

ODOT

DESIGN BUILD

SCOPE OF SERVICES

PID: 120547 State Project Number: 517063
 County: BEL Route: 70 Section: 9.35

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1 PROJECT IDENTIFICATION & GENERAL INFORMATION

Table 1-1: Project Identification

PID	120547
State Project Number	517063
County-Route-Section	BEL-70-9.35
Local Route Name (if applicable)	IR-70: Dwight D. Eisenhower Highway SR-149: Belmont Morristown Road Reco Drive
Highway Functional Classification & Federal Aid System	IR-70: Principal Arterial Interstate SR-149: Major Collector Reco Drive: Local

1.1 Design Designation

The DBT shall use the design designations for each of the facilities below various design elements as specified within the Scope of Services.

Table 1-2: Design Designation

Location:	IR-70	SR-149	Reco Drive
Current ADT (2027):	37,460	16,060	7,360
Design Year ADT (2047):	40,890	16,960	7,430
Design Hourly Volume:	3,940	1,690	510
Directional Distribution:	50%	50%	51%
Trucks:	45%	24%	20%
Design Speed:	75	35	25
Legal Speed:	70	35	25
Design Functional Classification:	01 Principal Arterial Interstate (Rural)	05 Major Collector (Rural)	07 Local (Rural)
NHS Project:	Yes	No	No

1.2 Existing Plans and Project Information

Available information related to the Project is available in the Document Inventory shown in Table 1-3. The Document Inventory will identify whether the document is designated as “Reference Documents” or “Contractual Appendices”.

Reference Documents appendices are provided for informational purposes only. The Department makes no representation or warranty as to the accuracy, adequacy, applicability, or completeness of the Reference Documents. Except to the extent set forth to the contrary in the Contract Documents, reliance upon the Reference Documents shall be at the Proposer’s risk, and the Department shall have no liability or obligation because of the inaccuracy, inadequacy, inapplicability, or incompleteness of the Reference Documents, regardless of the contents thereof.

Contractual Appendices in the Document Inventory are considered binding obligations of the DBT. The DBT shall meet requirements identified in the Contractual Appendices and shall implement the Work in accordance with these requirements.

The Offerors (i.e. prospective Design-Build Teams) shall examine the information provided in the Document Inventory to determine if the information accurately depicts existing field conditions.

The following existing plans are considered part of the Document Inventory and are available for review:

196093012 BEL-149-0.70 1959.pdf
 2448635 BEL-149-0.70 ROW (R0079).pdf
 2415020 BEL-149-23.64 ROW (R0339).pdf
 19684219 BEL-149-23.64, PID 106789 (2021).pdf
 9567276 BEL-149-23.77 2004.pdf
 4131562 BEL-149-23.77 ROW (R0263).pdf
 9977424 BEL-40-7.79 ROW (R0024).pdf
 560093676 BEL-70-7.61 1963.pdf
 19349281 BEL-70-7.61 1987.pdf
 BEL-70-7.61 PID 76825 (2012 Design-Build Project)
 Belmont County Water and Sewer Plans

The plans identified in the Document Inventory are not as-built plans. All existing plans are considered Reference Documents.

In addition to the existing plans, appendices to the Scope of Services are listed in the Document Inventory and posted on the following FTP site:

<https://ftp.dot.state.oh.us/pub/Contracts/Attach/BEL-120547/Reference%20Files/DB%20SCOPE%20APPENDICES/>

Table 1-3: Document Inventory

Appendix #	Appendix Title	Contractual/Reference Designation
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A	Existing Plans	Reference Document
B	Conceptual Plans - Revised 02-24-25	Reference Document
C	Certified Traffic	Reference Document
D	Interchange Modification/Justification Studies	Reference Document
E	Survey Control	Contractual Appendix
F	Geotechnical Reports - Revised 02-24-25	Contractual Appendix
G	Subsurface Utility Location Basemapping and information - Revised 02-24-25	Contractual Appendix
H	Right of Way Status Matrix, Temporary Easements, and Preliminary ROW Plans - Revised 04-04-25	Contractual Appendix
I	Environmental documents and permits - Parcel availability schedule	Contractual Appendix
J	BEL-70-9.35 - Basemapping dgn files	Reference Document
K	Plan set - Roadway Improvements - Love's Travel Stops - BEL-149-23.44	Reference Document
L	Belmont County Water & Sewer District Standards	Reference Document
M	WATERWAY PERMITS CONDITIONS	Contractual Appendix

1.3 Railroad Coordination

NOT APPLICABLE

1.4 Airway/Highway Clearance

NOT APPLICABLE

2 PRE-BID MEETINGS

Offerors shall be required to attend mandatory Commercial One-on-One Meeting, ATC meetings and PTI Discussion meetings as listed in the Request for Proposals.

3 CONTRACTOR PRE-QUALIFICATION

It is required that the Bidders be prequalified per the Request for Qualifications and be identified as a Shortlisted Offeror for the Project. The Department will only accept Bids from Shortlisted Offerors.

4 DESIGNER

The successful Offeror shall retain the Lead Designer and named sub consultant identified in their Statement of Qualifications (SOQ) and shall remain on the Offeror's team for the duration of the Design-Build Contract.

In addition to and/or aligning with the listed prequalification requirements within the Request for Qualifications, the Lead Designer or sub-consultants of the Designer must be prequalified to perform design work associated with the following prequalification categories:

Non-Complex Roadway Design Complex Roadway Design Bicycle Facilities and Enhancement Design Level 2 Bridge Design Level 1 Bridge Inspection Limited Lighting Design Complex Lighting Design Interchange Operations/Modification/Justification Study (IOS/IMS/IJS) Basic Traffic Signal Design Traffic Signal System Design ITS Design and Operations Geotechnical Engineering Services Subsurface Utility Locations Services
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Design services that require prequalification may only be performed by firms that are prequalified for those services at the time of performance of the services.

Restrictions on Participation in design-build contracts:

Any Consultant who provided services to the Department that have been directly utilized in this design-build Proposal or Scope of Services document will NOT be eligible to participate in this design-build contract for this Project, either as a prime consultant or as a sub-consultant.

In addition to and/or aligning with the listed firms named within the Request for Qualifications, the following consultants have been identified as being precluded from participation:

AECOM Technical Services, Inc. CTL Engineering, Inc.

Evans, Mechwart, Hambleton & Tilton, Inc.
 Lanham Engineering, LLC
 Mead and Hunt, Inc.
 T2 UES, Inc.
 Woolpert, Inc.

5 SCOPE OF WORK

Project Description:	<i>This project will consist of full depth replacement of the mainline IR-70 pavement and ramps, the full depth pavement replacement and addition of lanes along SR-149, and the relocation of Reco Drive. The project will replace and widen the IR-70 bridges over SR-149 (BEL-70-09.63 L&R). Improvements will include new storm sewer and drainage upgrades including the relocation of a detention basin; new lighting, walks, curbs, driveways, traffic signals, signing and pavement markings, replacement and addition of ROW fencing, and pavement resurfacing.</i>
Completion Date:	<i>Ultimate completion date shall be 6/30/2029.</i>
Warranties:	<i>None</i>

The approximate Project Limits for each applicable roadway are provided in Table 5-1.

Table 5-1: Approximate Project Limits

Roadway Name	Begin	End
IR-70 Mainline EB	Sta. 516+70	Sta. 520+80
IR-70 Mainline WB	Sta. 515+00	Sta. 522+00
IR-70 Ramps	Vary (see conceptual plans)	Vary (see conceptual plans)
SR-149	Sta. 107+50	Sta. 139+52
Reco Drive	Sta. 10+00	Sta. 15+58

Work Limits shall be determined by the DBT. Approximate work limits are shown within the Conceptual Plans. Actual work limits cannot extend past existing Rights of Way, or any area new Right of Way is being acquired, or any area in which environmental clearance has not been obtained for this project.

Note that the west side of SR-149 and the area around Reco Drive are actively being improved and construction is on-going. The improvements from the "Roadway Improvements - Love's

Travel Stops - BEL-149-23.44" plan set are indicated on the Conceptual Plans. Site conditions will need verified by the DBT, specifically the areas in and around the Love's property as this location is actively being developed.

The Consultant shall provide the engineering services, design, and preparation of detail construction plans for the construction of the proposed Project.

The Contractor shall provide for the furnishing of materials, construction, and completion in every detail of all the work described in the Contract Documents and approved Plans to fulfill the intent of the Contract.

6 FIELD OFFICE

Field office Type C as required by Construction and Material Specification Item 619, shall be available and completely functional no later than 1 month prior to the start of construction work. The field office requirements are only applicable to the Department's personnel.

7 GENERAL PROVISIONS FOR THE WORK

7.1 Governing Regulations

All services, including but not limited to survey, design, and construction work performed by the DBT and all subcontractors (including sub-consultants) shall be in compliance with all applicable ODOT Manuals and Guidelines.

It will be the responsibility of the DBT to acquire and utilize the necessary ODOT manuals that apply to the design and construction work required to complete this project.

The current edition, including updates released on or before the original advertisement date, of the following ODOT Manuals and Guidelines shall be met or exceeded in the performance of the design and construction work required to complete this project:

Aesthetic Design Guidelines
Bridge Design Manual
CADD Engineering Standards Manual
CADD Standards for MicroStation and GEOPAK and other applications
Construction and Material Specifications
Environmental Services Handbooks and Guidelines
Geotechnical Design Manual
Geotechnical: Manual for Abandoned Underground Mine - Inventory and Risk Assessment
Geotechnical: Specifications for Geotechnical Explorations
Item Master
Location and Design Manual, Volume One - Roadway Design
Location and Design Manual, Volume Three - Plan Preparation
Location and Design Manual, Volume Two - Drainage Design
Multimodal Design Guide
ODOT Analysis and Traffic Simulation (OATS) Manual
Ohio Manual of Uniform Traffic Control Devices

Pavement Design Manual
Proposal Notes for Construction and Material Specifications
Quality Standards for TTCDs & Acceptable Delineation Methods for Vehicles
Real Estate Policies and Procedures Manual: Acquisition Manual
Real Estate Policies and Procedures Manual: Appraisal
Real Estate Policies and Procedures Manual: Certification of Right of Way Control
Real Estate Policies and Procedures Manual: Property Management
Real Estate Policies and Procedures Manual: Railroad Coordination
Real Estate Policies and Procedures Manual: Relocation
Real Estate Policies and Procedures Manual: ROW Plans
Real Estate Policies and Procedures Manual: Utilities
Sign Designs & Markings Manual (SDMM)
Standard Drawings: Bridges | Plan Insert Sheets
Standard Drawings: Construction - Hydraulics | Plan Insert Sheets
Standard Drawings: Construction - Pavement | Plan Insert Sheets
Standard Drawings: Construction - Roadway and Roadside | Plan Insert Sheets
Standard Drawings: Traffic | Plan Insert Sheets
State Highway Access Management Manual
Supplemental Specifications for Construction and Material Specifications
Survey & Mapping Specifications
Traffic Engineering Manual
Waterway Permits Manual

7.2 CADD files supplied by the DBT

The DBT shall comply with ODOT's CADD Standards, and supply files in accordance with the CADD Engineering Standards Manual for OHDOT CONNECT. All data shall be provided to the Department according to the provisions as detailed under the appropriate CADD links accessed from the Department's Division of Engineering's website. This includes, but is not limited to, the level assignments, symbols, lines and line styles that are to be used, line weights, cells, placement of text and file naming conventions.

The standards and necessary downloads can be accessed at the following URL addresses:

<https://www.transportation.ohio.gov/working/engineering/cadd-mapping/cadd/>

The Department will accept CADD files through electronic media.

1. The DBT shall submit all CADD information produced in the process of plan development. All CADD information shall be submitted in the current version of MicroStation (*.dgn) format as indicated in the CADD Engineering Standards Manual for OHDOT CONNECT. The DBT shall provide a comprehensive set of complete and accurate CADD data which is compatible with ODOT's CADD systems with no additional work or modification.
2. The DBT shall submit all information produced in the process of plan development according to L&D Volume 3, Section 1500.

The DBT shall use a separate file name for each horizontal or vertical alignment. The DBT shall provide required ASCII report content in accordance with the CADD Engineering Standards Manual.

These requirements and procedures may be updated from time to time with notification provided on the ODOT Division of Engineering website. The DBT shall use ODOT cell files and ODOT seed files consistent with the version of the requirements identified in Section 7.1 (Governing Regulations).

7.3 Pre-Award Meeting

The apparent Successful Shortlisted Offeror shall attend a mandatory Pre-Award Meeting as described in the Instructions to Offerors for a Request for Proposals.

7.4 Partnering Agreement

The DBT is required to enter into a partnering agreement with the Department that is:

- ☐ Facilitated
- ☒ Self-Facilitated

A partnering agreement with the Department on this project. The objective of this agreement is the timely completion of the work and a quality product that will be a source of pride to both the Department and the DBT. Partnering will not affect the terms and conditions of the contract. The partnering agreement is a document which is solely intended to establish an environment of cooperation between the parties. The costs associated with the partnering process will be in accordance with Section 108.02 of PN 097.

7.5 Communication

All communication during design and construction shall be with the District Project Manager and the District Project Engineer.

District's Project Manager's Name:	David Hoffman, PE
Phone number:	(330) 308-3908
E-mail:	David.Hoffman@dot.ohio.gov

District's Project Engineer's Name:	Zack Evick
Phone number:	(740) 391-1529
E-mail:	Zachary.Evick@dot.ohio.gov

At the Pre-Design Meeting, the DBT shall name a Project Manager who will act as a liaison between the DBT and the Department.

7.5.1 Task Force Design Meetings

☐ Required

☒ Not Applicable

7.6 Permits

The DBT shall ensure that the Project is constructed and maintained in accordance with all requirements, regulations, and applicable permits required for the Project. This includes the permits described herein and any additional permits not specifically identified in the Contract Documents.

Unless noted otherwise in the Contract Documents, the DBT shall obtain all necessary permits and pay all charges, fees and taxes associated with these permits (e.g., city street opening permits, street crossing/equipment moving permits, water department fees, sewer permits, rail permits and fees, etc.). The DBT shall be responsible for any fines levied by regulatory agencies because of their construction activities or non-compliance with any permit special or general conditions.

The DBT shall obtain a permit from the State or local government having jurisdiction to perform any Work within the existing Right of Way and/or limited access.

7.7 Entry on Private Property

The DBT, acting as The Department's agent, may enter upon any lands within the State for the purpose of inspecting, surveying, leveling, digging, drilling, or doing any work deemed necessary in the execution of any survey authorized by the Director of Transportation in accordance with Section 5517.01 of the Ohio Revised Code and ODOT's Survey Manual. Prior to performing said survey, the DBT will send notification letters indicating the date and duration of entry to the affected property owners no less than forty-eight hours nor more than 30 days prior to the date of entry for said survey in accordance with ODOT's Survey Manual. The DBT shall forward copies of all notification letters distributed to ODOT's Project Manager.

Any subsequent claims for compensation due to damages incurred while said activities were performed will be negotiated between the DBT and the affected property owners with final approval from ODOT's Project Manager. Crop and property damage minimization and reimbursement information, together with the crop damage reimbursement formula and Special Waiver of Damage form, will be provided to the DBT by ODOT's Project Manager.

Any subsequent entries onto private property for the purpose of obtaining additional survey or soil information prior to the submission of the Bid will be made in accordance with the procedures outlined in this section.

8 ENVIRONMENTAL

The DBT shall ensure that the Project is designed, constructed, and maintained in accordance with all environmental requirements, regulations, and applicable permits required for this Project.

Environmental Documentation is on-going and pending by the Department.

A parcel availability schedule with estimated environmental clearance dates will be provided by the Department by the date of the RFP.

8.1 NEPA & Environmental Commitments

The DBT shall perform all environmental commitments as described in Table 8-1, unless otherwise specified in the Contract Documents.

