



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

CONSTRUCTION DIVISION
SUITE 700, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
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CLAY BRIGHT
COMMISSIONER

BILL LEE
GOVERNOR

September 16, 2019

Re: ADDENDUM #5
Contract No.: DB1802
County: Polk

To Whom It May Concern:

This addendum revises the RFP Contract Books 1 & 3. Attached are the revised sheets.

You must acknowledge this addendum by completing the "Addendum Letter Acknowledgement form C and the Technical Proposal Signature Page (Form TPSP) within your Technical Proposal. It is the bidder's responsibility to notify all affected manufacturers, suppliers and subcontractors of this change.

Sincerely,

A handwritten signature in blue ink that reads "Lia Obaid".

Lia Obaid, P.E.
Assistant Director of Construction
Construction Division

**DESIGN-BUILD
RFP CONTRACT BOOK 1
INSTRUCTIONS TO
DESIGN-BUILDERS (ITDB)
TENNESSEE DEPARTMENT OF TRANSPORTATION**

US-64 (SR-40) over Ocoee River Bridge

Polk County- TENNESSEE

CONTRACT NUMBER: DB1802



April 12, 2019

Addendum #1 May 30, 2019

Addendum #2 June 26, 2019

Addendum #5 September 16, 2019

- 2) Describe or outline the assumptions upon which the CPM Schedule was based, risks, constraints, contingencies, sequence of work, the controlling operation or operations, intermediate completion dates, milestones, project phasing, anticipated work schedule and estimated resources that impacted the schedule.
- a) The CPM Schedule shall indicate how the Design-Builder intends to:
- Divide the Project into work segments to enable optimum construction performance and explain the planned sequence of work, the critical path, proposed phasing of the Project, and any other scheduling assumptions made by the Design-Builder.
 - Plans and procedures to insure timely deliveries of materials to achieve the Project schedule.
 - Categories of work that anticipates will be performed by Design-Builder's own direct labor force, those categories that will be performed by Subcontractors, those categories that will be performed by project specific teams, and those categories that will be performed by existing teaming arrangements.
 - An explanation of Design-Builder's methodology for updating it.
- b) The Design-Builder may adjust the list to more accurately reflect planned sequences and methods, although the level of detail shall be similar to that reflected in the list of required Pay Items in the Schedule of Items.
- 3) Submit a description of Pay Item Breakdowns including the physical features and activities included in the Pay Item, and all work included in the Pay Item Totals as reflected on the Schedule of Items, **for example but not limited to:**

For example, but not limited to:

105-01.20 Design-Build Construction Stakes, Lines & Grades

- Field Survey
- Construction Staking

105-01.55 Design-Build Design Services

(All Design Activities shall be included in this item.)

- Definitive Design and Reviews
- Readiness-for-Construction Plans and Reviews, Specification and quantity estimates
- Working Drawings
- As-Built Plans and Reviews

105-08.20 Design-Build Contract Management

- Project Administration
- Project progress (scheduling)
- Contract progress submittals for payment

109-04.50 Design-Build ROW Services

- Appraisal
- Acquiring
- Public meetings if required

203-01.95 Design-Build Grading & Roadways

- Road and Drainage excavation
- Borrow excavation (rock)
- Borrow excavation (other than solid rock)
- Undercutting
- ~~Guardrail~~

203-50 Construction of Haul Road

- Maintenance/Access Road
- ~~Haul Road~~

204-05.50 Design-Build Geotechnical

- Borings
- Geotechnical Investigations
- ~~Any Sinkholes~~
- ~~Rock Fall Mitigation~~

209-01.50 Design-Build Environmental Management

- EPSC measures, EPSC installation
- EPSC inspections
- Permit Acquisitions

301-50.50 Design-Build Pavement

- Any aggregate base
- Any Bituminous Plant Mix Base (HM) (A, BM-2, Etc.)
- Any Bituminous Concrete Surface (HM) (D, E)
- Treated Permeable Base Or Lean Concrete Base
- Any Portland Cement Concrete Pavement (\leq 10 in. Thickness)
- Any Portland Cement Concrete Pavement ($>$ 10 in. Thickness)
- Tack, Prime coat

604-10.82 Design-Build Bridge Aesthetics

- ~~Bridge~~
- ~~Pylons~~

604-10.95 Design-Build Bridges

- Components (steel, deck drains, etc.)
- Bridge
- ~~ABC superstructure units~~
- Bridge Repairs

- Inspections
- ~~Removal of Existing Structure~~

604-50.50 Design-Build Minor Structures (Other)

- Removal of Existing Buildings and Improvements
- Box Culvert
- Retaining Walls
- Endwalls
- Wingwalls
- Temporary structures
- ~~Noise Walls~~

610-10.50 Design-Build Drainage

- Catch Basins
- Storm Drainage System
- Side drain
- Under drain

712-01.75 Design-Build Maintenance of Traffic

- Work Zone Safety Plan
- Barrier Rail
- Changeable Message Sign
- Traffic Control
- Project photography and videography (including equipment and time-lapse video)

