

**ODOT**  
**DESIGN BUILD**  
**SCOPE OF SERVICES**

<b>PID #</b>	<b>98061</b>	<b>State Project #</b>	<b>441305</b>
		<b>Federal Project #</b>	<b>E140(478)</b>

<b>County:</b>	<b>SUM</b>	<b>Route:</b>	<b>IR-76</b>	<b>Section:</b>	<b>7.58</b>
	<b>SUM</b>		<b>IR-77</b>		<b>9.59</b>

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# 1 PROJECT IDENTIFICATION

PID #	98061	State Project #	441305	Federal Project Number:	E140(478)
County	SUM SUM	Route	IR-76 IR-77	Section	7.58 9.59
Local Route Name	N/A				
Highway Functional Classification & Federal Aid System	IR-76 --- Freeway				
	IR-77 --- Freeway				
	IR-77 --- Freeway				

## 1.1 Design Designation:

	IR-76	Ramp B-2 (IR-77 & IR-277 Interchange)
Current ADT (2015):	59000	12800
Design Year ADT (2035):	60000	16500
Design Hourly Volume:	5400	1485
Directional Distribution:	0.57	1.00
Trucks:	14%	9%
Design Speed:	65 MPH	
Legal Speed:	55 MPH	Varies, min 35MPH
Design Functional Classification:	Freeway	Freeway
NHS Route	Yes	Yes

## 1.2 Existing Plans

The following existing plans are available on the ODOT FTP Site at <ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/>

Project	Year / Project Number / PID / Etc.	Project Description
SUM-76/77/277/224-VAR PART 1	2012 / 120025 / 76351	Resurfacing / Rehab
SUM-80S-6.60	1965	Original Construction
SUM-76-(7.60) (7.73)(8.76)(8.95) (10.00)(10.76)(10.85)	1989	Rehab
SUM-277/224-0.00/6.31	1994	Resurfacing / Rehab
SUM-277-0.00	1967	Original Construction

These are NOT as-built plans. The Design-Build Team (DBT) is advised to verify the preceding referenced plans to determine if they accurately depict existing field conditions

## 1.3 PRIMA FACIE SPEED LIMIT

N/A

## 1.4 RAILROAD COORDINATION

N/A

## 1.5 AIRWAY/HIGHWAY CLEARANCE

The DBT will complete the Airway/Highway Clearance Analysis (Location and Design Manual Section 1404.1). The DBT is responsible for obtaining all necessary approvals from the District Planning & Engineering Administrator and/or the Federal Aviation Administration. The DBT will account for the required time for the

approvals in their schedule and will not be able to start work until the approvals are received by the ODOT Project Manager.

## 2 PRE-BID MEETING

This meeting is to discuss and clarify all issues that the project may have.

Location:     N/A      
Date:     N/A      
Time:     N/A    

## 3 ADDENDA PROCESS

Direct all questions prior to the letting date to the Pre-Bid Website at:

<http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/PBQs.aspx>

## 4 PRE-QUALIFICATION

It is required that the bidder be an ODOT pre-qualified Contractor who has engaged the services of an ODOT prequalified Consultant to perform *all* the design and construction work required in these Conceptual Documents. If the Consultant and/or the Sub-Consultant(s) submitted do not meet all the required qualifications, the Office of Contracts may reject the bid.

## 5 CONTRACTOR'S CONSULTANT

The Contractor must name the Consultant and all Sub-Consultant(s) in the space(s) provided below. If the Contractor is going to submit an electronic bid, then the Consultant and all Sub-Consultant(s) must be listed on the following web-page: <http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/Scope.aspx>. The Contractor must list relevant prequalification categories for prime and sub-consultants to show that the prequalification requirements listed below are satisfied. All Consultant names and addresses must be the same as that on file with the Department. The following work types must be performed by members of the Consultant Team (combination of Consultant and Sub-Consultant(s)):

Complex Roadway, Non-Complex Roadway, Level 2 Bridge Design, Level 3 Bridge Design (for the elements of the bridges that exceed Level 2 Bridge Design), Geotechnical Engineering Services, Geotechnical Testing Laboratory, Geotechnical Field Exploration Services, Geotechnical Drilling Inspection Services

### Consultant

Firm Name: \_\_\_\_\_  
Address: \_\_\_\_\_

List Work the Consultant will perform: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Sub-Consultant

Firm Name: \_\_\_\_\_  
Address: \_\_\_\_\_

List Work the Consultant will perform: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Sub-Consultant

Firm Name: \_\_\_\_\_  
Address: \_\_\_\_\_

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List Work the Consultant will perform: \_\_\_\_\_

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**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.

## 6 SCOPE OF WORK

**IR-76**

Project Limits: From: 20'± from Rear Bridge Limit To: 20'± from Forward Bridge Limit  
Project Length: 243± feet Work Length will be determined by the DBT.

**IR-77 / IR-277 Interchange Ramp B-2 (Northbound IR-77 to Westbound IR-277)**

Project Limits: From: STA 3+61.81± (Ramp B-2) To: STA 15+42.68± (Ramp B-2)  
Project Length: 1180.87± feet Work Length will be determined by the DBT.

Stations are from the original construction plans entitled SUM-277-0.00 (dated 1966)

**IR-77 / IR-277 Interchange Ramp B (Southbound IR-77 to Westbound IR-277)**

Project Limits: From: STA 13+41.79± (Ramp B) To: STA 22+77.60± (Ramp B-2)  
Project Length: 935.81± feet Work Length will be determined by the DBT.

Stations are from the original construction plans entitled SUM-277-0.00 (dated 1966)

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

The Contractor will provide for the furnishing of materials, construction and completion in every detail of all the work described in the Conceptual Documents in order to fulfill the intent of the contract.

Project Description: This project replaces the bridge deck on the SUM-76-0758 Pedestrian Bridge over IR-76 at Chester Ave. Additional work on the approaches to the bridge and other repair work will also be performed.

This project replaces the deck and widens the SUM-77-0959 bridge on the ramp from northbound IR-77 to Westbound IR-277 (Ramp B-2). In addition the ramp pavement will be widened and resurfaced.

Completion date: 09/15/2016

## 7 FIELD OFFICE

Field office Type C, as required by CMS 619, will be available and completely functional no later than 1 week prior to the start of construction work.

## 8 GENERAL PROVISIONS FOR THE WORK

### 8.1 Governing Regulations:

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

The fact that the bid items for this Design-Build project are general rather than specific will not relieve the DBT of the requirement that all work performed and all materials furnished will be in reasonable conformity with the specifications. The Contractor's Consultant will reference in the plans the appropriate Construction and Material Specifications Item Number for all work to be performed and all materials to be furnished.

