OKLAHOMA DEPARTMENT OF TRANSPORTATION					
FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
X	OKLA.	28872(04)			
REVISIONS					
DESCRIPTION				DATE	

COMMON GENERAL NOTES (CONTINUED)

CONCRETE:

All concrete shall be placed in the dry. All exposed edges shall have a ¾" 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 & 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.

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 leveiness. 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.

High Early Strength (HES) Concrete shall be used for deck/joint repairs. Deck repairs shall obtain a minimum compressive strength of 3,000 p.s.i. prior to placement of loads on repaired areas. Payment of HES Concrete is included in the price bid per Square Yard of "CLASS C BRIDGE DECK REPAIR".

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. All reinforcing steel to be Grade 60.

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

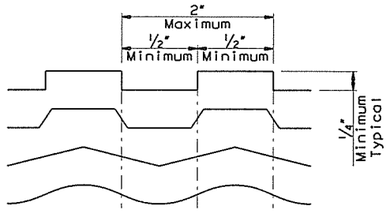
All longitudinal top reinforcing in the bridge slab shall be supported on approved continuous metal high chairs spaced at 4'-0" maximum on centers and the bottom layer of reinforcing steel shall be supported on approved metal slab bolsters spaced at 4'-0" maximum on centers.

INTENTIONALLY ROUGHENED SURFACE EXAMPLES:

The indicated surfaces shall be intentionally roughened to a minimum height of ¼" over a maximum pitch of 2" measured longitudinally along the length of the surface. The crest and trough associated with the height shall not be less than ½" and shall extend the:

1. All faces of Pier Nos. 1 - 4 that are to be encased.

Roughened surface may be obtained by a special trowel as shown in the examples, by cleaning the concrete surface with a stiff wire brush (or blasting) to the extent that aggregate is exposed to a height of ¼", or by another approved method. The method used shall be submitted for approval by the Engineer. Repair any damage to reinforcement epoxy coating before placement of deck concrete.



MECHANICAL SPLICES:

Mechanical Splices shall be used to connect the transverse reinforcing steel in the superstructure (Bridges "A" & "B") and approach slabs (Bridges "A" & "B") as specified or as shown in the plans. The Mechanical Splices shall satisfy the requirements of Section 511.04.C of the Standard Specifications and shall be installed in accordance with the Manufacturer's Specifications.

All cost of installing the Mechanical Splices including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Each of "MECHANICAL SPLICES".

The lengths of reinforcing steel bars with Mechanical Splices shown in the Phase I Construction bar lists include the length of the Mechanical Splice. The lengths of reinforcing steel bars to be engaged into Mechanical Splices shown in the Phase I Construction bar lists do not include any additional length for engagement into the Mechanical Splices. The actual Mechanical Splice engagement lengths shall be determined by the Mechanical Splice manufacturer, and the lengths of the reinforcing steel bars to be engaged into Mechanical Splices shall be adjusted accordingly. The cost to adjust the length of any reinforcing steel shown in the plans to accommodate the Mechanical Splices will not be measured for payment and shall be included in the price bid per Each of "MECHANICAL SPLICES".

APPROACH SLAB:

Class AA concrete shall be used in the Approach Slabs with epoxy coated reinforcing. The quantity given is based on the actual Square Yards of the Approach Slabs. All costs of concrete, reinforcing steel, longitudinal construction joint sealant, sawed and sealed construction joint between new deck and approach slab, sawing of joints, excavation, labor, equipment, and incidentals necessary to complete the work as specified shall be included in the price bid per Square Yard of "APPROACH SLAB".

SAWED AND SEALED JOINTS:

The existing 1" Longitudinal Joint (Bridge "A") and the new Sawed & Sealed Construction Joint at Pier No. 2 (Bridges "A" & "B") in the Bridge Deck shall be sealed with Rapid Cure Joint Sealant in accordance with Subsection 701.08.G and as shown on the plans.

