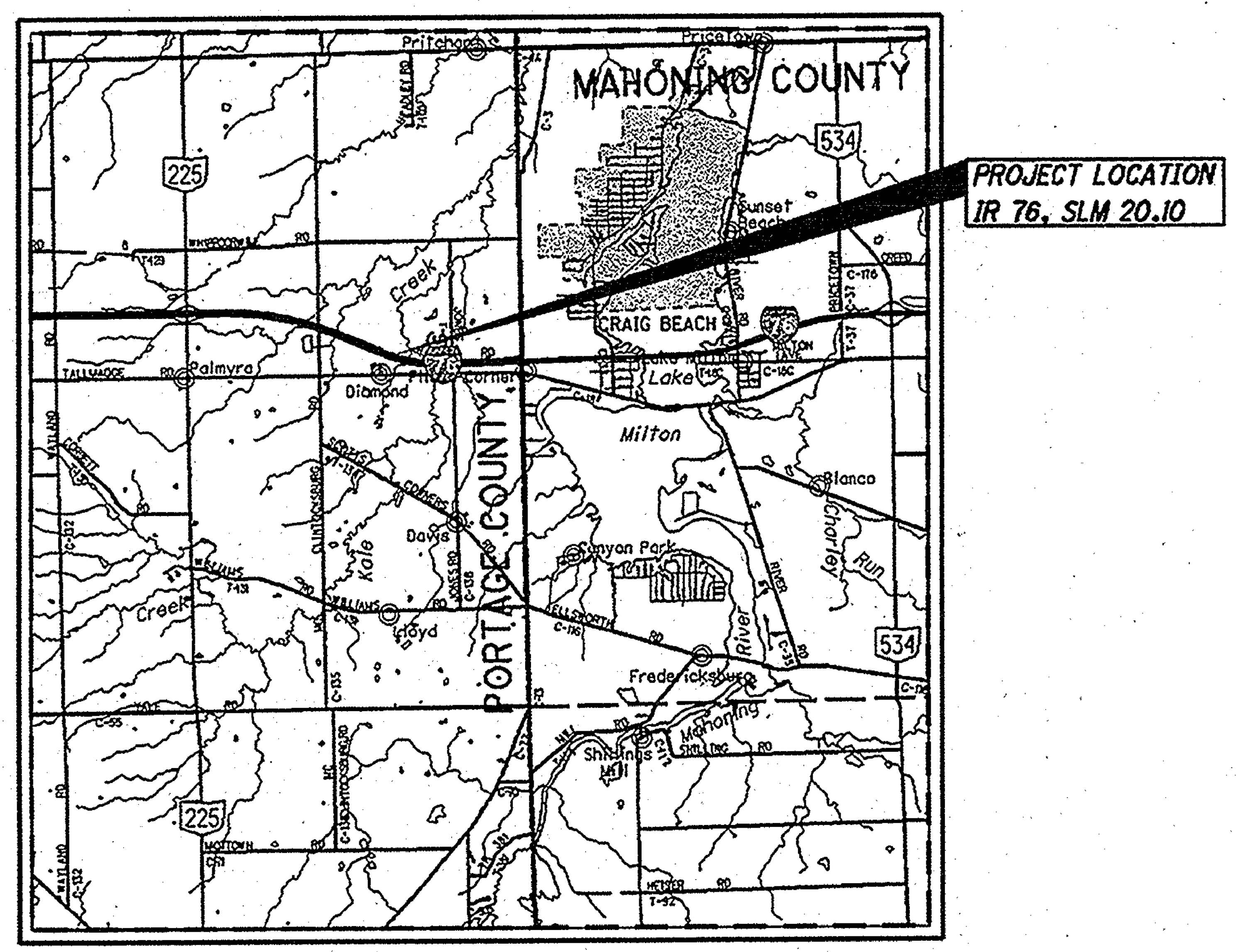


LOCATION MAP

LATITUDE: N41°06'02" LONGITUDE: W81°01'17"

SCALE IN MILES
0 1 2 3 4

N

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

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

POR-76-20.10

PALMYRA TOWNSHIP
PORTAGE COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

SLOPE REPAIR AND RECONSTRUCTION AT IR 76 SLM 20.10 IN PALMYRA TOWNSHIP, PORTAGE COUNTY. WORK INCLUDES DRAINAGE IMPROVEMENTS AND GUARDRAIL REPLACEMENT.

PROJECT EARTH DISTURBED AREA: 0.37 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

LIMITED ACCESS

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

2010 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.

DESIGN DESIGNATION

DESIGN SPEED 70 MPH
LEGAL SPEED 65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:
FREEWAYS AND EXPRESSWAYS - INTERSTATE (RURAL)

NHS PROJECT YES

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 ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:
STATE OF OHIO
ALEXANDRE J. BREDIKHIN
E-70037
REGISTERED
PROFESSIONAL ENGINEER
SIGNED:
DATE: 4-6-2012

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	1/20/12	MT-95.30	7/17/09	800	5/25/12	
		MT-95.40	7/17/09	832	5/5/09	
HW-2.1	7/30/07	MT-101.70	4/15/11			
		MT-105.10	1/16/09			
DM-1.1	1/21/11					
DM-1.2	10/21/05	TC-41.20	1/19/01			
DM-1.4	7/15/11	TC-42.20	1/21/11			
DM-4.1	10/21/11	TC-52.10	1/19/07			
DM-4.3	4/17/09	TC-52.20	1/19/07			
DM-4.4	4/17/09					
GR-1.1	7/16/04					
GR-2.1	1/16/04					
GR-3.1	10/16/09					
MT-35.10	4/20/01					

APPROVED
DATE 4-9-12 DISTRICT DEPUTY DIRECTOR

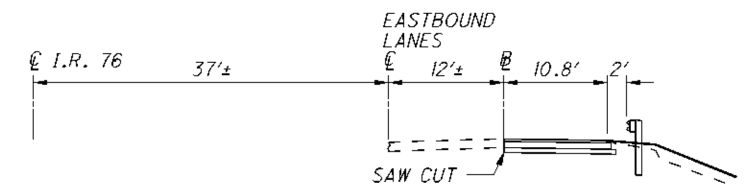
APPROVED
DATE 4-23-12 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E111(405)
PID NO. 92144
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
POR-76-20.10

LEGEND

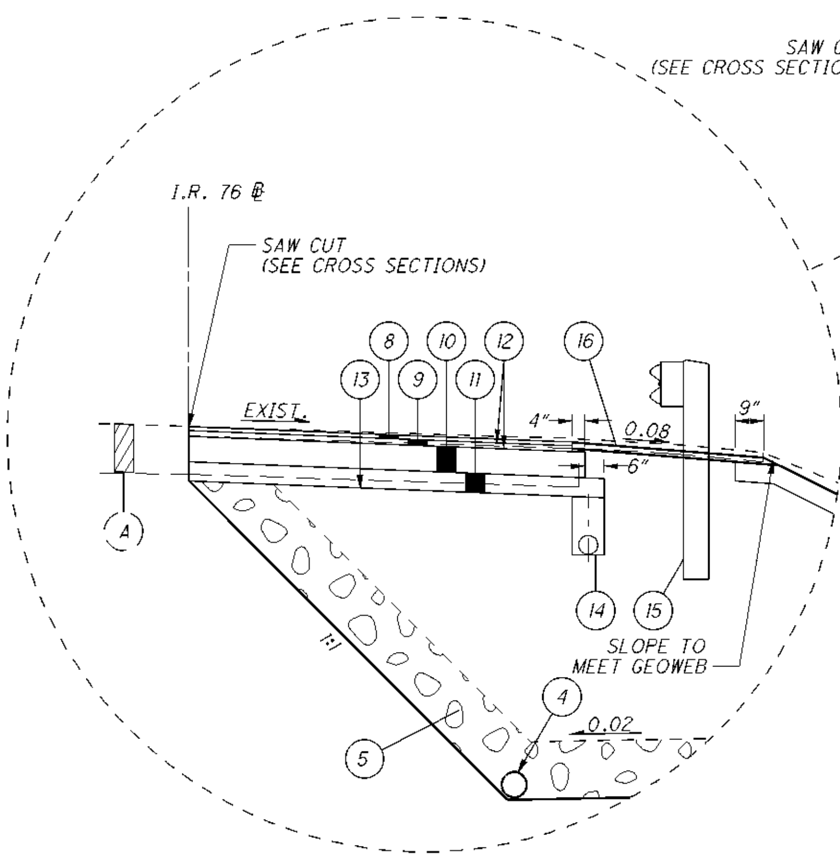
1. ITEM 203, EMBANKMENT
2. ITEM 203, EXCAVATION, AS PER PLAN
3. ITEM 204, GEOTEXTILE FABRIC, TYPE D, NONWOVEN
4. ITEM 603, 8" CONDUIT, TYPE F, 707.41 (PERFORATED)
5. ITEM 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, No. 1
6. ITEM 204, GEOTEXTILE FABRIC, TYPE A, 712.09
7. ITEM 659, SEEDING AND MULCHING
8. ITEM 448, 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
9. ITEM 448, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
10. ITEM 301, 8" ASPHALT CONCRETE BASE, PG64-22
11. ITEM 304, 6" AGGREGATE BASE, AS PER PLAN
12. ITEM 407, TACK COAT FOR INTERMEDIATE COURSE
13. ITEM 204, SUBGRADE COMPACTION
14. ITEM 605, 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP
15. ITEM 606, GUARDRAIL, TYPE 5
16. ITEM 448, 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22
17. ITEM 603, 12" CONDUIT, TYPE F, 707.42 (PERFORATED)
18. ITEM SPECIAL, MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6)
19. ITEM 609, CURB, TYPE 4-C
20. ITEM 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, No. 2