The attention of the Bidder is directed to the provisions of section 100 of the Construction and Material Specifications as modified in the design-build proposal.

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 prebid meeting date (if a prebid meeting is not held then the date used will be 14 calendar days prior to Letting Date), of the following ODOT Manuals and Guidelines will be met or exceeded in the performance of the design and construction work required to complete this project:

- Bridge Design Manual
- Location and Design Manuals
  - Volume One - Roadway Design
  - Volume Two - Drainage Design
  - Volume Three - Plan Preparation
- Sample Plan Sheets
- Pavement Design & Rehabilitation Manual
- Specifications for Geotechnical Explorations
- Survey Manual
- Construction and Material Specifications
- Proposal Notes for Construction and Material Specifications
- Supplemental Specifications for Construction and Material Specifications
- Item Master
- Manual for Abandoned Underground Mines - Inventory and Risk Assessment
- Pavement Design and Rehabilitation Manual
- State Highway Access Management Manual
- Standard Construction Drawings
- Plan Insert Sheets
- Traffic Engineering Manual
- Ohio Manual of Uniform Traffic Control Devices
- Real Estate Administration Policies and Procedures Manual:
  - Appraisal
  - Acquisition
  - Property Management
  - Relocation
  - ROW Plan
  - Utilities
- Wireless Communication Tower Manual
- Environmental Services Handbooks and Guidelines
- Waterway Permit Manual
- Design Mapping Specifications
- CADD Engineering Standards Manual
- Geotechnical Bulletins
- Project Development Process Manual (Appendix B)
- CADD Standards Manual

## **8.2 Basis of Payment:**

All Items covered by Construction and Material Specifications, Supplemental Specifications, Proposal and Special Provision notes with unit price as a basis of payment will be paid for under the appropriate Lump Sum bid item, unless a unit line price item has been established in the Scope Of Services.

The Consultant will be required to furnish the Department with a complete breakdown of the lump sum bid items. The breakdown will include materials to be used in the work, and will be in sufficient detail to provide ODOT with a means to check partial payment requests.

### 8.3 Final Payment:

The DBT will prepare and submit the following prior to the request for final payment:

1. All original project files and notes utilized in the preparation of the survey, design and construction of the project
2. Record-Drawings Plans as required below.

### 8.4 Record-Drawing Plans:

**A. General:** At the completion of the work, prior to final acceptance of the construction, the Consultant will furnish the Department Record-Drawing construction plans. When the Record-Drawing plans are completed the Consultant will professionally endorse (sign and seal) the title sheet.

Record-Drawing plans will be submitted as TIFF Images. As per the Electronic Plan File Submissions Guidelines as shown on the ODOT Web Site at:

<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 will show the following:

- All deviations from the original approved construction plans which result in a change of location, material, type or size of work
- 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 will be shown and labeled on the Record-Drawing plan in terms of station, offset and elevation.
- The final option and specification number selected for those items which allow several material options under the specification (e.g., conduit).
- Additional plan sheets may be needed if necessary to show work not included in the construction plans.
- Notation will 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 will show the plan sheets which have changes appearing on them.
- Each plan sheet will have its last revised date noted on the sheet and clearly marked 'As Built'.

A paper half-size copy of the Record-Drawing plans will 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 Record-Drawing plans, the Record Drawings (TIFF Image Files, including the original half-size signed Title Sheet) and the associated electronic files will be delivered to the District Planning & Engineering Administrator. Acceptance of these plans and delivery of the original tracings and the associated electronic files is required prior to the work being accepted and the final estimate approved.

The delivered Record Drawing Plans will be prepared in conformance with the Location and Design Manual Volume III (Section 1200 - Plan Preparation).

**B. CADD Files will be supplied by DBT:**  Yes  No

If marked yes, the Consultant will comply with ODOT's CADD Standards, and supply files in accordance with the CADD Engineering Standards Manual. All data will be provided to the Department according to the provisions as detailed under the appropriate CADD links accessed from the Department's Office of Production's web site. 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 web site can be accessed at the following URL address:

<http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD/Pages/default.aspx>

<http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/Pages/default.aspx>

The following can be accessed from the above URL address:

1. ODOT CADD Standard files by selecting the "MicroStation Downloads" link
2. ODOT's Location and Design, Volume 3 by selecting the "L&D Manual Volume 3" link
3. ODOT's GEOPAK Standards by selecting the "GEOPAK Downloads" link

The Department will accept CADD files on CD ROM or DVD ROM electronic media only.

1. The Consultant will submit all CADD information produced in the process of plan development. All CADD information will be submitted in the current version of MicroStation (\*.dgn) format as indicated in the CADD Engineering Standards Manual. This requirement ensures that ODOT receives an end product that is directly usable on ODOT's CADD systems without additional work. The responsibility to provide the Department with correct and complete CADD data rests with the consultant.
2. The Consultant will submit all GEOPAK information produced in the process of plan development according to L&D Volume 3, Section 1500. The submission will include all files generated by GEOPAK as the result of the plan processing and these files will include but are not limited to the following:
  - a. Coordinate databases (\*.gpk)
  - b. Digital terrain models (\*.tin)
  - c. Original cross section (XS) cell design files
  - d. Edited observation files (\*.obs)
  - e. ASCII text files containing all raw point data (PT #, X, Y, Z, Linking Code/Mapping Code)
  - f. ASCII text files containing all adjusted point data (PT #, X, Y, Z, Linking Code/Mapping Code, Attribute data if any)
  - g. ASCII text file(s) listing chain data for all existing and proposed horizontal alignments; including the centerline of construction, the centerline of right of way and ramp baselines.
  - h. ASCII text file(s) listing vertical alignment data for all existing and proposed profiles.
  - i. ASCII text files listing the Northing, easting, station, offset and elevation for all existing and proposed monuments.

A separate file name should be used for each horizontal or vertical alignment. The CADD Engineering Standards Manual provides specific requirements for the content of the required ASCII reports and provides directions on how to create these reports using GEOPAK software.

3. The Consultant will submit the following aerial photography and/or mapping information produced in the process of plan development. The submission will contain the following files:
  - a. Three-dimensional (3D) MicroStation design file with an extension of "\*.3D" containing all DTM data which were utilized to create the surface for the project (or section)
  - b. 3D MicroStation design file containing all topographic, planimetric, ground control points, grids and legend and will have an extension of "\*.TTN"
  - c. An ".ASC" file for mass points and break lines (ASCII format).

