



DESIGN & CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 1 TO PROJECT NO. 47304

**CONSTRUCTION, HVAC, PLUMBING AND ELECTRICAL WORK
PROVIDE HORSE STABLES, SHEEP BARN/WOOL CENTER
NEW YORK STATE FAIRGROUNDS
581 STATE FAIR BOULEVARD
SYRACUSE, NY**

March 14, 2024

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.
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BIDDING REQUIREMENTS – COMMON DOCUMENTS

1. DOCUMENT 001114 ADVERTISEMENT FOR BIDS: Paragraph 4: CHANGE Paragraph to Read:
“Pursuant to Public Buildings Law § 8(6), effective January 11, 2020, for any projects where the project design commenced on or after January 1, 2020 and for any contracts over \$5,000 for the work of construction, reconstruction, alteration, repair, or improvement of any State building, a responsible and reliable NYS-certified Minority or Women-Owned Business Enterprise that submits a bid within ten percent of the lowest bid will be deemed the apparent low bidder provided that the bid is \$1,628,283 or less, adjusted annually for inflation as of March 1, 2024. If more than one responsible and reliable MWBE firm meets these requirements, the MWBE firm with the lowest bid will be deemed the apparent low bidder.”
2. DOCUMENT 002113 INSTRUCTIONS TO BIDDERS: Paragraph 13.5: CHANGE Paragraph to Read:
“13.5 Pursuant to Public Buildings Law § 8(6), effective January 11, 2020, for any projects where the project design commenced on or after January 1, 2020 and for any contracts over \$5,000 for the work of construction, reconstruction, alteration, repair, or improvement of any State building, a responsible and reliable NYS-certified Minority or Women-Owned Business Enterprise that submits a bid within ten percent of the lowest bid will be deemed the apparent low bidder provided that the bid is \$1,628,283 or less, adjusted annually for inflation as of March 1, 2024. If more than one responsible and reliable MWBE firm meets these requirements, the MWBE firm with the lowest bid will be deemed the apparent low bidder. Refer to the Advertisement for Bids for applicability of projects subject to this criteria.”

3. DOCUMENT 002113 INSTRUCTIONS TO BIDDERS: Paragraph 17: CHANGE "\$1,400,000" to read "\$1,628,283".

CONSTRUCTION WORK SPECIFICATION GROUP

1. SECTION 077123 DOWNSPOUTS: Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 077123-1 thru 077123-3) noted "Revised 3/6/2024".
2. SECTION 078400 FIRESTOPPING: Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 078400-1 thru 078400-8) noted "Revised 3/6/2024".
3. SECTION 092116 GYPSUM BOARD SYSTEMS Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 092116-1 thru 092116-4) noted "Revised 3/6/2024".
4. SECTION 092214 FURRING FOR GYPSUM BOARD CEILINGS: Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 092214-1 thru 092214-3) noted "Revised 3/6/2024".
5. SECTION 093013 CERAMIC TILE: Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 093013-1 thru 093013-6) noted "Revised 3/6/2024".
6. SECTION 099101 CONSTRUCTION PAINTING: Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 099101-1 thru 099101-12) noted "Revised 3/6/2024".
7. SECTION 331219 WATER UTILITY DISTRIBUTION FIRE HYDRANTS: Discard the Section bound in the Project Manual and substitute the accompanying Section (Pages 331219-1 thru 331219-2) noted "Revised 3/6/2024".

CONSTRUCTION WORK DRAWINGS

1. Revised Drawing:
 - a. Drawing No. S-2102, noted "03/04/2024 REVISED DRAWING" accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - b. Drawing No. S-2301, noted "03/04/2024 REVISED DRAWING" accompanies this Addendum and supersedes the same numbered originally issued drawing.
 - c. Drawing No. S-2901, noted "03/04/2024 REVISED DRAWING" accompanies this Addendum and supersedes the same numbered originally issued drawing.

END OF ADDENDUM

Brady Sherlock, P.E.
Director, Division of Design
Design & Construction

SECTION 077123

DOWNSPOUTS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Flashing and Trim: Section 076000.

1.02 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for each material specified.
- B. Samples:
 - 1. Downspout: 12 inches long, full section.
 - 2. Fasteners: Six, each type.
 - 3. Sealant: One pint or standard tube.
 - 4. Color Samples: Coil stock manufacturer's standard range of colors for finish specified.
- C. Shop Drawings: Show method of forming, jointing, and securing the gutters and downspouts. Include attachment to adjoining construction.

1.03 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store materials in a dry, protected, well-vented area.
- C. Remove protective plastic surface film immediately before installation.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Prefinished Aluminum: Formed aluminum sheet, ASTM B 209, 3003-H14 alloy, fabricated from "tension leveled" coil stock.
 - 1. Finish: Full strength 70 percent Kynar 500 Fluorocarbon Coating (polyvinylidene fluoride, PVF) applied by the coil coating process. Minimum dry film thickness 1.0 mil.
 - 2. Components:
 - a. Downspouts: .024 inch aluminum.
 - b. Outlet Tube, Offsets, and Elbows: .024 inch aluminum.
 - c. Downspout Support Hanger: 3/16 inch by 1 inch aluminum.
 - d. Wire Strainers: Aluminum wire type.
 - 3. Fasteners:

- a. Screws, Bolts, and Other Fastening Accessories: Stainless steel.
 - b. Rivets: Stainless steel, minimum diameter 3/16 inch.
- D. Sealant:
 - 1. Silicone, one part, low modulus.
 - 2. Butyl rubber, one part.
- E. Polyester Fabric, non-woven, ASTM D 5034.

2.02 FABRICATION

- A. Fabricate downspouts, and fittings to the shape and profile indicated on the Drawings. When fabrication details are not indicated follow the applicable requirements of the Architectural Sheet Metal Manual of the Sheet Metal And Air Conditioning Contractors National Association, Inc.
 - 1. Form gutters and downspouts in minimum 10 foot long sections.

2.03 ACCESSORIES

- A. Splash Pad: Precast concrete, 3500 psi. Form splash pads with a sloped depressed center area. Approximate size, one foot wide x two feet long.

PART 3 EXECUTION

3.01 PREPARATION

- A. Do not install the Work of this Section unless all necessary nailers, blocking and other supporting components have been provided.
 - 1. Coordinate installation of roof perimeter flashing with installation of gutter system.

3.02 JOINING

- A. Join steel sections with one inch wide lapped, riveted, and sealed seams. Seal seams with butyl tape sealant within the lap and polyester cloth embedded in silicone sealant over the entire joint. Use 3/16 inch diameter rivets spaced on inch oc.

3.03 INSTALLATION

- A. Connection to Existing Construction: Tie the items of Work in with the existing work to obtain watertight installation. Match the existing installation as much as practicable, unless otherwise specified. Repair and dress adjacent existing components as required to make secure and neat connections with new items.
- B. Installation of Hung Gutters:
 - 1. Install gutter hanger brackets 3 feet oc. Install the brackets so there will be a slight pitch in the gutter towards the downspouts.
 - 2. Join and seal the gutter sections, end pieces, mitered corners, and outlet tubes.
 - 3. Install expansion joints where indicated on the drawings. If not indicated, place the expansion joints at mid points between the downspouts at maximum intervals of 48 feet.

- a. Form the expansion joints with end baffles conforming to the shape of the gutter. Join the baffles to the gutter section.
 - b. Install a cover plate over the baffle.
 4. Install a continuous stiffener bar along the top front edge of the gutter. Fold the gutter around the stiffener bar so it is securely locked in place.
 5. Install gutter braces 3 feet o.c., staggered from the gutter hanger brackets. Secure the braces to the stiffener bar and to the back vertical portion of the gutter with brass or copper bolts.
 6. Secure the top back edge of the gutter to the gravel stop, eave flashing, or continuous cleat as indicated on the drawings.
- C. Installation of Downspouts:
1. Join the downspout sections with end joints that telescope at least 1-1/2 inches.
 2. Install necessary offsets and elbows.
 3. Secure downspout with hangers at top and bottom and 5'x 0" o.c. with a minimum of 2 hangers at each downspout section. Form hangers to keep downspouts 1 inch away from wall.
 4. Fasten downspouts to hangers with sheet metal screws.
 5. Secure hangers to masonry and concrete walls with machine bolts in lead shields and to wood walls with screws.
 6. Discharge Elbows: Fasten leader shoes to downspouts with a minimum of 3 sheet metal screws.
 7. Connection to Underground Drains: Fit the downspout neatly into the drain pipe or boot. Caulk the joint with lead wool and seal with sealant.
- D. Installation of Splash Pads: Install splash pads under discharge elbows unless otherwise indicated.

END OF SECTION

SECTION 078400

FIRESTOPPING

PART 1 GENERAL

1.01 REFERENCES

- A. UL 263 Fire Tests of Building Construction and Materials.
- B. UL 1479 Fire Tests of Through-Penetration Firestops.
- C. UL 2079 Standard for Safety Tests for Fire Resistance of Building Joint Systems.
- D. ASTM E 119 Methods of Fire Tests of Building Construction and Materials.
- E. ASTM E 814 Method of Fire Tests of Through-Penetration Fire Stops.

1.02 DEFINITIONS

- A. UL Fire Resistance Directory: Product directory published yearly, with supplements, by Underwriters Laboratories Inc., containing listings and classifications in effect as of the published date for product categories covered by UL.
- B. Inchcape Directory of Listed Products: Product directory published yearly by Inchcape Testing Services containing listings which reflect certifications granted for materials, products, systems and equipment which have been tested by Inchcape Testing Services to recognized governing standards.
- C. Omega Point Laboratories Listings Directory: Product Directory published yearly by Omega Point Laboratories, Inc. containing listed building products, materials, and assemblies which have been tested by Omega Point Laboratories to recognized governing standards.
- D. Factory Mutual Approval Guide: Product directory published yearly, with supplements, by Factory Mutual Research Corp., containing listed building products, materials, and assemblies which have been tested by Factory Mutual Research Corp., to recognized governing standards.
- E. F Rating: Prohibits flame passage through the system and requires acceptable hose stream test performance.
- F. T Rating: Prohibits flame passage through the system and requires the maximum temperature rise on the unexposed surface of the wall or floor assembly, on the penetrating item and on the fill material not to exceed 325 degrees F above ambient, and requires acceptable hose stream test performance.
- G. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in

writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.

1.03 DESIGN REQUIREMENTS

- A. Devices and materials shall meet the hourly fire resistance ratings required by the Project as determined by UL 263, UL 1479, UL 2079, ASTM E 119 or ASTM E 814 and be listed and detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
 - 1. Exception: Where no listed designs exist that meet the requirements of a specific project condition, submit details and manufacturer's written recommendations for a design meeting the requirements. Include evidence of engineering judgment and extrapolation from listed designs.

1.04 SUBMITTALS

- A. Submittals Package: Submit the following items specified below the same time as a package:
 - 1. Product Data.
 - 2. Samples.
 - 3. Quality Control Submittals.
 - 4. Firestop Schedule.
- B. Product Data: Catalog sheets, specifications and installation instructions for each firestop device and material.
 - 1. Indicate design number for each firestop proposed to be used which is detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
 - 2. State the specific locations where each firestop system is proposed to be installed.
- C. Samples: One of each product if requested.
- D. Quality Control Submittals:
 - 1. Design Data: Show details and include engineering information and manufacturer's written recommendations required under Design Requirements Article for each proposed firestop if other than a design detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
 - a. State the specific locations where each firestop is proposed to be installed.
 - 2. Installer's Qualifications Data:
 - a. Name of each person who will be performing the Work and their employer's name, business address and telephone number.

- b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.
 - 3. Company Field Advisor Data:
 - a. Name, business address and telephone number of Company Field Advisor secured for the required services.
 - b. Certified statement from the Company listing the qualifications of the Company Field Advisor, and listing of services and each product specifically listed for this Project for which Company Field Advisor is given authorization by the Company to render advice.
- E. Firestop Schedule: Submit schedule itemizing the following:
 - 1. Manufacturer's product reference numbers and/or drawing numbers.
 - 2. UL, Inchcape Testing Services, Factory Mutual Research Corp., or Omega Point Lab design number.
 - 3. Location of firestop material.
 - 4. Penetrating Item Description/Limits: Material, size, insulated or uninsulated, and combustibility.
 - 5. Maximum allowable annular space or maximum size opening.
 - 6. Wall type construction.
 - 7. Floor type construction.
 - 8. Hourly Fire resistance rating of wall or floor.
 - 9. F rating.
 - 10. T rating, if available.

