5/7/9 4/7/8/10 X/Y/Z 9 13 13 WC		11/8/12/15 8/11/14/15 7/10/12/13 X/Y/Z 13 6 4 WC		2/2/3/5 3/4/6/8 5/6/10/11 3/4/4 X/Y/Z 13 9 12 11 WC				6/7/7/12 4/5/6/6 5/5/7/9 6/8/12 5 4 4 5 WC				540																												
530				5/7/7 13					2/3/6 23													5/7/10 4				530																												
520				4/10/7 X/Y/Z 14 WC					4/4/5 X/Y/Z 5 WC													10/9/13 X/Y/Z 5 WC				520																												
510				B-207-0-07 49.2' LT. ASPHALT = 0.6' BASE = 0.4'										B-209-0-07 60.1' RT. TOPSOIL = 0.5'								B-213-0-07 52.7' LT. CONCRETE = 0.7' BASE = 0.3'				510																												
500				7/9/9 6/5/5 5/6/4 7 14 20 17										3/4/6 5/6/6 5/8/18 7 10 10								5/5/6 8/10/7 9/13/13 X/Y/Z 16 6 6 WC				500																												
490				4/6/9 X/Y/Z 14 WC										9/8/7 X/Y/Z 8 WC												490																												
480																										480																												
470																										470																												
	543.08	543.07	543.13	543.25	543.36	543.37	543.51	543.62	543.76	543.92	544.00	544.17	544.25	544.35	544.48	544.59	544.69	544.84	544.88	545.06	545.12	545.20	545.39	545.53	545.64	545.71	545.90	546.07	546.12	546.24	546.44	546.62	546.81	546.90	547.13	547.30	547.42	547.44	547.40	547.49	547.61	547.52	547.17	547.06	546.82	546.63	546.29	545.96	545.65	545.34	545.05	544.64	544.37	
	514+00	515+00					516+00	517+00					518+00	519+00					520+00	521+00					522+00	523+00					524+00	525+00					526+00	527+00																

PROFILES FOR BORINGS B-006-0-07, B-007-0-07, B-008-0-07, B-009-0-07, B-010-0-07, B-011-0-07, B-211-0-07, B-012-0-07, B-013-0-07, B-014-0-07, B-050-0-11, B-051-0-11, B-052-0-11, B-053-0-11, B-054-0-11, B-055-0-11 AND B-056-0-11 ARE IN STRUCTURE PLAN HAM-75-7.85, WALL V. PROFILES FOR BORINGS B-001-0-92, B-002-0-92, B-003-0-92 AND B-212-0-07 ARE IN STRUCTURE PLAN HAM-75-0992.

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P110.dgn 6/21/2023 12:53:32 PM bmccutchen



DRAWN: RRM
 CHECKED: BRT

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

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 BRIDGES HAM-75-0791 I-75 OVER SR 562 RAMP J, HAM-75-0823 I-75 OVER LAIDLAW AVENUE, HAM-75-0834 NORFOLK SOUTHERN RAILROAD OVER I-75, HAM-75-0857 I-75 OVER TOWNE STREET, HAM-75-0992 PEDESTRIAN PATH BRIDGE OVER I-75, HAM-PROSR-00.000 NORFOLK SOUTHERN RAILROAD OVER PROSSER AVENUE, HAM-562-0004 SR 562 RAMP M OVER I-75 AND HAM-562-0026 NORFOLK SOUTHERN RAILROAD OVER SR 562. ALL EXISTING STRUCTURES WILL BE REMOVED AND REPLACED WITH NEW STRUCTURES. THE ALIGNMENT OF NORFOLK SOUTHERN RAILROAD WILL BE SHIFTED NORTH OF THE EXISTING ALIGNMENT WHERE IT CROSSES I-75 AND PROSSER AVENUE.

HISTORIC RECORDS

BORINGS B-001-0-56, B-003-0-56, B-004-0-56, B-005-0-56, B-006-0-56, B-008-0-56, B-009-0-56, B-010-0-56, B-012-0-56, B-013-0-56 PERFORMED FOR THE HAM-4W-0724/HAM-4W-0745 STRUCTURES, B-001-0-55, B-002-0-55, B-003-0-55, B-004-0-55, B-005-0-55, B-008-0-55 PERFORMED FOR THE HAM-4W-0775 STRUCTURE AND B-001-0-56, B-003-0-56, B-004-0-56, B-006-0-56, B-006-A-56 PERFORMED FOR THE HAM-562-0031 STRUCTURE (HAM-75-7.16 MILLCREEK EXPRESS WAY/HAM-562-0.28 NORWOOD LATERAL); BORINGS B-001-0-55, B-002-0-55, B-003-0-55, B-004-0-55, B-005-0-55, B-006-0-55, B-008-0-55 PERFORMED FOR HAM-4W-0808 STRUCTURE (HAM-4W-7.81); BORINGS B-001-0-92, B-002-0-92, B-003-0-92 PERFORMED FOR HAM-75-0992 STRUCTURE (HAM-75-9.75), ARE PRESENTED 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 MORAIN DEPOSITS WITH MANY BURIED VALLEYS ALTERNATING BETWEEN BROAD FLOODPLAINS AND BEDROCK GORGES. THE SITE AREA CONTAINS SILTY LOAM TILL DEPOSITED AS GROUND MORAIN 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

CTL ENGINEERING PERSONNEL PERFORMED A SITE RECONNAISSANCE IN 2007 TO LOCATE ALL OF THE STRUCTURE BORING LOCATIONS. RESOURCE INTERNATIONAL PERFORMED A SITE RECONNAISSANCE FOR THE BORINGS PERFORMED AS PART OF THE CURRENT EXPLORATION ON AUGUST 25, 2011. 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 I-75, 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.

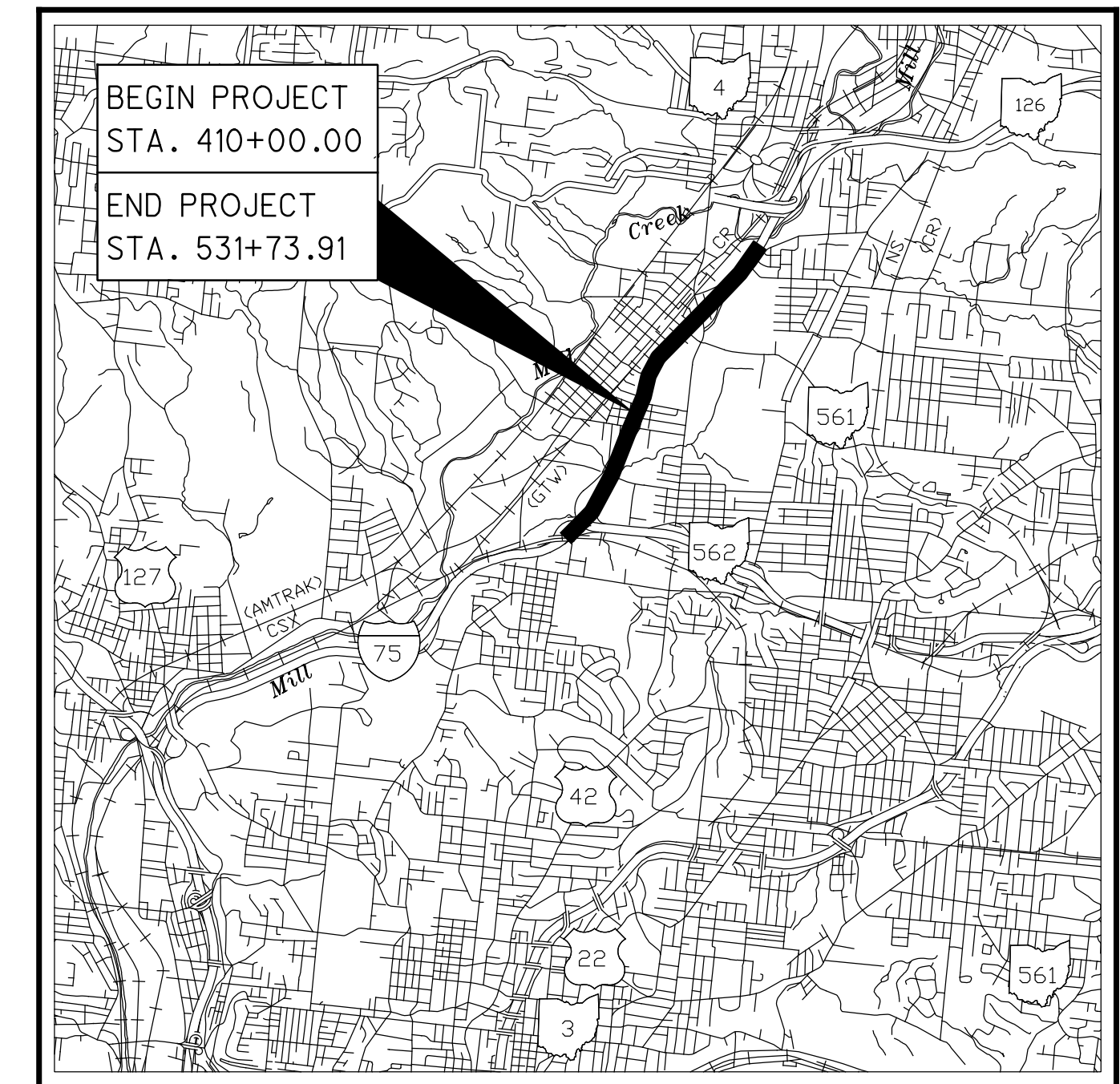
SUBSURFACE EXPLORATION

BETWEEN JULY 11 AND OCTOBER 5, 2007, SIXTEEN (16) TEST BORINGS WERE PERFORMED BY CTL ENGINEERING FOR THE BRIDGE STRUCTURE REPLACEMENTS. THE TEST BORINGS WERE DRILLED WITH TRUCK AND ATV-MOUNTED ROTARY DRILL RIGS USING 3-1/4 INCH INSIDE DIAMETER, HOLLOW-STEM AUGERS. STANDARD PENETRATION TESTING (SPT) AND SPLIT-SPOON SAMPLING WAS PERFORMED IN ALL OF THE BORINGS AT 2.5-FOOT TO 5.0- FOOT INTERVALS USING AN AUTOMATIC HAMMER SYSTEM. NO CALIBRATION DATA IS AVAILABLE FOR THE HAMMER USED DURING THE SPT TESTING FOR THE BORINGS PERFORMED BY CTL ENGINEERING FOR THIS PROJECT.

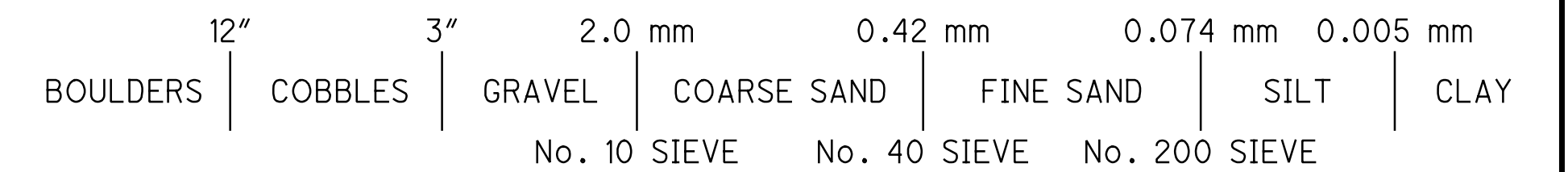
IN ADDITION TO THE AFOREMENTIONED BORINGS, BETWEEN OCTOBER 11 AND NOVEMBER 17, 2011, TWO (2) STRUCTURAL BORINGS, DESIGNATED AS B-003-0-11 AND B-008-0-11, WERE DRILLED TO A DEPTH OF 120.0 AND 100.0 FEET, RESPECTIVELY, BELOW THE GROUND SURFACE AS PART OF THE CURRENT EXPLORATION. THE BORINGS WERE DRILLED USING AN ATV-MOUNTED ROTARY DRILLING MACHINE UTILIZING A 4.25-INCH INSIDE DIAMETER, HOLLOW-STEM AUGER TO ADVANCE THE HOLES. THE HAMMER FOR THE CME-750X DRILL RIG USED BY RESOURCE INTERNATIONAL FOR THIS PROJECT WAS CALIBRATED ON MAY 6, 2011, AND HAS A DRILL ROD ENERGY RATIO OF 77.1 PERCENT.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	6	8
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	24	33
GRAVEL AND/OR STONE FRAGS. WITH SAND AND SILT	A-2-4	1	8
GRAVEL AND/OR STONE FRAGS. WITH SAND, SILT & CLAY	A-2-6	0	5
FINE SAND	A-3	20	35
COARSE AND FINE SAND	A-3a	40	52
SANDY SILT	A-4a	23	29
SILT	A-4b	9	11
SILT AND CLAY	A-6a	20	31
SILTY CLAY	A-6b	8	16
ELASTIC CLAY	A-7-5	1	1
CLAY	A-7-6	15	26
TOTAL		167	255
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
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 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.	
NP		INDICATES A NON-PLASTIC 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 INTERCAL, 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.	



PARTICLE SIZE DEFINITIONS



LEGEND

HISTORIC BORING DESCRIPTIONS	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	1	17
GRAVEL AND/OR STONE FRAGS. WITH SAND AND SILT	A-2-4	-	4
FINE SAND	A-3	1	3
COARSE AND FINE SAND	A-3a	1	8
SILT	A-4b	-	3
SILT AND CLAY	A-6a	-	-
SILTY CLAY	A-6b	1	-
CLAY	A-7-6	-	-
TOTAL		4	35

RECON.	CTL	2007		
	RII	08/25/11		
DRILLING	CTL	07/11/07 TO 10/05/07	DRAWN	RRM 02/06/15
	RII	10/25/11 TO 11/11/11	REVIEWED	BRT 02/06/15

DESIGN AGENCY
RESOURCE INTERNATIONAL
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231

PID NO.
77889

STRUCTURE FOUNDATION EXPLORATION
BRIDGES HAM-75-0791, HAM-75-0823, HAM-75-0824, HAM-75-0857,
HAM-75-0992, HAM-75-PROSSER, HAM-562-0004, HAM-562-0026

HAM - 75 - 7.85

1 / 48

1359
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZC002.dgn 6/21/2023 2:43:58 PM bmccutchen

EXPLORATION FINDINGS

AT THE EXISTING GROUND SURFACE IN BORINGS B-160-0-07, B-161-0-07, B-163-0-07, B-168-0-07, B-169-0-07, B-172-0-07, B-173-0-07, B-181-0-07, B-182-0-07 AND B-276-0-07, 0.2 TO 0.5 FEET OF TOPSOIL WAS ENCOUNTERED, IDENTIFIED BY THE SIGNIFICANT PRESENCE OF ORGANIC MATTER AND VEGETATION. BORING B-003-0-11 WAS DRILLED THROUGH THE EXISTING PAVEMENT OF SR 562 AND ENCOUNTERED 4.0 INCHES OF ASPHALT OVERLYING 8.0 INCHES OF CONCRETE. BORING B-008-0-11 WAS DRILLED THROUGH THE EXISTING PAVEMENT OF I-75 AND ENCOUNTERED 7.0 INCHES OF ASPHALT OVERLYING 9.0 INCHES OF CONCRETE.

BENEATH THE TOPSOIL IN BORING B-160-0-07 AND FROM THE EXISTING GROUND SURFACE IN BORINGS B-162-0-07, B-211-0-07, B-276-0-07, B-281-0-07 AND B-008-0-11, MATERIAL IDENTIFIED AS EXISTING FILL WAS ENCOUNTERED EXTENDING TO DEPTHS RANGING FROM 2.5 TO 18.5 FEET BELOW THE GROUND SURFACE. THE FILL CONSISTED PRIMARILY OF BROWN AND BROWNISH GRAY GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, COARSE AND FINE SAND, SANDY SILT AND SILT AND CLAY (ODOT A-1-b, A-2-4, A-3a, A-4a, A-6a).

UNDERLYING THE SURFACE MATERIALS AND EXISTING FILL, AND FROM THE GROUND SURFACE IN BORINGS B-212-0-07, B-276-0-07 AND B-280-0-07, NATURAL COHESIVE AND GRANULAR SOILS WERE ENCOUNTERED. THE COHESIVE SOILS WERE GENERALLY DESCRIBED AS GRAY, BROWN, DARK BROWN, LIGHT BROWN AND BROWNISH GRAY SANDY SILT, SILT, SILT AND CLAY, SILTY CLAY, ELASTIC CLAY AND CLAY (ODOT A-4a, A-4b, A-6a, A-6b, A-7-5, A-7-6). THE GRANULAR SOILS WERE GENERALLY DESCRIBED AS BROWN, GRAY, LIGHT BROWN, DARK 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-3, A-3a, A-4a, A-4b).

BASED ON THE SPT BLOW COUNTS OBTAINED, THE RELATIVE CONSISTENCY OF THE COHESIVE SOILS ENCOUNTERED IN THE 2007 CTL ENGINEERING BORINGS RANGED FROM SOFT (2 < N < 4 BLOWS PER FOOT [BPF]) TO HARD (N > 30 BPF) AND THE RELATIVE DENSITY OF THE GRANULAR SOIL RANGED FROM VERY LOOSE (N < 5 BPF) TO VERY DENSE (N > 50 BPF). THE SPT BLOW COUNTS (N) FROM THE 2007 EXPLORATION BORINGS RANGED FROM 2 BPF TO SPLIT SPOON SAMPLER REFUSAL. SPLIT SPOON SAMPLER REFUSAL IS DEFINED AS EXCEEDING 100 BLOWS WITH LESS THAN 6.0 INCHES OF PENETRATION BY THE SPLIT SPOON SAMPLER.

FOR 2011 EXPLORATION BORINGS, THE SHEAR STRENGTH AND CONSISTENCY OF THE COHESIVE SOILS WERE PRIMARILY DERIVED FROM THE HAND PENETROMETER VALUES (HP). THE COHESIVE SOILS ENCOUNTERED RANGED FROM STIFF (1.0 < HP < 2.0 TONS PER SQUARE FOOT [TSF]) TO HARD (HP > 4.0 TSF). THE UNCONFINED COMPRESSIVE STRENGTH OF THE COHESIVE SOIL SAMPLES TESTED FROM THE 2011 EXPLORATION BORINGS RANGED FROM 1.5 TO OVER 4.5 TSF. BASED ON THE SPT BLOW COUNTS OBTAINED (N60), THE GRANULAR SOIL ENCOUNTERED RANGED FROM VERY LOOSE (N60 < 5 BPF) TO VERY DENSE (N60 > 50 BPF). OVERALL BLOW COUNTS (N60) RECORDED FROM THE SPT SAMPLING IN THE 2011 BORINGS RANGED FROM 1 TO 72 BPF.

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 1 TO 33 PERCENT. THE NATURAL MOISTURE CONTENTS OF THE COHESIVE SOIL SAMPLES TESTED FOR PLASTICITY INDEX RANGED FROM 10 PERCENT BELOW TO 14 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.

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

WITH THE EXCEPTION OF BORINGS B-212-0-07 AND B-281-0-07 GROUNDWATER WAS ENCOUNTERED AT ELEVATIONS RANGING FROM 448.1 TO 515.1 FEET MSL.

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 2007 AND APRIL 2010.

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

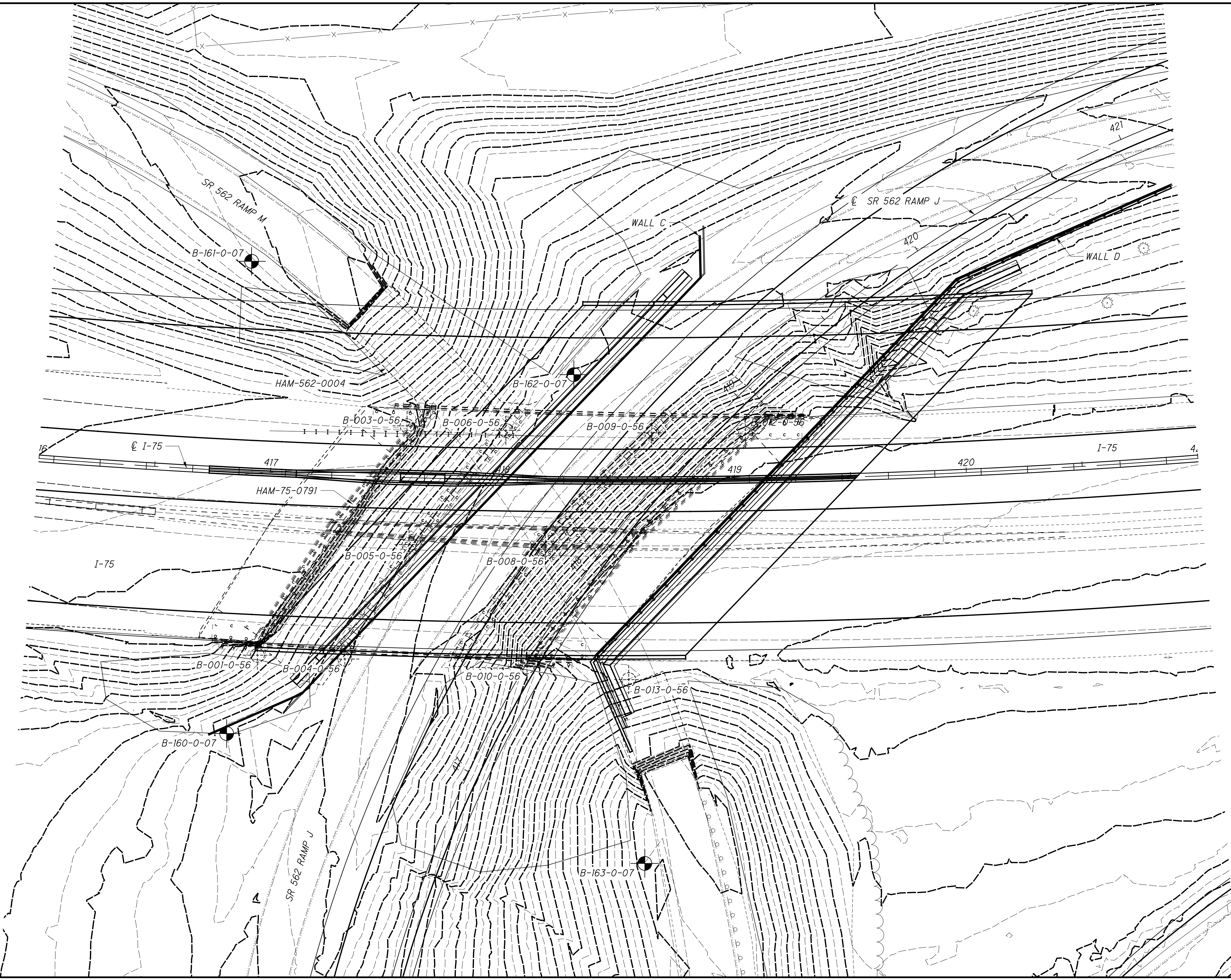
STRUCTURE FOUNDATION EXPLORATION
BRIDGES HAM-75-0791, HAM-75-0823, HAM-75-0834, HAM-75-0857,
HAM-75-0992, HAM-75-PROSSER, HAM-562-0004, HAM-562-0026

HAM-75-7.85

2 / 48

1360
1534

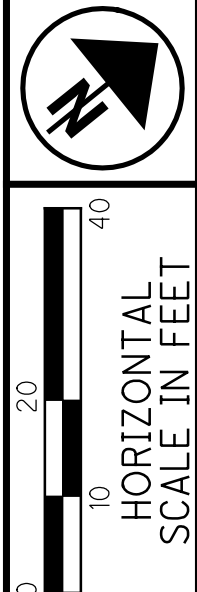
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP001.dgn 6/21/2023 1:02:16 PM bmccutchen



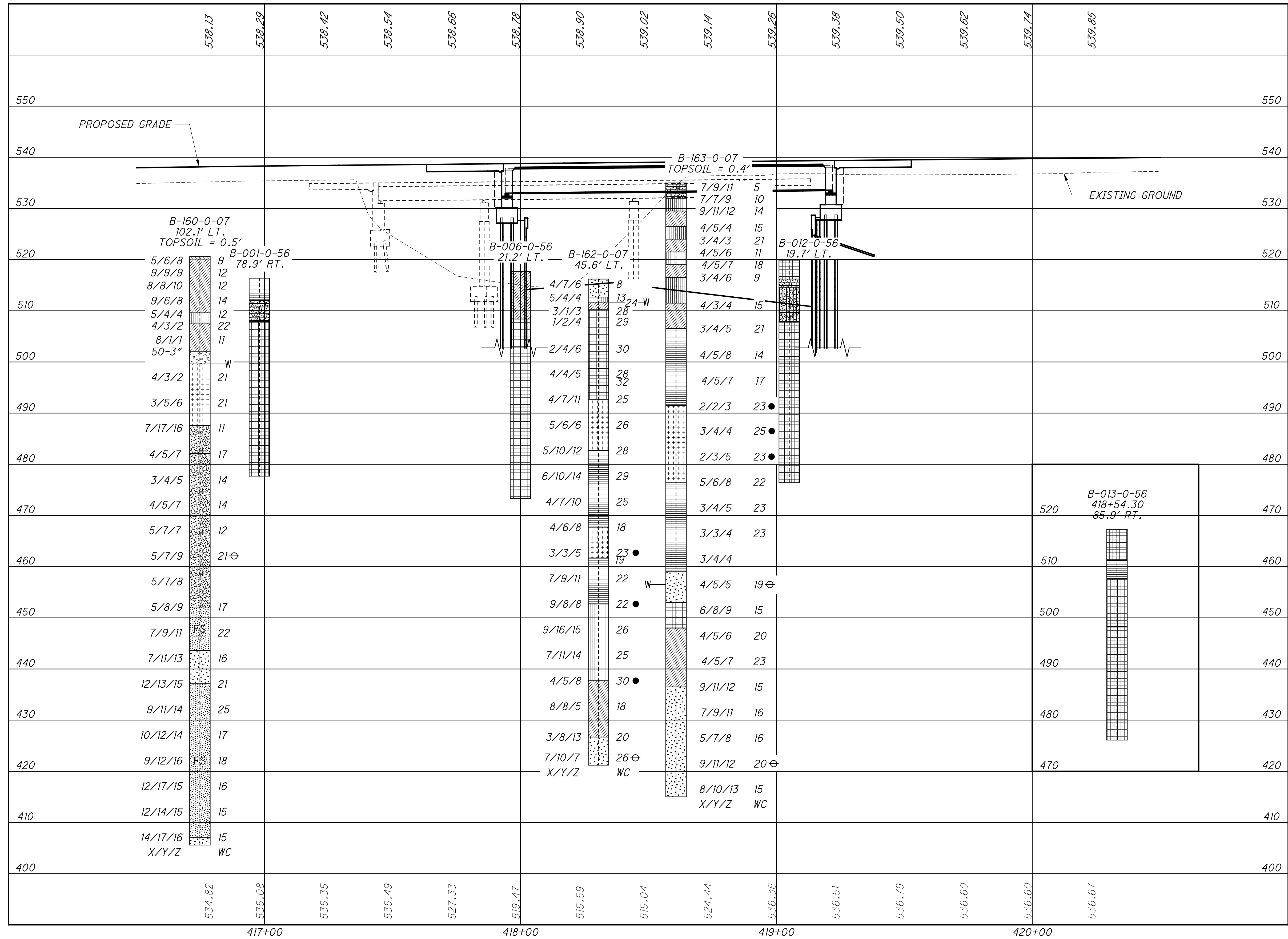
DRAWN: RRM
 CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0791 I-75 OVER SR 562 RAMP J

HAM-75-7.85



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP002.dgn 6/21/2023 1:02:17 PM bmccutchen



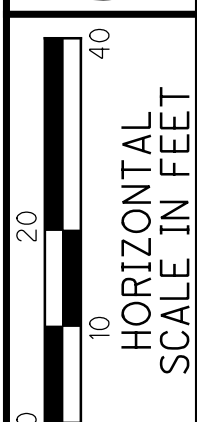
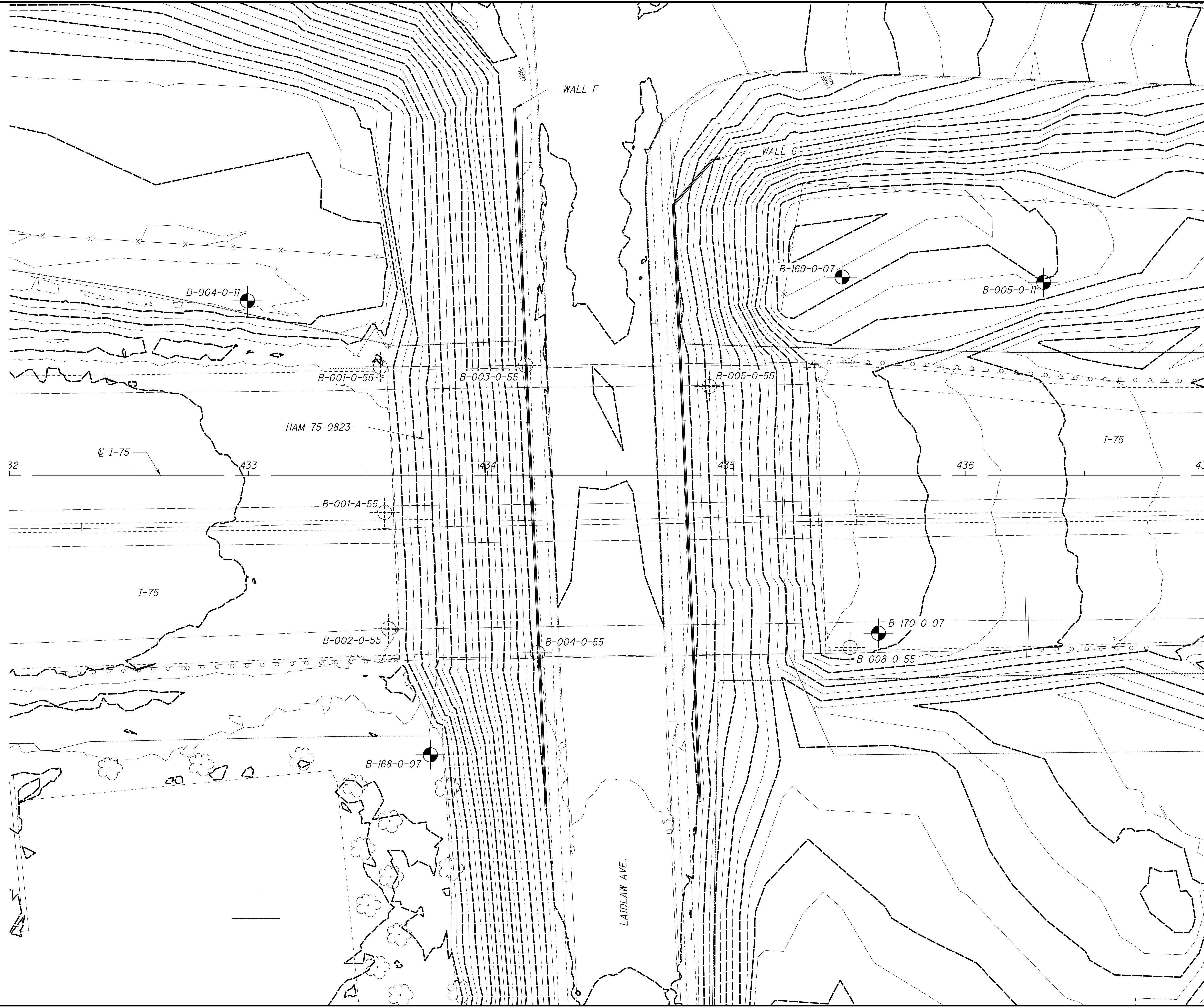
DRAWN
RRM
CHECKED
BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0791 I-75 OVER SR 562 RAMP J

HAM-75-7.85

PROFILES FOR BORINGS B-003-0-56, B-004-0-56, B-005-0-56, B-008-0-56, B-009-0-56 AND B-010-0-56 WERE NOT SHOWN ON THE HISTORIC PLANS.

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP003.dgn 6/21/2023 1:02:18 PM bmccutchen



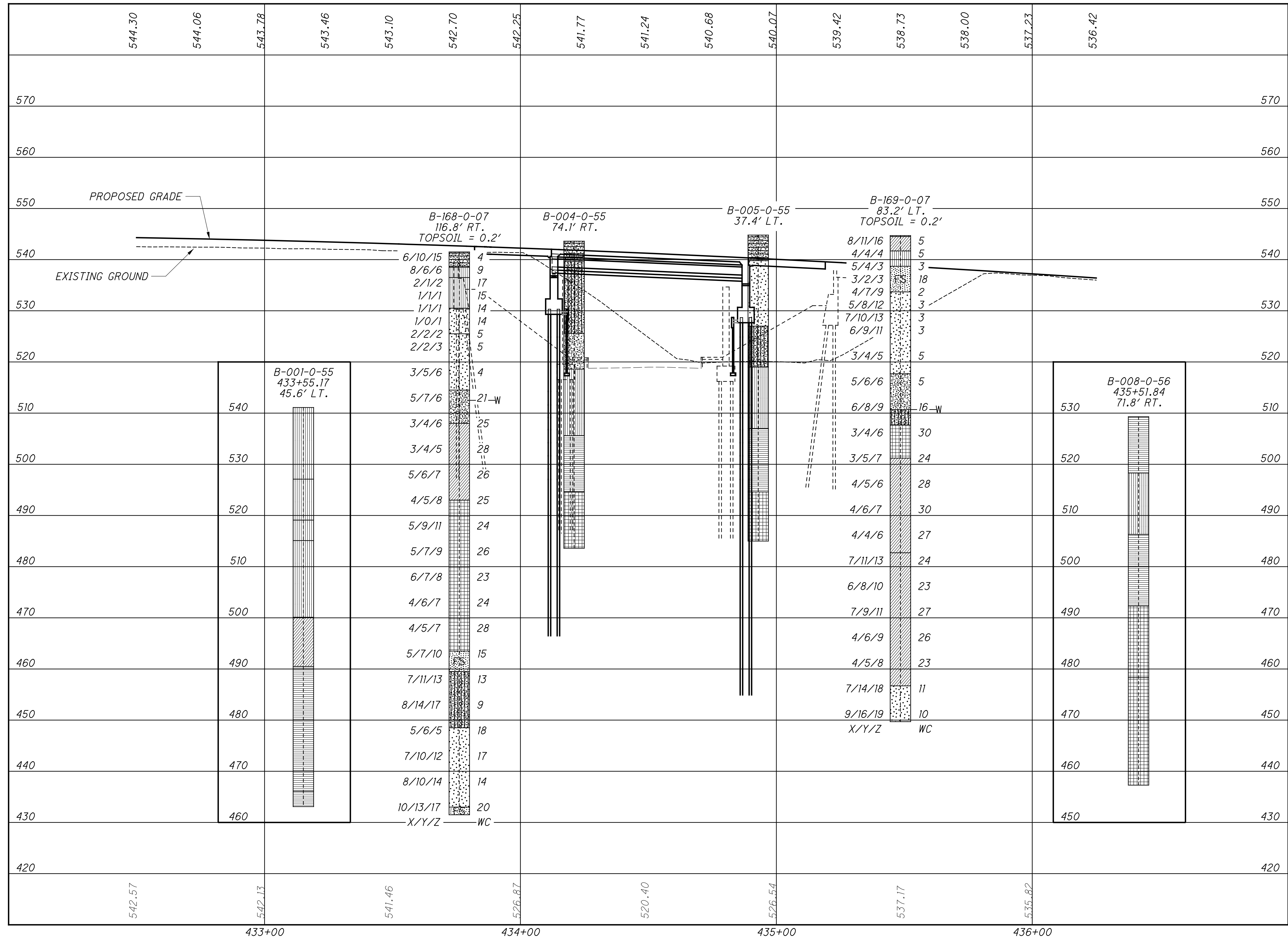
DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0823 I-75 OVER LAIDLAW AVE.

HAM-75-7.85

1363
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP004.dgn 6/21/2023 1:02:19 PM bmccutchen



0 20 40
 10
 HORIZONTAL SCALE IN FEET
 DRAWN RRM
 CHECKED BRT

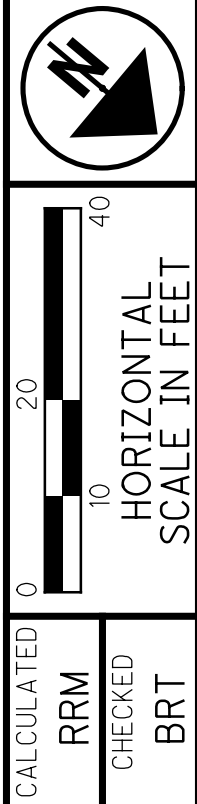
STRUCTURE FOUNDATION EXPLORATION
 BRIDGE NO. HAM-75-0823 I-75 OVER LAIDLAW AVE.

HAM-75-7.85

1364
 1534

PROFILES FOR BORINGS B-001-A-56, B-002-0-56, AND B-003-0-56, WERE NOT SHOWN ON THE HISTORIC PLANS.

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP005.dgn 6/21/2023 1:02:20 PM bmccutchen



CALCULATED	RRM	CHECKED	BRT

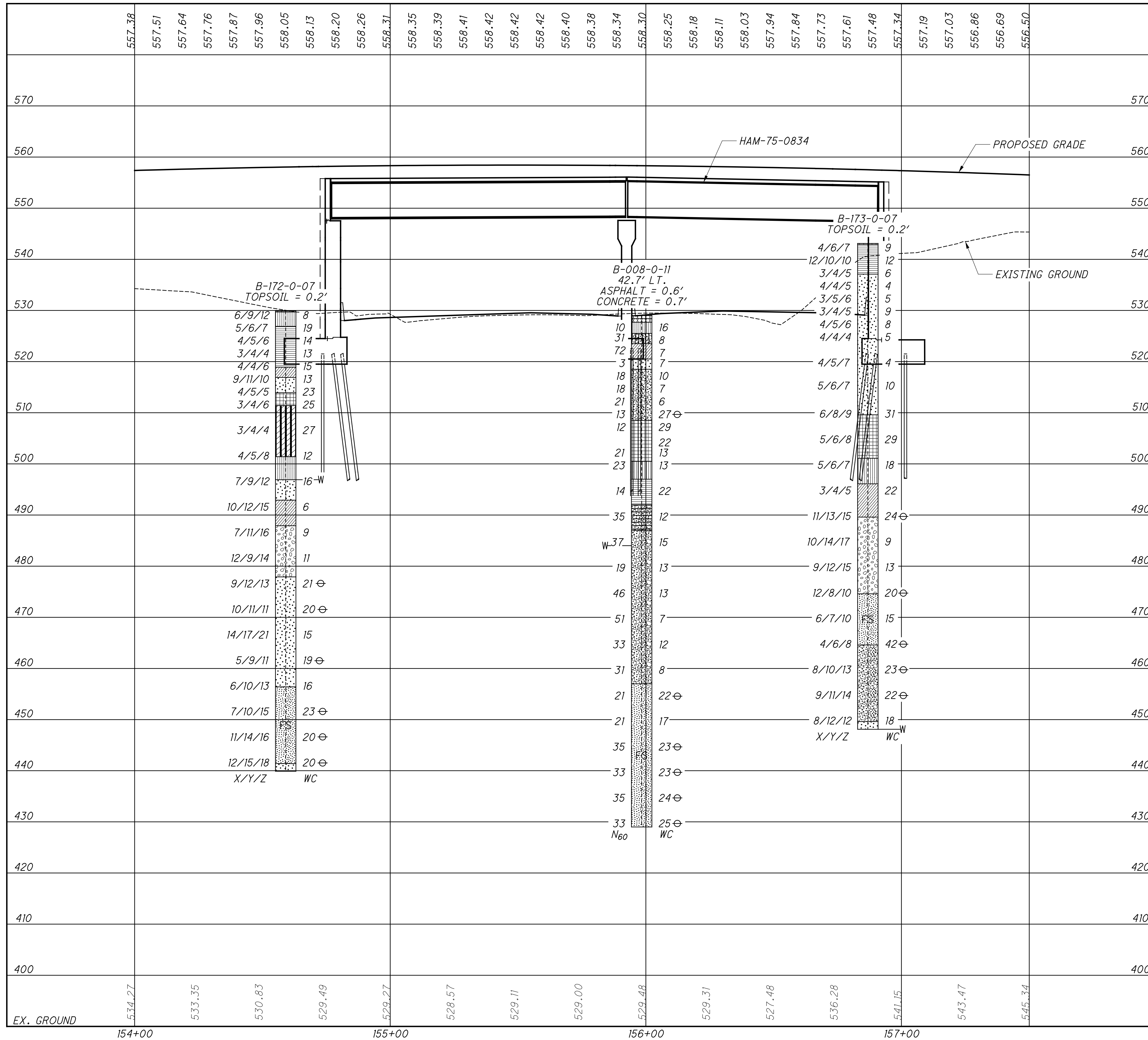
**STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0834
NORFOLK SOUTHERN RAILROAD OVER I-75**

HAM-75-7.85

7 / 48

1365
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP006.dgn 6/21/2023 1:02:21 PM bmccutchen

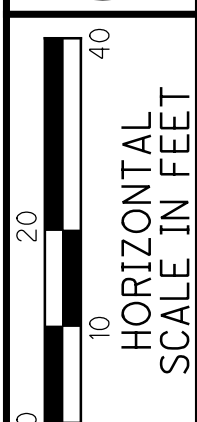
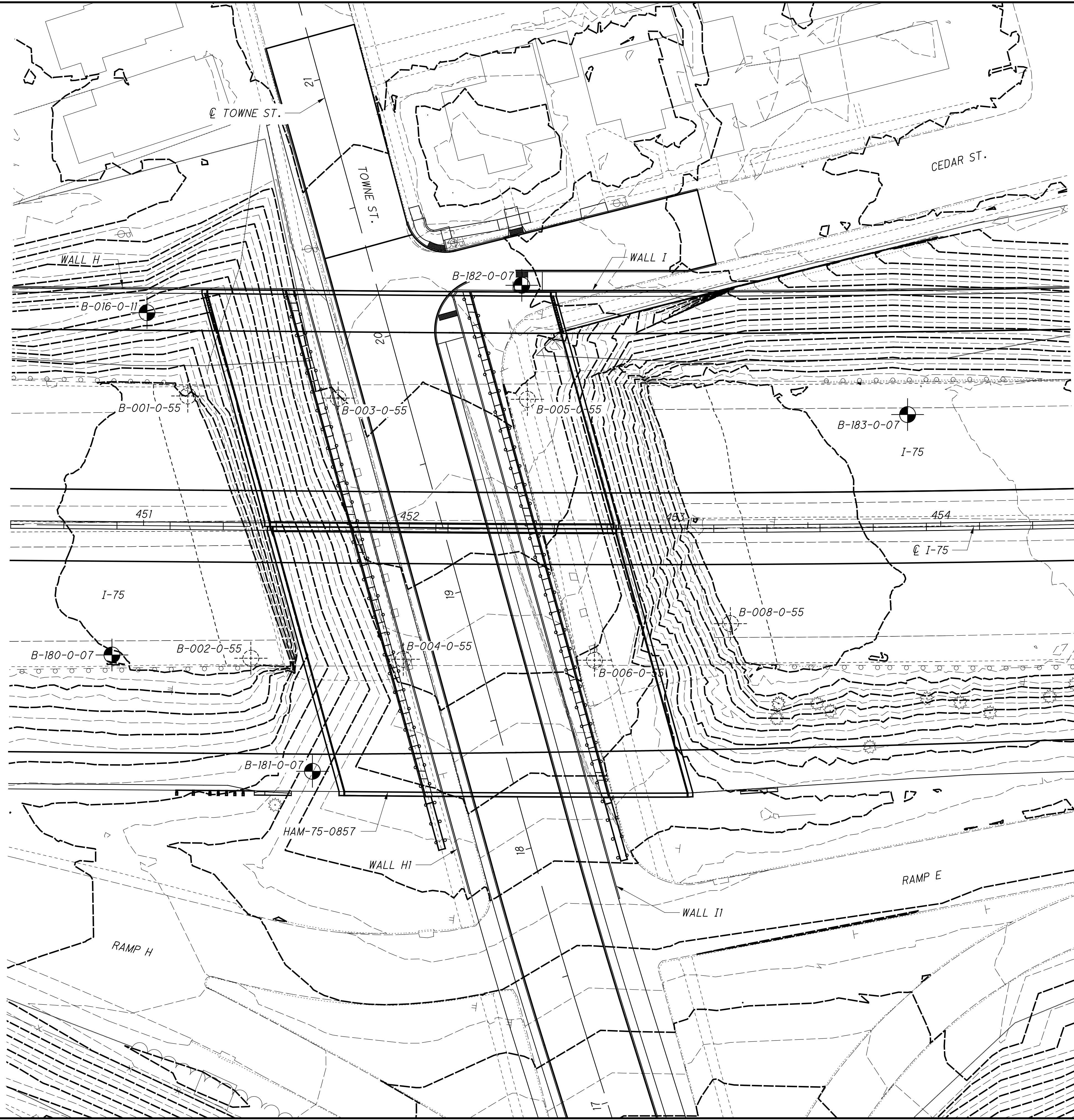


CALCULATED
RRM
CHECKED
BRT

**STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0834
NORFOLK SOUTHERN RAILROAD OVER I-75**

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP007.dgn 6/21/2023 1:02:22 PM bmccutchen

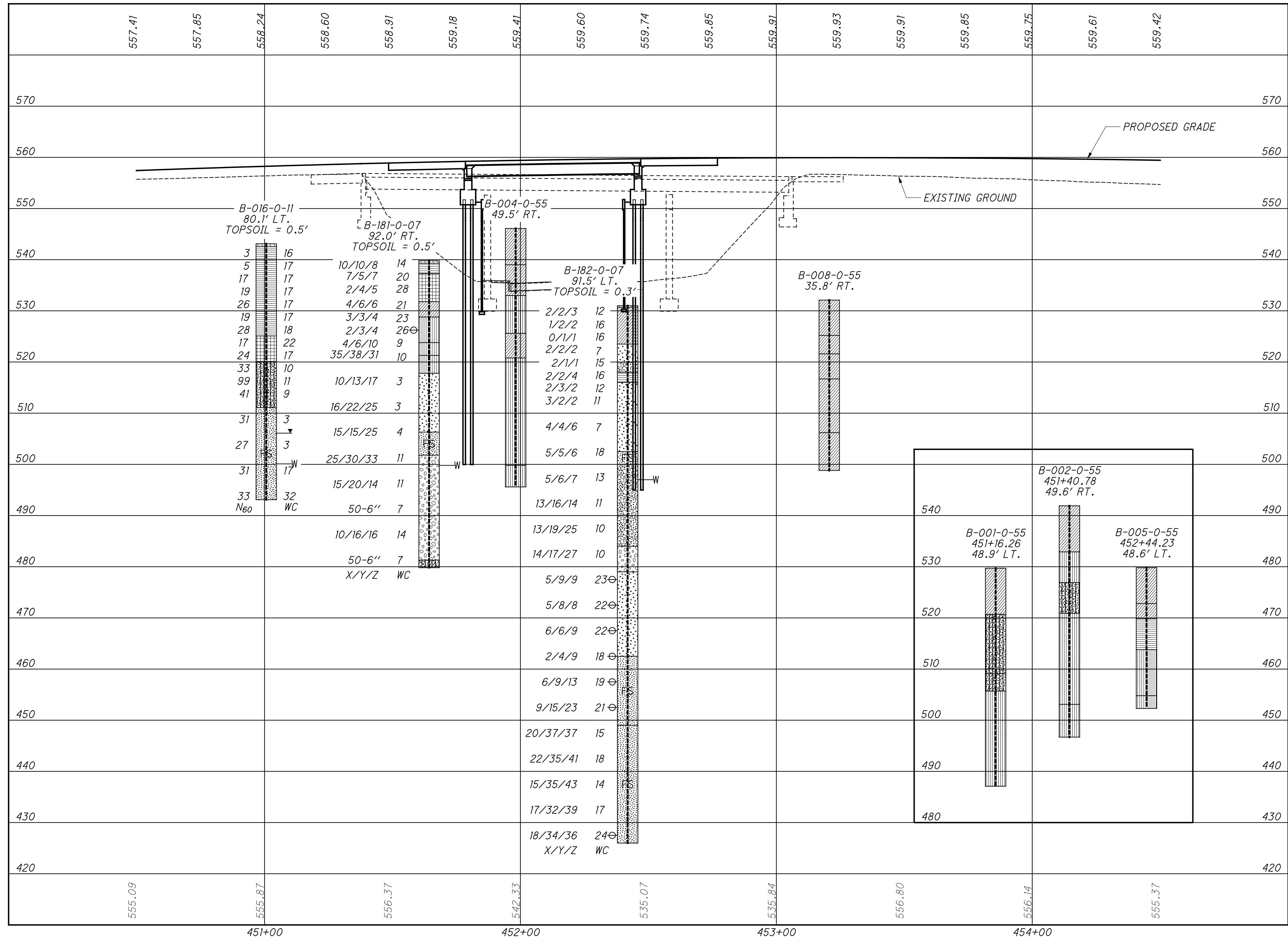


DRAWN: RRM
 CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0857 I-75 OVER TOWNE STREET

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P008.dgn 6/21/2023 1:02:23 PM bmccutchen



DRAIN
RRM
CHECKED
BRT

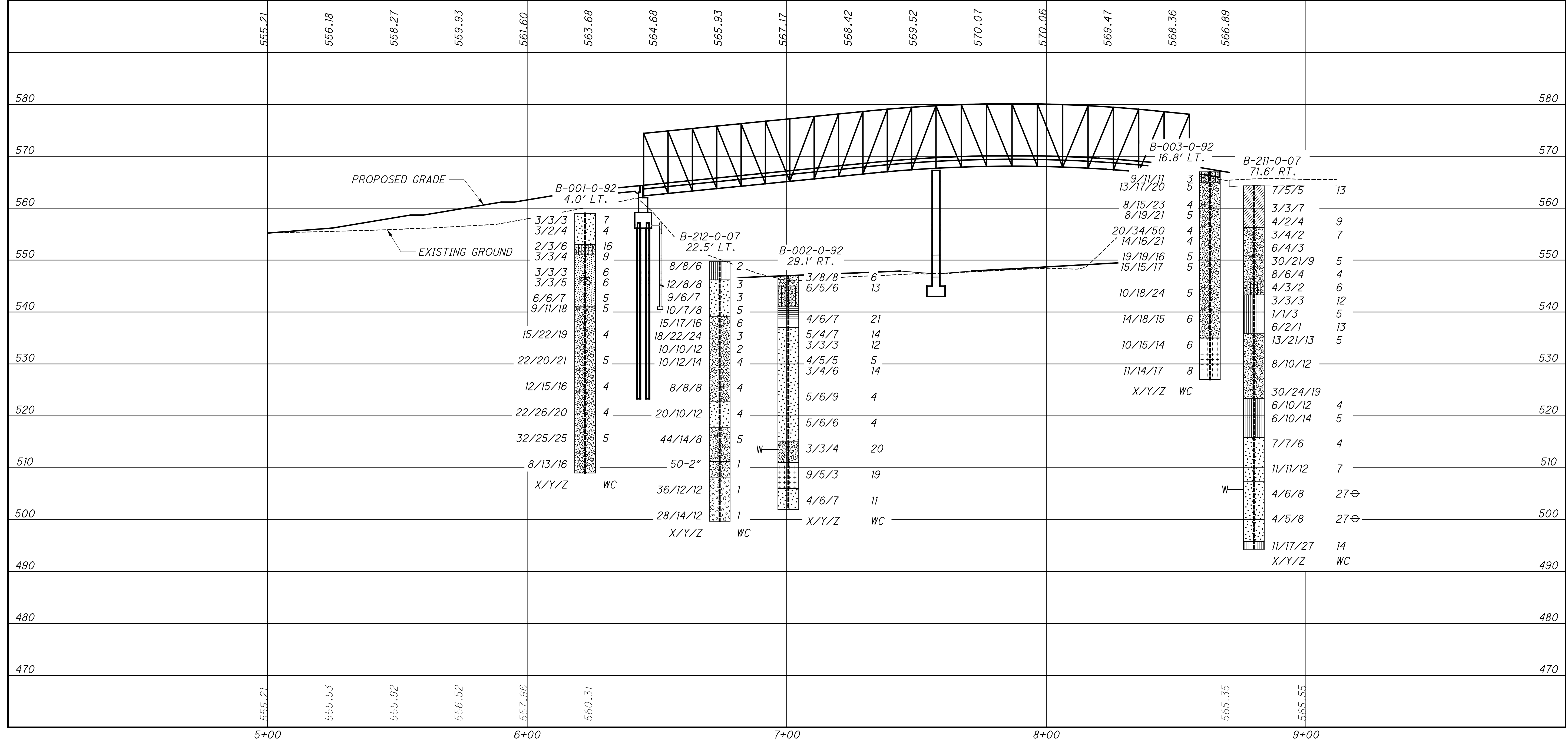
STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0857 I-75 OVER TOWNE STREET

HAM-75-7.85

PROFILES FOR BORINGS B-003-0-55 AND B-006-0-55 WERE NOT SHOWN ON THE HISTORIC PLANS.



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP010.dgn 6/21/2023 1:02:24 PM bmccutchen



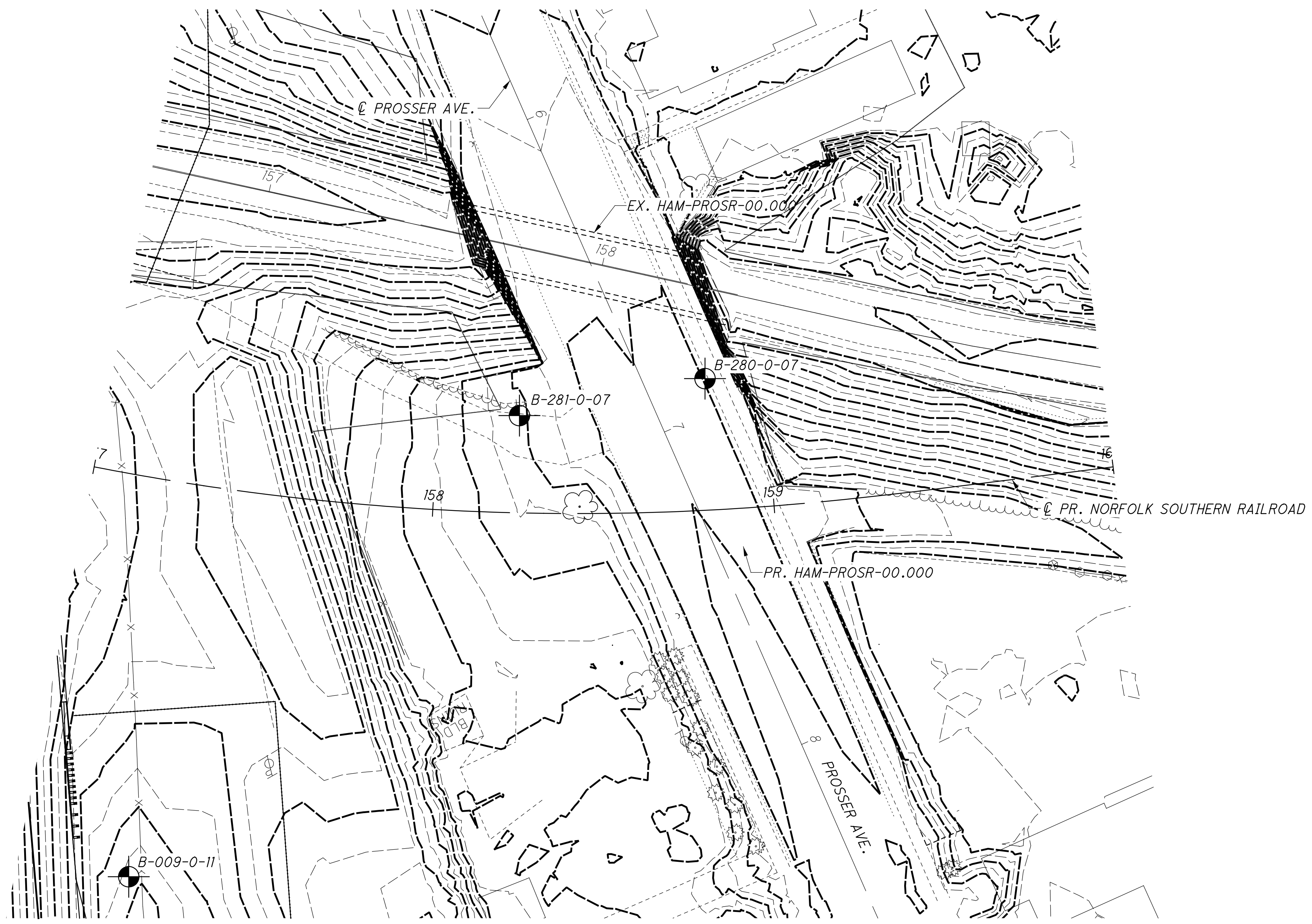
0 20 40
10
HORIZONTAL
SCALE IN FEET

DRAWN
RRM
CHECKED
BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-0992 PEDESTRIAN PATH BRIDGE OVER I-75

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP011.dgn 6/21/2023 1:02:25 PM bmccutchen



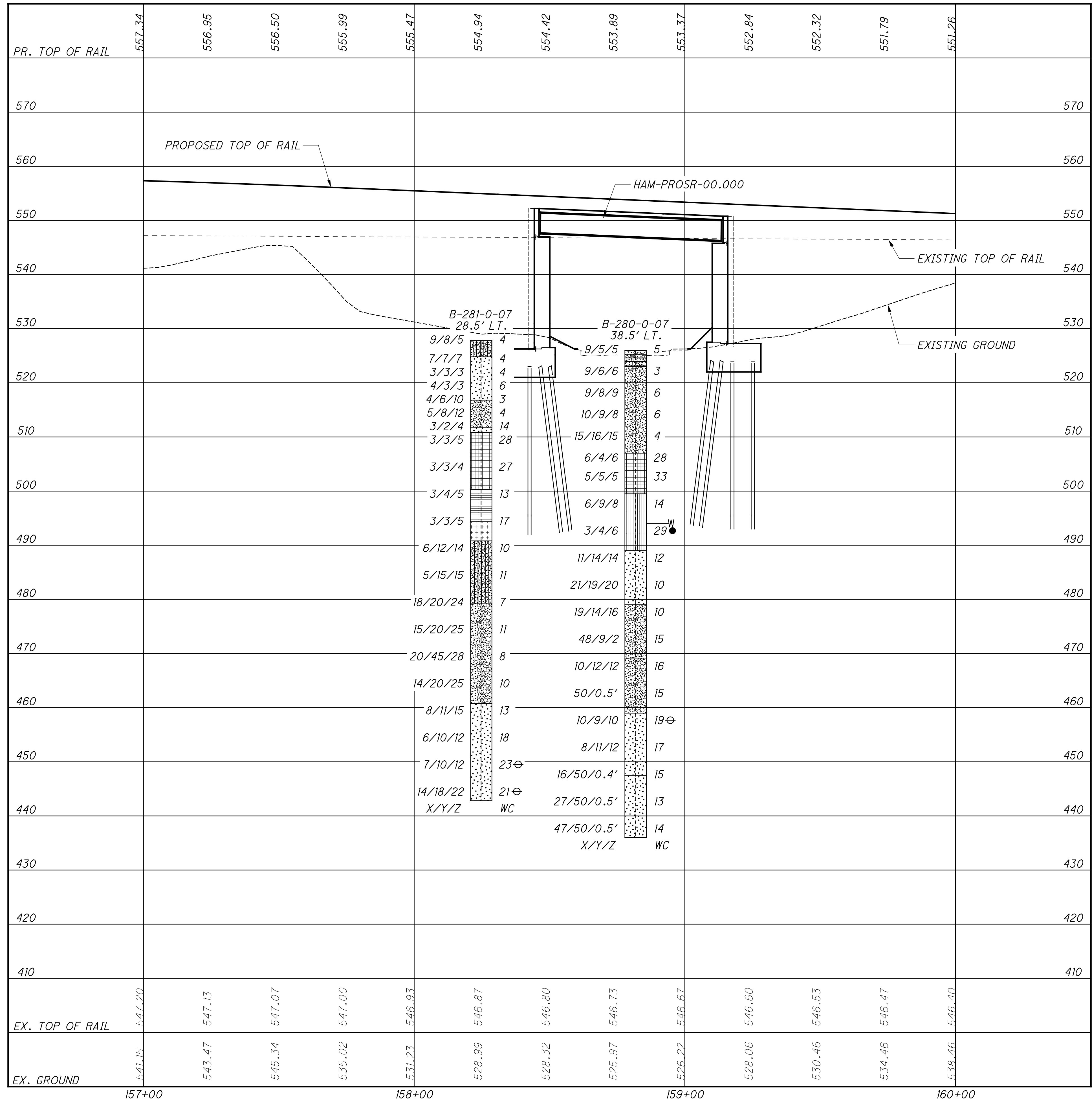
DRAWN: RRM
 CHECKED: BRT

0 10 20 40
 HORIZONTAL SCALE IN FEET

**STRUCTURE FOUNDATION EXPLORATION
 BRIDGE NO. HAM-75-PROSSER
 NORFOLK SOUTHERN RAILROAD OVER PROSSER AVE**

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP012.dgn 6/21/2023 1:02:26 PM bmccutchen

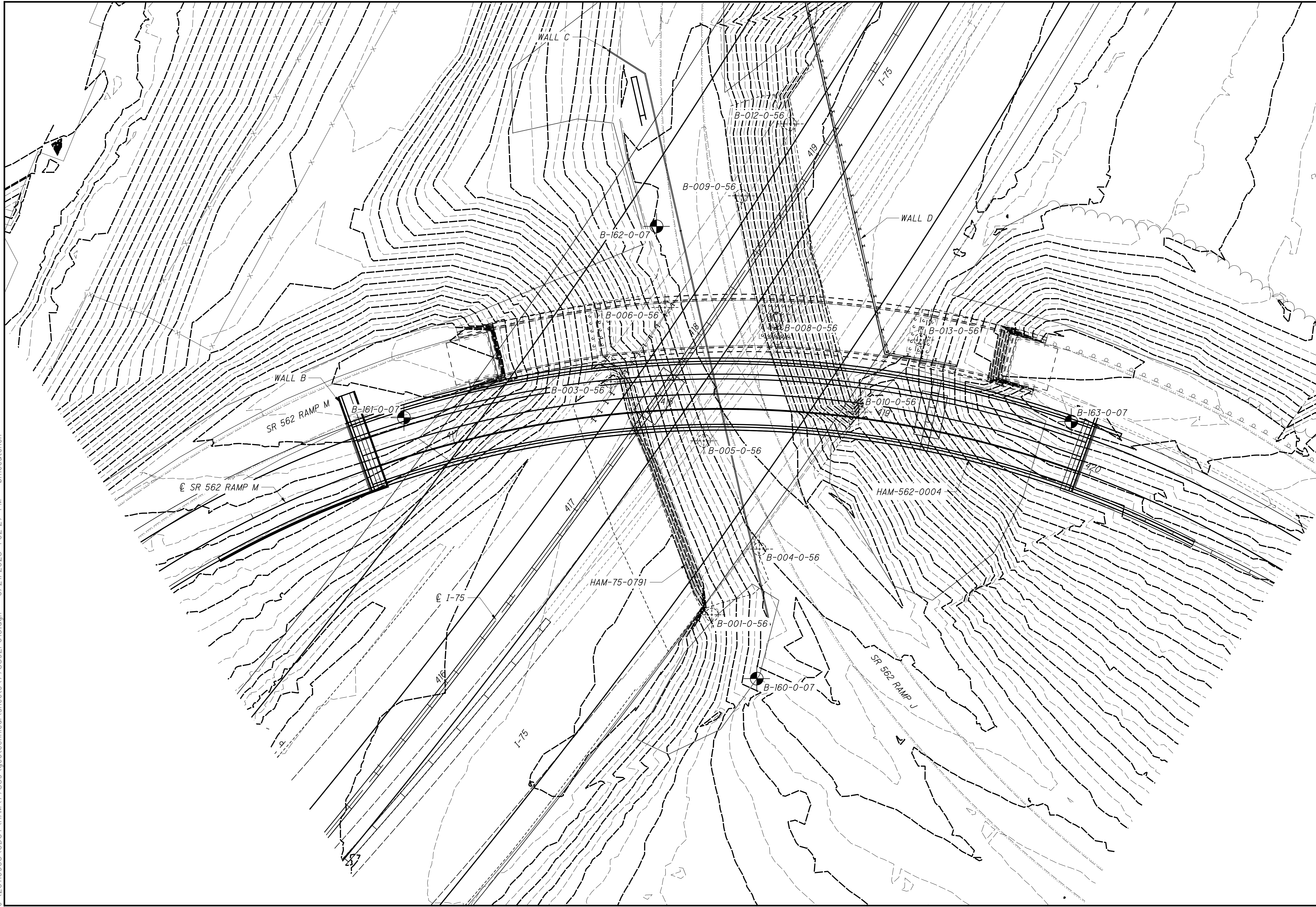


0 10 20 40
HORIZONTAL SCALE IN FEET
DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-75-PROSSER
NORFOLK SOUTHERN RAILROAD OVER PROSSER AVE

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP013.dgn 6/21/2023 1:02:27 PM bmccutchen



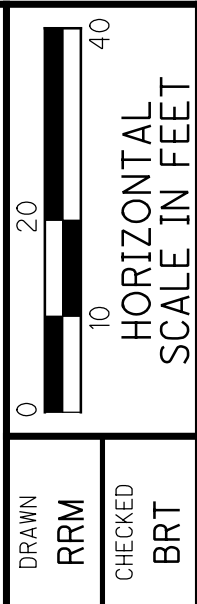
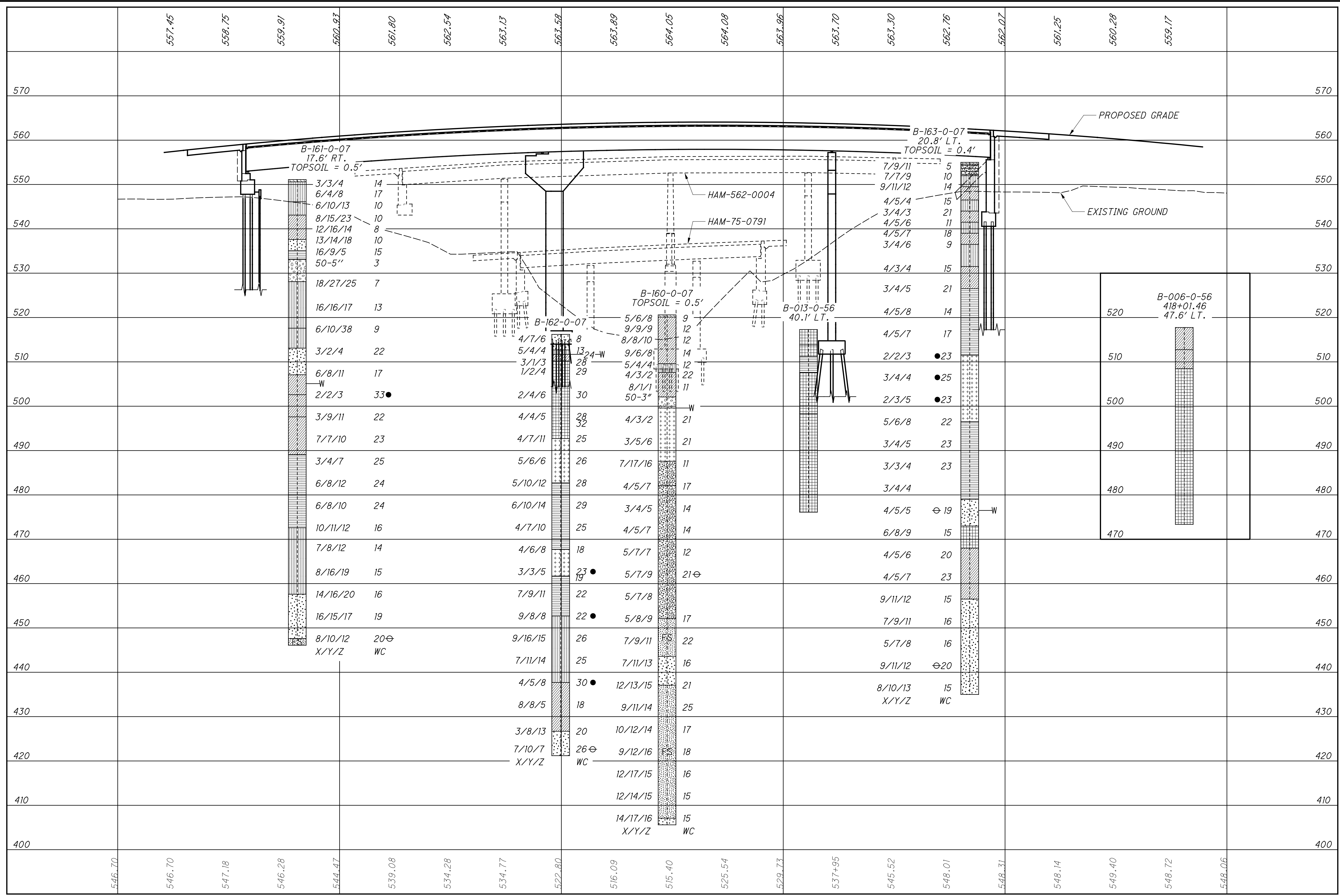
DRAWN: RRM
CHECKED: BRT

HORIZONTAL SCALE IN FEET

STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-562-0004 SR 562 RAMP M OVER I-75

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP014.dgn 6/21/2023 1:02:28 PM bmccutchen

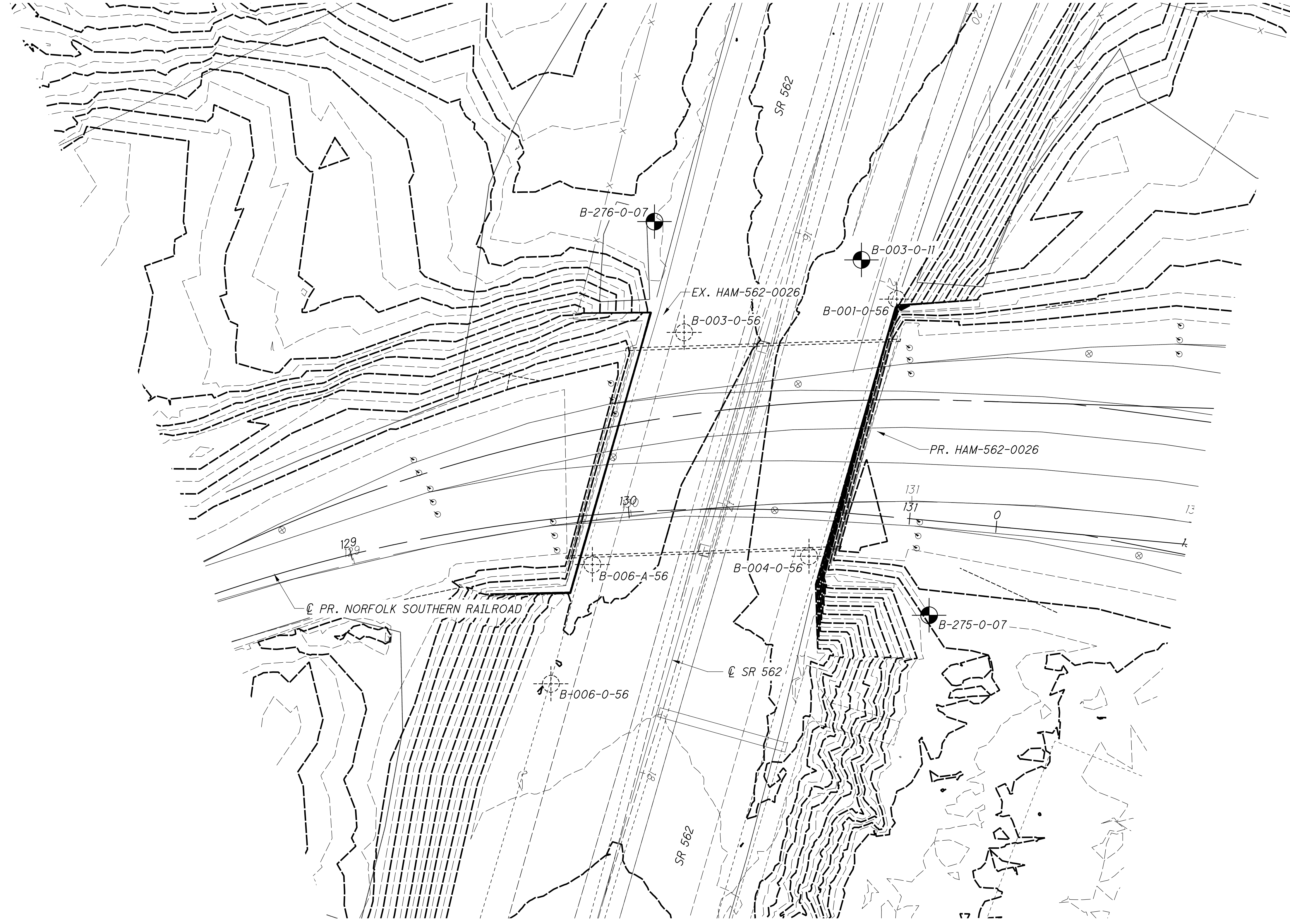


STRUCTURE FOUNDATION EXPLORATION
 BRIDGE NO. HAM-562-0004 SR 562 RAMP M OVER I-75

HAM-75-7.85
 16 / 48
 1374
 1534

PROFILES FOR BORINGS B-003-0-56, B-004-0-56, B-005-0-56, B-008-0-56, B-009-0-56 AND B-010-0-56 WERE NOT SHOWN ON THE HISTORIC PLANS.

