



NOTICE TO ALL FIRMS

Date: March 29, 2022
To: All Prospective Bidders
From: Sam Li
Deputy Director for Purchasing
Re: Addendum Number 4
IFB C1519R – West Courtyard Roof Renovation

Notes:

- 1. Please omit the specifications and drawings from Addendum No. 3 that were sent on March 28, 2022. Attached below are the correct set of specifications and drawings for Addendum No. 3.**
- 2. The bid due date is April 1, 2022, 12:00 PM. Your bid must be emailed to Purchasingbids@fitnyc.edu by April 1, 2022, on or before 12:00 PM.**
3. The following additions, deletions, and/or changes or clarifications to the drawings, specifications, and bidding documents for this project, shall become and are hereby made part of the Contract Documents. They change the original documents only in the manner and to the extent stated.

This addendum consists of (6) specifications, (6) drawings, and Bidder questions and response.

- I. Project Manual:
 - A. Division 00 – Building Procurement Requirements
 1. Section III, Para. XII, #2: Change '1-Year' to '5-Year'.
 - B. 011000 Summary
 2. See attached revised spec with revisions in BOLD.
 - C. 024119 Selective Demolition
 1. See attached revised spec with revisions in BOLD.
 - D. 070150.19 Preparation for Re-roofing
 1. See attached revised spec with revisions in BOLD.
 - E. 075216 Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing
 3. See attached revised spec with revisions in BOLD.
 - F. 075900 Leak Detection System

1. See attached revised spec with revisions in BOLD.

G. 077100 Roof Specialties

1. See attached revised spec with revisions in BOLD.

II. Drawings:

A. Architectural, Sheet G-001.01 Cover, General Notes and Project Info

1. See revision clouds.

B. Architectural, Sheet A-102.01 Roof Plan

2. See revision clouds.

C. Architectural, Sheet A-201.01 Elevations and Section

1. See revision clouds.

E. Architectural, Sheet A-501.01 Details

2. See revision clouds.

F. Architectural, Sheet A-502.01 Details

1. See revision clouds.

G. Architectural, Sheet A-503.01 Details

1. See revision clouds.

THIS ADDENDUM IS PART OF THE CONTRACT DOCUMENT AND SHALL BE INCLUDED WITH YOUR REQUEST FOR PROPOSAL SUBMITTAL. YOUR SIGNATURE BELOW WARRANTS THAT YOU UNDERSTAND THIS ADDENDUM AND THAT YOU HAVE MADE THE APPROPRIATE ADJUSTMENTS IN YOUR PROPOSAL AND CALCULATIONS.

Signature

Print Name and Title of Authorized Representative

Print Name of Company/Partnership/Individual

Date

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Indoor Air Quality during construction.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and drawing conventions.
8. Correlation and Intent of the Contract Documents
9. Miscellaneous provisions.
 - a. Request for Interpretation.
 - b. Proposal Request.

1.3 PROJECT INFORMATION

Project Identification: Fashion Institute of Technology
West Courtyard Roof Renovations
New York, NY 10001

Owner: Fashion Institute of Technology (FIT)
Owner's Representative: Allen King
Tel: 212-219-4424

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Scope of Work for this Project generally consists of the following:
1. Removal of existing roofing as indicated in Section 070150.19 "Preparation for Re-Roofing."

2. Removal and reinstallation of existing items as indicated in Section 024119 "Selective Demolition."
3. Installation of new roofing system as indicated in Sections 035216 "Lightweight Insulating Concrete" and Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing."
4. Installation of leak detection system as indicated in Section 075900 "Leak Detection System."
5. Related flashings, drainage components, and other specified and required items.
6. **Removal/replacement/restoration of roofing components as required at three largest HVAC curbs, in coordination with mechanical contractor replacing HVAC equipment, scheduled for Summer 2023. (ADD3)**

B. Types of Contracts:

1. Project will be constructed a single Prime Contract. Contracts for this Project include the following:
 - a. Prime Contract, including electrical and general trades and mechanical.

C. Prime Contractor: Work in the Prime Contract includes, but is not limited to, the following:

1. Roofing work.
2. General trades work.
3. Electrical work.
4. Remaining work not identified as work under other contracts.
5. Selective demolition and cutting and patching not identified as work under other contracts.

D. Temporary facilities and controls in the General Trades Contract include, but are not limited to, the following:

1. Temporary facilities and controls that are not otherwise specifically assigned to the Electrical Contract.
2. Unpipied temporary toilet fixtures (if Owner's facilities are not available for use), wash facilities, and drinking water facilities, including disposable supplies.
3. General waste disposal facilities.
4. Barricades, warning signs, and lights.
5. Security enclosure and lockup.
6. Environmental protection.
7. Restoration of Owner's existing facilities used as temporary facilities.
8. Staging and scaffolding.
9. Temporary heating, cooling and ventilation, including temporary connections.

1.5 PROJECT COORDINATION

- A. Prime Contractor coordination activities of Project include, but are not limited to, the following:

1. Provide overall coordination of the Work, including that of owner direct purchase contracts.
2. Coordinate compliance with FIT's fire safety requirements during construction.
3. Coordinate shared access to workspaces.
4. Coordinate product selections for compatibility.
5. Provide overall coordination of temporary facilities and controls.
6. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
7. Coordinate construction and operations of the Work with work performed by each Contract.
8. Coordinate sequencing and scheduling of the Work. Include the following:
 - a. Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
 - b. Prepare a combined contractors' construction schedule for entire Project. Base schedule on preliminary construction schedule. Secure time commitments for performing critical construction activities from contractors. Show activities of each contract on a separate sheet. Prepare a simplified summary sheet indicating combined construction activities of contracts.
 - 1) Submit schedules for approval.
 - 2) Distribute copies of approved schedules to contractors.
9. Provide photographic documentation.
10. Provide quality-assurance and quality-control services.
11. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
12. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
13. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
14. Coordinate cutting and patching.
15. Coordinate protection of the Work.
16. Coordinate firestopping.
17. Coordinate completion of interrelated punch list items.
18. Coordinate preparation of Project record documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
19. Print and submit record documents if installations by more than one contractor are indicated on the same contract drawing or shop drawing.
20. Collect record Specification Sections from contractors, collate Sections into numeric order, and submit complete set.
21. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.

- B. Each Contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of the Work. Each Contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
1. Unless otherwise indicated, the work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
 2. Blocking, backing panels, sleeves, and metal fabrication supports for the work of each contract shall be the work of each contract for its own work.
 3. Furnishing of access panels for the work of each contract shall be the work of each contract for its own work. Installation of access panels shall be the work of each contract for its own work.
 4. Painting for the work of each contract shall be the work of the General Construction Contract.
 5. Cutting and Patching: Provided under each contract for its own work.
 6. Through-penetration firestopping for the work of each contract shall be provided by each contract for its own work.
- C. Temporary facilities and controls in the Prime Contractors Contract include, but are not limited to, the following:
1. Installation, operation, maintenance, and removal of each temporary facility necessary for its own normal construction activity, and costs and use charges associated with each facility, except as otherwise provided for in this Section.
 2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
 3. Temporary enclosures for its own construction activities.
 4. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
 5. Progress cleaning of work areas affected by its operations on a daily basis.
 6. Secure lockup of its own tools, materials, and equipment.
 7. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
 8. FIT's fire safety requirements during construction.

1.6 ACCESS TO SITE

- A. Prime Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

SUMMARY

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- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- D. Connections to Electrical Equipment and Systems: Contractor is not permitted to tie into electrical equipment or systems until the FIT Facilities Management Department has reviewed and approved the connection.
1. Submit written procedures to the Owner's Representative, detailing the proposed connection Work.
 2. After procedures have been approved, notify the Owner's Representative at least three working days prior to the connection Work so that arrangements can be made to have a FIT Facilities Management Department Representative witness the Work.

1.7 COORDINATION WITH OCCUPANTS

- A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas where work is being performed. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.
1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
 3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.

4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.8 INDOOR AIR QUALITY DURING CONSTRUCTION

- A. Dust, odor, and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust, odor, and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
 1. Locations of dust-control partitions.
 2. HVAC system isolation schematic drawing.
 3. Location of proposed air-filtration system discharge.
 4. Other dust and odor-control measures.
- B. Filter Replacement: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system.
- C. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
 1. Construct dustproof partitions with two layers of 6-mil (0.14-mm) polyethylene sheet on each side. Cover floor with two layers of 6-mil (0.14-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
 - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
 2. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
 3. Protect air-handling equipment.
 4. Provide walk-off mats at each entrance through temporary partition.

1.9 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: As indicated in Owner's General Requirements.

1. Unless noted otherwise, Work is to be performed between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, legal and union holidays excluded.
 2. Major mobilization if required is to be performed at night, between the hours of 9:00 p.m. to 6:00 a.m., Monday through Friday.
 3. All work conducted which causes significant noise that is considered a disturbance to the school shall be conducted, at contractor's expense, during the time period between 9:00 p.m. and 6:00 a.m. Work considered to be a disturbance or a disruption to the school includes but is not necessarily limited to roof materials loading, roofing removal, scarification, and mechanical fastening operations.
 - a. There is a school scheduled fashion show on May 11, 2022 with load in planned for May 10th, rain date or load out planned for May 12th or 13th if necessary. During these dates no work shall be conducted which causes significant noise or smell.
 4. Hours for Utility Shutdowns: As approved in writing by Owner with not less than 72 hours' notice. Shutdowns shall be conducted, at contractor's expense, during the time period between 10:00 p.m. and 6:00 a.m.
 5. Hours for Core Drilling: As approved in writing by Owner with not less than 72 hours notice. Core drilling shall be conducted, at Contractor's expense, during the time period between 10:00 p.m. and 6:00 a.m.
 6. 24 Hour Access: The Owner will make the work site available as needed, including three shifts (24 hour access) as coordinated and approved in writing by Owner. All additional costs associated with work outside of normal business working hours shall be accounted for in the Contractor's bid.
 7. Weekend Hours: As approved in writing by Owner.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
1. Notify Owner not less than two days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, any level of odors, or other disruption to Owner occupancy with Owner.
1. Notify Owner not less than 72 hours in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.
- G. Employee Identification: Comply with the Facility's Visitor Identification Policy. A copy of the current policy will be distributed at the initial job meeting.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.11 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- A. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the work by the Contractor. The contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
- B. In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by Addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.
- C. If an item is shown on the Drawings but not specified, the Contractor shall provide the item of the same quality as similar items specified, as determined by the Architect. If an item is specified but not shown on the Drawings, it shall be located as directed by the Architect.
- D. The Drawings are indications of the design intent as well as specific instructions. The "details" included on Drawings show the intent of all similar areas. If questions arise about the construction of an area not specifically detailed, consult with the Architect who will provide further "details" and instructions. Such further documentation, if consistent with the Contract Documents, shall not alter the Contract Sum.

- E. If the Contractor, in the course of construction, finds any conflict, error, or discrepancy on or between the Drawings and Specifications or any of the related Contract Documents, such conflict, error, or discrepancy shall be immediately referred to the Architect, in writing. Architect shall issue an interpretation, in writing, to the Contractor within (10) days after receipt of the written request. No additional compensation will be paid to the Contractor as a result of an interpretation of the Contract Documents.

1.12 MISCELLANEOUS PROVISIONS

- A. Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- B. Request for Interpretation (RFI):
 - 1. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form bound in the Project Manual.
 - 2. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 - 3. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly.
 - 4. On receipt of Architect's action, update RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within five days if contractor disagrees with response.
- C. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 10 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Use form acceptable to Architect.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 MANUFACTURER'S WARRANTY

1. Furnish a 30-year No-Dollar-Limit labor and material full system warranty.
 - a. Full system includes all items identified in Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing" and Section 035216 - "Lightweight Insulating Concrete."

3.2 CONTRACTOR'S GUARANTEE

1. Furnish 5-year guarantee all materials and workmanship will remain fully functional.
2. **Required Bonds: Labor & Material, and Performance (ADD3)**
3. **No maintenance guarantee or maintenance bond is required. (ADD3)**

END OF SECTION 011000

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Removal and reinstallation of selected items.
3. Salvage of existing items to be reused or recycled.
4. **Selective demolition and restoration associated with future HVAC equipment and curb replacement. (ADD3)**

B. Related Requirements:

1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 017300 "Execution" for cutting and patching procedures.
3. Section 070150.19 "Preparation for Reroofing" for selective demolition associated with roofing work.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- C. Existing to Remain (ETR): Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 INFORMATIONAL SUBMITTALS

- A. Engineering Survey: Submit engineering survey of condition of building.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, which might be misconstrued as damage caused by demolition operations. Submit before Work begins.
- E. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.8 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- C. Survey of Existing Conditions: Record existing conditions by use of measured drawings and preconstruction photographs or video.

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1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 2. Arrange to shut off utilities with utility companies.
 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - c. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - d. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - e. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- C. Existing Rooftop Equipment to be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 1. Verify and document condition of existing rooftop equipment prior to removal. Convey information on existing conditions to Owner.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from lower to higher level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly.

- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items: Include metal guardrails, metal mechanical screens, and other items as indicated on drawings.
 - 1. Carefully remove items.
 - 2. Prepare and finish items in accordance with Section 099600 "High-Performance Coatings."
 - 3. Reinstall items at removal locations. Provide new fasteners and anchorage as required.
 - 4. Install full bed of sealant behind posts as specified in Section 079200 "Joint Sealants."
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

3.6 SELECTIVE DEMOLITION AND RESTORATION ASSOCIATED WITH FUTURE HVAC EQUIPMENT AND CURB REPLACEMENT (ADD3)

- A. **Immediately advise the Architect and Owner of conditions related to the mechanical contractor's protection of the roofing assembly which appear to leave the assembly vulnerable to damage from the HVAC removal/replacement activity or which interfere with proper performance of required roofing assembly removals/set asides/restoration/replacement related to HVAC curb replacement. (ADD3)**
- B. **In conjunction with replacement of existing HVAC equipment and curbs (scheduled for Summer 2023), remove/set aside existing materials and new materials installed as part of**

this project, and restore/install new materials upon replacement of the curbs, as indicated in the drawings. (ADD3)

- C. Coordinate material removals/set asides and installation of new materials/restoration of existing materials with HVAC replacement mechanical contractor, and take all necessary precautions, to minimize exposure of roofing assembly to the elements, and to prevent water entry into the roofing assembly from precipitation occurring between selective removal of roofing around existing curbs and the installation of make-up roofing membrane and new flashings at new curbs. (ADD3)**

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 070150.19 - PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Removal of EPDM membrane and extruded polystyrene tapered insulation boards.
2. Removal of base flashings.
3. Removal of other roofing-related components as indicated.
4. Temporary roofing.

B. Related Requirements:

1. Section 011000 "Summary" for use of the premises and phasing requirements.
2. Section 024119 "Selective Demolition" for removal and reinstallation of existing rooftop items.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, sections, and details.
- C. Temporary Roofing Submittal: Product data and description of products to be used to ensure effectiveness of existing vapor retarder as temporary roofing system.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

- B. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations. Submit before Work begins.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Reroofing Conference: Conduct conference at Project site.
 - 1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing system manufacturer's representative; roofing Installer, including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing, including installers of roof deck, roof accessories, and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing system tear-off and replacement, including, but not limited to, the following:
 - a. Reroofing preparation, including roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system components that are to remain.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 - e. Existing roof deck conditions requiring notification of Architect.
 - f. Existing roof deck removal procedures and Owner notifications.
 - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - h. Structural loading limitations of roof deck during reroofing.
 - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 - j. HVAC shutdown and sealing of air intakes.
 - k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - l. Asbestos removal and discovery of asbestos-containing materials.
 - m. Governing regulations and requirements for insurance and certificates if applicable.
 - n. Existing conditions that may require notification of Architect before proceeding.

