SPECIAL PROVISIONS

WATERWAY PERMITS CONDITIONS

C-R-S: HOL-SR 515-3.52

PID: 118633

Date: 01/10/2025

1. Waterway Permits Time Restrictions:

Section 404 (Nationwide Permit 14) authorization from the United States Army Corps of Engineers (USACE) is **pending** for HOL-SR 515-3.52, PID 118633. **Temporary and permanent fill activities in aquatic resources are not authorized until Nationwide Permit 14 is authorized by the USACE.** A copy of Nationwide Permit 14 will be provided after it is authorized and shall be kept at the work site at all times and made available to all contractors and subcontractors.

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

2. Deviations From Permitted Construction Activities:

Nationwide Permit 14 authorization is pending. Once authorization is received, no deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

NOTE: Plan sheets submitted with the Pre-Construction Notification are **pending approval** by the USACE in accordance with Nationwide Permit 14 and are included in these Special Provisions.

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-2159) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-2159) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

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

Stream Name/Description	Location	Work restriction dates (No in-stream work permitted)
Stream 1 (Hochstetler Run)	HOL-SR 515-3.52 STA 185+38.9 to 185+80.0	None

*Restriction dates do not apply if the stream has been dewatered prior to April 15.

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

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

4. Materials:

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

5. Cultural Resources:

Per CMS 107.10, if archeological sites, historical sites, or human remains are discovered, cease all work in the immediate area and notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-Cultural Resource Section at 614-466-2159. In the event of human remains are identified by OES-Cultural Resources Section, the Engineer shall also contact the Holmes County Sheriff's Office at 330-674-1936.

6. Aquatic Resource Demarcation:

The attached tables (Tables 3 and 4) include detailed fill quantities authorized within aquatic resources, **pending USACE approval**. Aquatic resources not authorized for impact by these Special Provisions shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

7. Spill containment:

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:
- 6 - 3 in. X 8 ft. Oil only socks
- 4 - 18 in. X18 in. Oil only pillows
- 2 - 5 in. X 10ft. Booms
- 50 - 16in. X 20 in. Oil only pads
- 10- Disposable Bags
- 1 - 65 Gallon drum with lid
- 25 pounds of Granular Oil Absorbent

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

8. Blasting:

State law requires notification to the Ohio Department of Natural Resources should blasting be required within or near stream channels (See ORC 1533.58 & CMS 107.09). Notify the Engineer, in writing, a minimum of 30 days in advance of blasting, for submission to ODOT-OES-WPU (614-466-2159) for coordination with ODNR.

9. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU at 614-466-2159.

10. Temporary Access Fills:

Special Provisions Notes:

Definitions:

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

Standard Temporary Discharge
Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways These flows are also available in a web application by USGS StreamStats, (https://water.usgs.gov/osw/streamstats/ohio.html). The highest monthly flow is the highest monthly mean discharge occurring in a 12-month period from January to December.

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

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

Requirements

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

- Plan view drawing (50 scale or less) showing the location of all TAFs proposed for use on the project
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Identify the minimum diameter size, placement location and thickness of non-erodible Dumped Rock Fill material on the plan and profile.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above the OHWM. Include, in the analysis,

calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.

- A description of all temporary material to be placed below the OHWM elevation.
- A description of the installation and staging of all temporary fill over the life of the contract.
- Identify the protection methods and/or structural Best Management Practices for minimizing impacts to the waterway.
- Volume of temporary fill below the OHWM elevation.
- A description of the diversion ditches, equipment, conduits or means for maintaining normal flows in the waterway.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the TAFs.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:

"These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents."

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

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

Fording of waterways and other aquatic resources is prohibited.

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

If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor's proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor's proposed TAF will be a minimum of 60 days.

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

TAFs Construction and Payment

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

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

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

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

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

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

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

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

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

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, meeting the requirements of C&MS 703.19.B. Utilize appropriately sized Dumped Rock Fill determined by the Contractor's engineer for encapsulating the sides of the TAF. Encapsulate all sides of the TAF with the non-erodible material. For causeways, contractors may use clean aggregate meeting C&MS 703.01 Size Number 1 and 2 for creating a working surface above the OHWM. Extend the non-erodible encapsulating material to at least the elevation of the top of the working surface. Extend clean aggregate up the slope from the original stream bank for 50 feet (10 m) to remove erodible material and prevent tracking from equipment onto the TAF.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the TAFs will be restored to its pre-construction elevations. The TAFs will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities, are incidental to the work within the boundaries of the aquatic resources.

11. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into jurisdictional waters of the U.S. is permitted during the excavation process. If any changes to the proposed work are deemed necessary, notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU at 614-466-2159.

12. Construction Completion Certification:

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

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

A copy of the certification will be provided upon USACE authorization.

13. Demolition Debris:

The temporary discharge of demolition debris into aquatic resources (including but not limited to bridges, culverts, abutments, wing walls, piers) is conditionally authorized for this project. **Perform demolition activities in a manner to prevent the discharge of fine (erodible) debris into aquatic resources. Utilize TAF or other catchment methods accepted by the Engineer and authorized by these Special Provisions to prevent erodible demolition debris from entering aquatic resources.** Demolition debris may not remain in the waterway for more than 72 hours and must be removed in its entirety. If removal of debris material cannot be achieved within 72 hours, notify the Engineer in writing, who will contact ODOT-OES-WPU at 614-466-2159.

Version: July 2020

TABLE 3. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Description of Impacts	Station	Length (LF)	Width (LF)	Depth (LF)	Existing Culvert	Culvert Overlap	Proposed Impacts									Total Permanent Fill			Total Temporary Fill			Total Impact Length*
								Proposed Concrete Fill (Includes headwalls & wingwalls)			Proposed Earthen Fill/Grading			Proposed Granular Fill (Includes RCP)									
						Length (LF)	Length (LF)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)*	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)*
Stream 1 (Hochstetler Run)	Culvert Replacement (new location); including RCP & TAF	STA 185+38.9 to 185+80.0	165	7.8	1.7	36	0	37	0.001	3.7	97	0.009	24.1	40	0.003	7	111	0.013	34.8	77	0.008	21.9	111
Total Project SUM:						**36**	**0**	**37**	**0.001**	**3.7**	**97**	**0.009**	**24.1**	**40**	**0.003**	**7**	**111**	**0.013**	**34.8**	**77**	**0.008**	**21.9**	**111**

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable
*Total Impact Length includes multiple overlapping individual impact lengths