NOTE: Firestop Schedule is for information only, and will not be acted on for approval.
Refer to Sample Firestop Schedule bound in Appendix.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: The persons installing the firestopping and their supervisor shall be personally experienced in firestop work and shall have been regularly employed by a company installing firestopping for a minimum of 3 years.
- B. Pre-Installation Conference: Before the firestop work is scheduled to commence, a conference will be called by the Director's Representative at the Site for the purpose of reviewing the Contract Documents and discussing requirements for the Work. The conference shall be attended by related trade Contractors (if any), their qualified firestopping installers, and associated firestopping manufacturer's Company Field Advisors.
- C. Container/Package Labels: Include manufacturer's name and identifying product number, date of manufacturer, lot number, shelf life (if applicable), qualified testing and inspecting agency classification marking, curing time, and mixing instructions for multi-component materials.
- D. Company Field Advisor: Secure the services of a Company Field Advisor for the following:
 - 1. Render advice regarding suitability of firestopping materials and methods.

2. Assist in completing firestop schedule.
 3. Attend pre-installation conference.
- E. Field-Constructed Sample Installations: Prior to installing firestopping, erect sample installations for each type through-penetration firestop system indicated in the Firestop Schedule to verify selections made and to establish standard of quality and performance by which the firestopping work will be judged.
1. Build sample installations to comply with the following requirements, using materials indicated for final installations.
 - a. Locate sample installations on site at locations where directed.
 - b. Obtain Director's Representative's acceptance of sample installations before start of firestopping installation.
 - c. Retain and maintain sample installations during construction in an undisturbed condition.
 - d. Accepted sample installations in an undisturbed condition at time of substantial completion of Project may become part of completed firestopping work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver firestopping materials to the Site in original, new unopened containers or packages bearing manufacturer's printed labels.
- B. Store and handle firestopping materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, etc.

1.07 PROJECT CONDITIONS

- A. Environmental Requirements:
 1. Temperature: Do not install firestopping materials when ambient or substrate temperatures are outside limits permitted by manufacturer of firestopping materials.
 2. Humidity and Moisture: Do not install the Work of this Section under conditions that are detrimental to the application, curing, and performance of the materials.
 3. Ventilation: Provide sufficient ventilation wherever firestopping materials are installed in enclosed spaces. Follow manufacturer's recommendations.

1.08 SEQUENCING AND SCHEDULING

- A. Leave exposed those firestopping installations that are to be concealed behind other construction until the Director's Representative has examined each installation.

PART 2 PRODUCTS

2.01 FIRESTOPPING-GENERAL

- A. Through-Penetration Firestop Devices, Forming Materials, And Fill, Void or Cavity Materials: As listed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
 - 1. For firestopping exposed to moisture, furnish products that do not deteriorate when exposed to this condition.
 - 2. For firestopping systems exposed to view, furnish products with flame-spread values of less than 25 and smoke developed values less than 50, as determined per ASTM E 84.
 - 3. For penetrations for piping services below ambient temperature, furnish moisture-resistant through-penetration firestop systems.
 - 4. For penetrations involving insulated piping, furnish through-penetration firestop systems not requiring removal of insulation.
- B. Accessories: Components required to install fill materials as recommended by the firestopping manufacturer for particular approved fire rated system.
- C. Identification Labels:
 - 1. Furnished by fire stopping manufacturer of suitable material for permanent field identification of through-penetration firestops.
 - 2. Identify the following:
 - a. "WARNING - FIRESTOP MATERIAL".
 - b. Company Name.
 - c. Product Catalog number.
 - d. F rating.
 - e. T rating, if available.
 - 3. Field fabricated labels are not acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine existing through-penetrations of floors, walls, partitions, ceilings and roofs in the Work areas.
- B. Examine existing junctures, control joints, and expansion joints in the Work areas.
- C. Where firestopping is missing or not intact, submit a written report to the Director's Representative describing the existing conditions.

3.02 PREPARATION

- A. Clean out openings immediately before installation of through-penetration firestopping. Comply with recommendations of firestopping manufacturer and the following requirements:

1. Remove foreign materials from surfaces of openings, and from penetrating items that could interfere with adhesion of firestopping.
 2. Clean opening and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form release agents from concrete.
- B. Clean out openings, and juncture, control, and expansion joints immediately before installation of firestopping. Comply with recommendations of firestopping manufacturer and the following requirements:
1. Remove foreign materials from surfaces of openings and joint substrates, and from penetrating items that could interfere with adhesion of firestopping.
 2. Clean opening joint substrates to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form release agents from concrete.
- C. Protection:
1. Protect surfaces adjacent to through-penetration firestops with non-staining removable masking tape or other suitable covering to prevent firestopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or that would be caused by cleaning methods used to remove smears from firestopping materials.
- D. Substrate Priming:
1. Prime substrates in accordance with the firestopping manufacturer's printed installation instructions using recommended products and methods.
 2. Do not allow primer to spill or migrate onto adjoining exposed surfaces.

3.03 INSTALLATION OF THROUGH PENETRATION FIRESTOPS

- A. Use through-penetration firestop devices, forming materials, and fill, void or cavity materials to form through-penetration firestops to prevent the passage of flame, and limit temperature rise of the unexposed surface as detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide, or the Omega Point Laboratories Listings Directory.
1. Where applicable design is not detailed in the Directories, use forming materials and fill, void or cavity material to form through-penetration firestop in accordance with approved printed details and installation instructions from the company producing the forming materials and fill, void or cavity material.
 2. If the construction type(s) of the building cannot be determined, provide firestopping with fire resistance ratings as specified in the Building Code of New York State, Tables 720.1(1), 720.1(2), 720.1(3), and 302.3.2.
- B. Provide through-penetration firestop systems with F ratings that shall equal or exceed the fire resistance rating of the penetrated building construction.

- C. Provide through-penetration firestop systems with T ratings, in addition to F ratings, at floors where the following conditions exist:
 - 1. Where firestop systems protect penetrations located outside the wall cavities.
 - 2. Where firestop systems protect penetrations located outside fire resistive shaft enclosures.
- D. Firestop through-penetrations of floors, walls, partitions, ceilings, and roofs.
- E. Firestop through-penetration of partitions identified on the Construction Work Drawings as smoke partitions and fire rated assemblies.
- F. Firestop through-penetrations of floors, walls, partitions, ceilings, and roofs in accordance with the fire resistance rating assigned to the walls, partitions, floors, ceilings, and roofs on the Construction Work Drawings.
- G. In areas where through-penetration items have been installed before the construction work, firestop the through-penetration items after the construction work has been completed. Furnish drawings or written information to the Construction Work Contractor covering the provisions to be made in the construction work to enable firestopping of the through-penetration items.
- H. Permanently affix label at each firestop. Use adhesive compatible with surface construction at firestop location.

3.04 INSTALLATION OF JUNCTION, CONTROL, AND EXPANSION JOINT FIRESTOPS

- A. Use joint treatment materials to form firestop to prevent the passage of flame and limit temperature rise of the unexposed surface, as detailed in the UL Fire Resistance Directory, Inchcape Directory of Listed Products, Factory Mutual Approval Guide or the Omega Point Laboratories Listings Directory.
 - 1. Where applicable design is not detailed in the Directories, use forming materials and fill, void or cavity material to form firestop in accordance with approved printed details and installation instructions from the company producing the forming materials and fill, void or cavity material.
 - 2. If the construction type(s) of the building cannot be determined, provide firestopping with fire resistance ratings as specified in the Building Code of New York State, Tables 720.1(1), 720.1(2), 720.1(3), and 302.3.2.
- B. Firestop junctures, control joints, and expansion joints.
- C. Firestop junctures, control joints, and expansion joints associated with the new Work.
- D. Firestop junctures, control joints, and expansion joints associated with smoke partitions and fire rated construction.
- E. Permanently affix labels every 10 feet along each firestop. Use adhesive compatible with surface construction at firestop location.

3.05 CLEANING

- A. Clean off excess fill materials and sealants adjacent to penetrations by methods and cleaning materials recommended by manufacturers of firestopping products and of products in which penetrations occur.
- B. Remove masking tape as soon as practical so as not to disturb the firestopping's bond with substrate.
- C. Protect firestopping during and after curing period from contact with contaminating substances, or damage resulting from adjacent Work.
- D. Cut out and remove damaged or deteriorated firestopping immediately, and install new materials as specified in firestop schedule.

END OF SECTION

SECTION 092116

GYPSUM BOARD SYSTEMS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Furring for Gypsum Board Ceilings: Section 092214.

1.02 DEFINITIONS

- A. Sheet Steel Gages: US Standard.
- B. Gypsum Board Terminology: ASTM C 11 - Standard Terminology Relating to Gypsum and Related Building Materials and Systems.

1.03 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for each item specified.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

1.05 PROJECT CONDITIONS

- A. Environmental Requirements: Comply with gypsum board manufacturer's printed temperature and ventilation requirements during application and finishing. Ventilate installation areas to relieve excess moisture.

PART 2 PRODUCTS

2.01 FRAMING

- A. Studs, Tracks, and Furring: ASTM C 645; 25 gage (minimum base metal thickness 0.0179 inch) galvanized steel, with additional framing members, reinforcing, accessories, and anchors necessary for the complete framing system.
 - 1. Deep-Leg Deflection Track: ASTM C 645 top runner with 2 inch deep flanges.
 - 2. Hat-Shaped, Rigid Furring Channels: ASTM C 645; 25 gage (minimum base metal thickness 0.0179 inch) galvanized steel.

2.02 GYPSUM BOARD

- A. Standard Gypsum Board: ASTM C 1396; long edges as follows:
 - 1. Long Edges: Tapered.
- B. Fire Resistant Gypsum Board: ASTM C 1396; Type X and Type C, UL listed and bearing listing marking; long edges as follows:
 - 1. Long Edges: Tapered.
- B. Gypsum Sheathing Board: ASTM C 1396; long edges square.

2.03 FASTENERS

- A. Steel Drill Screws: ASTM C 1002; gypsum board manufacturer's recommended types and sizes for substrates involved.
- B. Laminating Adhesive: Gypsum board manufacturer's recommended type for substrates involved.
- C. Expansion Anchors: Anchor bodies AISI 1018 or 12L14, of dimensions indicated; with nuts, ASTM A 563; and flat washers. Expansion sleeves AISI 1010, of dimensions indicated; with bolts, SAE Grade 5; and flat washers.
- D. Toggle Bolts: Tumble wing type.
 - 1. Wing Body: AISI 1008-1010 or equivalent cold rolled steel.
 - 2. Trunnion Nut: 1/4 inch thru 3/8 inch AISI 1010 steel; 1/2 inch Zamac alloy.
 - 3. Screw: Carbon steel.
- E. Self Threading Masonry Screws: Zinc plated; Tapcon Fasteners by ITW Buildex 1349 West Bryn Mawr Ave. Itasca, IL 60143, (800) 284-5339.

2.04 TRIM

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized steel or extruded vinyl.
 - 2. Shapes:
 - a. Cornerbead: Use at outside corners.
 - b. Bullnose Bead: Use where indicated.
 - c. LC-Bead: J-Shaped, exposed long flange receives joint compound. Use at exposed panel edges.
 - d. L-Bead: L-shaped, exposed long leg receives joint compound with tear away bead. Use where gypsum board abuts or intersects dissimilar material.
 - e. U-Bead: J-shaped, exposed short flange does not receive joint compound. Use where indicated.
 - f. Expansion (Control) Joint: Use where indicated.

2.05 JOINT TREATMENT MATERIALS

- A. Joint Tapes: ASTM C 475; plain or perforated.
- B. Joint Compound: ASTM C 475; gypsum board manufacturer's recommended dry powder or ready-mixed, either of the following:
 - 1. One Compound Treatment: One compound for both bedding and finishing joints.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates to which gypsum board system attaches or abuts, preset steel door frames, cast in anchors, and structural framing, with installer present for compliance with requirements for installation tolerances and other conditions affecting performance of gypsum board system construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 CONSTRUCTION TOLERANCES

- A. Do not exceed 1/8 inch in 8 feet variation from plumb or level in any exposed line or surface, except at joints between boards do not exceed 1/16 inch variation between planes or abutting edges or ends. Shim as required to comply with specified tolerances.

3.03 STEEL FRAMING INSTALLATION

- A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum board system to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board manufacturer's written recommendations.

3.04 GYPSUM BOARD INSTALLATION

- A. Install flattened expanded metal mesh in accordance with the manufacturer's printed instructions.
 - 1. Install flattened expanded metal mesh in the most economical direction, of maximum panel sizes to minimize joints and the use of small pieces.
 - 2. Use minimum number of fasteners required to hold panels in place until the gypsum board is installed.
- B. Install gypsum board in the most economical direction, of maximum lengths to minimize end butt joints. Where unavoidable, locate end butt joints as far from center of walls or ceilings as possible.