714-40.75 Design-Build Utilities ~~and Railroad~~

- Coordination
- Relocation
- Lighting
- ~~ITS~~

713-15.25 Design-Build Signing

- Footings
- Installation
- Removal and Disposal

716-99.50 Design-Build Striping/Pavement Markings

- Material
- Raised Pavement Markers
- Snowplowable Raised Pavement Markers

717-99.95 Design-Build Mobilization

4) Issues Resolution Plan

**DESIGN-BUILD
RFP CONTRACT BOOK 3
PROJECT SPECIFIC INFORMATION**

TENNESSEE DEPARTMENT OF TRANSPORTATION

**STATE ROUTE 40 / US 64, BRIDGE OVER OCOEE RIVER
POLK COUNTY- TENNESSEE**

CONTRACT NUMBER: DB1802



April 12, 2019

Addendum #1 May 30, 2019

Addendum #2 June 26, 2019

Addendum #3 July 24, 2019

Addendum #4 September 9, 2019

Addendum #5 September 16, 2019

The Design-Builder shall conduct and submit a load rating analysis for the existing bridge if the use of the existing bridge for construction activities exceeds normal highway loading. The load rating is to be submitted in AASHTOWare Bridge Rating software or a format to be concurred with by the Department. If the load rating analysis results in a substandard load capacity, the Design-Builder shall be responsible for any remedial action required on the bridge or modify their construction means and methods to ensure that any portion of the bridge that will be open to live loads has sufficient load capacity.

Upon completion of the Project, the Design-Builder shall provide TDOT Structures Division a final revised set of plans and final design calculations for all structures (bridges, walls, etc.). The plans shall be delivered on USB flash drive (each sheet an individual PDF file).

4.1 SR 40 / US 64 BRIDGE OVER OCOEE RIVER DESIGN REQUIREMENTS

The new bridge shall be designed and detailed using the AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, Eighth Edition (2017), and the AASHTO Guide Specifications for LRFD Seismic Bridge Design, Second Edition (2011) with all interims as well as the current practices and policies of the TDOT Structures Division.

The Design-Builder shall reference and adhere to the Department's Standard Specifications for Road and Bridge Construction (January 1, 2015 edition) for construction materials and methods.

Structural steel girders shall be designed continuous for all loads and shall be haunched as depicted on the bridge renderings. Structural steel shall be A709 Grade 50W. Concrete for the bridge deck shall be Class "DS" ($f'_c = 4000$ psi) and meet the requirements of the Standard Specifications. Concrete for substructures shall be Class "A" ($f'_c = 3000$ psi) and meet the requirements of the Standard Specifications. Class A concrete in pavement at bridge ends shall have surface aggregate in accordance with Article 903.24 of the Specification. Other types of concrete required by the design from the Design-Build Team shall meet the minimum design strength requirements and also the requirements of the Standard Specifications or any applicable Supplemental Specification or Special Provision.

The SR 40 / US 64 Bridge over the Ocoee River shall be designed for HL-93 live loading. The bridge design shall include 35 pounds per square foot (psf) for a future wearing surface.

The bridge rail shall be a **3'-6" tall** concrete open rail crash tested to meet a 50-mph design speed **and be MASH TL-3 compliant**. It shall include the Tri-Star emblem as shown on the TDOT Standard Drawing STD-8-6. The bridge rail shall also include an intermediate post over each pier with an Ocoee logo recess on both faces of the post (see the Reference Material on the project website for a rendering of the intermediate post and the Ocoee logo recess detail). The one-inch deep recess shall be the same blue (including clear coat) as on the Tri-Star State Emblem (see Standard Drawing STD-8-6), and the Ocoee logo shall be the same white (including clear coat) as the Tri-Star State Emblem. The bridge preliminary provided by TDOT shows standard rail STD-11-4 (included in Reference Material located on the project website) which **is 3'-6" tall and** can be used for speeds of 50 mph when a MASH TL-3 rated guardrail transition is used. The Design-Builder may submit an ATC for an alternative open concrete rail for approval. An open concrete rail is required for aesthetics to provide a view of the river through the rail.

The Design-Builder shall perform a hydraulic analysis for bridge deck drainage and shall meet the criteria in the TDOT *Design Procedures for Hydraulic Structures*. Deck drains shall be designed and installed for the "ultimate" 4-lane section as shown on the Preliminary Bridge Plans included in the Reference Material on the project website. Deck drains shall be in accordance with the details shown on TDOT Standard Drawings STD-1-2 and STD-1-2SS.

provided in the Reference Material, the symbol shall be no further than 2-feet from the bottom of cap and top of the masonry wall. The Design Builder may use a different concrete pier shape at Pier 3 except that a pile supported bent cap is not allowed. The formwork with the inlay of the Ocoee River symbol and the rock wall at the base of the pier as shown on the bridge renderings must be incorporated in Piers 1 and 2. The inlay of the Ocoee River symbol shall be 2-inches in depth and painted the same blue (including clear coat) as on the Tri-Star State Emblem (see Standard Drawing STD-8-6). The top of the rock wall shall be 4-feet above ground level with the base of the rock wall 1-foot below ground level. The Design-Builder shall provide a mock-up of the rock wall for approval prior to construction.