TABLE 4. WETLAND DISCHARGE AND FILL QUANTITIES

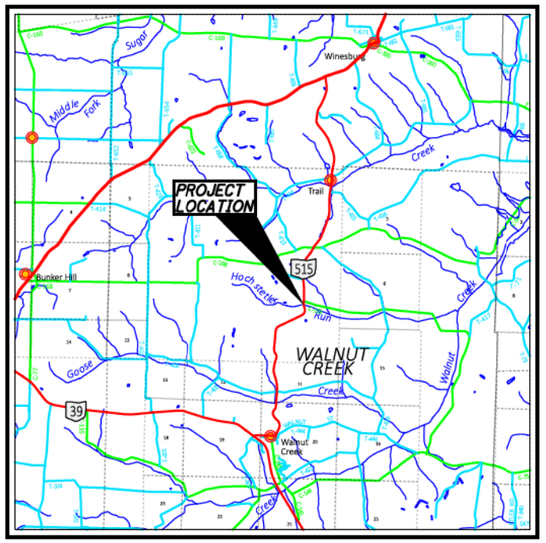
Wetland	Station	Description of Impacts	Acreage (AC)	Depth (LF)	Permanent Fill Within Wetland Boundary						Total Permanent Fill		Total Impact Acreage
					Proposed Concrete Fill (Includes headwalls & wingwalls)		Proposed Earthen Fill/Grading		Proposed Granular Fill (Includes RCP)				
					Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)
Wetland A	STA 185+42.0 to 185+67.7	Culvert Replacement, including RCP & TAF	0.003	1	0.0002	0.3	0.0015	2.3	0.0013	2.1	0.0030	4.7	0.003
				SUM:	**0.0002**	**0.3**	**0.0015**	**2.3**	**0.0013**	**2.1**	**0.0030**	**4.7**	**0.003**

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

HOL-515-3.52
PART 2
WALNUT CREEK TOWNSHIP
HOLMES COUNTY

FOR PART 1, SEE HOL-515-0.00 (PID 105293)



LOCATION MAP

LATITUDE: 40°34'58" N LONGITUDE: 81°42'25" W

SCALE IN MILES

0 1 2 3 4

N

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

DESIGN DESIGNATION

CURRENT ADT (2025)	2500
DESIGN YEAR ADT (2045)	2500
DESIGN HOURLY VOLUME (2045)	350
DIRECTIONAL DISTRIBUTION	51%
TRUCKS (24 HOUR B&C)	11%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
06 MINOR COLLECTOR (RURAL)

NHS PROJECT NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

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:
ms consultants, inc.
CONSULTING ENGINEERS, ARCHITECTS & PLANNERS
ONE CASCADE PLAZA, SUITE 1450
AKRON, OHIO 44308-1116
PHONE: 330-258-9920

ENGINEER'S SEAL

STATE OF OHIO DIANA L. TOUT E-69276 REGISTERED PROFESSIONAL ENGINEER

Diana L Tout Digitally signed by Diana L Tout DN: OH,US, E=dtout@msconsultants.com, CN=Diana L Tout Date: 2024.06.17 08:45:21-04'00'

FEDERAL PROJECT NUMBER

NON-FEDERAL

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

CULVERT REPLACEMENT BENEATH S.R. 515. WORK CONSISTS OF REMOVING EXISTING CULVERT CFN 1858227 AND REPLACING SAID CULVERT.
THIS IS PART 2 OF A TWO PART PROJECT WITH PART 1 CONSISTING OF ROADWAY RECONSTRUCTION ALONG S.R. 515. AND PART 2 CONSISTING OF THE CULVERT REPLACEMENT AND MAINTENANCE OF TRAFFIC.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.13 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.13 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)

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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET P.5.

Thomas D. Corey
District 11 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

INDEX OF SHEETS:	
TITLE SHEET	P. 1
TYPICAL SECTIONS	P. 2
GENERAL NOTES	P. 3
MAINTENANCE OF TRAFFIC PLANS	P. 4 - P.5
GENERAL SUMMARY	P. 6
SUBSUMMARY	P. 7
SR-515 PLAN	P. 8
SR-515 CROSS SECTIONS	P. 9 - P.12
CULVERT DETAILS	P. 13

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
		SEE PART 1			SEE PART 1	

TITLE SHEET

DESIGN AGENCY
ms consultants, inc.

DESIGNER ACW
REVIEWER DLT 4/19/24
PROJECT ID 118633
SHEET P. 1 TOTAL 13

HOL-515-3.52

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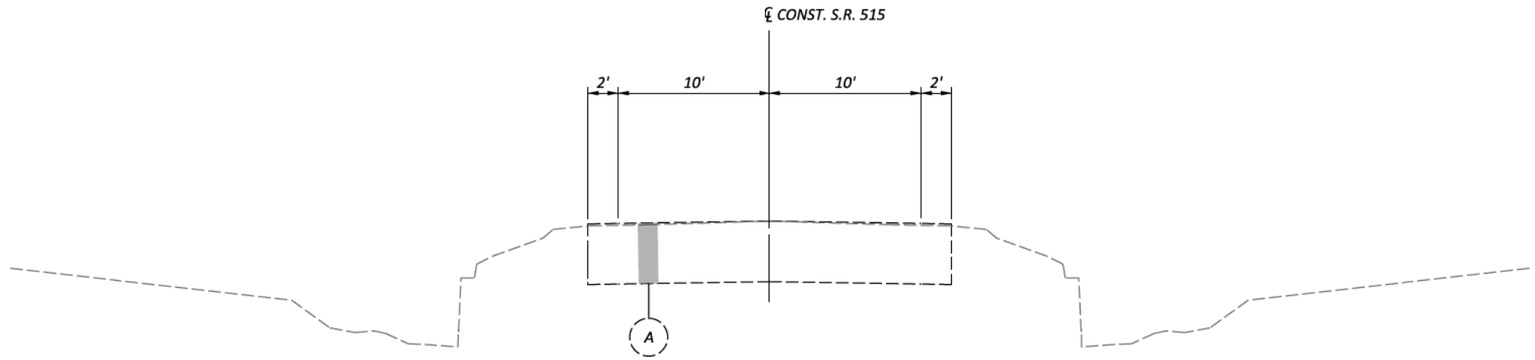

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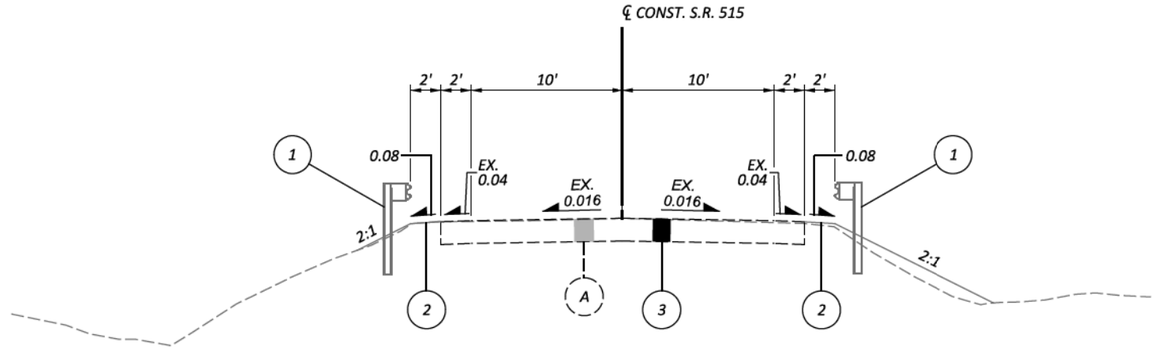

PROPOSED TYPICAL SECTION

STA. 183+97.50 TO STA. 187+53.03

LEGEND

A	*EXISTING ASPHALT CONCRETE*
1	*ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS*
2	*ITEM 659 - SEEDING AND MULCHING*
3	*PROPOSED PAVEMENT - SEE PART 1 HOL-515-0.00 PID 105293*

TYPICAL SECTIONS

HOL-515-3.52

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DESIGN AGENCY
me consultants, inc.