- C. Install gypsum board with face side out. Butt boards together at edges and ends over firm bearing with not more than 1/16 inch of open space between boards. Do not force into place.
- D. Fasteners: Fasten gypsum board to supports and furring with steel drill screws of required size and spacing as recommended by the gypsum board manufacturer.
- E. Provide additional framing and blocking required to support gypsum board at openings and cutouts.
- H. Reinforce joints formed by tapered edges, butt edges, and interior corners or angles with joint tape.

3.05 TRIM INSTALLATION

- A. Coordinate installation of trim progressively with gypsum board installation where trim is of type required to be installed prior to, or progressively with installation of gypsum board.
- B. Securely fasten trim pieces in accordance with manufacturer's printed instructions.
- E. Comply with joint compound manufacturer's recommended drying time for the relative humidity and temperature at time of application. Allow minimum of 24 hours drying time between applications of joint compound.

3.06 LEVELS OF GYPSUM BOARD FINISH

- A. General: Finish panels to levels indicated below, in accordance with ASTM C 840, for locations indicated.
 - 1. Level 5 Finish: Provide tape embedded in joint compound over joints and angles, and provide three separate coats of joint compound over all joints, angles, and fastener heads. Cover accessories with three separate coats of joint compound. Joint compounds to be smooth and free of tool marks and ridges. Apply a skim coat. Remove excess material; leave a film covering the paper. Cover the prepared surface with a drywall primer prior to application of the final decoration.

END OF SECTION

SECTION 092214

FURRING FOR GYPSUM BOARD CEILINGS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Gypsum Board Systems: Section 092116.

1.02 DEFINITIONS

- A. Gages:
 - 1. Sheet Steel: US Standard.
 - 2. Steel Wire: US Steel Wire Gage.
- B. Galvanizing: Hot dip process, unless otherwise indicated.

1.04 DESIGN REQUIREMENTS

- A. The furring system shall support the weight of the ceiling system (including finish) plus the weight of the lighting system. Additional intermediate supports (struts) and hangers shall be included as required to support the required weights.
 - 1. The actual fixture weights and locations will be furnished by the Electric Work Contractor (thru the Director's Representative).

1.05 SUBMITTALS

- A. Product Data: Manufacturer's specifications and installation instructions for the following:
 - 1. Main Beams.
 - 2. Cross Channels.
 - 3. Channel Mold.
 - 4. Cross Tees.
 - 5. Hangers.

1.06 QUALITY ASSURANCE

- A. Fire Resistive Rated Applications: Provide UL listed or ASTM E 119 tested materials, accessories, and application procedures to comply with the rating indicated.

1.07 STORAGE

- A. Protect metal items against distortion and rusting.

1.08 PROJECT CONDITIONS

- A. Sequencing: Coordinate furring with adjoining Work.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Main Beams: Minimum 24 gage, 1-1/2 inches by 15/16 inch galvanized steel tee sections, slotted 8 inches oc for intersecting cross channels or cross tees and 4 inches oc for hangers, with integral splices stamped at each end.
 - 1. Minimum Moment of Inertia: .0280 in⁴.
 - 2. Minimum Section Modulus: .0290 in³.
- B. Cross Channels: Minimum 25 gage, 2-7/8 inches by 7/8 inch galvanized steel hat shaped sections, with stamped locks on each end to fit corresponding slots in main beams and knurled screw surfaces.
- C. Channel Mold: Minimum 25 gage, 1 inch by 1 inch by 1/2 inch galvanized steel channel sections.
- D. Cross Tees (For Fire Rated Ceiling Systems): Minimum 25 gage galvanized steel tee sections, with stamped locks on each end to fit corresponding slots in main beams.
- E. Hangers:
 - 1. Minimum Size: As specified or shown on the Drawings; if not indicated, comply with minimum size requirements of ASTM C 841 for maximum ceiling area to be supported.
 - 2. Flat Type: 3/16 x 1 inch mild steel straps, galvanized or painted with black asphaltum paint, punched or drilled for 3/8 inch diameter bolts.
 - 3. Rod Type: Galvanized mild steel pencil rods.
 - 4. Wire Type: Type 302 stainless steel.
 - 5. "T" Type: 16 gage galvanized steel hangers; Fehr Bros. Mfgs., Inc.'s "T-Hangers".
- F. Clips for Attaching Hangers to Steel Joists: Galvanized steel clips or clamps specifically designed for this purpose, which do not depend on friction to hold device in place. Use of drive-on clips or clamps will not be permitted.
- G. Welded Studs: Low carbon steel copper flashed studs, 1/4 - 20 UNC, automatic short-cycle welded with a transformer-rectifier power source. When surface on which studs are installed is to receive fireproofing, furnish studs of length to extend one inch below fireproofing.

PART 3 EXECUTION

3.01 INSTALLATION

- A. General:
 - 1. Install Work of this section in accordance with the manufacturer's printed instructions, except as otherwise indicated.
 - 2. Do not bridge expansion joints with grillage.

- B. Hangers: Unless otherwise shown, install hangers as follows:
1. Attachment to Structural Steel Framing: Clinch hanger around top flange of steel framing member approximately 135 degrees. If framing member supports roof planks or precast slabs, bolt hanger to center of web or weld to bottom flange. Where applicable, hanger wires may be directly double wound around steel members with wire twisted together securely.
 2. Attachment to Steel Joists: Secure hanger with special clip or clamp designed for such use. Where applicable, hanger wires may be directly double wound around steel members with wire twisted together securely.
 3. Attachment to Steel Decks: Secure hangers with welded studs. Locate studs as close to deck supports as possible. Install studs in accordance with manufacturer's instructions. After installation, clean stud welds and repair the affected areas of deck and studs with cold galvanizing compound. Attach hangers to stud bolts with double nuts.
- C. Openings: Frame openings, including openings for items provided under Related Contracts (if any), with extra cross channels or cross tees unless otherwise indicated.
- D. Furring: Erect furring to form a true plane, or curved surface where so designed, and securely fasten in place. Set cross channels or cross tees perpendicular to main beams.
- E. Suspended Ceilings:
1. Form suspended ceilings with hangers, channel mold, main beams, cross channels and/or cross tees.
 2. Attach hangers to supporting construction, spaced 4 feet oc and within 6 inches of ends of main beams. Where ducts or other items, including items provided under Related Contracts (if any), interfere with the spacing of hangers, install trapeze type hangers under the obstructing items to support ceiling hangers.
- F. Furred Ceilings: Form furred ceilings with cross channels, unless otherwise indicated.

END OF SECTION

SECTION 093013

CERAMIC TILE

PART 1 GENERAL

1.01 REFERENCES

- A. Tile Manufacturing Standard: Comply with the requirements of ANSI “American National Standard Specifications for Ceramic Tile” (ANSI A137.1)
- B. Installation Standards: Comply with the requirements of ANSI “American Standard Specifications for the Installation of Ceramic Tile” (ANSI A108, A118 and A136), and correlating Tile Council of America (TCA) details except as shown or specified otherwise.

1.02 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for each of the following:
 - 1. Tile and trim units.
 - 2. Setting materials, except reinforcement, membrane, and primer.
 - 3. Grouting materials.
 - 4. Marble door thresholds.
- B. Samples:
 - 1. Tile and Grout: Each type and color required; 12 x 12 inch samples with tile mounted on braced cement backer board and grouted.
 - 2. Trim Units: Each type and shape required.
 - 3. Color Samples:
 - a. Tile manufacturer’s standard range of colors and textures for each tile type required.
 - b. Grout manufacturer’s standard range of colors for each grout type required.
 - 4. Marble thresholds in 6 inch lengths.
- C. Quality Control Submittals:
 - 1. Tile Grade Certificates: Furnish tile manufacturer’s Master Grade Certificate bearing the manufacturer’s certification for each shipment, type and composition of tile.
 - 2. Installers’ Qualification Data:
 - a. Name of each person who will be performing the work and their employer’s name, business address, and telephone number.
 - b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.
- D. Contract Closeout Submittals:
 - 1. Maintenance Data: Tile and grout manufacturer’s recommended cleaning and stain removal methods and materials.

1.03 QUALITY ASSURANCE

- A. Manufacturer:
 - 1. Obtain each color, grade, finish, type, composition, and variety of tile from one source with resources to provide products from the same production run for each contiguous area of consistent quality in appearance and physical properties without delaying the Work.
 - 2. Obtain ingredients of a uniform quality for each mortar, waterproof membrane, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.
- B. Certifications:
 - 1. Tile manufacturer's Master Grade Certification for each shipment of tile.
- C. Installers' Qualifications: The persons installing the work of this Section and their Supervisor shall be personally experienced in ceramic tile installation and shall have been regularly employed by a Company installing ceramic tile for a minimum of 5 years.
- D. Performance Criteria:
 - 1. The following criteria are required for products included in this section:
 - a. All ceramic flooring must be certified as compliant with the FloorScore standard by an independent third-party.
 - b. Tile setting adhesives and grout must not exceed the volatile organic compound (VOC) content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1168.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

1.05 PROJECT CONDITIONS

- A. Environmental Requirements: Do not install tile until construction in spaces is completed. Set and grout tile when ambient temperature is 50 degrees F (10 degrees C) or higher and humidity conditions are being maintained. Substrate must be free of ice. All work to meet material manufacturer's recommendations.

1.06 MAINTENANCE

- A. Extra Materials: Furnish extra tile, equal to 3 percent of the tile installed, of each type, composition, pattern, size and color of tile required. Also furnish a proportionate number of trim units. Place extra materials packaged with protective covering in storage at the site where directed.

PART 2 PRODUCTS**2.01 TILE**

- A. Unglazed Ceramic Mosaic Tile: Factory mounted flat tile complying with Section 5.1, ANSI A 137.1; Standard Grade, and the following requirements:
 - 1. Composition: Porcelain.
 - 2. Module Size: 2 by 2 inches.
 - 3. Nominal Thickness: 1/4 inch.
 - 4. Face: Plain with cushion edges.
- B. Trim Units: Furnish necessary trim shapes of same material, grade, type, and finish as flat tile unless otherwise indicated. Furnish trim for head, jambs and sills of openings, external corners, and the following:
 - 1. Base for Thin-Set Mortar Installations: Straight with bullnose top.
 - 2. External Corners for Thin-Set Mortar Installations: Surface bullnose.
 - 3. Internal Corners: Field-buttet square corners.
- C. Colors: Tile colors shall be as selected by the Director from tile manufacturer's standard range of colors.

2.02 SETTING MATERIALS

- A. Latex-Portland Cement Mortar: Complying with ANSI A 118.4.
- B. Epoxy Adhesive: Complying with ANSI A 118.3, and water cleanable before setting.
- C. Primer: As recommended by the mortar/adhesive manufacturer.

2.03 GROUTING MATERIALS

- A. Latex-Portland Cement Grout: Compound of Portland cement grout with latex additive, complying with ANSI A 118.6.
 - 1. Factory-Prepared, Dry-Grout Mixture: Factory-prepared mixture of portland cement; dry, redispersible, ethylene vinyl acetate additive; and other ingredients to produce the following:
 - a. Unsanded grout mixture for joints 1/8 inch and narrower.
 - b. Sanded grout mixture for joints 1/8 inch and wider.
- B. Colors:
 - 1. As selected by the Director from grout manufacturer's standard range of colors.

2.04 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

2.05 MARBLE DOOR THRESHOLDS

- A. Marble: Sound Group A marble equal to any of the following varieties and color ranges:
 - 1. Vermont Champlain Black or Highland Danby (Gray).
 - 2. Missouri Ozark (Gray) or Georgia Solar Gray.
 - 3. Tennessee Edward Pink, Marmor (Pink), Craig Pink, or Cedar Tavernelle (Red-Reddish Brown).
- B. Fabricate thresholds to equal width of door jambs, with true planes, edges straight, and free of chipped or broken arises and corners.
 - 1. Raised Thresholds: Depth shall be as required to finish 1/2 inch above finished tile floor and have a minimum thickness of 1-1/4 inches, unless otherwise shown. Bevel exposed edge arises 1/4 by 1/4 inch.
 - 2. Flush Thresholds: 7/8 inch thick, unless otherwise shown.
 - 3. Finish: Honed finish on exposed faces and edges.

PART 3 EXECUTION**3.01 EXAMINATION**

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Provide concrete substrates for tile floors installed with dry-set or latex-portland cement mortars that comply with flatness tolerances specified in referenced ANSI A 108 series of tile installation standards for installations indicated.
 - 1. Use trowelable leveling and patching compounds per tile-setting material manufacturer's written instructions to fill cracks, holes, and depressions.
 - 2. Remove protrusions, bumps, and ridges by sanding or grinding.
- B. Protection: Protect adjacent surfaces before tilework begins.
- C. Cleaning: Clean substrate surfaces in accordance with applicable reference standards and manufacturer's installation instructions.