These requirements and procedures may be updated from time to time with notification in the (DRRC) Design Reference Resource Center (DRRC) website which is located at the following URL, <http://www.dot.state.oh.us/DRRC/>. Organizations exchanging ODOT CADD data are responsible for ensuring they are using the current version of these requirements, CADD reference manuals, ODOT cell files and ODOT seed files.

## **8.5 Pre-Award Conference:**

Within 10 days after bid opening, the DBT will attend a mandatory pre-award meeting. This confidential meeting will be held with the Estimating Office of the Division of Contract Administration to discuss the Lump Sum estimate with the Department.

## **8.6 Partnering Agreement:**

The Contractor is required to enter into a self-facilitated partnership agreement with the Department on this project, per CMS 108.02. 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 Contractor. This Partnering Agreement will not affect the

terms and conditions of the contract. It is solely intended to establish an environment of cooperation between the parties.

## 8.7 Communication

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

District's Project Manager's Name:	<u>Thomas J Powell, PE</u>
Phone number:	<u>330-786-4834</u>
E-mail:	<u><a href="mailto:Thomas.Powell2@dot.state.oh.us">Thomas.Powell2@dot.state.oh.us</a></u>

The District Project Engineer will be named at the pre-design meeting.

At the pre-design meeting, the Contractor will name a Project Manager who will act as a liaison between the DBT and the Department.

## 8.8 Permits:

Contractor will be required to obtain a permit from the State or local government having jurisdiction, to perform any non-construction work within the existing Right of Way and/or limited access.

## 8.9 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 Section 102.6 (inclusive of Sections 102.61 through 102.66) of 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 102.6 of ODOT's Survey Manual. The DBT will forward copies of all notification letters distributed to ODOT's Project Manager. Any subsequent claims for compensation due to damages incurred while said survey was being 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.

## 9 HAZARDOUS MATERIALS

The following Asbestos Notification Notes are to appear in the Construction Plans:

### ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE SUM-076-0758 & SUM-077-0959 BRIDGES WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

AKRON REGIONAL AIR QUALITY MANAGEMENT DISTRICT  
146 S. HIGH ST. SUITE 904  
AKRON, OHIO 44308



BOB HASENYAGER, ACTING ADMIN.  
(330) 375 2480  
FAX: (330) 375 2402

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON, AKRON, OHIO 44306

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM.

## **10 ENVIRONMENTAL**

### **10.1 National Pollutant Discharge Elimination System (NPDES) permit**

The DBT shall submit to the ODOT Project Manager the total number of acres of earth disturbance activities for both off project and on project work in a timely manner. This information will be used to develop the NOI if required. The NOI will be submitted to the OEPA within 10 days after this 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 so these 31 days will be counted for in the project.

All temporary erosion control is the responsibility of the Contractor even if a SWPPP is not required. Earth disturbing activity is not permitted prior to the OEPA permit approval. For projects that require an NOI, the SWPPP must be in place prior to the initiation of any earth disturbing activity. All temporary erosion control work and the SWPPP if required will be per SS832. For information about OEPA's NPDES permit requirements see <http://www.epa.state.oh.us/dsw/storm/index.html>

Items used to implement the DBT's Erosion Control requirements are paid from an encumbered amount included in the proposal as a non-bid reference number. The proposal specifies the unit prices for the erosion control items. Payments for erosion control items that exceed the encumbered amount will be made by an Extra Work Change Order using the specified unit prices. The specified unit prices are fixed for the contract and may not be negotiated or adjusted for inflation or claimed changed condition.

The preparation of the SWPPP, along with all requirements of SS832 for maintaining, inspecting, modifying and updating the SWPPP are considered incidental to the Project.

### **10.2 Removal of Temporary Erosion Control Items**

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

## **11 RIGHT OF WAY (ROW)**

All necessary construction work for the project will be performed within the existing right of way. It is not anticipated but should the Consultant identify the need for additional right of way they will inform ODOT's Project Manager and determine the course of action to be taken to obtain the right of way.

Existing right of way lines will be located by the DBT 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). It is the responsibility of the DBT to 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 said stakes and flags throughout the duration of the project.

The Consultant will identify and show all right of way encroachments on the construction plans at the Conceptual Review Submission. ODOT's Project Manager will be responsible for clearing all encroachments on Federal-aid projects in accordance with standard encroachment removal.

## **12 UTILITIES**

Utilities Special Provisions in addition to the Governing Regulations listed in section 8.1 of this document and section 153.64 of the Ohio Revised Code.

### **12.1 Existing Utilities:**

The District Utility Coordinator, in concurrence with the registered Underground Utility Protection Services- Ohio Underground Protection Service (OUPS) and 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 following utilities are located in the area of the project :

AT&T  
The Ohio Bell Telephone Company  
ATTN: Jerry Smith  
50 W. Bowery St.  
4th Floor  
Akron, OH 44308  
330-384-8557

City of Akron  
Public Utilities Bureau Citi Center  
ATTN George Thomas  
P.O. Box 3665  
Akron, OH 44309  
330-375-2831 ext: 6418  
330-375-2831 Fax

Dominion East Ohio  
ATTN: Bryan D. Dayton  
320 Springside Drive, Suite 320  
Akron, OH 44333  
Office: 330-664-2409

Ohio Edison  
ATTN: David L. Miller  
1910 W. Market Street  
Building #1  
Akron, OH 44313  
330-436-4055

Summit County Dept. of Environmental  
Services  
ATTN Mike Weant  
2525 State Road  
Cuyahoga Falls, OH 44223  
330-926-2407  
330-926-2471 Fax

Time Warner Cable  
ATTN: Drew Fetterman  
530 South Main St.  
Suite 1751  
Akron, OH 44311  
330-633-9203 ext. 330-555-7322

### **12.2 Utility Coordination Responsibilities:**

As soon as it is feasible after the Stage 2 plan is approved by the Department, the DBT will stake the existing ROW in the field and will perform clearing and grubbing within that ROW as required by the specifications and the proposal documents, in order to allow utility relocation and reduce potential delays. ROW stakes will be maintained and updated as needed throughout the project length.

The DBT will be cognizant of the project's impact on utility facilities. In the event utility rearrangements are required, the project will not be designed to preclude legal occupancy of the highway ROW by the rearranged utility facilities.

The DBT will coordinate all existing utilities with construction activities on this project. The DBT will insure that potential delays in coordination and relocation of the affected utilities are minimized. The DBT will copy the ODOT Project Manager and the District Utility Coordinator on all correspondence or phone calls between the DBT and each utility. This will include the submittal of plans to each utility.

A meeting at or near the Stage 1 review will be held between the DBT, the District Utility Coordinator and the utility owners to determine if any significant utility relocations can be eliminated or mitigated.