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP015.dgn 6/21/2023 1:02:29 PM bmccutchen



DRAWN	RRM
CHECKED	BRT

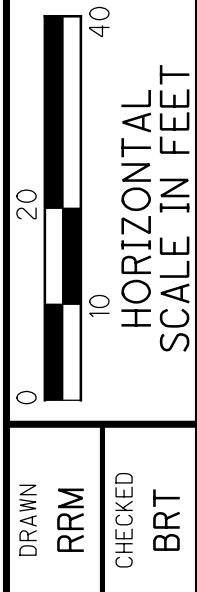
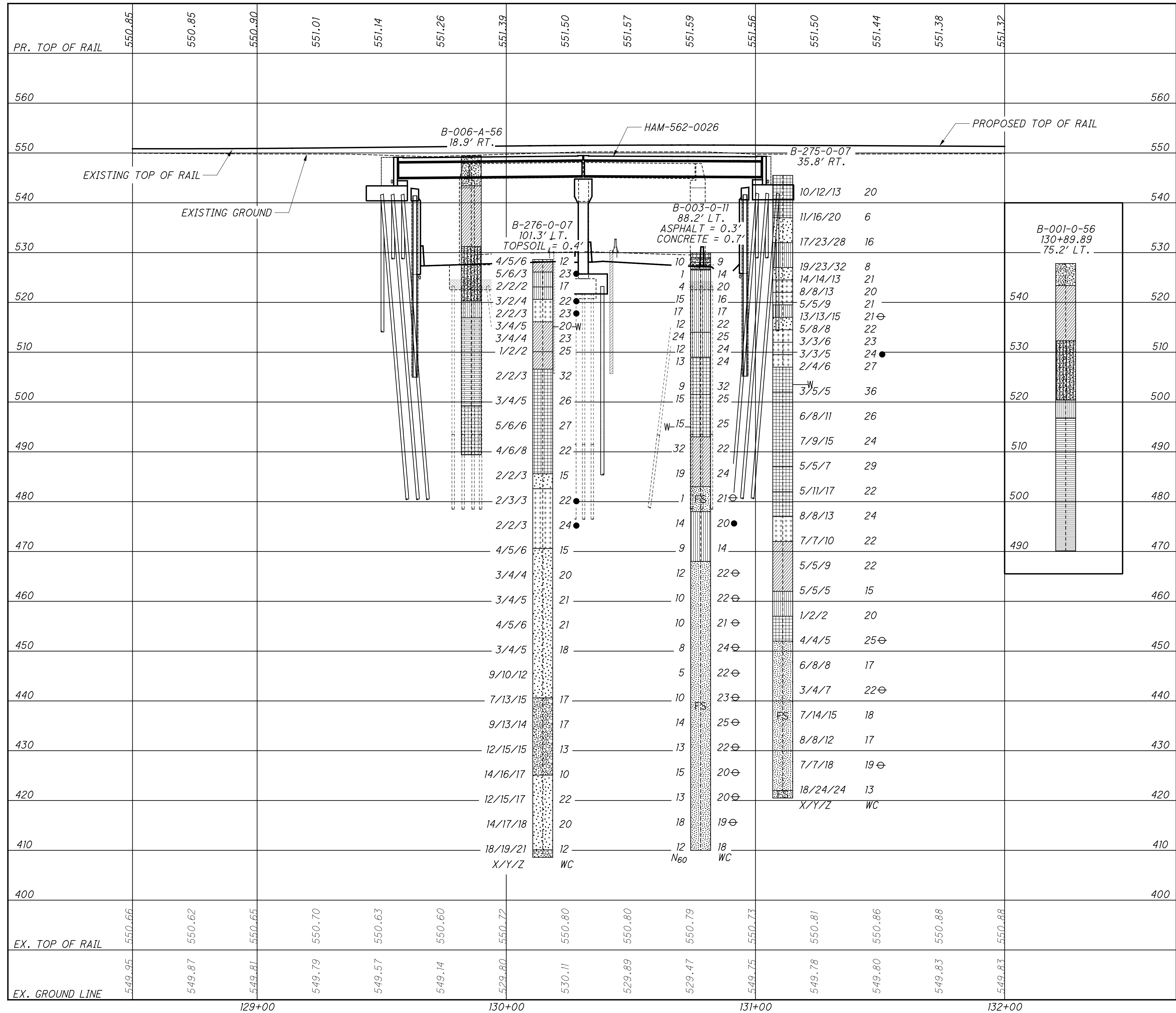
0 10 20 40
HORIZONTAL
SCALE IN FEET

**STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-562-0026
NORFOLK SOUTHERN RAILROAD OVER SR 562**

HAM-75-7.85

1375
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP016.dgn 6/21/2023 1:02:30 PM bmccutchen



**STRUCTURE FOUNDATION EXPLORATION
BRIDGE NO. HAM-562-0026
NORFOLK SOUTHERN RAILROAD OVER SR 562**

HAM-75-7.85

LOG OF BORING
(Continued)

3
4

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-160-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class						
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
449.5	72																			
447.1	74	7/9/11				19										22				VISUAL
443.6	76																			
442.1	78	7/11/13				20										16				VISUAL
437.1	84	12/13/15				21	0	1	92	6	1	NP	NP	21						A-3
432.1	88	9/11/14				22										25				VISUAL
427.1	94	10/12/14				23										17				VISUAL
422.1	98	9/12/16				24	0	9	85	5	1	NP	NP	18						A-3
417.1	104	12/17/15				25										16				VISUAL

LOG OF BORING
(Continued)

4
4

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-160-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class							
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.						
413.5	108																				
412.1	110	12/14/15				26										15					VISUAL
407.1	114	14/17/16				27	6	23	59	7	5	NP	NP	15							A-3a
405.6	115.0'																				
BOTTOM OF BORING = 115.0'																					

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL002.dgn 6/21/2023 1:02:31 PM bmccutchen

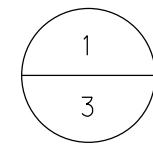
STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

20/48

1378
1534

LOG OF BORING

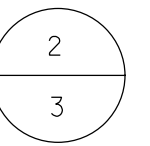


Date Started 8/1/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 8/1/07 Casing: Length 105.5ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-161-0-07 Station & Offset 416+80.95, 17.6 LT Water Elev. 505.1ft Surface Elev. 551.1ft
 CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class		
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.	
551.1	0				0.5' TOPSOIL (.5')											VISUAL
550.8	2	AUGERED 3/3/4			MEDIUM STIFF TO STIFF, DARK BROWN SANDY SILT, LITTLE CLAY, TRACE GRAVEL, MOIST	1							14			VISUAL
548.1	4	6/4/8				2	2	10	34	38	16	24	10	17		A-4a
545.8	6	6/10/13			5.0' VERY STIFF, BROWN SANDY SILT, TRACE CLAY, DAMP	3							10			VISUAL
542.6	8	8/15/23			8.0' VERY STIFF TO HARD, BROWNISH GRAY SILT AND CLAY, AND SAND, LITTLE GRAVEL, DAMP	4	12	18	21	30	19	26	11	10		A-6a
540.1	10	12/16/14				5							8			VISUAL
537.6	14	13/14/18			13.5' DENSE, BROWN AND DARK GRAY COARSE AND FINE SAND, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, DAMP	6	20	27	34	17	2	NP	NP	10		A-3a
535.1	16	16/9/5			16.0' STIFF, BROWN SILTY CLAY, SOME SAND, LITTLE GRAVEL, MOIST	7							15			VISUAL
532.6	18	50-5"			18.0' VERY DENSE, BROWN GRAVEL AND/OR STONE FRAGMENTS, SOME SAND, DRY	8	65	10	21	4	0	NP	NP	3		A-1-a
527.6	24	18/27/25			23.0' HARD, GRAY SANDY SILT, SOME GRAVEL, LITTLE CLAY, DAMP TO MOIST	9							7			VISUAL
522.6	28	16/16/17				10	27	5	17	38	13	NP	NP	13		A-4a
517.6	34	6/10/38			33.5' HARD, BROWN SILTY SAND, AND GRAVEL, MOIST	11							9			VISUAL

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L003.dgn 6/21/2023 1:02:31 PM bmcutchen

LOG OF BORING
(Continued)



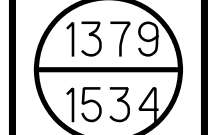
Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-161-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class		
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.	
516.1	36															
512.6	38	3/2/4			38.0' LOOSE, GRAY COARSE AND FINE SAND, TRACE CLAY, LITTLE SILT, MOIST	12	0	8	62	21	9	NP	NP	22		A-3a
507.6	44	6/8/11			43.5' VERY STIFF, GRAY SILT AND CLAY, TRACE SAND, TRACE GRAVEL, MOIST	13								17		VISUAL
502.6	48	2/2/3			48.5' MEDIUM STIFF, GRAY SILT AND CLAY, TRACE SAND, WET	14	0	1	1	55	43	33	14	33		A-6a
497.6	54	3/9/11			53.5' VERY STIFF, GRAY SILT AND CLAY, TRACE SAND, TRACE GRAVEL, WET TO MOIST	15								22		VISUAL
492.6	58	7/7/10				16								23		VISUAL
487.6	64	3/4/7			62.0' STIFF TO VERY STIFF, GRAY SILTY CLAY, MOIST	17	0	0	0	39	61	40	19	25		A-6b
482.6	68	6/8/12				18								24		VISUAL
	70															

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85



DRAWN
RRM
CHECKED
BRT

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-161-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD (ft)	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class			
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.				
480.0	72																		
477.6	74	6/8/10					19										24	VISUAL	
472.6	78	10/11/12			78.5'	VERY STIFF TO HARD, GRAY SANDY SILT, TRACE CLAY, MOIST	20	0	11	35	44	10	21	5		16	A-4a		
468.1	84	7/8/12					21									14	VISUAL		
462.6	88	8/16/19					22									15	VISUAL		
457.6	94	14/16/20			93.5'	DENSE, GRAY COARSE AND FINE SAND, SOME SILT, TRACE GRAVEL, TRACE CLAY, MOIST	23	1	14	59	25	1	NP	NP		16	A-3a		
452.6	98	16/15/17					24									19	VISUAL		
447.6	104	8/10/12			103.5'	MEDIUM DENSE, GRAY AND BROWN FINE SAND, TRACE GRAVEL, TRACE SILT, WET	25	2	30	59	9	0	NP	NP		20	A-3		
446.1					105.0'	BOTTOM OF BORING = 105.0'													

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

1380
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL004.dgn 6/21/2023 1:02:31 PM bmccutchen

LOG OF BORING

1
3

Date Started 7/31/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 7/31/07 Casing: Length 95.0ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-162-0-07 Station & Offset 418+30.50, 45.6' LT Water Elev. 511.7ft Surface Elev. 516.2ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class					
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.				
516.2	0																		
515.2	2	4/7/6			MEDIUM DENSE, BROWN COARSE AND FINE SAND, SOME SILT, TRACE CLAY, TRACE GRAVEL, DAMP -FILL	1	9	27	31	26	7	NP	NP	8					A-3a
512.7	4	5/4/4			MEDIUM STIFF, BROWN SANDY SILT, AND GRAVEL, TRACE CLAY, MOIST	2A													VISUAL
511.7	4.5				MEDIUM STIFF, GRAY TO BROWN SILT AND CLAY, TRACE SAND, MOIST	2B													VISUAL
510.2	6	3/1/3			SOFT TO MEDIUM STIFF, GRAY TO BROWN CLAY, AND SILT, TRACE SAND, MOIST	3	0	0	0	45	55	46	24	28					A-7-6
507.7	8	1/2/4				4													VISUAL
502.7	14	2/4/6			STIFF, GRAY TO BROWN CLAY, SOME SILT, TRACE SAND, MOIST	5	0	0	0	27	73	49	26	30					A-7-6
497.7	18	4/4/5			-SILT LAYERS ARE INTERBEDDED	6A													VISUAL
496.7	20					6B													VISUAL
492.7	24	4/7/11			STIFF TO VERY STIFF, GRAY TO BROWN SILT, SOME CLAY, TRACE SAND, MOIST	7	0	0	1	71	28	30	9	25					A-4b
487.7	28	5/6/6				8													VISUAL
482.7	34	5/10/12			VERY STIFF, GRAY TO BROWN SILTY CLAY, TRACE SAND, MOIST	9	0	0	0	55	45	40	17	28					A-6b

LOG OF BORING
(Continued)

2
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-162-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class						
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
481.2	36																			
477.7	38	6/10/14				10													29	VISUAL
472.7	44	4/7/10				11													25	VISUAL
467.7	48	4/6/8			MEDIUM STIFF TO STIFF, GRAY SILT, LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, MOIST	12	0	7	13	63	17	25	8	18					A-4b	
462.7	54	3/3/5				13A													23	VISUAL
457.7	58	7/9/11			MEDIUM STIFF TO VERY STIFF, GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL, MOIST -SAND LAYERS ARE INTERBEDDED	13B													19	VISUAL
452.7	64	9/8/8			VERY STIFF TO HARD, GRAY SANDY SILT, TRACE GRAVEL, TRACE CLAY, WET	15	3	16	41	31	9	18	5	22					A-4a	
447.7	68	9/16/15				16													26	VISUAL

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L005.dgn 6/21/2023 1:02:32 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

23/48

1381
1534

DRAWN
RRM
CHECKED
BRT

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL006.dgn 6/21/2023 1:02:32 PM bmccutchen

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-162-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
445.1	72																	
442.7	74	7/11/14					17									25		VISUAL
437.7	78	4/5/8			78.5'	STIFF, GRAY SILT AND CLAY, SOME SAND, TRACE GRAVEL, MOIST	18	0	2	23	50	25	31	13	30		A-6a	
432.7	84	8/8/5					19									18		VISUAL
426.7	90	3/8/13			89.5'	MEDIUM DENSE, GRAY TO BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, MOIST	20	0	11	78	11	0	NP	NP	20		A-3a	
422.7	94	7/10/7					21									26		VISUAL
421.2					95.0'	BOTTOM OF BORING = 95.0'												

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

LOG OF BORING

1
4

Date Started 8/3/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 8/7/07 Casing: Length 120.0ft Dia. 3.25" Hamilton County, Ohio
 Water Elev. 476.5ft
 Boring No. B-163-0-07 Station & Offset 419+84.08, 20.8' LT Surface Elev. 555.0ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics						W.C.	ODOT Class							
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.			P.I.						
555.0	0				0.4' TOPSOIL (0.4')																
554.6	0.4	AUGERED			MEDIUM DENSE, BROWN GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY, DAMP	1										5					VISUAL
552.0	2				3.0' VERY STIFF, BROWN SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, DAMP	2											10				VISUAL
549.5	4	7/7/9			5.5' VERY STIFF, BROWN, LIGHT BROWN, AND GRAY, MOTTLED SILT AND CLAY, SOME SAND, TRACE GRAVEL, DAMP	3	4	7	28	46	15	29	14	14							A-6a
546.5	6	9/11/12			8.5' STIFF, BROWN SANDY SILT, AND CLAY, TRACE GRAVEL, MOIST	4											15				VISUAL
544.0	8	4/5/4			11.0' MEDIUM STIFF, BROWN SILT AND CLAY, SOME SAND, TRACE GRAVEL, MOIST	5	1	4	23	52	20	35	15	21							A-6a
541.5	10	3/4/3			13.5' STIFF, BROWN SANDY SILT, SOME CLAY, TRACE GRAVEL, DAMP	6											11				VISUAL
539.0	12	4/5/6			16.0' STIFF, BROWN SILT AND CLAY, SOME GRAVEL, SOME SAND, MOIST	7	26	4	25	31	14	29	14	18							A-6a
536.5	14	4/5/7			18.5' STIFF, DARK BROWN SANDY SILT, SOME CLAY, LITTLE GRAVEL, DAMP	8											9				VISUAL
531.5	16	3/4/6			23.5' MEDIUM STIFF, LIGHT BROWN SILT AND CLAY, LITTLE GRAVEL, AND SAND, MOIST	9	12	17	32	13	26	27	11	15							A-6a
526.5	18	4/3/4			28.5' STIFF, LIGHT BROWN SILTY CLAY, LITTLE SAND, TRACE TO LITTLE GRAVEL, DAMP TO MOIST	10											21				VISUAL
521.5	20	3/4/5																			
	22	4/5/8																			
	24																				
	26																				
	28																				
	30																				
	32																				
	34																				

LOG OF BORING
(Continued)

2
4

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-163-0-07

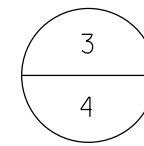
Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics						W.C.	ODOT Class									
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.			P.I.								
516.5	36	4/5/7				12																17	VISUAL
511.5	38	2/2/3			43.5' MEDIUM STIFF, GRAY SILT, SOME CLAY, TRACE SAND, MOIST	13	0	0	0	73	27	26	5	23									A-4b
506.5	40	3/4/4				14																25	VISUAL
501.5	42	2/3/5				15																23	VISUAL
496.5	44	5/6/8			58.5' MEDIUM STIFF TO STIFF, GRAY SILTY CLAY, TRACE SAND, DAMP	16	0	0	0	58	42	39	16	22									A-6b
491.5	46	3/4/5				17																23	VISUAL
486.5	48	3/3/4				18																23	VISUAL

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L007.dgn 6/21/2023 1:02:32 PM bmccutchen

**STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS**

HAM-75-7.85

LOG OF BORING
(Continued)

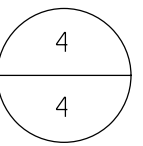


Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-163-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class					
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.				
483.9	72																		
481.5	74	3/4/4			NO RECOVERY	19													
479.0	76				76.0'														
476.5	78	4/5/5			LOOSE, GRAY COARSE AND FINE SAND, LITTLE CLAY, TRACE SILT, TRACE GRAVEL, WET	20	4	21	47	8	20	NP	NP	19					A-3a
473.0	82				82.0'														
471.5	84	6/8/9			VERY STIFF, GRAY CLAY, SOME SAND, TRACE SILT, MOIST -SAND LAYERS ARE INTERBEDDED	21									15				VISUAL
468.0	86				87.0'														
466.5	88	4/5/6			STIFF, GRAY SILT AND CLAY, LITTLE SAND, TRACE GRAVEL, MOIST	22									20				VISUAL
461.5	94	4/5/7				23	1	2	10	44	43	33	12	23					A-6a
456.5	98	9/11/12			98.5'														
	100				MEDIUM DENSE, BROWN TO GRAY COARSE AND FINE SAND, TRACE CLAY, TRACE SILT, TRACE GRAVEL, WET	24									15				VISUAL
451.5	104	7/9/11				25	0	22	66	9	3	NP	NP	16					A-3a

LOG OF BORING
(Continued)



Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-163-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class					
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.				
447.9	108																		
446.5	110	5/7/8				26										16			VISUAL
441.5	114	9/11/12				27										20			VISUAL
436.5	118					28	4	26	60	5	5	NP	NP	15					A-3a
435.0	120				120.0'														
BOTTOM OF BORING = 120.0'																			

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL008.dgn 6/21/2023 1:02:32 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

LOG OF BORING

1
3

Date Started 8/8/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 8/8/07 Casing: Length 90.0ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-172-0-07 Station & Offset 154+59.09, 17.1' LT Water Elev. 496.9ft Surface Elev. 529.9ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class						
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
529.9	0				TOPSOIL (.2')															
529.9	2	AUGERED			VERY STIFF, LIGHT BROWN SANDY SILT, LITTLE CLAY, LITTLE GRAVEL, DAMP	1									8					VISUAL
526.4	4	6/9/12			MEDIUM STIFF TO STIFF, BROWN SILTY CLAY, TRACE SAND, DAMP TO MOIST	2	0	2	5	53	40	40	22	19						A-6b
523.9	6	5/6/7				3								14						VISUAL
521.4	8	4/5/6				4								13						VISUAL
518.9	10	3/4/4																		
516.4	12	4/4/6			STIFF, BROWN SILT AND CLAY, TRACE GRAVEL, SOME SAND, DAMP	5	9	7	18	43	23	30	14	15						A-6a
513.9	14	9/11/10			MEDIUM DENSE, BROWN COARSE AND FINE SAND, SOME GRAVEL, TRACE SILT, MOIST	6								13						VISUAL
511.4	16	4/5/5			STIFF, GRAY CLAY, SOME SILT, MOIST - SILT LAYERS ARE INTERBEDDED	7								23						VISUAL
506.4	18	3/4/6			MEDIUM STIFF TO STIFF, GRAY ELASTIC CLAY, AND SILT, DAMP TO MOIST	8	0	0	0	39	61	46	11	25						A-7-5
501.4	20	3/4/4				9								27						VISUAL
496.4	22	4/5/8			STIFF, GRAY SANDY SILT, TRACE CLAY, TRACE GRAVEL, MOIST	10	1	6	49	41	3	NP	NP	12						A-4a
	24																			
	26																			
	28																			
	30																			
	32																			
	34	7/9/12			MEDIUM DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, MOIST	11								16						VISUAL

LOG OF BORING
(Continued)

2
3

Boring No. B-172-0-07 Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class							
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.						
494.9	36																				
491.4	38	10/12/15			VERY STIFF, GRAY TO BROWN SILT AND CLAY, AND GRAVEL, SOME SAND, DAMP	12	40	11	12	26	11	31	15	6							A-6a
486.4	42	7/11/16			MEDIUM DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS, SOME SAND, LITTLE SILT, MOIST	13								9							VISUAL
481.4	44	12/9/14				14	61	18	10	11	0	NP	NP	11							A-1-a
476.4	46	9/12/13			MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, WET	15								21							VISUAL
471.4	48	10/11/11				16	4	37	41	12	6	NP	NP	20							A-3a
466.4	50	14/17/21				17								15							VISUAL
461.4	52	5/9/11				18								19							VISUAL

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L009.dgn 6/21/2023 1:02:37 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

27/48

1385
1534

DRAWN
RRM
CHECKED
BRT

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL010.dgn 6/21/2023 1:02:37 PM bmccutchen

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-172-0-07

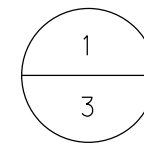
Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
458.8	72																	
456.4	74	6/10/13				MEDIUM DENSE, BROWN FINE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET	19	2	9	81	4	4	NP	NP	16		A-3	
451.4	78	7/10/15					20								23		VISUAL	
446.4	84	11/14/16					21								20		VISUAL	
441.4	88	12/15/18					22	1	6	75	10	8	NP	NP	20		A-3a	
439.9	90																	

BOTTOM OF BORING = 90.0'

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

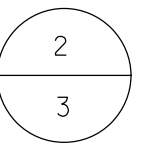
LOG OF BORING



Date Started 8/1/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 8/1/07 Casing: Length 95ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-173-0-07 Station & Offset 156+86.84, 46.5' LT. Water Elev. 448.1ft Surface Elev. 543.1ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class								
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.							
543.1	0				TOPSOIL (.2')																	
543.1	0.2	AUGERED																				
542.1	2	4/6/7			STIFF TO VERY STIFF, BROWN SILTY CLAY, LITTLE TO SOME SAND, LITTLE GRAVEL, DAMP	1									9					VISUAL		
539.6	4	12/10/10				2	11	8	22	42	17	34	18	12						29	VISUAL	
537.1	6	3/4/5			LOOSE TO MEDIUM DENSE, BROWN COARSE AND FINE SAND, TRACE GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, DAMP TO DRY	3	2	26	61	7	4	NP	NP	6							A-3a	
534.6	8	4/4/5				4									4						VISUAL	
532.1	10					5									5						VISUAL	
529.6	12	3/5/6				6	8	36	43	13	0	NP	NP	9							A-3a	
527.1	14	3/4/5				7									8						VISUAL	
524.6	16	4/5/6				8									5						VISUAL	
519.6	20	4/4/4				9	0	36	52	12	0	NP	NP	4							A-3a	
515.1	24	4/5/7				10									10						VISUAL	
509.6	28	5/6/7																				
509.6	30	6/8/9			VERY STIFF TO STIFF, BLuish GRAY CLAY, LITTLE TO SOME SILT, TRACE SAND, MOIST	11	0	0	2	35	63	48	27	31								A-7-6

LOG OF BORING
(Continued)



Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-173-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class								
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.							
508.1	36																					
504.6	38	5/6/8				12																VISUAL
499.6	42																					
499.6	44	5/6/7			STIFF, GRAY AND BROWN SANDY SILT, LITTLE CLAY, MOIST	13	0	3	38	46	13	20	5	18								A-4a
494.6	46																					
494.6	48	3/4/5			STIFF, GRAY SILT AND CLAY, TRACE SAND, MOIST	14																VISUAL
489.6	50																					
489.6	52																					
489.6	54	11/13/15			MEDIUM DENSE TO DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS, LITTLE SAND, TRACE SILT, MOIST TO WET	15	76	14	6	4	0	NP	NP	24								A-1-a
484.6	56																					
484.6	58	10/14/17				16																VISUAL
479.6	60																					
479.6	62																					
479.6	64	9/12/15				17																VISUAL
474.6	66																					
474.6	68	12/8/10			MEDIUM DENSE, BROWN FINE SAND, LITTLE GRAVEL, TRACE SILT, WET	18	13	29	48	10	0	NP	NP	20								A-3
	70																					

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL011.dgn 6/21/2023 1:02:37 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

29/48

1387
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL012.dgn 6/21/2023 1:02:38 PM bmccutchen

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-173-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
472.0	72																	
469.6	74	6/7/10				FS	19									15		VISUAL
464.6	78	4/6/8					20	33	29	25	12	1	NP	NP	42		A-1-b	
459.6	84	8/10/13					21									23		VISUAL
454.6	88	9/11/14					22									22		VISUAL
449.6	94	8/12/12					23	0	5	81	13	1	NP	NP	18		A-3a	
448.1																		

BOTTOM OF BORING = 95.0'

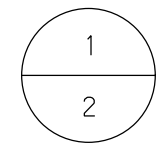
STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

30/48

1388
1534

LOG OF BORING

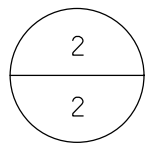


Date Started 7/31/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
Date Completed 7/31/07 Casing: Length 60.0ft Dia. 3.25" Hamilton County, Ohio
Water Elev. 499.8ft
Surface Elev. 539.8ft
Boring No. B-181-0-07 Station & Offset 451+64.30, 92.0' RT CTL Project No. 04120070g

Table with columns: Elev. (ft), Depth (ft), Std. Pen. ROD, Rec. (ft), Loss (ft), Description, Sample No., Physical Characteristics (% Agg, % C.S., % F.S., % Silt, % Clay, L.L., P.I., W.C.), ODOT Class. Rows include soil types like TOPSOIL (.5'), VERY STIFF, BROWN SILTY CLAY, LITTLE GRAVEL, LITTLE SAND, DAMP, STIFF, DARK BROWN AND BROWN CLAY, AND SILT, SOME SAND, TRACE GRAVEL, DAMP TO MOIST -ORGANICS PRESENT, etc.

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL013.dgn 6/21/2023 1:02:38 PM bmccutchen

LOG OF BORING (Continued)



Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Table with columns: Elev. (ft), Depth (ft), Std. Pen. ROD, Rec. (ft), Loss (ft), Description, Sample No., Physical Characteristics (% Agg, % C.S., % F.S., % Silt, % Clay, L.L., P.I., W.C.), ODOT Class. Rows include descriptions like DENSE TO VERY DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS, AND SAND, LITTLE TO TRACE SILT, TRACE CLAY, MOIST, VERY DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND AND SILT, TRACE CLAY, DAMP.

BOTTOM OF BORING = 60.0'

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

LOG OF BORING

1
3

Date Started 8/22/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 8/22/07 Casing: Length 105.0ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-182-0-07 Station & Offset 452+41.88, 91.5' LT Water Elev. 497.0ft Surface Elev. 531.0ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class							
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.						
531.0	0				TOPSOIL (.3')																
531.0	2	AUGERED			SOFT TO MEDIUM STIFF, BROWN SILT AND CLAY, AND SAND, TRACE TO LITTLE GRAVEL, DAMP TO MOIST	1									12					VISUAL	
527.5	4	2/2/3				2	11	17	25	32	15	28	15	16		A-6a					
525.0	6	1/2/2				3									16		VISUAL				
522.5	8				VERY LOOSE, BROWN COARSE AND FINE SAND, TRACE SILT, TRACE GRAVEL, MOIST	4									7						VISUAL
520.0	10	2/2/2				5	33	31	14	19	3	NP	NP	15		A-1-b					
517.5	12				VERY LOOSE, BROWN TO DARK BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, MOIST	6									16						VISUAL
515.0	14	2/2/4				7	0	22	66	12	0	NP	NP	12		A-3a					
512.5	16				VERY LOOSE TO LOOSE, BROWN COARSE AND FINE SAND, TRACE TO LITTLE SILT, TRACE CLAY, MOIST	8									11						VISUAL
507.5	18	3/2/2				9									7		VISUAL				
502.5	20					10	1	12	80	7	0	NP	NP	18		A-3					
497.5	22				MEDIUM DENSE TO DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, TRACE SILT, TRACE CLAY, WET	11	33	43	14	6	4	NP	NP	13		A-1-b					
	24	4/4/6																			
	26				MEDIUM DENSE, BROWN FINE SAND, TRACE GRAVEL, TRACE SILT, MOIST																
	28	5/5/6																			
	30				MEDIUM DENSE TO DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, TRACE SILT, TRACE CLAY, WET																
	32	5/6/7																			
	34																				
	36																				

LOG OF BORING
(Continued)

2
3

Boring No. B-182-0-07 Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class							
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.						
495.0	36																				
492.5	38				DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS, AND SAND, TRACE SILT, TRACE CLAY, WET	12										11					VISUAL
487.5	40	13/16/14				13											10				
482.5	42				DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS, AND SAND, TRACE SILT, TRACE CLAY, WET	14	54	24	15	5	2	NP	NP	10		A-1-a					
477.5	44	13/19/25				15	0	0	79	21	0	NP	NP	23		A-3a					
472.5	46				MEDIUM DENSE, BROWN COARSE AND FINE SAND, SOME SILT, WET	16										22					VISUAL
467.5	48	14/17/27				17											22				
462.5	50				MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE CLAY, WET	18	0	3	88	7	2	NP	NP	18		A-3					
	52	5/9/9																			
	54				MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE CLAY, WET																
	56	5/8/8																			
	58				MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE CLAY, WET																
	60	6/6/9																			
	62				MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE CLAY, WET																
	64	2/4/9																			
	66				MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE CLAY, WET																
	68																				
	70				MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE CLAY, WET																
	72																				

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L014.dgn 6/21/2023 1:02:38 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

32 / 48

1390
1534

DRAWN
RRM
CHECKED
BRT

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL015.dgn 6/21/2023 1:02:38 PM bmccutchen

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-182-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics								ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
457.9																		
457.5	74	6/9/13					19										19	VISUAL
	76																	
	78																	
452.5		9/15/23					20										21	VISUAL
	80																	
	82																	
						82.0'												
447.5		20/37/37					21	0	0	90	10	0	NP	NP		15	A-3	
	84																	
	86																	
	88																	
442.5		22/35/41					22										18	VISUAL
	90																	
	92																	
437.5		15/35/43					23										14	VISUAL
	94																	
	96																	
	98																	
432.5		17/32/39					24										17	VISUAL
	100																	
	102																	
427.5		18/34/36					25										24	VISUAL
	104																	
426.0						105.0'												

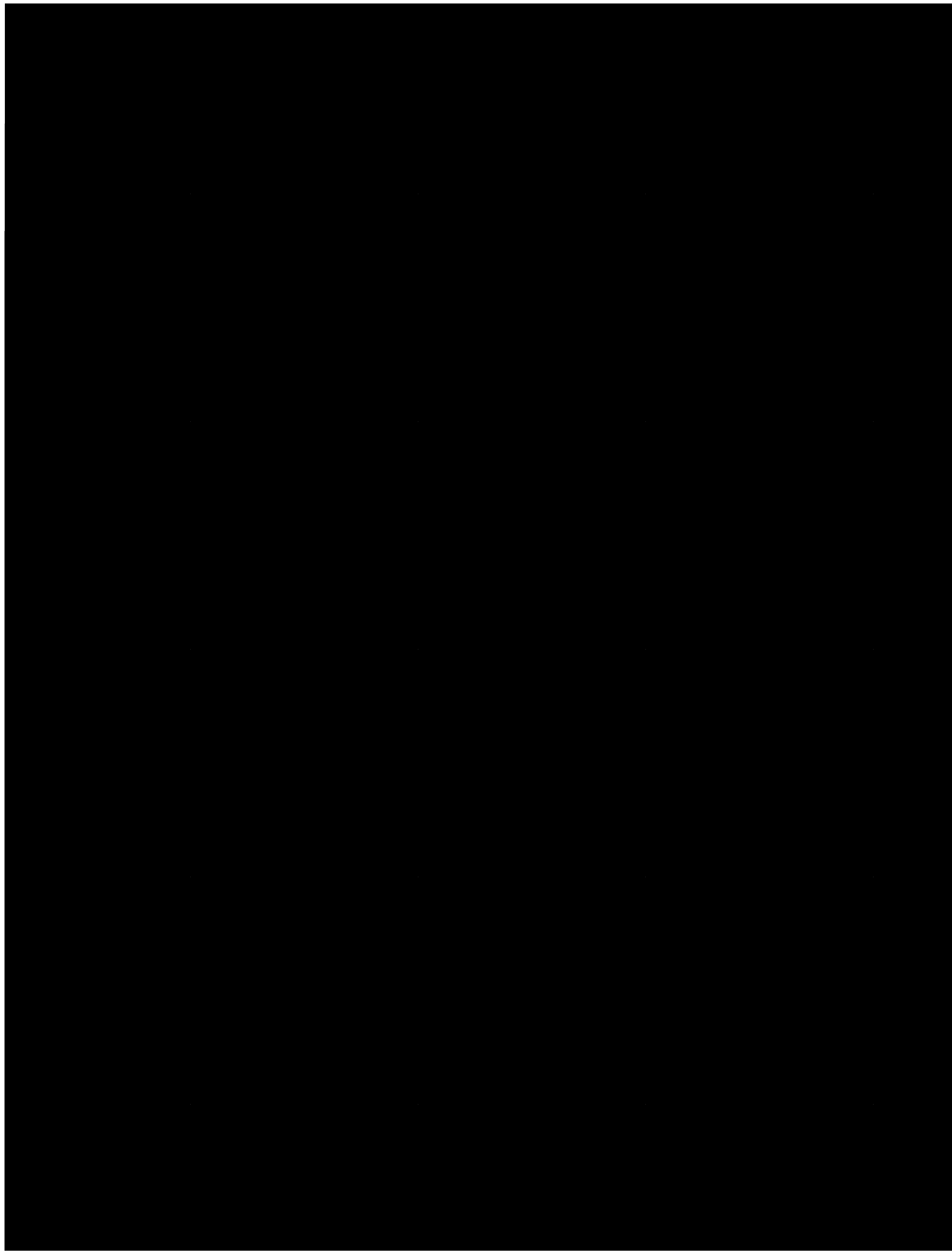
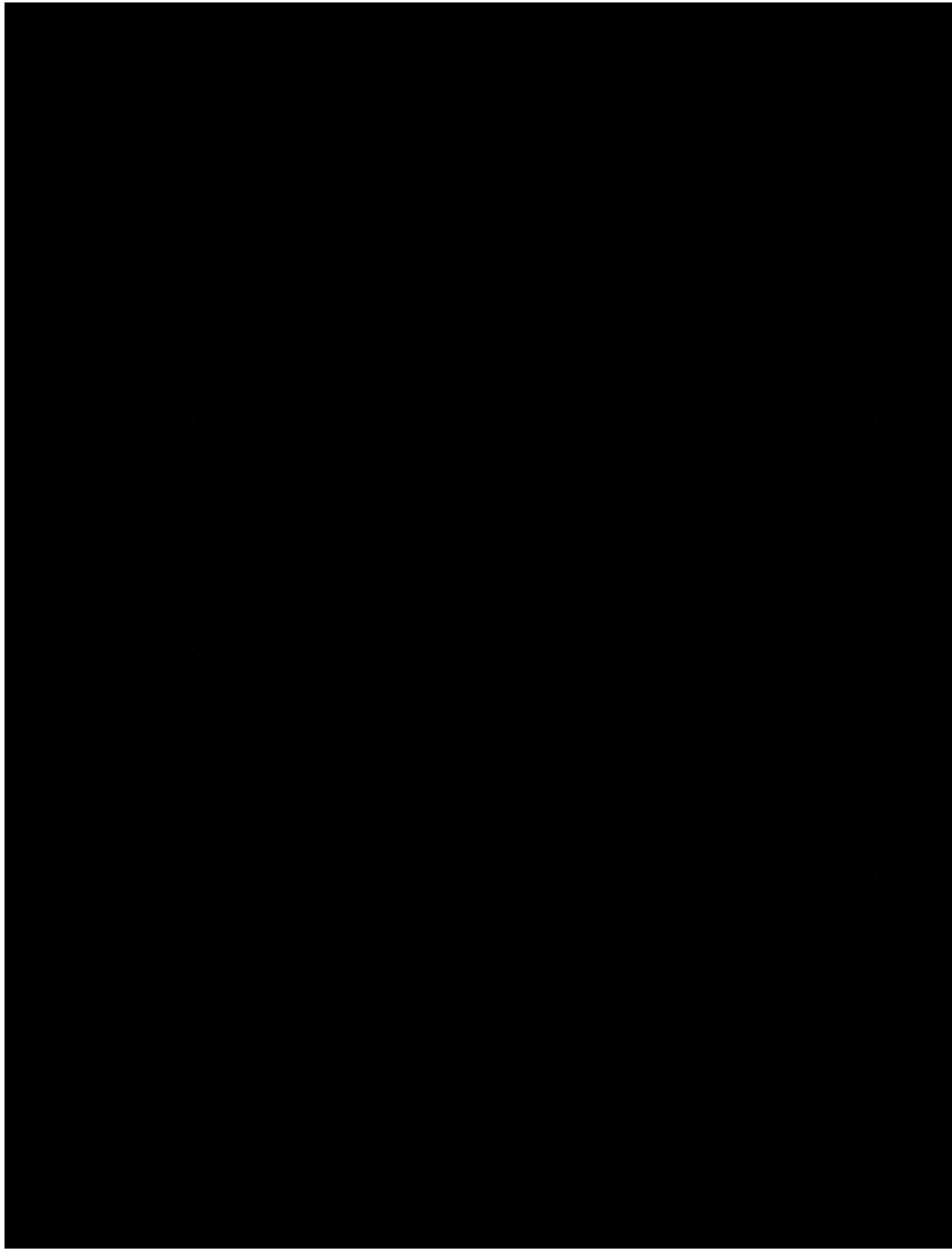
BOTTOM OF BORING = 105.0'

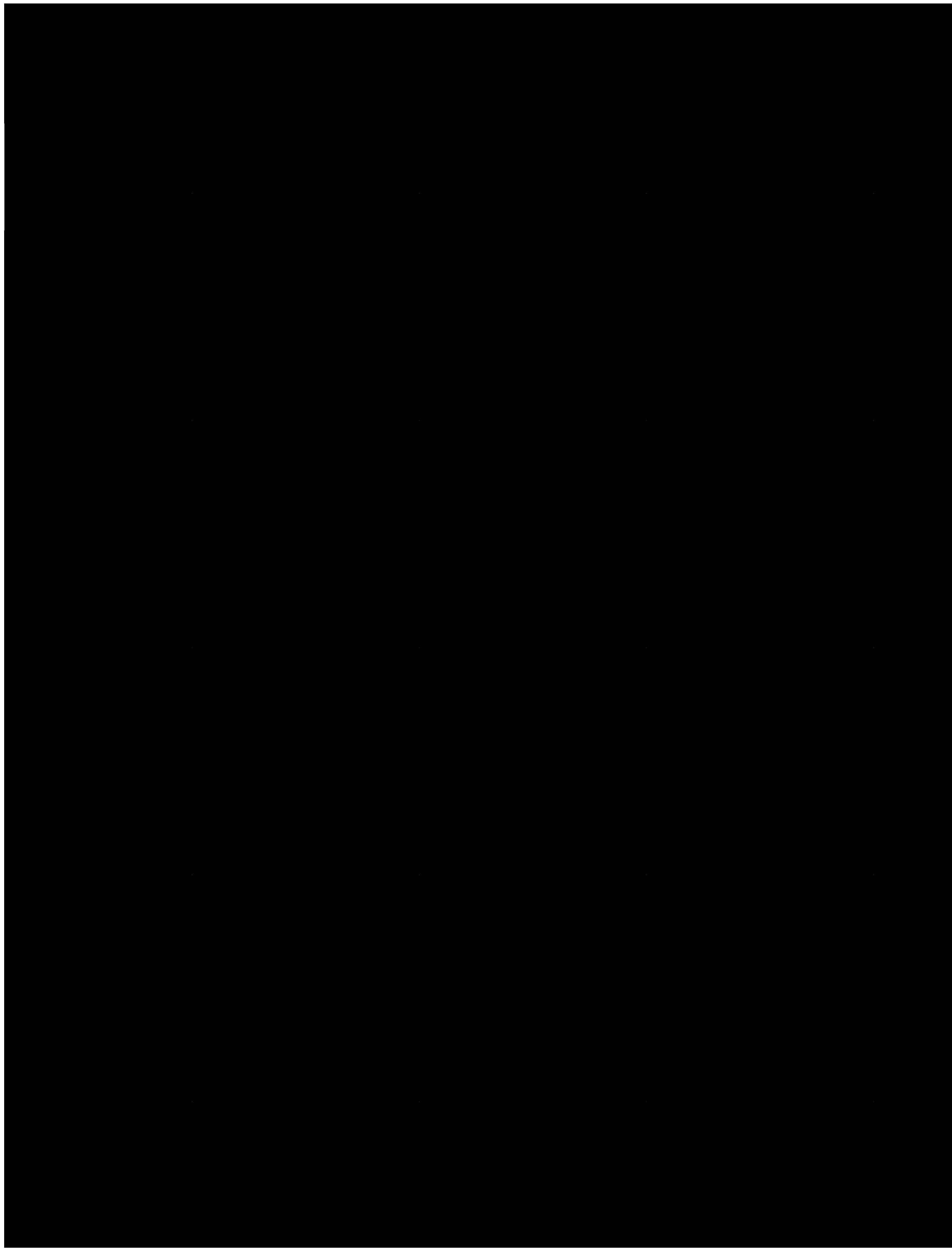
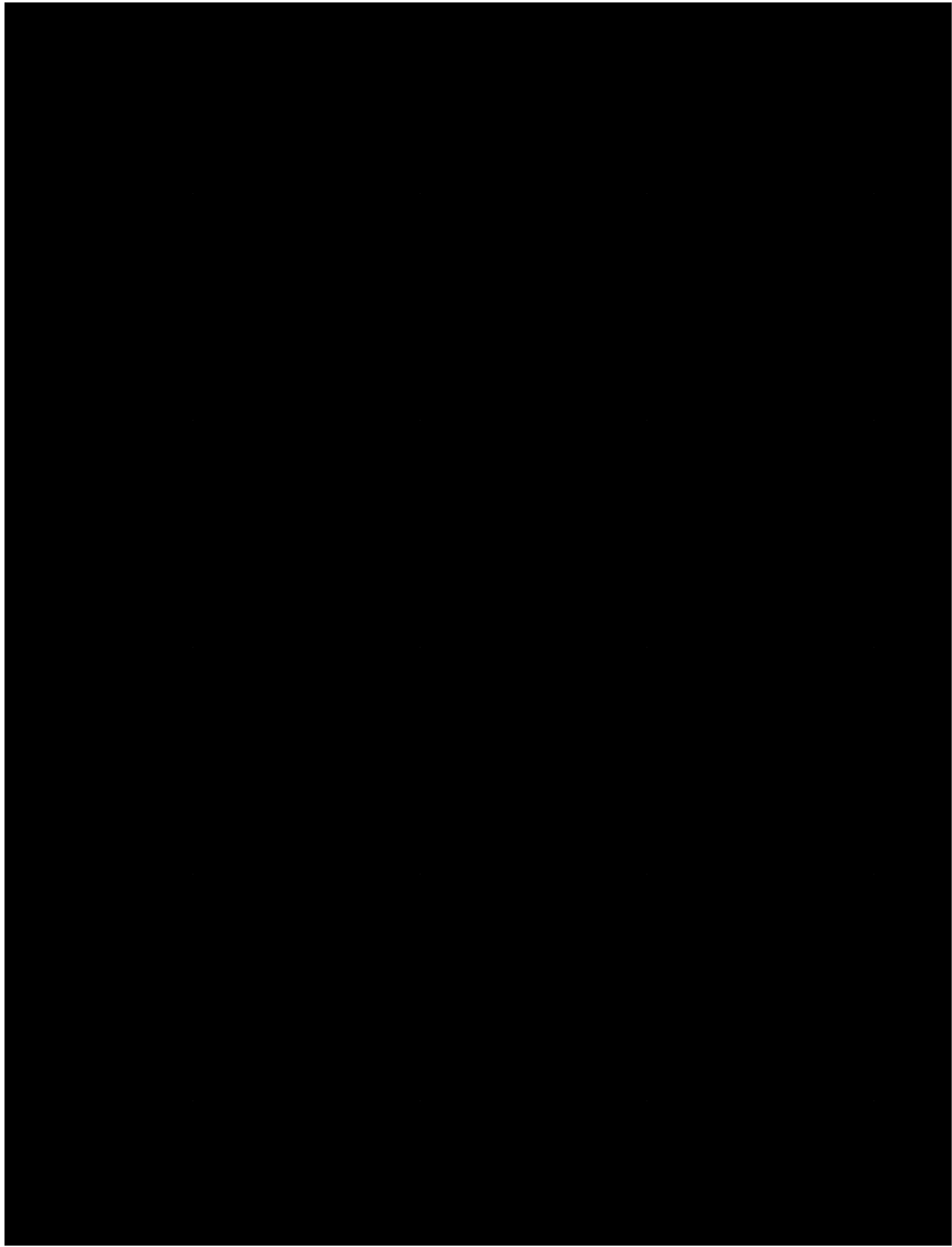
STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

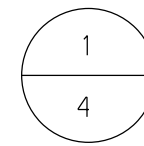
1391
1534

DRAWN
RRM
CHECKED
BRT





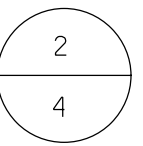
LOG OF BORING



Date Started 7/11/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 7/11/07 Casing: Length 125.0ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-275-0-07 Station & Offset 131+10.97, 35.8' RT. Water Elev. 503.5ft Surface Elev. 545.5ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class					
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.				
545.5	0																		
542.0	3.5	10/12/13			VERY STIFF, BROWN CLAY, AND SILT, TRACE SAND, DAMP	1	0	0	1	40	59	44	22	20	A-7-6				
537.0	8.5	11/16/20			DENSE, LIGHT BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, DAMP	2								6	VISUAL				
532.0	13.5	17/23/28			HARD, BROWN SANDY SILT, LITTLE CLAY, DAMP	3	0	1	47	37	15	NP	NP	16	A-4a				
527.0	18.5	19/23/32			VERY DENSE, BROWN COARSE AND FINE SAND, TRACE CLAY, DAMP	4								8	VISUAL				
524.5	21.0	14/14/13			MEDIUM DENSE, LIGHT BROWN SILT, LITTLE SAND, TRACE CLAY, MOIST	5	0	0	12	84	4	NP	NP	21	A-4b				
522.0	23.5	8/8/13			VERY STIFF, BROWN SILT, SOME CLAY, MOIST	6								20	VISUAL				
519.5	26.0	5/5/9			STIFF, GRAY SANDY SILT, LITTLE CLAY, MOIST	7								21	VISUAL				
517.0	28.5	13/13/15			MEDIUM DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, WET	8	0	3	83	13	1	NP	NP	21	A-3a				
514.5	31.0	5/8/8			VERY STIFF, GRAY SILT, LITTLE CLAY, MOIST	9								22	VISUAL				
512.0	33.5	3/3/6			STIFF, GRAY SILT, SOME CLAY, MOIST	10								23	VISUAL				

LOG OF BORING
(Continued)



Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-275-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class					
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.				
510.5	36.0	3/3/5			MEDIUM STIFF, GRAY SILT, TRACE SAND, TRACE CLAY, MOIST	11	0	0	1	93	6	27	7	24	A-4b				
507.0	38.5	2/4/6			STIFF, GRAY CLAY, TRACE TO LITTLE SILT, MOIST	12								27	VISUAL				
502.0	43.5	3/5/5			STIFF TO VERY STIFF, GRAY CLAY, AND SILT, TRACE SAND, MOIST	13	0	0	1	44	55	47	25	36	A-7-6				
497.0	48.5	6/8/11				14								26	VISUAL				
492.0	54.5	7/9/15				15								24	VISUAL				
487.0	58.5	5/5/7			STIFF, GRAY CLAY, SOME SILT, MOIST	16								29	VISUAL				
482.0	63.5	5/11/17			VERY STIFF, GRAY CLAY, AND SILT, TRACE SAND, DAMP	17	0	1	6	40	53	41	18	22	A-7-6				
477.0	68.5	8/8/13			VERY STIFF, GRAY SILT, SOME CLAY, DAMP	18								24	VISUAL				

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL01B.dgn 6/21/2023 1:02:44 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

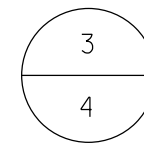
HAM-75-7.85

36/48

1394
1534

DRAWN
RRM
CHECKED
BRT

LOG OF BORING
(Continued)

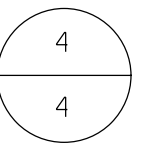


Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-275-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class						
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
474.4	72																			
472.0	74	7/7/10			73.5'	19	0	4	21	46	29	32	13	22						A-6a
467.0	78	5/5/9				20								22						VISUAL
462.0	84	5/5/5			83.5'	21	3	13	46	31	7	NP	NP	15						A-4a
457.0	88	1/2/2			88.5'	22								20						VISUAL
452.0	94	4/4/5			93.5'	23	1	48	46	5	0	NP	NP	25						A-3
447.0	98	6/8/8				24								17						VISUAL
442.0	104	3/4/7				25								22						VISUAL

LOG OF BORING
(Continued)



Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-275-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class						
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.					
438.4	108	7/14/15				26	4	38	51	7	0	NP	NP	18						A-3
432.0	114	8/8/12				27								17						VISUAL
427.0	118	7/7/18				28								19						VISUAL
422.0	124	18/24/24			123.5'	29	12	35	45	8	0	NP	NP	13						A-3
420.5	125.0'				125.0'															
BOTTOM OF BORING = 125.0'																				

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL019.dgn 6/21/2023 1:02:44 PM bmccutchen

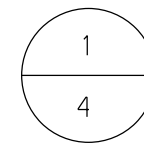
STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

37/48

1395
1534

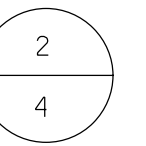
LOG OF BORING



Date Started 7/17/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 7/17/07 Casing: Length 120.0ft Dia. 3.25" Hamilton County, Ohio
 Boring No. B-276-0-07 Station & Offset 130+14.64, 101.3' LT. Water Elev. 515.1ft Surface Elev. 528.6ft
 CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class				
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.			
528.6	0				0.4' TOPSOIL (.4')													VISUAL
528.6	0.4	AUGERED				1											12	VISUAL
525.8	2.5				2.5' STIFF, BROWN AND GRAY SANDY SILT, LITTLE CLAY, MOIST	2	0	1	45	42	12	24	10	23				A-4a
523.1	5.5				5.5' SOFT, BROWN AND GRAY SANDY SILT, LITTLE CLAY, MOIST	3											17	VISUAL
520.1	8.0				8.0' MEDIUM STIFF, GRAY SILT, SOME SAND, TRACE CLAY, MOIST	4	0	0	28	69	3	NP	NP	22				A-4b
517.6	12.5				12.5' MEDIUM STIFF TO STIFF, BROWN AND GRAY SILT AND CLAY, TRACE SAND, MOIST	5								23				VISUAL
515.1	18.5				18.5' SOFT, BROWN AND GRAY SILT AND CLAY, TRACE SAND, MOIST	6	0	1	3	48	48	32	14	20				A-6a
512.6	22.0				22.0' MEDIUM STIFF TO STIFF, GRAY CLAY, SOME TO LITTLE SILT, TRACE SAND, MOIST	7								23				VISUAL
510.1	26.0					8								25				VISUAL
505.1	30.0					9	0	0	1	35	64	51	29	32				A-7-6
500.1	34.0					10								26				VISUAL
495.1	38.0					11								27				VISUAL

LOG OF BORING (Continued)

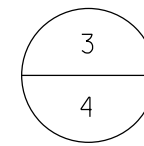


Boring No. B-276-0-07 Project Identification: HAM-75-5.58 PID 82278 Hamilton County, Ohio

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class					
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.				
493.6	36																		
490.1	43.0	4/6/8				12											22		VISUAL
485.1	46.0																		
480.1	43.0	2/2/3				13	0	9	60	19	12	16	3	15					A-3a
475.1	46.0																		
470.1	43.0	2/3/3				14	0	3	34	50	13	24	8	22					A-4b
465.1	46.0																		
460.1	43.0	2/2/3				15											24		VISUAL
	46.0																		
	43.0	4/5/6				16	0	9	72	11	8	NP	NP	15					A-3a
	46.0																		
	43.0	3/4/4				17											20		VISUAL
	46.0																		
	43.0	3/4/5				18											21		VISUAL
	46.0																		

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L020.dgn 6/21/2023 1:02:45 PM bmccutchen

LOG OF BORING
(Continued)

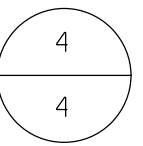


Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-276-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class							
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.						
457.5	72																				
455.1	74	4/5/6				19	0	29	59	11	1	NP	NP	21							A-3a
450.1	78	3/4/5				20															VISUAL
445.1	84	9/10/12			NO RECOVERY	21															VISUAL
440.1	88	7/13/15			MEDIUM DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, TRACE SILT, TRACE CLAY, MOIST	22	1	48	44	6	1	NP	NP	17							A-1-b
435.1	94	9/13/14				23															VISUAL
430.1	98	12/15/15				24															VISUAL
425.1	104	14/16/17			DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, MOIST	25	5	18	56	16	5	NP	NP	10							A-3a

LOG OF BORING
(Continued)



Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-276-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class								
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.							
421.5	108	12/15/17				26																VISUAL
415.1	114	14/17/18				27																VISUAL
410.1	118	18/19/21			DENSE, BROWN GRAVEL AND/OR STONE FRAGMENTS WITH SAND, TRACE SILT, MOIST	28	12	47	34	7	0	NP	NP	12								A-1-b
408.6	120				BOTTOM OF BORING = 120.0'																	

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL021.dgn 6/21/2023 1:02:45 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

39/48

1397
1534

DRAWN
RRM
CHECKED
BRT

LOG OF BORING

1
3

Date Started 8/23/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 8/23/07 Casing: Length 90.0ft Dia. 3.25" Hamilton County, Ohio
 Water Elev. 494.0ft
 Boring No. B-280-0-07 Station & Offset 158+81.86, 38.5' LT. Surface Elev. 526.0ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class									
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.								
526.0	0																						
526.0	2	9/5/5			LOOSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, SILT AND CLAY, DAMP	1														5	VISUAL		
522.0	4	9/6/6			MEDIUM DENSE TO DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, TRACE CLAY, TRACE TO LITTLE SILT, DAMP	2															3	VISUAL	
518.0	8	9/8/9				3	25	41	22	11	1	NP	NP								6	A-1-b	
514.0	12	10/9/8				4															6	VISUAL	
510.0	16	15/16/15				5	35	43	16	5	1	NP	NP								4	A-1-b	
506.0	20	6/4/6			STIFF, GRAY CLAY, SOME SILT, TRACE SAND, MOIST	6	0	0	2	32	66	43	24	28									A-7-6
502.5	24	5/5/5				7															33	VISUAL	
497.5	30	6/9/8			STIFF TO VERY STIFF, GRAY SANDY SILT, SOME CLAY, TRACE GRAVEL, MOIST TO WET -SAND LAYERS ARE INTERBEDDED	8	2	4	38	35	21	20	7	14									A-4a
492.5	34	3/4/6				9															29	VISUAL	

LOG OF BORING
(Continued)

2
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-280-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class									
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.								
491.0	36																						
487.5	38	11/14/14			MEDIUM DENSE TO DENSE, BROWN AND GRAY COARSE AND FINE SAND, LITTLE SILT, LITTLE GRAVEL, TRACE CLAY, MOIST	10	13	15	52	13	7	NP	NP									12	A-3a
482.5	42	21/19/20				11																10	VISUAL
477.5	48	19/14/16			MEDIUM DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET	12	49	24	11	11	5	NP	NP									10	A-1-b
472.5	54	48/9/2				13																15	VISUAL
467.5	58	10/12/12			MEDIUM DENSE TO VERY DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, TRACE SILT, WET	14	6	47	37	10	0	NP	NP									16	A-1-b
462.5	64	50-6"				15																15	VISUAL
457.5	68	10/9/10			MEDIUM DENSE, COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, WET	16																19	VISUAL

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL022.dgn 6/21/2023 1:02:45 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

40/48

1398
1534

DRAWN
RRM
CHECKED
BRT

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL023.dgn 6/21/2023 1:02:45 PM bmccutchen

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-280-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)		Description	Sample No.	Physical Characteristics									ODOT Class		
								% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.				
454.9	72																		
452.5	74	8/11/12					17	4	4	78	10	4	NP	NP	17			A-3a	
	76																		
	78																		
447.5	80	16/50-5"					18								15			VISUAL	
	82																		
442.5	84	27/50-6"					19								13			VISUAL	
	86																		
	88																		
437.5	90	47/50-6"					20	2	12	69	13	4	NP	NP	14			A-3a	
436.0	90																		

BOTTOM OF BORING = 90.0'

VISUAL

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

DRAWN
RRM
CHECKED
BRT

HAM-75-7.85

41/48

1399
1534

LOG OF BORING

1
3

Date Started 9/9/07 Sampler: Type SS / ST Dia. 1.375" Project Identification: HAM-75-5.58 PID 82278
 Date Completed 9/9/07 Casing: Length 85.0ft Dia. 3.25" Hamilton County, Ohio
 Water Elev. Dry
 Boring No. B-281-0-07 Station & Offset 158+24.73, 28.5' LT. Surface Elev. 527.8ft CTL Project No. 04120070g

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class										
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.									
527.8	0																							
527.8	2	9/8/5			MEDIUM DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, ASPHALT FRAGMENTS, DRY - FILL	1															4	VISUAL		
524.3	4	7/7/7			LOOSE TO MEDIUM DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE TO SOME GRAVEL, TRACE CLAY, DRY TO DAMP	2	4	35	42	17	2	NP	NP									4	A-3a	
521.8	6	3/3/3				3																4	VISUAL	
519.3	8	4/3/3				4																6	VISUAL	
516.8	12	4/6/10			MEDIUM DENSE, BROWN GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, LITTLE SILT, TRACE CLAY, DAMP	5	20	32	29	11	8	NP	NP									3	A-1-b	
514.3	14	5/8/12				6																4	VISUAL	
511.8	16	3/2/4			LOOSE, BROWN COARSE AND FINE SAND, LITTLE SILT, LITTLE GRAVEL, TRACE CLAY, MOIST	7																14	VISUAL	
509.3	20	3/3/5			MEDIUM STIFF, GRAY CLAY, AND SILT, MOIST	8	0	0	0	42	58	49	26	28										A-7-6
504.3	24	3/3/4				9																27	VISUAL	
499.3	30	3/4/5			STIFF, GRAY SILTY CLAY, SOME SAND, TRACE GRAVEL, MOIST	10																13	VISUAL	
494.3	34	3/3/5			MEDIUM STIFF, GRAY SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL, DAMP	11	2	4	21	53	20	25	7	17										A-4b

LOG OF BORING
(Continued)

2
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-281-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics							ODOT Class										
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.									
492.8	36																							
489.3	38	6/12/14			MEDIUM DENSE, BROWN AND GRAY GRAVEL AND/ OR STONE FRAGMENTS WITH SAND AND SILT, LITTLE CLAY, MOIST	12																	10	VISUAL
484.3	44	5/15/15				13																	11	VISUAL
479.3	48	18/20/24			DENSE TO VERY DENSE, BROWN AND GRAY GRAVEL AND/ OR STONE FRAGMENTS WITH SAND, TRACE SILT, TRACE CLAY, MOIST	14	51	14	21	7	7	NP	NP									7	A-1-b	
474.3	54	15/20/25				15																	11	VISUAL
469.3	60	20/45/28				16																	8	VISUAL
464.3	64	14/20/25				17	32	25	33	6	4	NP	NP									10	A-1-b	
459.3	68	8/11/15			MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, TRACE GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, MOIST TO WET	18																	13	VISUAL

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L024.dgn 6/21/2023 1:02:46 PM bmccutchen

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

42 / 48

1400
1534

DRAWN
RRM
CHECKED
BRT

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889L025.dgn 6/21/2023 1:02:46 PM bmccutchen

LOG OF BORING
(Continued)

3
3

Project Identification: HAM-75-5.58 PID 82278
Hamilton County, Ohio

Boring No. B-281-0-07

Elev. (ft)	Depth (ft)	Std. Pen. ROD	Rec. (ft)	Loss (ft)	Description	Sample No.	Physical Characteristics								ODOT Class		
							% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.			
456.7	72																
454.3	74	6/10/12				19	0	6	82	8	4	NP	NP	18		A-3a	
	76																
449.3	78	7/10/12				20								23		VISUAL	
	80																
	82																
444.3	84	14/18/22				21								21		VISUAL	
442.8					85.0'												

BOTTOM OF BORING = 85.0'

STRUCTURE FOUNDATION EXPLORATION
2007 CTL BORING LOGS

HAM-75-7.85

43/48

1401
1534

DRAWN
RRM
CHECKED
BRT

RESOURCE INTERNATIONAL, INC.



PROJECT: HAM-75.785
 TYPE: BRIDGE REPLACEMENT
 PID: 77889
 START: 11/16/11
 END: 1/20/11

DRILLING/FORM OPERATOR: RLT/JF
 SAMPLES FROM LOGGER: RJY/ADI
 DRILLING METHOD: 42" HSK
 SAMPLE METHOD: SH

CHALLENGE: CONSTRUCTION
 HAZARD: OVERLOOKING
 CALIBRATION: PP3
 ENERGY: PP3
 STATIONING: STATIONING
 ATTERBERG: ILL. PK. PI
 LABORATORY: WIS

EXPLOSION ID: 15-003-11-11
 DRAWN: RRM
 CHECKED: BRT

DEPTH	SPRT NO	REC NO	SAMPLE NO	DEPTH	ELEV	MATERIAL DESCRIPTION	TESTS	LAB	DATE
0.0	4	33	SS-1	2.5	5266.7	4.0' - ASPHALT	NP	20	2011
2.5	1	44	SS-2	5.0	5266.5	8.0' - CONCRETE	NP	20	2011
5.0	2	4	SS-3	7.5	5266.3	LOOSE, BROWNISH GRAY GRAVEL WITH SAND, SILT, AND CLAY, DAMP.	NP	20	2011
7.5	1	15	SS-4	10.0	5266.1	VERY LOOSE TO MEDIUM DENSE, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.	NP	20	2011
10.0	4	7	SS-5	12.5	5265.9		NP	20	2011
12.5	5	17	SS-6	15.0	5265.7		NP	20	2011
15.0	8	4	SS-7	17.5	5265.5		NP	20	2011
17.5	4	12	SS-8	20.0	5265.3	STIFF TO VERY STIFF, GRAY SANDY SILT, AND CLAY MOIST.	NP	20	2011
20.0	7	24	SS-9	22.5	5265.1		NP	20	2011
22.5	4	12	SS-10	25.0	5264.9	STIFF GRAY CLAY, SOME SILT, MOIST.	NP	20	2011
25.0	8	4	SS-11	27.5	5264.7		NP	20	2011
27.5	4	12	SS-12	30.0	5264.5	VERY STIFF TO HARD, GRAY CLAY, SOME SILT, MOIST.	NP	20	2011
30.0	8	4	SS-13	32.5	5264.3		NP	20	2011
32.5	8	12	SS-14	35.0	5264.1	VERY STIFF TO HARD, GRAY SILT AND CLAY, MOIST.	NP	20	2011
35.0	8	4	SS-15	37.5	5263.9		NP	20	2011
37.5	8	12	SS-16	40.0	5263.7		NP	20	2011
40.0	8	4	SS-17	42.5	5263.5		NP	20	2011
42.5	8	12	SS-18	45.0	5263.3		NP	20	2011
45.0	8	4	SS-19	47.5	5263.1		NP	20	2011
47.5	8	12	SS-20	50.0	5262.9		NP	20	2011
50.0	8	4	SS-21	52.5	5262.7		NP	20	2011
52.5	8	12	SS-22	55.0	5262.5		NP	20	2011
55.0	8	4	SS-23	57.5	5262.3		NP	20	2011
57.5	8	12	SS-24	60.0	5262.1	LOOSE TO MEDIUM DENSE, GRAY FINE SAND, LITTLE TO SOME COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, MOIST TO WET.	NP	20	2011
60.0	8	4	SS-25	62.5	5261.9		NP	20	2011
62.5	8	12	SS-26	65.0	5261.7		NP	20	2011
65.0	8	4	SS-27	67.5	5261.5		NP	20	2011
67.5	8	12	SS-28	70.0	5261.3		NP	20	2011
70.0	8	4	SS-29	72.5	5261.1		NP	20	2011
72.5	8	12	SS-30	75.0	5260.9		NP	20	2011
75.0	8	4	SS-31	77.5	5260.7		NP	20	2011
77.5	8	12	SS-32	80.0	5260.5		NP	20	2011

DEPTH	SPRT NO	REC NO	SAMPLE NO	DEPTH	ELEV	MATERIAL DESCRIPTION	TESTS	LAB	DATE
0.0	4	33	SS-1	2.5	5266.7	4.0' - ASPHALT	NP	20	2011
2.5	1	44	SS-2	5.0	5266.5	8.0' - CONCRETE	NP	20	2011
5.0	2	4	SS-3	7.5	5266.3	LOOSE, BROWNISH GRAY GRAVEL WITH SAND, SILT, AND CLAY, DAMP.	NP	20	2011
7.5	1	15	SS-4	10.0	5266.1	VERY LOOSE TO MEDIUM DENSE, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.	NP	20	2011
10.0	4	7	SS-5	12.5	5265.9		NP	20	2011
12.5	5	17	SS-6	15.0	5265.7		NP	20	2011
15.0	8	4	SS-7	17.5	5265.5		NP	20	2011
17.5	4	12	SS-8	20.0	5265.3	STIFF TO VERY STIFF, GRAY SANDY SILT, AND CLAY MOIST.	NP	20	2011
20.0	7	24	SS-9	22.5	5265.1		NP	20	2011
22.5	4	12	SS-10	25.0	5264.9	STIFF GRAY CLAY, SOME SILT, MOIST.	NP	20	2011
25.0	8	4	SS-11	27.5	5264.7		NP	20	2011
27.5	4	12	SS-12	30.0	5264.5	VERY STIFF TO HARD, GRAY CLAY, SOME SILT, MOIST.	NP	20	2011
30.0	8	4	SS-13	32.5	5264.3		NP	20	2011
32.5	8	12	SS-14	35.0	5264.1	VERY STIFF TO HARD, GRAY SILT AND CLAY, MOIST.	NP	20	2011
35.0	8	4	SS-15	37.5	5263.9		NP	20	2011
37.5	8	12	SS-16	40.0	5263.7		NP	20	2011
40.0	8	4	SS-17	42.5	5263.5		NP	20	2011
42.5	8	12	SS-18	45.0	5263.3		NP	20	2011
45.0	8	4	SS-19	47.5	5263.1		NP	20	2011
47.5	8	12	SS-20	50.0	5262.9		NP	20	2011
50.0	8	4	SS-21	52.5	5262.7		NP	20	2011
52.5	8	12	SS-22	55.0	5262.5		NP	20	2011
55.0	8	4	SS-23	57.5	5262.3		NP	20	2011
57.5	8	12	SS-24	60.0	5262.1	LOOSE TO MEDIUM DENSE, GRAY FINE SAND, LITTLE TO SOME COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, MOIST TO WET.	NP	20	2011
60.0	8	4	SS-25	62.5	5261.9		NP	20	2011
62.5	8	12	SS-26	65.0	5261.7		NP	20	2011
65.0	8	4	SS-27	67.5	5261.5		NP	20	2011
67.5	8	12	SS-28	70.0	5261.3		NP	20	2011
70.0	8	4	SS-29	72.5	5261.1		NP	20	2011
72.5	8	12	SS-30	75.0	5260.9		NP	20	2011
75.0	8	4	SS-31	77.5	5260.7		NP	20	2011
77.5	8	12	SS-32	80.0	5260.5		NP	20	2011

HAM-75-7.85

STRUCTURE FOUNDATION EXPLORATION
 2011 RII BORING LOGS

PTD: 7889	PR ID: HAM-75-88	PROJECT: HAM-75	STATION: CHISEL	TOP TO BOTTOM 2 LI	START DATE	END DATE	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF		
WATERAL DESCRIPTION AND NOTES																											
LOOSE TO MEDIUM DENSE, GRAY FINE SAND, LITTLE TO SOME COARSE SAND, TRACE SILT, TRACE FINE SPAGEL, MOIST TO WET.																											
455.0																											
	DEPTH																										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
87.5	90.0	92.5	95.0	97.5	100.0	102.5	105.0	107.5	110.0	112.5	115.0	117.5															

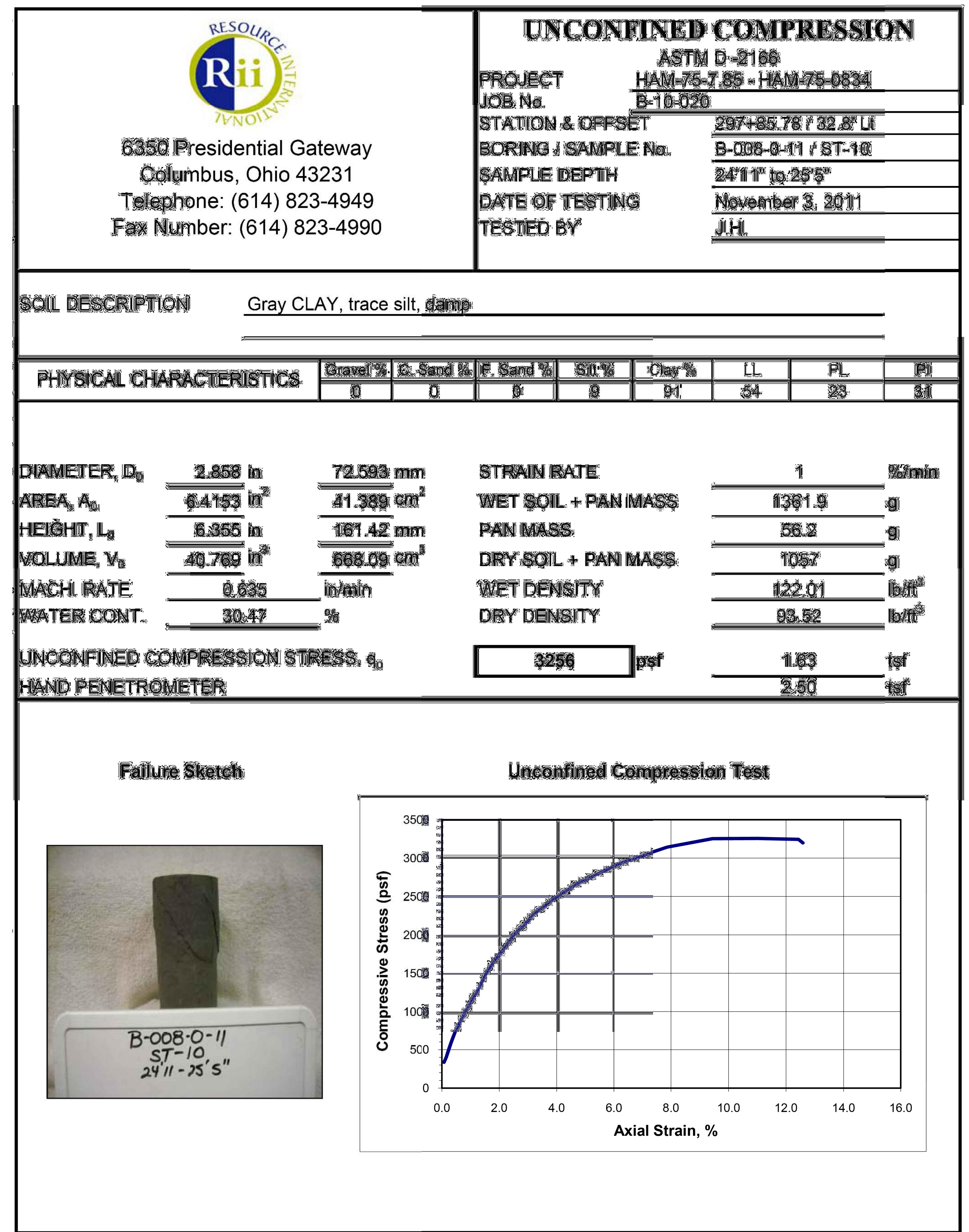
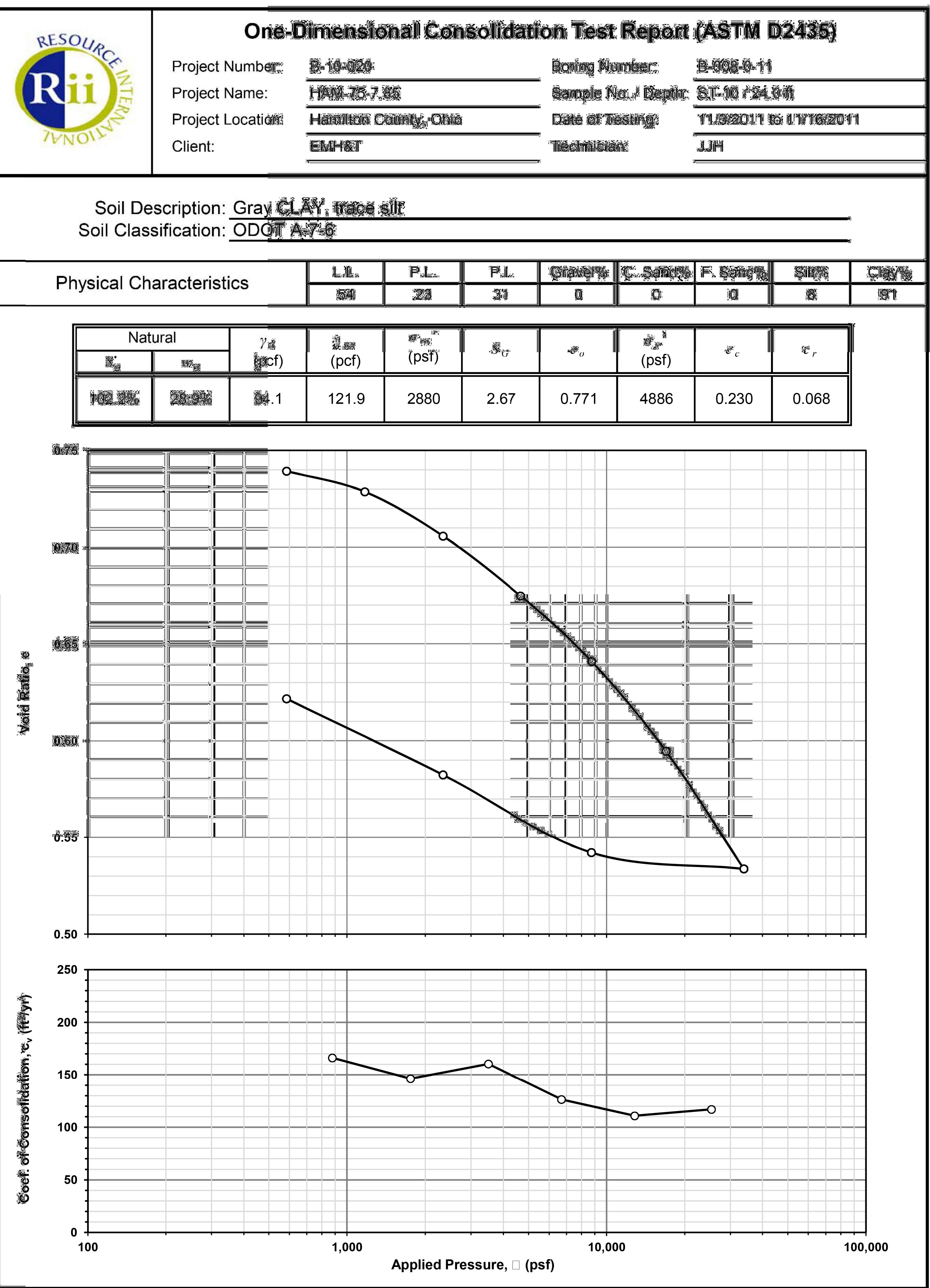
NOTES: FOUNDATION MATERIALS NOTED IN LOG
 ALL BOTTLES RETURNED TO THE FIELD OFFICE. THESE BOTTLES WERE NOT ANALYZED.

STRUCTURE FOUNDATION EXPLORATION

2011 RII BORING LOGS

FILE NAME	BR ID	HAWK-E-DECA	PROJECT	HASHTAG	SURFACE ELEVATION	STATION	CHESSET	TEST NO.	TEST DATE	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS	NO. OF TESTS				
MATERIAL DESCRIPTION				ELEVATION				DEPTH		SPEC. ID		MATERIAL		TEST CLASS		DATE		HOLES				
MATERIAL DESCRIPTION MEDIUM DENSE TO DENSE, BRONZE GRAY FINE SAND, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE SILT, MOIST TO WET, SENSITIVE, -COBBLES PRESENT THROUGHOUT -SHELL FRAGMENTS PRESENT FROM 0.85 TO 9.00' -SHELLS PRESENT THROUGHOUT				-10.00				-07.50		-09.00		-05.50		-05.50		-05.50		-05.50		AS(N)		
				-09.50				-07.50		-09.00		-05.50		-05.50		-05.50		-05.50		-05.50		AS(N)
				-09.00				-07.50		-09.00		-05.50		-05.50		-05.50		-05.50		-05.50		AS(N)
				-08.50				-07.50		-09.00		-05.50		-05.50		-05.50		-05.50		-05.50		AS(N)
				-08.00				-07.50		-09.00		-05.50		-05.50		-05.50		-05.50		-05.50		AS(N)
				-07.50				-07.50		-09.00		-05.50		-05.50		-05.50		-05.50		-05.50		AS(N)

NOTES: BRONZE MATERIALS VERIFIED BY INDEPENDENT LABORATORY. REFER TO DRAWINGS FOR MATERIALS LISTING AND TESTING PROCEDURES.
 ALL MATERIALS TESTED IN ACCORDANCE WITH ASTM D1557-10. ALL TESTS PERFORMED BY A LICENSED SOIL TESTING LABORATORY.



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZD001.dgn 6/21/2023 1:03:09 PM bmccutchen

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 MORAIN DEPOSITS WITH MANY BURIED VALLEYS ALTERNATING BETWEEN BROAD FLOODPLAINS AND BEDROCK GORGES. THE SITE AREA CONTAINS SILTY LOAM TILL DEPOSITED AS GROUND MORAIN 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.

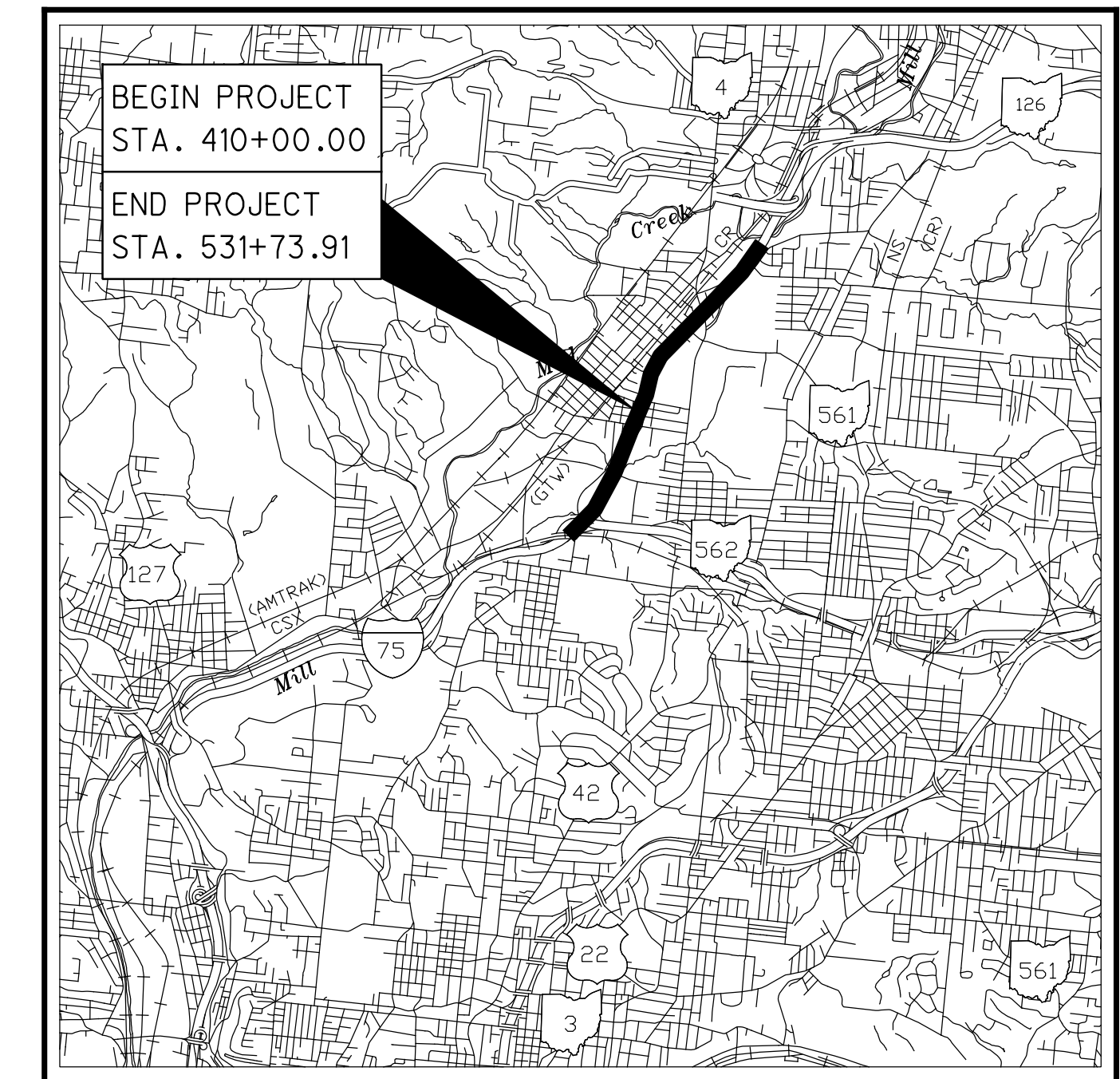
EXPLORATION FINDINGS

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.

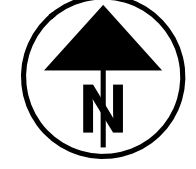
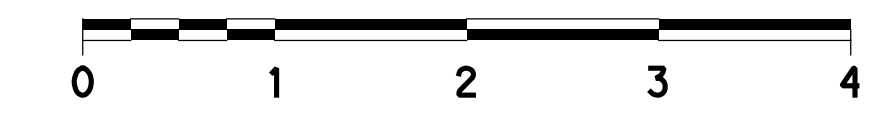
(CONTINUED ON SHEET 2)

LEGEND

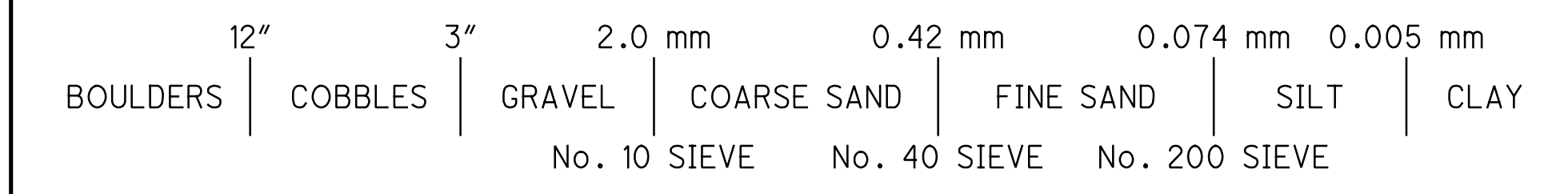
DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	7 23
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	22 92
GRAVEL AND/OR STONE FRAGS. WITH SAND AND SILT	A-2-4	1 13
GRAVEL AND/OR STONE FRAGS. WITH SAND, SILT & CLAY	A-2-6	4 6
FINE SAND	A-3	17 144
COARSE AND FINE SAND	A-3a	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



PARTICLE SIZE DEFINITIONS



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZC201.dgn 6/21/2023 1:12:12 PM bmcutechen

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

1/105

1407
1534

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

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZC202.dgn 6/21/2023 1:12:13 PM bmccutchen

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.

