

GENERAL NOTES CONTINUED

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	TE-0284-01	2007	8	47

**TEMPORARY DIAPHRAGMS:** Use ASTM A709 Gr. 36 steel for all angles and bent plates for temporary diaphragms. All bolts, nuts, and washers for fasteners shall conform to the heavy hex structural requirements of ASTM A325, Type I. Use hardened steel washers over any oversized holes. Use 3/16" plate washers over any slotted holes along with hardened washers under the turned elements. Use the turn-of-the-nut tightening method. DTI's are not required. Install the temporary diaphragms, as shown in the details, prior to placing any superstructure concrete. Leave the temporary diaphragms in place until the concrete diaphragms and the deck have cured. Remove the angles from the girders and fill the holes in the prestressed beams with an approved epoxy grout. The bent plate diaphragms, angles, nuts, bolts, and washers shall remain the property of the Contractor. Submit shop drawings of the temporary diaphragms to the City of Wichita Engineering Division for review and approval. The material, equipment, and labor necessary for the installation and removal of the temporary diaphragms, including filling the bolt holes, shall not be paid for directly, but shall be subsidiary to the bid item "Prestressed Concrete Beams".

**INTERMEDIATE DIAPHRAGMS:** Cure intermediate diaphragms a minimum of seven days before placing slab.

**CONCRETE:** Superstructure concrete is bid as "Concrete (Grade 4.0)(AE)(SA)". Substructure concrete is bid as "Concrete (Grade 4.0)(AE)". Bevel all exposed edges of all concrete with a 3/4 inch triangular molding, except where noted on the plans. Construction joints are optional, but if used, place only at locations shown, or at locations approved by the Engineer.

**REINFORCING STEEL:** All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel shall conform to the requirements of ASTM A615, Grade 60.

Where non coated bars come in contact with epoxy coated bars, they need not be coated.

**CONCRETE PLACING SEQUENCE:** The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor may submit an alternate placing sequence for review. Submit the alternate placing sequence to the Engineer at the Preconstruction Conference. Include the proposed rate of concrete placement in C.Y./h, the plant capacity, placement direction, construction joint location, a description of the equipment used in placing the concrete, proposed admixtures, and the quality of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "Concrete (Grade 4.0)(AE)(SA)". Approval of the Contractor's alternate sequence is required prior to placement of concrete in the deck.

**CONSTRUCTION JOINTS:** The construction joints shown are optional with the Contractor. If used, place the construction joints only at locations shown or at locations approved by the Engineer.

**DECK PROTECTIVE SYSTEM:** Epoxy coat all reinforcing steel in the deck slab.

**EXISTING STRUCTURE:** Plans of the first and second generation of existing structures are on file and available for inspection by qualified bidders at the City of Wichita, Engineering Office.

**CAUTION!**

Utility Coordination:

1) Southwestern Bell - Utility owner has replaced existing lines on the north half of the bridge on the interior face of the exterior existing girder. Contractor shall work with utility owner to protect these utilities during construction.

2) Aquilla - Contractor shall coordinate with Aquilla for the existing gas line on the south side of the bridge. Over the summer, coordinate with Aquilla for the replacement of the line. Support new line on pier caps and through sleeves in the abutments as shown on the plans. Line has to be in service by September 1. Contact Calvin Briggs (316)941-1608.

Extra caution shall be taken to protect the historic elements (Rails, parapets, exterior girders, paving bricks, etc...) during construction.

**EXISTING DIMENSION VERIFICATION:** Dimensions of the existing structure are based on old plans. Verify, by field measurement, the as built dimensions of the existing structure and submit such verification in writing to the Engineer. The verification will include sketches, drawings, photographs and descriptions as needed to clearly define the as built dimensions that will be incorporated in the new construction.

**REMOVAL OF EXISTING STRUCTURE:** Removal of existing structure is included in the bid item, "Removal of Existing Structure", Lump Sum. All materials removed from the existing structure shall become the property of the Contractor except for paving bricks. Remove this material from the site. Coordinate Paving Bricks salvage with the City of Wichita.