Any betterment to the utility's facility and ineligible, or unnecessary, work will not be a part of the project's expense but the utility company's fiscal requirement. Determination of eligibility can be coordinated through the District Utility Coordinator. Payment for betterments or ineligible costs will be made by the appropriated utility through ODOT to the Contractor.

The cost of all utility coordination will be bid as a Lump Sum Item.

**12.3 Subsurface Utilities Engineering (SUE):**  Yes  No

## **13 DESIGN AND CONSTRUCTION REQUIREMENTS: MAINTENANCE OF TRAFFIC (MOT)**

Maintenance of Traffic (MOT) Special Provisions in addition to the Governing Regulations listed in section 8.1 of this document:

### **13.1 General:**

All temporary MOT devices will comply with the National Cooperative Highway Research Program (NCHRP) 350 Hardware report or Manual for Assessing Safety Hardware (MASH).

### **13.2 MOT Restrictions**

#### **13.2.1 Structure SUM-76-0758**

The pedestrian traffic may be detoured for a period of time not to exceed 45 days. This pedestrian detour cannot begin prior to June 13, 2016 and the structure is required to be open to pedestrian traffic before August 12, 2016.

All work on this structure (SUM-76-0758) and the approaches to this structure (with the exception of the bridge painting and sealing operations) must be completed during the detour.

The DBT will notify the City of Akron two weeks prior to the closing of the structure.

The official signed detour will be: 19<sup>th</sup> ST / Silvercrest Ave / Chestnut Ridge Blvd/ East Ave /Silvercrest Ave /22<sup>nd</sup> St

Lane and shoulder closures on I-76 will be as per the Permitted Lane Closure chart.

A disincentive shall be assessed in the amount of \$2000 for each calendar day the pedestrian traffic exceeds the specified number of days.

#### **13.2.2 Structure SUM-77-0959**

##### **13.2.2.1 Ramp B-2 (Northbound IR-77 to Westbound IR-277)**

Traffic may be detoured for a period of time not to exceed 60 days. This detour cannot begin prior to August 10, 2015.

All work on this structure (SUM-77-0959) and Ramp B-2 (with the exception of the bridge painting and sealing operations) will have an interim completion date of 10/30/2015. A disincentive shall be assessed in the amount of \$5000 for each calendar day the work is not completed by the specified date.

The official signed detour will be: IR-77N, IR-76W/IR-77N, IR-76W (Place the Detour Signs on the existing overhead signs)

Yield sign on ramp B (IR-77 south to IR-277 west) shall be covered during the closure

#### **13.2.2.2 Ramp B (Southbound IR-77 to Westbound IR-277)**

Traffic for this ramp must be maintained at all time. Minimum lane width of 11'-0" must be maintained at all times.

All work on and Ramp B will have an interim completion date of 10/30/2015. A disincentive shall be assessed in the amount of \$5000 for each calendar day the work is not completed by the specified date.

#### **13.2.2.3 IR-77 Southbound**

All Lane/Shoulder Closures will be as per the Permitted Lane Closure Chart.

#### **13.2.3 Interstate Lane/Shoulder Closures**

No Lane/Shoulder Closures are permitted to occur during the Bridgestone World Series of Golf, August 3-9 (2015) and in 2016 (dates have not been announced by the PGA Tour at the time of bidding this Project).

### **13.3 Maintenance of Traffic**

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 District Office (330) 786-2208, eighteen (18) days prior to the beginning of construction work.

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 fifty-five (55) feet. Weighted channelizers may be used in accordance with the standard construction drawings.

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.

Payment for all items 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, and incidentals to perform the required work.

### **13.4 Coordination with other Projects**

The DBT should be aware of the following projects adjacent to or within the project limits that are either under contract or planned to be under contract during this project. DBT is referred to CMS 105.08. See below for project name, estimated schedule, and brief description. This should not be considered an all-inclusive list:

1. SUM-76-6.31, PID 84655, Scheduled for Sale on 03/05/2015
2. SUM-76/77-11.27/12.22, PID 86979, Scheduled for sale 2/10/15.

The contractor's schedule for the project SUM-76-6.31, PID 84655, shall take precedence over this projects schedule. The closure of ramp B-2 shall not be permitted to begin until all work encompassing the closure of I-76 westbound has been completed by project SUM-76-6.31. The contractor schedule for project SUM-76/77-11.27/12.22, PID 86979, shall also take precedence over this project.

### **13.5 Additional Description of Required Work and Special Provisions:**

**13.5.1 Refer to Attachment F for Plan Notes that apply to this Project. All of these notes are to appear in the Construction Plans.**

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

1. 642-3 (Item 614, Maintaining Traffic (At All Times))
2. 642-4 (Item 614, Maintaining Traffic (Time Limitation on a Detour))
3. 642-6 (Item 614, Maintaining Traffic Lanes Open During Holidays or Special Events)
4. 642-8 (Item 614, Maintaining Traffic (Notice of Closure Sign))
5. 642-12 (Item 614, Maintaining Traffic (Closing Paragraph for Note))
6. 642-19 (Dust Control)
7. 642-44 (Worksite Traffic Supervisor)

## **14 DESIGN AND CONSTRUCTION REQUIREMENTS: LOCATION & DESIGN**

**Location & Design Special Provisions** in addition to the Governing Regulations listed in section 8.1 of this document:

### **14.1 Survey**

#### **ODOT Survey Responsibilities:**

The Department survey crews have provided the necessary survey requirements, listed below:

1. Centerline control and bench marks
2. Beginning and ending centerline points for the project
3. At least two bench marks 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

#### **Survey Responsibilities:**

All survey data will be submitted using ODOT's standard field codes and GEOPAK'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, x coordinate, y coordinate, elevation and point ID. Customized GEOPAK information is available on the ODOT CADD web site.

Monumentation will not be disturbed. If the Contractor does disturb the monumentation, then it will be replaced, in-kind, by a Registered Surveyor, with a current registration, recognized by the Ohio State Board of Registration for Professional Engineers and Surveyors. Costs associated for this item will be borne by the Contractor. Copies of all monumentation changes will be forwarded to the District Real Estate Administrator.

All control points, provided by ODOT, will be included in the ASCII file supplied by the DBT to ODOT. They should retain the original point numbers and coordinate values as assigned by ODOT.

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

1. Copies of all field notes (written or electronic) which will 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 will be located utilizing NAD 83 (Horizontal Data), NAVD 88 (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) will include in the report the datum used and all associated adjustments used.

## **14.2 Vertical and Horizontal Alignment:**

The existing horizontal and vertical alignment of IR-76 and the SUM-76-0758 Pedestrian Structure will not be adjusted.