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

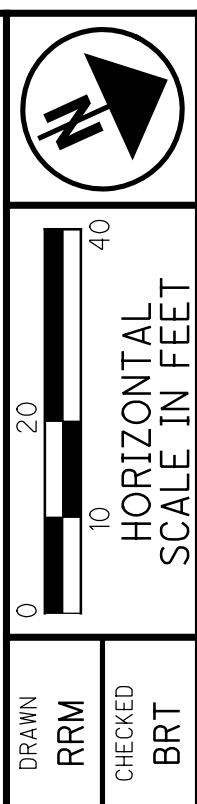
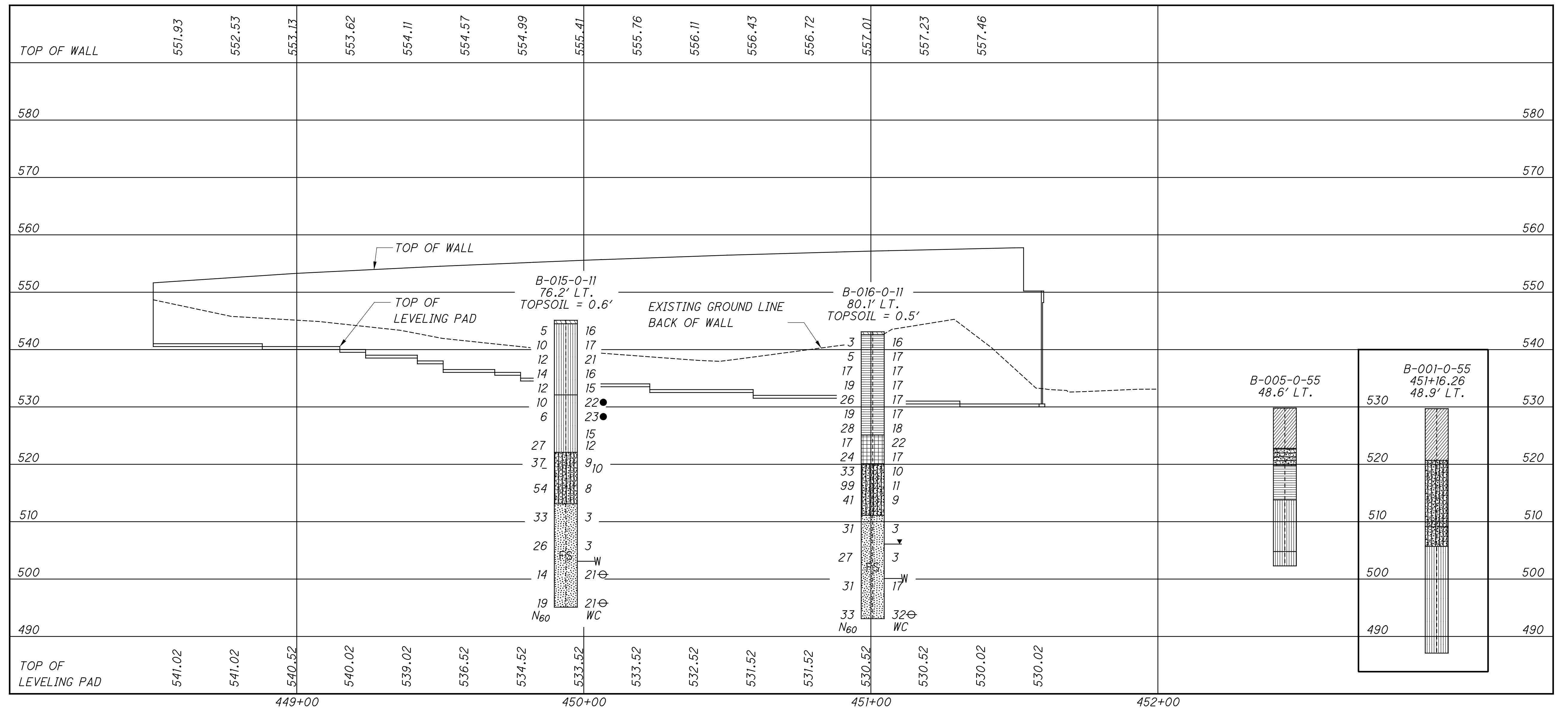
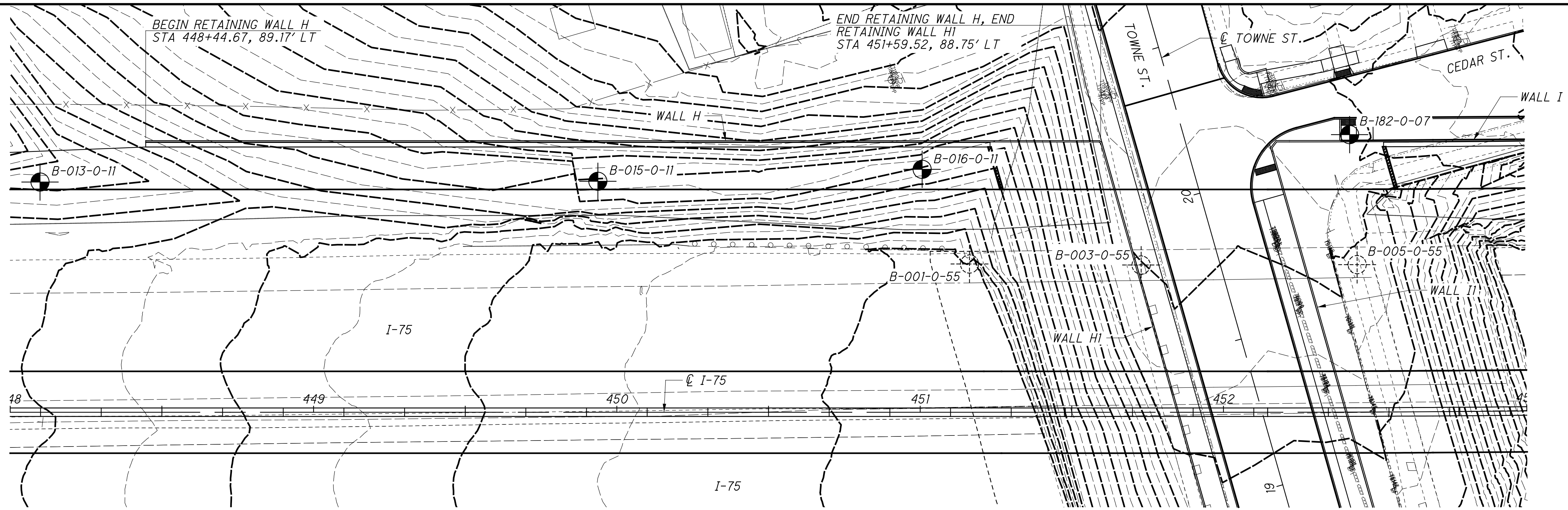
HAM-75-7.85

2 / 105

1408
1534

DRAWN
RRM
CHECKED
BRT

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP201.dgn 6/21/2023 1:12:15 PM bmccutchen

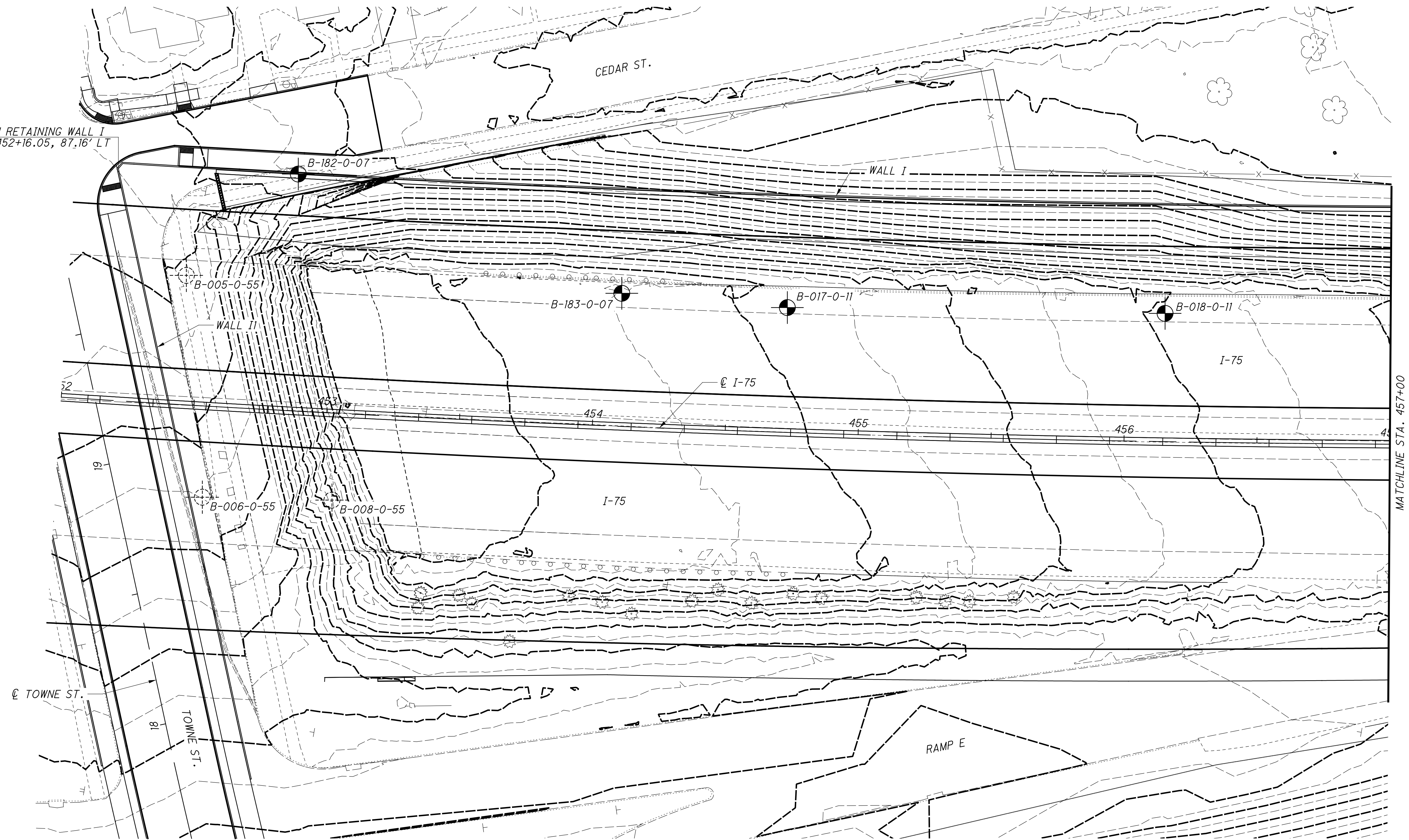


STRUCTURE FOUNDATION EXPLORATION
WALL H

HAM-75-7.85
3/105
1409
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP202.dgn 6/21/2023 1:12:16 PM bmccutchen

BEGIN RETAINING WALL I
STA 452+16.05, 87.16' LT



DRAWN	RRM
CHECKED	BRT

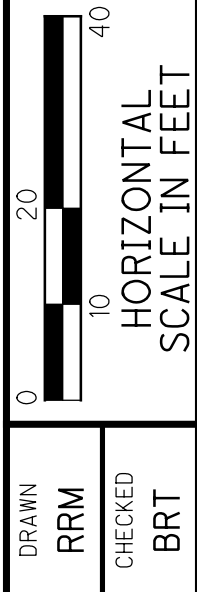
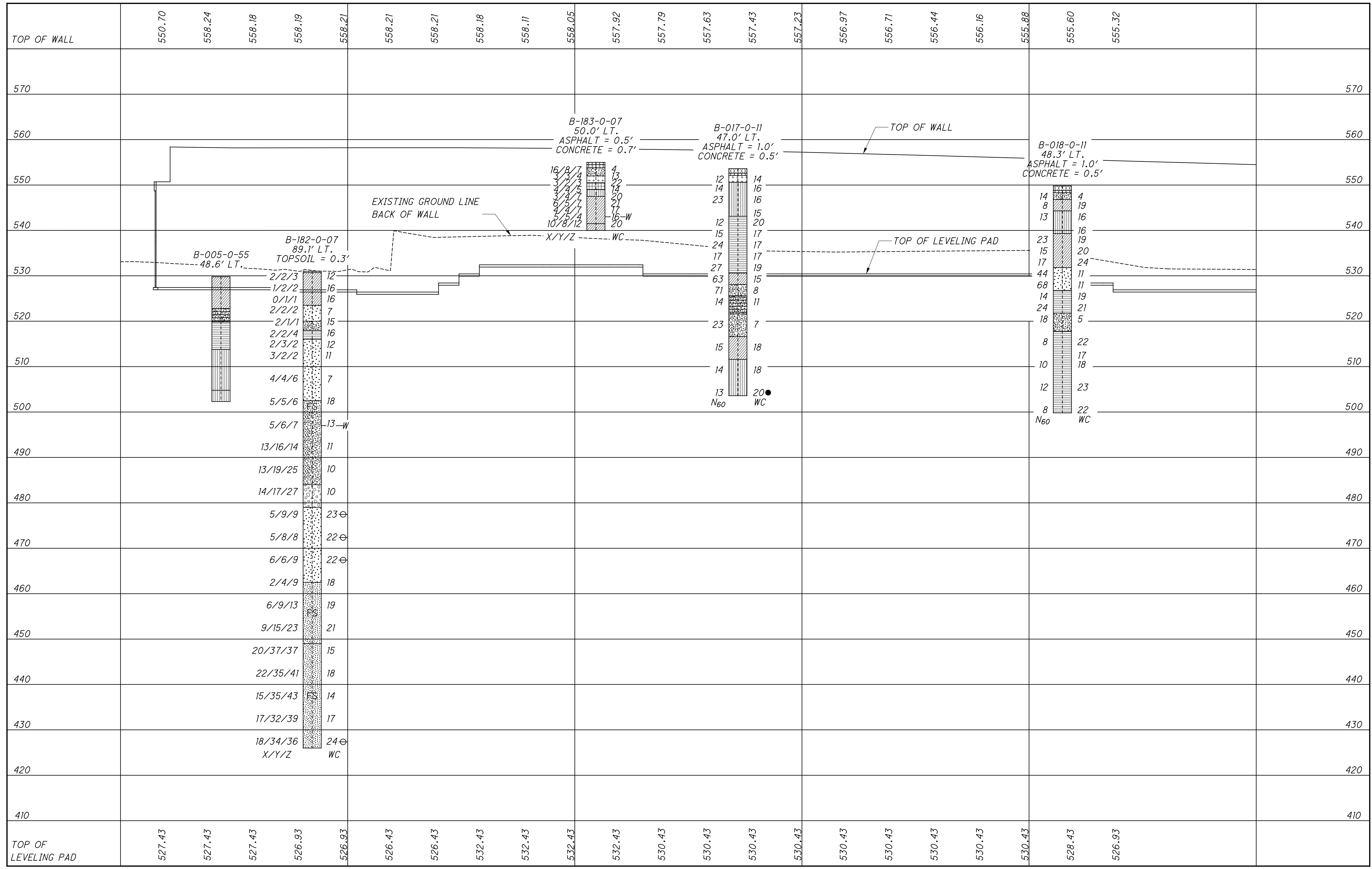
STRUCTURE FOUNDATION EXPLORATION
WALL I
STA. 452+00 TO STA. 457+00

HAM-75-7.85

4 / 105

1410
1534

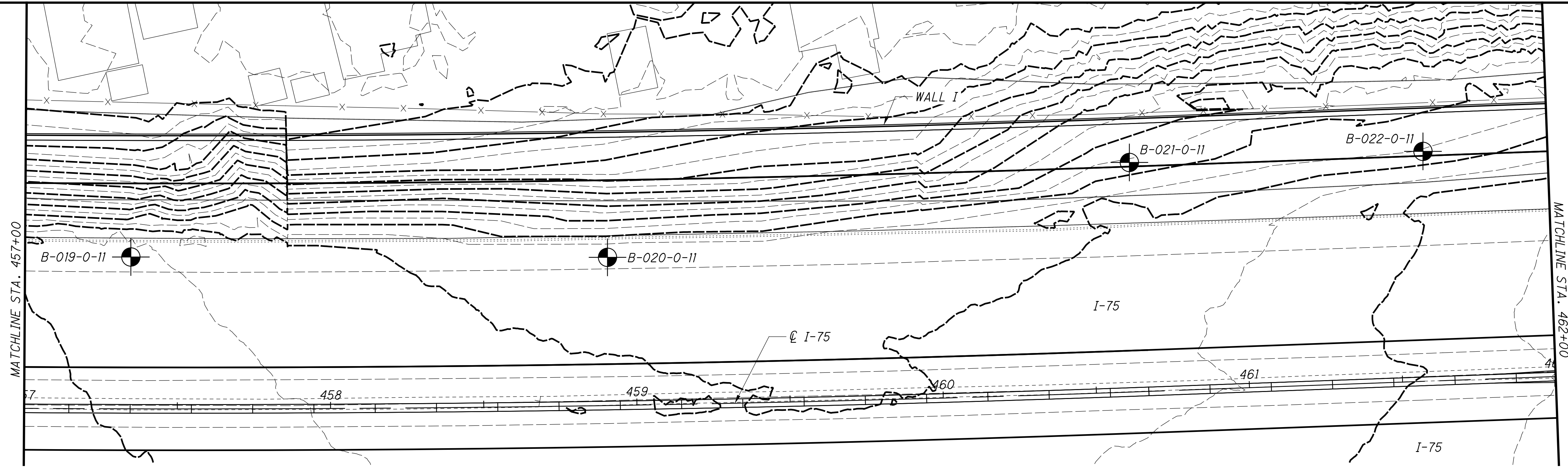
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP203.dgn 6/21/2023 1:12:16 PM bmccutchen



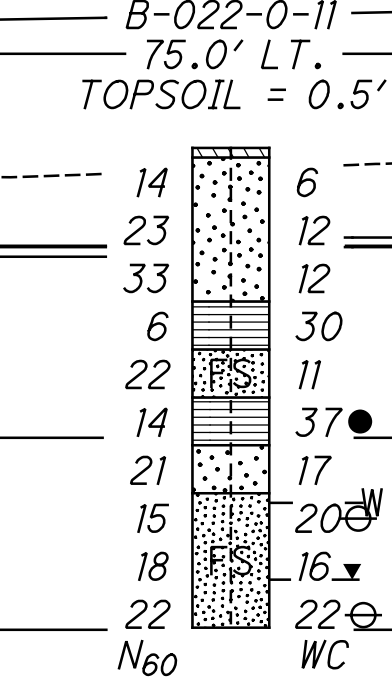
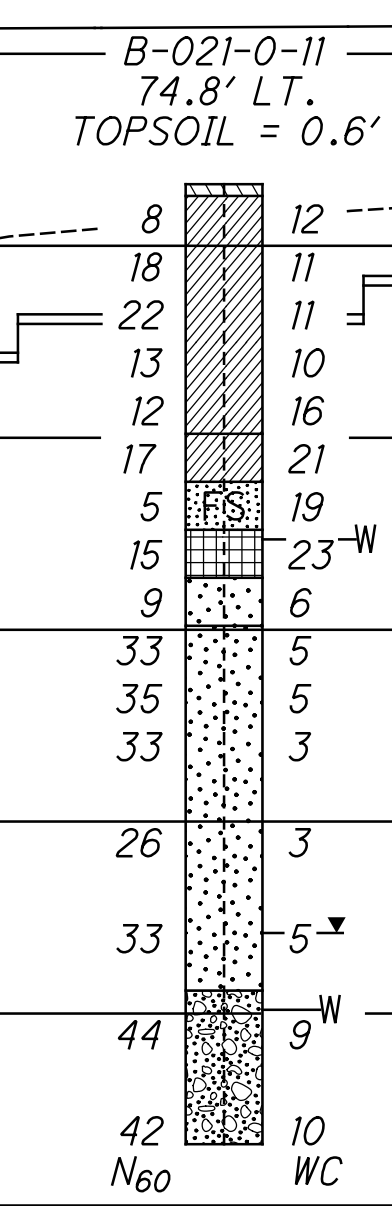
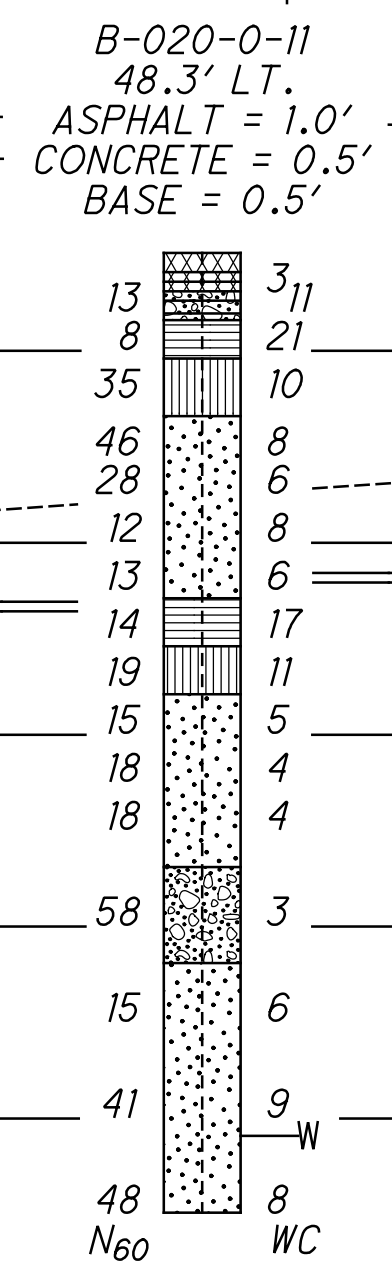
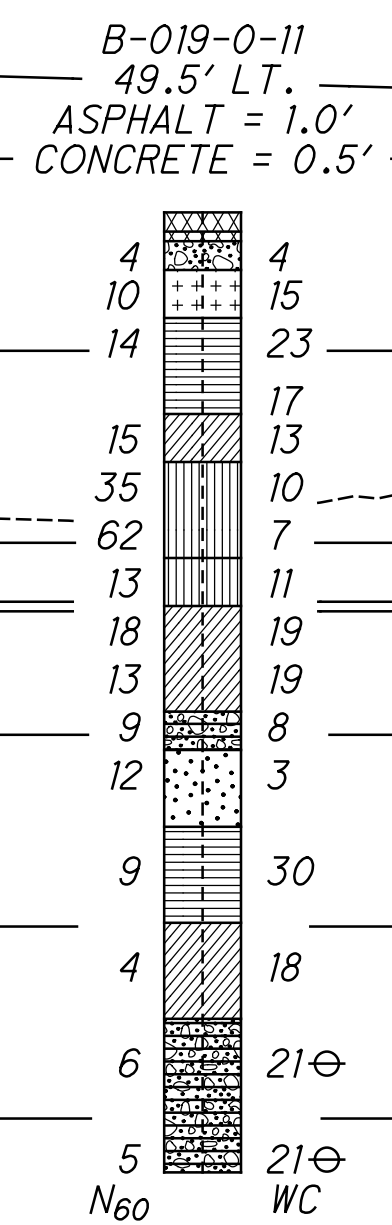
STRUCTURE FOUNDATION EXPLORATION
WALL I
STA. 452+00 TO STA. 457+00

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP204.dgn 6/21/2023 1:12:17 PM bmccutchen

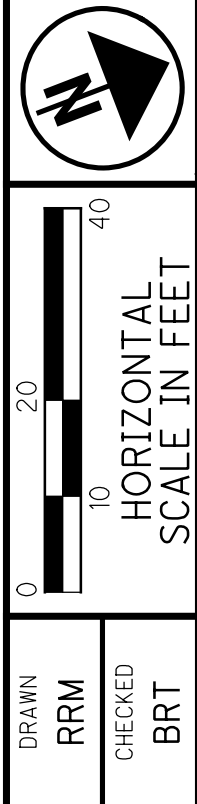
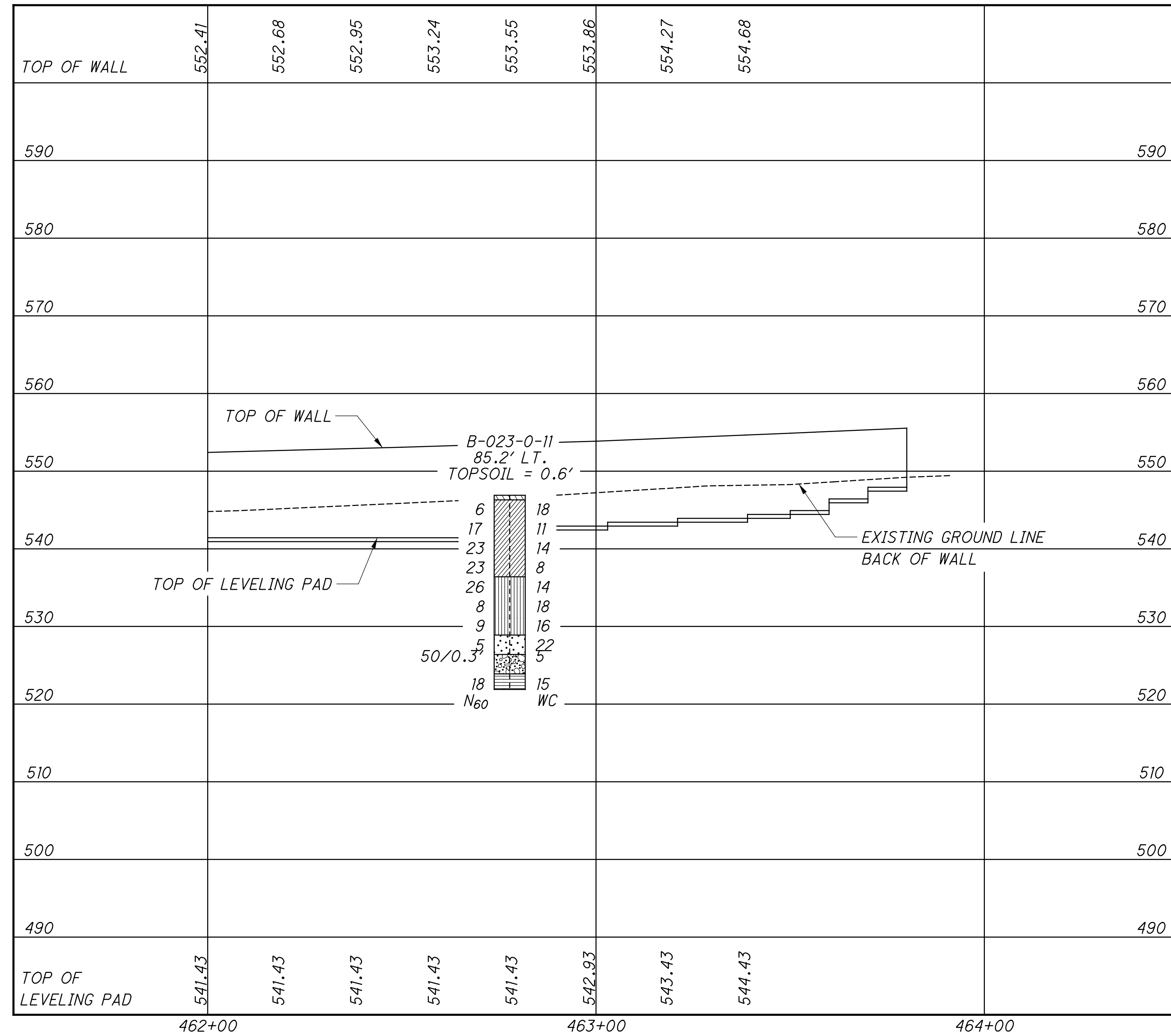
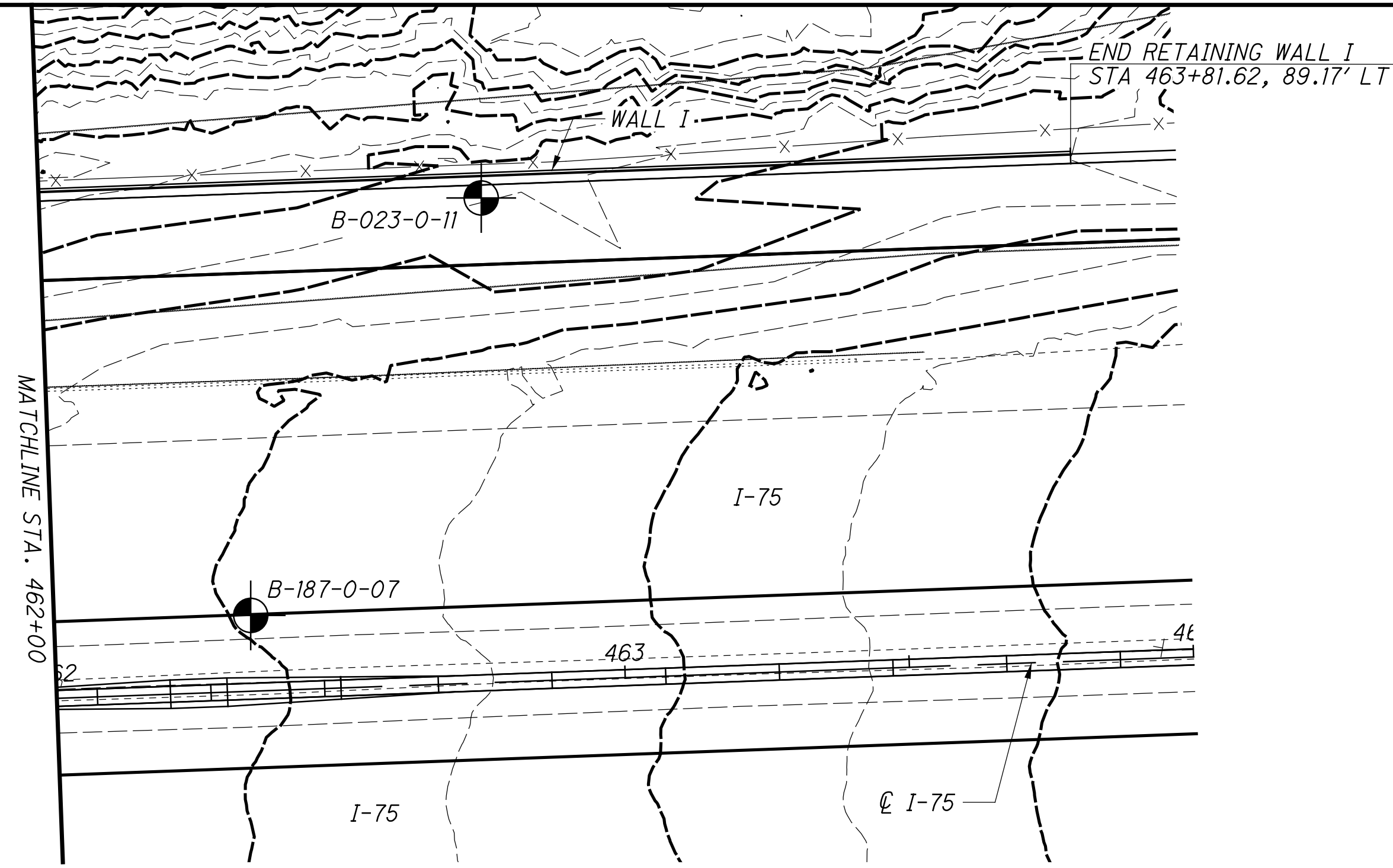


Station	457+00	458+00	459+00	460+00	461+00	462+00
TOP OF WALL	554.48	554.20	553.92	553.64	553.36	553.08
570						570
560						560
550						550
540						540
530						530
520						520
510						510
500						500
490						490
480						480
470						470
TOP OF LEVELING PAD	526.93	526.93	526.93	526.93	526.93	526.93
	457+00	458+00	459+00	460+00	461+00	462+00



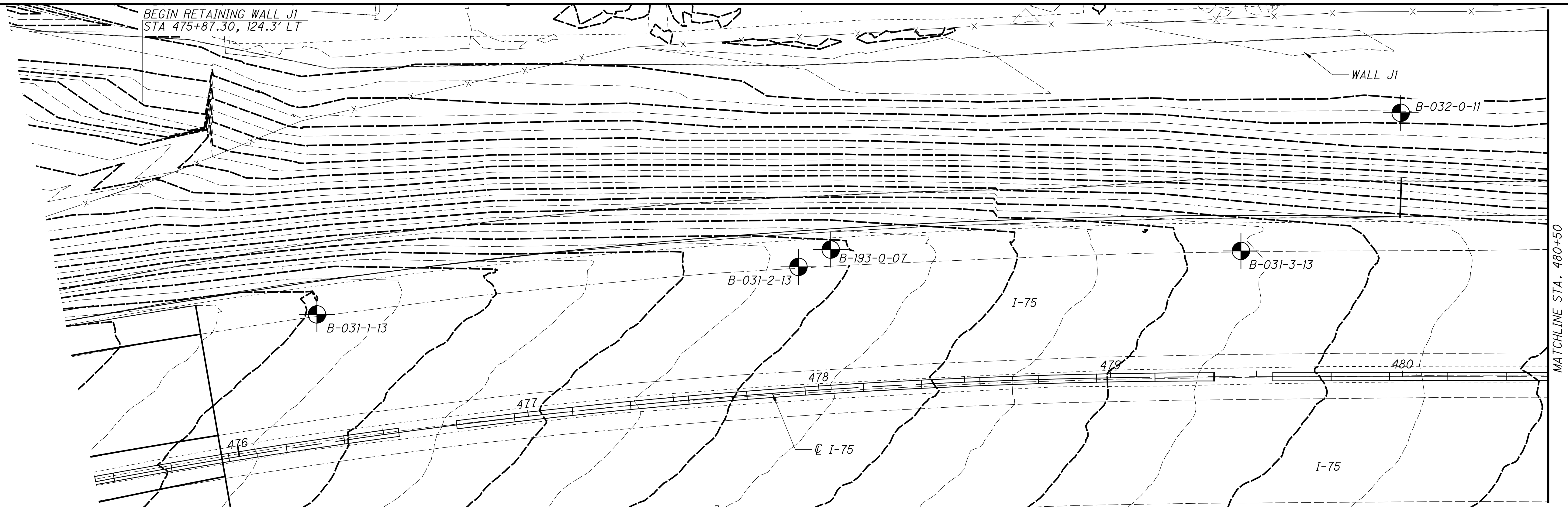
STRUCTURE FOUNDATION EXPLORATION
WALL I
STA. 457+00 TO STA. 462+00

HAM-75-7.85



STRUCTURE FOUNDATION EXPLORATION
 WALL I
 STA. 462+00 TO STA. 464+00

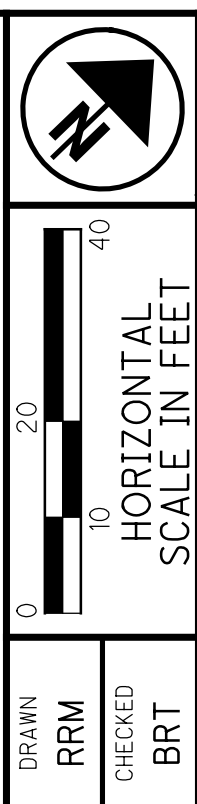
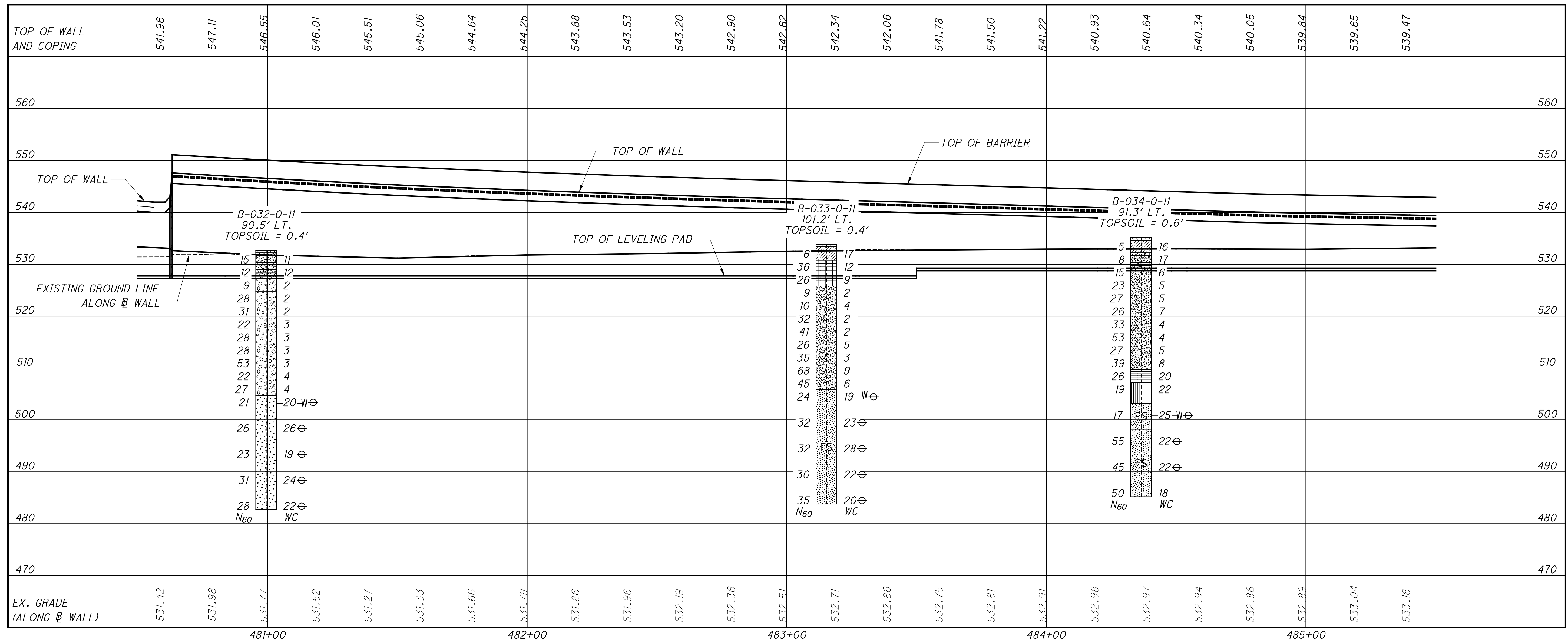
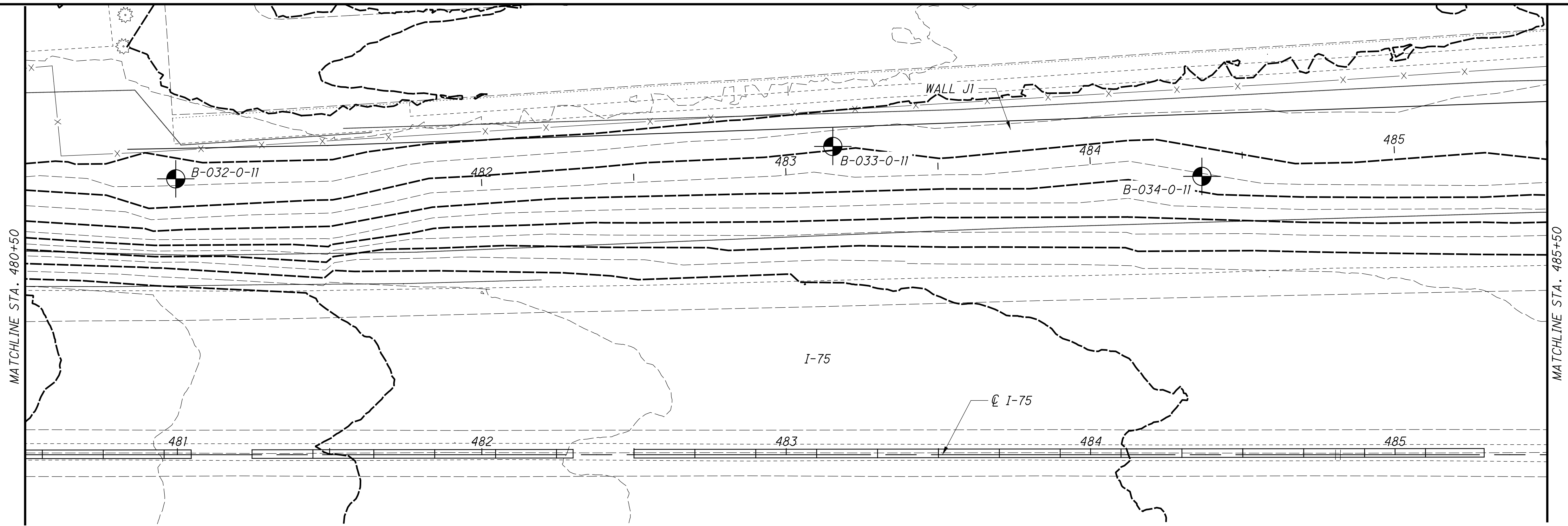
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP206.dgn 6/21/2023 1:12:19 PM bmccutchen



STRUCTURE FOUNDATION EXPLORATION
WALL J1
STA. 475+50 TO STA. 480+50

HAM-75-7.85
8/105
1414
1534

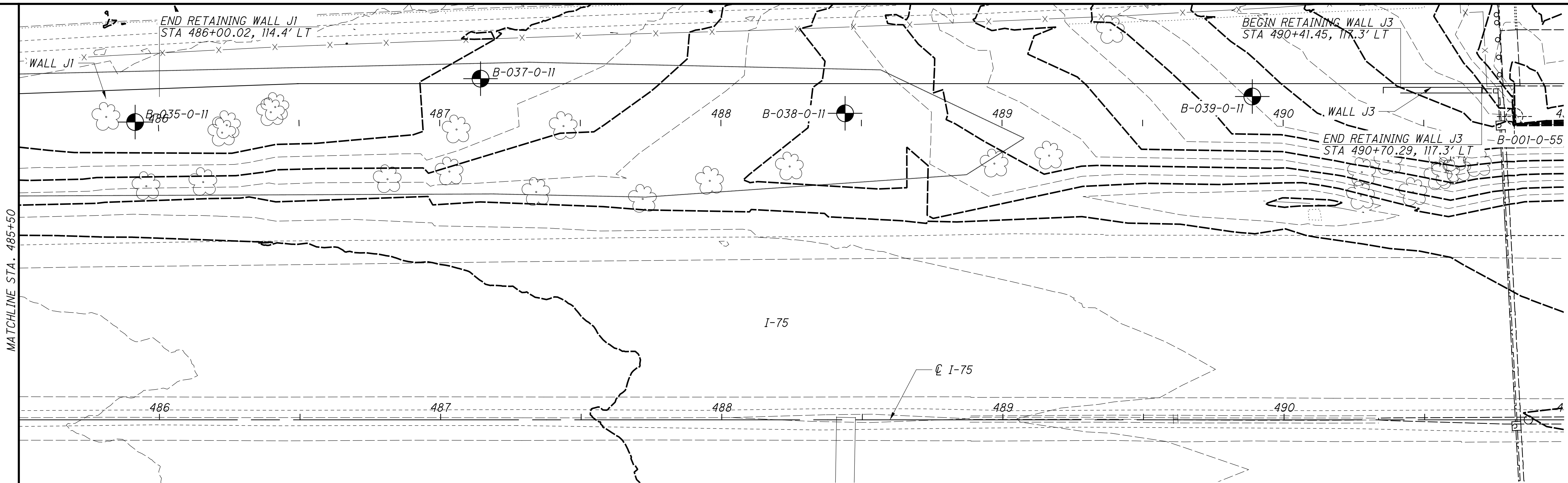
J:\20110903\0DOT\HAM\77889\geotechnical\sheets\77889ZP207.dgn 6/21/2023 1:12:20 PM bmccutchen



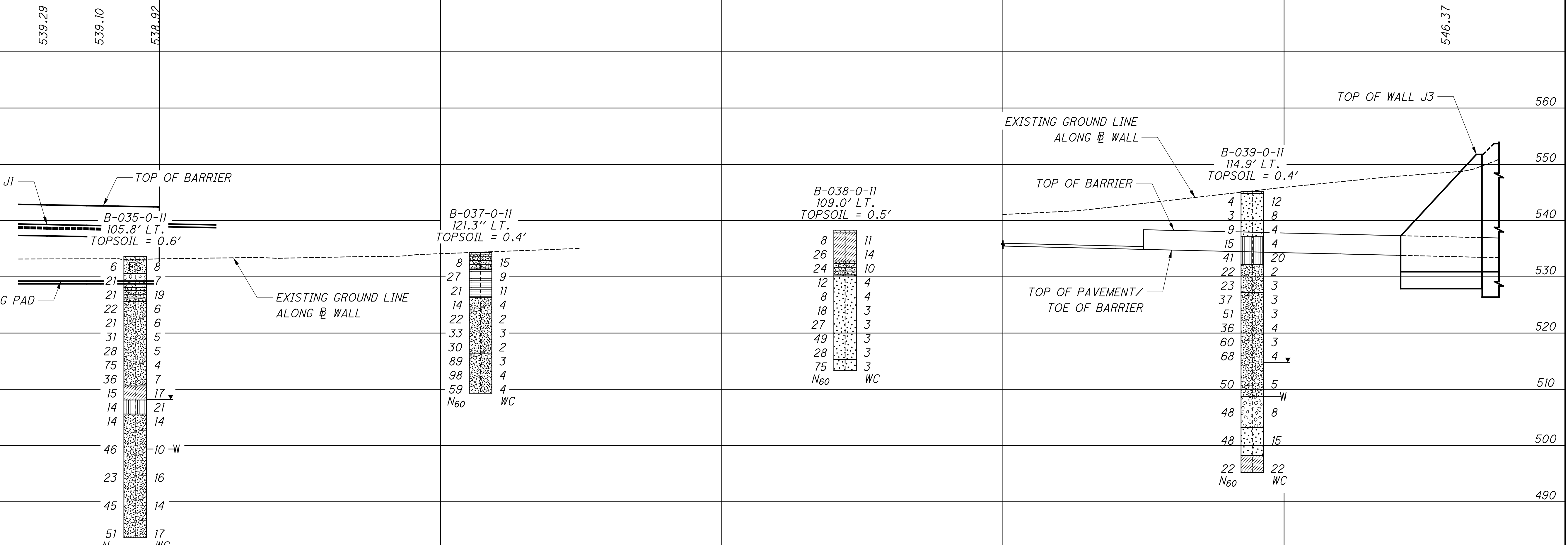
DRAWN: RRM
 CHECKED: BRT
 STRUCTURE FOUNDATION EXPLORATION
 WALL J1
 STA. 480+50 TO STA. 485+50

HAM-75-7.85
 9 / 105
 1415
 1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP208.dgn 6/21/2023 1:12:21 PM bmccutchen



TOP OF WALL AND COPING	539.29	539.10	538.92							546.37										
560										560										
550																				
540																				
530																				
520																				
510																				
500																				
490																				
480																				
470																				
EX. GRADE (ALONG @ WALL)	533.17	533.19	533.19	533.34	533.33	533.48	533.63	534.12	534.49	534.87	541.08	541.58	542.47	543.62	544.77	545.91	546.90	547.86	548.63	552.43
	486+00			487+00			488+00			489+00			490+00							

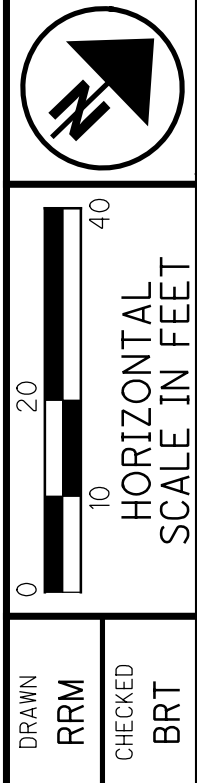
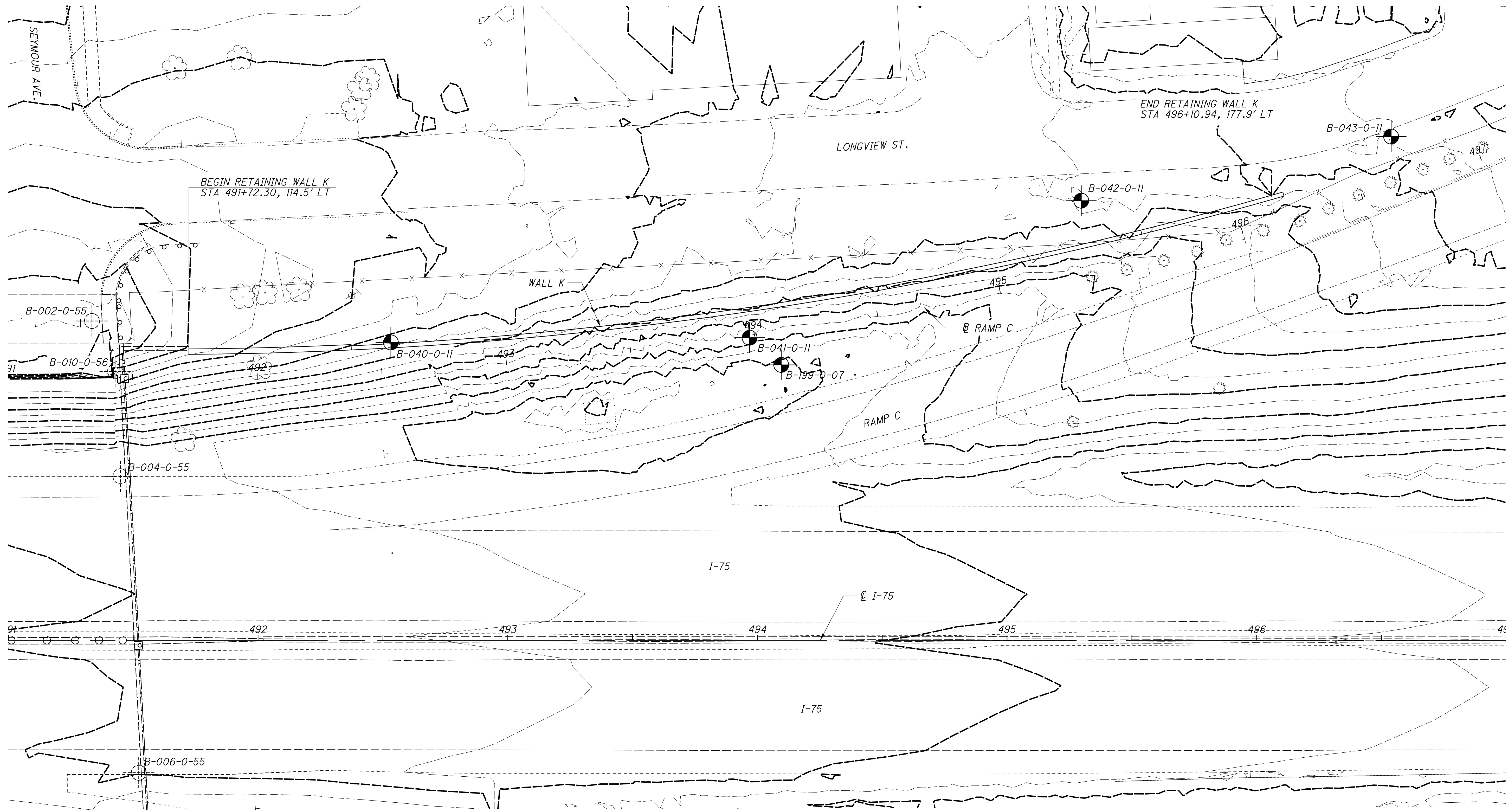


STRUCTURE FOUNDATION EXPLORATION
WALL J1 AND WALL J3
STA. 485+50 TO STA. 491+00

DRAWN: RRM
 CHECKED: BRT

HAM-75-7.85
 10 / 105
 1416 / 1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P209.dgn 6/21/2023 1:12:22 PM bmccutchen

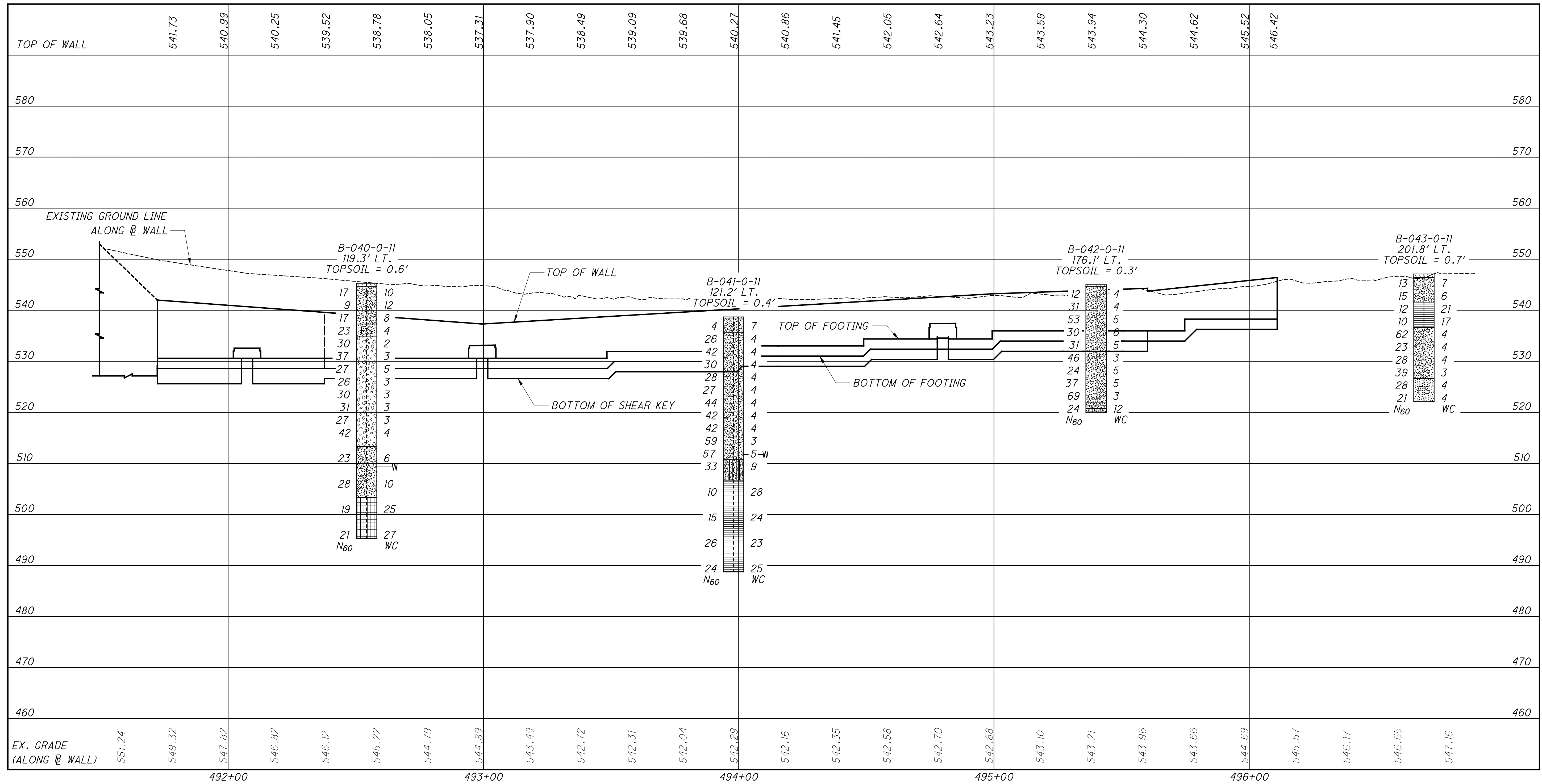


DRAWN	RRM
CHECKED	BRT

STRUCTURE FOUNDATION EXPLORATION
WALL K

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP210.dgn 6/21/2023 1:12:23 PM bmccutchen

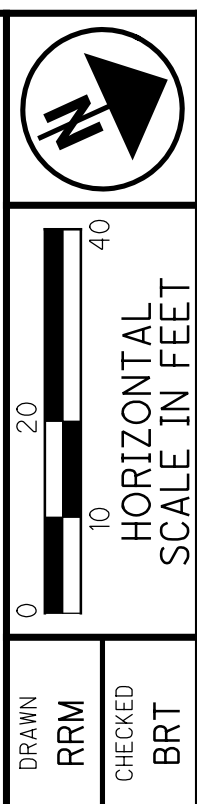
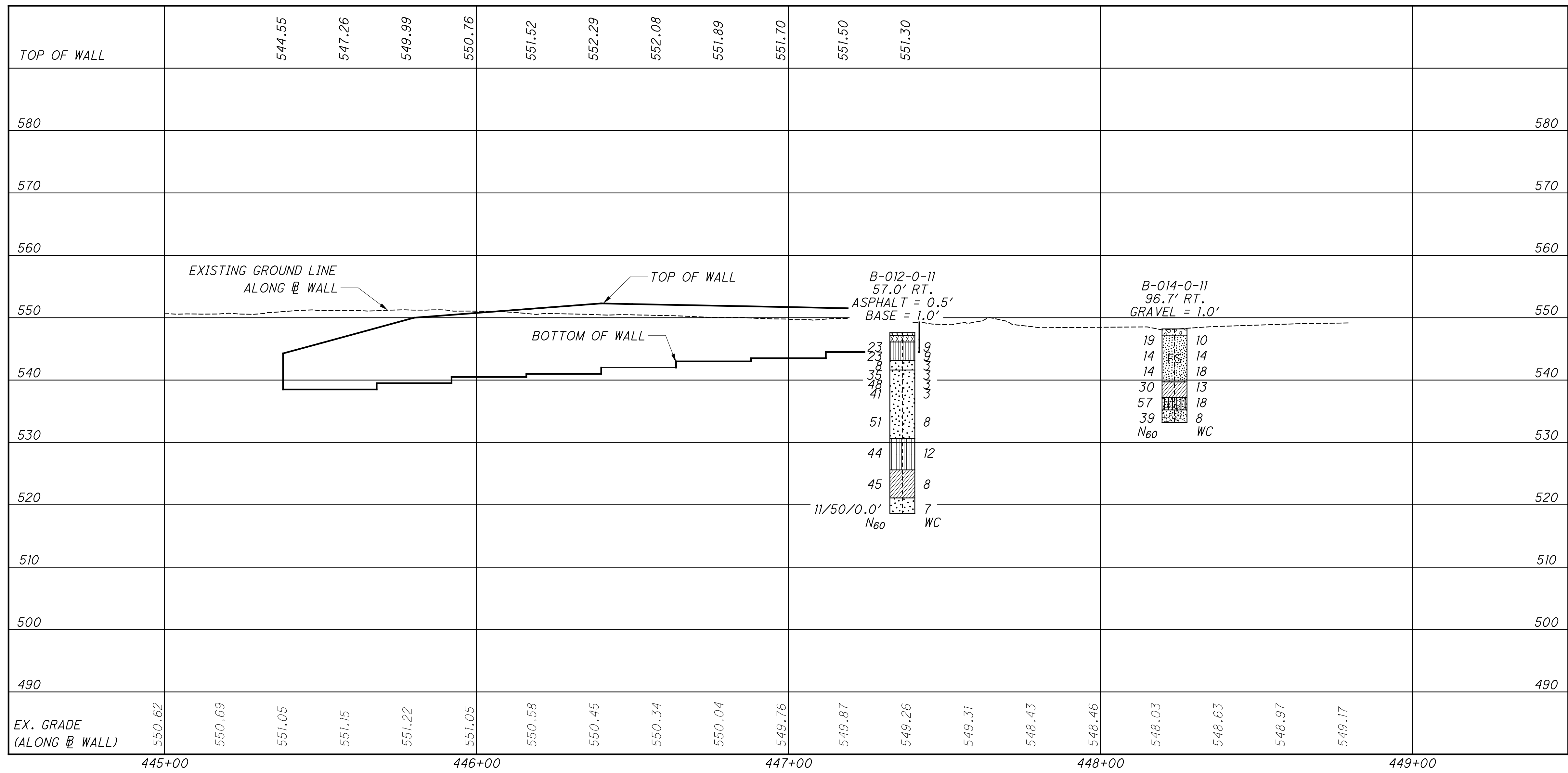
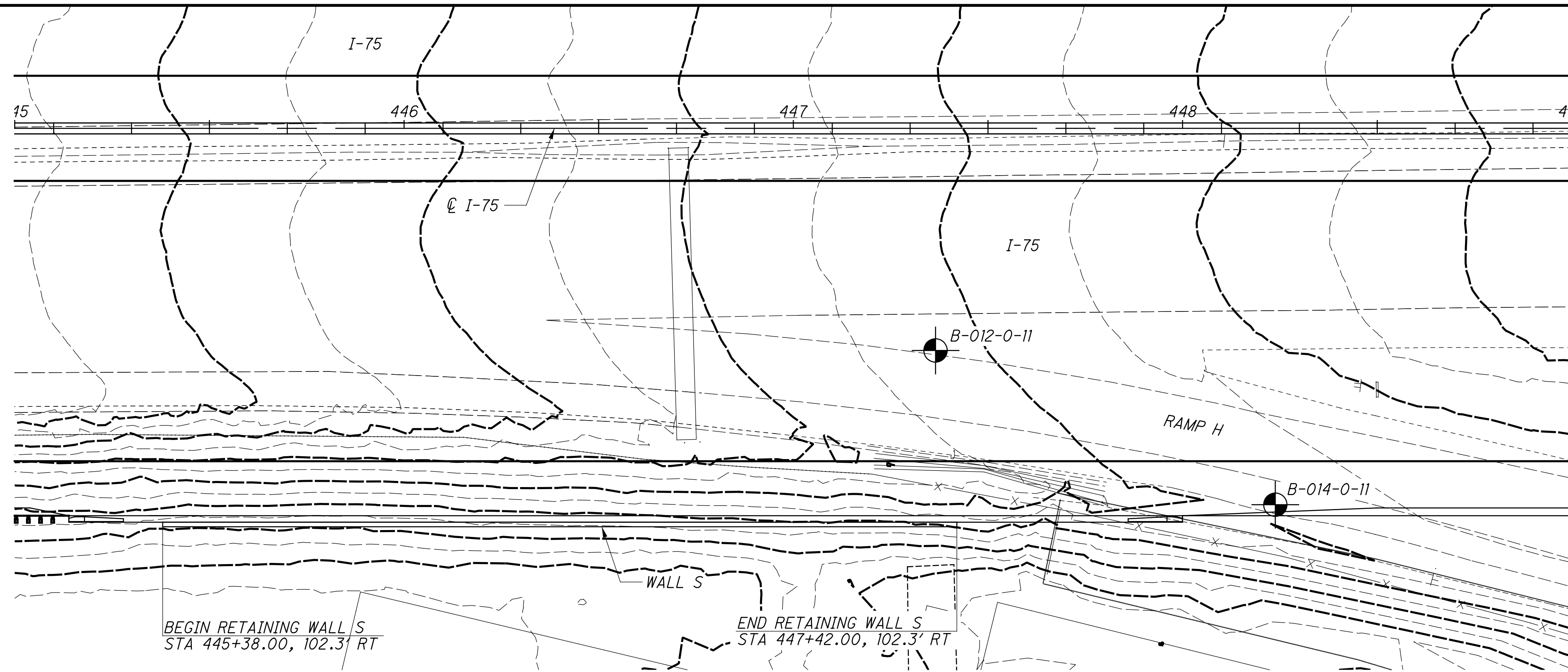


0 10 20 40
HORIZONTAL SCALE IN FEET
DRAWN RRM
CHECKED BRT

STRUCTURE FOUNDATION EXPLORATION
WALL K

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP211.dgn 6/21/2023 1:12:23 PM bmccutchen



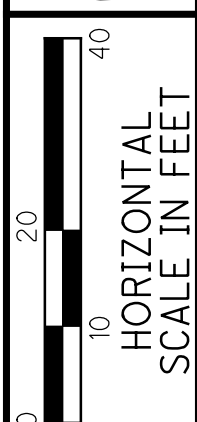
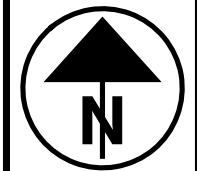
DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
WALLS S

HAM-75-7.85

13 / 105

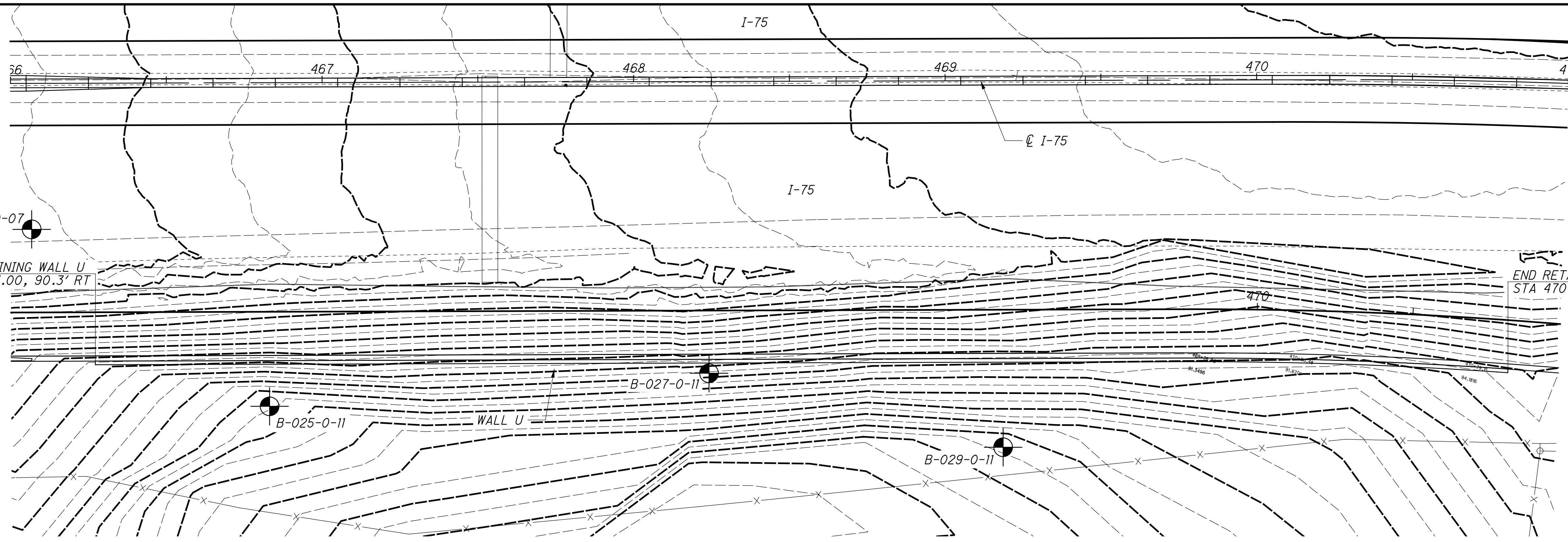
1419
1534



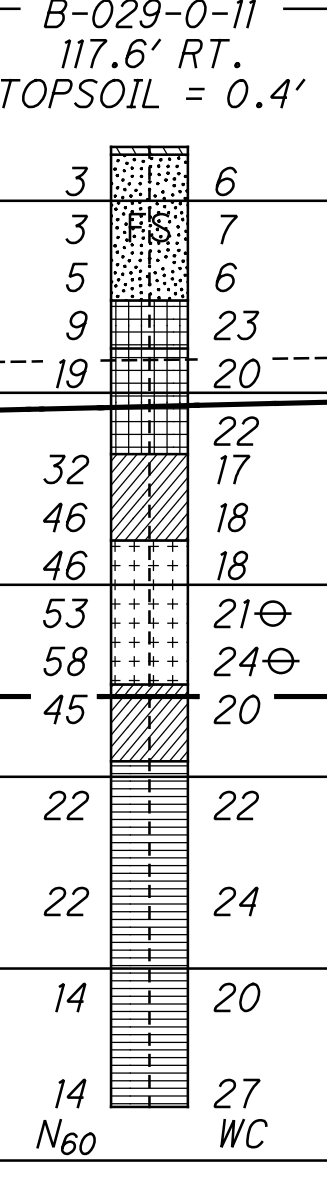
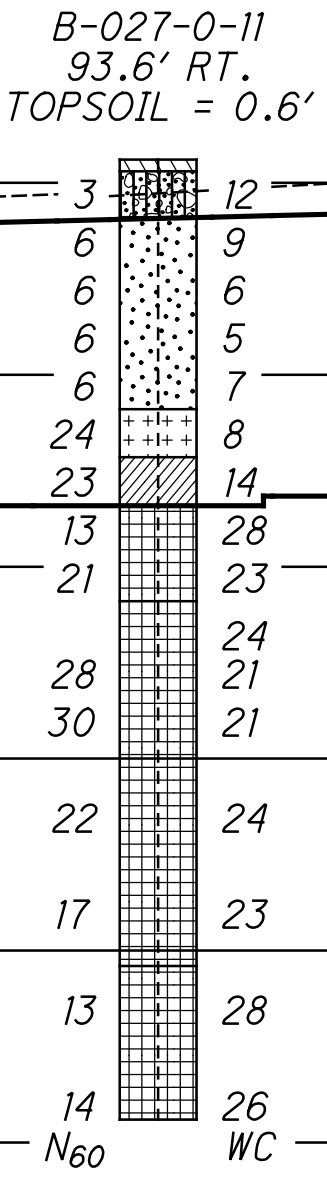
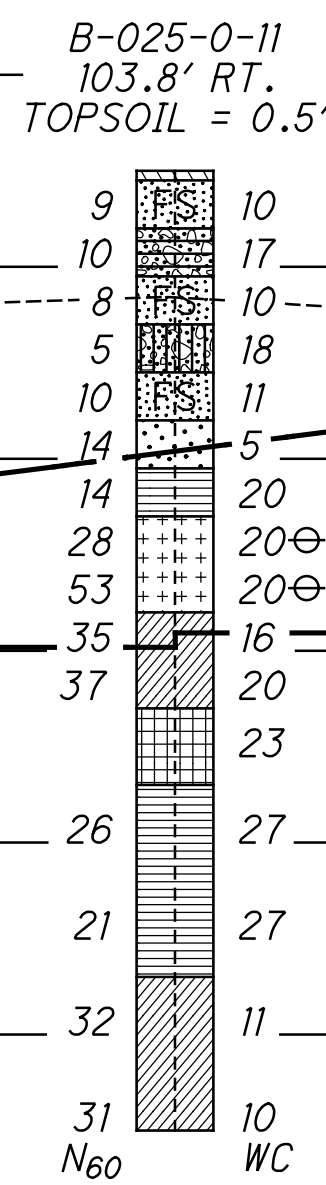
DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
WALL U

HAM-75-7.85



TOP OF WALL	567.06	568.92	570.19	571.47	572.75	574.02	575.30	576.57	577.85	578.09	578.34	578.58	578.82	579.06	579.31	579.55	578.89	577.34	575.78	574.22	572.67	571.11	569.55			
600																										
590																										
580																										
570																										
560																										
550																										
540																										
530																										
520																										
510																										
EX. GRADE (ALONG B WALL)	574.33	576.58	577.72	578.06	578.40	577.90	577.94	578.33	578.54	578.76	579.14	579.32	579.90	580.57	581.47	581.59	581.71	581.80	582.01	582.09	582.26	582.58	582.42	581.54	580.68	580.92
	466+00				467+00						468+00				469+00					470+00					471+00	



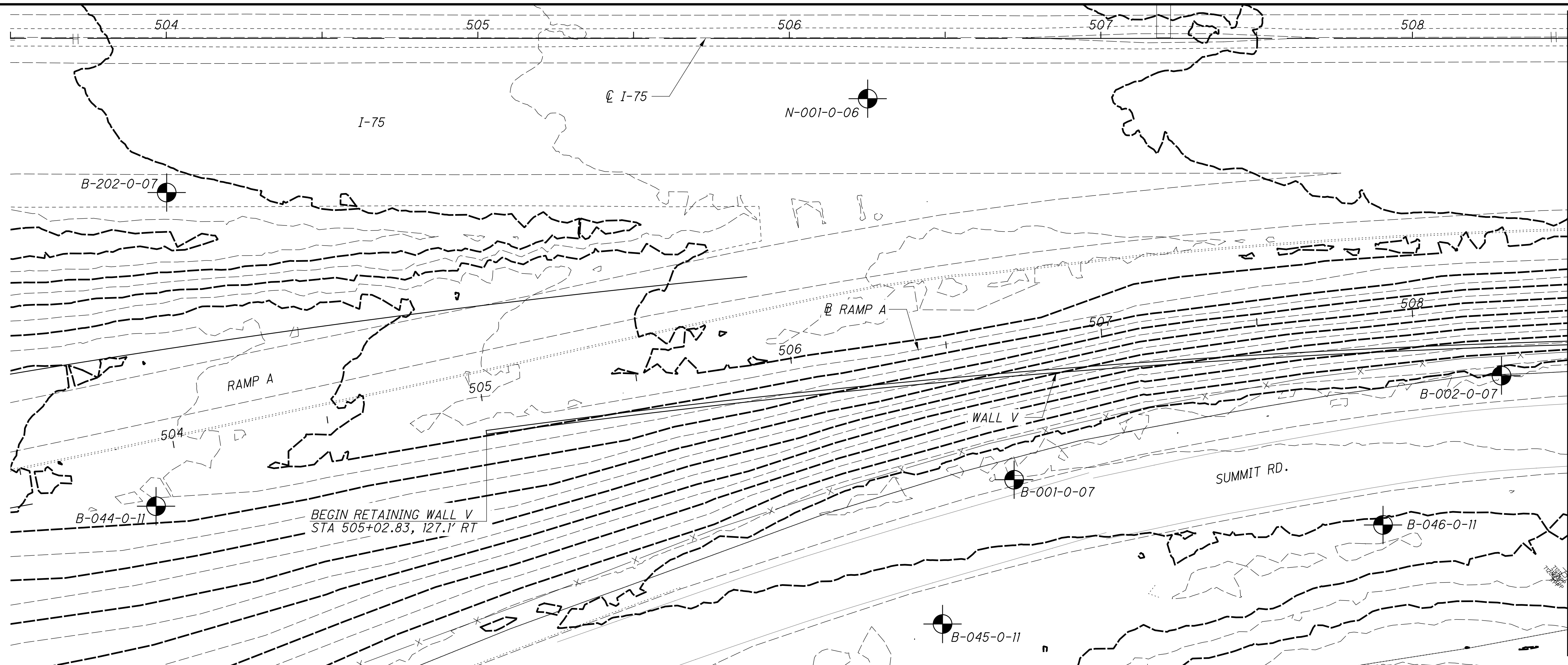
EXISTING GROUND LINE ALONG B WALL

TOP OF WALL

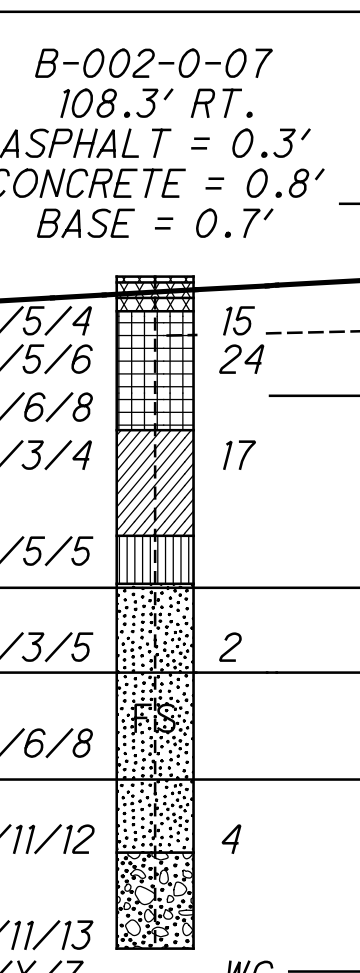
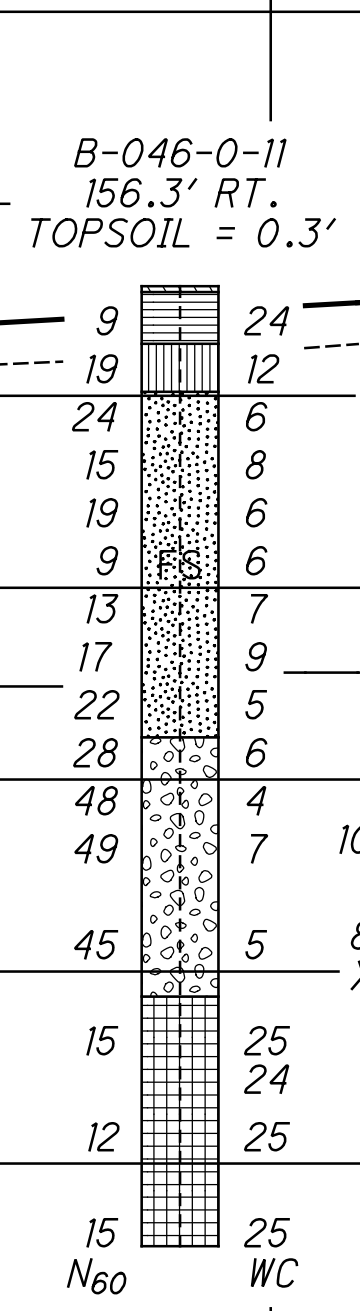
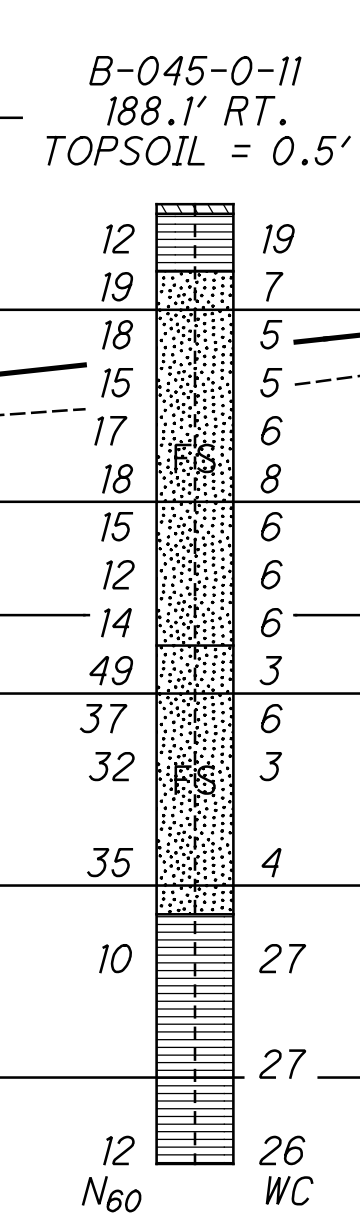
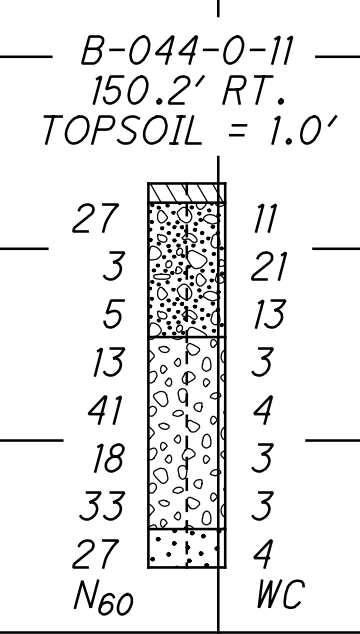
BOTTOM OF WALL

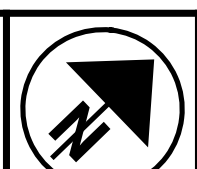
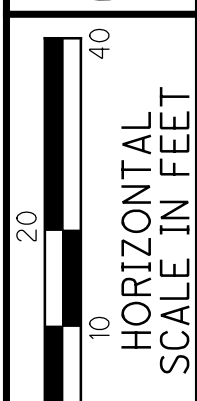


J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP212.dgn 6/21/2023 1:12:24 PM bmccutchen

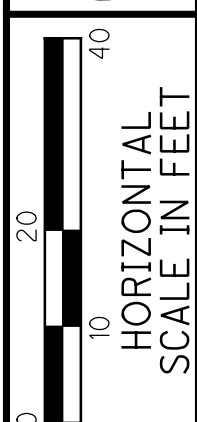
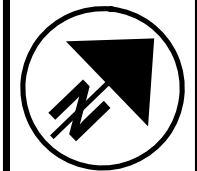
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP213.dgn 6/21/2023 1:12:25 PM bmccutchen



TOP OF WALL	539.23	540.42	541.62	542.82	544.01	545.10	546.17	547.25	548.33	549.41	550.49	551.56	552.64	553.46	554.03	554.59	555.15	555.72		
560																			B-002-0-07 108.3' RT. ASPHALT = 0.3' CONCRETE = 0.8' BASE = 0.7'	
550																				
540																				
530																				
520																				
510																				
500																				
490																				
EX. GRADE (ALONG WALL)	541.70	541.86	542.05	542.27	542.52	542.92	543.36	544.20	544.91	546.12	547.48	548.83	549.86	550.55	551.28	551.82	552.35	553.02	553.24	
	504+00	505+00	506+00	507+00	508+00															





 DRAWN: RRM
 CHECKED: BRT
STRUCTURE FOUNDATION EXPLORATION
WALL V
STA. 504+00 TO STA. 508+50
HAM-75-7.85
 15 / 105





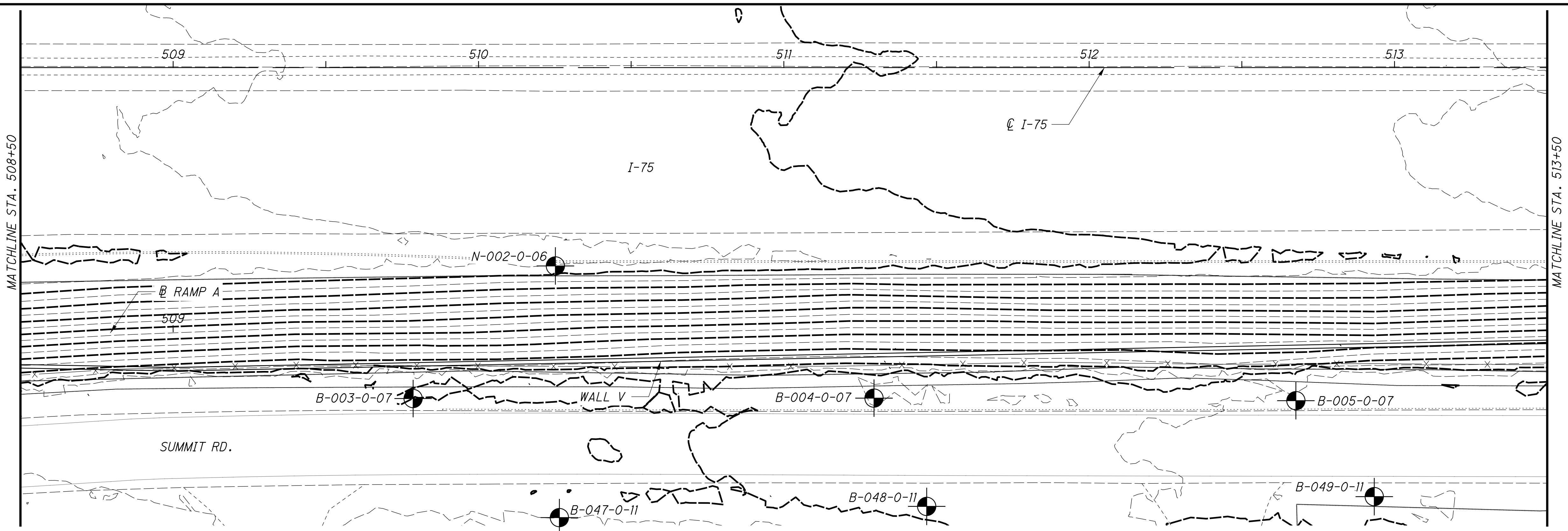
DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
WALL V
STA. 508+50 TO STA. 513+50

HAM-75-7.85

16 / 105

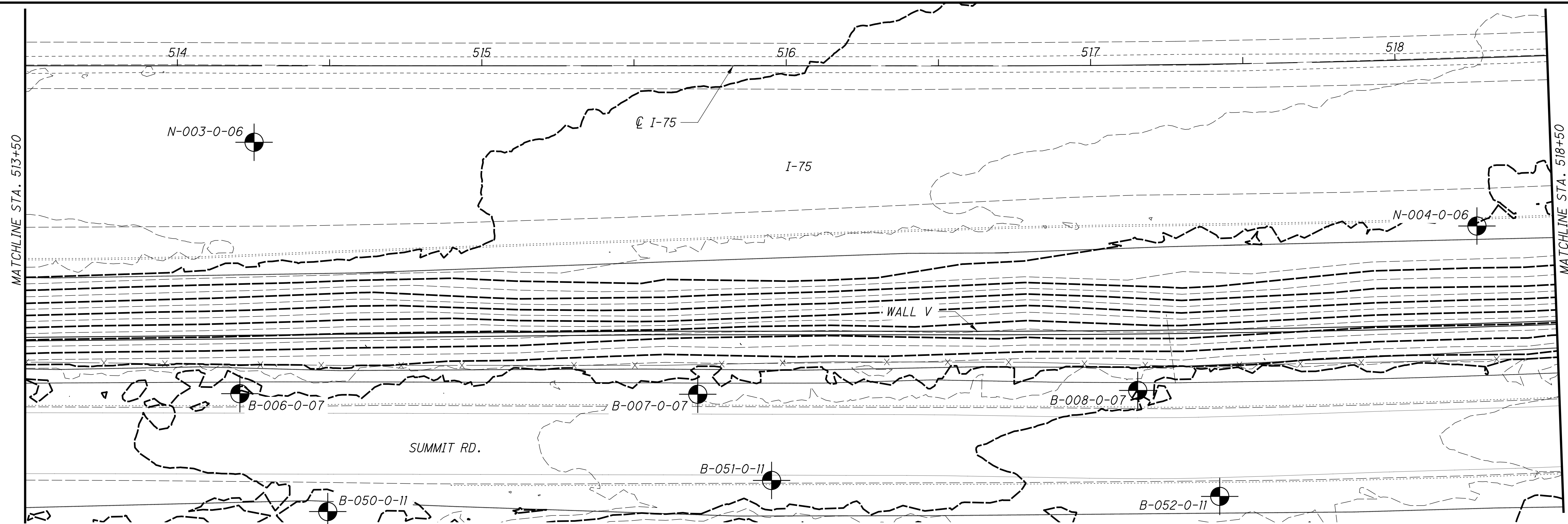
1422
1534



TOP OF WALL	556.28	556.85	557.41	557.47	557.53	557.58	557.64	557.70	557.76	557.82	557.88	557.93	557.99	558.05	558.11	558.17	558.23	558.28	558.34	558.40	558.46	558.52	558.58	558.63	558.69	
580																										
570																										
EXISTING GROUND LINE ALONG @ WALL																										
560																										
550																										
540																										
530																										
520																										
510																										
500																										
490																										
EX. GRADE (ALONG @ WALL)	553.71	554.38	556.02	555.33	555.91	555.07	555.01	554.79	554.81	554.90	555.03	555.13	555.20	555.20	554.93	554.65	554.43	554.31	554.04	553.67	553.65	553.66	553.92	554.00	554.08	
	509+00			510+00			511+00			512+00			513+00													

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P214.dgn 6/21/2023 1:12:26 PM bmccutchen

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP215.dgn 6/21/2023 1:12:27 PM bmccutchen



Station	514.00	514.25	514.50	514.75	515.00	515.25	515.50	515.75	516.00	516.25	516.50	516.75	517.00	517.25	517.50	517.75	518.00	518.25	518.50	518.75	519.00					
TOP OF WALL	558.75	558.81	558.87	558.93	558.98	559.04	559.10	559.16	559.22	559.28	559.33	559.39	559.45	559.51	559.57	559.63	559.68	559.74	559.80	559.86	559.92	559.98	560.03	560.09	560.15	
580																										580
570																										570
560																										560
550																										550
540																										540
530																										530
520																										520
510																										510
500																										500
490																										490
EX. GRADE (ALONG @ WALL)	554.18	554.22	554.26	554.32	554.46	554.57	554.61	554.66	554.82	555.07	555.17	555.50	555.68	555.76	555.53	555.31	555.66	555.35	555.26	555.45	555.84	556.20	556.37	556.32	556.22	

EXISTING GROUND LINE ALONG @ WALL

B-006-0-07 107.7' RT. TOPSOIL = 0.8'
 B-050-0-11 146.4' RT. TOPSOIL = 1.0'

B-007-0-07 107.9' RT. TOPSOIL = 0.5'
 B-051-0-11 136.2' RT. TOPSOIL = 0.3'

B-008-0-07 106.9' RT. TOPSOIL = 0.3'
 B-052-0-11 142.0' RT. TOPSOIL = 0.6'

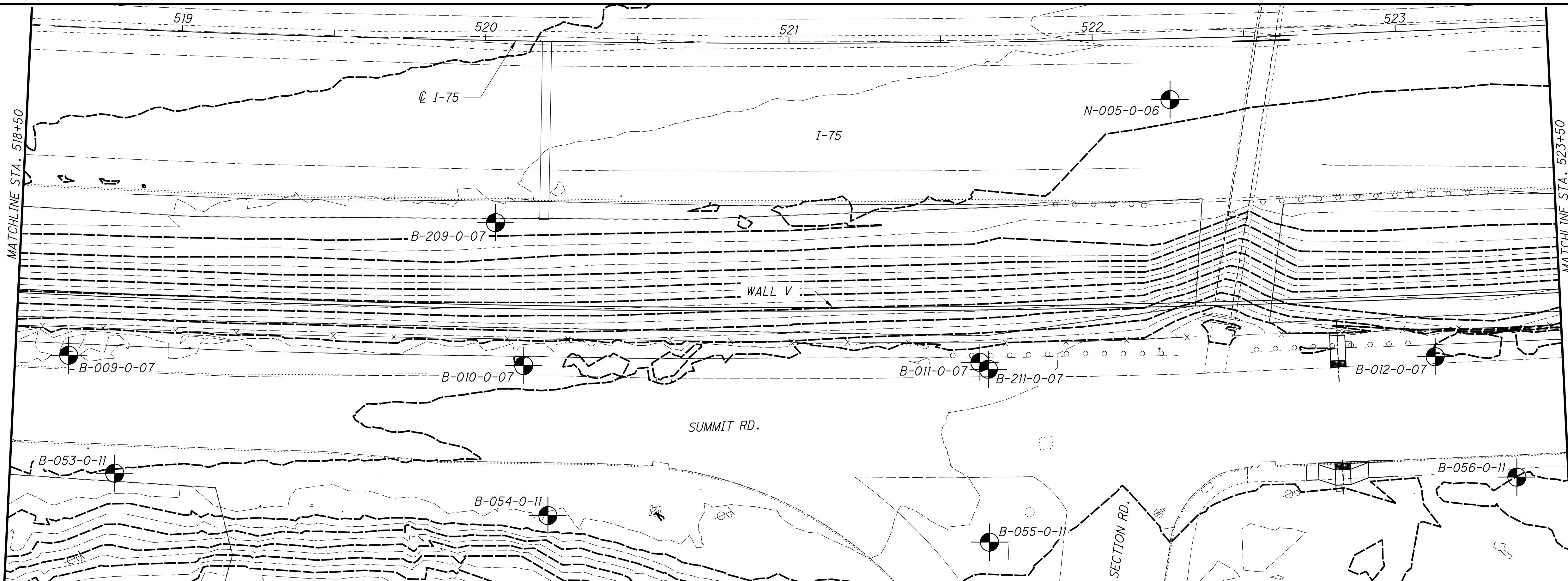
TOP OF WALL

BOTTOM OF WALL



STRUCTURE FOUNDATION EXPLORATION
 WALL V
 STA. 513+50 TO STA. 518+50

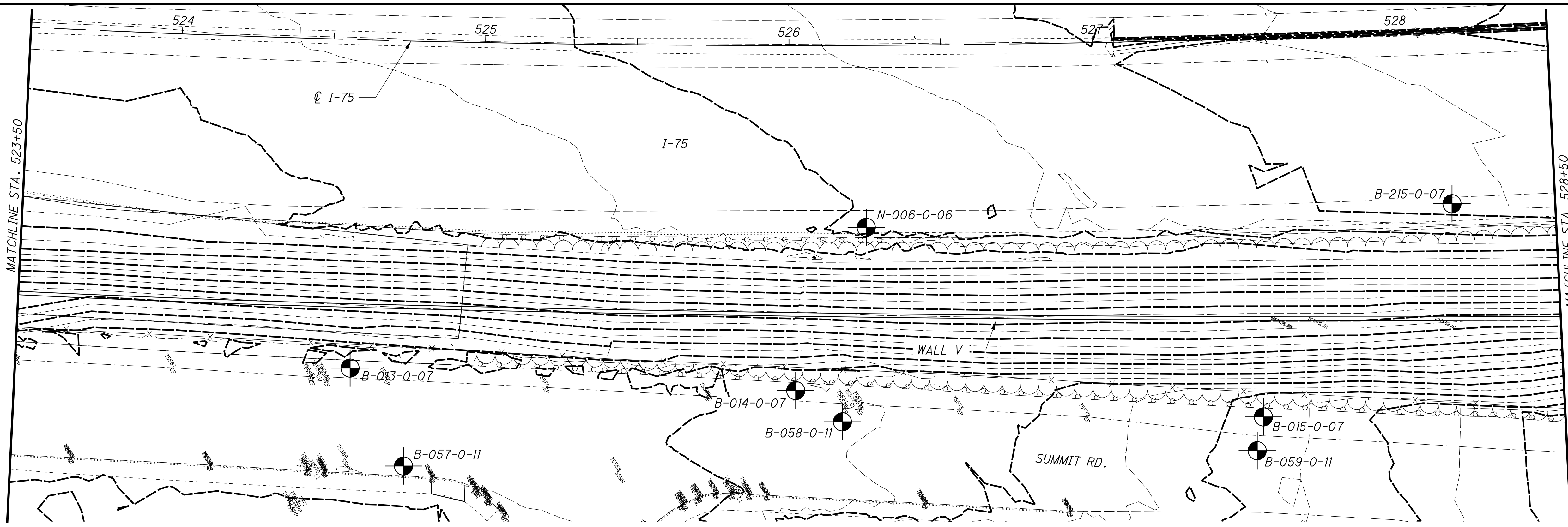
HAM-75-7.85




TOP OF WALL	560.21	560.27	560.33	560.38	560.44	560.50	560.56	560.62	560.68	560.73	560.79	560.85	560.91	560.97	561.03	561.08	561.14	561.20	563.22	563.19	563.07	562.95	562.83	560.88	560.79	
570	B-009-0-07 108.2' RT. TOPSOIL = 0.3'		B-053-0-11 146.4' RT. TOPSOIL = 0.3'				B-054-0-11 156.4' RT. TOPSOIL = 0.7'						B-055-0-11 164.9' RT. TOPSOIL = 0.8'						B-012-0-07 107.7' RT.		B-056-0-11 148.5' RT. TOPSOIL = 1.0'		570			
560	4/6/7 5/5/6 3/2/5 6/3/7	10	51 14 21	5 19 22	EXISTING GROUND LINE ALONG WALL		10 12 15	17 20 17	TOP OF WALL		13 5 8 6 3 5 14 24 28 17	12 18 9 14 26 30 10 12	PEDESTRIAN BRIDGE HAM-75-0992						10/7/3 3/3/3 2/3/3 2/2/3	5 14 12 16 7 13 13 8 5 4	4 8 20 11 9 10 6 8 12 13 12	570				
550	6/8/12	12	9 24 13 28 30 22	8 25 11 12 16 8 3			32 12 22 17	27 15 11			24 40 23	3 3 3	24 3 3							4/5/6 5/5/6 4/5/6	13 4 5 5 4	13 6 8 12 13 12	550			
540	10/13/15		6 19 26 22 26	3 5 2 3			51 24 40 23	10 24 3			5 2 2 3	8 21 11 12 4	7 8 7 5							2/2/2 4/5/6 3/5/7 X/Y/Z	3 3 3 3	34 8 11 8	540			
530	6/9/11 X/Y/Z	6	6 19 26 22 26	3 5 2 3			49 26 28	2 3 3			5 2 2 3	8 21 11 12 4	7 8 7 5							3/5/7 X/Y/Z	3 3 3 3	34 8 11 8	530			
520			26 22 26	3 5 2 3			26 28	4 3			5 2 2 3	8 21 11 12 4	7 8 7 5								3 3 3 3	34 8 11 8	520			
510			26 22 26	3 5 2 3			26 28	4 3			5 2 2 3	8 21 11 12 4	7 8 7 5								3 3 3 3	34 8 11 8	510			
500			26 22 26	3 5 2 3			26 28	4 3			5 2 2 3	8 21 11 12 4	7 8 7 5								3 3 3 3	34 8 11 8	500			
490			26 22 26	3 5 2 3			26 28	4 3			5 2 2 3	8 21 11 12 4	7 8 7 5								3 3 3 3	34 8 11 8	490			
EX. GRADE (ALONG WALL)	556.34	556.45	556.57	556.68	556.73	556.77	556.76	556.86	557.01	557.19	557.57	557.94	558.19	558.47	558.65	558.80	559.25	559.62	560.72	563.74	560.23	559.29	559.09	558.87	559.01	
	519+00		520+00		521+00		522+00		523+00																	