1.7 FIELD CONDITIONS

- A. Existing Roofing System: As indicated on drawings, generally consisting of the following layers:
 - 1. EPDM membrane adhered to extruded polystyrene tapered insulation boards, starting thickness 4", tapered 1/4" per foot, spot adhered in asphalt bitumen between layers and to 2-ply bituminous vapor retarder adhered in asphalt bitumen to poured concrete deck
- B. Owner will occupy portions of building immediately below reroofing area. Conduct reroofing so Owner's operations are not disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
 - 1. Coordinate work activities daily with Owner so Owner can place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- E. Limit construction live loads on roof to ~~75 psf~~ **60 psf (ADD3)**. Do not stockpile material on roof.
- F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
 - 1. Limit removal area to size which can be made watertight the same day.
- G. Hazardous Materials: It is not expected that hazardous materials, such as asbestos-containing materials, will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 TEMPORARY PROTECTION MATERIALS

- A. Expanded Polystyrene (EPS) Insulation: ASTM C 578.
- B. Plywood: DOC PS1, Grade CD Exposure 1.

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- C. OSB: DOC PS2, Exposure 1.

2.2 TEMPORARY ROOFING MATERIALS

- A. Vapor Retarder Field Repairs: ~~Johns Manville PermaFlash System (“JMPS”)~~ **Siplast Irex 40 and Siplast PA-1125 Asphalt Primer (ADD3)**

2.3 TEMPORARY FLASHING MATERIALS

- A. Vapor Retarder Repairs at Vertical Surfaces: Siplast PA-828 Flashing Cement; Siplast Paradiene 20; Siplast PA-1125 Asphalt Primer.

2.4 AUXILIARY REROOFING MATERIALS

- A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of existing and new roofing system.

2.5 RETENTION CURB (ADD3)

- A. **In area within retention curb, prime deck and base of curbs and install new vapor retarder using Siplast Irex 40. (ADD3)**

PART 3 - EXECUTION

3.1 PREPARATION

- A. Where required, shut off rooftop utilities and service piping before beginning the Work.
- B. Test existing roof drain lines to verify that they are not blocked or restricted. Immediately notify Architect of any blockages or restrictions.
- C. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- D. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- E. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs

specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

1. Implement all necessary work to ensure primary drainage is fully functional throughout project, including when only base sheet/temporary roofing is in place.
2. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing roofing system components.

3.2 ROOF TEAR-OFF

A. General:

1. Notify Owner each day of location/area of roof tear-off proposed for that day.

B. The work consists of the following:

1. Remove EPDM membrane and flashings.
2. Remove polystyrene insulation boards.
3. Repair existing vapor retarder on horizontal.
 - a. Cut out loose sections.
 - b. **Install JMPS to replace removed and missing sections, and where vapor retarder is less than 2 plies. Extend JMPS min. 6 inches onto adjoining horizontal vapor retarder in good condition. Install Irex 40 to replace removed and missing sections, and areas of deck exposed after current HVAC curbs are removed and new HVAC curbs are installed (by others). Apply primer to deck and 6" onto adjoining vapor barrier. Torch-apply Irex 40 to primed substrates. (ADD3)**
4. Repair and rework as needed existing vapor retarder on vertical surfaces.
 - a. Remove loose sections.
 - b. Prime substrates. Allow to thoroughly dry.
 - c. Install roofing sheet in flashing cement to replace removed sections, and extend min. 6" onto adjoining vapor barrier in good condition.
 - d. Prime and install roofing sheet in flashing cement as needed for top edge to extend 4" above surface of vapor retarder at all vertical surfaces.
5. **In retention curb area, remove roofing materials down to deck and curb substrates. Prime deck and bottom 4 inches at base of curbs. Torch-apply vapor retarder to primed deck and curb surfaces. (ADD3)**
6. Remove gravel stops, hook strips, copings, underlayments, wood, and other items as indicated on the Drawings. Install provisions as needed to maintain watertightness in areas and at components at which removals are performed.

7. Remove unused pipes, conduit, support brackets, and other deck-mounted or deck-penetrating items, unless otherwise indicated herein. Patch deck to match existing adjacent deck.

~~3.3 DECK PREPARATION (ADD3)~~

~~A. Inspect deck after tear-off of roofing system.~~

~~B. Verify that substrates are visibly dry and free of moisture.~~

~~C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until directed by Architect.~~

3.4 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 1. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19

SECTION 075216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS
MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Styrene-butadiene-styrene (SBS)-modified bituminous membrane roofing.
2. Roof insulation.
3. Walkway pavers.

B. Related Requirements:

1. Section 035216 "Lightweight Insulating Concrete" for insulating concrete substrate.
2. **Section 075900 "Leak Detection System" for leak detection system. (ADD3)**
3. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
4. Section 077100 "Roof Specialties" for premanufactured metal copings and roof edge flashings.
5. Section 077129 "Manufactured Roof Expansion Joints" for premanufactured roof expansion-joint assemblies.
6. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to Work of this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Roofing Conference: Participate in conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck

- Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 5. Review structural loading limitations of roof deck during and after roofing.
 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
 7. Review governing regulations and requirements for insurance and certificates if applicable.
 8. Review temporary protection requirements for roofing system during and after installation.
 9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, sections, details, and attachments to other work, including the following:
 1. Base flashings and membrane terminations.
 2. Flashing details at penetrations.
 3. Roof Insulation: Layout, profiles and product components, including anchorage, accessories and finishes of system to be installed

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, manufacturer, and testing agency.
- B. Manufacturer Certificates:
 1. Performance Requirement Certificate: Signed by roof membrane manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of complying with performance requirements.
 2. Guarantee Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for guarantee.
- C. Product Test Reports: For roof membrane and insulation, tests performed by a qualified testing agency, indicating compliance with specified requirements.

- D. Field quality-control reports.
- E. Sample Warranties: For manufacturer's guarantee.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Acceptable Products: Provide primary roofing products, including each type of sheet, all manufactured in the United States, supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. Provide secondary or accessory products which are acceptable to the manufacturer of the primary roofing products.
- B. Product Quality Assurance Program: Primary roofing materials shall be manufactured under a quality management system that is monitored regularly by a third party auditor under the ISO 9001 audit process. A certificate of analysis for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.
- C. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's guarantee.
- D. Project Acceptance: Submit a completed manufacturer's application for roof guarantee form along with shop drawings of the roofs showing all dimensions, penetrations, and details. The form shall contain all the technical information applicable to the project including deck types, roof slopes, base sheet and/or insulation assemblies (with method of attachment, and fastener type), and manufacturer's membrane assembly proposed for installation. The form shall also contain accurate and complete information requested including proper names, addresses, zip codes and telephone numbers. The project must receive approval, through this process, prior to shipment of materials to the project site.
- E. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.
- F. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.

- G. **Manufacturer Requirements:** The primary roofing materials manufacturer shall provide direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conduct a final inspection upon successful completion of the project.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. **Storage:** Store materials out of direct exposure to the elements. Store roll goods on a clean, flat and dry surface. All material stored on the roof overnight shall be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of deck and building structure. Store materials such as solvents, adhesives and asphalt cutback products away from open flames, sparks or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.
- C. **Handling:** Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
- D. **Damaged Material:** Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, removed and replaced at the Contractor's expense.

1.10 FIELD CONDITIONS

- A. **Requirements Prior to Job Start:**
1. **Notification:** Give a minimum of 5 days' notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
 2. **Safety:** Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

1.11 WARRANTY

- A. **SBS Waterproofing System Guarantee:** Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the roof system manufacturer's 30 year labor and materials roof system guarantee. The roof system guarantee shall include but not be limited to both the roofing and flashing membranes, and the specified new lightweight insulating concrete system consisting of aggregate fill, ~~pre-generated foam~~ **(ADD3)**, pre-formed polystyrene panels, and base sheet fasteners. All repair or replacement costs covered under the guarantee shall be borne by the roofing membrane manufacturer. The

guarantee shall be a term type, without deductibles or limitations on coverage amount, and be issued at no additional cost to the Owner. Specific items covered under the roof system guarantee include:

1. The actual resistance to heat flow through the roof insulation will be at least 80 percent of the design thermal resistance, provided that the roofing membrane is free of leaks;
2. Should a roof leak occur, the insulating performance of the roof insulation will be at least 80 percent of the design thermal resistance within a 2 year period following repair of the leak.
3. The roof insulation will remain in a reroofable condition should the roof membrane require replacement (excluding damage caused by fastener pullout during removal of the old membrane.)
4. The roof insulation material will not cause structural damage to the building as a result of expansion from thermal or chemical action.
5. Warranty also includes lightweight insulating concrete system as specified in Section 035216 "Lightweight Insulating Concrete."
6. Warranty also includes coping and roof edge systems produced by roofing manufacturer and specified in Section 077100 "Roof Specialties."
7. Warranty also includes expansion joints produced by roofing manufacturer and specified in Section 077129 "Manufactured Roof Expansion Joints."
8. Warranty also includes removal and restoration of overburden for investigation and repair of deficiencies covered by warranty.

B. Insulation Warranty:

1. Manufacturer agrees to repair or replace components of insulation system that fail in materials or workmanship within specified warranty period.
 - a. Warranty Period: 20 years from date of Substantial Completion.

C. Warranty Maintenance for HVAC Replacement-Related Work (ADD3)

1. **Prior to starting work to modify roofing at curbs in conjunction with HVAC replacement (by others, scheduled for Summer 2023), advise Roofing Manufacturer in writing of scope, details, and schedule of modifications.**
2. **Upon completion of roofing modifications at new HVAC curbs, and before reinstallation of overburden, arrange inspection of work by Roofing Manufacturer, and provide to Architect written notification from Manufacturer of acceptance of work and Warranties' remaining in effect.**

PART 2 - PRODUCTS

2.1 ROOFING SYSTEM, GENERAL

- A. Roofing Membrane Assembly: A roof membrane assembly consisting of a base sheet and two plies of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane, applied over a prepared substrate.
1. Both reinforcement mats shall be impregnated/saturated and coated each side with an SBS modified bitumen blend and coated one side with a torch grade SBS bitumen blend adhesive layer.
 2. The cross sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen.
 3. The adhesive layer shall be manufactured using a process that embosses the surface with a grooved pattern to provide optimum burn off of the plastic film and to maximize application rates.
 4. The roof system shall pass 500 cycles of ASTM D5849 Resistance to Cyclic Joint Displacement (fatigue) at 14 deg. F. Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles.
 5. The roof system shall pass 200 cycles of ASTM D5849 after heat conditioning performed in accordance with ASTM D 5147.
 6. The assembly shall possess waterproofing capability, such that a phased roof application, with only the base sheet and modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.

2.2 ROOFING SYSTEM PRODUCTS

- A. Lightweight Insulating Concrete Substrate: As specified in Section 035216 "Lightweight Insulating Concrete."
- B. Base Sheet: ASTM D4601, Type II. Lightweight random fibrous glass mat, impregnated and coated with specially formulated, high quality oxidized asphalt and a polyolefin film backing; nailable.
1. Basis-of-Design Product: Siplast Parabase FS.
- C. First Ply: ASTM D6163 Type II, Grade S. Fiberglass scrim/fiberglass mat composite impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen. The top surface is covered with a silica parting agent, and the back surface is embossed with a grooved pattern to provide optimum burnoff of the plastic film and maximize application rates.
1. Basis-of-Design Product: Siplast Paradiene 20 EG TG.

- D. Second Ply: ASTM D6162 Type II, Grade S. Fiberglass scrim/polyester mat composite impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen. The top and bottom surfaces of the sheet are covered with a silica parting agent.

1. Basis-of-Design Product: Siplast Teranap 1M Sand.

2.3 FLASHING

- A. Flashing, First Ply at Masonry and Metal: ASTM D6163 Type II, Grade S. Fiberglass scrim/fiberglass mat composite impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen. The top surface is covered with a silica parting agent, and the back surface is embossed with a grooved pattern to provide optimum burnoff of the plastic film and maximize application rates.

1. Basis-of-Design Product: Siplast Paradiene 20 EG TG.

- B. Flashing, First Ply at Wood: lightweight random fibrous glass mat impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen. The back surface is coated with a self-adhesive bitumen layer specifically formulated for optimum adhesion in low-slope membrane applications, and it is lined with a high strength polyolefin release film.

1. Basis-of-Design Product: Siplast Paradiene 20 SA.

- C. Flashing, Second Ply: Prefabricated, reinforced, Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane with a continuous, channel-embossed metal-foil surfacing. The finish ply shall conform to ASTM D 6298 and the following physical and mechanical property requirements.

1. Basis-of-Design Product: Siplast Veral Aluminum.

- D. PMMA-Based Flashing: Catalyzed polymethyl methacrylate primer, basecoat and topcoat, combined with a non-woven polyester fleece.

1. Basis-of-Design Product: Siplast Parapro 123 Flashing System.

2.4 ROOFING ACCESSORIES

- A. Primer at Masonry and Metal: Asphalt solvent blend meeting ASTM D41.

1. Basis-of-Design Product: Siplast PA-1125 Asphalt Primer.

- B. Primer at Wood: Low-VOC, water-based resinous primer.

1. Basis-of-Design Product: Siplast TA-119 Primer.

- C. Sealant: Moisture-curing, non-slump elastomeric sealant designed for roofing applications. The sealant shall be approved by the roof membrane manufacturer for use in conjunction with the roof membrane materials.
 - 1. Basis-of-Design Product: Siplast PS-304 Elastomeric Sealant.
- D. Fastener: Single unit, precision formed, electro zinc coated steel fastener having a 2.7 inch diameter rib reinforced cap and 1 inch long rectangular legs, designed to expand when fully driven into the lightweight concrete. Fasteners for lightweight concrete shall meet FM Standard 4470 requirements for corrosion resistance.
 - 1. Basis-of-Design Product: NVS Base Sheet Fastener.
- E. ~~Lightweight Insulating Concrete Vent: OlyVent one way vent, catalog no. OVIWAY, by~~
~~OMG Roofing Products. (ADD3)~~

2.5 ROOF INSULATION

- A. General: Preformed roof insulation boards, approved by roof manufacturer for use above membrane.
- B. Extruded-Polystyrene Board Insulation: ASTM C578, Type VI, 40 PSI compressive strength.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Owens Corning Foamular 404, 3-1/2 inch thick total (2-inch + 1-1/2 inch)
- C. Cementitious Board Insulation: 3/8 inch thick latex modified concrete panel laminated to 3-inch closed-cell extruded polystyrene insulation board, ASTM C578, Type VI, 40 PSI compressive strength.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide T-Clear Corporation LightGUARD, or approved equal.
 - 2. Thickness: As indicated on drawings.
 - 3. Weight: 4.5 lb. per sq. ft.
 - 4. Shape: Flat.
 - 5. Edges: Tongue-and-groove.
 - 6. Color: Natural gray.
- D. Accessories:
 - 1. Perimeter Securement and Securement Strap for Cementitious Board Insulation:
 - a. Material: Minimum 22 gauge ASTM Grade 304 stainless steel.
 - b. Perimeter Securement Form:
 - 1) Horizontal leg 6-inch minimum on cementitious board insulation.
 - 2) Vertical leg varies in height for fastening as indicated on drawings.