(A) EXISTING PAVEMENT WITH ASPHALT OVERLAY



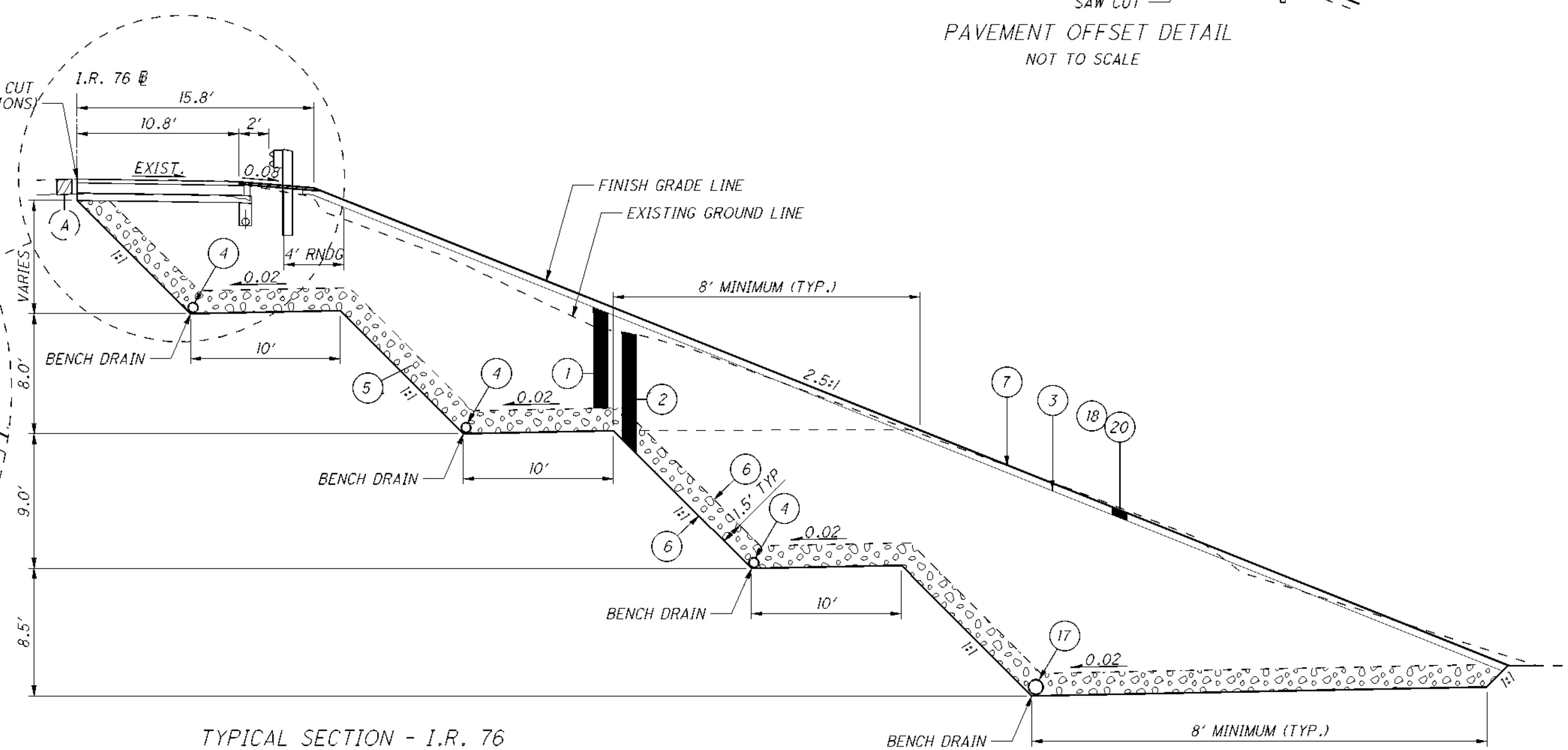
PAVEMENT OFFSET DETAIL

NOT TO SCALE



PAVED SHOULDER DETAIL

NOT TO SCALE



TYPICAL SECTION - I.R. 76

STA. 1064+25, RT TO STA. 1065+50 RT = 125'

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TYPICAL SECTION - (IR 76)

POR-76-20.10

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 HEADQUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3145 KEN GREENE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

ROUNDING
THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES 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.

BENCHMARKS AND CENTERLINE REFERENCE TIES
BENCHMARKS AND CENTERLINE REFERENCE TIES FOR THIS PROJECT SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING.

CLEARING AND GRUBBING
ALTHOUGH THERE ARE NO TREES, LOGS 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.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL
WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

BENCHING OF FOUNDATION SLOPES
ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 203 - EXCAVATION, AS PER PLAN
THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OFF SITE OF ALL EXCAVATED MATERIALS, AS SHOWN ON THE CROSS SECTION SHEETS, ACCORDING TO CMS 105.16 AND 105.17.

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 MATERIAL, TYPE E, AS PER PLAN, NO. 1
No. 57 STONE SHALL BE USED.

ITEM 203 - GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2
THIS ITEM WILL CONSIST OF A MIXTURE OF GRANULAR MATERIAL, TYPE E, No. 57 STONE AND TOPSOIL (CMS SECTION 659) ACCORDING TO THE FOLLOWING PERCENTAGES BY VOLUME:

GRANULAR MATERIAL TYPE E, No. 57 STONE	45%-55%
TOPSOIL	45%-55%

PAVING UNDER GUARDRAIL
THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING, AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, SHALL CONSIST OF EXCAVATING EXISTING MATERIAL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS, ASPHALT AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE EPA APPROVED FOR PAVING UNDER GUARDRAIL. IT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

HERBICIDE LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED. PAVING MAY BE PLACED UNDER EXISTING OR PROPOSED GUARDRAIL USING ONE OF THE FOLLOWING METHODS:

METHOD A
1) SET GUARDRAIL POSTS
[OMIT IF EXISTING GUARDRAIL IS TO REMAIN]
2) PLACE ITEM 448

METHOD B
1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS
(MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

CALCULATED RCB
CHECKED AJB
GENERAL NOTES
POR-76-20.10
3
14
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SEEDING AND MULCHING

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

POR-76-20.10

659, TOPSOIL	58 CU. YD.
659, SEEDING AND MULCHING	1806 SQ. YD.
659, REPAIR SEEDING AND MULCHING	90 SQ. YD.
659, COMMERCIAL FERTILIZER	0.24 TON
659, LIME	0.37 ACRE
659, WATER	10 M. GAL.

SEEDING AND MULCHING 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 SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

EARTHWORK CALCULATIONS - I.R. 76						
	END AREA			VOLUME		
	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203
STATION	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1
	SQ FT	SQ FT	SQ FT	CU YD	CU YD	CU YD
1064+00.00	0	0	0			
				3	19	0
1064+25.00 back	5.1	40.5	0			
				0	0	0
1064+25.00 ahead	852.1	667.7	160.4			
				785	619	149
1064+50.00	842.7	667.8	160.7			
				1566	1232	299
1065+00.00	848	661.9	161.9			
				1531	1207	298
1065+50.00 back	804.7	640.8	159.2			
				0	0	0
1065+50.00 ahead	4.1	59.2	0			
				2	28	0
1065+75.00	0	0	0			
TOTALS TO GENERAL SUMMARY				3887	3105	746

204, EXCAVATION OF SUBGRADE
204, GRANULAR MATERIAL, TYPE D
204, GEOTEXTILE FABRIC

ITEMS 204, EXCAVATION OF SUBGRADE, GRANULAR MATERIAL, TYPE D AND GEOTEXTILE FABRIC ARE PROVIDED IN THE PLANS FOR REMOVAL OF UNSUITALBE MATERIAL. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

204, EXCAVATION OF SUBGRADE	40 CU. YD.
204, GRANULAR MATERIAL, TYPE D	40 CU. YD.
204, GEOTEXTILE FABRIC	50 SQ. YD.