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P216.dgn 6/21/2023 1:12:28 PM bmccutchen

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P217.dgn 6/21/2023 1:12:29 PM bmccutchen



	560.70	560.61	560.52	560.43	560.34	560.25	560.16	560.06	559.97	559.88	559.79	559.70	559.61	559.52	559.43	559.34	559.25	559.16	559.07	559.07	559.42	559.88	560.33	560.78	561.23		
TOP OF WALL																											
570																											
560																											
550																											
540																											
530																											
520																											
510																											
500																											
490																											
480																											
EX. GRADE (ALONG @ WALL)	559.38	560.15	559.97	559.75	559.56	559.35	559.11	558.80	558.24	557.75	557.71	557.73	557.61	557.42	557.23	557.18	557.32	557.57	557.60	557.72	557.93	557.95	558.36	558.88	558.90		
	524+00			525+00			526+00			527+00			528+00														



0 20 40
HORIZONTAL
SCALE IN FEET

DRAWN: RRM
CHECKED: BRT

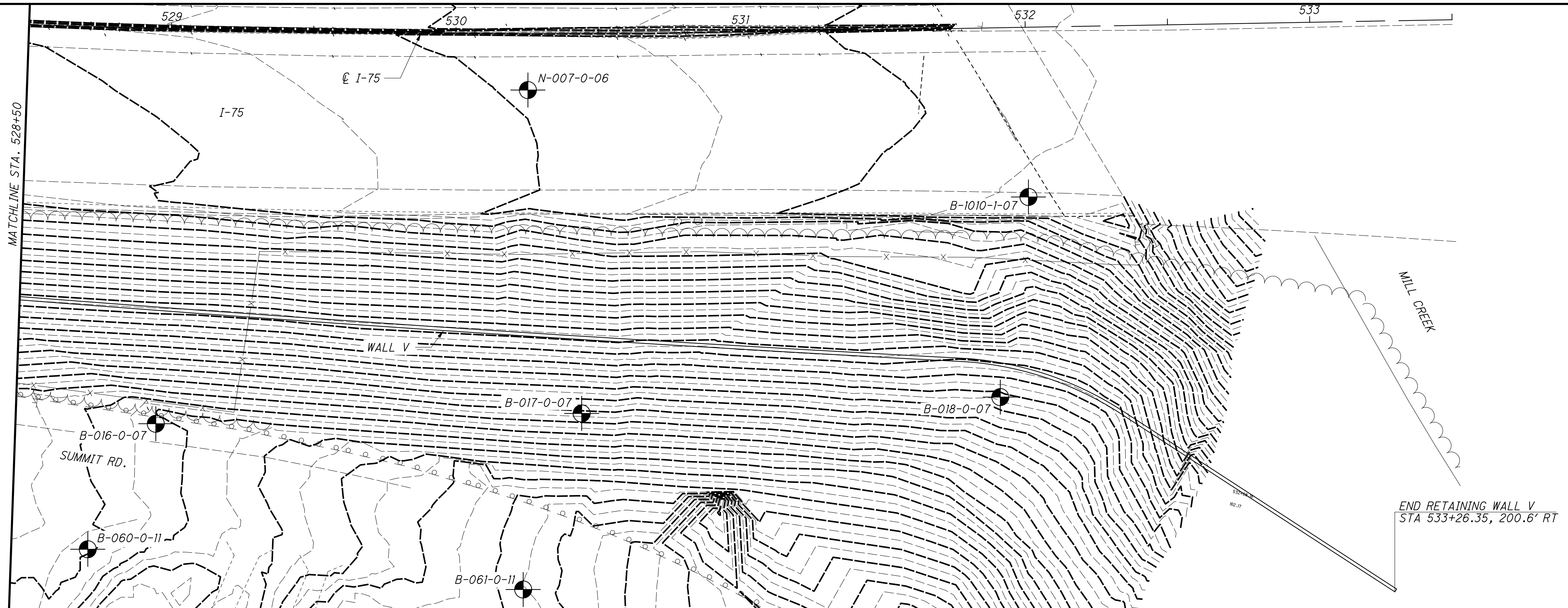
STRUCTURE FOUNDATION EXPLORATION
WALL V
STA. 523+50 TO STA. 528+50

HAM-75-7.85

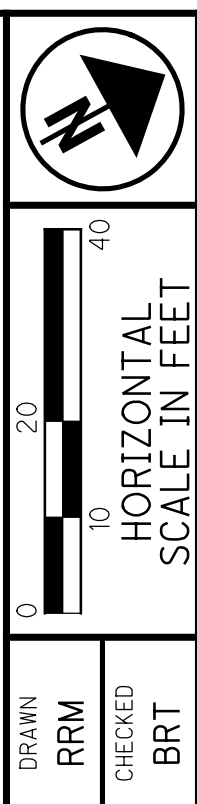
19 / 105

1425
1534

J:\20110903\0DOT\HAM\77889\geotechnical\sheets\77889ZP218.dgn 6/21/2023 1:12:30 PM bmccutchen



TOP OF WALL	561.68	562.14	562.59	562.70	562.81	562.92	563.03	563.14	563.25	563.36	563.47	563.57	563.68	564.01	564.12	564.23	565.48	568.30	571.11	570.55	564.01	556.57	549.14	543.06	
590									B-061-0-11 195.3' RT. ASPHALT = 0.3' CONCRETE = 0.8'															590	
580	B-060-0-11 183.5' RT. ASPHALT = 0.3' CONCRETE = 0.4'			B-016-0-07 138.8' RT.					B-017-0-07 133.5' RT.																580
570	5	19	7/5/3	15	18	22	21	3/6/7	7																570
560	3	20	4/4/4	15	14	25	17	4/6/7	14																560
550	21	18	3/4/4	13	12	33	16	5/9/14	31																550
540	8	20	4/2/4	13	16	33	10	6/8/12	14																540
530	3	34	5/8/10		10	33	10	19/27/21	1																530
520	8	30	2/2/4	33	9	10	33	6/10/12	31																520
	9	34	5/6/9		24	12	4/6/7	9	69																
	9	27	5/9/13		24	9	5/11/9	3	48																
	24	14	6/8/13		26	4	X/Y/Z	WC	N60																
	33	12			59	5			WC																
	24	9																							
EX. GRADE (ALONG @ WALL)	559.04	559.20	559.43	559.71	559.75	559.43	559.48	559.63	559.78	559.83	560.13	560.93	560.92	560.93	560.93	560.74	562.59	564.65	567.87	568.63	560.28	551.55	544.79	540.96	537.30
	529+00			530+00				531+00				532+00				533+00									



DRAWN: RRM
CHECKED: BRT

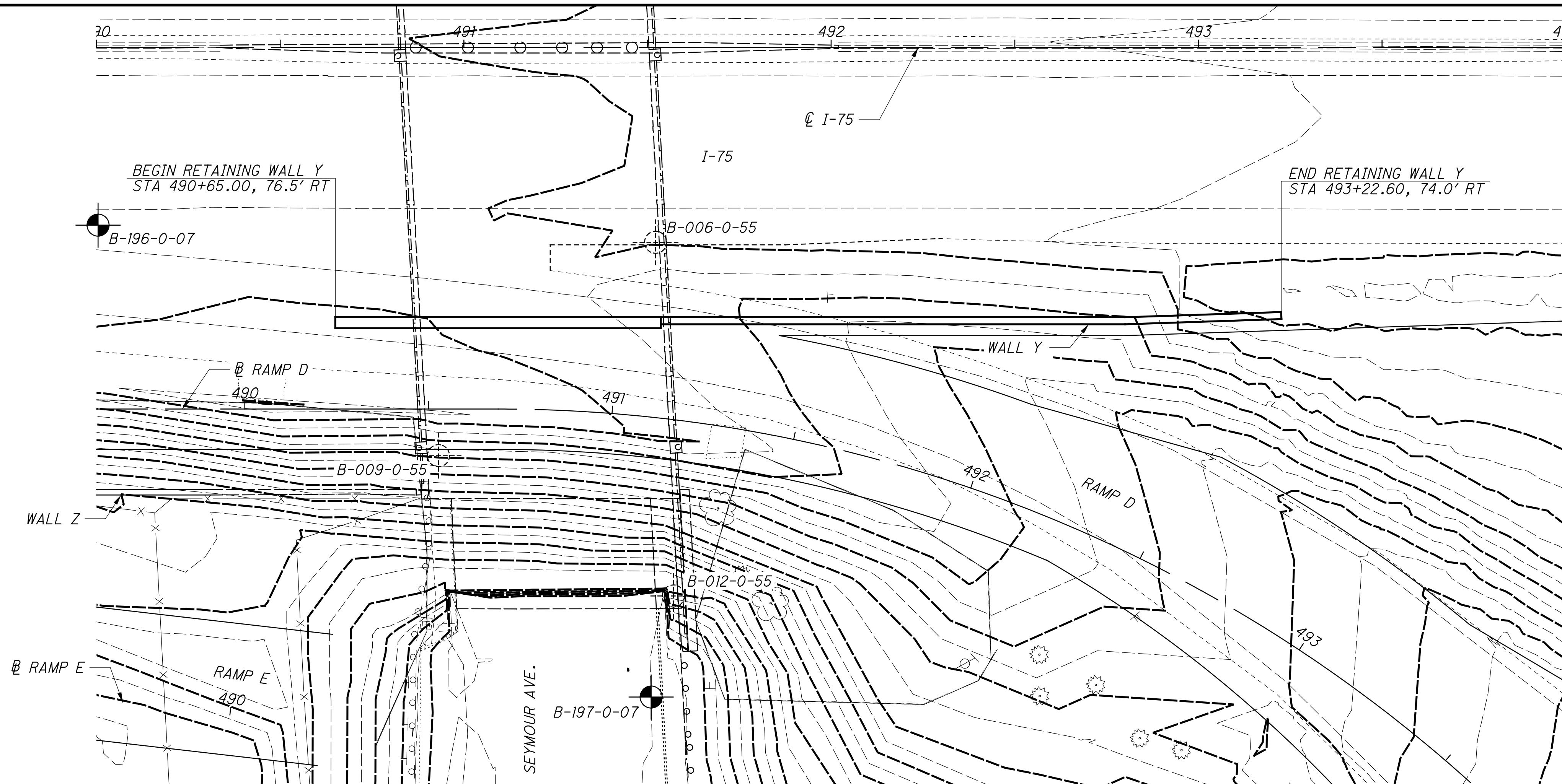
STRUCTURE FOUNDATION EXPLORATION
WALL V
STA. 528+50 TO STA. 533+50

HAM-75-7.85

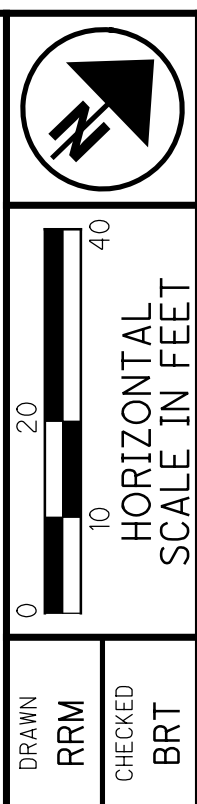
20/105

1426
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889P219.dgn 6/21/2023 1:12:31 PM bmccutchen



TOP OF WALL	541.45	541.55	541.71	541.92	542.31	542.77	543.34	542.61	539.49	539.34	539.20	539.07	538.94	538.82	538.71	538.62	538.52	
560							B-197-0-07 75.7' RT.	14/12/10 6/4/5	2 3									560
550								7/7/6 7/7/7	7 8									550
540								6/12/20 4/5/6 10/13/17	8 5 4									540
530								5/8/11 22/19/25	23 4									530
520								12/14/20 22/23/27	4 3									520
510								28/22/20 12/16/24	4 9									510
500								6/14/16 X/Y/Z	10 WC									500
490																		490
EX. GRADE (ALONG WALL)	537.99	537.90	537.84	537.88	537.93	538.11	538.39	538.88	539.41	540.09	540.81	541.26	541.05	540.75	540.50	537.46	536.07	535.78
	490+00					491+00					492+00					493+00		494+00



DRAWN: RRM
CHECKED: BRT

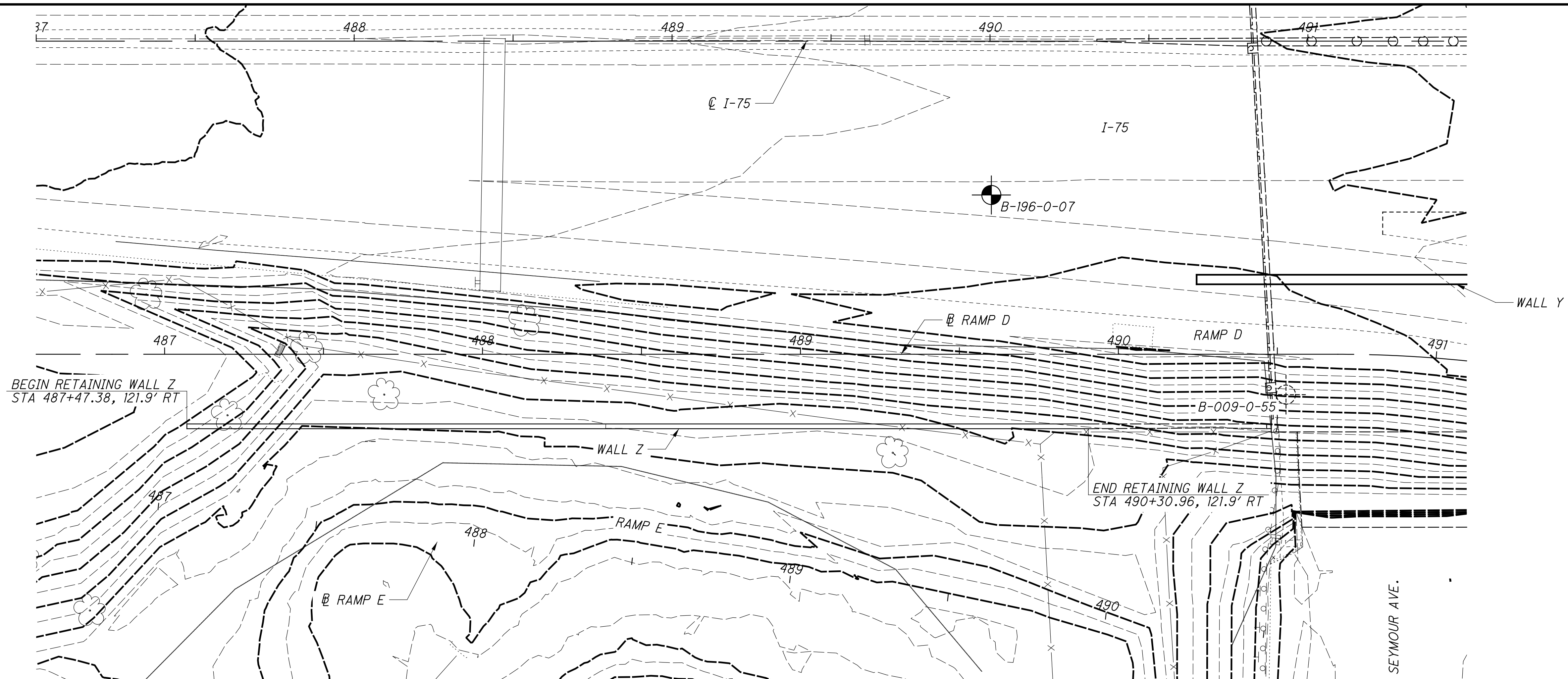
STRUCTURE FOUNDATION EXPLORATION
WALL Y

HAM-75-7.85

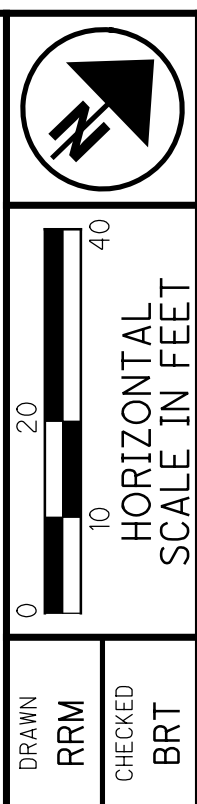
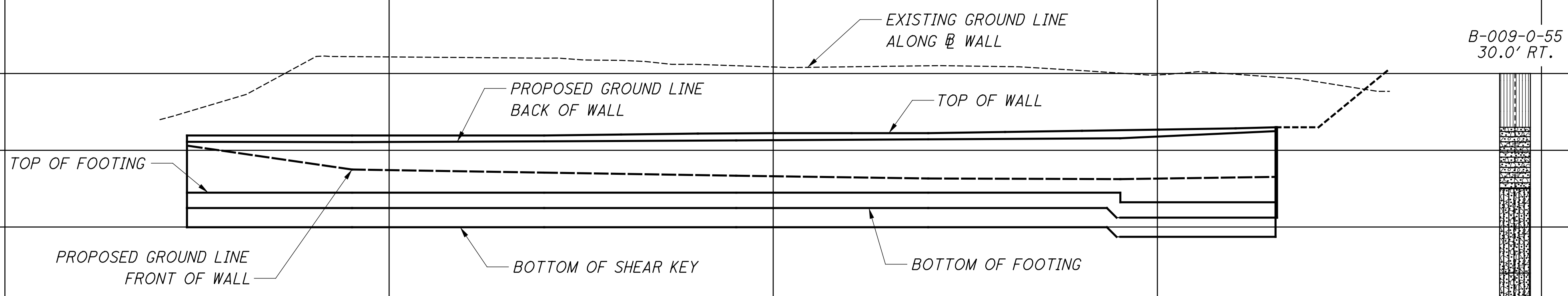
21 / 105

1427
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP220.dgn 6/21/2023 1:12:32 PM bmccutchen



TOP OF WALL		541.93	541.93	541.93	541.93	541.93	542.05	542.17	542.23	542.23	542.23	542.38	542.54	542.69	542.85			
560																560		
550																550		
540																540		
530																530		
520																520		
510																510		
500																500		
490																490		
EX. GRADE (ALONG @ WALL)		544.00	546.91	552.05	552.15	552.07	551.99	551.71	551.18	550.84	550.87	551.01	550.90	550.38	549.82	549.90	549.02	547.68
	487+00			488+00					489+00					490+00				491+00

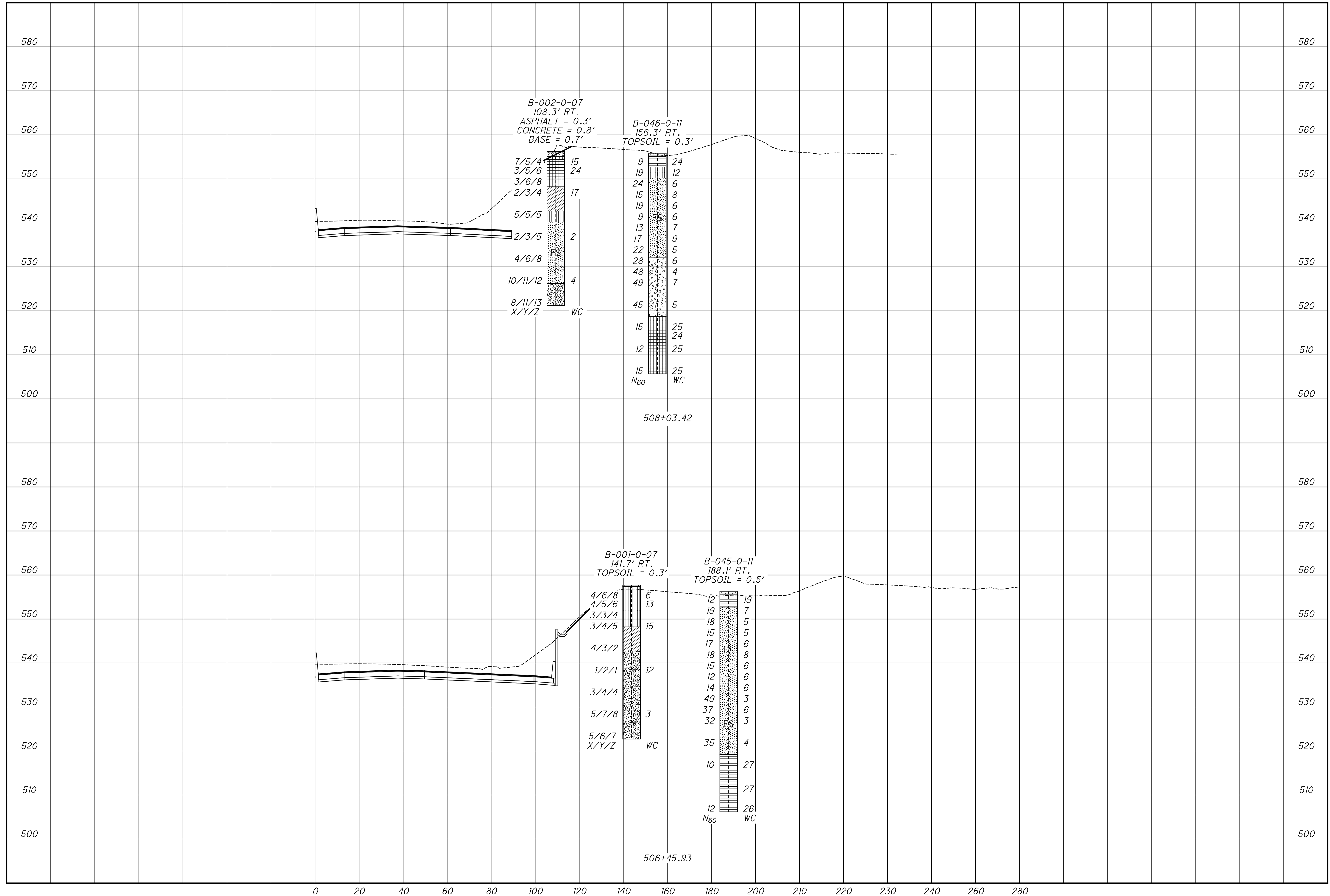


DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
WALL Z

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\X201.dgn 6/21/2023 1:12:32 PM bmcclutchen



0 10 20 40
 HORIZONTAL SCALE IN FEET
 DRAWN: RRM
 CHECKED: BRT

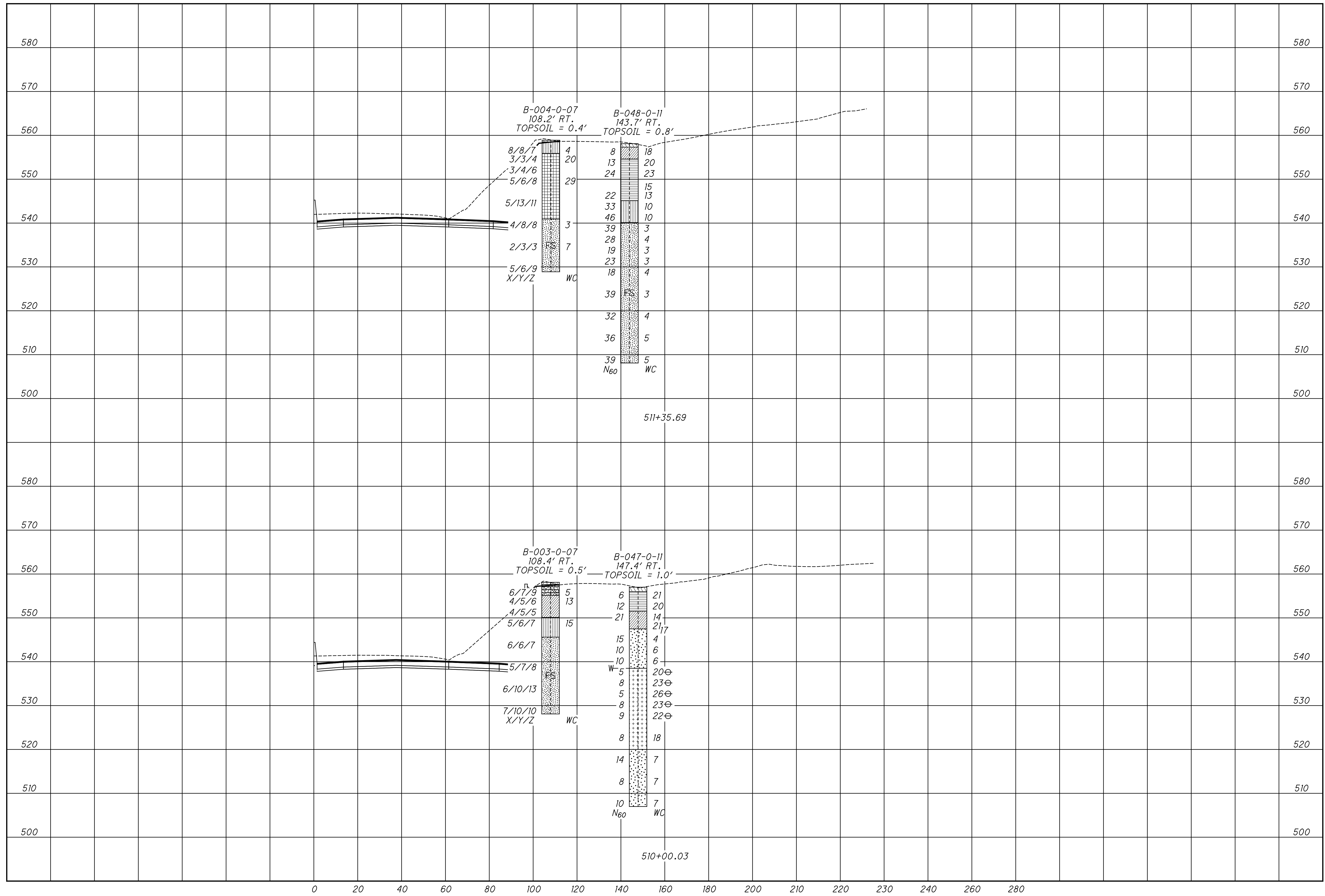
STRUCTURE FOUNDATION EXPLORATION
 WALL V CROSS SECTIONS
 STA. 506+45.93 & STA. 508+03.42

HAM-75-7.85

23/105

1429
 1534

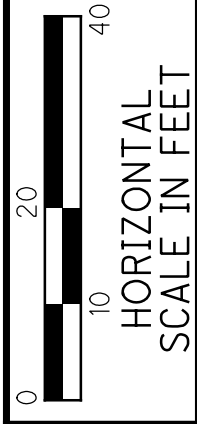
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\202.dgn 6/21/2023 1:2:33 PM bmccutchen



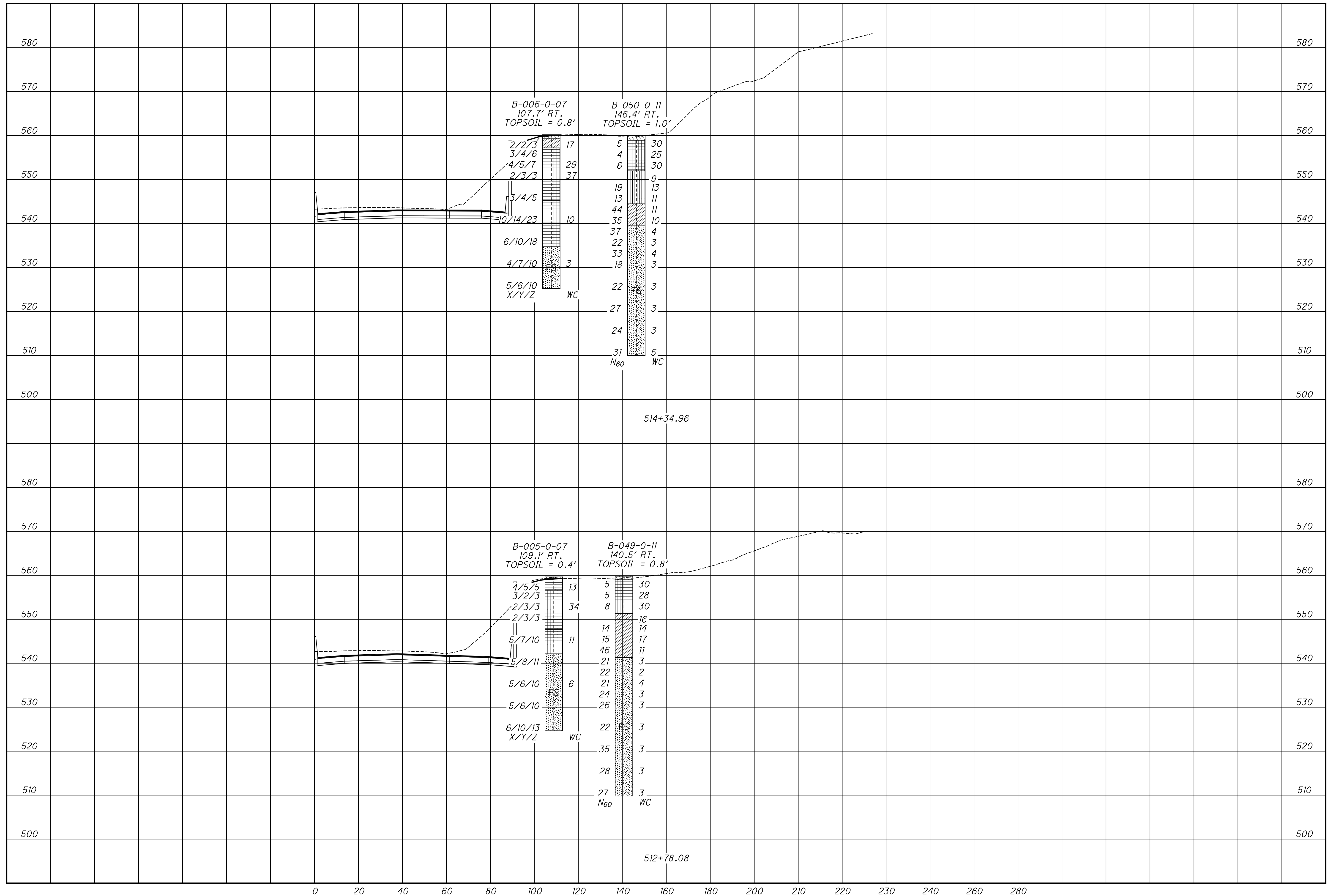
DRAWN
RRM
CHECKED
BRT

STRUCTURE FOUNDATION EXPLORATION
WALL V CROSS SECTIONS
STA. 510+00.03 & STA. 511+35.69

HAM-75-7.85



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\X203.dgn 6/21/2023 1:12:33 PM bmccutchen



0 10 20 40
 HORIZONTAL SCALE IN FEET

DRAWN: RRM
 CHECKED: BRT

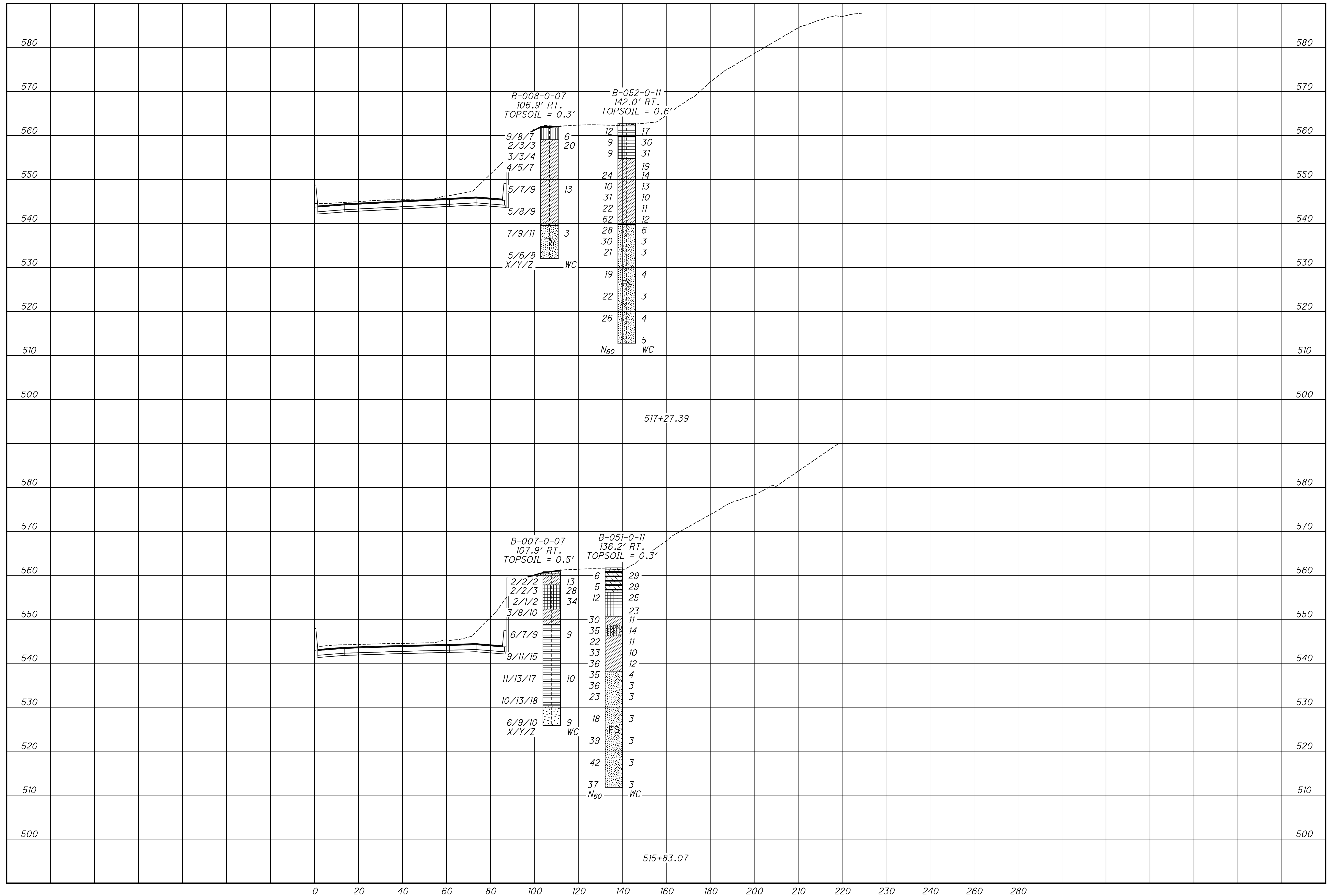
STRUCTURE FOUNDATION EXPLORATION
 WALL V CROSS SECTIONS
 STA. 512+78.08 & STA. 514+34.96

HAM-75-7.85

25/105

1431
 1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\X204.dgn 6/21/2023 1:2:34 PM bmccutchen



0 20 40
 10
 HORIZONTAL
 SCALE IN FEET

DRAWN: RRM
 CHECKED: BRT

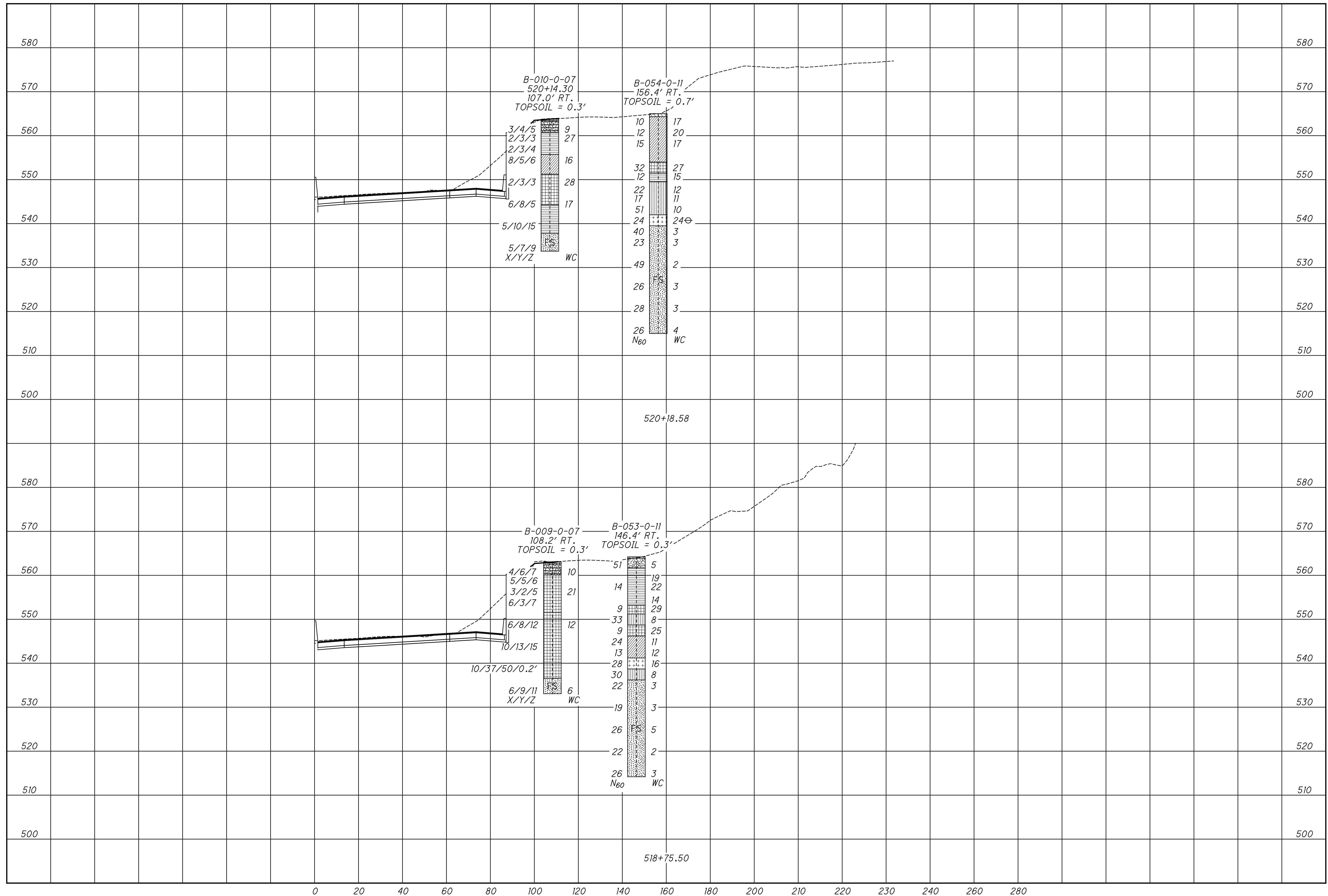
STRUCTURE FOUNDATION EXPLORATION
 WALL V CROSS SECTIONS
 STA. 515+83.07 & STA. 517+27.39

HAM-75-7.85

26/105

1432
 1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\205.dgn 6/21/2023 1:2:34 PM bmccutchen

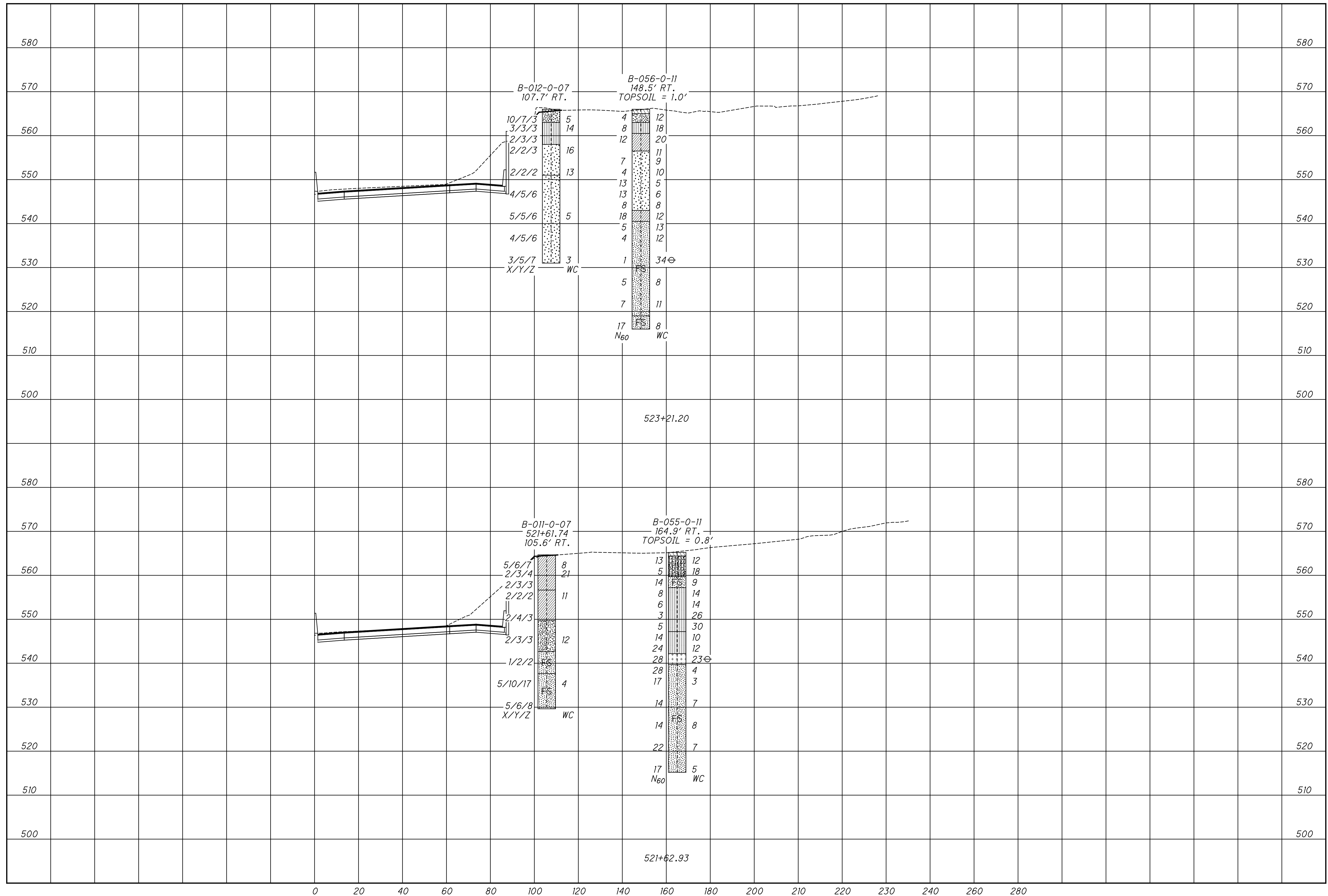


0 10 20 40
 HORIZONTAL SCALE IN FEET
 DRAWN: RRM
 CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
WALL V CROSS SECTIONS
STA. 518+75.50 & STA. 520+18.58

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\X206.dgn 6/21/2023 1:2:34 PM bmccutchen



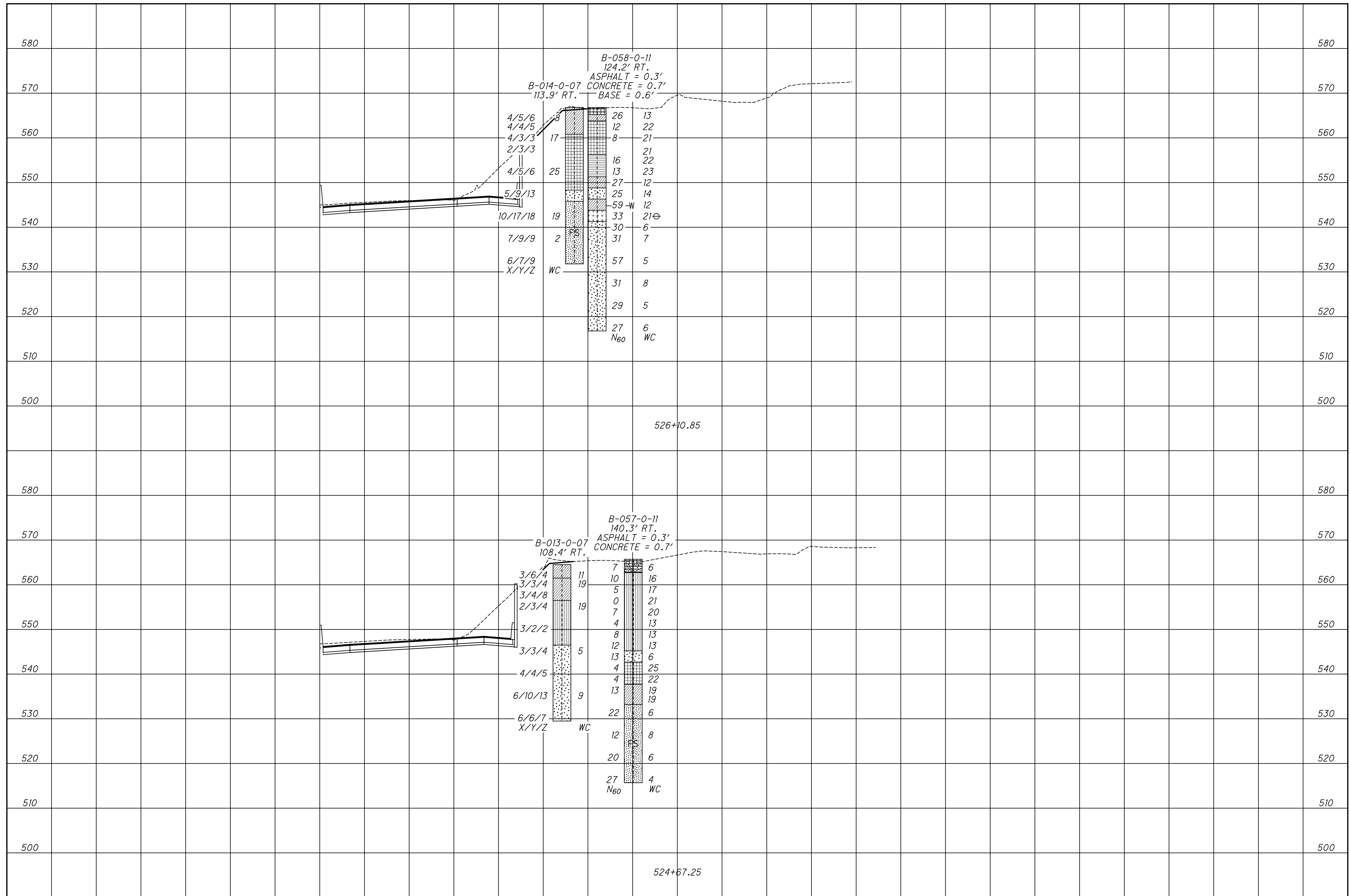
STRUCTURE FOUNDATION EXPLORATION
 WALL V CROSS SECTIONS
 STA. 521+62.93 & STA. 523+21.20

HAM-75-7.85

28/105

1434
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\X207.dgn 6/21/2023 1:2:35 PM bmccutchen



0 10 20 40
 HORIZONTAL SCALE IN FEET

DRAWN: RRM
 CHECKED: BRT

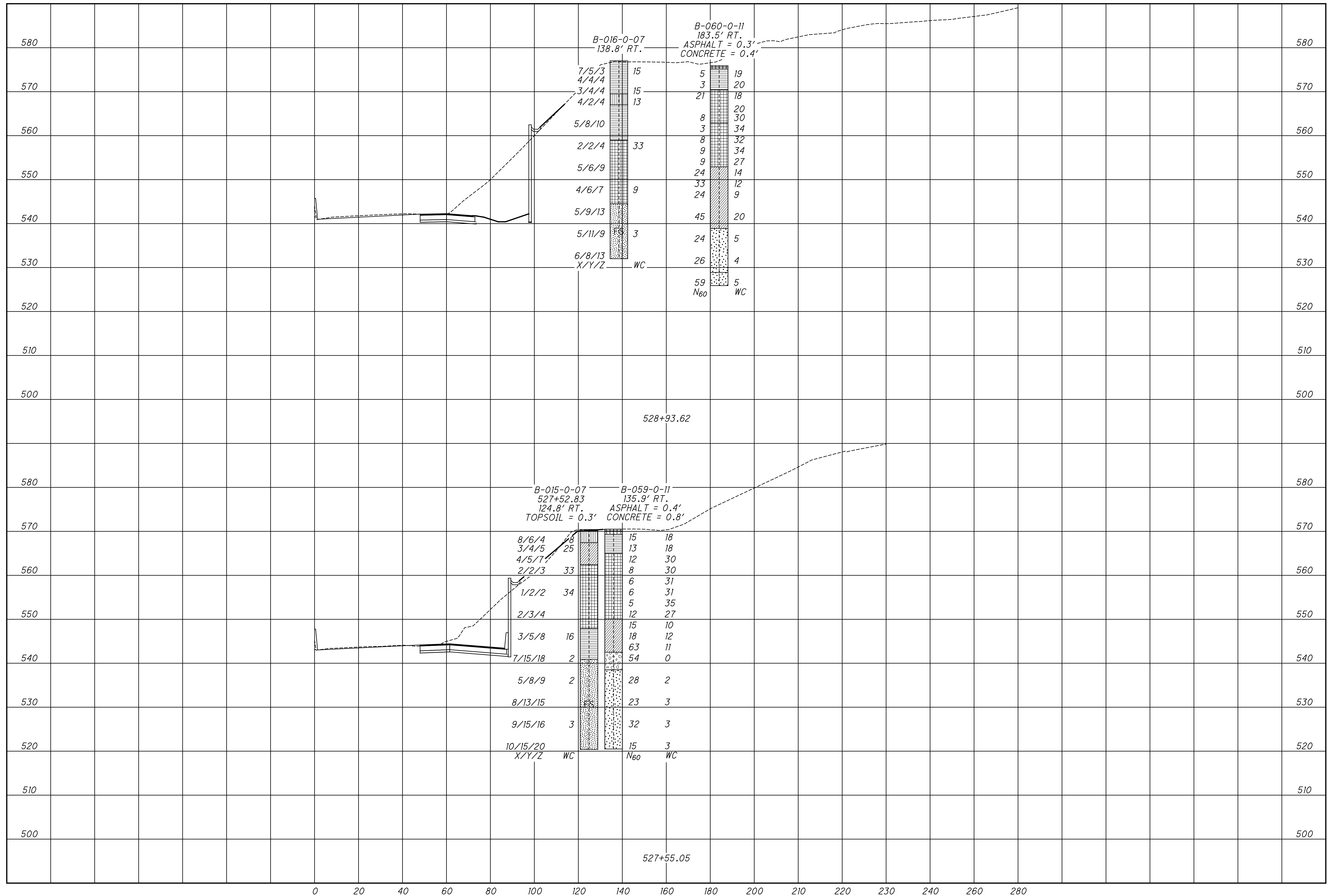
STRUCTURE FOUNDATION EXPLORATION
 WALL V CROSS SECTIONS
 STA. 524+67.25 & STA. 526+10.85

HAM - 75 - 7.85

29/105

1435
 1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\X208.dgn 6/21/2023 1:2:35 PM bmccutchen



0 20 40
HORIZONTAL SCALE IN FEET
DRAWN: RRM
CHECKED: BRT

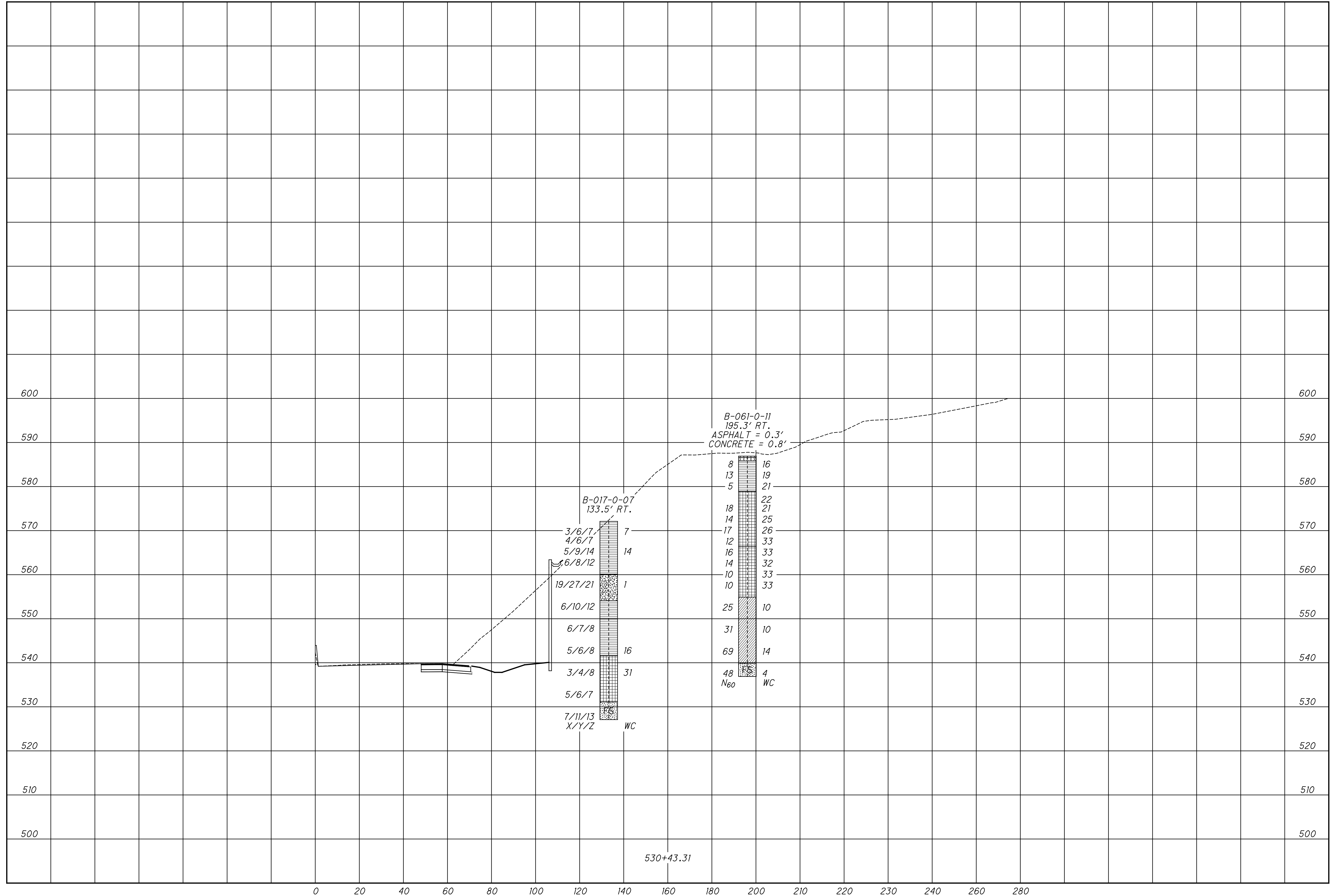
STRUCTURE FOUNDATION EXPLORATION
WALL V CROSS SECTIONS
STA. 527+55.05 & STA. 528+93.62

HAM-75-7.85

30/105

1436
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889\209.dgn 6/21/2023 1:2:35 PM bmccutchen



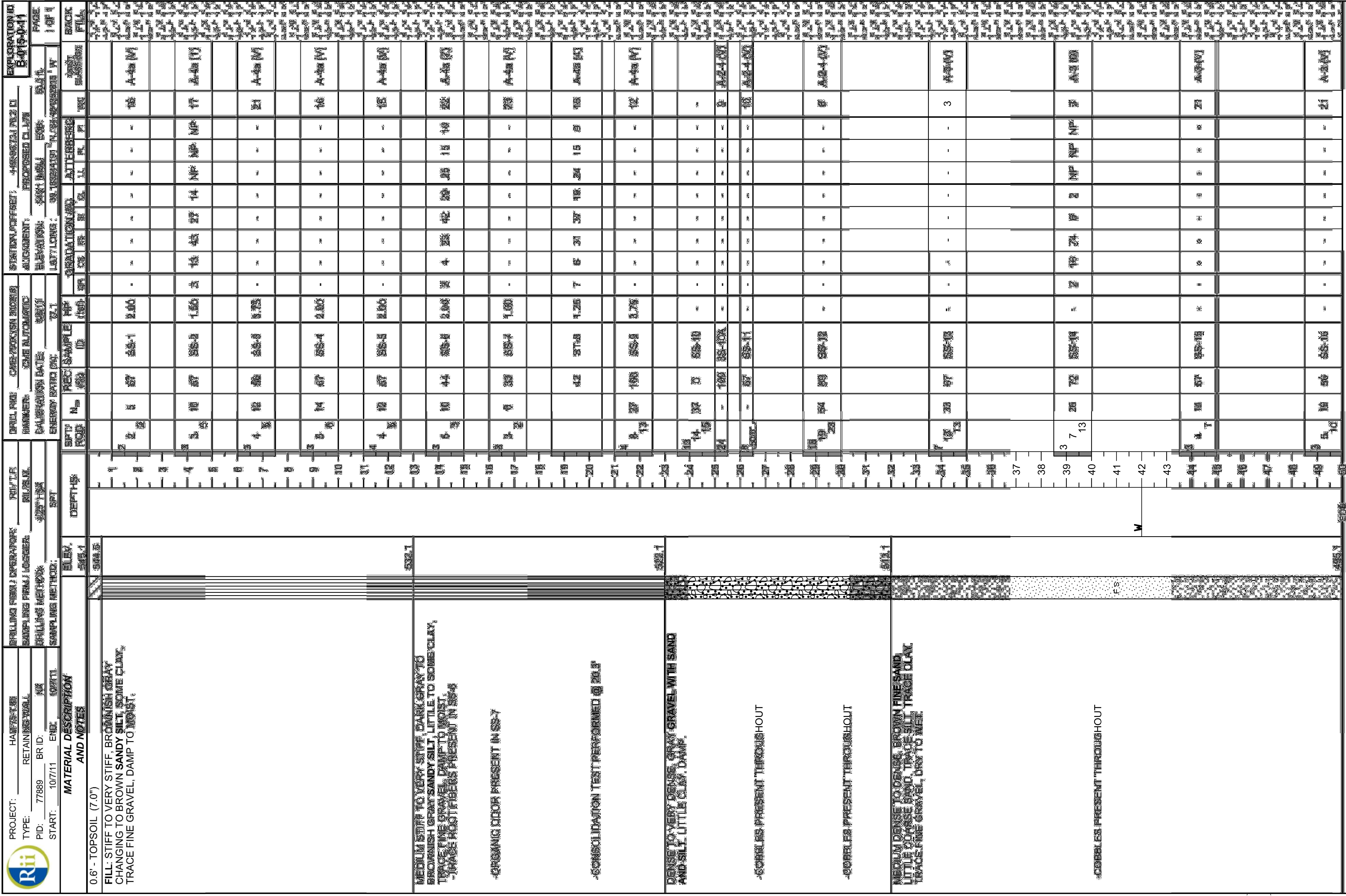
DRAWN: RRM
 CHECKED: BRT
 HORIZONTAL SCALE IN FEET
 0 10 20 40

STRUCTURE FOUNDATION EXPLORATION
 WALL V CROSS SECTION
 STA. 530+43.31

HAM-75-7.85

PROJECT: HAM-75-85		DRILLING FIRM/ OPERATOR: RIVITE		STATION/OFFSET: 44+55.51/ 71		EXPLORATION ID: B-012-0-11	
TYPE: RETAINING WALL		HAMMER: VIBRE AUTOMATIC		ALIGNMENT: RECESSED CL LINE		PAGE: 1 OF 1	
PID: 77889 BR ID: N/A		CALIBRATION DATE: 03/01/21		ELEVATION: 332.80		DATE: 06/16/23	
START: 1/23/12 END: 02/21/12		ENERGY RATE (FT): 72.1		LATITUDE: 39.104417		LONGITUDE: -76.844444	
MATERIAL DESCRIPTION AND NOTES		SPT/ RCD	REC SAMPLE NO	DEPTH (FT)	DEPTH (M)	DEPTH (M)	DEPTH (M)
0.5' - ASPHALT (6.0")							
1.0' - AGGREGATE BASE (12.0")							
VERY STIFF TO HARD, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.		5 8	55-1	4.00	1.22	13	4
LOOSE, BROWN COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		10 10	55-2	4.50	1.37	-	5
DENSE TO VERY DENSE, BROWN COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, TRACE TO LITTLE FINE GRAVEL, DRY TO MOIST.		15 13	55-3	-	-	-	6
		12 14	55-4	-	-	NP NP	7
		19 22	55-5	-	-	-	8
		8 14	55-6	-	-	-	9
		12 12	55-7	-	-	-	10
		16 18	55-8	-	-	11	11
		5 16	55-9	4.50	1.37	-	12
		11 10	55-10	-	-	-	13
		11 10	55-11	-	-	-	14
		11 10	55-12	-	-	-	15
		11 10	55-13	-	-	-	16
		11 10	55-14	-	-	-	17
		11 10	55-15	-	-	-	18
		11 10	55-16	-	-	-	19
		11 10	55-17	-	-	-	20
		11 10	55-18	-	-	-	21
		11 10	55-19	-	-	-	22
		11 10	55-20	-	-	-	23
		11 10	55-21	-	-	-	24
		11 10	55-22	-	-	-	25
		11 10	55-23	-	-	-	26
		11 10	55-24	-	-	-	27
		11 10	55-25	-	-	-	28
		11 10	55-26	-	-	-	29
		11 10	55-27	-	-	-	30
		11 10	55-28	-	-	-	31
		11 10	55-29	-	-	-	32
		11 10	55-30	-	-	-	33
		11 10	55-31	-	-	-	34
		11 10	55-32	-	-	-	35
		11 10	55-33	-	-	-	36
		11 10	55-34	-	-	-	37
		11 10	55-35	-	-	-	38
		11 10	55-36	-	-	-	39
		11 10	55-37	-	-	-	40
		11 10	55-38	-	-	-	41
		11 10	55-39	-	-	-	42
		11 10	55-40	-	-	-	43
		11 10	55-41	-	-	-	44
		11 10	55-42	-	-	-	45
		11 10	55-43	-	-	-	46
		11 10	55-44	-	-	-	47
		11 10	55-45	-	-	-	48
		11 10	55-46	-	-	-	49
		11 10	55-47	-	-	-	50
		11 10	55-48	-	-	-	51
		11 10	55-49	-	-	-	52
		11 10	55-50	-	-	-	53
		11 10	55-51	-	-	-	54
		11 10	55-52	-	-	-	55
		11 10	55-53	-	-	-	56
		11 10	55-54	-	-	-	57
		11 10	55-55	-	-	-	58
		11 10	55-56	-	-	-	59
		11 10	55-57	-	-	-	60
		11 10	55-58	-	-	-	61
		11 10	55-59	-	-	-	62
		11 10	55-60	-	-	-	63
		11 10	55-61	-	-	-	64
		11 10	55-62	-	-	-	65
		11 10	55-63	-	-	-	66
		11 10	55-64	-	-	-	67
		11 10	55-65	-	-	-	68
		11 10	55-66	-	-	-	69
		11 10	55-67	-	-	-	70
		11 10	55-68	-	-	-	71
		11 10	55-69	-	-	-	72
		11 10	55-70	-	-	-	73
		11 10	55-71	-	-	-	74
		11 10	55-72	-	-	-	75
		11 10	55-73	-	-	-	76
		11 10	55-74	-	-	-	77
		11 10	55-75	-	-	-	78
		11 10	55-76	-	-	-	79
		11 10	55-77	-	-	-	80
		11 10	55-78	-	-	-	81
		11 10	55-79	-	-	-	82
		11 10	55-80	-	-	-	83
		11 10	55-81	-	-	-	84
		11 10	55-82	-	-	-	85
		11 10	55-83	-	-	-	86
		11 10	55-84	-	-	-	87
		11 10	55-85	-	-	-	88
		11 10	55-86	-	-	-	89
		11 10	55-87	-	-	-	90
		11 10	55-88	-	-	-	91
		11 10	55-89	-	-	-	92
		11 10	55-90	-	-	-	93
		11 10	55-91	-	-	-	94
		11 10	55-92	-	-	-	95
		11 10	55-93	-	-	-	96
		11 10	55-94	-	-	-	97
		11 10	55-95	-	-	-	98
		11 10	55-96	-	-	-	99
		11 10	55-97	-	-	-	100

NOTES: 1. BORINGS WERE NOT INTERFERED DURING BRIDGE BRIDGE CONSTRUCTION. 2. BORINGS WERE CONDUCTED WITH THE ALLOWED TOLERANCES AND PROCEDURES.



NOTES: 1. BORINGS WERE INSTALLED AND TESTED AT 0.6' INTERVALS.
 2. APPROXIMATE MOISTURE CONTENTS: TREATED: 18.5% UNTREATED: 25.0% REMONDS/SPONGE: 40.0% WATER

PROJECT: **HAWES-38** DRILL PHS: **CRS-700338** STATION/OFFSET: **45+00.00** EXPLORATION ID: **B-016-0-11**
 TYPE: **RETAINING WALL** HAMMER: **TYPE AUTOMATIC** ALIGNMENT: **PERPOSED CL LINE**
 PID: **77889** BR ID: **N/A** CALCULATION DATE: **03/01** ELEVATION: **50.0** PAGE: **1 OF 1**
 START: **11/29/11** END: **JUL2011** ENERGY RATIO (K): **72.1** LAT/LONG: **33.1 108.1** EST: **03/01**

DEPTH (FT)	SPT	NO	REC SAMPLE	ID	CORRECTION	CORRECTION			CORRECTION			CORRECTION	CORRECTION	CORRECTION	CORRECTION	CORRECTION	CORRECTION	
						LL	PL	UL	LL	PL	UL							
1	1	1	SS-1	0.75														
2																		
3																		
4	1	2	SS-2	1.00														
5																		
6																		
7	3	7	SS-3	2.00														
8																		
9	6	8	SS-4	2.00														
10																		
11	5	11	SS-5	4.5														
12																		
13	5	8	SS-6	2.50														
14																		
15	6	13	SS-7	2.00														
16																		
17	8	13	SS-8	2.00														
18																		
19	5	8	SS-9	2.00														
20																		
21	5	14	SS-10	2.50														
22																		
23																		
24	8	11	SS-11	2.50														
25																		
26	22	25	SS-12	2.50														
27																		
28	18	13	SS-13	2.50														
29																		
30																		
31																		
32																		
33																		
34	11	10	SS-14	2.50														
35																		
36																		
37																		
38																		
39	4	9	SS-15	2.50														
40																		
41																		
42																		
43																		
44	6	3	SS-16	2.50														
45																		
46																		
47																		
48																		
49	8	11	SS-17	2.50														
50																		

0.5' - Topsoil (6.0')

POSSIBLE FILL: MEDIUM STIFF, BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.

POSSIBLE FILL: STIFF TO HARD, BROWN TO BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

VERY STIFF, BROWNISH GRAY CLAY AND FINE TO COARSE SAND, TRACE FINE GRAVEL, DAMP.

DENSE TO VERY DENSE GRAY TO BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP TO MOIST.

MEDIUM DENSE TO DENSE, BROWN FINE SAND, SOME COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, TRACE CLAY, DRY TO WET.

NOTES: BROWN WATER SAMPLES COLLECTED INITIALLY AND AT COMPLETION OF TESTS IN ALBERTSON'S ALBERTSON'S DRIVE INTERSECTION. APPROPRIATE MEMBERS, REFERRED TO AS MEMBERS, COMPLETED WITH THE ALBERTSON'S ALBERTSON'S DRIVE INTERSECTION.

PROJECT: HAM-75-89		DRILL PILE: CMB-70033A BUREAU		STATION/OFFSET: SPAN#23 492.0		EXPLORATION ID: B-017-0-11	
TYPE: RETAINING WALL		HAMMER: VIBRE AUTOMATIC		ALIGNMENT: RECESSED CL-15		PAGE: 30.0	
PID: 77889 BR ID: N/A		CALCULATION DATE: 06/11/23		ELEVATION: 488.00		DATE: 06/11/23	
START: 11/2/11 END: 07/2/11		ENERGY RATIO: 0.4		LATITUDE: 39.1458327 N		LONGITUDE: 84.5333333 W	
MATERIAL DESCRIPTION AND NOTES		SPT	REC SAMPLE	DEPTH	ELEV.	DEPTHS	
		ROD	ID	(ft)	(ft)	SPT	REMARKS
1.0' - ASPHALT (12.0")					532.8	1	
0.5' - CONCRETE (6.0")					534.0	2	
FILL: HARD, BROWN SILT, SOME COARSE TO FINE SAND, LITTLE CLAY, MOIST.		12	SS-1	4.5	534.1	3	
FILL: VERY STIFF, BROWN SANDY SILT, LITTLE CLAY, TRACE TO LITTLE FINE GRAVEL, MOIST.		14	SS-2	2.5	532.6	4	
		28	SS-3	3.0		5	
		28	SS-4	3.0		6	
		40	SS-5	2.0	528.1	7	
		12	SS-6	2.0		8	
		15	SS-7	2.0		9	
		24	SS-8	2.0		10	
		17	SS-9	2.75		11	
		27	SS-10	2.5		12	
		18	SS-11	2.75		13	
		17	SS-12	2.75		14	
		14	SS-13	2.75		15	
		23	SS-14	2.75		16	
		15	SS-15	2.75		17	
		10	SS-16	2.75		18	
		10	SS-17	2.75		19	
		10	SS-18	2.75		20	
		10	SS-19	2.75		21	
		10	SS-20	2.75		22	
		10	SS-21	2.75		23	
		10	SS-22	2.75		24	
		10	SS-23	2.75		25	
		10	SS-24	2.75		26	
		10	SS-25	2.75		27	
		10	SS-26	2.75		28	
		10	SS-27	2.75		29	
		10	SS-28	2.75		30	
		10	SS-29	2.75		31	
		10	SS-30	2.75		32	
		10	SS-31	2.75		33	
		10	SS-32	2.75		34	
		10	SS-33	2.75		35	
		10	SS-34	2.75		36	
		10	SS-35	2.75		37	
		10	SS-36	2.75		38	
		10	SS-37	2.75		39	
		10	SS-38	2.75		40	
		10	SS-39	2.75		41	
		10	SS-40	2.75		42	
		10	SS-41	2.75		43	
		10	SS-42	2.75		44	
		10	SS-43	2.75		45	
		10	SS-44	2.75		46	
		10	SS-45	2.75		47	
		10	SS-46	2.75		48	
		10	SS-47	2.75		49	
		10	SS-48	2.75		50	
		10	SS-49	2.75		51	
		10	SS-50	2.75		52	
		10	SS-51	2.75		53	
		10	SS-52	2.75		54	
		10	SS-53	2.75		55	
		10	SS-54	2.75		56	
		10	SS-55	2.75		57	
		10	SS-56	2.75		58	
		10	SS-57	2.75		59	
		10	SS-58	2.75		60	

NOTES: BROWN WATER NOT ENCOUNTERED DURING EXPLORATION. COBBLES PRESENT THROUGHOUT. CORRECTED WITH THE PLUMBER. COBBLES PRESENT THROUGHOUT.

DEPTH FEET	SPT	ELEV. FEET	MATERIAL DESCRIPTION AND NOTES	SOIL SAMPLE		RECORD		HP FEET	LATITUDE	LONGITUDE	ATTENBERG				SCOT CLASS	BACK FILL	
				NO.	DATE	NO.	DATE				NO.	DATE	NO.	DATE			
1.0 - ASPHALT (12.0')		543.8		22	8/22/11	SS-1											
0.5' - CONCRETE (6.0')		543.3															
FILL: MEDIUM DENSE, LIGHT BROWN GRAVEL AND SAND, LITTLE SILT, DAMP.		542.8		44	8/17/11	SS-2	1.50	17	40	28	31	18	17				
FILL: STIFF, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.		542.3		100	8/15/11	SS-3	1.50										
FILL: SILTY BROWN TO BROWNISH GRAY SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, MOIST.		541.8		38	8/15/11	SS-4		5	36	25	18	22	14	8	18	A-6a(0)	
FILL: STIFF TO VERY STIFF, BROWN SILTY CLAY AND BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		541.3		23	8/10/11	SS-5	1.75										
FILL: DENSE TO VERY DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, MOIST.		540.8		78	8/7/11	SS-6	2.50										
FILL: STIFF TO VERY STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		539.8		78	8/6/11	SS-7	2.25										
COBBLES PRESENT THROUGHOUT		538.8		44	8/13/11	SS-8		0	11	60	19	10	NP	NP	11	A-28(0)	
MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, DAMP.		537.8		87	8/11/11	SS-11	2.00	1	5	14	48	26	37	17	20	19	A-6a(12)
MEDIUM STIFF TO STIFF, MOTTLED ORANGISH BROWN AND REDDISH BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		517.8		87	8/7/11	SS-12											
-6U TRIAXIAL TEST PERFORMED @ 36.8'		490.8		90	8/4/11	SS-14	1.75	1	3	22	32	31	14	17	17	17	A-6b(10)
				88	8/3/11	SS-15	1.75										
				100	8/3/11	SS-17	1.00										

NOTES: 1. SOIL SAMPLES NOT ENCOUNTERED DURING DRILLING. DEVICES IN DEPTH 1.0-2.0 FEET.
2. REASONMENT METHODS. WKT SAMPLES, COLUMN TUBES. COMPARED WITH THE ALKER. 100 LBS. BEAUCONITE @ 118 AND SOIL CUTTINGS

PROJECT: HAM-75-88 TYPE: RETAINING WALL		DRILL PILE: CME-700X300 (30") HARDWARE: VME AUTOMATIC		STATION/OFFSET: 457+36.23 (45.8) CI		EXPLORATION ID: B-019-0-11								
PID: 77889 START: 11/1/11		CALCULATION DATE: 06/21/23		ALIGNMENT: RECESSED CL-LINE		PAGE: 50 of 50								
MATERIAL DESCRIPTION AND NOTES		SPT		CORADATION/AL		CORADATION/AL								
ELEV.	DEPTH	SPT	NO. OF BLOW	MP	SP	RS	LL	PL	PI	W	U	WELL	MARKER	BACK
524.2	1.0' - ASPHALT (12.0')													
524.2	0.5' - CONCRETE (6.0')													
525.7	FILL: VERY LOOSE, BROWNISH GRAY GRAVEL AND SAND, LITTLE SILT, DAMP (AGGREGATE BASE). -PVC DRAIN TILE PRESENT IN SS-1	3	1	SS-1										A-1-b (M)
524.2	FILL: VERY STIFF, BROWN AND GRAY SILT, SOME FINE SAND, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	11	4	SS-2										A-4b (M)
521.7	FILL: VERY STIFF, MOTTLED BROWN AND GRAY SILTY CLAY, SOME FINE SAND, TRACE FINE GRAVEL, MOIST.	4	6	SS-3										A-6b (M)
520.7	FILL: VERY STIFF, MOTTLED BROWN AND GRAY SILTY AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	5	16	SS-5										A-6a (M)
520.2	FILL: DENSE TO VERY DENSE, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	5	10	SS-6										A-4a (M)
520.2	FILL: STIFF, BROWN SANDY SILT, TRACE CLAY, DAMP.	12	12	SS-7										A-4a (M)
520.7	FILL: VERY STIFF TO HARD, BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	3	5	SS-8										A-4a (M)
521.7	LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, DAMP.	3	5	SS-9										A-6a (M)
519.2	MEDIUM DENSE, BROWN COARSE AND FINE SAND, SOME FINE GRAVEL, TRACE SILT, DRY.	3	8	SS-11										A-2-b (M)
518.2	STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	3	12	SS-12										A-3a (M)
520.2	SOFT, BROWN SILT AND CLAY, AND COARSE TO FINE SAND, MOIST.	1	8	SS-13										A-6b (M)
520.2	LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, WET.	1	2	SS-16										A-2-b (M)

NOTES: BROWN WATER NOT ENCOUNTERED DURING PILE LINE. GROUNDWATER LEVELS WERE MEASURED AT APPROXIMATE DEPTHS OF 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 FEET.

PROJECT: HAM-75-85 TYPE: RETAINING WALL		DRILL PILE: CMB-70033A BUREAU		STATION/OFFSET: 4884671 748.01		EXPLORATION ID: B-02-0-11	
PID: 77889 START: 10/6/11		HAMMER: VME AUTOMATIC		ALIGNMENT: RECESSED CL-18		PAGE: 1 OF 1	
BR ID: N/A		CALCULATION DATE: 08/01/21		ELEVATION: 444.3 BGL		ESR: 50.0 ft	
ENR: 108211		ENERGY RATIO: 0.6		LAT/LONG: 38.1099110 -78.0549300		W	
MATERIAL DESCRIPTION AND NOTES		SPT	REC SAMPLE	DEPTH	DEPTH	DEPTH	DEPTH
		ROD	ID	FEET	FEET	FEET	FEET
0.6' - TOPSOIL (7.0')	FILL: VERY STIFF TO HARD, BROWN SILT AND CLAY, AND COARSE TO FINE SAND, DAMP TO MOIST.	1	SS-1	0.0	0.0	0.0	0.0
		2	SS-1	0.0	0.0	0.0	0.0
VERY STIFF BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, MOIST. -ROOT AND WOOD FIBERS PRESENT IN SS-6		3	SS-2	0.0	0.0	0.0	0.0
		4	SS-2	0.0	0.0	0.0	0.0
		5	SS-3	0.0	0.0	0.0	0.0
		6	SS-3	0.0	0.0	0.0	0.0
		7	SS-3	0.0	0.0	0.0	0.0
		8	SS-3	0.0	0.0	0.0	0.0
		9	SS-4	0.0	0.0	0.0	0.0
		10	SS-4	0.0	0.0	0.0	0.0
		11	SS-5	0.0	0.0	0.0	0.0
		12	SS-5	0.0	0.0	0.0	0.0
LOOSE BROWN FINE SAND, TRACE FINE GRAVEL, TRACE SILT, WET.		13	SS-6	0.0	0.0	0.0	0.0
		14	SS-6	0.0	0.0	0.0	0.0
		15	SS-6	0.0	0.0	0.0	0.0
		16	SS-7	0.0	0.0	0.0	0.0
		17	SS-7	0.0	0.0	0.0	0.0
		18	SS-7	0.0	0.0	0.0	0.0
		19	SS-8	0.0	0.0	0.0	0.0
		20	SS-8	0.0	0.0	0.0	0.0
		21	SS-9	0.0	0.0	0.0	0.0
		22	SS-9	0.0	0.0	0.0	0.0
STIFF BROWN CLAY AND SILT, LITTLE FINE GRAVEL, TRACE COARSE TO FINE SAND, MOIST. -CORRELS PRESENT IN SS-8		23	SS-10	0.0	0.0	0.0	0.0
		24	SS-10	0.0	0.0	0.0	0.0
		25	SS-10	0.0	0.0	0.0	0.0
		26	SS-10	0.0	0.0	0.0	0.0
		27	SS-11	0.0	0.0	0.0	0.0
		28	SS-11	0.0	0.0	0.0	0.0
		29	SS-12	0.0	0.0	0.0	0.0
		30	SS-12	0.0	0.0	0.0	0.0
		31	SS-12	0.0	0.0	0.0	0.0
		32	SS-12	0.0	0.0	0.0	0.0
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, DRY TO DAMP.		33	SS-13	0.0	0.0	0.0	0.0
		34	SS-13	0.0	0.0	0.0	0.0
		35	SS-13	0.0	0.0	0.0	0.0
		36	SS-13	0.0	0.0	0.0	0.0
		37	SS-13	0.0	0.0	0.0	0.0
		38	SS-13	0.0	0.0	0.0	0.0
		39	SS-13	0.0	0.0	0.0	0.0
		40	SS-13	0.0	0.0	0.0	0.0
		41	SS-13	0.0	0.0	0.0	0.0
		42	SS-13	0.0	0.0	0.0	0.0
DENSE, BROWNISH GRAY GRAVEL AND SAND, TRACE SILT, MOIST.		43	SS-14	0.0	0.0	0.0	0.0
		44	SS-14	0.0	0.0	0.0	0.0
		45	SS-14	0.0	0.0	0.0	0.0
		46	SS-14	0.0	0.0	0.0	0.0
		47	SS-14	0.0	0.0	0.0	0.0
		48	SS-14	0.0	0.0	0.0	0.0
		49	SS-14	0.0	0.0	0.0	0.0
		50	SS-14	0.0	0.0	0.0	0.0
		51	SS-14	0.0	0.0	0.0	0.0
		52	SS-14	0.0	0.0	0.0	0.0

NOTES: REBAR ENCOUNTERED AT 15.5' DEPTH. REBAR ENDS AT 26.0' DEPTH. REBAR ENDS AT 26.0' DEPTH. REBAR ENDS AT 26.0' DEPTH. REBAR ENDS AT 26.0' DEPTH.

PROJECT: TYPE: PID: START:	HAUTZ 7.85 RETAINING WALL	BR ID: ENR: 10/6/11	R0221	DRILLING METHOD		DRILLING OPERATOR		SAMPLING METHOD		SAMPLING METHOD		SPT	DEPTH:	ELEV.	STATION OFFSET												EXPLORATION ID																
				DRILLING METHOD	OPERATOR	SAMPLING METHOD	OPERATOR	DEPTH	ELEV.	STATION	OFFSET				STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	STATION	OFFSET	STATION	OFFSET																			
MATERIAL DESCRIPTION AND NOTES 0.6' - TOPSOIL (7.0') FILL: VERY STIFF TO HARD, DARK AND LIGHT BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST. -TRACE ROOT FIBERS PRESENT IN SS-1															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	100	105	B-029-0-11	PAGE 1 OF 1
LAYER TO MEDIUM DENSE, BROWN SANDY SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST.															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	100	105	A-4a (M)	
LOOSE, DARK BROWN COARSE AND FINE SAND, SOME SILT, TRACE CLAY, TRACE FINE GRAVEL, WET.															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	100	105	A-4a (M)	
VERY DENSE GRAY GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DAMP. -DROVE SPOON ON COBBLE @ 21.8															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	100	105	A-4a (M)	
HARD BROWN SILTY SLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	100	105	A-4a (M)	

NOTES: BRUNNEN METER MONITORED BARREL BRUISE - GAVE IN DEPTH @ 11.5
 APPROPRIATE MATERIAL QUANTITIES, CORRECTED WITH THE AUSER, 30 LBS PER TONNE CHIPPED SOIL SUFFICES

PROJECT: HAM-75-88		DRILL PILE: CMB-700333A BUREAU		STATION/OFFSET: 488+82.81 / 003.37 R/L		EXPLORATION ID: B-023-0-11					
TYPE: RETAINING WALL		HAMMERS: VME AUTOMATIC		ALIGNMENT: RECOMPOSED CL LANE		PAGE: 1 OF 1					
PID: 77889 BR ID: N/A		CALCULATION DATE: 06/01/23		ELEVATION: 444.000		ESR: 50.0					
START: 12/1/11 END: 12/1/11		ENERGY RATIO: 0.4		LAT/LONG: 38.12327, -76.61472		DRAWN BY: RRM					
MATERIAL DESCRIPTION AND NOTES		SPT/RCPT		REC SAMPLE ID		CORADATION/AL		ATTENBERG		UNIT CLASSIFICATION	
DEPTH: 0.0		1		SS-1		-		-		-	
0.5' - TOPSOIL (6.0")		2		SS-2		-		-		10 A-3(M)	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		3		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		4		SS-3		0		19 12		17 A-2-6(M)	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		5		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND AND SILT, MOIST.		6		SS-4		-		-		10 A-3(M)	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, MOIST.		7		SS-5		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		8		SS-6		-		-		5 A-3a(M)	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		9		SS-7		0.50		-		20 A-3b(M)	
DENSE TO VERY DENSE, BROWNISH GRAY SILTY TRACE TO LITTLE CLAY, TRACE FINE SAND, WET.		10		-		-		-		-	
HARD GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		11		SS-8		-		-		16 A-3a(M)	
VERY STIFF, GRAY CLAY, SOME SILT, TRACE FINE SAND, MOIST.		12		SS-9		-		-		20 A-3a(M)	
VERY STIFF, BROWNISH GRAY SILTY CLAY, TRACE COARSE TO FINE SAND, MOIST.		13		SS-10		4.50		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		14		SS-11		4.50		-		20 A-3a(M)	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		15		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		16		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		17		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		18		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		19		SS-12		-		4 27 10		NP NP NP A-3b(M)	
DENSE TO VERY DENSE, BROWNISH GRAY SILTY TRACE TO LITTLE CLAY, TRACE FINE SAND, WET.		20		SS-13		-		-		-	
HARD GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		21		SS-14		-		-		20 A-3b(M)	
VERY STIFF, GRAY CLAY, SOME SILT, TRACE FINE SAND, MOIST.		22		SS-15		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, TRACE COARSE TO FINE SAND, MOIST.		23		SS-16		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		24		SS-17		-		-		-	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		25		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		26		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		27		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		28		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		29		-		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		30		-		-		-		-	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		31		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		32		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		33		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		34		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		35		-		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		36		-		-		-		-	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		37		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		38		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		39		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		40		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		41		-		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		42		-		-		-		-	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		43		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		44		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		45		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		46		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		47		-		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		48		-		-		-		-	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		49		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		50		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		51		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		52		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		53		-		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		54		-		-		-		-	
FILL: LOOSE, BROWN FINE SAND, TRACE SILT, DAMP,		55		-		-		-		-	
LOOSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		56		-		-		-		-	
LOOSE, BROWNISH GRAY FINE SAND, TRACE SILT, DAMP.		57		-		-		-		-	
MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY.		58		-		-		-		-	
VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		59		-		-		-		-	
HARD GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		60		-		-		-		-	

NOTES: BROWN WATER NOT ENCOUNTERED DURING DRILLING. GROUNDWATER TABLE NOT DETERMINED. CORRELATION WITH THE ALUMINUM SULFATE/BENTONITE CHIP-AND-SOIL TESTS.