The existing horizontal alignment of Ramp B-2 (northbound IR-77 to Westbound IR-277) will not be adjusted.

The vertical alignment of Ramp B-2 (northbound IR-77 to Westbound IR-277) may be adjusted.

## **14.3 Pavement**

### **14.3.1 The pavement on Ramp B and Ramp B-2 at the IR-77 and IR-277 Interchange will use the following pavement composition:**

1. Full Depth Shoulders
  - a. Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type B (446), As Per Plan (T=1 ½") [Plan Note is in Attachment F]
  - b. Item Special - Tack Coat, Trackless Tack For Intermediate Course [Plan Note is in Attachment F]
  - c. Item 442 – Asphalt Concrete Intermediate Course, 19mm, Type B (446) (T=1 ¾")
  - d. Item Special - Tack Coat, Trackless Tack For Intermediate Course [Plan Note is in Attachment B]
  - e. Item 302 – Asphalt Concrete Base, PG64-22 (T=10")
  - f. Item 304 – Aggregate Base, As Per Plan (T=6") [Plan Note is in Attachment F]
  - g. Treat pavement drop-offs with Item 617 – Compacted Aggregate, As Per Plan [Plan Note is in Attachment F]
2. Resurfacing
  - a. Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type B (446), As Per Plan (T=1 ½") [Plan Note is in Attachment F]
  - b. Item Special - Tack Coat, Trackless Tack For Intermediate Course [Plan Note is in Attachment F]
  - c. Item 442 – Asphalt Concrete Intermediate Course, 19mm, Type B (446) (T=1 ¾")
  - d. Item Special - Tack Coat, Trackless Tack For Intermediate Course [Plan Note is in Attachment B]
  - e. Item 254 – Pavement Planning, Asphalt Concrete (Remove all existing asphalt from the existing concrete pavement)
  - f. Treat pavement drop-offs with Item 617 – Compacted Aggregate, As Per Plan [Plan Note is in Attachment F]

### **14.3.2 Full Depth Pavement Repairs on Ramp B and Ramp B-2 at the IR-77 and IR-277**

Full Depth Pavement Repairs will be performed in the areas of Resurfacing on Ramp B-2 at the IR-77 and IR-277 Interchange. The Project Engineer will mark the areas for the repairs after the asphalt has been removed from the existing concrete pavement. Payment for this work will be made on a unit cost basis and an estimated quantity has been provided in the Proposal. The following items of work will be performed:

- a. Item 255 – Full Depth Pavement Removal and Replacement, Class QC1
- b. Item 255 – Full Depth Pavement Sawing
- c. Item 203 – Excavation (For Pavement Repair) [Plan Note is in Attachment F]
- d. Item 304 – Aggregate Base (For Pavement Repair) [Plan Note is in Attachment F]

## 14.4 Roadway

### 14.4.1 Ramp B (Southbound IR-77 to Westbound IR-277)

1. The vertical profile may not be adjusted
2. The horizontal alignment may not be adjusted
3. Remove the existing asphalt concrete from the existing concrete base pavement and resurface the existing concrete with the pavement buildup shown in Section 14.3.
4. Resurface the existing right shoulder (as you are looking upstation) with the pavement buildup shown in Section 14.3.
5. Remove, replace and widen the existing left shoulder (as you are looking upstation) with the pavement buildup shown in Section 14.3. The width of the new widened paved shoulders will be 15'-0". Provide an appropriate transition to the new paved shoulder width along Ramp B-2 (see other requirements for Ramp B-2 in the next section)
6. If the DBT impacts the existing concrete base pavement then it will be replaced with Item 305 – Concrete Base (with the same thickness as the existing), the existing aggregate base will be replaced with Item 304 – Aggregate Base and it will be surfaced with the Resurfacing Pavement Buildup as shown in Section 14.3.
7. Widen the embankment, as needed, according to Geotechnical Bulletin GB 2
8. Barrier Protection Requirements
  - a. Remove and replace all existing guardrail to meet current standards.
  - b. Connections between the new Guardrail and any fixed object (i.e. Concrete Barrier, Bridge Parapets, etc.) must be made with current standards;
  - c. Guardrail installed will have Paving Under Guardrail (T=3"). Pave from the edge of the shoulder to 1'-0" behind the guardrail post at a minimum.
  - d. The Guardrail Offset will match the Bridge Width
9. Superelevation will meet the existing rates

### 14.4.2 Ramp B-2 (northbound IR-77 to Westbound IR-277)

1. The vertical profile may be adjusted
2. The horizontal alignment of may not be adjusted
3. Remove the existing asphalt concrete from the existing concrete base pavement and resurface the existing concrete with the pavement buildup shown in Section 14.3
4. Remove, ~~and~~ replace ~~and widen the~~ existing shoulders with the pavement buildup shown in Section 14.3. The width of the new ~~widened~~ paved shoulders will match the width of the SUM-77-0959 Structure. ~~See Section 14.3 for additional widening requirements for the left shoulder (as you are looking upstation)~~
5. If the DBT impacts the existing concrete base pavement then it will be replaced with Item 305 – Concrete Base (with the same thickness as the existing), the existing aggregate base will be replaced with Item 304 – Aggregate Base, and it will be surfaced with the Resurfacing Pavement Buildup as shown in Section 14.3.
6. Widen the embankment, as needed, according to Geotechnical Bulletin GB 2
7. Barrier Protection Requirements
  - a. Remove and replace all existing guardrail to meet current standards.
  - b. Connections between the new Guardrail and any fixed object (i.e. Concrete Barrier, Bridge Parapets, etc.) must be made with current standards;
  - c. Guardrail installed will have Paving Under Guardrail (T=3"). Pave from the edge of the shoulder to 1'-0" behind the guardrail post at a minimum.
  - d. The Guardrail Offset will match the Bridge Width
8. Superelevation will meet the existing rates

### 14.4.3 For Structure SUM-77-0959 (Ramp B-2 over IR-77SB) the following will apply:

1. Approach Slabs (25'-0" long) will be full width. Provide Parapet Transitions on the Approach Slabs.
2. The vertical profile of Ramp B-2 may be adjusted
3. The horizontal alignment of Ramp B-2 may not be adjusted

**14.4.4 Subgrade Compaction, Stabilization, and Proof Rolling (Ramp B and Ramp B-2):**

The DBT will prepare stable subgrade conforming to CMS 204 and CMS 206. Stable subgrade is defined as subgrade where proof rolling results in permanent rutting of 1 inch or less and elastic (rebound) movement of 1 inch or less. The DBT shall be responsible for repairing areas identified by the required proof rolling or identified during any construction procedures.

