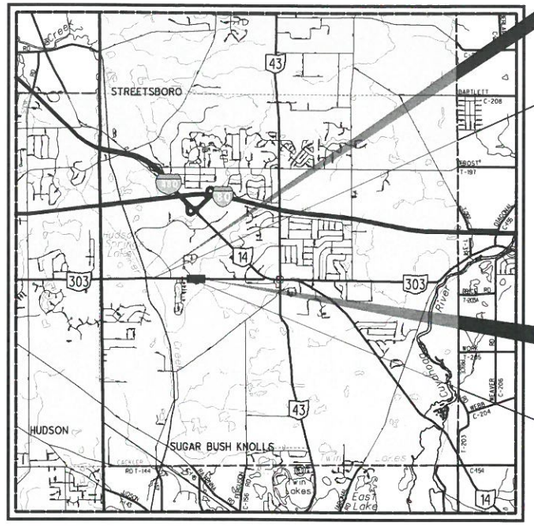

LOCATION MAP

LATITUDE: N41°14'23" LONGITUDE: W81°22'23"

SCALE IN MILES
0 1 2 3 4

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

DESIGN DESIGNATION

	TINKERS CREEK	EAST BOWL
CURRENT ADT (2017)	8100	8100
DESIGN YEAR ADT (2037)	9000	9000
DESIGN HOURLY VOLUME (2037)	810	810
DIRECTIONAL DISTRIBUTION	52%	52%
TRUCKS (24 HOUR B&C)	4%	4%
DESIGN SPEED	55 MPH	45 MPH
LEGAL SPEED	50 MPH	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN MINOR ARTERIAL		
NHS PROJECT	NO	

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS UNDERGROUND
PROTECTION SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
ODOT - DISTRICT 4 PLANNING & ENGINEERING
2088 SOUTH ARLINGTON RD.
AKRON, OHIO 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS J. POWELL
E-61151
REGISTERED PROFESSIONAL ENGINEER

SIGNED:
DATE: 10/23/2017

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

POR-303-(0.70)(1.21)

CITY OF STREETSBORO
PORTAGE COUNTY

INDEX OF SHEETS:

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PROJECT DESCRIPTION

RAISING ROADWAY PROFILE TO CORRECT DRAINAGE AND FLOODING ISSUES. INCLUDES EARTHWORK AND CULVERT REPLACEMENT. IN THE CITY OF STREETSBORO, PORTAGE COUNTY, OHIO.

TINKERS CREEK STRUCTURE (WEST BOWL)

PROJECT EARTH DISTURBED AREA:	0.37 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.00 ACRES
NOTICE OF INTENT EDA:	N/A (NOI NOT REQUIRED)

EAST BOWL IMPROVEMENTS

PROJECT EARTH DISTURBED AREA:	1.20 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9 ACRES

2016 SPECIFICATIONS

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

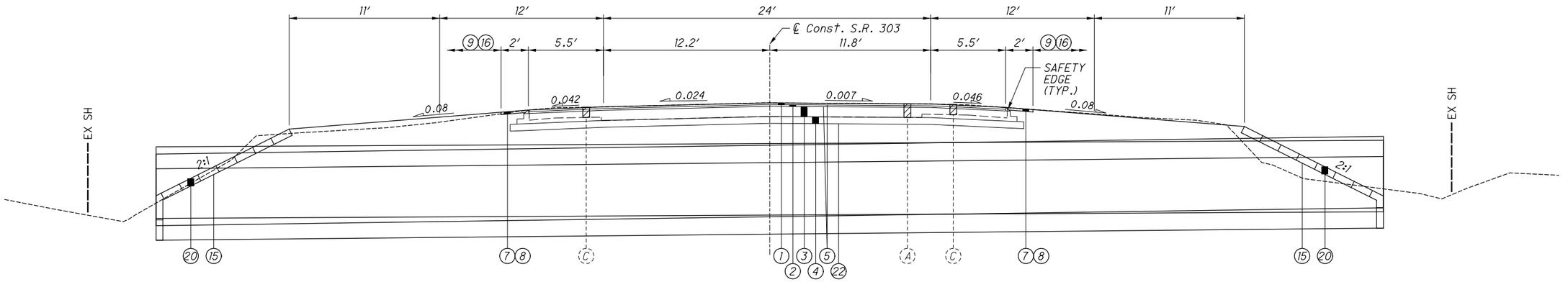
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEETS 13-14.

APPROVED
DATE 10/23/17 DISTRICT DEPUTY DIRECTOR

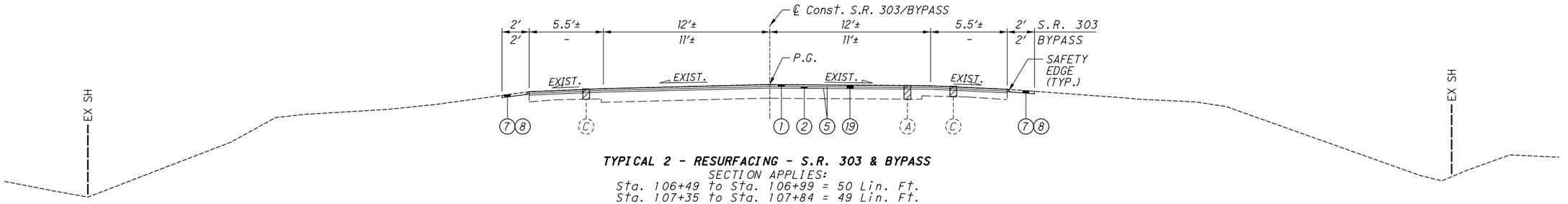
APPROVED
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS							SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	7/18/14	RM-1.1	7/18/14				800-2016	10/20/17	WPC	1/18/18
BP-4.1	7/19/13						832	1/17/14		
		MT-97.10	7/18/14				861	1/16/15		
HW-2.1	7/21/17	MT-97.12	1/20/17				863	10/17/14		
		MT-101.60	1/20/17				902	12/31/12		
DM-1.1	7/21/17	MT-101.90	7/21/17							
DM-4.3	1/15/16	MT-105.10	7/19/13							
DM-4.4	1/15/16									
		TC-41.20	10/18/13							
F-1.1	7/19/13	TC-52.10	10/18/13							
		TC-52.20	7/21/17							
MGS-1.1	7/21/17	TC-71.10	1/20/17							
MGS-2.1	7/19/13									
MGS-4.2	7/19/13									
MGS-5.3	7/15/16									

FEDERAL PROJECT NO. E120(873)
PID NO. 93854
CONSTRUCTION PROJECT NO. POR-303-(0.70)(1.21)
RAILROAD INVOLVEMENT WHEELING & LAKE ERIE



TYPICAL 1 - CULVERT FULL DEPTH - S.R. 303
SECTION APPLIES:
Sta. 106+99 to Sta. 107+35 = 36 Lin. Ft.

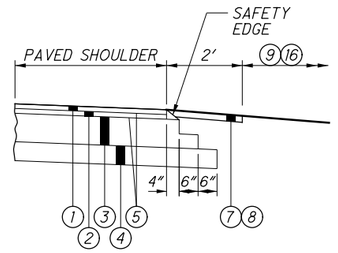


TYPICAL 2 - RESURFACING - S.R. 303 & BYPASS
SECTION APPLIES:
Sta. 106+49 to Sta. 106+99 = 50 Lin. Ft.
Sta. 107+35 to Sta. 107+84 = 49 Lin. Ft.
BYPASS Sta. 0+21 to Sta. 10+81 = 1060 LIN. FT.

LEGEND

1. *ITEM 441, 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M*
2. *ITEM 441, 1½″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)*
3. *ITEM 302, 9″ ASPHALT CONCRETE BASE, PG64-22*
4. *ITEM 304, 6″ AGGREGATE BASE, AS PER PLAN*
5. *ITEM 407, NON-TRACKING TACK COAT*
6. *ITEM 606, GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN*
7. *ITEM 617, COMPACTED AGGREGATE, AS PER PLAN*
8. *ITEM 408, PRIME COAT, AS PER PLAN*
9. *ITEM 671, EROSION CONTROL MAT, TYPE E*
10. *ITEM 203, EXCAVATION*
11. *ITEM 203, EMBANKMENT*
12. *ITEM 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN (NO. 67 LIMESTONE)*
13. *SPECIAL, LIGHTWEIGHT AGGREGATE*
14A. *ITEM 861, GEOGRID FOR SUBGRADE STABILIZATION*
14B. *ITEM 863, GEOGRID, TYPE P2 (FOR REINFORCED SOIL SLOPES)*
15. *ITEM 204, GEOTEXTILE FABRIC, 712.09, TYPE D*
16. *ITEM 659, TOPSOIL*
17. *ITEM 607, FENCE, TYPE CL, AS PER PLAN*
18. *ITEM 441, 3″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL)*
19. *ITEM 254, 3″ PAVEMENT PLANING, ASPHALT CONCRETE*
20. *ITEM 601, ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1*
21. *ITEM 659, SEEDING AND MULCHING*
22. *ITEM 204, SUBGRADE COMPACTION*

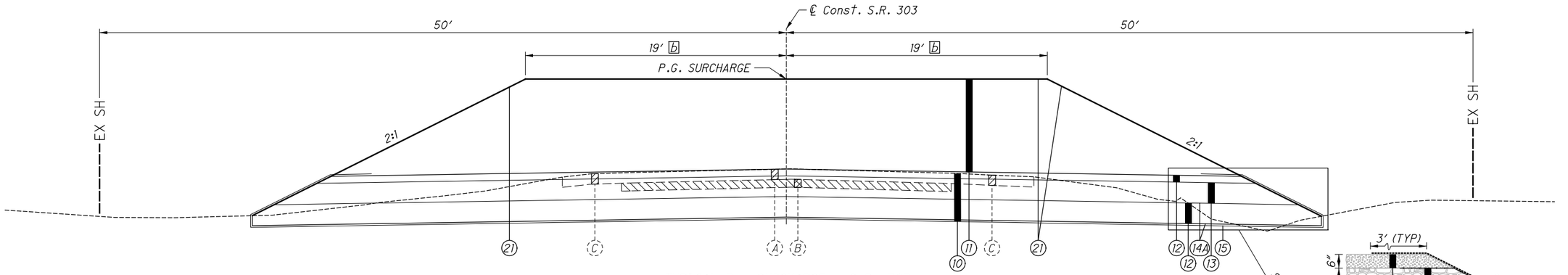
- A --- *EXISTING 9″± ASPHALT CONCRETE*
- B --- *EXISTING 7″± REINFORCED CONCRETE (24′± WIDTH)*
- C --- *EXISTING PAVED SHOULDER*
- D --- *GEOGRID-AGGREGATE MAT (AFTER SURCHARGE REMOVAL)*



EDGE COURSE DETAIL

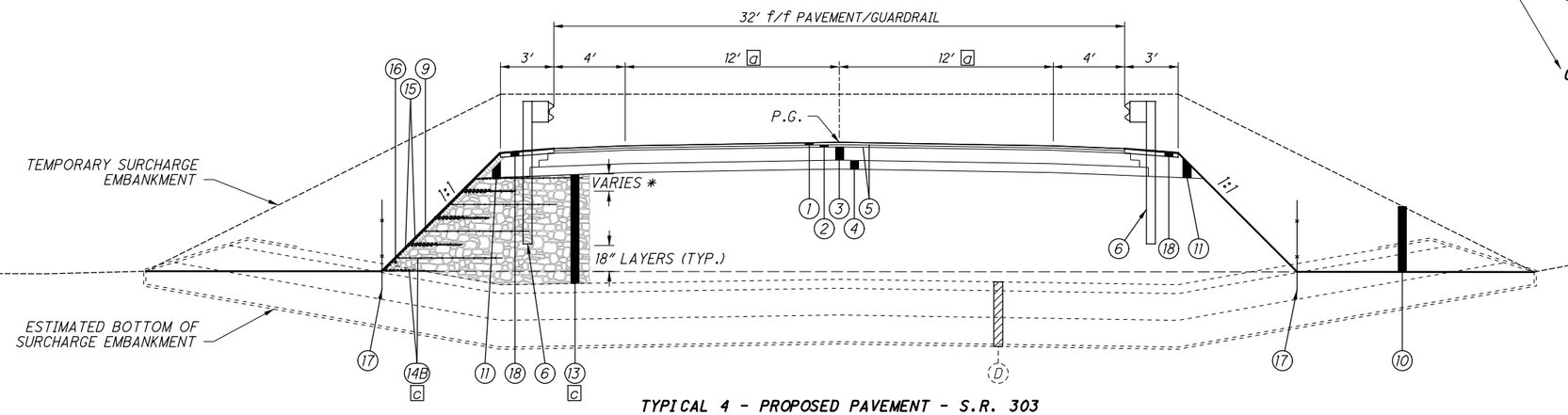
TYPICAL SECTIONS

POR-303-(0.70)(1.21)

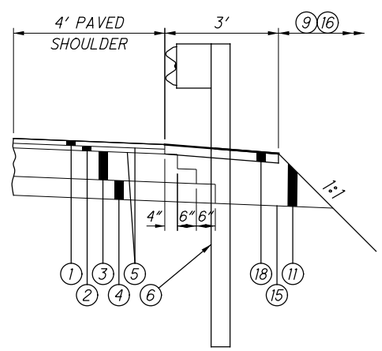


TYPICAL 3 - SURCHARGE - S.R. 303
SECTION APPLIES:
Sta. 134+74 to Sta. 141+25 = 651 Lin. Ft.

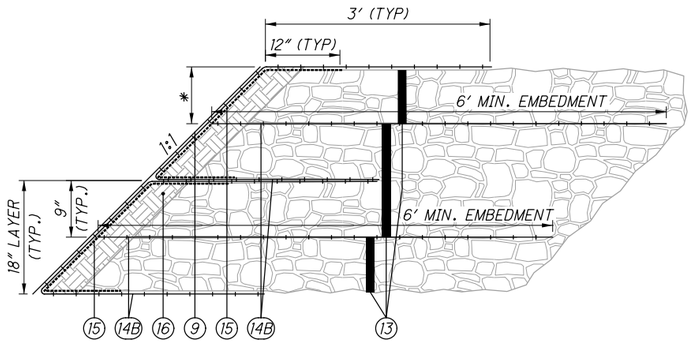
GEOGRID-AGGREGATE MAT DETAIL



TYPICAL 4 - PROPOSED PAVEMENT - S.R. 303
SECTION APPLIES:
Sta. 134+74 to Sta. 141+00 = 626 Lin. Ft.



EDGE COURSE/GUARDRAIL DETAIL



LIGHTWEIGHT AGGREGATE FACING DETAIL

NOTES:

[a] VARIES, STA. 134+74 LT TO 18′ AT STA. 135+09 LT
18′, STA. 135+09 LT TO STA. 135+70 LT
18′, STA. 134+74 RT TO STA. 135+70 RT
VARIES, 18′ AT STA. 135+70 TO 12′ AT STA. 139+00

[b] 25′, STA. 134+74 TO STA. 135+70
VARIES, 25′ AT STA. 135+70 TO 19′ AT STA. 139+00

[c] TYPICAL, SEE FACING DETAIL FOR BUILD-UP DIMENSIONS

* VARIES 9″ MAX.

SEE PLAN SHEETS AND CROSS SECTIONS FOR ADDITIONAL INFORMATION AND TRANSITION LOCATIONS.

SEE SHEET 2 FOR LEGEND

TYPICAL SECTIONS

POR-303-(0.70)(1.21)

SAFETY EDGE (ASPHALT CONCRETE)

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETY SLOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
WWW.TRANSTECHSYS.COM

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
WWW.ADVANTAEDGEPAVING.COM

CARLSON SAFETY EDGE END GATE
18425 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONIC LABORATORIES, INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
WWW.TROXLERLABS.COM

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 209, PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN.

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. THE MATERIAL REMOVED DURING THIS PROCESS SHOULD BE REMOVED IMMEDIATELY. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05, OR AS DIRECTED BY THE ENGINEER.

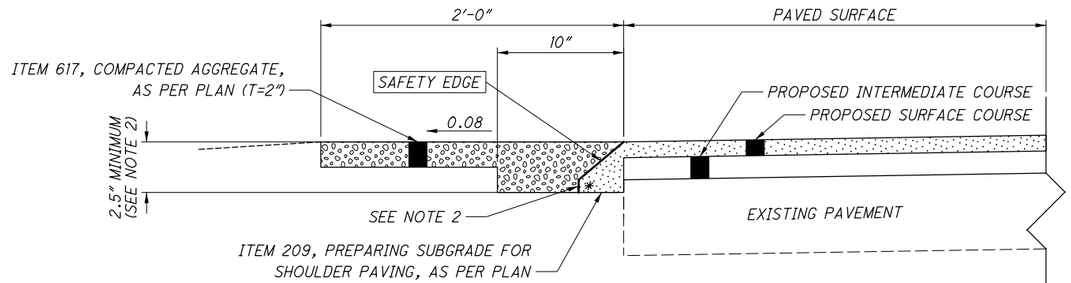
NOTES:

1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

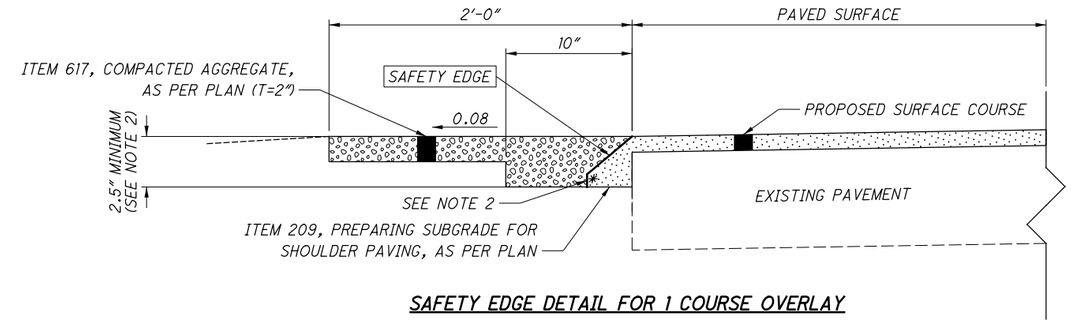
2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6". CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6".

3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

* 40° MAX



SAFETY EDGE DETAIL FOR 2 COURSE OVERLAY



SAFETY EDGE DETAIL FOR 1 COURSE OVERLAY

ESTIMATED QUANTITIES

ROUTE	SAFETY EDGE THICKNESS (IN.)	STATION TO STATION			SIDE	209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M
						STA	CY
303	3	106+49.00	TO	107+84.00	L/R	2.7	0.37
303	3	133+50.00	TO	134+74.00	L/R	2.5	0.34
303	3	141+00.00	TO	142+50.00	L/R	3.0	0.41
TOTALS CARRIED TO GENERAL SUMMARY						9	2

REVISED: 07/13/16

DISTRICT 4 - PLANNING & ENGINEERING

DESIGNED MAC | REVIEWED TJP

REVISION DATE 07/13/16 | CHECKED TJP

SAFETY EDGE DETAIL (RESURFACING)

POR-303-(0.70)(1.21)

ROUNDING
THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

WORK LIMITS
THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING
ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

PROJECT CONTROL INFORMATION

Point	Feature	Northing	Easting	Station	Offset
200	PKS	575124.885	2276484.445	103+19.366	0
201	PKS	575118.836	2277284.420	111+19.364	0
2121	MONBOX	575103.938	2279239.721	130+74.722	0
2122	MONBOX	575094.586	2280362.714	141+97.754	0

UTILITIES
THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEAD-QUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.
OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-4826 MIKE SIMPKINS
THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

Charter
ATTN: Carl Price
8385 Bavaria Road
Macedonia, OH 44056
330-963-3620 ext. 12165551169

Ohio Edison
ATTN: Brian Pound
470 E. Highland Rd.
Macedonia, Ohio 44056
330-342-1220

Dominion Energy Ohio
ATTN: Bill Snyder
320 Springside Drive
Akron, OH 44333
Office: 330-664-2781

Ohio Edison (Transmission)
ATTN: Bryan Hunsche, P.E.
76 South Main Street
Akron, OH 44308
Mailstop: A-GO-3
330-384-5180

AT&T
The Ohio Bell Telephone Company
ATTN: Cindy Zuchegno
50 W. Bowery St.
4th Floor
Akron, OH 44308
330-384-3561

Portage County Water Resources
ATTN: John G. Evans
449 South Meridian Street
P.O. Box 1217
Ravenna, OH 44266-1217
330-297-3670

City of Streetsboro (Water)
ATTN: John Kuklisin
Streetsboro Service Department
2094 State Route 303
Streetsboro, OH 44241
330-626-2856

Diversified Oil & Gas Corporation
(aka M & R Investments Ohio LLC)
ATTN: Tom Vosick
1026A Cookson Avenue SE
New Philadelphia, OH 44663
330-432-4869

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED BY USING A SUBSURFACE UTILITY ENGINEERING COMPANY [SUE]. IF THERE ARE ANY DISCREPANCIES BETWEEN FIELD MARKINGS AND WHAT THE PLAN INDICATES, PLEASE CONTACT MATT STEELE, DISTRICT UTILITY COORDINATOR 330-786-4832, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, (448), TYPE 1, AS PER PLAN, PG70-22M
FOLLOW SPECIFICATION 703.05 EXCEPT DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED "SR" OR "SRH" ACCORDING TO THE OFFICE OF MATERIAL'S MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

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

(FOR TINKERS CREEK STRUCTURE REPLACEMENT [WEST BOWL])
671, EROSION CONTROL MAT, TYPE E 600 SY
659, TOPSOIL 67 CY
659, REPAIR SEEDING AND MULCHING 30 SY
659, COMMERCIAL FERTILIZER 0.08 TON
659, LIME 0.12 ACRES
659, WATER 3 M. GAL.

(SURCHARGE PHASE FOR EAST BOWL AREA)
659, SEEDING AND MULCHING 4963 SY
659, REPAIR SEEDING AND MULCHING 4963 SY
659, COMMERCIAL FERTILIZER 0.67 TON
659, LIME 1.03 ACRES
659, WATER 27 M. GAL.

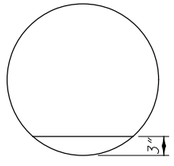
(FINAL GRADING FOR EAST BOWL AREA)
671, EROSION CONTROL MAT, TYPE E 3004 SY
659, TOPSOIL 333 CY
659, REPAIR SEEDING AND MULCHING 150 SY
659, COMMERCIAL FERTILIZER 0.41 TON
659, LIME 0.62 ACRES
659, WATER 16 M. GAL.

SEEDING AND MULCHING DURING SURCHARGE PHASE SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL WITHIN THE CONSTRUCTION LIMITS. SEEDING AND MULCHING SHALL BE APPLIED EACH TIME ADDITIONAL SURCHARGE EMBANKMENT IS ADDED DURING SURCHARGE PHASE.

EROSION CONTROL MAT, TYPE E FOR FINAL GRADING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR EROSION CONTROL MAT, TYPE E ARE BASED ON THESE LIMITS.

ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN
STEEL GUARDRAIL POSTS ARE TO BE USED FOR PLACEMENT OF GUARDRAIL ON THIS PROJECT. ALL OTHER REQUIREMENTS OF SECTIONS 606 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 611 - CONDUIT, TYPE A, AS PER PLAN
THE CONDUIT WILL BE LINED WITH 703.06 OF THE CMS AS DETAILED BELOW:



PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR THE PERTINENT ITEM 611, CONDUIT, TYPE A, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK. ALL WORK WILL BE COMPLETED AS DIRECTED BY THE ENGINEER.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS
THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

STA. 106+99 TO STA. 107+35 (WIDTH=35')
202, PAVEMENT REMOVED, ASPHALT 140 SY
204, SUBGRADE COMPACTION 152 SY
302, ASPHALT CONCRETE BASE, PG64-22 (T=12") 49 CY
304, AGGREGATE BASE, AS PER PLAN (T=6") 26 CY
441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M (T=3") 12 CY

THE EXISTING PAVEMENT BUILD-UP CONSISTS OF ASPHALT SURFACE AND BASE COURSES.

THE ABOVE QUANTITIES ARE BASED ON THE PAVEMENT RESTORATION WIDTHS GIVEN ABOVE.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

RESURFACING AFTER PIPE INSTALLATION
THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO RESURFACE THE ROADWAY AFTER THE COMPLETION OF THE CULVERT OR STRUCTURE PLACEMENT. THIS WORK DOES NOT HAVE TO BE COMPLETED DURING THE DETOUR PERIOD.

STA. 106+49 TO STA. 107+84 (WIDTH=35')
254, PAVEMENT PLANING, ASPHALT CONCRETE (T=3") 525 SY
407, NON-TRACKING TACK COAT (2 applications) 79 GAL.
408, PRIME COAT, AS PER PLAN 24 GAL.
441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M (T=1½") 22 CY
441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) (T=1½") 22 CY
617, COMPACTED AGGREGATE, AS PER PLAN 4 CY

THE ABOVE QUANTITIES ARE BASED ON RESURFACING THE WIDTH OF THE PAVEMENT AND SHOULDERS TO THE LIMITS SHOWN ABOVE.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN
IN LOW SHOULDER AREAS EXCEEDING 1", AND ADJACENT TO THE SAFETY EDGE, OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1-½"	100
¾"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

ITEM 408 - PRIME COAT, AS PER PLAN
APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

CALCULATED RCB CHECKED MAC

GENERAL NOTES

POR-303-(0.70)(1.21)

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)
A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING ITEM 441 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

251, PARTIAL DEPTH PAVEMENT REPAIR (441) 269 SY

ITEM 253 - PAVEMENT REPAIR (BYPASS)
A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

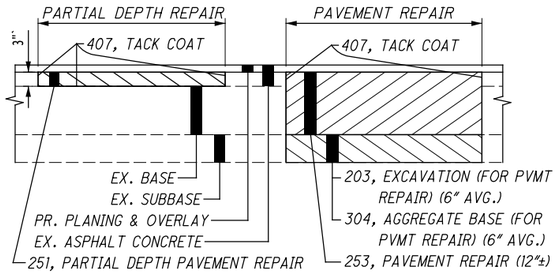
253, PAVEMENT REPAIR 472 SY

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR) (BYPASS)
THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EXCAVATION (FOR PAVEMENT REPAIR) 79 CY

ITEM 304 - AGGREGATE BASE (FOR PAVEMENT REPAIR) (BYPASS)
THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

304, AGGREGATE BASE (FOR PAVEMENT REPAIR) 79 CY



ITEM 304 - AGGREGATE BASE, AS PER PLAN
GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN
THE CONTRACTOR SHALL DELIVER 7.5 CUBIC YARDS OF COURSE NATURAL SAND (CMS 703.11.B, TYPE 2, GRADE 1) TO THE WEST BOWL AREA OF THE PROJECT. THE EXACT SITE LOCATION FOR THE COURSE NATURAL SAND TO BE DUMPED WILL BE DEMARCATED BY ODOT PRIOR TO PROJECT CONSTRUCTION. THE COURSE NATURAL SAND DUMP SITE WILL BE IN AN UPLAND AREA, NO MATERIAL IS TO BE DUMPED IN WETLANDS.

203 - GRANULAR EMBANKMENT, AS PER PLAN 7.5 CY

UNSUITABLE SOILS
THE FOLLOWING ITEMS AND CONTINGENCY QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO ADDRESS UNSUITABLE SOILS ENCOUNTERED.

204, EXCAVATION OF SUBGRADE 240 CY
204, GRANULAR MATERIAL, TYPE B 240 CY
204, GEOTEXTILE FABRIC, 712.09, TYPE D 360 SY

ITEM 202 - PIPE REMOVED, OVER 24"
EXISTING PLANS ENTITLED POR-303-0.01 (1968±) INDICATE THAT 2 CORRUGATED METAL PIPES ARE LOCATED IN THE EAST BOWL SAG. THE SURVEY DID NOT LOCATE THESE PIPES. THE FOLLOWING ITEM IS PROVIDED TO REMOVE THE PIPES IF ENCOUNTERED:

202, PIPE REMOVED, OVER 24" 108 FT

ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN
GRADE RINGS SHALL NOT BE USED TO ADJUST MANHOLES TO GRADE. ALL OTHER REQUIREMENTS SHALL STILL BE APPLICABLE.

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER.

611, MANHOLE ADJUSTED TO GRADE, AS PER PLAN 1 EACH

ITEM 638 - VALVE BOX ADJUSTED TO GRADE
QUANTITIES OF THESE ITEMS ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER.

638, VALVE BOX ADJUSTED TO GRADE 2 EACH

INTERSECTIONS
THE INTERSECTION AT HICKORY RIDGE DRIVE WILL BE RESURFACED TO THE EXISTING PAVEMENT JOINT BEYOND THE PAVED SHOULDER OF S.R. 303, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE INTERSECTION SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE OR WITH THE MAINLINE PAVEMENT IF THIS CAN BE ACCOMPLISHED WITHOUT CHANGING THE VELOCITY AND DIRECTION OF THE PAVER. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT. A BUTT JOINT, AS PER STANDARD CONSTRUCTION DRAWING BP-3.1, SHALL BE USED TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE ASPHALT SURFACE COURSE.

SURCHARGE CALCULATIONS - POR-303-1.21 (PID 93854)

STATION	END AREA				VOLUME			
	ITEM 203			SPECIAL	ITEM 203			SPECIAL
	cut	fill	Gr.Mat.E, APP	Light. Agg.	EXC	EMB	Gr.Mat.E, APP	Light. Agg.
	SQ FT	SQ FT	SQ FT	SQ FT	CY	CY	CY	CY
134+74.00	223.5	0	135	100				
135+00.00 bk	223.5	181.6	135	100	216	88	130	97
135+00.00 ah	191.6	181.6	135	100	0	0	0	0
135+50.00	177.2	306.3	159.7	115	342	452	273	200
136+00.00	183.5	398.7	166.3	121.7	334	653	302	220
136+50.00	186.7	438.1	166.3	122.7	343	775	308	227
137+00.00	190.4	481.1	165	123.9	350	852	307	229
137+50.00	190.8	495.9	161.3	121.6	353	905	303	228
138+00.00	180.7	474.6	157.8	119	344	899	296	223
138+50.00	167.3	418.4	154	114.7	323	827	289	217
139+00.00	154	352.3	149.2	107.2	298	714	281	206
139+50.00	147.7	290.7	141.2	100.5	280	596	269	193
140+00.00 bk	160.6	206.2	129.6	91.8	286	461	251	179
140+00.00 ah	192.6	206.2	129.6	91.8	0	0	0	0
140+50.00	179.2	136.9	113.7	82.9	345	318	226	162
141+00.00	162.3	98.9	105.1	76	317	219	203	148
141+25.00	0	0	0	0	0	46	0	0
TOTALS					4131	7805	3438	2529

202, PAVEMENT REMOVED (24x500/9)(16" AVG) 1334 SY
204, GEOTEXTILE FABRIC, 712.09, TYPE D 6608 SY (CADD AREA)
861, GEOGRID FOR SUBGRADE STABILIZATION 10517 SY (CADD AREA)

SURCHARGE SETTLEMENT EMBANKMENT
THIS ITEM HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED IN THE PLAN NOTE 'ROADWAY EMBANKMENT CONSTRUCTION SEQUENCE' TO REESTABLISH SURCHARGE EMBANKMENT TO THE ELEVATIONS SHOWN IN THE PLANS THROUGHOUT THE SURCHARGE PHASE WAITING PERIOD. AFTER THE SURCHARGE PHASE WAITING PERIOD, THE CONTRACTOR SHALL NON-PERFORM ANY REMAINING QUANTITY. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EMBANKMENT (FOR SURCHARGE SETTLEMENT) 7000 CY

DRIVEWAYS
THE CONTRACTOR WILL NOT BE PERMITTED TO LEAVE A DIFFERENCE IN ELEVATION BETWEEN THE MAINLINE ASPHALT SURFACE COURSE AND THE EXISTING DRIVEWAYS. IF APPROVED BY THE ENGINEER, AN ASPHALT WEDGE WITH A MINIMUM WIDTH OF 2' MAY BE PLACED EITHER ON THE ROADWAY SHOULDER OR DRIVEWAY DEPENDENT UPON WHICH SIDE IS HIGH. A QUANTITY OF MAINLINE SURFACE COURSE ASPHALT HAS BEEN PROVIDED IN THE CALCULATIONS AND GENERAL SUMMARY TO PERFORM THIS ITEM OF WORK.

FINAL GRADING CALCULATIONS - POR-303-1.21 (PID 93854)

STATION	END AREA			VOLUME		
	ITEM 203		SPECIAL	ITEM 203		SPECIAL
	cut	fill	Light.Agg.	EXC	EMB	Light.Agg.
	SQ FT	SQ FT	SQ FT	CY	CY	CY
134+74.00	69.8	0	0			
135+00.00	257.1	6.2	0	158	3	0
135+50.00	469	6.6	94.6	673	12	88
136+00.00	689	6.6	275.1	1073	13	343
136+50.00	935.5	6.6	516.3	1505	13	733
137+00.00	1122.1	6.6	718	1906	13	1143
137+50.00	1150.6	6.6	787.3	2105	13	1394
138+00.00	1019.6	6.6	686.4	2010	13	1365
138+50.00	804.9	6.6	485	1690	13	1085
139+00.00	601.4	6.6	278.3	1303	13	707
139+50.00	451.4	6.6	141.8	975	13	389
140+00.00	352.8	6.6	58.2	745	13	186
140+50.00	229.5	6.3	0	540	12	54
141+00.00 bk	188.6	5.6	0	388	12	0
141+00.00 ah	131	0	0	0	0	0
141+25.00	0	0	0	61	0	0
TOTALS				15132	156	7487

204, GEOTEXTILE FABRIC, 712.09, TYPE D 1530 SY (CADD AREA)
863, GEOGRID, TYPE P2 (FOR REINFORCED SOIL SLOPES) 5240 SY (CADD AREA)

IN THE EVENT THAT THE ENGINEER DETERMINES ADDITIONALWORK IS NECESSARY TO PROPERLY ADDRESS FIELDCONDITIONS, AN ITEM FOR WEARING COURSE REMOVED HASBEEN PROVIDED. THE REMOVAL DEPTH IS DEPENDENT UPON THE ELEVATION DIFFERENCE AND ALLOW FOR 1"-2" OF COMPACTED ASPHALT MATERIAL TO BE PLACED.

CALCULATED RCB CHECKED MAC

GENERAL NOTES

POR-303-(0.70)(1.21)

(1) ROADWAY EMBANKMENT CONSTRUCTION SEQUENCE

THE GENERAL SEQUENCE FOR ROADWAY EMBANKMENT PREPARATION, SURCHARGING, MONITORING, AND FINAL CONSTRUCTION IS PROVIDED BELOW. MODIFICATIONS TO THE CONSTRUCTION SEQUENCE MAY BE APPROVED BY THE ENGINEER.

1. PERFORM CLEARING AND GRUBBING IN ACCORDANCE WITH CMS 201.
2. REMOVE EXISTING PAVEMENT AND STRUCTURES IN ACCORDANCE WITH CMS 202.
3. CONSTRUCT THE INITIAL LAYERS OF THE GEOGRID-AGGREGATE MAT CONSISTING OF GEOTEXTILE FILTER FABRIC, GEOGRID REINFORCEMENT, AND 18 INCHES OF NO. 67 LIMESTONE TO SERVE AS A WORKING PLATFORM. MODIFY AS REQUIRED TO PROVIDE A STABLE WORKING PLATFORM FOR WICK DRAIN INSTALLATION.
4. INSTALL WICK DRAINS AND PIEZOMETERS THROUGH WORKING PLATFORM.
5. COMPLETE INSTALLATION OF THE GEOGRID-AGGREGATE MAT BY PLACING GEOGRID REINFORCEMENT, 18 INCHES OF LIGHT-WEIGHT AGGREGATE, AND 6 INCHES OF NO. 67 LIMESTONE.
6. INSTALL SETTLEMENT PLATFORMS.
7. PLACE SURCHARGE FILL EMBANKMENT IN ACCORDANCE WITH ITEM 203 EMBANKMENT.
8. MONITOR INSTRUMENTATION THROUGHOUT WAITING PERIOD. MAINTAIN SURCHARGE EMBANKMENT ELEVATION DURING WAITING PERIOD AS SPECIFIED IN THE PLAN NOTES.
9. FOLLOWING APPROVAL FROM THE ENGINEER THAT THE EMBANKMENT HAS REACHED THE REQUIRED 95% CONSOLIDATION, REMOVE THE SURCHARGE EMBANKMENT WITHOUT DISTURBING THE GEOGRID-AGGREGATE MAT.
10. CONSTRUCT THE FINAL ROADWAY EMBANKMENT, PAVEMENT, GUARDRAIL, ANIMAL CROSSINGS, AND OTHER APPURTENANCES.

CONSTRUCT THE SURCHARGE EMBANKMENT TO THE ELEVATIONS SHOWN ON THE PLANS. THE FILL PLACEMENT RATE FOR SURCHARGE EMBANKMENT SHALL NOT EXCEED 8 INCHES PER DAY. BECAUSE THE EFFECTIVE WEIGHT OF THE SURCHARGE EMBANKMENT WILL DECREASE AS THE SURCHARGE FILL SETTLES BELOW THE GROUNDWATER TABLE, AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL ADD ADDITIONAL SURCHARGE EMBANKMENT FILL THROUGHOUT THE WAITING PERIOD SUCH THAT THE SURCHARGE PRESSURE APPLIED TO THE UNDERLYING SOILS IS RELATIVELY CONSTANT.

GEOTECHNICAL INSTRUMENTATION IS REQUIRED TO MONITOR THE RESPONSE OF THE FOUNDATION SOILS DURING CONSTRUCTION OF THE NORMAL WEIGHT FILL SURCHARGE EMBANKMENT, AND TO DETERMINE WHEN THE REQUIRED CONSOLIDATION HAS OCCURRED PRIOR TO CONSTRUCTION OF THE PERMANENT LIGHTWEIGHT FILL EMBANKMENT. VIBRATING WIRE PIEZOMETERS AND SETTLEMENT PLATFORMS ARE INCLUDED IN THE PLANS TO MONITOR THE RESPONSE OF FOUNDATION SOILS DURING THE CONSTRUCTION OF THE SURCHARGE EMBANKMENT.

THE DATA FROM BOTH THE PIEZOMETERS AND SETTLEMENT PLATFORMS SHALL BE USED BY THE ENGINEER TO EVALUATE IF THE PERCENT CONSOLIDATON REQUIREMENTS HAVE BEEN ACHIEVED (95% PRIMARY CONSOLIDATION REQUIRED). A WAITING PERIOD OF 3 MONTHS IS ESTIMATED TO ACHIEVE THE REQUIRED PERCENT CONSOLIDATION.

(2) ITEM SPECIAL - WICK DRAIN (PREFABRICATED VERTICAL DRAIN)

A. DESCRIPTION - UNDER THIS ITEM. THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS, AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF WICK DRAINS IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND WITH THE REQUIREMENTS OF THESE SPECIFICATIONS. THE DRAINS SHALL BE SPACED AND ARRANGED AS SHOWN ON SHEET 23 OR AS OTHERWISE DIRECTED BY THE ENGINEER.

B. MATERIALS - THE PREFABRICATED DRAIN SHALL CONSIST OF A CONTINUOUS PLASTIC DRAINAGE CORE WRAPPED IN A NONWOVEN GEOTEXTILE MATERIAL. THE PREFABRICATED DRAINS USED SHALL BE ONE OF THE FOLLOWING PRODUCTS, OR EQUIVALENT:

1. ALI-DRAIN
2. AMERDRAIN (TYPE 407)
3. COLBOND-DRAIN (CX 1000)
4. MEBRA-DRAIN (NO. 7007)

THE CONTRACTOR SHALL SUBMIT A 5-FOOT SAMPLE OF THE PROPOSED WICK DRAIN MATERIAL TO THE ENGINEER AND SHALL ALLOW THREE (3) WEEKS FOR THE ENGINEER TO EVALUATE THE MATERIAL. THE SAMPLE SHALL BE STAMPED OR LABELED BY THE MANUFACTURER AS BEING REPRESENTATIVE OF HAVING THE SPECIFIED TRADE NAME. APPROVAL OF THE SAMPLE MATERIAL BY THE ENGINEER SHALL BE REQUIRED PRIOR TO SITE DELIVERY OF THE PRODUCTION DRAIN MATERIAL.

THE CONTRACTOR SHALL STATE WHICH WICK DRAIN PRODUCT THEY INTENDS TO INSTALL AT THE PRECONSTRUCTION CONFERENCE. THE DRAINS SHALL BE FREE OF DEFECTS, RIPS HOLES, OR FLAWS. DURING SHIPMENT AND STORAGE, THE DRAINS SHALL BE WRAPPED IN HEAVY DUTY PROTECTIVE COVERING. STORAGE AREA SHALL BE SUCH THAT THE DRAINS ARE PROTECTED FROM SUNLIGHT, MUD, DIRT, DUST, DEBRIS, AND DETRIMENTAL SUBSTANCES. MANUFACTURER CERTIFICATION SHALL BE PROVIDED FOR ALL DRAIN MATERIAL DELIVERED TO THE PROJECT.

C. EQUIPMENT - THE WICK DRAINS SHALL BE INSTALLED WITH EQUIPMENT WHICH WILL CAUSE A MINIMUM OF DISTURBANCE OF THE SUBSOIL DURING INSTALLATION. THE PREFABRICATED DRAINS SHALL BE INSTALLED USING A MANDREL OR SLEEVE THAT WILL BE ADVANCED THROUGH THE COMPRESSIBLE SOILS TO THE REQUIRED DEPTH USING VIBRATORY, CONSTANT LOAD, OR CONSTANT RATE OF ADVANCEMENT METHODS. USE OF FALLING WEIGHT IMPACT HAMMERS WLL NOT BE ALLOWED. JETTING SHALL NOT BE PERMITTED FOR INSTALLATION OF THE WICK DRAINS. THE MANDREL SHALL PROTECT THE PREFABRICATED DRAIN MATERIAL FROM TEARS, CUTS, AND ABRASIONS DURING INSTALLATION AND SHALL BE WTHDRAWN AFTER THE INSTALLATION OF THE DRAIN. THE DRAINS SHALL BE PROVIDED WITH AN ANCHOR PLATE OR ROD AT THE BOTTOM TO ANCHOR THE BOTTOM OF THE DRAIN AT THE REQUIRED DEPTH AT TIME OF MANDREL REMOVAL. THE PROJECTED CROSS-SECTIONAL AREA OF THE MANDREL AND ANCHOR COMBINATION SHALL NOT BE GREATER THAN THAT SUGGESTED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.

AT LEAST THREE (3) WEEKS PRIOR TO THE INSTALLATION OF THE WICK DRAINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, FOR REVIEW AND APPROVAL, DETAILS OF THE SEQUENCE AND METHOD OF INSTALLATION. THE SUBMITTAL SHALL AT A MINIMUM, CONTAIN THE FOLLOWING SPECIFIC INFORMATION.

1. SIZE, TYPE, WEIGHT, MAXIMUM PUSHING FORCE, VIBRATORY HAMMER RATED ENERGY, AND CONFIGURATION OF THE INSTALLATION RIG
2. DIMENSIONS AND LENGTH OF MANDREL
3. DETAILS OF DRAIN ANCHORAGE
4. DETAILED DESCRIPTION OF PROPOSED INSTALLATION PROCEDURES
5. PROP. METHOD(S) FOR OVERCOMING OBSTRUCTIONS; AND,
6. PROP. METHOD(S) FOR SPLICING DRAINS

APPROVAL BY THE ENGINEER WILL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO INSTALL WICK DRAINS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IF, AT ANY TIME, THE ENGINEER CONSIDERS THAT THE METHOD OF INSTALLATION DOES NOT PRODUCE A SATISFACTORY DRAIN, THE CONTRACTOR SHALL ALTER THEIR METHOD AND/OR EQUIPMENT AS NECESSARY TO COMPLY WITH THE PLANS AND SPECIFICATIONS.

D. CONSTRUCTION REQUIREMENTS - PREPARE A WORKING PLATFORM FOR WICK DRAIN INSTALLATION BY CONSTRUCTING THE INITIAL LAYERS OF THE GEOGRID- AGGREGATE MAT CONSISTING OF GEOTEXTILE FILTER FABRIC, GEOGRID REINFORCEMENT, AND 18 INCHES OF NO. 67 STONE. MODIFY AS REQUIRED TO PROVIDE A STABLE WORKING PLATFORM FOR WICK DRAIN INSTALLATION. INSTALL THE WICK DRAINS THROUGH THE WORKING PLATFORM AND CUT FLUSH WITH THE SURFACE OF THE WORKING PLATFORM PRIOR TO INSTALLING THE REMAINING LAYERS OF THE GEOGRID-AGGREGATE MAT. IF WICK DRAINS ARE INSTALLED PRIOR TO INSTALLATION OF THE WORKING PLATFORM, THE WICKS SHALL EXTEND A MINIMUM OF 12 INCHES INTO FREE-DRAINING AGGREGATE AT THE GROUND SURFACE TO ALLOW DRAINAGE OF THE WICKS.

PRIOR TO THE INSTALLATION OF WICK DRAINS, THE CONTRACTOR SHALL STAKE OUT THE PROPOSED LOCATIONS OF THE DRAINS AND THEN TAKE ALL REASONABLE PRECAUTIONS TO PRESERVE THESE STAKES. THE LOCATIONS OF THE STAKES SHALL NOT VARY BY MORE THAN SIX (6) INCHES FROM THE LOCATIONS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL DEMONSTRATE THAT THEIR EQUIPMENT, METHOD, AND MATERIALS PRODUCE A SATISFACTORY INSTALLATION IN ACCORDANCE WITH THIS SPECIFICATION. FOR THIS PURPOSE, THE CONTRACTOR WILL BE REQUIRED TO INSTALL SEVERAL TRIAL DRAINS AT LOCATIONS WITHIN THE WORK AREA DESIGNATED BY THE ENGINEER. TRIAL DRAINS CONFORMING TO THIS SPECIFICATION WILL BE PAID FOR AT THE SAME UNIT PRICE AS THE PRODUCTION DRAINS.

THE WICK DRAINS SHALL PENETRATE COMPLETELY THROUGH THE COMPRESSIBLE SOIL LAYERS AND TERMINATE WITHIN THE UNDERLYING SUITABLE SOILS, OR TO REFUSAL. ADDITIONALLY, THE WICK DRAINS SHOULD EXTEND THROUGH THE FREE-DRAINING WORKING PLATFORM AT THE SURFACE TO PROVIDE POSITIVE DRAINAGE. THE ENGINEER MAY ALLOW SHORTER LENGTH TO BE PLACED, IN LOCATIONS WHERE INSTALLATION OF THE FULL LENGTH IS NOT POSSIBLE. THIS SHALL BE AT THE DIRECTION OF THE ENGINEER ONLY.

DRAINS THAT DEVIATE FROM THE PLAN LOCATION BY MORE THAN SIX (6) INCHES, OR THAT ARE DAMAGED, OR IMPROPERLY INSTALLED, WILL BE REJECTED. REJECTED DRAINS MAY BE REMOVED OR ABANDONED IN PLACE, AT THE CONTRACTOR'S OPTION. REPLACEMENT DRAINS SHALL BE OFFSET APPROXIMATELY EIGHTEEN (18) INCHES FROM THE LOCATION OF THE REJECTED DRAIN. ALL REJECTED DRAINS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

THE DRAINS SHALL BE INSTALLED VERTICALLY THROUGH THE COMPRESSIBLE SOIL LAYERS AND TERMINATE WITHIN THE UNDERLYING SUITABLE SOILS, OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SUITABLE MEANS OF VERIFYING THE PLUMBNESS OF THE MANDREL AND DETERMINING THE DEPTH OF THE DRAIN AT ANY TIME. THE EQUIPMENT SHALL BE CAREFULLY CHECKED FOR PLUMBNESS AND SHALL NOT DEVIATE MORE THAN 0.25 INCH PER FOOT FROM VERTICAL.

SPLICES OR CONNECTIONS IN THE WICK DRAIN MATERIAL SHALL BE DONE IN A PROFESSIONAL MANNER SO AS TO INSURE CONTINUITY OF THE WICK MATERIAL. THE PREFABRICATED DRAIN SHALL BE CUT SUCH THAT AT LEAST A SIX (6) INCH LENGTH PROTRUDES ABOVE THE WORKING SURFACE AT EACH PREFABRICATED DRAIN LOCATION.

IT MAY BE NECESSARY TO PREAUGER OR USE SOME OTHER METHOD TO CLEAR OBSTRUCTIONS AND FACILITATE THE INSTALLATION OF THE DRAINS THROUGH THE WORKING PLATFORM OR EXISTING FILL ABOVE THE COMPRESSIBLE SOIL STRATA. THE DEPTH TO WHICH PREAUGERING IS USED SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER BUT SHOULD NOT EXTEND MORE THAN TWO (2) FEET INTO THE UNDERLYING COMPRESSIBLE SOILS.

WHERE OBSTRUCTIONS ARE ENCOUNTERED WITHIN THE COMPRESSIBLE STRATA, WHICH CANNOT BE PENETRATED BY AUGURING OR SPUDDING, THE CONTRACTOR SHALL ABANDON THE HOLE. AT THE DIRECTION OF THE ENGINEER, THE CONTRACTOR SHALL THEN INSTALL A NEW DRAIN WITHIN EIGHTEEN (18) INCHES OF THE OBSTRUCTED DRAIN. A MAXIMUM OF TWO ATTEMPTS SHALL BE MADE AS DIRECTED BY THE ENGINEER FOR EACH OBSTRUCTED DRAIN. IF THE DRAIN STILL CANNOT BE INSTALLED TO THE DESIGN TIP ELEVATION, THE DRAIN LOCATION SHOULD BE ABANDONED AND THE INSTALLATION EQUIPMENT MOVED TO THE NEXT DRAIN LOCATION.

