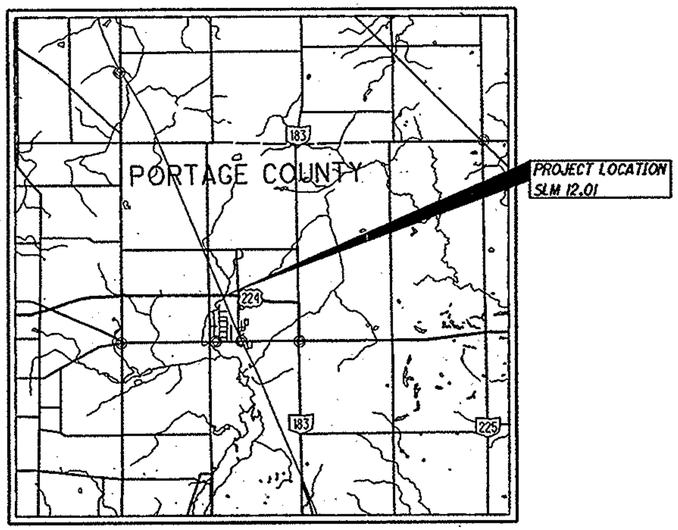
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

POR-224-12.01

ATWATER TOWNSHIP
PORTAGE COUNTY



LOCATION MAP

LATITUDE: N41°01'59" LONGITUDE: W81°10'01"

SCALE IN MILES

0 1 2 3 4

N

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

PROJECT DESCRIPTION

SLOPE REPAIR AND RECONSTRUCTION AT SLM 12.01 IN ATWATER TOWNSHIP, PORTAGE COUNTY. WORK INCLUDES DRAINAGE IMPROVEMENTS AND GUARDRAIL REPLACEMENT.

PROJECT EARTH DISTURBED AREA: 0.59 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

INDEX OF SHEETS:

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2008 SPECIFICATIONS

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

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

DESIGN DESIGNATION

DESIGN SPEED ..... 60 MPH
LEGAL SPEED ..... 55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:
RURAL 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 PROTECTIVE SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF PRODUCTION
2088 SOUTH ARLINGTON ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:

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

SIGNED: [signature]
DATE: 01-30-09

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	10/19/07	MT-101.70	10/18/02					800-2008	1/16/09
		MT-105.10	10/18/02					802	4/15/08
DM-1.1	4/21/06	MT-105.11	10/18/02					832	4/25/06
DM-1.2	10/21/05								
DM-1.4	4/21/06	TC-41.10	10/19/07						
DM-4.3	7/19/02	TC-41.20	1/19/01						
DM-4.4	7/19/02	TC-52.10	1/19/07						
		TC-52.20	1/19/07						
GR-1.1	7/16/04								
GR-2.1	1/16/04							SPECIAL PROVISIONS	
MT-96.11	4/19/02								
MT-96.20	4/19/02								
MT-96.21	4/19/02								
MT-96.25	4/20/01								
MT-97.10	9/05/06								

APPROVED [signature]
DATE 2-2-09 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 2-10-09 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. NON-FEDERAL
PID NO. 83093
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
POR-224-12.01
1/13

POR - US-224-12.01
090264 PID - 83093
Dist 4 4/29/2009

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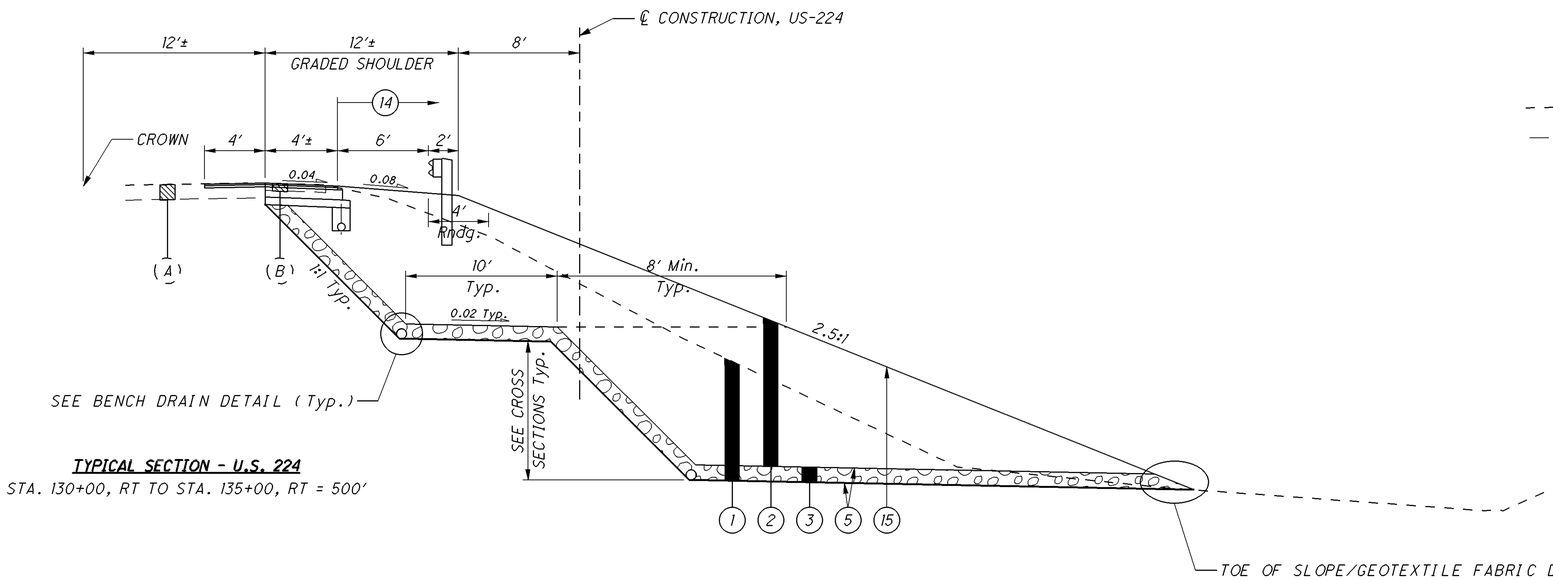
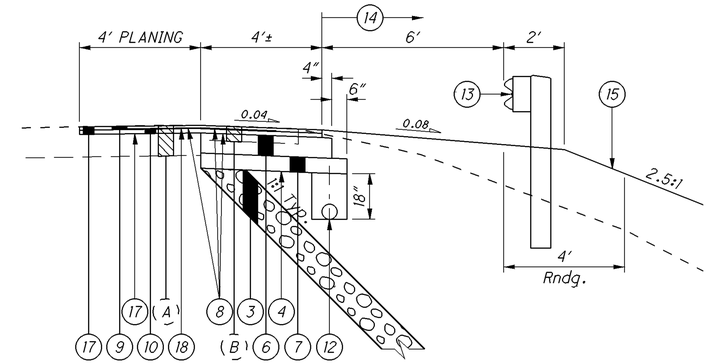
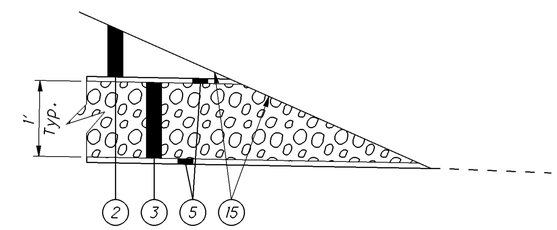


TYPICAL SECTION - U.S. 224

STA. 130+00, RT TO STA. 135+00, RT = 500'



PAVED SHOULDER DETAIL



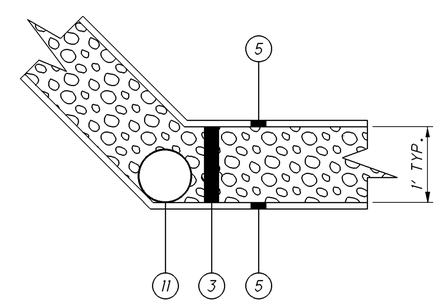
TOE OF SLOPE/GEOTEXTILE FABRIC DETAIL

LEGEND

1. 203, EXCAVATION, AS PER PLAN
2. 203, EMBANKMENT
3. 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN
4. 204, SUBGRADE COMPACTION
5. 204, GEOTEXTILE FABRIC, TYPE A, 712.09
6. 301, 8" ASPHALT CONCRETE BASE, PG64-22
7. 304, 6" AGGREGATE BASE, AS PER PLAN
8. 407, TACK COAT FOR INTERMEDIATE COURSE
9. 448, 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
10. 448, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
11. 603, 8" CONDUIT, TYPE F, 707.41 (PERFORATED)
12. 605, 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP
13. 606, GUARDRAIL, TYPE 5
14. 659, SEEDING AND MULCHING
15. 670, SLOPE EROSION PROTECTION MAT, TYPE E
16. 254, PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3"±)
17. 407, TACK COAT, 702.13
18. SPECIAL, MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS (Center Over Shoulder Joint)

(A) EXISTING REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT WITH ASPHALT OVERLAY

(B) EXISTING BITUMINOUS AGGREGATE BASE



BENCH DRAIN DETAIL (TYP.)