- 3) Minimum 1/2-inch and maximum 1-inch cant.
 - 4) Maximum 12 foot lengths.
 - c. Perimeter Strap Form: 3-inch wide minimum.
 2. Fasteners:
 - a. For fastening metal perimeter securement to perimeter of roof structure: Fastener appropriate to substrate, following recommendations of fastener manufacturer.
 - b. Fastener for Perimeter Securement and Securement Strap at Cementitious Board Insulation: Fab-Lok H3 (300 Series) stainless steel, trade designation EZJ-250/FAC-10-12, by Elko.
 - c. Fastener for Perimeter Securement Vertical Leg: As indicated on drawings and as specified herein.
- E. Drainage Mat: Formed polypropylene core covered on one side with a woven polypropylene filter fabric.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Paradrain Drainage Mat.
 2. Flow Rate (ASTM D4491): 60 gpm/sq. ft.
 3. Compressive Strength (ASTM D1621): 21,000 lb./sq. ft.
- F. **Products for Modifications Related to HVAC Replacement (ADD3)**
 1. **Isocyanurate Insulation Board: Siplast Paratherm tapered and flat board.**
 2. **Cover Board: Dens-Deck Prime, 1/2" thick.**
 3. **Urethane Adhesive: Siplast Para-Stik.**

2.6 WALKWAY PAVERS

- A. Roof Pavers: Heavyweight, hydraulically pressed concrete units, square edged, factory cast for use as roof pavers; absorption not greater than 5 percent according to ASTM C140/C140M; no breakage and maximum 1 percent mass loss when tested for freeze-thaw resistance according to ASTM C67; and as follows:
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Hanover Prest Pavers, or approved equal.
 2. Size: ~~As indicated on drawings; manufactured to dimensional tolerances of plus or minus 1/16 inch in length, height, and thickness 11-3/4 inch by 23-1/2 inch; 1-13/16 inch thick (ADD3).~~
 3. Weight: 23 lb/sq. ft.
 4. Compressive Strength: 8500 psi, minimum.
 5. Colors and Textures: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with manufacturer's representative present, for compliance with requirements and other conditions affecting performance of the Work.
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that minimum curing period recommended by roofing system manufacturer for lightweight insulating concrete roof decks has passed.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions.
 - 1. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.
 - 1. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Base Sheet Securement to Prepared Substrate: **Immediately following installation of leak detection system conductive wire mesh, lay Lay (ADD3)** the base sheet over entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 9 inches through laps and stagger fasten the remainder of the sheet in 2 evenly spaced rows on nominal 12 inch centers with fasteners in each row on 12 inch centers.

3.3 ROOF MEMBRANE INSTALLATION

- A. Membrane Application: Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet as a continuous operation.
- B. Aesthetic Considerations: Construction of an aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials, and exercise care in ensuring that the finished application is acceptable to the Owner.
- C. Priming: Prime metal, concrete, wood walls and curbs, and masonry surfaces with a uniform coating of the specified primer.

- D. Roofing Application: Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets.
1. Apply all layers of roofing perpendicular to the slope of the deck.
 2. Fully bond the first ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the torch applicator.
 - a. Offset side edge laps between base sheet and base ply.
 - b. Cut a dog ear angle at the end laps on overlapping selvage edges.
 - c. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application.
 - d. Stagger end laps a minimum of 3 feet.
 3. Fully bond the second ply to the first ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the torch applicator.
 - a. Stagger end laps of the finish ply a minimum 3 feet.
 - b. Cut a dog ear angle at the end laps on overlapping selvage edges.
 - c. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application.
 - d. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply.
 - e. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.
 4. ~~Install lightweight insulating concrete vent in twelve (12) locations, to be determined by Architect immediately after installation of lightweight insulating concrete. Modify lightweight insulating concrete substrate at vent location, and flash vent to membrane, in strict accordance with roofing manufacturer's published requirements. (ADD3)~~
- E. Flashing Application:
1. Remove portions of vapor retarder extending more than 1" above surface of Lightweight Insulating Concrete. Apply primer to surfaces to which flashings shall be installed. Allow primer to thoroughly dry.
 2. Torch apply the first ply of flashing into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge.
 3. Torch apply the second ply of flashing into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Stagger the laps of the second flashing ply from lap seams in the first ply.
 4. Exert pressure on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets; this can be accomplished by using a damp sponge or shop rag.
 5. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. See manufacturer's schematic for visual interpretation.

- F. **PMMA-Based Flashing:** Install the liquid-applied primer and flashing system in accordance with the membrane system manufacturer's printed installer's guidelines and other applicable written recommendations as provided by the manufacturer.
- G. **Sealant:** Apply a smooth continuous bead of the specified sealant at the exposed finish ply edge transition to metal flashings incorporated into the roof system.

3.4 ROOF INSULATION INSTALLATION

A. Drainage Mat and Insulation:

1. **Immediately following installation of leak detection system sensors/cables, conductive fabric, polyethylene, and related components, lay Lay (ADD3) drainage mat** over area in which overburden is to be installed on same day. Install to within 1" of perimeters and penetrations. Overlap fabric 12" (min.) at adjoining sheets.
2. Lay insulation boards on drainage mat. Loosely butt boards together. Install to within 1" of perimeters and penetrations. Offset board end joints 2 feet (min.) between rows. Offset long board joints between layers 1 foot, and offset ends from first layer 2 feet (min.).

B. Cementitious Board Insulation ("CBI"):

1. Lay Cementitious Board Insulation boards on surface of polystyrene insulation boards. Install to within 1/2" – 1" of perimeter and penetration flashings.
2. Offset board ends 2 feet between rows. Offset long board joints from long joints of polystyrene boards 1 foot.
3. Install continuous Perimeter Securement, leaving 1/2" between lengths.
4. Fasten Perimeter Securement to vertical substrates with fastener, and at frequency, indicated on Drawings.
5. Fasten Perimeter Securement to CBI with specified fastener spaced at 18" and minimum 3" from CBI joints, and at midpoint of horizontal leg.
6. Install Securement Straps where indicated on Drawings, and fasten to CBI with specified fastener spaced at 12" and minimum 3" from CBI joints, and at midpoint of strap.

3.5 PAVER INSTALLATION (ADD3)

A. Install pavers to layout indicated on drawings.

1. **Provide drainage mat below pavers, extending to edge of pavers.**
2. **Provide 2-inch spacing between pavers.**

3.6 MODIFICATIONS AT HVAC CURBS (3) (ADD3)

- #### A. **Inspect slopes of roofing adjoining curbs prior to required removals, and furnish tapered insulation to match slopes as closely as possible.**

- B. Remove/replace/restore roofing adjoining three largest HVAC curbs, as shown on Drawings.**
- C. Torch-apply new vapor barrier to exposed deck surface around new curb and extending up new curb to 1" above elevation of surface of new Cover Board to be installed.**
- D. Install Isocyanurate Insulation Board layers and Cover Board in continuous beads of Urethane Adhesive spaced at 4".**
- E. Surface of Cover Board shall align as closely as possible with surface of roofing membrane in adjoining unmodified area. Shave edge of Cover Board as needed for smooth transition from Cover Board surface to membrane surface to which new plies shall be spliced.**

3.7 FIELD QUALITY CONTROL

- A. Site Condition: Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.
- B. Notification of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.
- C. Final Inspection/Post-Installation Meeting: Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.
- D. Manufacturer's Field Services, Roof Insulation:
 - 1. Provide manufacturer's field service consisting of product use recommendations and periodic site visit for inspection of installation.
 - 2. Number of site visits: One.
- E. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- F. Issuance of the Guarantee: Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

3.8 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
 - 1. When remaining construction does not affect or endanger roofing, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075216

SECTION 075900 – LEAK DETECTION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. General Description: The Leak Sentry Monitoring System for Protected Membrane Roof Assemblies is a leak detection and location system. It uses pulsed electrical signals and a sensor grid to search for and locate leakage. It includes a monitoring application that is a 24/7 Cloud Based Monitoring System that transmits real-time roof data in two (2) minute intervals. The system requires electrical hubs and controlling computers to operate properly, all of which are supplied by Sentinel Roof Technologies. Multiple JACE Communicators, M2Ps hubs, and M2s hubs will be required for the system to operate properly. The JACE and hubs all need 110v power to operate the system. The power does not need to be dedicated and can be 15 amp.
- B. Data should be obtained directly from the JACE communicator via internet. Internet connection which has continuous remote access to the JACE is REQUIRED in order to calibrate data, and for the system's operation
- C. Section Includes requirements for design, supply, and installation of a built-in leak monitoring system with sensors to electrically test the roofing/waterproofing for a complete assembly as listed below.
- D. Work includes, but is not limited to, the following:
 - 1. Provide all sensor layout drawings and any details necessary to make the system fit the project.
 - 2. Maintain a log in which all delivery records, all testing records, and all placement records and notes are kept. The log will be part of the final documentation.
 - 3. Provide and install electrical panels which hold M2P Controllers and JACE communicators.
 - 4. Provide 110/220 v. power at the controllers.
 - 5. Provide 110/220 v. power at the JACE Communicator.
 - 6. Install conductive wire mesh above the lightweight concrete below the first layer of nailed down waterproofing.
 - 7. **Assist Honza Group testing of Manually test** the roofing/waterproofing membrane prior to sensor installation. This ~~may will~~ require **providing a supply of water during testing, using Honza Group's Electronic Leak Detection (Low or High Voltage)** depending on site conditions. (ADD3)

8. Install and secure sensor modules and cables, spaced as required by approved drawings after installation of the protected membrane.
9. Install engineered conductive fabric on top of the sensors and cables as instructed by the manufacturer on approved drawings.
10. Install leads from sensor modules or cables to M2P Controllers (hubs).
11. Install polyethylene sheeting on top of the sensors and cables as instructed by the manufacturer on approved drawings.
12. Maintain as-built drawings showing placement of the sensor module cables and conformance with the positions shown on the accepted plans. If cables cannot be placed in the project as shown on the plans, memorialize any deviations on the as- built drawings and so note.
13. Provide modem hook-up at the JACE Communicator for calibration of the Leak Sentry system and remote monitoring of the roofing/waterproofing system. Coordinate with the Owner's IT department to determine the setup of the internet connection. Any connections outside the JACE Communicator are the responsibility of others unless specifically agreed in the contract.
14. All work as indicated on the drawings.

E. Related Requirements:

1. Plumbing
2. Decking/concrete
3. Roofing/Waterproofing membrane installation
4. Electrical and communication hookups. ~~for all~~ (ADD3)
5. IT operations, including internet hookup for the Sentinel Roof Technologies® System.

1.3 SUBMITTALS

- A. Product Data: Submit Sentinel Roof Technologies® specifications, samples of sensors or sensor cables, wire mesh, and conductive fabric and installation instructions for all products in the roofing/waterproofing monitoring assembly, including certifications and other data as may be required to show compliance with Contract Documents.
- B. Details for all penetrations and wall conditions needed to indicate that the Sentinel Roof Technologies® system is electrically isolated from any conductive building components.
- C. Technical data for each component in the leak monitoring system.
- D. Scaled layout drawings and details of all conditions and materials as required for a complete assembly on the site.
- E. Manufacturer's warranty.
- F. Substrate Acceptability: Submit a certified statement issued by the manufacturer via the manufacturer's representative and cosigned by the applicator, that the surfaces have been inspected and found satisfactory for reception of Work covered under this section and are not in conflict with warranty requirements.

- G. Certificates signed by manufacturer or manufacturer's representative that the installer of the leak monitoring system has been properly trained in field installation of the system, including maintenance of logs and as-built drawings, and that the installation complies with the specifications and manufacturer's requirements.

1.4 QUALITY ASSURANCE

- A. Sentinel Roof Technologies® leak monitoring system shall only be applied by an approved contractor authorized by the manufacturer or a contractor directly supervised by the manufacturer's authorized representative.
- B. Sentinel Roof Technologies® **conductive wire mesh, conductive fabric, and polyethylene product** shall be installed in the roofing system as the system is being constructed by the roofing contractor. (ADD3)
- ~~C. Sentinel Roof Technologies® polyethylene product shall be installed in the roofing system as the system is being constructed by the roofing contractor. (ADD3)~~
- D. The sensor module cables shall be laid out by personnel trained to use layout diagrams provided by the Manufacturer ~~and engineer.~~ (ADD3) The entire leak monitoring system shall be provided by Sentinel Roof Technologies® a Honza Group Company Columbia, Maryland, USA.
- E. There shall be no deviation made from the contract specification ~~or of~~ the approved shop drawings or layouts without prior written approval by Sentinel Roof Technologies® Technologies ~~and Architect. a Honza Group Company, the owner, or the owner's representative and/or design professional.~~ (ADD3)
- F. Electrical testing of the completed Sentinel Roof Technologies® leak monitoring system ~~shall~~ **will** be performed by Sentinel Roof Technologies® trained and certified personnel. Final tests, and plots generated by the tests, ~~will shall~~ **will** be confirmed in writing to the ~~Architect owner's representative and/or design professional.~~ This requires a connection to the internet via the JACE communicator. (ADD3)
- G. All work shall be completed by trained and authorized personnel.

1.5 RESPONSIBILITY OF SENTINEL ROOF TECHNOLOGIES LEAK MONITORING SYSTEMS INSTALLER

- A. Prepare a specific layout plan for the Sentinel Roof Technologies® grid for the surface to which it will be applied.
- B. List methods and equipment used to perform an accurate field layout of all Sentinel Roof Technologies® components.

- C. Coordinate with the roofing operation so that the application of Sentinel Roof Technologies® components do not impede the application of the roofing or waterproofing.
- D. Proposed roofing sequence (~~areas~~ **Areas** of roof to be covered, and in what order). **(ADD3)**
- E. Location of all entry points of cables into the building.
- F. Location of all E-Leaks (test leaks).
- G. Location of all hubs (M2P) and communicators (JACE) in the building, and how the leads from the sensors, e-leaks, and RS-485 cables reach these components.
- H. **Participate in Hold** a pre-construction conference with the **Owner owner**, **Architect engineer**, the **Contractor's contractor's** field superintendent, roofing/waterproofing manufacturer's field representative, and other involved trades to discuss practices around the Sentinel Roof Technologies® leak monitoring system, as applied to this project. **(ADD3)**
- I. Arrange to have the services of a competent field representative from the **Manufacturer manufacturer** **(ADD3)** at the site to accept the substrate surface before installation of leak monitoring system. The field representative shall issue a report confirming any findings and the recommended remediation. The contractor shall include all costs for the field representative, including expenses, in his bid price.
- J. Install all Sentinel Roof Technologies® sensor module cables, leads, and electrical panels as per agreements.
- K. Maintain all as-built drawings, logs, and records on a daily basis. Provide same to **Architect engineer** **(ADD3)** at the end of each phase of the project.

