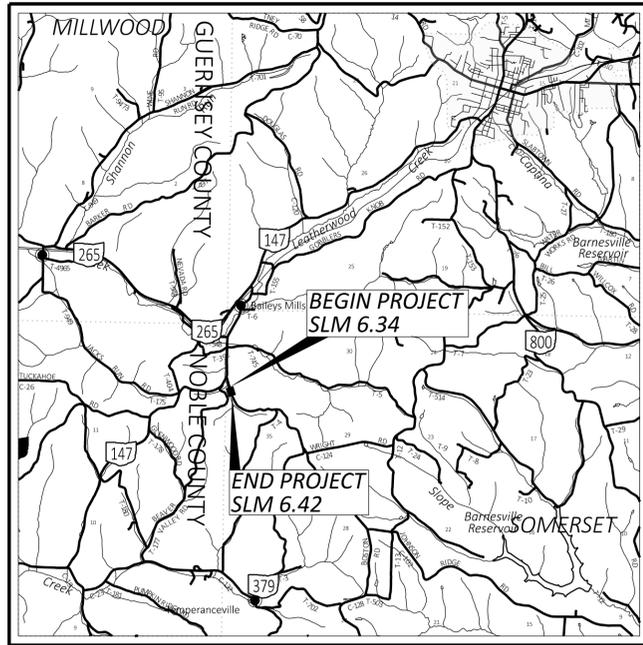


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

BEL-379-6.34

SOMERSET TOWNSHIP BELMONT COUNTY



LOCATION MAP

LATITUDE: 39°56'20" LONGITUDE: 81°14'00"



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

DESIGN DESIGNATION

CURRENT ADT (2024)	450
DESIGN YEAR ADT (2044)	700
DESIGN HOURLY VOLUME (2044)	80
DIRECTIONAL DISTRIBUTION	65%
TRUCKS (24 HOUR B&C)	21%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
06 - RURAL MINOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE REQUIRED

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
ODOT DISTRICT 11
ENGINEERING DEPARTMENT
NEW PHILADELPHIA, OHIO

INDEX OF SHEETS:

TITLE SHEET	P.01
TYPICAL SECTION	P.02
GENERAL NOTES	P.03-04
MAINTENANCE OF TRAFFIC NOTES	P.05
GENERAL SUMMARY	P.06 - P.07
ESTIMATED QUANTITIES	P.08
DRAINAGE DETAILS	P.09
WALL DETAILS	P.10
SOIL PROFILES - LANDSLIDE	P.11 - P.13

FEDERAL PROJECT NUMBER

NON-FEDERAL

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

IMPROVEMENT OF 0.08 MILES (420') OF S.R. 379 IN BELMONT COUNTY BY INSTALLING A 350' RETAINING WALL. THIS WORK ALSO INCLUDES THE RECONSTRUCTION OF THE SOUTHBOUND LANE, GUARDRAIL, AND THE REPLACEMENT OF A CULVERT

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.1 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)*

* ROUTINE MAINTENANCE PROJECT

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES 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.

Thomas D. Corey
District 11 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	1/21/22	MT-96.11	7/21/23	TC-41.20	10/18/13	800-2023	10/20/23		
		MT-96.20	7/21/23	TC-42.20	10/18/13	832	7/21/23		
DM-1.1	7/17/20	MT-96.26	1/18/19	TC-52.10	10/18/13	902	7/19/19		
DM-4.3	1/15/16	MT-97.10	4/19/19	TC-52.20	1/15/21				
DM-4.4	1/15/16	MT-101.70	4/21/23	TC-61.30	7/19/19				
		MT-101.75	7/21/23	TC-65.10	1/17/14				
MGS-1.1	7/16/21	MT-101.90	7/17/20	TC-65.11	7/15/22				
MGS-2.1	1/19/18	MT-105.10	1/17/20						
MGS-5.3	7/15/16								
		CB-2.2B	1/20/23						
RM-4.2	4/17/20								
HW-2.1	7/15/22								
HW-2.2	7/20/18								

ENGINEER'S SEAL
ROADWAY

TITLE SHEET

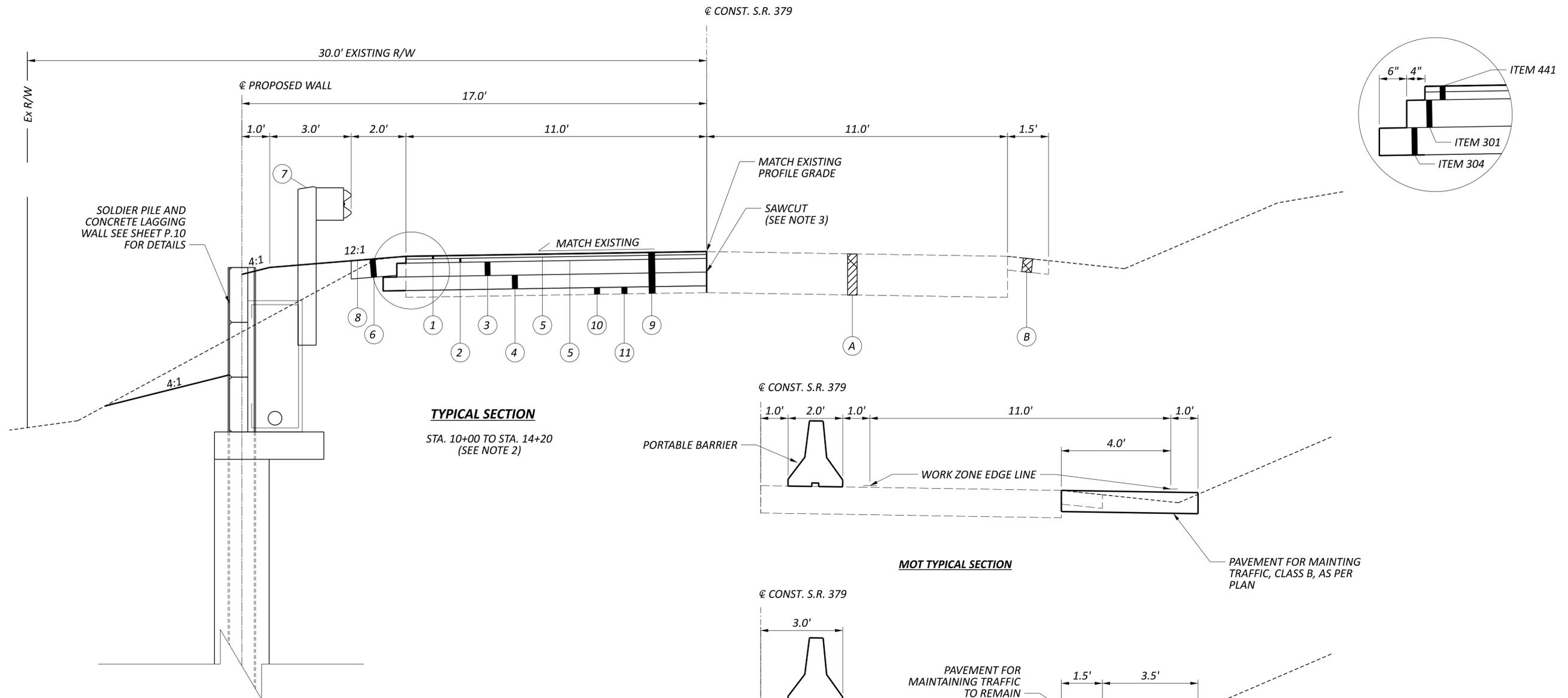
DESIGN AGENCY



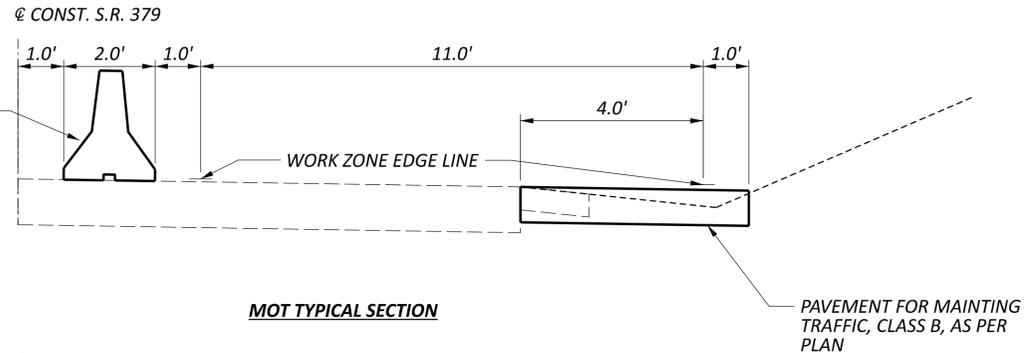
DESIGNER	DAB
REVIEWER	JPB
PROJECT ID	02-18-22
SHEET	115126
TOTAL	13