TYPICAL SECTIONS - SLM 12.01

POR-224-12.01

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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 330-786-3145 KEN GREENE

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.

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 STEVE JONES, DISTRICT UTILITY COORDINATOR 330-786-4818, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

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

Ohio Edison
ATTN: Bill Speece
730 South Avenue
Youngstown, OH 44502
330-740-7635
330-740-7655 Fax

Dominion East Ohio
ATTN: Scott Hallam
7015 Freedom Ave., NW
North Canton, OH 44720
330-266-2041
330-266-2127 Fax

AT&T
ATTN: Ben Miller
50 W. Bowery St.
6th Floor
Akron, OH 44308
330-384-2237
330-384-9866 Fax

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 OPERA-TION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ELEVATION DATUM
ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM, NAVD 88 BASED ON GPS ORTHO HEIGHTS.

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.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 254 IN THE CMS EXCEPT THE DEPTH SHALL VARY FROM 3" TO THE TOP OF THE CONCRETE WHICHEVER IS FIRST. THIS WORK SHALL BE PERFORMED SO THAT THE CONCRETE BASE IS NOT DISTURBED. ALL EQUIPMENT, LABOR, TOOLS, AND OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

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 IN-TENDED. 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. ADDITIONALLY, 1 INCLINOMETER SHALL BE REMOVED AND DISPOSED OF EXCEPT FOR THE METAL COVER WHICH SHALL BE SALVAGED AND STORED ON SITE FOR PICK UP BY THE ODOT DISTRICT GEOTECHNICAL ENGINEER.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES
ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE PLAN SHALL BE IN PLACE PRIOR TO ANY CLEARING AND GRUBBING, 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.

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. 57 STONE SHALL BE USED.

ITEM SPECIAL - MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS

DESCRIPTION:
THIS WORK CONSISTS OF PLACEMENT OF A SELF ADHESIVE GLASS FIBER MESH OVER JOINTS DESIGNATED IN THE PLAN AND/OR BY THE ENGINEER PRIOR TO PLACEMENT OF ASPHALT CONCRETE.

MATERIAL:
FURNISH GLASGRID KNITTED GLASS FIBER STRAND MESH MEETING THE FOLLOWING PROPERTIES:

PROPERTIES	GlasGrid No. 0260
Material Width	5 ft.
Material - Self Adhesive fiberglass strand coated with elastomeric polymer per ASTM 4963	25% minimum dry pickup
Tensile Strength per G.R.I. GG 1-87	1120 lbs/in, 560 lbs/in
Elongation at break (min)	<5%
Melting Point (min) ASTM D276	>425 °F
Mass/ Unit Area (min) ASTM D5261-92	16 oz/sq yd
Grid pattern	0.5 in x 0.5 in

BEFORE INSTALLATION SUBMIT A LETTER TO THE PROJECT ENGINEER WITH A STATEMENT CERTIFYING MATERIAL RECEIVED MEETS THE ABOVE PROPERTIES. SUBMIT TO THE PROJECT ENGINEER ACTUAL DATED (SALES FLYER DATA NOT ACCEPTABLE) TEST DATA WITH THE CERTIFICATION LETTER.

CONSTRUCTION:
PERFORM ALL REQUIRED REPAIRS PRIOR TO PLACING MESH.

ENSURE ALL AREAS WHERE MESH IS TO BE PLACED ARE FREE OF ALL DIRT AND OTHER LOOSE MATERIALS BY SWEEPING OR OTHER APPROVED METHOD. PLACE TACK COAT FOR INTERMEDIATE COURSE AT A RATE OF 0.02 GAL./SQ. YD. AND WAIT 2 HOURS BEFORE PLACING THE MESH ON A PAVEMENT SURFACE THAT IS BETWEEN 40° F AND 140° F.

PLACE MESH UNDER TENSION TO PREVENT RIPPLING. REMOVE RIPPLES BY PULLING, OR IF NECESSARY (IN CURVES FOR EXAMPLE), BY CUTTING AND FLATTENING THE MESH. OVERLAP TRANSVERSE JOINTS OF THE MESH 3 TO 6 INCHES. OVERLAP LONGITUDINAL JOINTS OF THE MESH BY 1 INCH MINIMUM. ROLL THE MESH SURFACE 2 PASSES WITH A RUBBER COATED DRUM ROLLER, RUBBER TIRED ROLLER OR OTHER METHOD ACCEPTABLE TO THE MANUFACTURER. CLEAN RUBBER ROLLER IF BUILDUP ON THE RUBBER SURFACE INTERFERES WITH MESH PLACEMENT. DO NOT USE A STEEL DRUM ROLLER. PLACED MESH WILL HANDLE SPEED CONTROLLED EMERGENCY OR CONSTRUCTION TRAFFIC BUT DAMAGED SECTIONS MUST BE REMOVED AND/ OR REPAIRED, AT THE CONTRACTOR'S EXPENSE. DO NOT ALLOW MUD OR OTHER MATERIAL TO COLLECT ON THE MESH PRIOR TO ASPHALT CONCRETE PLACEMENT. COVER MESH WITH ASPHALT CONCRETE THE SAME DAY UNLESS WEATHER BECOMES UNSUITABLE.

MEASUREMENT:
MEASURE MESH PLACEMENT BY THE LINEAL FEET OF JOINT COVERED. DO NOT ALLOW FOR MESH OVERLAP.

PAYMENT:
THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES, COMPLETED IN PLACE, AT THE CONTRACT PRICES, AS DESCRIBED ABOVE, AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	FT.	MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS

CALCULATED RCB CHECKED TJP

GENERAL NOTES

POR-224-12.01

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SEEDING AND MULCHING

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

659, SEEDING AND MULCHING	2870 SQ. YD.
659, REPAIR SEEDING AND MULCHING	144 SQ. YD.
659, COMMERCIAL FERTILIZER	0.39 TON
659, LIME	0.59 ACRE
659, WATER	15 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 - POR-224-12.01

STATION	END AREA			VOLUME		
	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203
	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN
	SQ FT	SQ FT	SQ FT	CU YD	CU YD	CU YD
129+50.00	0	0	0			
				0	25	0
130+00.00 BACK	0	26.2	0			
				0	0	0
130+00.00 AHEAD	91.7	75.2	28.2			
				200	168	60
130+50.00	124.3	105.7	36.5			
				257	236	75
131+00.00	152.6	148.2	44			
				345	364	92
131+50.00	219.3	244.5	54.9			
				466	567	113
132+00.00	283.8	367	66.6			
				521	684	123
132+50.00	278.1	371.1	65.8			
				491	641	118
133+00.00	252.1	320.6	61.5			
				427	542	109
133+50.00	208.8	264.3	56.1			
				351	442	99
134+00.00	169.5	212.5	50.5			
				284	351	89
134+50.00	136.6	166.2	45.2			
				257	302	79
135+00.00 BACK	140.6	159.8	39.3			
				0	0	0
135+00.00 AHEAD	0	64.5	0			
				0	60	0
135+50.00	0	0	0			
TOTALS CARRIED TO GENERAL SUMMARY				3599	4382	957

CALCULATED RCB
CHECKED TJP

GENERAL NOTES

POR-224-12.01

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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 BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

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

HOLIDAY LANE CLOSURES

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPENED TO TRAFFIC AND ALL SIGNALS IN OPERATION DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS
MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	THANKSGIVING

DAY OF THE WEEK	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

THERE SHALL NOT BE ANY EXTENSIONS DUE TO WEATHER OR MATERIAL DELAYS WHATSOEVER.

SHALL THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, DISINCENTIVES OF $1000 SHALL BE ASSESSED TO THE CONTRACTOR FOR EACH CALENDAR DAY THAT THE LANES REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

WEIGHTED CHANNELIZERS

THE WEIGHTED CHANNELIZER SHALL BE PREDOMINATELY ORANGE IN COLOR AND SHALL BE MADE OF A LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A "HANDLE" OR LIFTING DEVICE WHICH EXTENDS ABOVE THE 42 INCH MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

ON FREEWAYS AND MULTILANE HIGHWAYS:
USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY TWELVE HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA". THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

ON OTHER HIGHWAYS:
THERE ARE NO DURATIONS OF WORK RESTRICTIONS FOR USE OF WEIGHTED CHANNELIZERS ON ALL OTHER TYPES OF HIGHWAYS, DAY OR NIGHT. ON THESE ROADWAYS THE WEIGHTED CHANNELIZER MAY BE USED IN THE TRANSITION TAPERS AS WELL AS IN THE TANGENT AREAS, DAY OR NIGHT.

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

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, CALCIUM CHLORIDE 1 TON

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.

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.