DESIGNER
ACW

REVIEWER
DLT 4/19/24

PROJECT ID
118633

SHEET P. 2 TOTAL 13

UTILITIES

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

FRONTIER COMMUNICATIONS
ATTN: LARRY WENDELL
1121 TUSCARAWAS AVENUE, NW
NEW PHILADELPHIA, OHIO 44663
330-364-0510
LAWRENCE.W.WENDELL@FTR.COM

HOLMES-WAYNE ELECTRIC CO-OP
ATTN: TIM VICKERS
6060 STATE ROUTE 83
MILLERSBURG, OHIO 44654
330-674-1055
TVICKERS@HWECOOP.COM

NORTHEAST OHIO NATURAL GAS
ATTN: MARK WETZEL
9081 STATE ROUTE 250
STRASBURG, OHIO 44680
330-878-5589
MWETZEL@EGAS.NET

MASSILLON CABLE TV
ATTN: JEREMY LEHMAN
444 W. MILLTOWN RD.
WOOSTER, OHIO 44691
330-804-0219
JLEHMAN@MCTVOHIO.COM

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 3 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS DATA COLLECTION PER 502.2.E. OF SURVEY MANUAL
MONUMENT TYPE: PROJECT CONTROL MONUMENT TYPE B
VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: TRANSVERSE MERCATOR
COORDINATE SYSTEM: HOMES COUNTY LDP
COMBINED SCALE FACTOR: 1.0000000000
ORIGIN OF COORDINATE
SYSTEM:

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

ENDANGERED BAT HABITAT REMOVAL

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

WORK LIMITS

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

REVIEW OF DRAINAGE FACILITIES

PRIOR TO THE START OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT, CONTRACTOR AND LOCALS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES IS DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION ARE MAINTAINED BY THE DEPARTMENT.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

FOUNDATION SOILS

THE FOLLOWING ITEMS AND QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO ADDRESS UNSTABLE SOILS ENCOUNTERED UNDER THE PROPOSED HEADWALLS.

203, EXCAVATION 6 CY

304, AGGREGATE BASE 6 CY
204, GEOTEXTILE FABRIC 3 SQ YD

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05.

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.

SEEDING AND MULCHING

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

659, SOIL ANALYSIS TEST 2 EACH
659, TOPSOIL 68 CU. YD.
659, SEEDING AND MULCHING 31 SQ. YD.
659, REPAIR SEEDING AND MULCHING 31 SQ. YD.
659, INTER-SEEDING 31 SQ. YD.
659, COMMERCIAL FERTILIZER 0.09 TON
659, LIME 0.13 ACRES
659, WATER 3 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.

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

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 RETROREFLECTIVE 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.

PROJECT CONTROL TABLE

CONTROL POINT ID	STATION	OFFSET	PROJECT GROUND U.S. SURVEY FEET		ELEVATION	DESCRIPTION
			NORTHING	EASTING		
CP100	183+49.63	26.714' RT	503569.5703	217552.0816	1067.855'	IRON PIN
CP101	188+38.06	20.052' RT	504036.9019	217705.1631	1061.768	IRON PIN
CP102	185+19.21	21.580' LT	503745.1948	217566.6127	1056.041	IRON PIN

GENERAL NOTES

DESIGN AGENCY
ms consultants, inc.

DESIGNER CLH
REVIEWER DLT 4/19/24
PROJECT ID 118633
SHEET P. 3 TOTAL 13

HOL-515-3.52

MAINTENANCE OF TRAFFIC NOTES

ALL MOT NOTES LISTED IN PROJECT HOL-515-0.00 (PART 1) PLANS SHALL BE APPLICABLE TO THESE PLANS, IN ADDITION TO THE MOT NOTES LISTED ON THIS SHEET.

ITEM 614, MAINTAINING TRAFFIC

VEHICULAR TRAFFIC SHALL BE MAINTAINED BY USE OF A LOCAL DETOUR ROUTE AROUND THE S.R. 515 CLOSURE IN ACCORDANCE WITH REQUIREMENTS OF ITEM 614.

LANE CLOSURE/REDUCTION REQUIRED

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGN

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.

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

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	≤ 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

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

METHOD OF PAYMENT

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614, MAINTAINING TRAFFIC LUMP SUM

DUST CONTROL

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

ITEM 616, WATER 1 M. GAL.

DESIGNATED LOCAL DETOUR ROUTE

IN ADDITION TO THE OFFICIAL, SIGNED DETOUR ROUTE, A LOCAL ROUTE HAS BEEN DETERMINED TO BE THE SECONDARY, UNSIGNED DETOUR ROUTE OR "DESIGNATED LOCAL DETOUR ROUTE." THIS ROUTE IS SHOWN ON SHEET NO. P.5. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED FOR USE AS DETERMINED BY THE ENGINEER TO MAINTAIN AND SUBSEQUENTLY RESTORE THE DESIGNATED LOCAL DETOUR ROUTE.

ITEM 422, AGGREGATE, SINGLE CHIP SEAL, TYPE A	321 SQ. YD.
ITEM 422, EMULSION, CHIP SEAL	119 GAL.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	204 CU. YD.
ITEM 616, WATER	4 M. GAL.
ITEM 617, COMPACTED AGGREGATE, TYPE A	100 CU. YD.
ITEM 617, WATER	2 M. GAL.
ITEM 642, CENTER LINE, TYPE 1	0.1 MILE
ITEM 642, EDGE LINE, 6", TYPE 1	0.2 MILE

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 OFFICE (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 OF TRAFFIC RESTRICTIONS TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PROJECT ENGINEER
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.

MAINTENANCE OF TRAFFIC NOTES

DESIGN AGENCY
ms consultants, inc.