3.03 INSTALLATION

- A. Install ceramic tile in accordance with ANSI A 108.1 thru ANSI A 108.7, as applicable for type of tile and method of installation, and in accordance with the printed installation instructions of the tile and setting material manufacturers.
 - 1. Neutralize and seal substrate as required by the mortar/adhesive manufacturer's instructions.

2. Mix and apply proprietary setting and grouting materials in compliance with the manufacturer's instructions.
- B. Joint Pattern: Install tile in grid pattern with 1/16 inch joint width, unless otherwise indicated.
- C. Layout tilework on principal walls, with tilework field centered in both directions on the floor and lengthwise on walls in each space, so that no tile less than one-half full size will occur, unless otherwise approved to suit the features of the space. Align joints when adjoining tiles are the same size. Maintain uniform joint width.
- D. Extend tilework into recesses and under equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate tilework neatly at obstructions, edges, and corners without disruption of pattern or joint alignments.
- E. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- F. Grouting: Comply with ANSI A 108.10 or 108.6, as applicable for type of grout, and manufacturer's installation instructions. Make joints watertight, and without voids, cracks and excess grout. Damp cure in accordance with reference standards and manufacturer's instructions when applicable.
- G. Marble Door Thresholds: Set marble thresholds in a full bed of the same type of setting material specified for adjoining tilework, unless otherwise indicated.

3.04 ADJUSTING

- A. Check the tilework installation. Remove defective tile and retile. Leave finished installation free of cracked, chipped, broken, unbonded, and otherwise defective tilework.

3.05 CLEANING

- A. On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter. Comply with grouting specifications and with grout manufacturer's printed instructions for materials and method.
 1. Remove latex-portland cement grout residue from tile as soon as possible.
 2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
- B. Clean and polish marble door thresholds. Remove stains and other defacement.

3.06 PROTECTION

- A. Apply heavy kraft paper, or other approved heavy protective covering, masked in place over tilework to prevent staining, damage, and wear.
- B. Prohibit foot and wheel traffic on newly tiled areas for seven days after completion of installation unless otherwise approved by the Director's Representative.
- C. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION

SECTION 099101

CONSTRUCTION PAINTING

PART 1 GENERAL

1.01 DEFINITIONS

- A. The word “paint” in this Section refers to substrate cleaners, fillers, sealers, primers, undercoats, enamels, stains, varnishes and other first, intermediate, last or finish coatings.
- B. The word “primer” in this Section refers to substrate cleaners, fillers, sealers, undercoats, and other first or intermediate coats beneath the last or finish coating.
- C. The words “finish paint” in this Section refers to the last or final coat and previous coats of the same material or product directly beneath the last or final coat.
- D. Finish Paint Systems: Finish paint and primers applied over the same substrate shall be considered a paint system of products manufactured or recommended by the finish coat manufacturer.
 - 1. Finish paint products shall meet or exceed specified minimum physical properties.

1.02 SUBMITTALS

- A. Painting Schedule: Cross-referenced Painting Schedule listing all exterior and interior substrates to be painted and specified finish paint type designation; product name and manufacturer, recommended primers and product numbers, and finish paint color designation for each substrate to be painted.
 - 1. Designate exterior substrates by building name and number, substrate to be painted and surface location.
 - 2. Designate interior substrates by building name and number, floor, room name and number, and surface to be painted.
- B. Product Data Sheets: Manufacturer’s published product data sheets describing the following for each finish paint product to be applied:
 - 1. Percent solids by weight and volume, solvent, vehicle, weight per gallon, ASTM D 523 gloss/reflectance angle, recommended wet and dry film thickness, volatile organic compound (VOC) content in lbs/gallon, product use limitations and environmental restrictions, substrate surface preparation methods, directions and precautions for mixing and thinning, recommended application methods, square foot area coverage per gallon, storage instructions, and shelf-life expiration date.
 - 2. Manufacturer’s recommended primer for each finish paint product and substrate to be painted.
 - 3. Manufacturer’s complete range of available colors for each finish paint product to be applied.

- C. Finish Paint Samples: Two finish paint samples applied over recommended primers for each substrate to be painted.
 - 1. Samples shall be in the designated color and specified ASTM D 523 reflectance.
 - 2. Label each sample with the following information:
 - a. Project number and Painting Schedule designation describing substrate location represented by the sample.
 - b. Finish paint and primer manufacturer, product names and numbers, finish paint color and reflectance.
 - 3. Leave a 1 inch wide exposed strip of unpainted substrate, primer, intermediate coatings, and finish paint specified.
 - 4. Sample Sizes:
 - a. Wall, Ceiling, and Floor Substrates: 12 inch square panels.
 - b. Finish Wood Substrates: 4 inch by 8 inch samples of each wood species.
 - c. Concrete and Concrete Masonry Unit Substrates: 4 inch square blocks.
 - d. Sheet Metals: 4 inch by 8 inch flat sheets.
 - e. Bar and Tubular Metals: 8 inch long bars or tubular stock.
- D. Quality Control Submittals:
 - 1. Test Reports:; Furnish certified test results from an independent testing laboratory showing that products submitted comply with the specifications, if requested by the Director's Representative.
 - 2. Certificates: Furnish certificates of compliance required under QUALITY ASSURANCE Article.

1.03 QUALITY ASSURANCE

- A. Volatile Organic Compounds (VOCs) Regulatory Requirements: Chapter III of Title 6 of the official compilation of Codes, Rules and Regulations of the State of New York (Title 6 NYCRR), Part 205 Architectural Surface Coatings.
 - 1. Certificate of Compliance: List of each paint product to be delivered and installed. List shall include written certification stating that each paint product listed complies with the VOC regulatory requirements in effect at the time of job site delivery and installation.
- B. Container Labels: Label each product container with paint manufacturer's name, product name and number, color name and number, thinning and application instructions, date of manufacture and shelf-life expiration, required surface preparation, recommended coverage per gallon, wet and dry film thickness, drying time, and clean up procedures.
- C. Field Examples:
 - 1. Prior to on-site painting, at locations designated by the Director's Representative, apply field examples of each paint type to be applied.
 - 2. Field examples to be applied on actual substrates to be painted and shall duplicate earlier approved paint samples.
 - a. Interior field examples to be applied in rooms and spaces to be painted with the same products.

- b. Field Example Minimum Wet and Dry Film Thickness: As indicated on approved product data sheet.
 - c. Application: Apply each coat in a smooth uniform wet mil thickness without brush marks, laps, holidays, runs, stains, cloudiness, discolorations, nail holes and other surface imperfections.
 - 1) Leave a specified exposed width of each previous coat beneath each subsequent coat of finish paint and primer.
 - d. Use of Field Examples: Field examples shall serve as a quality control standard for acceptance or rejection of painting Work to be done under this Section.
 - 3. Field Example Sizes:
 - a. Floor Examples: 200 square feet with 2 foot wide strips.
 - b. Door and Frame Examples: One door and frame with 12 inch wide horizontal strips.
 - 4. Do not begin applying paints represented by field examples until examples have been reviewed and approved by the Director's Representative.
 - a. Protect and maintain approved field examples until all painting work represented by the example has been completed and approved.
- D. Compatibility of Paint Materials: Primers and intermediate paints shall be products manufactured or recommended by the finish paint manufacturer.
- E. Performance Criteria:
 - 1. The following criteria are REQUIRED for products included in this section:
 - a. Paints and coatings manufactured within 500 miles (by air) of the project site shall be documented in accordance with Submittal Requirements of Item 1.03.F.
 - b. Architectural paints and coatings applied to interior walls and ceilings must not exceed the volatile organic compound (VOC) content limits established in Green Seal Standard GS-11, Paints.
 - c. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must not exceed the VOC content limit established in Green Seal Standard GC-03, AntiCorrosive Paints.
 - d. Clear wood finishes, floor coatings, stains, primers, and shellacs applied to interior elements must not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings.
 - 2. Volatile Organic Compounds: The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24 and the standards referenced in 1.04.E.1.
 - a. Interior Paints and Coatings:
 - 1. Non-flat: 150
 - 2. Flat: 50
 - b. Anti-Corrosive Paints (if used in interior applications):
 - 1. Gloss: 250

2. Semi-gloss: 250
3. Flat: 250
- c. Exclude water and tinting color added at the point of sale in the calculation of VOC concentrations.
3. Chemical Component Limitations: Aromatic Compounds: the product must contain no more than 1.0% by weight of the sum total of aromatic compounds. Testing for the concentration of these compounds will be performed if they are determined to be present in the product during a materials audit.
4. Chemical Component Limitations, Other Chemicals: The manufacturer shall demonstrate that the following chemical compounds are not used as ingredients in the manufacture of the product:
 - a. Halomethanes: Methylene chloride.
 - b. Chlorinated ethanes: 1,1,1-trichloroethane.
 - c. Aromatic solvents: benzene, toluene (methylbenzene), ethylbenzene.
 - d. Chlorinated ethylenes: Vinyl chloride.
 - e. Polynuclear aromatics: Naphthalene.
 - f. Chlorobenzenes: 1,2-dichlorobenzene.
 - g. Phthalate esters: Di (2-ethylhexyl) phthalate, butyl benzyl phthalate, di-n-butyl phthalate, di-n-octyl phthalate, diethyl phthalate, dimethyl phthalate.
 - h. Miscellaneous semi-volatile organics: Isophorone.
 - i. Metals and their compounds: antimony, cadmium, hexavalent chromium, lead, mercury
 - j. Preservatives (antifouling agents): formaldehyde
 - k. Ketones: methyl ethyl ketone, methyl isobutyl ketone
 - l. Miscellaneous volatile organics: acrolein, acrylonitrile

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to the Site in original, unopened containers and cartons bearing manufacturer's printed labels. Do not deliver products which have exceeded their shelf life, are in open or damaged containers or cartons, or are not properly labeled as specified.
- B. Storage and Handling: Store products in a dry, well ventilated area in accordance with manufacturer's published product data sheets. Storage location shall have an ambient air temperature between 45 degrees F and 90 degrees F.

1.05 PROJECT CONDITIONS

- A. Environmental Requirements:
 1. Ambient Air Temperature, Relative Humidity, Ventilation, and Surface Temperature: Comply with paint manufacturer's published product data sheet or other printed product instructions.
 2. If paint manufacturer does not provide environmental requirements, use the following:

- a. Ambient Air Temperature: Between 45 degrees F and 75 degrees F.
 - b. Relative Humidity: Below 75 percent.
 - c. Ventilation: Maintain the painting environment free from fumes and odors throughout the Work of this Section.
 - d. Surface Temperature: At least 5 degrees F above the surface dewpoint temperature.
3. Maintain environmental requirements throughout the drying period.
- B. The following items are not to be painted unless otherwise specified, noted or directed:
 1. Exposed stainless steel, chrome, copper, bronze, brass, and aluminum.
 2. Steel to be encased in cast-in-place concrete.
 3. Factory prefinished items.
 4. Galvanized items not exposed in finished spaces.

1.06 EXTRA MATERIALS

- A. Provide extra finish paint materials, from the same production run as paints to be applied, in the following quantities for each color installed:
 1. One gallon, each type and color.

PART 2 PRODUCTS

2.01 PAINT MANUFACTURERS

- A. Where noted, the following finish paint manufacturers produce the paint types specified.
 1. Benjamin Moore and Co., 51 Chestnut Ridge Rd., Montvale, NJ 07645, (201) 573-9600.
 2. ICI Dulux Paints, 4000 Dupont Cr., Louisville, KY 40207, (800) 984-5444.
 3. PPG Architectural Finishes, One PPG Plaza, Pittsburgh, PA 15272, (800) 441-9695.
 4. Sherwin-Williams Co., Cleveland, OH 44101, (800) 321-8194.

2.02 PAINT PRODUCTS

- A. Cleaning Solvents: Low toxicity with flash point in excess of 100 degrees F.
- B. Color Pigments: Pure, nonfading, finely ground pigments with at least 99 percent passing a 325 mesh sieve.
 1. Use lime-proof color pigments on masonry, concrete and plaster.
 2. Use exterior pigments in exterior paints.
- C. Galvanizing Compound, Cold: Single component compound with 93 percent pure zinc in the dried film and meeting the requirements of DOD-P-21035A (NAVY).
- D. Masking Tape: Removable paper or fiber tape, self-adhesive and nonstaining.

- E. Mineral Spirits: Low odor type recommended by finish paint manufacturer.