All costs including materials, labor, equipment and incidentals necessary to complete the work as shown in the plans shall be included in the price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

SEALED EXPANSION JOINT:

The Sealed Expansion Joints located on Sheet Nos. & shall be constructed in phases as shown on the plans and in accordance with Standards EJ-SK-03E & EJ-DTL-01E & in a manner approved by the Engineer except that Bars W1 & W2 on Standard EJ-DTL-01E shall be modified to fit within the limits of the slab with appropriate clearances.

All cost 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 Linear Foot of "SEALED EXPANSION JOINT".

SPECIAL CONCRETE FINISH:

The Special Concrete Finish shall be a liquid applied urethane coating such as CIM 1000 as manufactured by CIM Industries, Inc., IM-129 as manufactured by Custom Linings, or an approved equal. Product information for CIM 1000 can be obtained from Laster Castor Corp. of Tulsa, Oklahoma, phone number 918-234-7777. Product information for IM129 can be obtained from Custom Linings, phone number 719-395-4414.

The equipment and methods of applying the urethane coating shall be in accordance with the product coating profile and instruction guides for application to concrete. Precautionary measures shall be in accordance with the Material Safety Data Sheets as provided by the manufacturer.

The coating shall be 60 mils dry thickness and 68 mils wet thickness. In addition to applying the coating to the concrete substructure units as listed below, the coating shall return up the vertical surfaces of the pier and abutment bearing pads to provide a water tight seal with the concrete pedestals. Surface preparations and product mixing shall be per the manufacturer's recommendations and all new concrete shall have a minimum strength of 3000 psi at the time of application. Primer shall be applied to the concrete surfaces prior to applying the coating. All concrete work shall be completed prior to the application of the Special Concrete Finish.

Water repellent will not be required on surfaces that are coated with Special Concrete Finish.

Special Concrete Finish shall be applied to all areas listed below & as shown in plans:

(a) Abutment Caps and Backwalls.
(b) Pier Caps.

All costs of the Special Concrete Finish including the cost of materials, labor, equipment, and incidentals shall be incuded in the price bid per Square Yard of "SPECIAL CONCRETE FINISH".

PENETRATING WATER REPELLENT SURFACE TREATMENT:

A penetrating water repellent surface treatment shall be applied to the following concrete surfaces of the bridge:

(a) Edges and underside cantilever portion of the existing & new bridge deck.
(b) Front, sides and exposed areas of the Abutment Seat, Backwall and Wingwalls not covered with Special Concrete Finish.
(c) Top, bottom, sides and ends of the Pier Cap not covered with Special Concrete Finish.
(d) The roadway faces and tops of the existing/proposed Sloped Face Parapets.

All costs associated with the use of Penetrating Water Repellent Surface Treatment including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Square Yard of "WATER REPELLENT (VISUALLY INSPECTED)".

(SP) CARBON FIBER-REINFORCED POLYMER:

Payment for Carbon Fiber-Reinforced Polymer will be based on the surface area confined, as indicated on the plans. Additional Layers of Carbon Fiber-Reinforced Polymer as specified in the plans shall be considered subsidiary to this pay item.

All costs of Carbon Fiber-Reinforced Polymer including all three (3) layers of material, epoxy, Inorganic Zinc Primer, labor, equipment and any other incidentals necessary to complete the work shown in the plans shall be included in the price bid per Square Foot of "(SP) CARBON FIBER-REINFORCED POLYMER".

CONCRETE SLOPE WALL:

Item "Slope Wall (5")" shall be used to repair specific areas as shown in the plans (listed below):

1. Entire Slope Wall sections at Abutment No. 2 at Bridges "A" & "B". See Sheet Nos. 22 & 43 for details.

All costs of the "SLOPE WALL (5")" installation including Class A Concrete, reinforcing steel, lap splices, backer rod, rapid cure joint sealant, preformed joint filler, polystyrene, excavation, Aggregate Base (Type A), Unclassified Backfill, labor, equipment and other incidentals shall be included in the price bid per Square Yard of "SLOPE WALL (5")".