DESIGNER
KJF

REVIEWER
JML 02-14-24

PROJECT ID
118633

SHEET P.4 TOTAL 13

HOL-515-3.52

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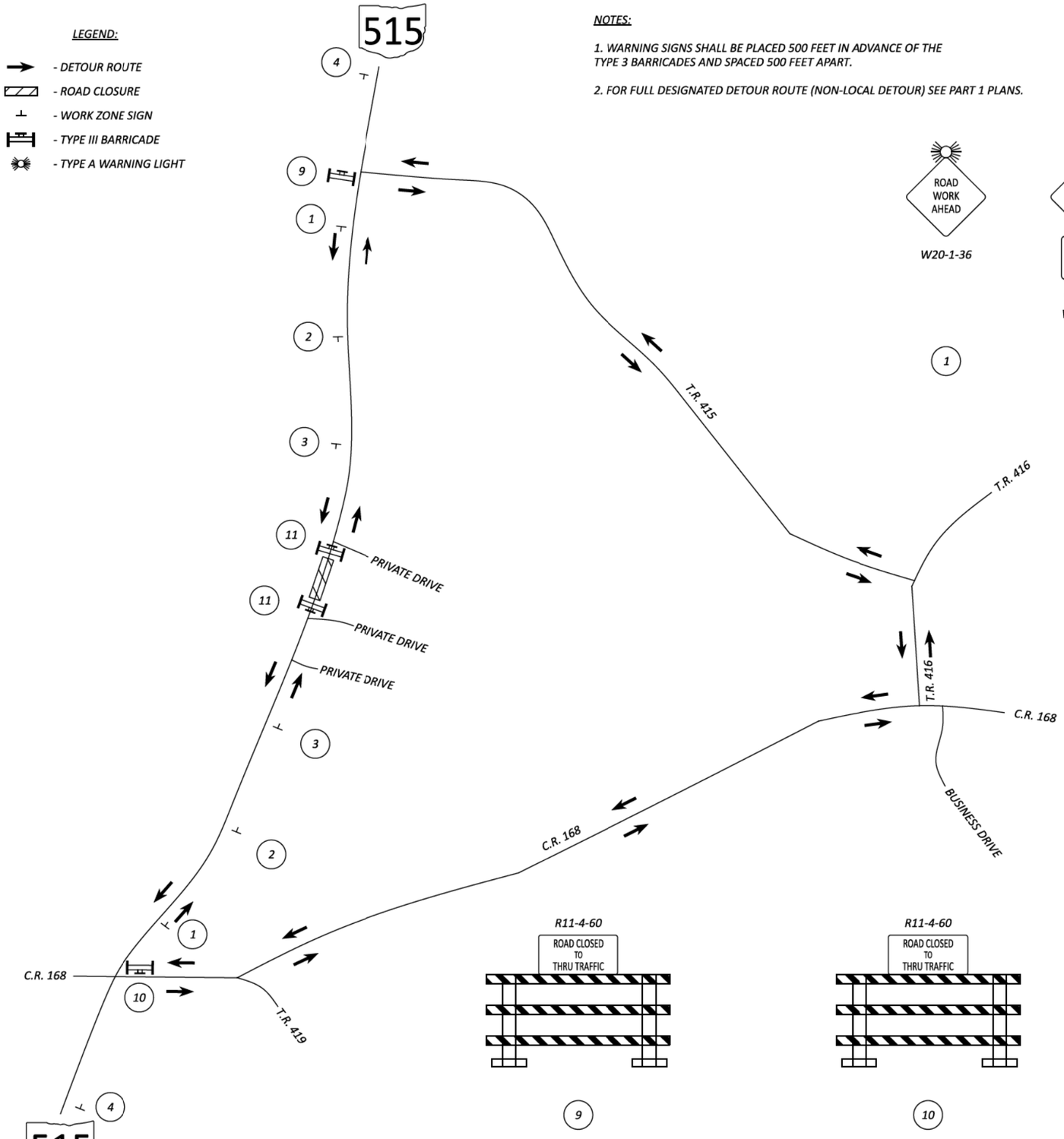
LEGEND:

- DETOUR ROUTE
- ROAD CLOSURE
- WORK ZONE SIGN
- TYPE III BARRICADE
- TYPE A WARNING LIGHT

NOTES:

1. WARNING SIGNS SHALL BE PLACED 500 FEET IN ADVANCE OF THE TYPE 3 BARRICADES AND SPACED 500 FEET APART.

2. FOR FULL DESIGNATED DETOUR ROUTE (NON-LOCAL DETOUR) SEE PART 1 PLANS.



W20-1-36

1

W20-3-36
W16-2P-24

2

W20-3-36
W16-2P-24

3

W20-3-36

4

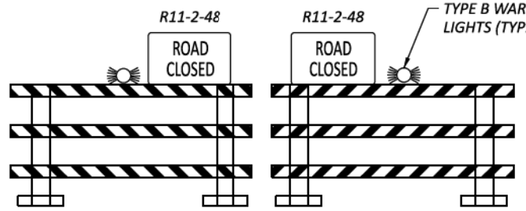
R11-4-60

9

R11-4-60

10

R11-2-48 R11-2-48 TYPE B WARNING LIGHTS (TYP.)



TYPE 3 SOLID BARRICADES
TO BE PLACED ACROSS ENTIRE ROADWAY

11

S.R. 515 LOCAL DETOUR ROUTE

HOL-515-3.52

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DESIGN AGENCY
ms consultants, inc.

DESIGNER CLB
REVIEWER JML 07-12-23
PROJECT ID 118633
SHEET P.5 TOTAL 13

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	7	OFFICE CALCS										02/NFA/04						
																		ROADWAY	
LS													LS	201	11000	LS		CLEARING AND GRUBBING	
		LS											LS	202	11000	LS		STRUCTURE REMOVED	
		2											2	202	20010	2	EACH	HEADWALL REMOVED	
		46											46	202	23000	46	SY	PAVEMENT REMOVED	
6			15										21	203	10000	21	CY	EXCAVATION	3
			67										67	203	20000	67	CY	EMBANKMENT	
3													3	204	50000	3	SY	GEOTEXTILE FABRIC	
		75											75	606	15050	75	FT	GUARDRAIL, TYPE MGS	
		338											338	606	15100	338	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
		25											25	606	17350	25	FT	GUARDRAIL, TYPE MGS, 25' LONG-SPAN	
		3											3	606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016 OR NCHRP 350)	3
		3											3	606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
																		EROSION CONTROL	
		23											23	601	32100	23	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
2													2	659	00100	2	EACH	SOIL ANALYSIS TEST	
68													68	659	00300	68	CY	TOPSOIL	
31													31	659	10000	31	SY	SEEDING AND MULCHING	
31													31	659	14000	31	SY	REPAIR SEEDING AND MULCHING	
31													31	659	15000	31	SY	INTER-SEEDING	
0.09													0.09	659	20000	0.09	TON	COMMERCIAL FERTILIZER	
0.13													0.13	659	31000	0.13	ACRE	LIME	
3													3	659	35000	3	MGAL	WATER	
													21,260	832	30000	21,260	EACH	EROSION CONTROL	
																		DRAINAGE	
		13.2											13.2	602	20000	13.2	CY	CONCRETE MASONRY	
		52											52	611	53000	52	FT	38" X 60" CONDUIT, TYPE A, 706.04	
																		PAVEMENT	
6													6	304	20000	6	CY	AGGREGATE BASE	
	321												321	422	11000	321	SY	AGGREGATE, SINGLE CHIP SEAL, TYPE A	
	119												119	422	25000	119	GAL	EMULSION, CHIP SEAL	
	100												100	617	10100	100	CY	COMPACTED AGGREGATE, TYPE A	
	2												2	617	25000	2	MGAL	WATER	
																		TRAFFIC CONTROL	
	0.1												0.1	642	00300	0.1	MILE	CENTER LINE, TYPE 1	
	0.2												0.2	642	00104	0.2	MILE	EDGE LINE, 6", TYPE 1	
																		MAINTENANCE OF TRAFFIC	
	204												204	614	13000	204	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
	5												5	616	10000	5	MGAL	WATER	
																		INCIDENTALS	
	LS												LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

HOL-515-3.52

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DESIGN AGENCY
ms consultants, inc.

