MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**PROTECTIVE SHIELDING**

BRG:CAW 1 of 2 APPR:SCK:JAB:02-14-24

**a. Description.** This work consists of shielding and protecting unpainted elements not requiring cleaning and coating. Ensure this work is done in accordance with section 715 of the Standard Specifications for Construction, as shown on the plans, and as described herein.

**b. Materials.** None specified.

**c. Construction.** The descriptions below are intended to supplement and clarify the items that will need to be protected during the cleaning and coating operation.

1. Maintenance Walkway. Shield and protect the maintenance walkway, rails, supports and appurtenances from cleaning and coating operations. This includes all ladders and cages around the ladders that are not specifically called out to be cleaned and coated. Clean and coat surfaces damaged by blasting in accordance with section 715 of the Standard Specifications for Construction.

2. Overhead Signs. Shield and protect unpainted galvanized structural steel sign supports, Dynamic Message Signs (DMS), and lane indicator signs in the main span from cleaning and coating operations. Lighted portions of lane indicator sign must always remain visible to traffic.

3. Utility Pipe, Modified. Shield and protect all runs of utility pipe located within 10 feet of any surface to be cleaned and coated. Ensure any electrical conduit that is damaged by the cleaning and coating process is replaced in-kind in accordance with section 818 of the Standard Specifications for Construction.

4. Ventilation Fans. Shield and protect ventilation fans and screens located on the tie girders that are to be cleaned and coated. The tie-girders are to be painted on both the inside and outside faces and the fans are to be protected on both the inside and outside of the tie-girders. Ensure any ventilation fans that are damaged by the cleaning and coating process are replaced in-kind. Submit shop drawings for the ventilation fans to be approved by the Engineer if replacement is necessary. Notify the Engineer 14 calendar days prior to shielding the ventilation fans so the power to the fans can be shut down while the fans are covered. Ensure confined space entry to the girders is adhered to during the shutdown period.

There are approximately 64 louvered screens in the tie girders where the ventilation fans are located, these screens also require shielding from painting and must be functional when the cleaning and coating is complete.

5. Lighting. Shield and protect street lighting and decorative lighting on or attached to surfaces to be cleaned and coated. Ensure power to all lights to be shielded is turned off prior to shielding. Notify the Engineer 10 calendar days prior to shielding the light fixtures and the Engineer will turn off the power to the lights where appropriate. Ensure power is maintained to all areas of bridge. Ensure any lights that are damaged by the cleaning and coating process are replaced in-kind in accordance with section 819 of the Standard Specifications for Construction.

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

**Pay Item** **Pay Unit**

Protective Shield, Maintenance Walkway Foot

Protective Shield, Overhead Signs Each

Protective Shield, Utility Pipe, Modified Foot

Protective Shield, Ventilation Fans Each

Protective Shield, Lighting Each

1. **Protective Shield, Maintenance Walkway** includes the cost of shielding the maintenance walkway, rails, supports, and appurtenances supporting the walkway during blast cleaning and painting operations. The Engineer will measure the length of maintenance walkway between connected structural elements. Ladders and platforms will not be measured separately but will be included in the length of walkway.

2. **Protective Shield, Overhead Signs** includes the cost of shielding the sign supports and signs during blast cleaning and painting operations for each overhead sign structure. The Engineer will measure each sign which will include all supports and signs from the point of connection to the deck or structure. Protection of sign conduits will be included in other pay items.

3. **Protective Shield, Utility Pipe, Modified** includes the cost of installing and removing the shielding of utility pipe or conduit during blast cleaning and painting operations, or if required, cleaning and coating existing utility conduit including brackets and hangers. This pay item will be measured by individual pipe or conduit length regardless of diameter, clusters of pipe or conduit will not be paid for as a group but each run will be paid for individually.

4. **Protective Shield, Ventilation Fans** includes the cost of installing and removing the shielding of the ventilation fans located on the tie girders during blast cleaning and painting operations. Payment for this item includes shielding the fans on both the inside and outside of the tie girders as payment for one each. Shielding of the louvered screens will not be paid for separately but will be included in this item of work.

5. **Protective Shield, Lighting** includes the cost of installing and removing the shielding of the street lighting on Blue Water Bridge as well as the decorative lighting on the south side of the main arch span. Payment on this item will be made for shielding each individual light. Navigation lights are also included in this item and must be shielded during the cleaning and coating operations. Payment for the navigational lights are for each light unit.