

MIDLAND COUNTY ROAD COMMISSION

BID FORM

Sealed Proposals will be received at the office of the Board of Road Commissioners, County of Midland, at 2334 N. Meridian Road, Sanford, Michigan 48657 until:

DATE: Friday, March 3, 2017, at 9:00 A.M.

Item No. 28 – CONCRETE PRECAST DECK PANELS

PAY ITEM

PRICE PER UNIT

Precast Concrete Deck Panel System

\$_____ /LSUM

DESCRIPTION

Item includes fabrication and delivery of 8 precast concrete deck panels that are 30' long and together form a width of 36'. Each panel shall be constructed per the attached detail and provide a minimum of 4 lifting points. Fascia panels shall have 5 sets of 7/8" anchor bolts (8" o/c vertical spacing) spaced 5' o/c for guardrail post attachment.

Post-tensioning shall be as determined by the contractor to meet all requirements of this specification. Post-tensioning materials to be supplied by contractor and cost included in lump sum bid for Precast Concrete Deck Panel System.

MCRC will provide 400+ EK04 bars for use in fabrication. Contractor to pick up the bars at Midland County Road Commission office located in Sanford MI.

Contractor will be required to submit shop drawings for review/approval to Midland County Road Commission.

Delivery of the panels will be accepted at the bridge site located. Delivery schedule to be coordinated between contractor and MCRC, anticipated delivery between July 15 and August 15. Delivery cost to be included in lump sum bid for Precast Concrete Deck Panel System.

Concrete Surface Sealer may be field applied following the panels being set in place and a minimum of 28 day curing period on the concrete.

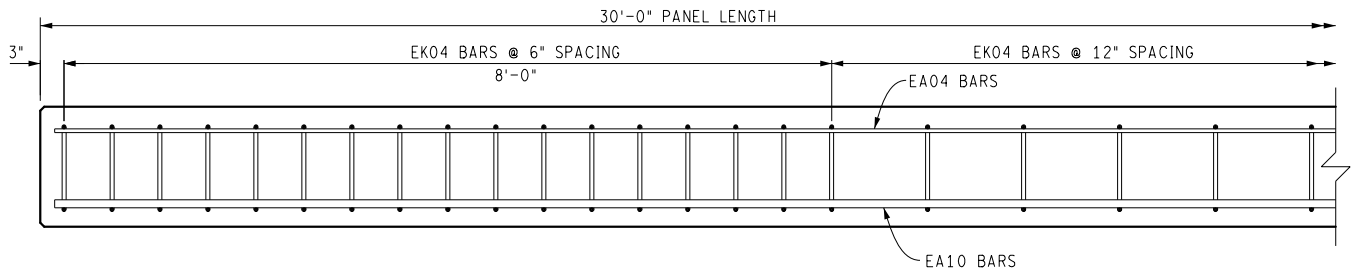
COMPANY BIDDING _____

CONTACT PERSON _____

ADDRESS _____

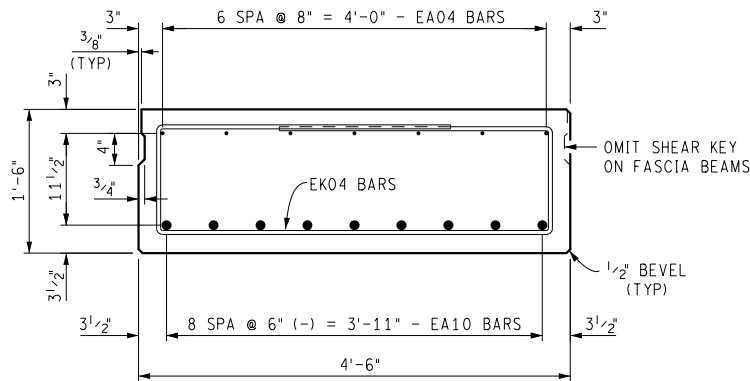
PHONE/FAX _____

AUTHORIZED SIGNATURE TITLE
INDICATE ON ENVELOPE: Company Name, Item Number, Bid Item, Time and Date



DECK PANEL ELEVATION

(ADJUST EK04 SPACING TO ACCOMMODATE POST-TENSIONING DUCTS)
(EK04 BARS SYMMETRICAL ABOUT DECK PANEL)



DECK PANEL SECTION

NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL-93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL-93 LOAD DEFINITION SHALL BE REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL-93 MOD. LIVE LOAD PLUS DYNAMIC LOAD ALLOWANCE DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

PRECAST CONCRETE $f'_c = 5,000$ psi
STEEL REINFORCEMENT $f_y = 60,000$ psi

THE INITIAL FORCE IN THE TRANSVERSE POST-TENSIONING TENDONS SHALL BE 120,000 LBS. EACH.

COAT THE ENTIRE OUTSIDE AND BOTTOM OF THE FASCIA BEAM USING A MATERIAL SELECTED FROM THE SPECIAL PROVISION FOR CONCRETE SURFACE COATINGS. APPLY THE COATING ACCORDING TO THE SPECIAL PROVISION.