PROJECT: HAWES-38 TYPE: RETAINING WALL				DRILL PILE: CME-ROCKSOIL BOREPIL HAMMER: WME AUTOMATIC		STATION/OFFSET: 489538.75/51.91 ALIGNMENT: PREPOSED CL-19E			EXPLORATION ID: B-022-0-11								
PID: 77889 START: 12/1/11				CALIBRATION DATE: 5/21/13		ELEVATION: 504.3			FACE: SOIL								
SAMPLING METHOD: SPT				ENERGY RATIO: 60%		LAT/LONG: 39.13251559 -79.05439550217 W			PAGE: 1 OF 1								
MATERIAL DESCRIPTION AND NOTES				SPT	REC SAMPLE ID	DEPTH	SP	FR	SI	SL	PL	PI	WE	UNIT	CLASS	REMARK	
ELEV. 501.2				ROD	(%)	(ft)											
0.6' - TOPSOIL (7.0")						1											
VERY LOOSE, BROWN GRAVEL WITH SAND AND SILT, DAMP.					SS-1												
LOOSE, BROWN COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, DRY TO DAMP.					SS-2	2											
MEDIUM DENSE, BROWNISH GRAY SILT, LITTLE CLAY, TRACE COARSE TO FINE SAND, DAMP.					SS-3	3											
					SS-4	4											
HARD, LIGHT BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.					SS-5	5											
					SS-6	6											
VERY STIFF, BROWN CLAY, LITTLE SILT, TRACE COARSE TO FINE SAND, DAMP TO MOIST.					SS-7	7											
					SS-8	8											
VERY STIFF TO HARD, BROWN CHANGING TO BROWNISH GRAY CLAY, SOME SILT, TRACE COARSE TO FINE SAND, DAMP TO MOIST.					SS-9	9											
					SS-10	10											
SOFT GRAY CLAY, SOME SILT, TRACE FINE SAND, MOIST.					SS-11	11											
					SS-12	12											
					SS-13	13											
					SS-14	14											
					SS-15	15											
					SS-16	16											
					SS-17	17											
					SS-18	18											
					SS-19	19											
					SS-20	20											
					SS-21	21											
					SS-22	22											
					SS-23	23											
					SS-24	24											
					SS-25	25											
					SS-26	26											
					SS-27	27											
					SS-28	28											
					SS-29	29											
					SS-30	30											
					SS-31	31											
					SS-32	32											
					SS-33	33											
					SS-34	34											
					SS-35	35											
					SS-36	36											
					SS-37	37											
					SS-38	38											
					SS-39	39											
					SS-40	40											
					SS-41	41											
					SS-42	42											
					SS-43	43											
					SS-44	44											
					SS-45	45											
					SS-46	46											
					SS-47	47											
					SS-48	48											
					SS-49	49											
					SS-50	50											

NOTES: **GROUNDWATER NOT MEASURED DURING EXPLORATION**
ADJACENT MEMBERS, MATERIALS, QUANTITIES, COMPARED WITH THE PILE. **SOILS BENTONITE CHIP-AND-SOIL TESTING**

PROJECT:	HAUTEK 33	DRILL PHS:	CME-ROCKISS BUREAU	STATION/OFFSET:	489+52.81 (LEFT) R1	EXPLORATION ID:	B-029-0-11
TYPE:	RETAINING WALL	HAMMERS:	WME AUTOMATIC	ALIGNMENT:	PREPOSED CL-10	FACE:	
PID:	77889	DRILLING METHOD:	WELL	ELEVATION:	482.3 (MGL) ESR	DATE:	03.15.23
START:	12/2/11	SAMPLING METHOD:	SPT	LAST LOGS:	20110920\NARR\489+49.40\77889-11	1 OF 1	

MATERIAL DESCRIPTION AND NOTES	DEPTH (SPT)	RECS (ft)	NO. OF SAMPLES	REMARKS	LAB. NO.	TEST	DATE	BY	CLASSIFICATION
--------------------------------	-------------	-----------	----------------	---------	----------	------	------	----	----------------

DEPTH (SPT)	RECS (ft)	NO. OF SAMPLES	REMARKS	LAB. NO.	TEST	DATE	BY	CLASSIFICATION
1	1	1						
2	1	1						
3								
4	1	1						
5								
6	2	2						
7								
8								
9	3	3						
10								
11	3	3						
12	3	3						
13								
14								
15	5	5						
16	11	11						
17	14	14						
18								
19	3	3						
20								
21	7	7						
22	14	14						
23								
24	5	5						
25	13	13						
26								
27	11	11						
28	14	14						
29								
30	15	15						
31								
32								
33								
34	6	6						
35								
36								
37								
38								
39	8	8						
40								
41								
42								
43								
44	4	4						
45								
46								
47								
48								
49	3	3						
50								

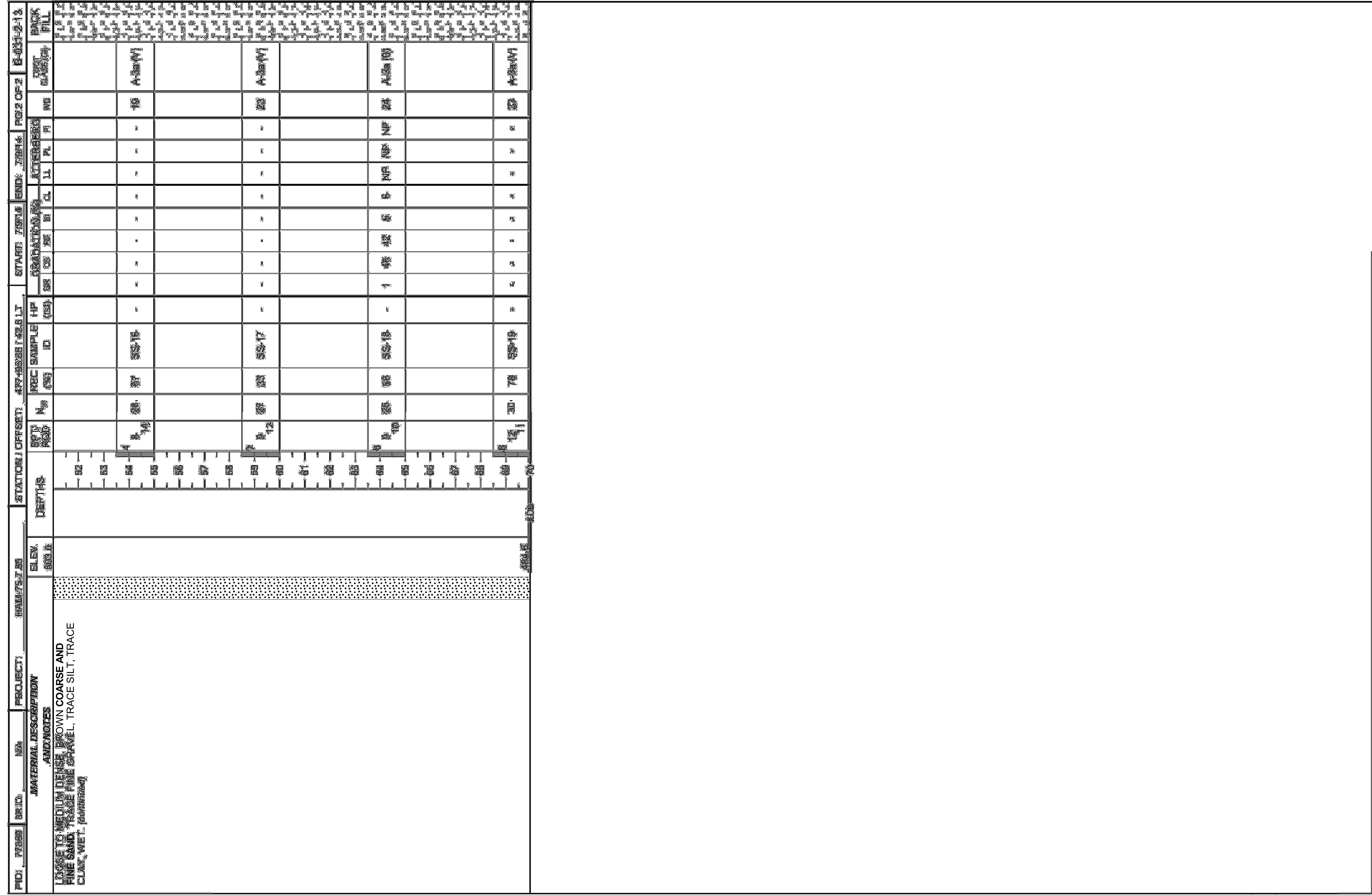
NOTES: BROWNISSH GRAY CLAY, COARSE TO FINE SAND, MOIST. COMPACTED WITH THE ALUMINUM SULPHATE/CEMENT/POSSIBLE SOFTENING.

PROJECT: TYPE: PID: START:	HANDLING ROADWAY 77889 7/7/14	BR ID: WA END:	DRAWING OPERATOR: SAMPLING FIRM: SAMPLING METHOD:	DATE: DATE: SPT	DEPTH: FEET	SPT ROD	REC SAMPLE ID	HF DEPTH	GRAB LOCATION ELEVATION LAT/LONG	ALTERNATE ELEVATION LAT/LONG	COR CLASSIF	EXPLORATION ID B-331-1-13				
													BACK FILL			
<p>MATERIAL DESCRIPTION AND NOTES</p> <p>0.3' - ASPHALT (4.0")</p> <p>1.0' - CONCRETE (12.0")</p> <p>0.4' - AGGREGATE BASE (4.0")</p> <p>FILL: VERY STIFF, BROWN AND BLACK SANDY SILT, SOME FINE GRAVEL, LITTLE CLAY, DAMP TO MOIST.</p> <p>-ROOT FIBERS AND PLASTIC FRAGMENT PRESENT IN SS-1</p> <p>-CINDERS AND BRICK FRAGMENTS PRESENT THROUGHOUT</p> <p>-PETROLEUM ODOR PRESENT IN SS-4</p> <p>FILL: STIFF TO VERY STIFF, BROWN-SILTY CLAY, AND COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.</p> <p>-BRICK AND ROCK FRAGMENTS PRESENT IN SS-8</p> <p>-ORGANICS PRESENT IN SS-8</p> <p>-ATTEMPTED SHELLY TUBE @ 28.5'. TUBE CRUSHED @ 21.0'</p> <p>VERY STIFF, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.</p> <p>LOOSE TO MEDIUM DENSE, BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, TRACE CLAY, DAMP TO MOIST.</p> <p>MEDIUM DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.</p> <p>VERY DENSE, BROWN GRAVEL, SOME COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DAMP.</p>																
					1											
					2	4	44	SS-1	2.50			11	A-4a(M)			
					3											
					4	7	21	SS-2	3.26	18	21	14	A-4a(M)			
					5											
					6	6	17	SS-3					A-4a(M)			
					7											
					8											
					9	10	21	SS-4					A-4a(M)			
					10											
					11	2	10	SS-5	2.06				A-5a(M)			
					12											
					13											
					14	10	25	SS-6	3.00				A-5a(M)			
					15											
					16	6	14	SS-7	2.50	4	32	34	14	A-5a(M)		
					17											
					18											
					19	3	8	SS-8	1.75				A-5a(M)			
					20											
					21											
					22	15	30	SS-10	2.00				A-5a(M)			
					23											
					24	4	18	SS-11	1.75	7	47	49	16	A-5b(M)		
					25											
					26											
					27	6	28	SS-12	3.00				A-5a(M)			
					28											
					29	6	18	SS-13					A-5a(M)			
					30											
					31	2	5	SS-14		14	76	4	NP	NP	7	A-5a(M)
					32											
					33											
					34	2	18	SS-15					A-5a(M)			
					35											
					36	6	28	SS-16					A-5a(M)			
					37											
					38											
					39	6	18	SS-17		1	49	17	NP	NP	8	A-5a(M)
					40											
					41											
					42											
					43											
					44	9	27	SS-18					A-5a(M)			
					45											
					46											
					47											
					48											
					49	3	34	SS-19					A-5a(M)			
					50											

PROJ: 77889	BRID: WA	PROJECT: HAM-75-7.85	STATION: DRFSET: 428+22.95 / 44.11	START: 7/27/14	END: 7/27/14	PG: 2 OF 2	E-OST-1-16		
MATERIAL DESCRIPTION AND NOTES		ELEV. 508.8	DEPTH: 52	SPT ROD	REC ID	HP	ASSASSINATION IN ATTERBERG	STOP ELUSION	BACK FILL
VERY DENSE, BROWN GRAVEL, SOME COARSE TO FINE SAND, TRACE SILT, TRACE CLAY DAMP. (continued) MEDIUM DENSE, BROWN GRAVEL AND SAND, TRACE CLAY, TRACE SILT, MOIST TO WET.		507.8	53						
		506.8	54						
-HEAVY SANDS ENCOUNTERED @ 55.0' -INTRODUCED MUD @ 55.0'		505.8	55	7	26	94	8	8	
		504.8	56						
		503.8	57						
		502.8	58						
		501.8	59	5	27	81	8	8	
		500.8	60						
		499.8	61						
		498.8	62						
		497.8	63						
		496.8	64	8	17	85	8	8	
		495.8	65						
		494.8	66						
		493.8	67						
		492.8	68						
		491.8	69						
		490.8	70						

NOTES: REFERENCED TO ASK GROUNDWATER INITIAL ENCOUNTERED @ 60' DEPTH. REFERENCED TO ASK GROUNDWATER INITIAL ENCOUNTERED @ 60' DEPTH. REFERENCED TO ASK GROUNDWATER INITIAL ENCOUNTERED @ 60' DEPTH. REFERENCED TO ASK GROUNDWATER INITIAL ENCOUNTERED @ 60' DEPTH.

PROJECT: HAM-75-35		DRILLING FIRM / OPERATOR: JLL/JC		STATION / OFFSET: 475888 / 480137		EXPLORATION ID: B-031-2-13										
TYPE: ROADWAY		SAMPLING FIRM / LABS: RUTITE		ALIGNMENT: PROCLLZ		PAGE: 10 OF 13										
PID: 77889 BR ID: N/A		SAMPLING METHOD: 4.2 FT/1.8		ELEVATION: 524.081		JOB: 2021										
START: 7/9/14 END: 7/27/14		SAMPLING METHOD: SPT		LAT / LONG: 38.908822 / -77.088889		NOF#										
MATERIAL DESCRIPTION AND NOTES		SPT	REC	HP	GRADATION (G)	ATTENBERG	TOP									
		ROD	NO	ID	CS	FE	SI	SS	BL	FL	FI	MS	BL	SS	BL	
		DEPTH: 1-50														
ELEM. 524.1		1														
ELEM. 524.3		2														
ELEM. 524.0		3														
ELEM. 524.1		4														
ELEM. 524.1		5														
ELEM. 524.1		6														
ELEM. 524.1		7														
ELEM. 524.1		8														
ELEM. 524.1		9														
ELEM. 524.1		10														
ELEM. 524.1		11														
ELEM. 524.1		12														
ELEM. 524.1		13														
ELEM. 524.1		14														
ELEM. 524.1		15														
ELEM. 524.1		16														
ELEM. 524.1		17														
ELEM. 524.1		18														
ELEM. 524.1		19														
ELEM. 524.1		20														
ELEM. 524.1		21														
ELEM. 524.1		22														
ELEM. 524.1		23														
ELEM. 524.1		24														
ELEM. 524.1		25														
ELEM. 524.1		26														
ELEM. 524.1		27														
ELEM. 524.1		28														
ELEM. 524.1		29														
ELEM. 524.1		30														
ELEM. 524.1		31														
ELEM. 524.1		32														
ELEM. 524.1		33														
ELEM. 524.1		34														
ELEM. 524.1		35														
ELEM. 524.1		36														
ELEM. 524.1		37														
ELEM. 524.1		38														
ELEM. 524.1		39														
ELEM. 524.1		40														
ELEM. 524.1		41														
ELEM. 524.1		42														
ELEM. 524.1		43														
ELEM. 524.1		44														
ELEM. 524.1		45														
ELEM. 524.1		46														
ELEM. 524.1		47														
ELEM. 524.1		48														
ELEM. 524.1		49														
ELEM. 524.1		50														
0.5' - ASPHALT (6.0")																
0.8' - CONCRETE (9.0")																
0.3' - AGGREGATE BASE (4.0") FILL: STIFF TO VERY STIFF, DARK BROWN TO BROWN AND GRAY SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.																
CINDERS, BRICK AND ROCK FRAGMENTS PRESENT THROUGHOUT																
FILL: MEDIUM DENSE TO DENSE, BROWN SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.																
STIFF BROWN CLAY, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, LITTLE SILT, DAMP TO MOIST.																
LOOSE, BROWN COARSE AND FINE SAND, TRACE SILT, TRACE FINE GRAVEL, DAMP.																
MEDIUM DENSE BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST. - LIME STONE FRAGMENTS PRESENT IN SS-11																
MEDIUM DENSE TO DENSE, BROWN FINE SAND, SOME COARSE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, DAMP.																
LOOSE TO MEDIUM DENSE, BROWN COARSE AND FINE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, WET. - INTRODUCED MUD @ 42.5'																



NOTE: GROUNDWATER NOT ENCOUNTERED AS OF
 ASSUMED METHODS. MATERIALS QUANTITIES: CORRELATED WITH TESTS. WALLS BERTHLINE CHAINS AND SOI CUTTINGS

PROJECT: HAM-75-7.85 TYPE: ROADWAY		DRILLING FIRM / OPERATOR: JET/JK		DRILLING: RODS: 4" / 6"		DRILLING: BIT: 1.5" / 2"		DRILLING: LOGS: 1" / 2"		DRILLING: LOGS: 1" / 2"		DRILLING: LOGS: 1" / 2"		EXPLORATION NO: B-01-3-13	
PID: 77889		BR ID: N/A		START: 7/14/14		END: 7/14/14		ELEVATION: 500.0		LATITUDE: 37.5		LONGITUDE: 78.0		PAGE: 105	
MATERIAL DESCRIPTION AND NOTES		ELEV. (FT)		DEPTH (FT)		REC. SAMPLE ID		HP (FT)		CORRECTION (FT)		CORRECTION (FT)		CORRECTION (FT)	
0.5' - ASPHALT (6.0')		500.0		1											
1.0' - CONCRETE (12.0')		500.0		2											
0.5' - AGGREGATE BASE (6.0')		500.0		3		SS-1		1.00							
FILL: STIFF TO HARD, BROWN TO GRAY SILTY AND CLAY. SOME TO AND COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, DAMPTONICIST.		500.0		4		SS-2		0.50							
-CINDERS AND BRICK FRAGMENTS PRESENT THROUGHOUT		500.0		5											
		500.0		6											
-ROCK FRAGMENTS PRESENT IN SS-4		500.0		7		SS-3		0.00							
		500.0		8											
-LOOSE TO MEDIUM DENSE, BROWN GRAVEL AND SAND, TRACE LITTLE SILT, TRACE CLAY, DAMP.		500.0		9		SS-4		2.75							
		500.0		10											
-DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, MOIST.		500.0		11		SS-5		2.75							
		500.0		12											
-ROCK FRAGMENTS PRESENT IN SS-10		500.0		13		SS-6									
		500.0		14											
-LOOSE TO MEDIUM DENSE, BROWN GRAVEL AND FINE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, WE L.		500.0		15		SS-7									
		500.0		16											
		500.0		17		SS-8									
		500.0		18											
		500.0		19		SS-9									
		500.0		20											
		500.0		21		SS-10									
		500.0		22											
		500.0		23		SS-11									
		500.0		24											
		500.0		25		SS-12									
		500.0		26											
		500.0		27		SS-13									
		500.0		28											
		500.0		29		SS-14									
		500.0		30											
		500.0		31		SS-15									
		500.0		32											
		500.0		33		SS-16									
		500.0		34											
		500.0		35		SS-17									
		500.0		36											
		500.0		37		SS-18									
		500.0		38											
		500.0		39		SS-19									
		500.0		40											
		500.0		41		SS-20									
		500.0		42											
		500.0		43		SS-21									
		500.0		44											
		500.0		45		SS-22									
		500.0		46											
		500.0		47		SS-23									
		500.0		48											
		500.0		49		SS-24									
		500.0		50											

FILE: 77889	BRID: N/A	PROJECT: HAM-75-85	STATION: OFFSET: 479+44.71 / 43.2 LT.	START: 77+44	END: 77+74	PG: 2 OF 2	B-031-0-1												
MATERIAL DESCRIPTION AND NOTES		ELEV. 434.2	DEPTH: 02	SPT ROD: 15	REC SAMPLE ID: 41	HP (50)	VELOCITY	START: CS	END: CS	START: LL	END: LL	START: PL	END: PL	TEST CLASS: A-36 (M)	BANK FILL				
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, MOIST TO WET.		434.2	02																
			03																
MEDIUM DENSE, BROWN SANDY SILT, TRACE FINE GRAVEL, TRACE CLAY, WET.		434.2	04	15	41	SS	SS-15							24	A-36 (M)				
			05																
			06																
			07																
			08																
			09	10	30	SS	SS-17				10	24	50	7	8	NP	NP	25	A-36 (M)
			10																
			11																
			12																
			13	10	34	72	SS-18									16	A-36 (M)		
		434.2	14																
			15																
			16																
			17																
			18																
			19	7	27	63	SS-19									23	A-36 (M)		
			20																

NOTES: GROUNDWATER MONITORING IS AT
 SURROUNDING WET PILES. MATERIALS QUANTITIES: SCALPATED WITH THE ALUMINUM IDENTIFICATION CHIPS AND SOIL CUTTINGS

PROJECT: HAM-75-85		DRILL PITS: CHE-700328A BOREHOLE		STATION/OFFSET: 48+00.00 B.S. C		EXPLORATION ID: B-002-0-11	
TYPE: RETAINING WALL		HAMMER: VIBRE AUTOMATIC		ALIGNMENT: REPOSED CL LINE		PAGE: 1 OF 1	
PID: 77889 BR ID: N/A		CALCULATION DATE: 06/01/21		ELEVATION: 322.7 B.S. 1		DATE: 06/01/21	
START: 9/29/11 END: 9/29/11		ENERGY RATIO: 0%		LATITUDE: 39.105571 N		LONGITUDE: 76.104788 W	
MATERIAL DESCRIPTION AND NOTES		SPT	REC SAMPLE ID	DEPTH	DEPTH	DEPTH	DEPTH
		RCPT	NO	NO	NO	NO	NO
0.4' - TOPSOIL (5.0") MEDIUM DENSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY. DAMP.		1	15	SS-1	11		A-2-a(0)
		2					
-TRACE ORGANICS PRESENT IN SS-2		3					
		4	12	SS-2	14	17	A-2-a(0)
LOOSE, BROWN GRAVEL, AND COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DRY.		5					
		6	4	44			A-1-a(0)
MEDIUM DENSE TO VERY DENSE, BROWN GRAVEL, AND COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DRY.		7					
		8	9	61			A-1-a(0)
-TRACE ORGANICS PRESENT THROUGHOUT		9					
		10	11	76			A-1-a(0)
-COBBLES PRESENT THROUGHOUT		11					
		12	12	84			A-1-a(0)
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		13					
		14	13	78			A-1-a(0)
-INTRODUCED MUD @ 30'		15					
		16	12	88			A-1-a(0)
-COBBLES PRESENT THROUGHOUT		17					
		18	10	78			A-1-a(0)
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		19					
		20	10	76			A-1-a(0)
-INTRODUCED MUD @ 30'		21					
		22	11	80			A-1-a(0)
-COBBLES PRESENT THROUGHOUT		23					
		24	9	89			A-1-a(0)
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		25					
		26	9	89			A-1-a(0)
-INTRODUCED MUD @ 30'		27					
		28	8	89			A-3a(M)
-COBBLES PRESENT THROUGHOUT		29					
		30	12	100		26	A-3a(M)
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		31					
		32					
-INTRODUCED MUD @ 30'		33					
		34					
-COBBLES PRESENT THROUGHOUT		35					
		36					
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		37					
		38					
-INTRODUCED MUD @ 30'		39					
		40	6	89			A-3a(M)
-COBBLES PRESENT THROUGHOUT		41					
		42					
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		43					
		44	11	85			A-3a(M)
-INTRODUCED MUD @ 30'		45					
		46	13	100		24	A-3a(M)
-COBBLES PRESENT THROUGHOUT		47					
		48					
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, WEL.		49					
		50	6	84			A-3a(M)

NOTES: 1. BENTONITE MUST BE USED TO STABILIZE SOILS WITH HIGH PLASTICITY. 2. CORRECTED SPT VALUES SHOULD BE USED FOR ALL CORRECTIONS. 3. CORRECTIONS SHOULD BE MADE TO ALL SPT VALUES.

PROJECT: HAM-75-85 TYPE: RETAINING WALL		DRILLING FIRM / OPERATOR: RIVILE MILWAUKEE		DRILL PACE: 0.00-0.05 (MIN)		STATION/OFFSET: 38+15.0 (T) 12.0 (C)		EXPLORATION ID: B-003-0-1	
PID: 77889 START: 9/28/11		BR ID: JWA		HARDNESS: 1000 (MIN)		ALIGNMENT: RECESSED CL LINE		PAGE: 1 OF 1	
MATERIAL DESCRIPTION AND NOTES		SPT		REC SAMPLE ID		CORADATION (IN)		UNIT CLASSIFICATION	
		DEPTH (FT)		NO. OF BLOW		CORADATION (IN)		UNIT CLASSIFICATION	
0.4' - TOPSOIL (5.0')	MEDIUM STIFF, BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DRY TO DAMP.	1	2	SS-1	1.00				
		2	3						
HARD, BROWN CLAY, AND COARSE TO FINE SAND, SOME SILT, TRACE FINE GRAVEL, DAMP.	-COBBLES PRESENT THROUGHOUT	4	10	SS-2	4.50				
		5	15						
		6	17						
LARGE BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY.		7	14	SS-3	4.50				
		8	13						
MEDIUM DENSE TO VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY TO MOIST.		9	9	SS-4					
		10	3						
-COBBLES PRESENT THROUGHOUT		11	4	SS-5					
		12	5						
MEDIUM DENSE TO VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY TO MOIST.		13	7	SS-6					
		14	12						
-COBBLES PRESENT THROUGHOUT		15	16	SS-7					
		16	16						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	17	4	SS-8					
		18	9						
-COBBLES PRESENT THROUGHOUT		19	5	SS-9					
		20	11						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	21	7	SS-10					
		22	12						
-COBBLES PRESENT THROUGHOUT		23	12	SS-11					
		24	10						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	25	10	SS-12					
		26	11						
-COBBLES PRESENT THROUGHOUT		27	11	SS-13					
		28	14						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	29	3	SS-14					
		30	11						
-COBBLES PRESENT THROUGHOUT		31	12	SS-15					
		32	11						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	33	11	SS-16					
		34	14						
-COBBLES PRESENT THROUGHOUT		35	11	SS-17					
		36	14						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	37	11	SS-18					
		38	14						
-COBBLES PRESENT THROUGHOUT		39	11	SS-19					
		40	14						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	41	11	SS-20					
		42	14						
-COBBLES PRESENT THROUGHOUT		43	11	SS-21					
		44	14						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	45	11	SS-22					
		46	14						
-COBBLES PRESENT THROUGHOUT		47	11	SS-23					
		48	14						
MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, TRACE CLAY, WET.	-INTRODUCED MUD @ 30'	49	11	SS-24					
		50	14						

NOTES: BORINGS PRIMARILY FOR FOUNDATION DESIGN. BORINGS WITH THE ALUMINUM SOLES/BENTONITE CHIPS/NOISOL SOFTTINGS.

PROJECT: HAUTEK 388 RETAINING WALL	DRILLING FIRM/ OPERATOR: SAMPLING FIRM/ LOGGERS: SAMPLING METHOD:	PIVOT: RILEY MILWAU.	DRILL PPS: ONE-TWO-THREE	STATION/OFFSET: 489+0.53/238.91	EXPLORATION ID: B-009-0-11	
			TYPE: BR ID: N/A START: 9/28/11	WORKER: VME AUTOMATIC	ALIGNMENT: REPOSED CL LPS	FACE: 30.1 FT
DATE: 9/28/11		SPT: 3267M	CALCULATION DATE: 9/28/11	ELEVATION: 333.62	DATE: 9/28/11	PAGE: 1 OF 1
SAMPLING METHOD:		SPT	ENERGY RATIO (KJ/CM): 22.1	LAB/LOGS: 23-100-005 N, 23-100-005 W		
MATERIAL DESCRIPTION AND NOTES		DEPTH:	REC. SAMPLE NO. (SS)	ORADATION/AL. ATTENBERG	UNIT CLASSIFICATION	BACK FILL
0.6' - TOPSOIL (7.0")		1				
FILL: LOOSE, BROWN GRAVEL, AND COARSE TO FINE SAND, TRACE SILT, TRACE CLAY, DRY.		2	SS-1			A-1-a (M)
- TRACE ASPHALT FRAGMENT'S PRESENT IN SS-1		3				
MEDIUM DENSE, BROWN GRAVEL, AND FINE TO COARSE SAND, TRACE SILT, TRACE CLAY, DRY.		4	SS-2			A-1-a (M)
- COBBLE PRESENT IN SS-2		5				
MEDIUM DENSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		6	SS-3			A-2-a (M)
- COBBLE PRESENT IN SS-3		7	SS-3			
MEDIUM DENSE TO VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY.		8	SS-4			A-1-b (M)
		9				
		10	SS-4			A-1-b (M)
		11				
		12	SS-5			A-1-b (M)
		13				
		14	SS-6			A-1-a (M)
		15				
		16	SS-7			A-1-b (M)
		17				
		18	SS-8			A-1-b (M)
		19				
		20	SS-9			A-1-b (M)
		21				
		22	SS-10			A-1-b (M)
		23				
		24	SS-11			A-1-a (M)
		25				
		26	SS-12			A-1-b (M)
		27				
		28	SS-13			A-1-b (M)
		29				
		30	SS-14			A-1-b (M)
		31				
		32				
		33				
		34	SS-15			A-1-b (M)
		35				
		36				
		37				
		38				
		39	SS-16			A-1-b (M)
		40				
		41				
		42				
		43				
		44	SS-17			A-1-b (M)
		45				
		46				
		47				
		48				
		49	SS-18			A-1-b (M)
		50				

NOTES: BROWN WATER CONTENT, 0.5% AND AT COMPLETION OF EACH CASE IN DEPTH OF 0.5' EQUIVALENT NUMBER, 0.5% QUANTITIES COMPACTED WITH THE RUBBER COLLAPSIBLE CHIPPED SOIL SOFTENING

PROJECT: HAM-75-85
 TYPE: RETAINING WALL
 PID: 77889 BR ID: N/A
 START: 9/27/11 END: 9/27/11

DRILLING FIRM: OPERATORS
 SAMPLING FIRM: LOGGERS
 DRILLING METHOD: SPT
 SAMPLING METHOD:

DRILL NO: CMB-700325A BOREHOLE
 HAMMER: VIBRO AUTOMATIC
 CALIBRATION DATE: 03/01/11
 ENERGY RATIO: 72.1

STATION/OFFSET: 382+73.02/25.51 CI
 ALIGNMENT: RECOMPOSED CL LANE
 ELEVATION: 354.3 BENCH MARK: 25.0 ft
 LATITUDE: 39.1829996° N LONGITUDE: 77° 1' W

EXPLORATION ID: B-037-0-11
 PAGE: 1 OF 1

DEPTH (ft)	SPT RCD	SPT No	REC SAMPLE ID	MP (ft)	CORADATION (ft)					ATTENBERG	UNIT CLASSIF	BACK FILL
					SP	CS	RS	SI	SA			
1	3	8	SS-1	2.25								
2												
4	9	27	SS-2	4.50								
5												
6	9	27	SS-3	4.50								
7												
8	9	27	SS-4	4.50								
9												
10	9	27	SS-5	4.50								
11												
12	9	27	SS-6	4.50								
13												
14	11	33	SS-7	4.50								
15												
16	17	51	SS-8	4.50								
17												
18	17	51	SS-9	4.50								
19												
20	17	51	SS-10	4.50								
21												
22	17	51	SS-11	4.50								
23												
24	17	51	SS-12	4.50								
25												
26	17	51	SS-13	4.50								

0.4' - TOPSOIL (5.0")
 LOOSE, DARK BROWN GRAVEL WITH SAND, SILT AND CLAY, DAMP.

HARD, BROWN SILTY CLAY, AND COARSE TO FINE SAND, LITTLE FINE GRAVEL, DRY TO DAMP.

-COBBLES PRESENT THROUGHOUT

MEDIUM DENSE TO DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DRY.

-COBBLES PRESENT THROUGHOUT

VERY DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DRY.

-COBBLES PRESENT THROUGHOUT

NOTES: GRANULAR MATERIALS ENTERED FROM ABOVE BRUISE GAVE IN DEPTH OF 1.5' FROM SURFACE. MATERIALS QUANTITIES, COMPARED WITH THE AUGER LOGS, INDICATE SOME SOFTENING OF MATERIALS.

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

PROJECT: HAM-75-85 DRILL PLOT: CMB-700325A BUREAU STATION/OFFSET: REH-4847/0930 CI EXPLORATION ID: B-009-0-11
 TYPE: RETAINING WALL HAMMER: WME AUTOMATIC ALIGNMENT: PERPOSED CL LINE PAGE: 1 OF 1
 PID: 77889 BR ID: NR CALIBRATION DATE: 08/01 ELEVATION: 353.1 ESE: 25.0
 START: 9/27/11 END: 10/27/11 ENERGY RATIO DR: 7.1 LAT/LONG: 31.188827 -104.995881 BY

DEPTH (SPT)	SPT RCD	SPT No	REC SAMPLE ID	MP (ft)	CORADATION (ft)	ATTENBERG				UNIT CLASSIFICATION	BACK FILL
						LL	PL	FL	FI		
0.5' - TOPSOIL (6.0")											
1	3	8	SS-1	2.00							
2	3	8									
3											
4	14	28	SS-2	5.00	17	18	19	20	11	A-2a (M)	
5											
6											
7	10	24	SS-3	4.30						A-2-6(0)	
8											
9	5	12	SS-4							A-2a (M)	
10											
11	5	8	SS-5		4	4	4	4	NP	A-2a (M)	
12	5	8									
13											
14	5	10	SS-6							A-2a (M)	
15											
16	10	27	SS-7							A-2a (M)	
17	11	37									
18											
19	6	18	SS-8							A-2a (M)	
20	18	36									
21											
22	12	24	SS-9							A-2a (M)	
23											
24	7	21	SS-10							A-2a (M)	
25											
26											

STIFF TO VERY STIFF, DARK BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.
 -TRACE ORGANICS PRESENT IN SS-1
 -COBBLES PRESENT THROUGHOUT

MEDIUM DENSE, BROWN GRAVEL WITH SAND, SILT, AND CLAY, DAMP.

LARGE TO DENSE BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE FINE GRAVEL, TRACE CLAY, DRX.

VERY DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE FINE GRAVEL, TRACE CLAY, DRX.

NOTES: BRUNNEN NOT INTERESTED BARGE BRIDGE - GIVE IN DEPTH OF 14'.
 APPROPRIATE MATERIAL QUANTITIES, CORRELATED WITH THE AUGER. SOILS BENTONITE CHIP-AND-SOIL SOFTENING.

PROJECT: HAM-75-88		DRILL PITS: CMB-700358 BUREAU		STATION/OFFSET: 388+80.0/381.0		EXPLORATION ID: B-089-0-11	
TYPE: RETAINING WALL		HARDWARE: TORQUE AUTOMATIC		ALIGNMENT: RECESSED CL LINE		FACE: 1 OF 1	
PID: 77889 BR ID: N/A		CALCULATION DATE: 2023/01		ELEVATION: 3460.000		SQA ID:	
START: 9/27/11 END: 10/27/11		ENERGY RATIO (%)		LAT/LONG: 38.1927287 N, 108.4729955 W			
MATERIAL DESCRIPTION AND NOTES		SPT	REC SAMPLE ID	DEPTH (ft)	DEPTH (m)	LAB	BACK FILL
		RCPT	(%)				
0.4' - TOPSOIL (5.0") VERY LOOSE TO LOOSE, DARK BROWN TO BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, DRY TO DAMP.		1		1	0.30		
		2	44	2	0.61		
		3		3	0.91		
		4	44	4	1.22		
		5		5	1.52		
		6		6	1.83		
		7		7	2.13		
		8		8	2.44		
		9	15	67	2.74		
		10			3.05		
-COBBLES PRESENT THROUGHOUT		11	41	11	3.35		
		12	78	12	3.66		
		13			3.96		
		14	22	67	4.27		
		15			4.57		
		16			4.88		
		17	20	67	5.18		
		18			5.49		
		19	7	67	5.79		
		20			6.10		
MEDIUM DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY.		21	37	21	6.40		
		22	78	22	6.71		
		23			7.01		
		24	19	78	7.32		
		25			7.62		
		26	10	78	7.93		
		27			8.23		
		28	11	78	8.54		
		29			8.84		
		30	19	78	9.15		
DENSE TO VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY.		31		31	9.45		
		32			9.76		
		33			10.06		
		34	19	78	10.37		
		35			10.67		
		36	20	78	10.98		
		37			11.28		
		38	11	78	11.59		
		39			11.89		
		40	12	78	12.20		
-COBBLES PRESENT THROUGHOUT		41		41	12.50		
		42			12.81		
		43			13.11		
		44	9	78	13.42		
		45	17	78	13.72		
		46			14.03		
		47			14.33		
		48	7	78	14.64		
		49			14.94		
		50	1	78	15.25		
DENSE, BROWN COARSE SAND, FINE SAND, LITTLE SILT, MOIST.		51		51	15.55		
		52			15.86		
		53			16.16		
		54			16.47		
		55			16.77		
		56			17.08		
		57			17.38		
		58			17.69		
		59			17.99		
		60			18.30		
VERY STIFF, GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, MOIST.		61		61	18.60		
		62			18.91		
		63			19.21		
		64			19.52		
		65			19.82		
		66			20.13		
		67			20.43		
		68			20.74		
		69			21.04		
		70			21.35		

NOTES: BROWN SANDS ENCOUNTERED IN ALL CASES ARE AT A DEPTH OF 10' TO 15' BELOW THE SURFACE. CORRECTED WITH THE ALUMINUM COBLES/BENTONITE CORPUSCULE SOFTENING APPROPRIATE METHODS.

PROJECT: TYPE: PID: START:	HAM-75 RETAINING WALL 77889 10/3/11	DRAWING FILE OPERATOR: SAMPLING FIRM/LOGGERS: DRAWING METHOD: SAMPLING METHOD:	DATE/TIME/SCALE			DRILL PIPE SAMPLER: CALIBRATION DATE: ENERGY RATIO (EN)	STATION/DEPTH						STATION/DEPTH		CORRECTION	BACK FILL
			DATE	TIME	SCALE		BRG	DEP	BRG	DEP	BRG	DEP	BRG	DEP		
0.6' - TOPSOIL (7.0")			535.2	SPT												
FILL: LOOSE TO MEDIUM DENSE DARK BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, MOIST TO WET.			534.7			17	SS-1									A-1-b (N)
-TRACE ROOT FIBERS PRESENT THROUGHOUT			532.3			22	SS-2									A-1-b (N)
MEDIUM DENSE BROWN FINE SAND, LITTLE COARSE SAND, LITTLE SILT, DRY.			531.8			30	SS-5									A-1-b (N)
-TRACE WOOD FRAGMENTS AND ORGANIC ODOR PRESENT IN SS-4						27	SS-4									A-1-a (N)
MEDIUM DENSE TO DENSE BROWN GRAVEL AND FINE TO COARSE SAND, LITTLE SILT, TRACE CLAY, DRY TO DAMP.						30	SS-6									A-1-b (N)
-COBBLES PRESENT THROUGHOUT						31	SS-10									A-1-b (N)
MEDIUM DENSE BROWN GRAVEL AND SAND, TRACE SILT, DRY TO MOIST.			513.3			42	SS-12									A-1-b (N)
VERY STIFF, GRAY TO BROWNISH GRAY CLAY, SOME SILT, MOIST.			503.3			20	SS-14									A-1-b (N)

NOTES: 1. GROUNDWATER INITIAL VERICAL INTERVAL IS 0.0' 2. EXPOSURE CORRECTIONS: SEE SHEET 77889ZL228 FOR CORRECTIONS

PROJECT: HAM-75-89
 TYPE: RETAINING WALL
 PID: 77889 SFN: 104411
 S BART: 104411 ENDS: 104411

OPERATOR: BIL S.M.
 SAMPLING FROM: LOGGER: ALBERTA
 BRILLING METHOD: SET
 SAMPLING METHOD: SET

DRILL RIG: COME-RESUSION SYSTEM
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 11-7
 ENERGY RATING: 11.7

STATION / OFFSET: 483+00.1 / 13.1 FT
 ADJUSTMENT: 0.00 FT
 ELEVATION: 582.73 MSL
 LAT / LONG: 44.166722 N / 101.077000 W

EXPLORATION ID: B-041-0-11
 PAGE: 1 OF 1

DEPTH (ft)	SPT NO.	SPT BLOW COUNT	NEQ SAMPLE ID	CORRECTION	CORRECTED SPT	GRADATION (%)					ALTERBERG			SPT CLASS (ft)	BACK FILL
						CU	CS	FS	FI	AL	LL	PL	PI		
1															
2	1	2	SS-1												
3															
4	2	14	SS-2												
5															
6															
7	17	14	SS-3												
8															
9	3	12	SS-4												
10															
11	14	11	SS-5												
12															
13															
14	4	10	SS-6												
15															
16															
17	10	15	SS-7												
18															
19	4	14	SS-8												
20															
21	3	12	SS-9												
22															
23															
24	11	21	SS-10												
25															
26															
27	10	23	SS-11												
28															
29															
30	10	18	SS-12												
31															
32															
33															
34	2	4	SS-13												
35															
36															
37															
38															
39	2	4	SS-14												
40															
41															
42															
43															
44	3	12	SS-15												
45															
46															
47															
48															
49	3	11	SS-16												
50															

0.7' TOPSOIL (0.0')
 VERY LOOSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP.
 -TRACE ROOT FIBERS PRESENT IN SS-1

MEDIUM DENSE TO DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP.
 -TRACE ROOT FIBERS PRESENT IN SS-2

DENSE TO VERY DENSE, BROWN GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY TO DAMP.

DENSE, BROWNISH GRAY GRAVEL WITH SAND AND SILT, DAMP.

VERY DRY GRAY SILTY CLAY, TRACE COARSE TO FINE SAND, MOIST.

NO RES. GROUNDWATER INITIALLY ENCOUNTERED @ 2.0'
 REVISIONS: MATERIALS QUANTITIES: 1750 LB CEMENT, 28 LB BENTONITE POWDER, 40 GAL WATER

PROJECT: HAM-75-85
 TYPE: RETAINING WALL
 PID: 77889 SFN: 104511
 START: 104511 END: 104511

OPERATOR: BIL S.J.
 SAMPLING METHOD: ASPHERA
 SAMPLING METHOD: SPT

DRILLING: COME-ASSUESER (ROD)
 HAMMER: CME AUTOMATIC
 CALIBRATION DATE: 8/31/11
 ENERGY RATING: 77.7

STATION / OFFSET: 485+29.72 / 0.0
 ALIGNMENT: P.C. 485+29.72
 ELEVATION: 883.85
 LAT / LONG: 88-16-17.00 N / 111-48-23.00 W

EXPLORATION ID: B-02-0-11
 PAGES: 1 OF 1

DEPTH (FT)	SPT BLOW COUNT	NEQ SAMPLE ID	GRADATION (%)			ALTERBERG			CORR. CLASS.	BACK FILL
			CS	FS	BL	LL	PL	PI		
1	4	SS-1								
2	12	SS-1								A-1-b (V)
3	31	SS-2								A-1-b (V)
4	44	SS-2								A-1-b (V)
5	78	SS-3	38	51	1	NP	NP	NP		A-1-b (V)
6	21	SS-3								
7	20	SS-3								
8	30	SS-4								A-1-b (V)
9	12	SS-4								
10	11	SS-4								
11	10	SS-4								
12	31	SS-4								A-1-b (V)
13	46	SS-5								
14	17	SS-5								
15	19	SS-5								
16	24	SS-7								A-1-b (V)
17	12	SS-7								
18	24	SS-7								A-1-b (V)
19	13	SS-8								
20	37	SS-8	32	32	36	NP	NP	NP		A-1-b (V)
21	15	SS-8								
22	20	SS-8								
23	69	SS-8								A-1-b (V)
24	7	SS-10								
25	12	SS-10								A-1-b (V)

3'- TOPSOIL (A-1)
 MEDIUM DENSE, BROWNISH GRAY GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP.

MEDIUM DENSE TO VERY DENSE, BROWNISH GRAY GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DRY TO DAMP.

COBBLES PRESENT THROUGHOUT

MEDIUM DENSE, BROWNISH GRAY GRAVEL WITH SAND, SILT, AND CLAY, MOIST.

NOTES: BROWN WATER NOTED DURING DRILLING. COBBLES FOUND IN DEPTH 10 FT.
 LABORATORY METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER. SOILS REPORT TECH SHEET 5011-5012

PROJECT: HAM-75-789
 TYPE: RETAINING WALL
 PID: 77889
 SHEET: 104411
 DATE: 10/27/11

OPERATOR: [REDACTED]
 SPLITTING METHOD: [REDACTED]
 SAMPLING METHOD: [REDACTED]

EXPLOSION ID: B-043-0411
 STATION/OFFSET: 486+28.52/0.00
 AUGMENT: [REDACTED]
 ELEVATION: 847.1 MSLL
 LAT/LONG: 39 04 52.52 N 84 05 53.99 W

DEPTH (ft)	SPT RODS	NEQ SAMPLE ID	HP (ft)	GRADATION			ATTENBERG			ROOT CLASSIFY
				SS	FS	FC	LL	PL	PI	
1	4	44	88-1							
2	4	44	88-1							
3	4	44	88-1							
4	4	44	88-2							
5	4	44	88-2							
6	4	44	88-2							
7	4	44	88-2							
8	4	44	88-2							
9	4	44	88-4							
10	4	44	88-4							
11	4	44	88-4							
12	4	44	88-5							
13	4	44	88-5							
14	4	44	88-5							
15	4	44	88-5							
16	4	44	88-5							
17	4	44	88-7							
18	4	44	88-7							
19	4	44	88-8							
20	4	44	88-8							
21	4	44	88-9							
22	4	44	88-9							
23	4	44	88-9							
24	4	44	88-10							
25	4	44	88-10							

17'- TOPSOIL (8.0')

FILL: MEDIUM DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DRY.
 BRICK FRAGMENTS PRESENT IN SS-1

STIFF, BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

MEDIUM DENSE TO VERY DENSE, BROWNISH GRAY GRAVEL AND SAND, TRACE SILT, TRACE CLAY, DAMP.

MEDIUM DENSE, BROWNISH GRAY FINE SAND, LITTLE COARSE SAND, LITTLE FINE GRAVEL, DRY.

NOTES: BOUNDARY WATER NOT ENCOUNTERED DURING DRILLING. CAVE-IN DEPTH: 3.0'
 REINFORCEMENT METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE AUGER. 35% LESS BENTONITE CHIPS AND SOIL CUTTINGS.

PROJECT: HAM-75-7.85		DRILLING FIRM / OPERATOR: RUI JIA		DRILLING: JING-ZHONGSHI GEOTECHNICAL ENGINEERING CO., LTD.		STATION / OFFSET: 200+522.1500		EXPLORATION / ID: B-044-0-11	
TYPE: RETAINING WALL		SAMPLING FIRM / LOGGERS: RUI JIA		HAMMER: SAME AUTOMATIC		ALIGNMENT: PROPOSED CL 1-2		PAGE: 1 OF 1	
PID: 77889		BR ID: 00		CALIBRATION DATE: 2021		ELEVATION: 114.100		DATE: 2021	
START: 11/22/11		END: 01/22/12		ENERGY RATE: 700		LAYINGS: 20		NO. OF TESTS: 1	
MATERIAL DESCRIPTION AND NOTES		DEPTH (FT)		REC. SAMPLE ID		ASSIGNMENT / NO.		ATTENDANCE / NO.	
1.0' - TOPSOIL (12.0')		1		72		11		A-1-a(N)	
FILL: VERY LOOSE TO MEDIUM DENSE, DARK BROWN, BLACK AND REDDISH BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET.		2		71		12		A-1-a(N)	
-BRICK, ASPHALT AND CONCRETE FRAGMENTS PRESENT THROUGHOUT		3		70		13		A-1-a(N)	
MEDIUM DENSE TO DENSE, BROWN GRAVEL, SOME FINE TO COARSE SAND, TRACE SILT, TRACE CLAY, DRY TO DAMP.		4		69		14		A-1-a(N)	
		5		68		15		A-1-a(N)	
		6		67		16		A-1-a(N)	
		7		66		17		A-1-a(N)	
		8		65		18		A-1-a(N)	
		9		64		19		A-1-a(N)	
		10		63		20		A-1-a(N)	
		11		62		21		A-1-a(N)	
		12		61		22		A-1-a(N)	
		13		60		23		A-1-a(N)	
		14		59		24		A-1-a(N)	
		15		58		25		A-1-a(N)	
		16		57		26		A-1-a(N)	
		17		56		27		A-1-a(N)	
		18		55		28		A-1-a(N)	
		19		54		29		A-1-a(N)	
		20		53		30		A-1-a(N)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GRAVE IN DEPTH 10.0'.
 STANDARD TEST METHODS, MATERIALS, QUANTITIES: COMPACTED WITH THE HOUSE. SOIL RESISTION TESTS AND SOIL CUTTINGS

PROJECT: HAM-75-85 TYPE: RETAIN WALL PID: 77889 BR ID: 11/15/11 START: 11/15/11		DRILLING FIRM / OPERATOR: BRITITE SAMPLING FROM LOGS: 42" LOG DRILLING METHOD: SPT		DRILL NO. COMPLETION DATE NUMBER: 12 08/11/2023 CALIBRATION DATE: 08/11/2023 ENERGY RATIO (%): 72.1		STATION / OFFSET ALTIMETER: 1055.5 ELEVATION: 1055.5 LET FLOWS: 38.1055555555556		EXPLORATION ID B-049-0-11						
MATERIAL DESCRIPTION AND NOTES		DEPTH (ft)	REC. SAMPLE ID (%)	HP ID (%)	SP	BL	SL	LL	PL	MP	NP	AP	COMP. CLASS (psi)	BACKFILL
0.5' - TOPSOIL (6.0") VERY STIFF, BROWN SILTY CLAY, SOME CONCRETE FINE SAND, DAMP.		1	12	SS-1	2.50	0	4	32	27	39	17	22	10	A-60 (10)
MEDIUM DENSE, BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, TRACE CLAY, DAMP.		4	15	SS-2	2	2	3	3	3	3	3	3	7	A-60 (M)
		6	18	SS-3	2	2	3	3	3	3	3	3	5	A-60 (M)
		9	15	SS-4	2	2	3	3	3	3	3	3	5	A-60 (M)
		11	17	SS-5	2	2	3	3	3	3	3	3	5	A-60 (M)
		14	18	SS-6	2	0	17	23	37	1	NP	NP	2	A-60 (M)
		16	15	SS-7	2	2	3	3	3	3	3	3	5	A-60 (M)
		18	12	SS-8	2	2	3	3	3	3	3	3	5	A-60 (M)
		21	14	SS-9	2	2	3	3	3	3	3	3	5	A-60 (M)
DENSE, BROWN FINE SAND, SOME COARSE SAND, SOME FINE GRAVEL, TRACE SILT, DRY TO DAMP.		24	18	SS-10	2	2	3	3	3	3	3	3	3	A-60 (M)
		26	27	SS-11	2	2	3	3	3	3	3	3	3	A-60 (M)
		28	32	SS-12	2	2	3	3	3	3	3	3	3	A-60 (M)
VERY STIFF, GRAY SILTY CLAY, MOIST.		34	35	SS-13	2	2	3	3	3	3	3	3	4	A-60 (M)
		38	10	SS-14	1.50	2	3	3	3	3	3	3	27	A-60 (M)
		44	36	SS-15	1.50	0	10	10	10	10	10	10	27	A-60 (M)
		48	42	SS-16	2.00	2	3	3	3	3	3	3	25	A-60 (M)

-qs @ 44.0' = 0.97 bar

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GAIN IN DEPTH 10.5' REACHING METHODS, MATERIALS, QUANTITIES! CORRELATED WITH THE ALUMINUM OXIDE BENTONITE CHIPS AND SOIL CUTTINGS.

PROJECT:	HAM-75-85	DRILLING FIRM / OPERATOR:	RII I.B.M.	DRILL NO.:	CORRECTION IN FEET	STATION / OFFSET:	SITUATION / OFFSET:	EXPLORATION ID:							
TYPE:	RETAIN WALL	SAMPLING FROM LOGS:	NO. LOGS	DATE:	DATE:	ELEVATION:	ELEVATION:	B-947-0-11							
PID:	77889	BR ID:	N/A	11/10/11	11/10/11	423' 11.38'	423' 11.38'								
START:	11/10/11	END:	11/10/11	REVISION:	REVISION:	DATE:	DATE:	PAGE:							
1.0' - TOPSOIL (12.0")	STIFF TO VERY STIFF, BROWN TO MOTTLED BROWN AND GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, MOIST.	-TRACE ORGANICS PRESENT IN SS-1	528.0	DEPTHS			REC. SAMPLE NO.	HP (FEET)	CORRECTED ELEVATION	CORRECTED ELEVATION					
				1	2	3									
				4	5	6									
				7	8	9									
STIFF TO VERY STIFF MOTTLED BROWN AND GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL DAMP TO MOIST.	-SANDLENSES PRESENT THROUGHOUT	527.5	DEPTHS			REC. SAMPLE NO.	HP (FEET)	CORRECTED ELEVATION	CORRECTED ELEVATION						
			10	11	12										
			13	14	15										
			16	17	18										
MEDIUM DENSE TO LOOSE, BROWN COARSE TO FINE SAND, LITTLE SILT, TRACE CLAY, MOIST TO WET.	-COBBLE PRESENT @ 2.7	526.5	DEPTHS			REC. SAMPLE NO.	HP (FEET)	CORRECTED ELEVATION	CORRECTED ELEVATION						
			19	20	21										
			22	23	24										
			25	26	27										
LOOSE TO MEDIUM DENSE, GRAY COARSE TO FINE SAND, LITTLE SILT, TRACE CLAY, DAMP.		525.0	DEPTHS			REC. SAMPLE NO.	HP (FEET)	CORRECTED ELEVATION	CORRECTED ELEVATION						
			28	29	30										
			31	32	33										
			34	35	36										
		523.0	DEPTHS			REC. SAMPLE NO.	HP (FEET)	CORRECTED ELEVATION	CORRECTED ELEVATION						
			37	38	39										
			40	41	42										
			43	44	45										
		521.0	DEPTHS			REC. SAMPLE NO.	HP (FEET)	CORRECTED ELEVATION	CORRECTED ELEVATION						
			46	47	48										
			49	50	51										
			52	53	54										

NOTES: GROUNDWATER TABLES ENCOUNTERED 40' TO EXCAVATE IN DEPTH @ 17.3' BRACEMENT METHODS, MATERIALS, CLIMITIES. CONSISTENT WITH THE ALUMINUM SILENTS. BENTONITE CHIPS AND SEALANT THINGS

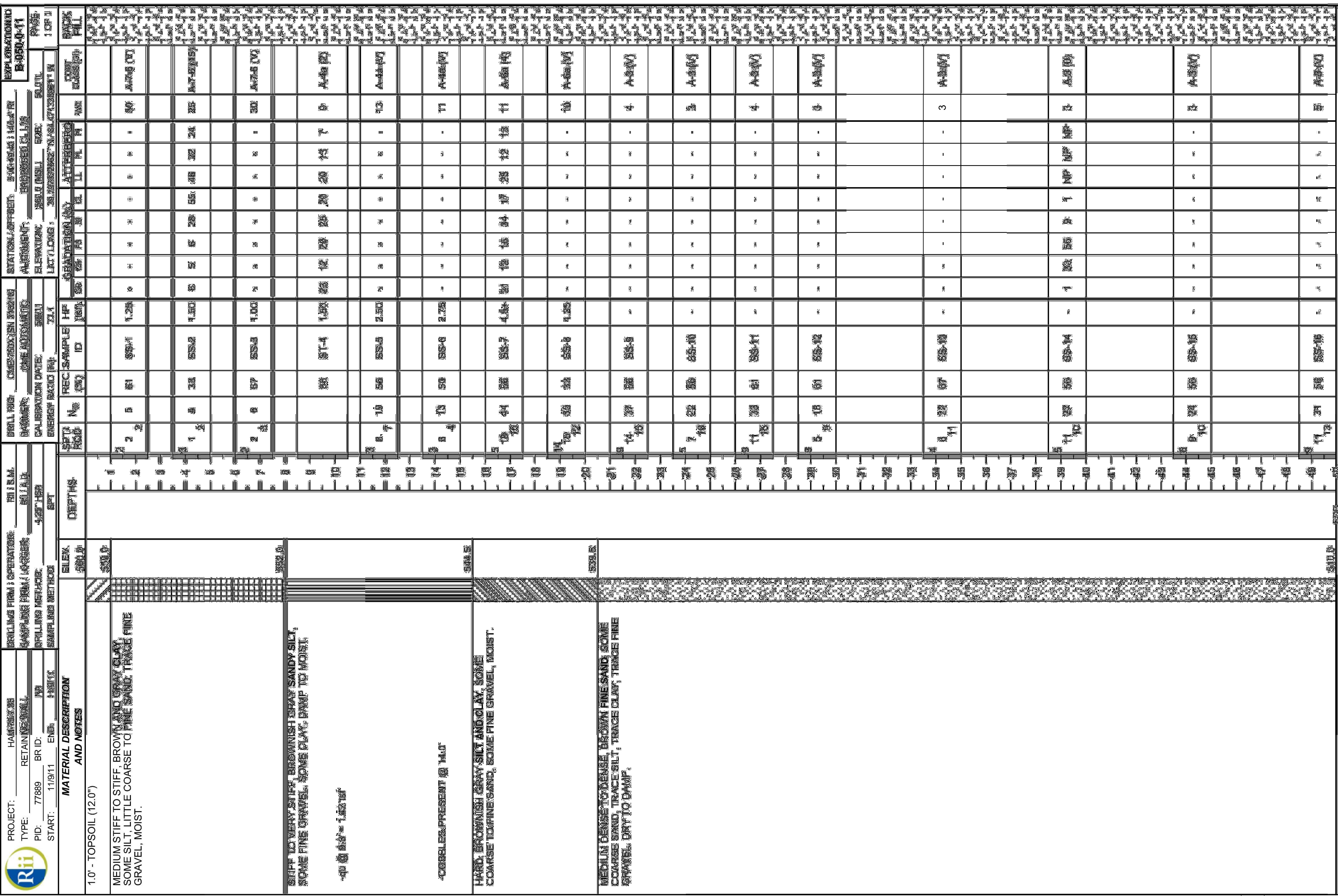
STRUCTURE FOUNDATION EXPLORATION
WALLS H, I, J, K, S, U, V, Y, Z

PROJECT: HAM-75-85 HAMPSY 28 DRILLING FIRM / OPERATOR: RII I.E.M.
 TYPE: RETAINING WALL BR ID: 77889 NY NY DRILLING FROM LOGS, SAMPLES FROM LOGS
 START: 11/10/11 END: 11/10/11 BR ID: 422' LB 422' LB
 MATERIAL DESCRIPTION AND NOTES

DRILL NO: COMPLETION STATION: 0-0-0
 DATE: 11/10/11 STATION: 0-0-0
 OPERATOR: RII I.E.M. STATION: 0-0-0
 CALIBRATION DATE: 11/10/11 STATION: 0-0-0
 ENERGY RATIO (M): 72.1 STATION: 0-0-0

DEPTH	ELEV.	REMARKS	SEC	MIN	HR	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS
0	556.1	0.8' - TOPSOIL (9.0")													
1	557.3	VERY STIFF BROWN SILT AND CLAY. SOME COARSE TO FINE SAND, MOIST.	8	22	557.1	SS-1	2.50								
2	558.5	- TRACE ORGANICS PRESENT IN SS-1	13	27	558.2	SS-2	4.50								
3	559.7	VERY STIFF TO HARD, MOTTLED BROWN AND GRAY SILTY CLAY. LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.	24	21	559.3	SS-3	4.50								
4	560.9		26	16	560.7	SS-4	4.50								
5	562.1	- COBBLE PRESENT @ 13.0'	28	12	561.8	SS-5	3.00								
6	563.3	HARD, GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.	30	10	563.0	SS-6	4.50								
7	564.5	MEDIUM DENSE TO DENSE, BROWN FINE SAND. TRACE SILT, TRACE COARSE SAND, TRACE CLAY, DRY TO DAMP.	32	8	564.2	SS-7	4.50								

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GRAVE IN DEPTH 22.4'.
 MEASUREMENT METHODS, MATERIALS, QUANTITIES: COMPARED WITH THE ABOVE LOGS. BENICONE CHIPS AND SOIL CUTTINGS



NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GRAVEL DEPTH IN DEPTH LOG.

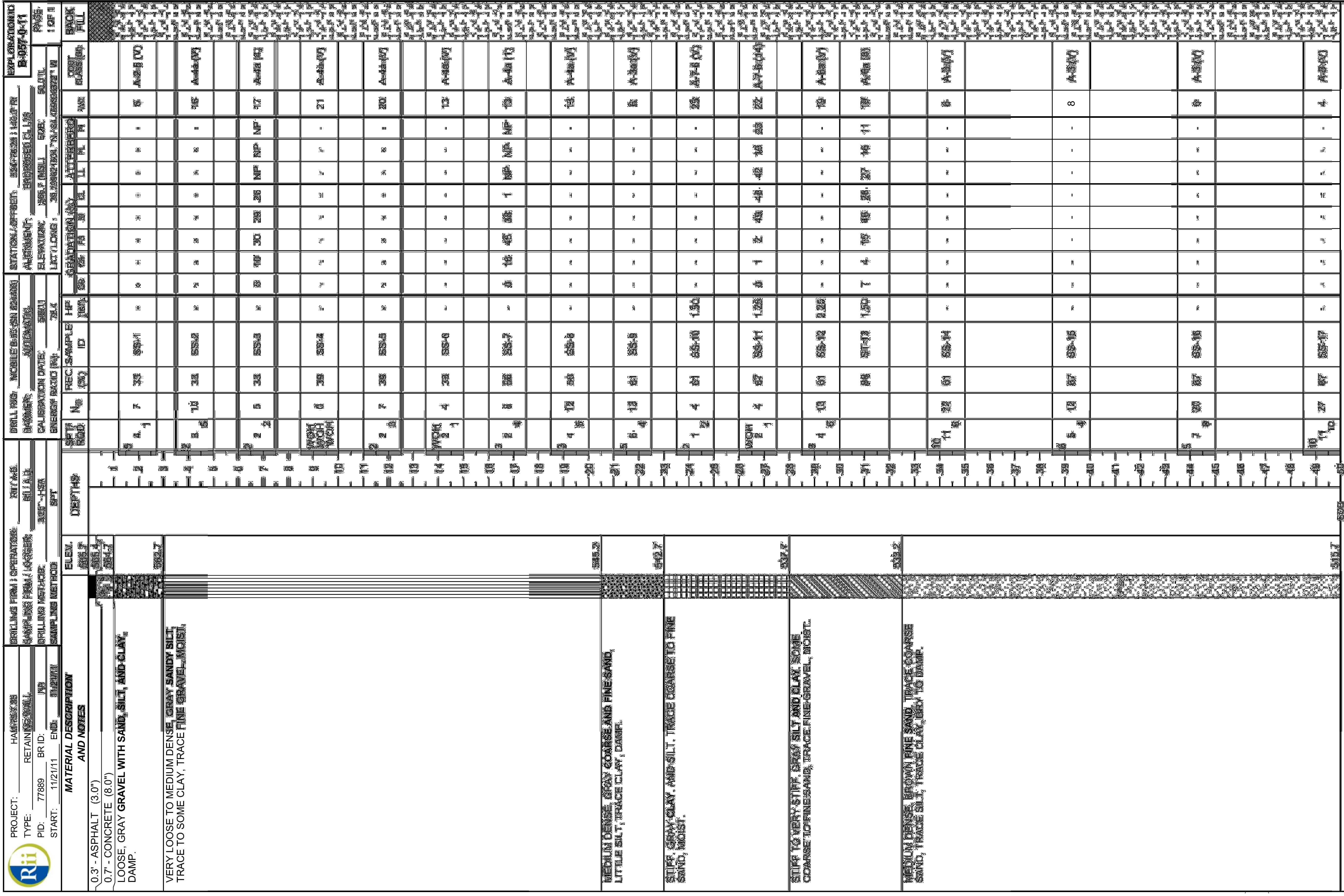
MEASUREMENT METHODS, MATERIALS, QUANTITIES: COMPASSED WITH THE ALUMINUM SOLUBLE CHIPS AND SOLUTIONS.

PROJECT: HAMPSHIRE RETAINMENT WALL		DRILLING FIRM / OPERATOR: RII I.B.M.		DRILL NO: CAMELOT/STATION		STATION / POINTS		EXPLORATION ID: B-957-0-11	
TYPE: BR ID: 77889		BR ID: 77889		DATE: 11/9/11		DATE: 11/9/11		DATE: 11/9/11	
START: 11/9/11		END: 11/9/11		SAMPLING METHOD: SPT		SAMPLING METHOD: SPT		SAMPLING METHOD: SPT	
MATERIAL DESCRIPTION AND NOTES		ELEM. SPT		DEPTH: SPT		REC. SAMPLE ID		CORR. CORRECTED	
0.3' - TOPSOIL (3.0') MEDIUM STIFF TO VERY STIFF GRAYISH BROWN ELASTIC SILT AND CLAY, DAMP.	517.4	1	0	0.0	0	SS-1	2.50	20	A-8(M)
	516.2	2	0	0.0	0	SS-2	1.00	25	A-5 (M)
		3	0	0.0	0	SS-3	1.25	25	A-7.5 (M)
		4	0	0.0	0	SS-4	4.00	20	A-7.5 (M)
		5	0	0.0	0	SS-5	4.00	19	A-8(M)
		6	0	0.0	0	SS-6	4.50	12	A-8(M)
		7	0	0.0	0	SS-7	5.00	11	A-8(M)
		8	0	0.0	0	SS-8	5.00	10	A-8(M)
		9	0	0.0	0	SS-9	5.00	10	A-8(M)
		10	0	0.0	0	SS-10	5.00	10	A-8(M)
VERY STIFF BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	516.7	11	0	0.0	0	SS-11	5.00	10	A-8(M)
	516.7	12	0	0.0	0	SS-12	5.00	10	A-8(M)
		13	0	0.0	0	SS-13	5.00	10	A-8(M)
		14	0	0.0	0	SS-14	5.00	10	A-8(M)
		15	0	0.0	0	SS-15	5.00	10	A-8(M)
		16	0	0.0	0	SS-16	5.00	10	A-8(M)
		17	0	0.0	0	SS-17	5.00	10	A-8(M)
		18	0	0.0	0	SS-18	5.00	10	A-8(M)
		19	0	0.0	0	SS-19	5.00	10	A-8(M)
		20	0	0.0	0	SS-20	5.00	10	A-8(M)
DENSE, BROWNISH GRAY GRAVEL WITH SAND AND SILT. MOIST.	516.2	21	0	0.0	0	SS-21	5.00	10	A-8(M)
	516.2	22	0	0.0	0	SS-22	5.00	10	A-8(M)
		23	0	0.0	0	SS-23	5.00	10	A-8(M)
		24	0	0.0	0	SS-24	5.00	10	A-8(M)
		25	0	0.0	0	SS-25	5.00	10	A-8(M)
		26	0	0.0	0	SS-26	5.00	10	A-8(M)
		27	0	0.0	0	SS-27	5.00	10	A-8(M)
		28	0	0.0	0	SS-28	5.00	10	A-8(M)
		29	0	0.0	0	SS-29	5.00	10	A-8(M)
		30	0	0.0	0	SS-30	5.00	10	A-8(M)
VERY STIFF TO HARD, GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, DAMP.	517.0	31	0	0.0	0	SS-31	5.00	10	A-8(M)
	517.0	32	0	0.0	0	SS-32	5.00	10	A-8(M)
		33	0	0.0	0	SS-33	5.00	10	A-8(M)
		34	0	0.0	0	SS-34	5.00	10	A-8(M)
		35	0	0.0	0	SS-35	5.00	10	A-8(M)
		36	0	0.0	0	SS-36	5.00	10	A-8(M)
		37	0	0.0	0	SS-37	5.00	10	A-8(M)
		38	0	0.0	0	SS-38	5.00	10	A-8(M)
		39	0	0.0	0	SS-39	5.00	10	A-8(M)
		40	0	0.0	0	SS-40	5.00	10	A-8(M)
MEDIUM DENSE TO DENSE, BROWN FINE SAND, SOME COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, TRACE CLAY, DRY TO DAMP.	517.7	41	0	0.0	0	SS-41	5.00	10	A-8(M)
	517.7	42	0	0.0	0	SS-42	5.00	10	A-8(M)
		43	0	0.0	0	SS-43	5.00	10	A-8(M)
		44	0	0.0	0	SS-44	5.00	10	A-8(M)
		45	0	0.0	0	SS-45	5.00	10	A-8(M)
		46	0	0.0	0	SS-46	5.00	10	A-8(M)
		47	0	0.0	0	SS-47	5.00	10	A-8(M)
		48	0	0.0	0	SS-48	5.00	10	A-8(M)
		49	0	0.0	0	SS-49	5.00	10	A-8(M)
		50	0	0.0	0	SS-50	5.00	10	A-8(M)

NOTES: GROUNDWATER TABLE ENCOUNTERED AT 2.0 EXCAVATION DEPTH @ 23.4
 MEASUREMENT METHODS, PATTERNS, QUANTITIES: COMPASSED WITH THE ALUMINUM 40LB. BENTONITE GUMS AND SOIL COTTONS.

PROJECT: HAMPSHIRE TYPE: RETAINING WALL PID: 77889 BR ID: 11/7/11 START: 11/7/11 END: 11/27/11		DRILLING FIRM / OPERATOR: RUI B.M. SAMPLING FROM LOGS: 42" LOG DRILLING METHOD: SPT SAMPLING METHOD: SPT		DRILL NO. COMPLETION DATE NUMBER: 1011 CALIBRATION DATE: 5/21/11 ENERGY RATIO (%): 72.1		STATION / OFFSET: 50+00.00 ALIGNMENT: 20' TO RIGHT ELEVATION: 100.00 LET FLOWS: 30.00		EXPLANATION: B-054-0-11 PAGE: 1 OF 1	
DEPTH (ft)	ELEV. (ft)	SPT ROD No.	REC. SAMPLE ID	HF (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)
0.7 - TOPSOIL (8.0')	98.0								
STIFF TO VERY STIFF, BROWN AND BLACK TO MOTTLED BROWN AND GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST, -TRACE ORGANICS PRESENT IN SS-1	98.0								
VERY STIFF, GRAY CLAY, SOME SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST;	95.0								
STIFF, GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	93.5								
VERY STIFF TO HARD, GRAY SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.	93.5								
-COBBLES PRESENT @ 17.5'									
-COBBLES PRESENT @ 21.0'									
VERY STIFF, GRAY SILT, SOME COARSE TO FINE SAND, LITTLE CLAY, TRACE FINE GRAVEL, MOIST.	92.0								
MEDIUM DENSE TO DENSE, BROWN FINE SAND, LITTLE COARSE SAND, LITTLE SILT, DRY TO DAMP.	92.0								

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING - GROUNDWATER DEPTH 22.0'
SAMPLING METHODS, MATERIALS, QUANTITIES, SCHEMATIC WITH THE ALUMINUM SOLID BENTONITE CHIPS AND SOLID CUTTINGS



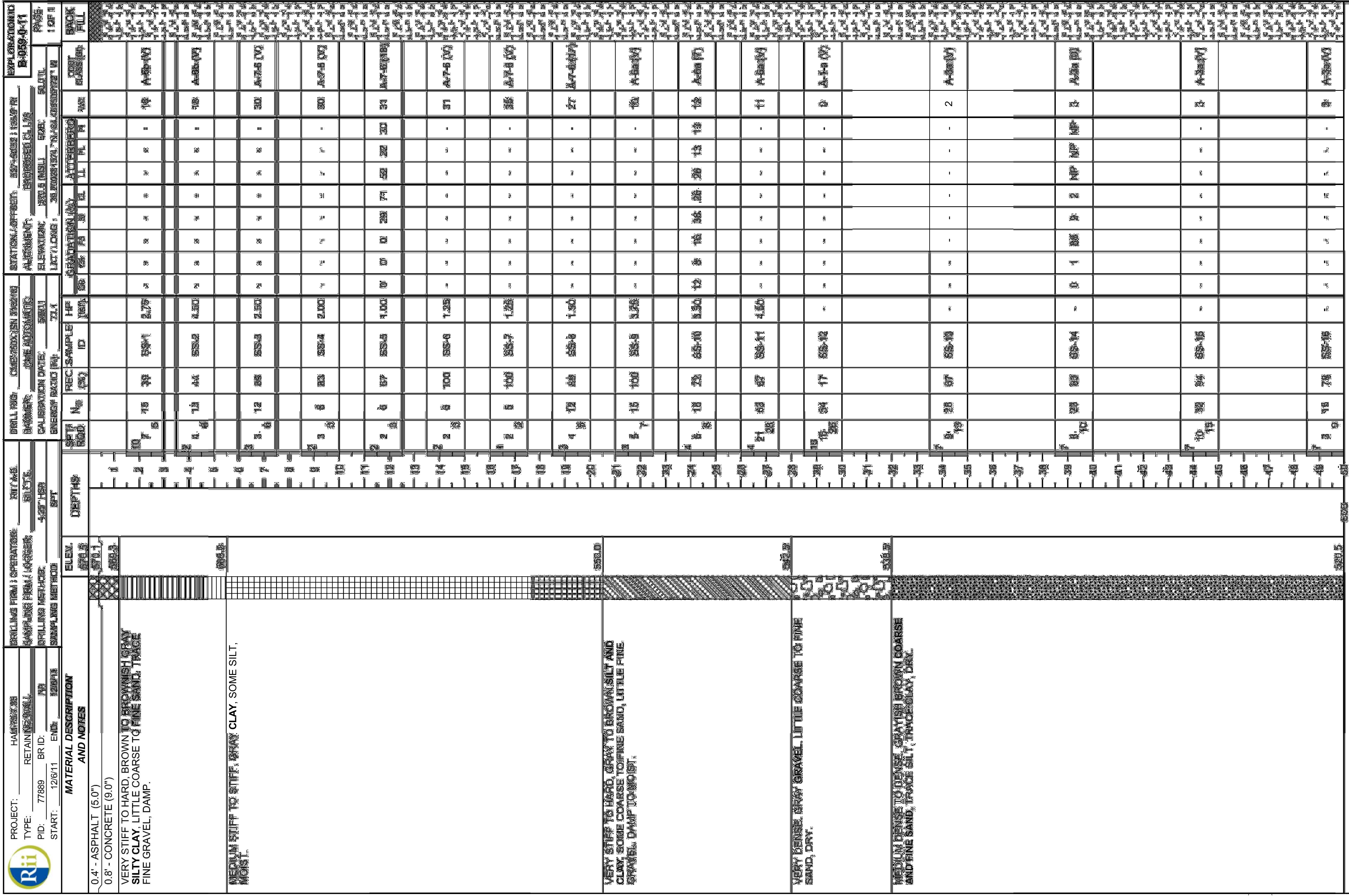
NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GROUNDWATER DEPTH 44.4'.
 STANDARD PENETRATION TEST (SPT) RESULTS: COMPASSED WITH THE ALLOWED 60 LB BENTONITE CHIPS AND SOLUTIONS.

HAM-75-7.85

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

PROJECT: HAM-75-7.85 TYPE: RETAIN WALL PID: 77889 BR ID: JN START: 11/23/11 END: 04/23/10		DRILLING FIRM / OPERATOR: RIT & S. SAMPLING FROM LOGS: M.L.D. DRILLING METHOD: SPT-HSR SAMPLING METHOD: SPT		DRILL NO: MOBILE BASE (AS SHOWN) NUMBERS: AUTOMATIC CALIBRATION DATE: SERIAL: 78.4 ENERGY RATIO (%):		STATION / OFFSET: 356+17.22 124.2' RW ALIGNMENT: CENTERLINE ELEVATION: 380.8' MSL LAT / LONG: 38.10000000°N, 84.40000000°W		EXPLORATION ID: B-058-0-11 PAGE: 1 OF 11								
MATERIAL DESCRIPTION AND NOTES		ELEV. (FEET)	DEPTH (FEET)	SPT NO.	REC. SAMPLE ID (%)	HF (IN)	SP	FS	SB	SL	LL	PL	PI	MAX	COOT CLASS (MP)	BACK FILL
0.3' - ASPHALT (3.0")		556.3	1	11												
0.8' - CONCRETE (8.0")		555.7	2	13	33	2.75										
0.6' - AGGREGATE BASE (7.0")		555.1	3	15	33	2.50										
VERY STIFF, BROWNISH GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, DAMP.		553.3	4	17	56	1.50										
STIFF TO VERY STIFF, BROWNISH GRAY CLAY, AND COARSE TO FINE SAND, SOME SILT, MOIST.		551.3	5	19	56	1.50										
VERY STIFF TO HARD, BROWNISH GRAY TO BROWN SILTY CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.		549.3	6	21	56	1.50										
HARD, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.		548.3	7	23	56	1.50										
MEDIUM DENSE, BROWN COARSE AND FINE SAND, LITTLE FINE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST.		546.3	8	25	56	1.50										
HARD, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.		544.3	9	27	56	1.50										
VERY STIFF, BROWN SILT, LITTLE CLAY, LITTLE COARSE TO FINE SAND, WET.		542.3	10	29	56	1.50										
MEDIUM DENSE TO VERY DENSE, BROWN COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, DAMP.		540.3	11	31	56	1.50										

NOTES: GROUNDWATER TABLE ENCOUNTERED 22' DEPTH SPT
 REAMOUNT METHODS, PATTERNS, QUANTITIES. CORRELATED WITH THE ALUMINUM SULFATE CHIPS AND SOLUTIONS.



NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GROUNDWATER DEPTH IS DEFINED AS DEPTH TO WATER TABLE. RECORDING METHODS, PATTERNS, UNITS, ETC. CONFORM WITH THE ALABAMA GEOTECHNICAL SOCIETY'S STANDARD PRACTICES.

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

DEPTH	ELEM. ELEV.	MATERIAL DESCRIPTION AND NOTES	SPT	REC. ID	REC. No	SAMPLER	HF	STATION/DEPTH			CORR. CLASS	EXPLANATION		
								AL	EL	PL				
1	558.9	0.3' - ASPHALT (4.0") 0.8' - CONCRETE (9.0") STIFF TO VERY STIFF, DARK BROWN SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	1	SS-1	8	SS-1	1.50	2	25	41	37	21	10	A-60 (M)
2	558.5		2	SS-2	13	50	SS-2	2.75	4	25	41	37	21	10
3	558.5	VERY STIFF TO HARD, BROWNISH GRAY TO GRAY CLAY, SOME TO AND SILT, TRACE TO LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	3	SS-3	5	11	3.00	2	25	41	37	21	10	A-60 (M)
4	558.5		4	SS-4	15	61	SS-4	4.50	2	25	41	37	21	10
5	558.5	-CU TRIAXIAL TEST PERFORMED @ 0.5'	5	SS-5	14	61	4.50	2	25	41	37	21	10	A-7-6 (M)
6	558.5		6	SS-6	17	61	SS-6	5.50	1	0	42	57	42	28
7	558.5	STIFF, GRAY CLAY, SOME SILT, MOIST.	7	SS-7	12	72	2.50	2	25	41	37	21	10	A-7-6 (M)
8	558.5		8	SS-8	15	66	SS-8	2.00	2	25	41	37	21	10
9	558.5	VERY STIFF TO HARD, GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.	9	SS-9	14	61	2.00	2	25	41	37	21	10	A-7-6 (M)
10	558.5		10	SS-10	10	67	SS-10	1.25	0	0	28	74	54	28
11	558.5	-COBBLES PRESENT @ 40.5'	11	SS-11	25	83	4.00	2	25	41	37	21	10	A-60 (M)
12	558.5		12	SS-12	31	87	SS-12	4.00	12	15	33	21	15	10
13	558.5	DENSE, LIGHT BROWN FINE SAND, TRACE SILT, DRY.	13	SS-13	17	69	4.5	2	25	41	37	21	10	A-60 (M)
14	558.5		14	SS-14	48	58	SS-14	2.0	2	25	41	37	21	10

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. GRAVE IN DEPTH 12.0'.
 MEASUREMENT METHODS, MATERIALS, QUANTITIES: COMPASSED WITH THE ALUMINUM 40LB. BENICHITE 68-H2O AND SOL-COTTONES.

PROJECT: HAM-75-7.85
 TYPE: RETAINING WALL
 PID: 76256 BR ID: N/A
 START: 6/6/07 END: 6/6/07

DRILLING FIRM / OPERATOR: RII / EAM
 SAMPLING FROM LOGS: RII LOG
 DRILLING METHOD: 3.7" HSS
 SAMPLING METHOD: SPT

DRILL NO: CHM 5504
 NUMBER: AUTOMATIC
 CALIBRATION DATE: N/A
 ENERGY RATIO (M): N/A

STATION / OFFSET: 205+25.51-105.51 RT
 ALLEGATION: N/A
 ELEVATION: 356.32 REE: 35.01
 CROSS: N/A
 EXPLANATION: B-002-0-07
 PAGE: 1 OF 1

DEPTH (FEET)	ELEM. NO.	MATERIAL DESCRIPTION	SPT	N	REC. SAMPLE ID	HP (IN)	STANDARD PENETRATION TEST (SPT)				CORRECT CLASS (INSET)
							BL	SL	LL	ML	
1	550.2	4.0" - ASPHALT									
2	550.4	10.0" - CONCRETE									
3	554.4	8" - AGGREGATE BASE									
4		FILL: STIFF BROWN CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.		8	SS-1	4.5					A-7-b (X)
5				11	SS-2	4.0					A-7-b
6				14	SS-3	3.0					A-7-b (X)
7				7	SS-4	4.0					A-6-a (X)
8				10	SS-5						A-7-b (X)
9				8	SS-6						A-6-a
10				14	SS-7						A-6-a (X)
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
 MEASUREMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

PROJECT: HAM-75-10-10	DRILLING FIRM / OPERATOR: RII / R.I. & M.	DRILL NO: Mobile 54	STATION / OFFSET: 206+26.501-106.4 FT	EXPLORATION ID: B-003-0-07
TYPE: RETAIN WALL	SAMPLING FROM LOGS: 22" LOG	NUMBERS: 106	ALTIMETER: 106	PAGE: 1 OF 1
PID: 76256	BR ID: 6107	CALIBRATION DATE: N/A	ELEVATION: 106	
START: 6/6/07	END: 6/6/07	ENERGY RATIO (%): N/A	COOR: NAD 83	

MATERIAL DESCRIPTION AND NOTES

6" - TOPSOIL
 MEDIUM DENSE, BROWN GRAVEL WITH SAND, SILT AND CLAY, DAMP.