1.6 PROJECT CONDITIONS

- A. Conditions: Perform work only when ambient conditions are within the limits established by Sentinel Roof Technologies® and general site requirements by others. Consult with the manufacturer and comply with applicable recommendations of all materials for workmanship and handling.
- B. Coordinate application of roofing/waterproofing installation with other trades. Work in conjunction with other trades by the timely performance of the work. Coordinate with other trades to avoid undue traffic over areas where Sentinel Roof Technologies® sensors have been installed and where the leads from the cables to the control panels are laid.
- C. **Alert the Manufacturer of Review—any** materials or appurtenances which **may be are** incompatible with the Sentinel Roof Technologies® system. **(ADD3)**
- D. Do not allow contaminants, such as grease, fats, oils, and solvents, to come into direct contact with the Sentinel Roof Technologies® leak monitoring system. Report any such contact to the

~~Architect design professional~~ (ADD3) and Sentinel Roof Technologies®. Record any such incident in the daily log.

- E. **Identify** ~~Review any~~ conductive elements, **if any**, in the overburden, such as metal conduits, metal water-carrying drain or supply pipes, lightning protection cables, etc. These must be documented prior to installation of the Sentinel Roof Technologies® system so that appropriate measures can be anticipated to mitigate the grounding conditions caused by these items. (ADD3)

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Record all Sentinel Roof Technologies® components delivered to the jobsite as soon as they are delivered, and compare those numbers with the manifest provided by Honza Group prior to shipment of the components. Record all deviations or inconsistencies in the daily log.
- B. Handle all Sentinel Roof Technologies® materials and components to prevent damage.
- C. Store all Sentinel Roof Technologies® sensors and lead rolls on pallets covered with tarpaulins or in an area protected from the weather and fully protect with tarpaulins. Store all other Sentinel Roof Technologies® components (hubs, computers, etc.) in a secure indoor space. All products delivered to the job site shall be in the original unopened containers or wrapped and labeled. Note any damage to the containers or wrapping.

1.8 WARRANTY

- A. Contractors Warranty
1. As required in the project specifications.
- B. Manufacturer's Warranty
1. Sentinel Roof Technologies® ~~will shall~~ provide a ~~two (2) year manufactured parts~~ warranty ~~for all components~~. **for its work and the System against all deficiencies and defects in materials and/or workmanship and agrees to satisfy same without cost to Owner for a period of two (2) years from the date that the System is put into service. (ADD3)**
- a. **Unless it can be demonstrated that the cause of a failure in the System is a defect in the Leak Sentry system, warranty does not include removal and reinstallation of any obstructions including, but not limited to, structures, fixtures, roof gardens, utilities or other overburden from the suspect affected area that would hinder or impede System repairs being made in the most expedient and least expensive manner. (ADD3)**

~~C. Labor and Material~~ (ADD3)

- ~~1. The cost of exposing the roofing/waterproofing or removal and replacement of overburden shall be borne by the owner with all warranties (ADD3)~~

PART 2 - PRODUCTS

2.1 SENTINEL ROOF TECHNOLOGIES® LEAK SENTRY 24/7 MONITORING SYSTEM

- A. Sentinel Roof Technologies® Leak Sentry Monitoring for roofing/waterproofing shall be designed for the type of roofing/waterproofing membrane system selected.

2.2 MATERIALS

- A. All work as indicated on the Sentinel Roof Technologies® leak monitoring and location system contains the following components.

1. Conductive Wire Mesh provided by Sentinel Roof Technologies installed above the lightweight concrete.
2. Prefabricated or field fabricated Sentinel Roof Technologies® MGLE sensors – individually or in the cable strips - containing environmentally stable passive sensors.
3. Integral lead cables to run from the sensors to the hubs.
4. Sentinel Roof Technologies® E-leaks permanently installed to test the accuracy and functioning of the leak detection system at start-up.
5. Sentinel Roof Technologies conductive fabric installed on top of the sensors and cables.
6. Sentinel Roof Technologies polyethylene installed on top of the conductive felt.
7. Sentinel Roof Technologies® M2P hub. This hub is used as a junction point for Sentinel Roof Technologies® sensor cables and is located at an accessible location in the building.
8. Sentinel Roof Technologies JACE communicator and RS-485 port for remote and manual data access. The unit must be connected to the internet for at least the 1-year calibration period required. The JACE is located either on or near the monitored site – usually in the building - and is programmed to poll the M2P hubs and evaluate the response from the modules to determine trends that indicate if leakage or damage to the membrane has occurred in the roofing/waterproofing system.
9. ~~Note:~~ Custom cable assemblies consisting of chains of sensor module or individual sensors, ~~are~~ placed directly on top of the roofing/waterproofing being monitored. The sensor assembly is installed in a preplanned layout and is hard wired back to the distribution M2P hubs, which are then connected to the JACE communicator via RS-485 cables. (ADD3)

B. Accessories

1. Accessories are electrical parts which are available locally, such as fuse panels, junction boxes, wire ties, circuit breakers and GFI's etc.

PART 3 - EXECUTION

3.1 INSPECTION

- A. The Contractor shall coordinate the installation so that the modules placed in each area are protected from inadvertent damage from foot or vehicular traffic.
- B. Examine all surfaces scheduled to receive the Sentinel Roof Technologies® leak monitoring system for roughness, contaminants, unsound **structural** substrates or other conditions that may impair the application or function of the Sentinel Roof Technologies® system. Notify the **Architect owner** and Sentinel Roof Technologies® immediately in writing of any such conditions; do not commence work until all defects are remedied. Note defects and remedial measures in the daily log. **(ADD3)**

3.2 INSTALLATION

- A. Sentinel Roof Technologies Contact Information
 - 1. leaksentry@sentinelrooftechnologies.com
 - 2. www.sentinelrooftechnologies.com
- B. General Installation requirements: Supply Sentinel Roof Technologies® leak monitoring assembly and install per manufacturer's instructions and recommendations, except where more restrictive requirements are specified under this section.
- C. **PROVIDE A QUALIFIED PERSON ON THE PROJECT TO PLACE THE CONDUCTIVE WIRE MESH, CONDUCTIVE FABRIC FELT, AND POLYETHYLENE ON TOP OF THE SENSORS. (ADD3)**
 - 1. The Contractor ~~shall must~~ have someone of authority on the project ~~that is~~ willing to place the conductive wire mesh, **and to place the conductive fabric felt,** and polyethylene on top of the sensors. ~~This is one of the most important aspects of installing a permanent Sentinel Roof Technologies® system.~~ **(ADD3)**
 - 2. No changes ~~shall can~~ be made unless Sentinel Roof Technologies® is contacted and agrees to the change **in writing.** **(ADD3)**
 - 3. Personnel changes will likely require an extra training trip by a Sentinel Roof Technologies® technician, and the cost of the trip ~~shall will~~ be borne by the Installer, **Contractor or Owner by prior agreement and issuance of a change order to Sentinel Roof Technologies®.** **(ADD3)**
 - 4. A Sentinel Roof Technologies® lead technician or designated technician from a partner firm may also be substituted for the contractor's person.

- D. PROVIDE ACCESS INTO THE BUILDING and CONDUITS FOR THE LEADS COMING FROM THE SENSORS AND E-LEAKS. KEEP M2P HUBS CLOSE TO THESE ACCESS POINTS.
1. Sentinel Roof Technologies® ~~Engineers~~ ~~engineers~~ (ADD3) will work with any party necessary to determine where the JACE Communicators and M2P hubs will finally be located in the building. All access through the roof deck and any conduits leading to the JACE Communicators and hubs are the responsibility of the contractor.
 2. M2P hubs MUST be located in the vicinity where the leads from sensors and E-leaks either exit the overburden or enter the building. The hubs ~~shall can~~ be installed at this point and the JACE communicators ~~shall can~~ be located anywhere that is accessible by RS-485 cable. (ADD3)
 3. Sentinel Roof Technologies® Engineers will fabricate the panel and install all of the M2P hubs, but it is the responsibility of the contractor to mount the panel on the wall adjacent to the power supply.
- E. PROVIDE 110/220 V. POWER AT THE JACE COMMUNICATOR AND AT M2P HUBS.
1. A 110/220V x min.15A circuit is required for each JACE communicator and for all hubs combined. Circuits do not need to be dedicated.
- F. PROVIDE RS-485 CABLES FROM M2P HUBS TO JACE COMMUNICATOR(S)
1. If the hubs and JACE are not next to one another, it ~~shall will~~ be the responsibility of other parties to provide RS-485 cable run according to ~~Code code~~ from the place where the JACE is located to the place where each hub is located. (ADD3)
 2. If Sentinel Roof Technologies® certified technicians cannot hook up adjacent JACE computers and hubs because of binding union agreements, ~~Code code~~ requirements, or any other cause beyond our control which exist on the job site, it ~~shall will~~ be the responsibility of others to provide this hook-up service at no expense to Sentinel Roof Technologies®. (ADD3)
- G. Sentinel Roof Technologies will test the roofing or waterproofing membrane, using Honza Group's electronic leak detection (low or high voltage) depending on site conditions, before sensors are installed and before overburden is applied. (ADD3)
1. If low voltage electronic leak detection is needed based on site conditions, roofing Contractor shall furnish, connect, operate, and disconnect hoses with an active water source. (ADD3)
- ~~H. TEST ROOFING OR WATERPROOFING MEMBRANE INSTALLATION USING HONZA GROUP'S ELECTRONIC LEAK DETECTION (LOW OR HIGH VOLTAGE) DEPENDING ON SITE CONDITIONS BEFORE SENSORS ARE INSTALLED AND WELL BEFORE ANY GREEN ROOFING, PAVERS OR OTHER OVERBURDEN IS APPLIED. IF LOW VOLTAGE ELECTRONIC LEAK DETECTION IS NEEDED BASED ON SITE CONDITIONS ROOFING CONTRACTOR SHALL PROVIDE HOSES AND AN ACTIVE WATER SOURCE. (ADD3)~~

- I. With both High and Low Voltage Electronic Leak Detection the roof/waterproofing deck must be cleared of all stored materials and debris. If this is not completed **at the time of a scheduled test, another test will be scheduled and carried out at the expense of the party responsible for not completing roof clearing. subsequent tests will need to be carried out at contractor's or owner's expense.** (ADD3)
1. Personnel from the contractor must be present to repair the waterproofing or roofing membrane at the time of testing so that the area can immediately be re-tested.
- ~~J. Whether testing with High or Low Voltage Electronic Leak Detection a considerable quantity of water to test and baseline the roofing/waterproofing installation will be needed to test and calibrate the Sentinel Roof Technologies® Leak Sentry System.~~ (ADD3)
- K. ~~The~~ This testing will provides ~~the following:~~ (ADD3)
- ~~1. Detection of any leakage which can be repaired without the contractor having to remove the overburden.~~ (ADD3)
 2. A baseline the ~~Contractor contractor~~ (ADD3) can use to refer to any damage done to the roofing/waterproofing by other trades or occurrences subsequent to the tests. Note the date and time testing is finished for any portion of the project and keep a daily log.
 3. A baseline for any electrical anomalies in the roofing/waterproofing which are not leaks. This serves as a reference for future continuous measurements by the Sentinel Roof Technologies® Leak Sentry System.
 4. At the conclusion of this testing, the Honza Group certified technician will immediately provide a summary report which will include the following information:
 - a. Location of where potential problems were identified in the roofing/waterproofing and flashing.
 - b. Pictures of the existing roof.
 - c. Description of testing conditions, daily activity.
 5. Certification that the roofing membrane is leak free according to the results of our tests.
- L. FASTEN ALL SENSORS AND E-LEAKS TO THE MEMBRANE SURFACE
1. The individual sensors or strips are approximately 1.5" wide by 1/4" thick and held in place with peel-and-stick membrane, ~~hot bitumen~~ (ADD3) or other noninvasive means of fastening approved by the roofing or waterproofing manufacturer. The strips and cables are held in place approximately every 8 - 15 feet (3m-6m).
 - a. The sensors are spaced approximately 7 feet apart depending on system resolution requirements, and run lengthwise or widthwise on the roof, whichever is the most advantageous for the sensor application. The position of any sensor strip can be changed if it encounters unforeseen obstruction ~~or structure in the deck~~ (ADD3), but the final position of the sensor strip must be accurately documented.

2. E-leaks are located on approved shop layout drawings and are located exactly according to this layout. If the position of an E-leak must be altered, this repositioning **MUST** be documented on the approved layout and sent to all parties.

3.3 TEST SENTINEL ROOF TECHNOLOGIES® LEAK SENTRY SYSTEM

- A. The testing unit ~~will~~ **polls (ADD3)** the sensors multiple times and develop a record of the signal received by the sensors. While the map of the project will be developed and installed during calibration on the JACE communicator, the system should not find any anomalies in the membrane, as the membrane has been tested by a method of electronic leak detection and repaired and will be electrically “flat”.
 1. Over time, the communicator will indicate if there is damage that impacts the ability of the waterproofing membrane to prevent water from contacting the lightweight insulating concrete and where this damage is.
 2. If an anomaly is detected by the system, the system will trigger an alert emailed to the **Owner customer** with instructions and locations of the anomaly. The **Owner client** should locate and repair damage to the roofing/waterproofing system, being careful not to impact or otherwise damage the sensor cables. Perform a local, manual test of the repair using Honza Group HV or LV techniques and restart the JACE communicator. **(ADD3)**

3.4 PROTECTION LAYER INSTALLATION- FINAL OVERBURDEN

- A. Install all protection and drainage layers over the membrane system **BEFORE ANY FOOT OR VEHICLE TRAFFIC IS ALLOWED ON THE FINISHED LEAK SENTRY SYSTEM.**

3.5 REQUIRED CONNECTION TO THE INTERNET

- A. Remote access to the JACE communicator is **REQUIRED** to assess and adjust the Leak Sentry System. **Sentinel Roof Technologies shall determine (ADD3)** from designated IT personnel the exact method of connecting the JACE communicator to the internet so that the condition of the membrane can be monitored remotely by Sentinel Roof Technologies®, and the JACE communicator can receive instructions on test protocols.
- B. Internet or Intranet connections are the responsibility of the Owner’s ~~or Contractor’s~~ IT personnel. Sentinel Roof Technologies® **Engineers engineers** can help with, but are not responsible for, all important aspects of internet connection, including firewalls, passwords or isolated direct-out connections which bypass the servers. Internet connection **MUST** be a static IP configuration. **(ADD3)**

3.6 COMPLETION AND CLEAN UP

- ~~A. Complete both Sentinel Roof Technologies® leakage tests on the entire membrane to determine if the membrane was damaged during the application of the overburden layers. (ADD3)~~
- B. Prior to demobilization from the site, the work ~~will shall~~ be reviewed by Sentinel Roof Technologies® and all other necessary parties, including the ~~Architect and Owner engineer and owner~~. All defects ~~will shall~~ be noted, ~~and~~ non-compliances with the specification or the recommendations of the manufacturer ~~will shall~~ be itemized in a punch list. These items must be corrected immediately by the ~~Contractor contractor~~ to the satisfaction of Sentinel Roof Technologies®, the ~~Architect, and engineer and~~ the ~~Owner owner~~ prior to demobilization. (ADD3)
- C. All warranties required in Part 1 of this specification shall be submitted for approval prior to the final payment as noted in the General Conditions

END OF SECTION 075900

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Copings.
2. Grating at drains.
3. Drain refurbishment parts.
4. Pate-style support curbs.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing" for warranty requirements.
3. Section 076200 "Sheet Metal Flashing and Trim" for custom- and site-fabricated sheet metal flashing and trim.
4. Section 077129 "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint cover assemblies.
5. Section 079200 "Joint Sealants" for field-applied sealants between roof specialties and adjacent materials.