E. METHOD OF MEASUREMENT - THE QUANTITY OF PREFABRICATED DRAIN SHALL BE THE NUMBER OF LINEAR FEET SATISFACTORILY INSTALLED FROM THE TOP OF THE WORKING PLATFORM DESIGN ELEVATION AND TERMINATE WITHIN UNDERLYING SUITABLE SOIL, OR TO REFUSAL. IN CASE OF OBSTRUCTIONS, THE CONTRACTOR SHALL BE PAID AT THE CONTRACT UNIT PRICE FOR THE NUMBER OF LINEAR FEET OF DRAIN MEASURED FROM THE TOP OF THE WORKING PLATFORM TO THE ELEVATION AT WHICH THE OBSTRUCTON WAS ENCOUNTERED.

F. BASIS OF PAYMENT - PAYMENT FOR ITEM SPECIAL - WICK DRAIN WILL BE MADE AT THE CONTRACT UNIT PRICE PER FOOT, WHICH PRICE SHALL BE FULL COMPENSATION FOR THE COST OF FURNISHING THE FULL LENGTH OF WICK DRAIN MATERIAL, INSTALLING THE DRAIN, ALTERING OF THE EQUIPMENT AND METHODS OF INSTALLATION IN ORDER TO PRODUCE THE REQUIRED END RESULT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, AND SHALL ALSO INCLUDE THE COST OF FURNISHING ALL TOOLS, MATERIAL, LABOR, EQUIPMENT, AND ALL OTHER COSTS NECESSARY TO COMPLETE THE REQUIRED WORK. NO DIRECT PAYMENT WILL BE MADE FOR UNACCEPTABLE DRAINS OR FOR ANY DELAYS OR EXPENSES THROUGH CHANGES NECESSITATED BY IMPROPER OR UNACCEPTABLE MATERIAL OR EQUIPMENT. NO DIRECT PAYMENT WILL BE MADE FOR PREAUGERING OR OTHER METHODS USED TO FACILITATE INSTALLATION OF THE DRAIN. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY (STA. 134+74 TO STA. 141+00, 6525 WICK DRAINS, 36.67' AVERAGE LENGTH):

SPECIAL, WICK DRAIN (PREFABRICATED VERTICAL DRAIN) 239250 FT

CALCULATED RCB CHECKED MAC

GENERAL NOTES

POR-303-(0.70)(1.21)

3 ITEM SPECIAL - PIEZOMETER (VIBRATING WIRE)

VIBRATING WIRE PIEZOMETERS (VWP) SHALL BE INSTALLED AT THE LOCATIONS AND ELEVATIONS INDICATED IN TABLE NO. 1 BELOW, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OF RECORD. THE VWPS ARE TO MEASURE THE IN-SITU PORE PRESSURE PRIOR TO COMMENCING SURCHARGE FILL PLACEMENT, THE INCREASE IN PORE PRESSURE WITHIN THE SUBGRADE SOIL DURING SURCHARGE FILL PLACEMENT, AND THE SUBSEQUENT DECREASE IN PORE PRESSURE WITHIN THE SURCHARGE EMBANKMENT FOUNDATION SOIL AFTER THE SURCHARGE EMBANKMENT CONSTRUCTION PROCESS. VWPS SHALL BE INSTALLED AFTER THE INSTALLATION OF WICK DRAINS AND SHOULD BE PLACED EQUIDISTANT FROM SURROUNDING WICK DRAINS TO NOT ALLOW A SINGLE WICK DRAIN TO PRODUCE A SKEWED INFLUENCE ON THE INSTRUMENTATION READINGS.

TABLE NO. 1 – PIEZOMETER AND SETTLEMENT PLATFORM INSTALLATION LOCATIONS

STATION	OFFSET	PIEZOMETER TIP ELEVATION (FT-MSL)
135+50	0'	EL. 1006
137+50	0'	EL. 980, EL. 1000*
139+50	0'	EL. 1010

*INDICATES MULTIPLE VWP'S INSTALLED WITHIN THE SAME BOREHOLE AT THE ELEVATIONS NOTED

INSTALLATION

PRIOR TO INSTALLATION OF THE VIBRATING WIRE PIEZOMETERS, SUBMIT TO THE ENGINEER A PLAN ILLUSTRATING THE LOCATION OF THE VIBRATING WIRE PIEZOMETER AND THE PROPOSED CABLE LAYOUT AND DATALOGGER LOCATION. VERIFY THAT THE VIBRATING WIRE PIEZOMETER HARDWARE WILL NOT CONFLICT WITH EXISTING FACILITIES OR PROPOSED WORK. SUBMIT THE PLAN FOR THE ENGINEER'S ACCEPTANCE AT LEAST 14 DAYS PRIOR TO PIEZOMETER INSTALLATION. INCLUDE EQUIPMENT SPECIFICATIONS OF THE SELECTED PIEZOMETER. PROVIDE PROCEDURES AND DETAILS OF THE PROPOSED PIEZOMETER INSTALLATION METHODS INCLUDING ALL EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK.

SELECT A PIEZOMETER OF ADEQUATE ACCURACY FOR THE PRESSURES AND INSTALLATION METHOD SELECTED (E.G., SLOPE INDICATOR MODEL 52611040, GEOKON 4500, OR EQUIVALENT).

INSTALL THE VIBRATING WIRE PIEZOMETERS AT LEAST 14 DAYS PRIOR TO THE PROPOSED COMMENCEMENT OF THE SURCHARGE EMBANKMENT CONSTRUCTION SO THAT ANY EXCESS PORE PRESSURE DEVELOPED DURING THE PIEZOMETER INSTALLATION PROCESS CAN DISSIPATE, THE IN-SITU GROUNDWATER LEVELS MAY BE EVALUATED, AND THE BASELINE PORE PRESSURE ESTABLISHED. THE 14 DAY PERIOD MAY BE MODIFIED BY THE ENGINEER OF RECORD BASED ON THE RESULTS OF THE PORE PRESSURE MEASUREMENTS COLLECTED AND REPORTED PRIOR TO COMMENCING SURCHARGE FILL PLACEMENT AS DESCRIBED IN MORE DETAIL BELOW.

INSTALL THE VIBRATING WIRE PIEZOMETERS PER THE MANUFACTURER'S RECOMMENDATIONS. THE PIEZOMETER CAN BE INSTALLED BY THE SAND METHOD, DIRECT GROUTING, OR DIRECT PUSHING AS RECOMMENDED BY THE MANUFACTURER. UTILIZE THE INSTALLATION METHOD THAT WILL LEAST LIKELY DAMAGE THE PIEZOMETER DURING INSTALLATION AND WILL PROVIDE THE MOST ACCURATE READINGS. ACCURATE DETERMINATION OF THE DEPTH TO WHICH THE PIEZOMETER TIP HAS BEEN INSTALLED SHALL BE RECORDED.

THE PIEZOMETER LOCATION SHALL BE SURVEYED AND A BASELINE GROUND ELEVATION SHALL BE RECORDED PRIOR TO SURCHARGE EMBANKMENT CONSTRUCTION.

FOLLOWING INSTALLATION OF THE PIEZOMETER, THE READOUT CABLES SHALL BE ROUTED THROUGH PVC SLEEVES IN A TRENCH TO THE PROPOSED DATALOGGER LOCATION WITH ADJUSTMENTS SLACK LOOPED WITHIN THE SLEEVES TO COMPENSATE FOR SETTLEMENT. BACKFILL THE TRENCH FOR THE CABLE WITH SAND CONFORMING TO ODOT ITEM 703.02.A. THE CABLES SHALL BE BEDDED IN AT LEAST 6 INCHES OF SAND AND COVERED WITH A MINIMUM OF 6 INCHES OF SAND. THE TRENCH DEPTH SHALL BE SUFFICIENT TO PROVIDE ADEQUATE COVERAGE OVER AND PROTECTION OF THE CABLES IN THE EVENT CONSTRUCTION TRAFFIC TRAVELS OVER THE TRENCH AREA. SEE VIBRATING WIRE PIEZOMETER DETAIL.

READINGS

BEFORE SURCHARGE EMBANKMENT CONSTRUCTION BEGINS, PIEZOMETER READINGS SHALL BE RECORDED AT MAXIMUM 12-HOUR INCREMENTS. READINGS FROM THE DATALOGGER SHALL BE COLLECTED AND REPORTED WEEKLY TO THE ENGINEER OF RECORD. COMMENCEMENT OF SURCHARGE EMBANKMENT FILL PLACEMENT SHALL NOT BEGIN UNTIL THE VIBRATING WIRE PIEZOMETER DATA INDICATE THE INSTRUMENT IS WORKING PROPERLY AND THAT PORE PRESSURES HAVE STABILIZED FOLLOWING INSTALLATION.

DURING ACTIVE SURCHARGE EMBANKMENT FILL PLACEMENT, PIEZOMETER READINGS SHALL BE RECORDED AT A MAXIMUM INCREMENT OF 12 HOURS.

DURING THE WAITING PERIOD FOLLOWING SURCHARGE EMBANKMENT CONSTRUCTION, PIEZOMETER READINGS SHALL BE COLLECTED AND REPORTED DAILY, WITH ADDITIONAL READINGS BEING OBTAINED AND REPORTED AS DIRECTED BY THE ENGINEER OF RECORD. SUFFICIENT READINGS SHALL BE RECORDED DURING THE WAITING PERIOD TO DETERMINE THE DEGREE OF CONSOLIDATION FROM THE COLLECTED AND REPORTED READINGS. THE ENGINEER OF RECORD MAY REQUIRE THAT READINGS BE COLLECTED AND REPORTED AT MORE FREQUENT INTERVALS IF PREVIOUSLY COLLECTED READINGS SUGGEST THE NEED FOR MORE FREQUENT DATA COLLECTION.

THE SURCHARGE EMBANKMENT FILL ELEVATION AT EACH PIEZOMETER LOCATION SHALL BE SURVEYED AND RECORDED EACH TIME THE PIEZOMETER DATA IS COLLECTED FROM THE DATALOGGER, AND THESE ELEVATIONS SHALL BE REPORTED WITH THE PIEZOMETER READINGS.

SUBMIT A REPORT CONTAINING THE PIEZOMETER READINGS AND PLOTS OF THE PORE PRESSURE READINGS AND SURCHARGE EMBANKMENT FILL ELEVATION VERSUS TIME TO THE ENGINEER IN PDF FORMAT WITHIN 24 HOURS OF WHEN THE READINGS ARE COLLECTED IN THE FIELD.

COLLECTING THE PIEZOMETER READINGS SHALL BE COORDINATED WITH THE SETTLEMENT PLATFORM READINGS SUCH THAT ALL READINGS ARE OBTAINED THE SAME DAY.

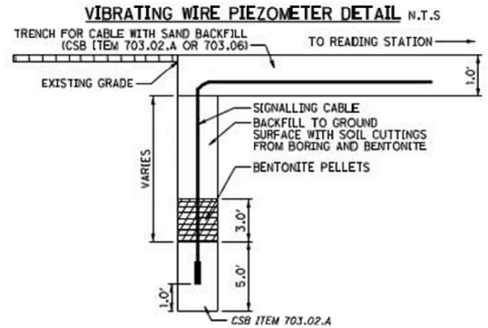
IN THE EVENT THE PIEZOMETER BECOMES DAMAGED OR INOPERABLE, IMMEDIATELY INSTALL A NEW PIEZOMETER. CEASE SURCHARGE EMBANKMENT CONSTRUCTION ACTIVITIES UNTIL THE PIEZOMETER BECOMES OPERABLE AND A NEW BASELINE IS ACCEPTED. TIMING AND PLACEMENT OF PIEZOMETER INSTALLATION RELATIVE TO WICK DRAIN INSTALLATION SHALL BE CONSIDERED TO MINIMIZE THE POTENTIAL FOR DAMAGE TO THE INSTRUMENTATION.

METHOD OF MEASUREMENT: THE NUMBER OF PIEZOMETERS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

METHOD OF PAYMENT: PAYMENT FOR "ITEM SPECIAL PIEZOMETER (VIBRATING WIRE)" WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH, WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE PIEZOMETERS INCLUDING FURNISHING ALL TOOLS, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. NO DIRECT PAYMENT WILL BE MADE FOR UNACCEPTABLE PIEZOMETERS, OR FOR ANY DELAYS OR EXPENSES THROUGH CHANGES NECESSITATED BY IMPROPER OR UNACCEPTABLE MATERIAL OR EQUIPMENT, OR FOR REPLACEMENT OF PIEZOMETERS DAMAGED BY THE CONTRACTOR'S OPERATIONS. THE DEPARTMENT WILL PAY FOR REPLACEMENT OF PIEZOMETERS THAT BECOME INOPERABLE DUE TO SETTLEMENT OR MANFUNCTION NOT CAUSED BY THE CONTRACTOR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL, PIEZOMETER (VIBRATING WIRE) 4 EACH

VIBRATING WIRE PIEZOMETER DETAIL N.T.S



4 ITEM SPECIAL - SETTLEMENT PLATFORM

SETTLEMENT OF FOUNDATION SOILS BENEATH THE SURCHARGE EMBANKMENT SHALL BE MONITORED USING SETTLEMENT PLATFORMS. SETTLEMENT PLATFORMS SHALL BE INSTALLED AT THE LOCATIONS SHOWN IN TABLE NO. 1, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OF RECORD. WHERE APPLICABLE, THE SETTLEMENT PLATFORM SHALL BE INSTALLED WITHIN A 10' RADIUS OF THE ADJACENT CORRESPONDING PIEZOMETER, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OF RECORD. SETTLEMENT PLATFORMS SHALL BE IN ACCORDANCE WITH ODOT GEOTECHNICAL BULLETIN 4 "GUIDELINES FOR THE USE OF GEOTECHNICAL INSTRUMENTATION."

THE CONTRACTOR SHALL PROTECT SETTLEMENT PLATFORMS FROM CONSTRUCTION TRAFFIC/ACTIVITIES USING APPROPRIATE METHODS SUCH AS BARRICADES, CONES, ETC. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION. ALL MODIFICATIONS OR REPAIRS TO THE PLATFORM (I.E. PIPE CUTOFF LENGTHS, SPLICE LENGTHS, ETC.) SHALL BE DOCUMENTED AND THE REPAIRED PLATFORM SHALL BE SURVEYED BEFORE AND AFTER THE REPAIRS TO DOCUMENT ANY CHANGE IN THE RISER PIPE ELEVATION AT THE CONTRACTOR'S EXPENSE.

READINGS

BASELINE ELEVATIONS OF THE EXISTING GROUND AT THE SETTLEMENT PLATFORM LOCATION AND THE TOP OF THE RISER PIPE SHALL BE RECORDED IMMEDIATELY PRIOR TO COMMENCEMENT OF SURCHARGE EMBANKMENT CONSTRUCTION.

SETTLEMENT READINGS CONSISTING OF TOP OF RISER PIPE ELEVATION AND TOP OF FILL ELEVATION ADJACENT TO THE RISER PIPE SHALL BE OBTAINED DAILY DURING SURCHARGE EMBANKMENT CONSTRUCTION. DURING THE SPECIFIED WAITING PERIOD, SETTLEMENT POINT READINGS SHALL BE OBTAINED DAILY UNTIL A SUSTAINED SETTLEMENT PATTERN IS OBSERVED. AFTER THIS PATTERN HAS BEEN VERIFIED, THE FREQUENCY OF READINGS MAY BE REDUCED AT THE DISCRETION OF THE ENGINEER. SUFFICIENT READINGS MUST BE OBTAINED DURING THE WAITING PERIOD SUCH THAT THE RATE OF SETTLEMENT MAY BE DETERMINED FROM THE COLLECTED READINGS IN CONJUNCTION WITH THE PIEZOMETER DATA. THE READINGS SHALL BE PLOTTED PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). A COPY OF EACH CUMULATIVE PLOT AND TABLE OF THE FIELD READINGS SHALL BE SENT TO THE ENGINEER OF RECORD ON A WEEKLY BASIS.

THE CONTRACTOR SHALL IDENTIFY, SET, AND MAINTAIN AN APPROPRIATE NUMBER OF FIXED BENCHMARKS, REFERENCE POINTS, ETC. TO FACILITATE THE SURVEYING OF THE SETTLEMENT PLATFORMS. ALL FIXED POINTS SHALL BE LOCATED 100± FEET FROM TOE OF THE PROPOSED SURCHARGE EMBANKMENT (OUTSIDE OF THE AREA OF INFLUENCE OF CONSTRUCTION ACTIVITIES OR TO BE SUBJECT TO SETTLEMENT OF ANY MAGNITUDE).

METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.

METHOD OF PAYMENT: PAYMENT FOR "ITEM SPECIAL - SETTLEMENT PLATFORM" WILL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH, WHICH IS COMPENSATION FOR CONSTRUCTING, MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL TOOLS, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. NO DIRECT PAYMENT WILL BE MADE FOR UNACCEPTABLE SETTLEMENT PLATFORMS, OR FOR ANY DELAYS OR EXPENSES THROUGH CHANGES NECESSITATED BY IMPROPER OR UNACCEPTABLE MATERIAL OR EQUIPMENT, OR FOR REPLACEMENT PIEZOMETERS DAMAGED BY THE CONTRACTOR'S OPERATIONS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL, SETTLEMENT PLATFORM 3 EACH

5 ITEM SPECIAL - ROADWAY MISC.: LIGHTWEIGHT AGGREGATE

MATERIAL PROPERTIES

LIGHTWEIGHT AGGREGATE SHALL BE EXPANDED SHALE, CLAY OR SLATE (ESCS) PRODUCED BY THE ROTARY KILN PROCESS AND MEETING THE REQUIREMENTS OF ASTM C 330. LIGHTWEIGHT AGGREGATE SHALL HAVE THE FOLLOWING PROPERTIES:

- SOUNDNESS LOSS: THE MAXIMUM SOUNDNESS LOSS SHALL BE LESS THAN 30% WHEN TESTED, WITH FOUR CYCLES OF MAGNESIUM SULFATE, IN ACCORDANCE WITH AASHTO T 104.
- ABRASION RESISTANCE: THE MAXIMUM ABRASION LOSS SHALL BE LESS THAN 40% WHEN TESTED IN ACCORDANCE WITH ASTM C 131.
- CHLORIDE CONTENT: THE MAXIMUM CHLORIDE CONTENT SHALL BE LESS THAN 100 PPM WHEN TESTED IN ACCORDANCE WITH AASHTO T 291.
- GRADING: AGGREGATE GRADING SHALL BE ¾ INCH TO NO.4 IN ACCORDANCE WITH ASTM C 136.
- PH: AGGREGATE PH SHALL RANGE FROM 5 TO 10 WHEN TESTED IN ACCORDANCE WITH AASHTO T 289.

AGGREGATE LOOSE BULK DENSITY (UNIT WEIGHT): THE MAXIMUM AGGREGATE LOOSE BULK DENSITY SHALL BE LESS THAN 50 LBS/FT³ WHEN DRY, AND LESS THAN 65 LBS/FT³ WHEN SATURATED. LOOSE BULK DENSITY SHALL BE TESTED IN ACCORDANCE WITH ASTM C 29.

STRENGTH (PHI ANGLE, θ): THE MINIMUM ANGLE OF INTERNAL FRICTION SHALL BE 38 DEGREES WHEN TESTED IN ACCORDANCE WITH ASTM D 3080 ON A SATURATED REPRESENTATIVE SAMPLE (WITH PARTICLES LARGER THAN 0.75 INCH REMOVED) AND TESTED IN A ROUND OR SQUARE SHEAR BOX THAT IS A MINIMUM OF 12 INCHES ACROSS. FOLLOW THE PROCEDURE IN D 3080 OR SHEAR THE BOX AT A RATE OF 0.01 INCHES PER MINUTE AT NORMAL LOADS OF 250, 500 AND 1,000 POUNDS PER SQUARE FOOT.

CONSTRUCTION

METHOD OF CONSTRUCTION: LIGHTWEIGHT FILL SHALL BE PLACED IN UNIFORM HORIZONTAL LOOSE LIFTS NOT EXCEEDING 12 INCHES IN THICKNESS. THE NUMBER OF PASSES PER LIFT WITH RUBBER-TIRED COMPACTION EQUIPMENT SHALL BE DETERMINED BASED ON A TEST STRIP PERFORMED IN THE FIELD USING THE CONTRACTOR'S EQUIPMENT. IN CONFINED AREAS, VIBRATORY PLATE COMPACTION EQUIPMENT SHALL BE USED WITH A MINIMUM OF TWO PASSES IN 6 INCH LIFTS FOR A 5 HORSEPOWER (HP) PLATE AND 12 INCH LIFTS FOR A 20 HP PLATE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT THE LIGHTWEIGHT AGGREGATE IS NOT OVER-COMPACTED. CONSTRUCTION EQUIPMENT, OTHER THAN FOR PLACEMENT AND COMPACTION, SHALL NOT OPERATE ON THE EXPOSED LIGHTWEIGHT AGGREGATE.

IN-PLACE BULK DENSITY (UNIT WEIGHT): THE IN-PLACE COMPACTED MOIST DENSITY SHALL BE LESS THAN 60 LBS/FT³ WHEN MEASURED BY A ONE-POINT PROCTOR TEST CONDUCTED IN ACCORDANCE WITH A MODIFIED VERSION OF ASTM D 698. THE STANDARD SHALL BE MODIFIED AS FOLLOWS: THE AGGREGATE SAMPLE SHALL BE PLACED IN A 0.5 CUBIC FOOT BUCKET AT THE MOISTURE CONTENT THAT THE AGGREGATE WILL BE DELIVERED TO THE JOBSITE. THE SAMPLE SHALL BE PLACED IN THREE EQUAL LAYERS AND COMPACTED BY DROPPING A 5.5 POUND RAMMER FROM A DISTANCE OF 12 INCHES 25 TIMES ON EACH LAYER.

METHOD OF MEASUREMENT

THE DEPARTMENT WILL MEASURE LIGHTWEIGHT AGGREGATE ACCORDING TO ITEM 203.09.

BASIS OF PAYMENT

PAYMENT SHALL BE MADE FOR LIGHTWEIGHT AGGREGATE AT THE CONTRACT UNIT PRICE AND ACCORDING TO ITEM 203.09. THIS WORK INCLUDES FURNISHING ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE REQUIRED WORK.

CALCULATED RCB CHECKED MAC

GENERAL NOTES

POR-303-(0.70)(1.21)

EQUIPMENT WASHING - INVASIVE PLANT SPECIES MANAGEMENT
THIS PROJECT IS IN AN ENVIRONMENTAL SENSITIVE AREA. THE GOTT FEN PRESERVE, WHICH CONTAINS HIGH QUALITY FEN WETLANDS AND STATE-LISTED THREATENED AND ENDANGERED PLANTS AND ANIMALS, IS PRESENT AT THE POR-303-0070 (SFN: 6704352) CULVERT. TO AVOID INTRODUCING INVASIVE PLANT SPECIES TO THE FEN, THE CONTRACTOR MUST WASH AND REMOVE ANY VEGETATION FROM THE CONSTRUCTION EQUIPMENT PRIOR TO DELIVERY TO THE PROJECT SITE AND USE ON THIS PROJECT.

EQUIPMENT STAGING IN THE FLOOD PLAIN
SHOULD A RAIN AND/OR FLOODING EVENT BE ANTICIPATED THAT WOULD MEET OR EXCEED TWO FEET BELOW THE LOWEST ELEVATION WHERE EQUIPMENT IS SITTING, ALL EQUIPMENT MUST BE REMOVED FROM THE AREA THAT COULD BE AFFECTED BY FLOODING. THE WATER LEVELS OF THE CLOSEST UPSTREAM GAUGING STATION MUST BE REGULARLY CHECKED BY THE CONTRACTOR IN ORDER TO HELP PREDICT FLOODING EVENTS.

ODNR PRE-CONSTRUCTION AND FINAL INSPECTION NOTIFICATION
ODNR NORTHEAST REGIONAL PRESERVE MANAGER, ADAM WOHLEVER, MUST BE CONTACTED ONE (1) WEEK PRIOR TO COMMENCEMENT OF CONSTRUCTION BY THE CONTRACTOR. MR. WOHLEVER MUST BE CONTACTED IF ANY NEGATIVE IMPACTS OCCUR IN THIS AREA. MR. WOHLEVER MUST BE CONTACTED ONE WEEK BEFORE THE COMPLETION OF THE CULVERT REPLACEMENTS FOR A FINAL INSPECTION. MR. WOHLEVER MUST BE CONTACTED ONE WEEK BEFORE THE FINAL BUILD UP OF THE MATERIAL ON THE EASTERN WETLAND COMPLEX. MR. WOHLEVER MUST BE CONTACTED ONE WEEK BEFORE THE COMPLETION OF THE PROJECT.

E-MAIL ADDRESS: ADAM.WOHLEVER@DNR.STATE.OH.US
TELEPHONE NUMBER: (440) 476-2511.

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

THE POR-303-0070 (SFN: 6704352) CULVERT STRUCTURE SHALL BE CAREFULLY EXAMINED FOR THE PRESENCE OF BATS, ESPECIALLY FORM APRIL 1 TO SEPTEMBER 30. IF ANY BATS ARE FOUND ROOSTING ON THE UNDERSIDE OF THE BRIDGE, THE USFWS, ECOLOGICAL SERVICES DIVISION (614-416-8993), ODOT OFFICE OF ENVIRONMENTAL SERVICES (614-466-7880) AND ODOT DISTRICT 4 ENVIRONMENTAL SECTION (330-786-4930) SHALL BE CONTACTED TO PROVIDE THIS INFORMATION. SHOULD ADDITIONAL INFORMATION ON LISTED ENDANGERED/THREATENED/POTENTIALLY THREATENED SPECIES OR THEIR CRITICAL HABITAT BECOME AVAILABLE, OR IF NEW INFORMATION REVEALS EFFECTS OF THIS PROJECT THAT WERE NOT PREVIOUSLY CONSIDERED, ODOT WILL REINITIATE CONSULTATION WITH THE USFWS AND ODNR TO ASSESS WHETHER THE PROJECT DETERMINATIONS ARE STILL VALID.

ENDANGERED SPECIES - SMOOTH GREENSNAKE
THE ODNR NATURAL HERITAGE DATABASE HAS RECORDS IN THE AREA FOR THE SMOOTH GREENSNAKE (OPHEODRYS VERNALIS), A STATE ENDANGERED SPECIES. IF ANY SNAKE IS ENCOUNTERED IN THE WORK AREA DURING CONSTRUCTION, NO PERSON SHALL HARM OR KILL THE SNAKES OR ATTEMPT TO HANDLE THE SNAKE. ALL CONSTRUCTION OPERATIONS AT THE WORK AREA SHALL TEMPORARILY CEASE AND ODOT OFFICE OF ENVIRONMENTAL SERVICES ECOLOGICAL SECTION (614-466-7100) SHALL BE IMMEDIATELY CONTACTED.

CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE HAS BEEN INCLUDED IN THE CONSTRUCTION PLAN GENERAL SUMMARY. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED ALONG THE PROPOSED CONSTRUCTION LIMITS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES. THE CONTRACTOR SHALL TRENCH AND BURY PART OF THE CONSTRUCTION FENCE AND THE PERIMETER FILTER FABRIC FENCE UNDERGROUND TO PREVENT TURTLES, SNAKES AND OTHER WILDLIFE FROM ENTERING THE CONSTRUCTION LIMITS. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED AFTER SEPTEMBER 15 AND BEFORE MAY 15.

THE CONSTRUCTION FOOTPRINT AREA SHOULD BE SEARCHED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES TO ENSURE THERE ARE NO TURTLES, SNAKES OR OTHER WILDLIFE PRESENT WITHIN THE CONSTRUCTION FOOTPRINT. ABOVE GROUND VEGETATION SHOULD BE REMOVED FROM THE CONSTRUCTION FOOTPRINT PRIOR TO ANY EXCAVATION OR FILLING OPERATIONS, THE CONSTRUCTION FOOTPRINT AREA SHOULD BE SURVEYED/ SEARCHED EACH DAY PRIOR TO CONSTRUCTION, AND THE CONSTRUCTION CREW SHOULD BE MADE AWARE OF THE POTENTIAL FOR THE SMOOTH GREENSNAKE TO BE PRESENT. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE REMOVED BY THE CONTRACTOR UPON PROJECT COMPLETION.

ENDANGERED SPECIES - STATE-THREATENED SPOTTED TURTLE (CLEMMYS GUTTATA)
THE SPOTTED TURTLE IS A SMALL (LESS THAN SIX INCHES) BLACK TURTLE WITH DISTINCTIVE YELLOW SPOTS ON THE CARAPACE (TOP OF SHELL). THE HEAD OF THE SPOTTED TURTLE IS OFTEN COLORFULLY ADORNED WITH REDDISH-ORANGE TO YELLOW BLOTCHES ON THE SIDES AND CHIN. THE FOREARMS MAY ALSO BE BRIGHT ORANGE. IF ENCOUNTERED, NO PERSON SHALL HARM OR KILL TURTLES AND CONSTRUCTION OPERATIONS AT THE WORK AREA SHALL TEMPORARILY CEASE. THE ODOT OFFICE OF ENVIRONMENTAL SERVICES - ECOLOGICAL SECTION (614-466-7100) SHALL BE IMMEDIATELY CONTACTED AND CONSTRUCTION OPERATIONS CAN RESUME ONLY AFTER THE TURTLE IS REMOVED FROM THE CONSTRUCTION SITE.

CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE HAS BEEN INCLUDED IN THE CONSTRUCTION PLAN GENERAL SUMMARY. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED ALONG THE PROPOSED CONSTRUCTION LIMITS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES. THE CONTRACTOR SHALL TRENCH AND BURY PART OF THE CONSTRUCTION FENCE AND THE PERIMETER FILTER FABRIC FENCE UNDERGROUND TO PREVENT TURTLES, SNAKES AND OTHER WILDLIFE FROM ENTERING THE CONSTRUCTION LIMITS. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED AFTER SEPTEMBER 15 AND BEFORE MAY 15 OUTSIDE OF THE TURTLE NESTING SEASON.

THE CONSTRUCTION FOOTPRINT AREA SHOULD BE SEARCHED PRIOR TO PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES TO ENSURE THERE ARE NO TURTLES, SNAKES OR OTHER WILDLIFE PRESENT WITHIN THE CONSTRUCTION FOOTPRINT. ABOVE GROUND VEGETATION SHOULD BE REMOVED FROM THE CONSTRUCTION FOOTPRINT PRIOR TO ANY EXCAVATION OR FILLING OPERATIONS, THE CONSTRUCTION FOOTPRINT AREA SHOULD BE SURVEYED/SEARCHED EACH DAY PRIOR TO CONSTRUCTION, AND THE CONSTRUCTION CREW SHOULD BE MADE AWARE OF THE POTENTIAL FOR THE SPOTTED TURTLE TO BE PRESENT. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE REMOVED BY THE CONTRACTOR UPON PROJECT COMPLETION.

FEDERALLY THREATENED - VENOMOUS EASTERN MASSASAUGA RATTLESNAKE (SISTRURUS CATENATUS)
THE PROJECT LIES WITHIN THE RANGE OF THE EASTERN MASSASAUGA (SISTRURUS CATENATUS), A SMALL, DOCILE RATTLESNAKE THAT IS FEDERALLY LISTED AS THREATENED. IF EASTERN MASSASAUGA RATTLESNAKES ARE ENCOUNTERED IN THE WORK AREA DURING CONSTRUCTION, NO PERSON SHALL HARM OR KILL THE SNAKES. ADDITIONALLY, NO ATTEMPT SHOULD BE MADE TO HANDLE THE SNAKES, AS THE EASTERN MASSASAUGA RATTLESNAKE IS A VENOMOUS SPECIES. ALL CONSTRUCTION OPERATIONS AT THE WORK AREA SHALL TEMPORARILY CEASE AND ODOT OFFICE OF ENVIRONMENTAL SERVICES - ECOLOGICAL SECTION (614- 466-7100) AND THE U.S. FISH & WILDLIFE SERVICE (614-416-8993) NEED TO BE IMMEDIATELY CONTACTED.

SHOULD, DURING THE TERM OF THESE ACTIONS, ADDITIONAL INFORMATION ON LISTED OR PROPOSED SPECIES OR THEIR CRITICAL HABITAT BECOME AVAILABLE, IF A PROPOSED SPECIES BECOMES OFFICIALLY LISTED, OR IF NEW INFORMATION REVEALS EFFECTS OF THE ACTIONS THAT WERE NOT PREVIOUSLY CONSIDERED, THE SERVICE SHOULD BE NOTIFIED TO ACCESS WHETHER THE AFOREMENTIONED DETERMINATIONS ARE STILL VALID.

WILDLIFE CROSSING INSTALLATION - EASTERN BOWL AREA
THREE WILDLIFE CROSSINGS WILL BE INSTALLED IN THE EASTERN BOWL AREA. CONCRETE APRONS SHALL BE INSTALLED AT THE CROSSING CULVERT INLETS AND OUTLETS. THE CONCRETE APRONS HAVE BEEN DESIGNED TO WRAP AROUND THE ENTRY/ EXIT OPENINGS OF THE CULVERTS AND THE EDGES OF THE APRONS SHOULD BE INSTALLED AT GRADE WITH THE SURROUNDING AREA. 3/8-INCH MINI-MESH FENCING SHALL BE INSTALLED ALONG THE PERIMETER OF THE WETLAND COMPLEXES AND AROUND THE CULVERTS/CONCRETE APRONS TO DETER ANIMALS FROM CROSSING THE ROAD AND FUNNEL THEM INTO THE CROSSING CULVERTS. THE PROJECT ENGINEER SHALL INSPECT AND EVALUATE THE CULVERTS/ CONCRETE APRONS AND FENCE INSTALLATION TO ENSURE THE WILDLIFE CROSSINGS ARE INSTALLED CORRECTLY. POST CONSTRUCTION EVALUATION RESULTS SHALL BE PROVIDED TO THE ODOT OFFICE OF ENVIRONMENTAL SERVICES AND ODOT DISTRICT 4 ENVIRONMENTAL SECTION FOR COORDINATION WITH STATE AND FEDERAL RESOURCE AGENCIES.

CHRISTOPHER STARON
ENVIRONMENTAL SPECIALIST
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
1980 W. BROAD STREET, MAILSTOP 4170, 3RD FLOOR
COLUMBUS, OHIO 43223
TELEPHONE NUMBER: 614-466-5112
E-MAIL ADDRESS: CHRIS.STARON@DOT.OHIO.GOV

EDWARD W. DELEY, JR.
ODOT DISTRICT 4 ENVIRONMENTAL COORDINATOR
2088 SOUTH ARLINGTON ROAD, MAIL STOP 3500
AKRON, OHIO 44306-4243
TELEPHONE NUMBER: 330-786-4930
E-MAIL ADDRESS: EDWARD.DELEY@DOT.OHIO.GOV

CO PERMITTEE NOTICE OF INTENT FOR COVERAGE UNDER OHIO EPA STORMWATER CONSTRUCTION GENERAL PERMIT
BECAUSE OVER 1.0 ACRE OF GROUND DISTURBANCE WILL OCCUR AS A RESULT OF THE PROJECT, A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER CONSTRUCTION GENERAL PERMIT WILL BE REQUIRED FROM THE OHIO EPA. THE NOTICE OF INTENT (NOI), PREPARED BY ODOT, AND OHIO EPA NPDES CONSTRUCTION STORM WATER GENERAL PERMIT SHALL BE PROVIDED TO THE CONTRACTOR BY ODOT PERSONNEL AT THE PRE CONSTRUCTION MEETING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING THE CO PERMITTEE NOTICE OF INTENT FOR COVERAGE UNDER OHIO EPA STORMWATER CONSTRUCTION GENERAL PERMIT AND SUBMITTING TO THE OHIO EPA FOR THEIR APPROVAL, ALONG WITH THE DEVELOPMENT OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), BEFORE CONSTRUCTION ACTIVITY CAN TAKE PLACE.

SPECIFICATIONS SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S "CONSTRUCTION AND MATERIAL SPECIFICATIONS, LOCATION AND DESIGN MANUAL AND STANDARD DRAWINGS" SHALL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL, ALONG WITH ADDITIONAL PROTECTIVE MEASURES TO AVOID IMPACTS TO ADJACENT PROPERTIES AND WETLANDS FROM CONSTRUCTION ACTIVITIES. WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. THEY SHALL ALSO COMPLY WITH ODOT'S "HANDBOOK FOR SEDIMENT AND EROSION CONTROL".

WATERWAY PERMIT DETERMINATION (404/401) - ODOT PROJECTS
ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE WATERWAY PERMITS CONDITIONS VERIFIED FOR THE PROJECT HAVE BEEN INCORPORATED INTO THE PROJECT CONSTRUCTION PLAN AS SPECIAL PROVISIONS. THE PROJECT CONTRACTOR SHALL ADHERE TO ALL WATERWAY PERMIT TERMS AND CONDITIONS THROUGHOUT PROJECT CONSTRUCTION.

WETLANDS IMPACT AND AVOIDANCE
TO PROTECT AND DELINEATE THE EXISTING UNIMPACTED WETLAND AREAS, ITEM 832 CONSTRUCTION FENCE AND ITEM 832 PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED ALONG THE PROPOSED CONSTRUCTION LIMITS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THE LIMITS AND ADJACENT AREA, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES. THE CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION AND SHALL BE REMOVED BY THE CONTRACTOR UPON PROJECT COMPLETION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE WETLANDS AREA BEYOND THE CONSTRUCTION LIMITS APPROVED BY THE PROJECT ENGINEER. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN WETLAND AREAS.

MECHANICAL EQUIPMENT OPERATION AT STREAM CHANNEL
THE MECHANICAL EQUIPMENT USED TO EXECUTE THE WORK AUTHORIZED HEREIN SHALL BE OPERATED IN SUCH A WAY AS TO MINIMIZE TURBIDITY THAT COULD DEGRADE WATER QUALITY AND ADVERSELY AFFECT AQUATIC PLANT AND ANIMAL LIFE.

CONSTRUCTION AND DEMOLITION DEBRIS
THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT CONSTRUCTION AND DEMOLITION DEBRIS FROM ENTERING STREAMS AND/OR WETLANDS. ANY CONSTRUCTION AND DEMOLITION DEBRIS THAT DOES FALL INTO STREAMS OR WETLANDS SHALL BE REMOVED AS SOON AS POSSIBLE WITHIN 72 HOURS.

CALCULATED RCB | CHECKED MAC

GENERAL NOTES

POR-303-(0.70)(1.21)

STREAM CHANNEL, WETLANDS AND DITCH EXCAVATION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT ANY INCIDENTAL DISCHARGES ASSOCIATED WITH THE EXCAVATION AND HAULING OF MATERIAL FROM STREAMS, WETLANDS AND DITCHES. THIS PERTAINS TO ANY EXCAVATION OPERATION SUCH AS, CULVERT EXCAVATION, EROSION AND SCOUR REPAIR, CHANNEL CLEAN OUT, AND EXCAVATION FOR INSTALLATION OR REMOVAL OF TEMPORARY FILLS.

ALL MATERIALS REMOVED FROM STREAMS, WETLANDS AND/OR DITCHES MUST BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E., SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. IMMEDIATE REMOVAL IS DEFINED BY THE UNITED STATES ARMY CORPS OF ENGINEERS AS DEPOSITING THE REMOVED MATERIALS DIRECTLY INTO A TRUCK AND REMOVING THE MATERIAL FROM THE SITE. PLACEMENT OF REMOVED MATERIALS INTO A WETLANDS OR ON THE BANKS OF A STREAM EVEN TEMPORARILY IS CONSIDERED A FILL AND IS NOT AUTHORIZED FOR THIS PROJECT.

BEST MANAGEMENT PRACTICES

WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. SPECIFICATIONS SET FORTH IN THE MOST CURRENT VERSION OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LOCATION AND DESIGN MANUAL AND STANDARD DRAWINGS SHALL BE USED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.

NATURAL BUFFERS ADJACENT TO STREAMS AND WETLANDS SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE. EXISTING RIPARIAN HABITATS SHOULD BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE AND EQUIPMENT STAGING AREAS SHALL BE KEPT WELL AWAY FROM STREAMS AND WETLANDS TO THE EXTENT PRACTICABLE. ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS SECTION 107.10 (PROTECTION AND RESTORATION OF PROPERTY) PROHIBIT THE CONTRACTOR FROM CREATING STAGING AREAS NEAR STREAMS/WETLANDS.

AREAS DISTURBED BY THE PROJECT SHALL BE SEEDED/REVEGETATED WITH NATIVE PLANT SPECIES AND MULCHED DURING CONSTRUCTION TO ENCOURAGE ESTABLISHMENT OF VEGETATION COVER, DECREASE EROSION AND PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

PAINTING AND SEALING OPERATIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EPOXY-URETHANE SEALER, PAINT OR OTHER MATERIALS USED TO REPAIR, CLEAN, PAINT, SEAL OR TREAT ANY STRUCTURE FROM ENTERING ANY STREAMS, WETLANDS OR OTHER WATERS OF THE UNITED STATES AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

WASTE MATERIALS

ALL WASTE MATERIALS GENERATED DURING CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY REMOVED FROM THE CONSTRUCTION SITE. IMMEDIATE REMOVAL IS DEFINED AS DEPOSITING THE REMOVED MATERIAL DIRECTLY INTO A TRUCK AND REMOVING THE MATERIALS FROM THE SITE; PLACEMENT OF REMOVED MATERIALS WITHIN THE FLOOD PLAIN IS PROHIBITED. PLACEMENT OF REMOVED MATERIAL INTO A WETLAND OR ON THE BANKS OF A STREAM OR RIVER EVEN TEMPORARILY IS CONSIDERED A FILL AND IS PROHIBITED.

BECK PRESERVE PROPERTY AVOIDANCE

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR ENTER ONTO OR OTHERWISE IMPACT THE BECK PRESERVE LOCATED IN THE EAST BOWL AREA AS INDICATED IN THE PLAN. FULL ACCESS SHALL BE MAINTAINED TO THE BECK PRESERVE PROPERTY DURING PROJECT CONSTRUCTION.

GOTT FEN STATE NATURE PRESERVE (SNP) AND GOTT FEN EXPANSION AREA

ACCESS TO THE GOTT FEN STATE NATURE PRESERVE AND THE GOTT FEN EXPANSION AREA SHALL BE MAINTAINED AT ALL TIMES DURING PROJECT CONSTRUCTION. TEMPORARY CONSTRUCTION FENCING AND PERIMETER FILTER FABRIC FENCING SHALL BE INSTALLED ALONG PROPOSED CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO PROTECT THE GOTT FEN STATE NATURE PRESERVE AND THE GOTT FEN EXPANSION AREA PROPERTIES AND THE PUBLIC. EXCEPT AS NECESSARY TO FACILITATE CONSTRUCTION ACTIVITIES, THE STAGING AND/OR STORAGE OF CONSTRUCTION EQUIPMENT IS PROHIBITED OUTSIDE THE CONSTRUCTION LIMITS THAT ARE WITHIN THE DEFINED BOUNDARIES OF THE GOTT FEN STATE NATURE PRESERVE AND/OR THE GOTT FEN EXPANSION AREA. FULL ACCESS SHALL BE MAINTAINED TO THE EXISTING GOTT FEN STATE NATURE PRESERVE ACCESS POINT AT THE WHEELING & LAKE ERIE RAILROAD CROSSING AND THE GOTT FEN EXPANSION AREA OIL WELL ACCESS ROAD LOCATED EAST OF THE POR-303-0070 TRIPLE CULVERT LOCATION. THE CONTRACTOR SHALL CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH ODOT, THE ODNR NORTHEAST REGIONAL PRESERVE MANAGER, AND THE CITY OF STREETSBORO. THE ODNR NORTHEAST REGIONAL PRESERVE MANAGER AND THE CITY OF STREETSBORO PARKS & RECREATION DEPARTMENT SHALL BE CONTACTED PRIOR TO COMPLETION OF PROJECT CONSTRUCTION TO INSPECT AND APPROVE RESTORATION (I.E., GRADING, STABILIZATION AND REVEGETATION) OF THE AFFECTED GOTT FEN STATE NATURE PRESERVE PROPERTY AND GOTT FEN EXPANSION AREA, TO ENSURE THE AFFECTED PORTION OF EACH PROPERTY IS PROPERLY RESTORED.

ALSO SEE ODNR PRE-CONSTRUCTION AND FINAL INSPECTION NOTIFICATION REQUIREMENTS.

CALCULATED RCB
CHECKED MAC

GENERAL NOTES

POR-303-(0.70)(1.21)

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

3. A QUANTITY OF 25 CU. YDS. OF ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

4. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (EAST BOWL AND WEST BOWL)

SR 303 SHALL BE CLOSED ONCE TO COMPLETE ALL WORK AT THE EAST BOWL AND WEST BOWL.

THE EAST BOWL SHALL MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 6 CONSECUTIVE MONTHS (MAY 15, 2018 TO OCTOBER 15, 2018) WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS 13-14.

DURING THE CLOSURE OF THE EAST BOWL, THE WEST BOWL SHALL MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 28 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS 13-14. DURING THE WEST BOWL CLOSURE WHEELING AND LAKE ERIE SHALL PERFORM THEIR WORK AT THE RAILROAD CROSSING ON SR 303. THE PROJECT SHALL COORDINATE THE CLOSURE OF THE WEST BOWL WITH WHEELING AND LAKE ERIE TO PERFORM THE WEST BOWL WORK AND THE RAILROAD CROSSING WORK SIMULTANEOUSLY.

A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $3000 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

INTERIM START DATE (POR-303 CLOSURE)

ALL WORK ON THE BYPASS ROAD SHALL BE COMPLETED PRIOR TO SR 303 CLOSURE.

DETOUR NOTIFICATION [CITY OF HUDSON AND CITY OF STREETSBORO)

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148), CITY OF HUDSON (330-342-1700) AND CITY OF STREETSBORO (330-626-4942) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS (W20-H13),SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP &	>= 2WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
RAMP	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURE	<12 HOURS	2 BUSINESS DAYS PRIOR TO CLSOURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRIC RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

W20-H13-60

SEPERATE SIGNING SHALL BE PLACED FOR THE EAST AND WEST BOWL CLOSURES.

ITERIM COMPLETION DATE (WEST BOWL) AND INTERIM START

WORK AT THE WEST BOWL INCLUDING THE RAILROAD CROSSING REPLACEMENT SHALL NOT BEGIN PRIOR TO JULY 1, 2018. ALL WORK AT THE WEST BOWL INCLUDING THE RAILROAD CROSSING REPLACEMENT SHALL BE COMPLETED PRIOR TO AUGUST 1, 2018. SHOULD THE CONTRACTOR FAIL TO MEEET ANY OF THE ABOVE REQUIREMENTS A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $3000 FOR EACH CALENDAR DAY OR PORTION THEREOF THAT THE ABOVE CONDITIONS ARE VIOLATED.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

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

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

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHALL BE LOCATED. IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF. ADDITIONALLY WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

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

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

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL [IN ACTIVE CELLULAR AREAS] ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.07. THE CONTRACTOR SHALL PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THEIR USE. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

614 PORTABLE CHANGEABLE MESSAGE SIGN,
AS PER PLAN, 8 SIGN MONTH
(ASSUMING 8 PCMS, FOR 1 MONTH)

TIME LIMITATION, TRAFFIC ON A MILLED SURFACE (BY PASS RD)

THE MAXIMUM ALLOWABLE TIME FOR TRAFFIC TO BE PLACED ON A MILLED SURFACE ON THE BY PASS RD SHALL BE 3 CONSECUTIVE CALENDAR DAYS. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSSESSED A DISINCENTIVE IN THE AMOUNT OF $2000 PER DAY THAT THE TRAFFIC IS PLACED ON A MILLED SURFACE BEYOND THE SPECIFIED LIMIT.

TIME LIMITATION, TRAFFIC ON A MILLED SURFACE (SR 303)

THE MAXIMUM ALLOWABLE TIME FOR TRAFFIC TO BE PLACED ON A MILLED SURFACE ON SR 303 SHALL BE 7 CONSECUTIVE CALENDAR DAYS. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSSESSED A DISINCENTIVE IN THE AMOUNT OF $2000 PER DAY THAT THE TRAFFIC IS PLACED ON A MILLED SURFACE BEYOND THE SPECIFIED LIMIT.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE OFFICE OF COMMUNICATIONS. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL AND SHALL LLIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO OFFICE OF COMMUNICATIONS
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES		14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTICE TO OFFICE OF COMMUNICATIONS TIME TABLE.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL BE ADVISED THAT PROJECTS POR-303-2.71 (PID 94133) AND SUM/POR-480/14-0.00/VAR (PID 87283) MAY BE ONGOING IN AN AREA IMMEDIATELY ADJACENT TO AND WITHIN THE PROJECT LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL ALSO BE ADVISED THAT WHEELING AND LAKE ERIE WILL BE REPLACING THEIR RAILROAD CROSSING ON SR 303 DURING THIS PROJECT'S ROAD CLOSURE. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE A MINIMUM OF DELAY OR CONFLICT WITH THE OTHER PROJECTS. IN ACCORDANCE WITH 105.08, THE CONTRACTOR SHALL ARRANGE WITH THE OTHER CONTRACTORS APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RECIEVE DAILY APPROVALS FROM THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. ANY CONFLICT BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREA, OR COOPERATION SHALL BE RESOLVED BY THE ENGINEER. CONPENSATION FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS INCLUDED WITHIN THIS PROJECT.

DETOUR SIGN W-SPECIAL

THE SIGN SHOWN BELOW SHALL BE USED FOR THE WEST BOWL CLOSURE. THE SIGN SHALL BE BLACK ON ORANGE AND THE TEXT SIZE SHALL BE 6E. THE OHIO TRAFFIC ENGINEERING MANUAL SHALL BE REFERRED TO FOR DESIGN.