Undercut will be the only accepted means of preparing a stable subgrade. The DBT will follow the procedure shown in Plan Note G121 to prepare the subgrade in this area. The minimum depth of the stabilization will be 30” and the material will be removed and replaced with Geotextile Fabric and Granular Backfill.

Stabilize to 18 inches beyond the edge of the surface of the paved shoulders. Refer to Attachment C for the Subgrade Investigation provided by S&ME. The submittal will follow Plan Review requirements of Section 18 of the Scope of Services.

There are no unit price items for subgrade stabilization, excavation and replacement of subgrade, proof rolling or any other subgrade related work. This work will be paid for the under ITEM SPECIAL – EARTHWORK as Lump Sum.

**14.5 Drainage:**  Yes  No

**14.5.1 Post-construction storm water Best Management Practices (BMP)**

- 1. Post-construction storm water Best Management Practices (BMP) according to Location and Design Manual are to be investigated and installed as required.
- 2. Post Construction Best Management Practices shall be designed and constructed as per the Location and Design Manual Volume 2.

**14.5.2 Ramp B (Southbound IR-77 to Westbound IR-277) and Ramp B-2 (northbound IR-77 to Westbound IR-277)**

- 1. Reuse of existing underdrains is not permitted.
- 2. Install new 6” Underdrains (the use of 4” underdrains will not be permitted) within the limits of the full depth shoulder replacement and widening at the locations shown in the Location and Design Manual Volume 2. Provide appropriate outlets of the underdrains.
- 3. Reuse of existing drainage structures/pipes/etc (except underdrains) within the projects limits is permitted providing the construction activities do not impact the item, otherwise the item is required to be replaced.

**14.6 Design Exceptions:**

Previously Approved Design Exceptions: None

The Consultant will meet all Design Criteria in Location and Design Manual Section 105.1.

**14.7 Landscape:**  Yes  No

**14.8 Fencing:**  Yes  No

Right of Way fence which will be disturbed during the construction will be removed and new fence of the same type will be installed at the conclusion of the structure work.

**15 DESIGN AND CONSTRUCTION REQUIREMENTS: STRUCTURES**

**15.1 Existing Structures Identification:**

Structure Identification: Bridge # SUM-76-0758 Over IR-76



Structure File Number: 7705794

Structure Identification: Bridge # SUM-77-0959

Over SB IR-77

Structure File Number: 7702671

## 15.2 Design and Construction Requirements of Structure: SUM-76-0758

in addition to the Governing Regulations listed in section 8.1 of this document:

### Existing Structure Data:

Length: 207.06'±  
Width o/o: 10'-0"±  
Design Loading: 85 lbs/sf Live Load  
Type: Continuous Steel Beam w/ Reinforced Concrete Deck & Substructure  
Spans: 43'-0" ± --- 57'-0" ± --- 57'-0" ± --- 46'-0" ±  
Date Built: 1965

### Alignment & Profile:

Alignment:  Existing  Relocated  By ODOT  By DBT  
Profile:  Existing  Relocated  Feathered (Adjustment)  
 By ODOT  By DBT

### Transverse Sections:

Roadway Width: 8'-0" t/t curb (10'-0" out/out)  
Railing: Type: Curb Height: 6"  
Fence:  Yes  No Height / Configuration: VPF-1-90 (PS-2/BP-2) / 10'-0" curved  
Sidewalks:  Yes  No Width: 8'-0"

**See Attachment D (SUM-76-0758 Proposed Transverse Section) for Proposed Transverse Section**

Investigate the need for **Prefabricated Structure**:  Yes  No

Investigate the need for **Retaining Walls**:  Yes  No

The Consultant will use the same span lengths shown on the existing original plans for the design, and preparation of the detail construction plans for the construction of this structure. The number of spans must also remain the same.

All **Shop Drawings** will comply with Item 501.

The Department will not provide foundation investigation.

### Additional Description of Required Work and Special Provisions:

- A. Replace the existing bridge deck
- B. Vertical Clearance
  1. The elevations of the existing beams will not be permitted to be modified
  2. The existing minimum vertical clearance is 17'-0"±. Field measurements were performed by ODOT D04 bridge Inspectors on 7/08/2014, this information is provided for your use as Attachment A of the Scope of Services but the DBT must verify this prior to Construction beginning
- C. Provide details for and construct new full width Approach concrete walks, min 6" thickness (15'-0" on West End, 20'-0" on East End)
- D. Structure Loading Requirements will be as per Bridge Design Manual.

- E. Superstructure
  1. The superstructure will conform to the proposed Transverse Section for the Bridge is provided in Attachment D
  2. Provide new reinforced composite bridge deck
  3. The existing beams will be reused and not replaced
  4. Provide an appropriate Expansion Joint between the bridge ends and the abutments
  5. Perform Bridge Painting of the new and existing beams, cross frames, etc. The color of the paint will be Federal Color Number 10080 (Brown)
- F. Substructure
  1. Remove and the replace the existing backwall to the elevation of the beamseats
  2. It is permitted to reuse the existing bearing devices
  3. Place new porous backfill with filter fabric and drainage pipe behind the abutments.
  4. Inspect the concrete substructure, mark the areas to be patched and perform the required patching  
**Payment for this item of work will be made on a unit cost basis and an estimated quantity has been provided in the Proposal**
- G. Seal concrete surfaces including walking surface, curb, parapets, wingwalls, abutments, and piers using Epoxy-Urethane Sealer, limits of sealing is as per the Bride Design Manual. The color of the sealer will conform to Federal Color Number 13522 (Buff)
- H. Pave the slopes under the structure with Concrete Slope Protection as per CMS 601.07 (Concrete Slope Protection)
- I. Install Vandal Protection Fence as per Standard Drawing VPF-1-90, using Post Section PS-2 (10'-0" curved)
- J. Remove the existing bollards and replace with a single bollard on each end of the structure
- K. Before and after all construction is complete the DBT will have a Registered Surveyor provide vertical clearance measurements. The before measurements will be supplied to the Project Engineer before any work has started on the bridge.

**15.3 Design and Construction Requirements of Structure: SUM-77-0959**

in addition to the Governing Regulations listed in section 8.1 of this document:

**Existing Structure Data:**

Length:	217.98'±
Width o/o:	30'-0"±
Design Loading:	CF 2000 Adequate for AASHTO Alternate Loading
Type:	Continuous Steel Beam w/ Reinforced Concrete Deck & Substructure
Spans:	61'-6"± --- 88'-0"± --- 61'-6"±
Date Built:	1966

**Alignment & Profile:**

- Alignment:  Existing  Relocated  By ODOT  By DBT
- Profile:  Existing  Relocated  Feathered (Adjustment)  
 By ODOT  By DBT

The existing profile may be adjusted by the DBT.

