

SUPPLEMENT TO DIVISION 03300 -

A. FINISHING OF ARCHITECTURALLY EXPOSED FORMED CONCRETE:

- 1.1 Concrete that will be exposed in the completed work shall receive smooth form finish conforming to ACI 301 and sandblast treatment.
- 1.2 Apply sandblast finish to exposed concrete surfaces at least 72 hours after placement of concrete. Coordinate with concrete placement schedule and formwork removal to ensure that surfaces to be blast finished are blasted at the same age for uniform results.
2. Use an abrasive grit of proper type and gradation to provide brush sandblast finish - do not expose aggregates.
3. Perform sand blast finishing in as continuous an operation as possible utilizing the same work crew to maintain continuity of finish on each surface or within each area.

B. WATERSTOPS:

- 1.1 Provide flat, dumbbell type or center bulb type waterstops at construction joints, or other joints as indicated on the Structural Drawings.
- 1.2 Waterstops shall be constructed of thermoplastic in accordance with The Corps of Engineers CRD-C572.
2. Waterstops shall be continuous using splices as recommended by the manufacturer so as to prevent the passing of water through the joint.
- 2.1 Preformed Joints: Install as per the manufacturer's instruction the following material to form the joint at all slab on grade.
 1. Acceptable Products and Manufacturers:
 - a. Keyed Kold Joint by the Burke Co., San Mateo California
 - b. Kold Seal Zipper Strip by Vinylex Corporation Knoxville, Tennessee

SECTION 07200 - VAPOR RETARDER:

- 1.1 Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 1. Vapor retarders under slabs-on-grade.
2. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to the following:
 1. GCP Applied Technologies (Formerly W.R. Grace).
 2. Raven Industries Inc.
 3. Stego Industries, LLC
- 2.2 Vapor Barrier shall have the following qualities:
 1. Permeance of less than 0.01 perms per ASTM F 1249 or ASTM E 96.
 2. ASTM E 1745 Class A.
 3. Thickness: 15 mils.
 4. Basis-of-Design: Stego Wrap Vapor Barrier by Stego Industries LLC.
- 2.3 Accessories:
 1. Seam Tape:
 - a. Permeance less than 0.3 perms per ASTM F 1249 or ASTM E 96.
 - b. Basis-of-Design: Stego Tape by Stego Industries LLC.
 2. Vapor Proofing Mastic:
 - a. Permeance less than 0.3 perms per ASTM F 1249 or ASTM E 96.
 - b. Basis-of-Design: Stego Mastic by Stego Industries LLC.
3. Pipe Boots: Construct pipe boots from vapor barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.
4. Termination Bar.

SECTION 07100 - THERMAL INSULATION

- 1.1 Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 1. Insulation under slabs-on-grade.
 2. Perimeter foundation wall insulation.
 3. Spray polyurethane foam insulation for gaps and voids.
2. PRODUCTS
- 2.1 PERIMETER INSULATION BOARD
 - A. Material Properties:
 1. Rigid closed-cell extruded polystyrene foam board with vertical channels fabricated into one side, with sloping edges (long edge) and square edge (short edge).
 2. Compressive Strength (ASTM D 1621-04): min. 30 psi.
 3. R Value as per ASTM C 518-91: 10.0 (2" thick).
 4. Water Absorption: Max. 0.3% by volume, ASTM C 272.
 5. Surface Burning Characteristics:
 - a. Flame Spread: 5.
 - b. Smoke Developed: 165.
 - B. Acceptable manufacturer's product: The Dow Chemical Company STYROFOAM Brand "PERIMATE" Extruded Polystyrene Foam Insulation.
- 2.2 UNDERSLAB INSULATION BOARD
 - A. Material Properties:
 1. Rigid closed-cell extruded polystyrene foam board with vertical channels fabricated into one side, with square edges.
 2. Compressive Strength (ASTM D 1621-04): 40 psi.
 3. R Value as per ASTM C 518-91: 5.0 (1" thick).
 4. Water Absorption: Max. 0.3% by volume, ASTM C 272.
 5. Surface Burning Characteristics:
 - a. Flame Spread: 5.
 - b. Smoke Developed: 165.
 - B. Acceptable manufacturer's product: The Dow Chemical Company STYROFOAM Brand "HIGH-LOAD-40" Extruded Polystyrene Foam Insulation.
- 2.3 ACCESSORIES
 1. Adhesive for Bonding Insulation: Provide the type recommended by the insulation manufacturer and adhesive manufacturer for the type insulation and substrate.
 2. Mechanical Anchors: Where required, type and size shown or, if not shown, staples, tape, adhesives, insulating clips and fasteners as recommended by the insulation manufacturer for the type of application shown and conditions of substrate.
- 3.1 INSTALLATION OF BELOW-GRADE INSULATION
 - A. On vertical surfaces, set rigid insulation units in adhesive applied according to manufacturer's written instructions. Stagger joints and tightly abut insulation units. Fill voids and gaps between boards with spray foam sealant compatible with insulation board.
 - B. On horizontal surfaces, loosely lay rigid insulation units according to manufacturer's written instructions. Stagger joints and tightly abut insulation units. Fill voids and gaps between boards with spray foam sealant compatible with insulation board.
- 3.2 PROTECTION
 - A. Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes.
 - B. Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