BEL-379-6.34

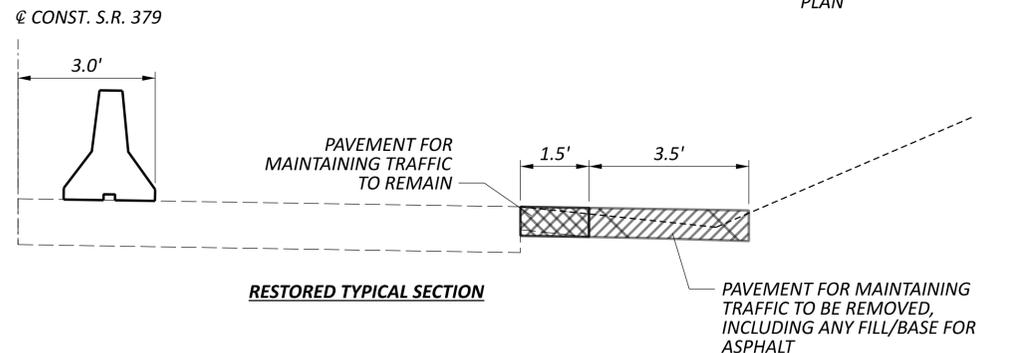
MODEL: Sheet_SurvFl_PAPER SIZE: 34x22 (in.) DATE: 4/2/2024 TIME: 10:50:24 AM USER: bhovanic pvc:\ohiodot-pw-bentley.com\ohiodot-pw-02\Documents\01 Active Projects\District 11\Belmont\115126\400-Engineering\Roadway\Sheets\115126_GT001.dgn



TYPICAL SECTION
 STA. 10+00 TO STA. 14+20
 (SEE NOTE 2)



MOT TYPICAL SECTION



RESTORED TYPICAL SECTION

LEGEND

- ① ITEM 441 - 1½ ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M
 - ② ITEM 441 - 1½ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)
 - ③ ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)
 - ④ ITEM 304 - 6" AGGREGATE BASE
 - ⑤ ITEM 407 - TACK COAT
 - ⑥ ITEM 304 - 8" AGGREGATE BASE
 - ⑦ ITEM 606 - GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN
 - ⑧ ITEM 408 - PRIME COAT, AS PER PLAN (APPLIED AT 0.40 GAL/ S.Y.)
 - ⑨ ITEM 202 - PAVEMENT REMOVED
 - ⑩ ITEM 204 - SUBGRADE COMPACTION
 - ⑪ ITEM 304 - AGGREGATE BASE (BACKFILL VOID FROM BOTTOM OF EXISTING PAVEMENT TO BOTTOM OF PROPOSED SUBGRADE. APPROXIMATE DEPTH IS 8")
- Ⓐ EXISTING PAVEMENT (23" ASPHALT CONCRETE)
 - Ⓑ EXISTING AGGREGATE SHOULDER

NOTES:

1. THE APPROXIMATE WALL LIMITS ARE AS FOLLOWS:

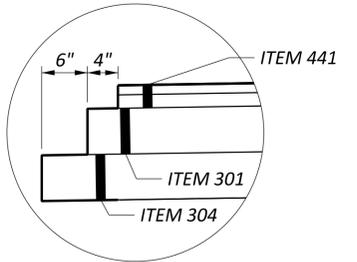
BEGIN WALL: 39.938440 N, -81.232650 W
 END WALL: 39.939301 N, -81.233230 W

THESE CORDINATES ARE FOR REFERENCE ONLY AND ARE NOT TO SUPERSEDE ANY OFFSET OR LENGTH SHOWN IN THE PLANS

2. FOR PURPOSE OF THIS PLAN:

FULL DEPTH PAVEMENT LT.: STA. 10+00 TO STA. 14+20
 FULL DEPTH PAVEMENT RT. (FOR CULVERT REPLACEMENT, SEE SHEET P.08): STA. 13+80 TO STA. 14+20
 DRILLED SHAFT WALL: STA. 10+20 TO STA. 13+70

3. SAWCUT THE EXISTING PAVMENT TO PROVIDE A NEAT JOINT PER C&MS 202.05. PAYMENT SHALL BE INCLUDED WITH ITEM 202 - PAVEMENT REMOVED



TYPICAL SECTIONS

DESIGN AGENCY



DESIGNER	DAB
REVIEWER	JPB
PROJECT ID	115126
SHEET TOTAL	P.02 13

UTILITIES

THERE ARE POTENTIAL UTILITY CONFLICTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR AND ODOT ARE REQUIRED TO WORK WITH THE UTILITIES TO MITIGATE IMPACTS TO THE PROJECT.

AEP OHIO POWER COMPANY
 ATTN: CLARKE SAUNDERS
 777 HOPEWELL DRIVE
 HEATH, OHIO 43056
 614-460-4794
 CMSAUNDERS@AEP.COM

KNOX ENERGY CO-OP ASSOCIATION, INC.
 ATTN: KYLE UNDERWOOD
 4100 HOLIDAY STREET NW, SUITE 201
 CANTON, OHIO 44718
 330-498-9130
 KUNDERWOOD@UTILITYPIPELINELTD.COM

WINDSTREAM
 ATTN: GEOFFREY HAMM
 560 TERNES AVE.
 ELYRIA, OHIO 44035
 440-329-4245
 GEOFFREY.P.HAMM@WINDSTREAM.COM

AT&T OHIO, INC.
 ATTN: BARRETT J. TAMASOVICH
 160 NORTH 6TH STREET
 ZANESVILLE, OHIO 43701
 740-454-3552
 BT2178@ATT.COM

MARKWEST LIBERTY MIDSTREAM, LLC.
 ATTN: JEFFREY W. BREEN
 4600 J. BARRY CT., SUITE 500
 CANONSBURG, PA 15317
 724-873-3632
 JEFFREY.BREEN@MARKWEST.COM

CLEAR WATER CORPORATION
 ATTN: NORMAN BLANEY
 P.O. BOX 96
 SARAHSVILLE, OHIO 43779
 740-732-2549
 MARILYN.BLANEY@FRONTIER.COM

FIELD VERIFICATION OF QUANTITIES

DUE TO THE NATURE OF THE PROJECT BEING A SLIDE REPAIR, THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF QUANTITIES PRIOR TO BIDDING AND THEN PRIOR TO CONSTRUCTION. THE ACTUAL WORK LOCATIONS AND QUANTITIES PERFORMED SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONFORMITY TO EXISTING CONDITIONS

THE TYPICAL SECTION ON SHEET P.02 IS A GENERAL REPRESENTATION OF THE EXISTING ROADWAY. THE PROPOSED LANE WIDTH, GUARDRAIL OFFSET, AND PAVEMENT MARKING PLACEMENT SHALL MATCH THE ACTUAL EXISTING CONDITIONS AS CLOSELY AS POSSIBLE.

ITEM 606 - GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN

THE CONTRACTOR SHALL FOLLOW SPECIFICATIONS FOR ITEM 606 GUARDRAIL, TYPE MGS HALF POST SPACING, EXCEPT PROVIDE STEEL GUARDRAIL POSTS IN LIEU OF WOOD.

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.

ITEM 408 - PRIME COAT, AS PER PLAN

THE CONTRACTOR WILL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED AGGREGATE SHOULDER.

ITEM 507 - STEEL PILES HP12x53, FURNISHED

FURNISH STEEL BEAMS CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 AND CMS 711.01.

THE ESTIMATED LENGTH OF EACH BEAM VARIES FROM 17' TO 27', BUT THE FURNISHED LENGTHS VARY FROM 20' TO 30'. THE FURNISHED PILE LENGTHS CAN BE FOUND ON SHEET P.08

WITH THE FURNISHED LENGTH GREATER THAN THE ESTIMATED LENGTH, BEAM TRIMMING IS EXPECTED AND SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM.

MEASUREMENT FOR PAYMENT WILL BE THE FURNISHED LENGTH OR THE DISTANCE FROM THE TOP OF WALL TO THE BOTTOM OF THE DRILLED SHAFT (IF GREATER THAN THE FURNISHED LENGTH), AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES HP12x53, FURNISHED.

ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC

POROUS BACKFILL, 2 FT. THICK, WILL BE PLACED AS SHOWN IN THE DETAILS. IT WILL EXTEND FROM 1 FOOT BELOW THE PROPOSED GROUND LINE ON THE UPWARD SIDE OF THE SHAFT TO THE TOP OF THE CONCRETE PAD ON THE LOWER SIDE OF THE SHAFT. GEOTEXTILE FABRIC WILL BE PLACED AROUND THE POROUS BACKFILL.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK ABOVE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC.

ITEM 511 - CLASS QC1 CONCRETE, FOOTING, AS PER PLAN

ALL REQUIREMENTS OF CMS SECTION 511 SHALL BE FOLLOWED, EXCEPT THE CONTRACTOR WILL BE PERMITTED TO LOAD THE CONCRETE PAD ONE DAY AFTER PLACEMENT.

ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

THE PRECAST REINFORCED CONCRETE OUTLET AS SHOWN IN SCD DM-1.1 SHALL BE INSTALLED WITHOUT THE TIED CONCRETE BLOCK MAT, TYPE 1.

ITEM 530 - SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED UNDER SUPPLEMENT 1073. PROVIDE CONCRETE WITH A 28-DAY DESIGN STRENGTH OF AT LEAST 4000 PSI ACCORDING TO CMS 499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO CMS 709.00. IN LIEU OF EPOXY COATING, A CORROSION INHIBITING CONCRETE ADMIXTURE MAY BE USED AT THE SPECIFIED DOSAGE RATE. A QUALIFIED PRODUCT LIST OF CORROSION INHIBITING ADMIXTURES IS ON FILE AT THE LABORATORY. MANUFACTURERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR MAY AFFECT THE STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE MANUFACTURER'S CHOICE TO USE ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING ALL DESIGN REQUIREMENTS. DO NOT ALLOW THE DIMENSIONS OF THE REINFORCING STEEL TO VARY BY MORE THAN 1/4". PERMANENTLY MARK EACH PANEL TO INDICATE THE FACE TO BE PLACED AGAINST THE SOIL. PLACE THE PANEL BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL.

WHEN INSTALLING THE PRECAST CONCRETE LAGGING PANELS, PLACE HARDWOOD WEDGES TO HOLD THE LAGGING PANELS AGAINST THE FRONT INSIDE FLANGE OF THE STEEL PILES. THE DIMENSIONS FOR THE LAGGING PANELS CAN BE FOUND ON SHEET P.10. THIS ITEM SHALL BE PAID BY THE SQUARE FOOT. THE FOLLOWING TOTAL NUMBER OF PANELS IS PROVIDED FOR INFORMATION ONLY:

8"x24"x57" PANELS 210 EACH

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO FABRICATE TRANSPORT AND INSTALL THE PRECAST CONCRETE LAGGING SECTIONS AS SHOWN IN THE PLANS SHALL BE MADE UNDER ITEM 530 - SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING.

CLEARING AND GRUBBING

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

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE 1:1 EXCAVATION FOR FOOTING AND LAGGING PLACEMENT AND FOR SUBSEQUENT EMBANKMENT REPLACEMENT BEHIND THE RETAINING WALL.

THE REPLACEMENT MATERIAL ROAD-SIDE OF THE WALL SHALL BE GRANULAR MATERIAL TYPE B CONFORMING TO 703.16.C.2 EXCEPT FOR THE POROUS BACKFILL AND 203 EMBANKMENT ABOVE THE POROUS BACKFILL AS DETAILED IN THE PLANS. ASSUMING A 1:1 EXCAVATION ROAD-SIDE OF THE WALL, THE FOLLOWING QUANTITY OF GRANULAR MATERIAL IS PROVIDED FOR ESTIMATING PURPOSES ONLY AND SHALL BE PAID FOR UNDER ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

292 CY (SEE SHEET P.10)

THE EMBANKMENT REPLACED DOWN-SLOPE OF THE RETAINING WALL SHALL BE PAID FOR UNDER ITEM 203, EMBANKMENT.

IN LIEU OF THE 1:1 EXCAVATION BEHIND THE WALL, THE CONTRACTOR MAY USE TEMPORARY SHEETING. ALL COSTS ASSOCIATED WITH USING TEMPORARY SHEETING IN LIEU OF EXCAVATION SHALL BE PAID FOR UNDER THIS ITEM. NO ADDITIONAL PAYMENTS SHALL BE MADE.

**ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN
 ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN**

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFTS WITHIN 3 INCHES OF THE PLAN LOCATION IN THE HORIZONTAL PLANE. IF FIELD CONDITIONS INDICATE GREATER DEPTH TO BEDROCK THAN THAT WHICH IS ESTIMATED IN THE PLANS, NOTIFY THE ENGINEER FOR FURTHER EVALUATION. PLACE THE SOLDIER PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN 1" BETWEEN THE TOP AND BOTTOM.

PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF CONSTRUCTION. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC1 CONCRETE ACCORDING TO CMS 511. PLACE CONCRETE TO ONE FOOT BELOW THE BOTTOM ELEVATION OF THE PRECAST LAGGING. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF GROUNDWATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES. PLACE PRECAST LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING.

SEQUENCE OF INSTALLATION:
 THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 24 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE.

PROTECTION OF UNATTENDED OPEN SHAFTS:
 CARE SHALL BE EXERCISED AS TO COVER UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN.

ACCESS:
 ANY TEMPORARY GRADING, CRANE MATS, AGGREGATE, DRAINAGE, ETC. NEEDED FOR ACCESS TO THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE CONCRETE PANELS, THE COST OF ANY TEMPORARY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) OUTSIDE OF THE LIMITS OF THE UNCLASSIFIED EXCAVATION SHOWN IN THE PLANS SHALL BE INCLUDED IN THE BID ITEM FOR THE DRILLED SHAFTS. IF LSM IS USED AS TEMPORARY BACKFILL MATERIAL AT THE LOCATION OF THE CONCRETE PANELS, THE PLACEMENT AND REMOVAL OF THIS LSM SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. NO SEPARATE PAYMENTS WILL BE MADE.

MEASUREMENT FOR PAYMENT FOR ITEM 524 - DRILLED SHAFTS 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN, WILL BE MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM TOP OF WALL TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, WILL BE LIMITED TO THE DISTANCE BETWEEN THE TOP OF BEDROCK AND THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

DESIGN AGENCY



DESIGNER
DAB

REVIEWER
JPB 02-18-22

PROJECT ID
115126

SHEET TOTAL
P.03 13

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (NCHRP 350 OR MASH 2016)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROFLECTIVE SHEETING, PER CMS 730.191

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

WATERS OF THE U.S.

WATERS OF THE US HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT NO IMPACTS OCCUR TO WATERS OF THE US. NO TEMPORARY OR PERMANENT FILL OF ANY TYPE MAY BE PLACED IN ANY STREAM OR WETLAND AS PART OF THIS PROJECT. ANY ACTIVITIES OCCURRING IN STREAMS OR WETLANDS WOULD REQUIRE PERMITS FROM THE US ARMY CORPS OF ENGINEERS AND/OR THE OHIO EPA.

ANY OTHER SITE PROPOSED BY THE CONTRACTOR FOR OFF PROJECT ANCILLARY CONSTRUCTION (STAGING AREAS, WASTE LOCATIONS, AND/OR BORROW LOCATIONS) MUST MEET THE REQUIREMENTS OF CMS 105.16.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

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

ITEM 659, SEEDING AND MULCHING, AS PER PLAN

- 4 FT AVG. WIDTH (ABOVE WALL)
- 4 FT AVG. WIDTH (BELOW WALL)
- 3.5 FT AVG. WIDTH (FOR TEMPORARY PAVEMENT)
- = 8 FT AVG. WIDTH

(11.5 FT AVG. WIDTH x 420 FT) / 9 = 537 SQ. YDS.
USE TOTAL **537 SQ. YDS.**

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. SEEDING AND MULCHING, AS PER PLAN, SHALL INCLUDE THE NECESSARY AMOUNTS OF COMMERCIAL FERTILIZER, LIME AND WATER TO COMPLETE THIS WORK, AS SET FORTH IN 659.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.

ITEM 202 GUARDRAIL REMOVED, AS PER PLAN

THE CONTRACTOR SHALL FOLLOW SPECIFICATIONS FOR ITEM 202 GUARDRAIL REMOVED, EXCEPT BOTH GUARDRAIL PANELS SHALL BE REMOVED.