DESIGNER ACW
REVIEWER DLT 4/19/24
PROJECT ID 118633
SHEET P.6 TOTAL 13

REF NO.	SHEET NO.	STATION TO STATION					202 STRUCTURE REMOVED	202 HEADWALL REMOVED	202 PAVEMENT REMOVED		601 ROCK CHANNEL PROTECTION, TYPE B WITH FILTER		602 CONCRETE MASONRY		606 GUARDRAIL, TYPE MGS	606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 GUARDRAIL, TYPE MGS, 25' LONG-SPAN	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016 OR NCHRP 350)	606 ANCHOR ASSEMBLY, MGS TYPE T		611 38" X 60" CONDUIT, TYPE A, 706.04						
							LS	EACH	SY		CY		CY		FT	FT	FT	EACH	EACH		FT						
G1	P.8	183+97.50	RT	TO	187+06.78	RT									12.5	212.5	25	1	1								
G2	P.8	184+12.00	LT	TO	186+10.60	LT									12.5	125		1	1								
G3	P.8	186+40.90	LT	TO	187+53.03	LT									50			1	1								
R1	P.8	185+67.96	LT	TO	185+83.26	RT	LS	2																			
R2	P.8	185+65.27	LT	TO	185+81.05	RT			46																		
D1	P.8	185+37.24		TO	185+80.14	RT					23		13.2								52						
TOTALS CARRIED TO GENERAL SUMMARY							LS	2	46		23		13.2		75	338	25	3	3		52						

ROADWAY SUB-SUMMARY

HOL-515-03.52

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DESIGN AGENCY

ms consultants, inc.

DESIGNER ACW

REVIEWER DLT 4/19/24

PROJECT ID 118633

SHEET P.7 TOTAL 13

PAVEMENT REMOVAL

HORIZONTAL SCALE IN FEET
0 10 20 40

BEGIN WORK
STA. 183+97.50

SEE PART 1 FOR PAVEMENT WORK

BEGIN ANCHOR ASSEMBLY,
MGS TYPE E
STA. 184+12.00, 14.00' LT.

L.O.N. PT.
STA. 184+25.16

CONSTRUCTION LIMITS

125.00' G/R
TYPE MGS, LONG POSTS

STREAM 1

WETLAND A

BEGIN ANCHOR ASSEMBLY,
MGS TYPE T
STA. 185+87.00, 14.00' LT.

END ANCHOR ASSEMBLY,
MGS ROUNDED W-BEAM END SECTION
STA. 186+10.60, 18.91' LT.

EX. DRIVE

BEGIN ANCHOR ASSEMBLY,
MGS ROUNDED W-BEAM END SECTION
STA. 186+40.90, 18.91' LT.

BEGIN ANCHOR ASSEMBLY,
MGS TYPE T
STA. 186+51.81, 14.00' LT.

PC STA. 186+55.00

L.O.N. PT.
STA. 187+32.17

CONSTRUCTION LIMITS
37.50' G/R
TYPE MGS

END ANCHOR ASSEMBLY,
MGS TYPE E
STA. 187+53.03, 14.00' LT.

END WORK
STA. 187+53.03

SEE PART 1 FOR PAVEMENT WORK

3" GAS

G1 G2 G3 D1 R1 R2

TMP

15' R

12" VSP

275.00'
N20°39'48"E

38" X 60" TYPE A

11' R

12" CPP

2' 10' 2' 10'

184 185 186 187 188

PC STA. 183+55.00

PT STA. 183+80.00

BEGIN ANCHOR ASSEMBLY,
MGS TYPE E
STA. 183+97.50, 14.00' RT.

L.O.N. PT.
STA. 184+10.21

EX. DRIVE

112.50' G/R
TYPE MGS, LONG POSTS

25.00' G/R
MGS LONG-SPAN

100.00' G/R
TYPE MGS, LONG POSTS

℄ R/W & CONSTRUCTION S.R. 515

EX. MAILBOX (DND)
STA. 187+06.67, 17.30' RT.

L.O.N. PT.
STA. 187+00.62

END ANCHOR ASSEMBLY,
MGS ROUNDED W-BEAM END SECTION
STA. 187+06.78. 20.54' RT.

BEGIN ANCHOR ASSEMBLY,
MGS TYPE T
STA. 186+84.71, 14.26' RT.

EX. DRIVE

CURVE DATA
P.I. = STA. 183+67.50
Δ = 00°15'00" RT
Dc = 01°00'00"
R = 5,729.58'
T = 12.5'
L = 25'
E = .01'

CURVE DATA
P.I. = STA. 187+55.25
Δ = 10°00'00" LT
Dc = 05°00'00"
R = 1,145.92'
T = 100.25'
L = 200.00'
E = 4.38'

LEGEND
L.O.N. = LENGTH OF NEED
MGS = MIDWEST GUARDRAIL SYSTEM

PLAN - SR-515
STA. 183+97.50 TO STA. 187+53.03

DESIGN AGENCY
me consultants. inc.

DESIGNER LAK
REVIEWER DLT 4/19/24
PROJECT ID 118633
SHEET P.8 TOTAL 13

HOL-515-03.52

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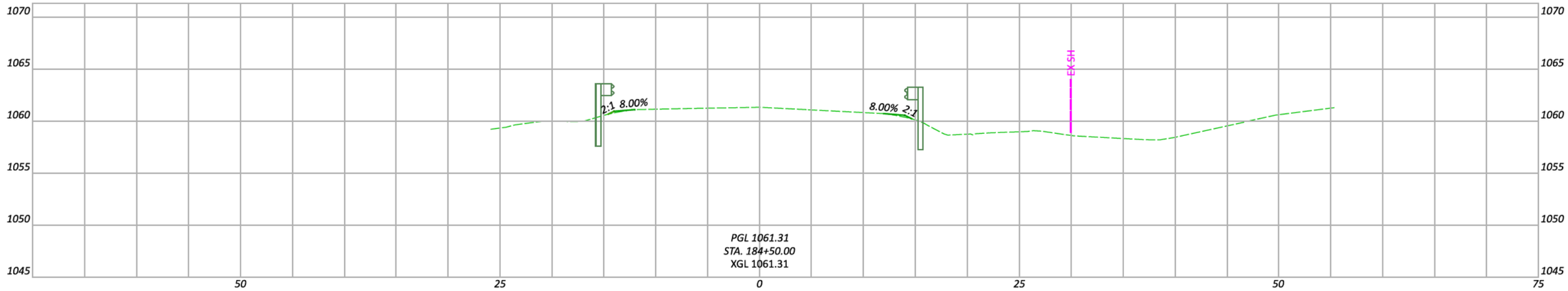