W-SPECIAL

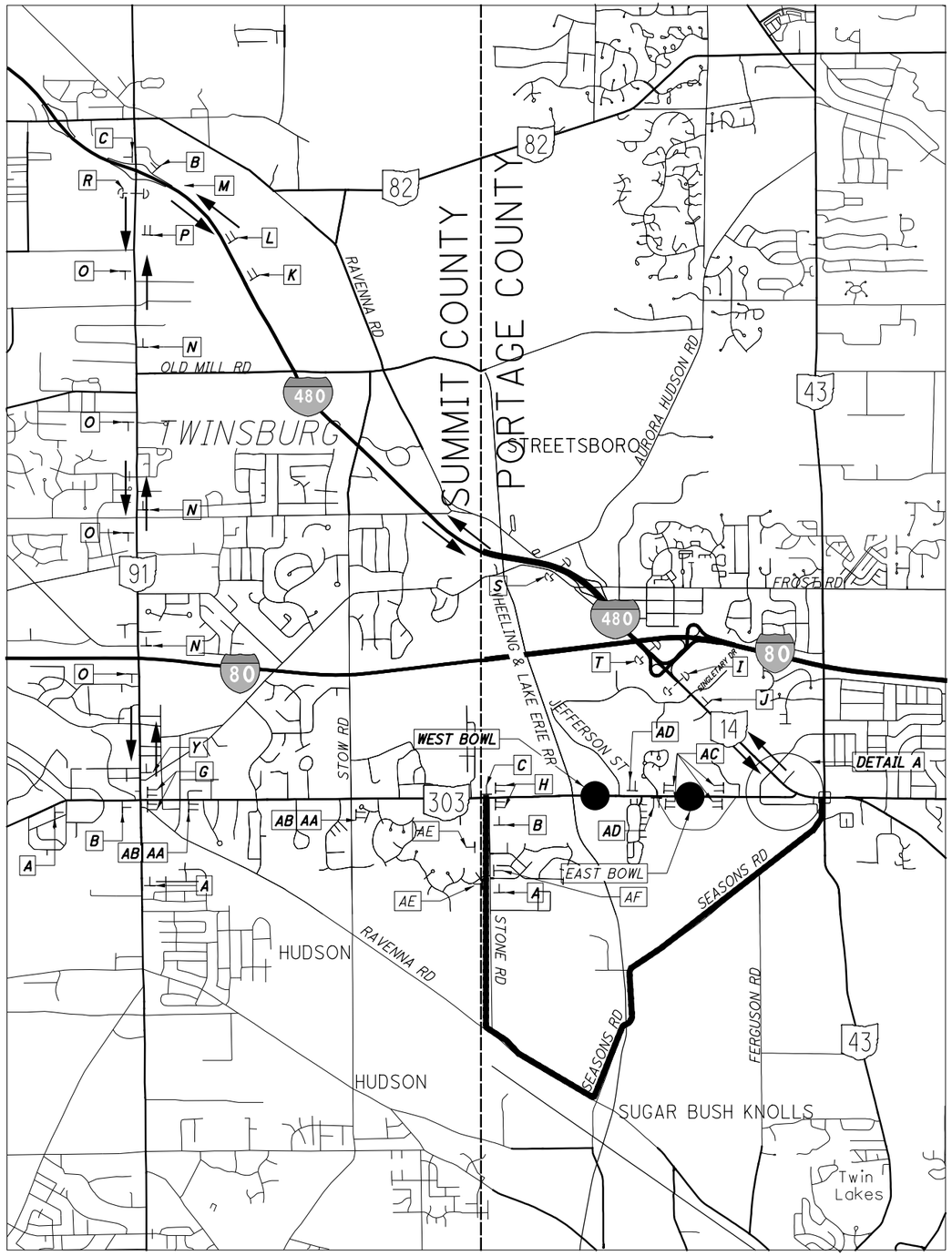
TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REP- RESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISS- ING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CALCULATED
CNC
CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

POR-303-(0.70)(1.21)



DETOUR PLAN FOR POR-303

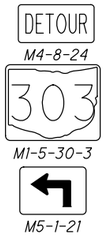
OFFICIAL DETOUR ROUTE: SR 14 / I-480 / SR 91

LOCAL DETOUR: STONE RD / RAVENNA RD / SEASON RD / SR 43

A

W20-2-36

B



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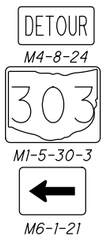

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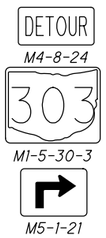

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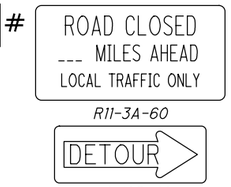

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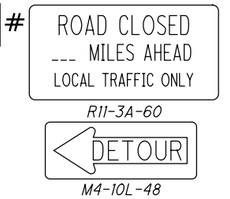

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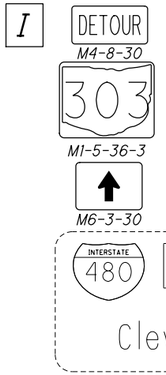

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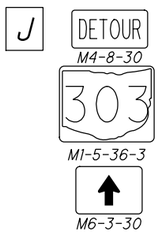

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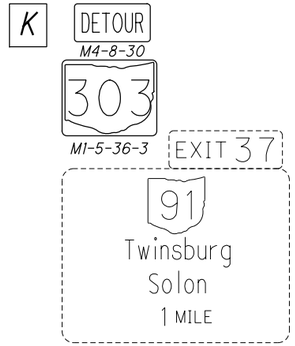
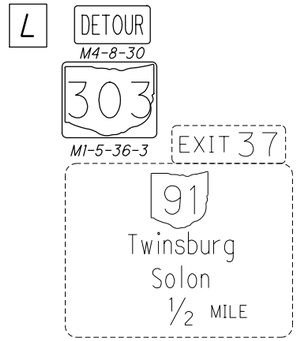


L



REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

COVER SIGN

CALCULATED
CNC
CHECKED

MAITENANCE OF TRAFFIC DETOUR PLAN: POR-303

POR-303-(0.70)(1.21)

13
42

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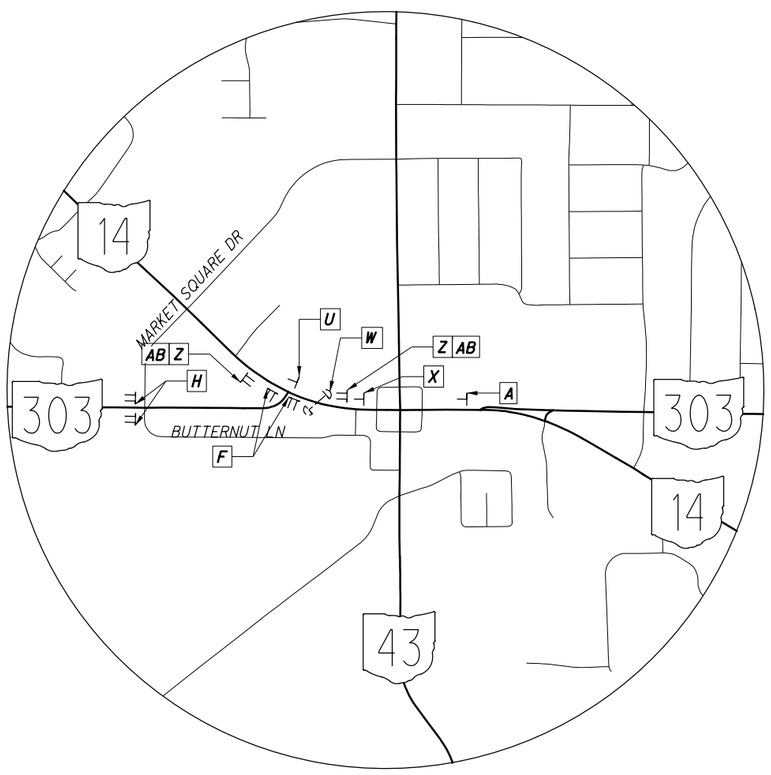
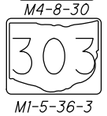
DETAIL A



M

DETOUR
M4-8-30



M1-5-36-3

M6-2-30

EXIT 37

91
Twinsburg
Solon

N

DETOUR
M4-8-24
EAST
M3-2-24

M1-5-30-3

O

DETOUR
M4-8-24
WEST
M3-4-24

M1-5-30-3

P

DETOUR
M4-8-24

M1-5-30-3

M5-1-21

WEST INTERSTATE 480 EAST
WEST 14 EAST

R

DETOUR
M4-8-30

M1-5-36-3

M6-1-30

INTERSTATE 480 14 EAST
Youngstown

S

DETOUR
M4-8-30

M1-5-36-3

EXIT 42
14
Ravenna
OHIO TURNPIKE
INTERSTATE 80
Youngstown
Toldeo

EXIT 41
Frost
Rd

T

DETOUR
M4-8-30

M1-5-36-3

EXIT 42
ENDS
14
INTERSTATE 480
Ravenna
OHIO TURNPIKE
INTERSTATE 80
Youngstown
Toldeo

U

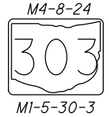
DETOUR
M4-8-24

M6-3-21

W

X

DETOUR
M4-8-24



M1-5-30-3

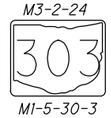
M6-3-21

Y

WEST
M3-4-24

M6-1-21

DETOUR
M4-8-24
EAST
M3-2-24



M1-5-30-3

M6-3-21

Z

PORTABLE CHANGEABLE MESSAGE SIGN MESSAGE:
-PLACE 7 DAYS IN ADVANCE OF CLOSURE
-REMOVE WHEN CLOSURE IS IN PLACE

1) SR 303W
TO CLOSE
(DATE)

AA

PORTABLE CHANGEABLE MESSAGE SIGN MESSAGE:
-PLACE 7 DAYS IN ADVANCE OF CLOSURE
-REMOVE WHEN CLOSURE IS IN PLACE

1) SR 303E
TO CLOSE
(DATE)

AB

PORTABLE CHANGEABLE MESSAGE SIGN MESSAGE:
-PLACE DURING CLOSURE OF WEST BOWL

1) SR 303
CLOSED
AT RR

2) NO
THRU
TRAFFIC

AC

ROAD
CLOSED

R11-2-48

AD *SIGN TO BE PLACED ACROSS FROM ALLOTMENTS EXITS DURING WEST BOWL CLOSURES*

SR 303
EAST AND WEST
CLOSED
USE JEFFERSON ST

W-SPECIAL

AE

DETOUR
M4-8-24
EAST
M3-2-24

M1-5-30-3

M6-1-21

PLACE ACROSS FROM EMERALD AVE AND DIAMOND BLVD

AF

DETOUR
M4-8-24
EAST
M3-2-24

M1-5-30-3

M6-1-21

PLACE ACROSS FROM HAWSBURY BLVD

CALCULATED
CNC
CHECKED

MAITENANCE OF TRAFFIC DETOUR PLAN: POR-303

POR-303-(0.70)(1.21)

14
42

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					4	5	6	7	8	17	18	01/S>2/OT	02/S>2/BR						
																		ROADWAY	
												LS		201	11000	LS		CLEARING AND GRUBBING	
							1,334					1,334		202	23000	1,334	SY	PAVEMENT REMOVED	
						140						140		202	23010	140	SY	PAVEMENT REMOVED, ASPHALT	
											1	1		202	23500	1	SY	WEARING COURSE REMOVED	
										75		75		202	35100	75	FT	PIPE REMOVED, 24" AND UNDER	
							108					108		202	35200	108	FT	PIPE REMOVED, OVER 24"	
								239,250				239,250		SPECIAL	20307504	239,250	FT	WICK DRAIN (PREFABRICATED VERTICAL DRAIN)	7
									4			4		SPECIAL	20307510	4	EACH	PIEZOMETER (VIBRATING WIRE)	8
							15,132					15,132		203	10000	15,132	CY	EXCAVATION (FOR FINAL GRADING)	
							79					79		203	10000	79	CY	EXCAVATION (FOR PAVEMENT REPAIR)	
							4,131					4,131		203	10000	4,131	CY	EXCAVATION (FOR SURCHARGE PHASE)	
							156					156		203	20000	156	CY	EMBANKMENT (FOR FINAL GRADING)	
							7,805					7,805		203	20000	7,805	CY	EMBANKMENT (FOR SURCHARGE PHASE)	
							7,000					7,000		203	20000	7,000	CY	EMBANKMENT (FOR SURCHARGE SETTLEMENT)	
							8					8		203	35001	8	CY	GRANULAR EMBANKMENT, AS PER PLAN	6
							3,438					3,438		203	35141	3,438	CY	GRANULAR MATERIAL, TYPE E, AS PER PLAN (NO. 67 LIMESTONE)	7
									3			3		SPECIAL	20365000	3	EACH	SETTLEMENT PLATFORM	8
							10,016					10,016		203	98000	10,016	CY	ROADWAY, MISC.: LIGHTWEIGHT AGGREGATE	8
						152						152		204	10000	152	SY	SUBGRADE COMPACTION	
							240					240		204	13000	240	CY	EXCAVATION OF SUBGRADE	
							240					240		204	30010	240	CY	GRANULAR MATERIAL, TYPE B	
							8,498					8,498		204	50000	8,498	SY	GEOTEXTILE FABRIC, 712.09, TYPE D	
					9							9		209	72001	9	STA	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	4
										1,325		1,325		606	15101	1,325	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	5
										2		2		606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B	
										1		1		606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
										2		2		606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
										1,200		1,200		607	20001	1,200	FT	FENCE, TYPE CL, AS PER PLAN	33
										1		1		623	39500	1	EACH	MONUMENT BOX ADJUSTED TO GRADE	
							10,517					10,517		861	10000	10,517	SY	GEOGRID FOR SUBGRADE STABILIZATION	
							5,240					5,240		863	00200	5,240	SY	GEOGRID, TYPE P2 (FOR REINFORCED SOIL SLOPES)	
																		EROSION CONTROL	
										26		26		601	10000	26	SY	RIPRAP	
						400						400		659	00300	400	CY	TOPSOIL	
						4,963						4,963		659	10000	4,963	SY	SEEDING AND MULCHING	
						5,143						5,143		659	14000	5,143	SY	REPAIR SEEDING AND MULCHING	
						1.16						1.16		659	20000	1.16	TON	COMMERCIAL FERTILIZER	
						1.77						1.77		659	31000	1.77	ACRE	LIME	
						46						46		659	35000	46	MGAL	WATER	
						3,604						3,604		671	15040	3,604	SY	EROSION CONTROL MAT, TYPE E	
												LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
												LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
												25,000		832	30000	25,000	EACH	EROSION CONTROL	
																		DRAINAGE	
												LS		503	11100	LS		COFFERDAMS AND EXCAVATION BRACING (EAST BOWL)	
										9.4		9.4		602	20000	9.4	CY	CONCRETE MASONRY	
										106		106		611	16201	106	FT	36" CONDUIT, TYPE A, AS PER PLAN	5
										54		54		611	20701	54	FT	48" CONDUIT, TYPE A, AS PER PLAN	5
							1					1		611	99655	1	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	6

CALCULATED RCB
CHECKED MAC

GENERAL SUMMARY

POR-303-(0.70)(1.21)

SHEET NUM.												PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					4	5	6	11	17	18	28	01/S>2/OT	02/S>2/BR						
																		PAVEMENT	
							269					269		251	01000	269	SY	PARTIAL DEPTH PAVEMENT REPAIR (441)	
							472					472		253	01000	472	SY	PAVEMENT REPAIR	
						525				3,946		4,471		254	01000	4,471	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3"	
						49				666		715		302	46000	715	CY	ASPHALT CONCRETE BASE, PG64-22	
							79					79		304	20000	79	CY	AGGREGATE BASE (FOR PAVEMENT REPAIR)	
						26				461		487		304	20001	487	CY	AGGREGATE BASE, AS PER PLAN	6
						79				902		981		407	20000	981	GAL	NON-TRACKING TACK COAT	
						24				238		262		408	10001	262	GAL	PRIME COAT, AS PER PLAN	5
					2	34				273		309		441	50101	309	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M	5
						22				272		294		441	50300	294	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
										35		35		441	50700	35	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL)	
						4				33		37		617	10101	37	CY	COMPACTED AGGREGATE, AS PER PLAN	5
																		WATER WORK	
							2					2		638	10800	2	EACH	VALVE BOX ADJUSTED TO GRADE	
																		TRAFFIC CONTROL	
									17			17		626	00110	17	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)	
											53	53		630	03100	53	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
											15	15		630	08520	15	FT	STREET NAME SIGN SUPPORT, NO. 3 POST	
											1	1		630	08600	1	EACH	SIGN POST REFLECTOR	
											4	4		630	85100	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
											4	4		630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
											0.8	0.8		644	00104	0.8	MILE	EDGE LINE, 6"	
											0.66	0.66		644	00300	0.66	MILE	CENTER LINE	
											111	111		644	00400	111	FT	CHANNELIZING LINE, 8"	
											20	20		644	00500	20	FT	STOP LINE	
											2	2		644	01300	2	EACH	LANE ARROW	
																		STRUCTURE REPAIRS	
																		FOR POR-303-0070 ESTIMATED QUANTITIES	37
																		MAINTENANCE OF TRAFFIC	
								LS				LS		614	12420	LS		DETOUR SIGNING	
								25				25		614	13000	25	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
								8				8		614	18601	8	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	11
																		INCIDENTALS	
												LS		614	11000	LS		MAINTAINING TRAFFIC	
												10		619	16010	10	MNTH	FIELD OFFICE, TYPE B	
												LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												LS		624	10000	LS		MOBILIZATION	

CALCULATED RCB
CHECKED MAC

GENERAL SUMMARY

POR-303-(0.70)(1.21)

REF NO.	SHEET NO.	STATION TO STATION					202 PIPE REMOVED, 24" AND UNDER	601 RIPRAP	602 CONCRETE MASONRY	606 GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	606 ANCHOR ASSEMBLY, MGS TYPE B	606 ANCHOR ASSEMBLY, MGS TYPE E	606 ANCHOR ASSEMBLY, MGS TYPE T	607 FENCE, TYPE CL, AS PER PLAN	611 36" CONDUIT, TYPE A, AS PER PLAN	611 48" CONDUIT, TYPE A, AS PER PLAN	623 MONUMENT BOX ADJUSTED TO GRADE	626 BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)
							FT	SY	CY	FT	EACH	EACH	EACH	FT	FT	FT	EACH	EACH
R1	24	140+28.00					75											
GR1	22-24	134+95.28	LT	TO	141+69.89	LT				637.5	1		1					8
GR2	22-24	134+62.10	RT	TO	141+28.88	RT				687.5	1	1	1					9
D1	23	136+00.00						7.67	2.6						58			
D2	23	138+00.00						10.23	4.11							54		
D3	23,24	140+00.00						7.67	2.6						48			
F1	23,24	135+00.00	LT		141+00.00	LT								600				
F2	23,24	135+00.00	RT		141+00.00	RT								600				
M1	24	141+97.75															1	
TOTALS CARRIED TO GENERAL SUMMARY							75	26	9.4	1325	2	1	2	1200	106	54	1	17

CALCULATED RCB
CHECKED MAC

SUBSUMMARY

POR-303-(0.70)(1.21)

17
42

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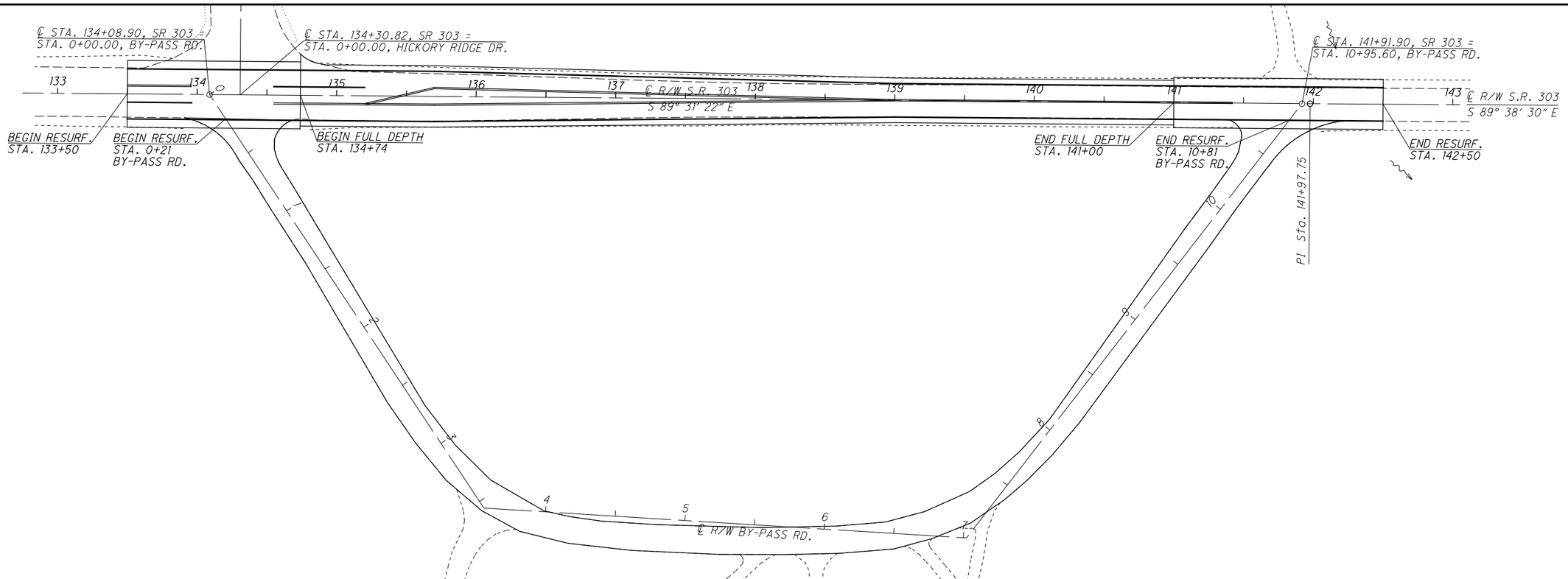


STATION RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA (A)	202 WEARING COURSE REMOVED	254 PAVEMENT PLANING, ASPHALT CONCRETE, 3" A	302 ASPHALT CONCRETE BASE, PG64-22, 4.5" Ax4.5/36	302 ASPHALT CONCRETE BASE, PG64-22,4.5" Ax4.5/36	304 AGGREGATE BASE, AS PER PLAN, 6" Ax6/36	407 NON-TRACKING TACK COAT (Ax0.06)+(Ax0.09)	407 NON-TRACKING TACK COAT (Ax0.06)x2	408 PRIME COAT, AS PER PLAN (Dx2)/9*2*0.4	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M, 1.5" Ax1.5/36	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), 1.5" Ax1.5/36	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL) (Dx3)/9*2*3/36	617 COMPACTED AGGREGATE, AS PER PLAN (Dx2)/9*2*2/36						
					FT	FT	SY	SY	SY	SY	CY	CY	CY	GAL	GAL	GAL	CY	CY	CY	CY						
0+21.00	TO	10+81.00	2	LT/RT	1060.00	22.00	2591.11			2591.11				388.67		188.44	107.96	107.96		26.17						
INTERSECTIONS			2					92.98		92.98				13.95			3.87	3.87								
DRIVES									1.00								1.00									
133+50.00	TO	134+74.00	2	LT/RT	124.00	48.00	661.33			661.33				99.20		22.04	27.56	27.56		3.06						
134+74.00	TO	141+00.00	4	LT/RT	626.00	37.08		2578.98							309.48		107.46	107.46	34.78							
302						37.74		2625.35			328.17															
302						38.74		2694.90				336.86														
304						39.74		2764.46					460.74													
141+00.00	TO	142+50.00	2	LT/RT	150.00	36.00	600.00			600.00				90.00		26.67	25.00	25.00		3.70						
SUBTOTALS									1.00	3945.42	328.17	336.86	460.74	591.81	309.48	237.16	272.85	271.85	34.78	32.94	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS CARRIED TO GENERAL SUMMARY									1	3946	666		461	902		238	273	272	35	33	0	0	0	0	0	0

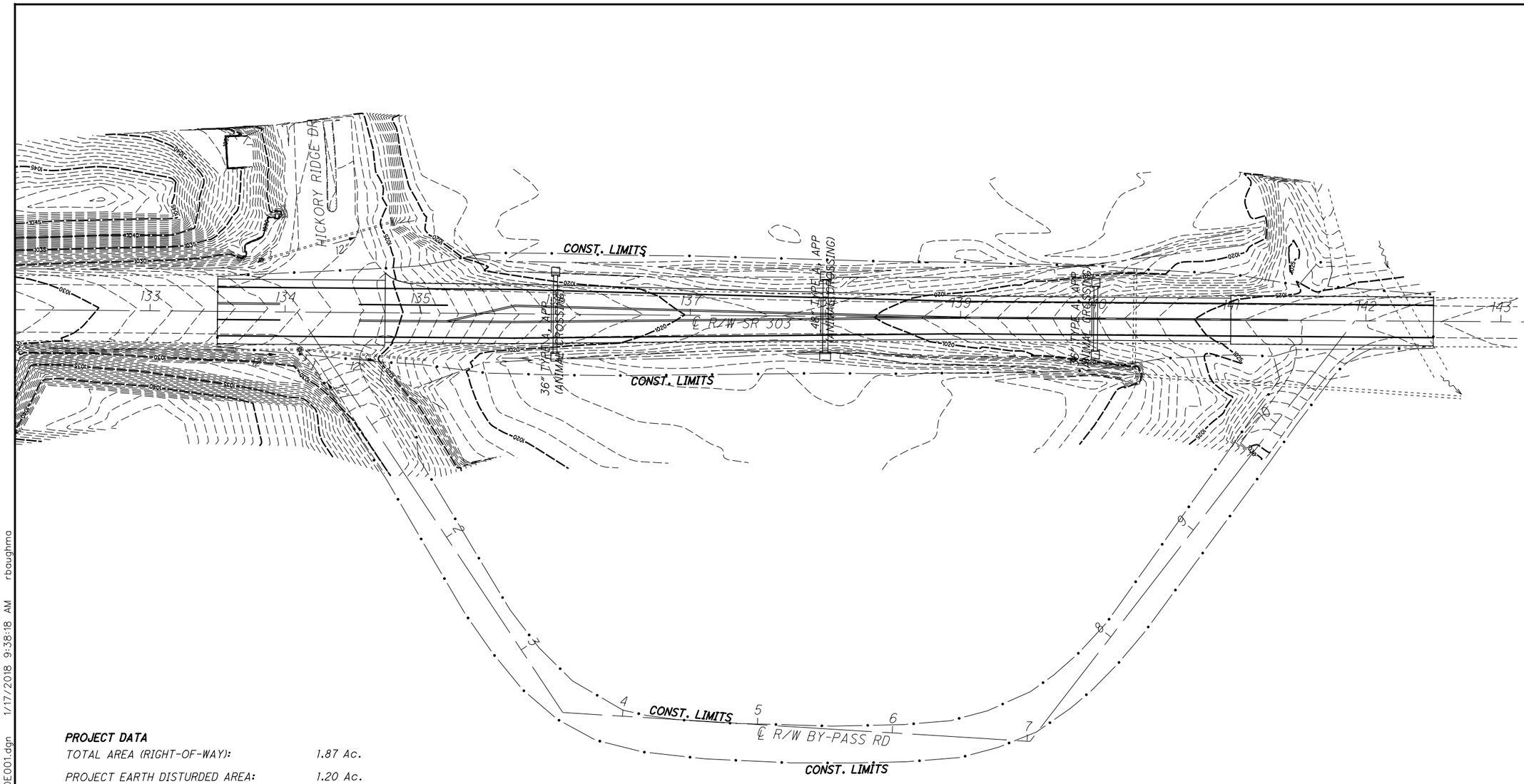
CALCULATED RCB
CHECKED MAC

HORIZONTAL SCALE IN FEET
0 20 40 80

PAVEMENT CALCULATIONS
S.R. 303 AND BY-PASS ROAD

POR-303-(0.70)(1.21)

18
42



PROJECT DATA

TOTAL AREA (RIGHT-OF-WAY):	*1.87 Ac.*
PROJECT EARTH DISTURDED AREA:	*1.20 Ac.*
ESTIMATED CONTRACTOR EARTH DISTURDED AREA:	*1.00 Ac.*
NOTICE OF INTENT EARTH DISTURDED AREA:	*2.20 Ac.*
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	*0.57 Ac.*
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	*0.56 Ac.*
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	*0.6*
RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE:	*0.6*
IMMEDIATE RECEIVING WATER:	*TINKERS CREEK*
SUBSEQUENT RECEIVING WATER:	*CUYAHOGA RIVER*

POST CONSTRUCTION BMP

THIS AREA WILL NOT REQUIRE BMP'S PER L&D VOLUME 2 SECTION 1116.1. DRAINAGE SHEET FLOWS OFF THE ROADWAY AND CONTINUES OUTSIDE EXISTING RIGHT-OF-WAY.

PROJECT DESCRIPTION

RAISING S.R. 303 ROADWAY PROFILE TO CORRECT DRAINAGE AND FLOODING ISSUES. INCLUDES EARTHWORK AND CULVERT REPLACEMENT. IN THE CITY OF STREETSBORO, PORTAGE COUNTY, OHIO.

USGS QUADRANGLE MAP:

HUDSON, OHIO
LATITUDE: N41°14'23"
LONGITUDE: W81°22'23"
LATITUDE AND LONGITUDE TO APPROX. CENTER OF PROJECT

LEGEND

※ CATCH BASIN, 2-2B

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED RCB
CHECKED MAC

PROJECT SITE PLAN - S.R. 303

POR-303-(0.70)(1.21)

19
42

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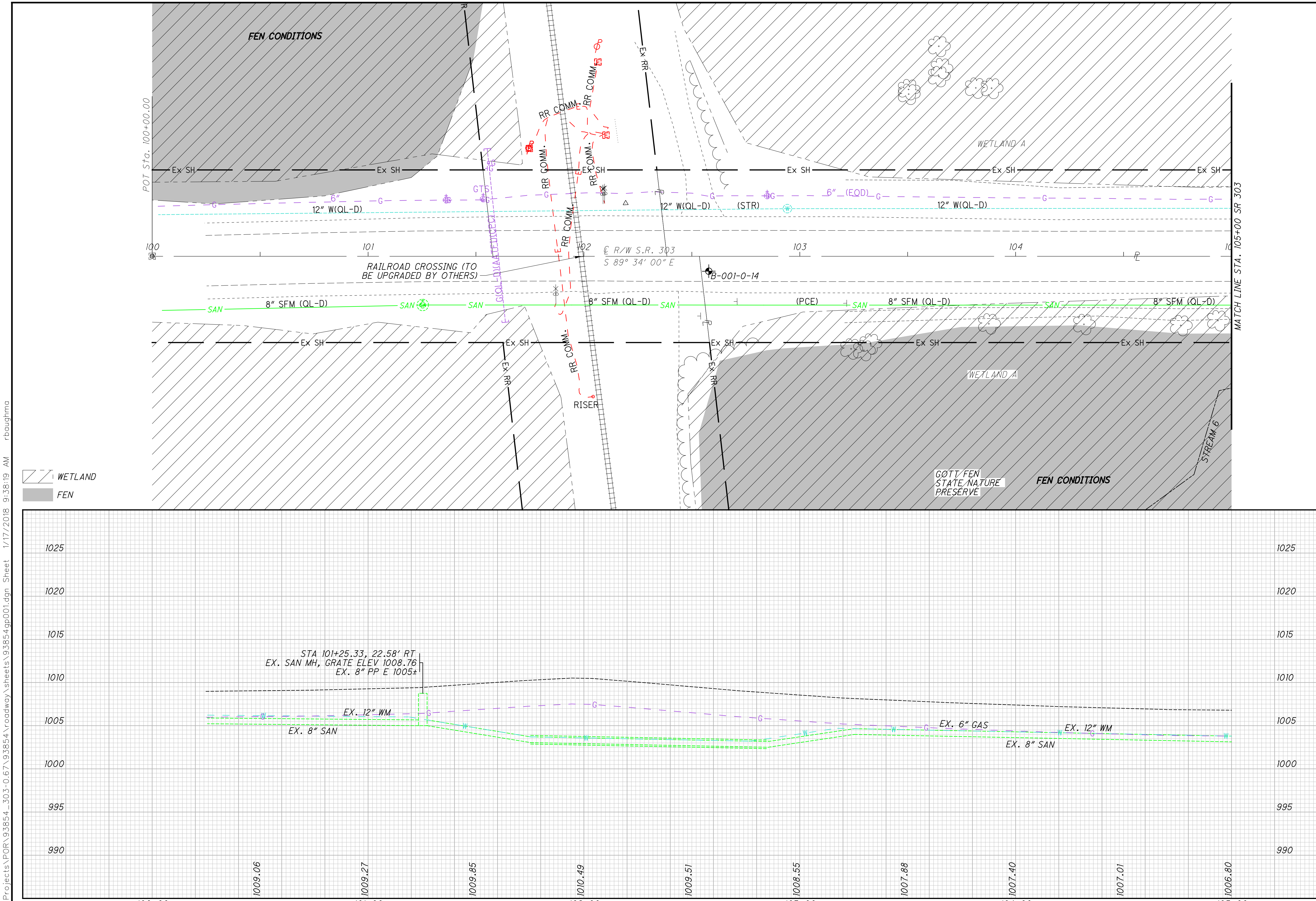

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RCB
CHECKED MAC

PLAN AND PROFILE
STA. 100+00 TO STA. 105+00, S.R. 303

POR-303-(0.70)(1.21)

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BENCHMARK DATA

BM #1 STA. 107+77.10, ELEV. 1007.963, OFFSET -41.716, SVBM1
BM #2 STA. 100+80.65, ELEV. 1011.08, OFFSET -625.811, SVBM2
BM #8 STA. 116+10.67, ELEV. 1007.282, OFFSET -38.462, BM8

BEGIN PROJECT
BEGIN WORK
STA. 106+49.00
SLM: 0.70
E120(873)

SUSPEND PROJECT
STA. 107+84.00
SLM: 0.73

STA 107+16.98 ℄ R/W S.R. 303 = STA 104+00.00 ℄ TINKERS CREEK

MATCH LINE STA. 105+00 SR 303

℄ R/W S.R. 303
S 89° 34' 00" E

TINKERS CREEK (STREAM 2)

STREAM 4

STREAM 5

STREAM 6

WETLAND A

CONST. LIMITS

EX. ABUTMENTS (TO REMAIN)

ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1 (33'x14' TYP.)

CONSERVATION AREA

FEN CONDITIONS

GOTT FEN STATE NATURE PRESERVE

TH 1 TH 2 TH 3 TH 4

C-002-0-14 C-003-0-14 B-002-0-13

12" W(QL-D) 6" G(QL-D) 8" SFM (QL-D) 8" SAN (PCE) 8" S (MBCP) 2" G(QL-D)

EX. EOS EX. EOP PR. EOS PR. EOP EOD EOI STR

WETLAND
FEN

PLANE & RESURF. GRAPHIC GRADE FULL DEPTH LIMITS PLANE & RESURF.

STA. 106+49 MEET EXIST. 1006.49
STA. 106+99 1006.57 1006.49
STA. 107+35 1006.57 1006.57
STA. 107+84 MEET EXIST. 1006.61 1006.52 1006.45

EX. 12" WM EX. 8" SAN EX. 6" GAS EX. 2" GAS (MBCP)

STA 106+90.56, 15.48' RT
EX. SAN MH, GRATE ELEV 1006.37
EX. 8" PP W 1004.7±

9.2' 9.3'

NO WORK BELOW THIS LINE

(3) - 87" X 63" TYPE A
(EX. (3) - 63" x 87"
CMP ARCH To be removed)

1020 1015 1010 1005 1000 995 990 985

1006.80 1006.71 1006.59 1006.49 1006.57 1006.52 1006.40 1006.45 1006.52 1006.42 1006.26

105+00 106+00 107+00 108+00 109+00 110+00

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED RCB CHECKED MAC

PLAN AND PROFILE
STA. 105+00 TO STA. 110+00, S.R. 303

POR-303-(0.70)(1.21)

21
42

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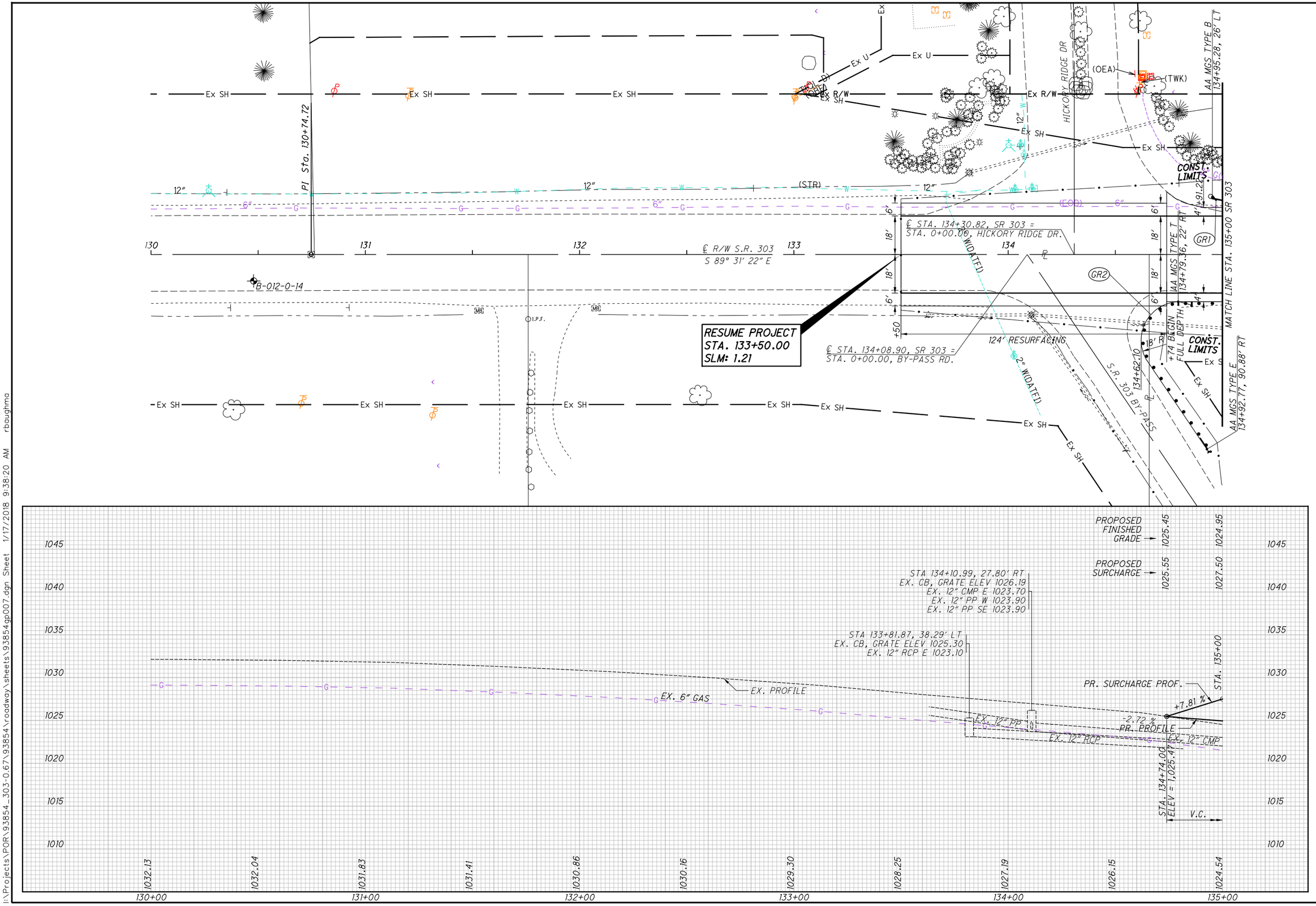

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HORIZONTAL SCALE IN FEET
0 10 20 40

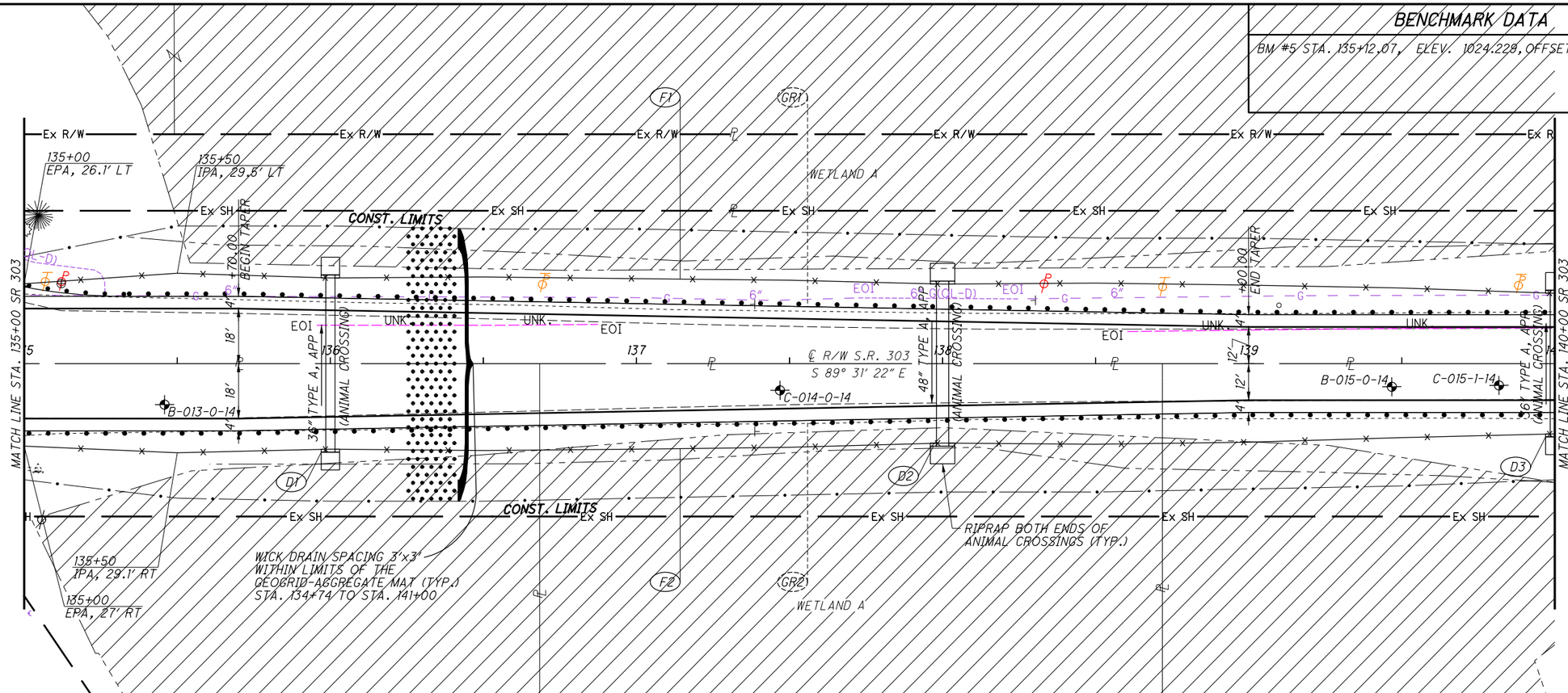
CALCULATED RCB
CHECKED MAC

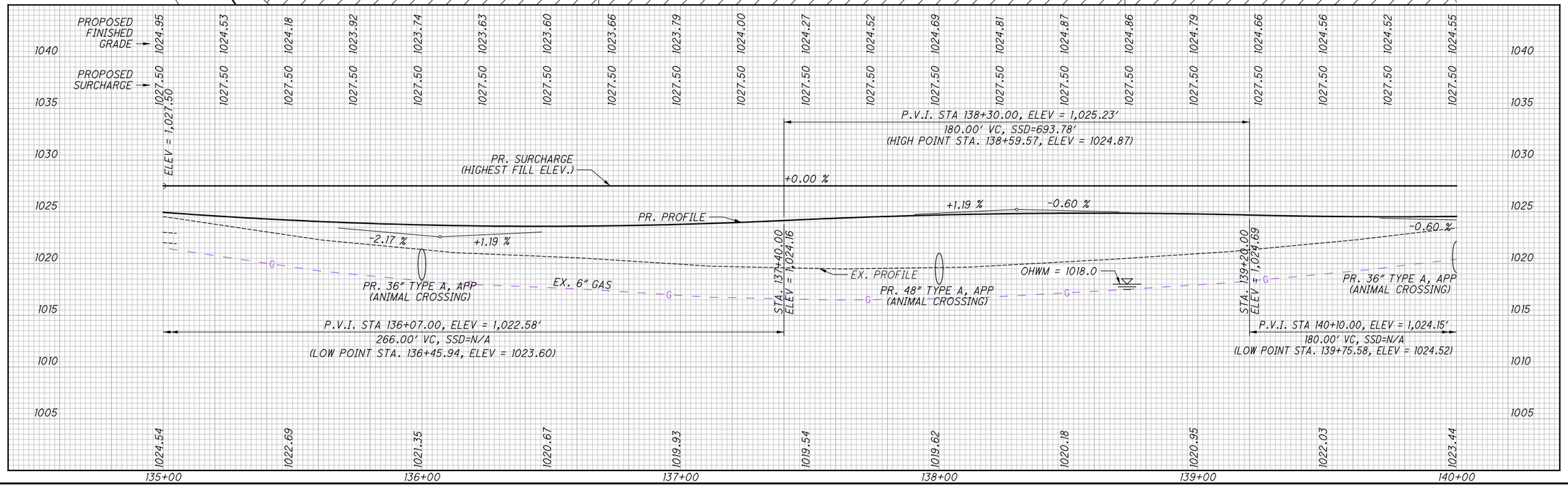
PLAN AND PROFILE
STA. 130+00 TO STA. 135+00, S.R. 303

POR-303-(0.70)(1.21)

BENCHMARK DATA

BM #5 STA. 135+12.07, ELEV. 1024.228, OFFSET -26.15, BM5





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RCB
CHECKED LMP

PLAN AND PROFILE
STA. 135+00 TO STA. 140+00, S.R. 303

POR-303-(0.70)(1.21)

23
42

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BENCHMARK DATA

BM #6 STA. 141+54.02, ELEV. 1026.154, OFFSET -24.847, BM6
BM #7 STA. 147+90.01, ELEV. 1023.655, OFFSET 38.848, BM7

END PROJECT
END WORK
STA. 142+50.00
SLM: 1.38
E120(873)

MATCH LINE STA. 140+00 SR 303

WETLAND A

CONST. LIMITS

24" CCP (TO BE REMOVED)

S 89° 31' 22" E

℄ STA. 141+91.90, SR 303 = STA. 10+95.60, BY-PASS RD.

℄ R/W S.R. 303 S 89° 38' 30" E

C-016-0-14

B-017-0-14

141+00 ERA, 22.3' LT

AA MGS TYPE T 141+44.95, 16' LT

+69.89 39' LT

25' R

GRAVEL DRIVE

P.I. Sta. 141+97.75

UNT TINKERS CREEK (STREAM 3)

I.P.F.

