

PID#	124403	State Job #	420818
Scope of Services Meeting Date & Time:	11/16/26		
Approved Final Scope of Services Date:	8/18/26		
Location	ODOT District 2, Bowling Green, OH		

CONSULTANT BRIDGE INSPECTION

Scope of Services

1. Bridge Identification

County:	Lucas	Route:	IR 280	Section:	2.96	District:	2
SFN:	4805836, 4805844, 4805992, 4806018, 4805909, 4806115, 4806107, 4805860, 4805879	Municipality:	City of Toledo				
Street Name or Other Designation:	Veterans' Glass City Skyway						
Features Under the Bridge:	Norfolk Southern Railroad, Front St., Maumee River, Ann Arbor Railroad, Summit St., Huron St., Erie St., Ash St., Ontario St., Michigan St., Champlain St.						

Bridge Type

The Veterans' Glass City Skyway is a segmental precast concrete box structure carrying I-280 over the Maumee River in Toledo, OH. The cable stayed mainspan is supported by a center pylon and cast-in-place piers and the approach and ramp spans are supported by cast-in-place piers and abutments. The mainline bridges provide three 12-ft driving lanes and two 10-ft shoulders for a total width of 56-ft in each direction. The ramps provide one 16-ft lane, one 4-ft shoulder and one 6-ft shoulder for a total width of 26-ft. The total bridge length is 8,802-ft with a 1,525-ft main span, approach spans that vary in length from 106.5-ft to 151.3-ft and ramp spans that vary in length from 88.1-ft to 151.3-ft. All substructures are supported on drilled shafts founded on bedrock. The integral wearing surface was replaced in 2020 with a 1.75" thick Superplasticized Dense Concrete overlay.

<u>Bridge Number</u>	<u>Structure File Number</u>
LUC-280-0283L (SB Approach S. of River)	4805836
LUC-280-0283R (NB Approach S. of River)	4805844
LUC-280-0309YR (Ramp Y)	4805992
LUC-280-0331ZL (Ramp Z)	4806018
LUC-280-0346 (Mainspan)	4805909
LUC-280-0375L (SB Approach N. of River)	4806115
LUC-280-0375R (NB Approach N. of River)	4806107
LUC-280-0426AL (Ramp A)	4805860
LUC-280-0434DR (Ramp D)	4805879

2. Available Plans and Inspection Reports:

	Yes	No
Original Construction Plans	X	
As-Built Plans		X
Shop Drawings	X	
Repair or Rehabilitation Plans	X	
Inspection Reports	X	
Inventory Reports	X	
Physical Condition Reports	X	
Structural Analysis/Previous Load Ratings	X	
Underwater Inspection Reports	X	
Maintenance Manual	X	
NSTM Inspection Procedure		N/A
UW Inspection Procedure	X	
Complex Bridge Inspection Procedure	X	

3. Inspection Intent:

Activity	2027
In-depth Element Level Inspection	X
Routine Element Level Inspection	
Update Bridge Inventory	X
Scour Critical Evaluation	
NSTM Inspection	
Complex Inspection Procedure*	X
Underwater Inspection	
Underwater Dive Inspection Procedure	
Immediate Action Recommendations	X
Maintenance Recommendations & Repairs	X
Structural Measurements where plans are not available	
Electrical and Mechanical Inspection	X
Bridge Deck Chloride Testing 18 total, 2 per structure	X
Load Rating	X
Benchmarking/Surveying	

*= Update the existing document

Inspection Intent Requirement Details for In-depth Element Level Inspection

In addition to the requirements of the Veterans' Glass City Skyway Inspection and Maintenance Manual, the following items shall be examined as part of the in-depth inspection:

1. Visual inspection of all of the interior and exterior surfaces of the structure. Inspection and measurement of any deteriorated areas including cracks or spalls.
2. Visual Inspection of the wearing surface.
3. Visual inspection of deviation blocks, anchorage areas, cable stay anchorages, delta frames and main span median slab.
4. Visual inspection of the expansion joints, membranes, and the related drainage components to determine continued proper operation or maintenance requirements such as debris removal.
5. Visual inspection for any signs of structural distress including spalling, cracking, deformation, corrosion, efflorescence or other unusual stains.
6. Visual inspection of bearings and especially the sliding bearings to determine if there is any deterioration distress or locked in deflections. The pedestals (below the bearings) and the plinths (above the bearings) should be visually inspected for signs of deterioration or distress.
7. Visual inspection of all external tendons shall be performed throughout the entire structure to locate and report signs of structural distress including bulges or cracks in the HDPE sheaths, corrosion, efflorescence or other unusual stains and for debonding of the tape at the HDPE galvanized steel interface. The extent of physical-hammer sounding of tendons shall include 100% of the areas showing visual distress, 100% of the tendons in the main span (4805909) and a representative sample in all other spans (ex. 10% of linear footage per span) at the discretion of the ODOT Project Manager.
8. Physical inspection of the tendon grout caps for any signs of distress including failure of the waterproofing or pour backs (at the expansion joints), corrosion, efflorescence or other unusual stains. Any missing hardware or waterproofing shall be inspected and noted.
9. Visual inspection of the drainage systems on the approaches and ramps including all downspout elbows in the pier caps. Physical access into the piers may be necessary to ascertain typical conditions i.e. fractured or disconnected downspout but will not be required at every pier at the discretion of the ODOT Project Manager. Access into these areas would require confined space entry. Thorough inspection of the patches at the transverse tendons for the pylon diaphragm and T Piers. Any moisture intrusion or debonding of the patches should be noted.
10. Physical inspection of the faces of the pier and expansion joint segments for any signs of structural distress including spalling, delamination, cracking, deformation, corrosion, efflorescence or other unusual stains.
11. Thorough inspection of expansion joints recording the conditions of the expansion joints and the opening width.
12. Thorough inspection of the cable stay components including the delta frames, the exterior of the anchorage assembly and cradles should be performed. Any unusual staining should be noted and investigated. The stay sheath welds shall be visually inspected including the welded tabs at the overlap sleeves. The upper overlap sleeves should be inspected for water tightness at the caulk joints. The bottom overlap sleeve upper (epoxy) connection should be checked for water tightness and deterioration, and the lower connection should be checked that it is free to move. The lightning protection jumper cables at both the top and bottom of the stay sheaths should be checked to see that they are secure. The stay dampers and their connections should be inspected to ensure proper performance.
13. Thorough inspection of the interior and exterior of the pylon including the glazing, caulking, ventilation, electrical systems (including contactors) and lighting (including lamps and ballast).
14. Physical inspection of all Mechanical and Electrical Equipment
 - a. Environmental Equipment
 - b. Lighting
 - i. Inside segments
 - ii. Navigation
 - iii. Aviation
 - iv. Cable Stay
 - v. Pylon

Utilization of snooper (rental), bucket truck, manlift and/or ladder may be necessary to access the needed components of the structure.

4. Load Rating

Summary

This task shall include creating a new system model of the 9 bridges that make up the Veterans' Glass City Skyway using the AASHTO Bridge Rating program (BrR) (BrR version to be confirmed by ODOT) updated to the most current loading conditions. BrR shall be utilized to the greatest extent possible. The use of software other than BrR shall require approval from ODOT. Midas Civil is ODOT's preferred 3D finite element program to be used, if needed. For complex bridges in which Midas 3D analysis will be required, an Excel format load rating tool or separate single line girder BrR model for one or more controlling beam lines shall also be included in the load rating submittal for ODOT future permit analysis use.

The load rating analyses shall be in accordance with State and Federal requirements and the AASHTO Manual of Bridge Evaluation.