FLOOD COATING TREATMENT:

A Flood Coat Deck Seal shall be applied to the following concrete surfaces of the bridge:

(a) The driving surfaces of the bridge decks.

The Contractor must prevent the Flood Coat Deck Seal from penetrating any joint that has been sealed with Silicone. If the Flood Coat Deck Seal penetrates any Silicone joint, the Contractor, at his own expense, will be required to:

(1) After bulk cure, remove all Flood Coat Deck Seal from these joints.
(2) Remove and replace the Silicone Joint Sealant.

This work will be performed after all other work on the bridge has been completed.

All cost to seal the bridge decks with Flood Coat including the cost of materials, labor, equipment and incidentals shall be included in the price bid per Square Yard of "DECK AREA SEALED (FLOODCOATS)".

RAILROAD PROTECTION:

Contractor shall use extreme care and take any measure necessary to insure that no debris is dropped onto railroad R.O.W. at the bridges. This shall be accomplished by the use of baskets, netting, wrapping, work platform, or other similarly effective means. Any debris which is allowed to drop shall be removed and disposed of by the Contractor. Cost of protection system and removing and disposing of debris shall be included in other items of work.

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.

PERFORATED PIPE UNDERDRAIN:

Item "6" Perforated Pipe Underdrain - Round" includes 109.00 feet of Perforated Pipe and 15.30 cubic yards of Pipe Underdrain Cover Material for Abutment No. 2 (Bridge "A"). The installation of the Perforated Pipe and Pipe Underdrain Cover Material shall be as shown in the plans on Sheet No. 22.

Item "6" Perforated Pipe Underdrain - Round" includes 115.00 feet of Perforated Pipe and 16.20 cubic yards of Pipe Underdrain Cover Material for Abutment No. 2 (Bridge "B"). The installation of the Perforated Pipe and Pipe Underdrain Cover Material shall be as shown in the plans on Sheet No. 43.

All costs of the Perforated Pipe Underdrain installation including material, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "6" PERFORATED PIPE UNDERDRAIN ROUND".

NON-PERFORATED PIPE UNDERDRAIN:

Item "6" Non-Perf. Pipe Underdrain - Rnd" includes 20.00 feet of Non-Perf. Pipe, 3.00 cubic yards of Trench Excavation and Standard Bedding Material at Abutment No. 2 (Bridge "A"). The installation of the Non-Perforated Pipe shall be as shown in the plans on Sheet No. 22.

Item "6" Non-Perf. Pipe Underdrain - Rnd" includes 20.00 feet of Non-Perf. Pipe, 3.00 cubic yards of Trench Excavation and Standard Bedding Material at Abutment No. 2 (Bridge "B"). The installation of the Non-Perforated Pipe shall be as shown in the plans on Sheet No. 43.

All costs of the Non-Perforated Pipe Underdrain installation including backfilling, material, labor, equipment and incidentals shall be included in the price bid per Linear Foot of "6" NON-PERF. PIPE UNDERDRAIN RND".

(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A):

Item "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)" consists of removal & replacement of all electical conduit, mounting hardware and fixtures for the lighting attached to the existing pier caps. The Contractor shall be responsible for attaching the new conduit & lighting fixtures to the bridges once all repairs are completed.

All costs of electrical conduit, attachment, light fixtures, mounting hardware, labor, equipment, and incidentals necessary to complete the work as shown on in the plans shall be included included in the price bid per Lump Sum of "(PL) INSTALLATION OF BRIDGE ITEMS (TYPE A)".

I-44 WB & EB OVER S 38TH W AVE & TSU RR BRIDGES "A" & "B" — TULSA COUNTY	DESIGN	JMO	9/15	
SUMMARY OF PAY QUANTITIES AND NOTES (BRIDGE) (SHEET 2 OF 5)	DETAIL	SJL	9/15	
	CHECK	BRT	11/15	
	GARVER			
STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 28872(04) — SHEET NO. 3				