**Transverse Sections:**

Roadway Width:	35'-0" t/t barrier		
Railing:	Type: SBR-1-13	Height:	42"
Fence:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Height / Configuration:	N/A
Sidewalks:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Width:	N/A

Investigate the need for **Prefabricated Structure**:  Yes  No

Investigate the need for **Retaining Walls**:  Yes  No

The Consultant will use the same span lengths shown on the existing original plans for the design, and preparation of the detail construction plans for the construction of this structure. The number of spans must also remain the same. The new widened structure must be widened to the right holding the left outside parapet location and will conform to the proposed Transverse Section for the Bridge provided in Attachment E.

All **Shop Drawings** will comply with Item 501.

Foundation Investigation was performed by S&ME Inc and a copy has been provided with the Scope of Services in Attachment D. If additional field information is required the DBT will be responsible for collecting the data.

Additional Description of Required Work and Special Provisions:

- A. Remove and replace the existing bridge deck, install a new widened composite bridge deck and substructure.
- B. Widen the structure to the right which will conform to the proposed Transverse Section for the Bridge provided in Attachment E
- C. Vertical Clearance
  1. The existing minimum vertical clearance is 15'-11"±. Field measurements were performed by ODOT D04 bridge Inspectors on 7/08/2014, this information is provided for your use as Attachment A of the Scope of Services but the DBT must verify this prior to Construction beginning
  2. The existing vertical clearance may not be reduced
- D. Provide details for and construct new full width Approach Slabs (25'-0" long). Provide the Parapet Transition on the Approach Slab.
- E. Install guardrail to current standards and provide details as necessary to incorporate the bridge terminal assemblies.
- F. Perform Structure Load Rating (Bridge Design Manual Section 900) and include the Future Wearing Surface.
- G. Structure Loading Requirements
  1. Superstructure
    - a. Deck: As per Bridge Design Manual Section 301.4
    - b. Existing Beams w/ Composite Deck: Check with loading as per Bridge Design Manual Section 301.4. If this check fails then HS25 in the Bridge Design Manual will be replaced with HS20 and will be the minimum accepted loading
    - c. New Beams w/ Composite Deck: Loading requirements will match the loading being used for the Existing Beams w/ Composite Deck
  2. Widened Substructure: As per Bridge Design Manual Section 301.4
  3. Remainder of Substructure: The DBT is not required to check
- H. Superstructure
  1. Provide a new reinforced composite concrete bridge deck
  2. Provide new beam line(s) and the only acceptable material for the beams will be steel
  3. Perform fatigue retrofit of the existing cover plates including all associated work required for the retrofit, including but not limited to moving and/or modifying the existing cross frames.
  4. Provide an appropriate Expansion Joint between the bridge ends and the abutments
  5. Perform Bridge Painting of the new and existing beams, cross frames, etc. The color of the paint will be Federal Color Number 13522 (Buff)
  6. Construct new 42" concrete bridge railing per Standard Drawing SBR-1-13
  7. Cross Frames
    - a. The DBT is not required to check the existing crossframes to ensure they meet current Design Standards
    - b. Remove and replace corroded crossframes as directed by the project Engineer. The DBT will include in the bid an estimated quantity of ~~10-4~~ crossframes (defined as the entire crossframe including all three angles) to be removed and replaced.
    - 7-c. New and replaced crossframes must meet current Design Standards
  8. Perform calculations (as per the Bridge Design Manual and the Location and Design Manual) to determine if Scuppers are required and provide if required.
- I. Substructure

1. Widen the existing Piers and Abutments
  - a. The widened piers will be of the Cap and Column Type
  - b. The widened abutments will provide a straight wingwall, turn back wing walls will not be acceptable
  - c. The widened Substructure Units will be supported on Drilled Shafts, Piles, or Rock. If the DBT chooses to found the widened Substructure units on rock then the following requirements must be met: minimum embedment of the footing into rock of 3” and the bottom elevation of the new footing must be equal to or below the elevation of the adjacent existing footing elevation.
2. Widen the existing abutments
  - a. Remove the existing abutments to a point at least 1’-0” below the existing beam seat.
  - b. Provide new bearings at the abutments
3. If the existing pier bearings are reused then the bearings must be refurbished
4. Inspect the concrete substructure, mark areas to be patched and perform the required patching. **Payment for this item of work will be made on a unit cost basis and an estimated quantity has been provided in the Proposal.**
5. Place new porous backfill with filter fabric and drainage pipe behind the abutments.
6. Embankment required under the approach slabs will be Granular Material Type B
- J. Seal concrete surfaces including parapets, wingwalls, abutments, and piers using Epoxy-Urethane Sealer, limits of sealing is as per the Bride Design Manual. The color of the sealer will conform to Federal Color Number 17778 (Light Neutral)
- K. Pave the slopes under the structure with Concrete Slope Protection as per CMS 601.07 (Concrete Slope Protection)
- L. Before and after all construction is complete the DBT will have a Registered Surveyor provide vertical clearance measurements. The before measurements will be supplied to the Project Engineer before any work has started on the bridge.

#### 15.4 Noise Barrier

N/A

## 16 DESIGN AND CONSTRUCTION REQUIREMENTS: TRAFFIC CONTROL

### 16.1 Pavement Markings and Delineators Special Provisions

in addition to the Governing Regulations listed in section 8.1 of this document:

- A. Pavement Markings:  Yes  No **[Item 642]**
- B. Raised Pavement Marker:  Yes  No
- C. Delineators:  Yes  No
- D. Barrier Reflectors:  Yes  No  
All barrier reflectors will conform to Item 626 and will be placed on bridge parapets and guardrail blockouts, in accordance with current design standards.
- E. Object Markers:  Yes  No  
All object markers will conform to Item 630, Sign, Flat Sheet Sign

### 16.2 Signing Special Provisions

in addition to the Governing Regulations listed in section 8.1 of this document:

- A. Flat Sheet Signs:  Yes  No.
  1. Install new Structure Identification Signs at SUM-076-0758 & SUM-077-0959 Structures
  2. Replace any signs impacted by construction
- B. Extrusheet Signs:  Yes  No
  1. Replace any signs impacted by construction
- C. Ground Mounted Post Supports:  Yes  No

- 1. Replace any signs impacted by construction
- D. Ground Mounted Beam Supports:  Yes  No
  - 1. Replace any signs impacted by construction
- E. Overhead Supports:  Yes  No
  - 1. Replace any signs impacted by construction

### 16.3 Lighting Special Provisions

Any affected circuitry will be replaced in kind. Only concrete pull boxes may be installed or re-used (if existing).