ITEM 203 ROADWAY, MISC.: CHANNEL SHAPING

RESHAPE CHANNEL DITCHES TO ORIGINAL WIDTH AND GRADE FOR APPROXIMATELY 400FT IN LENGTH AT THE INLET END. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IS ACHIEVED TO THE LOCATION OF THE INLET.

ALL WORK ASSOCIATED WITH RESHAPING THE CHANNEL, INCLUDING BUT NOT LIMITED TO EXCAVATION AND EMBANKMENT, SHALL BE PAID FOR UNDER ITEM 203 - ROADWAY, MISC.: CHANNEL RESHAPING.

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

ITEM 203 - ROADWAY, MISC.: CHANNEL SHAPING **400 FT**

DESIGN AGENCY



DESIGNER
DAB

REVIEWER
JPB 02-18-22

PROJECT ID
115126

SHEET TOTAL
P.04 13

ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN

MAINTAIN A MINIMUM OF 1 LANE OF TRAFFIC AT ALL TIMES DURING CONSTRUCTION USING PORTABLE BARRIER AS PER STANDARD DRAWING MT-96.11 AND THE TYPICAL SECTION SHOWN ON SHEET P.02. THE TEMPORARY SIGNAL TIMING FOR THE WORK ZONE SHALL BE DETERMINED BY THE ENGINEER AND BASED ON THE LENGTH BETWEEN WORK ZONE STOP BARS. DRIVE ACCESS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

THE MAINTENANCE OF TRAFFIC SHALL BE IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION; THE REFERENCED STANDARD CONSTRUCTION DRAWINGS INCLUDING DESIGNER NOTES; THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS); POLICY NO. 516-003(P) TRAFFIC MANAGEMENT IN WORK ZONES INTERSTATE AND OTHER FREEWAYS; ODOT LOCATION AND DESIGN MANUAL, VOLUME 1; ODOT TRAFFIC ENGINEERING MANUAL; AND ALL REQUIREMENTS DETAILED IN THESE PLANS.

DURING CONSTRUCTION OF THE PROPOSED CONDUIT, TRAFFIC MUST BE MAINTAINED USING FLAGGERS PER SCD MT-97.10. IF FLAGGERS ARE REQUIRED DUE TO LIMITED SPACE DURING DRILLING OPERATIONS, THIS WORK SHALL BE INCLUDED IN THIS ITEM.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS (EXCLUDING PORTABLE BARRIER, IMPACT ATTENUATORS, PAVEMENT FOR MAINTAINING TRAFFIC, AND WORK ZONE PAVEMENT MARKINGS) SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICER (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

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

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS AND/OR STANDARD DRAWINGS 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 AT THE UNIT BID PRICE 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.

WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614 - WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE 1 = **0.16 MILE**
 ITEM 614 - WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE 1 = **0.32 MILE**
 ITEM 614 - WORK ZONE STOP LINE, CLASS I, 740.06, TYPE 1 = **44 FT**

ITEM 614 - WORK ZONE CENTER LINE, CLASS I, 642 PAINT = **0.08 MILE**
 ITEM 614 - WORK ZONE EDGE LINE, CLASS I, 642 PAINT = **0.16 MILE**

DELINEATION OF PORTABLE BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL)
 9 EACH
 ITEM 614, OBJECT MARKER, TWO WAY
 9 EACH

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN, AND SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

SEQUENCE OF OPERATION

IT IS THE INTENT OF THE FOLLOWING SEQUENCE OF CONSTRUCTION TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC; THEREFORE, ALL PHASES SHALL HAVE STRICT ADHERENCE. COMPLETE EACH PHASE PRIOR TO ADVANCING TO THE NEXT CONSTRUCTION PHASE.

PHASE 1

MAINTAIN TRAFFIC USING FLAGGERS AND BARREL ZONE AS PER SCD MT-97.10.

REMOVE AND REPLACE THE CUVERT AS SHOWN ON SHEET P.09

PHASE 2

INSTALL THE WORK ZONE TRAFFIC SIGNAL'S, WORK ZONE PORTABLE BARRIER, AND WORK ZONE PAVEMENT MARKINGS AS PER SCD MT-96.11, 96.20, AND 96.26 FOR ONE LANE OF TWO-WAY TRAFFIC.

WITH THE TRAFFIC IN THIS PATTERN, CONSTRUCT THE PROPOSED WALL, FULL DEPTH PAVEMENT, GRADED SHOULDER AND GUARDRAIL.

PHASE 3

MAINTAIN TRAFFIC UNDER FLAGGERS PER SCD MT-97.10.

REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICE AND REMOVE THE TEMPORARY PAVEMENT TO THE LIMITS SHOWN IN THE TYPICAL SECTIONS ON SHEET P.02

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

FOLLOW CONSTRUCTION AND MATERIAL SPECIFICATION 615, EXCEPT PROVIDE ONLY FLEXIBLE PAVEMENT FOR MAINTAINING TRAFFIC. THE MAXIMUM ACCEPTABLE ELEVATION DIFFERENCE AT THE SAW CUT LINE BETWEEN THE EXISTING PAVEMENT AND THE PAVEMENT FOR MAINTAINING TRAFFIC SHALL BE 0.25".

THE BELOW QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

PHASE 1: 40' x 2' / 9 = 9 SQ. YD.
 PHASE 2: 420' x 4' / 9 = 187 SQ. YD.
 TOTAL: **196 SQ. YD.**

SEE DETAIL ON SHEET NO. P.02 FOR PORTIONS OF THIS PAVEMENT TO REMAIN IN PLACE. PAVEMENT SAWING AND PAVEMENT REMOVAL FOR THE PORTION OF THE PAVEMENT FOR MAINTAINING TRAFFIC NOT TO REMAIN IN PLACE SHALL BE PAID FOR UNDER THIS ITEM. ANY TEMPORARY EMBANKMENT NEEDED TO SUPPORT THE PAVEMENT FOR MAINTAINING TRAFFIC AND WORK REQUIRED TO RESTORE THE SHOULDER AND DITCH LINE TO ORIGINAL CONDITIONS SHALL BE PAID FOR UNDER THIS ITEM.

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

JPB 02-18-22

PROJECT ID

115126

SHEET

P.05

TOTAL

13

SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
P.03	P.04	P.08	P.10								01/NFA/06	EXT	TOTAL				
ROADWAY																	
LS											LS	201	11000	LS		CLEARING AND GRUBBING	
		639									639	202	23000	639	SY	PAVEMENT REMOVED	
		35									35	202	35100	35	FT	PIPE REMOVED, 24" AND UNDER	
		450									450	202	38001	450	FT	GUARDRAIL REMOVED, AS PER PLAN	P.04
			175								175	203	20000	175	CY	EMBANKMENT	
400											400	203	98300	400	FT	ROADWAY, MISC.: CHANNEL SHAPING	P.04
		613									613	204	10000	613	SY	SUBGRADE COMPACTION	
		375									375	606	15151	375	FT	GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN	P.03
		1									1	606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E, (NCHRP 350 OR MASH 2016)	
EROSION CONTROL																	
	537										537	659	10001	537	SY	SEEDING AND MULCHING, AS PER PLAN	P.04
											1,000	832	30000	1,000	EACH	EROSION CONTROL	
DRAINAGE																	
		0.6									0.6	602	20000	0.6	CY	CONCRETE MASONRY	
		40									40	611	05900	40	FT	15" CONDUIT, TYPE B	
		1									1	611	98470	1	EACH	CATCH BASIN, NO. 2-2B	
		1									1	611	99711	1	EACH	PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN	P.03
PAVEMENT																	
		96									96	301	56000	96	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
		249									249	304	20000	249	CY	AGGREGATE BASE	
		63									63	407	10000	63	GAL	TACK COAT	
		41									41	408	10001	41	GAL	PRIME COAT, AS PER PLAN	P.03
		20									20	441	70100	20	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M	
		27									27	441	70300	27	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)	
TRAFFIC CONTROL																	
		12									12	621	00100	12	EACH	RPM	
		12									12	621	54000	12	EACH	RAISED PAVEMENT MARKER REMOVED	
		14									14	626	00110	14	EACH	BARRIER REFLECTOR, TYPE 2, (BIDIRECTIONAL)	
		0.16									0.16	646	10010	0.16	MILE	EDGE LINE, 6"	
		0.08									0.08	646	10200	0.08	MILE	CENTER LINE	
RETAINING WALLS (BEL-379-6.34)																	
			659								659	503	21101	659	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	P.03
		1,975									1,975	507	00200	1,975	FT	STEEL PILES HP12X53, FURNISHED	
		52									52	511	46511	52	CY	CLASS QC1 CONCRETE, FOOTING, AS PER PLAN	P.03
		117									117	518	21200	117	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
		350									350	518	40000	350	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
		6									6	518	40010	6	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
		1,207									1,207	524	94503	1,207	FT	DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN	P.03
		568									568	524	94505	568	FT	DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN	P.03
		2,100									2,100	SPECIAL	53051010	2,100	SF	RETAINING WALL, PRECAST CONCRETE LAGGING	P.03