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. PAYMENT FOR ALL WORK ASSOCIATED WITH THESE ITEMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

STANDARD CONSTRUCTION DRAWING, MT-96.11

GENERAL NOTE 6 ON THE SCD MT-96.11 SHALL BE REPLACED WITH THE FOLLOWING NOTE:

6. ALL TRAFFIC SIGNAL AND LIGHTING EQUIPMENT USED IN THIS INSTALLATION, SUCH AS SIGNAL OR LIGHTING CABLE, SIGNAL HEADS, LUMINAIRES OR SIGNAL CONTROLLER SHALL BE IN CONFORMANCE WITH SPECIFICATION ITEMS 625, 633, 725, 732, AND 733. HOWEVER, THE PERFORMANCE TESTS OF 625.22e AND 632.28(G) THE WORKING DRAWING REQUIREMENTS OF 632.04 AND 633.03, THE WIRING DIAGRAM AND SERVICE MANUAL REQUIREMENT OF 633.05 AND THE TESTING AND PREQUALIFICATION REQUIREMENT OF 633.06 ARE WAIVED. USED EQUIPMENT IS ACCEPTABLE. CONFLICT MONITORS TYPICAL OF TRADITIONAL TRAFFIC CONTROL SIGNAL OPERATION SHALL BE USED.

TEMPORARY TRAFFIC SIGNALIZED LANE CLOSURE

THE TEMPORARY TRAFFIC SIGNAL FOR THE SLOPE REPAIR AT POR-224-12.01 SHALL BE PLACED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS MT-96.11, MT-96.20, MT-96.21 AND MT-96.25. A PRETIMED CONTROLLER IS NEEDED WITH THE INITIAL TIMING SHOWN BELOW.

INITIAL TIMING SETTINGS

Ø1G	Ø1Y	ALL RED	Ø2G	Ø2Y	ALL RED
23	4	18	23	4	18

THE SIGNAL WILL BE USED TO CLOSE THE EASTBOUND LANE AT SLM 12.01 IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS DETAILED ON SHEET 7 DURING CONSTRUCTION OF THE WORK.

THE BARRIER SHALL BE 2 FT FROM THE EXISTING CENTER LINE ONTO THE EASTBOUND LANE UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

REMOVAL OF PERMANENT PAVEMENT MARKINGS SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER. PERMANENT PAVEMENT MARKINGS SHALL BE REPLACED PRIOR TO OPENING THE EASTBOUND LANE TO TRAFFIC. PERMANENT PAVING MARKINGS SHOULD BE REPLACED USING ITEM 644, THERMOPLASTIC PAVEMENT MARKINGS.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO PERFORM THIS WORK SHALL BE PAID FOR UNDER ITEM 614 MAINTENANCE OF TRAFFIC EXCEPT FOR THOSE LISTED BELOW.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

614, WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL), 2 EACH
622, PORTABLE CONCRETE BARRIER, 32", 900 FT
614, WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I, 0.06 MILE
614, WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, 0.03 MILE
614, WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I, 24 FT

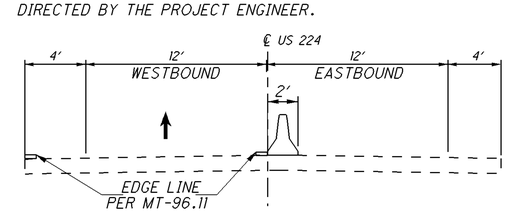
ADDITIONAL SIGNING

ODOT SIGN R10-7-24, "DO NOT BLOCK INTERSECTION", SHALL BE PLACED AT STATION 140+33.00 BEFORE THE INTERSECTION OF BANK RD. AND US 224.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO PERFORM THIS WORK SHALL BE PAID FOR UNDER ITEM 614 MAINTENANCE OF TRAFFIC.

PORTABLE CONCRETE BARRIER (PCB)

THE PORTABLE CONCRETE BARRIER SHALL BE PLACED ACCORDING TO THE DETAIL BELOW UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.



TYPICAL SECTION

CALCULATED LMB CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: QSCZCVR-T4
DRAWING NAME: QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES
REVISION DATE: 5/13/99 REV. J
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-10
DRAWING NAME: QUADGUARD SYSTEM CONCRETE PAD, CZ, QG
REVISION DATE: 11/19/97 REV. D
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-16
DRAWING NAME: QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG
REVISION DATE: 7/30/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 354051Z
DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36
REVISION DATE: 5/17/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-18
DRAWING NAME: TRANSITION ASSEMBLY, 4 OFFSET, QG
REVISION DATE: 6/25/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35400260
DRAWING NAME: QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY
REVISION DATE: 11/19/97 REV. C
ODOT APPROVAL DATE: 8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: SS450
DRAWING NAME: CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS
REVISION DATE: 3/12/99 REV. 1
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS455
DRAWING NAME: TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 2/18/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS461
DRAWING NAME: TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 6/30/99 REV. 1
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS462
DRAWING NAME: TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS
REVISION DATE: 6/30/99
ODOT APPROVAL DATE: 8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291)

   THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIEDIN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: A040416
DRAWING NAME: UNIVERSAL TAU-II PARTS LIST
REVISION DATE: 4/22/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040420
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP
REVISION DATE: 4/28/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040105
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)
REVISION DATE: 1/07/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: B040239
DRAWING NAME: APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)
REVISION DATE: 4/21/04
ODOT APPROVAL DATE: 10/16/04

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED UNITS REQUIRE TWO SPARE PARTS PACKAGES.

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

SHEET NUMBER														ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
							4	5	8	9			CALC						
																		ROADWAY	
														201	11000	LUMP		CLEARING AND GRUBBING	
										600				202	38000	600	FT	GUARDRAIL REMOVED	
							3599							203	10001	3599	CU YD	EXCAVATION, AS PER PLAN	3
							4382							203	20000	4382	CU YD	EMBANKMENT	
							957							203	35141	957	CU YD	GRANULAR MATERIAL, TYPE E, AS PER PLAN	3
													306	204	10000	306	SQ YD	SUBGRADE COMPACTION	
													5964	204	50000	5964	SQ YD	GEOTEXTILE FABRIC, TYPE A, 712.09	
										600				606	13000	600	FT	GUARDRAIL, TYPE 5	
																		EROSION CONTROL	
									2					601	32204	2	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
							2870							659	10000	2870	SQ YD	SEEDING AND MULCHING	
							144							659	14000	144	SQ YD	REPAIR SEEDING AND MULCHING	
							0.39							659	20000	0.39	TON	COMMERCIAL FERTILIZER	
							0.59							659	31000	0.59	ACRE	LIME	
							15							659	35000	15	M GAL	WATER	
													2747	670	00550	2747	SQ YD	SLOPE EROSION PROTECTION MAT, TYPE E	
														832	30000	10000	EACH	EROSION CONTROL	
																		DRAINAGE	
									900					603	02600	900	FT	8" CONDUIT, TYPE F, 707.41, (PERFORATED)	
									75					603	02600	75	FT	8" CONDUIT, TYPE F (FOR UNDERDRAIN OUTLET)	
									500					605	14020	500	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	
																		PAVEMENT	
													222	254	01001	222	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	3
													54	301	46000	54	CU YD	ASPHALT CONCRETE BASE, PG64-22	
													45	304	20001	45	CU YD	AGGREGATE BASE, AS PER PLAN	3
													33	407	13900	33	GALLON	TACK COAT, 702.13	
													28	407	14000	28	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
													22	448	46050	22	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
													16	448	47020	16	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
													500	SPEC	69098100	500	FT	MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS	3
																		MAINTENANCE OF TRAFFIC	
								2						614	12338	2	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
								0.06						614	21200	0.06	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	
								0.03						614	22200	0.03	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
								24						614	26400	24	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
								1						616	20000	1	TON	CALCIUM CHLORIDE	
								900						622	40020	900	FT	PORTABLE CONCRETE BARRIER, 32"	
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16010	6	MONTH	FIELD OFFICE, TYPE B	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

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GENERAL SUMMARY

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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	603 8" CONDUIT, TYPE F, 707.41 (PERFORATED)	603 8" CONDUIT, TYPE F (FOR UNDERDRAIN OUTLET)	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP					FOR INFORMATION ONLY TEE	45º BEND	90º BEND	END CAP
													CU YD	FT	FT	FT					EACH	EACH	EACH	EACH
U1	9	130+00.00	TO	135+00.00	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	SEE CROSS SECTIONS	0.67		40	500					1	1	1	1
U2	9	130+00.00	TO	135+00.00										500										1
U3	9	130+50.00	TO	134+50.00									0.67	400	35						1			2
TOTALS CARRIED TO GENERAL SUMMARY													2	900	75	500	0	0	0	0	2	1	1	4

CALCULATED RCB
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UNDERDRAIN SUBSUMMARY