PAVEMENT MARKINGS

ALL PAVEMENT MARKINGS WILL BE REPLACED TO MATCH EXISTING PAVEMENT MARKINGS.

646, EDGE LINE	0.06 MILE

CALCULATED RCB
CHECKED AJB

GENERAL NOTES

POR-76-20.10

SLOPE PROTECTION SYSTEM

THE SLOPE PROTECTION SYSTEM IS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND BASED ON MANUFACTURER-PROVIDED DESIGN.

THE FOLLOWING ITEMS SHALL BE USED TO INSTALL THE SLOPE PROTECTION SYSTEM ACCORDING TO THE DETAILS AS SHOWN ON THIS SHEET. THE SLOPE PROTECTION SYSTEM SHALL BE INSTALLED ON THE SLOPES IDENTIFIED ON THE CROSS SECTIONS.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE PERTINENT ITEM. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

I.R. 76

203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2	204 CU YD
204, GEOTEXTILE FABRIC, TYPE D, NONWOVEN	1286 SQ YD
SPECIAL, MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6)	1286 SQ YD

ITEM SPECIAL - MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING THE GEOWEB SLOPE PROTECTION SYSTEM (GW30V6) MANUFACTURED BY PRESTO PRODUCTS COMPANY, PO BOX 2399, APPLETON, WI, 54912-2399, 800-558-3525. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS INCLUDING, BUT NOT LIMITED TO ATRA ANCHORS.

ODOT WILL ACCEPT AN ALTERNATIVE IF THE FOLLOWING CONDITIONS ARE MET:

1. *THE SYSTEM IS SIMILAR TO THE BASIC GEOMETRY, MATERIAL, AND COMPONENTS OF GEOWEB (I.E. DESIGNED TO CONFINE GRANULAR MATERIAL IN CELLS, SAME HEIGHT, ANCHORAGE SYSTEM, DRAINAGE CHARACTERICS, ETC).*

2. *GEOTEXTILE FABRIC UNDER THE SLOPE PROTECTION IS REQUIRED.*

3. *A SAMPLE OF THE MATERIAL IS SUBMITTED FOR ODOT REVIEW, MINIMUM SIZE 3'x3'.*

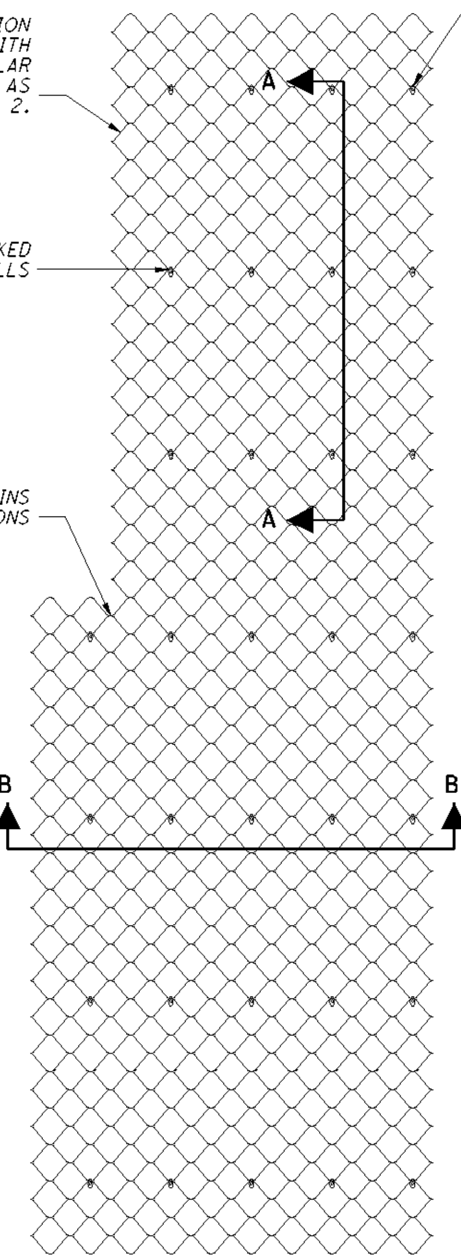
4. *THE INFILL VOLUME OF THE GRANUALR MATERIAL IS WITHIN 5% OF THE SPECIFICATIONS OF THE GEOWEB.*

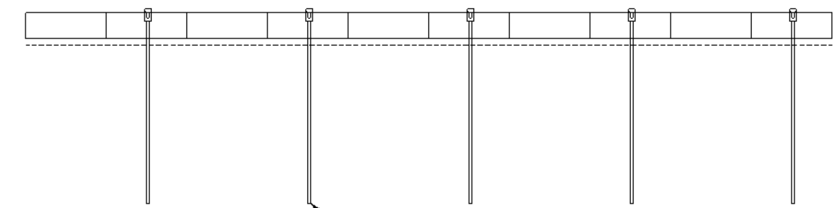
5. *MANUFACTURER'S SPECIFICATIONS ARE SUBMITTED.*

6. *DOCUMENTATION (PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER) STATING THAT THE SYSTEM IS EQUIVALENT TO OR EXCEEDS THE SPECIFICATIONS OF THE GEOWEB.*

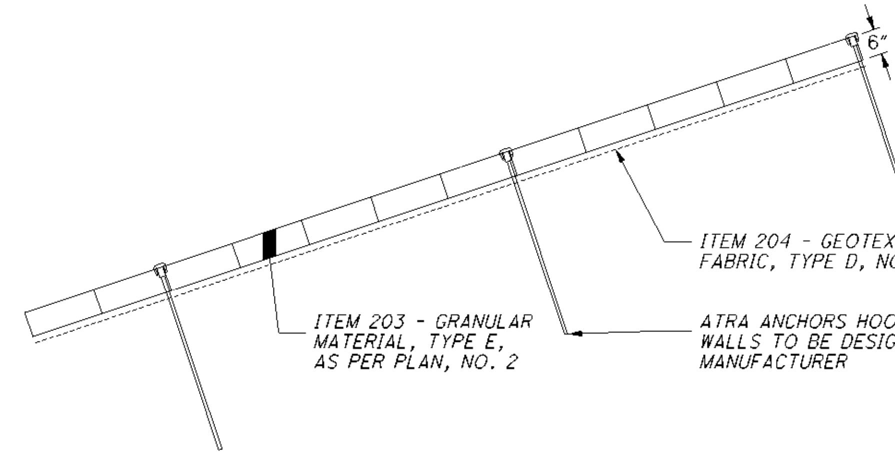
7. *CALCULATIONS AND A TYPICAL CROSS SECTION OF THE DESIGN OF THE ANCHORAGE SYSTEM FOR THE SLOPE PROTECTION MUST BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER AND STAMPED. CALCULATIONS MUST BE SUBMITTED.*

THE ODOT PROJECT ENGINEER WILL REVIEW ALL OF THE SUPPLIED INFORMATION AND MAKE A DETERMINATION IF THE MATERIAL IS EQUIVALENT OR EXCEEDS THE GEOWEB. IF IT DOES THEN THE PROJECT ENGINEER WILL APPROVE THE USE OF THE ALTERNATIVE.





SECTION B - B



SECTION A - A

CALCULATED RCB CHECKED AJB

GEOWEB SLOPE COVER DETAILS

POR-76-20.10

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. A MINIMUM OF ONE ELEVEN FOOT LANE EASTBOUND SHALL BE MAINTAINED ON THE EXISTING PAVEMENT DURING CONSTRUCTION OF THE WORK.

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

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

LANE CLOSURES

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
http://plcm.dot.state.oh.us

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $2,500.00 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

EXCEPTION TO THE PERMITTED LANE CLOSURE CHART

THE EASTBOUND DRIVING LANE WILL BE CLOSED USING PORTABLE CONCRETE BARRIER FOR A MAXIMUM OF THIRTY (30) CONSECUTIVE CALENDAR DAYS. ANY OTHER CLOSURES WILL BE IN ACCORDANCE WITH THE PERMITTED LANE CLOSURE CHART.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $2,500.00 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 1. NOVEMBER 14 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND DISINCENTIVES OF $750.00 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

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 REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING 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.

