



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

March 2, 2006

SUBJECT: FAI Route 180
Project IM-180-7 (027) 000
Section (06-3, 78-1) BM-1
Putnam County
Contract No. 64945
Item No. 7, March 10, 2006 Letting
Addendum B

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised page ii of the Table of Contents to the Special Provisions.
2. Added pages 65 – 68 to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Michael L. Hine
Engineer of Design
and Environment

A handwritten signature in black ink, appearing to read 'Ted B. Walschleger' followed by 'P.E.'.

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Gregg Mounts, Region 2, District 2; Roger Driskell; R. E. Anderson;
Estimates; Design & Environment File

TBW:MS:jc

STEEL COST ADJUSTMENT (BDE) 61
SHEET WATERPROOFING MEMBRANE SYSTEM 65

Revised 03/02/2006

SHEET WATERPROOFING MEMBRANE SYSTEM

Effective: March 26, 1997

Revised: September 14, 2002

Description: This work shall consist of all labor, material and equipment necessary to prepare the surface and place a sheet waterproofing membrane system on the bridge deck as shown on the plans and according to manufacturer's specifications.

All full and partial depth deck slab repairs shall be performed prior to the application of the sheet waterproofing membrane. Minimum cure times for the repairs shall be observed. Membrane curing compound shall not be used. Milling of conventional cast-in-place concrete deck surfaces is allowed provided the finished surface is acceptable to the manufacturer's representative for the sheet membrane. Typically the surface shall be free of fins or sharp edges and the peak to valley depth is less than or equal to 5 mm (3/16 inch). Milling of precast concrete deck surfaces is not allowed.

The existing concrete deck shall be shot blasted to remove all dirt, oil, paint and other foreign material. Cleaning of all foreign material remaining on the concrete deck, after the shot blasting operation, shall be accomplished by satisfactory methods. No vehicles or equipment will be permitted on the prepared surfaces after the cleaning operations except those vehicles necessary for the actual placement of the sheet waterproofing membrane.

The supplier of the material shall furnish technical assistance. A representative of the supplier shall be present at the job site at all times during placing the membrane system and during bituminous concrete paving. This representative shall be ultimately responsible for approving the deck surface preparation and the waterproofing membrane system placement.

Materials: The material used in the waterproofing system shall consist of a cold-applied, self-adhering membrane incorporating a heat resistant woven or non-woven polypropylene mesh or fiberglass reinforcement with release film on one side. A thin spun bonded mat on the up side shall allow the membrane to bond to the asphalt concrete overlay yet will permit rubber tired machinery to be driven on it prior to the application of the asphalt overlay. A primer, a mastic and a rubberized asphalt sealer shall be applied according to the manufacturer's recommendations.

The approved materials and suppliers are:

Bituthene 5000
W. R. Grace & Co.
6051 West 65th. Street
Bedford Park, IL. 60638 (800) 444-6459

Royston 10A Easy Pave Membrane
Royston Laboratories
Chase Corporation
128 First Street
Pittsburgh, PA 15238 (800) 245-3209

Added 03/02/2006

Sealtight Mel-Dek Membrane
 W. R. Meadows, Inc
 P.O. Box 338
 Hampshire, IL 60140 (800) 342-5976

Sheet Membrane:

The sheet membrane shall have the following physical properties:

<u>Property</u>	<u>Test Method</u>	<u>Value</u>
Thickness of Membrane	Measured by Micrometer	1397 microns (55 mils) Min. 1778 microns (70 mils) Max.
Width of Membrane Minimum		914 mm (36 inches)
Membrane Puncture Resistance, Minimum	ASTM E 154	178 N (40 lb.)
Permeance Maximum	ASTM E 96	5.8 ng/m ² sPa 0.10 Perms
Low Temperature Pliability	ASTM D 146	No. cracks when bent 180° around a 25 mm (1 inch) mandrel at -32 °C (-25 °F.).
Water Absorption Maximum	ASTM D 1228 72 Hours	0.25%

Certification: Prior to approval and use of the material the Contractor shall submit, to the Engineer, a notarized certification by an independent test laboratory stating that the materials conform to the requirements of these specifications. The certification shall include or have attached specific results of tests performed on the material supplied. The Engineer may at his option require samples of any material for testing. Materials may be accepted on certification but are subject to control and/or approval by subsequent testing.

Storage: All components of the system shall be delivered to the job site in the Manufacturer's unopened packaging. All containers delivered to the job site which are found to be opened or damaged shall be removed from the job site immediately.

All components of the system shall be stored according to the Manufacturer's recommendations and in compliance with all relevant health and safety regulations.