6" C(QL-R)

6" G(QL-D)

6" CMP

AA MGS TYPE B 140+91.66, 16' RT END FULL DEPTH

+28.88 20' RT

5' R

S.R. 303 BY-PASS

POR-303-0137
SFN 6704360
(DO NOT DISTURB)

150' RESURFACING

24" CPP (DO NOT DISTURB)

140+50 IPA, 20.2' RT

141+00 EPA, 19.8' RT

BECK PRESERVE (DO NOT DISTURB)

UNT TINKERS CREEK (STREAM 3)

EPA - END ANCHOR POST ASSEMBLY
IPA - INTERMEDIATE ANCHOR POST ASSEMBLY

WETLAND

PROPOSED FINISHED GRADE
PROPOSED SURCHARGE

STA 140+29.17, 37.80' LT
EX. PIO, GRATE ELEV 1017.74
EX. 24" CPP S 1017.74

STA 140+28.65, 37.81' RT
EX. PIO, GRATE ELEV 1017.43
EX. 24" RCP N 1017.43

STA 140+29.89, 41.44' RT
EX. PIO, GRATE ELEV 1017.63
EX. 24" CPP E 1017.63

STA 142+70.92, 56.23' RT
EX. PIO, GRATE ELEV 1016.74
EX. 24" CPP W 1016.74

STA 142+56.35, 40.02' RT
EX. PIO, GRATE ELEV 1017.13
EX. 132" CMP N 1017.13

STA 142+11.48, 37.82' LT
EX. PIO, GRATE ELEV 1017.65
EX. 132" CMP S 1017.65

STA. 141+00 ELEV = 1,027.50

STA. 141+25 ELEV = 1,025.68

STA. 141+00.00 ELEV = 1,025.36

+0.00 %
-7.29 %
+1.34 %
-.6%
+1.34 %

PR. SURCHARGE PROF.
PR. PROFILE
EX. PROFILE
EX. 6" GAS
EX. 24" CPP
EX. 11'x6' CMP

PR. 36" TYPE M, APP (ANIMAL CROSSING)

P.V.I. STA 140+10.00, ELEV = 1,024.15'
180.00' VC, SSD=N/A

1040 1035 1030 1025 1020 1015 1010 1005

1024.55 1024.65 1024.82 1025.06 1025.36 1027.50 1027.50 1025.36 1023.44 1024.60 1025.36 1025.98 1026.49 1026.94 1027.37

140+00 141+00 142+00 143+00 144+00 145+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RCB
CHECKED LMP

PLAN AND PROFILE
STA. 140+00 TO STA. 145+00, S.R. 303

POR-303-(0.70)(1.21)

24
42

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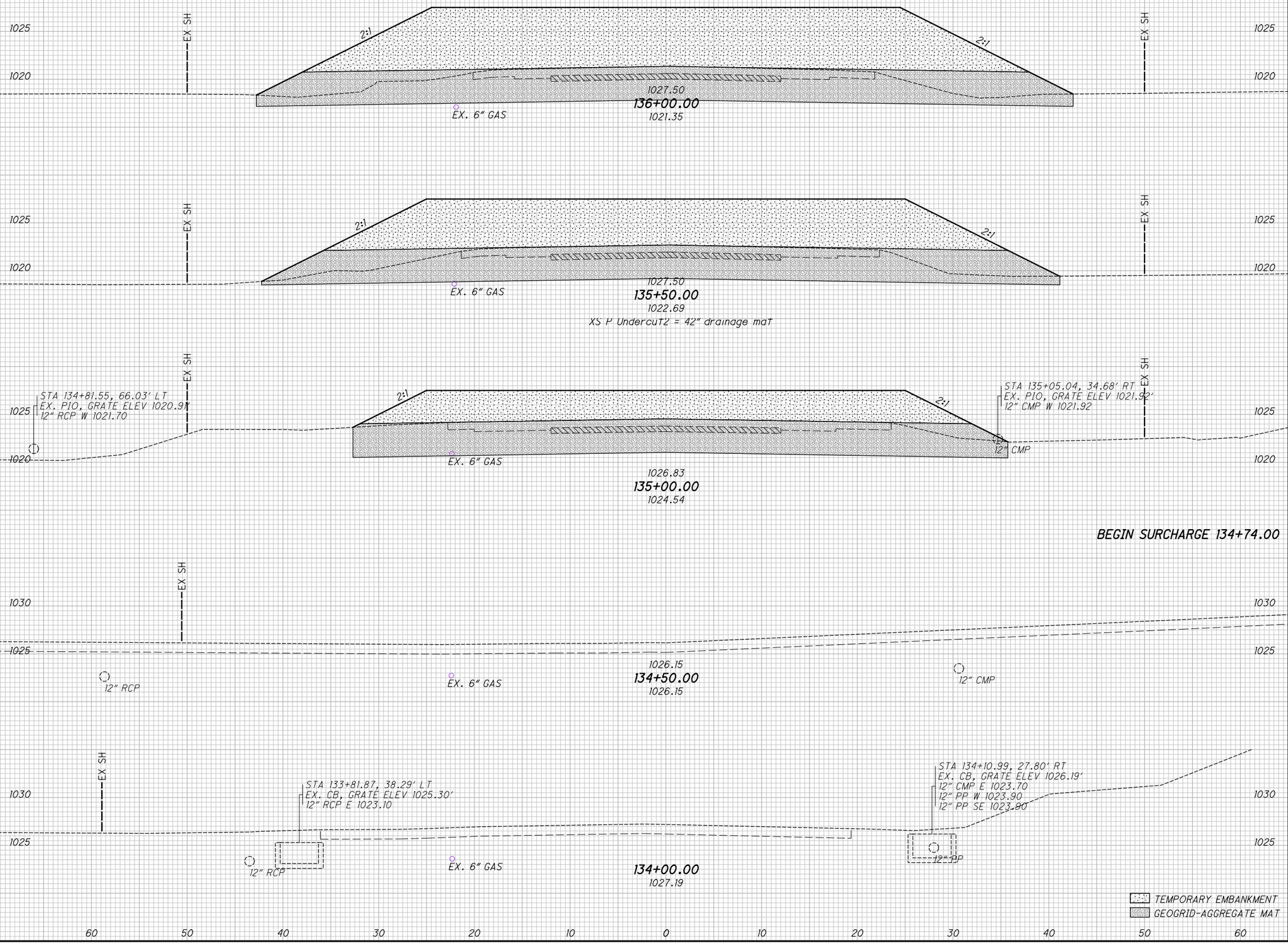
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED MAC



CROSS SECTIONS S.R. 303 (SURCHARGE)
STA. 134+00.00 TO STA. 136+00.00

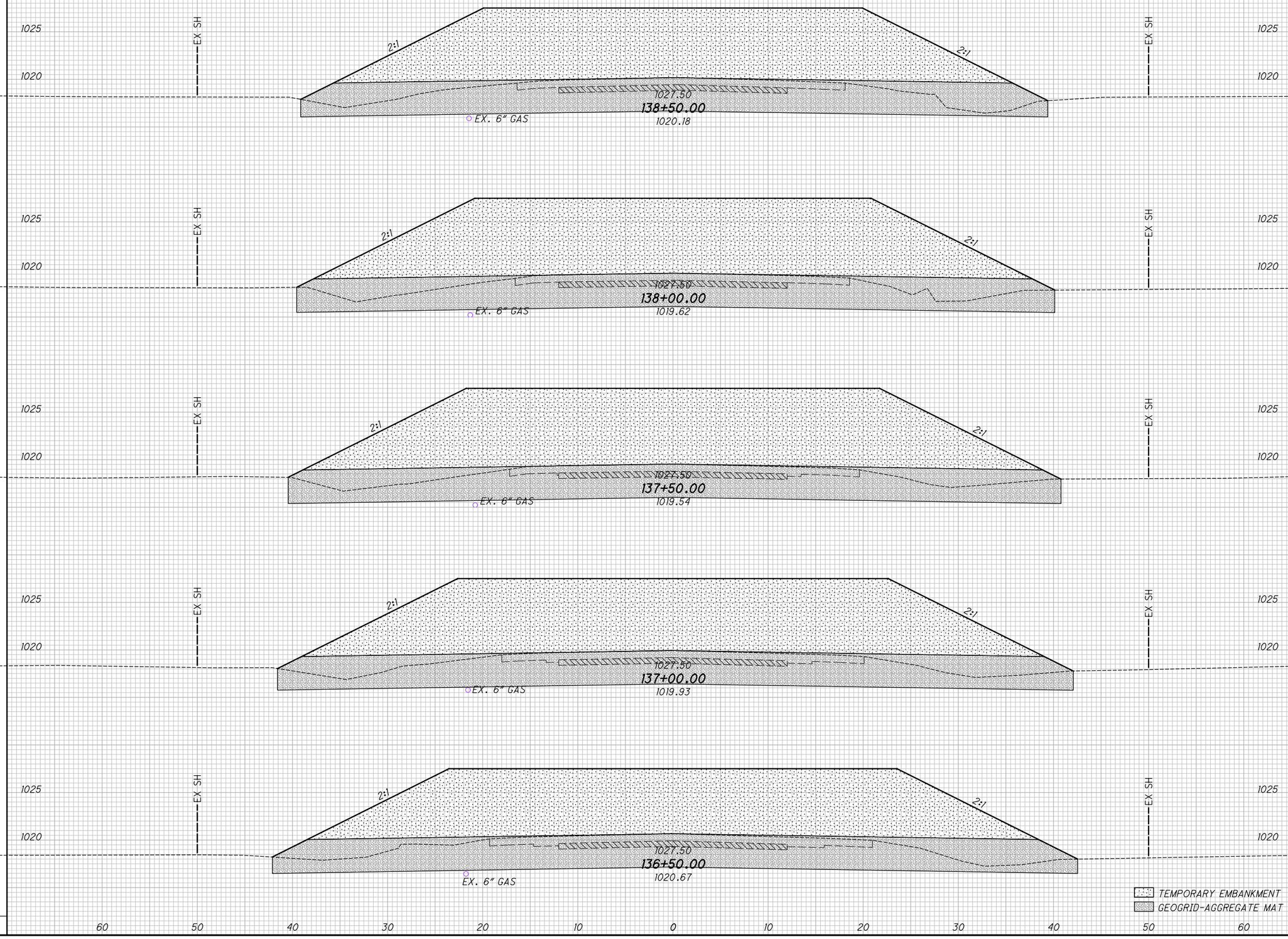
POR-303-(0.70)(1.21)

I:\Projects\POR\93854_303-0.67\93854\roadway\sheets\93854XS001.dgn Sheet 1/17/2018 9:38:21 AM rboughmo

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED MAC



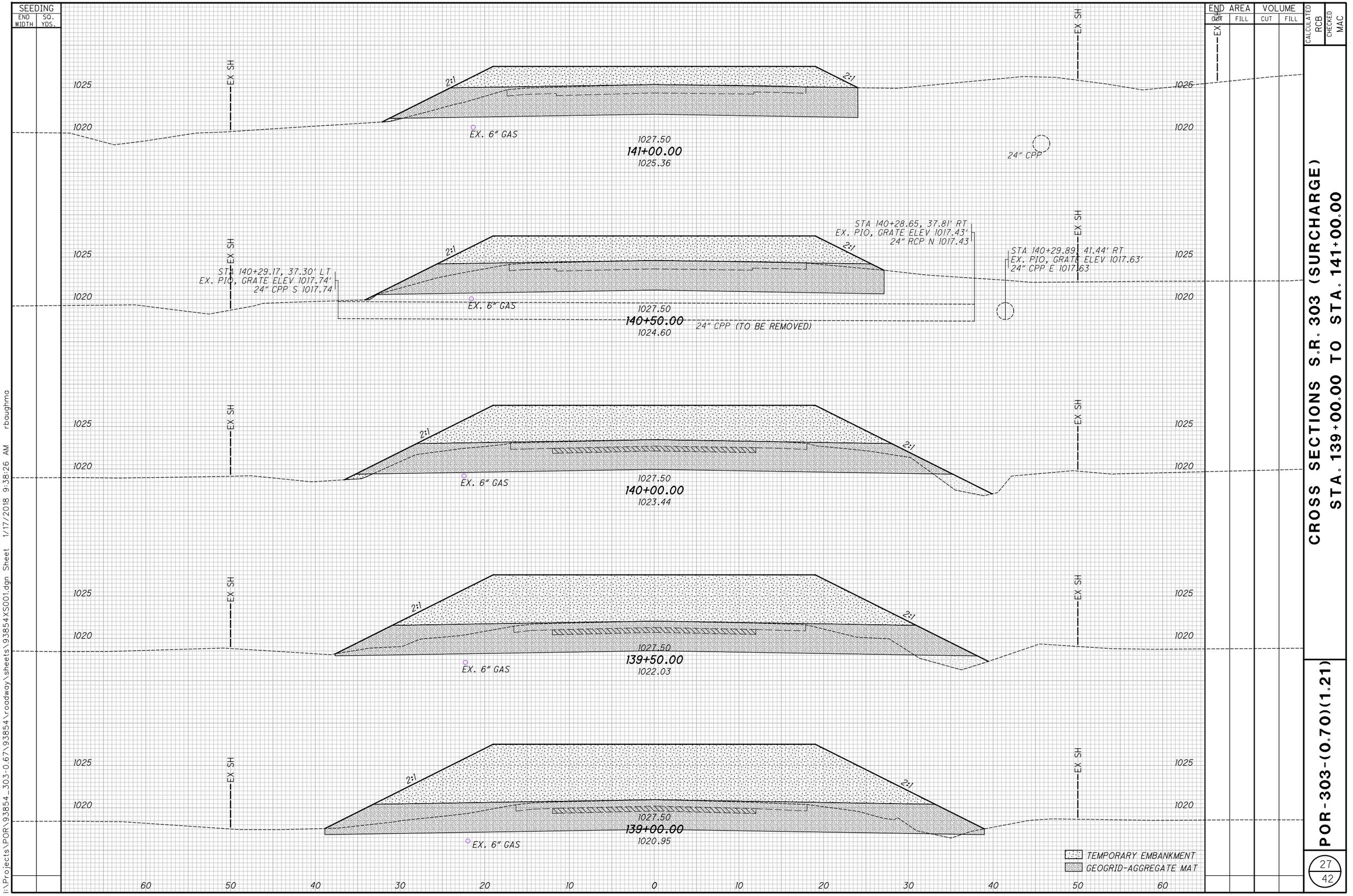
CROSS SECTIONS S.R. 303 (SURCHARGE) STA. 136+50.00 TO STA. 138+50.00

POR-303-(0.70)(1.21)

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED MAC



CROSS SECTIONS S.R. 303 (SURCHARGE)
STA. 139+00.00 TO STA. 141+00.00

POR-303-(0.70)(1.21)

27
42

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SEEDING	
END WIDTH	SQ. YDS.

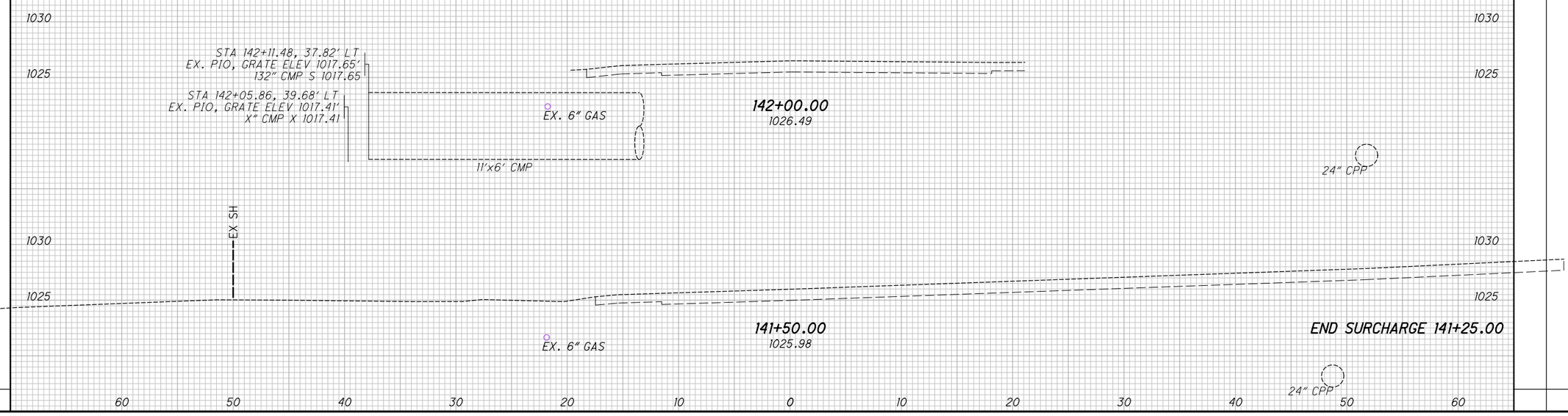
END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED RCB

CHECKED MAC

CROSS SECTIONS S.R. 303 (SURCHARGE)
STA. 141+50.00 TO STA. 142+00.00



POR-303-(0.70)(1.21)

28
42

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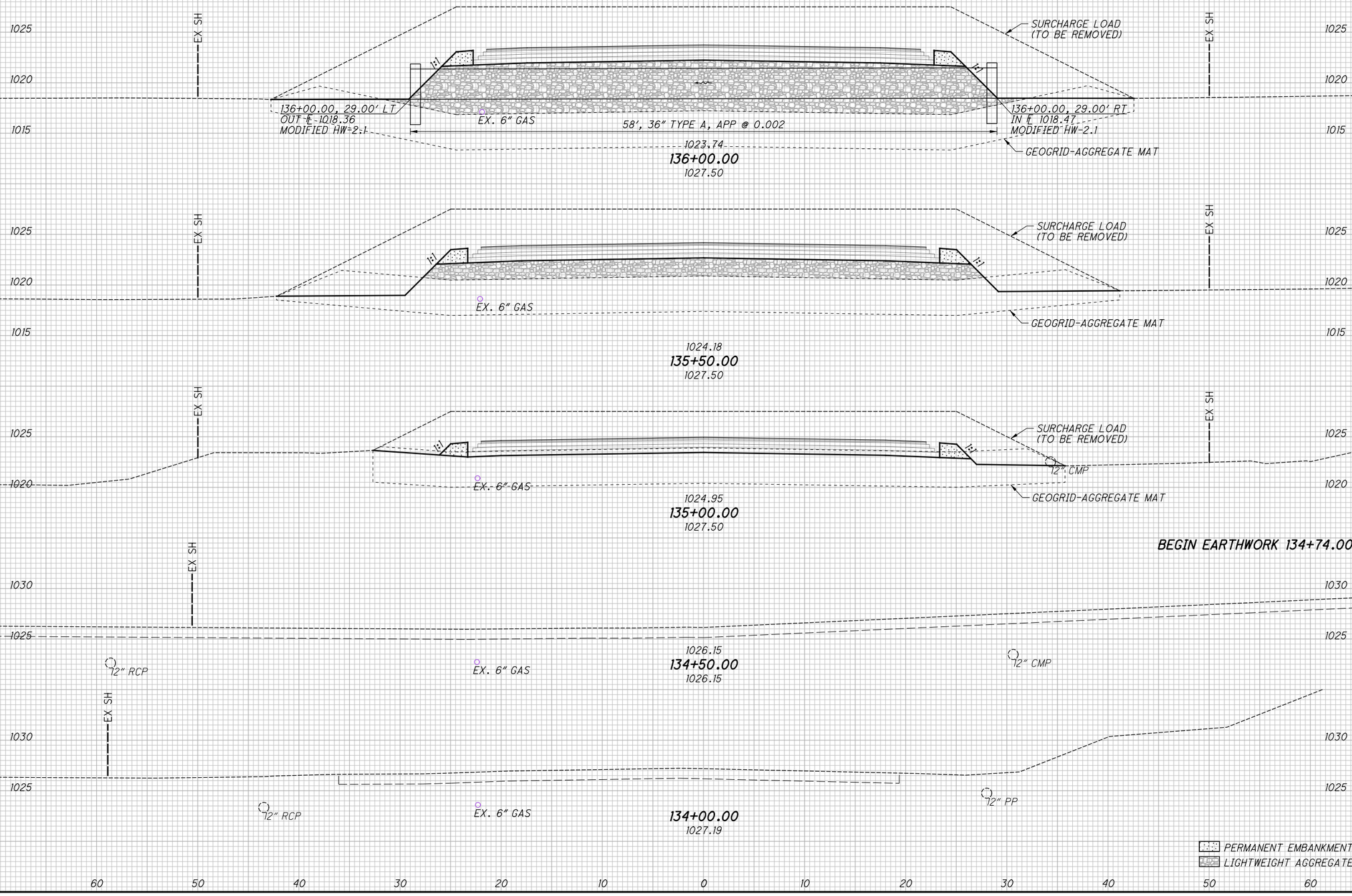
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED RCB

CHECKED MAC



CROSS SECTIONS S.R. 303 (FINAL GRADING)
STA. 134+00.00 TO STA. 136+00.00

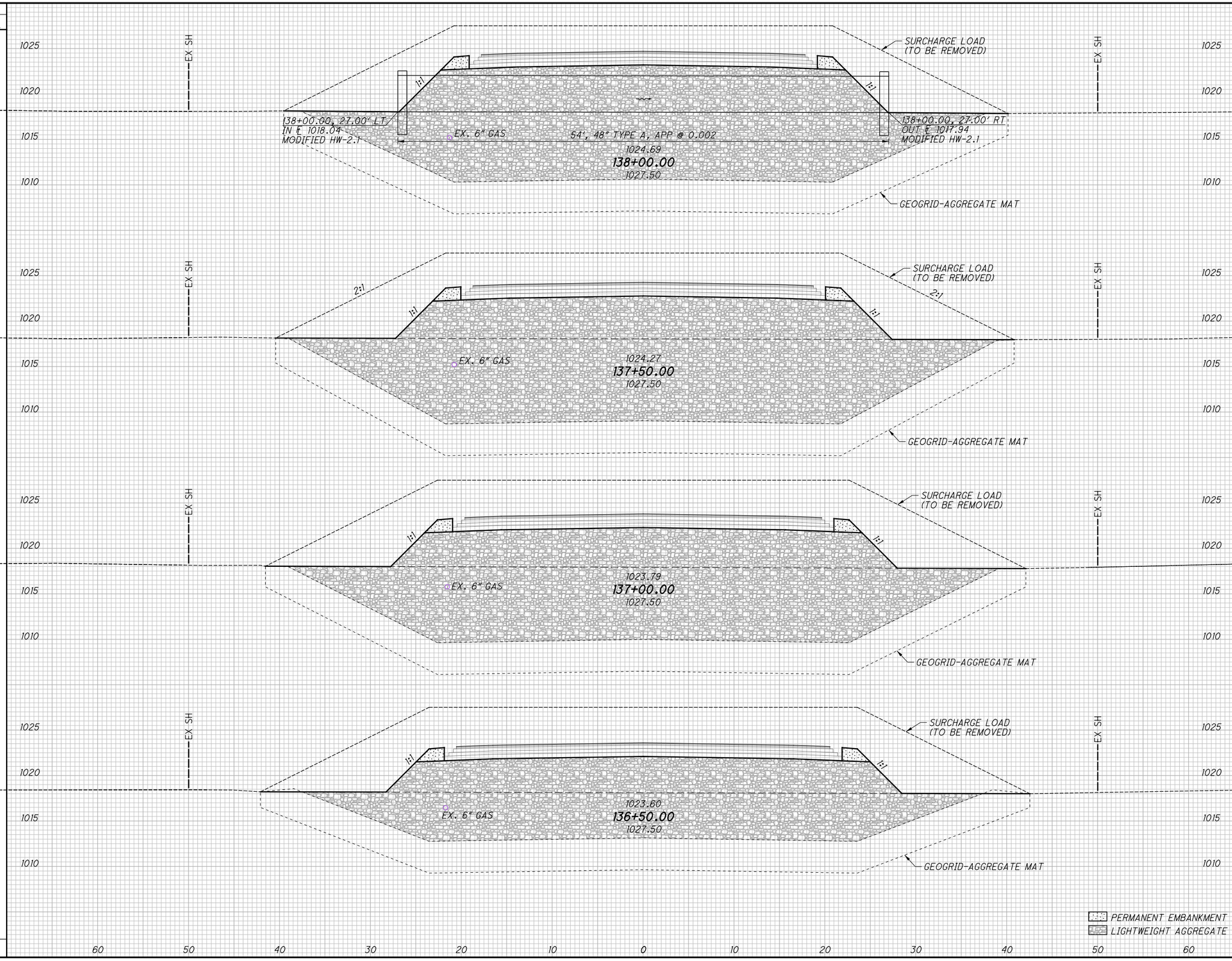
POR-303-(0.70)(1.21)

I:\Projects\POR\93854_303-0.67\93854\roadway\sheets\93854XS100.dgn Sheet 1/17/2018 9:38:29 AM rbaughma

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED MAC



CROSS SECTIONS S.R. 303 (FINAL GRADING)
STA. 136+50.00 TO STA. 138+00.00

POR-303-(0.70)(1.21)

30
42

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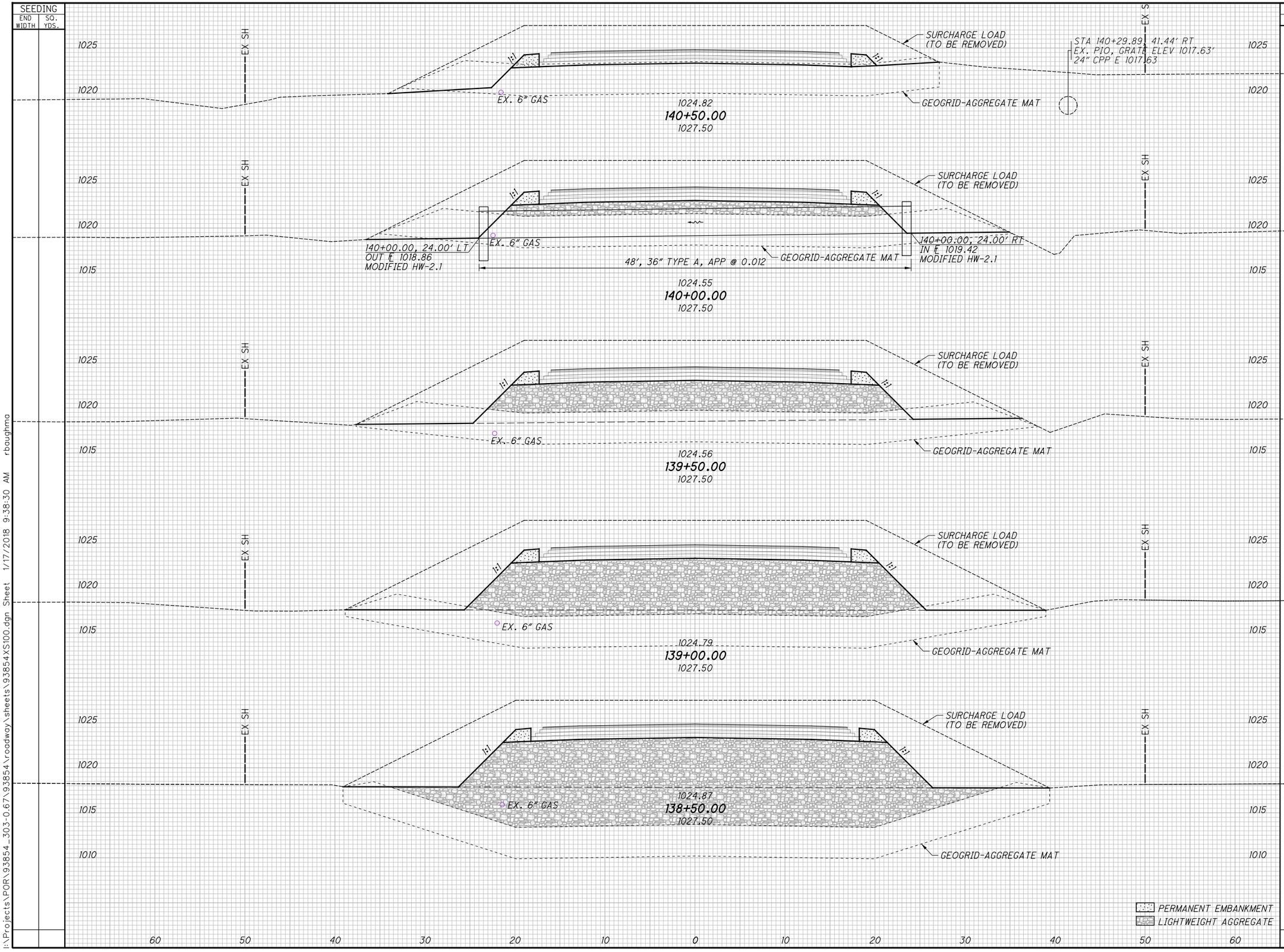
SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED MAC



CROSS SECTIONS S.R. 303 (FINAL GRADING)
STA. 138+50.00 TO STA. 140+50.00

POR-303-(0.70)(1.21)

31
42

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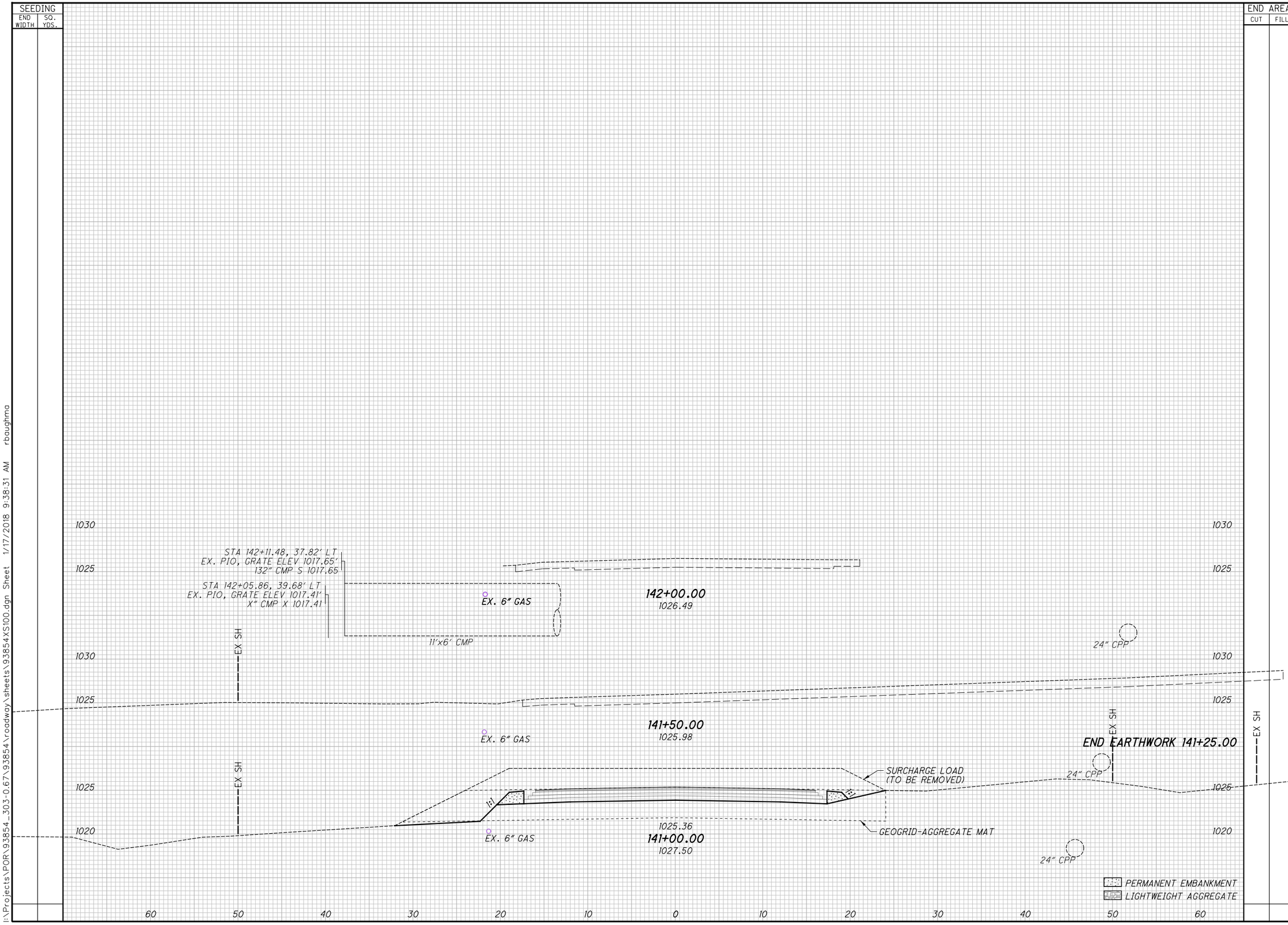
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED	CHECKED
RCB	MAC

CROSS SECTIONS S.R. 303 (FINAL GRADING)
STA. 141+00.00 TO STA. 142+00.00



POR-303-(0.70)(1.21)

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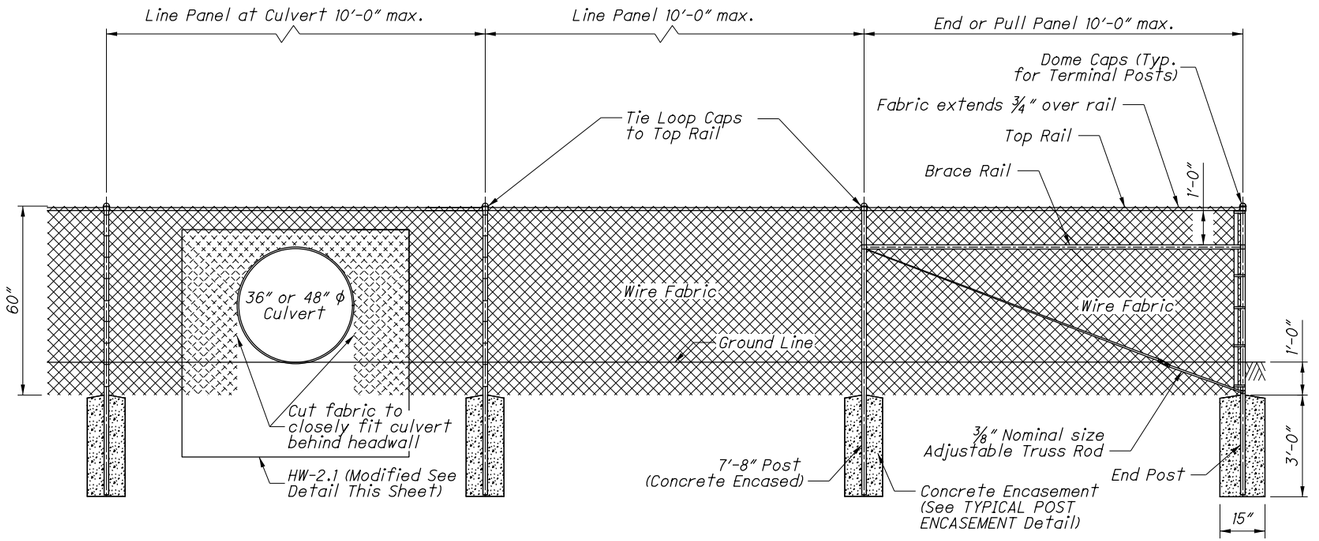
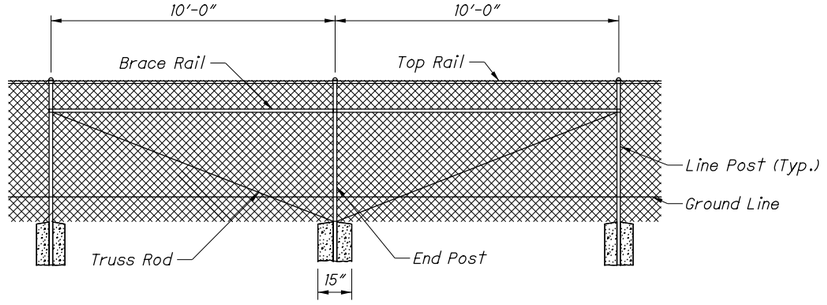
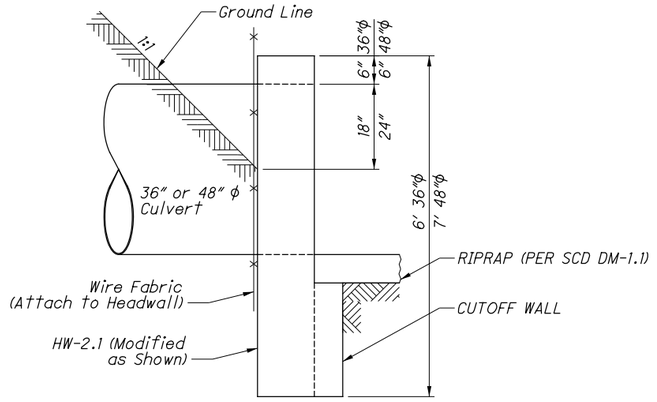


TYPE CL FENCE

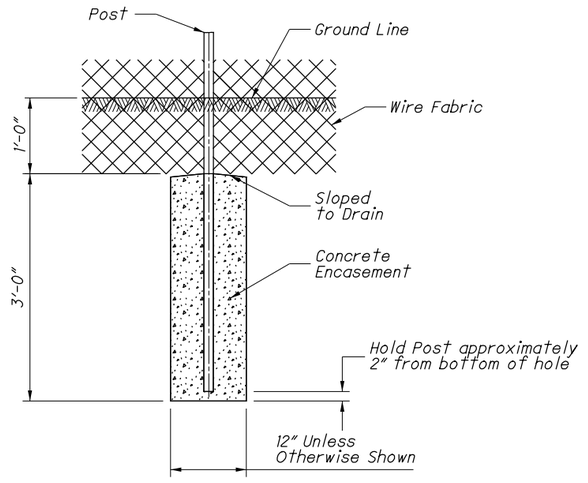


INTERMEDIATE ANCHOR POST ASSEMBLY

For Type CL Fence



CULVERT END DETAIL



TYPICAL POST ENCASEMENT

NOTES

FENCING: *For information not covered in this drawing, see CMS 607.*

POST ENCASEMENT: *Prior to placement of posts, the contractor at their option shall provide either:*

1) sleeves at post hole locations into the geogrid-aggregate mat through the geogrid and geotextile fabric.
-or-
2) cut through geogrid and geotextile fabric at post hole locations for holes to be dug or bored.

The posts shall be encased in concrete (see detail).

FRAMEWORK AND FABRIC: *Materials may be any type permitted by CMS 710.03 except the maximum premitted fabric opening shall be ⅜". The fence shall be fastened to the Top Rail with fabric ties consisting of hog rings every 24" or less. Mid-panel splicing of fabric sections is not premitted. Splices shall only occure at post locations.*

FENCE GROUNDING: *When needed for overhead electrical lines, grounding is to be in accordance with the* ***SCD HL-50.11****.*

CALCULATED | CHECKED

FENCE AND HEADWALL DETAILS

POR-303-(0.70)(1.21)

33
42

REF NO.	DESCRIPTION	STATION TO STATION	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT)	630 STREET NAME SIGN SUPPORT, NO. 3 POST (FT)	630 SIGN POST REFLECTOR (EACH)	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)
TINKER'S CREEK (WEST BOWL) SIGNS ARE CARRIED TO BRIDGE POR-303-0070 (SFN 6704353) ESTIMATED QUANTITIES (SHEET 2/2)							
	RELOC	134+65 RT		14.5	1	1	1
	RELOC	137+39 LT	17.5			1	1
	RELOC	137+39 RT	17.5			1	1
	RELOC	138+30 RT	17.5			1	1
TOTALS CARRIED TO GENERAL SUMMARY			53	15	1	4	4

EDGE LINE

GENERAL SPEC: 640
MATERIAL TYPE: 644

CTY	ROUTE	FROM TRUE LOG	FROM	TO TRUE LOG	TO	6" WHITE EDGE LINE TOTAL	6" WHITE EDGE LINE HIGHWAY	6" WHITE EDGE LINE RAMP	6" YELLOW EDGE LINE TOTAL	6" YELLOW EDGE LINE HIGHWAY	6" YELLOW EDGE LINE RAMP	COMMENTS
POR	303	0.70	0.09 MILE E. WHEELING & LAKE ERIE RR	0.73	0.12 MILE E. WHEELING & LAKE ERIE RR	0.06	0.06					
POR	303	1.21	80.82 FEET W. HICKORY RIDGE DR	1.38	819.18 FEET E. HICKORY RIDGE DR	0.34	0.34					
POR	BY-PASS		0+21 BY-PASS		10+81 BY-PASS	0.40	0.40					
TOTAL						0.80	0.80		0			

LANE LINE

CTY	ROUTE	FROM TRUE LOG	FROM	TO TRUE LOG	TO	TOTAL MILES	6" LANE LINE DASHED	6" LANE LINE SOLID	COMMENTS
TOTAL									

CENTER LINE

CTY	ROUTE	FROM TRUE LOG	FROM	TO TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
POR	303	0.70	0.09 MILE E. WHEELING & LAKE ERIE RR	0.73	0.12 MILE E. WHEELING & LAKE ERIE RR	0.03	0.04	
POR	303	1.21	80.82 FEET W. HICKORY RIDGE DR	1.38	819.18 FEET E. HICKORY RIDGE DR	0.24	0.48	
POR	BY-PASS		0+42 BY-PASS		10+65 BY-PASS	0.39	0.78	
TOTAL						0.66	1.30	

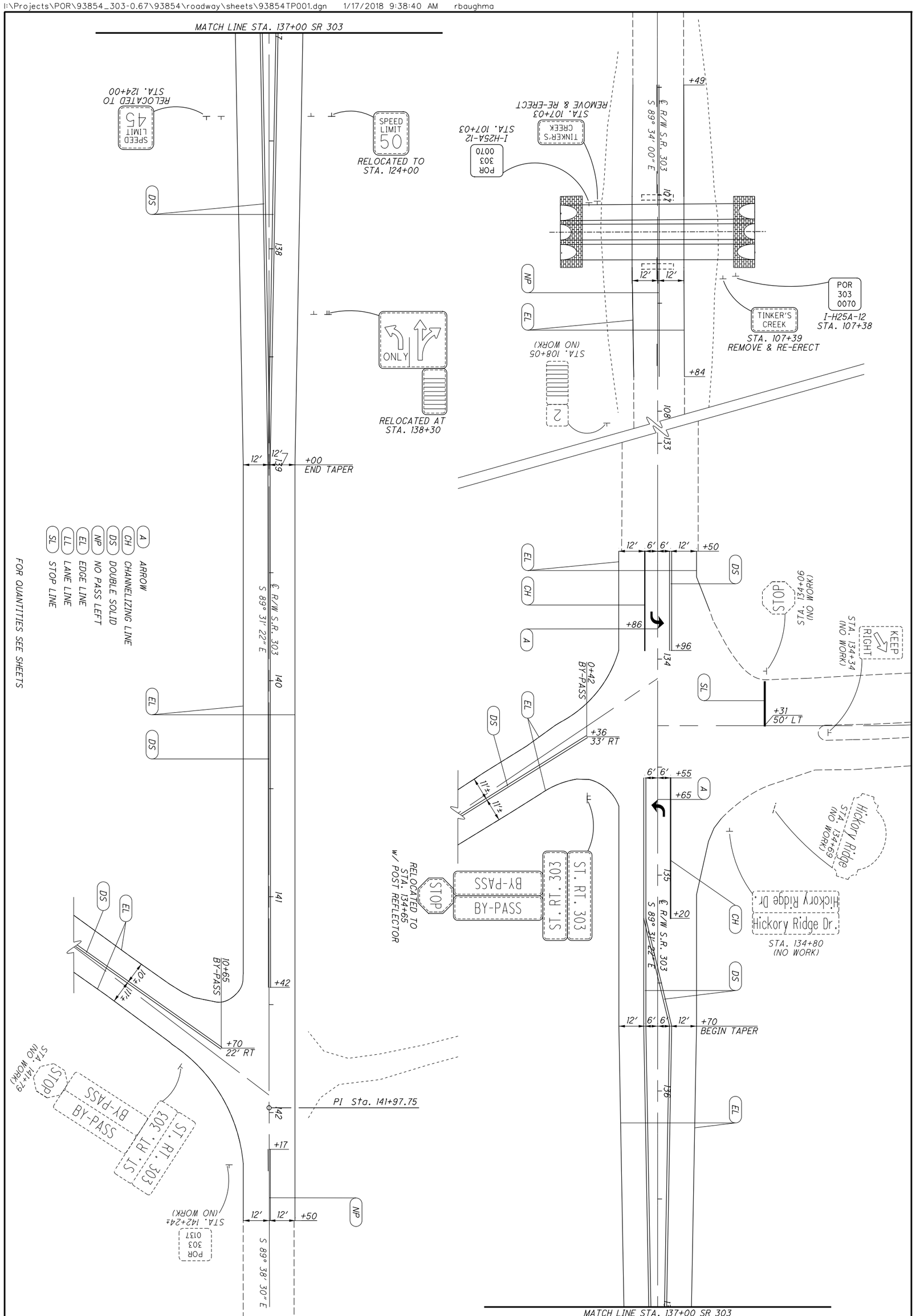
AUXILIARY

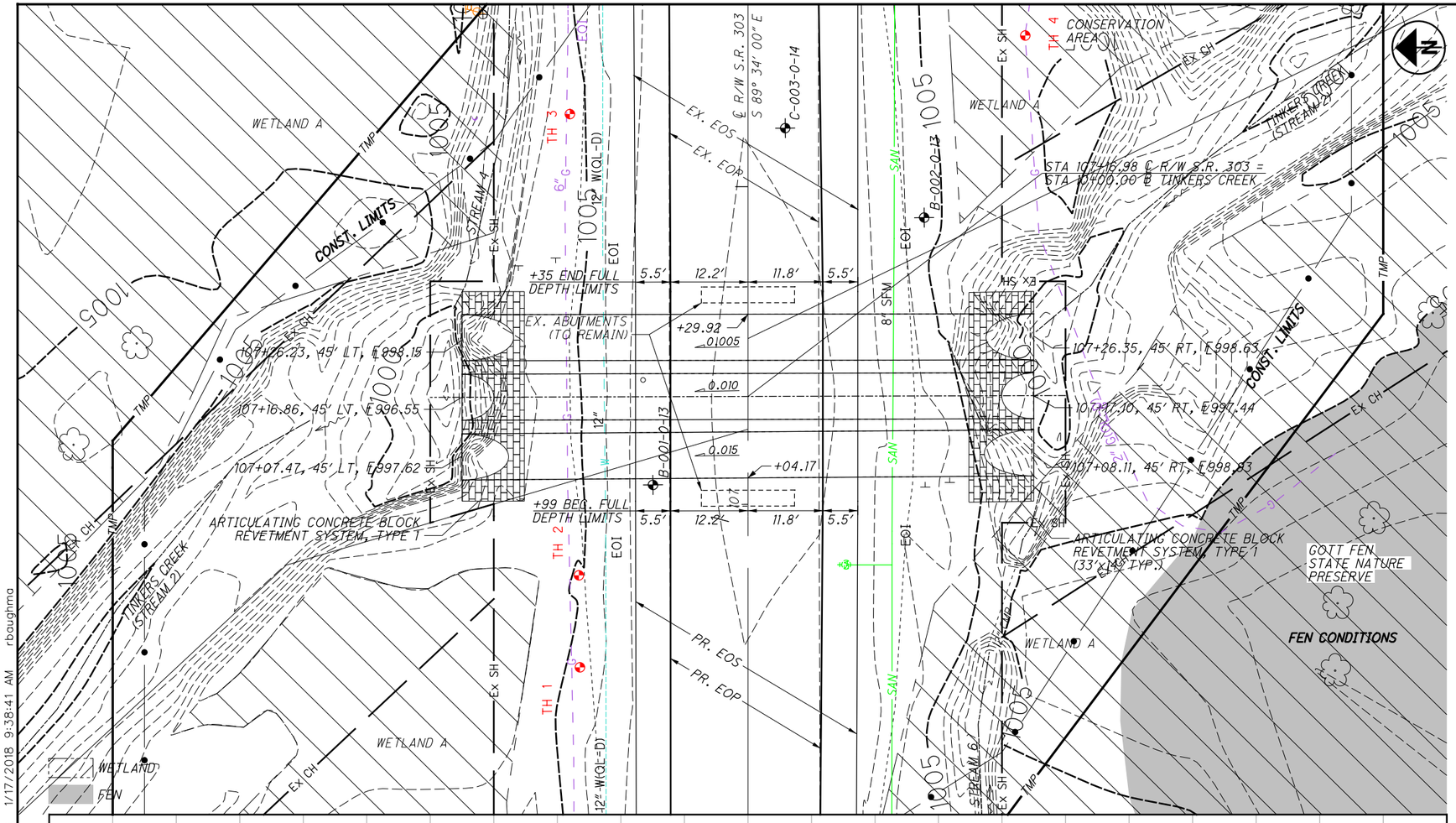
CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE (FT)	STOP LINE (FT)	CROSS WALK LINES (FT)	TRANSVERSE DIAGONAL LINES WHITE (FT)	TRANSVERSE DIAGONAL LINES YELLOW (FT)	ISLAND MARKING (SF)	SYMBOL MARKINGS RxR (EACH)	SYMBOL MARKINGS SCHOOL 72" (EACH)	SYMBOL MARKINGS SCHOOL 96" (EACH)	LANE ARROWS TURN LEFT (EACH)	LANE ARROWS TURN RIGHT (EACH)	LANE ARROWS THRU (EACH)	LANE ARROWS COMB. (EACH)	WORD ON PVMT ONLY 72" (EACH)	WORD ON PVMT ONLY 96" (EACH)	DOTTED LINES (FT)	COMMENTS
POR	SR303 @ HICKORY RIDGE DR	18.060	111	20								2							
TOTAL			111	20								2							

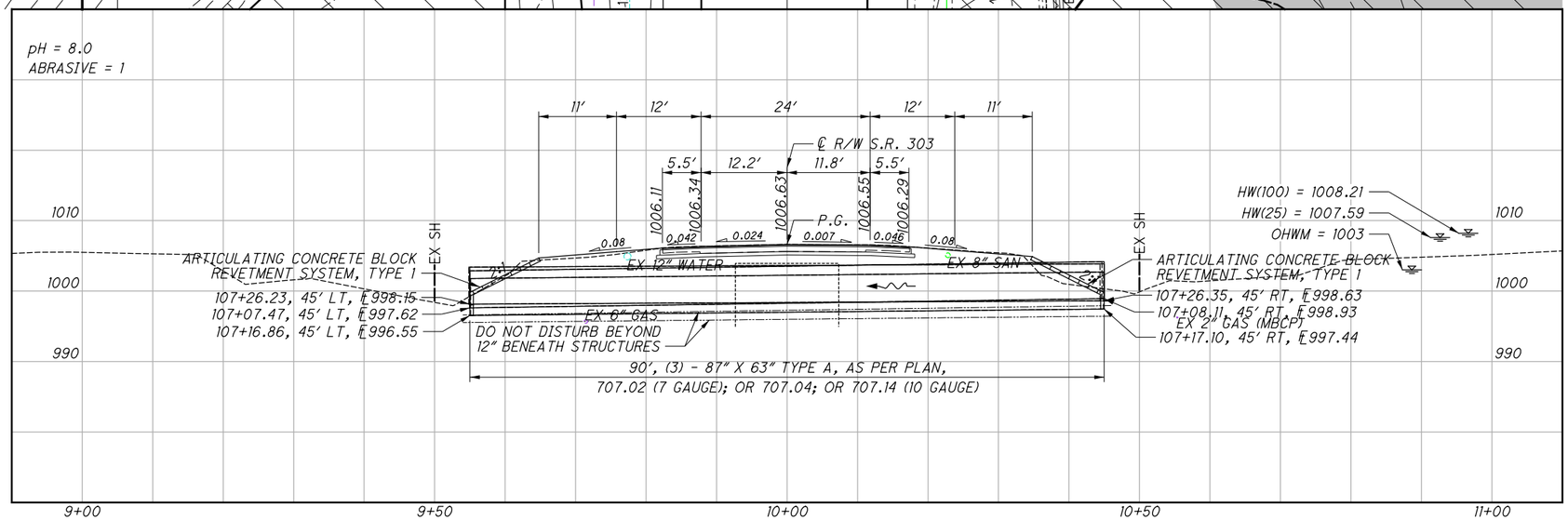
CALCULATED RCB
CHECKED MAC

TRAFFIC CONTROL SUB-SUMMARY

POR-303-(0.70)(1.21)


MATCH LINE STA. 137+00 SR 303
SPEED LIMIT 45
RELOCATED TO STA. 124+00
SPEED LIMIT 50
RELOCATED TO STA. 124+00
DS
138
ONLY
RELOCATED AT STA. 138+30
12′
12′
139
+00
END TAPER
A ARROW
CH CHANNELIZING LINE
DS DOUBLE SOLID
NP NO PASS LEFT
EL EDGE LINE
LL LANE LINE
SL STOP LINE
FOR QUANTITIES SEE SHEETS
℄ R/W S.R. 303
S 89° 31′ 22″ E
140
EL
DS
141
10+65
BY-PASS
21′±
11′±
+42
+70
22′ RT
STOP
BY-PASS
ST. RT. 303
STA. 141+79 (NO WORK)
PI Sta. 141+97.75
142
+17
12′
12′
+50
NP
STA. 142+24± (NO WORK)
POR 303 0137
S 89° 38′ 30″ E
℄ R/W S.R. 303
S 89° 34′ 00″ E
+49
REMOVE & RE-ERECT
STA. 107+03
TINKER'S CREEK
I-H25A-12
STA. 107+03
POR 303 0070
107
12′
12′
NP
EL
STA. 108+05 (NO WORK)
2
+84
108
133
POR 303 0070
I-H25A-12
STA. 107+38
TINKER'S CREEK
STA. 107+39
REMOVE & RE-ERECT
12′
6′
6′
12′
+50
EL
CH
A
DS
+86
+96
134
STOP
STA. 134+06 (NO WORK)
KEEP RIGHT
STA. 134+34 (NO WORK)
SL
+31
50′ LT
0+42
BY-PASS
EL
DS
+36
33′ RT
11′±
11′±
STOP
BY-PASS
ST. RT. 303
RELOCATED TO STA. 134+65 w/ POST REFLECTOR
6′
6′
+55
+65
A
135
℄ R/W S.R. 303
S 89° 31′ 22″ E
+20
CH
Hickory Ridge Dr.
STA. 134+80 (NO WORK)
Hickory Ridge Dr.
STA. 134+99 (NO WORK)
DS
12′
6′
6′
12′
+70
BEGIN TAPER
136
EL
MATCH LINE STA. 137+00 SR 303





BENCHMARK DATA

BM #1 STA. 107+77.10, ELEV. 1007.963,OFFSET -41.716, SVBM1
BM #2 STA. 100+80.65, ELEV. 1011.08, OFFSET -625.811,SVBM2
BM #8 STA. 116+10.67, ELEV. 1007.282,OFFSET -38.462,BM8

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2017 ADT = 8100 2017 ADTT = 324
2037 ADT = 9000 2037 ADTT = 360
DIRECTIONAL DISTRIBUTION = 52%

LEGEND

- BORING LOCATION
- CHANNEL EXCAVATION

HYDRAULIC DATA

DRAINAGE AREA = 9.36 SQ. MILES
Q (25) = 949 CFS V (25) = 0.97 FT/S
Q (100) = 1220 CFS V (100) = 0.91 FT/S

EXISTING STRUCTURE

TYPE: THREE, 87" X 63" CMP ARCH

SPANS: 29'-6"
ROADWAY: 24'-0" EOP/EOP
LOADING:
SKEW: NONE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.024 LT / 0.007 RT
STRUCTURAL FILE NUMBER: 6704352
DATE BUILT: 1959
DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: THREE, 87" X 63" TYPE A, AS PER PLAN

SPANS: 29'-6"
ROADWAY: 24'-0" EOP/EOP
LOADING: HS25 CASE II AND ALTERNATE MILITARY
SKEW: NONE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.024 LT / 0.007 RT
STRUCTURAL FILE NUMBER: 6704353
COORDINATES: LATITUDE N41°14'23"
LONGITUDE W81°22'43"

DESIGN AGENCY
ODOT ---- DISTRICT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
RCB	RCB		
CHECKED		REVISED	

STRUCTURE FILE NUMBER 6704353

PORTAGE COUNTY
STA. 107+04.17
STA. 107+29.92

BRIDGE SITE PLAN
BRIDGE NO. : POR-303-0070
S.R. 303 OVER TINKERS CREEK

POR-303-(0.70)(1.21)
PID No. 93854

1 / 2

36
42

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DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 4TH EDITION, INCLUDING THE 2007 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING
HL-93 WITH FUTURE WEARING SURFACE (FWS) OF 0.060 KIP/SQ FT

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
IN ADDITION TO THE REQUIREMENTS OF CMS 503, THE CONTRACTOR SHALL MINIMIZE THE IMPACT OF CONSTRUCTION ACCESS ON TINKERS CREEK WHEN EXCAVATING. THE CONTRACTOR SHALL BE ALLOWED TO PLACE TEMPORARY WATER FILLED INFLATABLE COFFERDAMS IN TINKERS CREEK AND DE-WATER. THE CONTRACTOR SHALL ALSO BE ALLOWED TO USE THE WATER FILLED INFLATABLE COFFERDAMS TO TEMPORARILY BLOCK/DIVERT THE TINKERS CREEK FLOW TO PERFORM REMOVAL AND PLACEMENT OF THE TINKERS CREEK STRUCTURE. THESE COFFERDAMS SHALL BE PLACED IN THE CREEK BY HAND OR USING ROPES/ COME ALONGS ETC. FROM THE CREEK BANK.