Pylon signs shall be constructed at all four corners of the bridge as shown on the bridge renderings. Pylon renderings are provided to demonstrate the desired appearance including aesthetic treatments and approximate dimensions. The proposed pylons are similar to the existing pylon signs along SR 40. The Design-Builder shall submit for TDOT's approval pylon construction plans and material details. Up-lighting for the pylons must be similar in style and compliment the bridge rail accent lighting.

The stone masonry for the base of the two piers immediately adjacent to the river and for the pylons at the ends of the bridge shall meet the following requirements:

- The stone facing shall be natural rock with a minimum width of 5-inches from the face of the pylon or pier. Also, different thicknesses of rocks shall be utilized to provide a look similar to the existing Forest Service pylons on SR 40 (see the photo provided in the Reference Materials).
- The stone shall be placed using dry stack installation with a colored mortar to match the stones. Gaps shall be filled as necessary while maintaining the dry stack appearance.
- The stone shall be supported by the concrete footing of the pylon or pier either directly on the footing or on a concrete ledge built up from the footing, or by forming a ledge out from the pier column.

All guardrail (including guardrail terminal, anchor and hardware) shall be brown powder coated and MASH TL-3 compliant.

Sodding is required underneath the bridge on both sides of the river from the toe of the abutment slope to the top of bank and for the full bridge width. Class "B" Rip Rap is required for the abutment fill slopes as shown on TDOT's Bridge Preliminary.

The Design Builder shall accommodate the Ocoee Utility District's water line to be attached to the new bridge. The water line and hanger system shall be installed between bridge girders to be hidden from view. The water line and hanger system details will be provided by the utility through TDOT. A letter from Ocoee Utility District stating their intentions for this project is included in the reference material.

Project Photography and Videography

The Design-Builder shall provide and use high-resolution camera equipment resulting in still photos and a time-lapse video of the bridge construction from start to finish.

1. The location of the camera placement must be approved by TDOT. The Design-Builder shall submit a camera placement plan of the project site with notation of the vantage point(s) marked for location and direction along with the elevation.
2. The Design-Builder shall provide TDOT unlimited access to and ability to download from an online photo album including still photos and high-quality time-lapse videos in order to view what is happening at any time during the construction as well as to review what's already happened. The Design-Builder shall submit for approval the proposed frequency for taking the images. Still photos shall include the date and time within the file name. Time-lapse videos shall include the date range within the file name.
3. All images and time-lapse footage shall be the property of TDOT and their Assigns.

4. All original digital still images shall be provided without alteration, manipulation, editing, watermarks, or modifications using image-editing software.
5. At the conclusion of the construction, the Design-Builder shall submit a professionally produced high-definition time-lapse movie of the project. Editing shall include image stabilization, color correction, removal of inclement weather footage, and removal of images outside the desired daily time range to be determined by TDOT.
6. Final video should be a minimum of (3840 x 2160 pixels) with minimal compression at 30 frames per second. Photos should be a minimum of (6000x4000 pixels) with minimal compression.

4.3 REMOVAL OF EXISTING STRUCTURE

During demolition of the existing bridge deck over the Ocoee River, the Design-Builder shall prevent debris from falling into the river and to protect river traffic. The deck over the river shall be removed by cutting it in sections and lifting each section out.

Blasting will not be permitted to demolish the existing bridge piers in the Ocoee River without prior approval of the detailed plan by TDOT and by the permitting and natural resources agencies.

If blasting is used for the demolition of the existing bridge, a blasting plan will be required and need to be included with permit application package submitted to the regulatory agencies. Please refer to Section 8.10, Permitting, for additional information.

4.4 RETAINING WALLS

Retaining walls are not anticipated. If the Design-Builder utilizes retaining walls, they shall be built in accordance with Special Provision 624, Retaining Walls. The exposed face of the retaining wall shall have a cut stone form finish approved by TDOT. The addition of a retaining wall shall be submitted through an ATC. MSE walls that can be partially inundated are not allowed.

5.0 GEOTECHNICAL ENGINEERING SCOPE OF WORK

The geotechnical exploration investigations shall be performed in accordance with the current TDOT *Geotechnical Manual* located on the Geotechnical Engineering Sections webpage on the Department's website:

<https://www.tn.gov/content/dam/tn/tdot/hq-materials-tests/geotech/2016-10-15-TDOTGeotechManual.pdf>

The Design-Builder shall determine the amount and level of the geotechnical investigations to cover geological risks, including karst terrain and features, associated with this Project.

The Design-Builder shall perform a slope analysis for all proposed slopes.

The Design-Builder shall be responsible for obtaining the borings for all structural support and foundation locations where subsurface information is not sufficient or is warranted by variability in the geology. All borings shall be deep enough to show a complete soil and rock profile to the depth of the foundation-supporting layer. Refer to Section 1: Geotechnical Projects with Structural Components, of the current TDOT *Geotechnical Manual*.

The Design-Builder shall collect appropriate field data and samples for geotechnical evaluation of embankments, subgrade, soil and rock cuts, culverts, bridge and retaining wall structures, storm water management structures and ponds, minor structures, including drainage pipes, and any other earth supported