Review of Data

ODOT will provide access to bridge plans, inventory data, previous inspection reports and any other information available for each bridge. Any information that is needed for the load rating and not contained in the bridge plans or previous reports shall be acquired by the consultant during the in-depth inspection.

The consultant shall be required to inspect the existing structure and incorporate current conditions of the structure(s) into the load rating model(s).

Analysis

The consultant shall be required to update the bridge rating files to the most current deadload and inspection conditions of the bridges prior to performing the load ratings.

The consultant shall perform the load ratings using the AASHTO Load and Resistance Factor Rating (LRFR) method for AASHTO HL93 loading (or LFR method for AASHTO HS20 loading if LRFR method requires posting of the bridge) at inventory and operating rating levels and all Ohio Legal Loads 2F1, 3F1, and 5C1; AASHTO Type 3, 3S2, 3-3, SU4, SU5, SU6 and SU7; and FAST Act Emergency Vehicles EV2 and EV3, also permit loads PL 60T & PL 65T (Ohio Legal Loads as given in the ODOT Bridge Design Manual, Section 900) at legal load rating level as per the AASHTO Manual of Bridge Evaluation, 3rd Edition and all of its interims. The bridge shall also be evaluated for Michigan legal loads and grain trucks. The bridge rating model shall be complete, error free and prepared as per ODOT formatting guidelines and QC/QA policy.

Project Deliverables

Deliverables will be submitted to the ODOT Office of Structural Engineering as follows:

1. An error-free, working, electronic copy of the database of all updated bridge files compatible with the ODOT specified version of AASHTO BrR program.
2. An electronic copy of each bridge's data files as exported from BrR in XML format.
3. Electronic copies of the structure's final load rating summary in "PDF" format.
4. Load rating summary form (BR100) in Excel and PDF format signed and sealed by an Ohio registered Professional Engineer.
5. All data and measurements obtained from the in-depth inspection along with digital photos of the bridge.

6. Immediate notification to ODOT OSE when it is determined that posting for reduced load capacity will be required.
7. A master Microsoft Excel spreadsheet containing all the information included in the individual summary reports.
8. Electronic (PDF) copies of the bridge plans used in creating bridge data models.

Minimum Requirements

The Professional Engineer stamping the load rating shall be proficient in the use of BrR and other approved load rating software and shall demonstrate proficiency in performing load ratings on cable stayed structures.

5. Inspection Services

Item	Description
Target Date(s) for Inspection:	July/August 2027
Traffic Control by	Consultant
Lane Closure Requirements	Lane closures shall adhere to the permitted lane closure times
Restrictions to Lane Closure	No lane closures on holidays or holiday weekends.
Property Owners Involved	ODOT, City of Toledo, Norfolk Southern Railroad, Ann Arbor Railroad
Right of Entry by	Consultant
RR Flaggers	Consultant
Other (ex. Coast Guard)	US Coast Guard
Special Equipment Anticipated for Access to remote areas • Snooper Rental • Rope Climbing • Bucket Truck • Man Lift	Snooper, Bucket Truck, Man lift, Rope Climbing, Other specialty equipment necessary for cable stay structures Security keys for access into the access hatches and pylon man doors.
Other:	Pictures or Files shall NOT go beyond project personnel

6. Consultant Bridge Inspection Requirements

1. The intent of this contract is for a Professional Engineer (Consultant) to make an in-depth element level inspection of the noted bridge(s) and to report such findings in a formal report. The Consultant will complete the inspection in accordance with the latest Ohio Department of Transportation (ODOT) Manual of Bridge Inspection and the Specifications for the National Bridge Inventory (FHWA).
2. The Consultant shall be responsible to provide all necessary traffic control, including traffic control plans (unless otherwise specified), personnel, equipment, tools, and incidentals including ladders and scaffolding to access to all portions of the site. The Consultant is only required to provide traffic control plans as necessary to obtain a permit.
3. All subconsultants used in the inspection shall be named in the proposal so that they can be

approved as a sub-consultant at the time of the agreement.

