

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: Monday, March 7th, 2016, at 1:00 P.M.

Item No. 19 – PENETRATING HEALER SEALER

Estimated Quantity **3510** SYDS

PENETRATING HEALER SEALER, Bridge deck \$ _____/SYD

DESCRIPTION

This work consists of providing all labor, materials, equipment, and traffic control required to prepare, clean, and apply a penetrating epoxy healer/sealer system to concrete bridge decks. Perform all work according to the standard specifications and the special provision below.

LOCATION

- Lively Rd over Herner Drain in Mills Twp.
- 9 Mile Rd over Pine River in Porter Twp.
- Saginaw Rd over Salt River in Jerome Twp. Sec 7
- Saginaw Rd over Salt River in Jerome Twp. Sec 23
- Curtis Rd over Tittabawassee River in Edenville Twp.

Bridge inspection reports available via email upon request.

COMPANY BIDDING _____

CONTACT PERSON _____

ADDRESS _____

PHONE/FAX _____

AUTHORIZED SIGNATURE

TITLE

INDICATE ON ENVELOPE: Company Name, Item Number, Bid Item, Time and Date
MIDLAND COUNTY ROAD COMMISSION

**SPECIAL PROVISION
FOR
PENETRATING HEALER SEALER ON BRIDGE DECKS**

MCRC:ALB

02-11-16

a. Description. This work consists of providing all labor, materials, and equipment required to prepare, clean, and apply a penetrating epoxy healer/sealer system to concrete bridge decks. Perform all work according to the standard specifications and this special provision.

b. Materials. Select the two-component epoxy-based healer sealer and aggregate used in conjunction with the epoxy system from the list in Table 1:

Table 1: Two-Component Epoxy Healer Sealer Systems and Approved Aggregates

<u>Liquid Binders</u>	<u>Epoxy Supplier</u>	<u>Telephone</u>
Unitex Bridge Seal 75%	Dayton Superior (Blair)	(224) 217-0447
Dural 335	Euclid Chemical (Tim Brewer)	(313) 886-9700
Dural 50 LM	Euclid Chemical (Tim Brewer)	(313) 886-9700
Mark 127	Poly-Carb (Dan Patacca)	(330) 405-3311
MasterSeal 370	BASF (David McCarron)	(586) 557-0235
Sikadur 55 SLV	Sika (Wesley Pringle)	(248) 866-8956
<u>Aggregate Size</u>	<u>Aggregate Supplier</u>	<u>Telephone</u>
W448	Wexford Sand Co.	(800) 255-7263
480	Nugent Sand Company	(231) 755-1686
AFS 50	Sand Products Corp.	(906) 292-5432
Mason Sand	Cheboygan Cement	(231) 627-5631
Red Rock 18 x 80 Mesh	Red Flint Sand and Gravel	(800) 238-9139

The aggregate must be angular, with less than 0.2 percent moisture, and free of dirt, clay, asphalt, and other foreign or organic materials.

c. Equipment. For the epoxy healer sealer, provide a distribution system or distributor capable of accurately blending the epoxy resin and hardening agent, and uniformly and accurately applying the epoxy materials at the specified rate to the bridge deck in such a manner as to cover 100 percent of the work area, including 1 inch of the vertical face of curb/barrier. Provide a fine aggregate spreader capable of uniformly and accurately applying dry aggregate to cover 100 percent of the epoxy material. Provide a self-propelled vacuum truck.

For hand applications, provide calibrated containers, a-Jiffy® type mixer, squeegees, and stiff bristle brooms suitable for mixing and applying the epoxy and aggregate.

For mechanical applications, provide mixing equipment that will automatically and accurately proportion the components in accordance with the manufacturer's recommendations and will

mix and continuously place the healer sealer. Ensure the operation proceeds in such a manner that will not allow the mixed materials to separate, dry, be exposed or otherwise harden in such a way as to impair the retention and bonding of broadcasted aggregate.

d. Construction.

1. Surface Preparation. Immediately prior to application of the healer sealer, clean the entire deck surface by shot blasting to remove all materials that may interfere with the bonding or curing of the healer sealer. The prepared deck must meet the requirements of the *International Concrete Repair Institute Guideline No. 03732*, concrete surface profile 3 (CSP 3). Ensure traffic paint lines are removed. Use a vacuum cleaner or an oil-free, moisture-free, air blast to remove all dust and other loose material. Brooms are prohibited.

Do not place the healer sealer on concrete deck patches less than 28 days of age. The Engineer must inspect and approve patching and cleaning operations prior to placement of the healer sealer. Remove any contamination of the deck that occurs after initial cleaning. Ensure healer sealer is applied within 24 hours of the final cleaning, and prior to opening the area to traffic. Ensure that there is no visible moisture present on the surface of the concrete at the time of application of the healer sealer. Tape a transparent polyethylene sheet (4 mil) to the deck in accordance with *ASTM D 4263*. Ensure all edges are sealed with tape that will stick to the concrete substrate. Leave the plastic sheet in place for a minimum of 16 hours to detect the presence of moisture in the deck concrete. Ensure there is no moisture visible on the polyethylene sheet. Alternate methods to detect moisture must be approved by the Engineer. Compressed air may be used to dry the deck surface, providing it is moisture and oil free.

Protect the expansion joints, and any other areas not to be sealed, from damage during preparation of the surface. Remove the protection once the epoxy and aggregate has been applied and prior to initial set. Remove the protection soon enough to ensure that the adjacent sealed surface is not damaged.

2. Application. Handle and mix the epoxy resin and hardening agent in a safe manner that achieves the desired results in accordance with the manufacturer's recommendations or as directed by the Engineer. Do not place healer sealer materials when the concrete surface is less than 50 degrees F or ambient air temperature is forecast to fall below 50 degrees F within 8 hours of application. Do not place healer sealer materials if weather or surface conditions are such that the material cannot be properly handled, placed, and cured according to the manufacturer's requirements and the specified requirements for traffic control.

After the epoxy mixture has been prepared for the healer sealer, immediately and uniformly apply it to the surface of the bridge deck. Allow epoxy to pool and penetrate deck surface per the manufacturer's recommendation prior to application of dry aggregate. Ensure application of aggregate is of sufficient quantity so the entire surface is covered in excess. Ensure no bleed through or wet spots are visible in the overlay. Remove and replace any

areas with wet spots or where epoxy has bled through. Minimize all foot traffic on the uncured epoxy and ensure any foot traffic will only be done with steel spiked shoes

approved by the Engineer. Cure healer sealer until vacuuming or brooming can be performed without tearing or damaging the surface. Do not allow traffic or equipment on the healer sealer surface during the curing period. Remove all loose aggregate after the curing period by vacuuming or brooming.

e. 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
Penetrating Healer/Sealer, Bridge Deck.....	Square Yard

Penetrating Healer/Sealer, Bridge Deck includes all labor, materials and equipment required to prepare, clean, and apply a penetrating epoxy healer/sealer system to concrete bridge decks.