Table 8-1: Environmental Commitments

Source	Description of Commitment
Scope Section 8.4.2	Described in Scope Section 8.4.2

The DBT shall:

1. Monitor and document Work to demonstrate compliance with environmental commitments.
2. Provide documentation of environmental commitment compliance at request of the Department.
3. Follow Department and local regulations regarding dust control, adhering to dust control measures outlined in C&MS 616.
4. Adhere to local City ordinances for vehicle idling and all current U.S. Environmental Protection Agency (EPA) air quality regulations.

If the DBT becomes aware of any failure to perform an environmental commitment, the DBT shall notify the Department immediately.

8.2 Environmental Permits

The DBT shall:

1. Be aware of all applicable environmental permits related to the Work.
2. Coordinate with the Department and prepare applications and other relevant information necessary to obtain all environmental permits required to perform the Work.
3. Comply with all conditions imposed by environmental permits and by the Department in design and construction.
4. Notify the Department regarding any failure to comply with conditions of the environmental permits.

5. Submit any necessary permit modifications requests to the Department. Monitor Work progress and if necessary, request reauthorization of permits nearing expiration.

If the DBT modifies elements of the Conceptual Design used as the basis for obtaining a permit, the DBT accepts all responsibility for associated cost and schedule impacts resulting from the permit modification process and accepts the risk that the regulatory agency may not approve the proposed permit modification.

At no time shall the DBT coordinate environmental permitting issues directly with the regulatory agencies, unless directed to do so by the Department. The DBT shall not commence with Work covered by environmental permits until the applicable permit(s) approval(s) are obtained from the regulatory agencies.

Table 8-2 identifies work performed by the Department related to various environmental permits and the status of Department activities. Table 8-2 is not a comprehensive list of the environmental permits required to perform the Work. The DBT shall be responsible for providing or obtaining all necessary outstanding information needed for the Department to complete the environmental permitting process as described in Table 8-2.

Table 8-2: Status of Department Activities for Environmental Permits

Agency	Permit/Approval	Status
EPA	WATERWAY PERMITS CONDITIONS	Approval Date: March 14, 2025

The DBT shall acquire required noise permits and/or variances from the local jurisdiction.

The DBT shall be responsible for any fines levied by regulatory agencies because of their construction activities or non-compliance with any permit special or general conditions.

8.3 Temporary Sediment and Erosion Control

The DBT shall be responsible for designing and implementing all temporary sediment and erosion controls in accordance with SS 832 and the Ohio NPDES general permit for storm water discharges from construction activities (NPDES Permit). For information about OEPA's NPDES Permit requirements, see: https://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater.

The DBT shall submit information to the Department for development of the Notice of Intent for the NPDES Permit, including the total acreage of earth disturbing activities for both off project and on project work. The DBT shall assume that approval from OEPA will require a minimum of 31 days following submittal to the ODOT Project Manager. Earth disturbing activity is not permitted prior to approval of coverage under the NPDES Permit. The Department will submit the NOI to the OEPA within 10 days after information is received from the DBT. Approval from the OEPA takes 21 days and the ODOT Project Manager has 10 days to file the NOI.

For projects that require an NOI, the DBT must develop a Storm Water Pollution Prevention Plan in accordance with SS832 and the NPDES Permit. The DBT shall not initiate any earth disturbing activity until the SWPPP is approved.

The DBT shall be compensated for furnishing and installing items related to temporary sediment and erosion control requirements. The Department will compensate the DBT through an encumbered amount included in the Proposal as a non-bid reference number. The Proposal specifies the unit prices for the temporary sediment and erosion control items. Payments for temporary sediment and erosion control items that exceed the encumbered amount will be made through an Extra Work Change Order using the specified unit prices. The specified unit prices are fixed for the Contract Documents and may not be negotiated or adjusted for inflation or claimed changed condition.

All temporary erosion control items shall be removed before the project is accepted. Removed materials shall become the property of the DBT and shall be disposed of in accordance with the appropriate C&MS specifications.

8.4 Regulated Materials

The DBT shall meet all regulatory conditions imposed with regulated materials, including hazardous materials, associated with the Project. The DBT shall characterize, collect, contain, and properly dispose of all waste generated or encountered during the Work. The DBT shall ensure that the site is properly contained during construction so that regulated materials do not migrate off-site. The DBT shall prepare and implement a spill prevention and response plan that will address the proper storage and management of all fuels, oils, and chemicals being stored and/or used on the project and the actions to be taken if a release occurs on the project including notifying reportable releases and spills to the National Response Center and Ohio EPA Spill Hotline. The DBT is to address the project's known areas of regulated materials in their health and safety plan. The DBT is to take reasonable actions to prevent the general public from accessing the regulated materials areas to prevent an exposure and/or a release of the regulated materials.

If any unknown regulated materials are discovered through work on the Project, the DBT shall notify the Department immediately and shall follow the spill prevention and response plan, as well as all appropriate regulations.

8.4.1 Asbestos

An asbestos survey of the IR-70 structures was conducted by a certified asbestos hazard evaluation specialist on 5/10/2024. The inspection determined that no asbestos is present on the structures. See Appendix I for inspection results.

A copy of the Ohio Environmental Protection Agency (OEPA) notification of demolition and renovation forms, partially completed and signed by ODOT, will be provided to the successful bidder. The DBT shall complete the form and submit it to:

Ohio EPA, CDO
50 West Town Street, Suite 700
Columbus, OH 43215

Attention: APC Manager

Office # 614 728-3778, Fax # 614 728-3898

At least ten (10) working days prior to the start of any demolition and/or rehabilitation, the DBT shall provide a copy of the completed form to the engineer.

Information required on the form will include: 1) the DBT name and address, 2) the scheduled dates for the start and completion of the demolition or rehabilitation work, and 3) a description of the planned demolition/rehabilitation work and the methods to be used.

The DBT shall furnish all fees, labor, and material necessary to complete and submit the OEPA notification form.

8.4.2 Potential For Encountering Petroleum Contaminated Soils (PCS)

Based on environmental studies with testing conducted by ODOT and/or for regulatory agencies, materials contaminated with petroleum contaminated soils will be encountered during excavations for construction activities at the sites listed below. The estimated quantities have been included in the General Summary for this work. All excavations at the aforementioned location shall be paid for under the itemized bid items.

1. EXXON MOBILE/208 FUEL PLAZA, 66682 BELMONT MORRISTOWN RD.
2. STATE OF OHIO RIGHT-OF-WAY, WESTBOUND IR70, WEST OF SR149
3. PILOT TRAVEL CENTER, 66377 BELMONT MORRISTOWN RD.
4. DICARLOS'S PIZZA, 66665 BELMONT MORRISTOWN RD.
5. MARATHON BEL MORR MARKET, 66440 BELMONT MORRISTOWN RD.

All excavated materials within the aforementioned limits may be stockpiled in an area provided by the Contractor and approved by the Engineer. The Engineer may permit temporary storage of the suspected contaminated soils on an impermeable membrane. The membrane will be surrounded by bales of straw to prevent the suspected soils from coming in contact with the original soils. An impermeable membrane will be placed over the stockpile to prevent contact with precipitation and/or surface run-off. As a temporary storage alternative, the Engineer may permit the Contractor to direct load the excavated soils into trucks. Or as a third alternative, the Contractor may place the material in leak-proof, covered containers provided by the Contractor. The material will remain on-site until analytical results are received by the Engineer.

This material will be properly tested (for disposal), transported, and disposed of in a licensed (by the local health department) and permitted (by the Ohio Environmental Protection Agency) solid waste facility.

If excavations within the aforementioned limits require dewatering for construction purposes, the contractor will dewater, containerize, test the water (for disposal) and dispose of by methods approved by the Engineer. The contractor will obtain all the required permits and /or authorizations needed to store, transport and dispose of the water in accordance with applicable local, state or federal regulations.

The Contractor will furnish all the labor, equipment, and materials necessary to properly handle, store, test (for disposal), transport, and disposal; including any required permits,

approvals, or fees within the aforementioned location. Payment for this work will be made at the contract price bid per ton, per gallon, per cubic yard and per UST. The following estimated quantity has been included in the General Summary for the work noted above:

690E65016 Item Special - Work Involving Petroleum Contaminated Soil	<u>850</u> Ton
690E65024 Item Special - Work Involving Regulated Water	92,200 Gal

8.5 Noise Analysis and Noise Barriers

The project does not require a Noise Analysis.

9 RIGHT OF WAY (ROW)

A large portion of the project can be constructed within existing rights of way. There are portions of the work, specifically beyond the ODOT Limited Access Right of Way in which right of way acquisition, either temporary or permanent, must be obtained prior to the DBT performing their construction activities on the parcels. The Department will acquire and pay for the additional Right of Way needed to encompass the construction limits as shown on Appendix B Conceptual Plans. The Department has not completed right of way acquisition prior to the advertisement of this project. The status of each parcel that is currently in the acquisition process is indicated in Appendix H - Right of Way Status Matrix. Additional requirements and information for specific parcels are included in the Right of Way Status Matrix. The DBT will be provided access to each parcel as the parcel is cleared. The Department will provide written notification to the DBT of the availability of each required parcel and notify the DBT of any access restrictions that may be applicable. The DBT shall not be allowed access to any parcel until written notification is provided by the Department. The Department does not intend to acquire any additional Right of Way outside what is shown in Appendix B. It is expected that the DBT shall design and construct the project in such a manner that the construction limits are contained within the limits as shown on Appendix B.

The Department will provide an update to the Right of Way Status Matrix at the time of NTP. In addition, the Department will provide the DBT with monthly reports regarding the status of the acquisition process for parcels for which access was not provided at the time of NTP.

Right of Way Plan Development and Acquisition is on-going and pending by the Department.

A parcel availability schedule with estimated right of way clearance dates has been provided - see Appendix H. Additional rights of way will be required along SR-149. An estimated Right of Way clear date is anticipated to be October 2026 for all parcels south of the IR-70 interchange.

The DBT shall perform all necessary construction work for the project within the Project Right of Way (ROW).

The DBT shall locate existing right of way lines based on requirements specified in Chapter 4733-37 of the Ohio Revised Administrative Code (Board Rules) governed by regulations outlined in Chapter 4733, Ohio Revised Code (Regulation Laws). The DBT shall research existing right of

way information from all available sources including but not limited to ODOT records, County road records, Commissioners' Journals and records of other County offices to the extent necessary to provide an accurate basis for the establishment of the existing right of way.

The DBT will stake and flag the existing right of way in the field prior to the start of construction and will maintain stakes and flags throughout the duration of the Project.

The DBT shall identify all right of way encroachments on the construction plans with the Interim Design submission. ODOT's Project Manager will be responsible for clearing all encroachments on Federal-aid projects in accordance with standard encroachment removal.

9.1 Temporary Easements

The Department will facilitate use of certain parcels through temporary easements. The DBT shall use temporary easements solely for the purposes described within the forthcoming Temporary Easements documents. The DBT shall only be able to use the temporary easement for the duration of 24 months. The duration commences on the date when physical work commences within the temporary easement site. The DBT shall provide written notice to the Department indicating the planned date for beginning work in a temporary easement. The DBT shall not enter temporary easement sites after the duration of the temporary easement has elapsed. The temporary easement shall not be used for storage of materials or equipment by the DBT.

10 UTILITIES

10.1 Existing Utilities

The District Utility Coordinator, in coordination with the registered underground utility protection services, Oil and Gas Producers Underground Protection Service (OGPUPS), and other utility owners that are non-members of any utility protection services, has determined that the utilities identified in Table 10-1 are in the area of the Project.

Table 100-1: Utility Contacts and Status

Utility Owner	Utility Contact	Relocation Status
<u>SANITARY SEWER:</u> Belmont County Water and Sewer District	BRIAN STREET P.O. BOX 457 ST CLAIRSVILLE, OHIO 43950 740-695-3144 BRIAN.STREET@BELMONTCOUNTYWATER.COM	Utility conflicts and relocation are to be determined by the DBT.
<u>WATER:</u> Belmont County Water and Sewer District	BRIAN STREET P.O. BOX 457 ST CLAIRSVILLE, OHIO 43950 740-695-3144 BRIAN.STREET@BELMONTCOUNTYWATER.COM	Utility conflicts and relocation are to be determined by the DBT.
<u>COMMUNICATION:</u> Comcast	RICH KOPANIC 460 WASHINGTON ROAD WASHINGTON, PA 15301	Information received that they are not expected to

	412-851-2645 RICHARD_KOPANIC@CABLE.COMCAST.COM	be in conflict. This will need to be confirmed by DBT.
<u>ELECTRIC:</u> American Electric Power (AEP)	CLARKE SAUNDERS 777 HOPEWELL DRIVE HEATH, OHIO 43056 740-985-3054 CMSAUNDERS@AEP.COM	Utility conflicts and relocation are to be determined by the DBT.
<u>GAS:</u> Columbia Gas	JONAH MOORE 300 LURAY DRIVE WINTERSVILLE, OHIO 43953 740-457-3900 JMOORE@NISOURCE.COM	Utility conflicts and relocation are to be determined by the DBT.
<u>GAS:</u> Columbia Gas Transmission, A.K.A. TC Energy, A.K.A. TransCanada	ANTHONY WINTERS 4115 CORK BOCKTOWN ROAD CLINTON, PA 15026 724-223-3944 ANTHONY_WINTERS@TCENERGY.COM COPY: US_CROSSINGS@TCENERGY.COM WITH ALL PLAN SUBMISSIONS	Utility conflicts and relocation are to be determined by the DBT. Information received that they are not expected to be in conflict. This will need to be confirmed by DBT.
<u>COMMUNICATION:</u> Horizon Network Partners	STACIE STEARNS 1123 GOODALE BLVD COLUMBUS, OHIO 43212 740-215-9066 STACIE.STEARNS@HORIZONCONNECTS.COM	Utility conflicts and relocation are to be determined by the DBT.
<u>GAS:</u> Markwest Liberty Midstream, LLC.	RYAN ALDERSON 4600 J. BARRY CT., SUITE 500 CANONSBURG, PA 15317 724-338-2723 RDALDERSON@MARATHONPETROLEUM.COM	Utility conflicts and relocation are to be determined by the DBT.
<u>COMMUNICATION:</u> Massillon Cable TV	JEREMY LEHMAN 444 W. MILLTOWN RRD WOOSTER, OHIO 44691 330-804-0219 JLEHMAN@MCTVOHIO.COM	Utility conflicts and relocation are to be determined by the DBT. Information received that they are not expected to be in conflict. This will need to be confirmed.

10.2 General Requirements

The DBT shall:

1. Coordinate with the owners of all public and private/investor utility facilities affected by the Project.

2. Coordinate with the utility owners, third parties and stakeholders to resolve all utility conflicts encountered on the Project.
3. Resolve any conflicts between utility facilities and the construction of the Project.
4. Coordinate the completion of all utility relocations with the respective utility owners and stakeholders.

The DBT shall put forth all efforts required to coordinate and resolve utility conflicts within the schedule and shall accept the associated cost and schedule risk, regardless of the entity performing the utility adjustment work, except as described in 10.8 (Deadlines and Delays).

The Department will solely determine compensable rights related to utility design, relocation, modification, and construction for each conflict. When warranted, the Department will compensate the respective utility owner directly as outlined in Section 10.11 (REIMBURSEMENT AND DEPOSIT PROCESSES).

No additional compensation will be made to the DBT for delays, inconveniences, or damages sustained by the DBT due to interference from the utilities or utility work.

The DBT shall be responsible for verifying all utility relocation to ensure that the relocation work does not interfere with other proposed construction activities, including relocations of other utilities.

All new utility installation requests within all right of way including limited access right of way shall be subject to the ODOT permitting process.

The following Utility Notes are applicable to this project and the DBT shall adhere to the following:

ODOT Facilities:

THE OHIO DEPARTMENT OF TRANSPORTATION HAS UTILITY FACILITIES (HIGHWAY LIGHTING AND/OR TRAFFIC SIGNALS) WITHIN THE LIMITS OF THIS PROJECT.