Copies of Material Safety Data Sheets (MSDS) for all materials shall be kept on-site for review.
 Added 03/02/2006

Surface Preparation: Prior to placing the membrane, the deck surface areas must have a remaining textured finish that is free of sharp protrusions that is acceptable to the manufacturer of the sheet waterproof membrane. Unacceptable deck surfaces shall be reworked to the satisfaction of the Manufacturer's Representative. All deck areas shall be shot blast cleaned. The shot blast cleaning shall include the vertical face of the curbs and expansion dams to the height of the specified finish pavement surface and elevation. All dirt, oil, paint, and other foreign materials within the cleaning area shall be sufficiently removed as per the Manufacturer's recommendations. The Engineer will inspect the concrete deck immediately prior to the application of the primer. Application of either the primer or membrane shall not begin until approval is granted by the Engineer.

Application: Application shall be in strict conformance to the Manufacturer's instructions. The Contractor shall acquaint himself with the materials specified and their handling characteristics. The Contractor shall be thoroughly familiar with the construction procedures recommended by the Manufacturer before application of the system.

The Contractor shall furnish the Engineer a copy of the procedures recommended. A pre-construction conference with a Manufacturer's representative shall be held prior to starting construction to establish procedures for maintaining optimum working conditions and coordination of work related to adjacent construction. A Manufacturer's Representative, familiar with membrane installation procedures, shall be present during placement of the membrane to provide quality assurance that the membrane has been properly installed.

Primer shall be applied uniformly as recommended by the Manufacturer. It may be applied to the surfaces by roller, brush, squeegee or spray. If spraying is used, an approved method of protecting the environment is required. The primer shall be allowed to dry to the manufacturer's recommendation before applying the membrane. Primer shall only be applied to an area that will be covered with the membrane within one working day. If the membrane is not placed over the primer within one working day or if the surface of the membrane becomes contaminated, the area shall be reprimed. Metal surfaces shall not be primed. Primer shall be applied to the curb faces to the top of the proposed asphaltic concrete overlay. Care shall be taken to insure that all inside corners are coated with primer to a tack free condition.

An appropriate curb treatment shall be used as recommended by the manufacturer. The remainder of the membrane shall then be applied to the deck in a "shingle" fashion starting at the curb edge. The membrane shall be rolled out and positioned on the deck, with the tacky side down. The release film is to be removed from the membrane to allow a bond to the primed deck. The membrane may be applied by hand methods or mechanical applicators. End laps shall be a minimum of 100 mm (4 inches) at the ends of each strip, with edge laps at the factory indicated 63 mm (2 1/2 inches) for the seams. Pressure rolling of the entire membrane surface shall be required to assure firm and uniform contact with the primed surface. Special care shall be used to insure that the membrane is uniformly adhered to the concrete. The entire membrane shall be free of wrinkles, air bubbles, and other placement defects. In the event bubbles or blisters do form under the membrane, they shall be punctured with a sharp pointed instrument such as an awl and the membrane pressed firmly into contact with the deck. All membrane punctures, tears, holes, and misaligned or inadequate seams shall be repaired with a patch of deck membrane sized as required to insure water tightness.

Added 03/02/2006

The primer and membrane shall be applied to a wider area than will be paved with asphalt to provide a lap with subsequent application of primer and membrane. Immediately after installation, the inside corners of curbs shall be covered by using a rubberized sealer extending up the curb face to the top of the proposed asphaltic concrete overlay and covering the terminating edge of the membrane applied to the deck. All other terminating edges must be sealed immediately after installation. Other than the curbs, the Contractor has the option to seal remaining edges with a rubberized sealer or membrane and a bead of mastic to protect it from surface contamination and damage. A bulk gun shall be used to apply the bead of mastic.

Overlaying the Membrane with Asphaltic Concrete: All exposed membrane shall be covered with the proposed asphaltic concrete mix within five days after installation. The construction of the asphaltic concrete overlay shall stay a minimum of 300 mm (1 foot) away from the terminating edge of the membrane. After installation of the membrane and prior to placing the asphaltic concrete, the construction traffic on the membrane shall be restricted in volume and limited to rubber tired vehicles and equipment only. No track driven asphalt pavers will be allowed. All damage to the membrane caused by the Contractors operations shall be repaired immediately, to the satisfaction of the Engineer, and at the Contractors expense. The membrane application Contractor shall have a minimum of one employee present during all asphaltic concrete paving operations to assure that all necessary repairs are accomplished. The minimum temperature of the asphalt overlay material on the deck shall be 144 °C (290 °F.) and the maximum temperature shall not exceed 171 °C (340 °F.) or as recommended by the manufacturer of the sheet waterproofing membrane.

Method of Measurement: The Sheet Waterproofing Membrane System will be measured in square meter (square yard) of a horizontal surface area of deck finished and in place. Measurement will be based on the horizontal distance between the face of curbs and the horizontal length of the membrane installed.

Basis of Payments: The Sheet Waterproofing Membrane System will be paid for at the contract unit price per square meter (square yard) for SHEET WATERPROOFING MEMBRANE SYSTEM which price will be payment in full for completing the work according to these specifications. The price bid for this item includes all labor, material, equipment, testing and technical assistant required to complete this work. Asphalt concrete overlay and deck slab repairs will not be included in this item but will be paid for elsewhere.

Added 03/02/2006