### 16.4 Traffic Signals Special Provisions

N/A

### 16.5 Intelligent Transportation System (ITS)

N/A

## 17 PROJECT SCHEDULE REQUIREMENTS

The current edition of Proposal Note 107 will be met or exceeded.

## 18 PLAN SUBMITTALS AND REVIEW REQUIREMENTS

### 18.1 Plan Components:

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

- A. Real Estate Policies and Procedures Manual Section 3100.  
The DBT will also identify all topographic features within the existing and proposed Right-Of-Way limits, including underground utilities.
- B. Bridge Design Manual.
- C. CADD Standards Manual
- D. 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
1307.3	Subsummaries
1307.4	Quantity Calculations
1310.3	Earthwork and Seeding Quantities

Units of measure are **NOT** required.

Simplified plans (section 1301.2) are **NOT** allowed, except as noted in other sections of the Scope of Services.

### 18.2 Quality Control:

The DBT will be responsible for the professional quality, technical accuracy and adherence to the Governing Regulations listed in section 8.1 of this document, for all plan submittals required under this contract.

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

Unless stated otherwise, review comments do not revise the scope or intent of the project and do not constitute a request for changes beyond the current contracted Scope of Services

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 8.1 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 as a result of such action. The Department will schedule a review meeting or issue review comments as appropriate.

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

**18.3 Stage 1 Plan Review Submission:**

The DBT will submit the Stage 1 detailed design plan submissions as per Location & Design Manual, Volume 3 for review by ODOT. These submission milestones must be shown on the Progress Schedule.

Each Plan Sheet will be clearly marked “Stage 1 – Not for Construction”.

The Department will have ten (10) Work Days (the following are excluded as Work Days: State Holidays, Federal Holidays, Saturdays, Sundays, Friday after Thanksgiving Day, day before Christmas Day, days between Christmas Day and New Year’s Day) from receipt to review complete submissions. 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 will correct errors, incorporate changes, perform investigations and make related changes to the plans and supporting documents prior to submitting the Stage 2 Plan Review Submittal.

Plan Review Distribution Table : The DBT will supply half size (11" x 17") paper prints or TIFF Images, as noted below, simultaneously to the parties indicated below.

	Number of half size Sets
ODOT District Planning & Engineering	TIFF Images on Electronic Media [i.e. CD, DVD, etc]
ODOT District Construction	0
Each affected utility and railroad	2

**18.4 Major Design Decision:**

Separate submittals for concurrence with major design decisions made after the Stage 1 Review are required. Major design decisions involve significant utility relocation, unforeseen acquisition of ROW, traffic operation or geometric decisions that involve two or more viable solutions, and any other decision that impacts the public, operation of the facility or future maintenance.

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

**18.5 Stage 2 Plan Review Submission:**

For each Buildable Unit the Consultant will submit Stage 2 detailed design plans as per Location & Design Manual, Volume 3 for review by ODOT. All submissions must be shown on the required Progress Schedule.

Each Plan Sheet will be clearly marked “Stage 2 – Not for Construction”.

The Department will have ten (10) Work Days (the following are excluded as Work Days: State Holidays, Federal Holidays, Saturdays, Sundays, Friday after Thanksgiving Day, day before Christmas Day, days between Christmas Day and New Year’s Day) from receipt to review complete submissions. 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 will 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 will supply half size (11" x 17") paper prints or TIFF Images, as noted below, simultaneously to the parties indicated below .

	Number of half size Sets
ODOT District Planning & Engineering	TIFF Images on Electronic Media [i.e. CD, DVD, etc]
ODOT District Construction	0
Each affected utility and railroad	2

### 18.6 Construction Plans:

After the review comments for the Stage 2 review submission have been complied with, and following approval of the design documentation, the DBT will prepare plan sets for use during construction. All review comments will be resolved in writing by the DBT to the satisfaction of the Department before the DBT submits the construction plans. Each plan sheet will have its last revised date noted on the sheet and clearly marked ‘Approved For Construction’. **The ‘Approved For Construction’ plan set will be signed, dated and sealed by a Professional Engineer.** Physical construction will not begin until the plans marked ‘Approved 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 will supply full size (22" x 34") and/or half size (11" x 17") paper prints or TIFF Images, as noted below, of the each plan submission simultaneously to the parties indicated below :

	# of Full Sets	# of Half Sets
ODOT District Planning & Engineering	TIFF Images on Electronic Media [i.e. CD, DVD, etc]	
ODOT District Construction	2	4
Federal Highway Administration	0	0
Each affected utility or railroad company	0	2
City of Akron	0	1
County of Summit Engineer	0	1

### 18.7 Plan Distribution Addresses:

Ohio Department of Transportation, District 4  
Office of Planning and Engineering  
2088 South Arlington Road  
Akron, Ohio 44306  
Attn: Thomas J Powell, PE

Ohio Department of Transportation, District 4  
Office of Construction  
2088 South Arlington Road  
Akron, Ohio 44306  
Attn: Anthony Pamer, PE

Federal Highway Administration  
200 North High Street, Room 328  
Columbus, Ohio 43215-2408  
Attn: Daniel Brodhag, PE

Utility Companies  
(As shown in section 12)

## 19 BUILDABLE UNITS (BU)

**Definition:** Buildable Units 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 will summarize the materials required to construct that portion of the project. The summary will include the Construction and Material Specifications Item Number, and a description of the materials to be used.

**General:** 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 will be submitted for review and comment but their accuracy and effort upon the Stage 2 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 will 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 will 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 will modify the Progress Schedule to show a separate group of activities for BU and these activities will encompass all of the design and construction work in each BU. Work activities will 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 will 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 Stage 2 Review Submission and construction plans will 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 will be cited or the DBT will provide an estimated value of the data. The input data will 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 will be similarly identified, and where appropriate, compared back to that BU to verify previous assumptions. Should assumptions not match values calculated later, the DBT will re-analyze all affected components and determine appropriate changes. Should those elements have already been constructed; the DBT will 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 will be borne by the Contractor and no time extensions will be approved for this.



## 20 INDEX OF ATTACHMENTS

ATTACHMENT A	Vertical Clearance Measurements
ATTACHMENT B	Item Special - Tack Coat, Trackless Tack Item Special - Tack Coat, Trackless Tack For Intermediate Course
ATTACHMENT C	Structure and Roadway Subgrade Soils Investigation Report – S&ME
ATTACHMENT D	SUM-76-0758 Proposed Transverse Section
ATTACHMENT E	SUM-77-0959 Proposed Transverse Section
ATTACHMENT F	Required Plan Notes

Attachments are located at: <ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/SUM-98061/Attachments/>