IN ADDITION TO THE INFORMATION OUTLINED IN THIS CONTRACT, THE CONTRACTOR SHALL TAKE THE FOLLOWING ACTION TO PROTECT ODOT'S FACILITIES DURING CONSTRUCTION:

HIGHWAY LIGHTING AND/OR TRAFFIC SIGNALS: EVEN THOUGH ODOT IS LISTED AS A MEMBER OF THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE CONTRACTOR IS REQUIRED TO CONTACT ODOT DIRECTLY SO THAT THE ODOT UTILITIES LOCATED WITHIN THIS PROJECT ARE MARKED. THE CONTRACTOR SHALL NOTIFY THE ODOT PROJECT ENGINEER/PROJECT SUPERVISOR, FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF ANY WORK, FOR THE NEED TO MARK ODOT OWNED UTILITIES.

THE ABOVE REQUIREMENTS ARE IN ADDITION TO SECTION 105.07 & 107.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY OTHER UTILITIES THROUGH OUPS OR DIRECTLY A MINIMUM OF FORTY-EIGHT HOURS IN ADVANCE OF ANY WORK.

Item 632 - Power Service, As Per Plan:

ELECTRIC POWER SHALL BE OBTAINED FROM AEP OR OHIO EDISON COMPANY AT THE LOCATIONS INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

POWER SERVICE SHALL BE AS PER CMS ITEM 632 AND SCD TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE CONTRACTOR SHALL MEET WITH A REPRESENTATIVE FROM THE POWER SUPPLY AGENCY TO CONFIRM HOW THE PROPOSED POWER SERVICE IS TO BE WIRED, HOOKED UP, AND ITS LOCATION.
2. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 632, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

10.3 Governing Regulations for Utility Design and Construction

The DBT shall be responsible for the design and construction of utility adjustments for the following utility owners:

See Table 10-1 for list of applicable utility owners.

- Sanitary: DBT shall make every effort to avoid impacts to existing sanitary gravity sewers and force mains. The sanitary pump station shall be avoided. Manhole and vault castings/rims shall be adjusted to final grade by the DBT. The DBT shall coordinate this work as approved by the utility owner. The DBT shall design and construct any necessary sanitary force main relocations caused by conflicts with final improvements. This force main is owned by Belmont County Water and Sewer District.
- Water: DBT shall make every effort to avoid impacts to existing water mains, services lines and appurtenances. Valve box and vault castings/rims shall be adjusted to final grade by the DBT. The DBT shall design and construct any necessary public waterlines relocations or new installations necessary and/or caused by conflicts with final improvements. The public water lines are owned by Belmont County Water and Sewer District. The DBT shall coordinate this work as approved by the utility owner. Design and construct all necessary

new hydrants. Remove existing hydrants and installing new. Hydrant placement shall be beyond the limits of the roadway and walk.

- Gas: DBT shall make every effort to avoid impacts to existing gas mains, services lines and appurtenances. Valve box and vault castings/rims shall be adjusted to final grade by the utility company. The DBT shall coordinate this work as approved by the utility owner. The existing gas line adjacent to the existing pier under the IR-70 structures will be relocated by October 2025.
- Communication and Electric: DBT shall make every effort to avoid impacts to poles, guy wires, and both above and underground features. Pull boxes shall be adjusted to final grade by the utility company. The DBT shall coordinate this work as approved by the utility owner. The existing fiber line under and within the construction limits of the IR-70 structures will be relocated by October 2025. The existing aerial lines along SR-149 and south of the IR-70 overpass structures will be relocated within newly acquired rights of way outside of the demonstrated construction limits. These aerial line relocations will occur by July 2027.

All utility work performed by the DBT shall be consistent with the Department's Utility Relocation Manual and must meet the Federal Highway Administration (FHWA) "Buy America" policy requirements of 23 USC313 and 23 CFR 635.410. Utility work shall be in accordance with ODOT's 8100 Policy for Accommodation of Utilities and 8200 Procedure for Utility Relocations, Adjustments and Reimbursement.

The DBT shall perform all utility work in compliance with the following:

1. The utility owner's specifications, standards of practice and construction methods;
2. Applicable ODOT design and construction standards; and/or
3. Local public agency specifications, standards of practice and construction methods.

10.4 Utility Coordination

The DBT shall design the project construction work to minimize the scope and extent of utility conflicts and relocations. The DBT shall not design or construct the Work in a way that precludes legal occupancy of the highway right-of-way by the adjusted utility.

When utility relocations are necessary, coordination and scheduling of these relocations with the involved utilities shall be the responsibilities of the DBT.

Only those utilities affected by the Project shall be relocated or adjusted. If the DBT desires the temporary or permanent relocation or adjustment of the utilities for the DBT's benefit, the DBT shall conduct all negotiations with the utility owners and pay all costs associated with the relocation or adjustment. The DBT shall assume all schedule and cost impacts from these relocations or adjustments.

The DBT shall perform the following services related to utility coordination:

1. Identify and locate all utility conflicts.
2. Confirm the identification and contact information of the utilities within the project area as provided by the District Utility Coordinator to verify the nature, extent, and location of their existing facilities.

3. Minimize potential delays and coordinate the efficient relocation of affected utilities.
4. Provide all project construction documents, other utility relocation plans, subsurface utility engineering (SUE) information, and geotechnical information for relocation of utilities.
5. Coordinate all project work and utility work with the affected utility owners.
6. Schedule and conduct utility coordination meetings during the project design and construction process.
7. Maintain and update the utility coordination information monthly and make that information available to the District Utility Coordinator.

10.5 Notification

In accordance with ORC 153.64 and at least two (2) days prior to commencing construction operations in an area that may affect underground utilities, the DBT shall notify the Department, registered underground utility protection services, Oil and Gas Producers Underground Protection Service (OGPUPS), and other utility owners that are non-members of any utility protection services.

10.6 Utility Coordination Meetings

The DBT shall schedule and conduct utility coordination meetings commensurate with the complexity of each utility's relocation issues. The DBT shall notify the Department at least three (3) business days in advance of each of the meetings. The Department will participate as necessary. The DBT is responsible for generating meeting minutes within two (2) business days after the meeting and submitting those meeting minutes to the Department.

10.7 Scheduling of Utility Relocation Work

The DBT shall obtain activity durations for all utility relocation work-related activities from the representative utility owner for incorporation into the DBT's Project Schedule. The DBT shall provide all documentation supporting the utility owner's concurrence with the activity durations included in the project schedule. This document shall include a date that the utility is to have the relocation work completed by and has been agreed upon between the DBT and the utility.

The DBT shall pay all related acceleration costs incurred by the utility owner if the DBT requests acceleration of utility relocation work. These acceleration costs are NOT eligible for reimbursement to the Utility by the Department.

The DBT shall review the utility's design and/or permit application to ensure that the relocation does not interfere with other proposed construction activities, including relocations of other utilities. The DBT shall complete this review no later than fourteen (14) calendar days after its submission to the DBT, unless a different time period is expressly agreed to by both parties. The DBT shall compile and provide written review comments to the Department and the utility owner.

10.8 Deadlines and Delays

The DBT shall monitor the progress of all activities associated with utility relocations and promptly notify the Department when the progress of the activity controlled by a utility owner or a duration of relocation provided by the utility is not consistent with the durations and completion dates obtained in section 10.7 (SCHEDULING OF UTILITY RELOCATION WORK).

The DBT may ask the Department to issue an Obstruction Removal Notice upon submission of sufficient documentation confirming that a utility owner has failed to perform within the schedule activity durations and meet completion dates developed in Section 10.7.

The Department will solely determine if the Obstruction Removal Notice is to be issued. An Obstruction Removal Notice only governs the relocation process when the utility in question is located within the public road right-of-way. If a utility is located within the utility owner's easement, the notice does not apply and the relocation delay responsibility is based on the relocation schedule and completion date provided by the utility.

The Department will not be responsible for payment of delay claims associated with utility coordination/relocation unless the DBT is able to provide the Department with sufficient documentation for an Obstruction Removal Notice or failure of the utility to meet its utility relocation schedule.

10.9 Changes to Utility Relocation Work

The DBT shall not make any changes to the Project that would necessitate additional relocation of the utility once a utility relocation by the utility has begun. The DBT shall absorb the schedule impact and provide full compensation for one hundred percent (100%) of all costs (design and construction) associated with the additional relocation incurred by the utility owner if changes occur after relocation design or construction work has begun. The DBT shall provide all documentation related to changes in utility relocation work.

10.10 Utility Owner Inspections

The utility owner may inspect construction of any utility work performed by the DBT on the utility owner's facility. The DBT shall notify the Department of any such inspections. The DBT shall provide the Department with written documentation of all utility comments and resolutions.

The DBT shall provide safe access, including any necessary traffic control, for any utility work inspections performed by the utility owner.

10.11 Reimbursement and Deposit Processes

The DBT shall immediately notify the Department if a utility owner notifies the DBT that it believes any utility relocation work is reimbursable to that utility owner or if the utility believes an easement acquisition by the Department is required. The Department's District Utility Coordinator will work with the utility owner to confirm the compensable position and perform the Department's utility reimbursement process.

The DBT shall work with the District Utility Coordinator to determine how the utility will be made responsible for providing a deposit to cover the cost of that utility installation support if the project contains construction work to support the installation of a private utility company's facilities.

10.12 Continuity of Utility Service

The DBT shall ensure that all utilities remain fully operational during all phases of the project, except as specifically approved by the utility owner. The DBT shall obtain approvals from the applicable utility owners for all necessary interruptions of service, including proposals for shutdowns and temporary diversions of affected utilities.

The DBT shall immediately alert the utility owner, the Department, and occupants of nearby premises as to any utility related emergency (e.g., accidental breakage) which interrupts service. The DBT will coordinate with the utility owner to restore service. If service is interrupted, the DBT shall continue efforts to repair until any interrupted service is restored.

The DBT shall obtain approval for continued service from the local fire department authority prior to initiating Work which may impact fire hydrants.

Where the DBT is responsible for performance of utility relocation work, the DBT shall:

1. Maintain service continuity to the extent practicable while performing the utility relocation work.
2. Keep the utility owner fully informed of schedules, including coordinating with the utility owner regarding the DBT's design, construction, and inspection of the utility relocation work.
3. Coordinate any changes with the utility owner.
4. Keep the utility owner involved in making decisions that affect the utility owner's facilities so the utility owner is able to provide uninterrupted service to its customers or be subject to the least interruptions practicable.

10.13 Existing Utility Locations

The DBT shall verify the actual location of all underground utilities, including type, number, and depth. The DBT is responsible for verifying the actual location of all overhead utilities including type, number, and elevation of lines and all above ground utility facilities.

The DBT shall disconnect and remove or abandon to ground (abandon in place) all existing underground utilities to be abandoned, including service connections.

10.14 Utility Conflicts

Additional unknown utilities may be present that may or may not conflict with the project. The DBT shall identify, verify, and document all utility conflicts and potential utility conflicts encountered during the performance of both design and construction work.

10.15 Protection of Utilities

The DBT shall take all necessary precautions to prevent disturbance to utility facilities and coordinate project design and construction with utility adjustments.

The DBT shall perform work in a manner that will cause the least reasonable inconvenience to the utility owner and those being served by the utility. Existing, adjusted, or new utilities remaining within the right-of-way of the project shall be properly protected by the DBT to prevent disturbance or damage. If the DBT encounters a previously unknown utility that requires adjustment, the DBT shall not interfere with the utility, but shall take the proper precautions to protect the utility or take appropriate actions, per Contract Documents, to coordinate the adjustment of the facility.

10.16 Utility Relocations

The DBT shall coordinate and resolve all utility conflicts with the affected utility owner at no additional cost to the Department.

10.17 Utility Betterments

Any ineligible, unnecessary or betterment to the utility facility will be the responsibility of the utility owner and not the DBT. Determination of eligibility shall be coordinated through the Department. Payment for betterment or ineligibility costs shall be made by the appropriate utility owner through the Department to the utility contractor. Betterment procedures shall follow the Department's Utilities Relocation Manual.

10.18 Subsurface Utilities Engineering (SUE)

Subsurface Utility Engineering Required: ☒ Yes ☐ No

If marked yes, the DBT shall use a State approved subsurface utilities engineering location service to field verify all underground utilities prior to beginning of any design work and shall incorporate the results in the design.

DBT shall have the SUE perform the following Quality Levels:

- ☒ SUE Level A
- ☒ SUE Level B
- ☐ SUE Level C
- ☐ SUE Level D

SUE Level A locates shall be paid on a unit price basis, as approved by the Engineer.

107E99010 SPECIAL - UTILITY COORDINATION: 10 EACH.

All other Utility Coordination shall be included in 107E99000 SPECIAL - UTILITY COORDINATION: Lump Sum.

ODOT coordinated SUE is provided in Appendix G (SUE) in the Document Inventory.

11 MAINTENANCE OF TRAFFIC (MOT)

11.1 General

The DBT shall be responsible for designing, providing, and maintaining safe and effective traffic control 24 hours a day for the duration of the Project. The DBT shall furnish, install, maintain, and remove all traffic control devices. The DBT shall implement Maintenance of Traffic (MOT) in a manner that minimizes both construction duration and impact to the traveling public.

Payment for all items in Section 11 and as required by the OMUTCD, the Standard Construction Drawings, the Construction and Material Specifications, the proposal and this scope of services will be included in the Lump Sum payment for Item 614, Maintaining Traffic and will include all labor, materials, equipment, fuels, software, lubricating oils, hardware and incidentals to perform the required work.

The DBT shall provide written notice to the Department fourteen (14) days in advance of modifications in MOT or traffic patterns, including modifications to the following:

1. MOT configuration
2. Access
3. Detours
4. Schedule
5. Duration

The DBT shall furnish temporary MOT devices compliant with the AASHTO Manual for Assessing Safety Hardware (MASH), as applicable.

All detour routes will be provided by the Department and shall be signed by the DBT. The designated local detour will be provided by the Department.

Unless an otherwise itemized pay item is included for a specific Maintenance of Traffic work item, all MOT work shall be included in 614E99000 SPECIAL - MAINTAINING TRAFFIC: Lump Sum.

11.2 MOT Requirements

The DBT shall design and implement the MOT in accordance with the requirements referenced below.

This item will consist of maintenance of traffic on existing roadways and ramps in accordance with the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways (OMUTCD), current edition, latest revision, the Specifications and the following:

The Contractor will inform the Project Engineer twenty-one (21) days prior to the beginning of construction work.

Any existing, temporary, or proposed edges of pavement will be a minimum of 2 feet away from the edge of a travel lane and will not exceed allowable drop-off conditions set forth in the Standard Construction Drawing MT-101.90.

The structural integrity of the roadway base will be maintained adjacent to sawcuts/excavations that are adjacent to traffic and/or portable barrier. Portable barrier on bridge decks will be installed as per the Bridge Design Data sheet PCB-DD.

Prior to moving traffic to the outside shoulder for maintaining traffic, any portions of the Type E Anchor Assembly which are closer than three (3) feet to the proposed shifted edge line will be relocated to a minimum of 3 feet from the proposed edge line. Adjustments to the guardrail attached to the Type E Anchor Assemblies must be at a taper rate of 25:1 to a 15:1. The DBT will be responsible for replacing any parts damaged as a result of the relocation operation.

Cones will not be acceptable traffic control devices for lane restrictions or lane reductions that are in operation one half hour after sunset or one half hour before sunrise. All nighttime lane restrictions will require drums or barricades at a maximum spacing of sixty (60) feet.

The Contractor will furnish, erect, maintain and subsequently remove all flags, barricades, signs, sign supports and furnish and maintain all flaggers, watchers and incidentals related thereto.

If traffic is crossed over, the reverse traffic flow will be exposed to obstacles which do not affect the normal traffic flow direction. Downstream bridge parapet ends, guardrail ends, etc. must be protected. Temporary guardrail, anchor, barrier reflectors [white] and bridge end markers will be installed by the Contractor as per MT-95.82. Each temporary guardrail installation will have a minimum length of 125 ft. and the anchors will be Type 'E'. Payment for this work will be included in the Lump Sum bid for Item 614 Maintaining Traffic and will include furnishing, erecting, maintaining and removing the guardrail, anchor and barrier reflectors.