THE CONTRACTOR SHALL ADHERE TO ALL ENVIRONMENTAL RESTRICTIONS OF TINKERS CREEK AND THE SURROUNDING FEN AND WETAND AREAS.

FURTHERMORE, THE CONTRACTOR SHALL CONSTRUCT THE INFLATABLE COFFERDAMS DURING A PERIOD OF TIME WHEN THE ANTICIPATED VOLUME OF RAINFALL AND SUBSEQUENT CREEK FLOW IS ANTICIPATED TO BE LOW. THUS REDUCING THE POSSIBILITY OF WASHOUT DUE TO TO HIGH FLOW EVENTS. SHOULD THE COFFERDAMS BE WASHED OUT, THE CONTRACTOR SHALL HAVE REPLACEMENTS ON-SITE. THE COST TO REPLACE THE WASHED OU COFFERDAMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE FOLLOWING WATER FILLED INFLATABLE COFFERDAM PRODUCTS HAVE BEEN APPROVED FOR USE:

DAM-IT DAMS
12263 CENTER ROAD
FENTON, MI 48430
PH: (313) 886-6761
WWW.DAMITDAMS.COM

AQUA DAM
HERB HASCHEN
P.O. BOX 1203
8338 ELLIOTT ROAD
EASTON, MD 21601
PH: (410) 820-6440
WWW. AQUADAM.NET

OR AN APPROVED EQUAL

THIS ITEM SHALL INCLUDE ALL MATERIAL, LABOR, RQUIPMENT, ETC. REQUIRED TO ERECT ,MAINTAIN AND SUBSEQUENTLY REMOVE THE COFFERDAMS. ANY DAMAGE TO TINKERS CREEK AS A RESULT OF THE USE OF THE WATER FILLED COFFERDAMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

ITEM 611, 87" X 63" CONDUIT, TYPE A, AS PER PLAN, 707.02 (7 GAUGE); OR 707.04; OR 707.14 (10 GAUGE)
BACKFILL MATERIAL CONFORMING TO ITEM SPECIAL - ROADWAY MISC.: LIGHTWEIGHT AGGREGATE, AS NOTED ON SHEET 8, SHALL BE USED WITH THIS ITEM OF WORK AND INCIDENTAL TO THIS 611 ITEM.

STRUCTURE/CULVERT IDENTIFICATION SIGNS
STRUCTURE IDENTIFICATION SIGNS (I-H25b) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

EXISTING TINKERS CREEK SIGNS AND SUPPORTS WILL BE REMOVED AND REERECTED ON EACH APPROACH OFF THE RIGHT SHOULDER.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
POR-303-0070

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

630, GROUND MOUNTED SUPPORT, NO. 2 POST	7.5 FT
630, SIGN, FLAT SHEET, 730.20	1 SQ FT
630, REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	1 EACH
630, REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	1 EACH
630, REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	1 EACH
630, REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION	1 EACH

ASBESTOS NOTIFICATION
AN ASBESTOS SURVEY OF THE POR-303-0070 (SFN: 6704352) STRUCTURE CONVEYING TINKERS CREEK UNDER STATE ROUTE 303 SCHEDULED FOR REPLACEMENT WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE STRUCTURE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT
146 S. HIGH ST. SUITE 904
AKRON, OHIO 44308
SAM RUBENS, ADMIN.
(330) 812-3874

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON, AKRON, OHIO 44306.

BASIS FOR PAYMENT-THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

CALC:	RCB	DATE:	6/9/2016
CHECKED:		DATE:	

ESTIMATED QUANTITIES (02/S>2/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11000	LS		STRUCTURE REMOVED				LS	
503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	
503	21300	LS		UNCLASSIFIED EXCAVATION				LS	
601	23000	103	SY	ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1				103	
611	58901	270	FT	87" X 63" CONDUIT, TYPE A, AS PER PLAN, 707.02 (7 GAUGE); OR 707.04; OR 707.14 (10 GAUGE)				270	
630	02100	15	FT	GROUND MOUNTED SUPPORT, NO. 2 POST				15	
630	80100	2	SF	SIGN, FLAT SHEET , 730.20				2	
630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL				2	
630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION				2	
630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL				2	
630	86010	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION				2	

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
RCB	RCB	XXX	YY/MM/DD
CHECKED	REVISED	STRUCTURE FILE NUMBER	
XXX	XXX	6704353	

BRIDGE NOTES AND ESTIMATED QUANTITIES
BRIDGE NO.; POR-303-0070
S.R. 303 OVER TINKERS CREEK

POR-303-(0.70)(1.21)
PID No. 93854

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42

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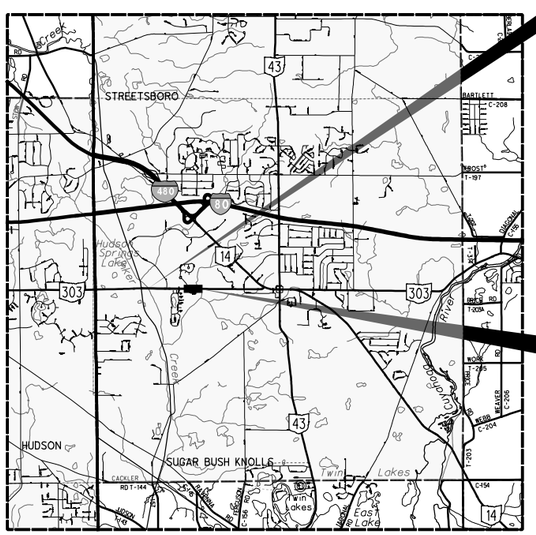

LOCATION MAP

LATITUDE: N41°14'23" LONGITUDE: W81°22'23"

SCALE IN MILES

0 1 2 3 4

N

RIGHT OF WAY LEGEND SHEET

POR-303-(0.70)(1.21)

CITY OF STREETSBORO

ORIGINAL STREETSBORO TOWNSHIP

LOT 42 & 52 - T4-R9

CONNECTICUT WESTERN RESERVE

PROJECT DESCRIPTION

RAISING ROADWAY PROFILE TO CORRECT DRAINAGE AND FLOODING ISSUES. INCLUDES EARTHWORK AND CULVERT REPLACEMENT. IN THE CITY OF STREETSBORO, PORTAGE COUNTY, OHIO.

PLANS PREPARED BY:

FIRM NAME : AECOM
R/W DESIGNER: DAVID POVICH
R/W REVIEWER: DAN STANKAVICH
FIELD REVIEWER: DAN STANKAVICH
PRELIMINARY FIELD REVIEW DATE: 3-20-2017
TRACINGS FIELD REVIEW DATE: 4-14-2017
OWNERSHIP UPDATED BY: DAN STANKAVICH
DATE COMPLETED: 04-17-2017
PLAN COMPLETION DATE: 04-18-2017

FEDERAL PROJECT NO. E120873
PID NO. 93854
CALCULATED DPP CHECKED DS

RIGHT OF WAY LEGEND SHEET
POR-303-(0.70)(1.21)
1 / 5
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INDEX OF SHEETS:

RIGHT OF WAY LEGEND SHEET	1
PROPERTY MAP	2
SUMMARY OF ADDITIONAL RW	3
RW TOPOGRAPHIC SHEETS	4
RW BOUNDARY SHEETS	5

TYPES OF TITLE LEGEND:
T = TEMPORARY EASEMENT

Time Warner Cable
ATTN: Carl Price
8385 Bavaria Road
Macedonia, OH 44056
330-963-3620 ext. 12165551169

Ohio Edison
ATTN: David L. Miller
1910 W. Market Street
Building #1
Akron, OH 44313
330-436-4055

Ohio Edison (Transmission)
ATTN: Allison Oulton
76 South Main Street
Akron, OH 44308-1890
330-761-4487

Enervest Operating L.L.C.
ATTN: Troy Valasek
125 State Route 43
Suite 100
Hartville, OH 44632
330-587-1009

Dominion East Ohio
ATTN: Bryan D. Dayton
320 Springside Drive, Suite 320
Akron, OH 44333
Office: 330-664-2409

City of Streetsboro (Water)
ATTN: John Kuklisin
Streetsboro Service Department
2094 State Route 303
Streetsboro, OH 44241
330-626-2856

AT&T
The Ohio Bell Telephone Company
ATTN: Cindy Zuchegno
50 W. Bowery St.
4th Floor
Akron, OH 44308
330-384-3561

Portage County Water Resources
ATTN: John G. Evans
449 South Meridian Street
P.O. Box 1217
Ravenna, OH 44266-1217
330-297-3670
330-297-3689 Fax

NOTES: THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) MB , Mailbox (Pr) MB
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex) WM
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

I, Dan Stankavich, P. S. have conducted a survey of the existing conditions for the Ohio Department of Transportation in April of 2014. The results of that survey are contained herein. As a part of this project I have reestablished the locations ofthe existing property lines andthe existing centerline of Right of Way for property takes contained herein.

As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue; as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean eithermyself or someone working under my direct supervision.

Dan Stankavich, Professional Land Surveyor 7122 Date:

SURVEYORS SEAL

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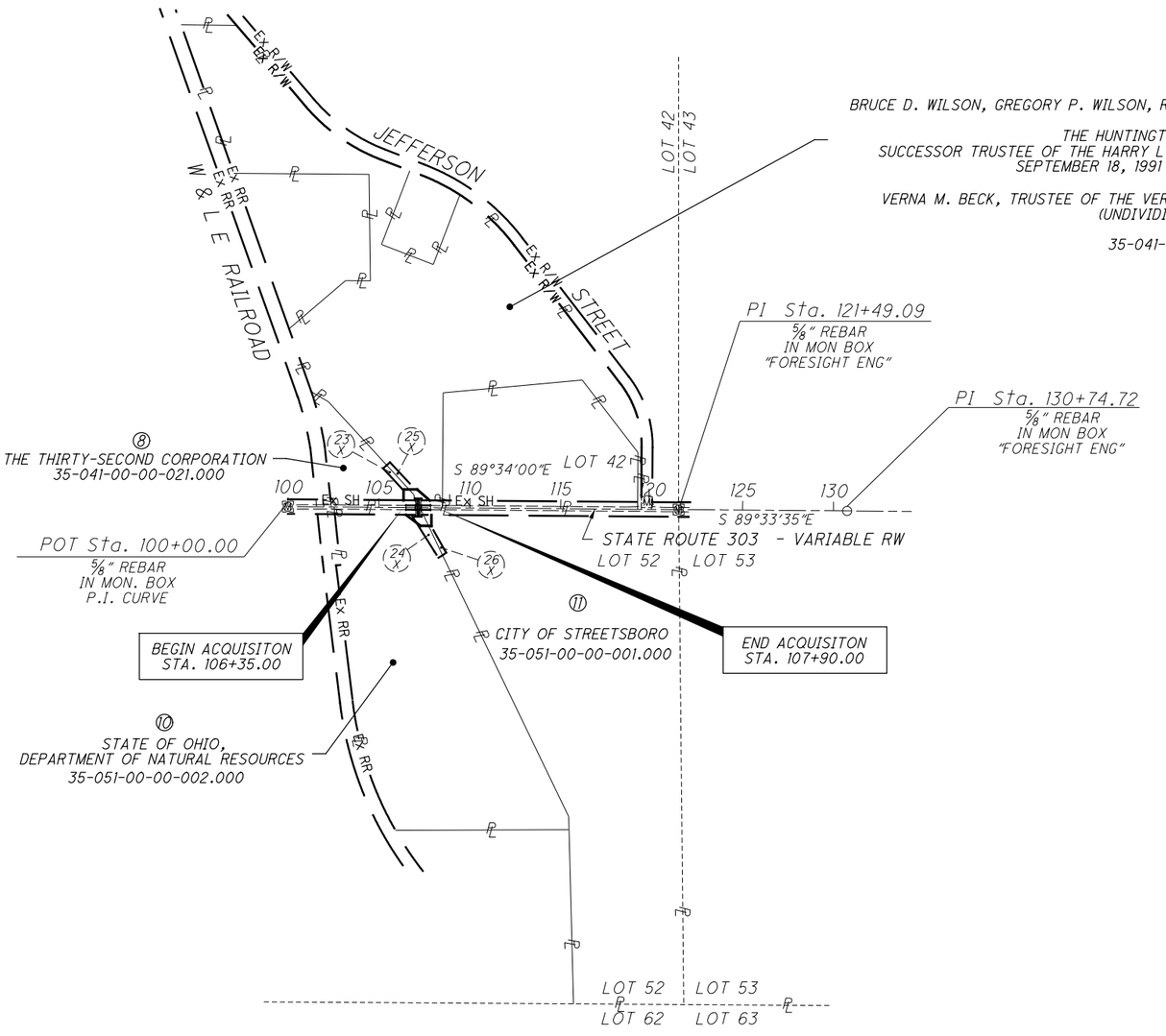
CITY OF STREETSBORO
ORIGINAL STREETSBORO TOWNSHIP
LOT 42 & 52, T4-R9
CONNECTICUT WESTERN RESERVE

NOTE:

(23 X)(24 X)(25 X)(26 X) = CHANNEL EASEMENTS AS SHOWN ON R/W SHEET 2/9
PER STATE OF OHIO PLAN DESIGNATED "POR-303-(0.01)(5.46)".
NO RECORDED EASEMENTS FOUND. ASSUMED TO BE ESTABLISHED PER PLAN.



REV. BY	DATE	DESCRIPTION

DATE COMPLETED : 4-18-2017

HORIZONTAL SCALE IN FEET
0 200 400 800

PID NO. 93854

R/W DESIGNER DPP
R/W REVIEWER DS

PROPERTY MAP

POR-303-(0.70)(1.21)

2 / 5

39
42

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TOTAL NUMBER OF :

4 OWNERSHIPS 0 TOTAL TAKES

4 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

NET TAKE = GROSS TAKE - PRO IN TAKE

ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED IMAGE	AS ACQUIRED NUMBER
1-7	NOT USED															
8-T	THE THIRTY-SECOND CORPORATION	4-5	D.V. 686, PG. 31	35-041-00-00-021-000	3.87	0.431	0.072	0.000	0.072					CONSTRUCTION ACCESS & CONSTRUCT COFFERDAM - OVERLAPS CHANNEL EASEMENT BY 1795 S.F.		
9-T	BRUCE D. WILSON, GREGORY P. WILSON & ROSEMARY B. WILSON (UNDIVIDED 31% INTEREST)	4-5	INST. 201511216	35-041-00-00-023.000	44.061	0.158	0.071	0.000	0.071					CONSTRUCTION ACCESS & CONSTRUCT COFFERDAM - OVERLAPS CHANNEL EASEMENT BY 2113 S.F.		
	THE HUNTINGTON BANK, SUCCESSOR TRUSTEE OF THE HARRY L. GRIFFITH REVOCABLE LIVING TRUST DATED SEPTEMBER 18, 1991 (UNDIVIDED 31% INTEREST)		INST. 201118519													
	VERNA M. BECK, TRUSTEE OF THE VERNA M. BECK TRUST DATED OCTOBER 30, 1992 (UNDIVIDED 38% INTEREST)		INST. 200310593													
10-T	STATE OF OHIO, DEPARTMENT OF NATURAL RESOURCES	4-5	D.V. 1059, PG. 107	35-051-00-00-002.000	31.36	0.449	0.088	0.000	0.088				100 % STATE	CONSTRUCTION ACCESS & CONSTRUCT COFFERDAM - OVERLAPS CHANNEL EASEMENT BY 3200 S.F.		
11-T	CITY OF STREETSBORO, A MUNICIPAL CORPORATION	4-5	INST. 201110563	35-051-00-00-001.000	54.069	1.298	0.041	0.000	0.041					CONSTRUCTION ACCESS & CONSTRUCT COFFERDAM - OVERLAPS CHANNEL EASEMENT BY 628 S.F.		

TYPES OF TITLE LEGEND:

T = TEMPORARY EASEMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY: DAN STANKAVICH DATE: 3-22-2017

OWNERSHIP VERIFIED BY : DAN STANKAVICH DATE: 4-17-2017

DATE COMPLETED : April 18, 2017

FEDERAL PROJECT NO. E120(873)

PID NO. 93854

STATE JOB NO. 441054

R/W DESIGNER DPP

R/W REVIEWER DS

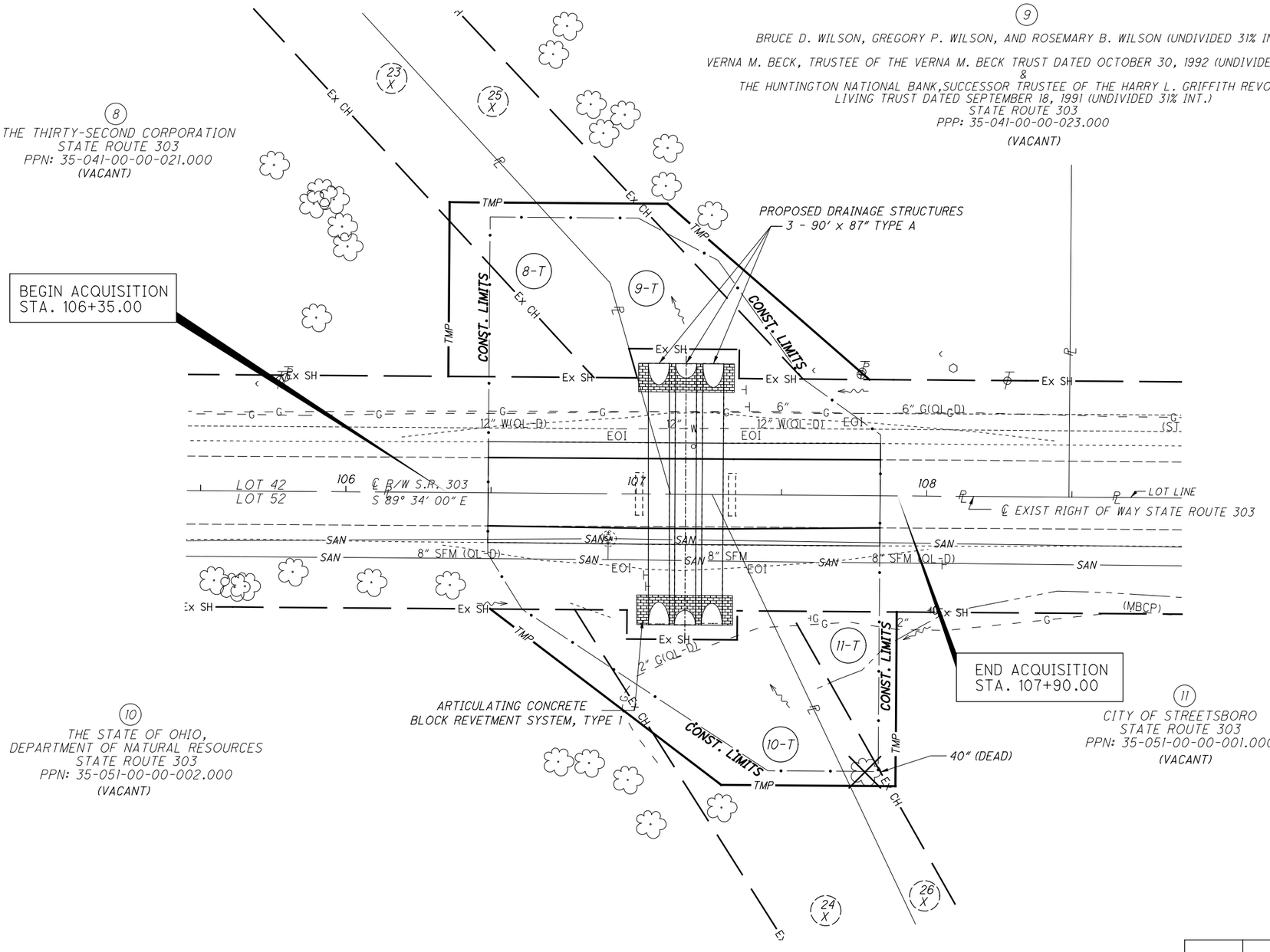
SUMMARY OF ADDITIONAL RIGHT OF WAY

POR-303-(0.70)(1.21)

CITY OF STREETSBORO
ORIGINAL STREESTBORO TOWNSHIP
LOT 42 & 52, T4-R9
CONNECTICUT WESTERN RESERVE

NOTE:

(23 X) = CHANNEL EASEMENT AS SHOWN ON R/W SHEET 2/9
PER STATE OF OHIO PLAN DESIGNATED "POR-303-(0.01)(5.46)".
NO RECORDED EASEMENTS FOUND. ASSUMED TO BE ESTABLISHED PER PLAN.



REV. BY	DATE	DESCRIPTION

DATE COMPLETED : April 18, 2018

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 93854

R/W DESIGNER DPP
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 105+50.00 TO STA. 108+50.00

POR-303-(0.70)(1.21)

4 / 5

41
42

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CITY OF STREETSBORO
ORIGINAL STREESTBORO TOWNSHIP
LOT 42 & 52, T4-R9
CONNECTICUT WESTERN RESERVE

NOTE:

(23 X) = CHANNEL EASEMENT AS SHOWN ON R/W SHEET 2/9 PER STATE OF OHIO PLAN DESIGNATED "POR-303-(0.01)(5.46)". NO RECORDED EASEMENTS FOUND. ASSUMED TO BE ESTABLISHED PER PLAN.

(9)

BRUCE D. WILSON, GREGORY P. WILSON, AND ROSEMARY B. WILSON (UNDIVIDED 31% INT.)

VERNA M. BECK, TRUSTEE OF THE VERNA M. BECK TRUST DATED OCTOBER 30, 1992 (UNDIVIDED 38% INT.)
&
THE HUNTINGTON NATIONAL BANK, SUCCESSOR TRUSTEE OF THE HARRY L. GRIFFITH REVOCABLE LIVING TRUST DATED SEPTEMBER 18, 1991(UNDIVIDED 31% INT.)
STATE ROUTE 303
PPP: 35-041-00-00-023.000

(8)
THE THIRTY-SECOND CORPORATION
STATE ROUTE 303
PPN: 35-041-00-00-021.000

PARCEL 8-T OVERLAPS CHANNEL EASEMENT 23X BY 1795 S.F.

PARCEL 9-T OVERLAPS CHANNEL EASEMENT 25X BY 2113 S.F.

S 89°34'00" E 29.95'
Ex CH
(23 X)
℄
N 42°33'46" W
(25 X)
106+64.95 100.00'LT
107+10.00 100.00'LT
45.05' Ex S 89°34'00" E
TMP
106+35.00 100.00'LT
9-T
106+90.45 72.66'LT
S 48° 57' 56" E 92.20'
37.38'
8-T
Ex CH
TMP N 00°26'00" E 60.00'
23.62'
34.04'
106+97.11 50.00'LT
38.00' Ex SH N89°34'00"W
N 00°26'00" E, 10.00'
106+35.00 40.00'LT
107+80.00 40.00'LT
N 89°34'00" W
Ex SH
65.05'
Ex SH
107+35.11 50.00'LT
Ex SH
44.89'
Ex SH
P.I. STA. 121+49.09
5/8" REBAR IN MON. BOX
"FORESIGHT ENG." CAP
P.I. STA. 100+00.00
5/8" REBAR IN MON. BOX
EX. HIGHWAY EASEMENT
PARCEL 26 - DV 678, PG. 528
106+85.11 40.00'LT
107+00.05 40.00'LT
107+35.11 40.00'LT
107+57.11 40.00'LT
NO RECORD HIGHWAY EASEMENT OF RECORD FOUND. SHOWN AS PARCEL 25 THIS AREA PER "POR-303-(0.01)-(5.46)"
N 15°57'23" W
LOT 42
LOT 52
106
107
108
S 89°34'00" E
LOT LINE
℄ EXISTING R/W S.R. 303
EX. HIGHWAY EASEMENT
PARCEL 24 - DV 674, PG. 282
EX. HIGHWAY EASEMENT
PARCEL 26 - DV 678, PG. 529
107+11.82 ℄
107+26.09 ℄
106+79.11 40.00'RT
106+97.11 40.00'RT
106+50.00 40.00'RT
106+97.11 50.00'RT
107+45.40 40.00'RT
107+90.00 40.00'RT
Ex SH
S 89°34'00" E
47.11'
Ex SH
Ⓐ
S 89°34'00" E
Ex SH 38.00'
Ⓑ
Ⓒ
44.60'
107+53.11 40.00'RT
Ex SH
107+35.11 50.00'RT
11-T
S 0°26'00" W 60.00'
TMP
S 25° 20' 24" E 66.63'
107+35.11 40.00'RT
TMP N 52° 41' 49" W 100.00
Ex CH
(10)
THE STATE OF OHIO,
DEPARTMENT OF NATURAL RESOURCES
STATE ROUTE 303
PPN: 35-051-00-00-002.000
(11)
CITY OF STREETSBORO
STATE ROUTE 303
PPN: 35-051-00-00-001.000
10-T
TMP 44.37'
N 89° 34'00" W
Ex CH
107+30.00 100.00'RT
107+74.37 100.00'RT
107+90.00 100.00'RT
PARCEL 10-T OVERLAPS CHANNEL EASEMENT 24X BY 3200 S.F.
PARCEL 11-T OVERLAPS CHANNEL EASEMENT 26X BY 628 S.F.
(24 X)
(26 X)
N 89°34'00" W 15.63'

Ⓐ	S 00°26'00" W, 10.00'
Ⓑ	N 00°26'00" E, 10.00'
Ⓒ	S 89°34'00" E, 10.29'

REV. BY	DATE	DESCRIPTION

DATE COMPLETED : April 18, 2017

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 93854

R/W DESIGNER DPP
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 105+50.00 TO STA. 108+50.00

POR-303-(0.70)(1.21)

5 / 5

42 / 42

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PROJECT DESCRIPTION

RAISING ROADWAY PROFILE TO CORRECT DRAINAGE AND FLOODING ISSUES. INCLUDES EARTHWORK AND CULVERT REPLACEMENT IN THE CITY OF STREETSBORO, PORTAGE COUNTY, OHIO.

HISTORIC RECORDS

HISTORICAL BORING RECORDS FOR THE PROJECT WERE AVAILABLE FROM A 1949 SOIL PROFILE. THE SOIL PROFILE SHOWED A PEAT DEPOSIT OVER 100 FEET IN THICKNESS.

HISTORICAL BORING RECORDS FOR THE PROJECT WERE AVAILABLE FROM THE 1957 SOIL PROFILE FOR THE REALIGNMENT OF SR 303 OVER A PEAT DEPOSIT. AN EXTENSIVE SUBSURFACE EXPLORATION PROGRAM WAS COMPLETED TO INVESTIGATE THE PRESENCE OF TWO PEAT BOGS SEPARATED BY A HILL. RESULTS OF THE EXPLORATION REVEALED UP TO 20 FEET OF PEAT IN THE WESTERN END AND UP TO 40 FEET OF PEAT IN THE EASTERN END. RESULTS OF THIS EXPLORATION ARE NOT SHOWN FOR CLARITY.

EDP CONSULTANTS WERE RETAINED BY THE CITY OF STREETSBORO TO EXPLORE SETTLEMENT ISSUES ALONG SR 303 DURING 2002. THREE BORINGS WERE COMPLETED WHICH REVEALED PEAT AND SOFT ORGANIC CLAYS BETWEEN 33 AND 50 FEET IN DEPTH. THESE RESULTS HAVE BEEN SHOWN WITHIN THIS EXPLORATION.

GEOLOGY

THE PROJECT IS LOCATED IN THE GLACIATED KILLBUCK-GLACIATED PITTSBURGH PLATEAU PHYSIOGRAPHIC REGION WHICH IS CHARACTERIZED BY MODERATE RELIEF WITH THIN GLACIAL DRIFT AND STEEP VALLEYS WHICH CAN CONTAIN THICK SOIL DEPOSITS. THE SOIL SURVEY FOR PORTAGE COUNTY INDICATES THAT THE MAJORITY OF THE PROJECT IS COMPRISED OF THE CARLISLE MUCK WHICH IS HIGHLY ORGANIC, POORLY DRAINED AND OVER 6.5 FEET THICK, CANDICE SILT LOAM WHICH IS A GLACIOLACUSTRINE DEPOSIT GREATER THAN 5 FEET IN THICKNESS WITH ELLSWORTH SILT LOAM AND RITTMAN SILT LOAM WHICH IS GLACIAL TILL SOILS IN THE MIDDLE. THE GLACIALLY DEPOSITED SOILS ARE UNDERLAIN BY MISSISSIPPIAN AGED SHALE AND SANDSTONE FROM THE CUYAHOGA FORMATION AND BEREA SANDSTONE AND BEDFORD SHALE UNDIVIDED ALONG THE WESTERN LIMITS AND BY DEVONIAN AGED OHIO SHALE ALONG THE MIDDLE AND EASTERN LIMITS. A PREGLACIAL VALLEY IS LOCATED BELOW THE PROJECTS LIMITS. THE WESTERN LIMITS OF THE PROJECT HAS STEEPLY DIPPING BEDROCK TO THE EAST WITH A RELATIVELY FLAT BEDROCK SURFACE TO THE VALLEY BOTTOM WHICH UNDERLIES THE MIDDLE AND EASTERN LIMITS OF THE PROJECT.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNEL FROM S&ME IN A PHASED APPROACH. OVERALL THE PROJECT CONSIST OF TWO "BOWLS" OR LOW LYING AREAS WITH HIGHER GROUND BETWEEN THEM. THE "WESTERN" BOWL CONTAINS A STRUCTURE TO CARRY SR 303 OVER TINKERS CREEK. PHASE 1 RECONNAISSANCE WAS COMPLETED ON JANUARY 29, 2013. DURING THE RECONNAISSANCE THE EXISTING TRIPLE CORRUGATED PIPE STRUCTURE WAS NOTED AS HAVING A DIP ALONG THE FLOWLINE WITH THE INLET AND OUTLET BEING TIPPED UPWARD AND HIGHER THAN THE CENTER INDICTING SETTLEMENT. THE ROADWAY APPEARED TO HAVE BEEN RECENTLY RESURFACED AND IN GOOD CONDITION. THE ADJACENT LAND WAS NOTED AS BEING MARSH LAND WITH STANDING WATER DESIGNATED AS A STATE NATURE PRESERVE. PHASE 2 WAS COMPLETED DURING MAY OF 2014. DURING THE FIELD ACTIVITIES CRACKING IN THE PAVEMENT WAS NOTED. DURING A HEAVY RAINFALL EVENT FLOODING OF THE ROADWAY OCCURRED.

INDEX OF SHEETS

LOCATION FROM STA.	TO STA.	PLAN VIEW SHEET	PROFILE SHEET	CUT MAX.	FILL EMB. MAX.	STRUCTURES INCLUDED BRIDGE NO.	STRUCTURES INCLUDED SFN
S.R. 303							
101+00	116+00	3	4	<1 FT	4 FT		
116+00	131+00	5	6	<1 FT	4 FT		
131+00	146+00	7	8	<1 FT	5 FT		
		9	10	- FT	- FT	POR-303-0070	6704352

BORING LOGS, SHEETS 11 - 21

UNDISTURBED TESTING DATA, SHEETS 22 - 27

CPT DATA, SHEETS 28 - 31

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
	GRAVEL AND/OR STONE FRAGMENTS	*A-1-a*	*2*	*2*
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b*	*5*	*12*
	FINE SAND	*A-3*	-	*1*
	COARSE AND FINE SAND	*A-3a*	*1*	*4*
	GRAVEL AND/OR STONE FRAGS WITH SAND AND SILT	*A-2-4*	*1*	*3*
	GR. AND/OR ST. FRAGS. WITH SAND, SILT, & CLAY	*A-2-6*	*1*	-
	SANDY SILT	*A-4a*	*3*	*10*
	SILT	*A-4b*	*4*	*4*
	SILT AND CLAY	*A-6a*	*5*	*17*
	SILTY CLAY	*A-6b*	*3*	*8*
	ELASTIC CLAY	*A-7-5*	*13*	*51*
	CLAY	*A-7-6*	*1*	*1*
	ORGANIC SILT	*A-8a*	*1*	-
	ORGANIC CLAY	*A-8b*	*2*	-
		TOTAL	*42*	*113*
P	PEAT	*VISUAL*		
XXXXX	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		

BORING LOCATION - PLAN VIEW.

HISTORIC BORING LOCATION - PLAN VIEW.- S.R. 303 SETTLEMENT, 2002

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

WC INDICATES WATER CONTENT IN PERCENT.

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

LOI INDICATES ORGANIC CONTENT BY LOSS ON IGNITION (AASHTO T267)

INDICATES STATIC WATER ELEVATION.

W INDICATES FREE WATER ELEVATION.

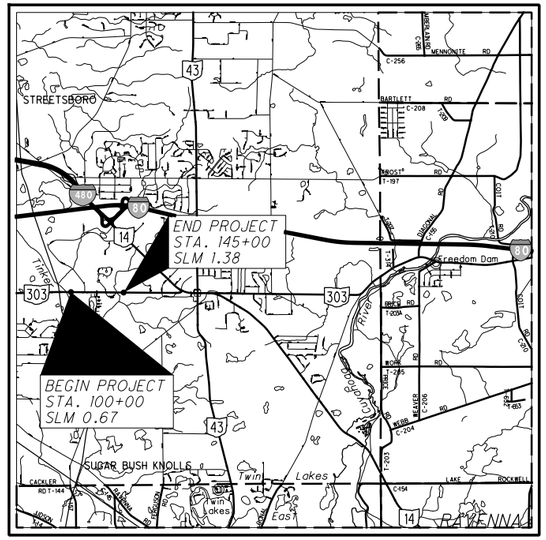
INDICATES A PLASTIC MATERIAL WITH A MOISTURE CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT MINUS 3.

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

SS INDICATES A SPLIT SPOON SAMPLE.

ST INDICATES A SHELBY TUBE SAMPLE.

NP INDICATES A NON-PLASTIC SAMPLE.



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

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

RECON. - S&ME 01/28/13 - 05/13/14
DRILLING - S&ME 01/28/13 - 05/13/14
DRAWN - AJC 05/17
REVIEWED - SAT 05/17

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING
1980 W. BROAD ST. COLUMBUS, OH 43223

PID NO. 93854

PEAT DEPOSIT EXPLORATION

POR-303-0.67

SUBSURFACE EXPLORATION

S&ME COMPLETED TWO PHASES OF SUBSURFACE EXPLORATION FOR THIS PROJECT. DURING PHASE 1, TWO (2) BORINGS, B-001-013 AND B-002-0-13, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION AT TINKERS CREEK CULVERT BETWEEN JANUARY 18 AND 31, 2013. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3.25-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5 AND 5.0 FOOT INTERVALS. THE HAMMER SYSTEM USED WAS LAST CALIBRATED ON MARCH 21, 2011, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS 82%.

FOR PHASE 2, TEN (10) BORINGS, B-001-0-14, B-004-0-14, B-006-014, B-008-0-14, B-010-0-14, AND B-011-0-14, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION BETWEEN MAY 13 AND 23, 2014. THE BORINGS WERE DRILLED WITH BOTH ATV AND TRUCK MOUNTED ROTARY DRILL RIG, USING 3.25-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT 2.5 AND 5.0 FOOT INTERVALS. THE HAMMER SYSTEMS USED WERE LAST CALIBRATED ON MARCH 21, 2011, AND THE AVERAGE DRILL ROD ENERGY RATIO (ER) WAS 82% FOR THE TRUCK AND 81% FOR THE ATV.

IN ADDITION TO THE BORINGS, PHASE 2 HAD A TOTAL OF NINE (9) CPT SOUNDINGS, C-002-0-14 THROUGH C-005-0-16, C-007-0-14, C-009-0-14 AND C-014-0-14 THROUGH C-016-0-14, WHICH WERE COMPLETED BY ODOT. THE SOUNDINGS WERE COMPLETED BETWEEN MAY 13 AND JUNE 3, 2014. ALL SOUNDINGS WERE COMPLETED WITH A HYSON 23 T CRAWLER IN ACCORDANCE WITH ASTM D-5778. SOUNDINGS WERE TERMINATED WHEN TARGET DEPTH WAS MET.

EXPLORATION FINDINGS

ALL BORINGS, EXCEPT B-002-0-13, WERE DRILLED THROUGH THE EXISTING ROADWAY AND ENCOUNTERED BETWEEN 4 AND 18 INCHES OF ASPHALT PAVEMENT. B-013 AND B-015 ENCOUNTERED 7 INCHES OF CONCRETE BENEATH THE ASPHALT. AGGREGATE BASE WAS ENCOUNTERED IN B-001-0-13, B-002-0-13, B-010, B-011, B-012, B-017, B-001-0-02 THROUGH B-003-0-02 BETWEEN 2 AND 10 INCHES IN THICKNESS. MOST OF THE BORINGS DRILLED WITHIN THE AREA OF PEAT DEPOSITS ENCOUNTERED CINDER FILL CLASSIFIED AS GRAVEL AND STONE FRAGMENTS WITH SAND (A-1-B) WHICH WAS PLACED AS A LIGHT WEIGHT FILL MATERIAL DURING THE REALIGNMENT. CINDERS WERE ENCOUNTERED IN B-001-014, B-001-0-13, B-001-0-02, B-002-0-13, B-002-0-02, B-003-0-02, B-004, B-006, B-008, AND B-015 ALSO A COARSE AND FINE SAND (A-3A) WHICH CONSISTED OF SLAG WAS ENCOUNTERED IN B-013 WHICH EXTENDED BETWEEN 3 AND 9 FEET BELOW PAVEMENT SURFACE.

PEAT WAS ENCOUNTERED BETWEEN APPROXIMATELY STA. 91+00 AND 121+00 AT VARIABLE THICKNESS WITH THE BASE BEING BETWEEN APPROXIMATELY ELEVATION 1035 AND 969 FEET. WITHIN THE RECENT BORINGS, BENEATH THE PEAT EITHER ELASTIC CLAY (A-7-5) OR ORGANIC CLAY (A-8B) WHICH WERE TYPICALLY VERY SOFT IN CONSISTENCY WERE ENCOUNTERED IN ALL BORINGS, EXCEPT B-008, WITH A BASE ELEVATION RANGING BETWEEN 995.8 AND 934.3 FEET. B-008 ENCOUNTERED MARL CLASSIFIED AS VERY LOOSE SANDY SILT (A-4A) BENEATH THE PEAT FROM ELEVATION 995.8 TO 985.8 FEET UNDERLAIN BY A VERY SOFT SILT AND CLAY TO ELEVATION 980.8 FEET AND BETWEEN ELEVATION 975.8 AND 973.3 FEET. SILT (A-4B) WAS ENCOUNTERED BETWEEN ELEVATION 980.8 AND 975.8 FEET AND BETWEEN 973.3 AND 968.3 FEET.

PEAT WAS ENCOUNTERED BETWEEN APPROXIMATELY STA. 134+00 AND 141+25 AT VARIABLE THICKNESS WITH THE BASE BEING BETWEEN APPROXIMATELY ELEVATION 1015 AND 969 FEET. BENEATH THE PEAT ELASTIC CLAY (A-7-6) OR ORGANIC CLAY WHICH WERE TYPICALLY VERY SOFT IN CONSISTENCY WERE ENCOUNTERED IN ALL BORINGS WITH A BASE ELEVATION RANGING BETWEEN 1002.3 AND 961 FEET.

BETWEEN STA. 121+00 AND 134+00 THE BORINGS DID NOT REVEAL THE PRESENCE OF PEAT. SOILS ENCOUNTERED BENEATH THE PAVEMENT CONSISTED OF LOOSE TO MEDIUM DENSE GRAVEL WITH SAND (A-1-B) WHICH EXTENDED BETWEEN ELEVATION 1027.7 AND 1013.2 FEET. BENEATH THIS THE BORINGS ENCOUNTERED PREDOMINATELY COHESIVE SOILS. B-010 ENCOUNTERED MEDIUM STIFF TO STIFF SILT AND CLAY (A-6A) WITH A MODERATELY ORGANIC CLAY (A-7-6) LAYER BETWEEN ELEVATION 1010.7 AND 1008.9 FEET. B-011 ENCOUNTERED A HARD SILT (A-4B) TO ELEVATION 1025.9, WHICH IS WITHIN 3 FEET OF SUBGRADE, UNDERLAIN BY VERY STIFF TO HARD SILT AND CLAY (A-6A) TO ELEVATION 1024.1 WHERE MEDIUM DENSE GRAVEL WITH SAND (A-1-B) IN WHICH THE BORING WAS TERMINATED IN. B-012 ENCOUNTERED PREDOMINATELY GRAVEL WITH SAND (A-1-B) TO ELEVATION 1025.9 FEET WHERE A VERY STIFF SILT AND CLAY (A-6A) WAS ENCOUNTERED IN WHICH THE BORING WAS TERMINATED IN. ADDITIONALLY, B-017, DRILLED AT STA. 144+27, DID NOT ENCOUNTER PEAT BUT ENCOUNTERED VERY STIFF TO HARD SILT AND CLAY (A-6A) BENEATH THE PAVEMENT IN WHICH THE BORING WAS TERMINATED IN.

CONSOLIDATION TESTING WAS CONDUCTED FROM UNDISTURBED SAMPLE COLLECTED FROM B-001-0-13, B-002-0-13, B-004-0-14, AND B-006-0-14. DIRECT SHEAR TESTING WAS CONDUCTED FROM UNDISTURBED SAMPLE COLLECTED FROM B-004-0-14. RESULTS OF THESE TESTS ARE PRESENTED.

FREE WATER WAS ENCOUNTERED DURING THE DRILLING BETWEEN 2.5 AND 7 FEET BELOW THE TOP OF PAVEMENT/GROUND SURFACE IN B-001-0-02, B-001-0-13, B-001-14, B-002-0-13, B-003-0-02, B-004, B-010, B-013, AND B-015. B-002-0-02 REPORTED FREE WATER DURING DRILLING AT A DEPTH OF 28 FEET. STATIC WATER RECORDED AT COMPLETION OF THE DRILLING ACTIVITIES WERE REPORTED BETWEEN 2.5 AND 34 FEET BELOW THE TOP OF PAVEMENT/GROUND SURFACE IN B-001-0-02, B-002-0-02, B-008, B-010, B-012, B-013, AND B-015.

LEGEND

	HISTORIC BORING DESCRIPTIONS	ODOT CLASS	CLASSIFIED MECH./VISUAL	
	GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b*	-	*5*
	COARSE AND FINE SAND	*A-3a*	-	*1*
	SILT	*A-4b*	-	*1*
	SILT AND CLAY	*A-6a*	-	*12*
	SILTY CLAY	*A-6b*	-	*1*
	ORGANIC CLAY	*A-8b*	-	*3*
		TOTAL	-	*23*
P	PEAT	*VISUAL*		
XXXXX	PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	*VISUAL*		

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

WC INDICATES WATER CONTENT IN PERCENT.

N INDICATES STANDARD PENETRATION RESISTANCE.

X/Y/Z NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):
X= NUMBER OF BLOWS FOR FIRST 6 INCHES.
Y= NUMBER OF BLOWS FOR SECOND 6 INCHES.
Z= NUMBER OF BLOWS FOR THIRD 6 INCHES.

X/Y/D" NUMBER OF BLOWS FOR STANDARD PENETRATION TEST (SPT):
X= NUMBER OF BLOWS FOR FIRST 6 INCHES.
Y/D"= NUMBER OF BLOWS (UNCORRECTED) FOR D" OF PENETRATION AT REFUSAL.

INDICATES STATIC WATER ELEVATION.

W— INDICATES FREE WATER ELEVATION.

SB INDICATES A SPLIT BARREL/SPLIT SPOON SAMPLE.

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 2012.

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.