DUST CONTROL

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

ITEM 616, WATER   7 M. GAL

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE   300 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

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

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

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

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

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

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

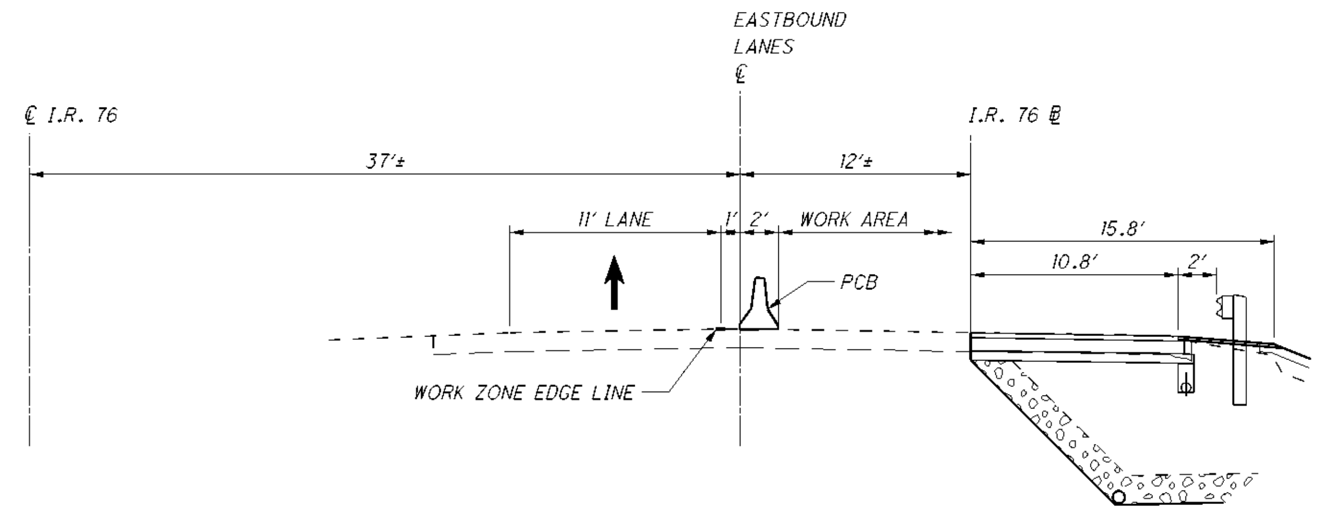
ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 9 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 9 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

CALCULATED MJH
CHECKED AJB

MAINTENANCE OF TRAFFIC GENERAL NOTES

POR-76-20.10



CLOSE EASTBOUND DRIVING LANE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MT-95.40 USING A 65 MPH DESIGN SPEED. PROVIDE A 100' DIVERGING TAPER DOWNSTREAM USING THE WORK ZONE EDGE LINE.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK:

ITEM 614, WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I - 0.38 MILE
ITEM 614, WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I - 1195 FT
ITEM 614, WORK ZONE IMPACT ATTENUATOR - 1 EACH
ITEM 622, PORTABLE CONCRETE BARRIER, 32" - 440 FT

MAINTENANCE OF TRAFFIC TYPICAL SECTION - (IR 76)

POR-76-20.10

plan 4	plan 5	plan 10	plan 11	CALC. I.R. 76	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									ROADWAY	
					201	11000	LUMP		CLEARING AND GRUBBING	
			150		202	38000	150	FT	GUARDRAIL REMOVED	
3887					203	10001	3887	CU YD	EXCAVATION, AS PER PLAN	3
3105					203	20000	3105	CU YD	EMBANKMENT	
746					203	35141	746	CU YD	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1	3
	204				203	35141	204	CU YD	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2	3
				171	204	10000	171	SQ YD	SUBGRADE COMPACTION	
40					204	13000	40	CU YD	EXCAVATION OF SUBGRADE	
40					204	30030	40	CU YD	GRANULAR MATERIAL, TYPE D	
50					204	50000	50	SQ YD	GEOTEXTILE FABRIC	
				6179	204	50000	6179	SQ YD	GEOTEXTILE FABRIC, TYPE A, 712.09	
	1286				204	50000	1286	SQ YD	GEOTEXTILE FABRIC, TYPE D, NONWOVEN	
				2	209	60201	2	STATION	LINEAR GRADING, AS PER PLAN	3
			150		606	13000	150	FT	GUARDRAIL, TYPE 5	
	1286				SPEC	69098300	1286	SQ YD	MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6)	5
									EROSION CONTROL	
		1			601	32204	1	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
58					659	00300	58	CU YD	TOPSOIL	
1806					659	10000	1806	SQ YD	SEEDING AND MULCHING	
90					659	14000	90	SQ YD	REPAIR SEEDING AND MULCHING	
0.24					659	20000	0.24	TON	COMMERCIAL FERTILIZER	
0.37					659	31000	0.37	ACRE	LIME	
10					659	35000	10	M GAL	WATER	
				520	670	00550	520	SQ YD	SLOPE EROSION PROTECTION MAT, TYPE E	
					832	30000	2000	EACH	EROSION CONTROL	
									DRAINAGE	
		0.21			602	20000	0.21	CU YD	CONCRETE MASONRY	
		7			603	00510	7	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
		375			603	02600	375	FT	8" CONDUIT, TYPE F, 707.41 (PERFORATED)	
		125			603	05200	125	FT	12" CONDUIT, TYPE F, 707.42 (PERFORATED)	
		102			603	05200	102	FT	12" CONDUIT, TYPE F (FOR UNDERDRAIN OUTLET)	
		125			605	14020	125	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	

CALCULATED RCB CHECKED AJB

GENERAL SUMMARY

POR-76-20.10

SHEET NUMBER 4	SHEET NUMBER 6	SHEET NUMBER 7	SHEET NUMBER 11	CALC. I.R. 76	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
									PAVEMENT	
				35	301	46000	35	CU YD	ASPHALT CONCRETE BASE, PG64-22	
				27	304	20001	27	CU YD	AGGREGATE BASE, AS PER PLAN	3
				13	407	14000	13	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
				8	448	46050	8	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
				5	448	46061	5	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	3
				6	448	47020	6	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
									TRAFFIC CONTROL	
			3		626	00100	3	EACH	BARRIER REFLECTOR	
0.06					646	10000	0.06	MILE	EDGE LINE	
									MAINTENANCE OF TRAFFIC	
	300				614	11110	300	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		1			614	12336	1	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	9				614	13300	9	EACH	BARRIER REFLECTOR, TYPE B	
	9				614	13350	9	EACH	OBJECT MARKER, ONE WAY	
		0.38			614	22200	0.38	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
		1195			614	24400	1195	FT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	
	7				616	10000	7	M GAL	WATER	
		440			622	40020	440	FT	PORTABLE CONCRETE BARRIER, 32"	
					614	11000	LUMP		MAINTAINING TRAFFIC	
					619	16010	4	MONTH	FIELD OFFICE, TYPE B	
					623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
					624	10000	LUMP		MOBILIZATION	