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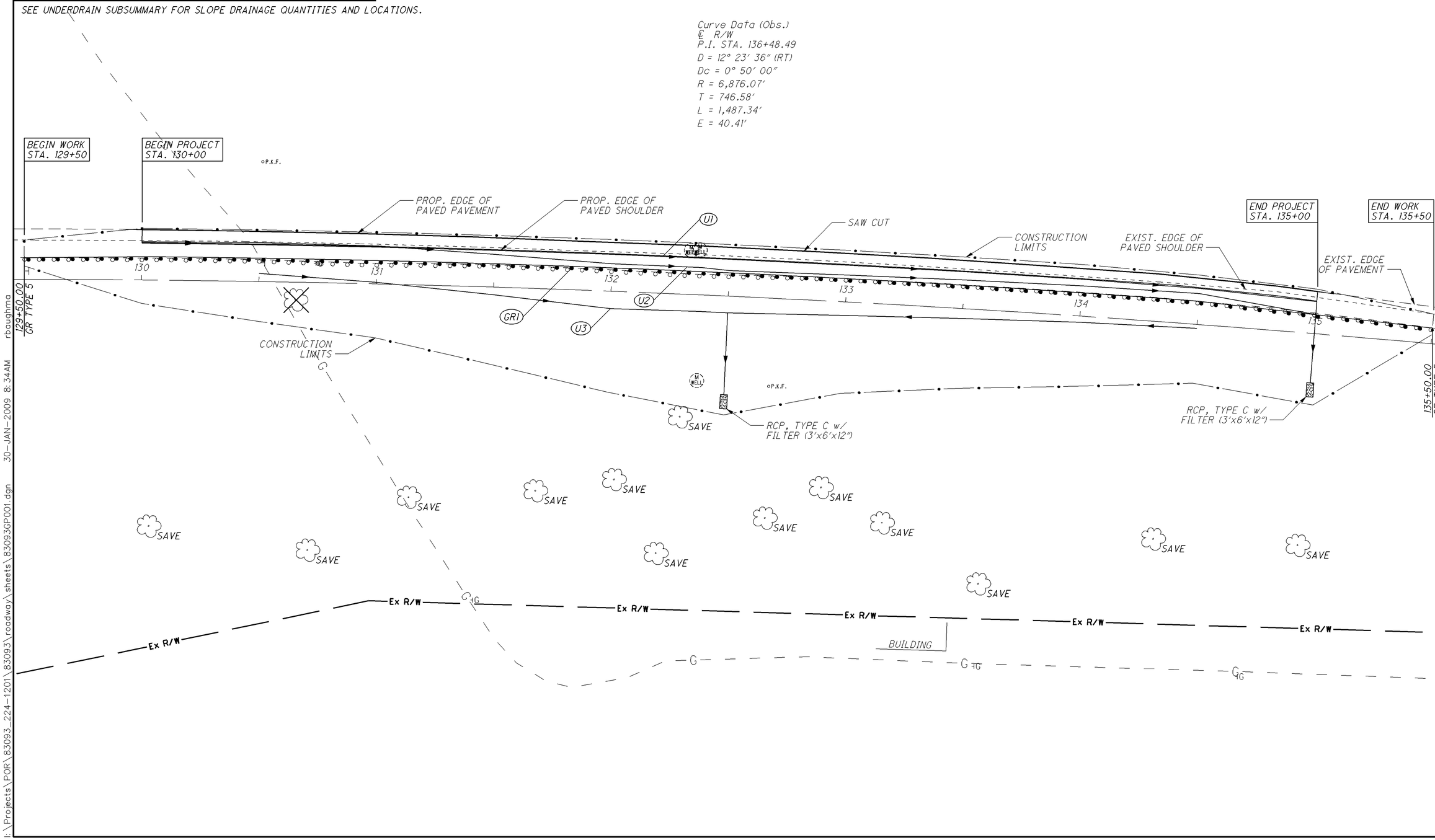
ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION		SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL, TYPE 5
				FT	FT
GR1	129+50.00	135+50.00	LT	600	600
TOTAL TO GENERAL SUMMARY				**600**	**600**

SEE UNDERDRAIN SUBSUMMARY FOR SLOPE DRAINAGE QUANTITIES AND LOCATIONS.



HORIZONTAL SCALE IN FEET 0 20 40 80

PLAN SHEET - US 224

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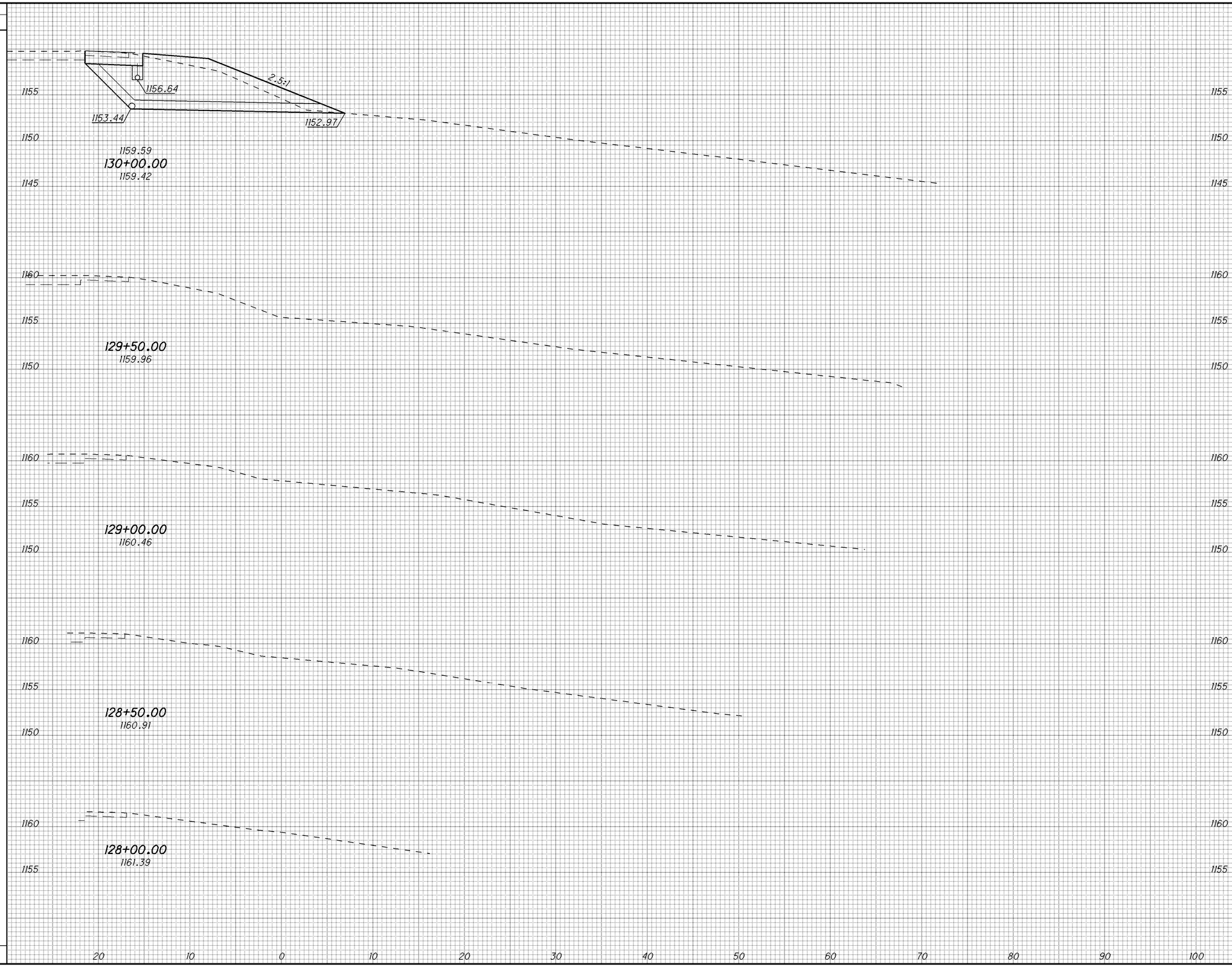
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

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CROSS SECTIONS
STA. 128+00.00 TO STA. 130+00.00