DRAWN AJC CHECKED SAT

PEAT DEPOSIT EXPLORATION

POR-303-0.67

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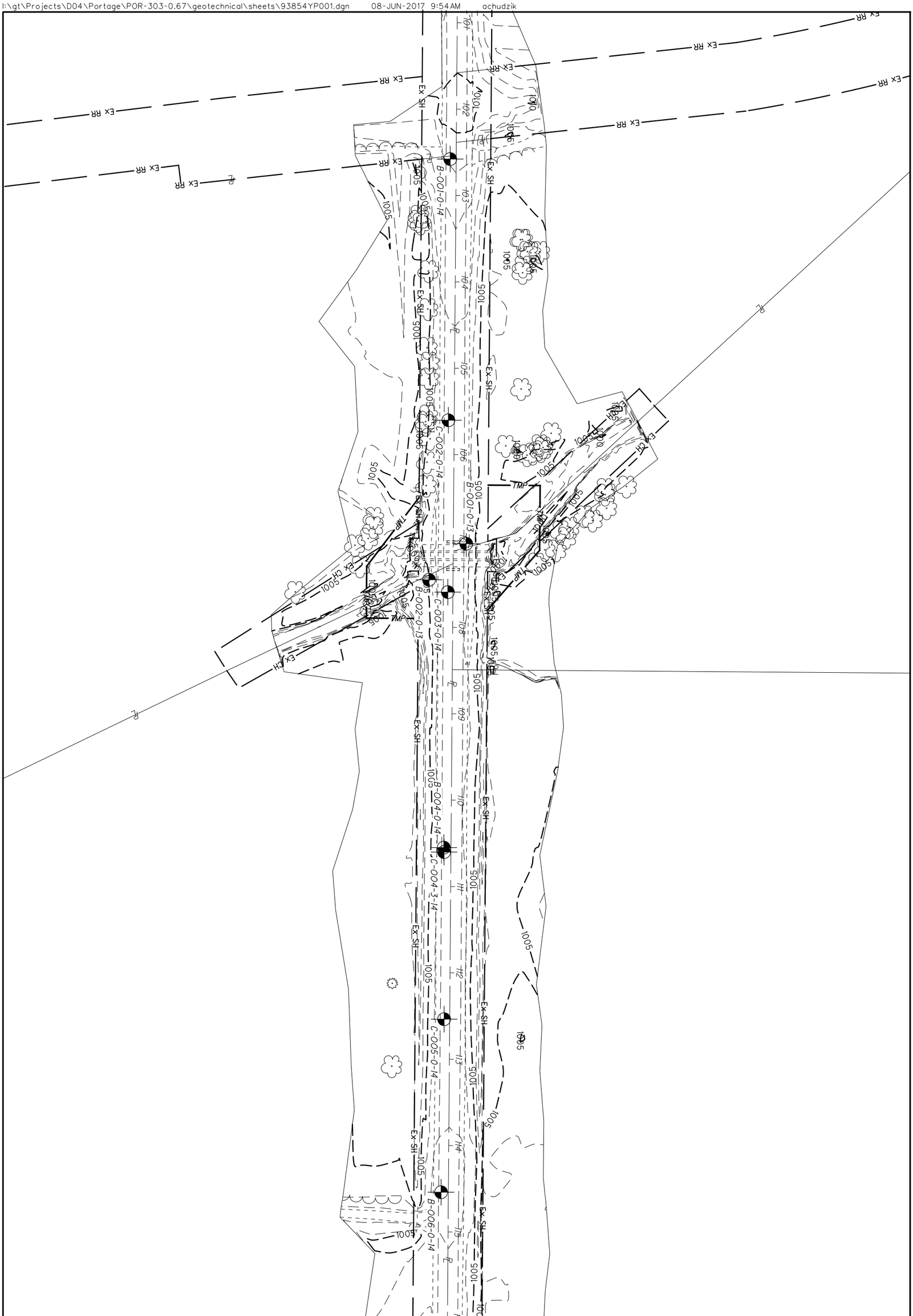
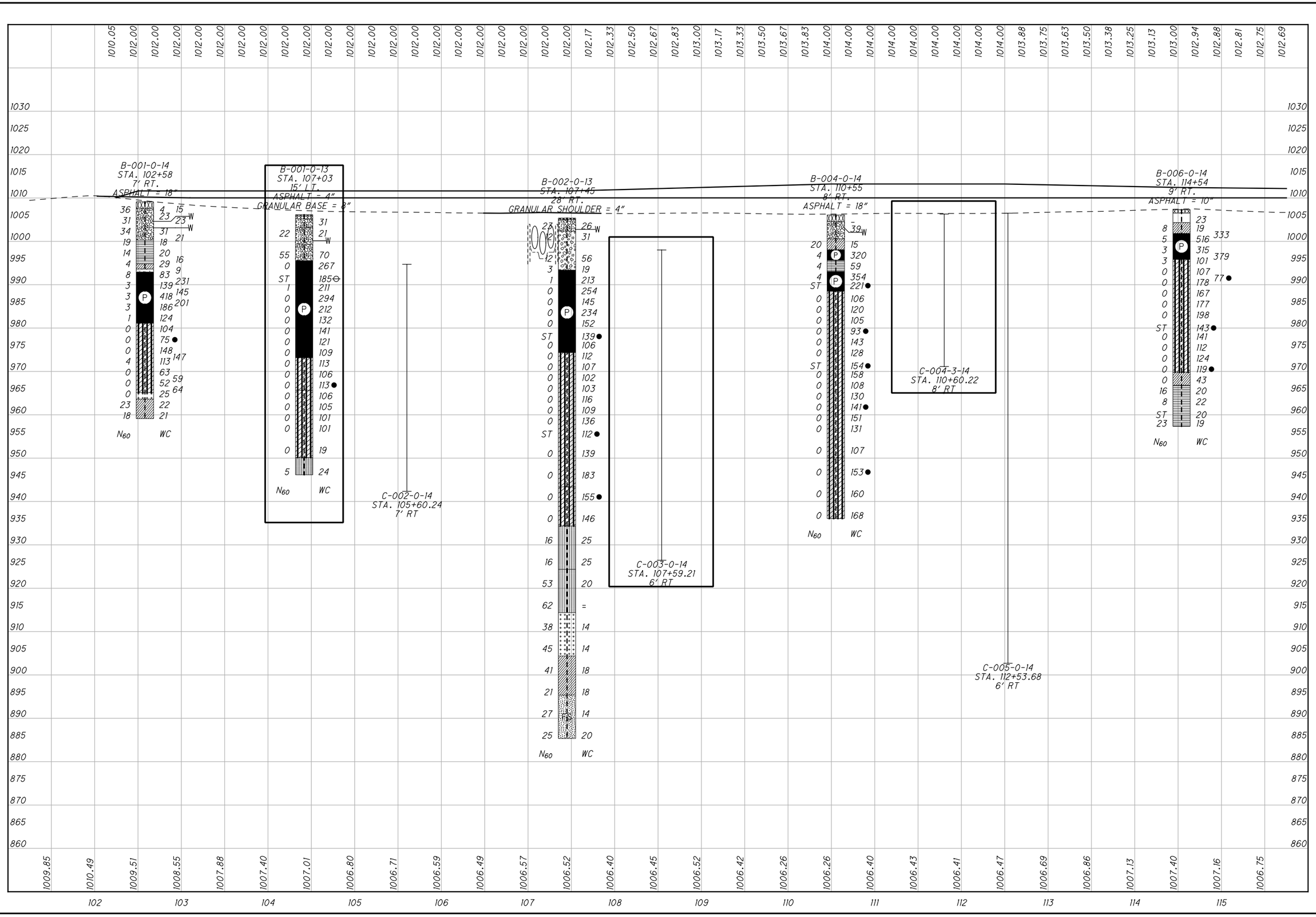


	3/31	POR-303-0.67	PEAT DEPOSIT EXPLORATION PLAN - STA. 101+00.00 TO STA. 116+00.00	DRAWN AJC CHECKED SAT	0 50 25 100 HORIZONTAL SCALE IN FEET



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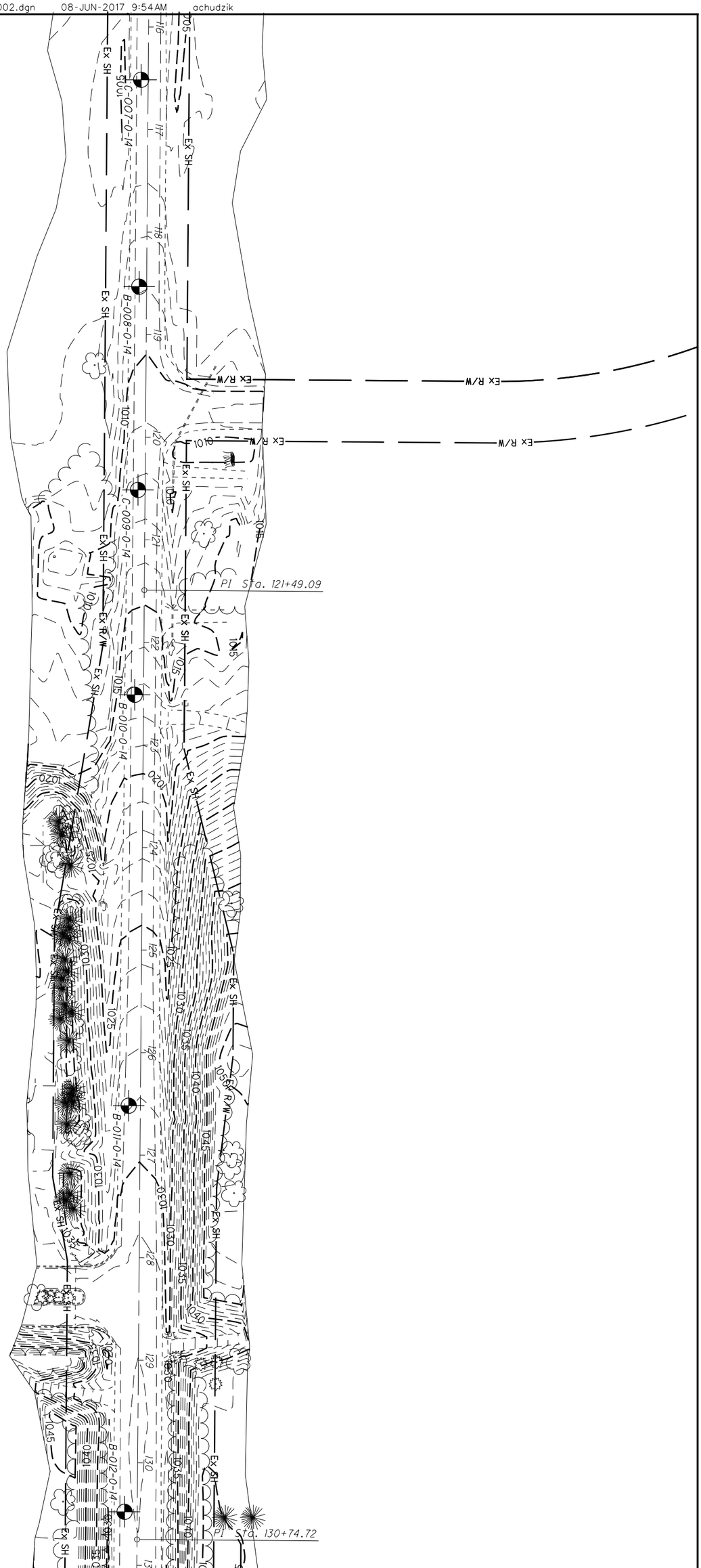
HORIZONTAL SCALE IN FEET
0 25 50 100

DRAWN AJC
CHECKED SAT

PEAT DEPOSIT EXPLORATION
PROFILE - STA. 101+00.00 TO STA. 116+00.00

POR-303-0.67

4 / 31



POR-303-0.67

PEAT DEPOSIT EXPLORATION

PLAN - STA. 116+00.00 TO STA. 131+00.00

DRAWN AJC
CHECKED SAT

0 50
25 100
HORIZONTAL SCALE IN FEET

N

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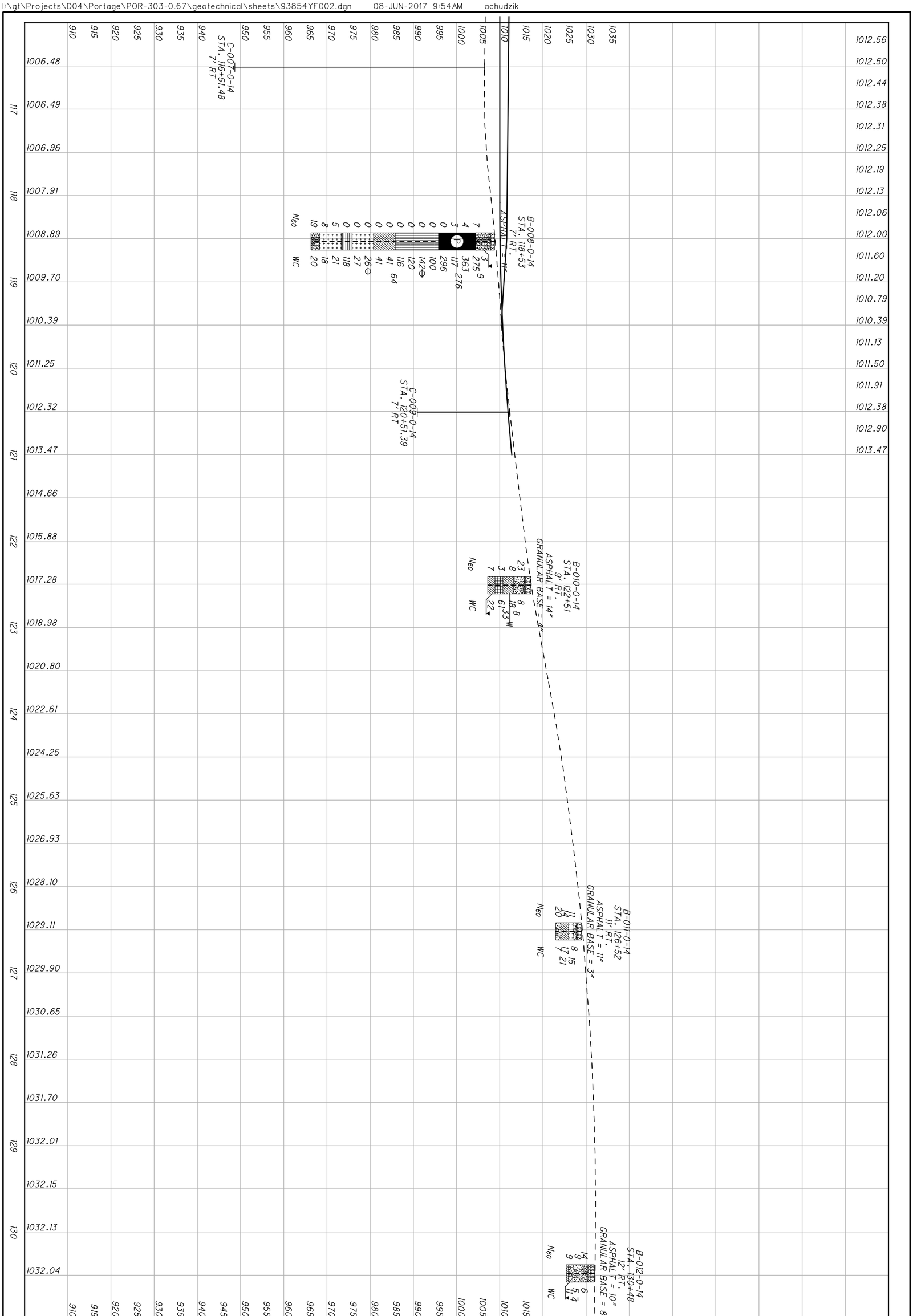

6/31	POR-303-0.67	PEAT DEPOSIT EXPLORATION PROFILE - STA. 116+00.00 TO STA. 131+00.00	DRAWN AJC CHECKED SAT	0 50 25 100 HORIZONTAL SCALE IN FEET

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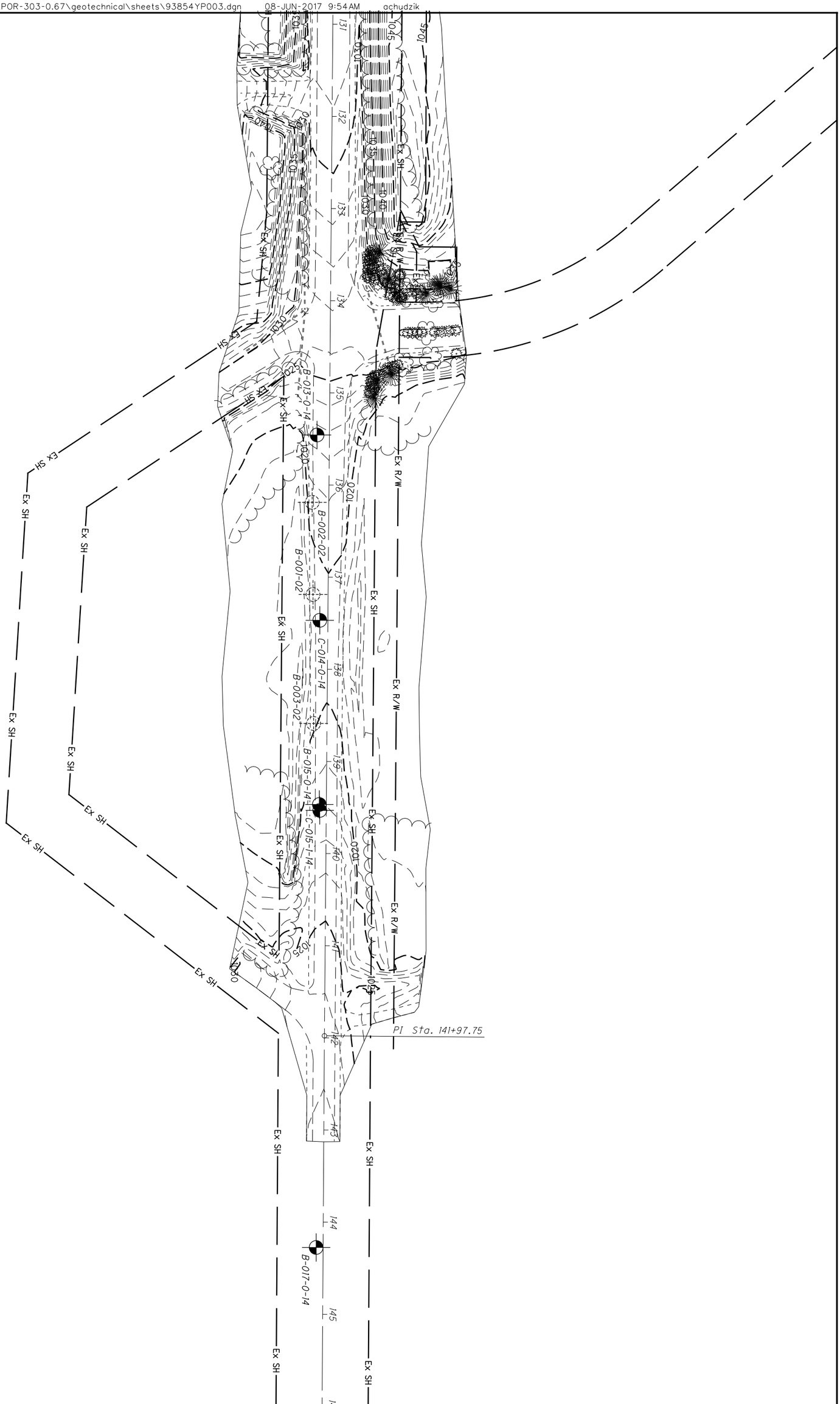
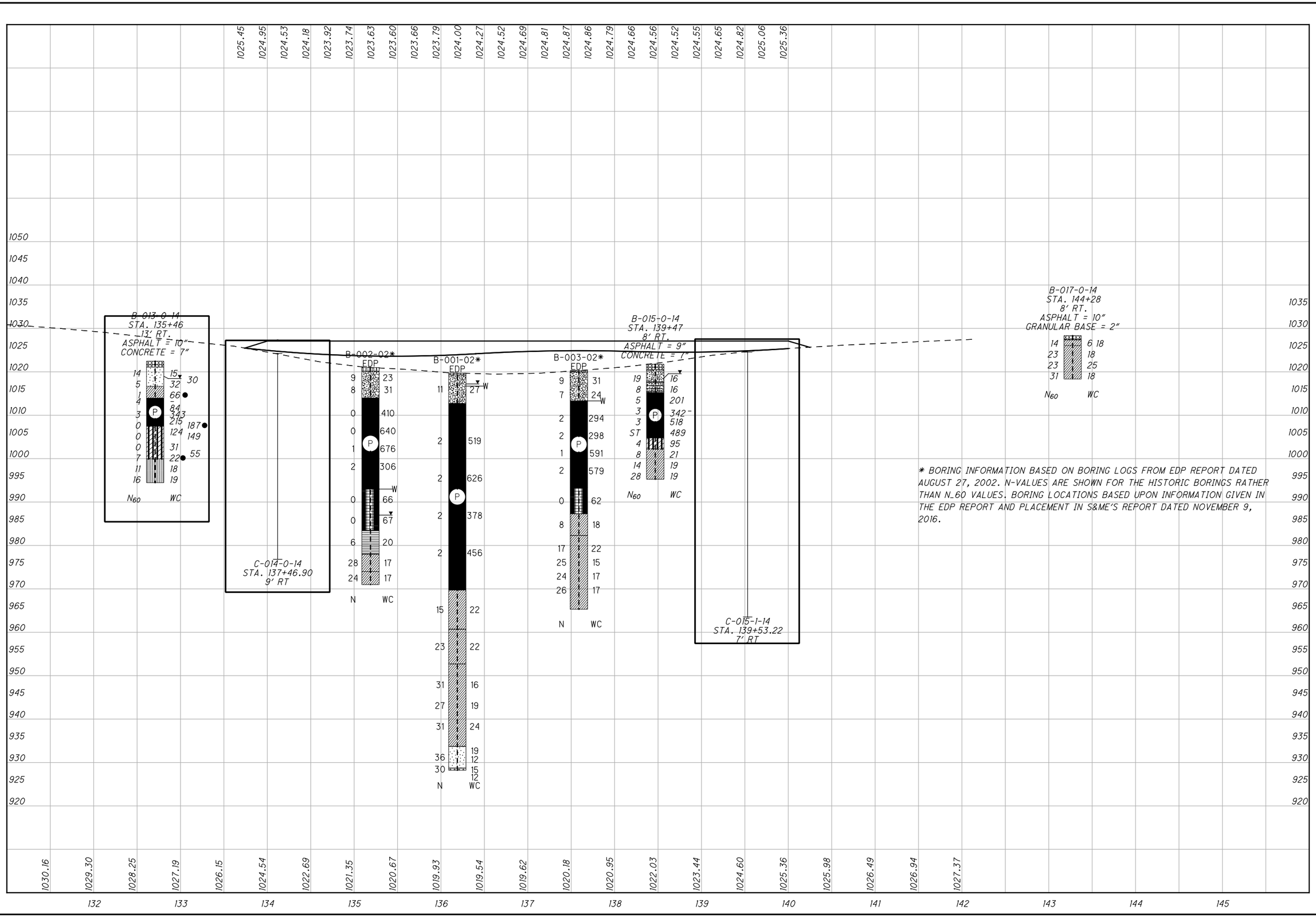


	7/31	POR-303-0.67	PEAT DEPOSIT EXPLORATION PLAN - STA. 131+00.00 TO STA. 146+00.00	DRAWN AJC CHECKED SAT	0 50 25 100 HORIZONTAL SCALE IN FEET



* BORING INFORMATION BASED ON BORING LOGS FROM EDP REPORT DATED AUGUST 27, 2002. N-VALUES ARE SHOWN FOR THE HISTORIC BORINGS RATHER THAN N_60 VALUES. BORING LOCATIONS BASED UPON INFORMATION GIVEN IN THE EDP REPORT AND PLACEMENT IN S&ME'S REPORT DATED NOVEMBER 9, 2016.

0 25 50 100
HORIZONTAL SCALE IN FEET

DRAWN AJC | CHECKED SAT

PEAT DEPOSIT EXPLORATION
PROFILE - STA. 131+00.00 TO STA. 146+00.00

POR-303-0.67

8 / 31

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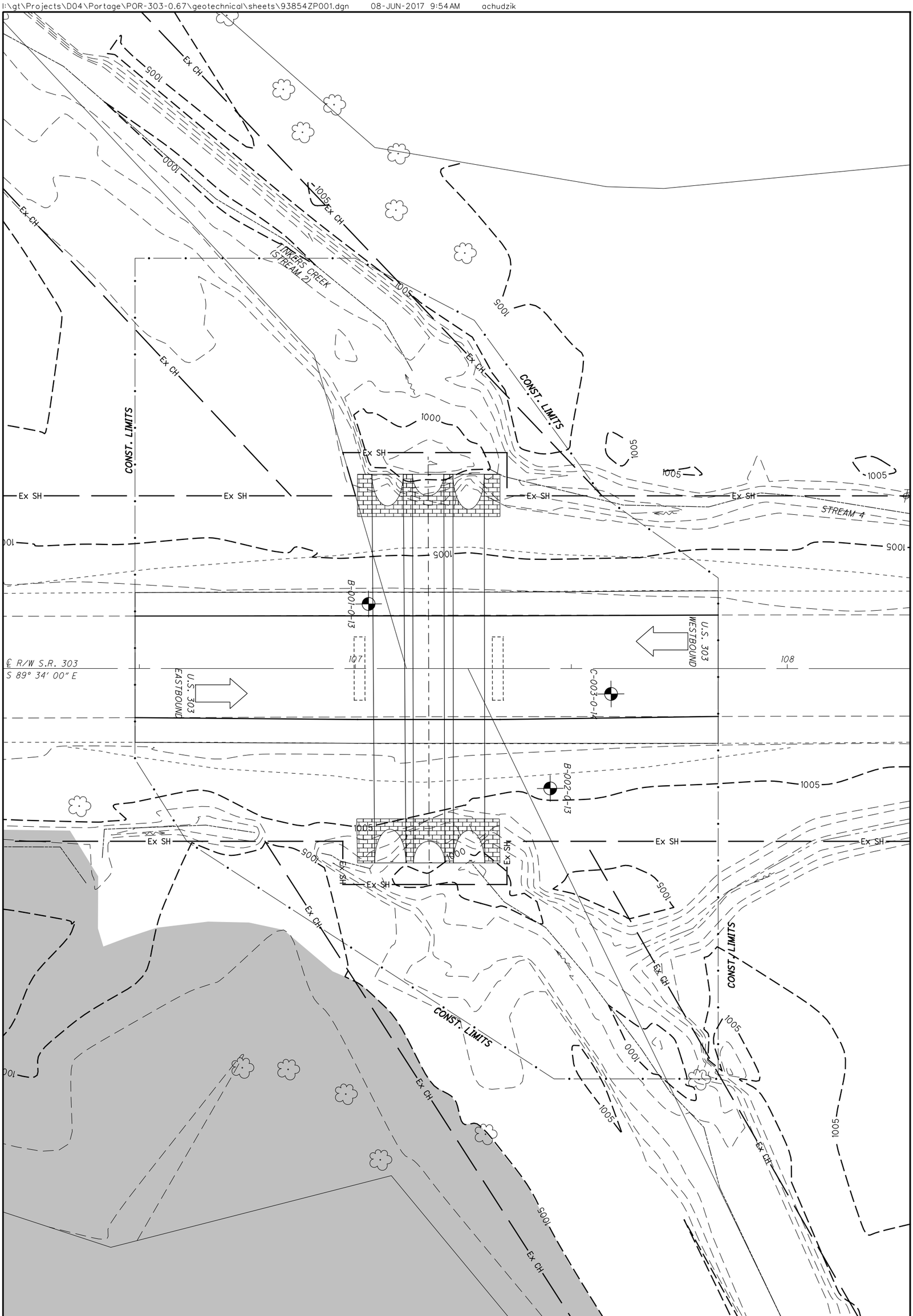
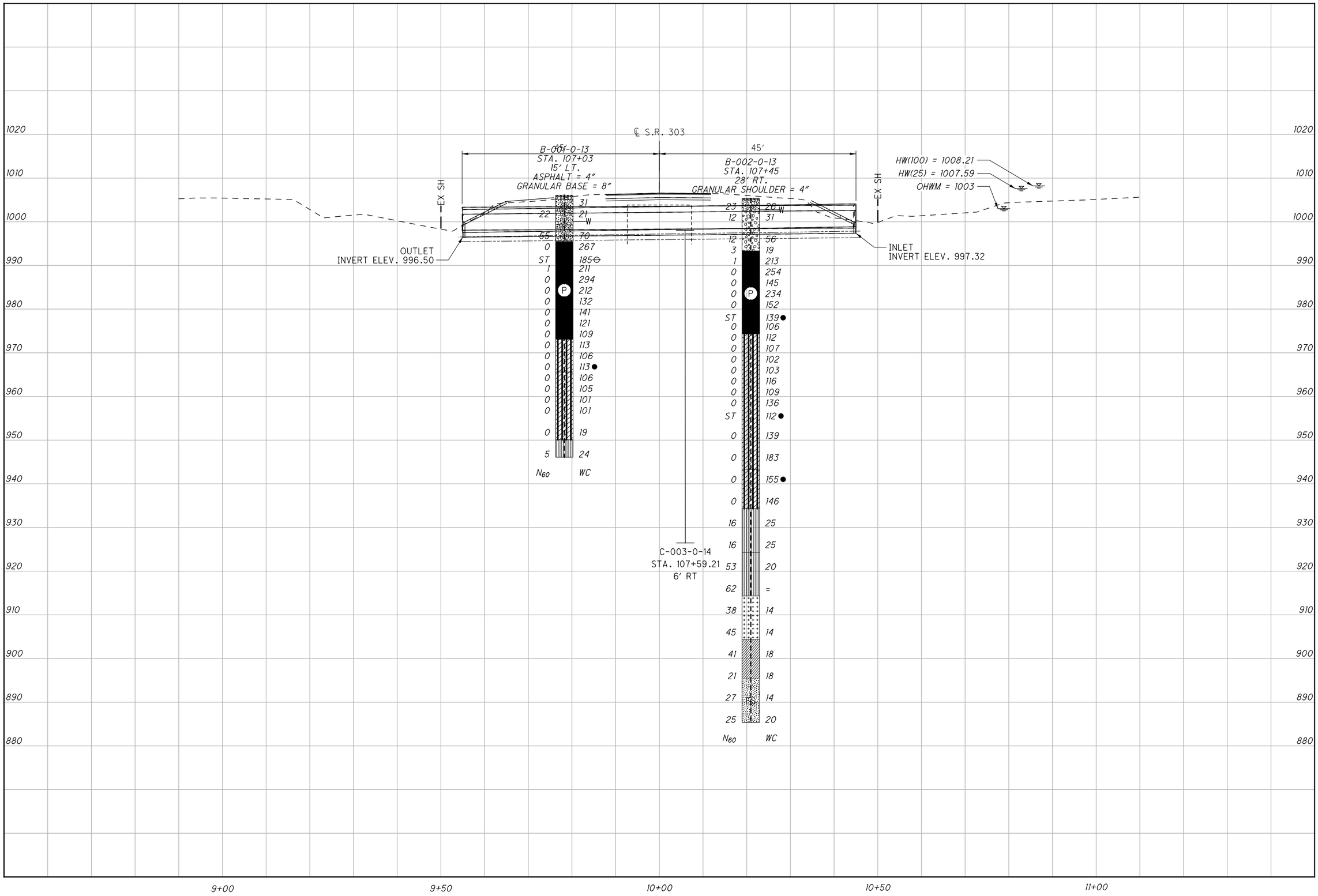


	9/31	POR-303-0.67	STRUCTURE FOUNDATION EXPLORATION CULVERT POR-303-0.67 ON TINKERS CREEK	DRAWN AJC CHECKED SAT	0 5 10 20 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 5 10 20

DRAWN AJC
CHECKED SAT

STRUCTURE FOUNDATION EXPLORATION (PROFILE)
CULVERT POR-303-0.67 ON TINKERS CREEK

POR-303-0.67

10 / 31

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PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / L. HOLLEY	DRILL RIG: TRUCK 55 (AW)	STATION / OFFSET: 107+03, 15' LT.	EXPLORATION ID B-001-0-13
TYPE: CULVERT REPLACEMENT	SAMPLING FIRM / LOGGER: S&ME / T. BLATT	HAMMER: SAFETY HAMMER	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1006.1 (MSL) EOB: 60.0 ft.	PAGE 1 OF 1
START: 1/28/13 END: 1/28/13	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 82	LAT / LONG: 41.239864, 81.378691	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 4 INCHES	1005.8																	
GRANULAR BASE - 8 INCHES	1005.1																	
FILL (CINDERS): VERY-DENSE BROWN **GRAVEL AND/OR STONE FRAGMENTS WITH SAND**, CONTAINS SLAG FRAGMENTS, DAMP.	1003.1		36 50	-	100	SS-1	-	-	-	-	-	-	-	-	-	31	A-1-b (V)	
FILL (CINDERS): MEDIUM-DENSE BROWN **GRAVEL AND/OR STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, FEW COBBLES, DAMP.	999.3	W 1000.1	39 9 7	22	78	SS-2	-	34	34	19	9	4	NP	NP	NP	21	A-1-b (0)	
FILL (CINDERS): VERY-DENSE BLACK-GRAY **GRAVEL AND/OR STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, WET.	995.5		15 26 14	55	100	SS-3	-	-	-	-	-	-	-	-	-	70	A-1-b (V)	
VERY-SOFT TO SOFT BLACK **PEAT**, CONTAINS FEW WOOD FRAGMENTS, FIBROUS, HIGHLY ORGANIC, MOIST.			2 0 0	0	89	SS-4	-	-	-	-	-	-	-	-	-	267	Peat (V)	
SAMPLE ST-5: LOSS ON IGNITION (LOI) = 25.4%					54	ST-5	-	6	17	9	31	37	NP	NP	NP	185	A-8a (7)	
			1 0 1	1	100	SS-6	-	-	-	-	-	-	-	-	-	211	Peat (V)	
			0 0 0	0	100	SS-7	-	-	-	-	-	-	-	-	-	294	Peat (V)	
	983.1		0 0 0	0	100	SS-8	-	-	-	-	-	-	-	-	-	212	Peat (V)	
VERY-SOFT DARK-BROWN **PEAT**, SEDIMENTARY, HIGHLY ORGANIC, MOIST.			0 0 0	0	72	SS-9	-	-	-	-	-	-	-	-	-	132	Peat (V)	
			0 0 0	0	100	SS-10	-	-	-	-	-	-	-	-	-	141	Peat (V)	
	978.1																	
VERY-SOFT BLACK **PEAT**, SEDIMENTARY, HIGHLY ORGANIC, MOIST. SAMPLE SS-11: LOI = 10.8%	976.1		0 0 0	0	100	SS-11	-	-	-	-	-	-	-	-	-	121	Peat (V)	
VERY-SOFT BLACK **PEAT**, LITTLE CLAY, SEDIMENTARY, MOIST.	973.1		0 0 0	0	100	SS-12	-	-	-	-	-	-	-	-	-	109	Peat (V)	
VERY-SOFT BLACK **ELASTIC CLAY**, LITTLE FINE TO COARSE SAND, SOME SILT, MODERATELY ORGANIC, WET.			0 0 0	0	100	SS-13	-	-	-	-	-	-	-	-	-	113	A-7-5 (V)	
			0 0 0	0	100	SS-14	-	-	-	-	-	-	-	-	-	106	A-7-5 (V)	
SAMPLE SS-15: LOI = 7.0%. SAMPLE SS-15: OVEN DRIED LIQUID LIMIT (OD LL) RATIO = 0.80	965.6		0 0 0	0	100	SS-15	-	0	14	8	33	45	74	48	26	113	A-7-5 (18)	
VERY-SOFT BLACK **ELASTIC CLAY**, SOME FINE TO COARSE SAND, SOME SILT, MODERATELY ORGANIC, WET.			0 0 0	0	100	SS-16	-	-	-	-	-	-	-	-	-	106	A-7-5 (V)	
			0 0 0	0	100	SS-17	-	-	-	-	-	-	-	-	-	105	A-7-5 (V)	
			0 0 0	0	100	SS-18	-	-	-	-	-	-	-	-	-	101	A-7-5 (V)	
			0 0 0	0	100	SS-19	-	-	-	-	-	-	-	-	-	101	A-7-5 (V)	
	950.1		0 0 0	0	100	SS-20	-	-	-	-	-	-	-	-	-	19	A-7-5 (V)	
MEDIUM-STIFF TO STIFF BROWN **SANDY SILT**, "AND" CLAY, TRACE FINE GRAVEL, MOIST.	946.1	EOB	2 2 2	5	39	SS-21	-	-	-	-	-	-	-	-	-	24	A-4a (V)	

- ENCOUNTERED GROUNDWATER AT 6.0'. GROUNDWATER ROSE TO 1.2' WITHIN AUGERS.
- ENCOUNTERED COBBLES AT 4.0' AND 6.5'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: 25 LB. BENTONITE; 94 LB. CEMENT; HOLE PLUG DEVICE AND ASPHALT PATCH; 35 GAL. WATER

POR-303-0.67

CULVERT EXPLORATION
BORING LOG B-001-0-13

DRAWN AJC
CHECKED SAT

PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / L. HOLLEY	DRILL RIG: TRUCK 55 (AW)	STATION / OFFSET: 107+45, 28' RT.	EXPLORATION ID B-002-0-13
TYPE: CULVERT REPLACEMENT	SAMPLING FIRM / LOGGER: S&ME / T. BLATT	HAMMER: SAFETY HAMMER	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1005.3 (MSL) EOB: 120.0 ft.	PAGE 1 OF 2
START: 1/29/13 END: 1/31/13	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 82	LAT / LONG: 41.239744, 81.378541	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
GRANULAR SHOULDER - 4 INCHES	1005.0																	
FILL (CINDERS): MEDIUM-DENSE BROWN **GRAVEL AND/OR STONE FRAGMENTS WITH SAND**, TRACE SILT, TRACE CLAY, CONTAINS SLAG FRAGMENTS, DAMP.	1002.3	W 1002.7	11 9 8	23	100	SS-1	-	-	-	-	-	-	-	-	-	26	A-1-b (V)	
FILL (CINDERS): MEDIUM-DENSE BLACK **GRAVEL AND/OR STONE FRAGMENTS** "AND" FINE TO COARSE SAND, TRACE SILT, TRACE CLAY, FEW COBBLES, WET.			9 5 4	12	72	SS-2	-	-	-	-	-	-	-	-	-	31	A-1-a (V)	
			14 7 2	12	56	SS-3	-	-	-	-	-	-	-	-	-	56	A-1-a (V)	
	993.3		3 1 1	3	33	SS-4	-	52	24	14	6	4	NP	NP	NP	19	A-1-a (0)	
VERY-SOFT TO SOFT BLACK **PEAT**, CONTAINS FEW WOOD FRAGMENTS, FIBROUS, HIGHLY ORGANIC, MOIST.			1 1 0	1	100	SS-5	-	-	-	-	-	-	-	-	-	213	Peat (V)	
			0 0 0	0	100	SS-6	-	-	-	-	-	-	-	-	-	254	Peat (V)	
	987.3		0 0 0	0	100	SS-7	-	-	-	-	-	-	-	-	-	145	Peat (V)	
VERY-SOFT TO SOFT BROWN **PEAT**, CONTAINS FEW WOOD FRAGMENTS AND SHELLS, HIGHLY ORGANIC, MOIST. SAMPLE SS-7: LOI = 17.9%.			0 0 0	0	100	SS-8	-	-	-	-	-	-	-	-	-	234	Peat (V)	
			0 0 0	0	100	SS-9	-	-	-	-	-	-	-	-	-	152	Peat (V)	
	979.8				100	ST-10	-	1	2	11	50	36	95	72	23	139	A-7-5 (17)	
VERY-SOFT TO SOFT BLACK MOTTLED WITH GRAY **PEAT**, CONTAINS FEW SHELLS, SEDIMENTARY, HIGHLY ORGANIC, MOIST. SAMPLE ST-10: LOI = 11.7%. SAMPLE ST-10: OD LL RATIO = 0.79			0 0 0	0	100	SS-11	-	-	-	-	-	-	-	-	-	106	Peat (V)	
	974.3		0 0 0	0	100	SS-12	-	-	-	-	-	-	-	-	-	112	A-7-5 (V)	
VERY-SOFT BLACK **ELASTIC CLAY**, SOME SILT, TRACE FINE TO COARSE SAND, TRACE FINE GRAVEL, MODERATELY ORGANIC, WET.			0 0 0	0	100	SS-13	-	-	-	-	-	-	-	-	-	107	A-7-5 (V)	
			0 0 0	0	100	SS-14	-	-	-	-	-	-	-	-	-	102	A-7-5 (V)	
			0 0 0	0	100	SS-15	-	-	-	-	-	-	-	-	-	103	A-7-5 (V)	
			0 0 0	0	100	SS-16	-	-	-	-	-	-	-	-	-	116	A-7-5 (V)	
BASED ON OD LL RATIO FROM SAMPLE ST-19, PORTIONS OF THIS LAYER WOULD CLASSIFY AS **ORGANIC CLAY** (A-8B).			0 0 0	0	100	SS-17	-	-	-	-	-	-	-	-	-	109	A-7-5 (V)	
			0 0 0	0	100	SS-18	-	-	-	-	-	-	-	-	-	136	A-7-5 (V)	
SAMPLE ST-19: LOI = 4.6% SAMPLE ST-19: OD LL RATIO = 0.57					100	ST-19	-	1	1	1	31	66	108	40	68	112	A-8b (20)	
			0 0 0	0	100	SS-20	-	-	-	-	-	-	-	-	-	139	A-7-5 (V)	
			0 0 0	0	100	SS-21	-	-	-	-	-	-	-	-	-	183	A-7-5 (V)	

BORING LOG CONTINUED ON SHEET NO. 13

PID: 93854 | SFN: | PROJECT: POR-303-0.67 | STATION / OFFSET: 107+45, 28' RT. | START: 1/29/13 | END: 1/31/13 | PG 2 OF 2 | B-002-0-13

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
	943.8																	
VERY-SOFT BLACK **ELASTIC CLAY** "AND" FINE TO COARSE SAND, LITTLE SILT, TRACE FINE GRAVEL, MODERATELY ORGANIC, WET. SAMPLE SS-22: LOI = 4.2% SAMPLE SS-22: OD LL RATIO = 0.90	943.3	62–64	0 0 0	0	100	SS-22	-	0	52	12	18	18	68	57	11	155	A-7-5 (1)	
		64–69																
		69–70	0 0 0	0	100	SS-23	-	-	-	-	-	-	-	-	-	146	A-7-5 (V)	
	934.3	70–74																
VERY-STIFF BROWN **SANDY SILT** "AND" CLAY, MOIST.		74–75	9 7 5	16	56	SS-24	-	0	0	1	32	67	32	22	10	25	A-4a (8)	
		75–79																
		79–80	9 7 5	16	56	SS-25	-	-	-	-	-	-	-	-	-	25	A-4a (V)	
	924.3	80–84																
VERY-STIFF TO HARD BROWN **SANDY SILT** "AND" CLAY, TRACE FINE TO COARSE GRAVEL, FEW COBBLES, MOIST.		84–85	31 19 20	53	33	SS-26	-	-	-	-	-	-	-	-	-	20	A-4a (V)	
		85–89																
		89–90	26 21 24	62	0	SS-27	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
	914.3	90	11	-	0	--	-	-	-	-	-	-	-	-	-	-	A-4a (V)	
VERY-STIFF TO HARD GRAY **SILT**, SOME CLAY, LITTLE FINE TO COARSE SAND, TRACE FINE TO COARSE GRAVEL, CONTAINS FEW FINE SAND POCKETS, DAMP.		91–94																
		94–95	4 12 16	38	44	SS-28	-	3	3	12	50	32	23	16	7	14	A-4b (8)	
		95–99																
		99–100	8 14 19	45	100	SS-29	-	-	-	-	-	-	-	-	-	14	A-4b (V)	
	904.3	100–104																
VERY-STIFF GRAY **SILT AND CLAY**, TRACE FINE TO COARSE SAND, TRACE FINE TO COARSE GRAVEL, CONTAINS FEW SAND POCKETS, DAMP.		104–105	11 14 16	41	100	SS-30	-	2	1	5	45	47	30	19	11	18	A-6a (8)	
		105–109																
		109–110	3 6 9	21	78	SS-31	-	-	-	-	-	-	-	-	-	18	A-6a (V)	
	895.3	110–114																
MEDIUM-DENSE GRAY **FINE SAND**, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, FEW ZONES INTERBEDDED WITH SILT, WET.		114–115	5 8 12	27	100	SS-32	-	-	-	-	-	-	-	-	-	14	A-3a (V)	
		115–119																
	885.3	119–120	7 9 9	25	56	SS-33	-	7	23	44	20	6	NP	NP	NP	20	A-3a (0)	
		EOB 120																

- ENCOUNTERED WATER AT 2.6'.
- ENCOUNTERED COBBLES AT 5.0', 6.6', AND 88.5'.
- DRILLING MUD ADDED TO AUGERS AT 43.5'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: 75 LB. BENTONITE; 282 LB. CEMENT; HOLE PLUG DEVICE AND ASPHALT PATCH; 105 GAL. WATER

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PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / M. WOLF	DRILL RIG: ATV 550X (AW)	STATION / OFFSET: 102+58, 7' RT.	EXPLORATION ID B-001-0-14
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: S&ME / K. DOHLEN	HAMMER: CME AUTOMATIC	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1009.1 (MSL) EOB: 50.0 ft.	PAGE 1 OF 1
START: 5/19/14 END: 5/19/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.239829, 81.380311	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 18 INCHES	1009.1																	
	1007.6		32	-	100	SS-1A	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	
FILL (CINDERS): DENSE BROWN AND BLACK **GRAVEL WITH SAND**, CONTAINS ASPHALT FRAGMENTS, DAMP TO WET.			13 14	36	100	SS-1B	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
			15	-	100	SS-2A	-	-	-	-	-	-	-	-	-	23	A-1-b (V)	
		W 1004.6	12 11	31	100	SS-2B	-	33	38	18	9	2	NP	NP	NP	23	A-1-b (0)	
		W 1003.1																
			7 6 19	34	78	SS-3	-	-	-	-	-	-	-	-	-	31	A-1-b (V)	
	1000.3		3	-	100	SS-4A	-	-	-	-	-	-	-	-	-	21	A-1-b (V)	
MEDIUM-STIFF TO VERY-STIFF BROWN MOTTLED WITH GRAY **SILTY CLAY**, LITTLE FINE TO COARSE SAND, TRACE FINE GRAVEL, SLIGHT HYDROCARBON SMELL, MOIST.			6 8	19	100	SS-4B	-	5	5	10	30	50	40	20	20	18	A-6b (12)	
			2 3 7	14	67	SS-5	-	-	-	-	-	-	-	-	-	20	A-6b (V)	
	996.1																	
STIFF GRAY AND BROWN **SILTY CLAY**, LITTLE FINE TO COARSE SAND, TRACE FINE GRAVEL, CONTAINS FEW SAND POCKETS, MOIST.	994.8		2	-	100	SS-6A	-	-	-	-	-	-	-	-	-	16	A-6b (V)	
			2 1	4	58	SS-6B	-	-	-	-	-	-	-	-	-	29	A-6a (V)	
VERY-SOFT TO SOFT GRAY INTERMIXED WITH BLACK **SILT AND CLAY**, LITTLE FINE TO COARSE SAND, TRACE FINE GRAVEL, WET.	993.6																	
	992.9		3	-	100	SS-7A	-	-	-	-	-	-	-	-	-	9	A-3a (V)	
LOOSE BROWN **COARSE AND FINE SAND**, TRACE SILT, TRACE CLAY, DAMP.			2 4	8	17	SS-7B	-	-	-	-	-	-	-	-	-	83	Peat (V)	
VERY-SOFT TO SOFT BROWN AND BLACK **PEAT**, WOODY, HIGHLY ORGANIC, DAMP TO WET.																		
			0	-	100	SS-8A	-	-	-	-	-	-	-	-	-	231	Peat (V)	
- SAMPLE SS-7B: LOSS ON IGNITION (LOI) = 52.2%			1 1	3	100	SS-8B	-	-	-	-	-	-	-	-	-	139	Peat (V)	
			1	-	100	SS-9A	-	-	-	-	-	-	-	-	-	145	Peat (V)	
			1 1	3	100	SS-9B	-	-	-	-	-	-	-	-	-	418	Peat (V)	
			0	-	100	SS-10A	-	-	-	-	-	-	-	-	-	201	Peat (V)	
- SAMPLE SS-10A: LOSS ON IGNITION (LOI) = 16.5%			1 1	3	100	SS-10B	-	-	-	-	-	-	-	-	-	186	Peat (V)	
			0 0 1	1	100	SS-11	-	-	-	-	-	-	-	-	-	124	Peat (V)	
	981.1																	
VERY-SOFT TO SOFT GRAY BECOMING BLACK **ELASTIC CLAY**, TRACE SAND, CONTAINS WOOD FRAGMENTS AND SEA SHELLS, MOIST.			0 0 0	0	100	SS-12	-	-	-	-	-	-	-	-	-	104	A-7-5 (V)	
- SAMPLE SS-13: OVER DRIED LIQUID LIMIT (OD LL) RATIO = 0.52			0 0 0	0	100	SS-13	-	0	0	2	46	52	63	33	30	75	A-7-5 (20)	
			0 0 0	0	100	SS-14	-	-	-	-	-	-	-	-	-	148	A-7-5 (V)	
			0	-	100	SS-15A	-	-	-	-	-	-	-	-	-	147	A-7-5 (V)	
			1 2	4	100	SS-15B	-	-	-	-	-	-	-	-	-	113	A-7-5 (V)	
			0 0 0	0	67	SS-16	-	-	-	-	-	-	-	-	-	63	A-7-5 (V)	
			0	-	100	SS-17A	-	0	0	0	34	66	64	45	19	59	A-7-5 (16)	
			0 0	0	50	SS-17B	-	-	-	-	-	-	-	-	-	52	A-7-5 (V)	
	965.1		0	-	100	SS-18A	-	-	-	-	-	-	-	-	-	64	A-7-5 (V)	
VERY-LOOSE GRAY **SILT**, SOME FINE TO COARSE SAND, WET.	963.6		0 0	0	100	SS-18B	-	-	-	-	-	-	-	-	-	25	A-4b (V)	
VERY-STIFF TO HARD BROWN **SILTY CLAY**, TRACE FINE TO COARSE SAND, TRACE GRAVEL, CONTAINS FEW SHALE FRAGMENTS, MOIST.			3 7 10	23	56	SS-19	-	3	2	3	15	77	37	19	18	22	A-6b (11)	
	959.1	EOB	3 5 8	18	72	SS-20	-	-	-	-	-	-	-	-	-	21	A-6b (V)	

- SEEPAGE ENCOUNTERED AT 4.5' DURING DRILLING.
- GROUNDWATER ENCOUNTERED AT 6' DURING DRILLING.
- ENCOUNTERED POSSIBLE COBBLES AT 8.'

