

GENERAL NOTES FOR BRIDGE "A"

SPECIFICATIONS:

Comply with the requirements of the 2009 Oklahoma Standard Specifications for Highway Construction, except as modified by the Plans and Special Provisions.

SUGGESTED SEQUENCE OF CONSTRUCTION:

A suggested sequence of construction has been included in the plans. Any changes to the suggested sequence of construction must be submitted to the Engineer for approval. No work shall begin until the Engineer has approved the changes to the suggested sequence of construction.

VERIFICATION OF EXISTING CONDITIONS:

All dimensions of the existing components shown on the plans are approximate. The Contractor shall verify all data necessary to connect the new material and shall be solely responsible for the accuracy thereof.

Bidders shall fully inform themselves of the nature of the work and conditions under which it will be performed. The Contractor shall adopt methods consistent with good construction practice and shall take all necessary precautions to prevent damage to the existing bridges or attachments. Any damage to the existing bridge structures or roadway due to the Contractor's negligence shall be repaired at the Contractor's expense, to the satisfaction of the Engineer.

Contractor shall be aware of existing conditions and potential hazards during construction. Contractor shall take precautions to maintain the integrity of any existing utilities and structures. Any damage to these items during construction shall be repaired and/or replaced at the Contractor's expense to the Engineer's satisfaction.

PLANS:

The original project plans are available from:
 Reproduction Branch
 Oklahoma Department of Transportation
 200 N.E. 21st Street
 Oklahoma City, Oklahoma 73105

The bridge was constructed under the following Project No.
 Bridge "A" (Str. 6) F.A.P. No. 1-44-2(168)087

SURVEYING AND CONSTRUCTION STAKING:

The Contractor will be required to conduct all surveying and construction staking necessary for the completion of the project as directed by the Engineer. The surveying and construction staking required for completion of the project may include, but is not limited to, the following:

1. Establishing horizontal control including the staking of the C.R.L. on the bridge and approach roadway and assigning stationing as directed by the Engineer.
2. Establishing vertical control including the setting of benchmarks.
3. Measuring the elevations along the existing bridge deck slab at centerline, edges of driving lanes and edges of shoulders.
4. Measuring the elevations along the existing approach roadway at centerline, edges of driving lanes and edges of shoulders.
5. Measuring the existing top of beam elevations for determining deck slab haunch and forming data.
6. Measuring and setting construction stakes as necessary for conducting the grading and surfacing work on the approach roadway.
7. Measuring the existing top of pier and abutment elevations, and adjusting beam seat elevations as required.

All survey data, proposed adjustments in the new finish grades from original, forming data and haunch calculations shall be provided to the Engineer for approval before constructing the new deck slab, new approach slabs and new approach roadway pavement.

All cost of the surveying and construction staking necessary for completion of the project as directed by the Engineer including the cost of materials, labor, equipment, and incidentals shall be included in the price bid per Lump Sum of "CONSTRUCTION STAKING LEVEL II".

ESTABLISHMENT OF VERTICAL GEOMETRY:

The new bridge deck surface shall closely match the elevation of the existing due to the following:

1. Replacement of the existing bridge deck slab.
2. Addition of Haunch. (1 1/2" at Span Nos. 1 & 3 and 2 1/2" at Span No. 2)
3. Replacement of the existing bearings.
4. Reconstruction of the pedestals at the Abutments.
5. Reconstruction of Pier Caps and pedestals.

The finished bridge deck surface elevations shall account for this increase while matching the proposed profile geometry. If the actual finish surface elevations differ from what is shown in the plans, the Contractor shall notify the Engineer prior to deck placement for adjustment to maintain acceptable approach transitions.

HORIZONTAL GEOMETRY & VERTICAL CURVE DATA:

The information shown on the "GENERAL PLAN AND ELEVATION" drawing regarding vertical profile was determined by establishing a best fit vertical curve from "as-surveyed" information to provide a minimum haunch of 1 1/2" at Δ of beam at Span Nos. 1 & 3 and 2 1/2" at Δ of beam at Span No. 2 and a minimum pedestal height of approximately 2" at Abutment No. 1, Beam 5. This information is included for informational purposes only. The Contractor shall field verify the proposed vertical geometry. The reconstruction of the bridge deck is intended to match the profile of the existing bridge deck with the modification in the bridge deck surface as described.