4. The Consultant will not be responsible for structural conditions which occur after the date of the last site visit, providing the condition was not visibly evident at the time of the last visit and the Consultant used usual and customary procedures to inspect the bridge.
5. Any steel structure with lower lateral bracing, pins and hangers, fatigue prone connections, steel pier caps (either of box section or I section), bridges with transverse floor beams and stringers, or any other unusual connection details, shall be carefully inspected for cracks, poorly designed details, or poorly fabricated details. A recommendation shall be made, if necessary, whether a retrofit program or corrective modification should be taken with a description of the proposed solution, and if any traffic limitations should be initiated. Adequate access shall be provided so that all such details can be visually inspected within arm's reach (even for routine inspections).
6. Any observed section loss on members which are normally analyzed to determine safe load capacity of the bridge, shall be measured and documented quantitatively (ultrasonic thickness gauge, calipers etc.) to allow for subsequent re-analysis of the structure.
7. The Consultant will not be responsible for conditions which are not obvious through usual and customary visual inspection or through standard state-of-the-art testing. The Consultant will not be responsible for identifying and evaluating portions of the bridge which comprise of poor quality materials and/or inadequate structural design unless obviously visible to a trained and experienced bridge inspector/engineer performing the inspection services in accordance with the customary standards of the profession.
8. Underwater inspection shall not be required.
9. Destructive Testing
 - a. Any additional destructive testing, other than that previously mentioned, shall not be done unless specifically stated in the scope of services meeting.
 - b. Where, in the judgment of the Consultant, it is necessary to remove some portion of the structure to achieve complete and adequate inspection, no action shall be taken without prior approval of the District Bridge Engineer.
10. Report Deliverables:
 - a. The Consultant shall be responsible for identifying and noting all visible defects in the bridge whether as a result of deterioration, original construction or original design. The Consultant shall also be responsible for identifying and noting areas of potential failure as a result of anticipated deterioration, past construction or maintenance practice and/or inadequate original design. AssetWise is the Department's preferred method for consultants to directly update inspection and inventory data. Specific report structure, drawings and inspection findings must be discussed and agreed upon during the scope of services meeting.
 - b. AssetWise
 - i. When ASSETWISE Access is required the consultant must obtain usernames, passwords, bridge-access for all team leaders. All data, commentary and files relevant to the bridge(s) inspected must be input in accordance with the Manual of Bridge Inspection including more recent Addendums. AssetWise Access requests are made through the AssetWise Landing Page: [AssetWise | Ohio Department of Transportation](#)
 - ii. The consultant shall incorporate the photographs within the report (not at the Asset Level) assigned within the bridge sub-units (ex. Deck Photos, Superstructure Photos). All photographs shall be dated and labeled to indicate the precise day, location and view in which they were taken.
 - iii. The ODOT Bridge Inspection Report shall be filled out for each bridge inspected

in ODOT's AssetWise unless specified otherwise. Photos, notes and sketches shall be updated on elements within the scope of the inspection and added to ASSETWISE. The notes and numbers in all other sections of the inspection filled out in the previous schedule inspection not within the scope of the consultant's inspection shall not be deleted and shall remain unchanged unless specifically permitted by the District Bridge Engineer on a case-by-case basis. Final report approval shall be made by the Consultant P.E. The District Bridge Engineer must be permitted time to review any changes prior to final approval. The report shall be in accordance with the Manual of Bridge Inspection (ODOT). The consultant shall insert inspection data, photographs, maintenance recommendations and condition narrative into ASSETWISE for the District Bridge Engineer to review prior to final approval.

- iv. The consultant shall notify the District Bridge Engineer, as soon as practical, after the physical field inspection of the structure is complete. The Consultant shall approve the final report in ASSETWISE after the District Bridge Engineer has reviewed any changes. The approval shall occur within 90 days of the field inspection.