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 25 LB. BENTONITE; 94 LB. CEMENT; 40 GAL. WATER

PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / M. WOLF	DRILL RIG: ATV 550X (AW)	STATION / OFFSET: 110+55, 8' RT.	EXPLORATION ID B-004-0-14
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: S&ME / M. WOLF	HAMMER: CME AUTOMATIC	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1006.1 (MSL) EOB: 70.0 ft.	PAGE 1 OF 2
START: 5/22/14 END: 5/22/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.239780, 81.377413	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 18 INCHES	1006.1																	
	1004.6	1	50	-	100	SS-1	-	-	-	-	-	-	-	-	-	-	Visual (V)	
FILL (CINDERS): VERY-DENSE BLACK **GRAVEL WITH SAND**, CONTAINS SLAG FRAGMENTS, MOIST.		2																
		W 1003.1 3																
		4	50/5"	-	100	SS-2	-	-	-	-	-	-	-	-	-	39	A-1-b (V)	
	1000.6	5																
POSSIBLE FILL: STIFF TO VERY-STIFF BROWN **SILT AND CLAY**, SOME FINE TO COARSE SAND, TRACE FINE GRAVEL, MOIST.		6																
	998.1	7	16 9 6	20	33	SS-3	-	-	-	-	-	-	-	-	-	15	A-6a (V)	
VERY-SOFT TO SOFT BLACK AND BROWN **PEAT**, FIBROUS, CONTAINS, FEW WOOD FRAGMENTS, HIGHLY ORGANIC, WET. (P)		8																
	995.6	9	1 1 2	4	67	SS-4	-	-	-	-	-	-	-	-	-	320	Peat (V)	
VERY-SOFT BROWN **SILTY CLAY**, LITTLE FINE TO COARSE SAND, TRACE FINE GRAVEL, CONTAINS ORGANIC POCKETS, MOIST.		10																
	993.1	11	1 1 2	4	44	SS-5	-	-	-	-	-	-	-	-	-	59	A-6b (V)	
VERY-SOFT BLACK **PEAT**, CONTAINS WOOD FRAGMENTS, FIBROUS, HIGHLY ORGANIC, WET.		12																
		13																
		14	1 1 2	4	72	SS-6	-	-	-	-	-	-	-	-	-	354	Peat (V)	
- SAMPLE ST-7: OVEN DRIED LIQUID LIMIT (ODLL) RATIO = 0.76 - SAMPLE ST-7: LOSS OF IGNITION (LOI) = 31.2% (P)		15																
		16			100	ST-7	-	20	5	16	30	29	108	87	21	221	A-7-5 (12)	
	988.5	17																
VERY-SOFT TO SOFT DARK-GRAY AND BLACK **ELASTIC CLAY**, LITTLE FINE TO COARSE SAND, TRACE TO LITTLE FINE GRAVEL, CONTAINS SEA SHELLS AND DECAYED WOOD, HIGHLY ORGANIC, MOIST.		18																
		19	0 0 0	0	100	SS-8	-	-	-	-	-	-	-	-	-	106	A-7-5 (V)	
		20																
		21																
		22	0 0 0	0	100	SS-9	-	-	-	-	-	-	-	-	-	120	A-7-5 (V)	
		23																
		24	0 0 0	0	100	SS-10	-	-	-	-	-	-	-	-	-	105	A-7-5 (V)	
		25																
		26																
- BASED ON ODLL RATIO FROM SAMPLE SS-11, PORTIONS OF THIS LAYER WOULD CLASSIFY AS ORGANIC CLAY (A-86).		27	0 0 0	0	100	SS-11	-	0	0	6	53	41	75	42	33	93	A-8b (20)	
- SAMPLE SS-11: OVEN DRIED LIQUID LIMIT (ODLL) RATIO = 0.72		28																
		29	0 0 0	0	100	SS-12	-	-	-	-	-	-	-	-	-	143	A-7-5 (V)	
		30																
		31																
		32	0 0 0	0	100	SS-13	-	-	-	-	-	-	-	-	-	128	A-7-5 (V)	
		33																
- SAMPLE ST-14: OVEN DRIED LIQUID LIMIT (ODLL) RATIO = 0.83 - SAMPLE ST-14: LOSS ON IGNITION (LOI) = 14.2%		34																
		35			100	ST-14	-	3	1	14	51	31	92	72	20	154	A-7-5 (16)	
		36																
		37	0 0 0	0	72	SS-15	-	-	-	-	-	-	-	-	-	158	A-7-5 (V)	
		38																
		39	0 0 0	0	100	SS-16	-	-	-	-	-	-	-	-	-	108	A-7-5 (V)	
		40																
		41																
		42	0 0 0	0	100	SS-17	-	-	-	-	-	-	-	-	-	130	A-7-5 (V)	
		43																
		44	0 0 0	0	100	SS-18	-	12	3	10	33	42	87	60	27	141	A-7-5 (19)	
		45																
		46																
		47	0 0 0	0	100	SS-19	-	-	-	-	-	-	-	-	-	151	A-7-5 (V)	
		48																
		49	0 0 0	0	100	SS-20	-	-	-	-	-	-	-	-	-	131	A-7-5 (V)	
		50																
		51																
		52																
		53																
		54	0 0 0	0	100	SS-21	-	-	-	-	-	-	-	-	-	107	A-7-5 (V)	
		55																
	950.1	56																
VERY-SOFT BROWN MOTTLED WITH BLACK **ELASTIC CLAY**, TRACE FINE SAND, SOME FINE GRAVEL, MOIST.		57																
		58																
		59	0 0 0	0	100	SS-22	-	28	0	9	16	47	96	52	44	153	A-7-5 (16)	

BORING LOG CONTINUED ON SHEET NO. 16

PID: 93854	SFN:	PROJECT: POR-303-0.67	STATION / OFFSET: 110+55, 8' RT.	START: 5/22/14	END: 5/22/14	PG 2 OF 2	B-004-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
VERY-SOFT BROWN MOTTLED WITH BLACK **ELASTIC CLAY**, TRACE FINE SAND, SOME FINE GRAVEL, MOIST. *(continued)*	946.1	61																
		62																
		63																
		64	0 0 0	0	100	SS-23	-	-	-	-	-	-	-	-	-	160	A-7-5 (V)	
		65																
		66																
		67																
		68																
		69	0 0 0	0	100	SS-24	-	-	-	-	-	-	-	-	-	168	A-7-5 (V)	
	936.1	EOB 70																

- GROUNDWATER ENCOUNTERED AT 3' DURING DRILLING.
- BORING TERMINATED UPON ENCOUNTERING ARTISAN GROUNDWATER AT 70'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 2 BAGS BENTONITE; 4 BAGS CEMENT

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PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / M. WOLF	DRILL RIG: ATV 550X (AW)	STATION / OFFSET: 114+54, 9' RT.	EXPLORATION ID B-006-0-14
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: S&ME / K. DOHLEN	HAMMER: CME AUTOMATIC	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1007.3 (MSL) EOB: 50.0 ft.	PAGE 1 OF 1
START: 5/20/14 END: 5/20/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.239757, 81.375962	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1007.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 10 INCHES	1006.5																	
FILL (CINDERS): VERY-DENSE BLACK **GRAVEL WITH SAND**, CONTAINS SLAG FRAGMENTS, DRY.	1004.3	1	50	-	17	SS-1	-	-	-	-	-	-	-	-	-	23	A-1-b (V)	
FILL: STIFF TO VERY-STIFF BROWN INTERMIXED WITH GRAY **SILT AND CLAY**, SOME FINE TO COARSE SAND, LITTLE GRAVEL, CONTAINS FEW SANDSTONE FRAGMENTS, MOIST.	1001.8	2	3 3 3	8	78	SS-2	-	-	-	-	-	-	-	-	-	19	A-6a (V)	
VERY-SOFT BLACK **PEAT**, LOAMY, FIBROUS, HIGHLY ORGANIC, WET. - SAMPLE SS-3B: LOSS ON IGNITION (LOI) = 56.97%	995.8	3	1	-	100	SS-3A	-	-	-	-	-	-	-	-	-	333	Peat (V)	
		4	2 2	5	100	SS-3B	-	-	-	-	-	-	-	-	-	516	Peat (V)	
		5																
		6	0 1 1	3	72	SS-4	-	-	-	-	-	-	-	-	-	315	Peat (V)	
		7																
		8	0	-	100	SS-5A	-	-	-	-	-	-	-	-	-	379	Peat (V)	
VERY-SOFT DARK-GRAY MOTTLED WITH BLACK AND BROWN **ELASTIC CLAY**, TRACE FINE TO COARSE SAND, TRACE FINE GRAVEL, CONTAINS DECAYED WOOD FRAGMENTS AND SEA SHELLS, HIGHLY ORGANIC, MOIST.		9	1 1	3	100	SS-5B	-	-	-	-	-	-	-	-	-	101	A-7-5 (V)	
		10	0 0 0	0	67	SS-6	-	-	-	-	-	-	-	-	-	107	A-7-5 (V)	
		11	0	-	100	SS-7A	-	0	0	3	57	40	63	36	27	77	A-7-5 (19)	
		12	0 0 0	0	67	SS-7B	-	-	-	-	-	-	-	-	-	178	A-7-5 (V)	
		13																
		14	0 0 0	0	61	SS-8	-	-	-	-	-	-	-	-	-	167	A-7-5 (V)	
		15																
		16	0 0 0	0	100	SS-9	-	-	-	-	-	-	-	-	-	177	A-7-5 (V)	
		17																
		18	0 0 0	0	72	SS-10	-	-	-	-	-	-	-	-	-	198	A-7-5 (V)	
- SAMPLE ST-11: LOSS ON IGNITION (LOI) = 10.5%		19			100	ST-11	-	0	0	2	55	43	88	47	41	143	A-7-5 (20)	
		20																
		21	0 0 0	0	100	SS-12	-	-	-	-	-	-	-	-	-	141	A-7-5 (V)	
		22																
		23	0 0 0	0	100	SS-13	-	-	-	-	-	-	-	-	-	112	A-7-5 (V)	
		24																
		25	0 0 0	0	100	SS-14	-	-	-	-	-	-	-	-	-	124	A-7-5 (V)	
		26																
		27	0 0 0	0	100	SS-15	-	5	2	4	51	38	99	64	35	119	A-7-5 (20)	
	969.8	28																
VERY-SOFT GRAY **SILT AND CLAY**, TRACE FINE TO COARSE SAND, CONTAINS FEW SEA SHELLS, WET.	966.8	29	0 0 0	0	133	SS-16	-	-	-	-	-	-	-	-	-	43	A-6a (V)	
		30																
		31																
		32																
		33																
		34																
		35																
		36																
		37																
		38																
		39																
		40																
STIFF TO HARD GRAY AND BROWN **SILTY CLAY**, TRACE FINE TO COARSE SAND, TRACE FINE GRAVEL, CONTAINS FEW SHALE FRAGMENTS, MOIST.		41	4 4 8	16	44	SS-17	-	-	-	-	-	-	-	-	-	20	A-6b (V)	
		42																
		43																
		44	2 3 3	8	78	SS-18	-	-	-	-	-	-	-	-	-	22	A-6b (V)	
		45																
		46																
		47			50	ST-19	-	3	3	6	31	57	35	19	16	20	A-6b (10)	
		48																
		49																
	957.3	50	6 7 10	23	100	SS-20	-	-	-	-	-	-	-	-	-	19	A-6b (V)	
		EOB																

- NO SEEPAGE ENCOUNTERED DURING DRILLING.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 25 LB. BENTONITE; 94 LB. CEMENT; 35 GAL. WATER

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PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / M. WOLF	DRILL RIG: ATV 550X (AW)	STATION / OFFSET: 118+53, 7' RT.	EXPLORATION ID B-008-0-14
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: S&ME / K. DOHLEN	HAMMER: CME AUTOMATIC	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1008.8 (MSL) EOB: 42.5 ft.	PAGE 1 OF 1
START: 5/20/14 END: 5/20/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.239738, 81.374511	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1008.8	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 11 INCHES	1007.9																	
FILL (CINDERS): VERY-DENSE BROWN AND GRAY **GRAVEL WITH SAND AND SILT**, LITTLE CLAY, CONTAINS SLAG FRAGMENTS, DRY.		▼ 1006.3	50	-	11	SS-1	-	-	-	-	-	-	-	-	-	3	A-2-4 (V)	
	1004.4		6 (2 3)	-	100	SS-2A	-	28	15	22	23	12	21	15	6	9	A-2-4 (0)	
VERY-SOFT BLACK **PEAT**, LOAMY, FIBROUS, CONTAINS FEW WOOD FRAGMENTS, HIGHLY ORGANIC, MOIST.			(2 3)	7	100	SS-2B	-	-	-	-	-	-	-	-	-	275	Peat (V)	
- SAMPLE S-3: LOSS OF IGNITION = 38.4%			1 (1 2)	4	94	SS-3	-	-	-	-	-	-	-	-	-	363	Peat (V)	
			1	-	100	SS-4A	-	-	-	-	-	-	-	-	-	276	Peat (V)	
			(1 1)	3	50	SS-4B	-	-	-	-	-	-	-	-	-	117	Peat (V)	
	995.8		0 (0 0)	0	100	SS-5	-	-	-	-	-	-	-	-	-	296	Peat (V)	
MARL: VERY-LOOSE GRAY **SANDY SILT**, SOME CLAY, MODERATELY ORGANIC, CONTAINS SEA SHELLS, WET.			0 (0 0)	0	100	SS-6	-	-	-	-	-	-	-	-	-	100	A-4a (V)	
			0 (0 0)	0	100	SS-7	-	0	3	24	49	24	NP	NP	NP	142	A-4a (8)	
			0 (0 0)	0	100	SS-8	-	-	-	-	-	-	-	-	-	120	A-4a (V)	
- SAMPLE SS-9: LOSS ON IGNITION (LOI) = 5.6%	985.8		0 (0 0)	0	100	SS-9	-	-	-	-	-	-	-	-	-	116	A-4a (V)	
VERY-SOFT GRAY **SILT AND CLAY**, TRACE FINE SAND, CONTAINS FEW SEA SHELLS, WET.			0	-	100	SS-10A	-	-	-	-	-	-	-	-	-	64	A-6a (V)	
			(0 0)	0	100	SS-10B	-	-	-	-	-	-	-	-	-	41	A-6a (V)	
	980.8		0 (0 0)	0	100	SS-11	-	-	-	-	-	-	-	-	-	41	A-6a (V)	
VERY-LOOSE GRAY MOTTLED WITH BLACK **SILT**, SOME CLAY, LITTLE FINE SAND, SLIGHTLY ORGANIC, WET.			0 (0 0)	0	72	SS-12	-	0	0	20	60	20	NP	NP	NP	26	A-4b (8)	
	975.8		0 (0 0)	0	44	SS-13	-	-	-	-	-	-	-	-	-	27	A-4b (V)	
VERY-SOFT GRAY MOTTLED WITH BLACK **SILTY CLAY**, LITTLE FINE TO COARSE SAND, MODERATELY ORGANIC.	973.3		0 (0 0)	0	67	SS-14	-	-	-	-	-	-	-	-	-	118	A-6b (V)	
STIFF TO VERY-STIFF GRAY MOTTLED WITH BLACK **SILT**, SOME CLAY, TRACE GRAVEL, SLIGHTLY ORGANIC, WET.			2 (2 2)	5	78	SS-15	-	-	-	-	-	-	-	-	-	21	A-4b (V)	
	968.3		2 (3 3)	8	67	SS-16	-	4	3	22	51	20	22	16	6	18	A-4b (7)	
MEDIUM-DENSE BROWNISH-GRAY **GRAVEL WITH SAND AND SILT**, TRACE CLAY, WET.	966.3	EOB	7 (6 8)	19	100	SS-17	-	-	-	-	-	-	-	-	-	20	A-2-4 (V)	

- NO SEEPAGE ENCOUNTERED DURING DRILLING.
- GROUNDWATER ENCOUNTERED AT 40.5 PRIOR TO GROUTING.
- WATER AT COMPLETION 2.5'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 25 LB. BENTONITE; 94 LB. CEMENT; 30 GAL. WATER

PEAT DEPOSIT EXPLORATION
BORING LOG B-008-0-14

DRAWN AJC CHECKED SAT

PROJECT: POR-303-0.67 | DRILLING FIRM / OPERATOR: S&ME / M. WOLF | DRILL RIG: ATV 550X (AW) | STATION / OFFSET: 122+51, 9' RT. | EXPLORATION ID B-010-0-14
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: S&ME / M. WOLF | HAMMER: CME AUTOMATIC | ALIGNMENT: S.R. 303
PID: 93854 SFN: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 3/21/11 | ELEVATION: 1017.2 (MSL) EOB: 10.0 ft. | PAGE 1 OF 1
START: 5/13/14 END: 5/13/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 81 | LAT / LONG: 41.239712, 81.373065

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 14 INCHES	1017.2																	
GRANULAR BASE - 4 INCHES	1016.0																	
FILL: MEDIUM-DENSE BROWN **GRAVEL WITH SAND**, LITTLE SILT, TRACE CLAY, CONTAINS FEW GLASS FRAGMENTS, MOIST.	1015.7		8 9 8	23	100	SS-1	-	39	24	17	13	7	NP	NP	NP	8	A-1-b (0)	
MEDIUM-STIFF TO STIFF BROWN AND GRAY **SILT AND CLAY**, SOME FINE TO COARSE SAND, TRACE GRAVEL, CONTAINS MANY FINE TO COARSE SAND POCKETS, MOIST.	1013.2		3	-	100	SS-2A	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
		W 1012.2	3 3	8	100	SS-2B	-	6	8	17	30	39	28	17	11	18	A-6a (7)	
SOFT TO MEDIUM-STIFF DARK-GRAY **CLAY**, TRACE FINE GRAVEL, MODERATELY ORGANIC, MOIST.	1010.7		1	-	100	SS-3A	-	-	-	-	-	-	-	-	-	33	A-6a (V)	
- SAMPLE SS-3B: LOSS OF IGNITION = 9.1%	1008.9		1 1	3	100	SS-3B	-	-	-	-	-	-	-	-	-	61	A-7-6 (V)	
STIFF TO VERY-STIFF BROWN MOTTLED WITH GRAY **SILT AND CLAY**, LITTLE FINE TO COARSE SAND, TRACE FINE GRAVEL, CONTAINS MANY SAND POCKETS, MOIST.	1007.2	▼ 1008.2	2 2 3	7	100	SS-4	-	-	-	-	-	-	-	-	-	22	A-6a (V)	
		EOB																

- SEEPAGE ENCOUNTERED AT 5' DURING DRILLING.
- WATER AT COMPLETION 9'.
- AFTER REMOVAL OF AUGERS, BORING CAVED AT 9.3'.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 1/2 BAG BENTONITE

PROJECT: POR-303-0.67 | DRILLING FIRM / OPERATOR: S&ME / M. WOLF | DRILL RIG: ATV 550X (AW) | STATION / OFFSET: 126+52, 11' RT. | EXPLORATION ID B-011-0-14
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: S&ME / M. WOLF | HAMMER: CME AUTOMATIC | ALIGNMENT: S.R. 303
PID: 93854 SFN: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 3/21/11 | ELEVATION: 1028.9 (MSL) EOB: 6.0 ft. | PAGE 1 OF 1
START: 5/13/14 END: 5/13/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 81 | LAT / LONG: 41.239682, 81.371608

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 11 INCHES	1028.9																	
GRANULAR BASE - 3 INCHES	1028.0																	
LOOSE BROWN **GRAVEL WITH SAND**, DAMP.	1027.7		4	-	100	SS-1A	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
HARD GRAY **SILT**, TRACE SAND, TRACE GRAVEL, DAMP.	1026.9		4 4	11	50	SS-1B	-	0	1	1	58	40	26	20	6	15	A-4b (8)	
VERY-STIFF TO HARD GRAY **SILT AND CLAY**, TRACE FINE TO COARSE SAND, TRACE FINE GRAVEL, DAMP.	1025.9		3 5 5	14	100	SS-2	-	0	0	0	65	35	30	19	11	17	A-6a (8)	
	1024.1		6	-	100	SS-3A	-	-	-	-	-	-	-	-	-	21	A-6a (V)	
MEDIUM-DENSE BROWN **GRAVEL WITH SAND**, TRACE CLAY, TRACE SILT, DAMP.	1022.9		7 8	20	17	SS-3B	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
		EOB																

- NO SEEPAGE ENCOUNTERED DURING DRILLING.
- AFTER REMOVAL OF AUGERS, BORING CAVED AT 4.9'.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS

PROJECT: POR-303-0.67 | DRILLING FIRM / OPERATOR: S&ME / M. WOLF | DRILL RIG: ATV 550X (AW) | STATION / OFFSET: 130+48, 12' RT. | EXPLORATION ID B-012-0-14
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: S&ME / M. WOLF | HAMMER: CME AUTOMATIC | ALIGNMENT: S.R. 303
PID: 93854 SFN: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 3/21/11 | ELEVATION: 1031.9 (MSL) EOB: 6.5 ft. | PAGE 1 OF 1
START: 5/13/14 END: 5/13/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 81 | LAT / LONG: 41.239657, 81.370169

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 10 INCHES	1031.9																	
GRANULAR BASE - 8 INCHES	1031.1																	
LOOSE TO MEDIUM-DENSE **GRAVEL WITH SAND**, TRACE CLAY, TRACE TO LITTLE SILT, DAMP.	1030.4		6 5 5	14	78	SS-1	-	54	18	12	15	1	NP	NP	NP	6	A-1-b (0)	
			4 4 3	9	0	--	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	
					100	SS-2	-	75	8	8	6	3	NP	NP	NP	5	A-1-a (0)	
	1025.9	▼ 1026.2	2	-	100	SS-3A	-	-	-	-	-	-	-	-	-	4	A-1-b (V)	
VERY-STIFF GRAY **SILT AND CLAY**, TRACE FINE TO COARSE SAND, TRACE FINE GRAVEL, MOIST.	1025.4	EOB	3 4	9	100	SS-3B	-	-	-	-	-	-	-	-	-	11	A-6a (V)	

- NO SEEPAGE ENCOUNTERED DURING DRILLING.
- WATER AT COMPLETION 5.7'.

NOTES: SEE ABOVE.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; PLASTIC HOLE PLUG DEVICE

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PROJECT: POR-303-0.67	DRILLING FIRM / OPERATOR: S&ME / M. WOLF	DRILL RIG: ATV 550X (AW)	STATION / OFFSET: 135+46, 13' RT.	EXPLORATION ID B-013-0-14
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: S&ME / M. WOLF	HAMMER: CME AUTOMATIC	ALIGNMENT: S.R. 303	
PID: 93854 SFN:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/21/11	ELEVATION: 1022.5 (MSL) EOB: 28.0 ft.	PAGE 1 OF 1
START: 5/21/14 END: 5/21/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 81	LAT / LONG: 41.239625, 81.368358	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1022.5	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 10 INCHES	1021.7																	
CONCRETE - 7 INCHES	1021.1																	
FILL: MEDIUM-DENSE BLACK **COARSE AND FINE SAND**, TRACE FINE GRAVEL, CONTAINS SLAG FRAGMENTS, MOIST.		▼ 1019.0	6 6 4	14	67	SS-1	-	-	-	-	-	-	-	-	-	15	A-3a (V)	
			3	-	100	SS-2A	-	-	-	-	-	-	-	-	-	30	A-3a (V)	
	1016.7		2 2	5	100	SS-2B	-	-	-	-	-	-	-	-	-	32	A-7-6 (V)	
FILL: SOFT GRAY AND DARK-GRAY **CLAY**, TRACE FINE GRAVEL, TRACE FINE TO COARSE SAND, CONTAINS COAL FRAGMENTS, MOIST.	1014.0		0 0 1	1	33	SS-3	-	5	7	11	33	44	50	25	25	66	A-7-6 (16)	
VERY-SOFT GRAY AND BLACK **PEAT**, FIBROUS, CONTAINS FEW WOOD FRAGMENTS, HIGHLY ORGANIC, WET.			1 2 1	4	0	SS	-	-	-	-	-	-	-	-	-	-	Peat (V)	
			1	-	33	SS-4	-	-	-	-	-	-	-	-	-	84	Peat (V)	
			0 1 1	3	67	SS-5	-	-	-	-	-	-	-	-	-	343	Peat (V)	
	1007.5		0	-	100	SS-6A	-	-	-	-	-	-	-	-	-	215	Peat (V)	
VERY-SOFT DARK-GRAY AND BROWN **ELASTIC CLAY**, LITTLE FINE TO COARSE SAND, LITTLE GRAVEL, SLIGHTLY ORGANIC, CONTAINS MANY FIBROUS PEAT POCKETS AND SEA SHELLS, WET.			0 0 0	0	100	SS-6B	-	12	2	16	42	28	87	51	36	187	A-7-5 (19)	
			0	-	100	SS-7A	-	-	-	-	-	-	-	-	-	124	A-7-5 (V)	
			0 0 0	0	100	SS-7B	-	-	-	-	-	-	-	-	-	149	A-7-5 (V)	
- SAMPLE SS-8: LOSS ON IGNITION (LOI) = 2.0%			0 0 0	0	100	SS-8	-	-	-	-	-	-	-	-	-	31	A-7-5 (V)	
	1000.0		1	-	100	SS-9A	-	-	-	-	-	-	-	-	-	55	A-7-5 (V)	
MEDIUM-STIFF TO STIFF BECOMING VERY-STIFF **SANDY SILT**, "AND" CLAY, CONTAINS MANY FINE SAND SEAMS, MOIST.			2 3	7	100	SS-9B	-	0	2	11	48	39	24	14	10	22	A-4a (8)	
			3 4 4	11	67	SS-10	-	-	-	-	-	-	-	-	-	18	A-4a (V)	
	994.5	EOB	4 6 6	16	89	SS-11	-	-	-	-	-	-	-	-	-	19	A-4a (V)	

- SEEPAGE ENCOUNTERED AT 4' DURING DRILLING.
- WATER AT COMPLETION 3.5'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 1 BAG BENTONITE; 1 BAG CEMENT

PROJECT: POR-303-0.67 | DRILLING FIRM / OPERATOR: S&ME / M. WOLF | DRILL RIG: ATV 550X (AW) | STATION / OFFSET: 139+47, 8' RT. | EXPLORATION ID B-015-0-14
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: S&ME / M. WOLF | HAMMER: CME AUTOMATIC | ALIGNMENT: S.R. 303
PID: 93854 SFN: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 3/21/11 | ELEVATION: 1021.8 (MSL) EOB: 26.5 ft. | PAGE 1 OF 1
START: 5/23/14 END: 5/23/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 81 | LAT / LONG: 41.239617, 81.366900

MATERIAL DESCRIPTION AND NOTES	ELEV. 1021.8	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 9 INCHES	1021.1																	
CONCRETE - 7 INCHES	1020.5																	
FILL: MEDIUM-DENSE DARK-BROWN **GRAVEL WITH SAND**, CONTAINS COAL FRAGMENTS AND CINDERS, MOIST.		▼ 1018.6	8 9 5	19	100	SS-1	-	-	-	-	-	-	-	-	-	16	A-1-b (V)	
	1017.8																	
FILL: LOOSE BROWN **GRAVEL WITH SAND, SILT AND CLAY**, MOIST.			2 3 3	8	67	SS-2	-	38	10	17	16	19	29	15	14	16	A-2-6 (1)	
	1015.3																	
VERY-SOFT DARK-BROWN AND GRAY **PEAT**, FIBROUS, CONTAINS MANY CLAY SEAMS, HIGHLY ORGANIC, MOIST.			1 2 2	5	100	SS-3	-	-	-	-	-	-	-	-	-	201	Peat (V)	
- SAMPLE SS-3: LOSS OF IGNITION (LOI) = 35.86%			1 1 1	3	0	--	-	-	-	-	-	-	-	-	-	-	Peat (V)	
					100	SS-4	-	-	-	-	-	-	-	-	-	342	Peat (V)	
			0 1 1	3	100	SS-5	-	-	-	-	-	-	-	-	-	518	Peat (V)	
- SAMPLE ST-6: LOSS ON IGNITION (LOI) = 57.7%					50	ST-6	-	-	-	-	-	-	-	-	-	489	Peat (V)	
	1004.8																	
SOFT TO MEDIUM-STIFF GRAY **ELASTIC CLAY**, TRACE FINE SAND, CONTAINS MANY FIBROUS PEAT POCKETS, MOIST.			0 0 3	4	100	SS-7	-	-	-	-	-	-	-	-	-	95	A-7-5 (V)	
	1002.3																	
MEDIUM-STIFF TO VERY-STIFF GRAY **SILT AND CLAY**, LITTLE FINE TO COARSE SAND, TRACE GRAVEL, VARVED, CONTAINS FEW SAND POCKETS, MOIST.			2 2 4	8	33	SS-8	-	-	-	-	-	-	-	-	-	21	A-6a (V)	
			3 3 7	14	61	SS-9	-	8	7	11	26	48	29	15	14	19	A-6a (9)	
			5 9 12	28	33	SS-10	-	-	-	-	-	-	-	-	-	19	A-6a (V)	
	995.3	EOB																

- SEEPAGE ENCOUNTERED AT 4.5' DURING DRILLING.
- WATER AT COMPLETION 3.2'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; 1 BAG BENTONITE CHIPS; 2 BAGS CEMENT

PROJECT: POR-303-0.67 | DRILLING FIRM / OPERATOR: S&ME / M. WOLF | DRILL RIG: ATV 550X (AW) | STATION / OFFSET: 144+28, 8' RT. | EXPLORATION ID B-017-0-14
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: S&ME / M. WOLF | HAMMER: CME AUTOMATIC | ALIGNMENT: S.R. 303
PID: 93854 SFN: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 3/21/11 | ELEVATION: 1028.3 (MSL) EOB: 10.0 ft. | PAGE 1 OF 1
START: 5/13/14 END: 5/13/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 81 | LAT / LONG: 41.239591, 81.365153

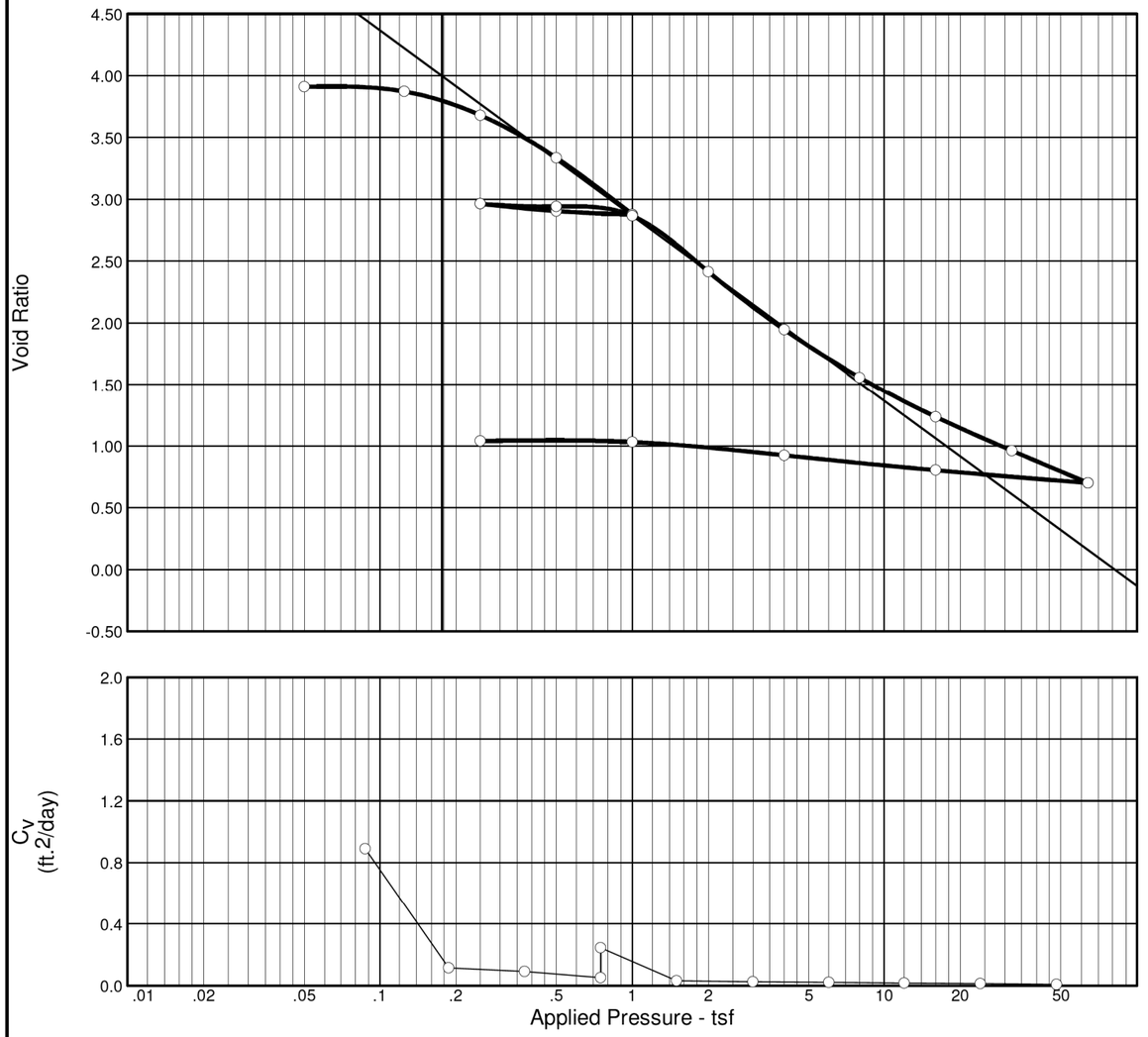
MATERIAL DESCRIPTION AND NOTES	ELEV. 1028.3	DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	HOLE SEALED
ASPHALT - 10 INCHES	1027.5																	
GRANULAR BASE - 2 INCHES	1027.3		10	-	100	SS-1A	-	37	26	20	11	6	NP	NP	NP	6	A-1-b (0)	
VERY-STIFF TO HARD BROWN MOTTLED WITH GRAY **SILT AND CLAY**, LITTLE FINE TO COARSE SAND, TRACE GRAVEL, DAMP.	1026.0		6 4	14	100	SS-1B	-	3	7	7	25	58	36	21	15	18	A-6a (10)	
HARD BROWN MOTTLED WITH GRAY **SILT AND CLAY**, LITTLE FINE TO COARSE SAND, TRACE GRAVEL, DAMP.			6 8 9	23	100	SS-2	-	-	-	-	-	-	-	-	-	18	A-6a (V)	
			3 7 10	23	100	SS-3	-	-	-	-	-	-	-	-	-	25	A-6a (V)	
			7 9 14	31	100	SS-4	-	-	-	-	-	-	-	-	-	18	A-6a (V)	
	1018.3	EOB																

- NO SEEPAGE ENCOUNTERED DURING DRILLING.
- BORING OBSERVED TO BE "DRY" AT COMPLETION.
- AFTER REMOVAL OF AUGERS, BORING CAVED AT 7.3'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Initial Void Ratio
Saturation	Moisture									
95.4 %	157.0 %	30.2	0	0	2.37653	0.53	0.26	1.50	0.15	3.911

MATERIAL DESCRIPTION	USCS	AASHTO
Very-soft to soft black PEAT, contains wood fragments, fiberous, highly organic, moist.	OL	A-8a

Project No. 117913001B **Client:** ODOT

Project: POR-303-0.67
Portage County, Ohio

Location: B-001-0-13 14.25'

S&ME, Inc.
Dublin, Ohio

Remarks:
PL = NP
Gravel = 6%
Coarse/Fine Sand = 17% / 9%
Silt = 31%
Clay = 37%

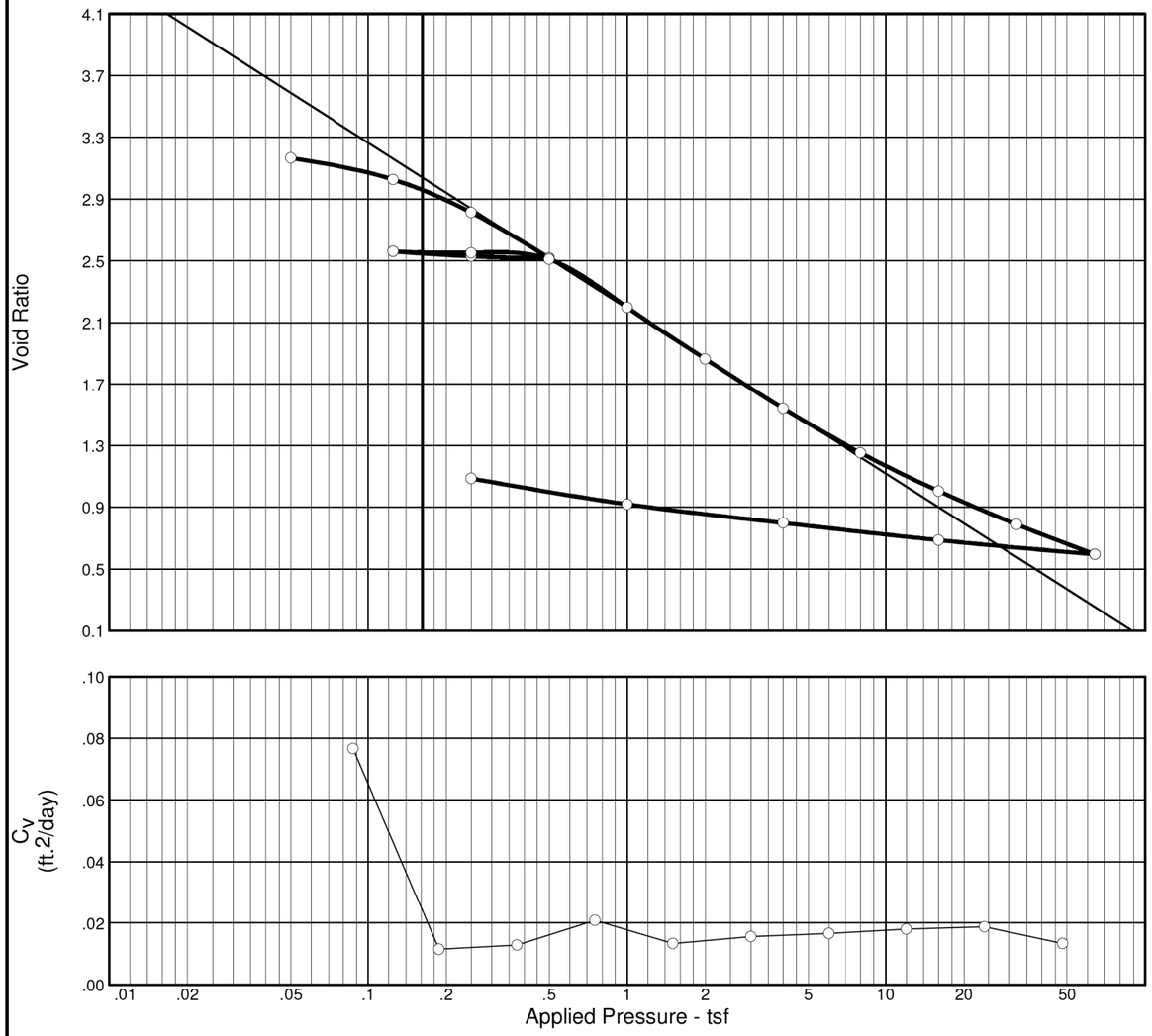
Figure 1

DRAWN AJC
CHECKED SAT

PEAT DEPOSIT EXPLORATION
LABORATORY TEST DATA

POR-303-0.67

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Initial Void Ratio
Saturation	Moisture									
95.7 %	111.7 %	40.7	108	68	2.72398	0.60	0.21	1.07	0.14	3.180

MATERIAL DESCRIPTION	USCS	AASHTO
Very-soft black ELASTIC CLAY, some silt, trace fine to coarse sand, trace fine gravel, moderately organic, wet.	OH	A-8b

Project No. 117913001B **Client:** ODOT

Project: POR-303-0.67
Portage County, Ohio

Location: B-002-0-13 50.00'

S&ME, Inc.
Dublin, Ohio

Remarks:
PL = 40%
Gravel = 1%
Coarse/Fine Sand = 1% / 1%
Silt = 31%
Clay = 66%

Figure 1

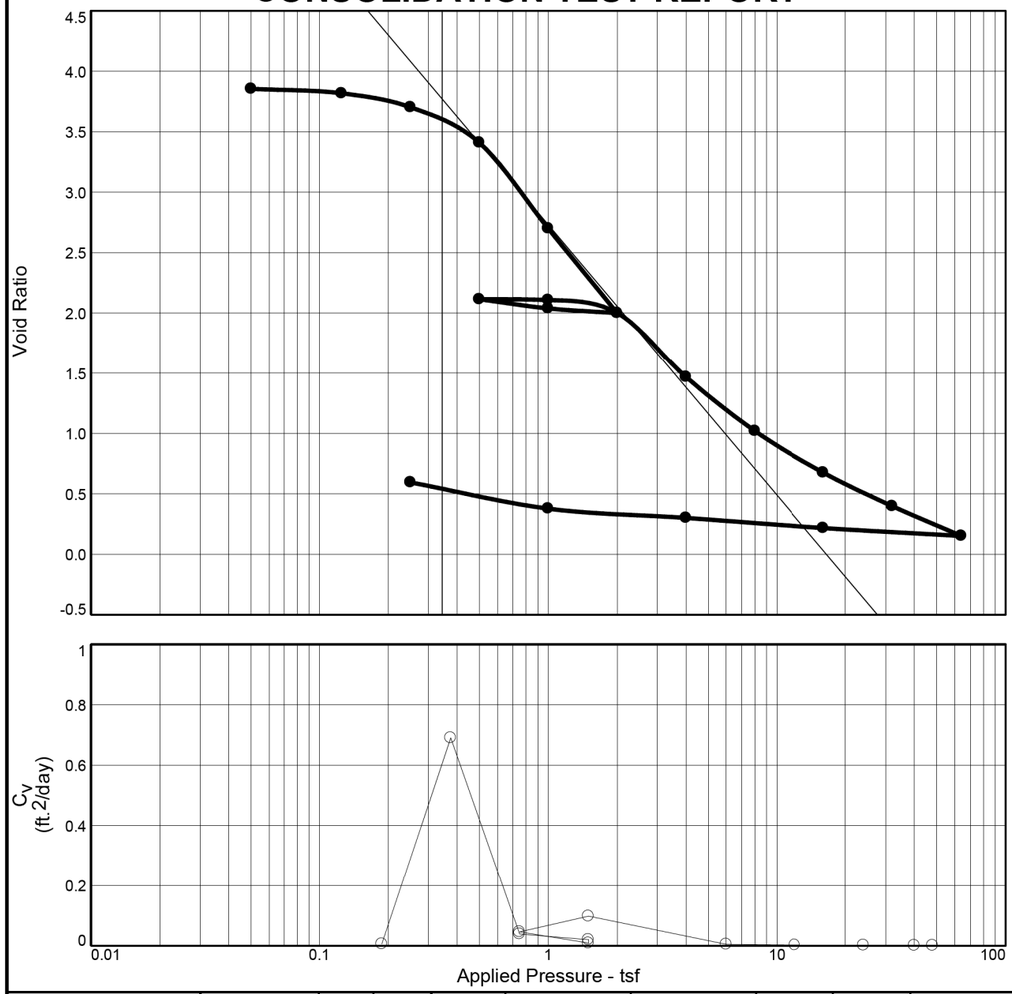
DRAWN AJC
CHECKED SAT

PEAT DEPOSIT EXPLORATION
LABORATORY TEST DATA

POR-303-0.67

23 / 31

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Initial Void Ratio
Saturation	Moisture									
84.8 %	163.1 %	25.7	108	21	1.98536	0.58	0.42	2.24	0.36	3.818

MATERIAL DESCRIPTION	USCS	AASHTO
Soft black PEAT, fibrous, highly organic, wet.	MH	A-7-5(12)

Project No. 1179-13-001B **Client:** ODOT

Project: POR-303-0.67
Portage County, Ohio

Location: B-004-0-14 15.5' **Depth:** 15.0' to 17.0' **Sample Number:** 7 II

S&ME, Inc.

Dublin, Ohio

Remarks:
PL = 87%
Gravel = 20%
Coarse/Fine Sand = 5% / 16%
Silt = 30%
Clay = 29%

Figure

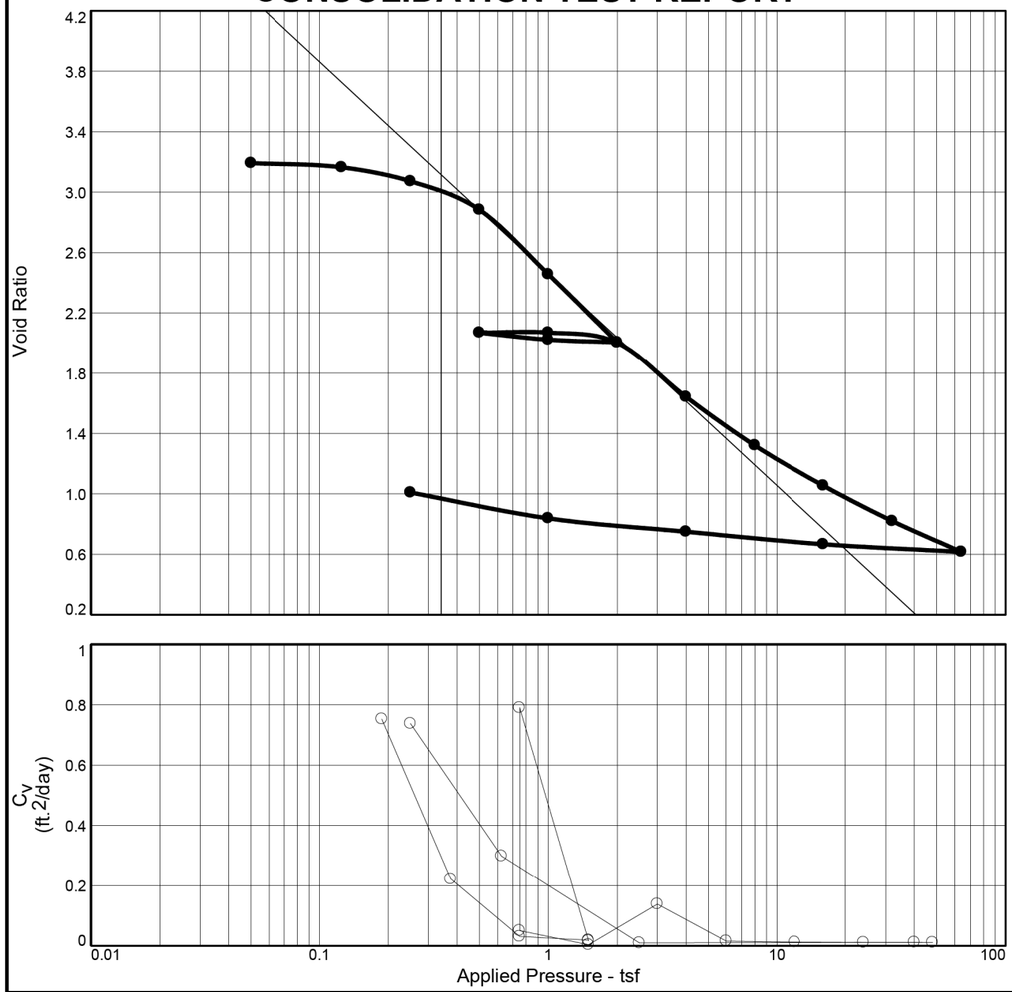
PLATE 45

PEAT DEPOSIT EXPLORATION
LABORATORY TEST DATA

DRAWN AJC
CHECKED SAT

POR-303-0.67

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Initial Void Ratio
Saturation	Moisture									
96.0 %	120.6 %	37.8	92	20	2.51841	1.48	0.42	1.40	0.25	3.163

MATERIAL DESCRIPTION	USCS	AASHTO
Very-soft to soft dark-gray and black ELASTIC CLAY, little fine to course sand, highly organic, moist.	MH	A-7-5(16)

Project No. 1179-13-001B **Client:** ODOT

Project: POR-303-0.67
Portage County, Ohio

Location: B-004-0-14 35.0' **Depth:** 33.5' to 35.5 **Sample Number:** 14 II

S&ME, Inc.