REMOVAL OF BRIDGE ITEMS:

The pay item "REMOVAL OF BRIDGE ITEMS" shall include the removal and disposal of all items to be removed from the existing bridge as specified or shown in the plans including the following:

1. Deck slab, including parapets, handrails, and expansion joint hardware.
2. All Fixed and Expansion Bearing Assemblies located at the abutments and piers, including cutting the existing Anchor Bolts flush with the top surface of the abutments and piers, respectively.
3. Portions of the abutments as shown on the plans.
4. Portions of the piers as shown on the plans.
5. Existing drain pipes attached to the South end of Pier No. 1.
6. Approach slabs.
7. Any approach roadway pavement necessary for the installation of the new approach slabs.
8. Existing storm drain inlet, frame, grate & attached 18" RCP located at the southwest corner of the bridge as necessary for the work as shown in the plans.

When removing the existing deck slab, the Contractor shall take every precaution necessary to prevent damaging the existing steel I-beams, existing diaphragms or other superstructure members, unless otherwise specified on the plans. Any damages caused by the Contractor to existing steel I-beams, diaphragms or other superstructure members shall be repaired or completely replaced at the Contractor's expense to the satisfaction of the Engineer. The Engineer will determine if the damaged component can be satisfactorily repaired or if the component shall be completely replaced.

The existing structural steel may contain lead-based paint. The Contractor must take all necessary precautions and follow all following all specifications and regulations in handling and transporting lead-based paint. The removal shall be in accordance with Section 619.04.B.2 of the Standard Specifications and in a manner approved by the Engineer.

When removing portions of the existing abutments and piers as shown on the plans, the Contractor shall take every precaution necessary to prevent damaging the remaining components of the existing bridge or any new construction attached to the bridge. Only hand tools or hand operated power tools will be allowed to make the removals. No vehicle mounted tools or equipment will be allowed to make removals. Before making any removals with impact tools, all concrete components shall be uniformly saw cut along the removal lines or cut lines shown on the plans. Any damages caused by the Contractor to the existing abutments or piers shall be repaired or completely replaced at the Contractor's expense to the satisfaction of the Engineer. The Engineer will determine if the damaged components can be repaired or if not the component shall be completely replaced.

Before making any removals, the Contractor shall submit to the Engineer a plan for removing each item or portions of items to be removed from the existing bridge. The Contractor shall not make any removals until the plan has been approved by the Engineer. The plan shall include a list of all the equipment that will be used to make the removals, a description of how the equipment will be used to make the removals and a sequential list of steps that will be followed by the Contractor to make removals.

The bearings shall remain property of ODOT and will be stockpiled within the R/W as directed by the Engineer. After 30 days, any bearings not removed from the project will become the property of the Contractor.

Items damaged by the Contractor shall be replaced by the Contractor at no additional cost to ODOT. All other materials other than the bearings shall become the property of the Contractor and be disposed of in a manner approved by the Engineer.

All costs necessary to complete the work as specified or as shown in the plans including the cost of safety platforms, sawing, cutting, demolition, cleaning and straightening reinforcing steel, containment and removal of debris, materials, labor, equipment and incidentals shall be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

SUBSTRUCTURE REPAIR:

The existing Abutments and Piers, and any other concrete structure associated with the bridge, shall be repaired with Pneumatically Placed Mortar in a manner approved by the Engineer and in accordance with Section 521 of the Standard Specifications for Highway Construction. The removal of loose concrete shall be done using hand tools only, no power tools will be allowed. Power tools will be allowed only if hand tools prove to be incapable of removing all unsound concrete and if their use is approved by the Engineer. Any damage done to the existing reinforcing steel during the removal process shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Any deteriorated reinforcing steel with a section loss greater than 25%, as determined by the Engineer, shall be reported to the Bridge Engineer for remedial action. Prior to mortar application, blast clean the concrete surface and reinforcing steel free of debris and corrosion. Apply Pneumatically Placed Mortar to replace deteriorated concrete. Build up mortar to patch the original lines and grades of the member being repaired. All mortar repairs shall be sealed with a water repellent substance.

The Contractor may propose and use as an alternate one of the following repair methods:

1. Cast-in-place concrete
2. Pre-placed aggregate concrete
3. Formed and pumped concrete and mortar
4. Troweling and dry-packing of repair mortar
5. Class A Concrete (to be used under the existing beams)

The actual location and extent of the repairs shall be determined in the field by the Engineer. The repairs shall only be made in the areas selected by the Engineer. Payment will be made only for the actual repairs performed.

If the Contractor elects to use a method other than Pneumatically Placed Mortar, they shall submit to the Engineer, for their approval, a proposed work plan. The work plan should include surface preparation methods, patching material, bonding agents, material placing methods, compatibility with Corrosion Inhibitors and finishing methods. The Contractor shall repair a test area to verify the effectiveness of their proposed repair methods prior to commencement of the work on the entire structure. Faulty repairs shall be replaced by the Contractor at no expense to the State. The cost for all patching methods will be included in the price bid per Square Yard of "PNEUMATICALLY PLACED MORTAR".