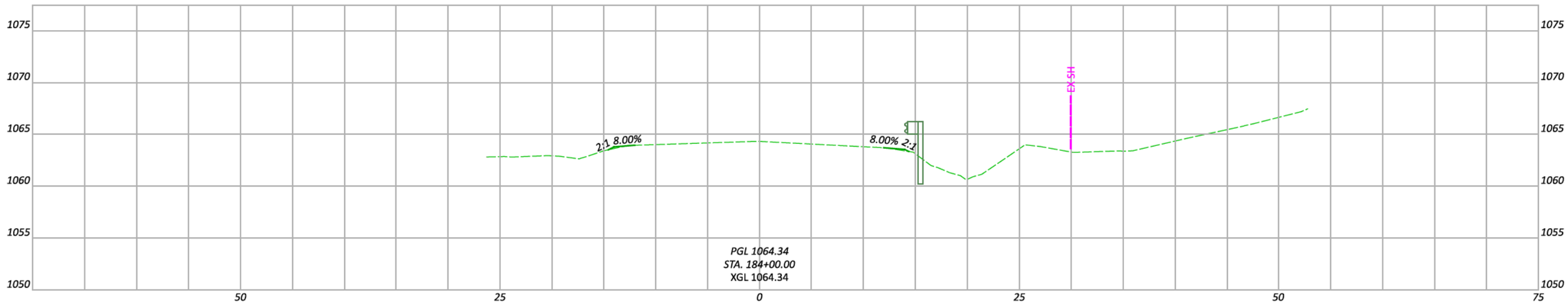

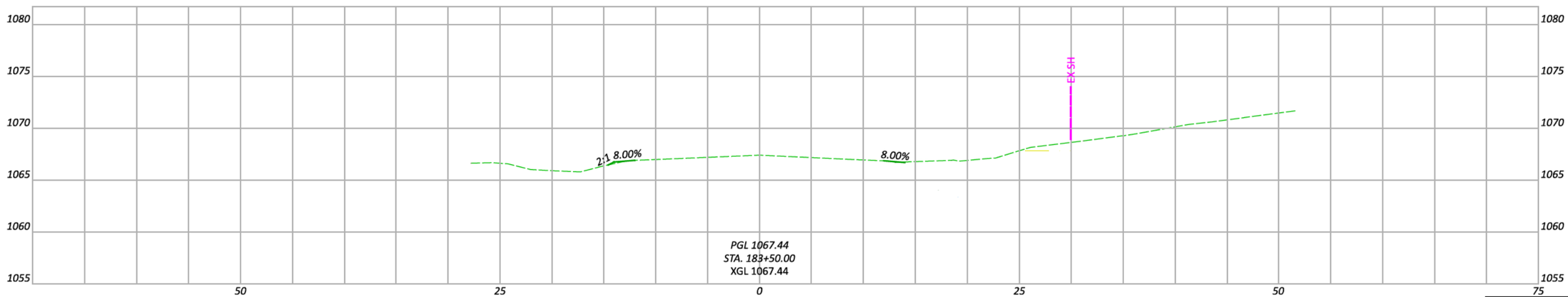

CROSS SECTIONS - HOL-515-03.52
STA. 183+50.00 TO STA. 184+50.00

DESIGN AGENCY
ms consultants, inc.

DESIGNER
LAK

REVIEWER
DLT 4/19/24

PROJECT ID
118633

Sheet Totals		
Seeding	Cut	Fill

SHEET P.9 TOTAL 13

HOL-515-03.52

MODEL: CLP_1 - 183+50.00 [Sheet] PAPERSIZE: 34x22 (In.) DATE: 6/6/2024 TIME: 10:50:42 AM USER: awhite
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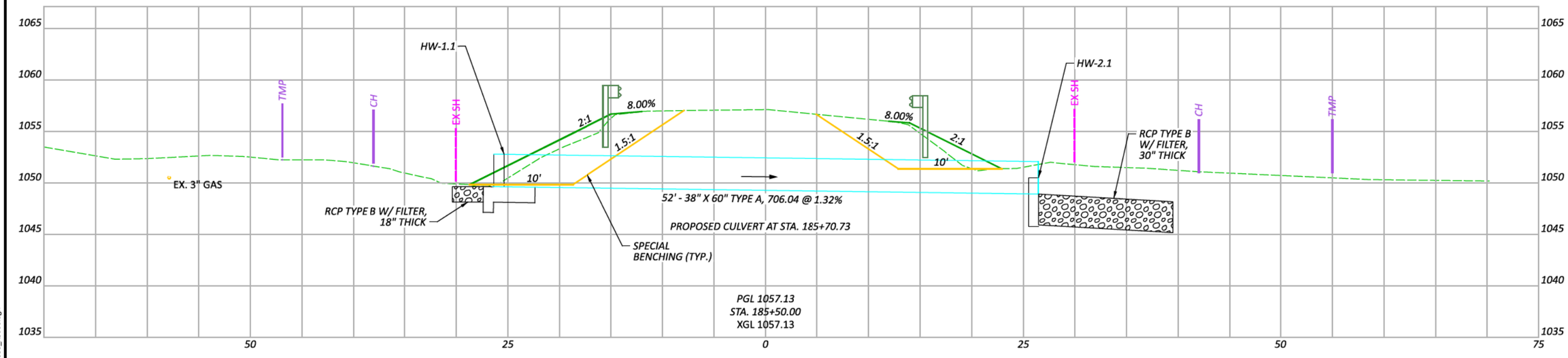

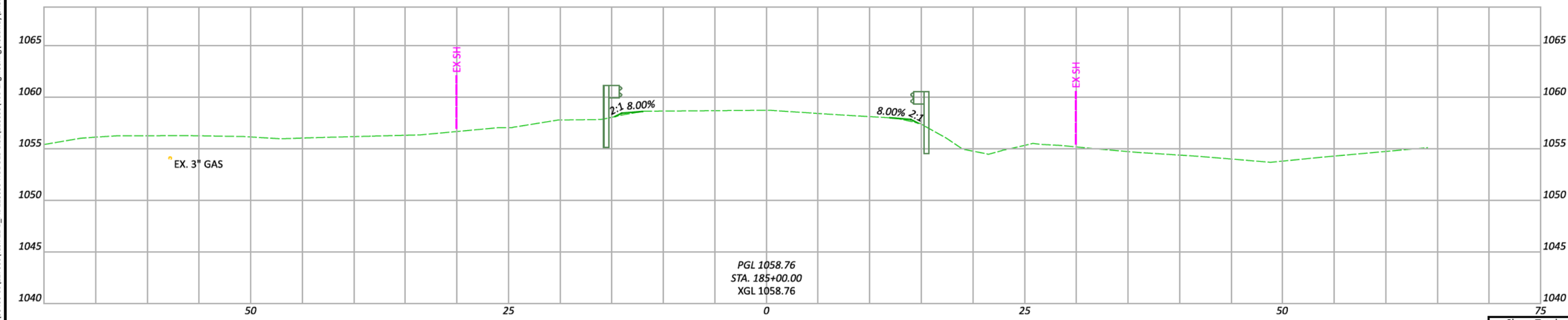

CROSS SECTIONS - HOL-515-03.52
STA. 185+00.00 TO STA. 185+50.00

DESIGN AGENCY
ms consultants, inc.