2.03 FINISH PAINT TYPES

- A. Physical Properties:
1. Specified percent solids by weight and volume, pigment by weight, wet and dry film thickness per coat, and weight per gallon are minimum physical properties of acceptable materials.
 - a. Opaque Pigmented Paints: Physical properties specified are for white titanium dioxide base before color pigments are added.
 - b. Specified minimum wet and dry film thickness per coat are for determining acceptable finish paint products. Minimum wet and dry film thickness per coat to be applied shall comply with approved finish paint manufacturer's product data sheets.
 2. Gloss or Reflectance: The following ASTM D 523 specified light levels and angles of reflectance:
 - a. Flat: Below 15 at 85 degrees.
 - b. Eggshell: Between 5 and 20 at 60 degrees.
 - c. Satin: Between 15 and 35 at 60 degrees.
 - d. Semigloss: Between 30 and 65 at 60 degrees.
 - e. Gloss: Over 65 at 60 degrees.
- B. Exterior Finish Paint Types:
1. Paint Type EAL-2: Exterior Acrylic Latex, Semigloss Enamel.
 - a. Solids by Weight: 47.0 percent.
 - b. Solids by Volume: 33.2 percent.
 - c. Solvent: Water.
 - d. Vehicle: 100 percent acrylic resin.
 - e. Weight Per Gallon: 10.0 lbs.
 - f. Wet Film Thickness: 4.0 mils.
 - g. Dry Film Thickness: 1.3 mils.
 - h. Manufacturers: ICI Dulux, PPG, Sherwin-Williams.
- C. Interior Finish Paint Types:
1. Paint Type IAL-1: Interior Acrylic Latex, Flat.
 - a. Solids by Weight: 50.0 percent.
 - b. Solids by Volume: 32.0 percent.
 - c. Solvent: Water.
 - d. Vehicle: Vinyl acrylic resin.
 - e. Weight Per Gallon: 10.9 lbs.
 - f. Wet Film Thickness: 3.8 mils.
 - g. Dry Film Thickness: 1.3 mils.
 - h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.
 2. Paint Type IAL-2: Interior Acrylic Latex, Eggshell.
 - a. Solids by Weight: 51.0 percent.
 - b. Solids by Volume: 35.0 percent.
 - c. Solvent: Water.
 - d. Vehicle: Vinyl acrylic resin.
 - e. Weight Per Gallon: 11.0 lbs.
 - f. Wet Film Thickness: 3.8 mils.

- g. Dry Film Thickness: 1.3 mils.
- h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.
- 3. Paint Type IAL-3: Interior Acrylic Latex, Semigloss Enamel.
 - a. Solids by Weight: 49.0 percent.
 - b. Solids by Volume: 35.0 percent.
 - c. Solvent: Water.
 - d. Vehicle: Vinyl acrylic resin.
 - e. Weight Per Gallon: 10.0 lbs.
 - f. Wet Film Thickness: 3.8 mils.
 - g. Dry Film Thickness: 1.2 mils.
 - h. Manufacturers: Benjamin Moore, ICI Dulux, Sherwin-Williams.
- 4. Paint Type IAL-4: Interior Acrylic Latex, Gloss Enamel.
 - a. Solids by Weight: 40.0 percent.
 - b. Solids by Volume: 32.0 percent.
 - c. Solvent: Water.
 - d. Vehicle: Vinyl acrylic resin.
 - e. Weight Per Gallon: 10.0 lbs.
 - f. Wet Film Thickness: 3.4 mils.
 - g. Dry Film Thickness: 1.2 mils.
 - h. Manufacturers: Benjamin Moore, PPG, Sherwin-Williams.
- D. Colors: Provide paint colors either shown on contract drawings or to be selected by the Director from finish paint manufacturers available color selections.
 - 1. Approved finish paint manufacturers to match designated colors of other manufacturers where colors have been shown on the contract documents.
 - 2. Safety Colors: Industry Standard ANSI Safety Colors.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to be prepared, primed, or painted for compliance with contract documents, required environmental conditions, manufacturer's product data sheets, product label instructions and other written requirements.
 - 1. Do not begin any phase of the work without first checking and verifying that surfaces and environmental conditions are acceptable for such work and that any earlier phase deficiencies and discrepancies have been properly corrected.
 - a. The commencement of new work shall be interpreted to mean acceptance of surfaces to be affected.

3.02 PREPARATION

- A. Protection: Cover and protect both surfaces to be painted and adjacent surfaces not to be painted from existing paint removals, airborne sanding particles, cleaning fluids and paint spills using suitable drop cloths, barriers and other protective devices.
 - 1. Adjacent exterior surface protections include roofs, walls, landscaping, driveways and walkways. Interior protections include floors, walls, furniture, furnishings and electronic equipment.

2. Remove and replace removable hardware, lighting fixtures, telephone equipment, other devices and cover plates over concealed openings in substrates to be painted.
 - a. Cover and neatly mask permanently installed hardware, lighting fixtures, cover plates and other devices which cannot be removed and are not scheduled for painting.
 3. Schedule and coordinate surface preparations so as not to interfere with work of other trades or allow airborne sanding dust particle to fall on freshly painted surfaces.
 4. Provide adequate natural or mechanical ventilation to allow surfaces to be prepared and painted in accordance with product manufacturer's instructions and applicable regulations.
 5. Provide and maintain "Wet Paint" signs, temporary barriers and other protective devices necessary to protect prepared and freshly painted surfaces from damages until Work has been accepted.
- B. Clean and prepare surfaces to be painted in accordance with specifications, paint manufacturer's approved product data sheets and printed label instructions. In the event of conflicting instructions or directions, the more stringent requirements shall apply.
1. Cleaners: Use only approved products manufactured or recommended by finish paint manufacturer. Unless otherwise recommended by cleaner manufacturer, thoroughly rinse with clean water to remove surface contaminants and cleaner residue
- C. Surfaces:
1. Concrete:
 - a. Allow three months for poured concrete to dry before painting.
 - b. Remove form release agents, laitance, efflorescence, dirt, grease, oils, slurry, chalk deposits, and other surface contaminants using a high-pressure power wash. Use mildewcide solution if mildew is present.
 - c. Remove any remaining efflorescence by dampening surface with water and scrubbing with a 5 percent solution of muriatic acid. Rinse with clean water, neutralize with ammonia, rinse and allow to dry.
 - d. Vacuum surface clean before painting.
 - e. Sandblast to remove any existing deteriorated paint films, curing compounds, concrete sealers, and other substances that may prevent primer adhesion.
 - f. Chip and grind surface projections smooth to adjacent surfaces.
 - g. Open concealed voids and cracks, remove cement slurry by wire-brushing to expose clean aggregate substrate, and chip out surface honeycomb pockets to allow a neat cementitious patch with square corners and a uniform thickness.
 - h. Inspect surfaces to be painted for exposed or rusted steel reinforcement and contact Director's Representative for a survey of damages to be repaired before substrate can be painted. Do not paint over exposed steel reinforcement without first repairing both deteriorated reinforcement and protective coating.

- i. Use an electronic meter to determine moisture content compliance with finish paint manufacturer's recommendations.
 2. Concrete Masonry Units:
 - a. Allow two months for mortar joints to dry before painting.
 - b. Remove severe laitance, efflorescence, dirt, grease, slurry, chalk deposits and other surface contaminants using a low-pressure power wash. Use mildewcide solution if mildew is present.
 - c. Remove less severe surface contaminants and contaminant residues by dampening surface with water and scrubbing with a 10 percent solution of muriatic acid.
 3. Galvanized Metal:
 - a. Allow new galvanized surfaces to weather as long as possible before cleaning. Remove surface contaminants using clean rags and petroleum spirits.
 - b. Remove "white rust" using appropriate solvent and, if necessary, wire brushing or sanding.
 - c. Use appropriate Structural Steel Painting Council Standard SSPC-SP1 to SSPC-SP6 to clean steel substrates where galvanized protection has been removed.
 3. Steel Doors and Frames: Fill indentations and cracks with metal filler; sand smooth to match adjacent undamaged surfaces.
 4. Plaster, Cement Plaster, and Gypsum Wallboard:
 - a. Fill cracks, holes, and other indentations smooth to adjacent surfaces using specified bedding, spackling, and finishing compounds.
 - b. Plaster: Scrape and sand smooth ridges, spills, nibs, and other surface projections.
 - c. Cement Plaster: Coat surfaces to be patched with a bonding agent. Patch cement plaster with an approved mortar patching mix and finish to match adjacent surface and texture.
 - d. Gypsum Wallboard: Fill and sand smooth minor bedding and finishing compound defects.
 - e. Vacuum and wipe surfaces free of all sanding residue and dust.
 10. Glazing Repairs: Cut out and replace dry, loose, and cracked glazing compound or putty.
 11. Other Substrates: See finish paint manufacturer's recommendations.
- D. Painting Material Preparations:
 1. Prepare painting materials in accordance with manufacturer's approved product data sheets and printed label instructions.
 - a. Stir materials before and during application for a consistent mixture of density. Remove container surface paint films before stirring and mixing.
 - b. Slightly tint first opaque finish coat where primer and finish coats are the same color.
 - c. Do not thin paints unless allowed and directed to do so in writing within limits stated on approved product data sheets.

3.03 APPLICATION

A. Environmental Conditions:

1. Water-based Paints: Apply when surface temperatures will be 50 degrees Fahrenheit to 90 degrees Fahrenheit throughout the drying period.
 2. Other Paints: Apply when surface temperatures will be 45 degrees Fahrenheit to 95 degrees Fahrenheit throughout the drying period.
 3. Apply exterior paints during daylight hours free from rain, snow, fog and mist when ambient air conditions are more than 5 degrees above the surface dewpoint temperature and relative humidity less than 85 percent.
 - a. When exterior painting is allowed or required during nondaylight hours, provide portable outdoor weather recording station with constant printout showing hourly to diurnal air temperature, humidity, and dewpoint temperature.
 4. Exterior Cold Weather Protection: Provide heated enclosures necessary to maintain specified temperature and relative humidity conditions during paint application and drying periods.
- B. Install approved paints where specified, or shown on the drawings, and to match approved field examples.
1. Paint Applicators: Brushes, rollers or spray equipment recommended by the paint manufacturer and appropriate for the location and surface area to be painted.
 - a. Approved minimum wet and dry film thicknesses shall be the same for different application methods and substrates.
- C. Paint Type Coats To Be Applied: Unless specified otherwise by finish paint manufacturer's product data sheet, the number of coats to be applied for each paint type are as follows:
1. Paint Types IAL:
 - a. New Unpainted Surfaces: Apply 1 coat of primer and 2 coats of finish paint.
 - c. Paint Types IAL: Provide mildewcide additive for bathrooms, kitchens, janitor closets, laundry rooms, restrooms and other wet or damp areas.
 - d. Pitted Concrete & Concrete Masonry Surfaces: Use block filler as primer /sealer where allowed by finish paint manufacturer.
- D. Surfaces: Unless otherwise specified or shown on the drawings, paint surfaces as follows:
2. Interior Surfaces:
 - a. Ceilings: Paint Type IAL-1 except as noted below:
 - 1) Living Units: Paint Type IAL-2.
 - 2) Toilets, Kitchens, Shower Rooms, Janitor Closets and Other Wet Areas: Paint Type IAL-3.
 - 3) Food Preparation and Clean Room Areas: Paint Type IAL-4.
 - b. Walls: Paint Type IAL-2 except as noted below:
 - 1)
 - 2) Toilets and Kitchens: Paint Type IAL-3.
 - 3) Shower Rooms, Janitor Closets and Other Wet Areas Paint Type IAL-4

- c. Doors, Windows, Frames and Trim: Paint Type IAL-3 except as noted below:
 - 1) Use Paint Type IAL-4 where walls are Paint Type IAL-3.
- 3. Unless otherwise noted, paint both exterior and interior unremovable and exposed wall and ceiling air supply and return grilles; plumbing pipes; electrical panel and fuse boxes, raceways and conduits; heating convector cabinets, radiators, radiator cabinets, unit heaters, and similar existing and installed devices and equipment by other trades.
 - a. Paint to match adjacent wall or ceiling surfaces.
 - b. Paint exposed surfaces when any part of the surface is on or within 8 inches of ceiling or wall surface to be painted.
 - c. Paint visible interior surfaces behind grilles, guards and screens.
- 4. Doors and Frames: Unless otherwise noted, paint doors and frames the same color in the next highest gloss as adjacent wall surfaces.
 - a. Where walls are not the same color on both sides of a door frame, change color at the inside corner of the frame stop.
 - b. Prime and finish paint door faces and edges before installation.
 - 1) Paint door edges the same paint type color as the exterior side of the door.
 - c. Do not paint door components which are clearly not intended to be painted such as non-ferrous hardware, frame mates, and weather stripping.
 - d. Do not allow doors and frames to touch until paint is thoroughly dry on both surfaces.
- 5. Window Frames and Sash: Unless otherwise noted, paint window frames and sash the same color as adjacent wall surfaces.
 - a. Where interior walls are not the same color on both sides, change paint color along the inside concealed corner of door frame stops.
 - b. Do not paint window components which are clearly not intended to be painted such as prefinished frames, sliding metal or plastic contacts, weatherstripping, and non-ferrous hardware.
 - c. Do not allow operable doors, windows and frames to touch until paint is thoroughly dry on both surfaces.
- 6. Ferrous Metal Door and Window Hardware: Unless otherwise noted, prime and paint to match adjacent doors, windows and frames.
- 7. Case Work: Paint factory unfinished exposed and semiexposed surfaces when doors and drawers are either open or closed including:
 - a. Both faces and edges of cabinet doors, shelving, dividers including interior side, rear, and bottom panel surfaces.
 - b. Both faces and edges of drawer face, side, rear, and bottom panels.
 - c. Exposed bottom or underside of case work more than 4 feet above the floor.
 - d. Do not paint plastic laminate surfaces, special countertop materials, glazing, factory finished surfaces, finish hardware and similar items clearly not intended to be painted.