11. Notification:

- a. The Consultant shall notify the District Bridge Engineer at least two weeks in advance of the start of the actual inspection to allow scheduling of the required traffic control operations at the periods mutually agreed upon by the Consultant and the District; to inform the local authorities involved of the dates of the inspection; and to obtain any necessary right of entry for the Consultant. In some cases, as noted in the special provisions, the Consultant may be required to provide traffic control, notify involved local authorities, and obtain necessary right of entry. In all cases, the consultant must notify the District Bridge Department when the Consultant intends to begin the inspection, **each day** the Consultant is on the job, and when the Consultant is finished.
 - b. The Consultant shall notify the District Bridge Engineer of any and all serious deficiencies immediately upon disclosure, in order that they may be observed by the Department from available access equipment. A phone call with follow-up email with photographs is preferred. A communication plan should be discussed during the scope of services. After completion of the inspection, the Consultant's Professional Engineer must review areas of special concern with field personnel and District Bridge personnel at the site. Serious deficiencies include but are not limited to loose concrete over traffic, reduction in safe load capacity, advanced scour or undermining and rapid changes in expected condition.
 - c. The consultant will inform the District Bridge Engineer of the work location, number of personnel, any lane closures, the type of equipment, start time and finish times, as well as the number of anticipated working hours the consultant will have at the site that day.
 - d. The consultant will update the Department as to any changes from the previous days call if the consultant left early or stayed later than originally intended.
 - e. At the completion of physical inspection, the consultant shall provide a spread sheet with all the above information for each day out at the bridge. This information will be used to keep local law enforcement apprised of who is out at the bridge, and to help us estimate inspection costs for future inspection contract.
12. At the completion of the physical inspection, the consultant shall provide a spread sheet with a log of the work location, number of personnel, and any lane closures, and type of equipment used each day.
13. All invoices for inspection services shall be submitted to the Jorey Summersett, District 2 Contract Manager for processing.

The State and Consultant agree that the Work to be performed for the bridge inspection, including the field work for each specific bridge included in the Agreement, shall commence and be completed within the same calendar year (March 1 to December 1). It is not the intent of the State to require the Consultant to perform field work for the bridge inspection during the months of December, January, and February. However, if unusual circumstances arise, the Consultant agrees to perform the required field work during this period upon verbal authorization by the District Bridge Engineer, for a bridge inspection which has been previously authorized by the Director.

The State and the Consultant agree that inclement weather conditions will not be cause for an adjustment to the completion time established in the Agreement.

7. Physical Condition Report

A formal report describing the physical condition of the bridge, using photographs, sketches and drawings and including evaluations and recommendations is required. The report shall follow the ODOT Manual of Bridge Inspection including more recent addendums. Consultants should update existing deficiency maps and CADD drawings unless previous drawings cannot be made available. The final report shall be submitted in PDF format.

Items	2027
Field Report with Element Level Data	X
Field Report	
Construction and Maintenance History	
Specialized Inspection Procedures (required for complex, underwater dive and fracture critical bridge inspections)	X
Plan view of bridge with mapped out deficiencies	
Updated deficiency map	X
Damage and/or Deterioration Evaluation (Include narratives describing the physical conditions, digital photographs, drawings, tables, etc.)	X
Updated damage and/or deterioration evaluation	
Maintenance/Rehabilitation Recommendations (Include a maintenance schedule and any rehabilitation recommendations)	X
Updated recommendations	X
Testing Report(s) if authorized	

Subreports	2027
Mechanical, Electrical	X
Other: Deck Chloride Testing	X

8. Type of Agreement

- Costs Plus Fee
- Actual costs plus fixed fee for testing items.
- Snooper or equipment rental is if authorized.

9. Price Proposal

The consultant's price proposal shall conform to the current Requirements for Consultant Proposals found on Consultant Services website: [Consultant Services | Ohio Department of Transportation](#)

Scope of Services Meeting Attendance

Date: _____, Location: _____

	Name	Representing	Email	Phone
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
24)				