STIFF, BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

STIFF, BROWN SANDY SILT, TRACE FINE GRAVEL, MEDIUM DENSE, BROWN FINE SAND, SOME COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, DRY.

DEPTH (SPT)	ELEM.	DEPTH (FT)	REC. SAMPLE ID	HP (IN)	SP	FS	SL	LL	PL	MC	UNIT CLASS (INSET)
1	528.1										
2	527.8										
3	525.1										
4											
5											
6											
7											
8	523.4										
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29	523.1										
30											

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. REWORKING METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

PROJECT: HAM-75-10-10
 TYPE: RETAIN WALL
 PID: 76256 BR ID: N/A
 START: 6/6/07 END: 8/30/07

DRILLING FIRM / OPERATOR: RII / EAM
 DRILLING METHOD: 3/2" HSB
 SAMPLING METHOD: SPT

DRILL NO: CHM 550A
 STATION / OFFSET: 31+10.521-10.521 BT
 ALTIMETER: 4.00
 ELEVATION: 533.88
 DATE: 08/01/07
 EXPLORATION NO: B-904-0-07
 PAGE: 1 OF 1

DEPTH (SPT)	ELEM. NO.	MATERIAL DESCRIPTION AND NOTES	SPT	N	REC. SAMPLE ID	HF (IN)	CORRECTION (IN)										CORR. CLASS
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	
1	553.4	5" - TOPSOIL															
2	553.4	STIFF BROWN SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DRY.	7	15	SS-1	4.0											A-7-B (V)
3	553.4																
4	553.4	MEDIUM STIFF TO STIFF, BROWNISH GRAY CLAY, LITTLE SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	7	10	SS-2	4.0											A-7-B (V)
5	553.4																
6	553.4																
7	553.4																
8	553.4																
9	553.4																
10	553.4																
11	553.4																
12	553.4																
13	553.4																
14	553.4	VERY STIFF, BROWNISH GRAY CLAY, LITTLE SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	11	24	SS-3	2.35											A-7-B (V)
15	553.4																
16	553.4																
17	553.4																
18	553.4																
19	553.4																
20	553.4																
21	553.4																
22	553.4																
23	553.4																
24	553.4																
25	553.4																
26	553.4																
27	553.4																
28	553.4																
29	553.4																
30	553.4																

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
 REWORKING METHODS, MATERIALS, QUANTITIES, NOT RECORDED.

PROJECT: HAM-75-10	DRILLING FIRM / OPERATOR: RLL LLC	DRILL NO: CHM 550A	STATION / OFFSET: 112+22.11-112.11 FT	EXPLORATION ID: B-905-0-07
TYPE: RETAIN WALL	SAMPLING FROM LOGS: 37' LESS	DATE: 6/21/2023	ALTIMETER: 112+22.11	PAGE: 1 OF 1
PID: 76256	BR ID: 61607	BR ID: 61607	ELEVATION: 524.8	BLANK: 112+22.11
START: 61607	END: 61607	ENERGY RATIO (%): 100	COORD: 112+22.11	REMARKS: 112+22.11

DEPTH (FEET)	SPT	N	REC. SAMPLE ID	HP (IN)	CORR. FACTOR	CORRECTION				CORR. CLASS	CORR. (IN)
						LL	PL	ML	PH		
1											
2	4	10	SS-1	4.7	15	7	26	50	27	16	13
3											
4	2	8	SS-2	2.25	4	3	4	4	4	4	A-7-B (V)
5											
6	3	6	SS-3	4.0	0	0	16	50	25	24	A-7-B
7											
8											
9	2	6	SS-4	2.0	4	4	4	4	4	4	A-7-B
10											
11											
12											
13											
14	5	17	SS-5	3.0	4	4	4	4	4	11	A-7-B (V)
15											
16											
17	6	10	SS-6		4	4	4	4	4	4	A-8 (V)
18											
19											
20	5	16	SS-7		4	4	4	4	4	4	A-8
21											
22											
23											
24	5	16	SS-8		4	4	4	4	4	4	A-8 (V)
25											
26											
27											
28											
29	6	25	SS-9		4	4	4	4	4	4	A-8 (V)
30											
31											
32											
33											
34	10	25	SS-10		4	4	4	4	4	4	A-8 (V)
35											

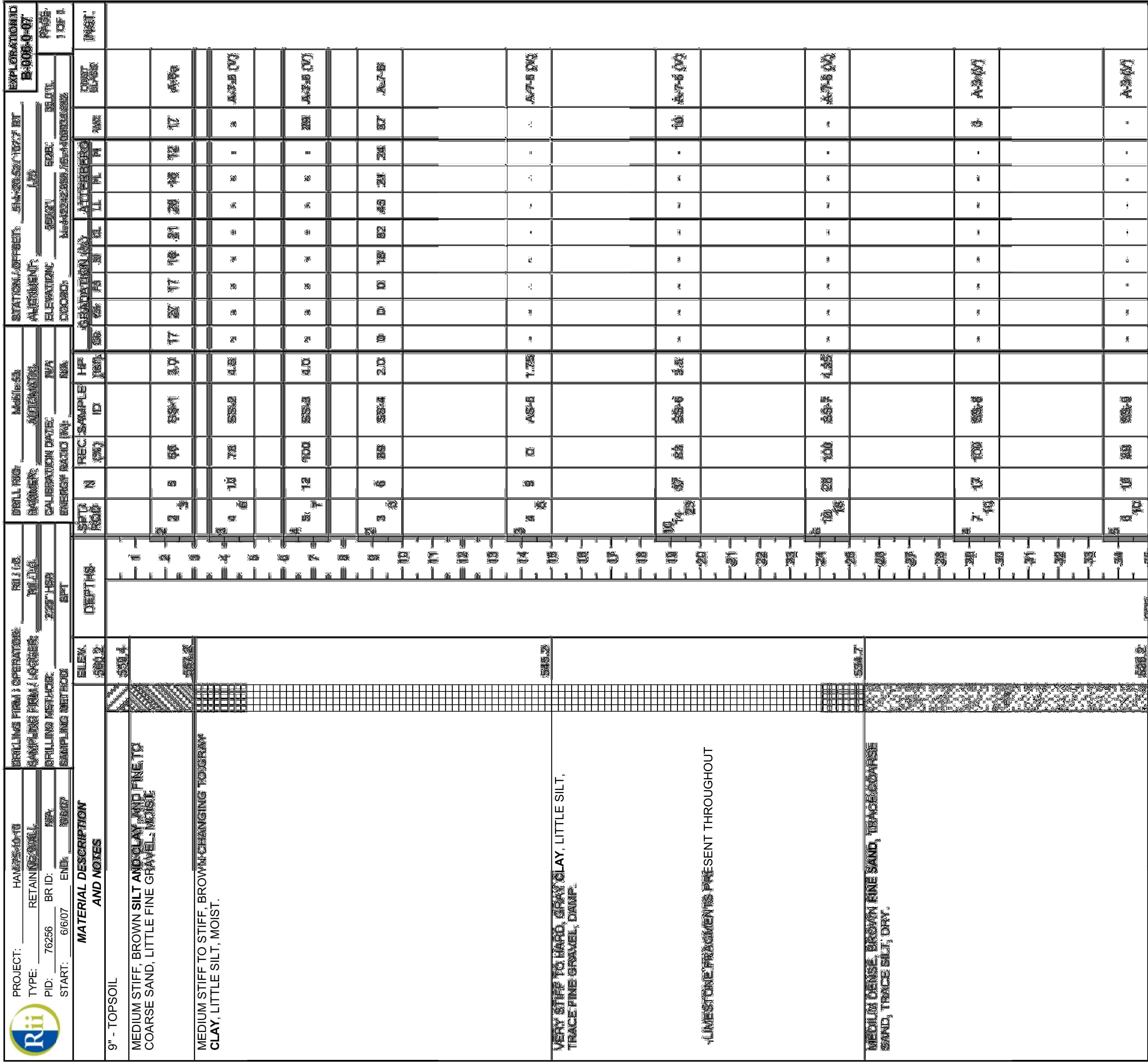
5' - TOPSOIL
STIFF, BROWN SILTY CLAY, LITTLE FINE TO COARSE SAND, LITTLE FINE GRAVEL, DAMP.

MEDIUM STIFF, BROWN CLAY, LITTLE SILT, MOIST.

VERY STIFF, BRAYISH BROWN CLAY, LITTLE SILT, DAMP.
-DRILLERS NOTED COBBLES IN SS-5

MEDIUM DENSE, BROWN FINE SAND, TRACE COARSE SAND, TRACE SILT, DAMP.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
REMARKS: MATERIALS QUANTITIES NOT RECORDED.

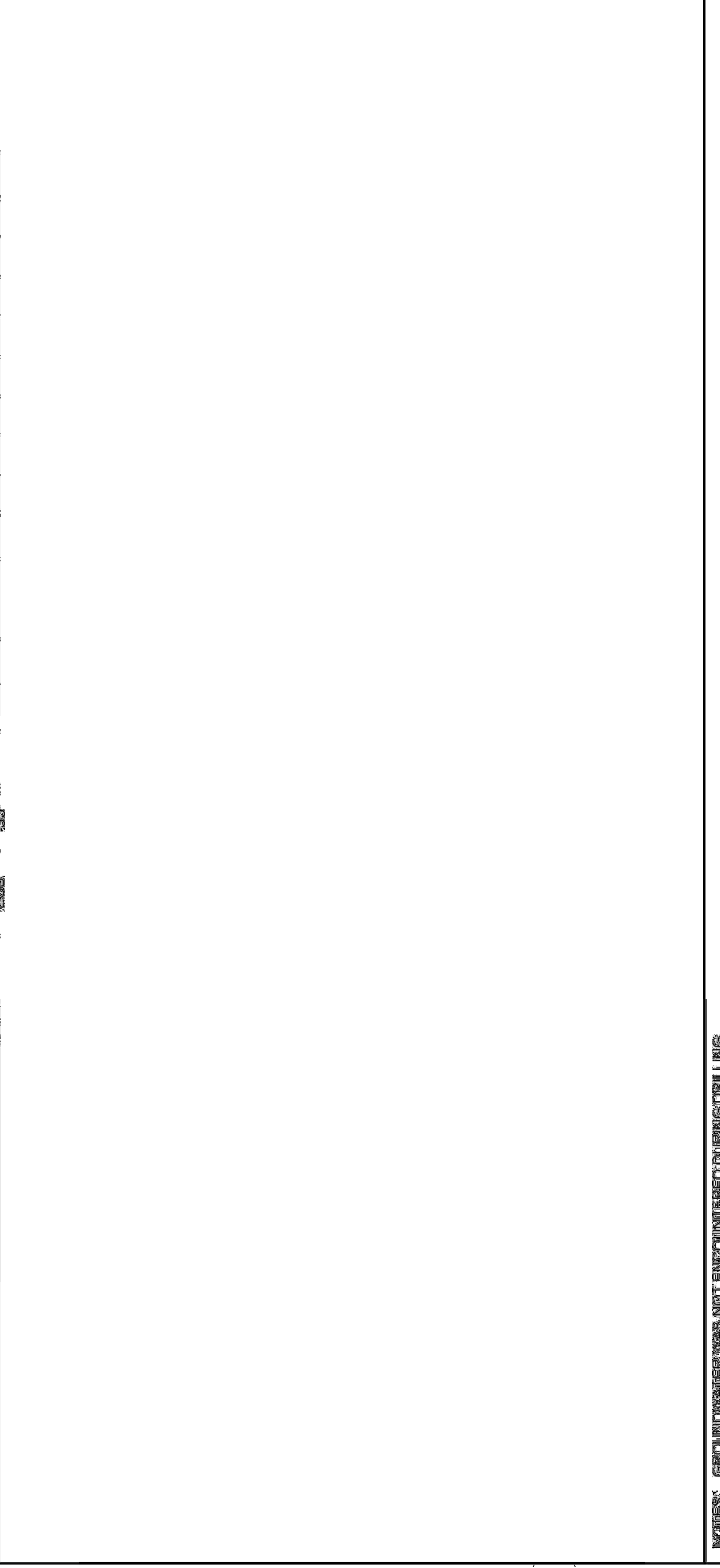


NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. RECOMMEND METHODS, MATERIALS, QUANTITIES. NOT RECORDED.

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZL256.dgn 6/21/2023 1:17:26 PM bmccutchen

PROJECT: HAM-75-7.8	DRILLING FIRM / OPERATOR: RII I.E.M.	DRILL NO: Mobil-55	STATION / OFFSET: 213+20.50(1)-107.50 BT	EXPLORATION NO: B-907-0-07
TYPE: RETAINMENT WALL	SAMPLES FROM LOGS: NO LOG	SPACERS: NONE	ALTIMETER: HPS	DATE: 06/11/2023
PID: 76256	BR ID: 76256	CALIBRATION DATE: N/A	ELEVATION: 107.50	RECORD: 107.50
START: 6/5/07	END: 6/5/07	ENERGY RATIO (%): N/A	DEPTH: 0.00	SOIL: 107.50
MATERIAL DESCRIPTION AND NOTES	DRILLING METHOD: SPT	DEPTH:	SPT RCD:	DEPTH:

DEPTH (FEET)	SPT RCD		REC. SAMPLE ID	HP (FT)	CORRECTION (IN)	ATTENDED	CORRECTED	CORRECTION			CORRECTED	CORRECTED
	N	N						N	N	N		
1	2	2	SS-1	2.25	10	27	27	10	27	27	27	A-6a(V)
2	2	2	SS-2	2.25	10	27	27	10	27	27	27	A-6a(V)
3	2	2	SS-3	2.25	10	27	27	10	27	27	27	A-6a(V)
4	2	2	SS-4	2.25	10	27	27	10	27	27	27	A-6a(V)
5	2	2	SS-5	2.25	10	27	27	10	27	27	27	A-6a(V)
6	2	2	SS-6	2.25	10	27	27	10	27	27	27	A-6a(V)
7	2	2	SS-7	2.25	10	27	27	10	27	27	27	A-6a(V)
8	2	2	SS-8	2.25	10	27	27	10	27	27	27	A-6a(V)
9	2	2	SS-9	2.25	10	27	27	10	27	27	27	A-6a(V)
10	2	2	SS-10	2.25	10	27	27	10	27	27	27	A-6a(V)
11	2	2	SS-11	2.25	10	27	27	10	27	27	27	A-6a(V)
12	2	2	SS-12	2.25	10	27	27	10	27	27	27	A-6a(V)
13	2	2	SS-13	2.25	10	27	27	10	27	27	27	A-6a(V)
14	2	2	SS-14	2.25	10	27	27	10	27	27	27	A-6a(V)
15	2	2	SS-15	2.25	10	27	27	10	27	27	27	A-6a(V)
16	2	2	SS-16	2.25	10	27	27	10	27	27	27	A-6a(V)
17	2	2	SS-17	2.25	10	27	27	10	27	27	27	A-6a(V)
18	2	2	SS-18	2.25	10	27	27	10	27	27	27	A-6a(V)
19	2	2	SS-19	2.25	10	27	27	10	27	27	27	A-6a(V)
20	2	2	SS-20	2.25	10	27	27	10	27	27	27	A-6a(V)
21	2	2	SS-21	2.25	10	27	27	10	27	27	27	A-6a(V)
22	2	2	SS-22	2.25	10	27	27	10	27	27	27	A-6a(V)
23	2	2	SS-23	2.25	10	27	27	10	27	27	27	A-6a(V)
24	2	2	SS-24	2.25	10	27	27	10	27	27	27	A-6a(V)
25	2	2	SS-25	2.25	10	27	27	10	27	27	27	A-6a(V)
26	2	2	SS-26	2.25	10	27	27	10	27	27	27	A-6a(V)
27	2	2	SS-27	2.25	10	27	27	10	27	27	27	A-6a(V)
28	2	2	SS-28	2.25	10	27	27	10	27	27	27	A-6a(V)
29	2	2	SS-29	2.25	10	27	27	10	27	27	27	A-6a(V)
30	2	2	SS-30	2.25	10	27	27	10	27	27	27	A-6a(V)
31	2	2	SS-31	2.25	10	27	27	10	27	27	27	A-6a(V)
32	2	2	SS-32	2.25	10	27	27	10	27	27	27	A-6a(V)
33	2	2	SS-33	2.25	10	27	27	10	27	27	27	A-6a(V)
34	2	2	SS-34	2.25	10	27	27	10	27	27	27	A-6a(V)
35	2	2	SS-35	2.25	10	27	27	10	27	27	27	A-6a(V)



NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
 MEASUREMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: HAM-75-10-R
 TYPE: RETAIN WALL
 PID: 76256
 START: 6/5/07
 BR ID: N/A
 END: 6/5/07
 DRILLING FIRM / OPERATOR: RLL LLC
 SAMPLING FROM LOGS: YES
 DRILLING METHOD: SPT
 SAMPLING METHOD: SPT
 DRILL NO: 1000000000
 CORRECTED ELEVATION: 532.1
 STATION / OFFSET: STATION: 1+10.00
 ALIGNMENT: 1000000000
 ELEVATION: 532.1
 EXPLORATION NO: E-008-0-07
 SHEET NO: 1 OF 1

DEPTH (FEET)	SPT NO.	REC. SAMPLE ID	REC. DATE	HP (PSF)	CORRECTED ELEV. (FEET)	LABORATORY TESTS										SOIL CLASS				
						UC	SC	FS	SL	LL	PL	P	M	MP	MP					
0-4	1				532.1															
4-10	2	SS-1	08/01/07	1.0	532.1															A-6
10-15	3	SS-2	08/01/07	1.5	532.1															A-6
15-20	4	SS-3	08/01/07	2.0	532.1															A-6
20-25	5	SS-4	08/01/07	2.5	532.1															A-6
25-30	6	SS-5	08/01/07	3.0	532.1															A-6
30-35	7	SS-6	08/01/07	3.5	532.1															A-6
35-40	8	SS-7	08/01/07	4.0	532.1															A-6
40-45	9	SS-8	08/01/07	4.5	532.1															A-6
45-50	10	SS-9	08/01/07	5.0	532.1															A-6
50-55	11	SS-10	08/01/07	5.5	532.1															A-6
55-60	12	SS-11	08/01/07	6.0	532.1															A-6
60-65	13	SS-12	08/01/07	6.5	532.1															A-6
65-70	14	SS-13	08/01/07	7.0	532.1															A-6
70-75	15	SS-14	08/01/07	7.5	532.1															A-6
75-80	16	SS-15	08/01/07	8.0	532.1															A-6
80-85	17	SS-16	08/01/07	8.5	532.1															A-6
85-90	18	SS-17	08/01/07	9.0	532.1															A-6
90-95	19	SS-18	08/01/07	9.5	532.1															A-6
95-100	20	SS-19	08/01/07	10.0	532.1															A-6
100-105	21	SS-20	08/01/07	10.5	532.1															A-6
105-110	22	SS-21	08/01/07	11.0	532.1															A-6
110-115	23	SS-22	08/01/07	11.5	532.1															A-6
115-120	24	SS-23	08/01/07	12.0	532.1															A-6
120-125	25	SS-24	08/01/07	12.5	532.1															A-6
125-130	26	SS-25	08/01/07	13.0	532.1															A-6
130-135	27	SS-26	08/01/07	13.5	532.1															A-6
135-140	28	SS-27	08/01/07	14.0	532.1															A-6
140-145	29	SS-28	08/01/07	14.5	532.1															A-6
145-150	30	SS-29	08/01/07	15.0	532.1															A-6

4" - TOPSOIL
 STIFF BROWN SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DRY.

MEDIUM STIFF TO STIFF, BROWN CHANGING TO BROWNISH GRAY SILT AND CLAY, AND COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.

COBBLES ENCOUNTERED FROM 16.0-22.0'

MEDIUM DENSE, BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, DRY.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. RECOMMEND METHODS, MATERIALS, QUANTITIES. NOT RECORDED.

PROJECT: HAM-75-7.85
 TYPE: RETAIN WALL
 PID: 76256 BR ID: N/A
 START: 6/5/07 END: 8/27/07

DRILLING FIRM / OPERATOR: RII / C.A.M.
 SAMPLING FROM LOGS: RII LOG
 DRILLING METHOD: 22" HSS
 SAMPLING METHOD: SPT

DRILL NO: Mobile 54
 NUMBER: 00100000000000000000
 CALIBRATION DATE: N/A
 ENERGY RATIO (M): N/A

STATION / OFFSET: 81+00.00 / 10.00 FT
 ALTIMETER: 100
 ELEVATION: 533.1
 DATE: 08/08/07
 RECD: 08/08/07
 SOIL: A-7.5 (V)
 LOG NO: 00100000000000000000

EXPLORATION ID: B-009-0-07
 PAGE: 1 OF 1

DEPTH (FT)	ELEM. ELEV. (FT)	SPT	N	REC. SAMPLE ID	HF (FT)	STANDARD PENETRATION TEST (SPT)				CORR. CLASS (INSTR.)	
						BL	SL	LL	PL		
0 - 3	533.1	1									
3 - 4	533.1	2	73	SS-1						A-7.5 (V)	
4 - 5	533.1	3									
5 - 6	533.1	4	11	SS-2	2.75					A-7.5 (V)	
6 - 7	533.1	5									
7 - 8	533.1	6	7	SS-3	3.25	4	2	26	70	21	A-7.5
8 - 9	533.1	7									
9 - 10	533.1	8	10	SS-4	3.5						A-7.5 (V)
10 - 11	533.1	9									
11 - 12	533.1	10	20	SS-5	4.5						A-7.5 (V)
12 - 13	533.1	11									
13 - 14	533.1	12									
14 - 15	533.1	13									
15 - 16	533.1	14	20	SS-6	4.8						A-7.5 (V)
16 - 17	533.1	15									
17 - 18	533.1	16									
18 - 19	533.1	17									
19 - 20	533.1	18									
20 - 21	533.1	19									
21 - 22	533.1	20									
22 - 23	533.1	21									
23 - 24	533.1	22									
24 - 25	533.1	23									
25 - 26	533.1	24									
26 - 27	533.1	25									
27 - 28	533.1	26									
28 - 29	533.1	27									
29 - 30	533.1	28	20	SS-8				82	9		A-3
30 - 31	533.1	29									
31 - 32	533.1	30									

3" - TOPSOIL
 MEDIUM DENSE, BROWNISH GRAY GRAVEL WITH SAND, SILT AND CLAY, DAMP.

MEDIUM STIFF TO STIFF, BROWN CLAY, SOME SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

VERY STIFF TO HARD, BROWN CLAY, SOME SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

MEDIUM DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, TRACE FINE GRAVEL, DAMP.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
 MEASUREMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

PROJECT: HAM-75-7.8 RETAIN WALL
 TYPE: RETAIN WALL
 PID: 76256 BR ID: N/A
 START: 6/5/07 END: 8/8/07
 DRILLING FIRM / OPERATOR: RLL LLC
 SAMPLING FROM LOGS: NO LOG
 DRILLING METHOD: SPT
 SAMPLING METHOD: SPT
 DRILL NO: 77889-10-10
 CORRECTED STATION: 228+12.20(11776) BT
 ALLEGATION: N/A
 ELEVATION: 888.25
 DATE: 8/10/07
 EXPLORATION NO: B-910-0-07
 SHEET NO: 1 OF 1

DEPTH (SPT)	SPT	N	REC. SAMPLE ID	HP (IN)	CORR. SPT	CORRECTION (IN)							CORR. SPT	CORR. CLASS	INSTR.	
						0.5	1.0	1.5	2.0	2.5	3.0	4.0				5.0
1	1															
2	2	8	SS-1													A-5-B (X)
3	3															
4	4	6	SS-2	2.0												A-5-B
5	5															
6	6	7	SS-3	2.75												A-5-B (X)
7	7															
8	8															
9	9	11	SS-4	2.0												A-5-B (X)
10	10															
11	11															
12	12															
13	13															
14	14	6	SS-5	2.25												A-7-6
15	15															
16	16															
17	17															
18	18															
19	19															
20	20															
21	21															
22	22															
23	23															
24	24															
25	25															
26	26															
27	27															
28	28															
29	29															
30	30															

3" - TOPSOIL
 MEDIUM DENSE, BROWNISH GRAY GRAVEL WITH SAND, SILT, AND CLAY, MOIST.

MEDIUM STIFF, BROWNISH GRAY SILTY CLAY, TRACE COARSE TO FINE SAND, MOIST.

STIFF, DARK BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

MEDIUM STIFF TO STIFF, BROWN CLAY, LITTLE SILT, MOIST.

STIFF TO VERY STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

MEDIUM DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, DRY.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
 REFINEMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

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

PROJECT: HAM-75-7.85
 TYPE: RETAINING WALL
 PID: 76256 BR ID: N/A
 START: 6/5/07 END: 8/5/07

DRILLING FIRM / OPERATOR: RII LLC
 SAMPLING FROM LOGS: YES
 DRILLING METHOD: 37" HSS
 SAMPLING METHOD: SPT

DRILL NO: CHS 5304
 NUMBER: 101010101
 CALIBRATION DATE: N/A
 ENERGY RATIO (M): N/A

STATION / OFFSET: 20+12.1156 RT
 ALTIMETER: 100
 ELEVATION: 529.7
 DATE: 06/21/2023

EXPLORATION ID: B-011-0-07
 PAGE: 1 OF 1

DEPTH (FEET)	SPT ROD	N	REC. SAMPLE ID	HF (PSF)	COR. FACTOR	CORRECTION (IN)				CORR. CLASS	INSTR.
						LL	LL	LL	LL		
1											
2	1	13	SS-1	2.25							A-3(M)
3											
4	2	7	SS-2	1.25							A-3(M)
5											
6	3	8	SS-3	1.25							A-3(M)
7											
8											
9	2	4	SS-4	1.25							A-3(M)
10											
11											
12											
13											
14	2	7	SS-5	2.0							A-3(M)
15											
16											
17											
18											
19	2	6	SS-6	4.0							A-1-b
20											
21											
22											
23											
24	1	4	SS-7								A-3(M)
25											
26											
27											
28											
29	3	27	SS-8								A-3(M)
30	10	17									
31											
32											
33											
34											
35	5	14	SS-9								A-3(M)
36											

STIFF TO MEDIUM STIFF, BROWN SILT AND CLAY, AND COARSE TO FINE SAND, TRACE FINE GRAVEL, DRY TO MOIST.

SOFT TO MEDIUM STIFF, BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.

LOOSE, BROWN GRAVEL AND SAND, LITTLE SILT, MOIST.

VERY LOOSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, DRY.

MEDIUM DENSE, BROWN FINE SAND, TRACE SILT, TRACE COARSE SAND, DAMP.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. REFINEMENT METHODS, MATERIALS, QUANTITIES, NOT RECORDED.

PROJECT: HAM-75-10-10		DRILLING FIRM / OPERATOR: RII / C.A.M.		DRILL NO: Mobile 58		STATION / OFFSET: 228+06.85 / 107.7 FT		EXPLORATION NO: B-912-0-07	
TYPE: RETAINING WALL		SAMPLING FROM: LOGS		CALIBRATION DATE: N/A		ALTIMETER: LWS		PAGE: 1 OF 1	
PID: 76256		BR ID: N/A		ENERGY RATIO (%): N/A		ELEVATION: 228.00		RECORDED: 08/15/2023	
START: 6/5/07		END: 08/07		SAMPLING METHOD: SPT		CORRECTED: 165-400000000		CORRECT CLASS: (N/A)	
MATERIAL DESCRIPTION AND NOTES		DEPTH: SPT		REC. SAMPLE ID		CORRECTION (IN)		CORRECT CLASS	
		ELEV. (FT)		N		CORRECTION (IN)		CORRECT CLASS	
LOOSE, BROWN GRAVEL AND SAND, TRACE SILT, DAMP.	1	558.0	10	39	SS-1				
	2	558.0	4	28	SS-2	2.0	7	28	28
	3	558.0	4	28	SS-2	2.0	4	7	28
MEDIUM STIFF, BROWN SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DAMP.	4	558.0	8	35	SS-3	2.25	9	35	35
	5	558.0	2	24	SS-4		1	18	55
	6	558.0	4	34	SS-5		2	24	34
	7	558.0	4	34	SS-5		2	24	34
VERY LOOSE TO LOOSE, BROWN COARSE TO FINE SAND, SOME CLAY, LITTLE SILT, TRACE FINE GRAVEL, DAMP.	8	558.0	11	68	SS-6		5	30	68
	9	558.0	5	44	SS-7		3	30	44
	10	558.0	4	34	SS-8		2	24	34
MEDIUM DENSE, BROWN COARSE TO FINE SAND, LITTLE SILT, DRY TO DAMP.	11	558.0	12	67	SS-8		6	30	67
	12	558.0	12	67	SS-8		6	30	67
	13	558.0	12	67	SS-8		6	30	67
	14	558.0	12	67	SS-8		6	30	67
	15	558.0	12	67	SS-8		6	30	67

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. REFINEMENT METHODS, MATERIALS, QUANTITIES: NOT PROVIDED.

PROJECT: HAM-75-10 TYPE: RETAIN WALL		DRILLING FIRM / OPERATOR: RII / EAM		DRILL NO: Mobile 58		STATION / OFFSET: 22+85.22 / 10.0 FT		EXPLORATION ID: B-913-0-07		
PID: 76256 BR ID: 88A		SAMPLING FROM LOGS: 22+1.53		CALIBRATION DATE: N/A		ALTIMETER: LWS		PAGE: 1 OF 1		
START: 6/4/07		DRILLING METHOD: 22" HSB		ENERGY RATIO (N): N/A		ELEVATION: 52.0		RECORDED: BLOTT		
MATERIAL DESCRIPTION AND NOTES		SAMPLING METHOD: SPT		REC. SAMPLE ID		CORRECTION (N)		CORR. CLASS		
		DEPTH: SPT		N		LL		PL		
<p>FILL: STIFF, DARK BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.</p> <p>MEDIUM STIFF TO STIFF, REDDISH BROWN CHANGING TO DARK BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, MOIST.</p> <p>SOFT TO MEDIUM STIFF, REDDISH BROWN SANDY SILT, SOME CLAY, MOIST.</p>	1	0	10	55-1	4	0	0	0	0	A-50(V)
	2	0	10	55-1	4	0	0	0	0	A-50(V)
	3	0	10	55-1	4	0	0	0	0	A-50(V)
	4	0	10	55-2	7	0	0	0	0	A-50(V)
	5	0	10	55-2	7	0	0	0	0	A-50(V)
	6	0	10	55-3	12	0	0	0	0	A-50(V)
	7	0	10	55-3	12	0	0	0	0	A-50(V)
	8	0	10	55-3	12	0	0	0	0	A-50(V)
	9	0	10	55-4	7	0	0	0	0	A-50(V)
	10	0	10	55-4	7	0	0	0	0	A-50(V)
<p>LOOSE TO MEDIUM DENSE, BROWN COARSE TO FINE SAND, LITTLE SILT, TRACE FINE GRAVEL, DAMP TO MOIST.</p>	11	0	10	55-5	4	0	0	0	0	A-50(V)
	12	0	10	55-5	4	0	0	0	0	A-50(V)
	13	0	10	55-5	4	0	0	0	0	A-50(V)
	14	0	10	55-5	4	0	0	0	0	A-50(V)
	15	0	10	55-5	4	0	0	0	0	A-50(V)
	16	0	10	55-5	4	0	0	0	0	A-50(V)
	17	0	10	55-5	4	0	0	0	0	A-50(V)
	18	0	10	55-5	4	0	0	0	0	A-50(V)
	19	0	10	55-5	4	0	0	0	0	A-50(V)
	20	0	10	55-5	4	0	0	0	0	A-50(V)
	21	0	10	55-6	7	0	0	0	0	A-50(V)
	22	0	10	55-6	7	0	0	0	0	A-50(V)
	23	0	10	55-6	7	0	0	0	0	A-50(V)
	24	0	10	55-6	7	0	0	0	0	A-50(V)
	25	0	10	55-6	7	0	0	0	0	A-50(V)
	26	0	10	55-6	7	0	0	0	0	A-50(V)
	27	0	10	55-6	7	0	0	0	0	A-50(V)
	28	0	10	55-6	7	0	0	0	0	A-50(V)
	29	0	10	55-6	7	0	0	0	0	A-50(V)
	30	0	10	55-6	7	0	0	0	0	A-50(V)
	31	0	10	55-6	7	0	0	0	0	A-50(V)
	32	0	10	55-6	7	0	0	0	0	A-50(V)
	33	0	10	55-6	7	0	0	0	0	A-50(V)
	34	0	10	55-6	7	0	0	0	0	A-50(V)
	35	0	10	55-6	7	0	0	0	0	A-50(V)

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. REFINEMENT METHODS, MATERIALS, QUANTITIES, NOT RECORDED.

PROJECT: HAM-75-7.8	DRILLING FIRM / OPERATOR: RII / EAM	DRILL NO: Mobile 58	STATION / OFFSET: 226+00.00 / 18.00 FT	EXPLORATION ID: E-914-0-07
TYPE: RETAINING WALL	SAMPLING FROM LOGS: 226+18.00	DATE: 05/20/2023	ALLOCATION: 187	PAGE: 1 OF 1
PID: 76256	BR ID: 6/4/07	DRILLING METHOD: 226+18.00	ELEVATION: 558.8	RECORD: 187
START: 6/4/07	END: 05/20/23	SAMPLING METHOD: 226+18.00	COORD: N 226+18.00 E 18.00	RECORD: 187

MATERIAL DESCRIPTION AND NOTES

STIFF, BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DRY TO DAMP.

MEDIUM STIFF TO STIFF, BROWN CLAY, SOME SILT, SOME TO TRACE FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

MEDIUM DENSE, BROWN COARSE TO FINE SAND, LITTLE SILT, DAMP.

MEDIUM DENSE TO DENSE, BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, DRY TO WET.

DEPTH (FT)	SPT	SPT ROD	N	REC. SAMPLE ID	HP (ft)	LABORATORY TESTS										CORR. CLASS	INSTR.	
						SW	SH	SL	LL	PL	PI	U	W	FL	FM			FC
1																		
2	11	SS-1	4	SS-1	4.0													A-6(1)
3																		
4	8	SS-2	3	SS-2	3.0													A-6(1)
5																		
6	9	SS-3	4	SS-3	2.0													A-7(6)
7																		
8																		
9	6	SS-4	2	SS-4	2.0													A-7(6)
10																		
11																		
12																		
13																		
14	11	SS-5	10	SS-5	2.75													A-7-6
15																		
16																		
17	22	SS-6	2	SS-6														A-6(1)
18																		
19																		
20																		
21																		
22																		
23																		
24	10	SS-7	3	SS-7														A-6(1)
25	17																	
26																		
27																		
28																		
29	18	SS-8	1	SS-8														A-6
30																		
31																		
32																		
33																		
34	7	SS-9	1	SS-9														A-6(1)
35																		

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. RECORDED METHODS, MATERIALS, QUANTITIES. NOT RECORDED.

PROJECT: HAM-75-10-10		DRILLING FIRM / OPERATOR: RLL LLC		DRILL NO: CME 530A		STATION / OFFSET: 226-88.11-128.28 RT		EXPLORATION ID: B-919-0-07	
TYPE: RETAIN WALL		SAMPLING FROM LOGS: 3.7' - 1.8'		CALIBRATION DATE: N/A		ALTIMETER: LWS		PAGE: 1 OF 1	
PID: 76256		BR ID: N/A		ENERGY RATIO (KJ): N/A		ELEVATION: 226.88		SLOPE:	
START: 6/3/07		END: 6/3/07		REC. SAMPLE ID: A-7-1		CORRECTED SPT: 1		SOIL:	

DEPTH (SPT)	ELEM. ELEV.	MATERIAL DESCRIPTION AND NOTES	SET NO	REC. SAMPLE ID	HF (IN)	CORRECTED SPT	STANDARD PENETRATION TEST (SPT)					CORRECTED SPT	
							BL	SL	LL	PL	T		
1	570.4	4" - TOP SOIL											
2	569.4	STIFF, BROWN SANDY SILT, SOME FINE GRAVEL, DRY.	1	A-7-1	1.25	1						A-7-1	
3	568.4	-SAMPLE OBTAINED FROM AUGER CUTTINGS											
4	567.4	STIFF, BROWN SILT AND CLAY, TRACE COARSE TO FINE SAND, MOIST.	2	SS-2	3.25	1	1	1	1	1	1	A-7-2	
5	566.4												
6	565.4		3	SS-3	4.25	1	1	1	1	1	1	A-7-3	
7	564.4												
8	563.4	SOFT TO MEDIUM STIFF, GRAY CLAY, SOME SILT, TRACE FINE SAND, MOIST.	4	SS-4	3.0	0	1	28	71	48	25	21	A-7-4
9	562.4												
10	561.4		5	SS-5	1.25	0	0	26	79	43	22	24	A-7-5
11	560.4												
12	559.4												
13	558.4												
14	557.4		6	SS-6	1.75								A-7-6
15	556.4												
16	555.4		7	SS-7	4.5								A-7-7
17	554.4												
18	553.4												
19	552.4												
20	551.4												
21	550.4												
22	549.4												
23	548.4												
24	547.4	STIFF TO MEDIUM STIFF, GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP	8	SS-8	4.5								A-8-1
25	546.4												
26	545.4		9	SS-9	1.75								A-8-2
27	544.4												
28	543.4												
29	542.4												
30	541.4	MEDIUM DENSE TO DENSE, BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, DRY.	10	SS-10	1.75								A-3 (V)
31	540.4												
32	539.4												
33	538.4												
34	537.4												
35	536.4												
36	535.4												
37	534.4												
38	533.4												
39	532.4												
40	531.4												
41	530.4												
42	529.4												
43	528.4												
44	527.4												
45	526.4												
46	525.4												
47	524.4												
48	523.4												
49	522.4												
50	521.4												

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING.
 RECORDED METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

PROJECT: HAM-75-7.85
 TYPE: RETAIN WALL
 PID: 76256
 START: 6/3/07
 BR ID: N/A
 END: 6/3/07
 DRILLING FIRM / OPERATOR: RII LLC
 SAMPLING FROM LOGS: YES
 DRILLING METHOD: SPT
 SAMPLING METHOD: SPT
 DRILL NO: 76256-10-07
 ALLOCATION: 100%
 ELEVATION: 571.00
 COORD: 1150000000.00 1150000000.00
 STATION / OFFSET: 226+86.00 100% RT
 DATE: 6/15/07
 SHEET: 1 OF 1

DEPTH (FEET)	SPT ROD	N	REC. SAMPLE ID	HP (PSF)	CORRECTION (PSF)	CORRECTION (PSF)				CORRECT CLASS
						LL	PL	PH	MAX	
1										
2	5-3	8	SS-1	4.25						A-6b(V)
3										
4	4-4	8	SS-2	3.25						A-6b(V)
5										
6	4-4	8	AS-3							A-6b(V)
7										
8										
9	2-4	6	SS-4	4.5						A-6b(V)
10										
11										
12										
13										
14	5-8	18	SS-5							A-6b(V)
15										
16										
17										
18										
19										
20	2-4	6	SS-6	6.0						A-7-6
21										
22										
23										
24										
25										
26										
27										
28										
29	5-8	18	SS-7	4.0						A-7-6 (V)
30										
31										
32										
33										
34										
35	5-11	22	SS-8							A-3 (V)
36										
37										
38										
39	5-11	20	SS-10							A-3 (V)
40										
41										
42										
43										
44	6-17	21	SS-11							A-3 (V)
45										

MATERIAL DESCRIPTION AND NOTES
 MEDIUM STIFF, DARK BROWN SILTY CLAY AND COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

LOOSE, BROWN SANDY SILT, LITTLE CLAY, DAMP.

VERY STIFF, BROWN SILTY CLAY, TRACE COARSE TO FINE SAND, DAMP.

MEDIUM STIFF TO STIFF, GRAY CLAY, LITTLE SILT, DRY TO MOIST.

MEDIUM DENSE, BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, DRY.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. MEASUREMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

PROJECT: HAM-75-7.8 RETAIN WALL
 TYPE: RETAIN WALL
 PID: 76256 BR ID: N/A
 START: 6/10/07 END: 6/10/07

DRILLING FIRM / OPERATOR: RII / RII
 SAMPLING FROM LOGS: RII LOG
 DRILLING METHOD: SPT
 SAMPLING METHOD: SPT

DRILL NO: CHM 5504
 NUMBER: AUTOMATIC
 CALIBRATION DATE: N/A
 ENERGY RATIO (%): N/A

STATION / OFFSET: 30+45.71-132.5 RT
 ALTIMETER: N/A
 ELEVATION: 572.1
 BEARING: N
 CORNER: 132.5 RT

EXPLORATION ID: B-917-0-07
 PAGE: 1 OF 1

DEPTH (FEET)	SPT ROD	N	REC. SAMPLE ID (%)	HF (IN)	COR. (IN)	CORRECTION (IN)				CORR. CLASS
						LL	PL	ML	M	
1										
2	8, 7	13	AS-1	12	0	8	22	20	10	7
3										
4	8, 7	13	SS-2	4.5	0	8	22	20	10	A-6b(V)
5										
6	9, 14	23	SS-3	4.5	0	8	22	20	10	A-6b(V)
7										
8										
9	8, 12	20	SS-4	4.5	0	8	22	20	10	A-6b(V)
10										
11										
12										
13										
14	19, 27, 21	48	SS-5	6	0	8	22	20	10	A-1-b
15										
16										
17										
18										
19	8, 10, 12	22	SS-6	2.5	0	8	22	20	10	A-6b(V)
20										
21										
22										
23										
24	6, 7, 8	15	SS-7	4.5	0	8	22	20	10	A-6b(V)
25										
26										
27										
28										
29	5, 8, 8	14	SS-8	5.0	0	8	22	20	10	A-6b(V)
30										
31										
32										
33										
34	3, 4, 8	12	SS-9	1.0	0	8	22	20	10	A-7-6
35										
36										
37										
38										
39	5, 6, 7	13	SS-10	1.5	0	8	22	20	10	A-7-6 (V)
40										
41										
42										
43										
44	7, 11, 13	24	SS-11		0	8	22	20	10	A-6b(V)
45										

STIFF TO VERY STIFF, BROWN CHANGING TO MOTTLED BROWN AND GRAY SILTY CLAY, LITTLE FINE TO COARSE SAND, LITTLE FINE GRAVEL, DRY TO DAMP.

DENSE, GRAY GRAVEL AND SAND, SOME SILT, DRY.

STIFF TO VERY STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.

SOFT, GRAY CLAY, LITTLE SILT, TRACE COARSE TO FINE SAND, MOIST.

MEDIUM DENSE LIGHT BROWN FINE SAND, LITTLE COARSE SAND, TRACE SILT, DRY.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. SAMPLING METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

PROJECT: HAM-75-7.8 RETAIN WALL
 TYPE: RETAIN WALL
 PID: 76256 BR ID: N/A
 START: 6/14/07 END: 6/14/07

DRILLING FIRM / OPERATOR: RII / EAM.
 DRILLING METHOD: SPT
 SAMPLING METHOD: SPT

DRILL NO: CHM 5504
 DATE: 6/14/07
 CALIBRATION DATE: N/A
 ENERGY RANGE (FT): N/A

STATION / OFFSET: 20+00.00
 ELEVATION: 524.8
 COORD: NAD83 1181317.00 1181317.00

EXPLORATION ID: B-918-0-07
 PAGE: 1 OF 1

DEPTH (FT)	SPT ROD	N	REC. SAMPLE ID	HF (IN)	CORRECTION (IN)	CORRECTION (IN)				CORRECT CLASS
						LL	PL	M	M	
1										
2	2-3	8	SS-1							
3										
4	6-7	13	SS-2	1.54						A-6b(V)
5										
6	8-9	9	SS-3	2.0						A-7-5(V)
7										
8	10-11	7	SS-4	1.0						A-7-5(V)
9										
10	12-13	6	SS-5	1.0						A-7-6
11										
12										
13										
14	14-15	6	SS-6	1.25						A-7-6(V)
15										
16	16-17	11	SS-7	2.0						A-8a(V)
17										
18										
19										
20	18-19	10	SS-8							A-4b(V)
21										
22										
23										
24	20-21	27	SS-9							A-4b(V)
25										
26										
27										
28										
29	22-23	22	SS-10							A-4b(V)
30										
31										
32										
33										
34										
35	24-25	25	SS-11							A-4b(V)
36										
37										
38										
39										
40										
41										
42										
43										
44	26-27	19	SS-11							A-4b(V)
45										

MEDIUM STIFF, BROWN SILT AND CLAY, SOME FINE GRAVEL, LITTLE FINE TO COARSE SAND, DRY.

STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, DAMP.

MEDIUM STIFF TO STIFF, GRAY CLAY, SOME SILT, DAMP TO MOIST.

VERY STIFF, BROWNISH GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.

MEDIUM DENSE, BROWN SILT, SOME COARSE TO FINE SAND, MOIST TO DRY.

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING DRILLING. MEASUREMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED.

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

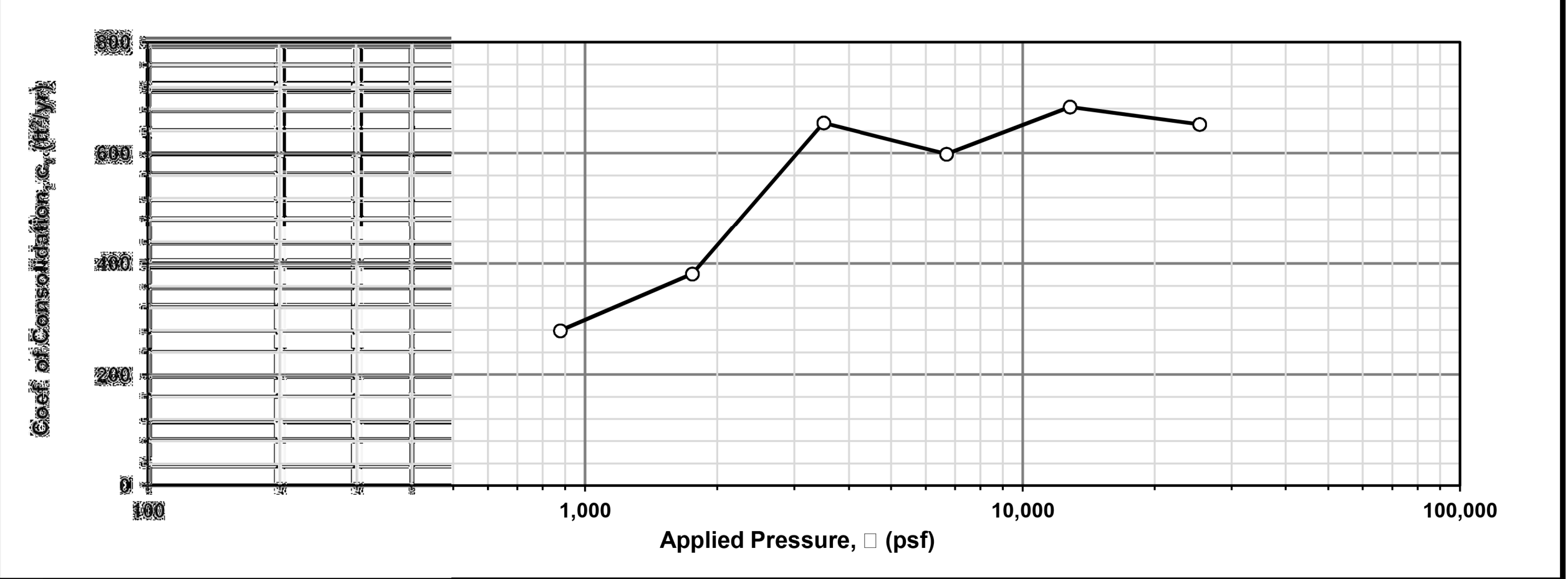
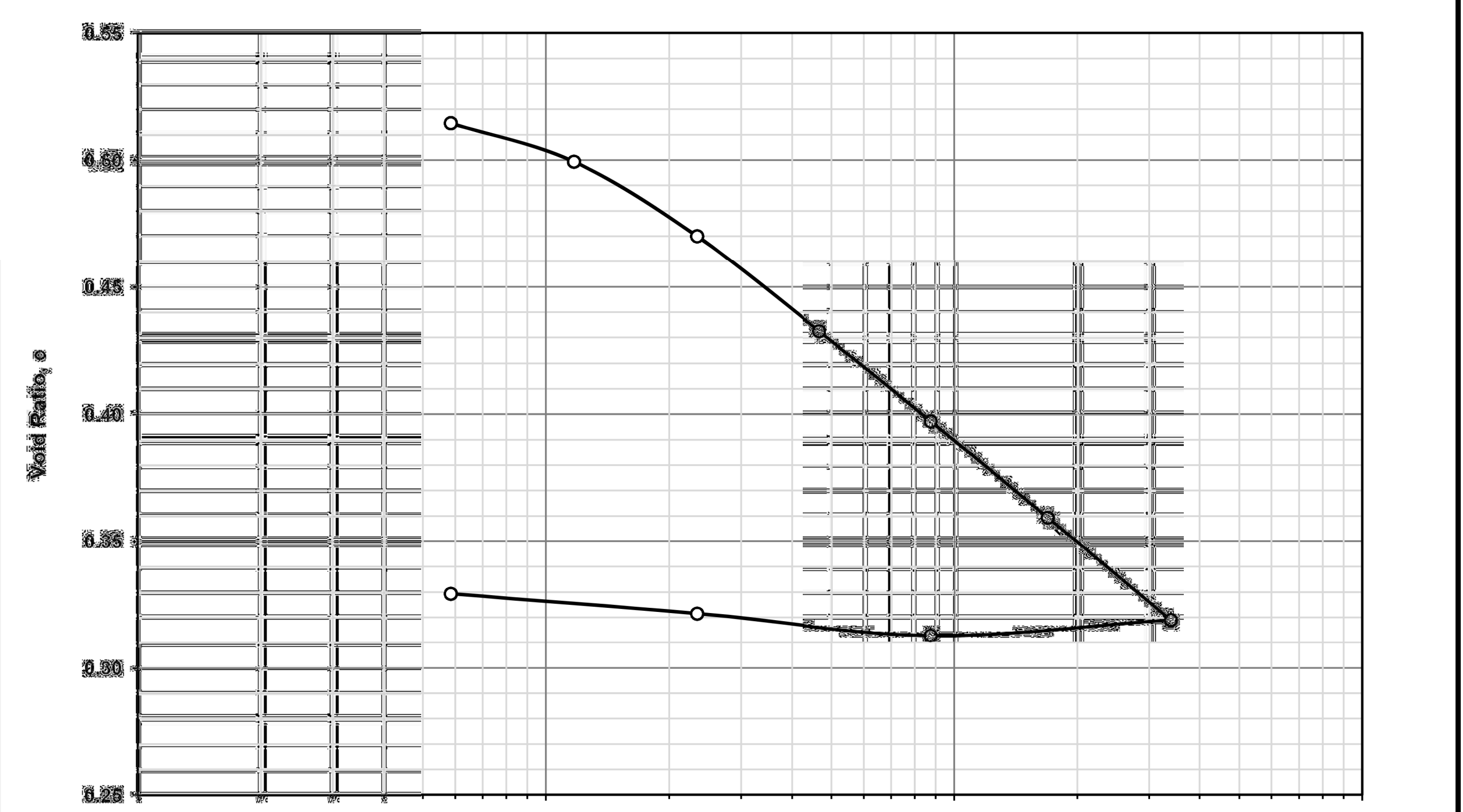
One-Dimensional Consolidation Test Report (ASTM D2435)

Project Number: B-10-020 Boring Number: B-01B-0-11
 Project Name: HAM-75-7.85 Sample No./Depth: ST-4 (9.4 ft)
 Project Location: Hamilton County, Ohio Date of Testing: 10/12/2011 to 10/20/2011
 Client: EMH&T Technician: JLH

Soil Description: Brownish-gray SANDY SILT, little clay, trace fine gravel
 Soil Classification: ODOT A-4a

Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	24	16	8	7	8	91	87	19

Natural		γ_d	γ_{sat}	σ'_v	σ'_v	σ'_v	w_c	e_c
σ'_v	w	(pcf)	(pcf)	(psf)	(psf)	(psf)	(%)	
108.6	13.0	108.6	127.1	2,556	2.67	0.535	1,857	0.134



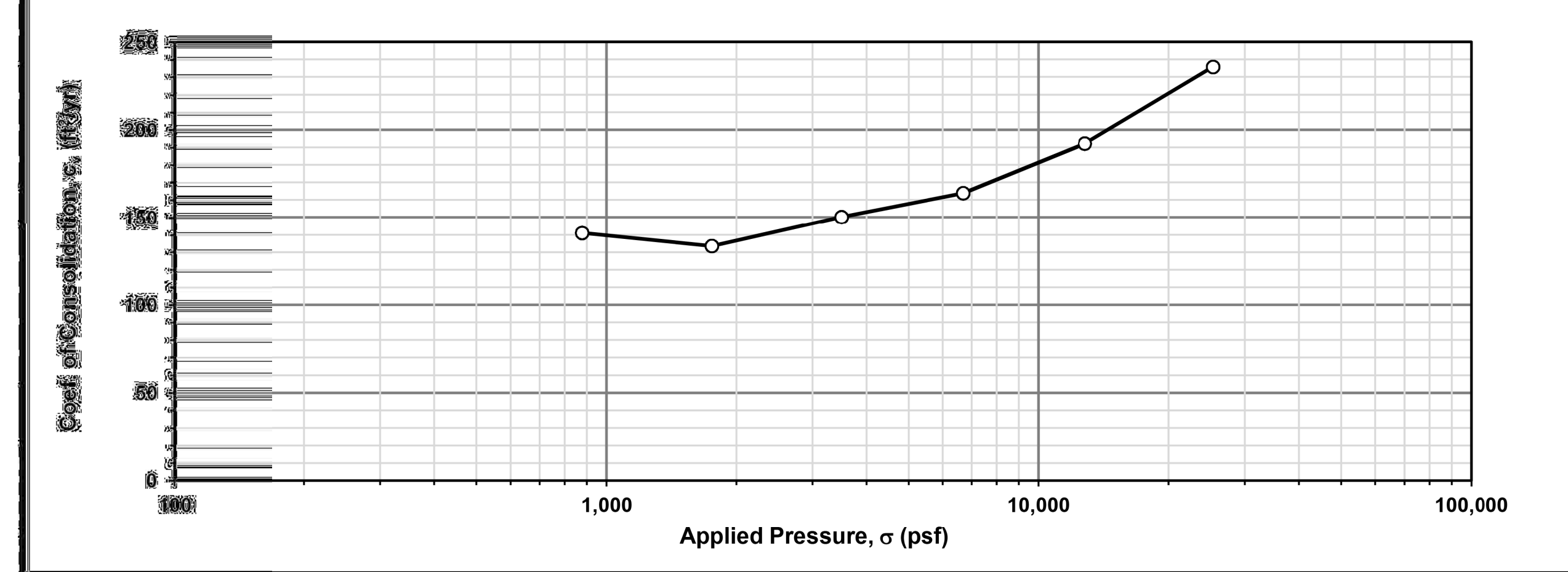
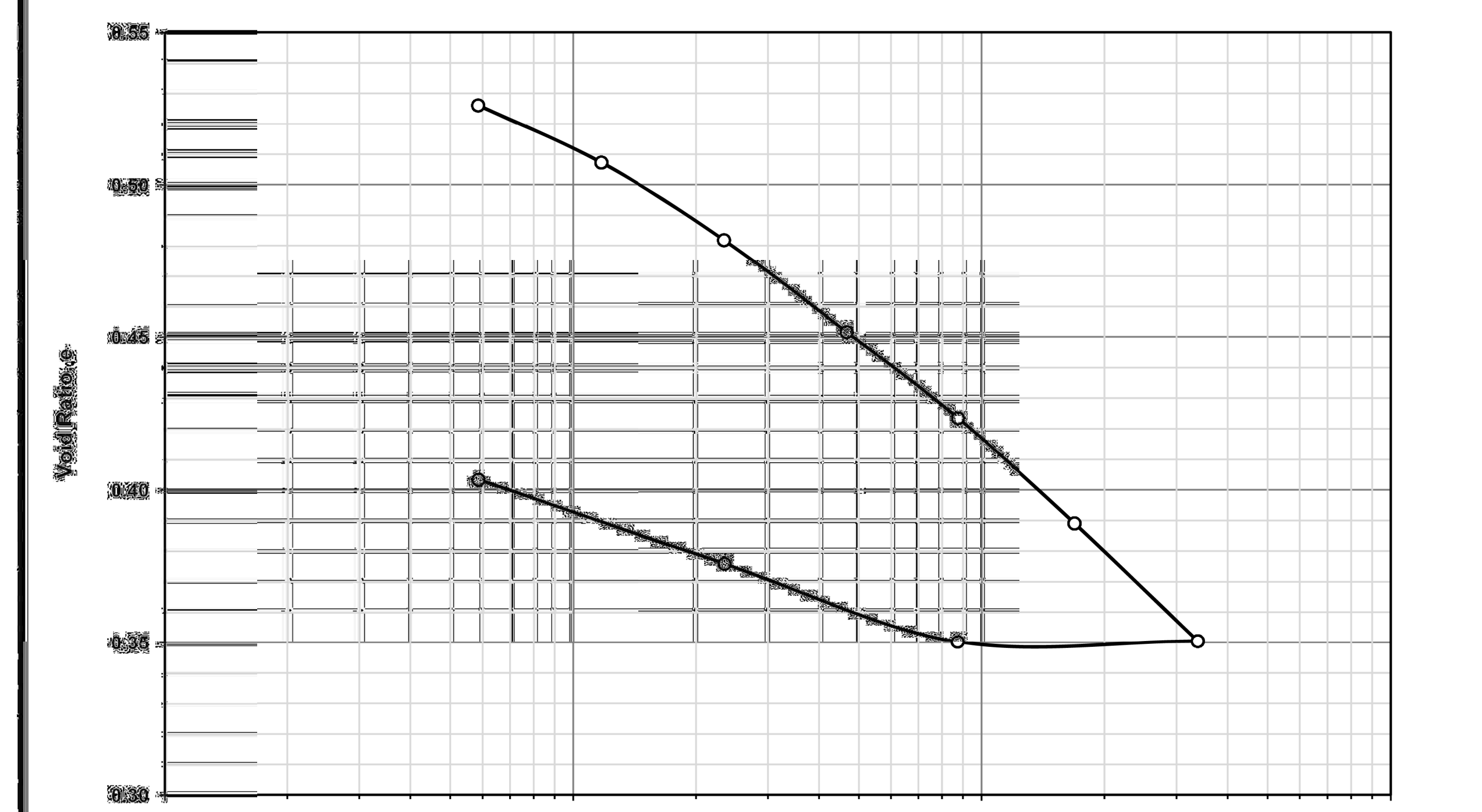
One-Dimensional Consolidation Test Report (ASTM D2435)

Project Number: B-10-020 Boring Number: B-01B-0-11
 Project Name: HAM-75-7.85 Sample No./Depth: ST-4 (9.4 ft)
 Project Location: Hamilton County, Ohio Date of Testing: 10/12/2011 to 10/21/2011
 Client: EMH&T Technician: JLH

Soil Description: Brown CLAY, some silt, little coarse to fine sand, trace fine gravel
 Soil Classification: ODOT A-7-6

Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	44	21	23	8	7	8	34	46

Natural		γ_d	γ_{sat}	σ'_v	σ'_v	σ'_v	w_c	e_c
σ'_v	w	(pcf)	(pcf)	(psf)	(psf)	(psf)	(%)	
107.1	19.7	107.1	129.3	1,128	2.67	0.556	2,736	0.152



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZD201.dgn 6/21/2023 1:18:18 PM bmccutchen

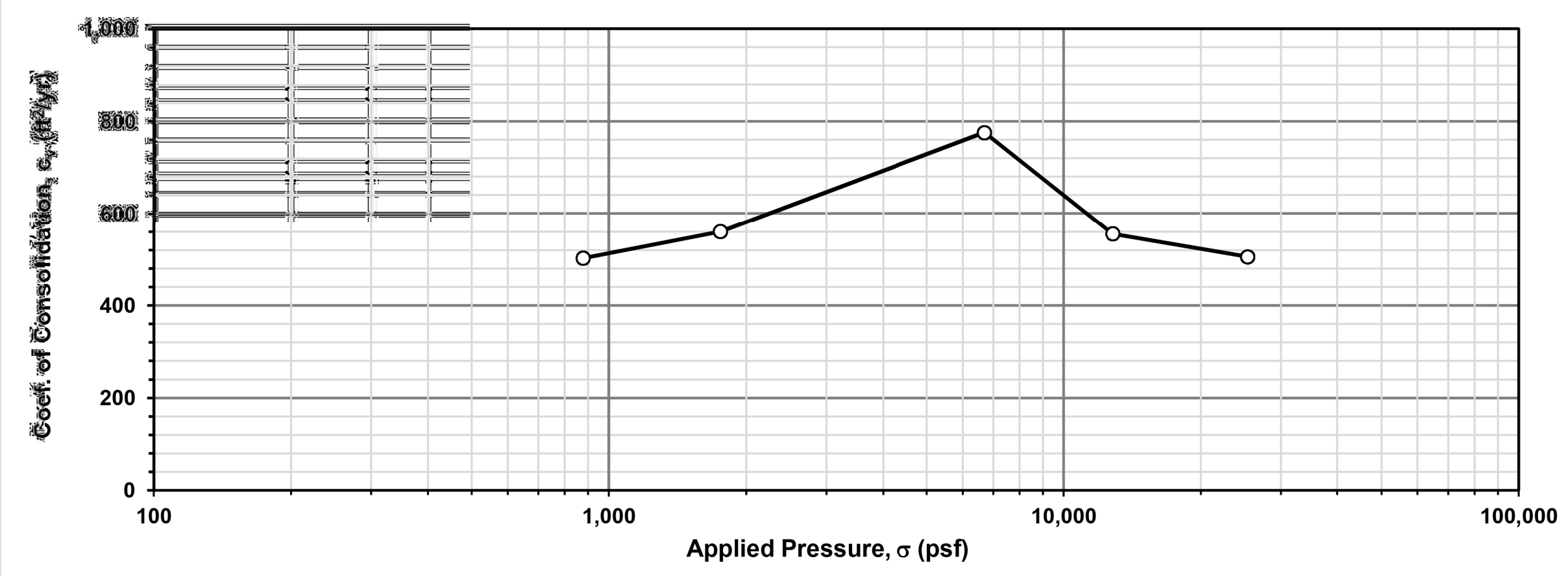
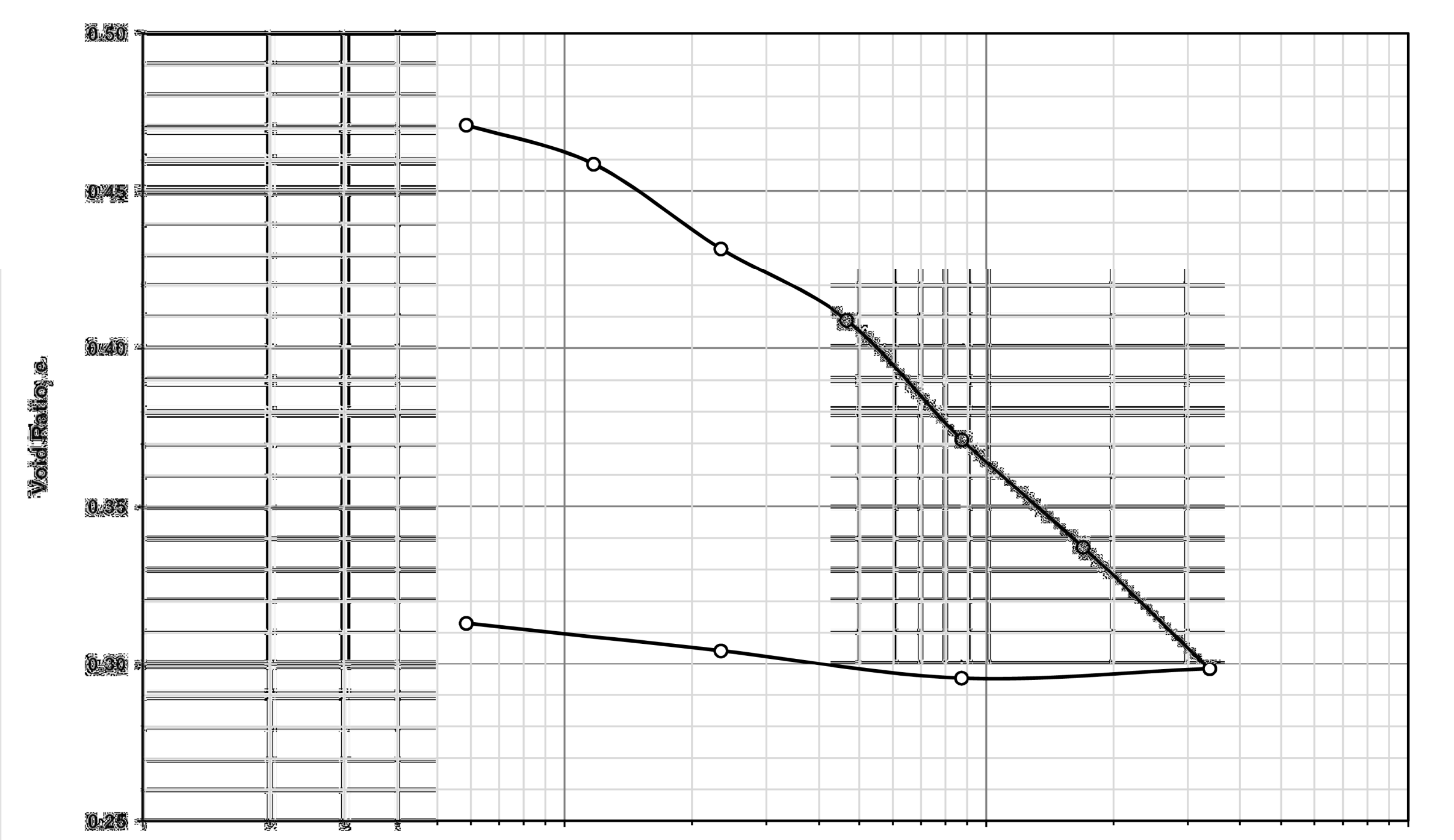
One-Dimensional Consolidation Test Report (ASTM D2435)

Project Number: B-10-020 Boring Number: B-017-0-11
 Project Name: HAM-75-7.85 Sample No./Depth: ST-4/ 12.0 ft
 Project Location: Hamilton County, Ohio Date of Testing: 11/18/2011 to 12/22/2011
 Client: EM&T Technician: JJH

Soil Description: Brown SANDY SILT, little clay, little fine gravel
 Soil Classification: ODOT A-4a

Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
		24	16	8	11	7	29	39

Natural		γ_s (pcf)	γ_{sat} (pcf)	σ'_{vc} (psf)	S_g	w_p	σ'_c (psf)	e_c	e_p
w_L	w_U								
22.4%	14.7%	111.6	129.8	1,200	2.67	0.494	2,656	0.155	0.015



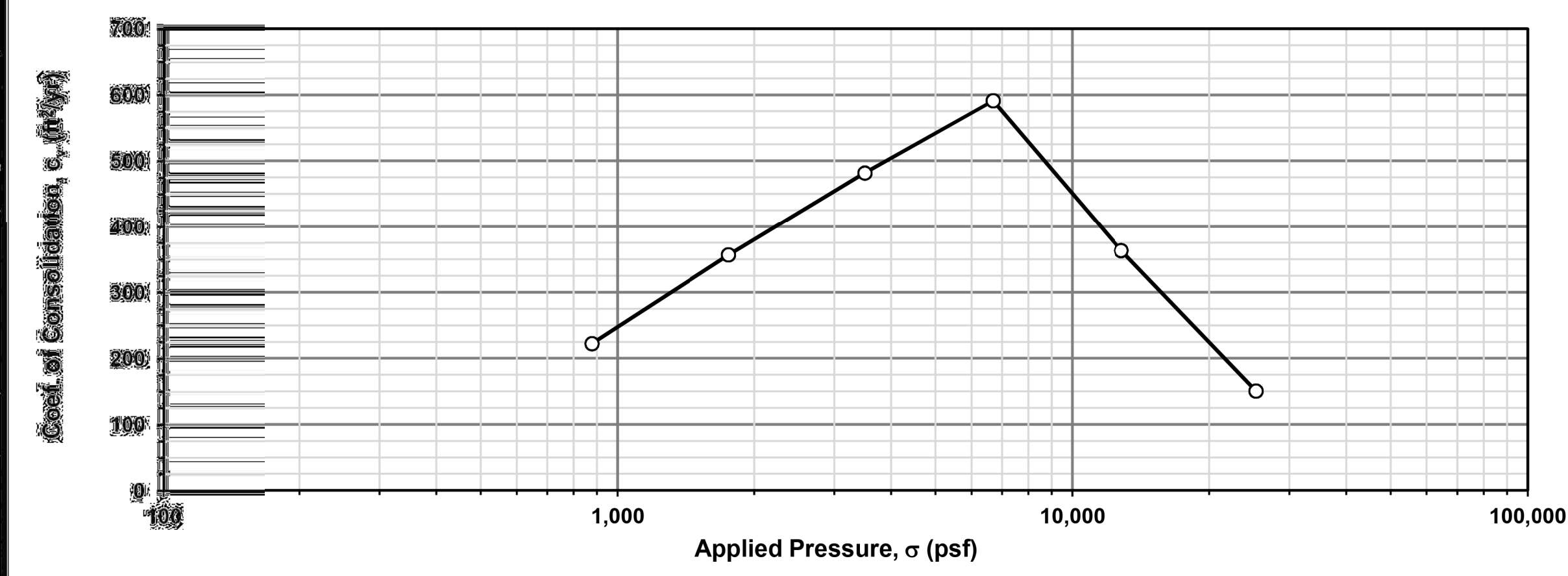
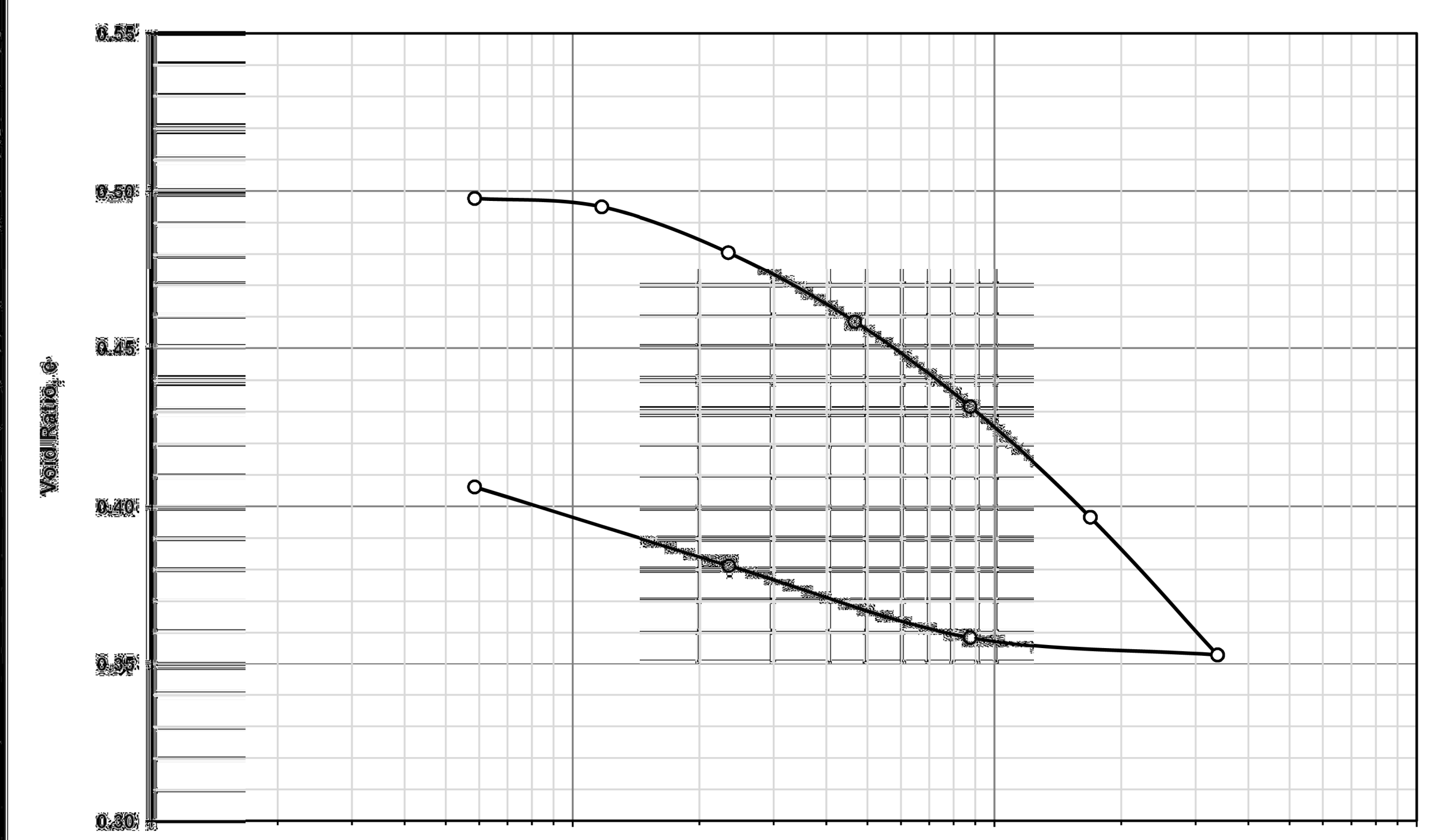
One-Dimensional Consolidation Test Report (ASTM D2435)

Project Number: B-10-020 Boring Number: B-053-0-11
 Project Name: HAM-75-7.85 Sample No./Depth: ST-4/ 12.0 ft
 Project Location: Hamilton County, Ohio Date of Testing: 11/18/2011 to 12/22/2011
 Client: EM&T Technician: JJH

Soil Description: Brown SILTY CLAY, little coarse to fine sand, trace fine gravel
 Soil Classification: ODOT A-6b

Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
		35	16	19	1	3	17	37

Natural		γ_s (pcf)	γ_{sat} (pcf)	σ'_{vc} (psf)	S_g	w_p	σ'_c (psf)	e_c	e_p
w_L	w_U								
22.4%	19.3%	110.1	130.6	1,020	2.65	0.503	4,645	0.145	0.041



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZD202.dgn 6/21/2023 1:18:23 PM bmccutchen



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

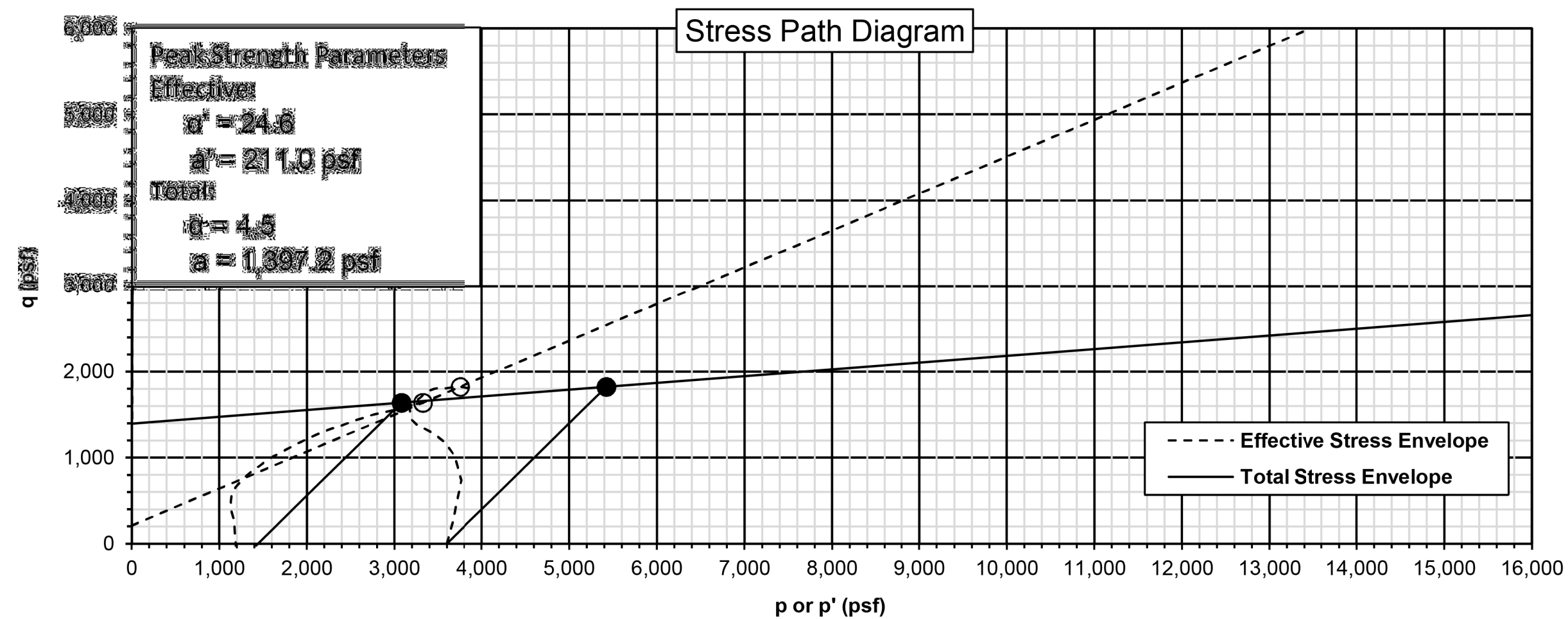
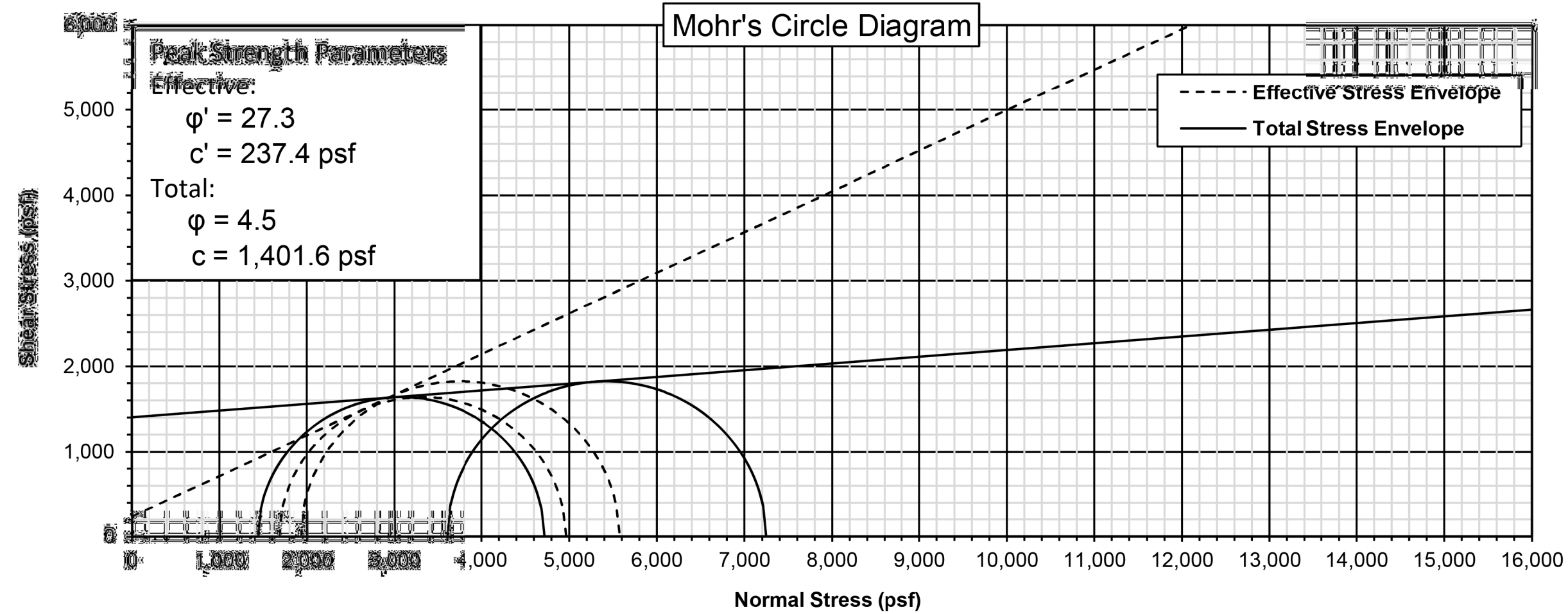
CONSOLIDATED, UNDRAINED TRIAXIAL

PROJECT NAME: ASTM D-4767
JOB NUMBER: HAM-75-7.85
BORING NUMBER: B-016-0-11A
SAMPLE NUMBER: ST-3
SAMPLE DEPTH: 6.5 to 7.0 feet
DATE OF TESTING: 12/22/2011-12/28/11
TESTED BY: Hoyt

Soil Description: Brown SILT and CLAY, and coarse to fine sand, trace fine gravel.
Soil Classification: ODOT A-6a

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	29	14	15	7	9	32	26	26

Stage	Boring No.	Sample No.	Depth (ft)	(σ_3) _f (psf)	(σ_1) _f (psf)	(σ'_3) _f (psf)	(σ'_1) _f (psf)	p _r (psf)	q _r (psf)
1	B-016-0-11A	ST-3	7.0	1,440.0	4,719.1	1,684.8	4,963.9	3,324.3	1,688.5
2	B-016-0-11A	ST-3	6.5	3,600.0	7,248.0	1,929.6	5,577.6	3,756.0	1,824.0



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

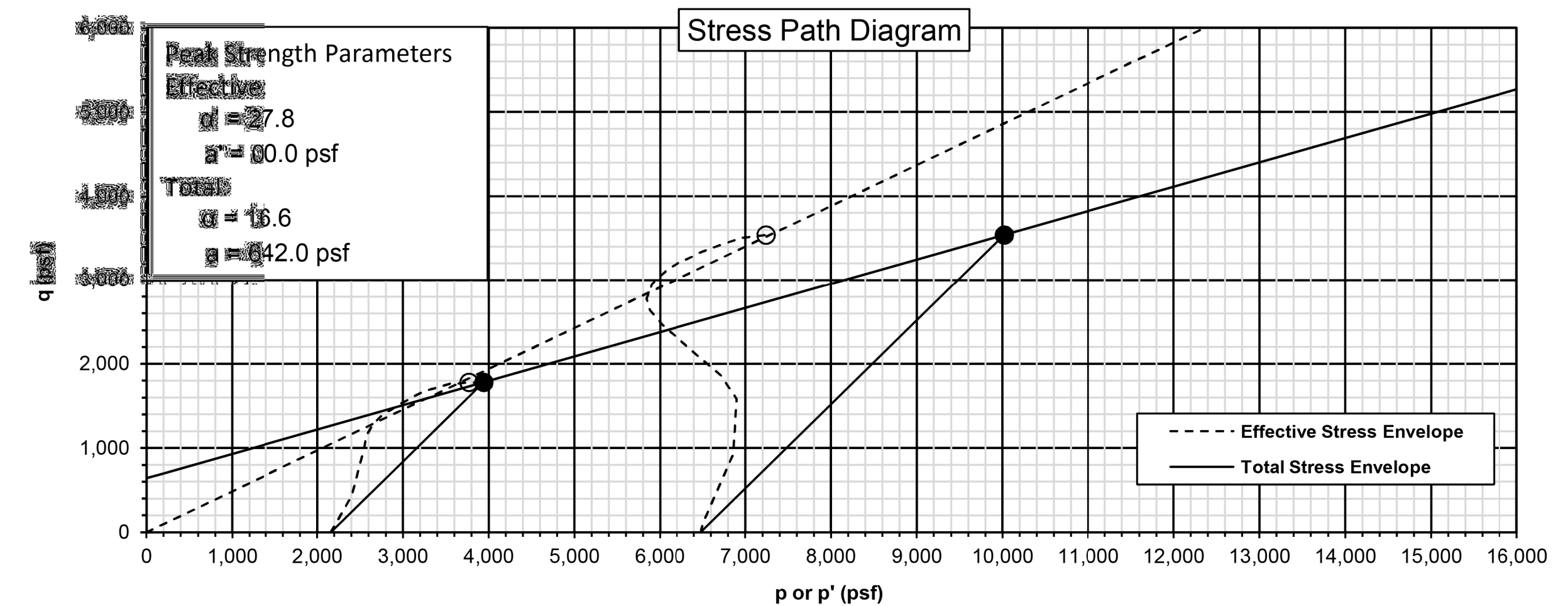
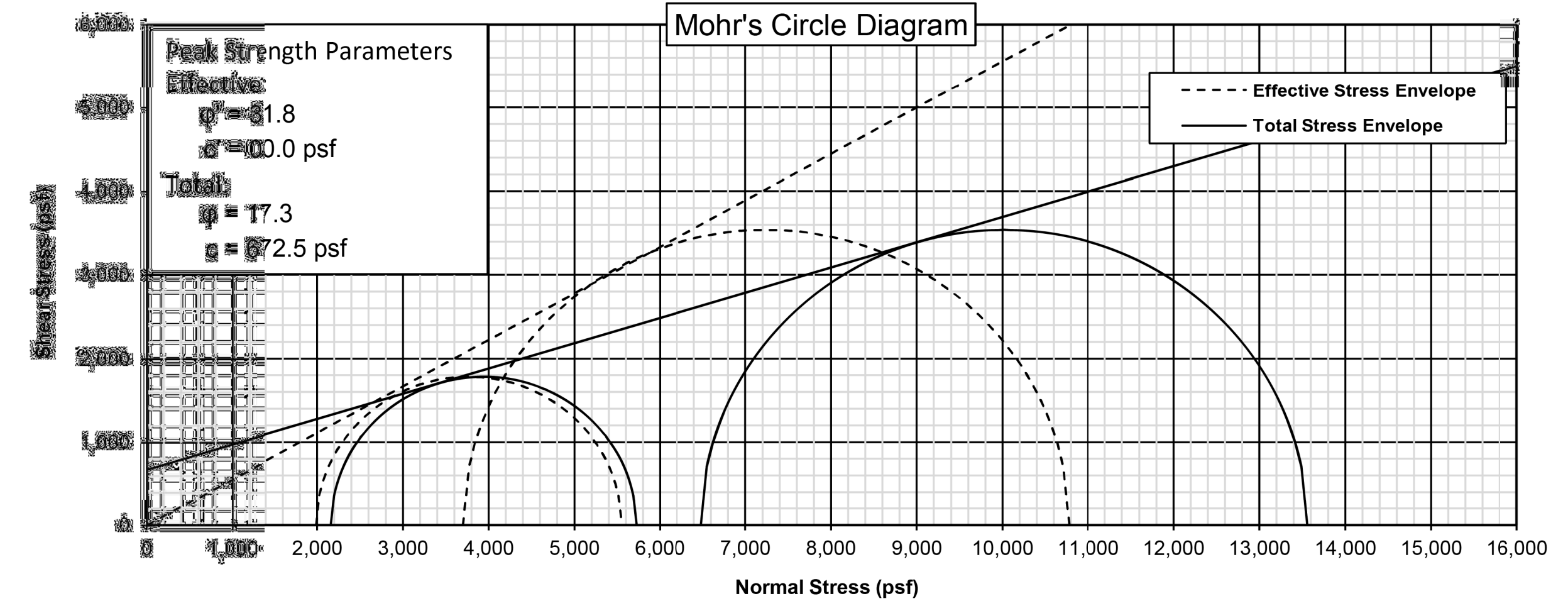
CONSOLIDATED, UNDRAINED TRIAXIAL