3.04 FIELD QUALITY CONTROL

- A. Paint Samples: Assist the Director's Representative in obtaining random one quart paint samples for testing at any time during the Work.
 - 1. Notify the Director's Representative upon delivery of paints to the Site.
 - 2. Furnish new one quart metal paint containers with tight fitting lids and suitable labels for marking.
 - a. Furnish labor to thoroughly mix paint before sampling and provide assistance with sampling when required.

3.05 ADJUSTING AND CLEANING

- A. Reinstall removed items after painting has been completed.
 - 1. Restore damaged items to a condition equal to or better than when removed. Replace damaged items that cannot be restored.
- B. Touch up and restore damaged finish paints. Touch up and restoration paint coats are in addition to the number of specified finish paint coats.
- C. Remove spilled, splashed, or spattered paint without marring, staining or damaging the surface. Restore damaged surfaces to the satisfaction of the Director's representative.
- D. Remove temporary barriers, masking tape, and other protective coverings upon completion of painting, cleaning and restoration work.

END OF SECTION

SECTION 331219

WATER UTILITY DISTRIBUTION FIRE HYDRANTS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Concrete: Section 033000.
- B. Earthwork: Section 310000.
- C. Pipe: Section 331102.
- D. Valves: Section 331216.

1.02 QUALITY ASSURANCE

- A. Approved Manufacturers: Clow, Darling, Kennedy, Mueller, Waterous Company.

1.03 SUBMITTALS

- A. Product Data: Catalog cuts of fire hydrants and appurtenances.
- B. Certificate: Furnish written certification indicating the AWWA C-502 required tests on materials and completed hydrants have been accomplished.

PART 2 PRODUCTS

2.01 FIRE HYDRANTS

- A. Fire hydrants shall comply with AWWA C-502 including the following:
 - 1. Six inch pipe connections with a 4'-6" minimum depth below finished grade.
 - 2. 5-1/4 inch valve opening.
 - 3. An "arrow" and the word "open" cast in relief on top of hydrant.
 - 4. Stem nuts shall open by turning to the left.
 - 5. Lugs in the bell of the elbow when required for harnessing the hydrant to the main.
 - 6. Minimum 150 psi working pressure.
 - 7. Anti-freezing and equipped with automatic drip valves.
 - 8. Bronze mounted working parts and bronze valve seats.
 - 9. Breakable and easily replaceable barrel and operating system in the event of damage or accident. Main valve shall remain closed and reasonable tight against leakage in the event of damage or accident.
 - 10. One steamer connection and two 2-1/2 inch nozzles complete with caps and chains. Connections and nozzles shall conform to the "Standard for Screw Threads and Gaskets for Fire Hose Connections, NFPA 1963"

unless otherwise required to match the existing hydrants at the Facility or the threads and fittings of the local fire department.