CALCULATED RCB
CHECKED AJB

GENERAL SUMMARY

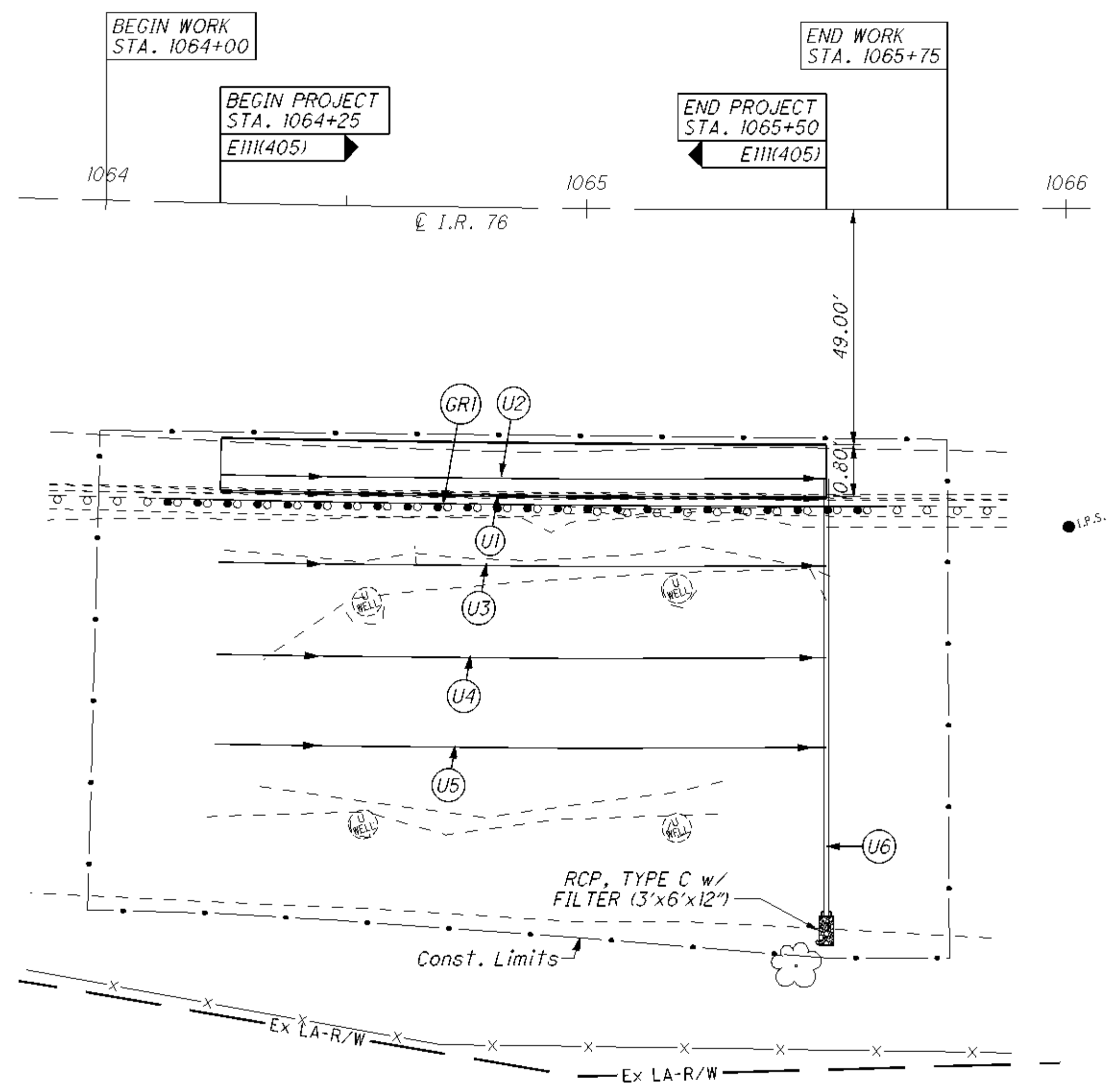
POR-76-20.10

REF NO.	SHEET NO.	STATION TO STATION					BEGIN ELEVATION	END ELEVATION	OUTLET BEGIN ELEVATION	OUTLET BEGIN OFFSET	OUTLET STATION SHALLOW UNDERDRAIN OUTLET	OUTLET STATION OUTLET TO DRAINAGE STRUCTURE	OUTLET END ELEVATION	OUTLET END OFFSET	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	602 CONCRETE MASONRY	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	603 8" CONDUIT, TYPE F, 707.41 (PERFORATED)	603 12" CONDUIT, TYPE F, 707.42 (PERFORATED)	603 12" CONDUIT, TYPE F (FOR UNDERDRAIN OUTLET)	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	FOR INFORMATION ONLY: TEE	FOR INFORMATION ONLY: 45° BEND	FOR INFORMATION ONLY: 90° BEND	FOR INFORMATION ONLY: END CAP
															CU YD	CU YD	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH
I.R. 76																										
U1	11	1064+25.00	RT	TO	1065+50.00	RT	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS			7					125			2	1
U2	11	1064+25.00	RT	TO	1065+50.00	RT												125							1	1
U3	11	1064+25.00	RT	TO	1065+50.00	RT												125					1			1
U4	11	1064+25.00	RT	TO	1065+50.00	RT												125					1			1
U5	11	1064+25.00	RT	TO	1065+50.00	RT													125				1			1
U6	11	1064+25.00	RT												0.67	0.21				102						
TOTALS CARRIED TO GENERAL SUMMARY															1	0.21	7	375	125	102	0	125	3	0	3	5

CALCULATED RCB
CHECKED AJB

UNDERDRAIN SUBSUMMARY

POR-76-20.10



SEE UNDERDRAIN SUBSUMMARY FOR SLOPE DRAINAGE QUANTITIES AND LOCATIONS.

REF. NO.	STATION RANGE	SIDE	202 GUARDRAIL REMOVED FT	606 GUARDRAIL, TYPE 5 FT	626 BARRIER REFLECTOR (TYPE A) EACH		
GR1	1064+12.50 1065+62.50	RT	150.0	150.0	3		
TOTALS TO GENERAL SUMMARY			150	150	3		

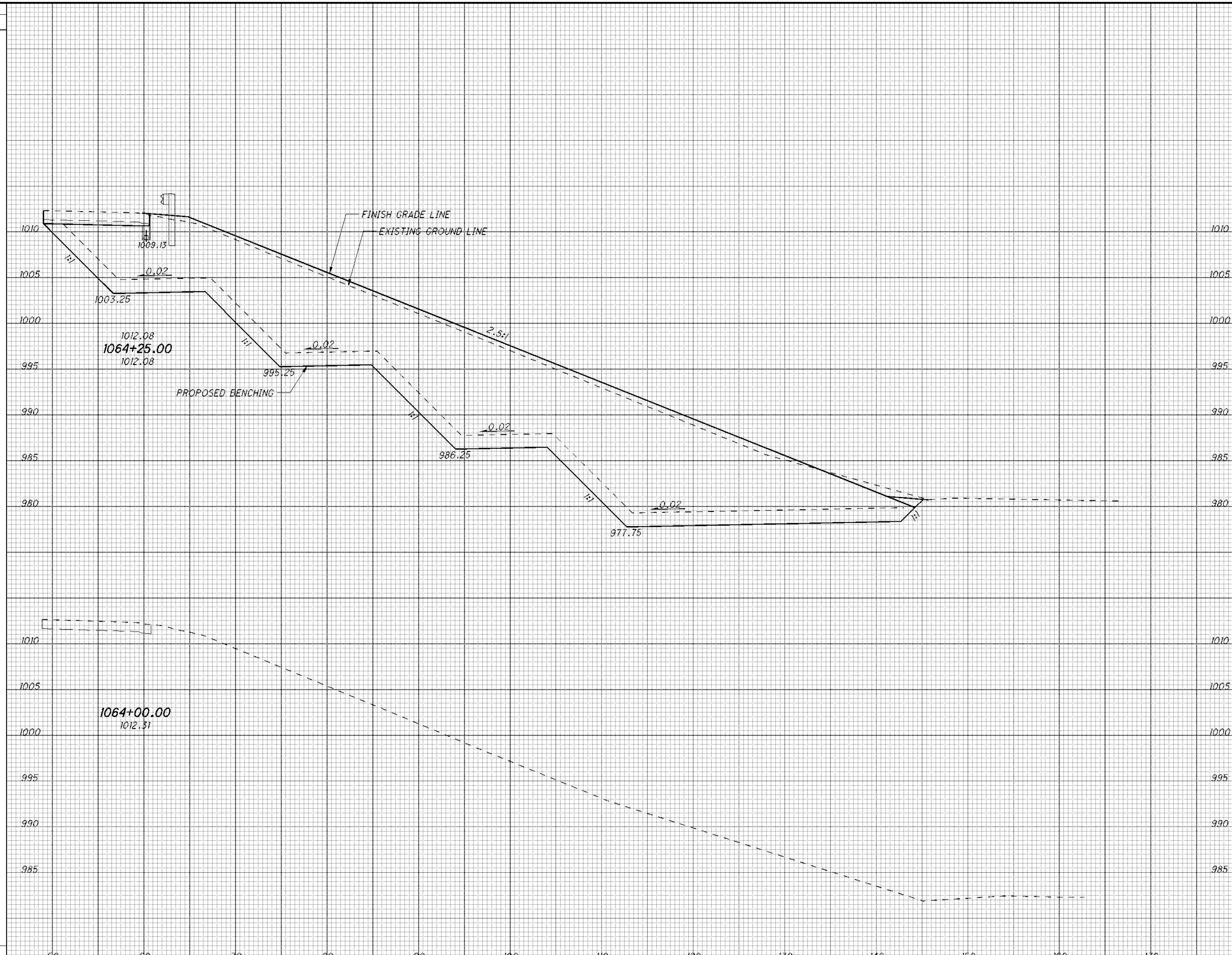
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED RCB
CHECKED AJB

PLAN VIEW
POR-76-20.10

POR-76-20.10

SEEDING	
END WIDTH	SQ. YDS.