C. Preinstallation Conference: Participate in conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, roofing-system testing and inspecting agency representative, roofing Installer, roofing-system manufacturer's representative, Installer, structural-support Installer, and installers whose work interfaces with or affects roof specialties, including installers of roofing materials and accessories.
2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For roof specialties.
 - 1. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work.
 - 2. Include details for expansion and contraction; locations of expansion joints, including direction of expansion and contraction.
 - 3. Indicate profile and pattern of seams and layout of fasteners, cleats, clips, and other attachments.
 - 4. Detail termination points and assemblies, including fixed points.
 - 5. Include details of special conditions.
- C. Samples: For each type of roof specialty and for each color and texture specified.
- D. Samples for Initial Selection: For each type of roof specialty indicated with factory-applied color finishes.
- E. Samples for Verification:
 - 1. Include Samples of each type of roof specialty to verify finish and color selection, in manufacturer's standard sizes.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer.
- B. Product Certificates: For each type of roof specialty.
- C. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain roof specialties approved by manufacturer providing roofing-system warranty specified in Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing."

- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and set quality standards for fabrication and installation.
 - 1. Build mockup of each new roof specialty, comprising two full lengths of each component and showing joint treatment.
 - 2. Build mockup of full grating installation at one drain.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.
- B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication, and indicate measurements on Shop Drawings.
- B. Coordination: Coordinate roof specialties with flashing, trim, and other roofing related construction to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

- A. Roofing-System Warranty: Coping shall be included in warranty provisions in Section 075216 “Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing.”
- B. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof specialties shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. SPRI Wind Design Standard: Manufacture and install roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:
 - 1. Design Pressure: 120 psf minimum.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

2.2 COPINGS

- A. Coping assembly at North parapet and at Bulkhead parapet.
 - 1. Coping: Siplast Paraguard M Coping Tapered Version, .040" aluminum, with endwall flashings (coping version) and miters as needed, in finish and color as selected by Architect.
 - a. Sizes vary – field measure each parapet, and see Drawings.
 - b. Order/use 300-series stainless steel fasteners for attachment to wood blocking.
 - c. **Provide manufacturer-furnished anchor clips and splice plates. (ADD3)**
 - 2. Cover Board: Dens-Deck Prime, 1/4" thick, by Georgia-Pacific, or approved equal.
 - 3. Underlayment: Vycor Ultra, by W.R. Grace, or approved equal
 - a. ~~Snap-on Coping Anchor Plates: Concealed, 16-ga. galvanized steel sheet, 12 inches wide, with integral cleats. (ADD3)~~

2.3 GRATING AT DRAINS

- A. Products
 - 1. Aluminum alloy 6063-T6, serrated surface rectangular bar 1-1/4" x 3/16", GAL-125, 19-S-4 spacing, swage-locked, by McNichols, or approved equal.

2. Shims: High-Tab Pedestal and Flexible Leveling Shims, by Hanover Architectural Products, or approved equal.

2.4 DRAIN REFURBISHMENT PARTS

- A. Parts: Cast iron cover, bolts (8), and reversible collar gaskets (2) for each drain, as manufactured by Jay R. Smith Manufacturing Co.

2.5 MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation.
- B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.
- C. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by manufacturer for type of use and finish indicated, finished as follows:

2.6 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
 1. Thermal Stability: ASTM D 1970/D 1970M; stable after testing at 240 deg F.
 2. Low-Temperature Flexibility: ASTM D 1970/D 1970M; passes after testing at minus 20 deg F.
 3. No flow at 240 deg F in accordance with ASTM D 5147.

2.7 MISCELLANEOUS MATERIALS

- A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:
 1. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
 2. Masonry Fasteners:
 - a. Drive: Stainless steel drive, zamac alloy body, 1/4" size, manufactured by Powers Fastening, Inc., trade name Zamac Nailin, or equal.
 3. Wood Fasteners: Common or roofing nails, min. 6D, galvanized.
 4. Exposed Fasteners at Wood or Metal Substrate: Stainless steel screw and washer with neoprene insert.

- B. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application. Provide in accordance with Section 079200 "Joint Sealants."
- C. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

2.8 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- D. Coil-Coated Aluminum Sheet Finishes:
 - 1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - a. Three-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - b. Concealed Surface Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine walls, roof edges, and parapets for suitable conditions for roof specialties.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage where applicable, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

ROOF SPECIALTIES

077100 - 6

3.2 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches. Roll laps with roller. Cover underlayment within 14 days.

3.3 INSTALLATION, GENERAL

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.
 - 1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
 - 2. Provide uniform, neat seams with minimum exposure of solder and sealant.
 - 3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
 - 4. Torch cutting of roof specialties is not permitted.
 - 5. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
 - 1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
 - 2. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Sizes: Use fasteners of sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Seal concealed joints as required by roofing-specialty manufacturer.
- F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F.

3.4 ROOF-EDGE SPECIALTIES INSTALLATION

- A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.

- B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.5 DRAINS

- A. Remove and set aside for reuse the drain ring, extension sleeve, and collar. Remove and discard the drain cover, bolts, and gaskets.
- B. Reinstall the collar in the 'low' position and with new gaskets.
- C. Reinstall the extension sleeve in the position needed for installation of drain flashings in accordance with the roofing manufacturer's requirements.
- D. Reinstall existing drain components, and install new drain components, in accordance with the drain manufacturer's published requirements.
- E. Install new bolts.

3.6 GRATING AT DRAINS INSTALLATION

- A. Install 2-foot x 2-foot grating centered over drain. Cut back LightGuard as needed. Support grating on pedestal/shims, 2 per corner, total 8 pedestal/shim assemblies per grating. Shim as needed for grating surface to meet LightGuard surface all sides.

3.7 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.
- C. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077100

FASHION INSTITUTE OF TECHNOLOGY WEST COURTYARD ROOF RENOVATION

340 8th Avenue
New York, NY 10001

Issued / Revised		
No.	Date	Description
	06/01/2021	CONSTRUCTION DOCUMENTS
	02/23/2022	CONSTRUCTION DOCUMENTS
01	03/25/2022	ADDENDUM 3

Architectural Abbreviations

ACST	ACUOSTIC (AL)	DIFF	DIFFUSER	NDRL	H	HANDRAIL	NA	NOT APPLICABLE	STL JST	STEEL JOIST
ACT	ACUOSTIC CEILING TILE	DIM	DIMENSION	HDW	HW	HARDWARE	NIC	NOT IN CONTRACT	STOR	STORAGE
APC	ACUOSTIC PANEL CEILING	DR	DOOR, DRAIN	HD	HD	HEAD	NTS	NOT TO SCALE	STRB	STROBE / HORN
AWP	ACUOSTIC WALL PANEL	DH	DOUBLE HUNG	HVAC	HVAC	HEATING, VENTILATING AND CONDITIONING	NO	NUMBER	STRUC	STRUCTURAL
AWT	ACUOSTIC WALL TREATMENT	DN	DOWN	AIR	AIR	AIR	OFF	OFFICE	S4S	SURFACED FOUR SIDES
ADJ	ADJUSTABLE	DS	DOWNSPOUT	HT	HT	HEIGHT	OC	ON CENTER	S1S	SURFACED ONE SIDE
A/C	AIR CONDITIONING	DWR	DRAWER	HPT	HPT	HIGH POINT	OPNG	OPENING	SUSP	SUSPENDED
AHU	AIR HANDLING UNIT	DWG	DRAWING	HC	HC	HOLLOW CORE	OPP	OPPOSITE	SW	SWITCH
ALT	ALTERNATE	DF	DRINKING FOUNTAIN	HM	HM	HOLLOW METAL	ORCH	ORCHESTRA	SYMM	SYMMETRICAL
ALUM	ALUMINUM	DUPL	DUPLICATE	ORH	ORH	ORNAMENTAL	OPN	OPENING	TK BD	TACKBOARD
AB	ANCHOR BOLT	E	E	HB	HB	HOSE BIBB	ORN	ORNAMENTAL	TEL	TELEPHONE
L	ANGLE	EA	EACH	HOSP	HOSP	HOSPITAL	OD	OUTSIDE DIAMETER	TV	TELEVISION
APPROX	APPROXIMATE	E	EAST	HR	HR	HOUR	OH	OVERHANG, OVERHEAD	TMPD	TEMPERED
ARCH	ARCHITECT (URAL)	EWC	ELECTRIC WATER COOLER	HR	HR	HOUR	OF/CI	OWNER FURNISHED / CONTRACTOR INSTALLED	TEMP	TEMPORARY
AD	ASH DUMP	ELEC	ELECTRIC (AL)	I	I	INCH	O	OXYGEN	TER	TERRAZZO
ASPH	ASPHALT	EL	ELEVATION	IN	IN	INFORMATION	P	PAINT	THK	THICKNESS
ASSY	ASSEMBLY	ELEV	ELEVATOR	INFO	INFO	INSIDE DIAMETER	P	PAINT	TPD	TOILET PAPER DISPENSER
@	AT, ABOUT, AROUND	EMER	EMERGENCY	ID	ID	INSULATED, INSULATION	PR	PAIR	T&G	TONGUE AND GROOVE
AUTO	AUTOMATIC	ENGR	ENGINEER	INSUL	INSUL	INSULATED, INSULATION	PNL	PANEL	TOS	TOP OF SLAB, STEEL
AWN	AWNING	EQ	EQUAL	INT	INT	INTERIOR	PTD	PAPER TOWEL DISPENSER	T	TREAD
BALC	BALCONY	EQUIP	EQUIPMENT	J	J	JOINT	TYP	TYPICAL	UC	UNDERCUT
BSMT	BASEMENT	EXIST	EXISTING	JAN	JAN	JANITOR	PTN	PARTITION	UNFIN	UNFINISHED
BM	BEAM, BENCHMARK	ETR	EXISTING TO REMAIN	JT	JT	JOINT	PERF	PERFORATED	UNO	UNLESS NOTED OTHERWISE
BLKG	BLOCKING	EXPB	EXPANSION BOLT	JST	JST	JOIST	PLAM	PLASTIC LAMINATE		
BD	BOARD	EXPJ	EXPANSION JOINT	K	K	KICKPLATE	PLAS	PLASTIC, PLASTER		
BOT	BOTTOM	EJ	EXPOSED JOINT	KPL	KPL	KICKPLATE	PLAS	PLASTIC, PLASTER		
BRKT	BRACKET	EXP	EXPOSED	KB	KB	KNEE BRACE	PSF	POUNDS PER SQUARE FOOT		
BRK	BRICK	EXT	EXTERIOR	L	L	LABORATORY	PSI	POUNDS PER SQUARE INCH		
B CL	BROOM CLOSET	EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	LAB	LAB	LABORATORY	PCC	PRECAST CONCRETE		
B LDG	BUILDING	LAB	LABORATORY	LAM	LAM	LAMINATE	PREFAB	PREFABRICATE		
BEJ	BUILDING EXPANSION JOINT	LC	LAUNDRY CHUTE	LAV	LAV	LAVATORY	PREFIN	PREFINISH		
BLT IN	BUILT-IN	LV	LAVATORY	LD	LD	LINEAR DIFFUSER	PROD	PRODUCTION		
BUR	BUILT-UP ROOFING	LT	LIGHT	L CL	L CL	LINEAR CLOSET	PB	PULL BOX		
CAB	CABINET	LL	LIVE LOAD	LL	LL	LONG LEG VERTICAL	V	VACUUM		
CPT	CARPET	LLV	LONG LEG VERTICAL	LPT	LPT	LOW POINT	VR	VAPOR RETARDER		
CSMT	CASEMENT	LPT	LOW POINT	M	M	MACHINE	VNR	VENEER		
CI	CAST IRON	N	NORTH	MACH	MACH	MACHINE	VP	VENEER PLASTER		
CB	CATCH BASIN	FDV	FIRE DEPARTMENT VALVE	MH	MH	MANHOLE	VIF	VERIFY IN FIELD		
CLG	CEILING	FEC	FIRE EXTINGUISHER	MFR	MFR	MANUFACTURER	VERT	VERTICAL		
CEM	CEMENT	FEC	FIRE EXTINGUISHER CABINET	MFD	MFD	MANUFACTURED	VEST	VESTIBULE		
CL	CENTER LINE	FHC	FIRE HOSE CABINET	MFR	MFR	MANUFACTURER	VCT	VINYL COMPOSITION TILE		
CLC	CERAMIC	FP	FIREPROOF	MFB	MFB	MARBLE BASE	VTR	VENT THROUGH ROOF		
CT	CERAMIC TILE	FRM	FRAMING	MRF	MRF	MARBLE FLOOR	VWC	VINYL WALL COVERING		
CO	CLEANOUT, CASED OPENING	FURN	FURNACE, FURNITURE	MKB	MKB	MARKER BOARD	W	WALL CABINETS		
CLR	CLEAR, COLOR	GA	GAUGE	MO	MO	MASONRY OPENING	WC	WALL COVERING, WATER CLOSET		
CLO	CLOSET	GALV	GALVANIZED	MATL	MATL	MATERIAL	REF	REFERENCE, REFRIGERATOR		
COL	COLUMN	GEN	GENERATOR	MAX	MAX	MAXIMUM	REIN	REINFORCE		
CMPST	COMPOSITE	GL	GLASS	MECH	MECH	MECHANICAL	REQD	REQUIRED		
CONC	CONCRETE	GL BLK	GLASS BLOCK	MED	MED	MEDICAL	REV	REVISION		
CMU	CONCRETE MASONRY UNIT	GB	GRAB BAR	MED	MED	MEDICINE CABINET	RF	ROOF FAN		
CONSTR	CONSTRUCTION	GR	GRADE	MC	MC	MEMBRANE	RM	ROOM		
CONT	CONTINUOUS	GRAN	GRANITE	MEMB	MEMB	MEMBRANE	RAP	ROUGH OPENING		
CONTR	CONTRACTOR	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	MTL	MTL	METAL	RS	ROUGH SAWING		
CJ	CONTROL JOINT	GUT	GUTTER	MIN	MIN	MINIMUM, MINUTE	RWD	REDWOOD		
COP	COPING	GYP BD	GYPSUM BOARD	MISC	MISC	MISCELLANEOUS	S	SCHEDULE		
CU	COPPER			MOD	MOD	MODIFIED	SECT	SECTION		
CG	CORNER GUARD			MLDG	MLDG	MOLDING	SHTG	SHEATHING		
CORR	CORRIDOR			N	N	NORTH	SHT	SHEET		
CNTR	COUNTER			NAT FIN	NAT FIN	NATURAL FINISH	SH	SHELVING		
CSK	COUNTER SUNK			NOM	NOM	NOMINAL	SIM	SIMILAR		
DMPF	DAMP PROOFING			N	N	NORTH	SGD	SLIDING GLASS DOOR		
DL	DEAD LOAD						S	SOUTH		
DEMO	DEMOLITION						SP FIN	SPECIAL FINISH		