The DBT is responsible for maintaining and keeping operational the traffic signals throughout construction via use of the existing, a temporary or the proposed signalization. The DBT must design, install and maintain temporary traffic signals to accommodate changes to traffic patterns, operations and lane configurations. The DBT shall coordinate all signal timing during all interim phases of construction with the Department.

Within the Limited Access Rights-of-Way, bicycle and pedestrian facilities will not need to be maintained during construction.

The DBT is responsible for maintaining access to the construction zone and employee parking that meets the requirements of the Temporary Traffic Control Manual (TTCM) section of the OMUTCD, and does not unduly impact traffic and local residents and businesses.

Notify the Engineer sixty (60) calendar days in advance of any lane reductions to allow notification to the Office of Permits. Coordination with oversized vehicles during construction will be handled via ODOT permits.

The overall suggested sequence of construction as depicted in the Conceptual Plans is as follows:

- MOT phases 1 through 3 are to replace the IR-70 overpass structures and associated mainline IR-70 work, so that the span arrangements accommodate the future widening of SR-149.
- MOT phases 4 and 5 are to perform widening and reconstruction along SR-149. See Sections 8 and 9 for Environmental and Right-of-Way restrictions and scheduling.

IR-70:

Duration of lane closures and restrictions will be as per the latest edition and schedules in the Permitted Lane Closure System. The Permitted Lane Closure System can be found at (<https://odot.ms2soft.com/TDMS.UI/PLCS/>). The Permitted Lane Closure Schedule used for this project will be the most current schedule available on the date this project was advertised for sale.

Should the Contractor fail to meet any of the requirements on the Permitted Lane Closure Schedule, the Contractor will be assessed disincentives in the amount of \$10,000.00 per hour or portion thereof that the lane reduction remains beyond the specified limit.

Two travel lanes must be maintained in each direction on IR-70.

Minimum lane width when maintaining traffic with a two-lane section: 11'-0".

A 10'-0" lane width may be permitted only on the exterior lane of a two-lane section at spot locations. Spot locations include bridge decks, on approach slabs, between bridge piers and roadway sections where temporary sliver fills or other substantial temporary Work could be avoided by said allowance. Prior acceptance and approval will need to be obtained from the Department by the DBT.

A minimum of two (2) feet will be maintained between an edge line and the edge of the pavement. A minimum clearance of two (2) feet will be maintained between traffic and channelizing devices.

A one (1) foot clearance may be permitted only on the interior lane in spot locations of a two-lane section between traffic and channelizing devices. Spot locations include bridge decks, on approach slabs, between bridge piers and roadway sections where temporary sliver fills or other substantial temporary Work could be avoided by said allowance. Standard taper rates shall apply in the shoulder transition from 2 foot to 1 foot and vice-versa. Prior acceptance and approval will need to be obtained from the Department by the DBT.

At no time can a two lanes section overall width be less than 24ft at spot locations. Prior acceptance and approval will need to be obtained from the Department by the DBT.

Minimum lane width in a single lane configuration (e.g. contraflow or other MOT with split directional lanes): 12' 0". Minimum width between edge line and edge of pavement, or edge line and channelizing devices in a single lane section: 2'0" feet. Overall minimum width: 16'0".

Interchange Ramps (Exit 208):

Except during allowable closure periods, maintain a minimum ramp width of 12ft. Minimum width between edge line and edge of pavement, or edge line and channelizing devices: 2'0" feet. Overall minimum width: 16'0".

IR-70 Eastbound Exit Ramp to SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: Eastbound IR-70 / US-40 interchange exit (Exit 213) / US-40 Westbound / Westbound IR-70 / SR-149.

IR-70 Eastbound Entrance Ramp from SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: SR-149 / Westbound IR-70 / SR-800 interchange exit (Exit 202) / SR-800 Southbound / Eastbound IR-70.

IR-70 Westbound Exit Ramp to SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: Westbound IR-70 / SR-800 interchange exit (Exit 202) / SR-800 Southbound / Eastbound IR-70 / SR-149.

IR-70 Westbound Entrance Ramp from SR-149 may be closed for a period not to exceed 21 calendar days. Official signed detours: SR-149 / Eastbound IR-70 / US-40 interchange exit (Exit 213) / US-40 Westbound / Westbound IR-70.

Ramp closures cannot be concurrent.

SR-149:

A minimum of one 11'-0" wide lane in each direction must remain open at all times during construction, except as permitted. Access to all businesses, properties and local roads must be maintained at all times.

A single lane may be maintained using flaggers from 8:00pm to 6:00am for resurfacing, widening, drainage crossing installation, or other Work as necessary. Maintaining traffic with a single lane shall be minimized.

A minimum clearance of one (1) foot will be maintained between traffic and channelizing devices.

A minimum of one (1) foot will be maintained between an edge line and the edge of the pavement.

The DBT shall only utilize short duration lane closures and/or road closures for overpass removals and bridge steel erection.

Reco Drive:

A minimum of one 10'-0" wide lane in each direction must remain open at all times during construction. Access to all businesses, properties and local roads must be maintained at all times.

A minimum clearance of one (1) foot will be maintained between traffic and channelizing devices.

A minimum of one (1) foot will be maintained between an edge line and the edge of the pavement.

Conceptual Maintenance of Traffic Plan (CMOTP):

The DBT will prepare and submit a Conceptual Maintenance of Traffic Plan (CMOTP) to the Department. The CMOTP will be approved prior to beginning specific plans for individual MOT phases. The CMOTP will have a detailed narrative explaining the intent of the DBT's overall MOT plan, will be sufficiently detailed to address all aspects of the interrelationships of individual MOT phases, will show a planned and logical phasing needed to complete all project work and meet all interim completion dates, and it will contain general MOT phasing plans and it will comply with the requirements listed below:

- Submit plans in accordance with section 21.
- Provide a schedule showing MOT phases and durations. All long-term (as defined in TEM 606-3) lane closures and lane restrictions will be included and identified. All complete directional roadway closures will also be identified. This schedule will correspond to the Project Schedule.
- Discuss sequence of operations and MOT procedures.
- Identify locations of work zone ingress/egress points
- Define schedule and durations for night-time closures of SR-149.
- Provide MOT plans showing:
 - Detailed detour plans
 - PCMS locations
 - MOT Typical sections showing lane widths, pavements markings, drums, portable barrier (PB), limiting stations, work area, drop-offs, etc.
 - Sign details for proposed signs and overlays/modifications of existing signs
- Meet all requirements stated within Section 1009 - Maintenance of Traffic Drainage per ODOT L&D Manual - Volume 2 - Drainage Design.
- Provide Haul routes for each phase.
- Submit requests for reduced speed in the work zone are to be submitted with the CMOTP.

The Conceptual Maintenance of Traffic Plan will be considered a Buildable Unit in regard to Department review.

Other General Maintenance of Traffic Requirements:**Signage:**

Along with modifications to existing freeway signing, the DBT will modify existing attractions signing to reroute traffic during closures of exit ramps. All existing freeway directional signs

for attractions will be modified to direct traffic to appropriate detour routes. Additional signage will be erected to maintain proper routing to these attractions.

Construction Equipment and Materials:

Construction vehicles used by the DBT and truck traffic required by the DBT will comply with any and all load restrictions and vehicle delineation requirements. As per CMS 614.035, contractor equipment and materials will always be stored in locations that do not pose a safety risk to the traveling public.

Entering and Exiting the Work Zone:

All vehicles entering the work zone from the freeway or departing the work zone onto the freeway will use designated locations per MT-103.10 "Construction Access Points".

No construction vehicles are to enter active lanes of IR-70 or ramps without proper ingress and egress control.

The DBT is responsible for providing openings in the PCB suitable for emergency vehicles to traverse. These locations may be coincident with the construction access points. The DBT will provide an opening for emergency vehicles no more than every 2 miles apart along the main line. The DBT is responsible for notifying the local emergency response agencies about the location of the openings and any changes during the life of the contract.

PCMS:

The DBT will provide, install, and maintain at least five (5) Portable Changeable Message Signs (PCMS) on site for use during construction. Class A PCMS will be used on freeways. All messages will be approved by the Engineer prior to display on PCMS. Placement and relocation of the signs will be in accordance with the TEM, OMUTCD, or as directed by the Engineer in the field. The Engineer has the authority to modify these locations as needed.

PCMS will be paid under: 614E18600 PORTABLE CHANGEABLE MESSAGE SIGN: 120 SNMT

Pavement Marking and Delineation:

Temporary work zone striping will be Class I paint except on permanent surfaces. Removable tape or Class III paint will be used on permanent surfaces.

Use water blasting to remove markings on permanent concrete pavement surfaces.

In addition to meeting the CMS 614 specifications for work zone pavement markings, work zone pavement markings will be reapplied at least once per month or as determined by the Project Engineer. For the purpose of this project, "Moving Operation" will be limited to pavement marking striping.

The DBT shall resurface all asphalt MOT transition areas within the construction zone. The asphalt resurfacing of all transition areas shall also include the tangent area extending beyond the proposed work limits to the limits of any temporary pavement markings. No temporary markings or MOT phase changes are to be placed on a final asphalt surface course. The resurfacing shall include the entire width of the roadway, including shoulders. Transition areas occurring on permanent concrete pavement do not require resurfacing. MOT pavement markings placed on permanent concrete pavement shall be removed utilizing water blasting only.

Portable Barrier:

Barrier reflectors and object markers will be installed on all portable barrier within the right-of-way in accordance with the alternative delineation method (triple-stacked) shown on Standard Construction Drawing MT-101.70.

Barrier reflector and object marker materials and installation will conform to CMS 626.02 and 626.04.

Rumble Strips:

Mitigate existing rumble Strips on concrete shoulders prior to traffic transversing. Allowable mitigation processes would be (but not limited to) milling out of rumble strips and placing asphalt (2" minimum or depth of rumble strips, whichever is deeper), or removal of shoulders and replacing with Item 615 Pavement.

Permanent shoulders which have rumble strips mitigated shall be replaced with permanent concrete pavement; I-70 concrete shoulder permanent concrete pavement reconstruction may be limited to the existing upper layer of the concrete pavement buildup.

Note: The existing I-70 Shoulder buildup consists of:

1. 9" Non-Reinforced Concrete (452)
2. 1" Asphalt Concrete Intermediate
3. ≈ 2" Asphalt Concrete Base
4. ≈ 6" Aggregate Base

Notification and Coordination:**MOT Phase Changes: Notification & Coordination Requirements**

At least twenty-one (21) days prior to any construction activities, the DBT will advise the District Office of Communications via email at Lauren.Borell@dot.ohio.gov and the Project Engineer of the anticipated start date of any construction activities, including but not limited to the placing of work zone signs. The notification will also include the project number, PID, name and phone number of the DBT, a point of contact and the anticipated impact on traffic. The DBT will immediately inform the District Office of Communications and the Project Engineer of any and all delays and/or changes regarding the construction initiation date.

Throughout the duration of the project, the DBT will notify the project engineer and the others listed in this section in writing of all traffic restrictions and upcoming maintenance of traffic changes. The DBT will 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. This notification will be received by the project engineer prior to the physical setup of any applicable signs or message boards.

Information will include but is not limited to all construction activities that impact or interfere with traffic and will list the specific location, type of work, road status, date and time of restriction, duration of restriction, number of lanes maintained, detour routes if applicable, and any other information requested by the project engineer and the District 11 Communications Office. A summary of the notification time frame requirements for closures and restrictions is provided in the Notification Time Frame Table below:

Notification Time Frame Table

Item	Duration of Closure	Notification Time Frame
Ramp and Road Closures	>= 2 weeks	21 business days prior to closure
	> 12 hours and < 2 weeks	14 business days prior to closure
	< 12 hours	4 business days prior to closure
Lane Closures/Restrictions	>= 2 weeks	14 business days prior to closure
	< 2 weeks	5 business days prior to closure

Any unforeseen conditions not specified in the plans requiring traffic restrictions will also be reported to the Project Engineer, the District 11 Communications Office using the Notification Time Frame Table.

The DBT will be responsible for notifying all local county, state and federal emergency services, school districts and adjacent residents and businesses of upcoming road and ramp closures. Advance notification will occur no later than fourteen (14) days prior to closing the road. If, subsequent to the advance notification, the start date is changed, then a new fourteen (14) day notification will be required. The road/ramp cannot be closed unless prior notification has been accomplished. The same parties will be notified when the closure has concluded and the road is back open to traffic.

Analysis of the existing IR-70 shoulder pavement composition and buildup is currently on-going by the Department.

11.3 Work Zone Speed Reduction

The DBT shall evaluate if a work zone speed reduction is warranted based on the final MOT scheme. The evaluation requirements are listed in Section 600 of the Traffic Engineering Manual.

If a work zone speed reduction is warranted, the DBT shall design and implement signing in accordance with the requirements of the Traffic Engineering Manual.

11.4 Haul Routes

In addition to the requirements of CMS 105.13, the Progress Schedule shall account for 30 Days for the Department to secure approval for haul routes. The CMOTP will identify haul roads for use during construction. Haul roads may include the State Route System and all streets being worked on within the project limits.

11.5 Traffic Engineering Manual Notes

The DBT shall design and implement the MOT in accordance with the following TEM notes:

The following ODOT District 11 Design Preferences Notes and Drawings will apply to this project:

1. All the requirements stated in Supplemental Specifications 808 and 908 and ODOT SCD MT-104.10 shall apply in regard to Item 808E18700 - Digital Speed Limit (DSL) Sign Assembly, except that quantification of such DSL's shall be incidental to Maintenance of Traffic.

The following notes from the ODOT Traffic Engineering Manual will apply to this project:

- 642-3 (Item 614, Maintaining Traffic (At All Times))
- 642-4 (Item 614, Maintaining Traffic (Time Limitation on a Detour))
- 642-5 (Item 614, Maintaining Traffic (Winter Time Limitations)) [if crossovers are used]
- 642-6 (Item 614, Maintaining Traffic Lanes Open During Holidays or Special Events)
- 642-8 (Item 614, Maintaining Traffic (Notice of Closure Sign))
- 642-15 (Overnight Trench Closing) no more than 1.5 inches
- 642-19 (Dust Control)
- 642-21 (Item 622, Portable Concrete Barrier, 50", As Per Plan) [if crossovers are used]
- 642-24 (Work Zone Speed Zones (WZSZs)) [if speed limit reduction is approved]
- 642-25 (Designated Local Detour Route)
- 642-27 (Work Zone Increased Penalties Sign (R11-H5a)) [if speed limit reduction is approved]
- 642-28 (Earthwork for Maintaining Traffic)
- 642-29 (Floodlighting)
- 642-30 (Item 614, Work Zone Impact Attenuator for 24" Wide Hazards (Unidirectional or Bidirectional))
- 642-31 (Item 614, Work Zone Impact Attenuator for Hazards Over 24" and Less than 36" Wide (Unidirectional or Bidirectional))
- 642-35 (Item 614, Work Zone Crossover Lighting System) [if crossovers are used]
- 642-44 (Worksite Traffic Supervisor)
- 642-48 (Item 614 - Work Zone Raised Pavement Marker, As Per Plan - The snow-plowing season will run from November 1 through March 30.) [if crossovers are used]
- 642-49 (Item 614 - Work Zone Raised Pavement Markers on Concrete Surfaces - The snow-plowing season will run from November 1 through March 30.) [if crossovers are used]
- 642-51 (Delineation of Portable and Permanent Barrier)
- 642-52 (Delineation of Temporary and Permanent Guardrail)
- 642-54 (Item 614, Business Entrance (M4-H15) Sign, As Per Plan)

11.6 Law Enforcement Officers

Utilize the use of LEOs should, as approved by the Engineer, during initial set up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated for long-term lane closures/shifts.