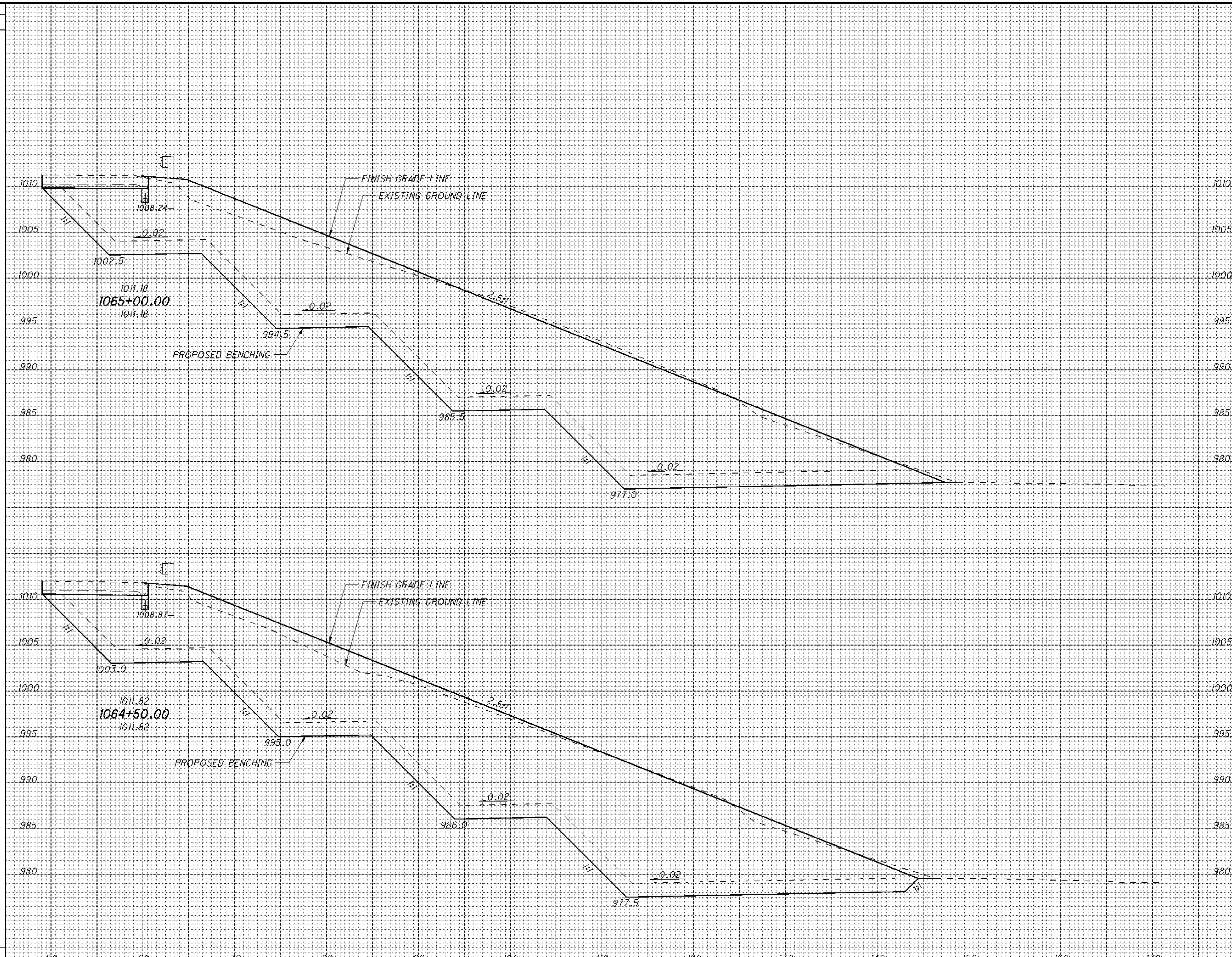
END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED AJB

CROSS SECTIONS I.R. 76
STA. 1064+00.00 TO STA. 1064+25.00

POR-76-20.10

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED AJB

CROSS SECTIONS I.R. 76
STA. 1064+50.00 TO STA. 1065+00.00

POR-76-20.10

13
14

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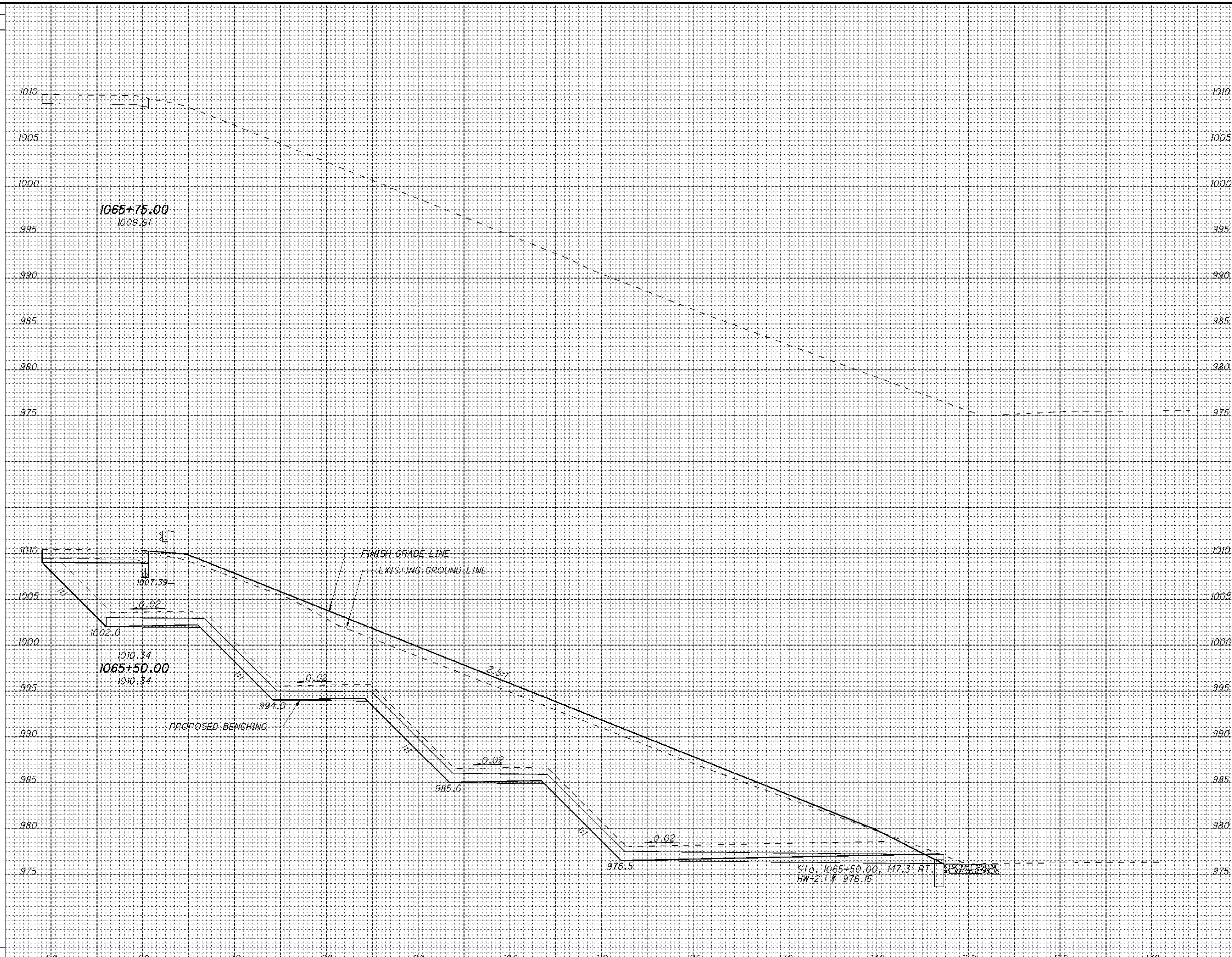
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
CHECKED AJB