The bid item "Removal of Existing Structure", Lump Sum, includes the removal of the concrete deck and the substructure as well as the concrete retaining wall at the NW & SW corners, the concrete boulders at the NE corner, the trash at the SE corner, free concrete under the bridge and all other loose concrete, boulders and trash on the project site. The bid item includes removal of existing pavement approaches and sidewalks to the limits shown on the plans, the sawcuts required in the substructure, superstructure and approach pavements. The Contractor shall remove those portions of the existing structure to the limits shown on the plans to clear the new construction. The Contractor shall submit bridge removal plans designed and sealed by a Professional Engineer registered in the State of Kansas. The bridge removal plans shall include the methods and procedures of removal, equipment used, debris platforms, detailed work schedule and historic elements protection. Notify the Engineer of the removal date with sufficient prior time for the Engineer to notify the traveling public and review the traffic control measures. The Contractor shall submit the removal plans and schedule to the Engineer prior to the preconstruction meeting. A preconstruction meeting for the bridge removal is required. The Engineer will be responsible for providing notification to the public. The following directions are to be followed for the portions of the bridge which remain during construction:

Clearly mark the location of the slab that is to remain during construction. Mark the entire length of the bridge before sawing or removing any concrete. Concrete sawing shall be limited to as shown on the plans for the slab and substructure. Do not use drop-type pavement breakers on the structure that will remain. Do not use a hoe ram within 2' of construction joint. Use a jackhammer no heavier than 15 lbs. to remove concrete within 2' of the construction joint in a manner not to damage the slab that will remain during construction. Preserve, as much as possible, the existing transverse reinforcing projecting from the sidewalk.

Clearly mark the location of the abutment wall and pier cap that is to remain during construction. Mark the entire portion of the bent before sawing or removing any concrete. Concrete sawing shall be limited to as shown on the plans for the abutment wall and pier cap substructure. Use a jackhammer no heavier than 15 lbs. to remove concrete within 2' of the construction joint and no heavier than 50 lbs. within 4' of the construction joints in a manner not to damage the parts of the abutment wall, abutment footing and pier cap that will remain during construction. Preserve, as much as possible, the existing transverse reinforcing projecting from the abutment wings and 2'-0" of the projecting transverse reinforcing from the pier cap.

Damage to the remaining slab, substructure, historic elements and exterior girder which are not to be removed during the first phase of bridge removal or final phase shall be repaired as directed by the Engineer at the Contractor's expense. Any additional cost incurred for testing or engineering evaluations required as a result of the contractor's negligence shall be considered as part of the Contractor's expense for repair. The Contractor will be required to thoroughly clean the streambed, as directed by the Engineer, of debris resulting or caused by all construction operations. No additional payment shall be made for cleaning and removing debris.

All other materials removed from the existing structure shall become the property of the Contractor and be removed from the site. The Contractor shall provide the Engineer with the location of the disposal site prior to demolition for approval.

**PAVING BRICKS:** The existing bricks shall be salvaged by the contractor for the City and stored at location approved by the City. The new bricks shall be heavy vehicular (HV) 4"x8"x2 3/4" chamfered edge with spacing lugs. The bricks shall be from Belden Brick Company with color Claret, or approved equal. Use a herringbone pattern in the placement of the bricks. Contractor is to install a sample panel of the paving bricks (5' x 5' area) for approval by the City prior to remaining installation. All work, labor, material and incidentals required for the removal and installation of new bricks as per plans and specifications, including sealing of sub-deck, sand base, and polymeric sand, shall be paid for at the contract unit price per square foot of "Paving Bricks".