Use of LEOs is required to be provided during the entire advance preparation and closure sequence where complete blockage of traffic is required; during traffic signal installation when impacting the normal function of the signal or the flow of traffic, or when traffic needs to be directed through an energized traffic signal contrary to the signal display; and during periods where traffic needs to be directed contrary to a traffic control device (flagger, sign, signal or other device used to regulate, warn or guide traffic).

Use of LEOs shall be on a unit cost basis: 614E11110 LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE: 720 HOURS

12 SURVEY

A. ODOT Survey Responsibilities

The Department has provided the following survey information, listed below:

1. Centerline control and benchmarks
2. Beginning and ending centerline points for the project
3. At least two benchmarks for the project (the datum used was that which the project was originally laid out by)
4. Critical points such as P.C., P.I., P.T., T.S., C.S.
5. Vertical clearances for the overhead structures, to serve as a check for the existing vertical clearances
6. Existing conceptual plan CADD files and Basemap files can be provided to the DBT, but must be considered only informational due to known on-going construction activities and potential changes in field conditions.

B. DBT Survey Responsibilities

The DBT shall submit all survey data using ODOT's standard field codes and ODOT's standard mapping codes. Reduced point data, in comma delimited ASCII text format, will be provided for all surveyed points. This data will include: point number, North (y) coordinate, East (x) coordinate, elevation and point ID.

The DBT shall install all new centerline monuments, monument assemblies, and reference monuments, as required, in accordance CMS 623 and the ODOT Real Estate Policies and Procedures manuals. If applicable, the DBT shall set ROW monuments for parcels being acquired for the Project Right of Way. Monuments on Department-maintained facilities shall be furnished and installed in accordance with Department standards.

The DBT shall not disturb existing monumentation. If the DBT disturbs the monumentation, then the DBT shall replace the monument, in-kind, using a Registered Surveyor, with current registration, recognized by the Ohio State Board of Registration for Professional Engineers and Surveyors. Costs associated with monument replacement caused by DBT disturbance shall be borne by the DBT. The DBT shall provide copies of all monumentation changes to the District Real Estate Administrator.

The DBT shall include all control points, provided by the Department, in the ASCII file supplied by the DBT to the Department. They should retain the original point numbers and coordinate values as assigned by the Department.

The DBT shall provide the following items prior to final acceptance of the Record-Drawing plans:

1. Copies of all field notes (written or electronic) which shall include the following information:
 - a. Date
 - b. Crew members
 - c. Weather conditions, including temperature, barometric pressure, etc.
 - d. Instrument(s) used (Serial Number)
 - e. Raw observation field data
 - f. Other notes as needed

2. Copies of all Deeds, Plats, Maps, and other written evidence used to establish points related to the project including summaries of all parole evidence acquired as a part of the survey operation.
3. Listing of all found monumentation (Horizontal and Vertical).
4. Listing of all monumentation set as part of the project (Horizontal and Vertical) including reference ties for recovery.
5. All monumentation shall be located utilizing the Ohio County Coordinate System Belmont County, Reference Frame NAD 83 (2011) (epoch 2010.0), Ellipsoid GRS 80 (Horizontal Data), NAVD 88 Geoid 18 (Vertical Data).
6. Short report indicating adjustment factors and methods, signed, and certified by a Registered Surveyor (State of Ohio). The Registered Surveyor (State of Ohio) shall include in the report the datum used and all associated adjustments used.

13 PAVEMENT

General:

The Conceptual Plans enclosed within Appendix B depict the approximate locations and limits of work. The final work and project limits shall be established by the DBT. New full depth pavement is required to be installed for the Project Limits as defined in Section 5 - Scope of Work.

All asphalt pavement compositions shall include Item 407E10000 - TACK COAT per the ODOT Pavement Design Manual.

All areas of full depth pavement construction shall include Item 204E10000 - SUBGRADE COMPACTION.

In areas of pavement widening, neat joints and edges shall be obtained and constructed by performing Item 252E01500 - FULL DEPTH PAVEMENT SAWING.

Butt joints and Taper Ends shall be installed where applicable per ODOT SCD BP-3.1 (Asphalt Paving).

Treat pavement drop-offs with Item 617E10100 - COMPACTED AGGREGATE.

All the requirements stated in Proposal Note 420 - *Surface Smoothness Requirements for Pavements* shall apply to this project.

Proof Rolling will be required for the Project.

Subgrade Treatments:

DBT shall adhere to all requirements within the ODOT Geotechnical Design Manual and ODOT's Specifications for Geotechnical Explorations. Based on the geotechnical information (see Appendix F), subgrade improvements and treatments will be required within portions of the full depth pavement replacement limits of SR-149 and the ramps of IR-70. The limits of unstable subgrade are as follows:

- SR-149: Sta. 112+00 to Sta. 118+50 and Sta. 130+00 to Sta. 132+00

- Ramp B: Sta. 1+00 to Sta. 3+00
- Ramp C: Sta. 0+00 to Sta. 1+00

In these locations, the DBT shall perform 12" deep Item 204E13000 - EXCAVATION OF SUBGRADE and replaced with Item 204E30010 - GRANULAR MATERIAL, TYPE B atop ITEM 204E50000 - GEOTEXTILE FABRIC.

I-70 Mainline

EB and WB IR-70 (includes mainline pavement, mainline paved shoulders, gores, and acceleration/deceleration lanes:

The existing pavement buildup is 9" of concrete at the surface, on a 1"(+/-) asphalt bond breaker, on the 9" original concrete pavement, on a stone subbase.

Proposed full depth pavement replacement composition shall be as follows:

- Item 452E15020 - 12" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P WITH QC/QA
- Item 304E20000 - 13" AGGREGATE BASE

All proposed approach slabs along IR-70 EB and WB shall have a full depth pavement composition of:

- 526E25000 REINFORCED CONCRETE APPROACH SLABS (T=15")Item 304E20000 - 6" AGGREGATE BASE

Item 618E40200 - RUMBLE STRIPS, SHOULDER (CONCRETE) shall be installed along all shoulders for both IR-70 EB and WB. Rumble strips shall be installed up to the physical gores of the ramps.

Interchange Ramps (Exit 208) (includes lanes and paved shoulders):

Existing ramp pavement is the same as the IR-70 mainline, except for varying distances leading up to the SR-149 intersections. During a recent concrete overlay project these areas were replaced with 13" concrete pavement on 6" aggregate base. Pavement cores confirm at least 12" of concrete in these locations.

Proposed full depth pavement composition shall be as follows:

- Item 452E16020- 13" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P WITH QC/QA
- Item 304E20000 - 6" AGGREGATE BASE

Mechanical or grouted reinforcing tie bars shall be used to tie the new pavement to the existing pavement along the ramps.

SR-149 (lanes and paved shoulders):

Existing pavement is 8" - 12" of asphalt pavement.

For the proposed concrete section along SR-149 between Loves/Pilot drives and the IR-70 WB ramps, the proposed full depth pavement composition shall be as follows:

- Item 452E14020 - 10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P WITH QC/QA
- Item 304E20000 - 6" AGGREGATE BASE

The longitudinal joints must follow the lanes lines for the newly developed two lanes of the NB and SB outside lanes. A tied longitudinal concrete pavement joint may be placed at the centerline of construction with the following restrictions:

- No permanent joint may be located on a wheel path
- The width of any placed concrete panel may not exceed 16ft.
- The tied longitudinal joint, except when traversing an intersection, must generally be in the center of the turning lane(s)
- The permanent tied joint cannot be located within a permanent wheel path

For the proposed SR-149 asphalt sections beyond the proposed concrete limits and for pavement widening areas along SR-149, the proposed full depth pavement composition shall be as follows:

- Item 442E20000 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)
- Item 442E20200 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)
- Item 301E56000 - 6" ASPHALT CONCRETE BASE, PG64-22, (449)
- Item 304E20000 - 6" AGGREGATE BASE

In areas along SR-149 where the existing asphalt pavement is being salvaged, Item 254E01000 - PAVEMENT PLANING, ASPHALT CONCRETE, 3.5" shall be performed. The planed surfaces shall then have the following pavement buildup installed atop it:

- Item 442E20000 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)
- Item 442E20200 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448)

All proposed curbing shall be Item 609E26000 - CURB, TYPE 6.

Reco Drive (lanes and paved shoulders):

Proposed full depth pavement composition shall be as follows:

- Item 441E50100 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG70-22M
- Item 441E50300 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- Item 301E56000 - 8" ASPHALT CONCRETE BASE, PG64-22, (449) (TWO 4" LIFTS, ITEM 407 BETWEEN LIFTS)
- Item 304E20000 - 6" AGGREGATE BASE

14 ROADWAY

Conceptual horizontal and vertical alignments are provided in the existing survey and the Conceptual Plans. The DBT shall generally follow the geometrics depicted within the Conceptual Plans; however, final designs must meet L&D Vol1 unless otherwise specifically noted. Proposed variations from the Conceptual Plans' horizontal and vertical alignments and superelevations shall follow the Location and Design Manual, Volume 1 utilizing the design speeds and volumes provided in Table 1-2 - Design Designation.

The proposed typical sections, plans and details within the Conceptual Plans generally indicate the lane, shoulder and walk widths for all roadways and highways. Final lane, shoulder, and

walkway widths shall follow Location and Design Manual, Volume 1 with the following exception: all lanes on SR-149 shall be 12ft.

The 42' dimension between Centerline Survey IR-70 and the Centerline WB and EB IR-70 lanes shall be held and not deviated from.

A WB-62 vehicle shall be used as the design vehicle for all turning movements.

The DBT shall confirm all stopping sight distances (SSD) and intersection sight distances (ISD) comply with the ODOT Location and Design Manuals.

Proposed minimum vertical clearance of 16.5' must be attained between faces of SR-149 curb beneath both proposed bridges.

The lane tapers on SR149 at the Ramp A/Ramp B and SR 149 intersection (12' shift in 158') and the lane tapers on SR149 at the Ramp C/D and SR149 intersection (18' shift in 153') may be designed shorter than the required design speed. At these intersections, the DBT may provide a taper which is equivalent or better (in the rate of taper and distance) than depicted in the Conceptual Drawings. All other L&D requirements shall apply.

The DBT improvements and construction shall conform to the proposed turn lane lengths and lane configurations indicated within the Conceptual Plans.

The maximum side-slopes along SR-149, Reco Drive and the ramps shall be 2:1. A 1.5:1 slope may be used only along IR-70 WB near the proposed approach slabs and bridge abutments. All other slopes along IR-70 mainline shall be 2:1.

Cross sections shall be provided at 25' intervals and at any abrupt change along all proposed roadways/highways and ramps.

Replace all guardrail (partial or full runs) within the Project Limits (Type MGS). All guardrail and anchor assemblies within the Project Limits shall be redesigned and replaced.

SR-149 between the I-70 existing and entrance ramps shall be considered an area which would require Protection on Low Speed Roadways (as per L&D Vol 1 601.1.4). Item 622E10160 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D shall be installed on northbound and southbound SR-149 to protect the substructure(s) of the 0963L&R structures, and as otherwise necessary. Proposed guardrail shall tie to this concrete barrier with appropriate transitions and terminal assemblies.

Curbing along SR-149 shall be Item 609E26000 - CURB, TYPE 6.

Conceptual Plans depict the limits and proposed widths of proposed walk along SR-149. All walks, buffers and appurtenances shall be ADA compliant and shall follow the requirements within the ODOT Location and Design Manual and the Multimodal Design Guide.

The DBT shall follow the geometrics depicted within the Conceptual Plans in regard to proposed driveway configurations and existing driveway removals. Existing driveway removal shall be to the limits of the existing ROW. Proposed driveways shall be installed with a non-reinforced concrete pavement buildup following Section 805.3 - Commercial Drives within the ODOT Location and Design Manual - Volume 1.

14.1 Design Exceptions

The DBT shall notify ODOT regarding any design features that are believed to not meet the minimum design criteria and require a design exception. The DBT shall develop a design which does not require approval of additional design exceptions.

14.2 Interchange Modification/Justifications Studies

The DBT shall prepare a design which is compliant with the Interchange Operations Study, Interchange Modification Study and/or Interchange Justification Study, as applicable. See Appendix D for further information.

15 DRAINAGE

General:

All drainage design shall comply with the ODOT Location and Design Manual - Volume 2 - Drainage Design and using the applicable design criteria listed in Table 1-2 - Design Designation. The DBT shall submit as a Buildable Unit all inlet spacing, storm sewer, ditch, culvert and Post-Construction BMP computations.

The DBT shall comply with all requirements in Section 1009 - Maintenance of Traffic Drainage within the Location and Design Manual, Volume 2 - Drainage Design.

Bridge Deck drainage shall comply with the requirements of the Location and Design Manual, Volume 2 - Drainage Design and the Bridge Design Manual. The DBT shall verify whether a flume or inlet is required adjacent to the proposed IR-70 bridge approach slabs.

Reuse of existing underdrains is not permitted. DBT shall provide unobstructed outlets for all existing underdrains encountered during construction.

Install new 6" Underdrains (the use of 4" underdrains will not be permitted) within the limits of the full depth pavement replacement and pavement widening at the locations shown in the Location and Design Manuals and Pavement Design Manual. The underdrains on the median side are to drain into drainage structures (catch basin, manholes, vaults, etc).

Post-Construction Storm Water Best Management Practices (BMP) according to Location and Design Manual are to be investigated and installed as required by the DBT. The Conceptual Plans indicate locations in which Vegetated Biofilters (VBFs) could be installed to meet the requirements for Water Quality treatment. The treatment requirements, methodology and proposed placement limits of the Post-Construction-BMPs shall be verified, confirmed and be the sole responsibility of the DBT.

The following conduits/culverts shall be replaced due to them being in fair or poor condition:

- CFN 1858223, 292 feet in length of 48"x60" elliptical CMP - traverses under IR-70
- CFN 1858224, 102 feet in length of 54" CMP - traverses under Ramp A
- CFN 1836941, 120 feet in length of 36" CMP - traverses under SR-149

The DBT will replace the culverts in their entirety. If the DBT elects to Jack and Bore a replacement culvert, then the existing conduit will be plugged and filled, as approved by the Project Engineer. If the replacement of CFN 1836941 requires SR-149 to be open cut, the pavement replacement composition will match the asphalt pavement being used on the widened portion SR-149.

All new roadway culverts and culvert extensions will require new headwalls and appropriately sized erosion controls. Drive pipes shall be installed as necessary to convey roadside ditches and swales. Multiple Cell Culverts, as described in L&D Vol2, are not permitted.

The DBT shall submit as a Buildable Unit all inlet spacing, storm sewer, ditch, culvert, drive pipe, detention basin and Post-Construction BMP computations.

Within the Project Limits along SR-149:

The DBT shall replace all drainage facilities, including underdrains, inlets, catch basins, manholes and storm sewers except as noted below. Install a closed drainage system in the areas where curb is installed. All other areas may utilize ditches and/or swales. The closed system installed in these areas may tie into existing systems provided they have adequate hydraulic capacity.

Drainage facilities installed with the "Love's Truck Stop project" on BEL-149-23.44 may be incorporated into the final design; the DBT must confirm adequate hydraulic capacity with the final design. The DBT shall clean out and make free of debris.

Within the Project Limits along IR-70, the Ramps and Reco Drive:

The DBT shall replace all underdrains. Manholes, catch basins, and inlets within the construction limits may remain but shall be adjusted to the appropriate final grades. Culverts may remain in place if the DBT confirms that they have acceptable and adequate hydraulic capacity. Culverts that are to remain may need to be extended, as confirmed by the DBT. Culvert extensions must be made of the same pipe material as the existing conduit. A concrete collar as shown on ODOT SCD DM-1.1 shall be used at all conduit connections between existing and proposed.

All ditches within the project limits shall be regraded. Ditch regrading work involves the creation of a straight line profile along the center line of the channel, as measured along the flow line. Re-establish drainage in situations where sedimentation has changed the flow line from the original profile.