CROSS SECTIONS I.R. 76
STA. 1065+50.00 TO STA. 1065+75.00

POR-76-20.10

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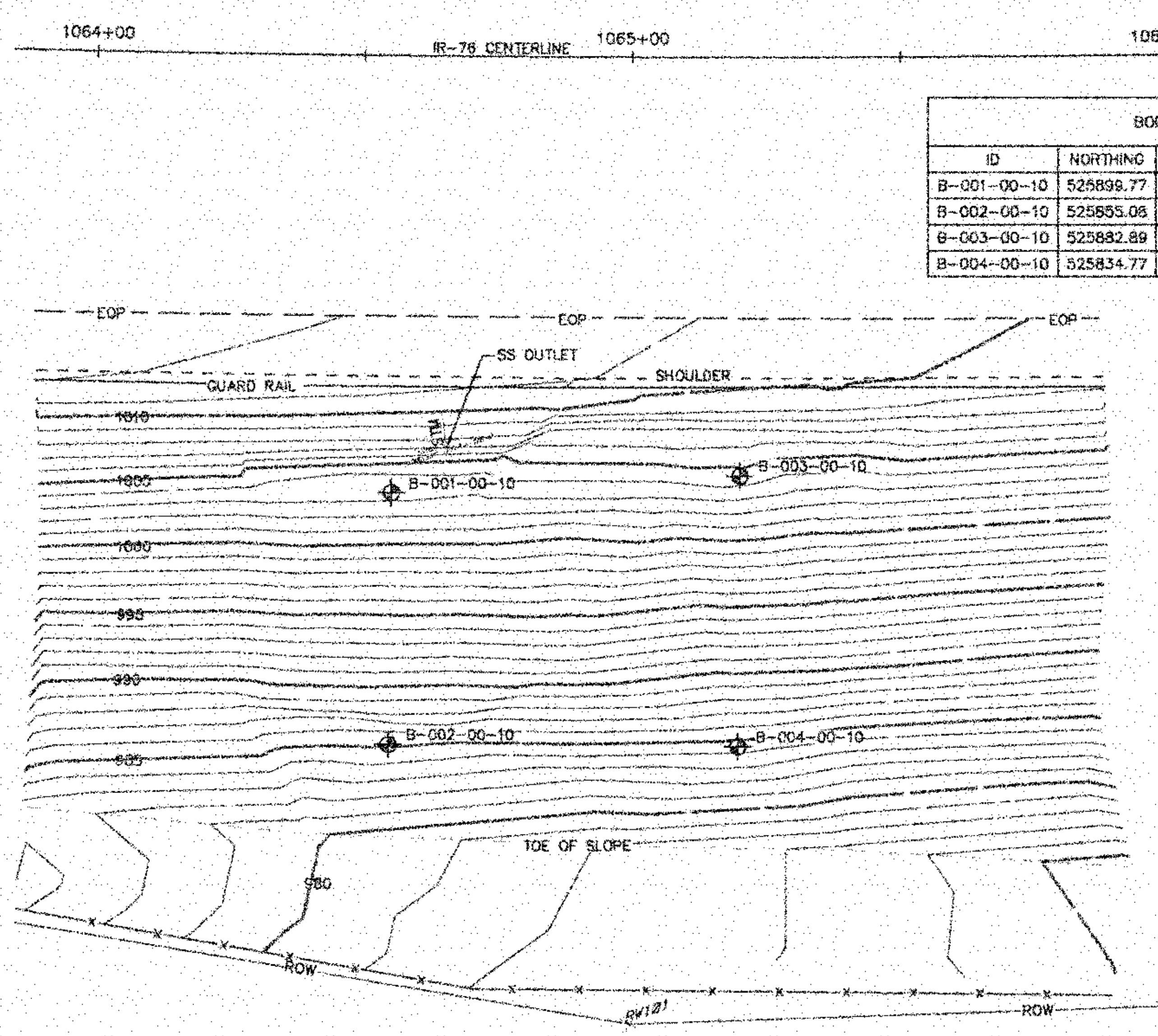

BORING LOCATION				
ID	NORTHING	EASTING	ELEVATION	STATION
B-001-00-10	525899.77	2376215.65	1003.29	1064+55.7
B-002-00-10	525855.08	2376200.73	984.96	1064+55.7
B-003-00-10	525882.89	2376278.61	1004.52	1065+20
B-004-00-10	525834.77	2376262.88	984.26	1065+20

LEGEND

TB- APPROXIMATE BORING LOCATION

NOTE: SURVEY DATA PROVIDED BY ODOT DISTRICT 4. (BASEMAP EXISTING GROUND SURVEY REVISION 40)

GRAPHIC SCALE 20 0 20 1" = 20'

NTH Consultants, Ltd. Infrastructure Engineering and Environmental Services

88-091392-09 | PCL | SEPT. 2010 | TCG | 1" = 20' | PCL | SEPT 2011

BORING LOCATION PLAN
POR-76-20.1
PORTAGE COUNTY, OHIO

FIGURE No. 1

PROJECT: POR-76-20.1	DRILLING FIRM / OPERATOR: EDP / HROLICKA	DRILL RIG: BOMADIERTRACK	STATION / OFFSET: 10+64.56, 90.0 LT
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: NTH / LEE	HAMMER: SAFETY HAMMER	ALIGNMENT: CL IR-76
PID: 79965 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/1/10	ELEVATION: 1003.3 (MSL) EOB: 43.8 ft.
START: 8/26/10 END: 8/26/10	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 79.5	LAT / LONG: Not Recorded

EXPLORATION ID B-001-00-10 PAGE 1 OF 2

MATERIAL DESCRIPTION AND NOTES	ELEV. 1003.3
DARK BROWN, TOPSOIL	1002.3
STIFF TO VERY STIFF, BROWN AND GRAY MOTTLED, SILT AND CLAY FILL	986.3
HARD, BROWN AND GRAY, SILT AND CLAY POSSIBLE FILL	976.3
HARD, BROWNISH GRAY TO BROWN, SILT AND CLAY, TRACE SAND, TRACE GRAVEL	

DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INCL.
1–2.5	2 3 3	8	94	SS-1	2.00	-	-	-	-	-	-	-	-	20	A-6a (V)	
3–4			100	ST-1	2.50	-	-	-	-	-	-	-	-	25	A-6a (V)	
5–6	2 3 3	8	72	SS-2	2.25	-	-	-	-	-	-	-	-	-	A-6a (V)	
6–7	3 4 4	11	78	SS-3	1.25	1	2	4	31	62	38	23	15	25	A-6a (10)	
8–9			63	ST-2	-	-	-	-	-	-	-	-	-	-	A-6a (V)	
10–11	4 4 6	13	76	SS-4	0.75	2	3	6	32	57	35	22	13	26	A-6a (9)	
12–13			81	ST-3	2.50	-	-	-	-	-	-	-	-	17	A-6a (V)	
13–14	3 4 5	12	61	SS-5	2.00	-	-	-	-	-	-	-	-	19	A-6a (V)	
19–20	8 12 19	41	72	SS-6	4.50	-	-	-	-	-	-	-	-	21	A-6a (V)	
24–25	6 11 14	33	72	SS-7	4.25	-	-	-	-	-	-	-	-	16	A-6a (V)	
29	11 14 17	41	72	SS-8	4.5+	-	-	-	-	-	-	-	-	20	A-6a (V)	

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/30/11 13:34 - S:\SHARE\GEOTECHNICAL SOFTWARE\GINT\PROJECTS\ODOT D4\ODOT FORMAT\88-091392-09.GPJ

Figure No.

PID: 79965 | BR ID: | PROJECT: POR-76-20.1 | STATION / OFFSET: 10+64.56, 90.0 LT | START: 8/26/10 | END: 8/26/10 | PG 2 OF 2 | B-001-00-10

MATERIAL DESCRIPTION AND NOTES (ELEV. 973.3)

- HARD, BROWNISH GRAY TO BROWN, **SILT AND CLAY**, TRACE SAND, TRACE GRAVEL *(continued)*
- 965.3 — **SHALE**, GRAY, DECOMPOSED TO HIGHLY WEATHERED, VERY WEAK TO WEAK, FINE GRAINED, THINLY BEDDED.
- 959.5 — EOB

DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INCL.
34–35	8 10 16	34	67	SS-9	4.5+	-	-	-	-	-	-	-	-	13	A-6a (V)	
39–40	10 20 35	73	67	SS-10	4.5+	-	-	-	-	-	-	-	-	4	Rock (V)	
43–44	50/2"	-	100	SS-11	-	-	-	-	-	-	-	-	-	-	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

Figure No.