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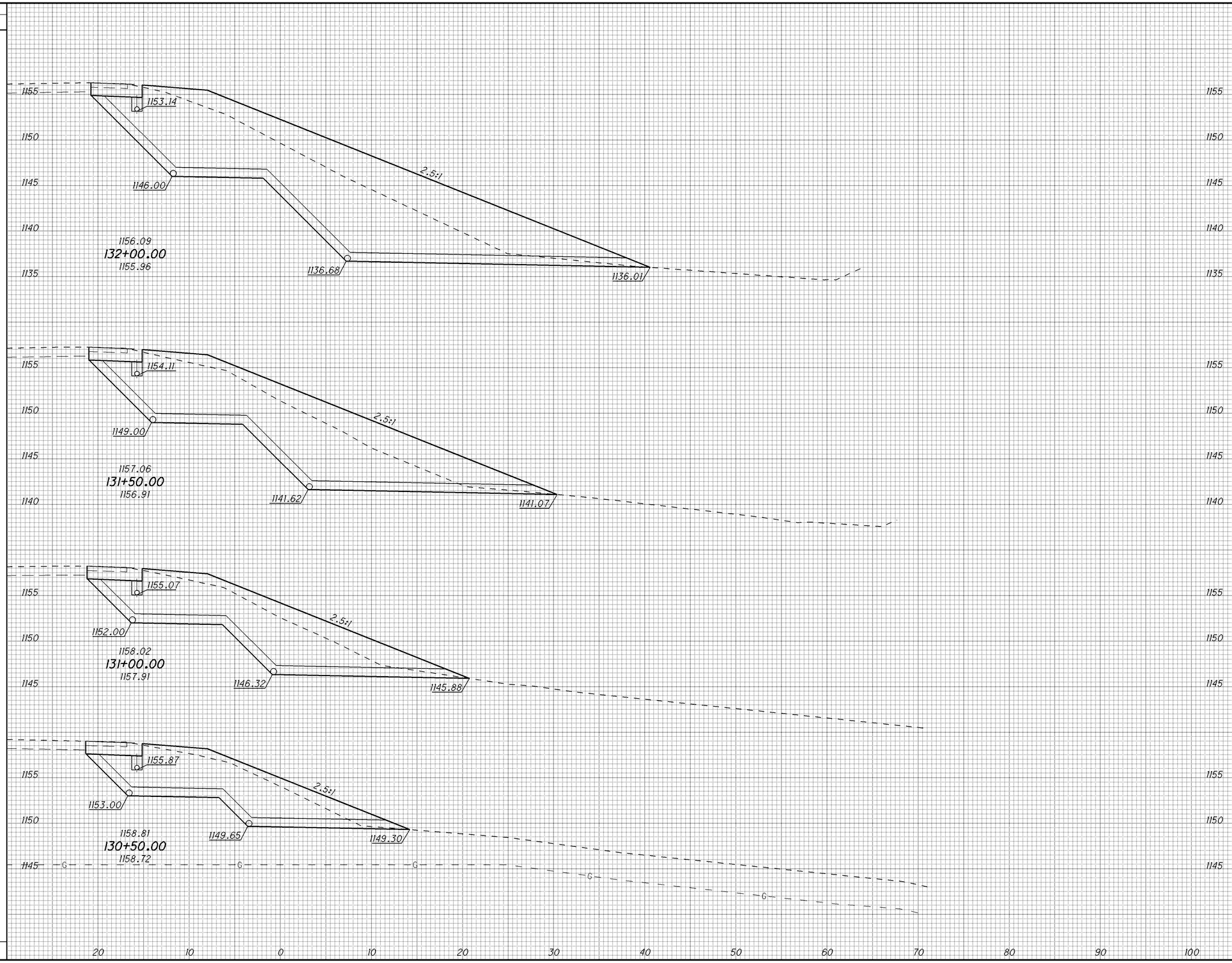
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
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CROSS SECTIONS
STA. 130+50.00 TO STA. 132+00.00

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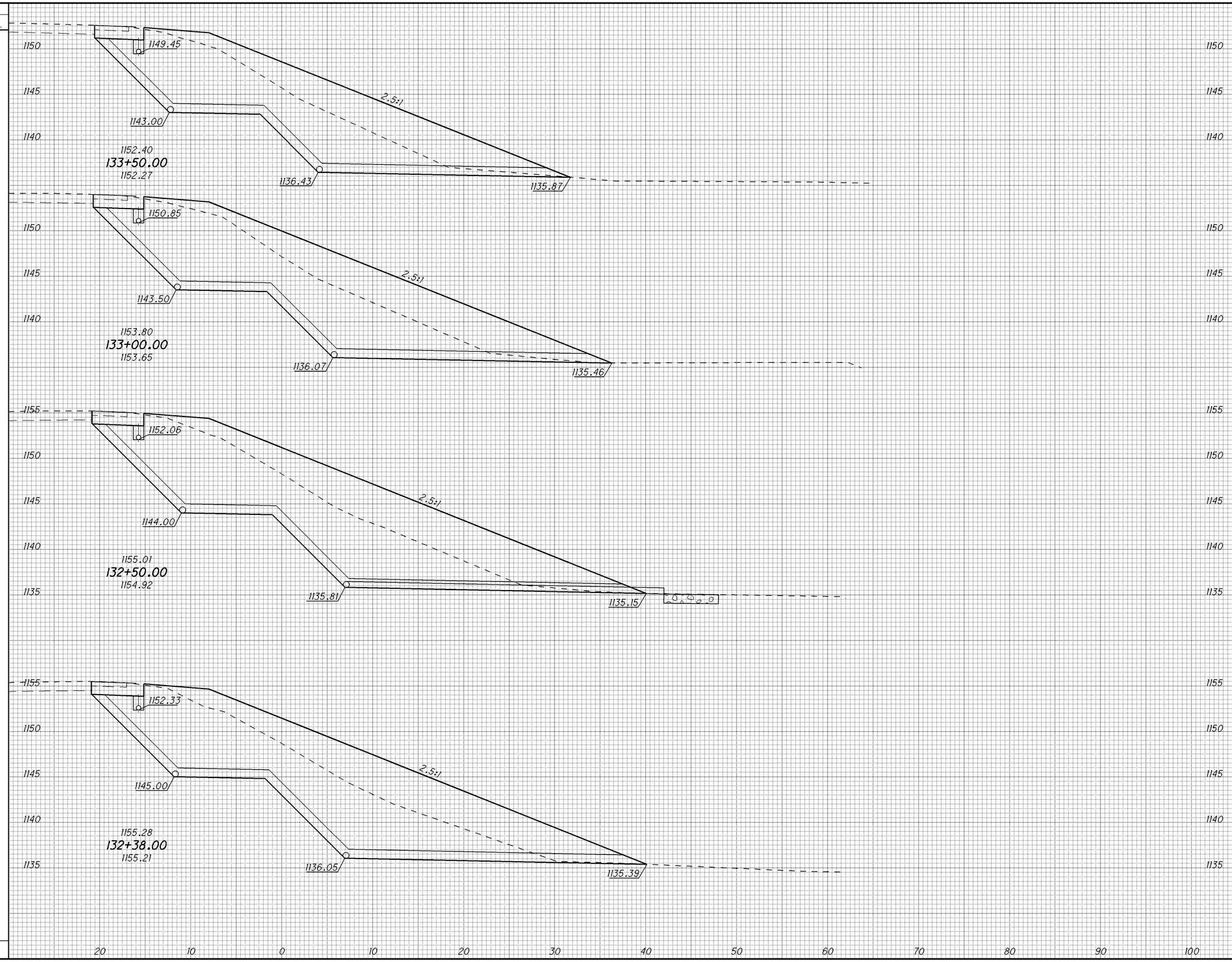
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

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CROSS SECTIONS
STA. 132+38.00 TO STA. 133+50.00

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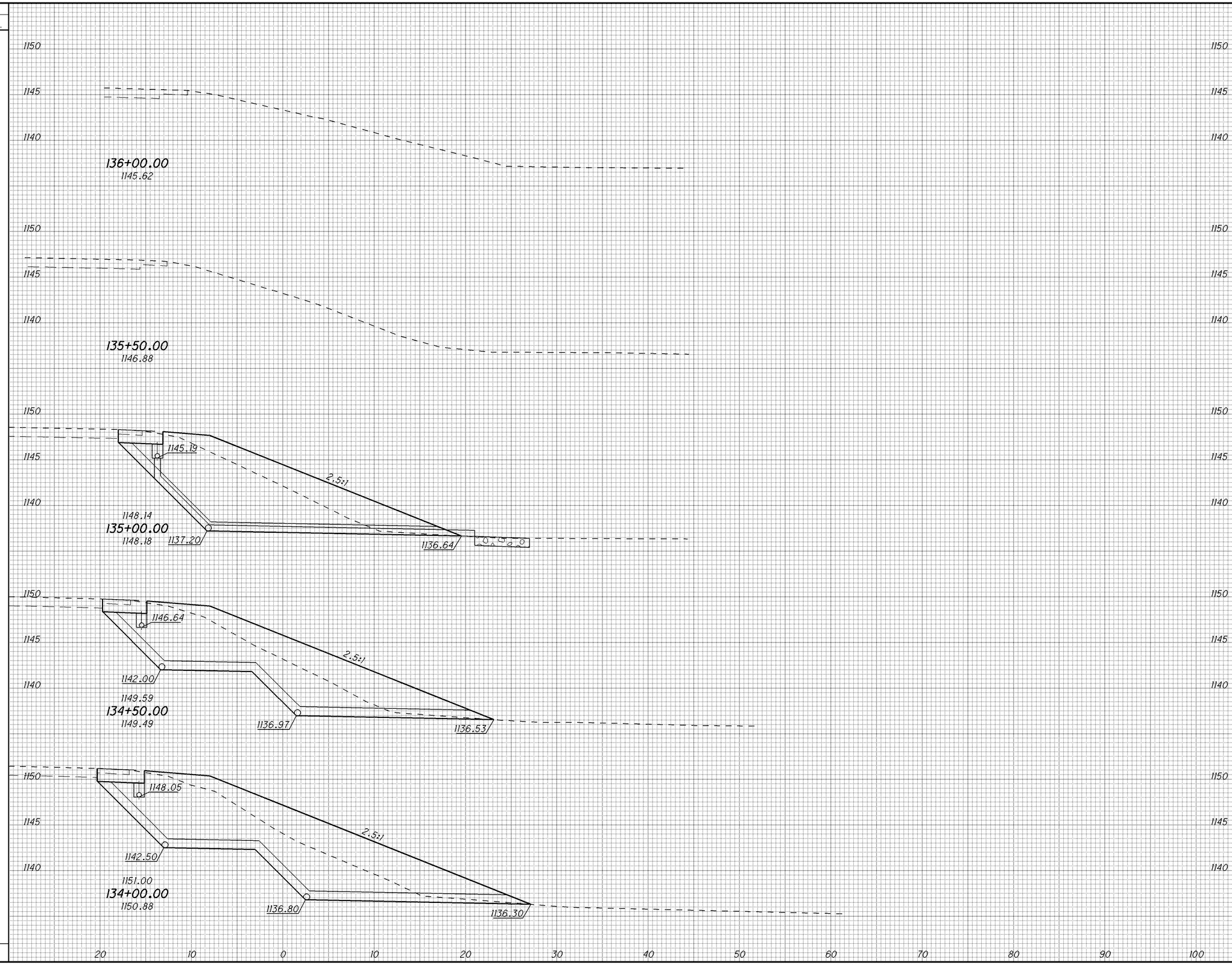
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RCB
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CROSS SECTIONS
STA. 134+00.00 TO STA. 136+00.00