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER
DAB
 REVIEWER
JPB 02-18-22
 PROJECT ID
115126
 SHEET TOTAL
P.06 13

BEL-379-6.34

MODEL: Sheet_SurvFl_PAPER SIZE: 34x22 (in.) DATE: 4/2/2024 TIME: 10:28:56 AM USER: bhovanic
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PAVEMENT CALCULATIONS

PAVEMENT CALCULATIONS BASED ON A LENGTH OF 420'
AN AVERAGE WIDTH OF 11.0'
AND AN AVERAGE SHOULDER WIDTH OF 2.0'

PAVEMENT CALCULATIONS FOR CULVERT REPLACEMENT, RT. LANE:
LENGTH OF 40'
WIDTH OF 11'
AVERAGE SHOULDER WIDTH OF 2.0'

ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG70-22M

11' AVG. WIDTH x 420' x 1.25" / 12 / 27 = 18 CU. YD.
11' AVG. WIDTH x 40' x 1.25" / 12 / 27 = 2 CU. YD.
TOTAL: 20 CU. YD.

ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)

11' AVG. WIDTH x 420' x 1.75" / 12 / 27 = 25 CU. YD.
11' AVG. WIDTH x 40' x 1.75" / 12 / 27 = 2 CU. YD.
TOTAL: 27 CU. YD.

ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)

11.33' AVG. WIDTH x 420' x 6" / 12 / 27 = 88 CU. YD.
11.33' AVG. WIDTH x 40' x 6" / 12 / 27 = 8 CU. YD.
TOTAL: 96 CU. YD.

ITEM 304 - AGGREGATE BASE

MAINLINE:
11.83' AVG. WIDTH x 420' x 6" / 12 / 27 = 92 CU. YD.
11.83' AVG. WIDTH x 40' x 6" / 12 / 27 = 9 CU. YD.

SHOULDER:
2' x 420' x 8" / 12 / 27 = 21 CU. YD.
2' x 40' x 8" / 12 / 27 = 2 CU. YD.

BACKFILL VOID FROM REMOVAL OF EXISTING PAVEMENT:
11' AVG. WIDTH x 8" AVG. DEPTH x 420' / 12 / 27 = 114 CU. YD.
11' AVG. WIDTH x 8" AVG. DEPTH x 40' / 12 / 27 = 11 CU. YD.

TOTAL = 249 CU. YD.

ITEM 407 - TACK COAT

FOR INTERMEDIATE COURSE:
11' AVG. WIDTH x 420' / 9 x 0.055 x 1 APP. = 28 GAL.
11' AVG. WIDTH x 40' / 9 x 0.055 x 1 APP. = 3 GAL.

ON BASE COURSE:
11.33' AVG. WIDTH x 420' / 9 x 0.055 x 1 APP. = 29 GAL.
11.33' AVG. WIDTH x 40' / 9 x 0.055 x 1 APP. = 3 GAL.

TOTAL = 63 GAL.

ITEM 408 - PRIME COAT, AS PER PLAN

2.0' AVG. WIDTH x 420' / 9 x 0.4 = 37 GAL.
2.0' AVG. WIDTH x 40' / 9 x 0.4 = 4 GAL.
TOTAL: 41 GAL.

ITEM 204 - SUBGRADE COMPACTION

12.0' AVG. WIDTH x 420' / 9 = 560 SQ. YD.
12.0' AVG. WIDTH x 40' / 9 = 53 SQ. YD.
TOTAL: 613 SQ. YD.

ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN

USE 450 FT.

ITEM 606 - GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN

USE 375 FT.

ITEM 202 - PAVEMENT REMOVED

MAINLINE:
11' AVG. WIDTH x 420' / 9 = 513 SQ. YD.
11' AVG. WIDTH x 40' / 9 = 49 SQ. YD.

MOT:
1.5' AVG. WIDTH x 420' / 9 = 70 SQ. YD.
1.5' AVG. WIDTH x 40' / 9 = 7 SQ. YD.

TOTAL = 639 SQ. YD.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (NCHRP 350 OR MASH 2016)

USE 1 EACH

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

USE 12 EACH

ITEM 621 - RPM

USE 12 EACH

ITEM 626 - BARRIER REFLECTOR, TYPE 2, (BIDIRECTIONAL)

USE 14 EACH

ITEM 646 - EDGE LINE, 6"

USE 0.16 MILE

ITEM 646 - CENTER LINE

USE 0.08 MILE

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

USE 2 EACH

ITEM 622 - PORTABLE BARRIER, UNANCHORED

USE 650 FT.

CULVERT CALCULATIONS

ITEM 611 - 15" CONDUIT TYPE B

USE 40 FT

ITEM 202 - PIPE REMOVED, 24" AND UNDER

USE 35 FT

ITEM 602- CONCRETE MASONRY

0.27 CU. YD (FROM SCD HW-2.1) x 2 = 0.54 CU. YD.
USE 0.6 CU. YD.

ITEM 611 - CATCH BASIN NO. 2-2B

USE 1 EACH

WALL CALCULATIONS

WALL QUANTITIES BASED ON A WALL LENGTH OF 350'

ITEM 530 - SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING

350' x 3 PANELS x 2' = 2100 SQ. FT.

ITEM 507 - STEEL PILES HP12x53, FURNISHED

STA. 10+20 TO STA. 10+70
20' AVG. LENGTH x 11 SHAFTS = 220 FT.

STA. 10+75 TO STA. 11+15
25' AVG. LENGTH x 9 SHAFTS = 225 FT.

STA. 11+20 TO STA. 13+70
30' AVG. LENGTH x 51 SHAFTS = 1530 FT.

TOTAL = 1975 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN

8' AVG. LENGTH x 71 SHAFTS = 568 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN

17' AVG. LENGTH x 71 SHAFTS = 1207 FT.

ITEM 511 - CLASS QC1 CONCRETE, FOOTING, AS PER PLAN

350' x 1' x 4' / 27 = 52 CU. YD.

ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC

350' x 4.5' AVG. HEIGHT x 2' AVG. WIDTH / 27 = 117 CU. YD.

ITEM 518 - 6" PERFORATED CORRUGATED PLASTIC PIPE

USE 350 FT.