SECTION 071206 - SELF-ADHERING SHEET WATERPROOFING

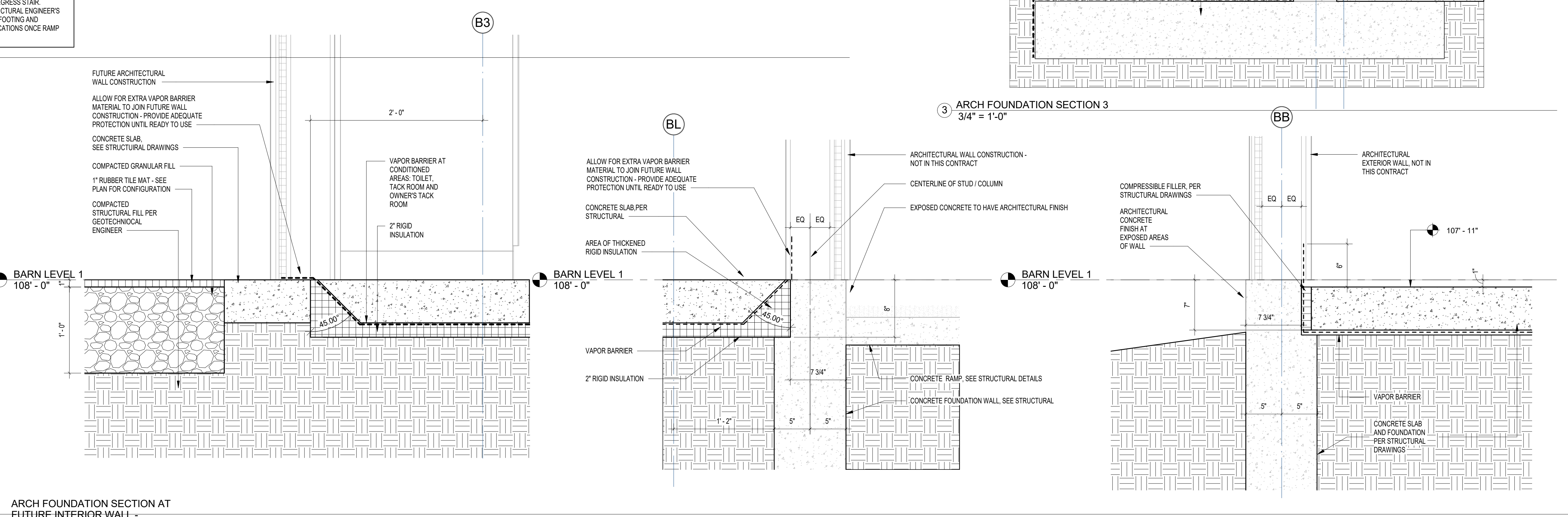
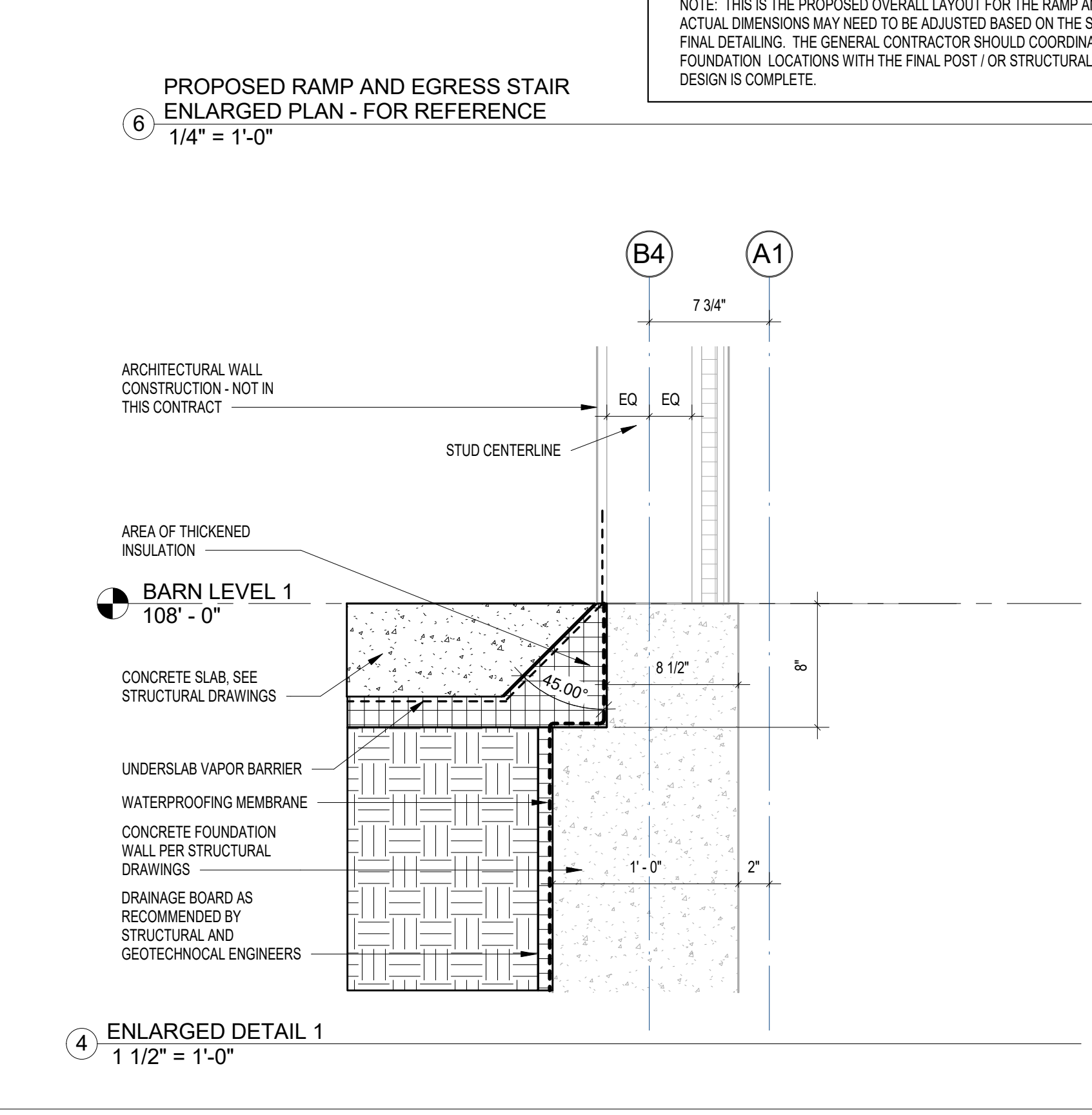
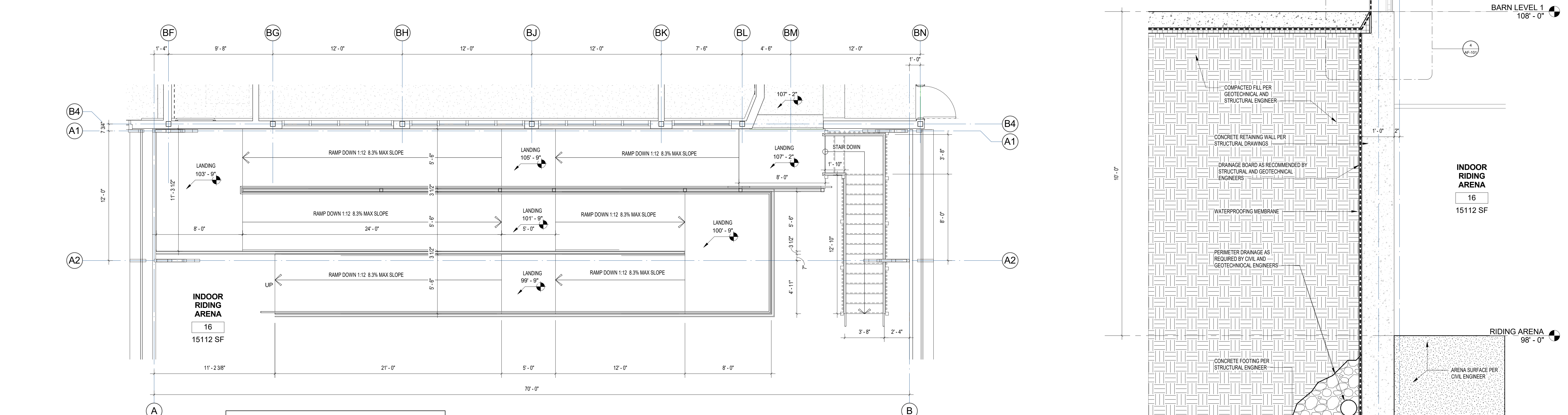
- 1.1 Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 1. Insulation under slabs-on-grade.
- 1.2 Consult the manufacturer's standard details for specific conditions that will apply to this project. All work is to be in accordance with the manufacturer's requirements and published standard details.
- 1.3 REFERENCES
 - A. ASTM D 3787 Standard Practice for Rubber—Measurement of Dimensions
 - B. ASTM D 412 Standard Test Methods for Rubber Properties in Tension
 - C. ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
 - D. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
 - E. ASTM D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Slope Roofing Underlayment for Ice Dam Protection
 - F. ASTM C 836 Standard Specification for High Solids, Cold Liquid-Applied Elastomers - Waterproofing Membrane for Use with Separate Weeping Course
 - G. ASTM D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
 - H. ASTM D 1876 Standard Test Method for Peel Release of Adhesives (T-Peel)