2.02 MISCELLANEOUS MATERIALS

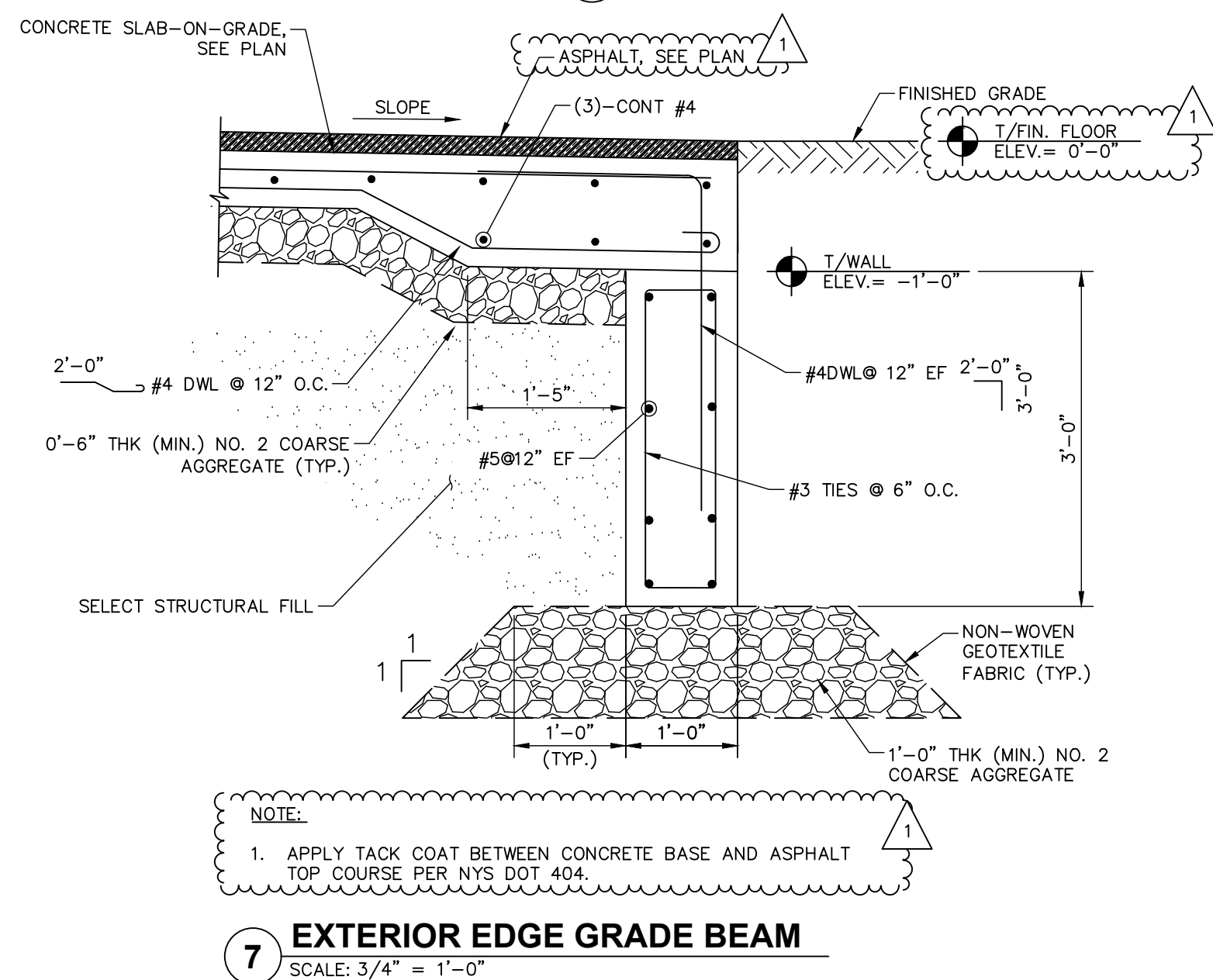
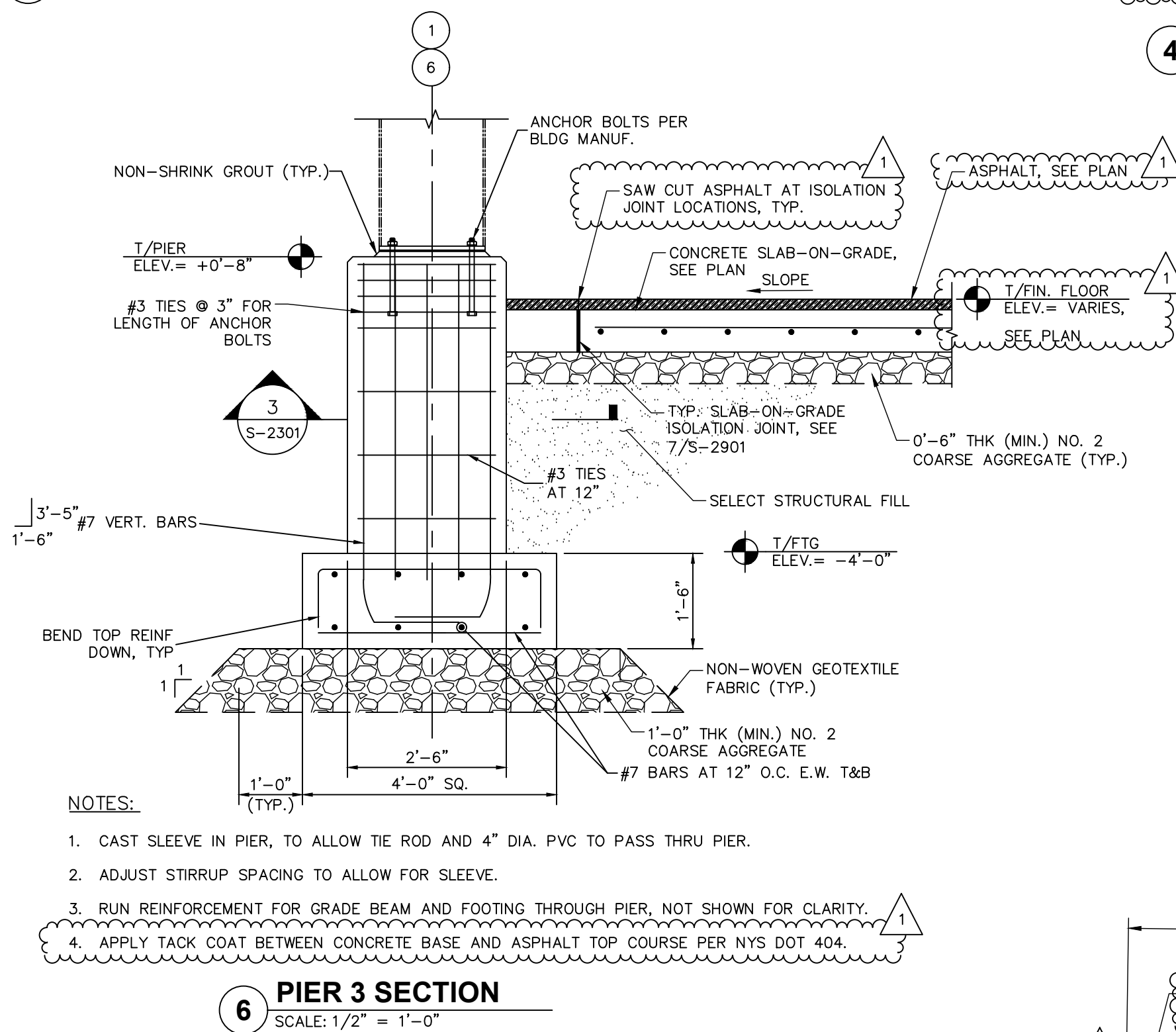
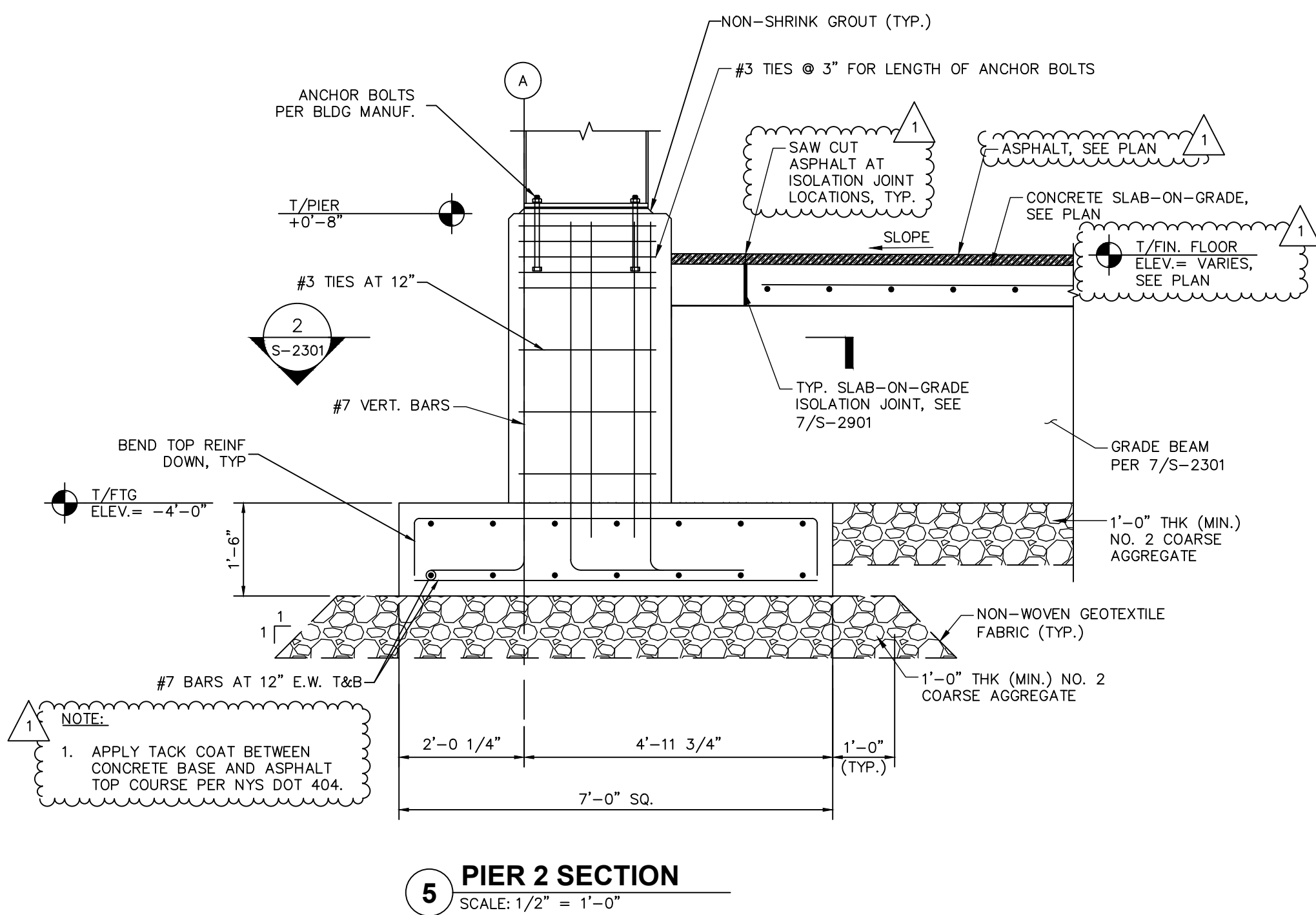
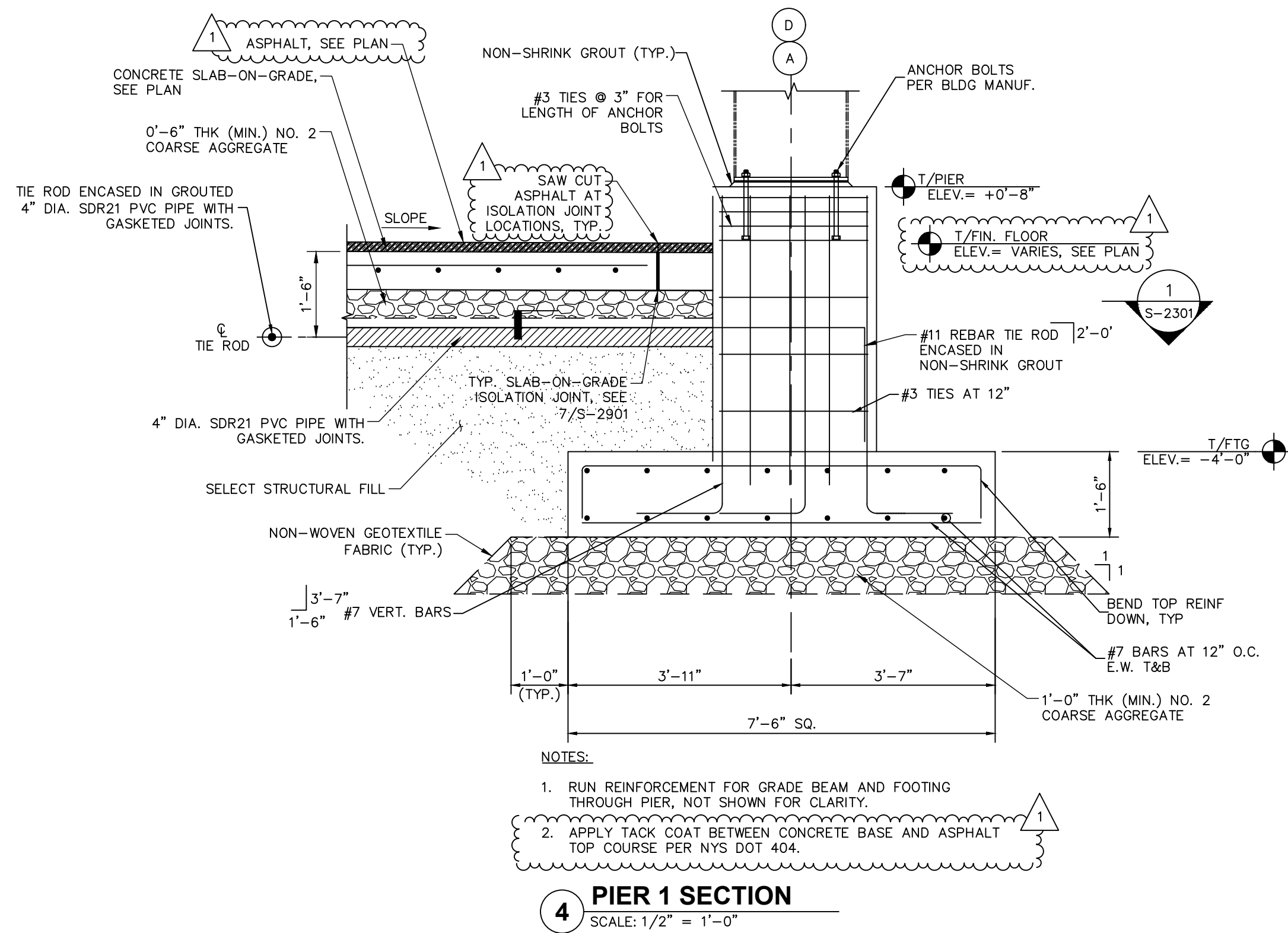
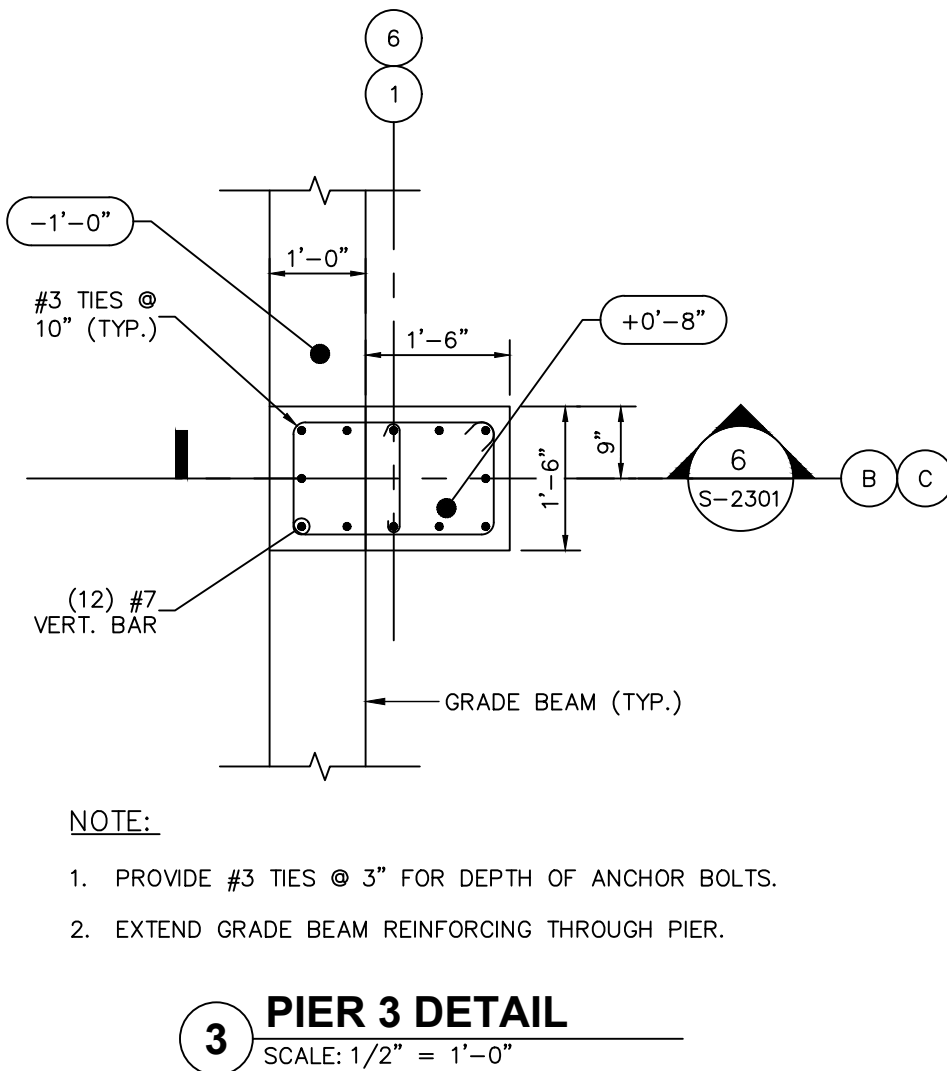
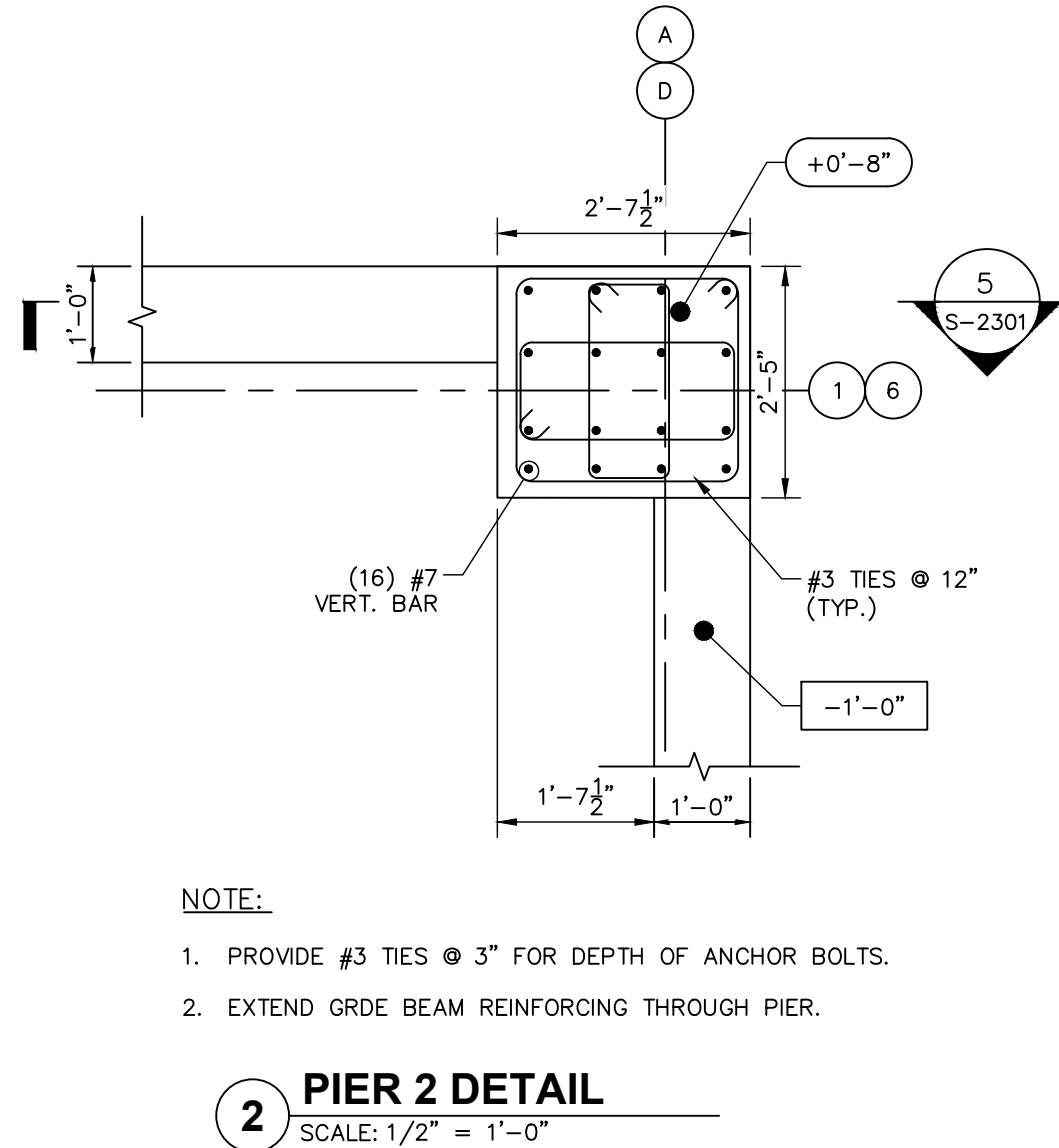
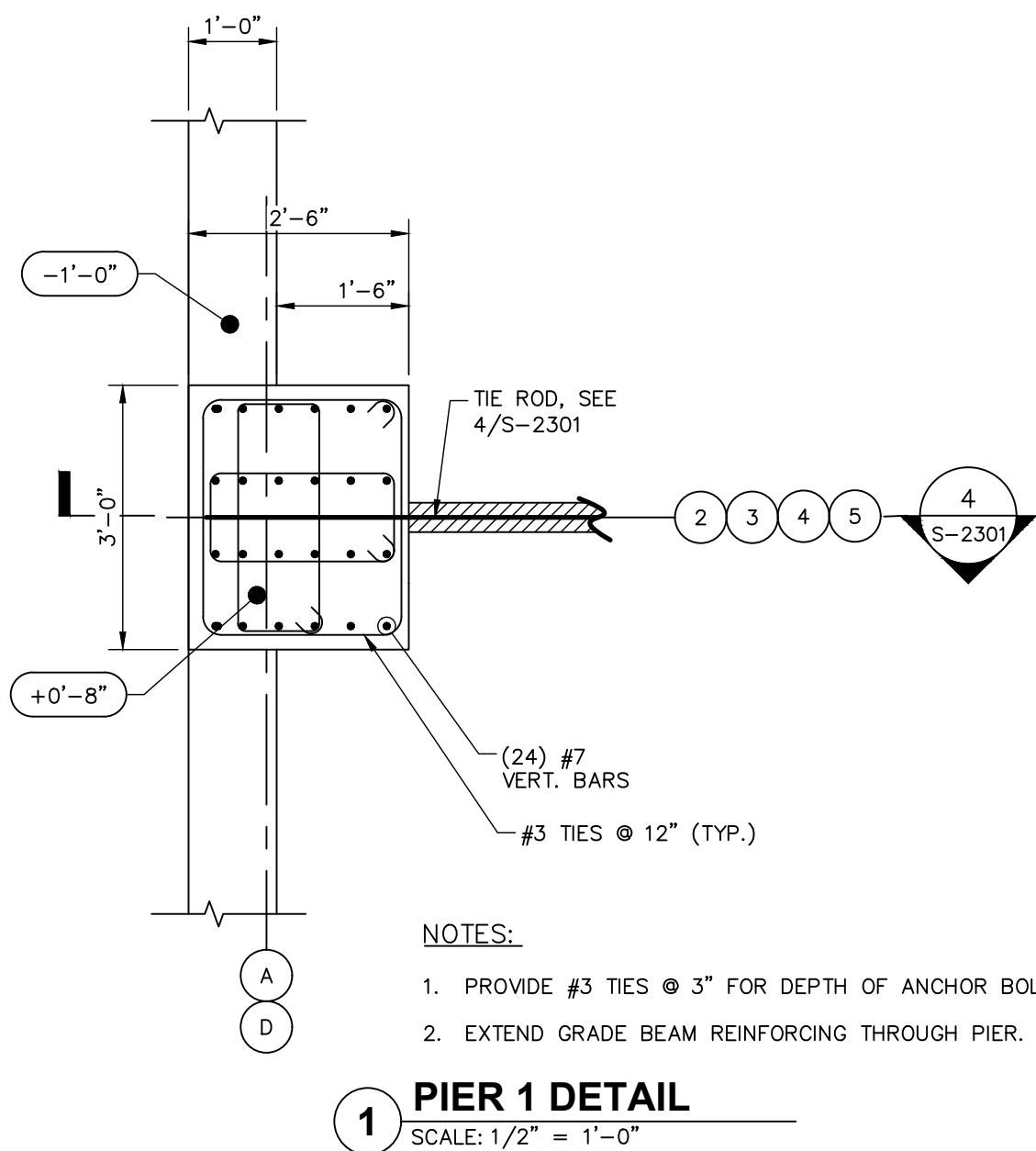
- A. Paint: Hydrant manufacturer's standard primer and 2 finish coats of rust inhibitive, high gloss alkyd enamel. Match color of other hydrants at the Facility.
- B. Crushed Stone: DOT No. 3A; comply with the material requirements of DOT Section 703-02.
- C. Tools: Furnish 2 wrenches to fit fire hydrants. Deliver wrenches to the Director's Representative.
- D. Polyethylene: Provide be high density, cross-laminated polyethylene film conforming to the requirements of ASTM D4976 and AWWA C105 to encase hydrant barrel (below grade), valve, piping, and appurtenances.