Reestablishment of Pilot's Detention Basin:

As depicted on the Conceptual Plans, the existing detention basin near the southern property line of Pilot is being impacted and within the proposed construction limits. The DBT shall reestablish the functionality, storage, peak discharge, inlet and outlet flow characteristics of this detention basin to be per its existing condition prior to construction.

The following are some of the existing detention basin characteristics, which shall be verified by the DBT:

- Approx. Detention Basin Size = 41,300 cf
- Basin Bottom elevation = 1165.55
- Outlet Structure Grate overflow elevation = 1170.60
- Emergency Spillway Bottom elevation = 1171.23
- Basin Top elevation = 1172.00
- Outlet pipe = 44 foot in length of 24" PVC at 0.10 ft/ft

The DBT shall confirm in the proposed detention basin design that the proposed outlet flow rate and discharges are no greater than the current outlet flow rates for each storm frequency (i.e. 50% AEP or 2 year recurrence interval though the 1% AEP or 100 year recurrence interval).

16 LANDSCAPING

Landscaping Required: ☐ Yes ☒ No

Note: Regardless of other Landscaping requirements, the DBT shall permanently grade and seed all impacted areas.

17 ADDITIONAL DESCRIPTION OF REQUIRED WORK AND SPECIAL PROVISIONS

All fencing within the ODOT Limited Access ROW shall be replaced by the DBT if it is impacted and disturbed by construction activities. The DBT shall also install new Chain link fencing along the ODOT Limited Access ROW limits from approximate IR-70 Sta. 519+27.51, 325'LT to Sta. 519+16.05, 382.75'LT (deflection point) to CL Constr. SR-149 Sta. 135+00, 34.77'RT (installed 2' away from the edge of parking lot along the frontage of Schlepp's Family Restaurant). All fencing and appurtenances shall comply with Item 607 and the Standard Roadway Construction Drawings.

A small height retaining wall may be required along the frontage of Schlepp's Family Restaurant to minimize impacts and contain the proposed work to within the existing rights of way. The DBT shall confirm the limits and extents of this and all proposed retaining walls. Walls under a height of 5', measured from top of foundation to top of wall, may be a modular block retaining wall, with a manufacturer on ODOT's current and approved Qualified Product List.

Special attention to the proposed Reinforced Soil Slope (RSS) that is to be constructed by Love's on the west side of SR-149 across the frontage of the existing sanitary pump station building. See Appendix K for additional details. This RSS shall be undisturbed by the DBT.

18 STRUCTURES

18.1 Existing Structures Identification

18.1.1 Existing Structure: SFN 0702226L

Structure Identification: BEL-70-09.63L

Feature Intersection: Over SR-149

☐ No Work ☐ Rehabilitate ☒ Replace ☐ Remove

Existing Structure Data:

Overall Length: 121.08'

Width o/o: 46.0'

Design Loading: HS20 Case I and the Alternate Military Loading (Superstructure); CF2000 (57) (Substructure)

Type: 3-span Continuous Composite Steel Beam A709 Grade 50W Supported by Modified Substructure

Spans: 35'-10" - 44'-11 3/4" - 35'-9 1/4" C/C Bearings

Date Built: 2011

18.1.2 Existing Structure: SFN 0702250R

Structure Identification: BEL-70-09.63R

Feature Intersection: Over SR-149

☐ No Work ☐ Rehabilitate ☒ Replace ☐ Remove

Existing Structure Data:

Overall Length: 121.09'

Width o/o: 43.0'

Design Loading: HS20 Case I and the Alternate Military Loading (Superstructure) with FWS of 60 psf; CF2000 (57) (Substructure)

Type: 3-span Continuous Composite Steel Beam A709 Grade 50W Supported by Modified Substructure

Spans: 35'-10" - 44'-11 3/4" - 35'-9 1/4" C/C Bearings

Date Built: 2011

18.2 General Requirements

All Shop Drawings shall comply with Item 501.

Initial foundation investigation will be provided by the Department.

The DBT shall determine the need for additional subsurface investigations necessary to complete the Project. Geotechnical explorations shall be performed and documented in accordance with the Specifications for Geotechnical Explorations.

Proposed bridges are to be completely new structures. No portion of existing bridges are to be incorporated into the final structure. Proposed minimum vertical clearance of 16.5' must be attained between faces of SR-149 curb beneath both proposed bridges.

All the requirements stated in Proposal Note 555 - *Surface Smoothness for Bridges and Approaches* apply to this project.

Bridge Type:

New bridges must be 3-span continuous composite steel beam structures with no skew. No other structure type will be allowed. The eastbound and westbound bridge span arrangements must match. The 0693L & 0963R structure must be the same type and configuration.

Center span must be a minimum of 71'-8" center-to-center of pier bearings; however, the DBT shall determine the final required dimensions. The ratio of the length of the end spans to the intermediate span must be a minimum of 0.65. Uplift must be prevented regardless of end span length.

Epoxy-urethane sealer must be applied to all concrete surfaces specified in the BDM.

Approach Slabs are to be 25' long per ODOT Standard Construction Drawing AS-1-15. Approach pavement shall be the full width of the bridge approach slabs. Transition graded and/or paved shoulder widths per L&D Vol 1 section 301.2.3.2.

Superstructure:

Use longitudinal steel beams with a hot-dipped galvanized coating. Minimum depth-to-span ratios per AASHTO Table 2.5.2.6.3-1 must be satisfied. Follow all BDM requirements concerning bolted connections, bolt hole sizes, etc., for galvanized beams. Place 2" conduit runs in all final barriers for highway lighting. Install conduit from the barrier to new pull boxes near each end of each barrier.

Deck and parapets shall be cast-in-place.

Deck widths shall be consistent across the individual structure; the left and right structure may have differing widths.

Scuppers are not preferred, however scuppers will be permitted in permanent conditions if necessary due to permanent or temporary drainage requirements. Scuppers must drain directly without a "piping" system. Scuppers may not drain over permanent lanes of traffic, including shoulders and pedestrian walkways.

Superstructure design shall be redundant designs.

Structure designs with concrete end diaphragms, BDM Table 702-2 shall be used to determine the concrete end diaphragm placement requirements. The applicable BDM 702.4.2 note(s), as prescribed in BDM Table 702-2, shall be included in the plans. The concrete end diaphragm closure pour requirements of BDM 306.2.2.5 and 306.2.2.6 do not apply where BDM Note 702.4.2-5 is applicable.

Substructure:

Abutments must be either Integral per BDM 306.2.2.5 or Semi-integral per BDM 306.2.2.6. No expansion joints are allowed in the structure.

Piers must be cap-and-column type. BDM Figure 1003-1 must be followed.

Abutments and piers must be supported on "Deep Foundations" as described in the BDM, and all foundations must satisfy all requirements of the BDM.

The substructure shall be a redundant design.

The left and right superstructures shall have independent substructures.

Slope protection shall be the same at all installation locations.

18.2.1 Proposed Structure: SFN 0702227

Structure Identification: BEL-70-0963L

Feature Intersection: Over SR-149

Alignment & Profile

Alignment:

☒ Follow Existing

☐ Relocated: ☐ Per ODOT ☐ Per DBT

Profile:

☐ Follow Existing

☒ Relocate: ☐ Per ODOT ☒ Per DBT

☐ Feathered (Adjustment): ☐ Per ODOT ☐ Per DBT

Span Configuration:

☐ Per Original

Span Lengths:

☐ Per ODOT ☒ Per DBT

☐ Variable

Transverse Sections

Proposed minimum toe to toe of parapet - 46' (2 - 12' lanes, 1 - 10' median shoulder and 1 - 12' outside shoulder).

Roadway Width:

Proposed maximum toe to toe of parapet - 54'. (2 - 12' lanes, minimum median shoulder - 10', minimum outside shoulder - 12'. Note: Median shoulder and outside shoulder may exceed minimums.)

Railing: ☒ Yes ☐ No Type: SBR-1-20 Single Slope Concrete Barrier

Fence: ☐ Yes ☒ No

Sidewalks: ☐ Yes ☒ No

Investigate the need for Prefabricated Structure: ☐ Yes ☒ No

Investigate the need for Retaining Walls: ☐ Yes ☒ No

Required Work:

See Section 18.2 - General Requirements

18.2.2 Proposed Structure: SFN 0702251

Structure Identification: BEL-70-0963R

Feature Intersection: Over SR-149

Alignment & Profile

Alignment:

☒ Follow Existing
☐ Relocated: ☐ Per ODOT ☐ Per DBT

Profile:

☐ Follow Existing
☒ Relocate: ☐ Per ODOT ☒ Per DBT
☐ Feathered (Adjustment): ☐ Per ODOT ☐ Per DBT

Span Configuration:

☐ Per Original

Span Lengths:

☐ Per ODOT ☒ Per DBT
☐ Variable

Transverse Sections

Proposed minimum toe to toe of parapet - 46' (2 - 12' lanes, 1 - 10' median shoulder and 1 - 12' outside shoulder)

Roadway Width:

Proposed maximum toe to toe of parapet - 54'. (2 - 12' lanes, minimum median shoulder - 10', minimum outside shoulder - 12'. Note: Median shoulder and outside shoulder may exceed minimums.)

Railing:

☒ Yes ☐ No

Type:

SBR-1-20 Single Slope
Concrete Barrier

Fence:

☐ Yes ☒ No

Sidewalks:

☐ Yes ☒ NoInvestigate the need for Prefabricated Structure: ☐ Yes ☒ NoInvestigate the need for Retaining Walls: ☐ Yes ☒ No**18.3 Noise Barrier**Noise Barrier Construction Required: ☐ Yes ☒ No**19 TRAFFIC CONTROL****19.1 Pavement Markings and Delineators**

The DBT shall perform Work related to pavement markings and delineators in accordance with Section 7.1 and the following sections.

A. Pavement Marking Requirements and Locations

IR-70 and Ramps shall use Supplemental Specification (SS) 807 - Wet Reflective Epoxy Liquid Applied Pavement Markings and SS850 - Grooving for Recessed Pavement Markings

SR149 (asphalt and concrete) and Reco Drive shall use Item 646 - Epoxy Pavement Marking.

B. Raised Pavement Markers: ☒ Yes ☐ No.

C. Delineators: ☐ Yes ☒ No.

D. Barrier Reflectors: ☒ Yes ☐ No.

All barrier reflectors shall conform to Item 626 and shall be placed on bridge parapets, concrete barrier walls, retaining walls and guardrail, in accordance with current design standards. Guardrail blockout reflectors shall be installed on the side of the blockout away from traffic.

E. Object Markers: ☒ Yes ☐ No.

All object markers shall conform to Item 630, Sign, Flat Sheet.

F. Rumble Strips: ☒ Yes ☐ No.

Requirements and Locations: Along I-70 Mainline EB and WB shoulders.

19.2 Signing

The DBT shall perform Work related to signs in accordance with Section 7.1 and the following sections.

19.2.1 Flat Sheet Signs

A. Flat Sheet Sign work required: ☒ Yes ☐ No.

1. Redesign and replace all existing flat sheet signs with new signs within the Project Limits except as listed below. Redesign and replace existing signs which would conflict with the proposed improvement. This includes all signs on the mainline and interchange ramps. This also includes all STOP signs on intersecting roads. Size the signs in accordance with the OMUTCD.

- a. The following signs shall be removed and not replaced: *W3-3 Signal Ahead at Sta. 116+40.*

2. Existing installations which are no longer necessary due to the proposed improvements shall be removed. Removed flat sheet signs shall become the property of the Contractor.

19.2.2 Extrusheet Signs

1. Extrusheet Sign Work Required: ☒ Yes ☐ No.

Redesign and replace all existing extrusheet signs with new signs within the Project Limits. Redesign and replace all existing signs which would be in conflict with the proposed improvement. This includes all signs on the mainline and interchanges ramps. Size the signs in accordance with the OMUTCD.

2. Existing installations which are no longer necessary due to the proposed improvements shall be removed. Removed extrusheet signs shall become the property of the Contractor.
3. Revise the legends on the new Extrusheet signs as needed to incorporate the new lane configurations.
4. Add new Extrusheet signs as needed to accommodate the new lane configurations.

19.2.3 Ground Mounted Post Supports

- A. Replace: ☒ Yes ☐ No.

1. Redesign and replace all existing ground mounted post supports with new supports within the Project Limits. New sign installations shall be on new supports. No reuse of existing ground mounted supports shall be allowed. Existing installations which are no longer necessary due to the proposed improvements shall be removed.
2. Existing installations which are no longer necessary due to the proposed improvements shall be removed. Removed ground mounted supports shall become the property of the Contractor.
3. For No. 2 and No. 3 posts, direct driven U channel, direct driven square post, and square post in anchor base are considered as equivalents on ODOT SCD TC-41.20. U-channels may be used instead of square posts for small extrusheet signs.

19.2.4 Ground Mounted Beam Supports

- A. Ground Mounted Beam required: ☒ Yes ☐ No.

1. Redesign and replace all existing ground mounted beam supports with new ones within the Project Limits.

2. Supports subject to multidirectional impacts at intersections shall use the alternate connection on sizes larger than S4 x 7.7.
3. For structural beam supports, the slip base and alternate connection as shown on SCD TC-41.10 are considered as equivalents.
4. Structural beam sign supports subject to multidirectional impacts at intersections should use the alternate connection on sizes larger than S4 x 7.7.
5. Existing installations which are no longer necessary due to the proposed improvements shall be removed. Removed ground mounted beam supports shall become the property of the Contractor. Remove all existing foundations.

19.2.5 Overhead Supports

A. Overhead Supports: ☒ Yes ☐ No.

1. Design and construct all supports, as necessary per the Traffic Engineering Manual, unless otherwise specified in the Scope of Services.
2. At all required locations, a minimum vertical clearance shall be per the Traffic Engineering manual unless otherwise listed.
3. All new and impacted locations shall have the sign attachment assemblies replaced.
4. Existing installations which are no longer necessary due to the proposed improvements shall be removed. Removed overhead supports and sign lighting components shall become the property of the Contractor.

19.2.6 Tourist-Oriented Directional Signs

A. Tourist-Oriented Directional Signs (TODS) and logo signs: ☒ Yes ☐ No.

Tourist-Oriented Directional Signs (TODS) and logo signs are installed and maintained by Ohio Logos, Inc., under contract with and in locations approved by ODOT. Under the terms of the contract, the DBT shall be required to temporarily relocate the signs during construction. Provide temporary suitable supports, adjust the location with the Engineer's approval, and temporarily re-erect the signs. Signs shall be re-erected within 72 hours of removal. Remove and dispose of the existing foundations. The DBT shall visually document the condition of the signs prior to disturbance by the DBT. The DBT is responsible for any damage to the sign during construction. Upon completion of the project, the DBT shall contact Ohio Logos at 1-800-860-5646 to coordinate permanent relocations of TODS and logo signs.

19.3 Lighting

The DBT shall perform Work related to lighting in accordance with Section 7.1 and the following sections.

1. DBT shall design and construct Partial Interchange Lighting.
2. DBT shall design and construct underpass lighting if warranted.
3. DBT shall design all the lighting power services and circuitry.
4. Conventional Continuous Lighting equipment shall be installed along SR-149 within the project limits.
5. The Department has responsibility for the existing lighting.
6. The Department shall resume maintenance of the system following the final inspection and acceptance of the project.
7. The light source shall be light-emitting diode (LED).
8. Lighting fixtures of various manufacturers are not identical in their respective outputs. The DBT shall include supporting calculations to allow the reviewer to determine that the proposed design will function within the required design parameters as stated herein no matter which of the currently specified equipment brands is installed.
9. The DBT will provide a lighting plan approved by ODOT for preliminary pole location and circuit design.
10. Unless otherwise specified in the plans, all luminaires with asymmetric distribution will be installed so the “arrow” or “street-side” designation on the optical assembly is positioned perpendicular to the centerline or baseline of the pavement from which the tower is stationed. Any optical rotation called for will be expressed as a clockwise [cw] or counterclockwise [ccw] angular measurement from the normal “arrow” position.
11. The power supply agency for this project is American Electric Power (AEP), 777 Hopewell Drive, Heath, Ohio 43056, (740-985-3054), ATTN: Clarke Saunders.
 - a. For each power service location, the DBT will provide written concurrence from the power company involved that service will be provided at that location.
 - b. The invoiced costs from the power supply agency for establishing the account, extension of company facilities, connection to proposed equipment for establishing the lighting power supply will be per 625.15.
 - c. All power service will be metered.
 - d. The DBT will provide the locations of all power services, both existing and proposed, to the District, for approval during the preliminary review.
12. The Department will own the existing replaced equipment. The existing light poles, including the bracket arm and transformer base, are to be removed and delivered to ODOT District 11. The DBT will contact the Department three working days prior to the

delivery. The delivery will take place Monday through Friday between 8:00 a.m. and 2:00 p.m.