 - I. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
 - J. ASTM D 570 Standard Test Method for Water Absorption of Plastics
 - K. ASTM D 5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
 - L. GSA-PBS 07121 Test for Decay from Soil Burial
 - M. UL 790 Tests for Fire Resistance of Roof Covering Materials
- 1.4 SYSTEM DESCRIPTION
 1. Product provided by this Section is a self-adhesive membrane of not less than 60 mils thickness, consisting of 55 mils of rubberized asphalt membrane laminated to a 4 mil cross-laminated polyethylene film.
- 1.5 SUBMITTALS
 - A. General: Submit in accordance with Section 01300.
 - B. Product Data: Submit manufacturer's product literature and installation instructions. 071326
 - C. Subcontractor's approval by Manufacturer: Submit document stating manufacturer's acceptance of subcontractor as an Approved Applicator for the specified materials.
 - D. Warranty: Submit a sample warranty identifying the terms and conditions stated in Section 1.7.
- 1.6 QUALITY ASSURANCE
 - A. Applicator Qualification: Applicator shall have 5 years of experience in applying the same or similar materials and shall be specifically approved in writing by the membrane manufacturer.
 - B. Regulatory Requirements: Comply with applicable codes, regulations, ordinances, and laws regarding use and application of products that contain volatile organic compounds (VOC).
 - C. Pre-Application Conference: Prior to beginning work, convene a conference to review conditions, installation procedures, schedules and coordination with other work.
- 1.7 WARRANTY
 1. Upon completion and acceptance of the work required by this section, the manufacturer will issue a warranty agreeing to promptly replace defective materials installed by an approved applicator for a period of 5 years.
- 1.8 DELIVERY, STORAGE, AND HANDLING
 - A. Deliver materials to project site in original, factory-sealed, unopened containers bearing manufacturer's name and label intact and legible with following information:
 1. Name of material.
 2. Manufacturer's stock number and date of manufacture.
 3. Material safety data sheet.
 - B. Store materials in protected and well ventilated area. Protect from damage from sunlight, weather, excessive temperatures and construction operations. Remove damaged material from the site and dispose of in accordance with local applicable regulations.