PART 3 EXECUTION

3.01 SETTING

- A. Locate fire hydrants 2 feet from the curb or gutter unless indicated otherwise. Position steamer connections to face the road.
- B. Set fire hydrants plumb with steamer and nozzle centerline elevations 19 inches above finished grade, or match gradeline indicated on barrel of hydrants with finished grade. Provide thrust blocks as indicated. Backfill with 4 cubic feet of crushed stone around the waste or drip outlet with 1/2 of the stone below the outlet. Arrange remaining balance of stone around hydrant to prevent damage to the connections from mechanical shock and to insure hydrant stability.
- C. Clean and paint all parts of the hydrants showing above the ground with two finish coats of paint.
- D. Encase hydrant barrel (below grade), valve, fittings, and appurtenances with polyethylene in accordance with the latest version of ANSI/AWWA C105/A21.5.

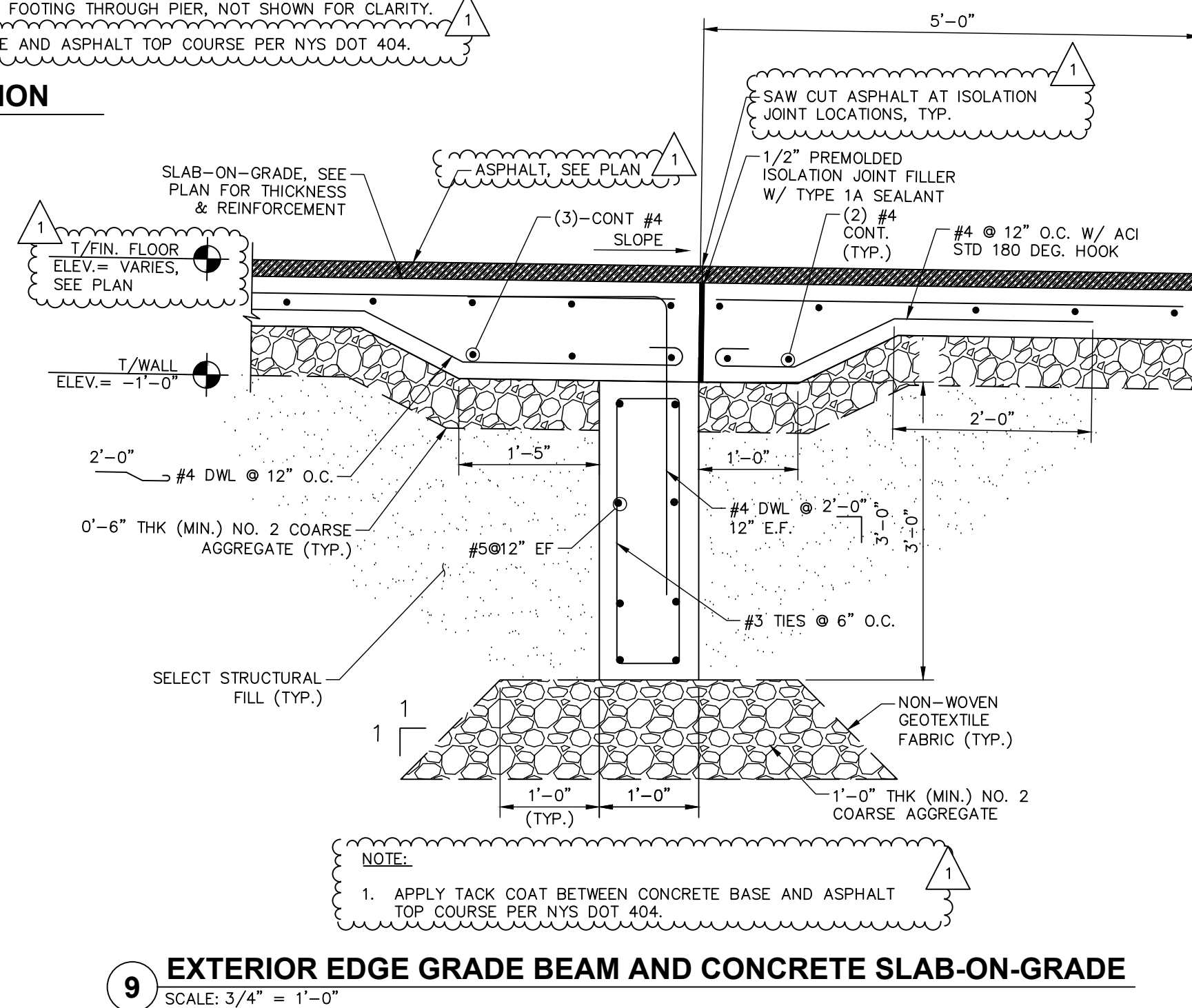
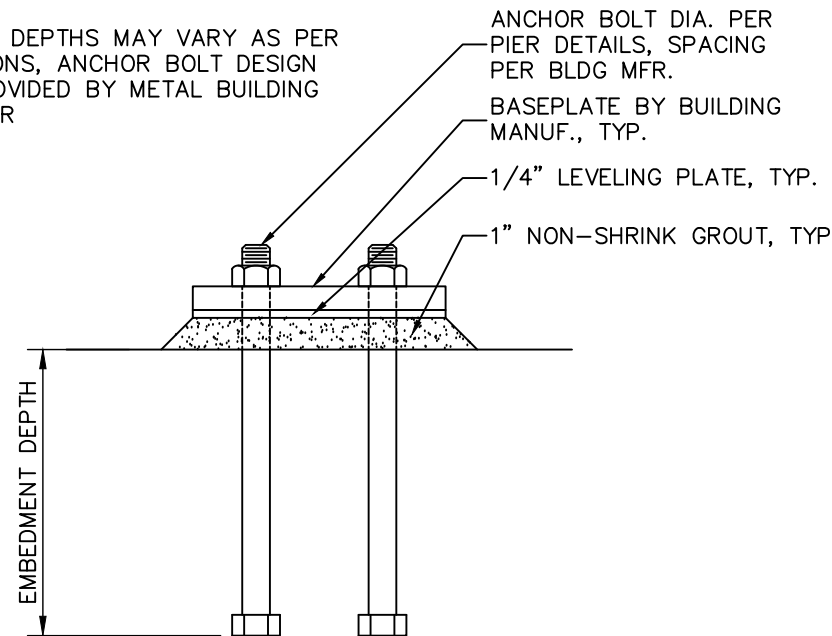
END OF SECTION



MINIMUM ANCHOR BOLT SIZES				
DIA.	3/4	7/8	1	1-1/8
EMBED. DEPTH	12"	14"	16"	18"

NOTE:

- ANCHOR BOLT DEPTHS MAY VARY AS PER FINAL REACTION; ANCHOR BOLT DESIGN SHALL BE PROVIDED BY METAL BUILDING MANUFACTURER



DESIGN & CONSTRUCTION

CONSULTANT

CERTIFICATE OF AUTHORIZATION #0017980

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

ENERGY CODE STATEMENT:

TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CODE.

UNIFORM CODE STATEMENT:

TO THE BEST OF THE REGISTERED DESIGN PROFESSIONAL'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND/OR SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 UNIFORM CODE.

WARNING:

THE ALTERATION OF THIS MATERIAL IN ANY WAY, UNLESS DONE UNDER THE DIRECTION OF A COMPARABLE PROFESSIONAL, I.E. ARCHITECT FOR AN ARCHITECT, ENGINEER FOR AN ENGINEER OR LANDSCAPE ARCHITECT FOR A LANDSCAPE ARCHITECT, IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW AND/OR REGULATIONS AND IS A CLASS 'A' MISDEMEANOR.



CONTRACT:

CONSTRUCTION

PROVIDE HORSE STABLES, SHEEP BARN/WOOL CENTER

NEW YORK STATE FAIRGROUNDS
581 STATE FAIR BOULEVARD
SYRACUSE, NY

NEW YORK STATE DEPT.
OF AGRICULTURE & MARKETS

MARK	DATE	DESCRIPTION
1	03/04/2024	ADDENDUM NO. 1
2	12/01/2023	810 DOCUMENT
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HORSE BARN A & B
FOUNDATION &
PIER SECTIONS

DRAWING NUMBER:

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