NO SCALE

JN: 5025-17-0010

BRIDGE RECONSTRUCTION
MIDLAND COUNTY ROAD COMMISSION
DECK PANEL REINFORCEMENT DETAILS

DATE: 02/10/17

DRAWING SHEET

MIDLAND COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
CONCRETE SURFACE COATINGS

MCRC:ALB

1 of 3

02-10-17

a. Description. This work consists of furnishing and applying an acrylic based concrete surface coating to concrete structures, including fascia beams as specified on the plans. Ensure all work and materials are in accordance with the standard specifications, except as modified herein.

b. Materials. Select the acrylic based concrete surface coating from the products listed below. On any single structure, use the same product for all areas to be coated with a specified color. Do not mix colors or products from more than one source.

For this project, furnish and apply a smooth textured, concrete coating of the following color, or another Engineer approved color:

Color to be approved by Owner.

Submit color samples to the Engineer for review and approval. If required by the Engineer, complete a test section to demonstrate the final color prior to application of the coating to the structure.

<u>Company</u>	<u>Product</u>
Benjamin Moore 056	Super Spec Masonry 100% Acrylic Elastomeric Coating Flat
Carboline Company	Carbocrylic 3350
ChemMasters	Colorcoat
ChemMasters	Colorlastic
Conspec	Permacoat
ICI Dulux Paints	Decra-Flex 300
O'Leary Paint Company	O'Leary 1375 Elastomeric
PPG Industries, Inc.	Perma-Crete Pitt-Flex Elastomeric Coating 4-110
Sherwin-Williams	Concrete Texture Coating Smooth B97-160 Series
Sika Corporation	Elastocolor
Sika Corporation	Sikagard 550W Elastic
Sonneborn	Super Color Coat
Tamms Industries	Tammolastic
Thoro	Thorocoat
Thoro	Thorolastic

c. Construction.

1. Surface Preparation. Cure new concrete a minimum of 28 days before coating. Following the curing period, and prior to coating, test for moisture content in the concrete as

described below.

Ensure all concrete to be coated is tested for the presence of moisture after surface preparation has been completed and prior to application of the coating. Ensure testing is in accordance with *ASTM D 4263*. Tape an 18 inch by 18 inch sheet (4mil) of transparent polyethylene to the concrete surface to be coated. Ensure all edges are sealed with tape that will stick to the concrete substrate and not allow the infiltration of air. Leave the plastic sheet in place a minimum of 16 hours to detect the presence of moisture in the concrete. There must be no moisture visible on the polyethylene sheet after the minimum period of time has elapsed for coating work to begin. This must be verified by the Engineer before application of the coating begins. This test may not be reliable in cooler conditions. Alternate methods to detect moisture must be approved by the Engineer. This test should be performed a minimum of once every 100 lineal feet on barriers, walls etc., and a minimum of once on columns, piers, etc. Prepare the surface, including removing fins and projections and filling surface voids and cracks (if required), according to manufacturer's recommendations, except as modified by this special provision.

Ensure the surface to be coated is dry and free from all contamination including, but not limited to: dirt, form release agents, oil, grease, laitance, loose material and curing compounds. Clean surface by low-pressure water cleaning, steam cleaning, or abrasive blasting (followed by oil-free compressed air cleaning) or by combination to achieve an acceptable cleaned surface. When low-pressure water cleaning or steam cleaning is used, the concrete surface profile (CSP) must be CSP 1 in accordance with the *International Concrete Repair Institute Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays* (Guideline No. 310.2R-2013). When abrasive blasting is used, the concrete surface profile must be CSP 2 to CSP 4. Low-pressure water or steam cleaning primarily removes water soluble contaminants. Aged concrete with contaminants such as hardened curing compound may require light abrasive blasting to completely remove the curing compound. Since many curing compounds contain wax, even well adhered residue must be removed prior to coating to ensure a good bond between the surface coating and the concrete.

When low pressure water cleaning or steam cleaning is used, the power washer must deliver 3000 - 4500 psi and utilize a 15 degree or smaller nozzle tip held perpendicular to the surface being cleaned. When using light abrasive blasting to remove contaminants on new construction, be careful not to remove excessive concrete material.

2. Visual Inspection. Check surface cleanliness by lightly rubbing with a dark cloth or by pressing translucent adhesive tape onto the concrete surface in the presence of the Engineer. An acceptable level of residual dust can be agreed upon by the Engineer and the Contractor. Perform a water drop test in the presence of the Engineer prior to coating the concrete surface to detect for the presence of any hydrophobic contaminants. Hydrophobic contaminants include materials such as form release agents, curing compounds, oil, grease, wax, and resins. If contaminants are detected, as evidenced by a lack of rapid absorption of the water drop into the concrete, remove the contaminants and perform the tests again until no contaminants are detected.

3. Application. Apply two coats (do not dilute) of the acrylic based concrete surface coating. Apply each coat to provide the minimum wet film thickness as recommended by the manufacturer. A primer is not required unless stated as required in the manufacturer's product data sheet. Temperature limitations of the air, coating material and concrete for

application will follow manufacturer's recommendations but must not be outside the temperature range of 45 to 90 degrees F and the temperature of the air, coating material and concrete must be at least 5 degrees F above the dew point. Do not apply the concrete surface coating at a relative humidity greater than 90 percent or if rain is forecasted within the specified rain resistance period.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item**Pay Unit**

Included in the total bid for the supply of the concrete beams.