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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 BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

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

HOLIDAY LANE CLOSURES

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPENED TO TRAFFIC AND ALL SIGNALS IN OPERATION DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS
MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	THANKSGIVING

DAY OF THE WEEK	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

THERE SHALL NOT BE ANY EXTENSIONS DUE TO WEATHER OR MATERIAL DELAYS WHATSOEVER.

SHALL THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, DISINCENTIVES OF $1000 SHALL BE ASSESSED TO THE CONTRACTOR FOR EACH CALENDAR DAY THAT THE LANES REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

WEIGHTED CHANNELIZERS

THE WEIGHTED CHANNELIZER SHALL BE PREDOMINATELY ORANGE IN COLOR AND SHALL BE MADE OF A LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A "HANDLE" OR LIFTING DEVICE WHICH EXTENDS ABOVE THE 42 INCH MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

ON FREEWAYS AND MULTILANE HIGHWAYS:
USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY TWELVE HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA". THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

ON OTHER HIGHWAYS:
THERE ARE NO DURATIONS OF WORK RESTRICTIONS FOR USE OF WEIGHTED CHANNELIZERS ON ALL OTHER TYPES OF HIGHWAYS, DAY OR NIGHT. ON THESE ROADWAYS THE WEIGHTED CHANNELIZER MAY BE USED IN THE TRANSITION TAPERS AS WELL AS IN THE TANGENT AREAS, DAY OR NIGHT.

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

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, CALCIUM CHLORIDE 1 TON

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.

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.

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. PAYMENT FOR ALL WORK ASSOCIATED WITH THESE ITEMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

STANDARD CONSTRUCTION DRAWING, MT-96.11

GENERAL NOTE 6 ON THE SCD MT-96.11 SHALL BE REPLACED WITH THE FOLLOWING NOTE:

6. ALL TRAFFIC SIGNAL AND LIGHTING EQUIPMENT USED IN THIS INSTALLATION, SUCH AS SIGNAL OR LIGHTING CABLE, SIGNAL HEADS, LUMINAIRES OR SIGNAL CONTROLLER SHALL BE IN CONFORMANCE WITH SPECIFICATION ITEMS 625, 633, 725, 732, AND 733. HOWEVER, THE PERFORMANCE TESTS OF 625.22e AND 632.28(G) THE WORKING DRAWING REQUIREMENTS OF 632.04 AND 633.03, THE WIRING DIAGRAM AND SERVICE MANUAL REQUIREMENT OF 633.05 AND THE TESTING AND PREQUALIFICATION REQUIREMENT OF 633.06 ARE WAIVED. USED EQUIPMENT IS ACCEPTABLE. CONFLICT MONITORS TYPICAL OF TRADITIONAL TRAFFIC CONTROL SIGNAL OPERATION SHALL BE USED.

TEMPORARY TRAFFIC SIGNALIZED LANE CLOSURE

THE TEMPORARY TRAFFIC SIGNAL FOR THE SLOPE REPAIR AT POR-224-12.01 SHALL BE PLACED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS MT-96.11, MT-96.20, MT-96.21 AND MT-96.25. A PRETIMED CONTROLLER IS NEEDED WITH THE INITIAL TIMING SHOWN BELOW.

INITIAL TIMING SETTINGS

Ø1G	Ø1Y	ALL RED	Ø2G	Ø2Y	ALL RED
23	4	18	23	4	18

THE SIGNAL WILL BE USED TO CLOSE THE EASTBOUND LANE AT SLM 12.01 IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS DETAILED ON SHEET 7 DURING CONSTRUCTION OF THE WORK.

THE BARRIER SHALL BE 2 FT FROM THE EXISTING CENTER LINE ONTO THE EASTBOUND LANE UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

REMOVAL OF PERMANENT PAVEMENT MARKINGS SHALL BE PERFORMED AS DIRECTED BY THE ENGINEER. PERMANENT PAVEMENT MARKINGS SHALL BE REPLACED PRIOR TO OPENING THE EASTBOUND LANE TO TRAFFIC. PERMANENT PAVING MARKINGS SHOULD BE REPLACED USING ITEM 644, THERMOPLASTIC PAVEMENT MARKINGS.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO PERFORM THIS WORK SHALL BE PAID FOR UNDER ITEM 614 MAINTENANCE OF TRAFFIC EXCEPT FOR THOSE LISTED BELOW.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

614, WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL), 2 EACH
622, PORTABLE CONCRETE BARRIER, 32", 900 FT
614, WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I, 0.06 MILE
614, WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, 0.03 MILE
614, WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I, 24 FT

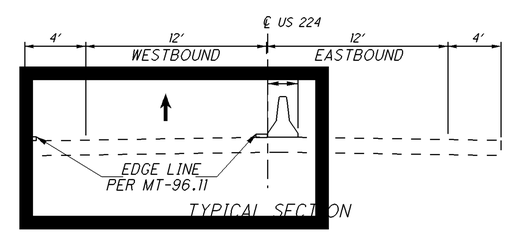
ADDITIONAL SIGNING

ODOT SIGN R10-7-24, "DO NOT BLOCK INTERSECTION", SHALL BE PLACED AT STATION 140+33.00 BEFORE THE INTERSECTION OF BANK RD. AND US 224.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO PERFORM THIS WORK SHALL BE PAID FOR UNDER ITEM 614 MAINTENANCE OF TRAFFIC.

PORTABLE CONCRETE BARRIER (PCB)

THE PORTABLE CONCRETE BARRIER SHALL BE PLACED ACCORDING TO THE DETAIL BELOW UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.



TYPICAL SECTION

REVISED 02/19/2009

CALCULATED LMB CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

POR-224-12.01

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PROJECT DESCRIPTION

SLOPE REPAIR AND RECONSTRUCTION AT SLM 12.01 IN ATWATER TOWNSHIP, PORTAGE COUNTY. WORK INCLUDES DRAINAGE IMPROVEMENTS AND GUARDRAIL REPLACEMENT.

HISTORIC RECORDS

NO HISTORICAL RECORDS WERE FOUND FOR THIS PROJECT.

GEOLOGY

THE PROJECT IS LOCATED WITHIN THE KILLBUCK GLACIATED PITTSBURGH PLATEAU. TYPICALLY, THE AREA IS CHARACTERIZED BY FLAT LYING LANDS DISSECTED BY RIDGES AND STEEP VALLEYS. GENERALLY, THIN OVERBURDEN SOILS OF GLACIAL ORIGIN ARE UNDERLAIN BY SANDSTONE, SHALE AND SILTSTONE OF PENNSYLVANIAN AGE. WITHIN THE LARGER STREAM VALLEYS THICKER OVERBURDEN SOILS ARE LOCATED OVER SANDSTONE, SHALE AND SILTSTONE OF MISSISSIPPIAN AGED BEDROCK.

RECONNAISSANCE

THE ROADWAY WITH THE VICINITY IS LOCATED ON AN EMBANKMENT WITH THE PAVEMENT BEING NOTED IN FAIR CONDITION. A MINOR SCARP WAS NOTED JUST IN FRONT OF THE GUARD RAIL WITH UP TO A 2-FOOT SAG IN THE GUARDRAIL. THE SURROUNDING LAND USAGE WAS NOTED AS BEING AS FALLOW LAND WITHIN THE FLOOD PLAIN OF DEER CREEK. TO THE SOUTH OF THE SITE A PETROLEUM STORAGE FACILITY IS PRESENT.