DESIGNER
LAK

REVIEWER
DLT 4/19/24

PROJECT ID
118633

SHEET P.10 TOTAL 13

Sheet Totals		
Seeding	Cut	Fill

HOL-515-03.52

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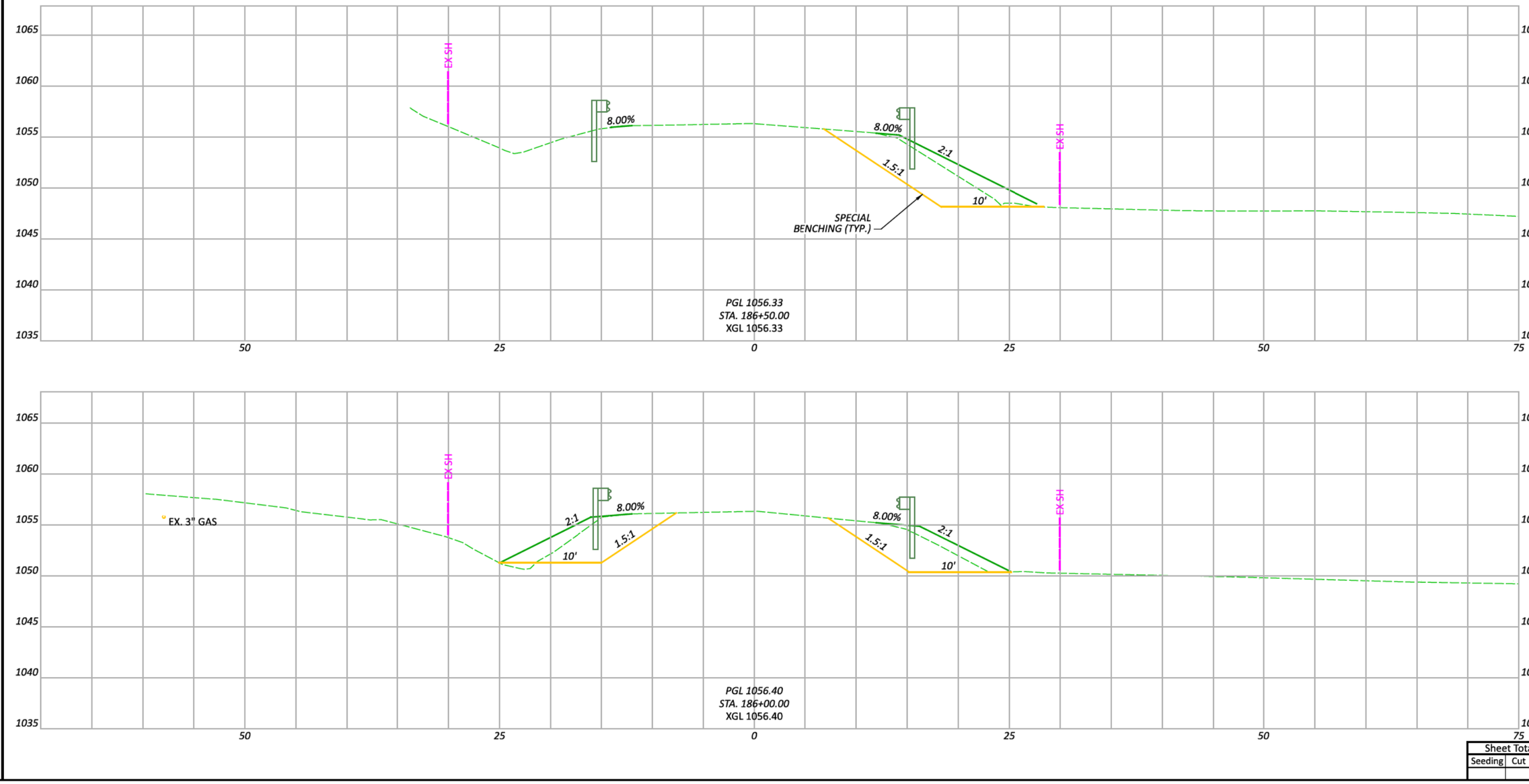

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STA. 186+00.00 TO STA. 186+50.00

HOL-515-03.52

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DESIGN AGENCY
ms consultants, inc.

DESIGNER
LAK

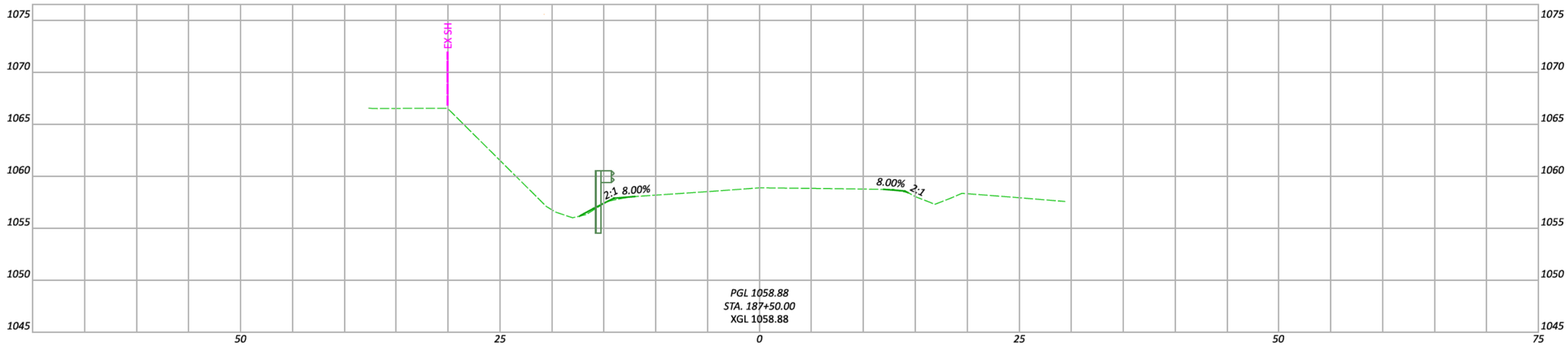
REVIEWER
DLT 4/19/24

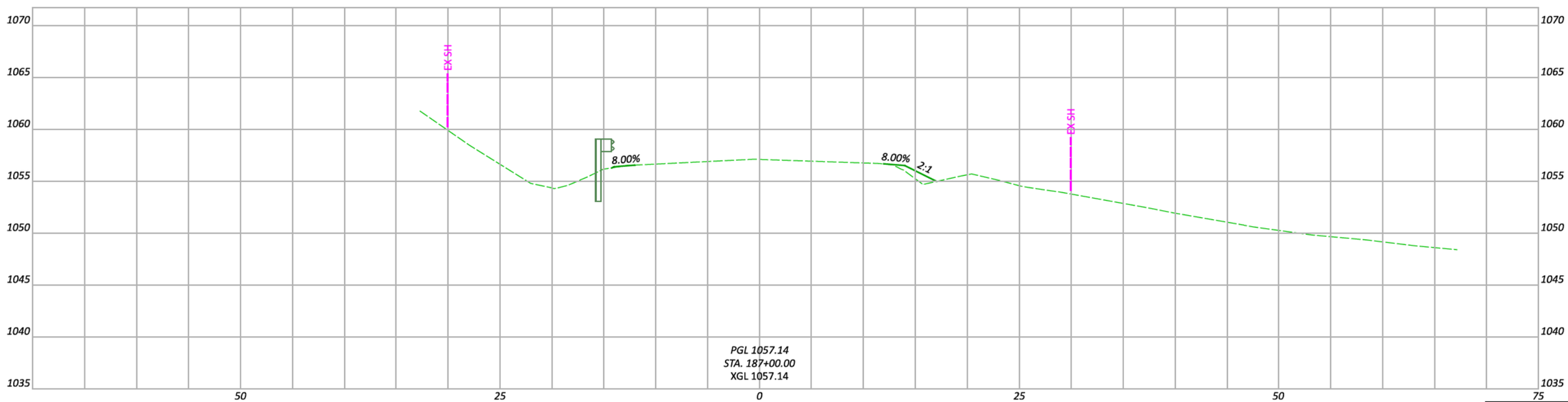
PROJECT ID
118633

Sheet Totals

Seeding	Cut	Fill

SHEET P.11 TOTAL 13





CROSS-SECTIONS - HOL-515-03.52
STA. 187+00.00 TO STA. 187+50.00

DESIGN AGENCY
ms consultants, inc.