PROJECT: POR-76-20.1 | DRILLING FIRM / OPERATOR: EDP / HRDLICKA | DRILL RIG: BOMADIERTRACK | STATION / OFFSET: 10+64.56, 135.0 LT | EXPLORATION ID B-002-00-10
TYPE: LANDSLIDE | SAMPLING FIRM / LOGGER: NTH / LEE | HAMMER: SAFETY HAMMER | ALIGNMENT: CL IR-76
PID: 79965 BR ID: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 3/1/10 | ELEVATION: 985.0 (MSL) EOB: 30.0 ft. | PAGE 1 OF 1
START: 8/26/10 END: 8/26/10 | SAMPLING METHOD: SPT / ST | ENERGY RATIO (%): 79.5 | LAT / LONG: Not Recorded

MATERIAL DESCRIPTION AND NOTES (ELEV. 985.0)

- 984.5 — STIFF, BROWN, **SILT AND CLAY FILL**
- 983.0 — HARD, BROWN, **SILT AND CLAY FILL**
- 974.0 — VERY STIFF TO HARD, GRAY AND BROWN, **SILT AND CLAY**
- 962.5 — **SHALE**, GRAY, DECOMPOSED TO HIGHLY WEATHERED, VERY WEAK, FINE GRAINED, LAMINATED.
- 24 hr (water level at 24–25); W (at 27)
- 955.0 — EOB

DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INCL.
1–2	3 5 7	16	83	SS-1	2.25	2	3	8	34	53	36	21	15	20	A-6a (10)	
3–4			100	ST-1	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	
5–6	2 5 7	16	63	SS-2	4.50	-	-	-	-	-	-	-	-	17	A-6a (V)	
7–8			63	ST-2	3.00	-	-	-	-	-	-	-	-	-	A-6a (V)	
9–10	6 6 7	17	83	SS-3	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	
11–12	5 9 9	24	89	SS-4	4.5+	-	-	-	-	-	-	-	-	19	A-6a (V)	
14–15	4 6 7	17	83	SS-5	3.00	1	2	3	37	57	36	23	13	21	A-6a (9)	
19–20	5 7 12	25	89	SS-6	4.5+	-	-	-	-	-	-	-	-	22	A-6a (V)	
24–25	21 50	-	61	SS-7	4.5+	-	-	-	-	-	-	-	-	14	Rock (V)	
29	50/3"	-	100	SS-8	4.5+	-	-	-	-	-	-	-	-	7	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

Figure No.

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 9/30/11 13:34 - S:\SHARED\TECHNICAL SOFTWARE\GINT\PROJECTS\ODOT D4\ODOT FORMAT\36-091392-09.GPJ

PROJECT: POR-76-20.1	DRILLING FIRM / OPERATOR: EDP / HRDLICKA	DRILL RIG: BOMADIERTRACK	STATION / OFFSET: 10+65.2, 81.0 LT
TYPE: LANDSLIDE	SAMPLING FIRM / LOGGER: NTH / KLIMKOWICZ	HAMMER: SAFETY HAMMER	ALIGNMENT: CL IR-76
PID: 79965 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/1/10	ELEVATION: 1004.5 (MSL) EOB: 48.75 ft.
START: 8/26/10 END: 8/26/10	SAMPLING METHOD: SPT / ST	ENERGY RATIO (%): 79.5	LAT / LONG: Not Recorded

EXPLORATION ID: B-003-00-10 — PAGE 1 OF 2

MATERIAL DESCRIPTION AND NOTES (ELEV. 1004.5)

MATERIAL DESCRIPTION AND NOTES	ELEV.
Fill	1003.5
STIFF TO VERY STIFF, BROWN, **SILT AND CLAY** Fill	991.0
VERY STIFF, BROWN AND GRAY, **SILT AND CLAY** Possible fill	984.5
STIFF TO HARD, BROWN AND GRAY, **SILT AND CLAY**, CONTAINS FEW SANDY SILT AND SANDY CLAY SEAMS	

DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INCL.
1–2.5	2 2 3	7	94	SS-1	1.50	-	-	-	-	-	-	-	-	14	A-6a (V)	
2.5–4	2 2 4	8	94	SS-2	3.00	1	2	6	36	55	36	21	15	21	A-6a (10)	
4–6			100	ST-1	-	-	-	-	-	-	-	-	-	-	A-6a (V)	
6–7.5	2 2 4	8	72	SS-3	2.50	-	-	-	-	-	-	-	-	23	A-6a (V)	
7.5–9	3 6 5	15	61	SS-4	1.50	-	-	-	-	-	-	-	-	22	A-6a (V)	
11.5–13.5			67	ST-2	-	-	-	-	-	-	-	-	-	-	A-6a (V)	
13.5–15	4 4 7	15	67	SS-5	2.50	-	-	-	-	-	-	-	-	22	A-6a (V)	
18.5–20	4 4 7	15	72	SS-6	3.00	-	-	-	-	-	-	-	-	20	A-6a (V)	
23.5–25	10 10 12	29	83	SS-7	4.5+	-	-	-	-	-	-	-	-	19	A-6a (V)	
28.5–30	10 16 20	48	75	SS-8	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	

Figure No.

PID: 79965	BR ID:	PROJECT: POR-76-20.1	STATION / OFFSET: 10+65.2, 81.0 LT	START: 8/26/10 END: 8/26/10	PG 2 OF 2 B-003-00-10

MATERIAL DESCRIPTION AND NOTES	ELEV.
STIFF TO HARD, BROWN AND GRAY, **SILT AND CLAY**, CONTAINS FEW SANDY SILT AND SANDY CLAY SEAMS *(continued)* (ELEV. 974.5)	970.5
HARD, BROWN AND GRAY, **SILT AND CLAY**	960.5
SHALE, GRAY, DECOMPOSED TO HIGHLY WEATHERED, VERY WEAK, FINE GRAINED, LAMINATED.	955.8 (EOB)

DEPTHS	SPT/RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INCL.
33.5–35	8 12 15	36	94	SS-9	3.00	6	10	11	45	28	23	17	6	25	A-4a (8)	
38.5–40	9 14 22	48	100	SS-10	4.5+	-	-	-	-	-	-	-	-	21	A-4a (V)	
43.5–44	50	-	100	SS-11	-	-	-	-	-	-	-	-	-	14	Rock (V)	
48.5–48.75	50/0	-	100	SS-12	-	-	-	-	-	-	-	-	-	5	Rock (V)	

EOB

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

Figure No.

PROJECT: POR-76-20.1 TYPE: LANDSLIDE PID: 79965 BR ID: START: 8/26/10 END: 8/26/10	DRILLING FIRM / OPERATOR: EDP / HRDLICKA SAMPLING FIRM / LOGGER: NTH / LEE DRILLING METHOD: 3.25" HSA SAMPLING METHOD: SPT / ST	DRILL RIG: BOMADIERTRACK HAMMER: SAFETY HAMMER CALIBRATION DATE: 3/1/10 ENERGY RATIO (%): 79.5	STATION / OFFSET: 10+65.2, 128.0 LT ALIGNMENT: CL IR-76 ELEVATION: 984.3 (MSL) EOB: 30.0 ft. LAT / LONG: Not Recorded

EXPLORATION ID B-004-00-10 — PAGE 1 OF 1

MATERIAL DESCRIPTION AND NOTES	ELEV. 984.3	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	INCL.
HARD, BROWN, SILT AND CLAY	984.1	1–3			92	ST-1	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	
		3.5–5	5 7 8	20	89	SS-1	4.5+	2	2	8	29	59	36	22	14	16	A-6a (10)	
		6–7.5	7 6 9	20	67	SS-2	4.5+	-	-	-	-	-	-	-	-	19	A-6a (V)	
VERY STIFF TO HARD, GRAY, SILT AND CLAY, TRACE GRAVEL, COBBLE	975.8	8.5–10	3 4 7	15	83	SS-3	4.50	-	-	-	-	-	-	-	-	25	A-6a (V)	
		11–12.5	5 6 8	19	83	SS-4	4.5+	-	-	-	-	-	-	-	-	25	A-6a (V)	
		13.5–15	11 8 6	19	78	SS-5	4.00	1	1	1	25	72	39	26	13	26	A-6a (9)	
		18.5–20	11 9 12	28	83	SS-6	3.50	-	-	-	-	-	-	-	-	23	A-6a (V)	
SHALE, GRAY, DECOMPOSED TO HIGHLY WEATHERED, VERY WEAK, FINE GRAINED, LAMINATED.	959.8	23.5–25	16 14 29	57	78	SS-7	3.50	-	-	-	-	-	-	-	-	12	Rock (V)	
	954.3	28.5–29 (EOB)	50/6"	-	60	SS-8	-	-	-	-	-	-	-	-	-	5	Rock (V)	

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - ON DOT.GDT - 9/30/11 13:35 - S:\SHARED\TECHNICAL SOFTWARE\GINT\PROJECTS\ODOT OH\ODOT FORMAT\86-081392-09.GPJ

Figure No.