PROJECT NAME: ASTM D-4767
JOB NUMBER: HAM-75-7.85
BORING NUMBER: B-018-0-11
SAMPLE NUMBER: ST-14
SAMPLE DEPTH: 36.8 to 36.0 ft
DATE OF TESTING: 11/24/2011 to 11/30/2011
TESTED BY: Hoyt

Soil Description: Mottled orangish brown and reddish brown SILTY CLAY, some coarse to fine sand, trace fine gravel.
Soil Classification: ODOT A-6b

Physical Characteristics	L.L.	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	31	14	17	1	3	22	39	26

Stage	Boring No.	Sample No.	Depth (ft)	(σ_3) _f (psf)	(σ_1) _f (psf)	(σ'_3) _f (psf)	(σ'_1) _f (psf)	p _r (psf)	q _r (psf)
1	B-018-0-11	ST-14	37.5	2,160.0	5,724.0	1,987.2	5,551.2	3,769.2	1,782.0
2	B-018-0-11	ST-14	36.8	6,480.0	13,559.0	3,700.8	10,779.8	7,240.3	3,539.5



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZD203.dgn 6/21/2023 1:18:27 PM bmccutchen

DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
LABORATORY TEST DATA

HAM-75-7.85

101/105

1507
1534



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

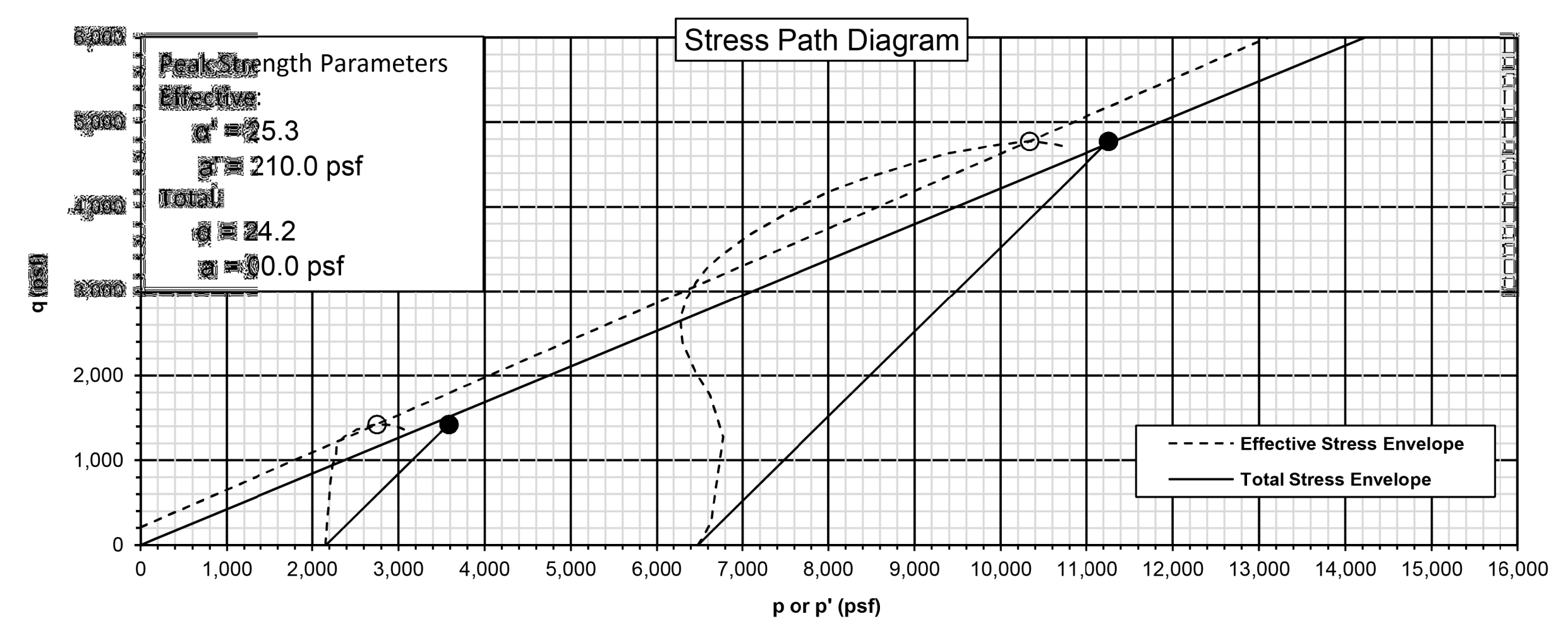
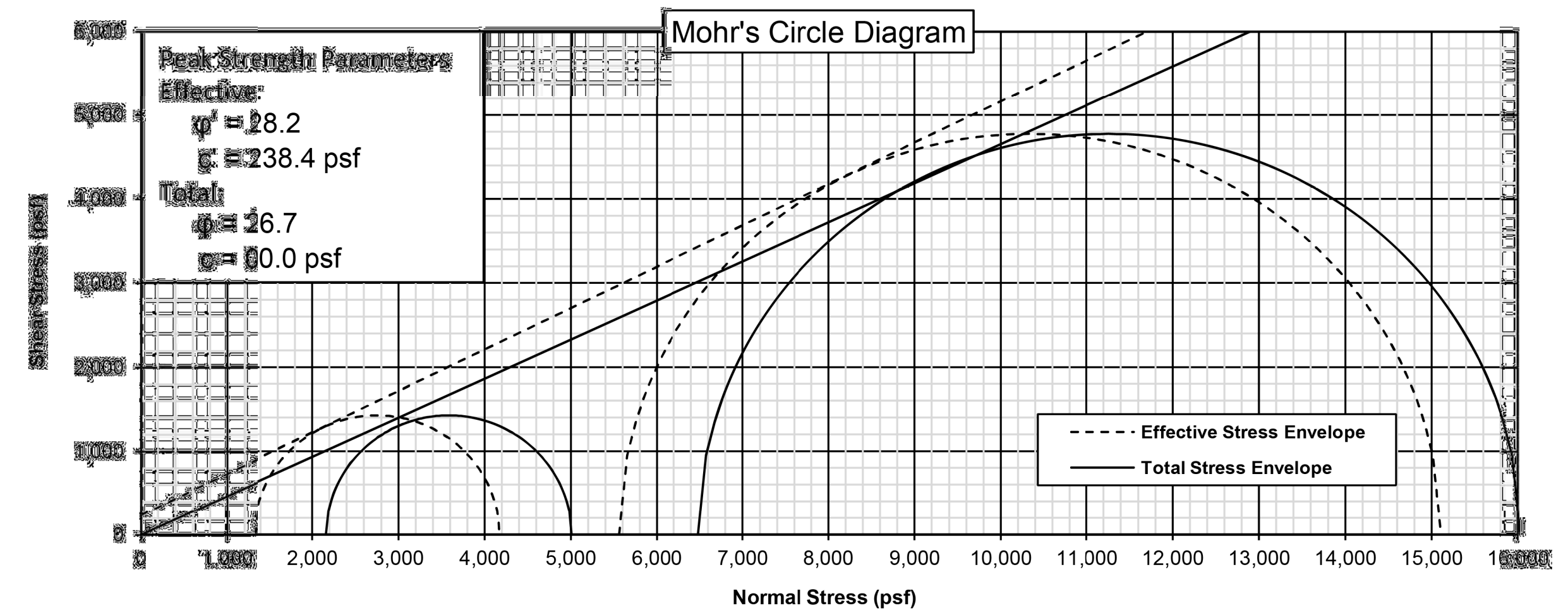
CONSOLIDATED, UNDRAINED TRIAXIAL

ASTM D-4767
PROJECT NAME: HAM-75-7.85
JOB NUMBER: B-10-020
BORING NUMBER: B-061-0-11
SAMPLE NUMBER: ST-4
SAMPLE DEPTH: 9.6 to 10.0 ft
DATE OF TESTING: 12/13/2011-12/15/2011
TESTED BY: Hoyt

Soil Description: Brownish gray CLAY, and silt, little coarse to fine sand, trace fine gravel.
Soil Classification: ODOT A-7-6

Physical Characteristics	LL	P.L.	P.I.	Gravel%	C. Sand%	F. Sand%	Silt%	Clays%
	46	20	26	6	4	10	33	47

Stage	Boring No.	Sample No.	Depth (ft)	(σ_3) _f (psf)	(σ_1) _f (psf)	(σ_3) _f (psf)	(σ_1) _f (psf)	p' _f (psf)	q _f (psf)
1	B-061-0-11	ST-4	9.6	2,160	5,009	1,325	4,174	2,749	1,425
2	B-061-0-11	ST-4	10.0	5,480	16,030	5,558	15,108	10,333	4,775
3									





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

UNCONFINED COMPRESSION

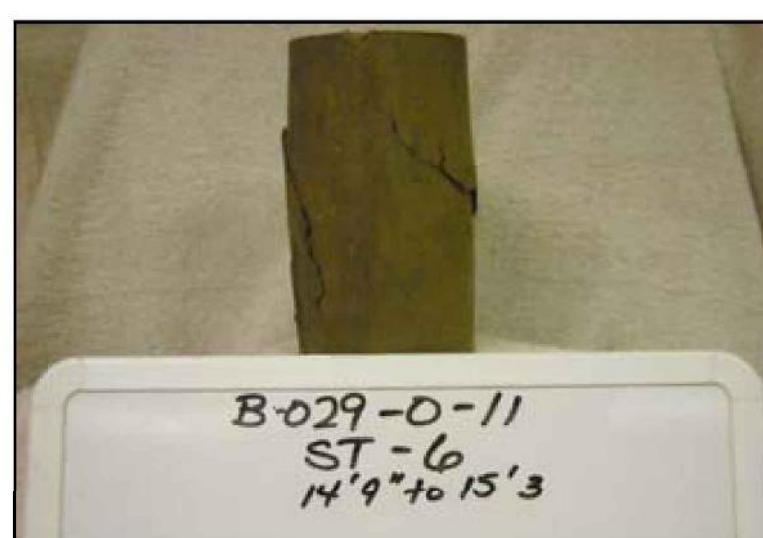
PROJECT: ASTM D-2166
HAM-75-7.85
JOB No. B-10-020
BORING / SAMPLE No. B-029-0-11 / ST-6
SAMPLE DEPTH 14.8 feet
DATE OF TESTING December 7, 2011
TESTED BY J.H.

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

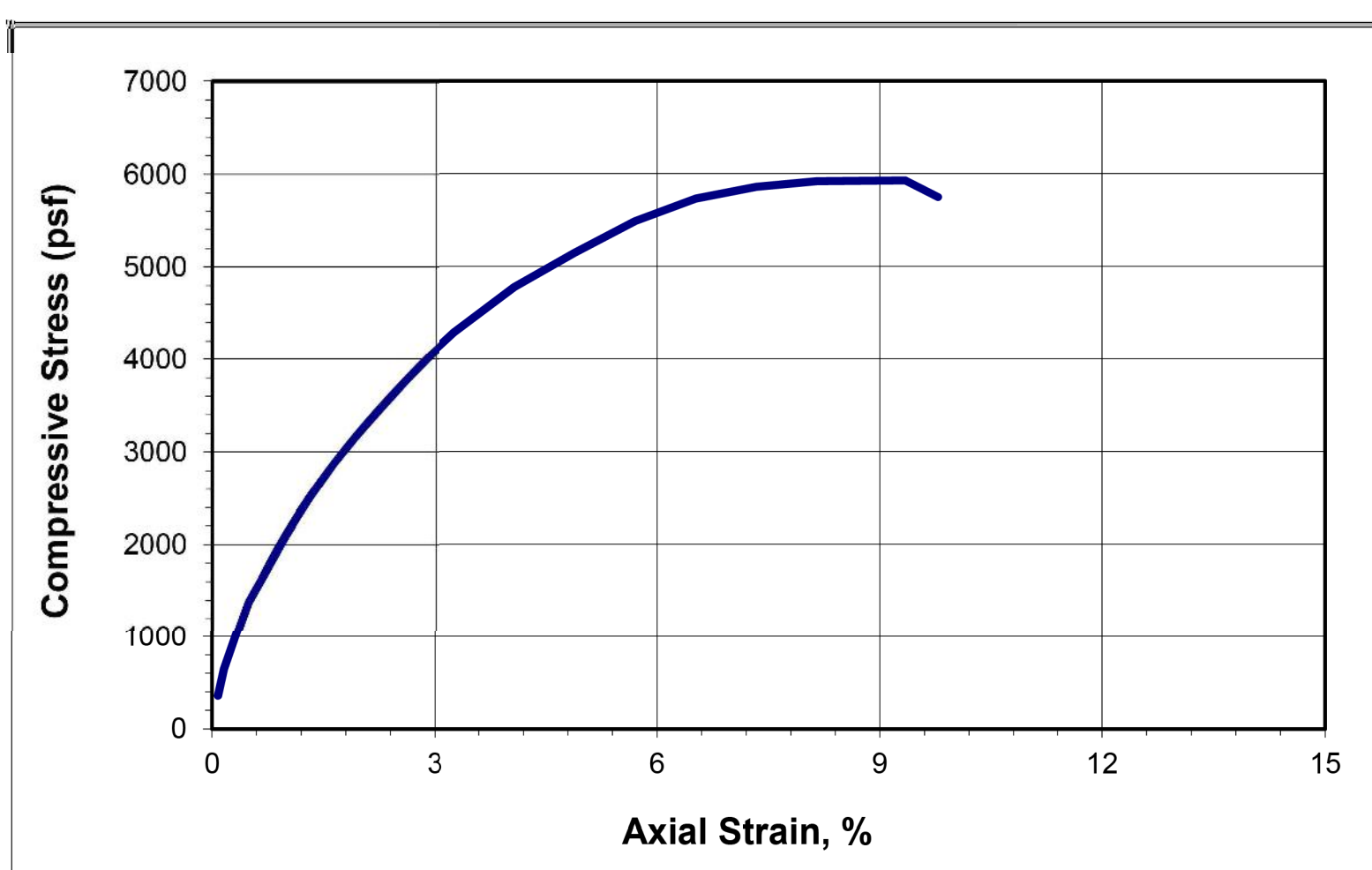
Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	53	22	31	0	3	9	37	51

DIAMETER, D_p	<u>2.767 in</u>	<u>70.282 mm</u>	STRAIN RATE	<u>1.0</u>	<u>%/min</u>
AREA, A_p	<u>6.0132 in²</u>	<u>38.795 cm²</u>	WET SOIL + PAN MASS	<u>1391.1</u>	<u>g</u>
HEIGHT, L_p	<u>6.133 in</u>	<u>155.78 mm</u>	PAN MASS	<u>56.2</u>	<u>g</u>
VOLUME, V_p	<u>36.879 in³</u>	<u>604.34 cm³</u>	DRY SOIL + PAN MASS	<u>1175.4</u>	<u>g</u>
MACH. RATE	<u>0.613</u>	<u>in/min</u>	WET DENSITY	<u>137.89</u>	<u>lb/ft³</u>
WATER CONT.	<u>19.27</u>	<u>%</u>	DRY DENSITY	<u>115.61</u>	<u>lb/ft³</u>
UNCONFINED COMPRESSION STRESS, q_u				<u>5927</u>	<u>psf</u>
HAND PENETROMETER				<u>2.75</u>	<u>tsf</u>

Failure Sketch



Unconfined Compression Test



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

UNCONFINED COMPRESSION

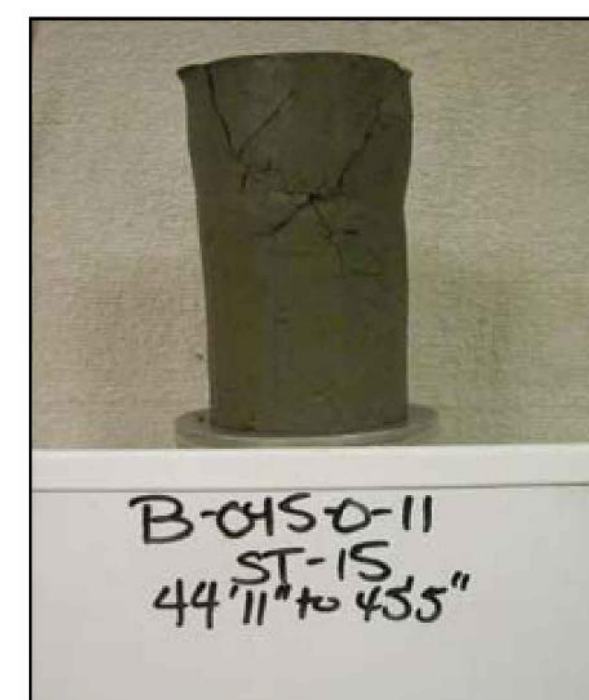
PROJECT: ASTM D-2166
HAM-75-7.85
JOB No. B-10-020
BORING / SAMPLE No. B-045-0-11 / ST-15
SAMPLE DEPTH 44.9 ft
DATE OF TESTING 12/2/2011
TESTED BY J.H.

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

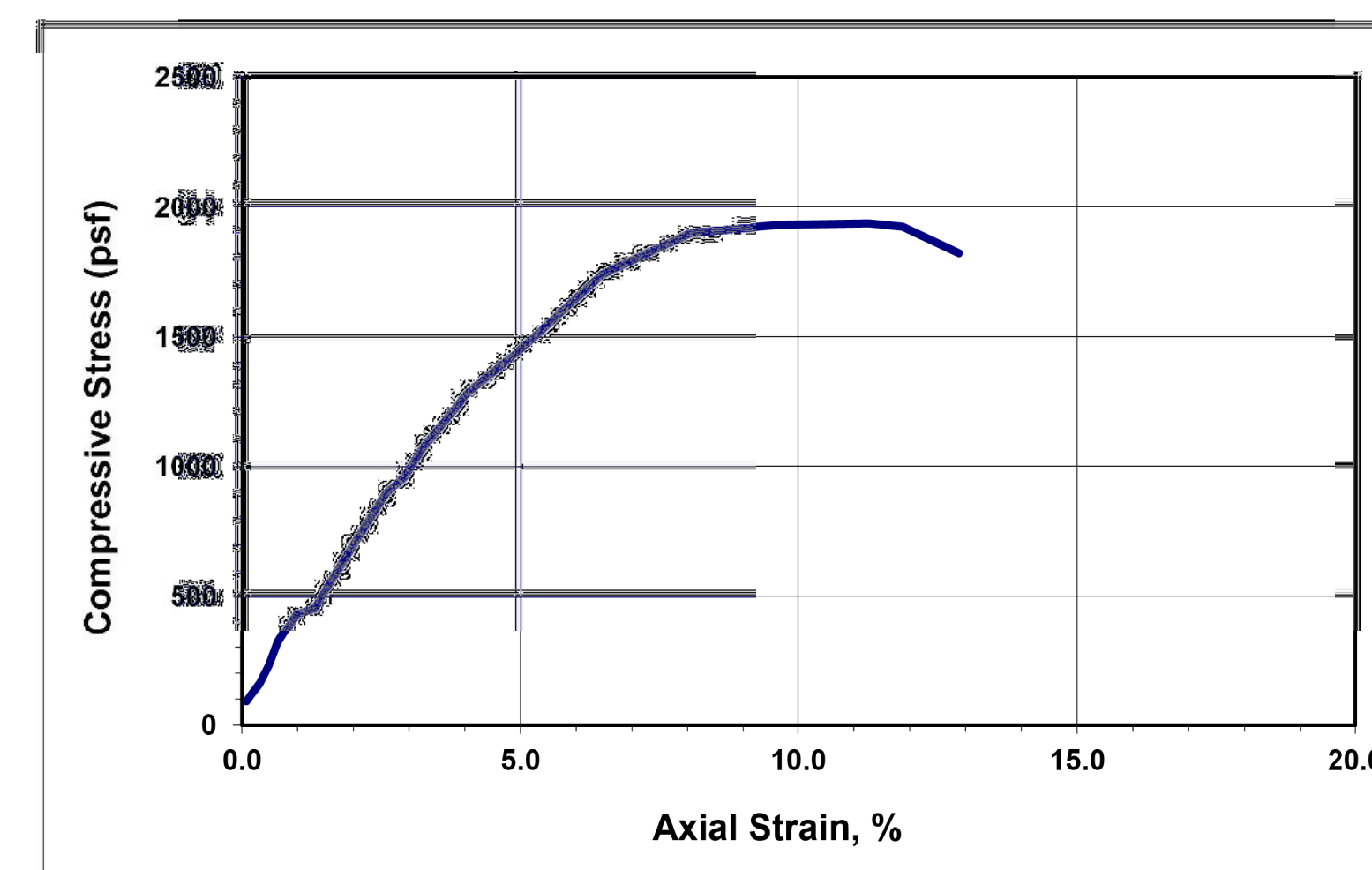
Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	35	19	16	0	0	0	48	52

DIAMETER, D_p	<u>2.825 in</u>	<u>71.755 mm</u>	STRAIN RATE	<u>1</u>	<u>%/min</u>
AREA, A_p	<u>6.266 in²</u>	<u>40.439 cm²</u>	WET SOIL + PAN MASS	<u>1434.4</u>	<u>g</u>
HEIGHT, L_p	<u>6.211 in</u>	<u>157.76 mm</u>	PAN MASS	<u>127</u>	<u>g</u>
VOLUME, V_p	<u>38.96 in³</u>	<u>637.96 cm³</u>	DRY SOIL + PAN MASS	<u>1162.4</u>	<u>g</u>
MACH. RATE	<u>0.621</u>	<u>in/min</u>	WET DENSITY	<u>127.94</u>	<u>lb/ft³</u>
WATER CONT.	<u>26.27</u>	<u>%</u>	DRY DENSITY	<u>101.32</u>	<u>lb/ft³</u>
UNCONFINED COMPRESSION STRESS, q_u				<u>1936</u>	<u>psf</u>
HAND PENETROMETER				<u>1.50</u>	<u>tsf</u>

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-048-0-11 / ST-4
SAMPLE DEPTH 9.9 ft
DATE OF TESTING 11/21/2011
TESTED BY J.H.

SOIL DESCRIPTION: Mottled brown and gray SILTY CLAY, little coarse to fine sand, trace fine gravel.
SOIL CLASSIFICATION: ODOT A-6s

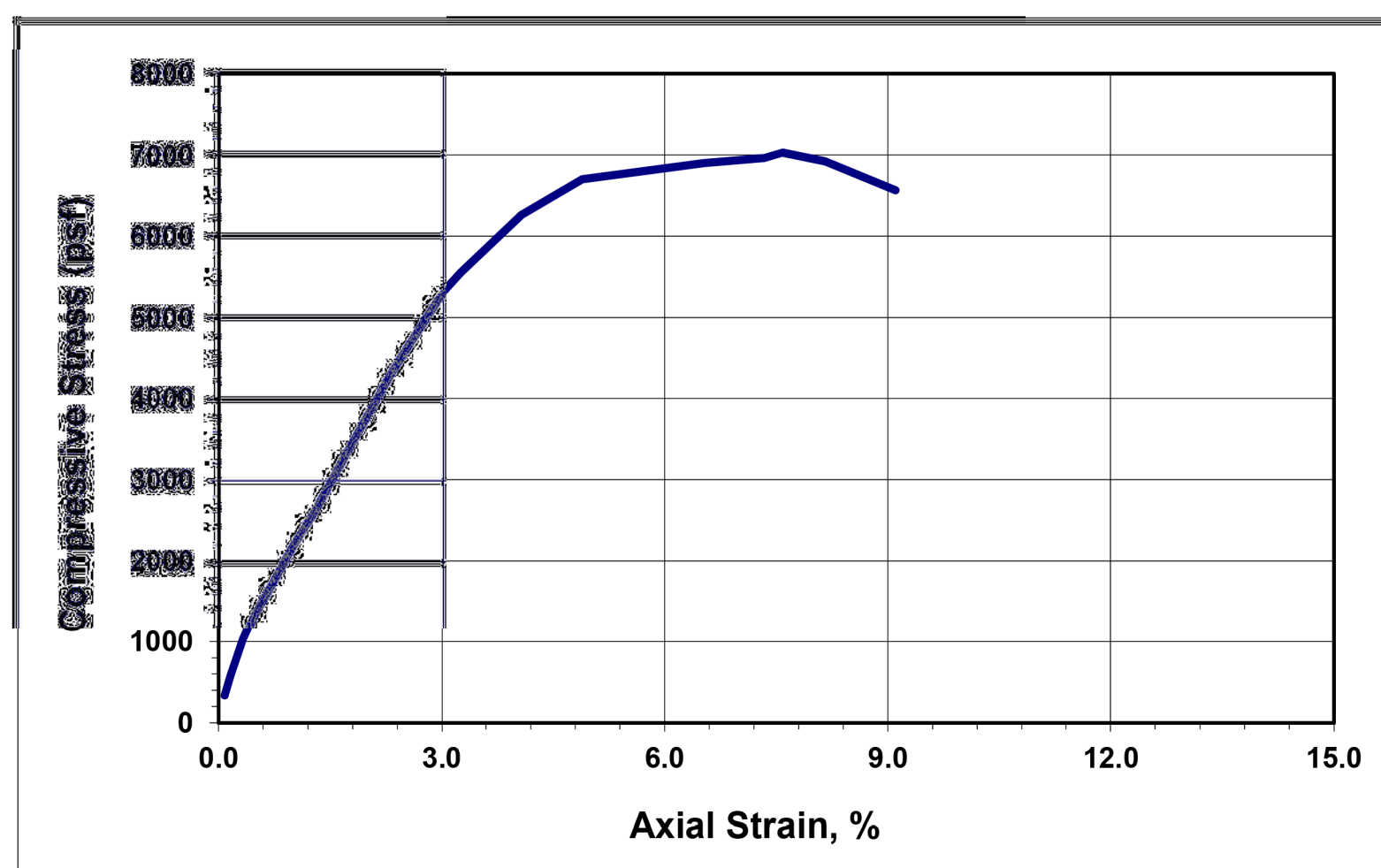
Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	34	18	16	0	5	8	25	55

DIAMETER, D _s	2.659 in	72.619 mm	STRAIN RATE	1	%/min
AREA, A _s	6.4198 in ²	41.418 cm ²	WET SOIL + PAN MASS	1512.1	g
HEIGHT, L _s	6.13 in	155.7 mm	PAN MASS	89.1	g
VOLUME, V _s	39.353 in ³	644.88 cm ³	DRY SOIL + PAN MASS	1313.8	g
MACH. RATE	0.613	in/min	WET DENSITY	137.75	lb/ft ³
WATER CONT.	16.21	%	DRY DENSITY	118.54	lb/ft ³
UNCONFINED COMPRESSION STRESS, q _u				7027	psf
HAND PENETROMETER				4.00	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

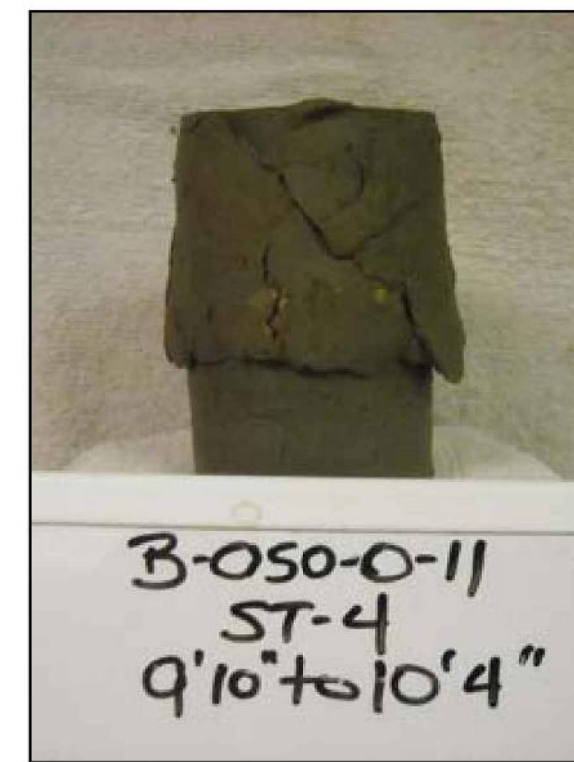
BORING / SAMPLE No. B-050-0-11 / ST-4
SAMPLE DEPTH 9.8 ft
DATE OF TESTING 11/21/2011
TESTED BY J.H.

SOIL DESCRIPTION: Brownish gray SANDY SILT, some fine gravel, some clay.
SOIL CLASSIFICATION: ODOT A-4a

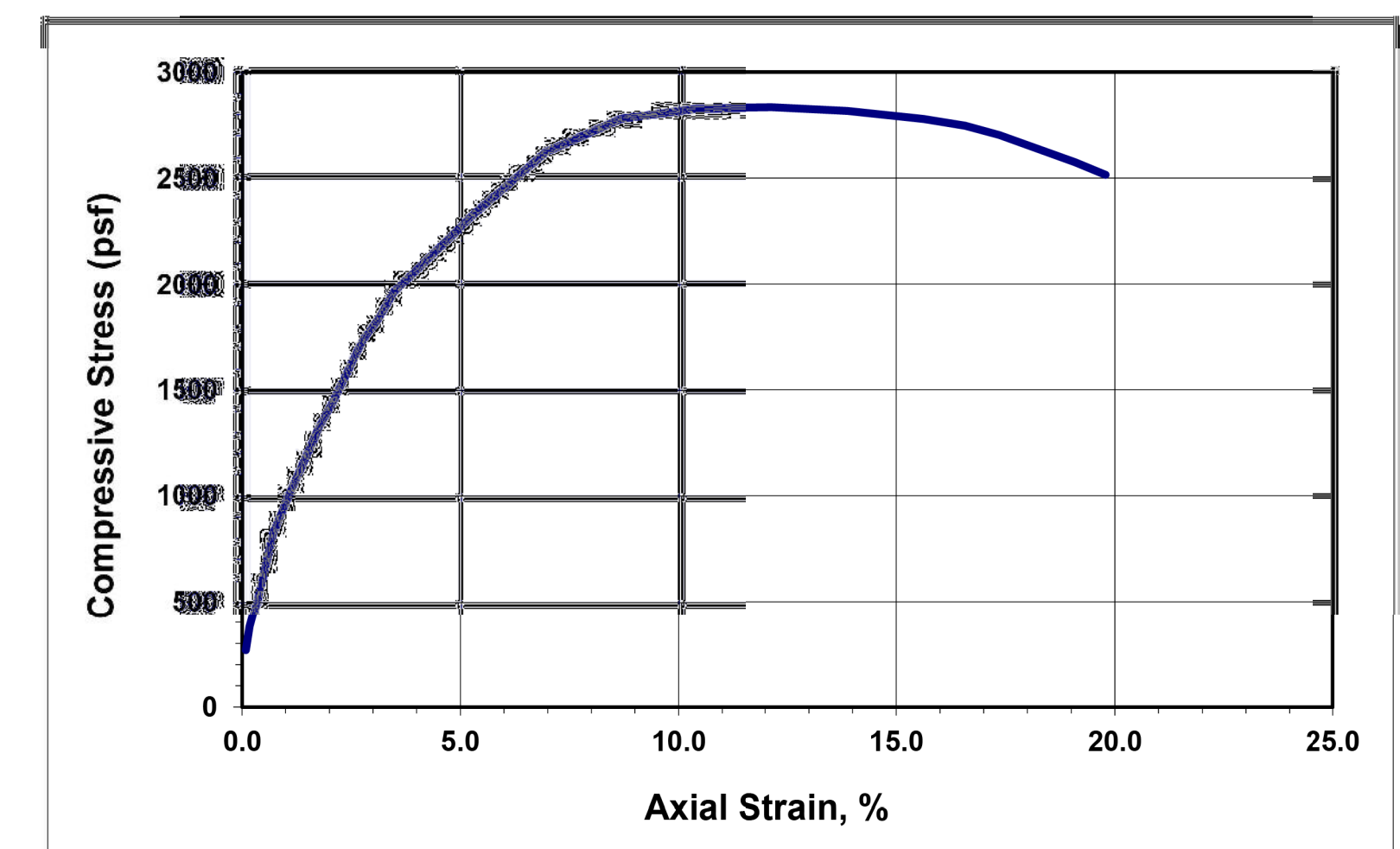
Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	26	10	7	23	12	20	25	20

DIAMETER, D _s	2.661 in	72.669 mm	STRAIN RATE	1	%/min
AREA, A _s	6.4288 in ²	41.476 cm ²	WET SOIL + PAN MASS	1366	g
HEIGHT, L _s	5.761 in	146.33 mm	PAN MASS	77.9	g
VOLUME, V _s	37.036 in ³	606.91 cm ³	DRY SOIL + PAN MASS	1149.7	g
MACH. RATE	0.635	in/min	WET DENSITY	132.49	lb/ft ³
WATER CONT.	20.18	%	DRY DENSITY	110.25	lb/ft ³
UNCONFINED COMPRESSION STRESS, q _u				2833	psf
HAND PENETROMETER				1.50	tsf

Failure Sketch



Unconfined Compression Test



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZD206.dgn 6/21/2013 1:18:39 PM bmcclutchen

DRAWN
RRM
CHECKED
BRT

STRUCTURE FOUNDATION EXPLORATION
LABORATORY TEST DATA

HAM-75-7.85

104/105

1510
1534



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

UNCONFINED COMPRESSION

ASTM D-2166

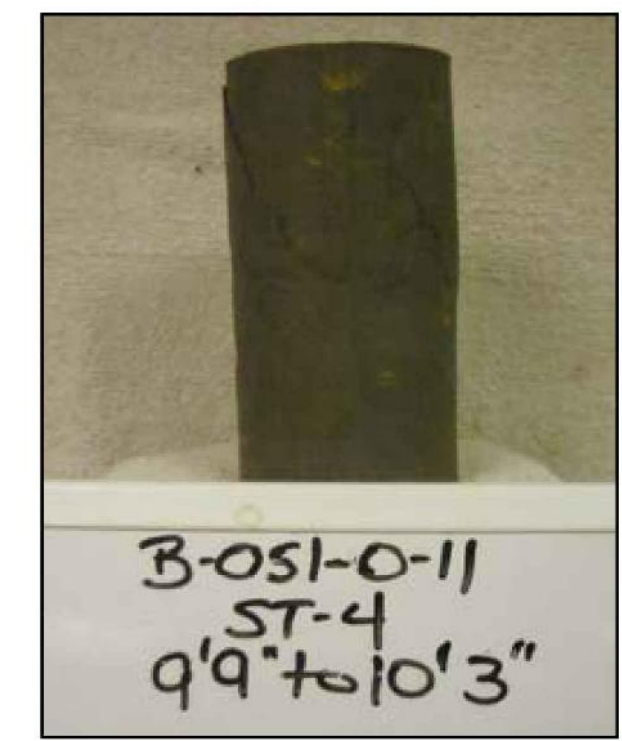
PROJECT HAM-75-7.85
JOB No. B-10-020
BORING / SAMPLE No. B-051-0-11 / ST-4
SAMPLE DEPTH 9.8 ft
DATE OF TESTING 11/21/2011
TESTED BY J.H.

SOIL DESCRIPTION: Brown CLAY, little silt, trace fine sand.
SOIL CLASSIFICATION: ODOT A-7-6

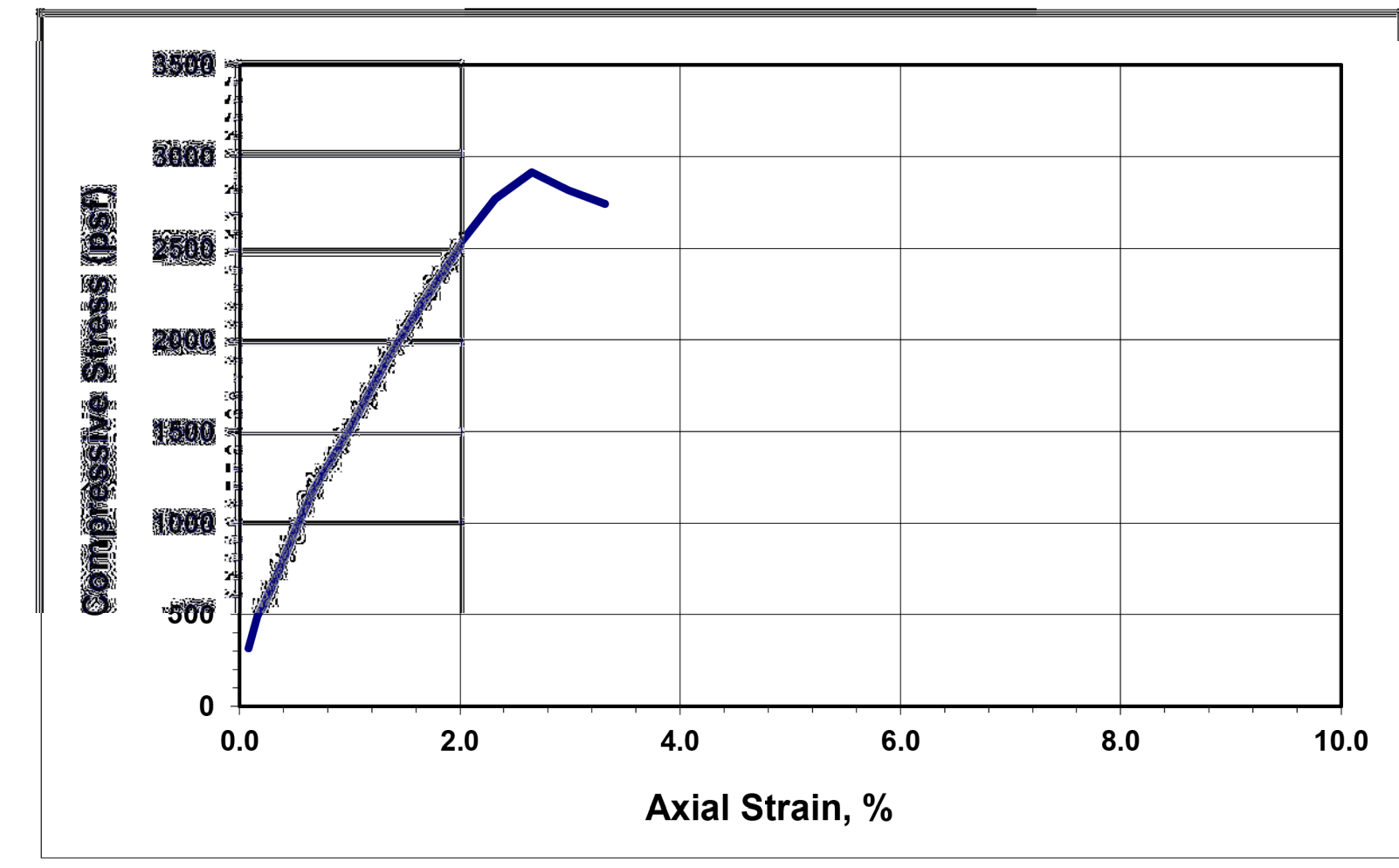
Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	52	21	31	0	0	1	10	89

DIAMETER, D _s	<u>2.854 in</u>	<u>72.492 mm</u>	STRAIN RATE	<u>1</u>	<u>%/min</u>	
AREA, A _s	<u>6.3973 in²</u>	<u>41.273 cm²</u>	WET SOIL + PAN MASS	<u>1005.6</u>	<u>g</u>	
HEIGHT, L _s	<u>6.025 in</u>	<u>153.04 mm</u>	PAN MASS	<u>56.2</u>	<u>g</u>	
VOLUME, V _s	<u>38.544 in³</u>	<u>631.62 cm³</u>	DRY SOIL + PAN MASS	<u>1032.8</u>	<u>g</u>	
MACH. RATE	<u>0.603</u>	<u>in/min</u>	WET DENSITY	<u>123.29</u>	<u>lb/ft³</u>	
WATER CONT.	<u>27.73</u>	<u>%</u>	DRY DENSITY	<u>96.62</u>	<u>lb/ft³</u>	
UNCONFINED COMPRESSION STRESS, q _u			2914	psf	<u>1.46</u>	<u>tsf</u>
HAND PENETROMETER					<u>4.00</u>	<u>tsf</u>

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-060-0-11 / ST-4
SAMPLE DEPTH 9.8 ft
DATE OF TESTING 12/19/2011
TESTED BY J.H.

SOIL DESCRIPTION: Mottled brown and gray CLAY, and silt, trace coarse to fine sand, trace fine gravel.
SOIL CLASSIFICATION: ODOT A-7-6

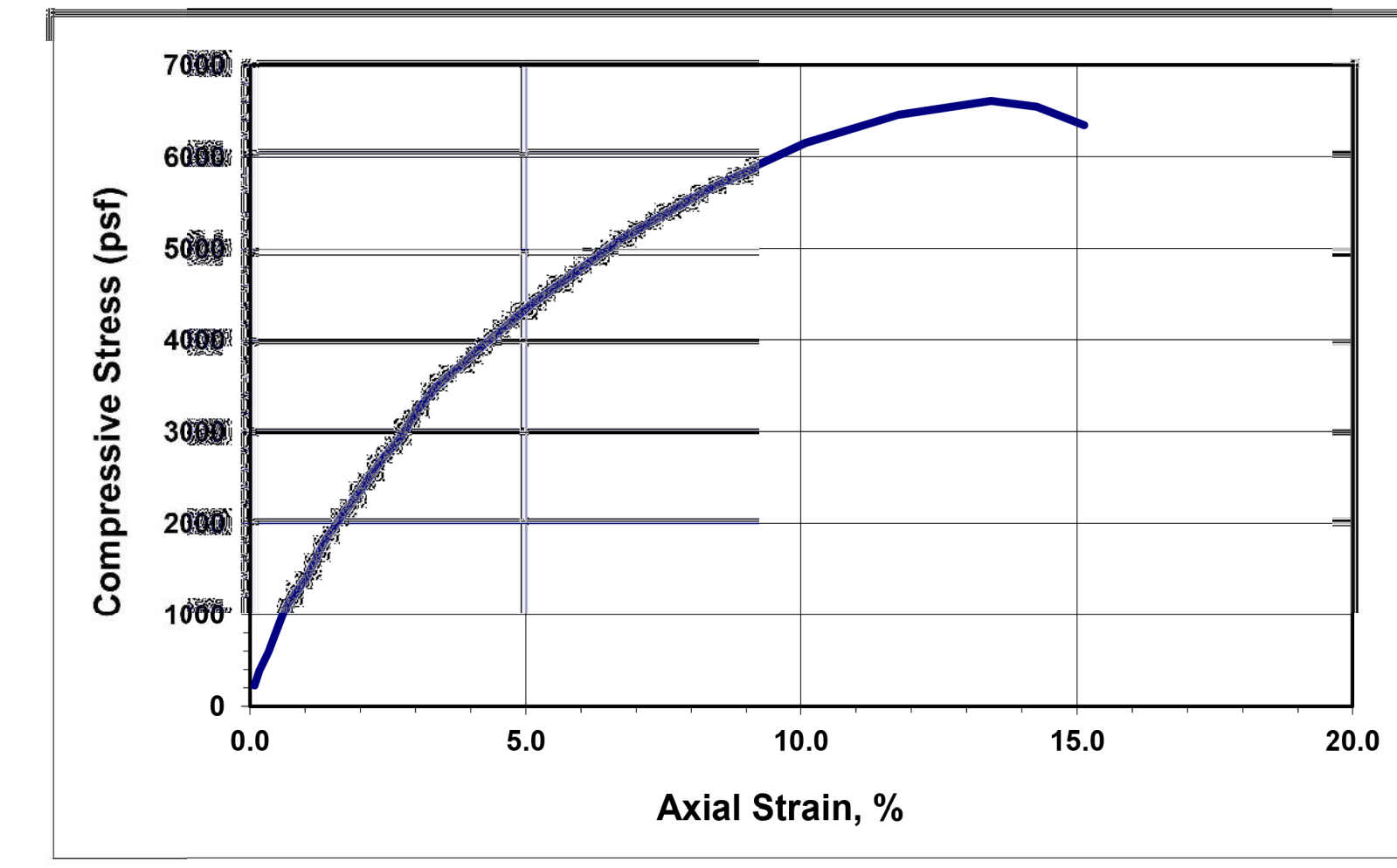
Physical Characteristics	LL	PL	PI	Gravel%	C. Sand%	F. Sand%	Silt%	Clay%
	43	20	23	2	2	5	29	62

DIAMETER, D _s	<u>2.841 in</u>	<u>72.161 mm</u>	STRAIN RATE	<u>1</u>	<u>%/min</u>	
AREA, A _s	<u>6.3392 in²</u>	<u>40.896 cm²</u>	WET SOIL + PAN MASS	<u>1386.1</u>	<u>g</u>	
HEIGHT, L _s	<u>5.95 in</u>	<u>151.13 mm</u>	PAN MASS	<u>56.2</u>	<u>g</u>	
VOLUME, V _s	<u>37.718 in³</u>	<u>618.09 cm³</u>	DRY SOIL + PAN MASS	<u>1178.3</u>	<u>g</u>	
MACH. RATE	<u>0.598</u>	<u>in/min</u>	WET DENSITY	<u>134.82</u>	<u>lb/ft³</u>	
WATER CONT.	<u>18.52</u>	<u>%</u>	DRY DENSITY	<u>113.33</u>	<u>lb/ft³</u>	
UNCONFINED COMPRESSION STRESS, q _u			6606	psf	<u>3.30</u>	<u>tsf</u>
HAND PENETROMETER					<u>2.50</u>	<u>tsf</u>

Failure Sketch



Unconfined Compression Test



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZD207.dgn 6/21/2013 1:18:43 PM bmcutchen

PROJECT DESCRIPTION

THE DESIGN AND CONSTRUCTION OF PROPOSED NOISE WALLS NSA 1 AND NSA 2 AS PART OF THE HAM-75-7.85 PROJECT. THE PROPOSED NOISE WALLS ARE LOCATED ON THE WEST SIDE OF I-75, STARTING ON THE NORTH SIDE LAIDLAW AVENUE AND CONTINUES TO, AND CROSSES, TOWNE STREET AND TERMINATES JUST SOUTH OF SEYMOUR AVENUE. NOISE WALL NSA 1 IS SPLIT INTO THREE SEPARATE SEGMENTS. THE FIRST SEGMENT, NSA 1A, IS LOCATED BETWEEN LAIDLAW AVENUE AND THE PROPOSED HAM-75-0834 BRIDGE STRUCTURE CARRYING THE RELOCATED NORFOLK AND SOUTHERN RAILROAD OVER I-75. THE SECOND SEGMENT, NSA 1B, IS LOCATED BETWEEN THE HAM-75-0834 STRUCTURE AND THE TOWNE STREET BRIDGE. WHERE THE WALL CONVERGES WITH RETAINING WALL H, THE WALL WILL BE CONNECTED TO THE BARRIER OF THE RETAINING WALL. THE FINAL SEGMENT, NSA 1C, IS FIXED TO, AND CROSSES, THE HAM-75-0857 TOWNE STREET BRIDGE OVER I-75. NOISE WALL NSA 2 IS LOCATED ON THE NORTH SIDE OF THE HAM-75-0857 BRIDGE STRUCTURE AND CONTINUES TO THE END OF THE ALIGNMENT, JUST SOUTH OF SEYMOUR AVENUE. THE BEGINNING PORTION OF THE WALL WILL BE CONNECTED TO THE BARRIER OF RETAINING WALL 1. THE TOTAL WALL LENGTH OF NSA 1 IS APPROXIMATELY 1,600 LINEAL FEET, AND THE TOTAL LENGTH OF NSA 2 IS APPROXIMATELY 2,160 LINEAL FEET.

HISTORIC RECORDS

HISTORIC BORINGS FROM THE HAM-4W-7.81 EXPLORATION ARE 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 MORAIN DEPOSITS WITH MANY BURIED VALLEYS ALTERNATING BETWEEN BROAD FLOODPLAINS AND BEDROCK GORGES. THE SITE AREA CONTAINS SILTY LOAM TILL DEPOSITED AS GROUND MORAIN 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 POINT PLEASANT FORMATION IS COMPRISED OF INTERBEDDED LIMESTONE AND SHALE, AVERAGING 60 PERCENT LIMESTONE AND 40 PERCENT SHALE, AND RANGES FROM 0 TO 80 FEET THICK. 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. 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 SITES FOR THE PROPOSED NOISE WALL STRUCTURES ARE LOCATED ALONG THE WEST SIDE OF I-75, BEGINNING ON THE NORTH SIDE OF THE HAM-75-0823 LAIDLAW AVENUE OVER I-75 BRIDGE STRUCTURE AND TERMINATES JUST OF THE HAM-561-7.01 SEYMOUR AVENUE OVER I-75 BRIDGE STRUCTURE. OVERALL, THE PROJECT IS LOCATED APPROXIMATELY 2.0 MILES SOUTH OF THE LOCKLAND SPLIT. THE PROPOSED NSA 1 BEGINS AT I-75 STA. 435+00 AND CONTINUES NORTH TO STA. 498+14, AND THE PROPOSED NSA 2 BEGINS AT I-75 STA. 435+00 AND CONTINUES NORTH TO STA. 474+05. WHERE THE NOISE WALLS ARE NOT FIXED TO THE BARRIER OF THE PROPOSED RETAINING WALLS H AND I, THE WALL ALIGNMENTS WILL ALONG THE GRASS ADJACENT TO THE ROADWAY. THE EXISTING I-75 ROADWAY THAT RUNS ADJACENT TO THE PROPOSED STRUCTURES IS CURRENTLY A SIX-LANE, ASPHALT PAVED ROADWAY. THE TERRAIN WEST OF I-75 IS ELEVATED FROM THE EXISTING ROADWAY AT THE NORTH AND SOUTH PORTIONS OF THE NOISE WALLS, AND THE EXISTING I-75 MAINLINE PROFILE IS ELEVATED APPROXIMATELY 25 TO 30 FEET ABOVE THE SURROUNDING TERRAIN IN THE VICINITY OF THE HAM-75-0857 TOWNE STREET OVER I-75 BRIDGE STRUCTURE.

SUBSURFACE EXPLORATION

BETWEEN OCTOBER 5 AND NOVEMBER 30, 2011, A TOTAL OF THIRTEEN (13) BORINGS WERE DRILLED TO DEPTHS RANGING FROM 25.0 TO 50.0 FEET BELOW THE GROUND SURFACE. BORINGS B-005-0-11 THROUGH B-007-0-11 WERE DRILLED FOR NOISE WALL NSA 1A, BORINGS B-009-0-11, B-010-0-11, B-011-0-11 AND B-013-0-11 WERE DRILLED FOR NOISE WALL NSA 1B AND BORINGS B-024-0-11, B-026-0-11, B-028-0-11, B-030-0-11 AND B-031-0-11 WERE DRILLED FOR NOISE WALL NSA 2. THE BORING LOCATIONS WERE DETERMINED AND LOCATED IN THE FIELD BY RII REPRESENTATIVES.

THE BORINGS WERE DRILLED USING AN ALL TERRAIN VEHICLE (ATV) MOUNTED ROTARY DRILLING MACHINE, UTILIZING A 4.25-INCH INSIDE DIAMETER, HOLLOW-STEM AUGER TO ADVANCE THE HOLES. RII UTILIZED A CALIBRATED AUTOMATIC DROP HAMMER TO GENERATE CONSISTENT ENERGY TRANSFER TO THE SAMPLER. THE HAMMER FOR THE ATV-MOUNTED DRILL RIG USED FOR THIS PROJECT WAS CALIBRATED ON MAY 6, 2011, AND HAS A DRILL ROD ENERGY RATIO OF 77.1 PERCENT.

EXPLORATION FINDINGS

ALL OF THE BORINGS WERE DRILLED ALONG THE EXISTING GRASS AREA ADJACENT TO THE I-75 SOUTHBOUND LANES AND ENCOUNTERED 4.0 TO 11.0 INCHES OF TOPSOIL AT THE EXISTING GROUND SURFACE, IDENTIFIED BY THE SIGNIFICANT PRESENCE OF ORGANIC MATTER AND VEGETATION.

LEGEND

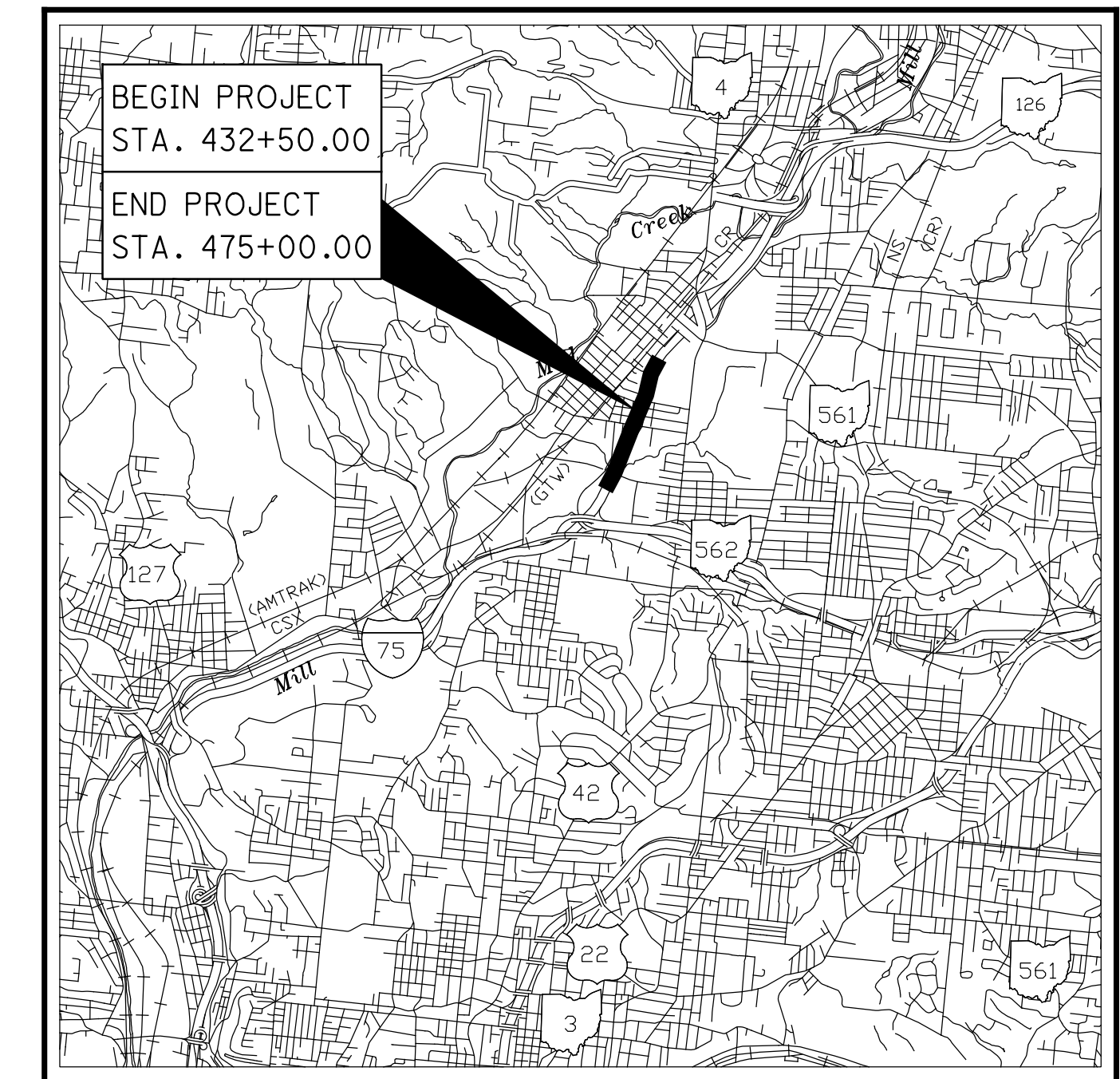
DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a	0 3
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b	2 9
GRAVEL AND/OR STONE FRAGS. WITH SAND AND SILT	A-2-4	1 6
FINE SAND	A-3	2 19
COARSE AND FINE SAND	A-3a	4 12
SANDY SILT	A-4a	4 14
SILT	A-4b	2 6
SILT AND CLAY	A-6a	6 21
SILTY CLAY	A-6b	2 13
CLAY	A-7-6	3 11
	TOTAL	26 114
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.		
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.	
SS	INDICATES A SPLIT SPOON SAMPLE, STANDARD PENETRATION TEST.	
ST	INDICATES A SHELBY TUBE SAMPLE.	

EXPLORATION FINDINGS (CONTINUED)

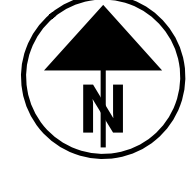
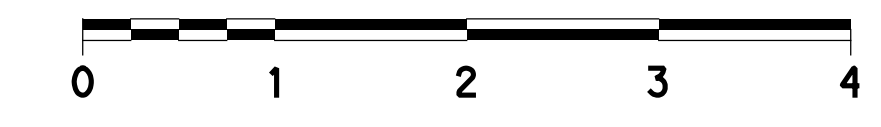
BENEATH THE SURFACE MATERIAL IN BORINGS B-004-0-11, B-005-0-11, B-010-0-11, B-011-0-11, B-013-0-11 AND B-024-0-11, MATERIAL IDENTIFIED AS EXISTING FILL WAS ENCOUNTERED EXTENDING TO A DEPTHS RANGING FROM 8.0 TO 18.0 FEET BELOW THE GROUND SURFACE. THE FILL MATERIAL CONSISTED OF BROWN, DARK BROWN, DARK GRAY, BROWNISH GRAY AND BLACK GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, FINE SAND, COARSE AND FINE SAND, SAND SILTY, SILT AND CLAY AND SILTY CLAY (ODOT A-1-b, A-2-4, A-3, A-3a, A-4a, A-6a, A-6b). THE MAJORITY OF THE FILL MATERIAL CONTAINED ASPHALT, CONCRETE, SLAG, COAL AND CERAMIC FRAGMENTS.

UNDERLYING THE SURFACE MATERIALS AND FILL MATERIAL WHERE PRESENT, NATURAL SOILS WERE ENCOUNTERED CONSISTING OF BOTH GRANULAR AND COHESIVE MATERIAL. THE GRANULAR SOILS WERE GENERALLY DESCRIBED AS BROWN, LIGHT BROWN AND DARK GRAY GRAVEL, GRAVEL AND SAND, GRAVEL WITH SAND AND SILT, FINE SAND, COARSE AND FINE SAND AND SANDY SILT (ODOT A-1-a, A-1-b, A-2-4, A-3, A-3a, A-4a). THE COHESIVE SOILS WERE GENERALLY DESCRIBED AS GRAY, BROWN, BROWNISH GRAY AND DARK BROWN SANDY SILT, SILT, SILT AND CLAY, SILTY CLAY AND CLAY (ODOT A-4a, A-4b, A-6a, A-6b, A-7-6) WITH LESSER PERCENTAGES OF GRAVEL AND/OR SAND.

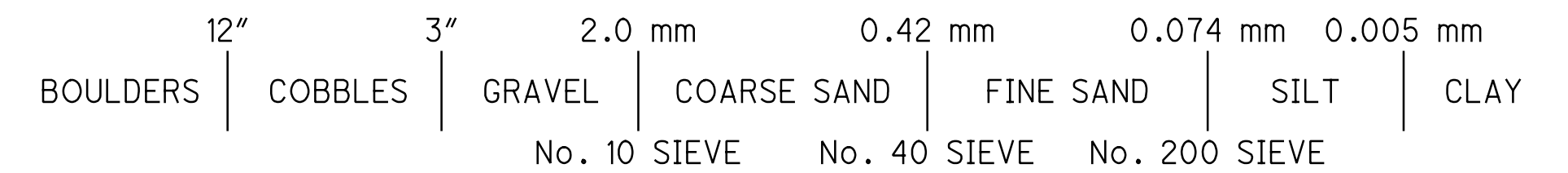
BASED ON THE SPT BLOW COUNTS OBTAINED, THE GRANULAR SOIL ENCOUNTERED RANGED FROM VERY LOOSE ($N_{60} < 5$ BLOWS PER FOOT [BPF]) TO VERY DENSE ($N_{60} > 50$ BPF). OVERALL BLOW COUNTS RECORDED FROM THE SPT SAMPLING RANGED FROM 3 TO 67 BPF. THE COHESIVE SOIL ENCOUNTERED RANGED FROM SOFT ($0.25 < HP < 0.5$ TSF) TO HARD ($HP > 4.0$ TSF). THE UNCONFINED COMPRESSIVE STRENGTH OF THE COHESIVE SOIL SAMPLES TESTED, RANGED FROM 0.5 TO OVER 4.5 TSF (LIMIT OF INSTRUMENT).



LOCATION MAP
SCALE IN MILES



PARTICLE SIZE DEFINITIONS



EXPLORATION FINDINGS (CONTINUED)

NATURAL MOISTURE CONTENTS OF THE SOIL SAMPLES TESTED RANGED FROM 3 TO 32 PERCENT. THE NATURAL MOISTURE CONTENT OF THE COHESIVE SOIL SAMPLES TESTED FOR PLASTICITY INDEX RANGED FROM 7 PERCENT BELOW TO 11 PERCENT ABOVE THEIR CORRESPONDING PLASTIC LIMITS. THE MOISTURE CONTENTS OF THE NATIVE SOILS ARE GENERALLY CONSIDERED TO BE MODERATELY BELOW TO SIGNIFICANTLY ABOVE OPTIMUM MOISTURE LEVELS.

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

GROUNDWATER WAS ENCOUNTERED INITIALLY DURING THE DRILLING PROCESS IN BORINGS B-005-0-11 AND B-006-0-11 AT A DEPTH OF 26.0 AND 24.0 FEET BELOW THE GROUND SURFACE, RESPECTIVELY. AT THE COMPLETION OF DRILLING AND PRIOR TO REMOVING THE AUGERS AT BORING B-005-0-11, GROUNDWATER ACCUMULATED IN THE AUGER STEMS TO A DEPTH OF 21.0 FEET. THE REMAINING BORINGS WERE OBSERVED TO BE DRY.

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 2011.

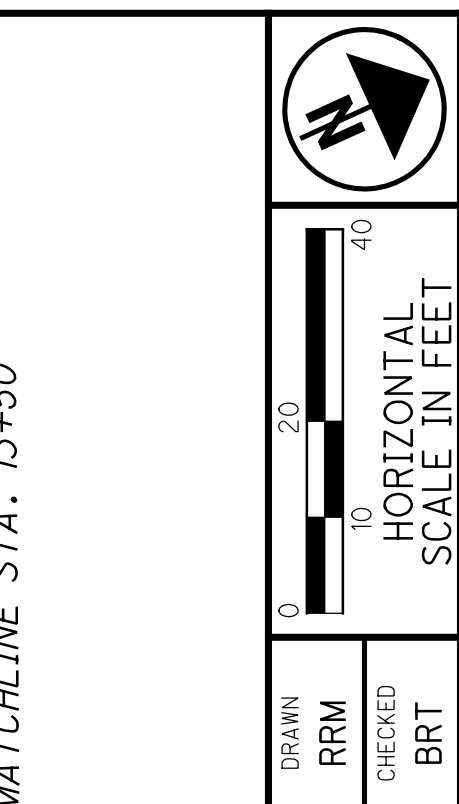
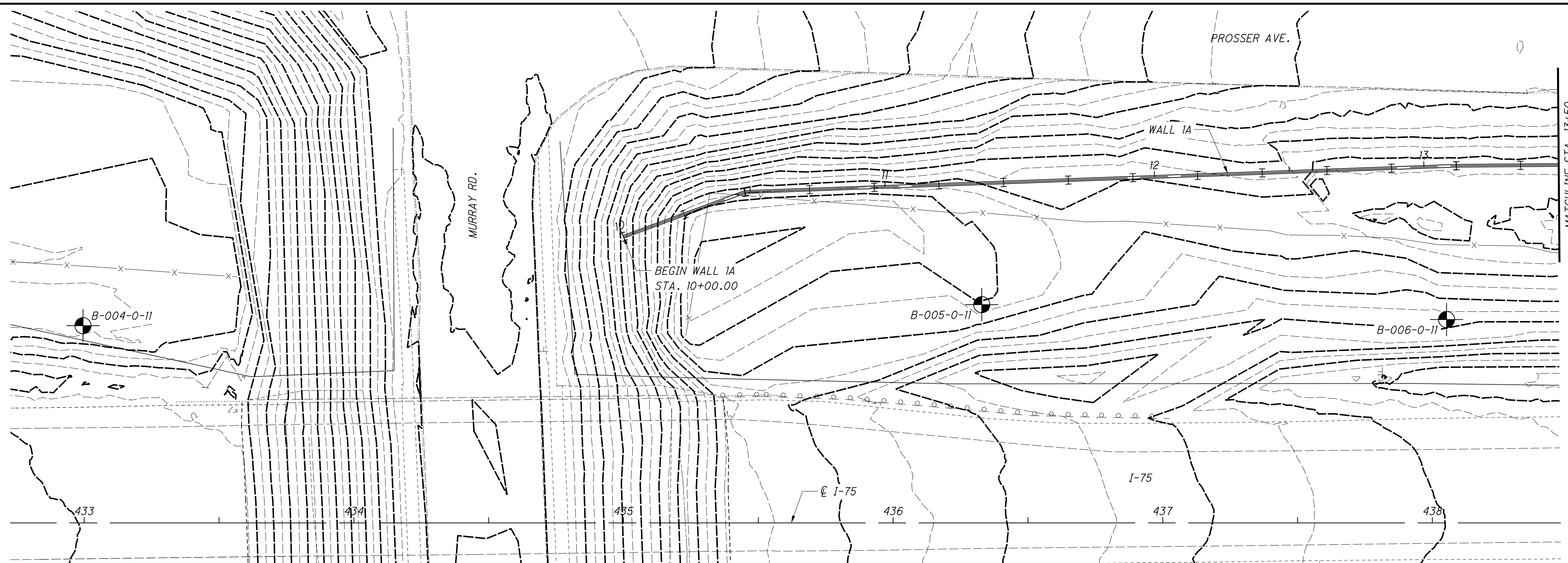
AVAILABLE INFORMATION

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.

RECON. -	RB	08/24/11 TO 08/25/11
DRILLING -	TF, SM	10/05/11 TO 11/30/11
DRAWN -	RRM	02/06/15
REVIEWED -	BRT	02/06/15

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZC401.dgn 6/21/2023 1:09:25 PM bmcscutchen

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP401.dgn 6/21/2023 1:09:27 PM bmccutchen



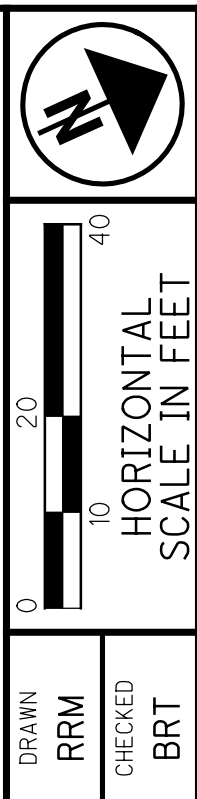
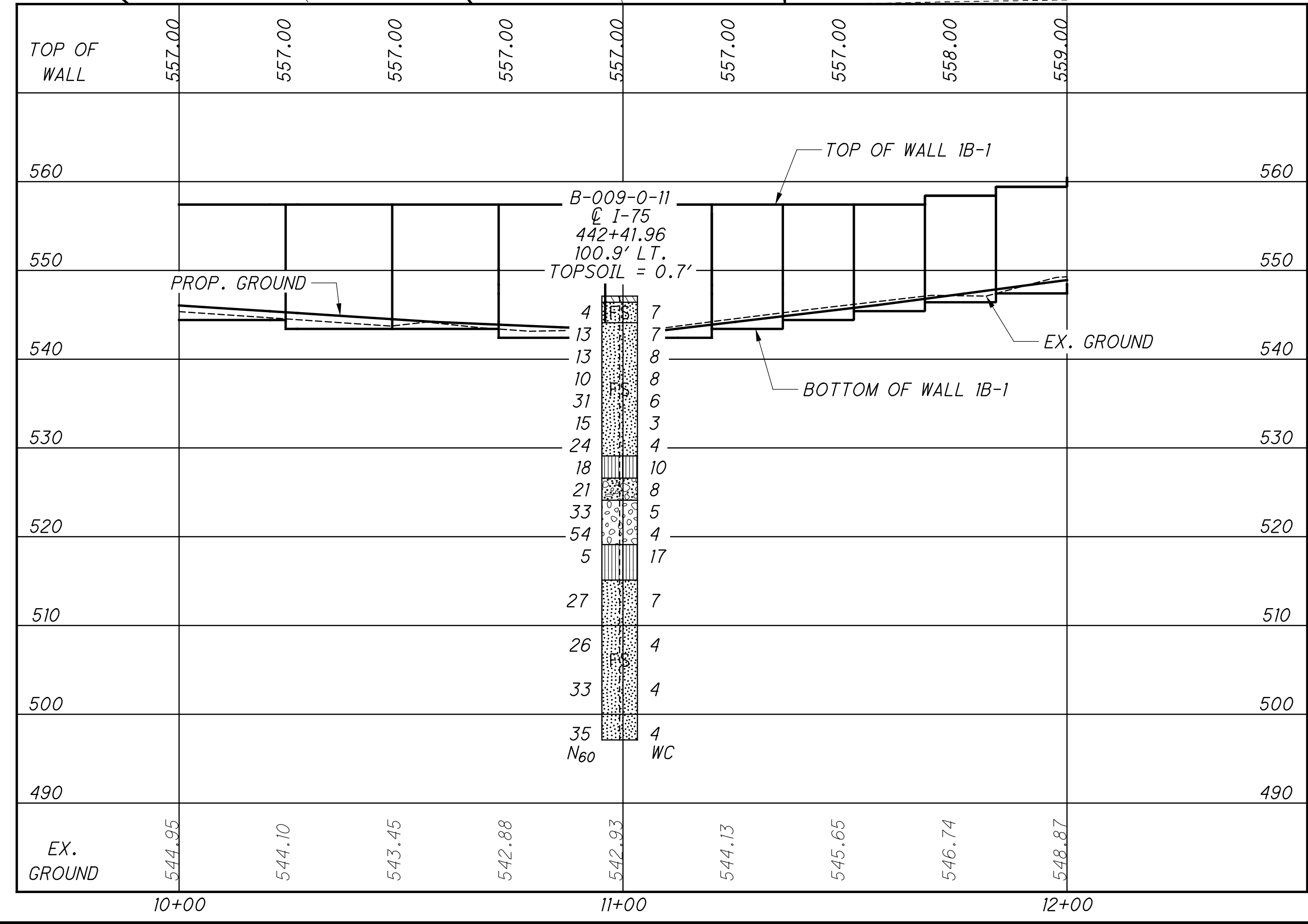
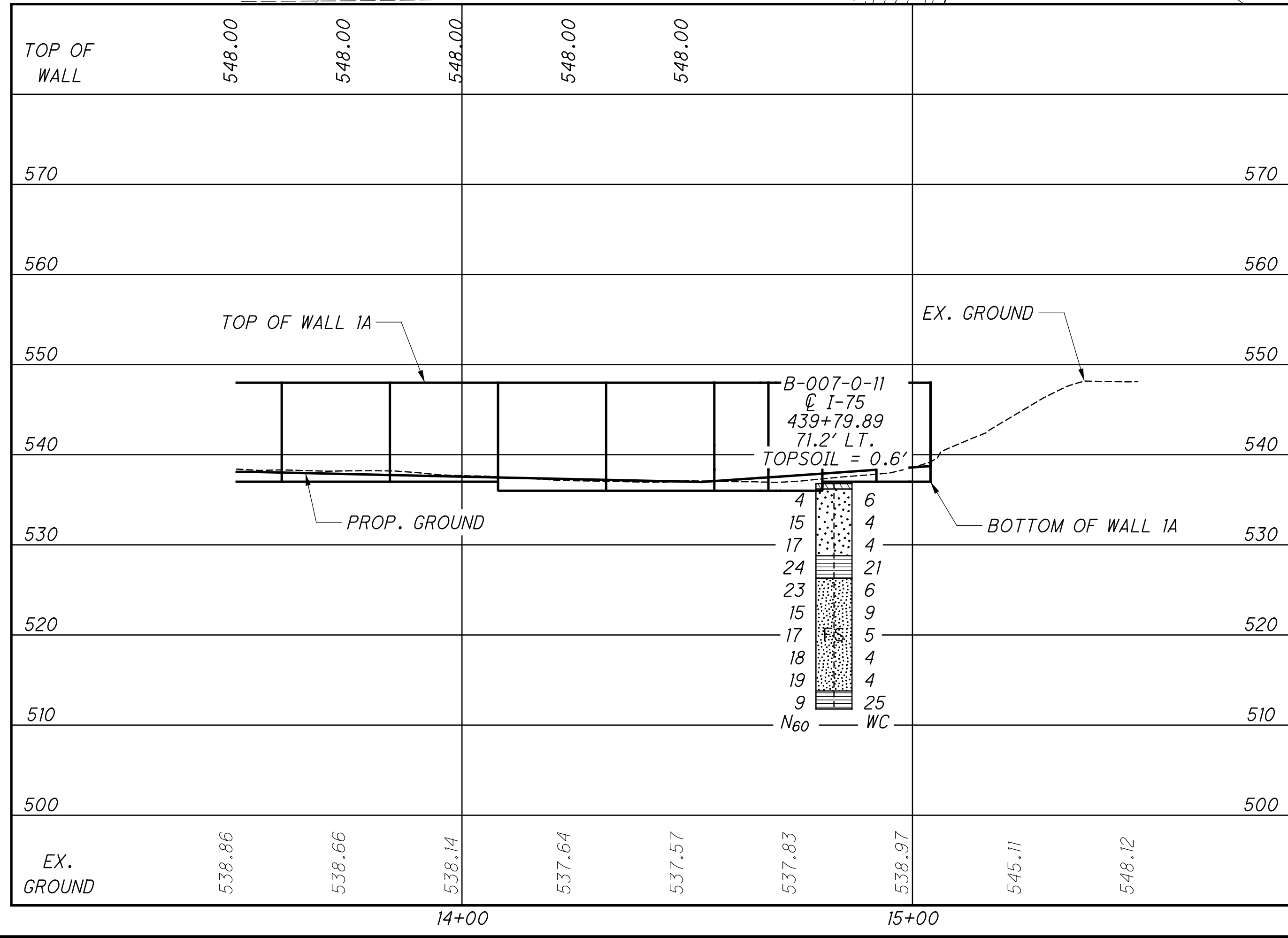
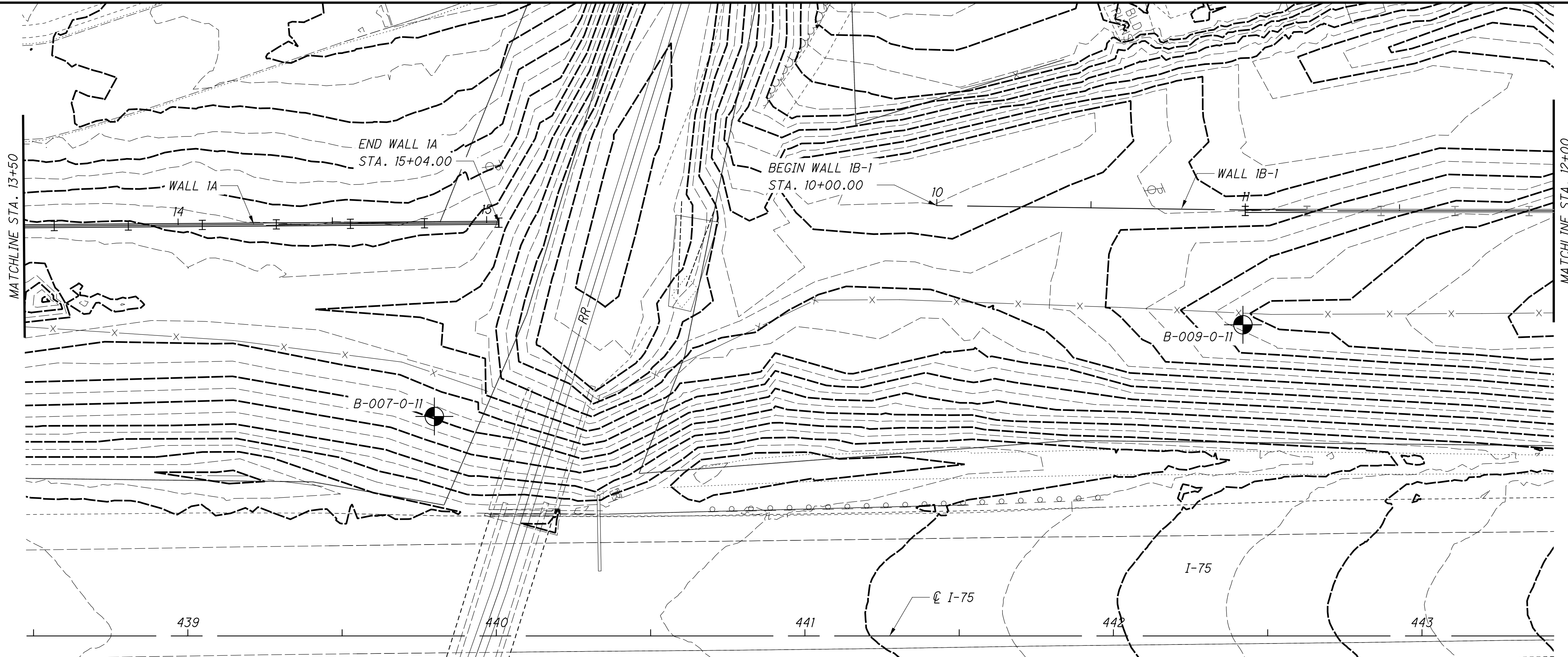
DRAWN: RRM
CHECKED: BRT

TOP OF WALL		548.00																				
570																	570					
560																	560					
550	550	<p>B-004-0-11 @ I-75 432+99.54 73.2' LT. TOPSOIL = 0.3'</p>					<p>TOP OF WALL 1A</p>					<p>B-005-0-11 @ I-75 436+32.89 81.0' LT. TOPSOIL = 0.5'</p>					<p>B-006-0-11 @ I-75 438+05.26 75.5' LT. TOPSOIL = 0.5'</p>					550
540	540																540					
530	530																530					
520	520																520					
510	510																510					
500	500																500					
EX. GROUND		538.15	540.38	539.91	539.95	539.57	538.91	537.27	537.77	538.10	537.46	537.27	539.32	539.12	538.90	538.86						
		<p>BOTTOM OF WALL 1A</p> <p>EX. GROUND</p> <p>PROP. GROUND</p>																				
		<p>10+00</p> <p>11+00</p> <p>12+00</p> <p>13+00</p>																				

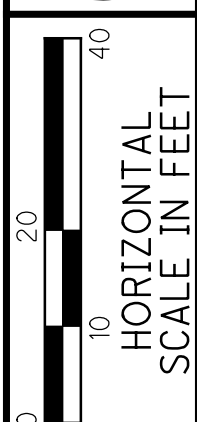
STRUCTURE FOUNDATION EXPLORATION
 STA. 10+00 TO STA. 13+50 WALL 1A

HAM-75-7.85

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP402.dgn 6/21/2023 1:09:28 PM bmccutchen



DRAWN: RRM
 CHECKED: BRT
 STRUCTURE FOUNDATION EXPLORATION
 STA. 13+50 TO STA. 15+04 WALL 1A
 STA. 10+00 TO STA. 12+00 WALL 1B-1



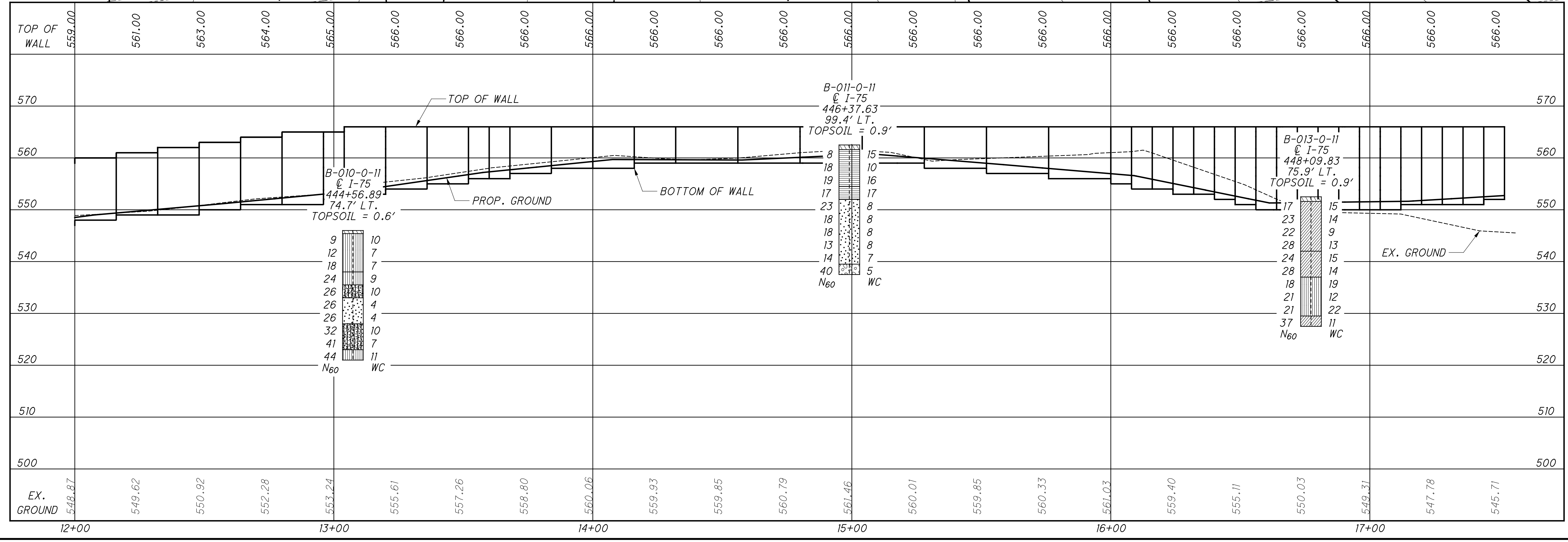
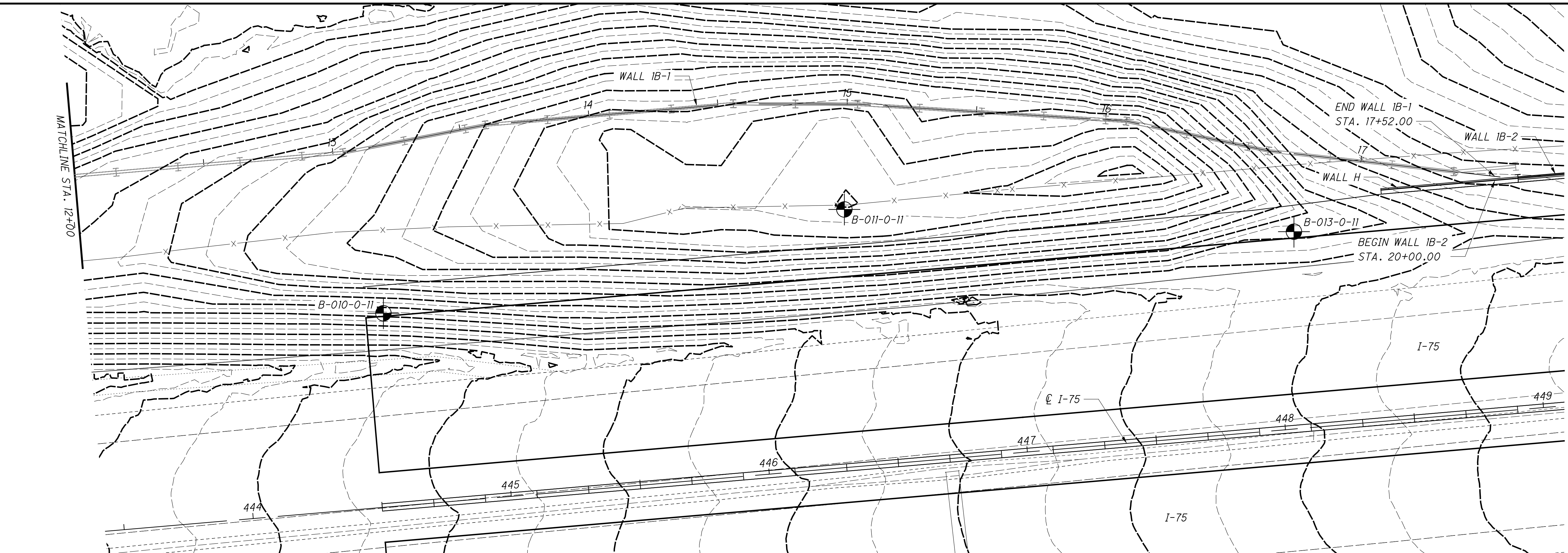
DRAWN: RRM
CHECKED: BRT