Dublin, Ohio

Remarks:
PL = 72%
Gravel = 3%
Coarse/Fine Sand = 1% / 14%
Silt = 51%
Clay = 31%

Figure 1

PLATE 51

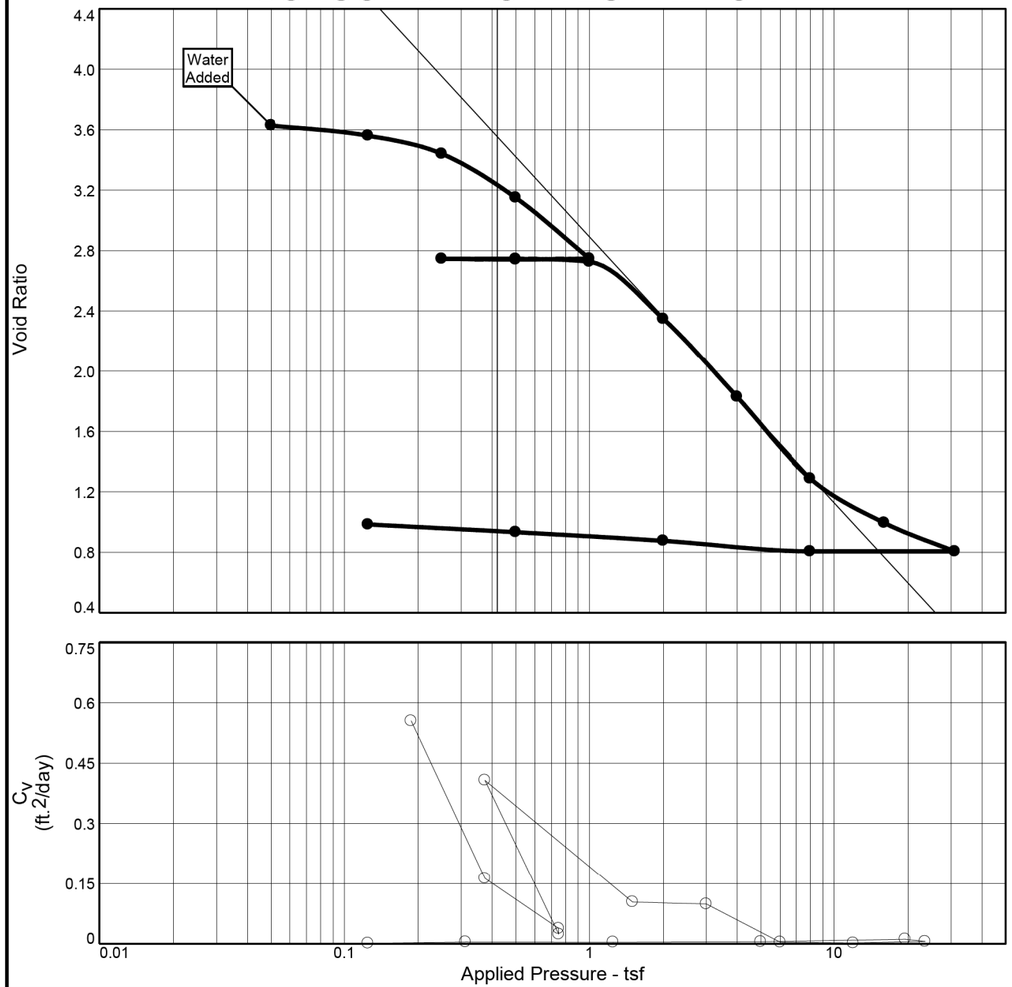
PEAT DEPOSIT EXPLORATION
LABORATORY TEST DATA

DRAWN AJC
CHECKED SAT

POR-303-0.67

25 / 31

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (tsf)	P_c (tsf)	C_c	C_r	Initial Void Ratio
Saturation	Moisture									
96.6 %	143.8 %	32.9	88	41	2.439		0.77	1.76	0.06	3.629

MATERIAL DESCRIPTION	USCS	AASHTO
Very soft black ELASTIC CLAY, highly organic, wet.	MH	

Project No. 1179-13-001B **Client:** ODOT
Project: POR-303-0.67

Location: B-006-0-14 **Depth:** 26.0 - 28.0 feet **Sample Number:** ST-11

S&ME, Inc.

Dublin, Ohio

Remarks:
PL = 47%
Gravel = 0%
Coarse/Fine Sand = 0% / 2%
Silt = 55%
Clay = 43%

Figure

PLATE 57

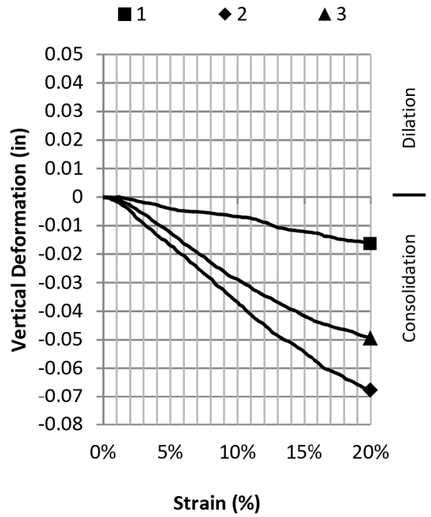
PEAT DEPOSIT EXPLORATION
LABORATORY TEST DATA

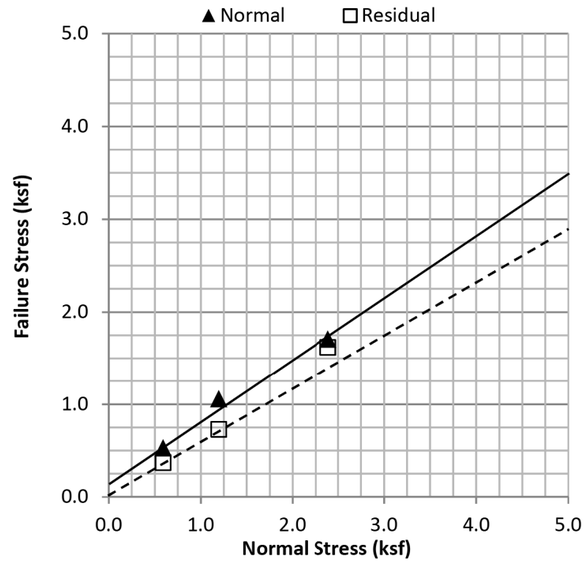
DRAWN AJC
CHECKED SAT

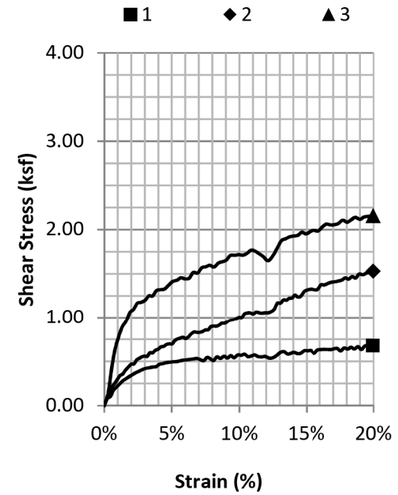
POR-303-0.67

DIRECT SHEAR TEST REPORT

Results: **Normal** **C (ksf) =** **0.15** **ϕ (deg) =** **33**
Residual **C_r (ksf) =** **0** **ϕ_r (deg) =** **30**







Sample No.		1	2	3
Initial	Moisture Content (%)	283.36%	230.46%	264.62%
	Dry Density (pcf)	17.11	21.22	19.93
	Saturation (%)	87.2%	90.6%	96.8%
	Void Ratio	8.1922	6.4100	6.8888
	Diameter (in)	2.50	2.50	2.50
	Height (in)	1.00	1.00	1.00
At Test	Moisture Content (%)	334.77%	214.72%	145.76%
	Dry Density (pcf)	15.71	24.38	40.37
	Saturation (%)	93.7%	99.3%	126.9%
	Void Ratio	9.0063	5.4488	2.8949
	Diameter (in)	2.5	2.5	2.5
	Height (in)	0.9598	0.9138	0.7325
Normal Stress (ksf)		0.59	1.20	2.39
Failure Stress - Normal (ksf)		0.53	1.06	1.71
- Strain at Normal Failure (%)		6.62%	10.78%	9.35%
Failure Stress - Residual (ksf)		0.37	0.73	1.62
- Strain at Residual Failure (%)		10.82%	15.88%	9.14%
Avg. Strain Rate (in/min)		0.0021	0.0018	0.0025

Sample Type: Shelby Tube
Sample Description:
Very-soft black PEAT
ASTM Classificaton: ORGANIC SILT OH
ODOT Classification: A-8b (12)

Comments:

LL = 108 **PI =** 21
Measured Specific Gravity = 2.52

Client:	ODOT District 4
Project Name:	POR-303-0.67
Project Location:	Streetsboro, Ohio
Project No.:	1179-13-001B
Boring ID:	B-004-0-14
Sample ID:	ST-7
Sample Depth:	15.0' to 17.0'
Date(s) Tested:	6/18-23/2014

Tested By: PJM Checked By: CJN

DRAWN AJC CHECKED SAT

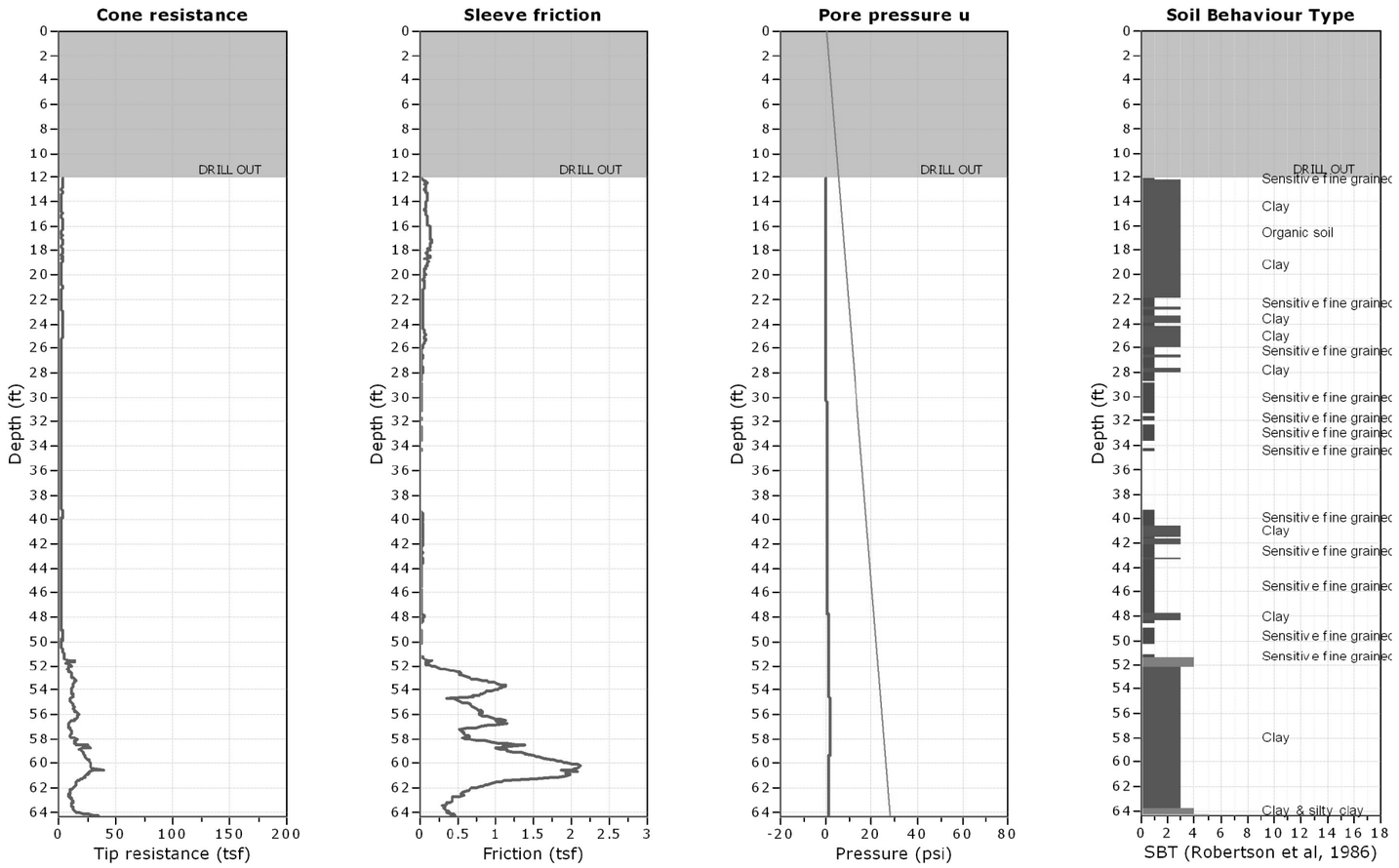
PEAT DEPOSIT EXPLORATION
LABORATORY TEST DATA

POR-303-0.67

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

Project: POR-303-0.67
Location: Portage County

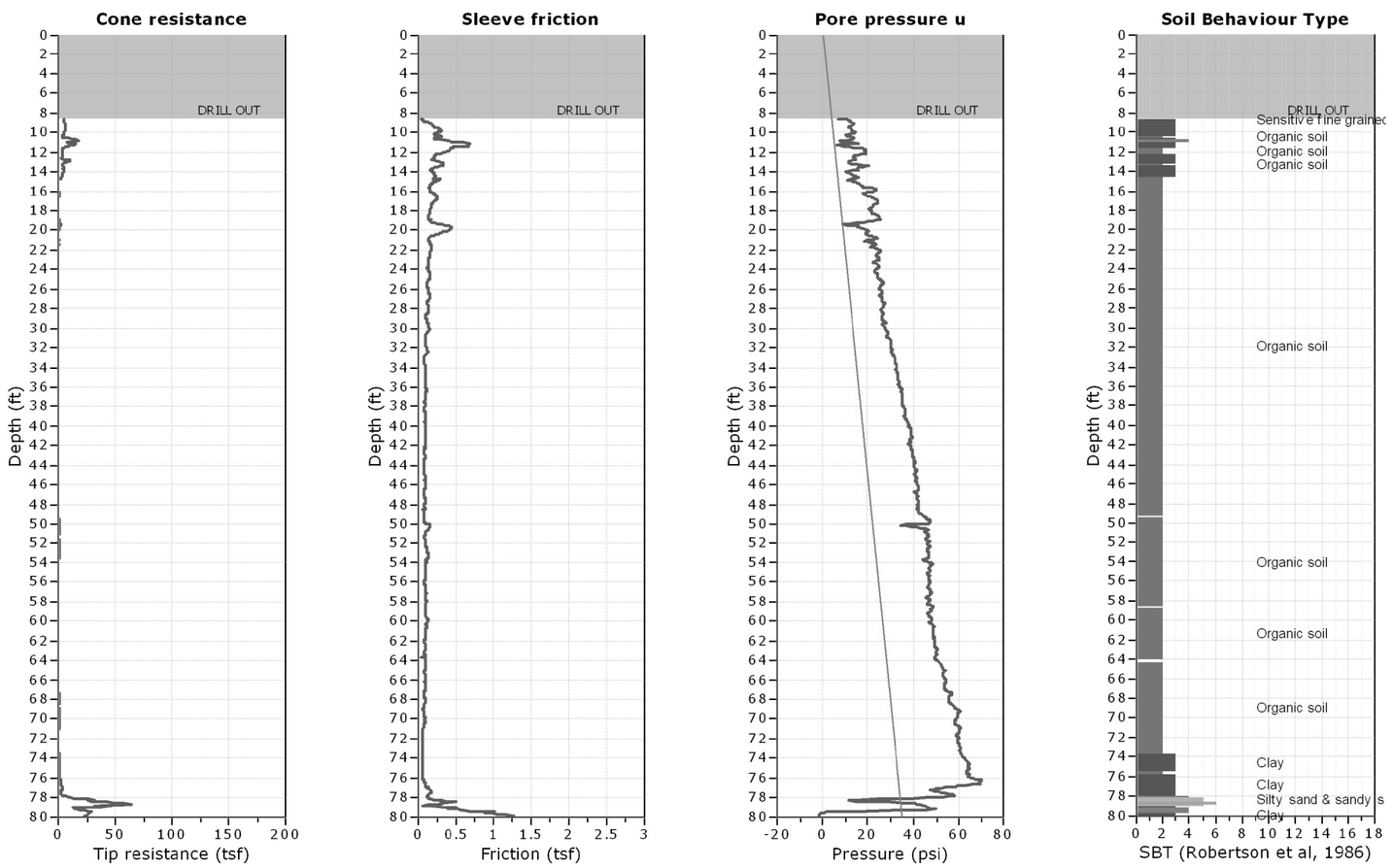
CPT: C-002-0-14
Total depth: 64.37 ft, Date: 5/12/2014



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

Project: POR-303-0.67
Location: Portage County

CPT: C-003-0-14
Total depth: 80.05 ft, Date: 5/13/2014



CPeT-IT v.1.7.6.19 - CPTU data presentation & interpretation software - Report created on: 8/31/2016, 9:06:51 AM

28/31

POR-303-0.67

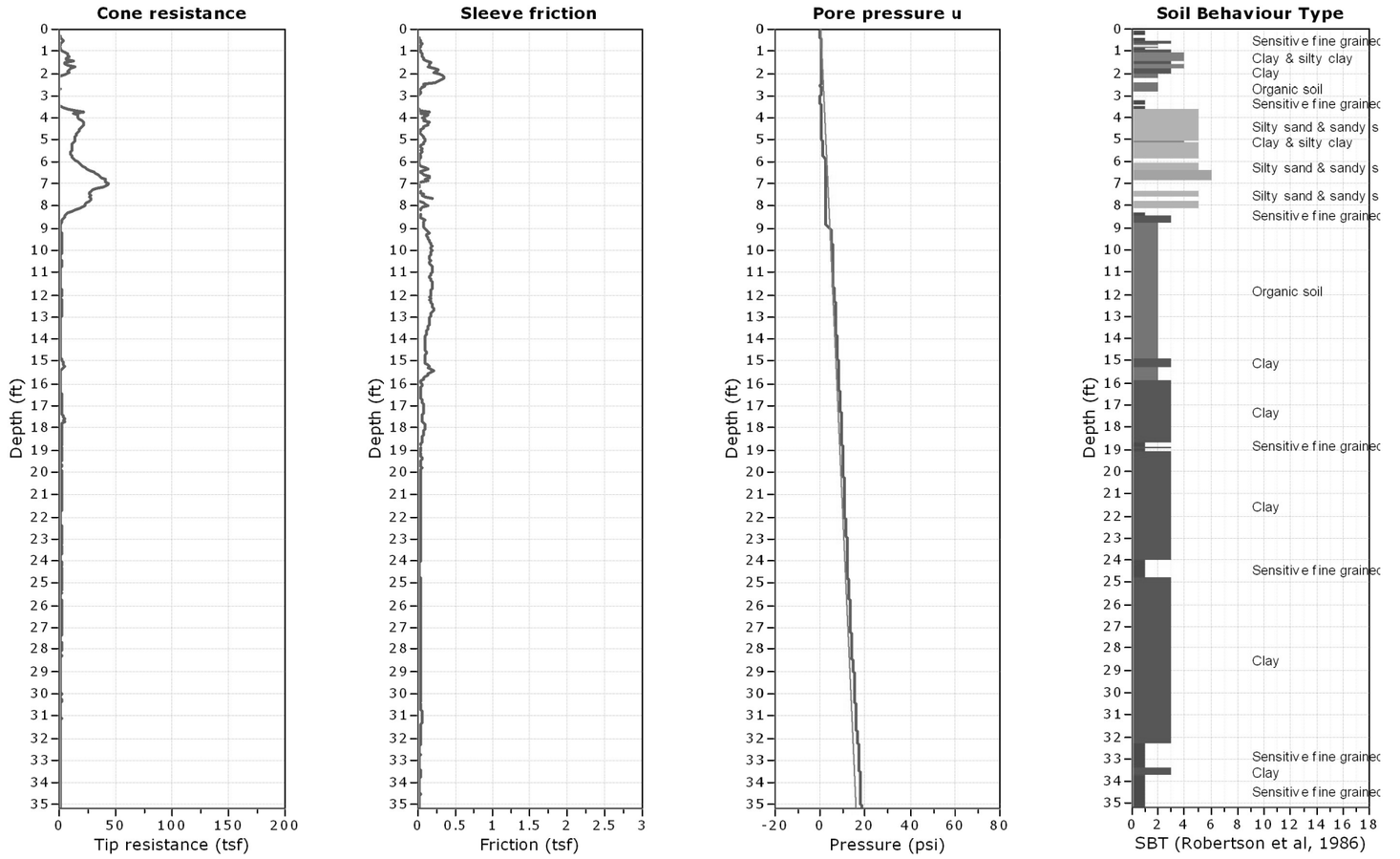
PEAT DEPOSIT EXPLORATION
CPT SOUNDINGS C-002-0-14 & C-003-0-14

DRAWN AJC
CHECKED SAT

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

Project: POR-303-0.67
Location: Portage County

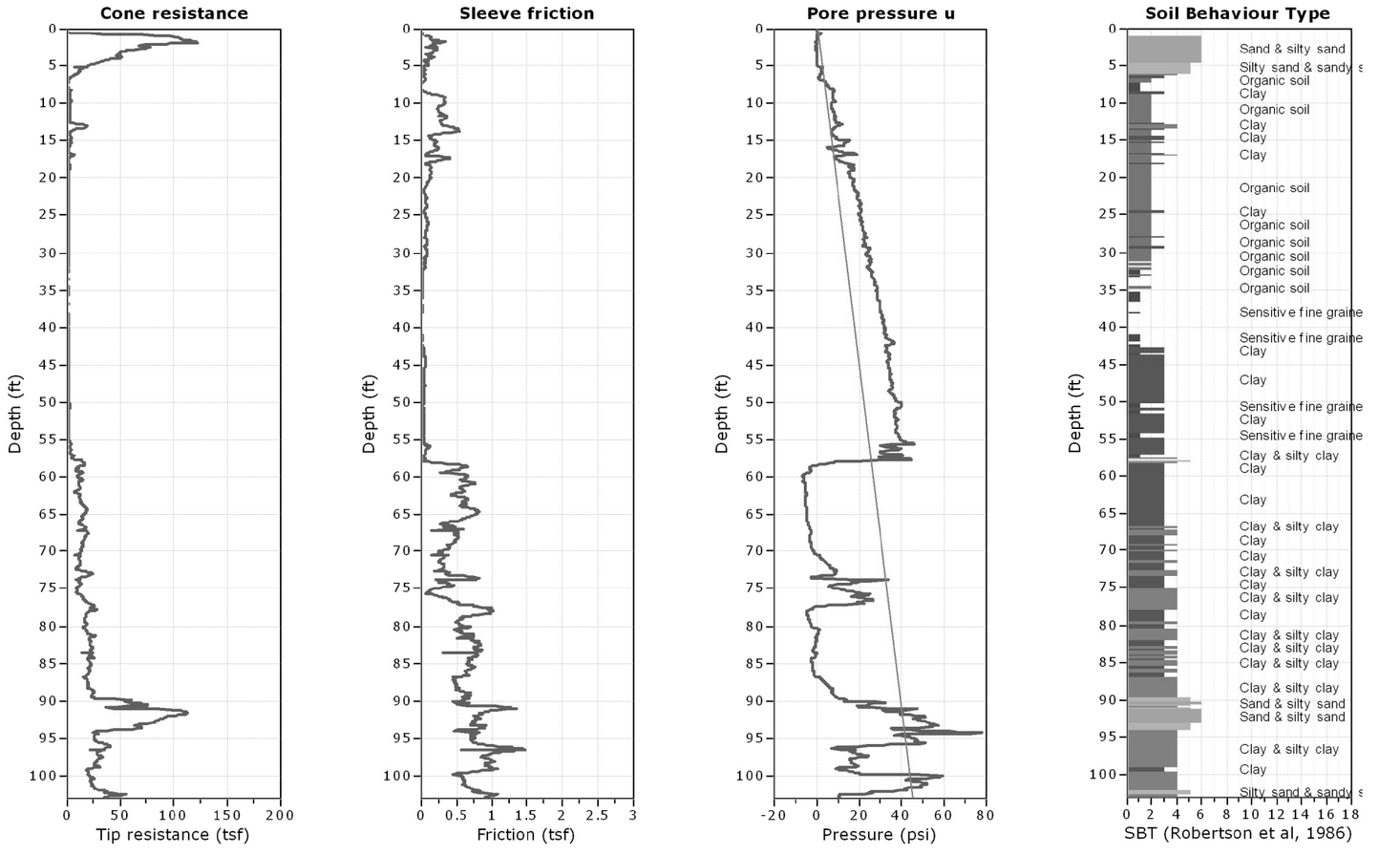
CPT: C-004-3-14
Total depth: 35.17 ft, Date: 6/3/2014



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

Project: POR-303-0.67
Location: Portage County

CPT: C-005-0-14
Total depth: 103.08 ft, Date: 6/2/2014



POR-303-0.67

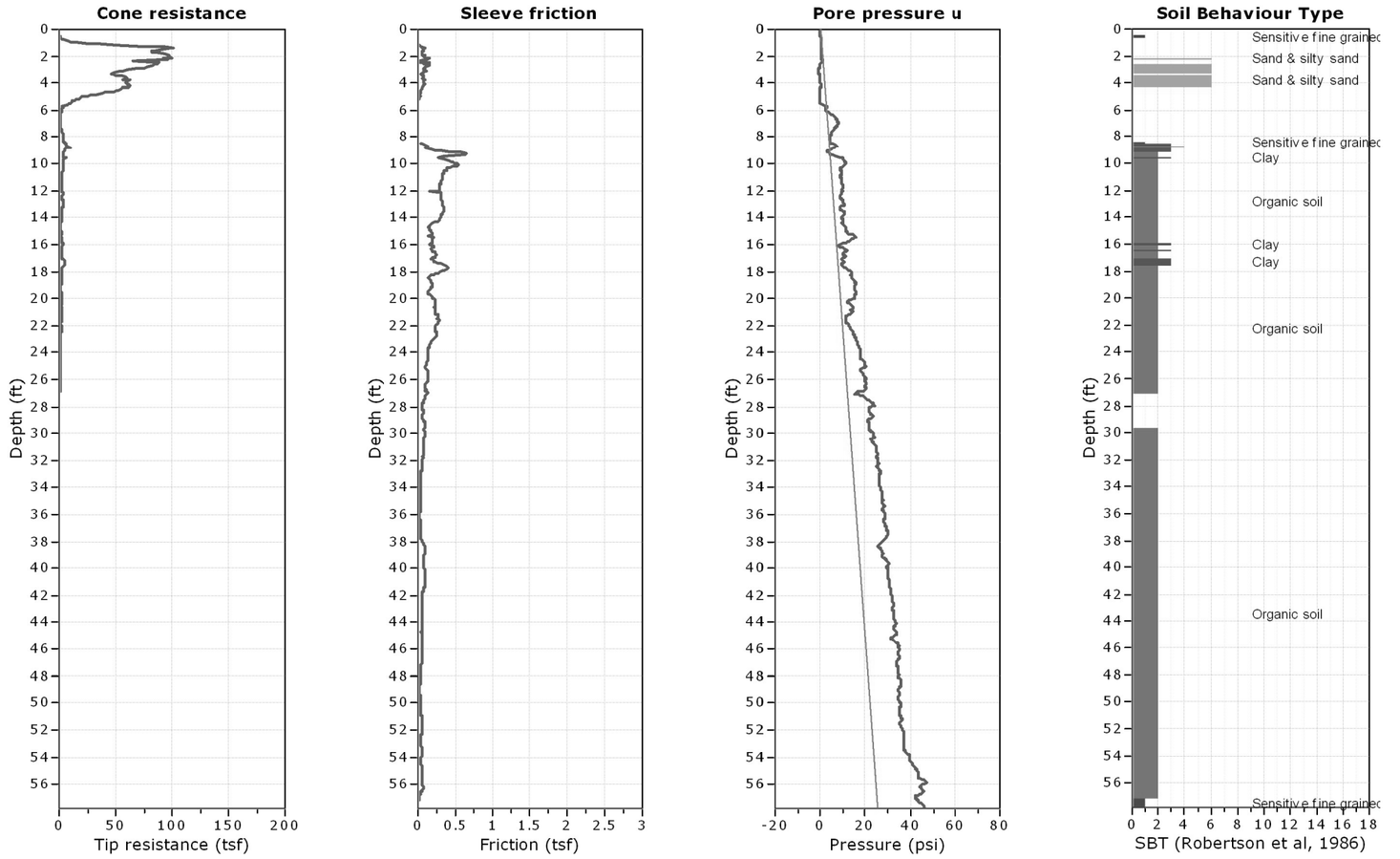
PEAT DEPOSIT EXPLORATION
CPT SOUNDINGS C-004-3-14 & C-005-0-14

DRAWN AJC
CHECKED SAT

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

Project: POR-303-0.67
Location: Portage County

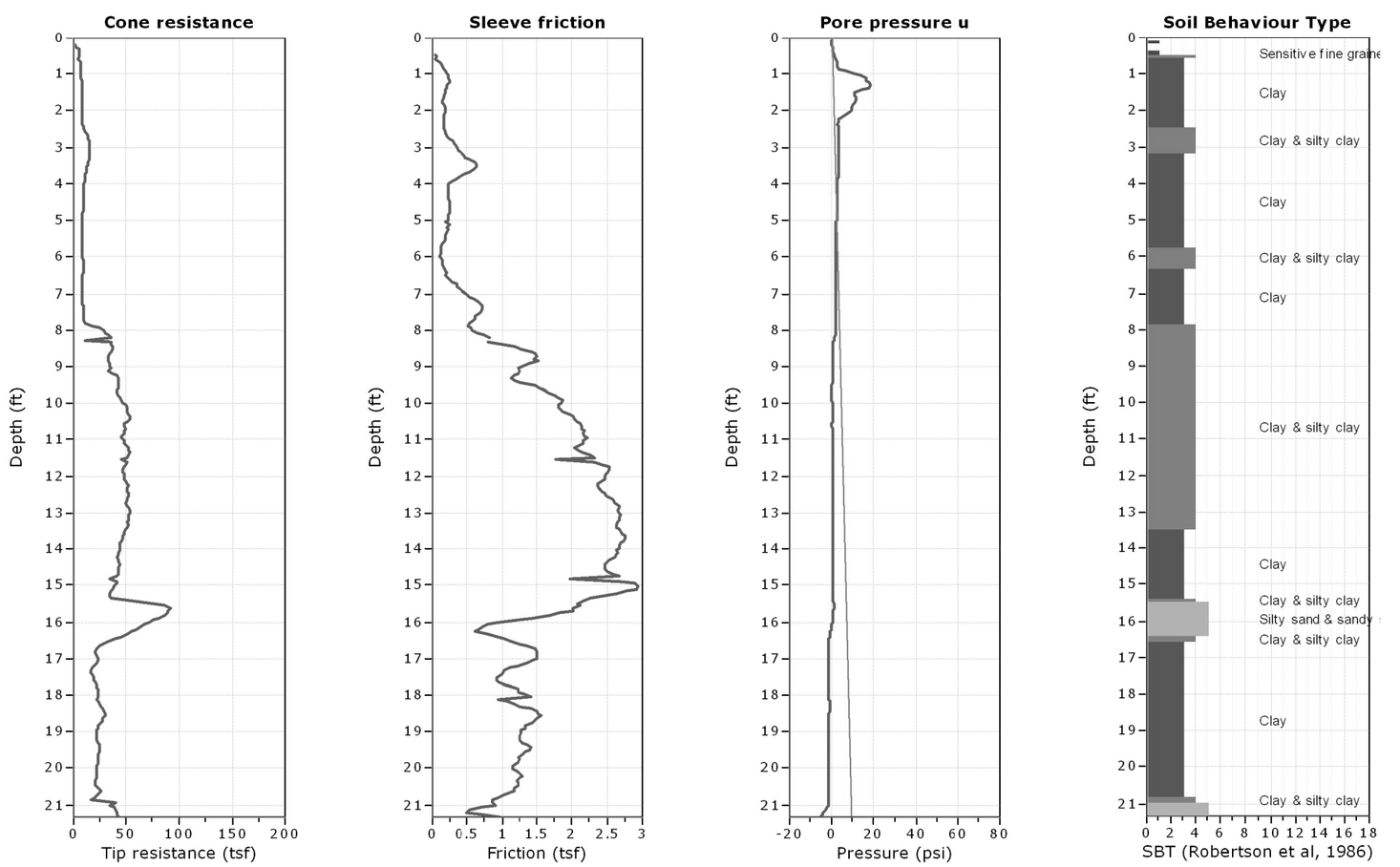
CPT: C-007-0-14
Total depth: 57.81 ft, Date: 5/29/2014



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

Project: POR-303-0.67
Location: Portage County

CPT: C-009-0-14
Total depth: 21.33 ft, Date: 5/27/2014



POR-303-0.67

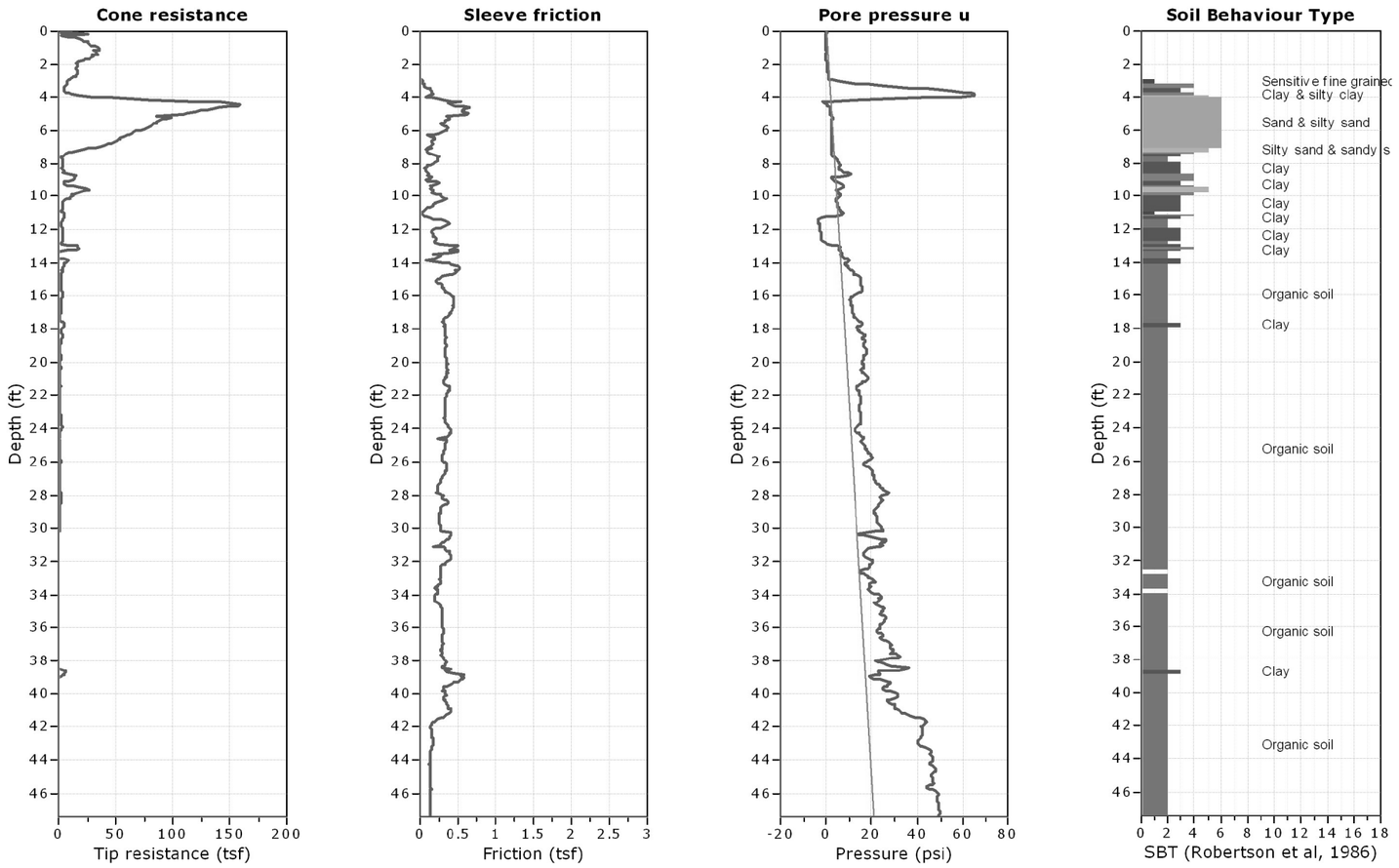
PEAT DEPOSIT EXPLORATION
CPT SOUNDINGS C-007-0-14 & C-009-0-14

DRAWN AJC
CHECKED SAT

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

Project: POR-303-0.67
Location: Portage County

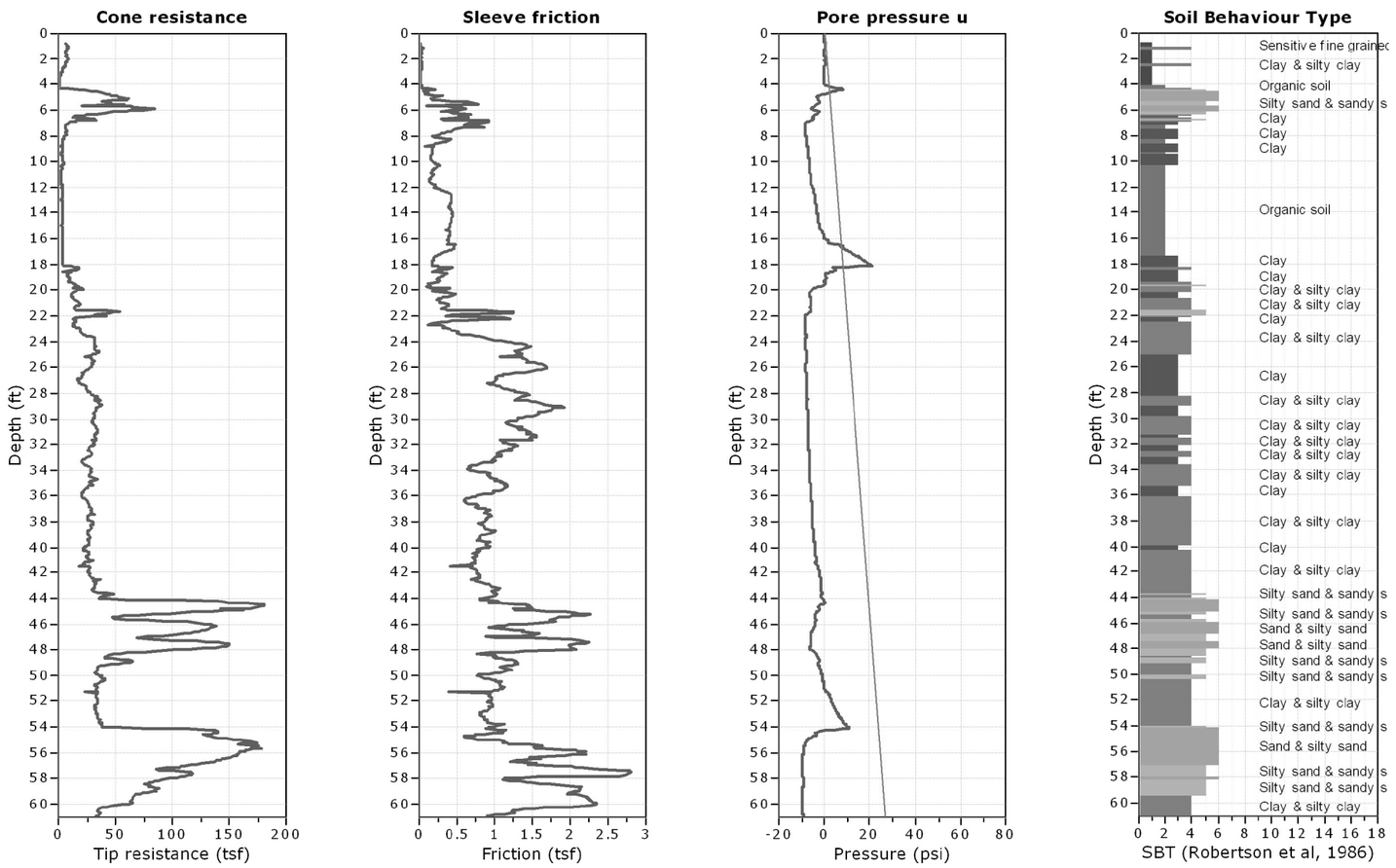
CPT: C-014-0-14
Total depth: 47.44 ft, Date: 5/28/2014



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

Project: POR-303-0.67
Location: Portage County

CPT: C-015-1-14
Total depth: 61.02 ft, Date: 5/28/2014



31/31	POR-303-0.67	PEAT DEPOSIT EXPLORATION CPT SOUNDINGS C-014-0-14 & C-015-1-14	DRAWN AJC CHECKED SAT

SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: POR-303-(0.70)(1.21)

PID: 93854

Date: 01/18/2018

1. Waterway Permits Time Restrictions:

Regional General Permit (RGP) Section B (Maintenance) is authorized for **POR-303-0.70, PID 93854.** A copy of the RGP and authorization letter **(USACE ID: LRH-2014-00961-CUY)** shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: **January 18, 2018**. The permit expires: **October 24, 2019.**

A **Section 401 Water Quality Certification (401 WQC)** is authorized for **POR-303-0.70, PID 93854** by the Ohio Environmental Protection Agency (OEPA). A copy of the authorization letter **(OEPA ID: 165057)** shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: **January 18, 2018**. The permit expires: **January 3, 2023.** The 401 WQC is only valid in conjunction with a valid 404 permit.

NOTE: This project will require USACE Section 404 reauthorization if stream impacts are not completed by October 24, 2019, the expiration of the RGP. Please coordinate with the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) a minimum of 90 days prior to expiration for permit reauthorization (Contact # 614-466-7100).

For authorized work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor's submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-7100) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-7100) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	Location	Work restriction dates (No in-stream work permitted)
Stream 2 (Tinkers Creek)	STA 107+16.98	April 15-June 30*
Stream 4 (UNT to Tinkers Creek)	STA 107+21.00	None
Stream 6 (UNT to Tinkers Creek)	STA 107+0.00	None

**This restriction does not apply if stream has been dewatered prior to April 15.*
UNT = unnamed tributary stream

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of "fill" include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

The Engineer must submit a request for an "in-water work restriction waiver" to ODOT-OES-WPU (614-466-7100) for consideration and coordination with the USACE, OEPA, and ODNR if in-stream work needs to occur within restricted dates.

4. Materials:

Materials utilized in or adjacent to aquatic resources for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

5. Cultural Resources

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-7100. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Portage County Sheriff's Office (330-296-5100).

6. Aquatic Resource Demarcation:

All aquatic resources indicated on the plans shall be demarcated in the field as per SS 832 prior to site disturbance. The remainder of the aquatic resources must be demarcated as to ensure avoidance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed. Table C is attached and includes detailed fill quantities that are authorized within the aquatic resources.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1- 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit is incidental to work.

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-7100) for coordination with ODNR.

9. Bridge Inspection:

Prior to the removal of bridge structures, the underside must be carefully examined for the presence of birds and bats. Should any birds or bats be found roosting on the underside of the bridge, the Contractor is required to notify the Engineer for coordination with ODOT-OES-WPU (614-466-7100).

10. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer. Please forward a copy to ODOT-OES-WPU (614-466-7100).

11. Temporary Access Fills (Stream and River Crossings and Fills)

Definitions:

Hydraulic Opening
The cross-sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM).

Standard Temporary Discharge
Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways These flows are also available in a web application by USGS StreamStats, (https://water.usgs.gov/osw/streamstats/ohio.html).

Average Monthly Flow
The average monthly flow represents the estimated "normal" flow.

Temporary Access Fills (TAFs)
Include, but are not limited to, causeways, cofferdams, access pads, temporary bridges, etc. below the OHWM.

Requirements
21 calendar days prior to the initiation of any in-stream work, provide the Engineer with Working Drawings that include:

- Plan view drawing (50 scale or less) showing the location of all jurisdictional temporary fill proposed for use on the project
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above the OHWM. Include, in the analysis, calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.

- A description of the installation and staging of all temporary fill over the life of the contract.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the temporary fill.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:
- "These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents."

Do not begin in-stream work until the Engineer has accepted the Working Drawings and hydraulic calculations.

The design of the Contractor's TAF must minimize impacts to water bodies, stream banks, stream beds, and riparian zones to the maximum extent practicable.

Fording of streams and rivers is prohibited.

Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid overtopping the TAF on a regular basis. ***TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the (OHWM).***

If the OHWM is not shown on the plans, the Department will establish the OHWM based on the definition of OHWM (as defined in SS 832) or the peak discharge from the 2-year event, using the method described in the most current version of the Department's Location and Design Manual Volume II.
If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor's proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor's proposed TAF will be a minimum of 60 days.

Installation of any temporary fill without appropriate authorization is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

TAFs Construction and Payment
Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with these Special Provisions or other environmental commitments that have been included in the construction plans.

TAFs in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, sheet piling, temporary bridges, etc. The Contractor must make every attempt to minimize disturbance to waterbodies, stream banks, stream beds and riparian zones during the construction, maintenance, and removal of the TAF. Construct the TAFs as narrow as practical. Install in-stream conduits parallel to

the stream banks. Make the TAFs in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, and approach sections. Construct the TAFs as to not erode stream banks or allow sediment deposits in the channel.

Prior to the initiation of any in-stream work, establish a monument upstream of the proposed TAF to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide a visual mark on the monument that identifies the elevation 1 foot above the OHWM. Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor. All costs associated with furnishing and maintaining the above referenced monument is incidental to the work.

Should the surface water elevation exceed the elevation 1 foot above OHWM, the Department will compensate the Contractor for repair of any resulting damage to the TAF up to the elevation of 1 foot above the OHWM, except as noted. The Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 of the Construction & Materials Specifications.

Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and Excavation Bracing and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of TAFs associated with Items 502 and 503 as a result of surface water elevation exceeding 1 foot above the OHWM. Compensation for damages associated with waterway flows will be provided as described in Items 502 and 503.

Construct the TAFs, not including Items 502 and 503, to a water elevation at least 1 foot (0.3 m) above the OHWM. If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the causeway and access fills will not damage property or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used.

A. Furnish culverts on the existing stream bottom.
B. Avoid a drop in water elevation at the downstream end of the culvert that would result in an adverse impact to the waterway.
C. Furnish a sufficient number of culverts in addition to stream openings to provide a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the OHWM.
D. Furnish culverts with a minimum diameter of 18 inches (0.5 m).

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, as specified in C&MS 703.19.B. Extend rock fill up the slope from original stream bank for 50 feet (10 m) to catch and remove erodible material from equipment.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the causeway and access fills will be restored to its pre-construction elevations. The TAF will not be paid as a separate item but will be included by the Contractor as part of the total project cost. Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities, are incidental to the work within the boundaries of the aquatic resources.

12. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into jurisdictional waters of the U.S. is permitted during the excavation process. If any changes to the proposed work are deemed necessary, you must notify and coordinate with the ODOT-OES-WPU (614-466-7100).

13. Construction Completion Certification:

Upon completion of the work, notify the Engineer. The USACE Construction Completion Certification must be completed and signed by the Engineer then provided via US mail or email to:

Waterway Permits Program Manager
ODOT - Office of Environmental Services
1980 West Broad Street, Mail Stop 4170
Columbus, Ohio 43223
Adrienne.Earley@dot.ohio.gov

A copy of the certification has been attached to these Special Provisions.

14. Demolition Debris:

The intentional discharge of demolition debris from any structure (including but not limited to bridges, culverts, abutments, wing walls, piers) into any aquatic resource (streams or wetlands) is not authorized for this project. If any demolition debris inadvertently falls into any aquatic resource, it must be removed immediately. Notify the Engineer immediately in writing of any inadvertent fill discharged into any aquatic resource. Also contact ODOT-OES-WPU at 614-466-7100 if any unintentional discharge occurs.

TABLE C. DISCHARGE AND FILL QUANTITIES

Minimal Degradation Alternative (Proposed to be constructed)

STREAMS				Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Within/Below OHWM												Total Permanent Fill Within OHWM*			Total Temporary Fill Within OHWM*			TOTAL IMPACT (Upstream to Downstream)*	TOTAL NEW IMPACT (Total Impact - Pre-Existing Impacts)
Aquatic Resource ID	Station	Description of Impacts/ Activities Within OHWM	Total Length within Project Area (LF)			Proposed Concrete (includes Culvert, Piers, Walls, Abutments, articulating block revetment, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel Culvert, Grading, geotextile fabric, etc.)										
				Length (LF)	Length (LF)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Length (LF)
Stream 2 (Talkers Creek)	107+16.98	Conduit & Concrete Block Pavement	235	50	50	22	0.0071	6.0	0	0.0000	0.0	90	0.2068	90.0	50	0.0472	7.0	90	0.0472	103.0	110	0.0908	150.0	200	110
Stream 4	107+21.00	Channel Cleanout & Concrete Block Revetment	68	0	0	0	0.0000	0.0	0	0.0000	0.0	25	0.0025	5.9	0	0.0000	0.0	25	0.0025	5.9	0	0.0000	0.0	25	75
Stream 5	107+2.00	Channel Cleanout & Concrete Block Revetment	154	0	0	0	0.0000	0.0	0	0.0000	0.0	20	0.0020	3.8	0	0.0000	0.0	20	0.0020	3.8	0	0.0000	0.0	20	75
					SUM	77	0.0071	6.0	0	0.0000	0.0	135	0.2113	99.7	50	0.0472	7.0	135	0.2317	112.7	110	0.0908	150.0	245	155

*Due to the overlap in the materials and rounding of quantities, reported individual discharges may not sum to the total reported.

WETLANDS, JURISDICTIONAL DITCHES, PONDS				Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Within Wetland Boundary												Total Permanent Fill Within Wetland Boundary*			Total Temporary Fill Within Wetland Boundary			TOTAL IMPACT	TOTAL NEW IMPACT (Total - Existing)
Aquatic Resource ID	Station	Description of Impacts/ Activities within Wetland Boundary	Total Acreage Within Project Area			Proposed Concrete (includes Culvert, Piers, Walls, Abutments, articulating block revetment, etc.)			Proposed RCP			Proposed Earthen, Granular/Haydite, or Embankment Fill			Proposed Other (Steel fence, with drains, misc. grading, etc.)										
				Length (LF)	Length (LF)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Area (AC)	Area (AC)
Wetland A (West Bowl)	107+17	Steel Culvert & Concrete Block Revetment System (Type 1)	10.145	NA	NA	NA	0.0001	0.2	NA	0.0000	0.0	NA	0.1080	174.2	NA	0.0000	0.0	NA	0.1080	174.4	NA	0.0000	0.0	0.1080	0.1080
Wetland A (East Bowl)	134+50 to 141+51	Embankment Fill and Fence, Conduit & Concrete (animal crossings)	13.445	NA	NA	NA	0.0024	3.9	NA	0.0000	0.0	NA	0.2573	432.0	NA	0.0062	0.5	NA	0.2673	436.2	NA	0.0000	0.0	0.2673	0.2673
					SUM	NA	0.0025	4.1	NA	0.0000	0.0	NA	0.3753	606.2	0.0	0.0062	0.0	NA	0.3753	610.6	NA	0.0000	0.0	0.3753	0.3753

*Due to the overlap in the materials and rounding of quantities, reported individual discharges may not sum to the total reported.
LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, ie, concrete block mattress); NA = Not Applicable

US Army Corps of Engineers
Huntington District

Permit Number: 2014-00961-CUY

Name of Permittee: Ohio Department of Transportation

Date of Issuance: July 14, 2017

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers - Huntington District
Building 10/ Section 10
PO Box 3990
Columbus, OH 43218-3990

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee   Date