REPAIR OF CRACKS IN SUBSTRUCTURE:

The existing Abutments and Piers contain cracks that shall be repaired. The cracks shall be repaired by cleaning and injecting with epoxy. The crack repairs shall be performed in accordance with Section 520 of the Standard Specifications. The actual location and extents of the crack repairs shall be determined in the field by the Engineer. Payment will only be made for the actual crack repairs performed.

All cost to complete the crack repairs as specified or as shown in the plans including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "PREPARATION OF CRACKS, ABOVE WATER" and the price bid per Gallon of "EPOXY RESIN, ABOVE WATER".

PAINT REMOVAL AND PAINTING EXISTING STRUCTURAL STEEL:

All exposed tops and sides of top flanges and diaphragms on the bridge shall be cleaned and painted in accordance with Section 512 of the Standard Specifications using Category "E" Application. The Contractor may use SSPC-SP 11, power tool cleaning to bare metal on top flange.

The existing structural steel may contain lead-based paint. The Contractor must take all necessary precautions and follow all specifications and regulations in handling and transporting lead-based paint. SSPC QP-2 certification is not required.

The Contractor need only apply the first coat or prime coat to the top flange of all beams. In addition, the Contractor, at his option, may use a Category "Q" primer, but all loose material and rust must first be removed from the top flange and the primer coat must meet OSHA slip requirements.

The color of paint shall match the color of the paint on the existing bridge.

All costs necessary to complete the work as specified or as shown in the plans including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Lump Sum of "PAINTING EXISTING STRUCTURES" and the price bid per Lump Sum of "COLLECTION AND HANDLING OF WASTE".

EXPOSURE OF DETERIORATED STRUCTURAL STEEL:

If any deteriorated structural steel (including but not limited to flanges, webs, connection plates, stiffeners, bearings and diaphragms) is exposed during any construction activity, the Contractor shall be responsible for notifying the Engineer who in turn shall notify the Bridge Engineer as to the extent of the damage. The Bridge Engineer shall determine if any repairs are necessary; and if so, what method of repair shall be used.

CLEANING BRIDGE SEATS:

All Bridge Seats shall be power washed & cleaned of all debris and allowed to dry before application of water repellent.

All cost of Cleaning the Bridge Seats including the cost of materials, labor, equipment and incidentals shall be included in other items of work.

CONCRETE:

All concrete shall be placed in the dry. All exposed edges shall have a 3/4" chamfer unless noted or shown on plans. All chamfer strips shall be sized lumber. All Class "A" and Class "AA" Concrete shall be air-entrained.

All concrete in the Superstructure, Approach Slabs & 42" F-Shaped Parapets shall be Class "AA" Concrete, f'c = 4,000 p.s.i. minimum strength at 28 days. All concrete in the Substructure shall be Class "A" Concrete, f'c = 3,000 p.s.i. minimum strength at 28 days.

If the Contractor elects to use High Early Strength Concrete to perform substructure repairs, the existing beams cannot be reset until the concrete has reached a compressive strength of 3,000 p.s.i.

Concrete surfaces under all beam supports (bearing assemblies) shall be ground with a carborundum brick before placement of bearing assembly to secure full bearing of assembly on concrete. Before bearing assemblies are set, the Contractor will check bearing surfaces with regard to levelness. The maximum permissible slope shall be 0.5%, which should be checked along an axis perpendicular and parallel to the beam line. Slopes exceeding 0.5% shall be corrected in a manner approved by the Engineer.

When vibrating concrete containing epoxy coated reinforcing steel, the vibrator shall be equipped with a plastic tip designed to prevent damage to the epoxy coating.

REINFORCING:

All reinforcing steel shall have 2" clearance unless shown or noted otherwise. All reinforcing steel shall be deformed bars, cold bent with no welds. Bar bend dimensions are out to out, unless noted otherwise. Unless otherwise specified in the contract documents, all reinforcing steel shall conform to AASHTO M31 (ASTM A615), GRADE 60.

Field welding of crossing reinforcing bars shall not be permitted. Tack welding of reinforcing bars shall be prohibited in all cases.

All longitudinal top reinforcing in the bridge slab shall be supported on approved continuous metal high chairs spaced at 4'-0" maximum on centers and the bottom layer of reinforcing steel shall be supported on approved metal slab bolsters spaced at 4'-0" maximum on centers.

OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
6	OKLA.	29775(04)				
DESCRIPTION				REVISIONS	DATE	

I-44 OVER I-244 NB BRIDGE "A"		TULSA COUNTY		DESIGN	JTR	5/16
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 1 OF 3)				DETAIL	JTR	5/16
				CHECK	BRT	5/16
				GARVER		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			JOB PIECE NO. 29775(04) SHEET NO. 3		