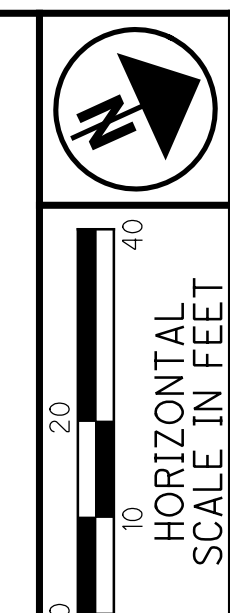
STRUCTURE FOUNDATION EXPLORATION
STA. 12+00 TO STA. 17+52 WALL 1B-1

HAM-75-7.85

1515
1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP403.dgn 6/21/2023 1:09:29 PM bmccutchen





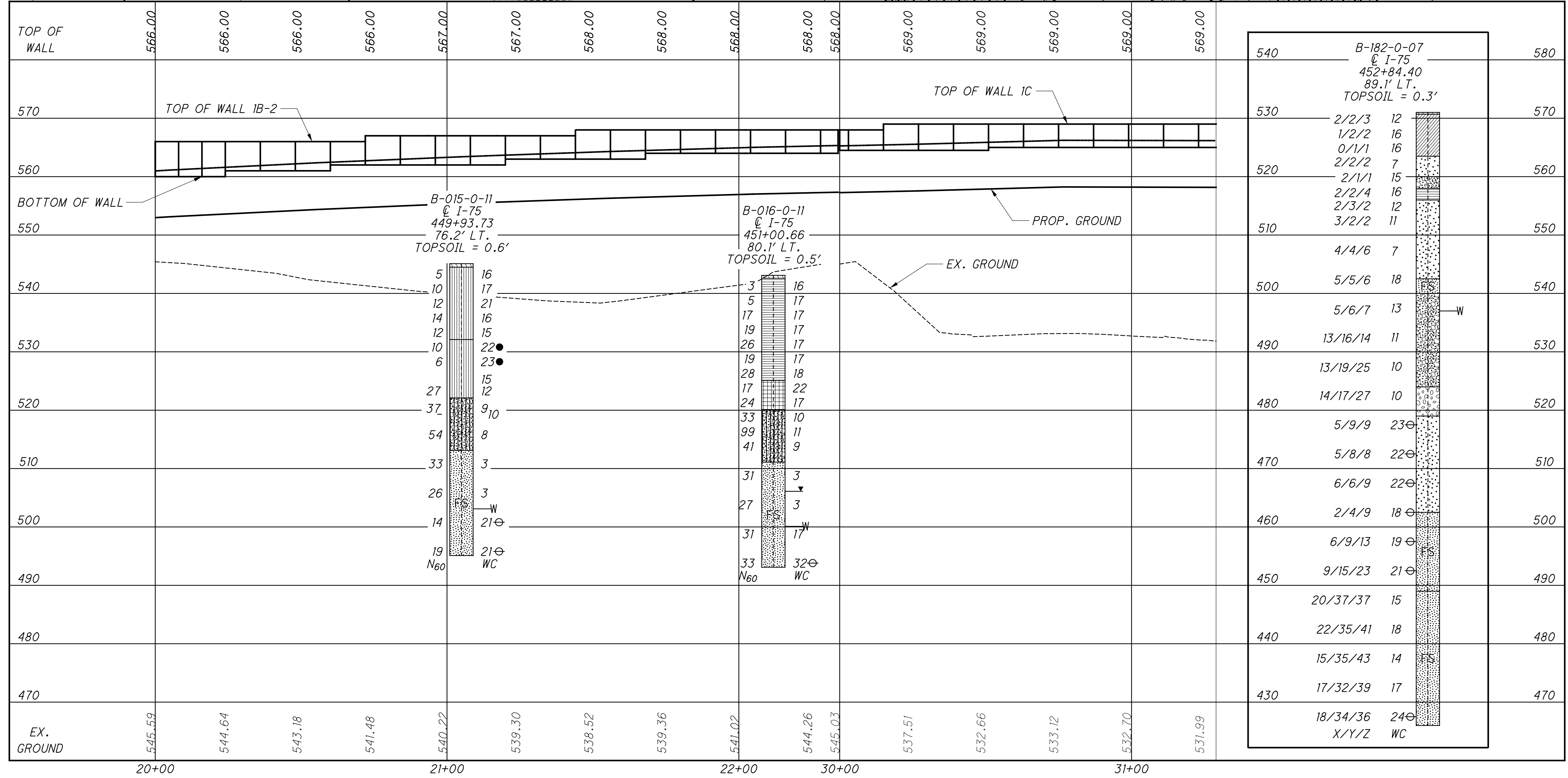
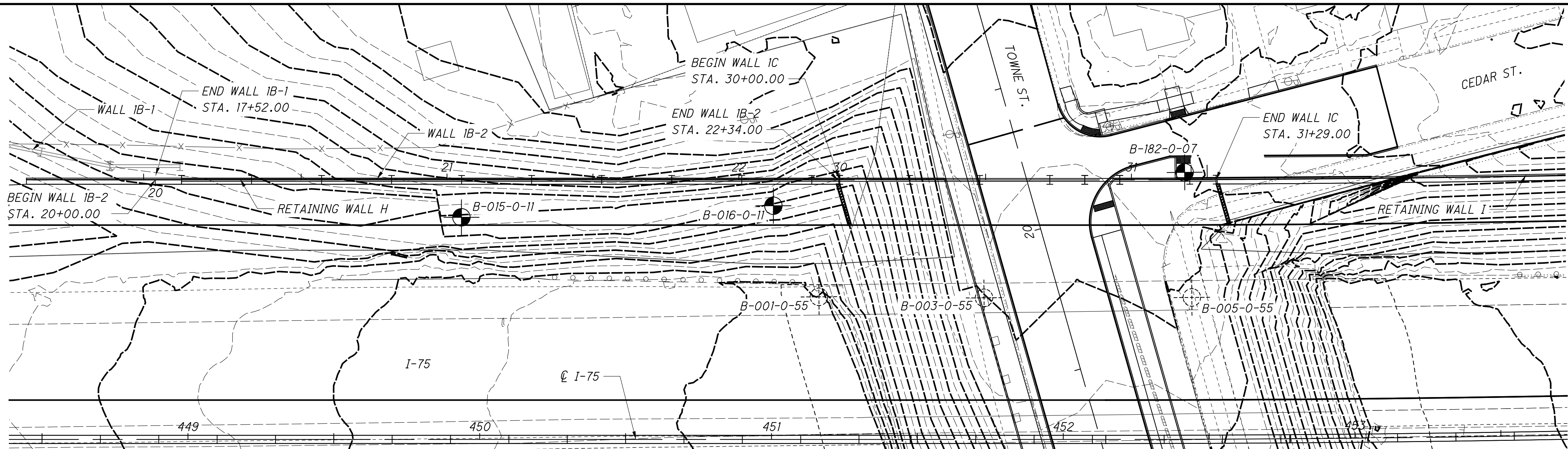
DRAWN: RRM
CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
STA. 20+00 TO STA. 22+34 WALL 1B-2
STA. 30+00 TO STA. 31+29 WALL 1C

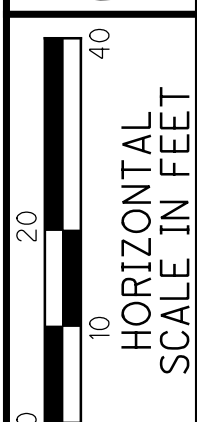
HAM-75-7.85

5 / 23

1516
1534



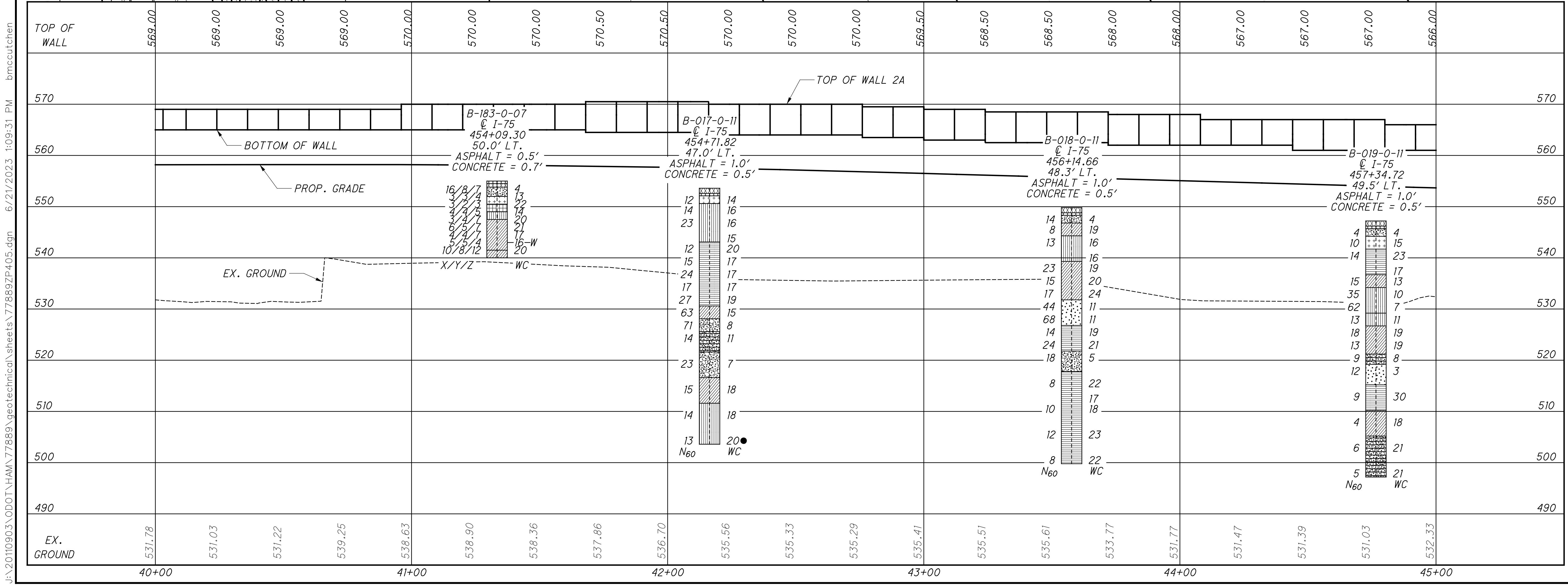
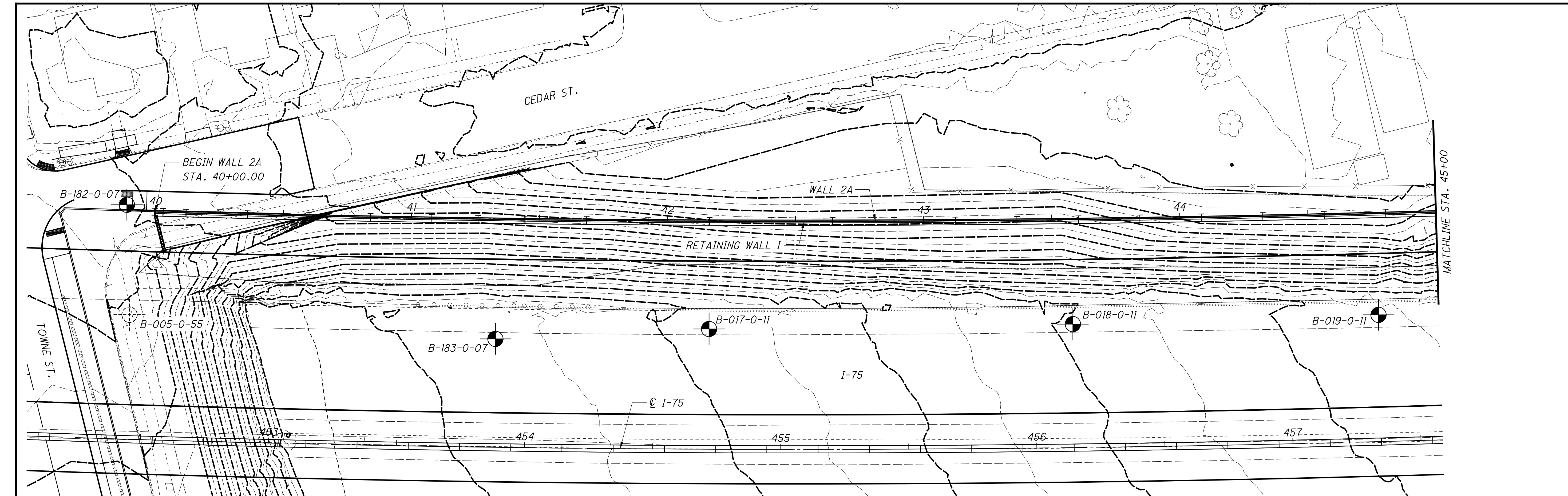
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP404.dgn 6/21/2023 1:09:30 PM bmccutchen



DRAWN: RRM
CHECKED: BRT

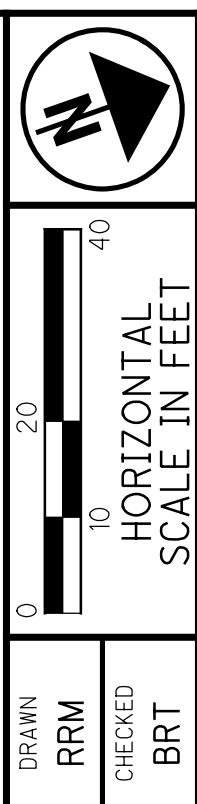
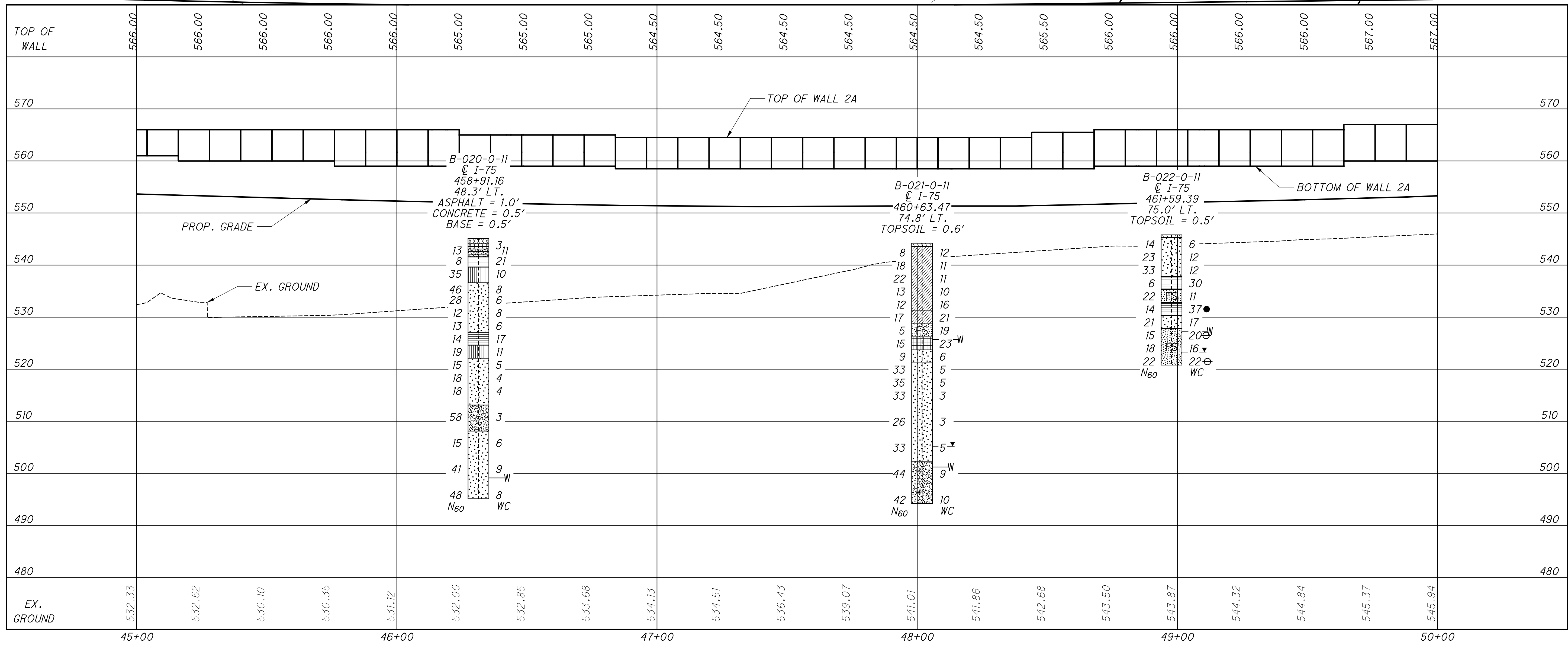
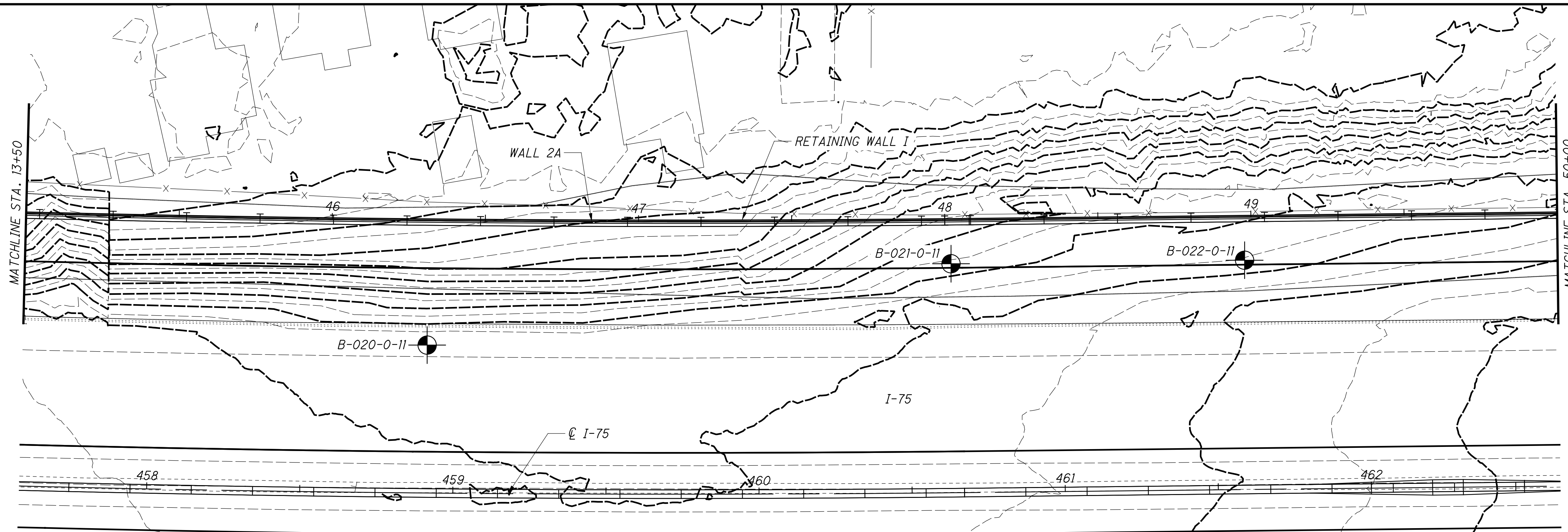
STRUCTURE FOUNDATION EXPLORATION
STA. 40+00 TO STA. 45+00 WALL 2A

HAM-75-7.85



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP405.dgn 6/21/2023 1:09:31 PM bmccutchen

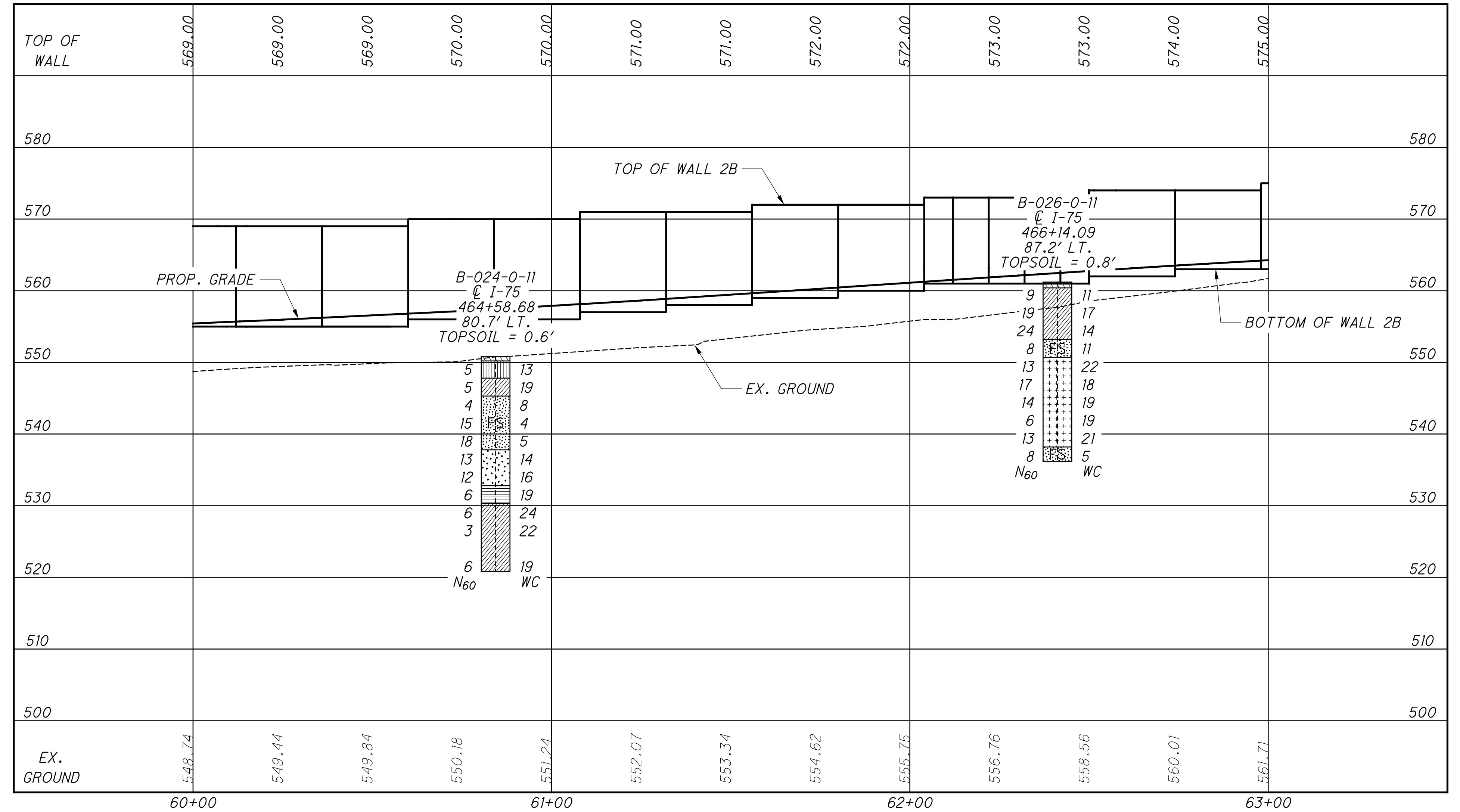
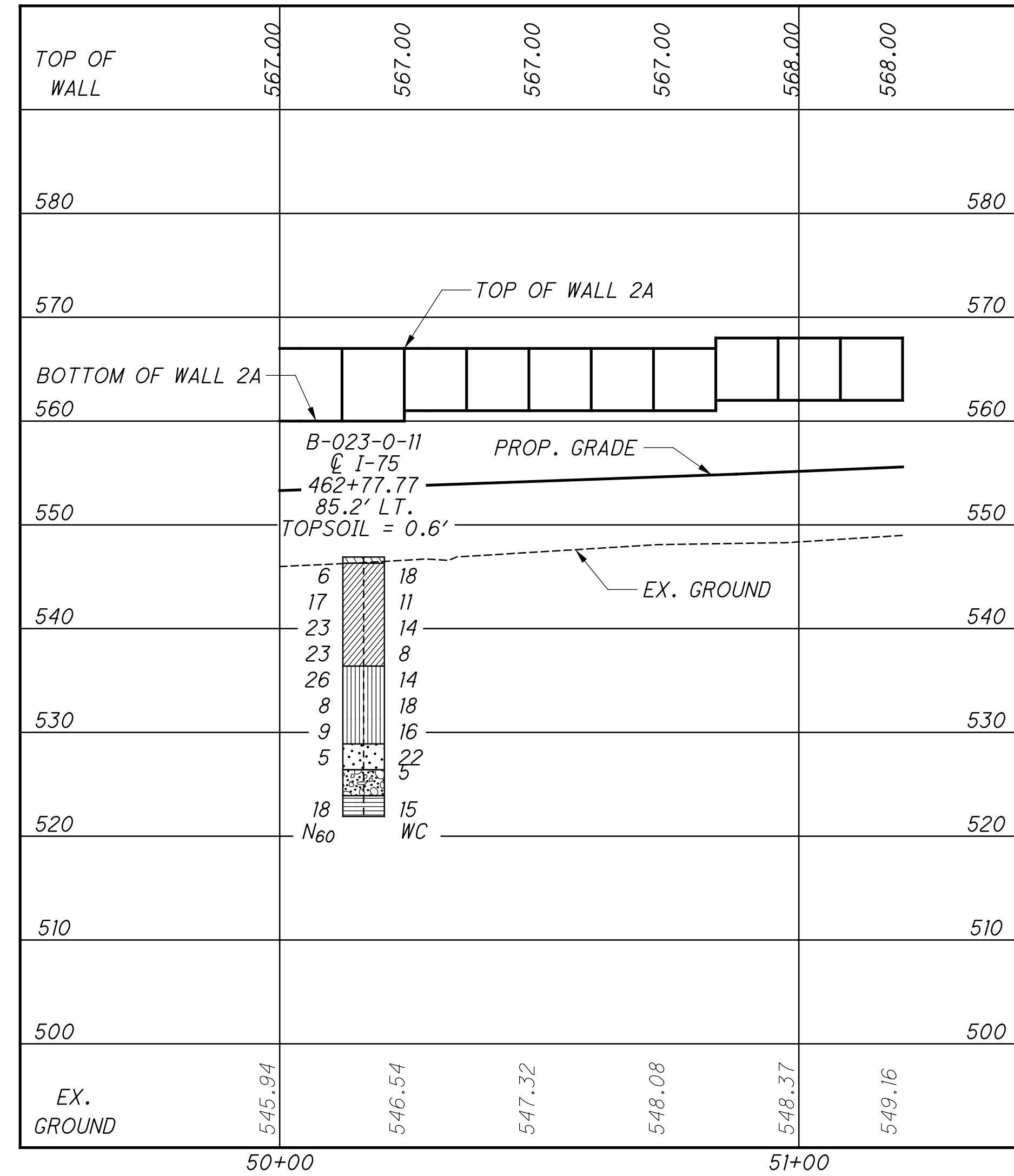
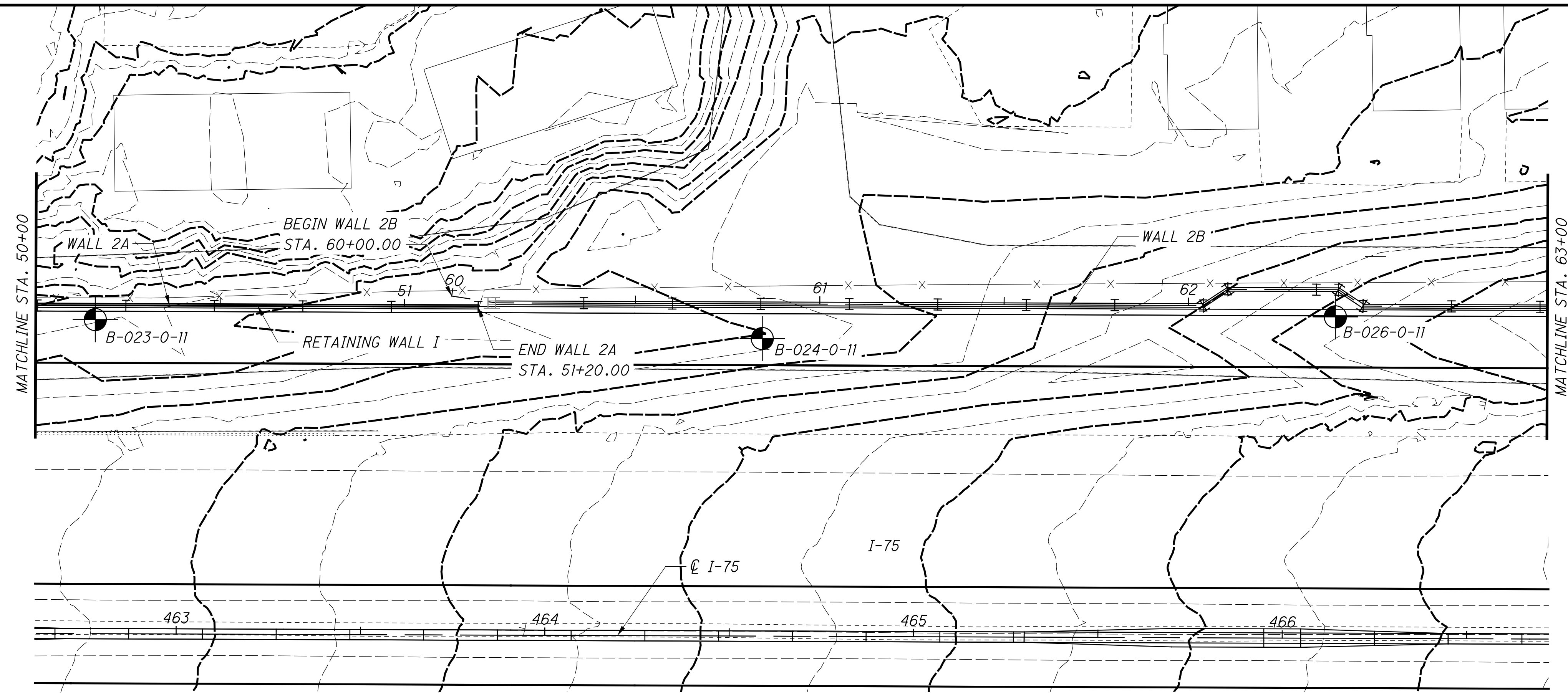
J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP406.dgn 6/21/2023 1:09:32 PM bmccutchen

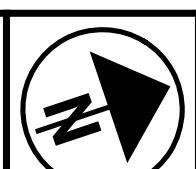
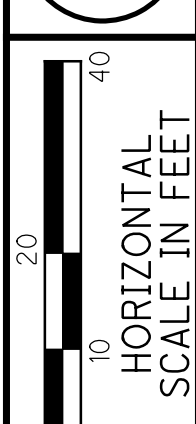


DRAWN: RRM
 CHECKED: BRT
STRUCTURE FOUNDATION EXPLORATION
STA. 45+00 TO STA. 50+00 WALL 2A

HAM-75-7.85
 7 / 23
 1518
 1534

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP407.dgn 6/21/2023 1:09:33 PM bmccutchen





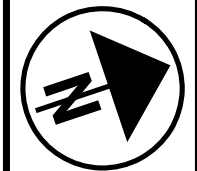


 HORIZONTAL SCALE IN FEET

DRAWN: RRM
 CHECKED: BRT

STRUCTURE FOUNDATION EXPLORATION
STA. 50+00 TO STA. 51+20 WALL 2A
STA. 60+00 TO STA. 63+00 WALL 2B

HAM-75-7.85

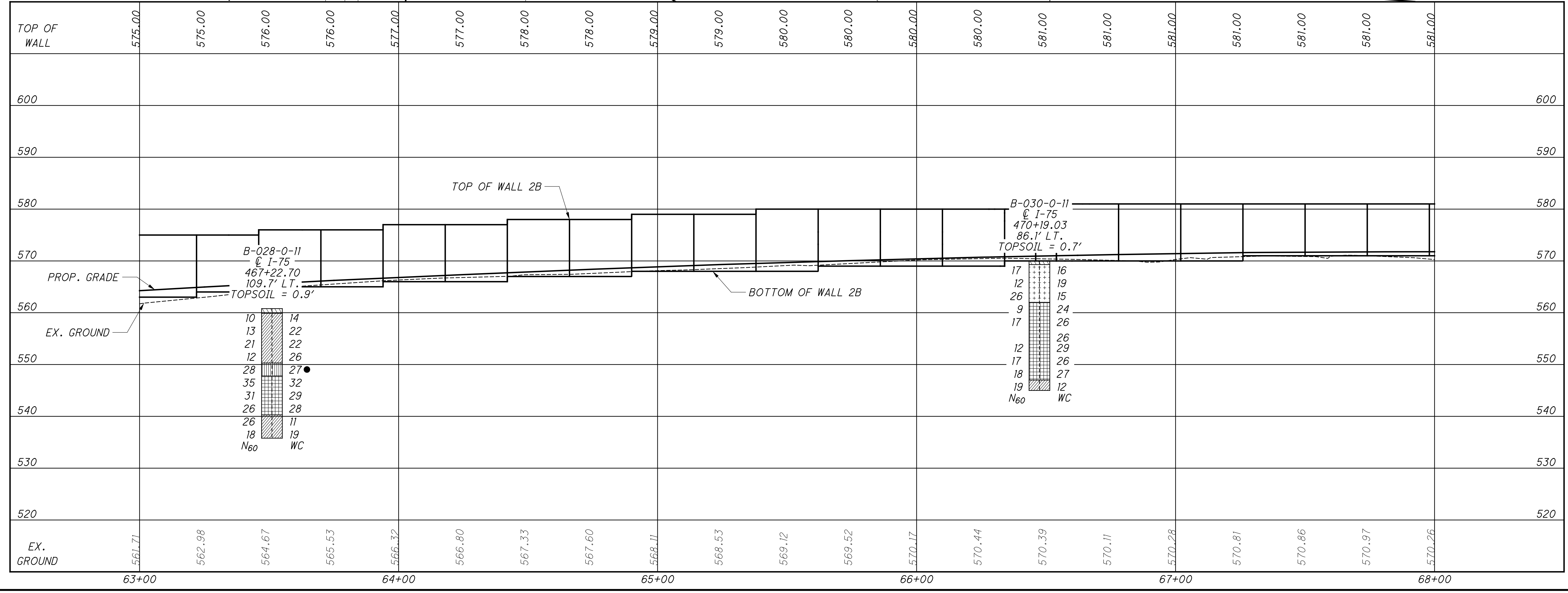
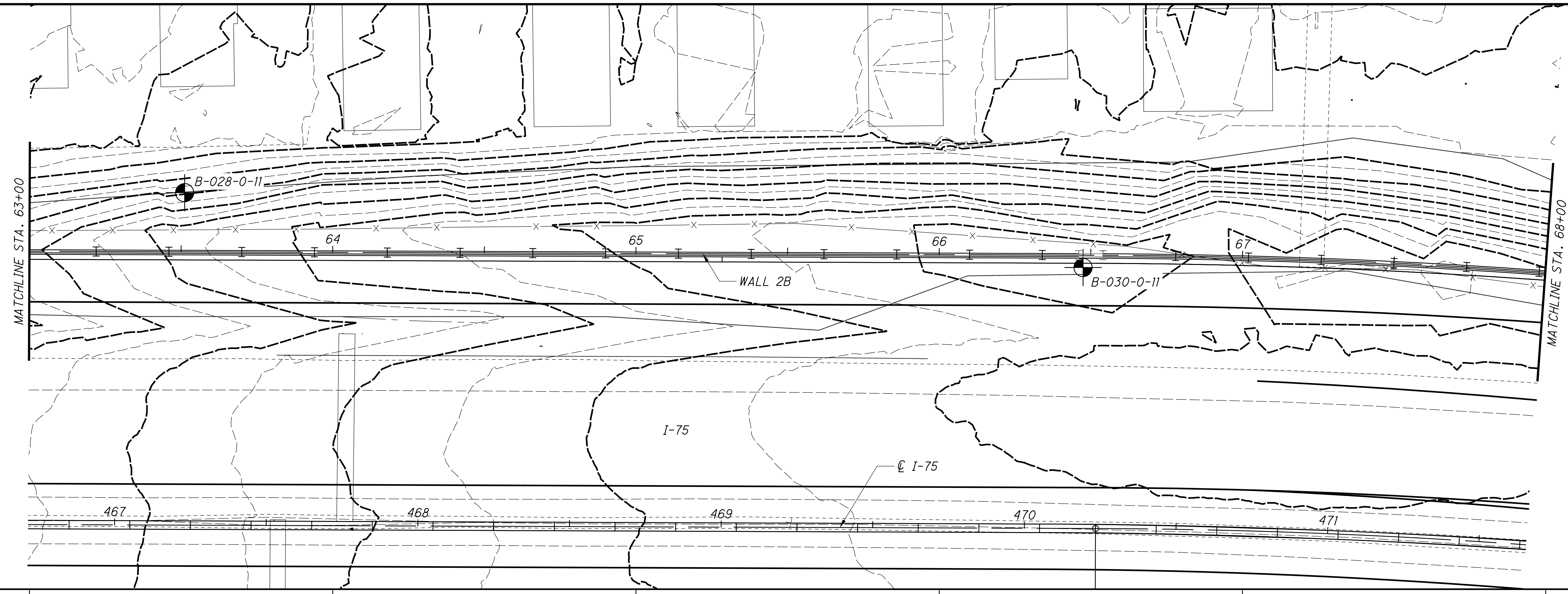
8 / 23





DRAWN: RRM
CHECKED: BRT

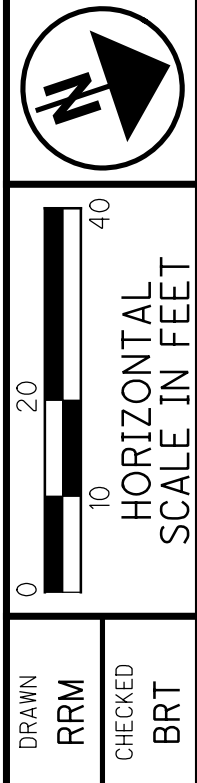
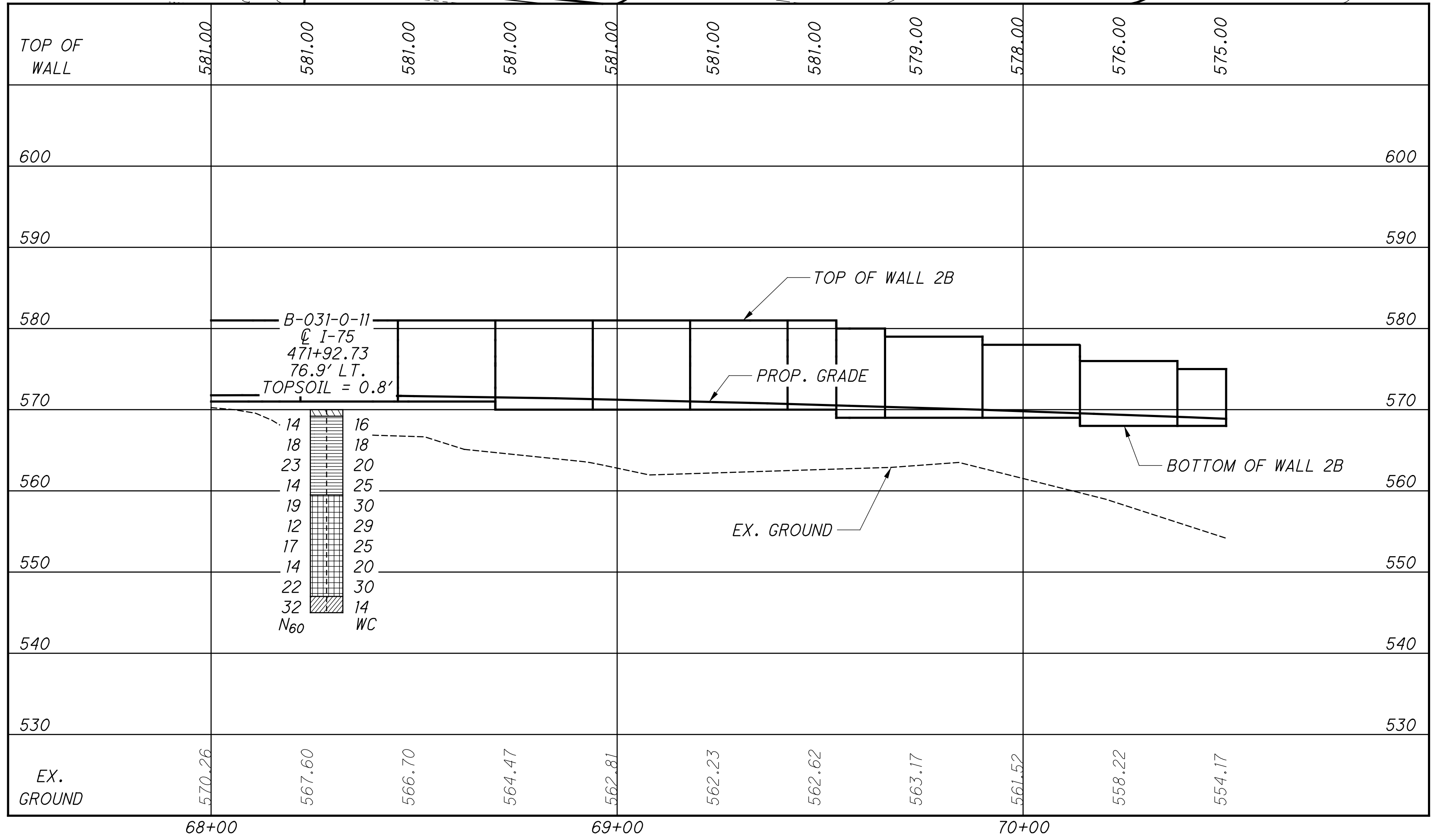
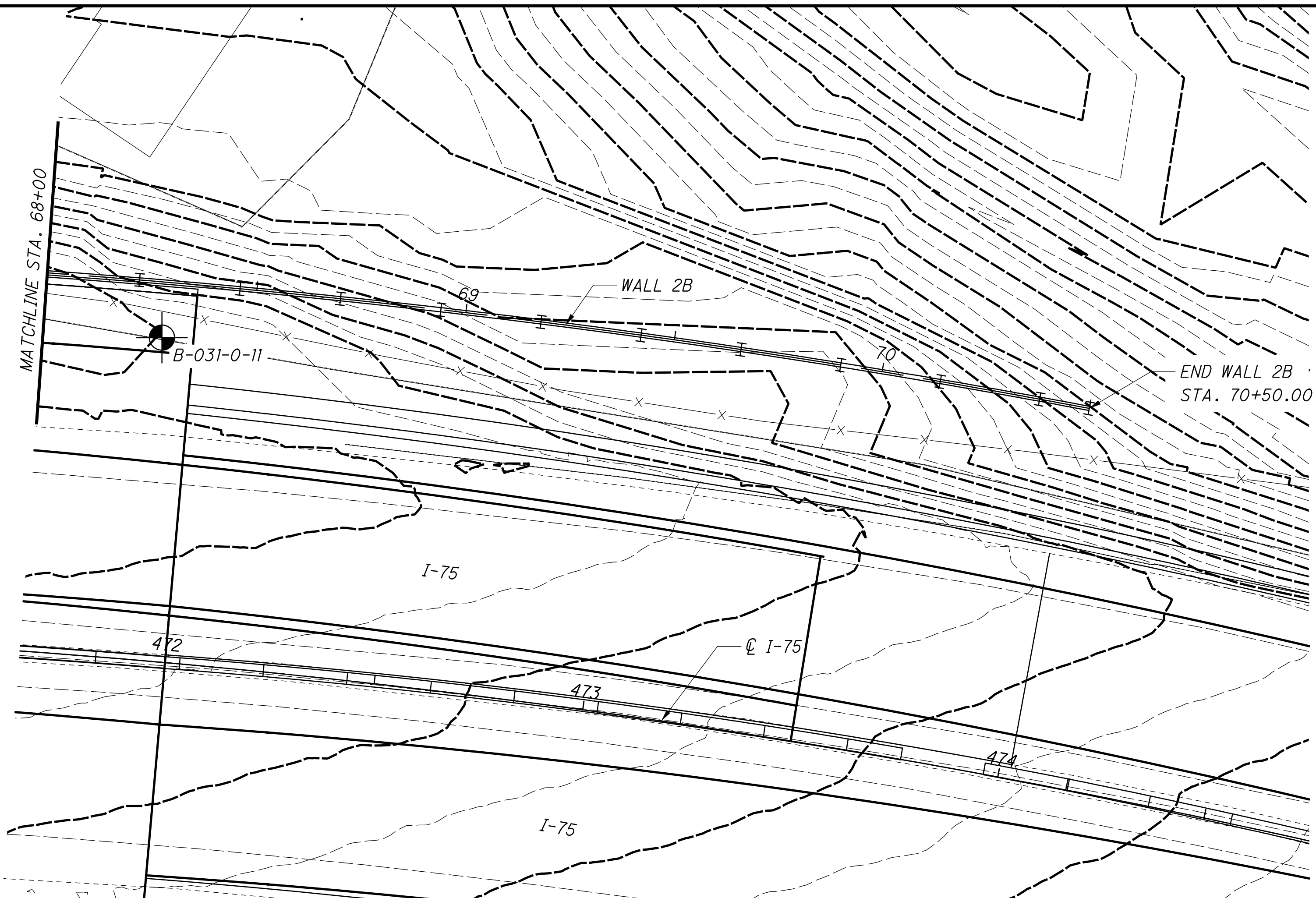
STRUCTURE FOUNDATION EXPLORATION
STA. 63+00 TO STA. 68+00 WALL 2B

HAM-75-7.85



J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP408.dgn 6/21/2023 1:09:34 PM bmccutchen

J:\20110903\ODOT\HAM\77889\geotechnical\sheets\77889ZP409.dgn 6/21/2023 1:09:35 PM bmccutchen



DRAWN: RRM
 CHECKED: BRT
STRUCTURE FOUNDATION EXPLORATION
STA. 68+00 TO STA. 70+50 WALL 2B

HAM-75-7.85
 10/23
 1521
 1534

PROJECT: HAM-75.85		DRILLING PARTY OPERATORS: JILL S.M.		DRILL RIG: JME-Z200-SEN10210		STATION/OFFSET: 48229.81/73.21 LT		EXPLORATION ID: B-004-0-11			
TYPE: NOISE WALL		SAMPLING FROM LOGS: 10 FT		SAMPLING DATE: 5/27/18		ADDITIONAL INFORMATION: NONE		PAGE: 1 OF 1			
PID: 77889		SUN: MA		CALIBRATION DATE: 5/27/18		ELEVATION: 534.00		BORE: 26.00			
START: 10/18/11		END: 04/11/11		SAMPLING METHOD: SPT		LAT / LONG: 35.206718E -86.70188E					
MATERIAL DESCRIPTION AND NOTES		ELEM. ELEV.		SPT ROD		REG. SAMPLE NO.		CORRELATION TO ADJACENT		BATCH NO.	
		DEPTH		NO.		NO.		CORRELATION TO ADJACENT		NO.	
0.3' - TOPSOIL (4.0')		534.0		1		466		-		-	
FILL: HARD, BROWN SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DAMP.		531.0		2		467		-		A-1-b(0)	
FILL: VERY DENSE, LIGHT BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DRY.		528.0		3		468		-		-	
- ASPHALT AND CONCRETE FRAGMENTS PRESENT IN SS-2		525.0		4		469		-		A-1-b(0)	
FILL: VERY LOOSE TO LOOSE, REDDISH BROWN GRAVEL WITH SAND AND SILT, LITTLE CLAY, DAMP TO MOIST.		522.0		5		470		-		-	
- SLUG AND LOCAL FRAGMENTS PRESENT IN SS-2		519.0		6		471		-		A-2-4(0)	
FILL: BROWN SILTY CLAY, TRACE COARSE TO FINE SAND, MOIST.		516.0		7		472		-		-	
LOOSE TO DENSE, BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DRY TO DAMP.		513.0		8		473		-		A-1-b(0)	
		510.0		9		474		-		-	
		507.0		10		475		-		-	
		504.0		11		476		-		-	
		501.0		12		477		-		-	
		498.0		13		478		-		-	
		495.0		14		479		-		-	
		492.0		15		480		-		-	
		489.0		16		481		-		-	
		486.0		17		482		-		-	
		483.0		18		483		-		-	
		480.0		19		484		-		-	
		477.0		20		485		-		-	
		474.0		21		486		-		-	
		471.0		22		487		-		-	
		468.0		23		488		-		-	
		465.0		24		489		-		-	
		462.0		25		490		-		-	

NOTES: 6.0' MINIMUM BENT ENCOMPASSED DURING DRILLING. CROWN SETBACK 10'.
 REPAIRMENT NOTES: MATERIALS QUANTITIES COMPACTED WITH THE AUGER. SPT ASSUMES WHITE CRIPS AND SOIL CUTTING.

PROJECT: HAM-75.85	DRILLING: FINISH OPERATIONS	DRILLING: CORE TAKEN POSITION	STATIONING OFFSET:	EXPLORATION ID:
TYPE: NOISE WALL	DRILLING: PRIMARY LOGS	DATE: 06/17/2023	ALTERNATE:	B-005-0-11
PID: 77889	DRILLING: THEORETICAL	DEPTH: 42.00	ELEVATION:	PAGE: 1 OF 1
START: 10/18/11	SAMPLING METHOD:	SPIT	LAST LOG:	

DEPTH	SPT ROD	REC. SAMPLE ID	SPT NO.	STATIONING				CORR. CORR.	CORR. CORR.
				ES	SS	SI	CL		
0.5' - TOPSOIL (6.0')									
FILL: HARD, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.									
-TRACE ORGANICS IN SS-1									
FILL: HARD, BROWN TO MOTTLED BROWN AND GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.									
-TRACE ROOT FIBERS PRESENT IN SS-3									
FILL: MEDIUM STIFF TO STIFF, DARK GRAY AND BLACK SILTY CLAY AND COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP TO MOIST.									
-ASPHALT FRAGMENTS PRESENT IN SS-4									
-COAL AND CERAMIC FRAGMENTS PRESENT FROM 11.0 TO 16.0									
LOOSE TO MEDIUM DENSE, DARK GRAY AND BLACK SANDY SILT, LITTLE FINE GRAVEL, LITTLE CLAY, MOIST.									
-WOOD FRAGMENT PRESENT IN SS-8 AND SS-9									
VERY LOOSE, BROWN COARSE AND FINE SAND, LITTLE FINE GRAVEL, TRACE SILT, DAMP.									
LOOSE, BROWNISH GRAY SANDY SILT, LITTLE FINE GRAVEL, MOIST									

NOTES: 1. SOIL SAMPLES WERE OBTAINED IN ACCORDANCE WITH THE MARCH 2002 EDITION OF ASTM D1586. 2. ALL CORRECTIONS TO LOGS WERE MADE IN ACCORDANCE WITH THE MARCH 2002 EDITION OF ASTM D1586. 3. ALL CORRECTIONS TO LOGS WERE MADE IN ACCORDANCE WITH THE MARCH 2002 EDITION OF ASTM D1586.

PROJECT: HAM-75-7.85	DRIVING/FINISH OPERATOR: JELLYS MA.	DRILL RIG: LMS-750X(30)3000	STATION/OFFSET: 48945.25/29.5717	EXPLORATION ID: B-006-0-11
TYPE: NOISE WALL	SAMPLING FIRM/LABOR: BILTF	HAMMER: SMC AUTOMATIC	ALIGNMENT: BR-6173	
PID: 77889	DRILLING METHOD: 4257USA	CALIBRATION DATE: 5/20/11	ELEVATION: 207.13(1)	BOE: 2500L
START: 10/17/11	END: 10/27/11	ENERGY RATIO: 77.1	DATE LOGS: 30-0602752-01-00000002	TOP: 1-0P-1

DEPTH (ft)	SPT ROD	SPT	ELEM. NO.	MATERIAL DESCRIPTION AND NOTES	RES. SAMPLE ID	HP (ft)	GRADATION (%)			ATTENBERS			CORR. ELEM. (ft)
							GR	SM	CL	LL	PL	U	
0.5' - TOPSOIL (6.0")			551.7										
1.0'	2	2	551.7	LOOSE, BROWN COARSE AND FINE SAND, LITTLE FINE GRAVEL, TRACE CLAY, MOIST.	SS-1								A-8a (M)
2.0'	4	3	551.7	STIFF, BROWN SILT AND CLAY, AND COARSE TO FINE SAND, MOIST.	SS-2	2.00	11	29	36	14	12	14	A-8a (M)
3.0'	4	4	551.7	MEDIUM DENSE BROWN COARSE AND FINE SAND, LITTLE FINE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST.	SS-3	2.00							A-8a (M)
4.0'	4	4	551.7	VERY LOOSE TO LOOSE BROWN GRAVEL AND SAND, LITTLE SILT, TRACE CLAY, DAMP.	SS-4								A-8a (M)
5.0'	4	4	551.7	MEDIUM DENSE BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, MOIST.	SS-5								A-8a (M)
6.0'	4	4	551.7		SS-6								A-1-b(0)
7.0'	4	4	551.7		SS-7	15	52	17	15	9	NP	NP	A-1-b(0)
8.0'	4	4	551.7		SS-8								A-1-b(0)
9.0'	4	4	551.7		SS-9								A-1-b(0)
10.0'	4	4	551.7		SS-10								A-1-b(0)
11.0'	4	4	551.7										
12.0'	4	4	551.7										
13.0'	4	4	551.7										
14.0'	4	4	551.7										
15.0'	4	4	551.7										
16.0'	4	4	551.7										
17.0'	4	4	551.7										
18.0'	4	4	551.7										
19.0'	4	4	551.7										
20.0'	4	4	551.7										
21.0'	4	4	551.7										
22.0'	4	4	551.7										
23.0'	4	4	551.7										
24.0'	4	4	551.7										
25.0'	4	4	551.7										

NOTES: GROUNDWATER INITIALLY ENCOUNTERED @ 20.0' DEPTH IN DEPTH OF 20.0' AND WATER CONTENTS QUANTITIES CALCULATED WITH THE AUSSER 551 RESISTANCE DEPRESSAND SOIL CUTTINGS

PROJECT: HAM-75-7.85 TYPE: NOISEWALL		DRILLING FIRM/OPERATOR: ISI TLP SAMPLING FIRM/LOGGERS: RIVZEM		DRILLING: TIME FROM ISM-510/101 HAMMERS: SAME ALTIMETER		STATION/OFFSET: 433074.82/121.21		EXPLORATION ID: B-007-0-11									
PID: 77889 SFN: NA		DRILLING METHOD: 4527 JHA		CORRECTION DATA: 8/600 1		ADJUSTMENTS: PER S.L.Z.		PAGE: 2 OF 2									
START: 8/27/21 END: 8/27/21		SAMPLING METHOD: SPT		ENERGY RATIO: 68%		CORRECTION: 800/1000, 800/1000, 800/1000		DATE: 8/27/21									
MATERIAL DESCRIPTION AND NOTES																	
DEPTH (ft)	ELEV. (ft)	SPT NO.	SPT FSD	REC SAMPLE ID	HP (ft)	OR	IC	RS	FL	MP	NP	FL	LL	PL	PI	WD	DEPT. CLASS (ft)
1.0	536.2	1	1	988-1	-	-	-	-	-	-	-	-	-	-	-	-	A-3a (M)
2.0		2	1														
3.0		3	1														
4.0		4	1														
5.0		5	1														
6.0		6	1														
7.0		7	1														
8.0		8	1														
9.0		9	1														
10.0		10	1														
11.0		11	1														
12.0		12	1														
13.0		13	1														
14.0		14	1														
15.0		15	1														
16.0		16	1														
17.0		17	1														
18.0		18	1														
19.0		19	1														
20.0		20	1														
21.0		21	1														
22.0		22	1														
23.0		23	1														
24.0		24	1														
25.0		25	1														
26.0		26	1														
27.0		27	1														
28.0		28	1														
29.0		29	1														
30.0		30	1														
31.0		31	1														
32.0		32	1														
33.0		33	1														
34.0		34	1														
35.0		35	1														

4.5' - TOP SOIL (L.P.)
 VERY LOOSE TO MEDIUM DENSE, BROWN COARSE AND FINE SAND, LITTLE FINE GRAVEL, TRACE SILT, TRACE CLAY, DRY TO DAMP.
 -COBBLES PRESENT THROUGHOUT
 HARD BROWN SILTY CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.
 MEDIUM DENSE BROWN FINE SAND, AND COARSE SAND, TRACE SILT, TRACE CLAY, DRY TO DAMP.
 -COBBLES PRESENT THROUGHOUT
 MEDIUM STIFF GRAY SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.

NOTES: CORRELATE AND VERIFY WITH COUNTY ERD PINE DRILLING. CORRELATE DEPTH OF SEPARATION TO CODE EXTERNALS. CORRELATE WITH THE HOUSE TO ESTABLISH THE CORRESPONDING SOIL CUTTINGS.



PROJECT: HAM-75-7.85
TYPE: NOISEWALL

DRILLING/FIRM/LOGS: N.I.T.F.
SAMPLING FIRM LOGS: RUC/SUM

DRILLING METHOD: DEPT/HA

SAMPLING METHOD: SPT

DEPTUS

ELEV. 526.7

MATERIAL DESCRIPTION AND NOTES

0.7 - TOPSOIL (8.0')

VERY LOOSE, BROWN FINE SAND, SOME COARSE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, DAMP.

LOOSE TO DENSE, BROWN FINE SAND, SOME COARSE SAND, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, DRY TO DAMP.

MEDIUM DENSE, BROWN SANDY SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST.

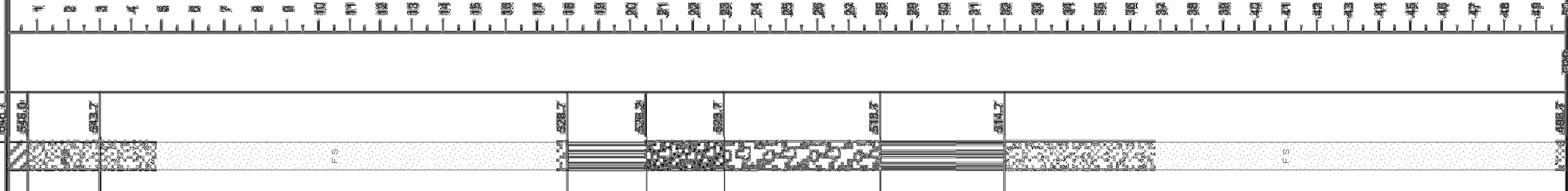
MEDIUM DENSE, BROWN GRAVEL AND SAND, TRACE SILT, DAMP.

DENSE TO VERY DENSE, BROWN GRAVEL, SOME COARSE TO FINE SAND, DAMP.

COBBLES PRESENT THROUGHOUT

MEDIUM STIFF, GRAY SANDY SILT, LITTLE SLAY, LITTLE FINE GRAVEL, MOIST.

MEDIUM DENSE TO DENSE, BROWN FINE SAND, TRACE SILT, TRACE FINE GRAVEL, TRACE SILT, TRACE CLAY, DRY TO DAMP.



NO.	DEPTH (FT)	SPT	RES. SAMPLE ID	HP (ft)	GRADATION (%)			PL	LL	PI	TAG	REMARKS
					CO	FS	SI					
1	0.7	1	SS-1	5								
2	1.4	2	SS-2	5								
3	2.1	3	SS-3	5								
4	2.8	4	SS-4	5								
5	3.5	5	SS-5	5								
6	4.2	6	SS-6	5								
7	4.9	7	SS-7	5								
8	5.6	8	SS-8	5								
9	6.3	9	SS-9	5								
10	7.0	10	SS-10	5								
11	7.7	11	SS-11	5								
12	8.4	12	SS-12	5								
13	9.1	13	SS-13	5								
14	9.8	14	SS-14	5								
15	10.5	15	SS-15	5								
16	11.2	16	SS-16	5								
17	11.9	17	SS-17	5								
18	12.6	18	SS-18	5								
19	13.3	19	SS-19	5								
20	14.0	20	SS-20	5								
21	14.7	21	SS-21	5								
22	15.4	22	SS-22	5								
23	16.1	23	SS-23	5								
24	16.8	24	SS-24	5								
25	17.5	25	SS-25	5								
26	18.2	26	SS-26	5								
27	18.9	27	SS-27	5								
28	19.6	28	SS-28	5								
29	20.3	29	SS-29	5								
30	21.0	30	SS-30	5								
31	21.7	31	SS-31	5								
32	22.4	32	SS-32	5								
33	23.1	33	SS-33	5								
34	23.8	34	SS-34	5								
35	24.5	35	SS-35	5								
36	25.2	36	SS-36	5								
37	25.9	37	SS-37	5								
38	26.6	38	SS-38	5								
39	27.3	39	SS-39	5								
40	28.0	40	SS-40	5								
41	28.7	41	SS-41	5								
42	29.4	42	SS-42	5								
43	30.1	43	SS-43	5								
44	30.8	44	SS-44	5								
45	31.5	45	SS-45	5								
46	32.2	46	SS-46	5								
47	32.9	47	SS-47	5								
48	33.6	48	SS-48	5								
49	34.3	49	SS-49	5								
50	35.0	50	SS-50	5								

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE IN DEPTH 20.6'

ASSIGNMENT METHOD: MATERIALS QUANTITIES - CORRELATED WITH THE AUGER LOGS AND SOIL SETTINGS

PROJECT: HAM-75-88	DRAWING FIRM OPERATOR: R.I.L.F.	DRILLER: CORE-TECH (SNCORP)	STATION/OFFSET: 140+55.25/74.511	EXPLORATION ID: E-010-0-11
TYPE: NOISEWALL	SAMPLING METHOD: RET. SAM.	NUMBER: ONE ALTERNATE	AGREEMENT: FRSL 145	DATE: 2024
PID: 77889	SFN: NA	DATE: 4/27/23	ELEVATION: 540.000	PHASE: 0004
START: 10/11/11	END: 10/11/11	ENERGY RATE (W): 77.1	LEFT LOGS: 23, 12, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	LOG #: 0001

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH (FT)	SPT ROD	REC. SAMPLE ID	HP (ft)	GRADATION (%)				ATTENING				UNIT CLASS (M)	BACK FILL	
						GR	CS	FS	CL	LL	PL	FI	MG			
0.6' - TOPSOIL (7.0')	538.0	0.6	1	SS-1	3.50											
FILL: VERY STIFF TO HARD, BROWN SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DRY TO DAMP.	538.0	1.2	2	SS-2	4.50											A-2-4 (M)
VERY STIFF, BROWN SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DRY.	538.0	1.8	3	SS-3	5.50											A-2-4 (M)
TRACE ROOT FIBERS PRESENT IN SS-4	538.0	2.4	4	SS-4	6.50											A-2-4 (M)
MEDIUM DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.	538.0	3.0	5	SS-5	7.50											A-2-4 (M)
MEDIUM DENSE TO DENSE, BROWN COARSE AND FINE SAND, SOME FINE GRAVEL, LITTLE SILT, TRACE CLAY, DRY.	538.0	3.6	6	SS-6	8.50											A-2-4 (M)
COBBLES PRESENT THROUGHOUT	538.0	4.2	7	SS-7	9.50											A-2-4 (M)
DENSE, BROWN GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.	538.0	4.8	8	SS-8	10.50											A-2-4 (M)
HARD, GRAY SANDY SILT, TRACE CLAY, TRACE FINE GRAVEL, DAMP.	538.0	5.4	9	SS-9	11.50											A-2-4 (M)

NOTES: BOUNDARY NOT RECORDED DURING DRILLING. CAVEN DEPTH 8.0'.
 ASSUMED METRIC MATERIALS QUANTITIES COMPARED WITH THE LARGER SAMPLES TO WHITE CHIPS AND SOIL CUTTINGS

PROJECT: HAM-75-7889		DRILLING FIRM/OPERATOR: R.I.T.F.		DRILL RIG: CME-300X (CONCRETE)		STATION/OFFSET: 448755.55, 595.11		EXPLORATION ID: E-011-0-11	
TYPE: NOISEWALL		SAMPLING METHOD: SPT		HAMMER: SANE ALUMINUM		ANOMENTS: 448755.55, 595.11		PAGE: 1 OF 1	
PID: 77889 SFN: NA		SAMPLING METHOD: SPT		CALIBRATION DATE: 6/01/11		ELEVATION: 561.0		DATE: 2011.05.12	
START: 10/10/11 END: 10/10/11		SAMPLING METHOD: SPT		ENERGY FACTOR: 23.1		COR COR COR COR		COR COR COR COR	
MATERIAL DESCRIPTION AND NOTES									
0.9' - TOPSOIL (11.0')									
FILL: HARD, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DRY TO DAMP.									
- TRACE ROOT AND WOOD FIBERS PRESENT IN SS-2									
HARD BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.									
MEDIUM DENSE, LIGHT BROWN COARSE AND FINE SAND, SOME SILT, TRACE CLAY, TRACE FINE GRAVEL, DAMP.									
- COBBLES PRESENT THROUGHOUT									
DENSE BROWN GRAVEL, SOME COARSE TO FINE SAND, TRACE SILT, DAMP.									
- COBBLES PRESENT IN SS-10									

DEPTH (ft)	SPT	RES. SAMPLE NO.	HP (ft)	ATTENING	REMARKS	TEST CLASS	BACKFILL
1	5	78	4.50				
2	2	78	4.50			A-6b (M)	
3							
4	6	78	4.50			A-6b (M)	
5							
6	7	78	4.50	10	44	A-6b (M)	
7							
8							
9	7	78	4.50			A-6b (M)	
10							
11	22	78	4.50			A-6b (M)	
12	10	78	4.50			A-6b (M)	
13							
14	14	78	4.50			A-6b (M)	
15	7	78	4.50			A-6b (M)	
16							
17	6	78	4.50			A-6b (M)	
18							
19	10	78	4.50	NP	NP	A-6b (M)	
20							
21							
22	6	78	4.50			A-6b (M)	
23							
24	18	78	4.50			A-6b (M)	
25	16	78	4.50			A-6b (M)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVEN DEPTH 40.10 FT. REMOVED WITH THEUSER. ALL BLENDED WITH COARSE AND SOIL CUTTING

PROJECT: HAM-75-7889		DRILLING FIRM/OPERATOR: RUI J.F.		SPILLING: CME-FSOK (ENCL 10/11)		STATION OFFSETS: 483-08 89-175.47		EXPLORATION ID: B-013-0-11		
TYPE: NOISE WALL		SAMPLING FIRM LOGSHEET: RUI/JAM		HAMMERS: ONE AUTOMATIC		ALIGNMENT: PRCL 177		PAGE: 1 OF 1		
PID: 77889		DRILLING METHOD: 4.5' DIA		CALIBRATION DATE: 05/11		ELEVATION: 252.650		DATE: 05/11		
START: 10/16/11		END: 10/16/11		ENERGY/STROKES: 27.1		UNIT: 25.0 L		DATE: 05/11		
MATERIAL DESCRIPTION AND NOTES		ELEV. (FEET)	DEPTH (FEET)	SPT ROD	REC. SAMPLE ID	HP (KIP)	CORRECTION (IN)	ATTENUEMENT	SOIL CLASSIFICATION	BACK FILL
0.9' - TOPSOIL (11.0') FILL: VERY STIFF TO HARD, BROWN TO DARK BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DRY TO MOIST. -TRACE ROOT FIBERS PRESENT IN SS-1 AND SS-4	542.0	1	0.7	17	SS-1	4.50	-	-	-	-
	542.0	2	1.4	23	SS-2	2.50	-	-	-	-
		3	2.1	20	SS-3	4.50	-	-	-	-
		4	2.8	14	SS-4	4.50	-	-	-	-
		5	3.5	24	SS-5	4.50	-	-	-	-
		6	4.2	28	SS-6	4.50	-	-	-	-
		7	4.9	24	SS-7	4.50	-	-	-	-
		8	5.6	28	SS-8	4.50	-	-	-	-
		9	6.3	24	SS-9	4.50	-	-	-	-
		10	7.0	28	SS-10	4.50	-	-	-	-
537.0 HARD, DARK BROWN SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST. -TRACE ROOT FIBERS PRESENT IN SS-5	537.0	11	7.7	24	SS-5	4.50	-	-	-	-
	537.0	12	8.4	28	SS-6	4.50	-	-	-	-
		13	9.1	24	SS-7	4.50	-	-	-	-
		14	9.8	28	SS-8	4.50	-	-	-	-
		15	10.5	24	SS-9	4.50	-	-	-	-
		16	11.2	28	SS-10	4.50	-	-	-	-
		17	11.9	24	SS-11	4.50	-	-	-	-
		18	12.6	28	SS-12	4.50	-	-	-	-
		19	13.3	24	SS-13	4.50	-	-	-	-
		20	14.0	28	SS-14	4.50	-	-	-	-
533.5 MEDIUM DENSE BROWN SANDY SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST TO WET. HARD BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	533.5	21	7.9	21	SS-1	-	2	1	NP	NP
	533.5	22	8.6	21	SS-2	-	-	-	-	-
		23	9.3	21	SS-3	-	-	-	-	-
		24	10.0	21	SS-4	-	-	-	-	-
		25	10.7	21	SS-5	-	-	-	-	-
		26	11.4	21	SS-6	-	-	-	-	-
		27	12.1	21	SS-7	-	-	-	-	-
		28	12.8	21	SS-8	-	-	-	-	-
		29	13.5	21	SS-9	-	-	-	-	-
		30	14.2	21	SS-10	-	-	-	-	-

NOTES: REBOUND WATER NOT MEASURED DURING DRILLING. GAVEN DEPTH IS 11'.
 STANDARD METHOD FOR MATERIALS QUANTITIES. COMPASSED WITH THE ADESS. SOILS ENGINEERING AND SOIL CUTTING.



PROJECT: HAM-75-7.85
TYPE: NOISEWALL
PID: 77889 SFN: NA
START: 10/6/11 END: 10/27/11

DRAINING FROM OPERATOR: RII I.F.
SAMPLING FIRM/LOGS: RUSSEL
DRAINING METHOD: SPT
SAMPLING METHOD: SPT

DRAWING: CME-7504 (CONSTRUCTION)
HAMMER: SOME MULTIPLE
CALIBRATION DATE: 06/01

STATION OFFSET: 469.3856 FEET
ADJUSTMENT: RECAL
ELEVATION: 30.0 ft.
LAT/LONG: 33.144093, -112.058822

EXPLORATION ID: B-024-0-11
PAGE: 1 OF 1

DEPTH (ft)	SPT ROD	RES. SAMPLE ID	HP (ft)	GRADATION (ft)	ATTENERS	SPT CLASS	BACK FILL	MATERIAL DESCRIPTION AND NOTES	
								NO.	DEPTH (ft)
0.6'								0.6' - TOPSOIL (7.0") FILL: STIFF, DARK BROWN SANDY SILT, LITTLE CLAY DAMP. - TRACE ROOT FIBERS PRESENT IN SS-4	
1	2	SS-1	2.200						
2	2								
4	2	SS-2	1.500						
5	2								
6	2								
7	2								
8									
9	3	SS-4							
10	3								
11	4								
12	4								
13									
14	4	SS-6							
15									
16	5	SS-7							
17	5								
18									
19	2	SS-8	2.200						
20	2								
21	1								
22	2	SS-9	1.500						
23									
24	2	SS-10	0.200	1	27	14			
25	1								
26									
27									
28									
29	2	SS-11	1.500						
30	2								

POSSIBLE FILL: MEDIUM DENSE, BROWNISH GRAY COARSE AND FINE SAND, SOME SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST.

STIFF, BROWN SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.

-TRACE ROOT FIBERS PRESENT IN SS-8

SPT TO STIFF, GRAY SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST TO WET.

NOTES: 1. SOIL AND WATER CONTENTS MEASURED DURING DRILLING.
2. ADJUSTMENT METHOD: MATERIALS COURTESY: COMPACTED WITH THE AUGER. 3. RESISTANCE AT THE AUGER: 3.5 LBS/INCH DYNAMIC CHIPS AND SOIL CUTTINGS

PROJECT: HAM-75226 TYPE: NOISEWALL PID: 77889 SFN: START: 10/5/11 END: 10/5/11		DRILLING FIRM/OPERATOR: RUT/SA SAMPLING FIRM/LOGGER: RUT/SA DRILLING METHOD: SPT		DRILLING: CME-ROCK/EN/CO/ET/10 HAMMER: ONE-AUTOMATIC CALIBRATION DATE: 5/31/11 ENERGY FACTOR (KJ): 77.1		STATION/OFFSET: 48674.00/10.00 ALIGNMENT: PK 0+1.75 ELEVATION: 535.10 EOB: 535.10 LAT / LONG: 39.18750000, -98.57250000		EXPLORATION ID: B-026-0-11 PAGE: 1 OF 1							
MATERIAL DESCRIPTION AND NOTES	ELEV. (531.4)	DEPTH (SP)	SPT ROD	REC. SAMPLE ID	HP (MS)	CORRELATION (A)			ATTENDERS (C)			SOIL CLASSIFICATION	BACK FILL		
						NO.	ES	FS	SI	LI	PL			PI	SI
0.8' - TOPSOIL (9.0') STIFF TO VERY STIFF, DARK BROWN SILT AND CLAY AND COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST. -TRACE ROOT FIBERS PRESENT IN S&S	534.5	1	2	57	2.00	5	5	5	5	5	5	11	A-6(VC)		
	534.5	2	3												
	534.5	3	4												
	534.5	4	5	39	5552	3.00	12	43	21	29	10	15	17	A-6(VC)	
	534.5	5	6												
	534.5	6	7	24	44	3.50								A-6(VC)	
	534.5	7	8												
	534.5	8	9	8	28	5	5	5	5	5	5	5	11	A-6(VC)	
	534.5	9	10												
	534.5	10	11	3	57	2.00	1	4	28	17	25	8	52	A-4(5) (VC)	
	534.5	11	12	5											
	534.5	12	13												
	534.5	13	14	17	57	4.00	5	5	5	5	5	5	18	A-6(VC)	
	534.5	14	15												
	534.5	15	16	4	73	1.25	2	5	5	5	5	5	15	A-6(VC)	
	534.5	16	17												
	534.5	17	18	6	100	1.00	5	5	5	5	5	5	19	A-6(VC)	
	534.5	18	19												
	534.5	19	20	13	100	2.00	5	5	5	5	5	5	21	A-6(VC)	
	534.5	20	21												
	534.5	21	22												
	534.5	22	23	8	100	5	5	5	5	5	5	5	5	5	A-6(VC)
	534.5	23	24												
	534.5	24	25												

NOTES: BROWN WATER NOT ENCOUNTERED DURING DRILLING. GAVEN BENCH MARK. APPROPRIATE METHODS, MATERIALS, & UNITIES. COMPARED WITH THE AUGER 50 LB BENTONITE CHIPS AND SOIL CUTTINGS.

PROJECT: HAM-75.85 TYPE: NOISE WALL PID: 77889 SFN: NA START: 10/5/11 END: 10/31/11		OPERATIONS/OPERATOR: R.I.J. SAMPLING FURN. NUMBER: RJK/SJM DRILLING METHOD: 4.2" HSA SAMPLING METHOD: SH		DRILLER: CORE-TECH (SUNBELT) HARNER: NAME ALTIMATIC CALIBRATION DATE: 5/20/11 ENERGY SOURCE: SH		STATION/OFFSETS: NET-TO-FIELD, FIT. ALIGNMENT: PRCL L/R ELEVATION: 530.000 LAT/LONG: NAD 83 48-22-00.00 W 82-22-00.00		EXPLORATION NO: B-028-0-11 PAGE: 1 OF 1	
DEPTH	ELEV.	SPT7 RCPT	N ₆₀ COR	REC SAMPLE ID	HP (feet)	CORADATION (ft)	ATTENDING	SOIL CLASS (M)	BACK FILL
1	530.9								
2	529.9	2 3 4	10	SS-1	4.00			A-6a (M)	
3									
4		3 4 5	15	SS-2	2.90			A-6a (M)	
5									
6		3 4 5	21	SS-3	3.25	0 0 0	53 47 16	A-6a (M)	
7									
8									
9		3 4 5	12	SS-4	1.50			A-6a (M)	
10									
11	530.5	7 10 12	29	SS-5	3.25			A-6a (M)	
12									
13	529.5								
14		5 10 17	35	SS-6	4.60			A-7-6a(N)	
15									
16		6 9 15	41	SS-7	4.50			A-7-6a(N)	
17									
18									
19		7 9 12	25	SS-8	2.25			A-7-6a(N)	
20									
21	530.3								
22		6 10 19	25	SS-9	4.20			A-6a (M)	
23									
24		6 9 15	15	SS-10	3.60			A-6a (M)	
25									

0.9' - TOPSOIL (11.0')
STIFF TO VERY STIFF, BROWN TO GRAY SILT AND CLAY,
DAMP TO MOIST.

VERY STIFF, BROWN SANDY SILT, TRACE CLAY, WET.

VERY STIFF TO HARD, BROWN TO BROWNISH GRAY
CLAY, SOME SILT, TRACE COARSE TO FINE SAND, TRACE
FINE GRAVEL, MOIST.

VERY STIFF, GRAY SILT AND CLAY, LITTLE COARSE TO
FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.

NOTES: BOUNDED WATER WAS ENCOUNTERED DURING DRILLING. GAVE IN DURING 8.1'
REBOUND WHEN MET HOLES. MATERIALS QUANTITIES COMPACTED WITH THE USE OF SOILS BEHIND CURB AND SOIL CUTTINGS

PROJECT: HAM-75-85		DRAWING FIRM/OPERATOR: R.I.I.F.		STATION/OFFSET: STATION/offset		EXPLORATION ID: E-030-0-11								
TYPE: NOISEWALL		SAMPLING FIRM/LOGGER: RIT/S&M		ALIGNMENT: PERAL L&S		PAGE: 08 OF 11								
PID: 77889 SFN: NA		SAMPLING METHOD: 4.25' HSA		ELEVATION: STRAIGHT		ES&S: 2401								
START: 10/5/11		END: 10/5/11		MAT. LOCUS: 00.12500000.00.00000000		NO. OF PAGES: 11								
MATERIAL DESCRIPTION AND NOTES				GRADATION (%)										
0.7 - TOPSOIL (8.0')				CLAY										
STIFF TO VERY STIFF, BROWN SILT, LITTLE CLAY, TRACE FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST				SAND										
STIFF TO VERY STIFF, GRAY CLAY, SOME SILT, MOIST.				GRAVEL										
HARD, GRAY SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.				COARSE SAND										
DEPTH	ELEV. (8.0')	SPT/ROD	REC SAMPLE ID	HP AND	GR	CL	FL	FS	MS	FC	ST	AT	OTHER	BACKFILL
1	588.3	2	SS-1	2.25	8	5	2	2	19					A-4b (M)
4	588.2	12	SS-2	1.75	11	10	4	27	18	8	8			A-4b (M)
7	588.1	28	SS-3	1.50	8	5	2	2	19					A-4b (M)
9	588.0	9	SS-4	1.20	10	10	0	35	23	22	28			A-2b (M)
12	587.8	17	SS-5	2.75	8	5	2	2	19					A-7-8 (M)
16	587.5	12	SS-7	1.50	8	5	2	2	19					A-7-8 (M)
17	587.4	17	SS-8	2.25	8	5	2	2	19					A-7-8 (M)
21	587.0	16	SS-9	2.25	8	5	2	2	19					A-7-8 (M)
24	586.7	19	SS-10	4.25	8	5	2	2	19					A-6b (M)

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING EXAMIN DEPTH 8.5'
 STANDARD METHOD MATERIALS QUANTITIES COMPACTED WITH THE AUGER BELIEVED TO BE ENTIRELY CORRECT AND SOIL CUTTING

	PROJECT: HAM-75.85	DRILLING FIRM/OPERATOR: R.I.L.F.	DRILLER: CMEZON/ISS(COPIE)	STATION/CORNER: 47+92.73 TO 48+11	EXPLORATION ID: B-031-0-11
	TYPE: NOISEWALL	SAMPLING METHOD: R/S/W	HAMMER: SIE-AUTOMATIC	ALIGNMENT: PRAL 175	PAGE: 1 OF 1
	PID: 77889 SFN: WA	DRILLING METHOD: 4.5" DIA	SAFETY DEVICE: 5011	ELEVATION: 570.00	SSD N. 350 N.
	START: 10/5/11	END: 10/25/11	ENERGY FACTOR (%): 77.1	LAT / LONG: 28 18 55.82 W, 92 45 17.02 E	

DEPTH (ft)	ELEV. (ft)	MATERIAL DESCRIPTION AND NOTES	SPT No	REC. (ft)	SPT ID	HP (ft)	CORADATION (ft)			ATTENUESS	FL. (ft)	WG	BACK FILL
							DR	CS	SO				
0.8' - TOPSOIL (9.0')	570.2	VERY STIFF TO HARD. BROWN TO BROWNISH GRAY SILTY CLAY, TRACE COARSE TO FINE SAND. DAMP TO MOIST.	12	33	SS-1	4.5+	-	-	-	-	-	-	A-6b (M)
-	-	-	13	57	SS-2	4.5+	-	-	-	-	-	-	A-6b (M)
-	-	-	29	100	SS-3	2.50	-	-	-	-	-	-	A-6b (M)
-	-	-	34	99	SS-4	4.5+	-	-	-	-	-	-	A-6b (M)
-	569.0	STIFF TO VERY STIFF, GRAY CLAY, SOME SILT, MOIST.	19	100	SS-5	2.50	0	29	75	40	19	25	A-7-5 (W)
-	-	-	12	83	SS-6	2.50	2	2	2	2	2	2	A-7-6 (W)
-	-	-	07	100	SS-7	2.50	2	2	2	2	2	2	A-7-6 (W)
-	-	-	09	100	SS-8	2.00	2	2	2	2	2	2	A-7-6 (W)
-	-	-	22	50	SS-9	2.50	2	2	2	2	2	2	A-7-6 (W)
-	567.0	VERY STIFF, BROWN SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP. COBBLES PRESENT IN SS-10	32	44	SS-10	4.00	-	-	-	-	-	-	A-6b (M)

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVEN DEPTH 0.5' FROM BOTTOM METERS. MATERIALS QUALITIES CORRELATED WITH THE ALSEB CORRELATION CHARTS AND SOIL CUTTINGS