Architectural Symbol Legend

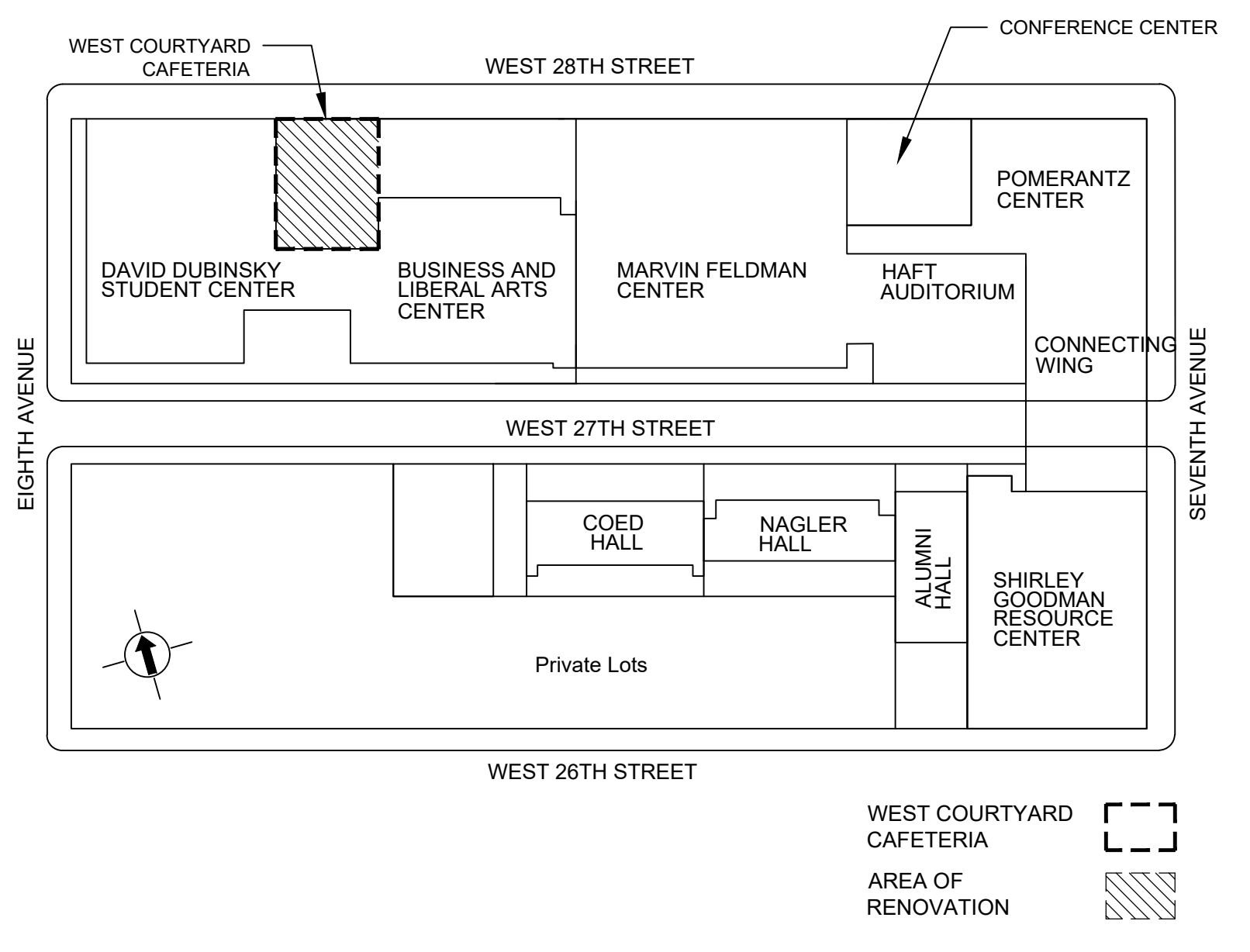
SYMBOL	DESCRIPTION
=====	NEW WALL
-----	EXISTING WALL
----	DEMOLITION
----	DEMOLITION (WALL/CURB BELOW TO REMAIN)
-----	COLUMN CENTER LINE
-----	EXISTING COLUMN CENTER LINE
1-101	DOOR NUMBER PLAN SYMBOL
+	WINDOW TYPE
X	WALL TYPE
01.01	KEYED NOTE
F-XXXX	INTERIOR FINISH TYPE
F-X	FURNITURE, FIXTURE TAG
EQ-X	EQUIPMENT TAG
+X.Xxm	SPOT ELEVATION TAG
+X.Xxm	FLOOR ELEVATION TAG
ROOM NAME XXXX	ROOM I.D. TAG
↓	DIRECTION OF CRICKET
→	DIRECTION OF TAPERED INSULATION
X	ELEVATION NUMBER
X	ELEVATION FLAG
X-XXX	SHEET WHERE APPEARS (TYPICAL)
X-XXX	SECTION CUT SHEET WHERE APPEARS (TYPICAL)
X-XXX	DETAIL TAG
X-XXX	DASHED LINE AROUND AREA DETAILED SHEET WHERE APPEARS (TYPICAL)
ALIGN	ALIGN ADJACENT MATERIALS / SURFACES / FINISHES

Project Description

THE SCOPE OF THE PROJECT INCLUDES REMOVALS OF EXISTING ROOFING SYSTEMS, STEEL GUARDRAILS, SCREEN AND INDICATED METAL FLASHING. ALL EXISTING MECHANICAL EQUIPMENT IS TO REMAIN. THE SCOPE ALSO INCLUDES THE INSTALLATION OF NEW ROOFING SYSTEMS, NEW METAL FLASHING AND REINSTALLATION OF THE STEEL GUARDRAILS AND SCREEN. THE AREA OF THE PROJECT IS APPROXIMATELY 8,570 SQUARE FEET. THIS PORTION OF THE BUILDING WAS BUILT IN 2002. THE OCCUPIED FLOOR BELOW THE ROOF INCLUDES A CAFETERIA.

PROJECT ALSO INCLUDES LOCALIZED REMOVAL, RESTORATION AND REPLACEMENT OF ROOFING MATERIALS AT THE THREE LARGEST ROOFTOP HVAC CURBS, IN CONJUNCTION AND COORDINATION WITH REMOVAL AND REPLACEMENT (BY OTHERS) OF THOSE THREE HVAC HOUSINGS AND CURBS SCHEDULED FOR SUMMER 2023.

Plot Plan



Code References*

- APPLICABLE CODES:**
- 1968 NEW YORK CITY BUILDING CODE
 - 2014 BUILDING CODE OF THE CITY OF NEW YORK (2014 NYC)
 - 2014 PLUMBING CODE OF THE CITY OF NEW YORK
 - 2014 MECHANICAL CODE OF THE CITY OF NEW YORK
 - 2014 FUEL GAS CODE OF THE CITY OF NEW YORK
 - 2020 NEW YORK CITY ENERGY CONSERVATION CODE (NYECC)
 - 2014 NEW YORK CITY ELECTRICAL CODE WITH AMENDMENTS TO NFPA-70 2008
 - 2014 NEW YORK CITY FIRE CODE WITH AMENDMENTS TO NFPA-72 2010
 - 2009 ICC / ANSI 117.1-2009

Energy Code

TO THE BEST OF MY KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGMENT, THIS APPLICATION IS IN COMPLIANCE WITH THE NY STATE ENERGY CONSERVATION CODE (NYSECC) 2020, AND NEW YORK CITY.

Flood Zone

THIS PROPERTY IS LOCATED WITHIN FLOOD ZONE X ACCORDING TO FEMA FIRM MAP #3604970201F EFFECTIVE ON 09/05/2007

Required Controlled Inspections

SPECIAL INSPECTION ITEMS:	
FINAL INSPECTION	110.5 DIRECTIVE 14 / 1975
ENERGY CODE COMPLIANCE INSPECTIONS	BC 110.3.5
ENERGY CODE PROGRESS INSPECTION ITEMS:	
INSULATION PLACEMENT AND R VALUES	1RCNY 5000-01(H)(1) AND (2)
	IIA2

Zoning Notes

Address: 340 8th Avenue, NY, NY 10001
Block: 777
Lot: 1
Zoning Map: 8D
Zoning District: C6-2A

No change to Use, Egress or Occupancy.

Protective Overhead Bridging

- NYC DOB REQUIRED PROTECTIVE SIDEWALK BRIDGING TO BE INCLUDED IN CONTRACT WORK.
- MINIMUM 8' HIGH CLEARANCE AT SIDEWALK, WATERPROOF PLANKING DECK AND 4' PARAPETS.
- PROVIDE 14' CLEARANCE AT DRIVEWAY AREAS.
- PROVIDE 24HR. LIGHTING AND SECURITY SYSTEM.
- PROVIDE PROTECTIVES AT BRIDGE STEEL POSTS & BOLTS AT PEDESTRIAN LEVEL.
- ALL WORK TO BE PERFORMED BY EXPERIENCED CREW AND LICENSED AND INSURED CONTRACTOR.
- PROTECT ALL PLANTING AREAS & TREES AGAINST DAMAGE.

Drawing Index

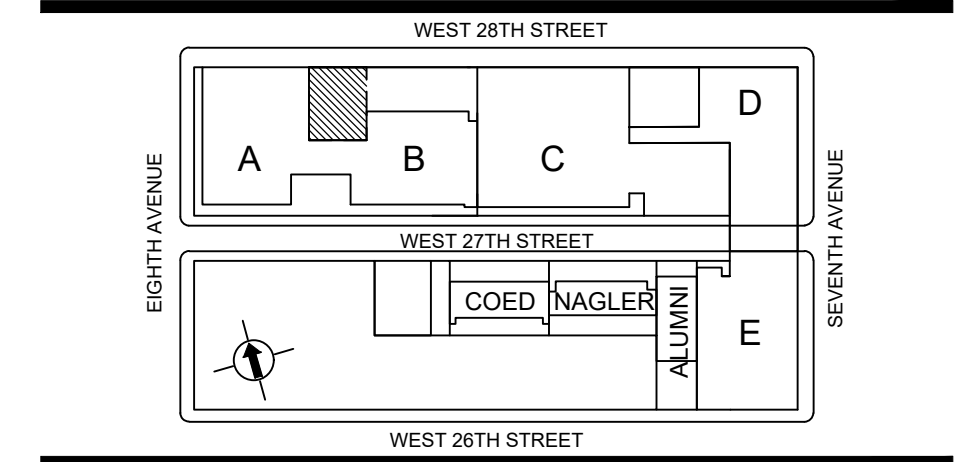
GENERAL	
G-001.00	COVER, GENERAL NOTES AND PROJECT INFORMATION
ARCHITECTURAL	
A-102.00	ROOF PLAN
A-201.00	SECTION & ELEVATIONS
A-501.00	DETAILS
A-502.00	DETAILS
A-503.00	DETAILS
ENERGY	
EN-001.00	ENERGY COMPLIANCE

General Notes

- GENERAL NOTES APPLY TO ALL DRAWINGS
- THE PLANS INDICATE THE GENERAL ARRANGEMENT OF PIPES, CONDUIT, WIRING, EQUIPMENT, SYSTEMS, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING AND EXISTING CONDITION. LOCATION OF THESE ITEMS MAY BE ADJUSTED CONDITIONAL UPON THE SATISFACTORY COMPLIANCE WITH ALL OTHER REQUIREMENTS.
- ALL WALL AND ROOF PENETRATIONS AT RATED WALL AND ROOF LOCATIONS REQUIRED FOR PIPES, CONDUIT, DUCTING ETC. SHALL BE SEALED TO STOP PASSAGE OF FIRE AND / OR SMOKE WITH FIRE SAFING AND APPROVED FIRESTOPPING SEALANT. CONTRACTOR SHALL VERIFY SEALANT AND FIRE SAFING REQUIRED RATING AS PER THE RATING OF THE EXISTING CONSTRUCTION PENETRATED.
- THE GENERAL CONTRACTOR SHALL COORDINATE CUT-OUTS FOR EQUIPMENT.
- ALL ASPECTS OF THE WORK AND ITEMS NOT SPECIFICALLY MENTIONED, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED, AND INDICATED IN THE CONTRACTORS BID.
- NO ASBESTOS OR PCB CONTAINING MATERIALS SHALL BE USED ON THIS PROJECT.
- THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS ARE RESPONSIBLE FOR PROPER REMOVAL AND DISPOSAL OF ALL DEBRIS GENERATED BY CONSTRUCTION OF THIS PROJECT. THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS SHALL BE IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. THE PREMISES SHALL BE KEPT CLEAN AND FREE FROM ALL WASTE MATERIALS.
- GENERAL CONTRACTOR SHALL PROTECT NEW CONSTRUCTION FROM DAMAGE BY ALL TRADES. ALL SUCH DAMAGE CAUSED BY THE CONTRACTOR DURING THE COURSE OF THIS WORK SHALL BE REPAIRED OR REPLACED AT THE CONTRACTORS EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING OR INSTALLING MATERIALS OR EQUIPMENT.
- ALL PIPING AND CONDUITS SHALL BE CONCEALED WITHIN WALLS, UNDERGROUND, ABOVE CEILINGS OR IN ARCHITECT APPROVED UTILITY SPACES IN ALL CASES UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. EXPOSED ITEMS MUST BE LOCATED IN AREAS APPROVED BY THE ARCHITECT. EXPOSED ITEMS SHALL BE INSTALLED AND FINISHED TO PROVIDE MINIMAL VISUAL IMPACT. ALL EXPOSED ITEMS ARE TO BE PAINTED TO MATCH THE ADJACENT SURFACES UNLESS SCHEDULED FOR AN ACCENT COLOR.
- SPOT ELEVATIONS ARE SHOWN THUS: 0'-0"
- ARCHITECTURAL FINISH ELEVATIONS 0'-0" EQUALS ACTUAL SITE REFERENCE OF FINISH UNLESS NOTED OTHERWISE.

Building Department Notes

- THE FOLLOWING NOTES SHALL APPLY THROUGHOUT:
- THE FOLLOWING NOTES SHALL APPLY THROUGHOUT:
 - WORK SHALL BE EXECUTED IN FULL COMPLIANCE WITH THE APPLICABLE PROVISIONS OF ALL LAWS, BY-LAWS, BEARING ON THE PERFORMANCE AND EXECUTION OF THE WORK.
 - THIS APPLICATION IS FILED UNDER 2014 CODE FOR COMPLIANCE WITH CHAPTERS 1, 17, & 33 REGARDING ADMINISTRATION, INSPECTION, AND SAFETY REQUIREMENTS.
 - AVAILABLE RECORDS INDICATE THAT THIS PORTION OF THE BUILDING WAS CONSTRUCTED IN APPROXIMATELY IN 2002.
 - THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER OF ANY PORTIONS OF THE WORK IN THE CONTRACT DOCUMENTS THAT ARE AT VARIANCE WITH THE ABOVE.
 - ALL MATERIALS OR ASSEMBLIES REQUIRED TO HAVE A FIRE RESISTANCE RATING SHALL COMPLY WITH ONE OF THE FOLLOWING REQUIREMENTS:
 - THEY SHALL HAVE BEEN ACCEPTABLE PRIOR TO THE EFFECTIVE DATE OF THE CODE BY THE BOARD OF STANDARDS AND APPEALS.
 - THEY SHALL HAVE BEEN ACCEPTED FOR THE USE UNDER THE PRESCRIBED TEST METHODS BY THE COMMISSIONER (OR)
 - APPROVED BY THE OFFICE OF TECHNICAL CERTIFICATION AND RESEARCH (OTCR)
 - MATERIALS OR ASSEMBLIES REQUIRED TO HAVE A FIRE RESISTANCE RATING SHALL COMPLY WITH ONE OF THE FOLLOWING:
 - THEY SHALL CONFORM WITH A.I.S.G. "FIRE RESISTANCE RATING" DATED 1985 (OR)
 - THEY SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ASTM E119, STANDARD METHODS OF FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIALS AND ACCEPTED BY THE COMMISSIONER (OR)
 - THEY SHALL HAVE BEEN ACCEPTABLE PRIOR TO THE EFFECTIVE DATE OF THE CODE.
 - APPROVED BY OTCR.
 - THESE DRAWINGS HAVE BEEN PREPARED BY OR AT THE DIRECTION OF THE UNDERSIGNED AND TO THE BEST OF THE UNDERSIGNED'S KNOWLEDGE, INFORMATION AND BELIEF MEET THE REQUIREMENTS OF THE BUILDING CODE.
 - ALL NEW WORK SHALL COMPLY WITH NEW YORK CITY ENERGY CODE.
 - ALL NEW INTERIOR FINISHES SHALL BE CONSTRUCTED OF MATERIALS MEETING SECTION 28-801 FOR FLAME SPREAD RATINGS.
 - TR-1 SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO APPLYING FOR CONSTRUCTION PERMITS.
 - FOLLOW CHAPTER 33 OF THE 2014 NYC CONSTRUCTION CODE (NYCCC) PROTECTION OF THE PUBLIC AND ADJACENT PROPERTIES. REFERENCES IN THE SPECIFICATIONS AND THE DRAWINGS TO THE 1968 BUILDING CODE PARAGRAPHS REGARDING PROTECTION SHALL BE CONSIDERED TO BE THAT OF CHAPTER 33 OF THE NYCCC.