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- 1.9 PROJECT CONDITIONS
 - A. Do not apply membrane when surface temperature is below or incident weather conditions conflict with manufacturer's published requirements.
 - B. Coordinate waterproofing work with other trades. The applicator shall have sole right of access to the specified areas for the time needed to complete the installation.
 - C. Warn personnel against breathing of vapors and contact of material with skin or eyes. Wear applicable protective clothing and respiratory protection gear.
 - D. Keep flammable products away from spark or flame. Do not allow the use of spark producing equipment during application and until all vapors have dissipated. Post "NO SMOKING" signs.
 - E. Maintain work area in a neat and orderly condition, removing empty containers, rags, and rubbish daily from the site.
2. PRODUCTS
- 2.1 MANUFACTURERS
 1. Provide CCW MiraDRi 800/86 Sheet Membrane Waterproofing as manufactured by Carlisle Concrete and Waterproofing Incorporated, 900 Hensley Lane, Wylie, Texas 75098, Phone: (800) 527-7092 Fax: (972) 442-0076, or architect approved equal.
- 2.2 PRODUCTS
 1. Self-Adhesive Sheet Membrane Waterproofing: Shall be CCW MiraDRi 800/86 consisting of a 56 mil rubberized-asphalt membrane laminated to 4 mil cross-laminated polyethylene film, and shall meet or exceed the following requirements:
 1. Thickness: 60 mils, ASTM D 3767
 2. Tensile Strength (Membrane): 325 psi, ASTM D 412
 3. Tensile Strength (Film): 5000psi, ASTM D 882
 4. Elongation: 350% minimum, ASTM D 4125 Permeance: 0.0
 5. Perm maximum, ASTM E 96
 6. Flexibility: 180° bend over 1" mandrel at 45°F; Unaffected, ASTM D 1970
 7. Crack Cycling at 25°F (100 cycles): Unaffected, ASTM C 836
 8. Peel Strength: 10.0 lb/in, ASTM D 903
 9. Lap Adhesion: 19.3 lb/in, ASTM D 1876
 10. Puncture Resistance: 60 lb (min), ASTM E 154
 11. Soil Burial 16 weeks: No Effect, GSA-PBS 07121
 12. Water Absorption: 0.1% by vol., ASTM D 570
 13. Hydrostatic Head: 230.1, ASTM D 5385
- 2.3 ACCESSORY PRODUCTS
 - A. Surface Primer: Shall be CCW-702, CCW-702LV, CCW-715, CCW-702WB, CCW-AW/Pw Cav-Grip.
 - B. Mastic: Shall be CCW-704 Mastic.
 - C. Sealants: Shall be CCW-703 Vertical Grout Liquid Sealant Membrane, CCW-IM-800XL, CCW-201 two-component Polyurethane Sealant or approved sealant by CCW.
 - D. Backer/Root: Shall be closed-cell polyethylene foam rod.
 - E. Protection Course: Shall be CCW-Protection Board-H or HS, CCW-300H/for horizontal surfaces or CCW-Protection Board-V or CCW-200V/for vertical surfaces.
 - F. Drainage Composite: Shall be CCW MiraDRAIN as recommended by the manufacturer for each condition.
 - G. Perimeter Drainage System: Where required shall be CCW MiraDRANCH.
- 3.1 EXECUTION
 1. INSPECTION
 - A. Before any waterproofing work is started the waterproofing applicator shall thoroughly examine all surfaces for any deficiencies or unsatisfactory conditions detrimental to the proper completion of the work. Should any deficiencies exist, the architect, owner, or general contractor shall be notified in writing. Do not proceed with work until all deficiencies or unsatisfactory conditions are corrected.

