



PERFORMANCE  
DRIVEN DESIGN.  
LHBcorp.com

## Addendum No. 02, September 11, 2015

Re: Ridgeview Road Infrastructure  
Duluth, MN  
City of Duluth Project No.: 1491, Bid No.: 15-0558  
MnANG Project No.: FMKM062039B  
LHB Project No.: 120094

To: All Plan Holders

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated 08/13/15. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of 1 pages and the following attachment:

1. 07 2620 – Geomembrane (2 pages).

### Changes to Specifications:

- 1-1 Refer to Section 07 2620 – Under-slab Vapor Retarder . Replace entire section with revised 07 2620 Geomembrane (attached).

### Changes to Drawings:

- 1-2 Refer to Drawing Sheet C4.00 – SITE NOTES & DETAILS;
  - A. At Detail 5/C4.00, change note at slab to refer to “Geomembrane” in lieu of “Vapor Barrier”.
- 1-3 Refer to Drawing Sheet S2.00 – FOUNDATION PLAN & DETAILS;
  - A. At Detail 1/S2.00, change Note 2 to indicate, “Geomembrane” in lieu of “15 mil poly vapor barrier retarder”. Add “Geomembrane to be continuous sheet with no seams and installed directly below slab”.
  - B. At Details 2/S2.00 and 6/S2.00, change note at slab to refer to “Geomembrane” in lieu of ”15 mil poly vapor barrier”.
- 1-3 Refer to Sheet E1.03 – TRAFFIC CHECK HOUSE ELECTRICAL SITE PLAN:
  - A. At personnel gate, keyed note 5 on plan: Devices are difficult to read, these devices are as follows: (2) card readers, (1) magnetic lock, (1) wide gap balanced magnetic switch, and (1) duress pushbutton.

**END OF ADDENDUM NO. 02**

**SECTION 07 2620**  
**GEOMEMBRANE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Geomembrane

**1.02 RELATED SECTIONS**

- A. Section 03 3000 - Cast-In-Place Concrete: Slabs on grade.

**1.03 REFERENCES**

- A. ACI 302.1R - Guide for Concrete and Slab Construction; 1996.
- B. ASTM D5199 - Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.
- C. ASTM D1505 Standard Test Method for Density of Plastics by the Density-Gradient Technique.
- D. ASTM D6693 Standard Test Method for Determining Tensile Properties of Non-reinforced Polyethylene.
- E. ASTM D1004 Standard Test Method for Initial Tear Resistance of Plastic Film and Sheeting.
- F. ASTM D1603 Standard Test Method for Carbon Black Content in Olefin Plastics.
- G. ASTM D6392 Standard Test Method for Determining the Integrity of Non-reinforced Geomembrane Seams Produced Using Thermo-Fusion Methods

**1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
  - 4. Independent laboratory test results showing compliance with ASTM & ACI Standards.
- C. Sample: 4" x 4" minimum size
- D. Warranty

**1.05 QUALITY ASSURANCE**

- A. Warranty: Manufacturer's 20 year material warranty

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage:
  - 1. Store products in manufacturer's unopened packaging until ready for installation.
  - 2. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Handling: Protect materials during handling and installation to prevent damage.

**PART 2 PRODUCTS**

**2.01 MANUFACTURER**

- A. Hydra Flex Ultra, HU40B, Raven Industries, [www.ravenefd.com](http://www.ravenefd.com)
- B. Substitutions: See Section 01 6000 - Product Requirements.

**2.02 GEOMEMBRANE**

- A. Flexible linear low density polyethylene geomembrane of high-strength LLDPE.
- B. Thickness: 40 mil.
- C. Color: black
- D. Density 0.939 g/cm<sup>3</sup> per ASTM D1505

- E. Tensile Elongation: 800% min., per ASTM D6693
- F. Puncture Resistance: 77 min Lbf. per ASTM D4833
- G. Tear Resistance: 22 min Lbf. per ASTM D1004
- H. Bonded Seam Strength: 99 min Lbf/inch width per ASTM D6392
- I. Seam Peel Adhesion: 60 min Lbf/inch width per ASTM D6392

### **2.03 ACCESSORIES**

- A. General: Ensure accessories are from same manufacturer as geomembrane.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine surfaces and areas to receive geomembrane Notify Architect in writing defects of work and other unsatisfactory site conditions that would cause defective installation of vapor retarders. Do not begin installation until unacceptable conditions have been corrected.
- B. Verify site dimensions.
- C. Commencement of work will imply acceptance of substrate.

### **3.02 INSTALLATION**

- A. Install reinforced geomembrane in accordance with manufacturer's instructions .
- B. Seal around pipes and other penetrations in geomembrane with pipe boots or manufacturer's mastic in accordance with manufacturer's instructions.

### **3.03 FIELD QUALITY CONTROL**

- A. Notify Architect/Engineer for inspection of geomembrane installation prior to covering. Provide 48 hour notice.

**END OF SECTION**