Client
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West Courtyard Roof Renovation
340 8th Avenue
New York, NY 10001
Project No. 57-21104-00
DOB # M00529324

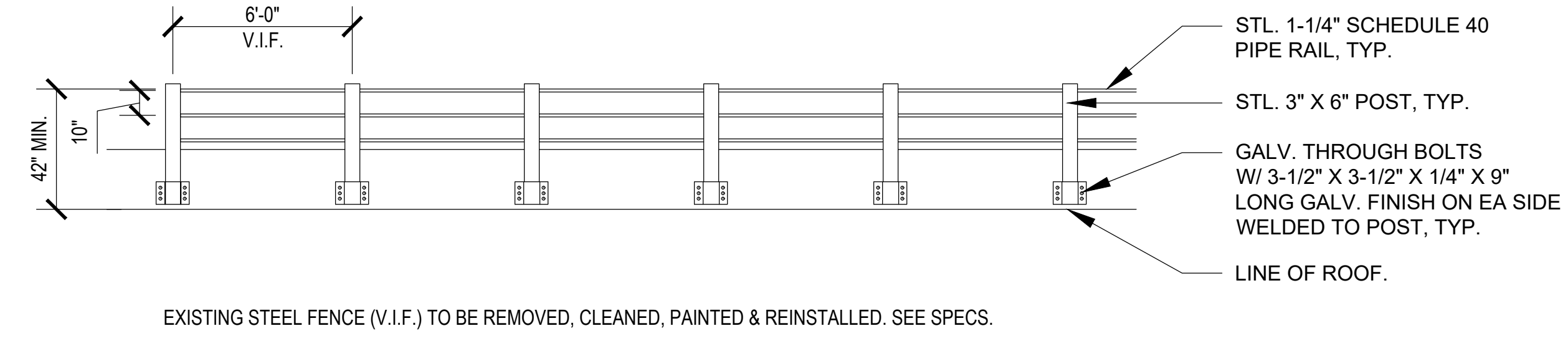
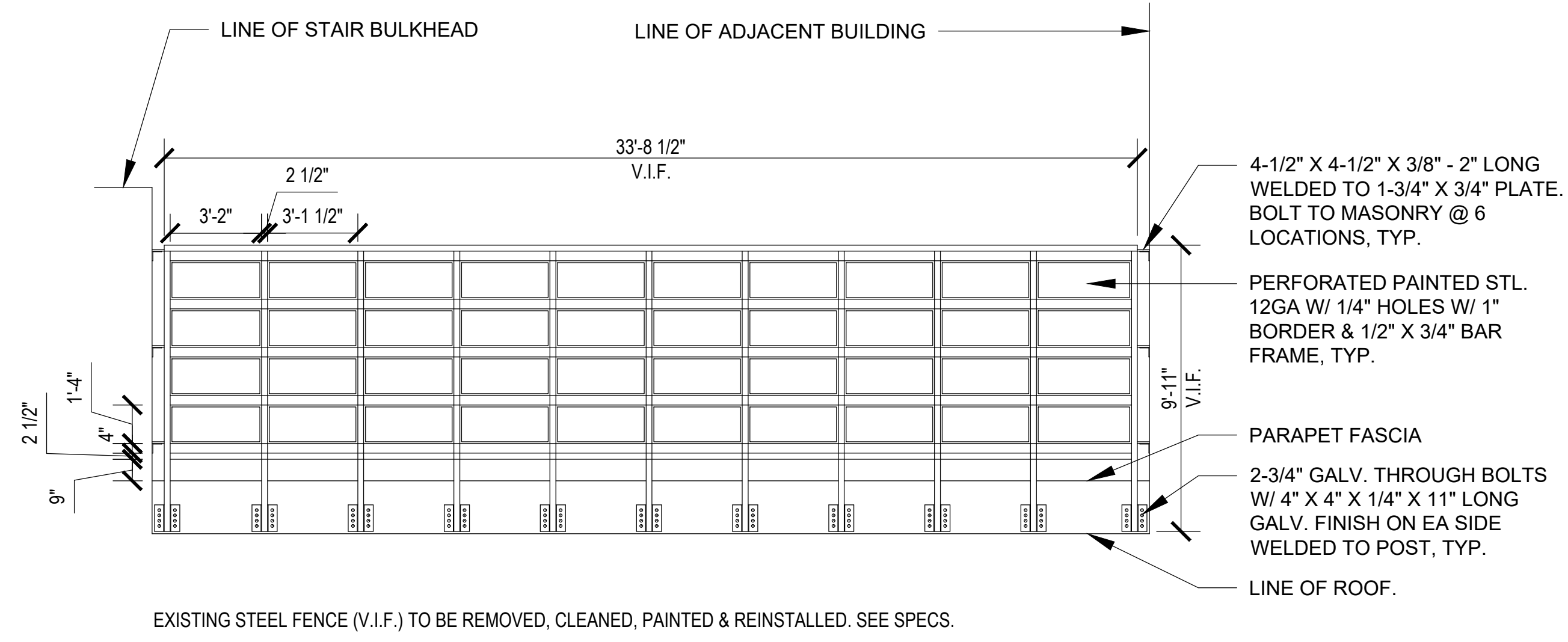
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COVER, GENERAL NOTES
AND PROJECT INFO

CD
G-001.01

DOB # M00529324

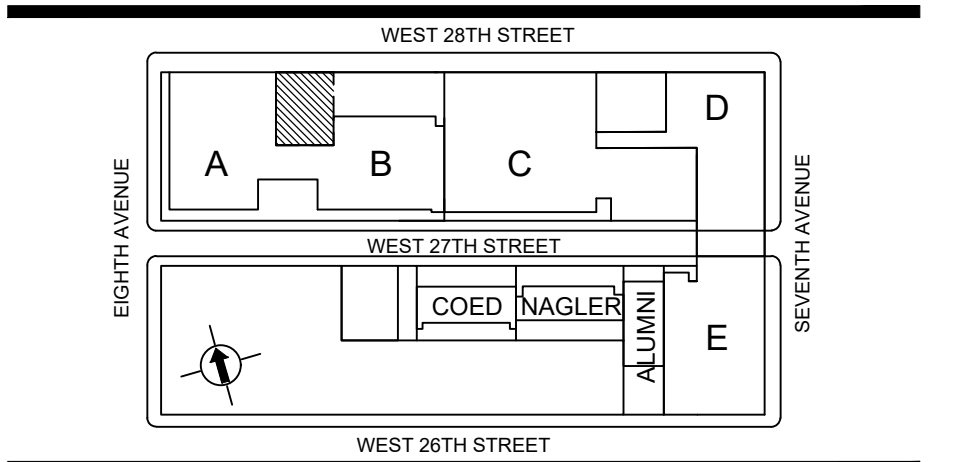
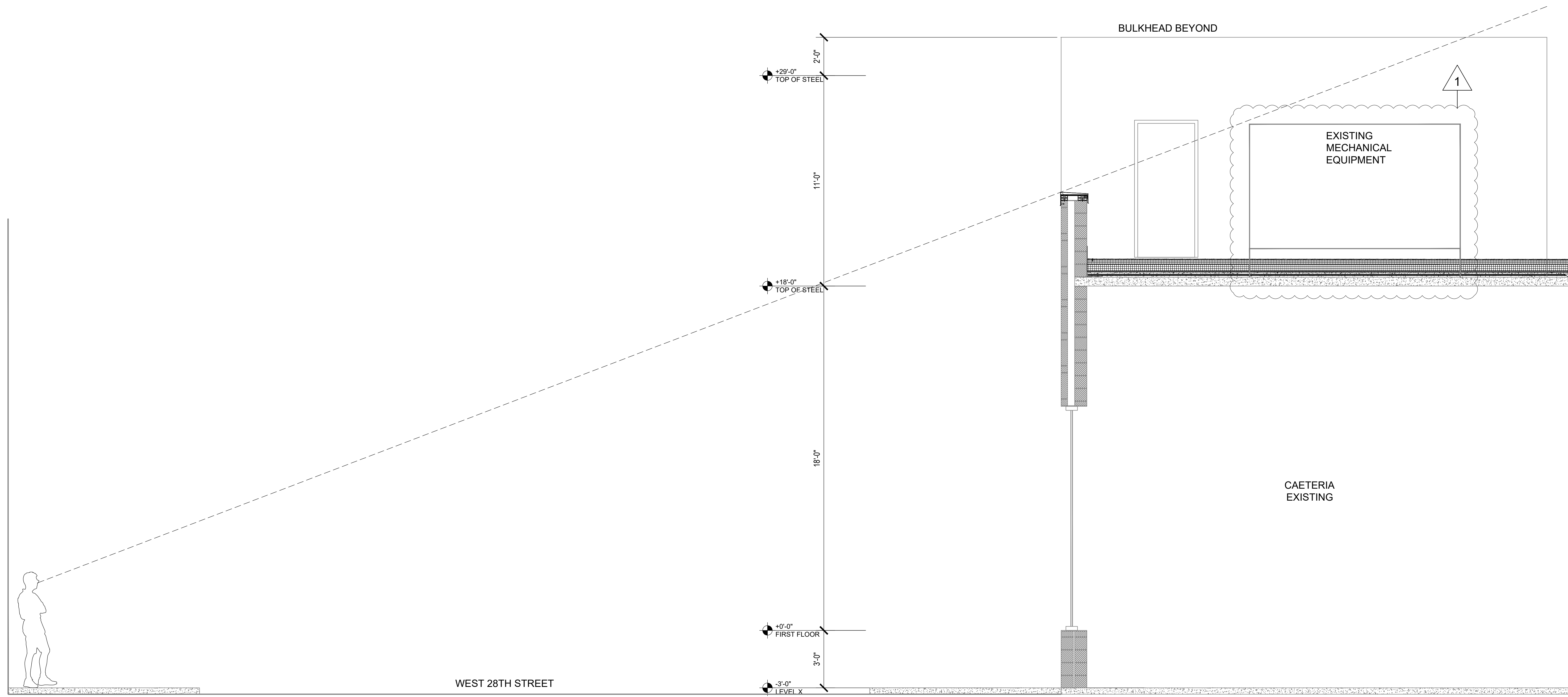
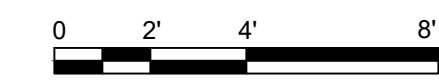
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01	03/25/2022	ADDENDUM 3