**DRILLING & GROUTING (EPOXY GROUTING):** This item shall consist of grouting reinforcing steel into the existing concrete, where required by these plans and the Engineer, with an epoxy grout. Locate each hole with the aid of a pachometer to miss the existing reinforcing steel. Drill the holes to the specifications required by the grout manufacturer and in such a manner as not to damage adjacent concrete or bars. After the hole is drilled, remove all loose material by using a wire brush to free the dust from the side of the hole and then vacuuming to remove material and dust. Fill the hole 30% to 50% full of epoxy grout and insert the bar. Then fill the hole to 1/4 inch from the top of the hole. Follow the manufacturer's directions for mixing, application and curing. The tools, materials, labor and incidentals necessary to complete the work shall be paid for per each by the bid item "Drilling and Grouting". Quantity for "Drilling and Grouting" is an Engineer's estimate. Actual quantity may vary in the field based on condition of existing reinforcing subject to the determination of the Engineer.

Embedment depths for reinforcing shall be as shown on plans. Lengths may be decreased if epoxy grout manufacturer supplies verification that revised lengths will achieve the desired pullout capacity considering the requirements of the reinforcing location. Engineer approval is required before revised embedment lengths may be used.

For holes through the existing structure which will be removed in the final condition, use rotary drill bit or low impact drill. For holes through the existing structure which will remain in place in the final condition, use low impact drill only to minimize damage to the concrete and reinforcing steel.

**CONSTRUCTION LOADS:** Only foot traffic is permitted on the new sub-deck during the seven day curing period. Work to place reinforcing steel is allowed 3 days after the concrete is placed provided the curing is maintained on any exposed deck by keeping it wet during the 7-day curing period. Light truck traffic (gross vehicle weight less than 5 tons) is allowed on the bridge sub-deck 10 days after the pour is completed. Legal loads are allowed on the bridge sub-deck 14 days after the concrete is placed. With Engineer approval, heavy stationary loads may be allowed on the bridge sub-deck 14 days after the concrete is placed. With Engineer approval, vehicle loads greater than legal loads may be allowed on the bridge deck 28 days after the deck pour is completed. See KDOT Specifications.

**THOROSEAL:** After all superstructure & aesthetic repair is complete, rub and grout the outside face of existing exterior girder, brackets & underneath of sidewalks with "Thoroseal" or approved equal, to eliminate all staining and blemishes, subsidiary to "Concrete (Grade 4.0)(AE)(SA)". Rubbing and grouting shall be done in accordance with KDOT Standard Specifications 701.03 (h)(3). Match color of thoroseal to existing concrete.

**MASONRY COATING:** Coat visible abutment walls and wings from top of footing to bottom of abutment diaphragm, and pier walls from top of footing to bottom of pier cap for Piers #1, #2 & #6, with anti-vandalism paint. Clean all existing vandalism from concrete surfaces before applying anti-vandalism coat, subsidiary to the bid item, "Masonry Coating". See Project Special Provisions.

**CONSTRUCTION SEQUENCE PROCEDURES:** See "Construction Sequence" sheet for notes.


**SUBSTRUCTURE REPAIR:** See "Pier Details" sheet for notes. This bid item includes repair of Pier Walls, Abutment Wingwalls, as well as Existing Retaining Wall.

**SUPERSTRUCTURE REPAIR:** See "Superstructure Repair Details" sheet for notes. This bid item includes repair of exterior girder, brackets, top of concrete base under metal handrail as well as sidewalk slab. Repair interior of exterior girder prior to placing new K2 beams.

**SCULPTURAL CONCRETE REPAIR AND CONSERVATION:** See "Aesthetic Elements Rehabilitation" sheet for notes. See project special provisions.

**ELECTRICAL LIGHTING SYSTEM:** See "Lighting Details" sheet for notes.

See Sh. #10 for Construction Sequence.  
See Sh. #19 for Pier Details.  
See Sh. #30 for Superstructure Repair Details.  
See Sh. #33 for Aesthetic Elements Rehabilitation.  
See Sh. #34 for Lighting Details.

CITY OF WICHITA JAMES ARMOUR, P.E., CITY ENGINEER		
13TH STREET BRIDGE OVER LITTLE ARKANSAS RIVER <b>GENERAL NOTES                  CONTINUED</b>		
 PARSONS BRINCKERHOFF 1221. Wichita, Kansas		
SCALE	DATE 10/9/2007	DWG NO. 35750A

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