- a. The existing wiring and luminaire will be removed from the pole and bracket arm and disposed of off the project.

13. The following notes from the Traffic Engineering Manual Notes and Drawings shall apply:

- a. 1142-20 [PADLOCKS AND KEYS]

19.4 Traffic Signals

The DBT shall perform Work related to traffic signals in accordance with Section 7.1 and the following sections.

1. Traffic signals shall be installed at the following locations.

- SR-149 and Bond Drive
- SR-149 and I-70 WB ramp
- SR-149 and I-70 EB ramp
- SR-149 and Reco Drive
- SR-149 and Love's/Pilot Entrance

2. All signals shall be interconnected wirelessly with modems and high-speed radios.

3. Design and install all new controllers, work pads, cabinets, conduit, wiring, signal heads, poles, supports, pullboxes, and any other equipment or materials necessary for all new signalized intersections. Existing equipment shall not be reused. Coordinate with the Project Engineer for the delivery of the existing cabinets and controllers to the ODOT Dist. 11 headquarters.

4. Combination poles shall be used to luminate the signalized intersections.

A. Signal Support work required: ☒ Yes ☐ No.

1. Shall be galvanized steel. No wood poles.
2. Location of the supports shall be as per the Traffic Engineering Manual (TEM).
3. Mast arms shall be used for permanent installation.
4. Span wires may be allowed for temporary signals during construction.
5. Location of the supports shall be as per the Traffic Engineering Manual.
6. Clearance from overhead electric wires shall be as per utility company requirements.

B. Vehicle Signal Heads: ☒ Yes ☐ No

1. Shall be made of polycarbonate.
2. Lenses shall be 12 inch and made of glass.
3. Shall be completely black except for the inside of visors which shall be black.
4. Tri-stud wire entrance fitting
5. Far side mounting of signal heads shall be used as much as practical.
6. For protected/permissive operation of a 5-section signal head (either left or right turn), the recommended location of the signal head is over an extension of the

channelizing line, through the intersection, that separates the turn lane and the through lane.

7. Shall have backplates with reflective yellow tape outline.
8. Shall be rigidly mounted on mast arms.
9. Shall be LED.

C. Pull box: ☒ Yes ☐ No

1. Shall be concrete, CMS 725.08, 18-inch minimum opening size.
2. Shall not be located in curb ramp areas.
3. Shall not be located where subject to vehicular traffic.
4. All existing pull boxes no longer in use shall be removed.

D. Conduit: ☒ Yes ☐ No

1. Maximum conduit run length between pull boxes and/or poles is 200 feet.
2. Conduit under roadway pavement shall be 3 inch diameter minimum.
3. Conduit must be sized for the number and size of the conductors contained in the conduit. Cable fill should not exceed the allowable amount inside of the cross sectional area of the conduit as stated in the TEM.

E. Cable and Wire: ☒ Yes ☐ No

1. Unswitched power cable shall not be run inside of conduit, poles or pull boxes containing other signal cables.
2. Lighting cables operating at voltages higher than 120 volts shall not be run inside of conduit, poles or pull boxes with signal cables.
3. Utility company approval shall be obtained for the attachment of any interconnect cables to utility poles, and for the location of power sources.
4. All abandoned cables shall be removed from aerial spans, conduit and pull boxes. Direct burial cables will be abandoned in place.
5. Signal messenger wire size shall be 3/8-inch diameter.

F. General

1. All signal installations shall be designed and equipped for "approach monitoring". If a two-phase signal is used, a dual ring controller and cabinet wiring utilizing phases 2+6 and 4+8 will be furnished and installed.
2. UPS will be installed at all signalized intersections. The UPS and Controller shall be set as per ODOT Plan Insert Sheet 208320.
3. Vehicle detection shall be radar detection in accordance with the ODOT Traffic Engineering Manual (TEM).
4. All pedestrian crossings shall be controlled in accordance with the ODOT Traffic Engineering Manual (TEM).

Signal(s) part of an Intelligent Transportation System (as defined by the Traffic Engineering Manual, Part 13): ☒ Yes ☐ No

19.5 Intelligent Transportation Systems (ITS)

A. ITS Work Required: ☒ Yes ☐ No

Prior to the beginning of Work, the DBT shall coordinate with ODOT Central Office of Traffic Operations for an operational inspection of the CCTV camera installation I-70

median west of SR-149. The inspection (camera, pole, cabinet, and cabinet components) shall document any defects or issues with the installation prior to the beginning work. The DBT will not be liable for defects or issues noted during the inspection.

If the DBT's Work conflicts with the CCTV camera pole and cabinets in the IR-70 median west of SR-149, the DBT may remove, salvage, store, and re-erected the installation in a new location. This relocation would include the ITS cabinet and all ITS components within the cabinet. The existing camera pole is backfilled with polyurethane foam. During the removal of the camera pole for salvage, the DBT shall take caution in the removal and excavation around the camera pole and the subsequent removal of the polyurethane foam. CCTV items to be reused and are subsequently damaged due to DBT's improper removal, transportation, improper storage, or other action under the control of the DBT shall be the responsibility of the DBT. Any elements damaged beyond use due to DBT's improper removal, transportation, improper storage, or other action under the control of the DBT shall be replaced at no cost to the Department.

Twenty-one (21) calendar days prior to the CCTV camera and/or cabinet being taken out of service, the DBT shall coordinate with ODOT Central Office of Traffic Operations. ODOT Central Office of Traffic Operations shall setup and provide a portable camera trailer for use during the potential timeframe the permanent CCTV camera is non-operational. The DBT and the Office of Traffic Operations shall mutually determine a location for the temporary CCTV camera.

- 20** The DBT shall determine the final reinstallation location; however, the CCTV camera installation and the cabinet shall occur at a location as close as reasonably possible as its original location. Any existing conduits and pullboxes (or other camera installation components) not impacted by the DBT's work can be reused; however, the DBT shall design and install any new conduits, ITS wiring and pullbox locations, as necessary, to reconnect the camera and cabinet. The DBT can assume the same foundation installation depth. Re-installations shall be built per all applicable Standard Construction Drawings, notably ITS-10.11, 12.10, 14.10, 14.11. The designer DBT shall also refer to the TEM Part 13 for all ITS requirements. The DBT shall leave the camera operational until such time the camera installation conflicts with the DBT's work. While the camera installation may remain inoperable during the physical work, the camera shall be operable upon all traffic being in their final configuration.
- ## **PROJECT SCHEDULE REQUIREMENTS**

The DBT shall develop and maintain a project schedule in accordance with the selected note:

- ☐ CM&S 108.03 A. Progress Schedule
- ☐ Proposal Note 105 - Critical Path Method Progress Schedule for Single Season Projects
- ☐ Proposal Note 107 - Critical Path Method Progress Schedule for Multi-Season Projects

☒ Proposal Note 132 - Critical Path Method Progress Schedule for Design/Build Multi-Season Projects including updates released on or before the prebid meeting date, shall be met or exceeded.

21 PLAN SUBMITTALS AND REVIEW REQUIREMENTS

21.1 Plan Components

All plans format submitted by the DBT shall be in conformance with the following ODOT manuals:

1. Real Estate Policies and Procedures Manual Section 3100.
Note: The DBT shall also identify all topographic features within the existing and proposed Right-Of-Way limits, including underground utilities.
2. Bridge Design Manual.
Note: Bridge subsummaries are required.
3. Location and Design Manual, Volume 3:
The following sections of the Location and Design Manual, Volume 3 are NOT required:

1302.13	Plan Signatures
1307.2	General summary sheet
1307.4	Quantity Calculations
1310.3	Earthwork and Seeding Quantities

Units of measure are **NOT** required.

Simplified plans (section 1301.2) are **NOT** allowed.

21.2 Quality Control

The DBT is responsible for the professional quality, technical accuracy and adherence to the Governing Regulations listed in Section 7.1 (Governing Regulations) of this document, for all plan submittals required under this contract.

The DBT shall immediately notify the Department of any apparent discrepancy between the various design and construction manuals and the Contract Documents.

The Department shall have the discretion to dictate the level of Design review. The Department's acceptance of the design or failure to identify improper design does not, in any way, relieve the DBT of the responsibility for the quality, accuracy, or feasibility of the Design.

In the event the Department determines that any required submission is incomplete, contains inaccuracies which preclude a meaningful review, or does not adhere to the Governing Regulations listed in Section 7.1 (Governing Regulations) of this document, the Department will

advise the DBT of the shortcomings and direct the DBT to revise and resubmit the plan. No time extension will be granted because of such action. The Department will schedule a review meeting or issue review comments as appropriate.

21.3 Buildable Units

Buildable Units (BUs) are portions of the projects which can be designed, reviewed, and built with only limited controls and assumptions coming from the design of other portions of the project. Often a Buildable Unit will be defined by a geographic area within the plan, but it may also be defined by types of work or construction stages which may require or permit similar, nearby work to be divided into separate Buildable Units. All Buildable Units shall summarize the materials required to construct that portion of the project. The summary shall include the Construction and Material Specifications Item Number, and a description of the materials to be used.

For the Interim (Section [21.9](#)), Final (Section [21.10](#)), Released for Construction Plans (Section [21.11](#)) Design submittals, the DBT may break the project work into two or more separate BU which can be progressed through design and construction with minimal or known effect on each other and/or which can be dealt with sequentially such that sufficient data is available for design and review of each BU. In order that the design and construction of one BU may proceed without significant approved information from an associated BU, the DBT may develop and propose assumptions which will allow for the first BU to proceed through design and/or construction. These assumptions shall be submitted for review and comment but their accuracy and effort upon the final design are the sole responsibility of the DBT. Should error in these assumptions result in additional work, remedial work, or other changes to assure an acceptable design or should they result in the need to remove work and substitute additional work, the Contractor shall be responsible for all such costs including, removal of unacceptable materials from the site, modification, additional work, repairs, etc. as necessary to produce an acceptable result.

If the DBT elects to develop Buildable Units, the DBT shall prepare, for review by the Department, a table of Buildable Units for the project with each BU described in detail. If the table is approved, the DBT shall modify the Progress Schedule to show a separate group of activities for BU and these activities shall encompass all the design and construction work in each BU. The Progress Schedule for design review shall be developed such that information from other dependent BUs is available at the time of submission of the BU at hand. Work activities shall be further separated in the Progress Schedule to show a meaningful completion status (i.e. separate activities comprising the placement of a bridge deck on steel beams shall describe; shoring, form building, steel placement, placement of conduit & joints, pouring concrete, forming parapets, pouring or slip forming parapets, provision of membranes, provision of wearing surfaces, curing, repair, form removal, cleaning, etc.).

The Final Review Submission and Construction Plans shall specifically be identified by the Buildable Unit code. If the design of a BU requires input information from an adjacent or related BU, the source for that information in previously approved plans shall be cited or the DBT shall provide an estimated value of the data. The input data shall also be carefully identified. In the same way any assumption, calculations or results from the stage and BU

which are used as input to another BU shall be similarly identified, and where appropriate, compared back to that BU to verify previous assumptions. Should assumptions not match values calculated later, the DBT shall re-analyze all affected components and determine appropriate changes. Should those elements have already been constructed, the DBT shall recommend repairs, adjustments, modifications, or replacement of the existing work as necessary to comply with the Scope of Work. All costs for re-design, re-submissions, modifications, removals, disposal of materials and new work needed to remedy the project and bring it to compliance shall be borne by the Contractor and no time extensions shall be approved.

21.4 Comment Resolution Process

This section establishes transmittal processes and interaction between the Department and the DBT during submittal reviews in addition to the requirements found within the Scope of Services and other Contract Documents. The process can be modified upon mutual agreement between the DBT and the Department with the intention of meeting the requirements of the Contract or specific submission needs. This process may be revised by mutual agreement of both parties.

Specific identified procedures may be amended, revised, eliminated, or added to address project specific needs or mutual party understanding.

This process shall utilize electronic transmittals for all design submissions unless otherwise specified in the Scope of Services. Plan and design submissions shall be in PDF format, Microsoft Excel, Microsoft Word, or other document types as mutually agreed and appropriate to and for the submission.

Submissions should generally conform to the Scope of Service and other specification included in the Contract Documents, as appropriate, with variations as mutually agreed.

The Department shall establish a file transfer website (typically, an ODOT Project SharePoint, ProjectWise site, or other appropriate file transfer and storage site), with controlled and controllable access, for uploading design submissions and subsequent transmittal of design review comments.

Project specific process details shall be discussed at the Pre-Design Meeting. These details include the responsible contacts (Department and DBT), file server location/IP address, known required persons needing access, and login requirements.

A. Procedure

The Department will grant access to an identified DBT representative who will have authority and responsibility to create Buildable Unit Submission (BUS) folders and other folders within the transfer website. Each folder shall be logically named. Within each BUS folder, additional folders representing each stage of review (i.e. Interim/Final/Construction) will be created. If mutually agreeable, the DBT may perform this role if management by the DBT facilitates submissions.

With each Buildable Unit with each Design Submission, the DBT shall include a transmittal sheet describing the BUS, the BUS stage (Interim/Final/Construction), the contractual review response date (from the Department as well as any other third-party reviewer, if applicable),

critical assumptions made for the BUS impacting subsequent BUS submissions, and any information which could facilitate review.

The DBT shall develop and utilize a Comment Resolution Spreadsheet (CRS) for each Buildable Unit with each Design Submission (Interim, Final, Construction) for use in logging and tracking review comments. The DBT shall provide a blank CRS to the Department and other third-party reviewers at Interim Design Submission. The Department and applicable reviewing agencies shall review for Contract requirements. The Department will utilize the CRS document to centralize all Department employee Buildable Unit Design Submission comments.

Department review comments will primarily focus on compliancy with the Contract Documents. The Department will refrain from making excessive preferential and formatting comments. Reviewer preferential comments shall be marked "Preference" within the CRS. While formatting comments do not need responded to, the Department reserves it's right to reject a submission which, in its judgement, is not reasonably following required ODOT CADD standards.

An updated copy of the CRS shall be provided to all reviewers at the Final Submission. With the Final Submission on the transmittal page, the DBT shall identify major design revisions and design approaches made between Interim and Final Submission being outside the course of typical design progression and were not made to address Interim Review comments. The updated copy shall include all comments received at Interim submittal along with the DBT's written disposition of all Non-Compliant comments made during formal Interim design submittals. The Department and other appropriate third-party reviewing agencies will review the DBT's formal disposition to Interim Submittal review comments as well as revised plans to respond to previous comments. The Department will include any additional comments based on the Final Design Submittal review within the CRS.

The DBT shall clearly identify if an ODOT Interim review comment responded with an "Accept" by the DBT is not being corrected within a Final submission. If an "Accept" comment is not being addressed, the DBT shall clearly describe the intended resolution for the RFC submission. The Department may require additional information before the Construction Plan submission, or may request a Comment Resolution meeting (or phone call if appropriate) to understand the DBT's design direction. The DBT shall memorialize the time of the Comment Resolution Meeting within the CRS submitted with the Construction Plans.

In the event the DBT believes that any review comment, or direction issued by the Department or other third-party review, require a change to a Contract, the DBT shall first contact the Department for clarification and shall, within 10 days of receipt of the comments or direction, provide written notice to the District Project Manager and Project Engineer concerning the reasons why the DBT believes the scope has been changed.