DESIGNER
LAK

REVIEWER
DLT 4/19/24

PROJECT ID
118633

Sheet Totals		
Seeding	Cut	Fill

SHEET P.12 TOTAL 13

HOL-515-03.52

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EXISTING STRUCTURE

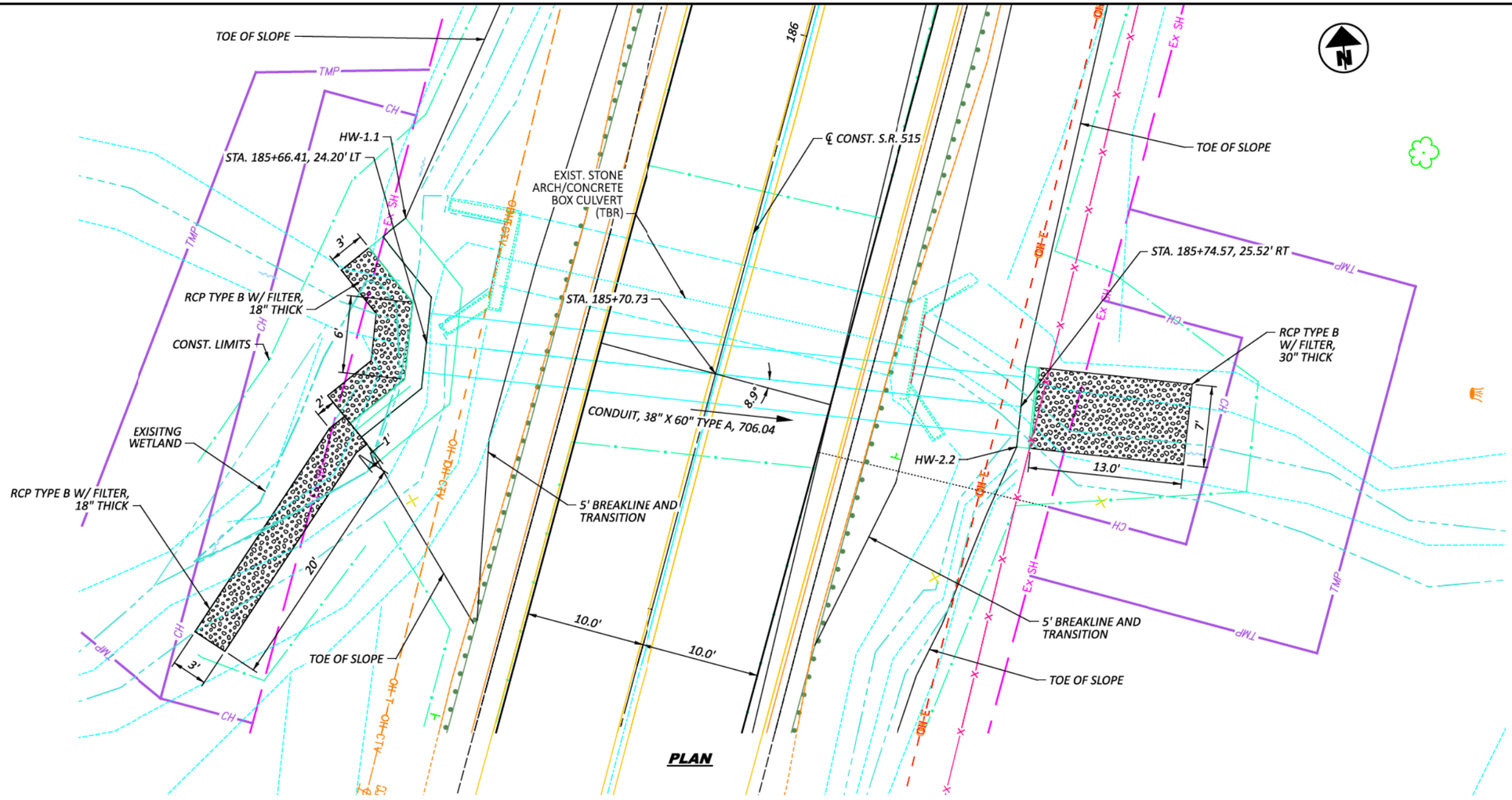
TYPE: 3 SIDED BOX CULVERT
SKEW: 2.6° R.F.
ALIGNMENT: TANGENT
CFN: 1858227
LATITUDE: 40°34'58"
LONGITUDE: 81°42'26"

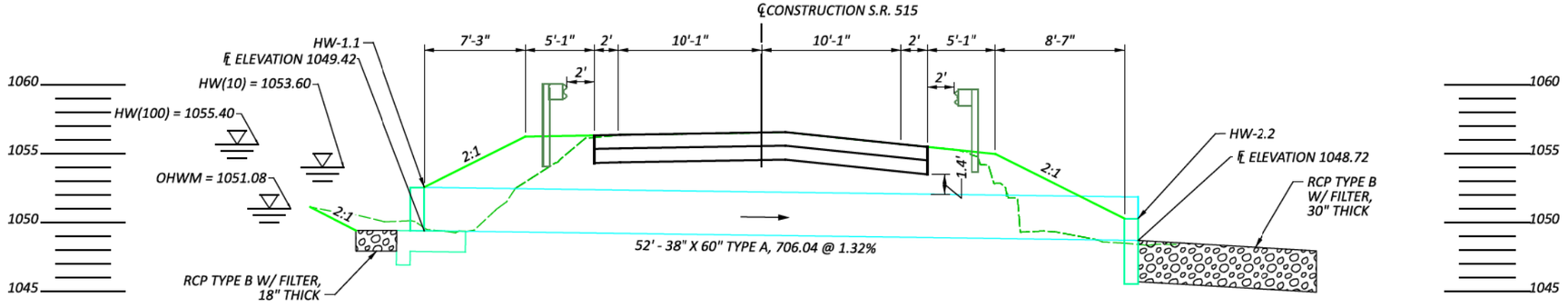
PROPOSED STRUCTURE

TYPE: 38" X 60" TYPE A, 706.04
SKEW: 8.9° R.F.
ALIGNMENT: TANGENT
CFN: 1977356
LATITUDE: 40°34'58"
LONGITUDE: 81°42'26"

HYDRAULIC DESIGN DATA

DRAINAGE AREA: 79.71 ACRES
Q(10): 103.40 CFS
HW(10): 1053.60
V(10): 14.53 FT/S
Q(100): 146.19 CFS
HW(100): 1055.40
V(100): 15.91 FT/S
ORDINARY HIGH WATER MARK: 1051.08
DESIGN SERVICE LIFE: 75 YEARS
pH: 6.0
ABRASIAN LEVEL: LEVEL 5





HORIZONTAL SCALE IN FEET
0 2.5 5 10

CULVERT DETAIL
STA. 185+70.73

HOL-515-3.52

DESIGN AGENCY
ms consultants, inc.

DESIGNER KMC
REVIEWER DLT 08/01/23
PROJECT ID 118633
SHEET P.13 TOTAL 13