ITEM 518, 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS

1 OUTLET x 6' ESTIMATED LENGTH = 6 FT.

ITEM 611, PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

USE 1 EACH

ESTIMATED QUANTITIES

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

JPB 02-18-22

PROJECT ID

115126

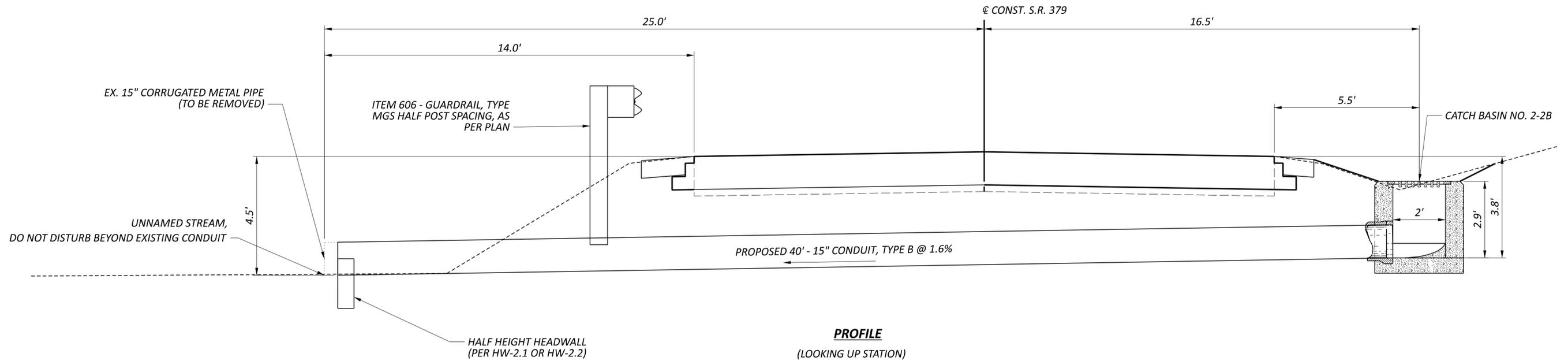
SHEET

P.08

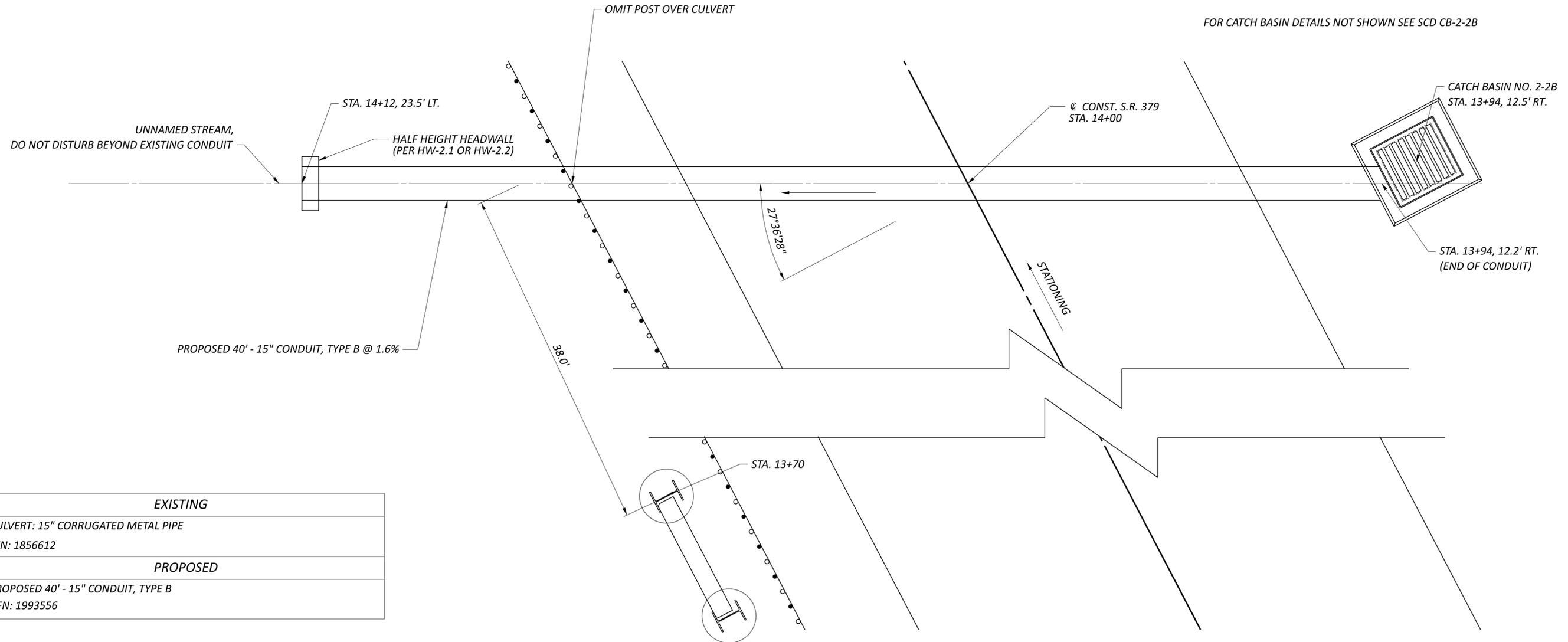
TOTAL

13

NOTE: ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY UNLESS OTHERWISE NOTED



PROFILE
(LOOKING UP STATION)