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- 3.2 SURFACE PREPARATION
 - A. Refer to manufacturer's literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Use repair materials and methods which are acceptable to manufacturer of sheet membrane waterproofing.
 - B. Cast-In-Place Concrete Substrates:
 1. Do not proceed with installation until concrete has properly cured and dried (minimum 7 days for normal structural concrete and minimum 14 days for lightweight structural concrete).
 2. Concrete shall be cured by water curing method. Any curing compounds must be of the pure sodium silicate type or clear resin-based materials without waxes, oils or pigments that are approved by the Carlisle representative.
 3. Form release agents must not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture may lead to blistering of the membrane.
 4. Concrete shall be sloped for proper drainage.
 - C. Void, rock pockets and excessively rough surfaces shall be repaired with approved non-shrink grout or ground to match the unprepared area. Fill form tie rod holes with concrete and fresh flush with surrounding surface.
 - D. Two-stage drains shall have a minimum 3 inch flange and be installed with the flange flush and level with the concrete surface.
 - E. Surfaces at cold joints shall be on the same plane. Grind irregular construction joints to suitable flush surface.
- 3.3 APPLICATION
 1. Apply primer/conditioner/adhesive rate recommended by manufacturer. Recoat areas which were not waterproofed the same day or if contaminated by dust. Mask and protect adjoining exposed finish surfaces to protect those surfaces from excessive application of primer.
 2. Do not install membrane until primer/conditioner/adhesive completely dry. Dry time will vary with weather conditions.
 3. Seal installation at the end of the day with troweled bead of CCW-IM-800XL or CCW-703V Liquid Seal.
 4. Apply protection board and/or MiraDRANCH and other related materials in accordance with manufacturer's recommendations.
- 3.4 INTEGRITY TESTING
 1. Test is required for all expanded warranties beyond the standard material warranty of horizontal applications.
 2. The test can be done with Electronic Vector Mapping or flood testing. Flood testing requires 2" minimum head of water for a period of 24 hours minimum.
- 3.5 PROTECTION COURSE
 1. VERTICAL APPLICATION: Install CCW MiraDRAIN HD/Drainage System as the first course of drainage composite immediately after membrane has been installed on vertical surfaces. Install CCW MiraDRAIN Drainage Composite (consult CCW for recommendation), CCW-Protection Board-V or CCW-200V on remainder. Stop drainage composite 6" below final grade level.
 2. HORIZONTAL APPLICATION: Install CCW MiraDRAIN Drainage Composite (consult CCW for recommendation) or CCW-Protection Board-H or HS/CCW-300H/for horizontal surfaces or CCW-Protection Board-V or CCW-200V/for vertical surfaces.



JAMES T. GUARINO CONSULTING

James T. Guarino, AIA, NCARB - Architect

- Architecture
- Building Information Modeling

60 North Main Street
 Sherborn, Massachusetts 01770-1513
 Tel: 617-699-0991 email: jim@jamestguarino.com
 www.jamestguarino.com

WILDSTAR FARM EQUESTRIAN FACILITY

SHERRORN MASSACHUSETTS

Wildstar Farm

Polly Kornblith and Michael Newnam
 16 Nason Hill Lane
 Sherborn, Massachusetts, 01770

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EARLY FOUNDATION PACKAGE

KEYPLAN

TRUE NORTH

PROJECT NORTH

ARCHITECTURAL SUPPLEMENT TO FOUNDATION DRAWINGS

Scale: As indicated
 Job No.: 17001.00
 Drawn By: JTG
 Date: 7/13/2017 10:30:02 PM

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