The DBT is not required to comment nor respond to ODOT identified Preference comments.

For comments considered substantial to the Department or the DBT, the DBT shall schedule a Comment Resolution Meeting with the Department to discuss.

1. The Department shall notify the DBT, either within the CRS or other notice, if the Department requires a Comment Resolution Meeting.

2. The DBT shall notify the Department within seven days of any “Non-Compliant” comments they intend to “Dismiss” or “Resolve”. The DBT shall schedule a Comment Resolution Meeting prior to the next stage submittal.
3. For less substantial comments and as agreed by the Department and the DBT, a comment resolution conference call may be sufficient.

The DBT shall obtain Department concurrence with the “Non-Compliant” comment dismissal and this concurrence shall be documented on the CRS.

The DBT shall resolve all outstanding issues and comments from the Final Submittal (or other outstanding comments) and prepare a full set of Design Documents stamped “Checked and Ready for Released for Construction” (RFC). The Department’s expectation is that no revisions shall be made except for those required to address Final review comments. If other revisions are required unrelated to review comments, the DBT shall notify the Department and coordinate revisions for concurrence.

The Department shall review to ensure all comments from final reviews have been resolved or “Closed” to the satisfaction of the Department. There is no formal review period for Construction submission.

The DBT has the responsibility for ensuring the RFC meets all contract requirements. If upon Department review it is determined that it is questionable as to whether comments received from the Department or other agencies have been resolved or addressed appropriately, the DBT shall stop construction of the portion of the Buildable Unit in question, consult with the commenter to resolve such comments. The DBT shall document resolution of the comment within the CRS.

The DBT continues to be liable for design accuracy regardless of ODOT review.

B. General Third-Party Requirements

A “Third-Party”, regarding the Design-Build Comment Resolution process, is any overseeing agency with oversight and design approval authority of relevant portions of the design as identified in the Contract.

Other third-party reviewers may not utilize the CRS.

It is the DBT’s responsibility to reasonably add all third-party markups and comments received; the DBT shall consolidate third-party comments into the CRS corresponding to each Buildable Unit and save on the ODOT Project SharePoint site. Any plan markups shall also be scanned by the DBT and included on SharePoint within the appropriate BUS folder.

The DBT shall address all third-party review comments. All third-party review comments shall be, initially, considered as a “Non-compliant” comment type, as identified below.

With ODOT’s concurrence, the DBT may subsequently identify comments as potentially a “Preference” or “Recommendation”. The DBT shall obtain Department concurrence with the “Non-Compliant” comment dismissal and this concurrence shall be documented on the CRS.

C. Comment Resolution Spreadsheet

Minimum requirements of the CRS along with information on content is included below. The DBT may modify format or include additional information with Department concurrence.

Reviewer	
Comment ID No	Consecutive listing
Document	Submittals may include multiple components including plans, reports, calculations, etc. This column will list which item the comment is on.
Page	Page reference/location comment refers to
Comment type	<p>Either “Non-compliant”, “Preference”, or “Recommendation”.</p> <p>Non-compliant - elements that do not meet requirements of the Contract.</p> <p>Preference - elements which depict the owner’s preferred design method or result but are not required by the Contract.</p> <p>Recommendation - a general noted item intended to make the designer aware of potential troublesome design methods.</p>
Contract Section	If Comment Type is Non-compliant to the Contract, the reviewer shall include the Contract Document of the requirement that is non-compliant (for example, Scope Section 8.2, L&D Volume 1, BDM, etc.)
Reviewer Note	A Reviewer Note is optional but is recommended to ensure the designer understands the intent to the comment made. Reviewer shall note if a Comment Resolution Meeting or discussion is desired.
Reviewer Agency	Representing Agency
Reviewer Name	Name of reviewer
DBT Response	
Resolution Code (Approve, Dismiss, or Resolve)	<p>Accept - DBT agrees with the comment and addressed the comments</p> <p>Dismiss - DBT disagrees with the comment based on comment no longer applying because the design has changed, reviewer error, or other reasons.</p> <p>Resolve - DBT needs additional clarification and/or coordination to address the comment accordingly. Comment may also reflect a change to the Contract Documents which will require additional discussion and direction by the Department due to the financial/schedule impacts.</p>

DBT Comment/Disposition	The DBT shall provide a more detailed response to the comment as necessary. Response shall note if a Comment Resolution Meeting or discussion is desired.
Reviewer Response	
Status	Open - the submittal did not address the original comment made. Closed - the submittal or disposition addresses the original comment. The DBT shall schedule a comment resolution meeting with the Department to discuss any comments from previous submittals that remain "Open" according to the reviewer. The DBT and the Department will also discuss whether review comments are in conformance with the Contract Document requirements or preferential comments. For less substantial comments and as agreed by the Department and the DBT, a comment resolution conference call may be sufficient.
Reviewer Name	Name of reviewer
Date Closed	Date that the reviewer responded to the comment.
Comments	Provide a more detailed response clarifying why comment remains "Open" or other information

21.5 Document Management

The DBT shall create and maintain a BUS Log sheet to facilitate submission tracking. The BUS Log shall identify the name of the Buildable Unit, brief description of the BUS, Interim Design submission date, Interim Submission review comments transmittal date, Final Submission date, Final Submission comments transmittal date, Released for Construction date, and a BUS Comments field. The BUS Comments field shall note any necessary resubmissions, dates of Comment Resolution meetings with noted submission stages, Over-the-Shoulder meeting dates resulting in design adjustments, or any other needed summarized data to help understand the BUS process. The BUS Log Sheet may be modified as necessary to facilitate review. The BUS Log shall be maintained in the master project folder, or in a location mutual agreeable and accessible to the DBT and the Department.

The DBT shall create a folder for each BU on the Department's Project SharePoint Site. Each BU folder shall have an "Interim", "Final", and "RFC" folder. All Design Documents (plans, calculations, reports, etc.) submitted at each phase (Final, Interim, RFC) shall be uploaded by the DBT to the Project SharePoint Site. An updated CRS at each submittal shall be included in each folder with the latest including all comments "closed". Meeting minutes from comment resolution meetings or over-the-shoulder reviews shall be prepared by the DBT and saved to SharePoint.

21.6 Optional Pre-submission Meeting

The DBT may request a Pre-submission Meeting to be held prior to, or concurrent with, the submission of a Buildable Unit. The intention of the Pre-submission meeting is an opportunity for the DBT to explain design intent to facilitate owner review. Formal assembly and submittal of drawings or other documents will not be required, but the DBT is encouraged to provide informal submittals to facilitate reviews.

21.7 Optional Over-the-Shoulder Reviews

The DBT or the Department may request “Over-The-Shoulder” (OTS) review of designs at any time in the design process. The OTS is an informal review of a partial design during development. This may include in-progress drawings, calculations, sketches, design concepts, proposed specifications, or any other document used or created during the design. They are to facilitate communication and the design process. These can be in the form of a phone call, meeting, correspondence, or any other means of information sharing between the DBT and the Department.

An Over-the-Shoulder review may be necessary to discuss direction on potential design changes. An OTS may be requested during any period in the design development. Appropriate third-party agencies, as well as the DBT and Department, may also participate in these meetings. The DBT or the Department may include the decision or direction given in an OTS within the applicable CRS submission.

The OTS reviews shall not replace the formal Interim and Final Review. Likewise, the Department may also request an OTS review during any stage of design to facilitate review or design development.

21.8 Major Design Decision

Separate submittals for concurrence with major design decisions are required. The submittals may be required during any phase of Design. Major design decisions involve significant utility relocation, unforeseen acquisition of ROW by the Department, traffic operation or geometric decisions that involve two or more viable solutions, designs not typical nor standards not ordinarily exercised by members of the engineering profession practicing under similar conditions at the same time and locality, and any other decision that impacts the public, operation of the facility or designs which require future long term excessive maintenance. The level of development of the submittal is dependent upon the level of detail necessary to accurately depict the major design decision.

When the DBT becomes aware of additional decisions during the design, they must advise the District Project Manager in writing.

21.9 Interim Design Review Submission

For each Buildable Unit, the DBT shall submit the Interim Design submission for review by the Department and other third-party agencies as appropriate.

Interim Design Submission is defined as followed:

- A. Maintenance of traffic, traffic signals, lighting, utilities (water, power, sanitary, etc.), and landscaping shall be developed to Stage 2 level of detail as defined the ODOT Location & Design, Volume 3.
- B. Full signing plans are not required at Interim, however, all overhead signage and major ground mounted signage shall be shown on plan sheets (may be shown on pavement marking plans if signing plans are not submitted).
- C. All other plan components and supplemental submittal requirements as defined as Stage 1 per the ODOT Location & Design, Volume 3.

Unless indicated below, the Department will have 10 Work Days from receipt to review complete submissions. The following are excluded as Work Days: State Holidays, Federal Holidays, Saturdays, Sundays, the Friday after Thanksgiving, Christmas Eve, and the days between Christmas and New Year's Day. This review time must be shown on the required Progress Schedule.

Following this review, the DBT shall correct any errors, incorporate modifications, perform required investigations and make related changes to the plans and supporting documents prior to submitting the plans for Final Design review.

Plan Review Distribution Table: The DBT shall supply an electronic version (in PDF format) along with half size (11" x 17") paper prints simultaneously to the parties indicated below, except that **each affected utility company shall receive one full size (22"x34") plans.**

	Number of half size Sets
ODOT District 11 Planning and Engineering	Electronic Only
ODOT District 11 Construction	Electronic Only

21.10

FINAL DESIGN Review Submission

For each Buildable Unit the DBT shall submit the Final Design submission for review by the Department and other third-party agencies as appropriate.

The Final Design submission shall include submittal requirements as defined as Stage 3 per the ODOT Location & Design, Volume 3, however, subsummary and general summary sheets are not required. Quantity summaries shall be provided in electronic format (Excel and PDF) prior to construction for the Department's use in establishing testing requirements.

The Department shall have 10 Work Days from receipt to review complete submissions. The following are excluded as Work Days: State Holidays, Federal Holidays, Saturdays, Sundays, the Friday after Thanksgiving, Christmas Eve, and the days between Christmas and New Year's Day. This review time must be shown on the required Progress Schedule.

Following the review, the Department will return to the DBT marked plans noted 'ACCEPTED', 'ACCEPTED AS NOTED' or 'NOT ACCEPTED' as described in section 105.02 of the Construction

and Material Specifications. The DBT shall correct errors, incorporate changes, perform investigations and make related changes to the plans and supporting documents prior to submitting construction plans.

Plan Review Distribution Table: The DBT shall supply an electronic version (in PDF format) along with half size (11" x 17") paper prints simultaneously to the parties indicated below except that each affected utility company shall receive one full size (22"x34") plans:

	Number of half size Sets
ODOT District 11 Planning and Engineering	Electronic Only
ODOT District 11 Construction	Electronic Only

21.11 Released for Construction Plans

After the review comments for the Final Design review submission have been complied with, and following approval of the design documentation, the DBT shall prepare plan sets for use during construction. All review comments shall be resolved in writing by the DBT to the satisfaction of the Department and appropriate third-party agencies before the DBT submits the construction plans. No revisions shall be made except for those revisions needed to address Final Design review comments.

Each plan sheet shall have its last revised date noted on the sheet and clearly marked 'Released for Construction'. The 'Released for Construction' plan set shall be signed, dated and sealed by a Professional Engineer. Physical construction shall not begin until the plans marked 'Released for Construction' are delivered to each party on the Plan Distribution Table below.

No time extensions will be approved by the District Construction Engineer if the plan distribution is not completed and project delays occur as a result.

Plans Distribution Table: The DBT shall supply an electronic version (in PDF format) along with full size (22" x 34") and/or half size (11" x 17") paper prints of the each plan submission simultaneously to the parties indicated below:

	# of Full Sets	# of Half Sets
ODOT District 11 Planning and Engineering	Electronic Only	Electronic Only
ODOT District 11 Construction	Electronic Only	Electronic Only

21.12 Railroad Submittals

Not Applicable.

21.13 Plan Distribution Addresses

Ohio Department of Transportation, District 11
2201 Reiser Avenue
New Philadelphia, Ohio 44663
Attn: David Hoffman, PE
David.Hoffman@dot.ohio.gov

21.14 Plan Revisions

Plan Revisions are DBT requested, ODOT directed, or condition necessary changes to the Released for Construction plans which materially modifies the design intent, materially revises the Plan to an extent which would require revised design calculations, materially revises plan dimensions or plan depictions, or otherwise would modify the Released for Construction plans in a manner which a competent engineer would identify as a necessary design re-evaluation.

Plan Revisions are required to follow Interim, Final, and Released for Construction review processes. Plan Revision review timeframes and review breadth shall be dependent and commensurable on the identifiable impacts of the Plan Revision as agreed by ODOT.

21.15 As-Built Construction Record-Drawing Plans

At the completion of the construction work for each respective Buildable Unit, the DBT shall provide a “Red-Line” set of drawings that clearly identify all changes made to the Released for Construction Plans. They may be noted by hand markup of the revisions, utilizing the Clouding command in MicroStation (or other CAD software) or the Clouding command in PDF editing software. The red-lined drawings shall have a Contractor signed verification on the title sheet indicating all field changes are being incorporated into the red-lined drawings.

Prior to Final Acceptance of the Work, the DBT shall furnish the Department formal As-Built Construction Record-Drawing plans. The DBT shall provide a general summary within the final As-Built Construction Record-Drawing plans. The formal As-Built Construction Record-Drawing shall include all red-lined changes. Red-line changes shall be denoted utilizing the Clouding command in MicroStation (or other CAD software) or the Clouding command in PDF editing software. The As-Built Construction Record-Drawing shall have a signed verification on the title sheet from the Designer and the Contractor indicating that all red-lined and field changes have been incorporated into the As-Built Construction Record-Drawing.

Note: The Contractor’s verification statement indicates all known field modifications made after the RFC plans were sealed by the Designer have been included in the formal Record-Drawing. The Contractor’s verification statement shall be signed by the Contractor’s Project Manager (or acceptable representative).

Note: The Designer's verification indicates the Designer's acknowledgement of the red-line and field changes, the presented field changes have been included within the As-Built Construction Record-Drawing and is the Designer's concurrence that these changes meet the design intent of the Contract. The Designer's verification statement shall be signed by the Lead Designer's representative.

The DBT may choose to omit the "Red-Line" submission and submit only formal As-Built Construction Record-Drawing.

As-Built Construction Record-Drawing plans shall be submitted using the following method:

PDF Images created according to the documentation on the Office of Contracts website

<http://www.dot.state.oh.us/DIVISIONS/CONTRACTADMIN/CONTRACTS/Pages/TIFF.aspx>

In addition to the information shown on the construction plans, the Record-Drawing plans shall show the following:

1. All deviations from the original approved construction plans which result in a change of location, material, type or size of work.
2. Any utilities, pipes, wellheads, abandoned pavements, foundations, or other major obstructions discovered and remaining in place which are not shown, or do not conform to locations or depths shown in the plans. Underground features shall be shown and labeled on the Record-Drawing plan in terms of station, offset and elevation.
3. The final option and specification number selected for those items which allow several material options under the specification (e.g., conduit).
4. Additional plan sheets may be needed if necessary to show work not included in the construction plans.

Notation shall also be made of locations and the extent of use of materials, other than soil, for embankment construction (rock, broken concrete without reinforcing steel, etc.).

The Plan index shall show the plan sheets which have changes appearing on them.

Two copies of the As-Built Construction Record-Drawing plans shall be delivered to the Project Engineer for approval upon completion of the physical work but prior to the request for final payment. After the Department has approved the As-Built Construction Record-Drawings, the associated electronic files shall be delivered to the District Capital Programs Administrator. Acceptance of these plans and delivery of the associated electronic files is required prior to the work being accepted and the final estimate approved.

The plans shall be prepared in conformance with the Location and Design Manual, Volume 3, Section 1200 - Plan Preparation.