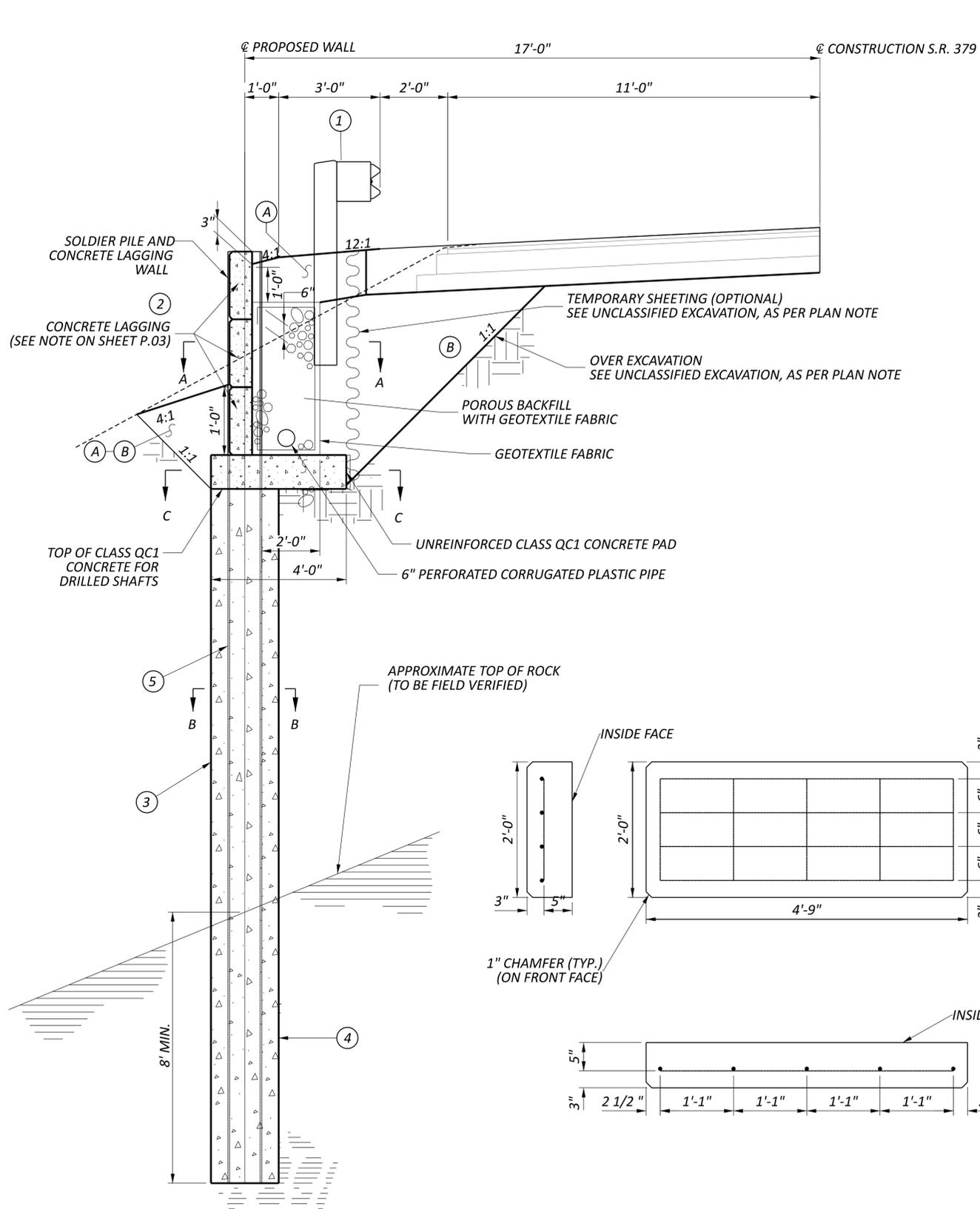


PLAN

EXISTING
CULVERT: 15" CORRUGATED METAL PIPE CFN: 1856612
PROPOSED
PROPOSED 40' - 15" CONDUIT, TYPE B CFN: 1993556

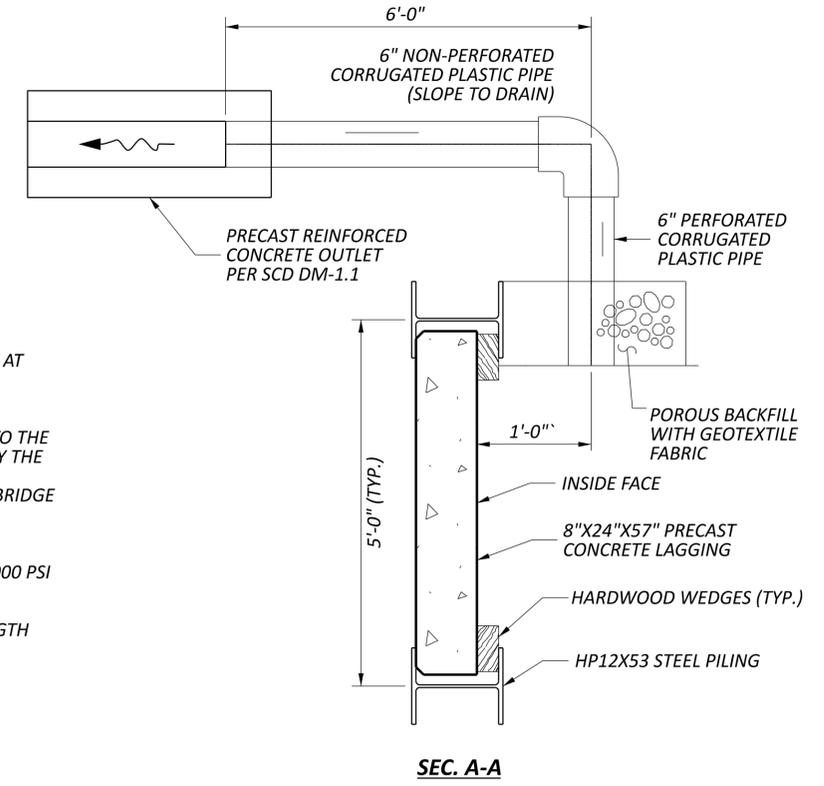
FOR CULVERT QUANTITIES, SEE SHEET P.08.

DESIGN AGENCY	
DESIGNER	DAB
REVIEWER	JPB
PROJECT ID	115126
SHEET TOTAL	P.09 13



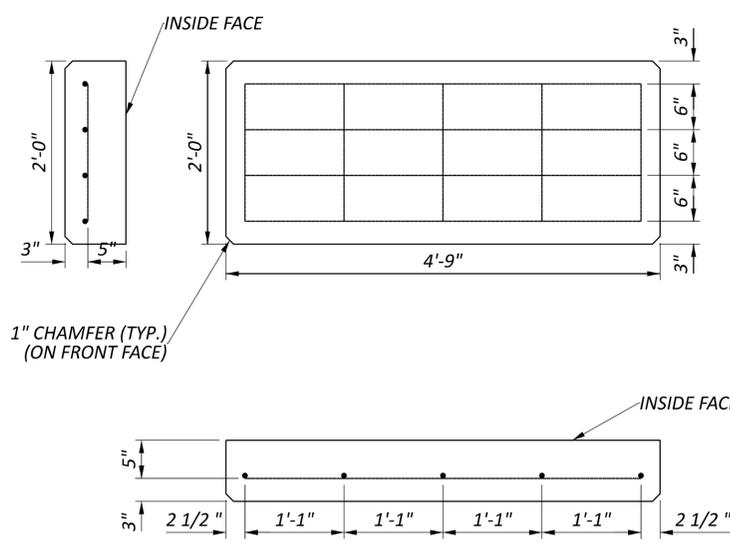
NOTES:

1. CONCRETE LAGGING SHALL BE 3 PANELS HIGH WITH AT LEAST ONE (1) PANEL BURIED BELOW GRADE.
2. DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE 9TH EDITION TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE MANUAL, 2020.
3. DESIGN DATA: CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (DRILLED SHAFT)
 STRUCTURAL STEEL - A572 GRADE 50 - YIELD STRENGTH 50,000 PSI

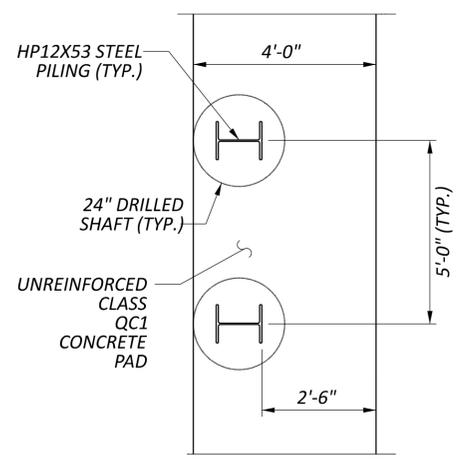


SEC. A-A

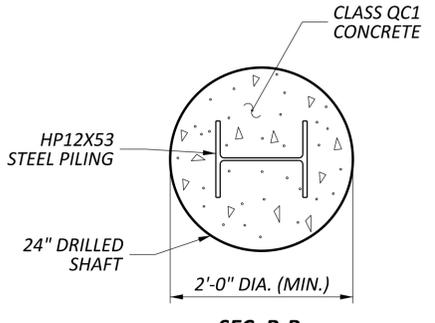
EXISTING RETAINING WALL
TYPE: GUARDRAIL PANEL ATTACHED TO GUARDRAIL POSTS
RWFN: 1003724
PROPOSED RETAINING WALL
TYPE: DRILLED SHAFT, SOLDIER PILE AND CONCRETE LAGGING
RWFN: 1014541



57\"/>



SEC. C-C



SEC. B-B

LEGEND

- ① ITEM 606, GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN
 - ② ITEM 530, SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING
 - ③ ITEM 524, DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN
 - ④ ITEM 524, DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN
 - ⑤ ITEM 507, STEEL PILES HP12X53, FURNISHED
 - (A) ITEM 203, EMBANKMENT
 AVERAGE END AREA = 13.5 SQ. FT.
 13.5 SQ. FT. x 350'/27 = **175 CU. YD.**
 - (B) ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN
 AVERAGE END AREA = 50.8 SQ. FT.
 50.8 SQ. FT. x 350'/27 = **659 CU. YD.**
- GRANULAR EMBANKMENT (FOR INFORMATION ONLY)
 QUANTITY CARRIED TO UNCLASSIFIED EXCAVATION, AS PER PLAN NOTE ON SHEET P.03.
 AVERAGE END AREA = 22.5 SQ. FT.
 22.5 SQ. FT. x 350'/27 = 292 CU. YD.

FOR QUANTITIES, SEE SHEET P.08.
 FOR TYPICAL SECTION DETAILS, SEE SHEET P.02.
 QUANTITIES FOR (A) AND (B) CARRIED TO THE GENERAL SUMMARY.

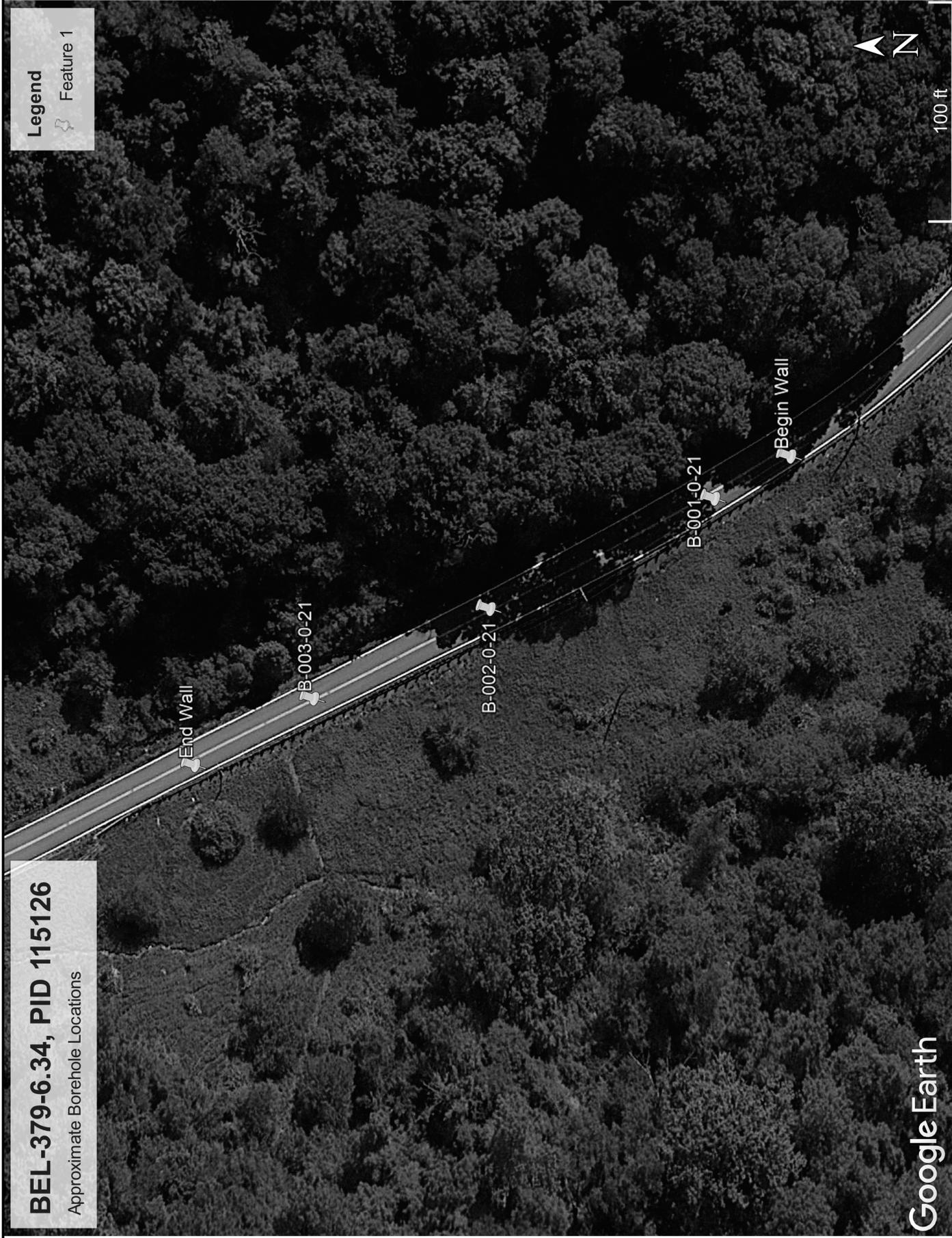
DESIGN AGENCY	
DESIGNER	
REVIEWER	DAB
PROJECT ID	JPB 02-18-22
SHEET TOTAL	115126
P.10	13