SUBSURFACE EXPLORATION

THREE (3) BORINGS, B-001-0-05, B-001-1-05 AND B-002-05, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION ON AUGUST 22 AND 23, 2005. BORINGS B-001-0-05 AND B-002-05 WERE DRILLED WITHIN THE ROADWAY THROUGH THE EMBANKMENT AND B-001-1-05 WAS DRILLED AT THE BASE OF THE EMBANKMENT. B-002-05 WAS DRILLED ADJACENT TO B-001-0-05, SOLELY FOR THE PURPOSES OF INSTALLING A MONITORING WELL. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED ROTARY DRILL RIG, USING 3 1/4 -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-FOOT, AND 5.0-FOOT INTERVALS FOR THE FULL DEPTH OF THE BORINGS.

EXPLORATION FINDINGS

SUBSURFACE CONDITIONS REVEALED BY THE BORINGS DRILLED INDICATED THAT THE EMBANKMENT FILLS ARE TYPICALLY SANDY SILT (A-4a) STIFF TO VERY STIFF IN CONSISTENCY AND DAMP. THE FOUNDATION MATERIAL OF THE EMBANKMENT IS HIGHLY VARIABLE WITH GRANULAR AND COHESIVE SOILS. GRANULAR SOILS ENCOUNTERED RANGED FROM GRAVEL WITH SAND AND SILT TO SANDY SILT IN MEDIUM DENSE TO DENSE COMPACTNESS AND WET. B-001-1-05 ENCOUNTERED COBBLES AND BOULDERS BETWEEN ELEVATION 1124.5 AND 1122.0 FEET. COHESIVE SOILS ENCOUNTERED RANGED FROM SANDY SILT (A-4a) TO CLAY (A-7-6) IN STIFF TO VERY STIFF CONSISTENCY AND DAMP TO MOIST.

AN INCLINOMETER WAS INSTALLED IN BORING B-001-0-05 WHICH INDICATED MOVEMENT AT 15 TO 18 FEET BELOW GRADE.

WATER LEVELS WERE NOTED AT COMPLETION IN ALL THREE BORINGS, RANGING BETWEEN ELEVATIONS 1120.5 AND 1121.5 FEET. MONITORING WELLS WERE INSTALLED IN B-001-1-05 AND B-002-05 WHICH HAD RECORDED WATER LEVELS RANGING BETWEEN ELEVATIONS 1110.0 AND 1112.5 FEET.

BEDROCK WAS NOT ENCOUNTERED WITHIN THE BORINGS.

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, THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1600 WEST BROAD STREET OR THE OFFICE OF STRUCTURAL ENGINEERING AT 1980 WEST BROAD STREET.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL	
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	*A-1-b (0)*	*1*	-
FINE SAND	*A-3 (0)*	*1*	-
GRAVEL AND/OR ST. FRAGS. WITH SAND AND SILT	*A-2-4 (0)*	*2*	-
SANDY SILT	*A-4a (3)*	*10*	-
SILT	*A-4b (7)*	*1*	-
SILT AND CLAY	*A-6a (8)*	*3*	-
CLAY	*A-7-6 (15)*	*1*	-
	TOTAL	*19*	-

PAVEMENT OR BASE = X = APPROXIMATE THICKNESS — *VISUAL*

TEST BORING WITH INSTRUMENTATION - PLAN VIEW

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

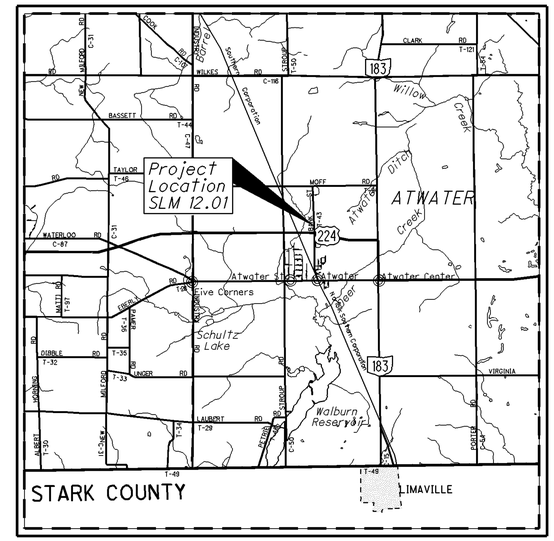
WC INDICATES WATER CONTENT IN PERCENT.

W— INDICATES FREE WATER ELEVATION.

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

NP INDICATES A NON-PLASTIC SAMPLE.

SS INDICATES A SPLIT SPOON SAMPLE.



LOCATION MAP

SCALE IN MILES

0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

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

RECON. - AJB (D-4), MRS (OGE) 07/05
DRILLING - DML 08/22-23/05
DRAWN - KAL 08/28/08
REVIEWED - AJB (D-4) 10/14/08

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING
1600 W. BROAD ST. COLUMBUS, OH 43223

PID NO. **83093**

LANDSLIDE EXPLORATION

POR-224-12.01

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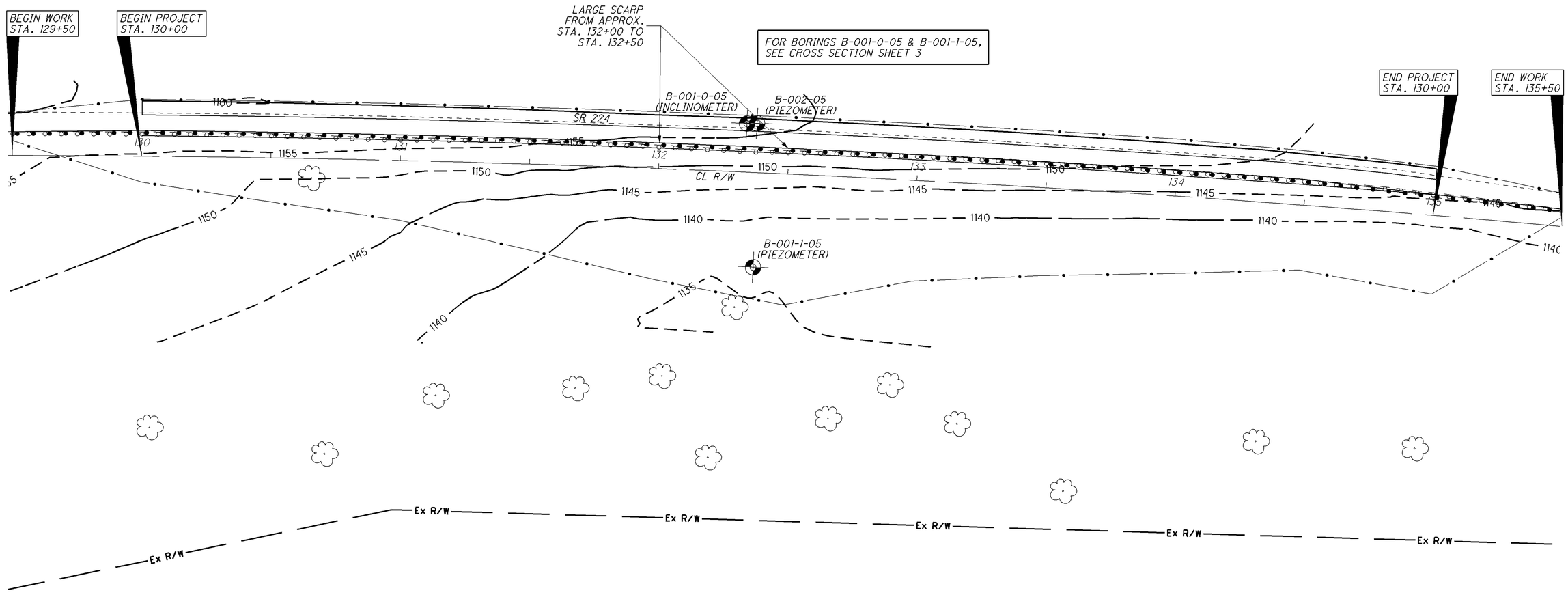