BEL-379-6.34

MODEL: Sheet_SurvFt_PAPER SIZE: 34x22 (in.) DATE: 4/2/2024 TIME: 10:30:36 AM USER: bhoivanic
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BEL-379-6.34, PID 115126
 Approximate Borehole Locations

Legend
 Feature 1



Google Earth

PROJECT: TYPE: PID: START:	BEL-379-6.34 LANDSLIDE 115126 6/15/21	DRILLING FIRM / OPERATOR: SAMPLING FIRM / LOGGER: DRILLING METHOD: SAMPLING METHOD:	STANTEC / K/C STANTEC / B/S 4.25" HSA / NQ SPT / NQ	DRILL RIG: HAMMER: CALIBRATION DATE: ENERGY RATIO (%):	CME 812 CME AUTOMATIC 4/24/20 88.4	STATION / OFFSET:										EXPLORATION ID B-001-0-21		
						ALIGNMENT: ELEVATION: LAT / LONG:	GR	CS	FS	SI	CL	LL	PL	PI	WC		ODOT CLASS (GI)	BACK FILL
MATERIAL DESCRIPTION AND NOTES				SPT/ ROD	N ₆₀	REC SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC <td></td> <td></td>		
ASPHALT			ELEV. 100.0	DEPTHS														
STIFF TO HARD, LIGHT BROWN, SILTY CLAY, SOME GRAVEL AND SAND, DAMP			98.6	1	3													
				2	4	SS-1	-	24	9	12	26	29	36	18	18			A-6b (7)
				3	5													
				4														
				33 55/4"			SS-2	-	-	-	-	-	-	-	-	-		
SANDSTONE, LIGHT GRAY, MODERATELY WEATHERED, STRONG, FINE GRAINED, THIN BEDDED.			94.8	5														
				6														
				7														
				8														
				9														
SHALE, DARK GRAY, SLIGHTLY TO MODERATELY WEATHERED, STRONG, FINE GRAINED, LAMINATED, BRECCIATED.			88.5	10														
				11														
				12														
				13														
				14														
			83.5	15														
				16														
				EOB														

NOTES: MOVED BY 11.5 FT TO THE OTHER SIDE OF THE ROAD DUE TO OVERHEAD POWER LINES
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 16.8 IN. ASPHALT PATCH, BACKFILLED WITH BAGS BENTONITE PELLETS

DESIGN AGENCY

 DESIGNER
CCN
 REVIEWER
BSH 04-02-24
 PROJECT ID
115126
 SUBSET TOTAL
 1 3
 SHEET TOTAL
 P.11 13

GEOTECHNICAL BORING LOGS
BORING PLAN AND BORING B-001-0-21

BEL-379-6.34

MODEL SHEET PAPER SIZE: 34x22 (in.) DATE: 4/2/2024 TIME: 10:31:32 AM USER: bhoivanic
 pw:\d\h\odot-pw-bentley.com\hohodot-pw-02\Documents\01_Active Projects\District 11\Belmont\115126\400-Engineering\Geotechnical\Sheets\115126_ID003.dgn

PROJECT: TYPE: PID: START:	BEL-379-6.34 LANDSLIDE 115126 SFN: 6/15/21	DRILLING FIRM / OPERATOR: SAMPLING FIRM / LOGGER: DRILLING METHOD: SAMPLING METHOD:	STANTEC / K.C STANTEC / B.S 4.25" HSA / NQ SPT / NQ	DRILL RIG: HAMMER: CALIBRATION DATE: ENERGY RATIO (%):	CME 812 CME AUTOMATIC 4/24/20 88.4	STATION / OFFSET:												EXPLORATION ID B-003-0-21							
						ALIGNMENT: ELEVATION: 100.0 (MSL) EOB: 26.5 ft. LAT / LONG: 39.939124, -81.233101																			
MATERIAL DESCRIPTION AND NOTES				SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL						
ASPHALT STIFF TO VERY STIFF, GRAY, CLAY, TRACE GRAVEL AND SAND AND SOME SILT, DAMP HARD, BROWN, SILTY CLAY, LITTLE GRAVEL, SOME SILT AND SAND, DRY TRACE GRAVEL AND LITTLE SAND starting @11.4ft				1																					
				2	3	10	27	1.50																	
				3	4																				
				4																					
				5	2	4	16	53	3.50	9	5	5	31	50	44	17	27						A-7-6 (16)		
				6																					
				7	4	5	18	100	3.50															A-7-6 (V)	
				8																					
				9																					
				10	5	5	32	67	3.00	20	8	15	28	29	37	17	20							A-6b (8)	
				11																					
				12	10	17	57	93	4.00	7	3	17	50	23	32	16	16							A-6b (10)	
				13																					
				14	22	36	112	80	4.50																A-6b (V)
				15		40																			
				16																					
				17	94		100	NQ-1																	CORE
				18																					
				19																					
20	68		100	NQ-2																	CORE				

STANDARD ODOT SOIL BORING LOG (6.5 X 11) - OH DOT.GDT - 8/31/21 11:46 - C:\USERS\BSEBASTIAO\ONEDRIVE - STANTEC\DOCUMENTS\ODOT D11 TO 1 E 11R LANDSLIDES\LOGSIGNT.L

PID: 115126	SFN:	PROJECT:	BEL-379-6.34	STATION / OFFSET:												PG 2 OF 2	B-003-0-21						
				START: 6/15/21 END: 6/15/21																			
MATERIAL DESCRIPTION AND NOTES				SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL				
SANDSTONE, TOP LIGHT BROWN AND REDDISH DARK, SLIGHTLY WEATHERED, SLIGHTLY TO MODERATELY STRONG, FINE TO MEDIUM GRAINED. (continued)																							
				21																			
				22																			
				23																			
				24																			
				25																			
SANDSTONE, REDDISH DARK, SLIGHTLY TO MODERATELY WEATHERED, SLIGHTLY TO MODERATELY STRONG, FINE TO MEDIUM GRAINED.				75		100	NQ-3													CORE			
				26																			

EOB

STANDARD ODOT SOIL BORING LOG (6.5 X 11) - OH DOT.GDT - 8/31/21 11:46 - C:\USERS\BSEBASTIAO\ONEDRIVE - STANTEC\DOCUMENTS\ODOT D11 TO 1 E 11R LANDSLIDES\LOGSIGNT.L

NOTES: MOVED BY 11.5 FT TO THE OTHER SIDE OF THE ROAD DUE TO OVERHEAD POWER LINES
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 1.4 IN ASPHALT PATCH; BACKFILLED WITH BAGS BENTONITE CHIPS

DESIGN AGENCY

 DESIGNER
 CCN
 REVIEWER
 BSH 04-02-24
 PROJECT ID
 115126
 SUBSET TOTAL
 3 3
 SHEET TOTAL
 P.13 13

**GEOTECHNICAL BORING LOGS
 BORING B-003-0-21**