HORIZONTAL SCALE IN FEET
0 10 20 40

DRAWN KAL
CHECKED AJB

LANDSLIDE EXPLORATION
STATE ROUTE 224

POR-224-12.01

2/5

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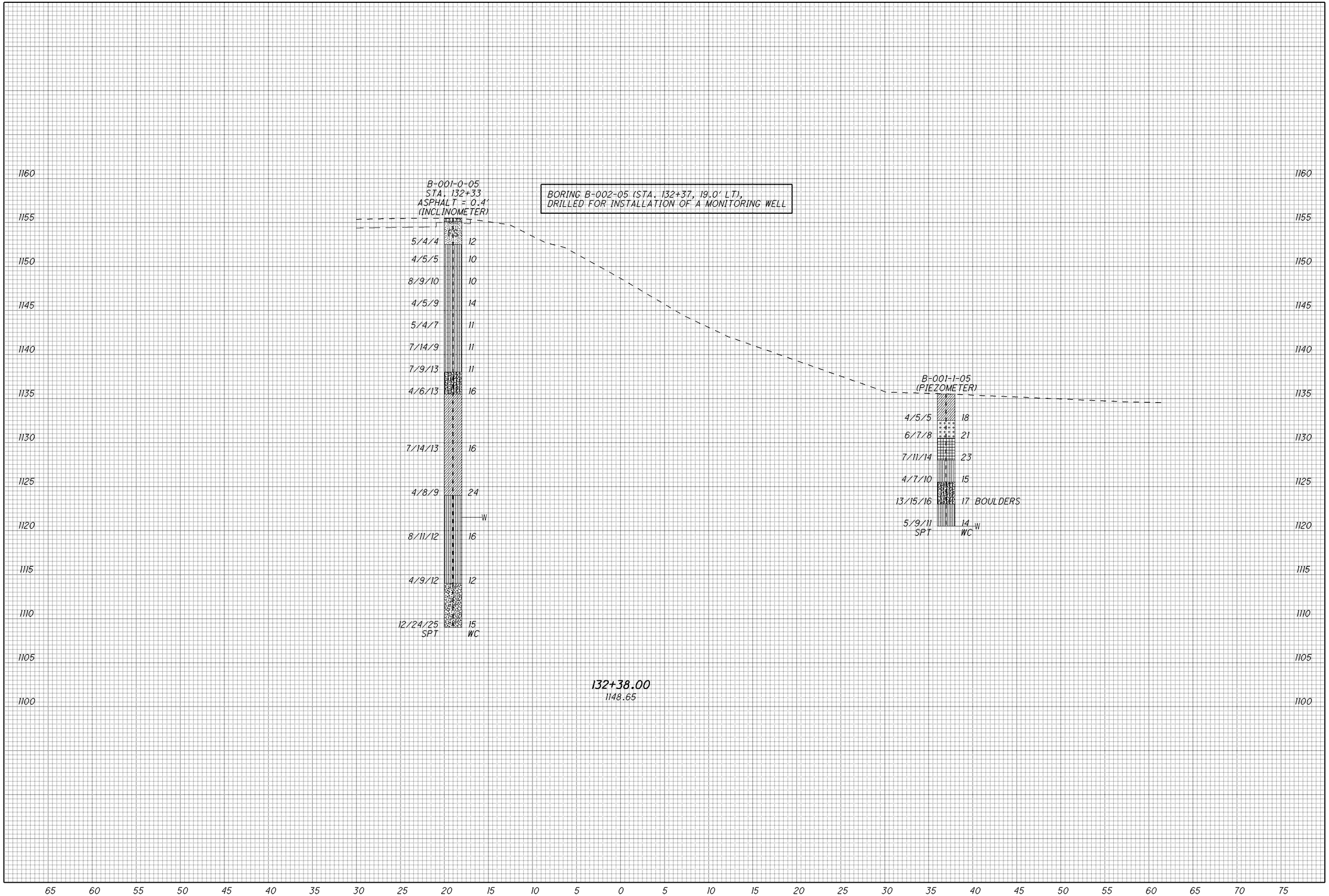

0 2.5 5 10
HORIZONTAL SCALE IN FEET

DRAWN KAL
CHECKED AJB

LANDSLIDE EXPLORATION CROSS SECTION STA. 132+38

POR-224-12.01

3 / 5

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State of Ohio
Department of Transportation
Office of Geotechnical Engineering

LOG OF BORING

Date Started 8/22/05 Sampler: Type SS Dia. _____ Water Elev. 1121.5′ Project Identification: PORTAGE
Date completed 8/22/05 POR-224-12.01
Boring No. B-001-0-05* Station & Offset 132+33, 19′ LT. Surface Elev. 1155.5′ LANDSLIDE EXPLORATION

Elev.	Depth	Std. Pen./ R.Q.D.	Rec. ft	Loss ft	Description	Sample No.	Physical Characteristics % Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
1155.5	0														
1155.1		AUGERED			ASPHALT	-	-	-	-	-	-	-	-	-	VISUAL
1154.0	2														
1152.0	4	5/4/4			BROWN FINE SAND	SS-1	10	19	64	7	0	NP	NP	12	A-3
1149.5	6	4/5/5			BROWN AND GRAY GRAVELLY SANDY SILT	SS-2	18	9	22	31	20	21	6	10	A-4a
1147.0	8	8/9/10			BROWN SANDY SILT	SS-3	12	7	24	35	22	21	6	10	A-4a
1144.5	10	4/5/9			BROWN GRAVELLY SANDY SILT	SS-4	26	7	20	27	20	22	7	14	A-4a
1142.0	12	5/4/7			BROWN AND GRAY GRAVELLY SANDY SILT	SS-5	15	6	22	32	25	23	8	11	A-4a
1139.5	14	7/14/9			BROWN AND GRAY SANDY GRAVELLY SILT	SS-6	30	8	20	26	16	21	7	11	A-4a
1136.9	16	7/9/13			BROWN SANDY GRAVELLY SILT	SS-7	32	8	16	24	20	24	9	11	A-4a
	18	4/6/13			BROWN SILTY GRAVELLY SAND	SS-8	21	11	33	18	17	21	8	16	A-2-4
	20														
	22														
1130.5	24														
	26	7/14/13			BROWN AND GRAY SANDY CLAY	SS-9	13	3	13	36	35	30	12	16	A-6a
1125.5	28														
	30														
	32	4/8/9			BROWN SILT AND CLAY	SS-10	0	0	2	42	56	33	11	24	A-6a
1120.5	34														
	36	8/11/12			BROWN SANDY SILT	SS-11	5	6	36	44	9	NP	NP	16	A-4a
1115.5	38														
	40														
	42	4/9/12			GRAY GRAVELLY SANDY SILT	SS-12	16	14	22	31	17	18	5	12	A-4a
1110.5	44														
1109.0	46	12/24/25			GRAY SILTY GRAVELLY SAND	SS-13	27	24	38	10	1	NP	NP	15	A-1-b

BOTTOM OF BORING

* NOTE: INSTALLED 44.0′ OF SLOPE INCLINOMETER TUBING IN THIS HOLE.

POR-224-12.01

LANDSLIDE EXPLORATION
BORING LOG B-001-0-05

DRAWN KAL
CHECKED AJB

State of Ohio
Department of Transportation
Office of Geotechnical Engineering

LOG OF BORING

Date Started 8/23/05 Sampler: Type SS Dia. _____ Water Elev. 1120.5′ Project Identification: PORTAGE
Date completed 8/23/05 POR-224-12.01
Boring No. B-001-1-05* Station & Offset 132+38, 37′ RT. Surface Elev. 1135.5′ LANDSLIDE EXPLORATION

Elev.	Depth	Std. Pen./ R.O.D.	Rec. ft	Loss ft	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
1135.5	0														
1134.0	2														
1132.0	4	4/5/5			BROWN AND GRAY SANDY CLAY	SS-1	6	6	22	37	29	32	15	18	A-6a
1129.5	6	6/7/8			BROWN AND GRAY GRAVELLY SILT	SS-2	16	5	9	55	15	NP	NP	21	A-4b
1127.0	8	7/11/14			BROWN AND GRAY CLAY	SS-3	0	0	0	22	78	49	23	23	A-7-6
1124.5	10	4/7/10			BROWN SANDY SILT	SS-4	8	8	24	39	21	20	5	15	A-4a
1122.0	12	13/15/16			BROWN SILTY GRAVELLY SAND WITH BOULDERS	SS-5	33	10	23	26	8	NP	NP	17	A-2-4
1120.5	14	5/9/11			BROWN SANDY SILT	SS-6	10	7	39	33	11	NP	NP	14	A-4a

* NOTE: INSTALLED WATER MONITORING WELL IN THIS HOLE FEATURING 10′ OF SCREEN AT THE BOTTOM. BOTTOM OF BORING

State of Ohio
Department of Transportation
Office of Geotechnical Engineering

LOG OF BORING

Date Started 8/23/05 Sampler: Type SS Dia. _____ Water Elev. 1120.5′ Project Identification: PORTAGE
Date completed 8/23/05 POR-224-12.01
Boring No. B-002-05* Station & Offset 132+37, 19′ LT. Surface Elev. 1155.5′ LANDSLIDE EXPLORATION

Elev.	Depth	Std. Pen./ R.O.D.	Rec. ft	Loss ft	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	ODOT Class
1155.5	0														
1155.1		AUGERED			ASPHALT	-	-	-	-	-	-	-	-	-	VISUAL
	2	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
	4														
1150.5															
	6														
	8	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1145.5	10														
	12	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
	14														
1140.5															
	16														
	18	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1135.5	20														
	22														
	24	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1130.5															
	26														
	28	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1125.5	30														
	32														
	34	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1120.5															
	36														
	38	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1115.5	40														
	42														
	44	AUGERED			BROWN SANDY CLAY (DRILLER'S DESCRIPTION)	-	-	-	-	-	-	-	-	-	VISUAL
1110.5															

* NOTE: INSTALLED WATER MONITORING WELL IN THIS HOLE FEATURING 10′ OF SCREEN AT THE BOTTOM. BOTTOM OF BORING