02 EXISTING SCREEN ELEVATION
1/4" = 1'-0"



03 EXISTING RAILING ELEVATION
1/4" = 1'-0"

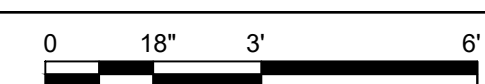


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ELEVATIONS AND SECTION

01 SECTION - SIGHTLINES
3/8" = 1'-0"



CD
A-201.01

DRAWING NOTES

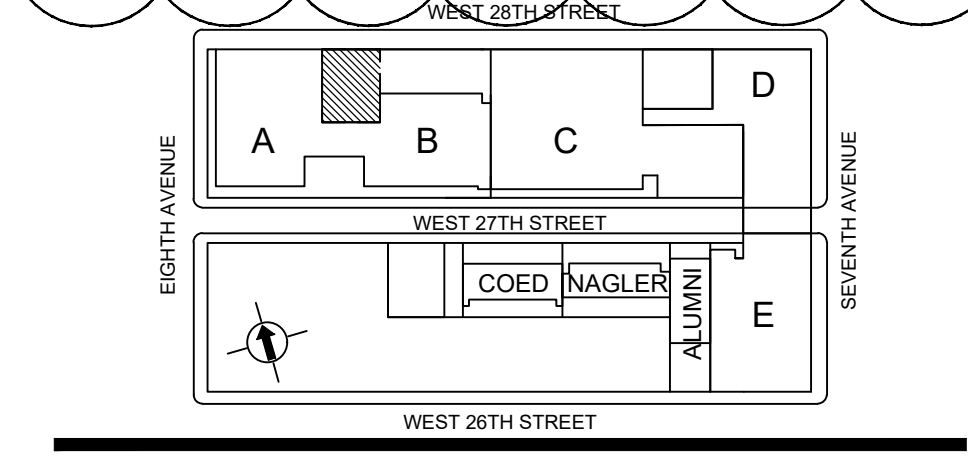
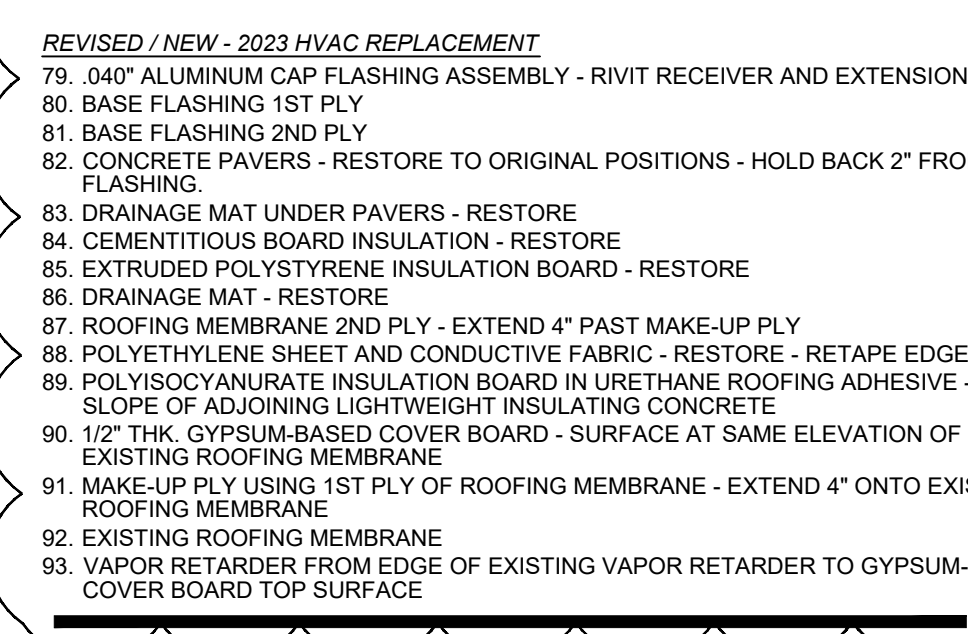
- EXISTING**
- A. GRAVEL STOP ASSEMBLY - REMOVE
 - B. PLYWOOD - REMAINS
 - C. EPDM MEMBRANE - REMOVE
 - D. FENCERAILINGBRACKET - REMOVE AND SET ASIDE FOR RE-USE. THREADED RODS REMAIN.
 - E. ANCHORED PERIMETER STRIP - REMOVE
 - F. INSULATION BOARDS - REMOVE
 - G. BITUMINOUS VAPOR RETARDER - REMAINS
 - H. CAP FLASHING RECEIVER - REMAINS
 - I. FLASHING FASTENER - REMOVE
 - J. CAP FLASHING EXTENSION & CLEAT - REMOVE
 - K. SHEET METAL CORNER - REMOVE
 - L. COPING ASSEMBLY - REMOVE
 - M. HOUSEWRAP - REMOVE
 - N. PLYWOOD & RELATED ANCHORS - REMOVE
 - O. ADHERED UNDERLAYMENT - REMOVE
 - P. MASONRY CAP - REMAINS
 - Q. SIDING - REMAINS
 - R. CAP FLASHING - REMOVE
 - S. BACKER ROD - REMOVE
 - T. PLYWOOD TOP LAYER & SHIM - REMOVE
 - U. PLYWOOD BOTTOM LAYERS - REMAIN
 - V. HVAC HOUSING - REMAINS
 - W. METAL CURB - REMAINS
 - X. STEEL DUNNAGE - REMAINS
 - Y. CURB CAP - REMAINS
 - Z. FASTENER - REMOVE
 - AA. BITUMINOUS MEMBRANE - REMOVE
 - BB. DRAIN COVER - REMOVE
 - CC. DRAIN RING - REMOVE AND SET ASIDE FOR RE-USE
 - DD. EXTENSION RIM AND SET ASIDE FOR RE-USE
 - EE. BOLT - REMOVE
 - FF. GASKET - REMOVE
 - GG. COLLAR - REMOVE AND SET ASIDE FOR RE-USE
 - HH. DRAIN BODY - REMAINS
 - II. STRIP - 1/2" X 2" @ 18" - REMAINS
 - JJ. REMOVE
 - KK. SET ASIDE PAVERS AND DRAINAGE MAT - RELOCATE PAVERS SO AS NOT TO OVERLOAD THE STRUCTURE
 - LL. SET ASIDE CEMENTITIOUS BOARD INSULATION TO EXPOSE 16" WIDE EXTRUDED POLYSTYRENE INSULATION BOARD.
 - MM. SET ASIDE 16" WIDE EXTRUDED POLYSTYRENE INSULATION BOARD.
 - NN. SET ASIDE STRIP OF DRAINAGE MAT
 - OO. REMOVE TAPE - FOLD BACK POLYETHYLENE SHEET AND CONDUCTIVE FABRIC AS NECESSARY.
 - PP. REMOVE BASE FLASHING, AND ROOFING MEMBRANE, LIGHTWEIGHT INSULATING CONCRETE, AND VAPOR RETARDER DIRECTLY BELOW.

Issued / Revised		
No.	Date	Description
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01	03/25/2022	ADDENDUM 3

REVISION NOTES

- REVISED / NEW (UNLESS NOTED AS EXISTING TO REMAIN)**
1. LIGHTWEIGHT INSULATING CONCRETE - CONCRETE & EMBEDDED INSULATION THICKNESS VARIES
 2. ROOFING MEMBRANE - NAILED BASE. 2 TORCH-APPLIED PLIES
 3. DRAINAGE MAT
 4. EXTRUDED POLYSTYRENE INSULATION BOARDS
 5. CEMENTITIOUS BOARD INSULATION
 6. TORCH-APPLIED VAPOR RETARDER
 7. STAINLESS STEEL PERIMETER SECUREMENT
 8. SECUREMENT FASTENER AT PANEL @ 18" MIN. 3" FROM PANEL JOINTS
 9. MEMBRANE FLASHING - 2 PLIES
 10. MASONRY ANCHORS @ 9"
 11. COATED COPPER CAP FLASHING - MASONRY ANCHORS @ 12"
 12. FILL VOID WITH SEALANT
 13. CHAMFER PLYWOOD EDGE
 14. MEMBRANE STRIPPING
 15. 3/4" ALUMINUM GRAVEL STOP - 2" NAILS STAGGERED @ 3" O.C.
 16. 3/4" ALUMINUM CONTINUOUS HOOK STRIP - MASONRY ANCHORS @ 12"
 17. PERIMETER SECUREMENT BETWEEN BRACKETS
 18. RAILING/SCREEN POST BRACKET - SIZE VARIES - REMOVE, REFINISH, RESTORE
 19. FULL SEALANT BED BEHIND BRACKET PLATES
 20. COATED COPPER CAP FLASHING BETWEEN BRACKETS. END 1" FROM BRACKET PLATE SIDE EDGES
 21. SHIM AS NEEDED FOR BLOCKING ASSEMBLIES TO BE SECURE. LEVEL & AT SAME ELEVATION
 22. WOOD BLOCKING - CONCRETE SCREWS @ 24" O.C., STAGGERED
 23. COVER BOARD - 1/4" THICK
 24. UNDERLAYMENT
 25. MANUFACTURED COPING ASSEMBLY
 26. COATED COPPER CAP FLASHING EXTENSION - RIVET @ 8"
 27. COATED COPPER CAP FLASHING - MASONRY ANCHORS @ 9" - END 1" FROM BRACKET PLATE
 28. STAINLESS STEEL SECUREMENT STRAP
 29. COATED COPPER CLEAT 1" WIDE @ 24"
 30. COATED COPPER CAP FLASHING EXTENSION - INTERLOCK IN SEALANT
 31. SEALANT
 32. CONTINUATION OF CAP FLASHING & PERIMETER SECUREMENT - SEE DETAIL 1R & 2R @ 9" O.C., STAGGERED
 33. WOOD BLOCKING - ANCHOR BASE LAYER W/CONCRETE
 34. 3/4" PLYWOOD
 35. PLASTIC SHEET WITH MINERAL-WOOL INSULATION FILL
 36. MANUFACTURED EXPANSION JOINT ASSEMBLY
 37. COATED COPPER CAP FLASHING - LEAD WEDGES @ 24"
 38. BITUMINOUS MEMBRANE STRIP TO EXTEND EXISTING BASE SHEET TO LIGHTWEIGHT CONCRETE SURFACE. AS NEEDED
 39. SELF-ADHESIVE MEMBRANE - PRIME METAL
 40. STAINLESS STEEL SCREW & WASHER W/NEOPRENE INSERT @ 9"
 41. STAINLESS STEEL SCREW @ 9"
 42. MEMBRANE FLASHING PLIES
 43. PLASTIC PEDestal SHIMS AS NEEDED FOR GRATING & PANEL SURFACES TO MATCH
 44. ALUMINUM GRATING - 1-1/4" X 2" X 2", CENTERED ON DRAIN
 45. CAST IRON DOME
 46. BOLTS
 47. LEAD FLASHING - 30" X 30" - PRIME AND SET IN FULL ROOFING CEMENT BED
 48. GASKETS
 49. MINERAL-WOOL INSULATION
 50. 3/4" ALUMINUM CAP FLASHING
 51. COPING ASSEMBLY ENDWALL FLASHING - EXTEND UNDERLAYMENT 3" UP ONTO MASONRY
 52. REGLET - 1-1/2" DEEP
 53. 1/2" X 1" GASKET
 54. WOOD BLOCKING
 55. REMOVE/DISCONNECT/RECONNECT FAN AS NEEDED
 56. PRIMA-BASED FLASHING
 57. EXISTING STEEL DUNNAGE SUPPORT
 58. EXISTING REGLET
 59. COATED COPPER BASE FLASHING - FASTEN TO PARAPET ONLY
 60. FASTENER, TYP. INTO PLYWOOD
 61. BACKER ROD AND SEALANT AT BASE FLASHING ENDS
 62. STAINLESS STEEL NUT, TYP.
 63. COAT EXPOSED EDGES OF BOARDS
 64. STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS @ 24" O.C.
 65. CONDUCTIVE WIRE MESH
 66. CONDUCTIVE FABRIC COVER SENSORS & CABLES
 67. POLYETHYLENE SHEET
 68. HVAC UNIT, GASKET, BLOCKING, CURB BY OTHERS
 69. 3/4" ALUMINUM CAP FLASHING - OVERLAP LENGTHS AND CORNERS 3" MIN. - APPLY FULL SEALANT BED IN JOINTS - FASTEN WITH STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS SPACED @ 12"
 70. VAPOR RETARDER
 71. DUCT, INSULATION AND WATERPROOFING BY OTHERS
 72. WOOD BLOCKING - ANCHOR TO DECK
 73. SELF TAPPING SCREW & WASHER @ 12"
 74. CONCRETE PAVERS - SEE ROOF PLAN FOR LAYOUT
 75. EXTRUDED POLYSTYRENE INSULATION BOARDS - ROW CLOSEST TO CURB SHALL BE 16" WIDE AND LAID PARALLEL TO CURB SIDES
 76. DRAINAGE MAT - INSTALL 16" WIDE STRIP PARALLEL TO CURB SIDES
 77. POSITION LEAK DETECTION POLYETHYLENE SHEET AND CONDUCTIVE FABRIC 1" FROM EDGE OF BASE FLASHING 2ND PLY.
 78. DRAINAGE MAT UNDER CONCRETE PAVERS.

- REVISED / NEW - 2023 HVAC REPLACEMENT**
79. 3/4" ALUMINUM CAP FLASHING ASSEMBLY - RIVET RECEIVER AND EXTENSION @ 12"
 80. BASE FLASHING 1ST PLY
 81. BASE FLASHING 2ND PLY
 82. CONCRETE PAVERS - RESTORE TO ORIGINAL POSITIONS - HOLD BACK 2" FROM FLASHING
 83. DRAINAGE MAT UNDER PAVERS - RESTORE
 84. CEMENTITIOUS BOARD INSULATION - RESTORE
 85. EXTRUDED POLYSTYRENE INSULATION BOARD - RESTORE
 86. DRAINAGE MAT - RESTORE
 87. ROOFING MEMBRANE 2ND PLY - EXTEND 4" PAST MAKE-UP PLY
 88. POLYETHYLENE SHEET AND CONDUCTIVE FABRIC - RESTORE - RETAPE EDGE SHEET
 89. POLYISOCYANURATE INSULATION BOARD IN URETHANE ROOFING ADHESIVE - MATCH SLOPE OF ADJOINING LIGHTWEIGHT INSULATING CONCRETE
 90. 1/2" THK GYPSUM-BASED COVER BOARD - SURFACE AT SAME ELEVATION OF EXISTING ROOFING MEMBRANE
 91. MAKE-UP PLY USING 1ST PLY OF ROOFING MEMBRANE - EXTEND 4" ONTO EXISTING ROOFING MEMBRANE
 92. EXISTING ROOFING MEMBRANE
 93. VAPOR RETARDER FROM EDGE OF EXISTING VAPOR RETARDER TO GYPSUM-BASED COVER BOARD TOP SURFACE

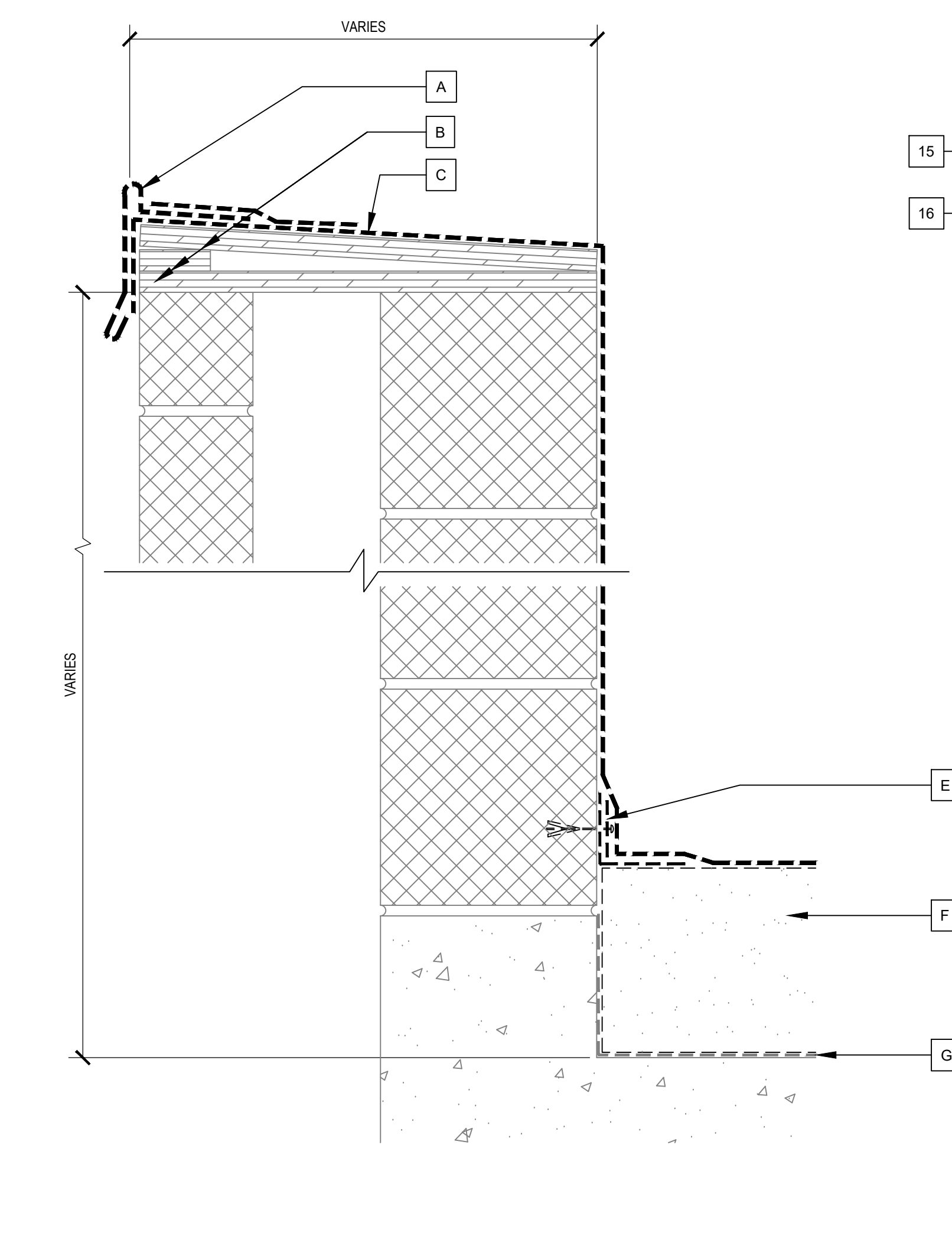


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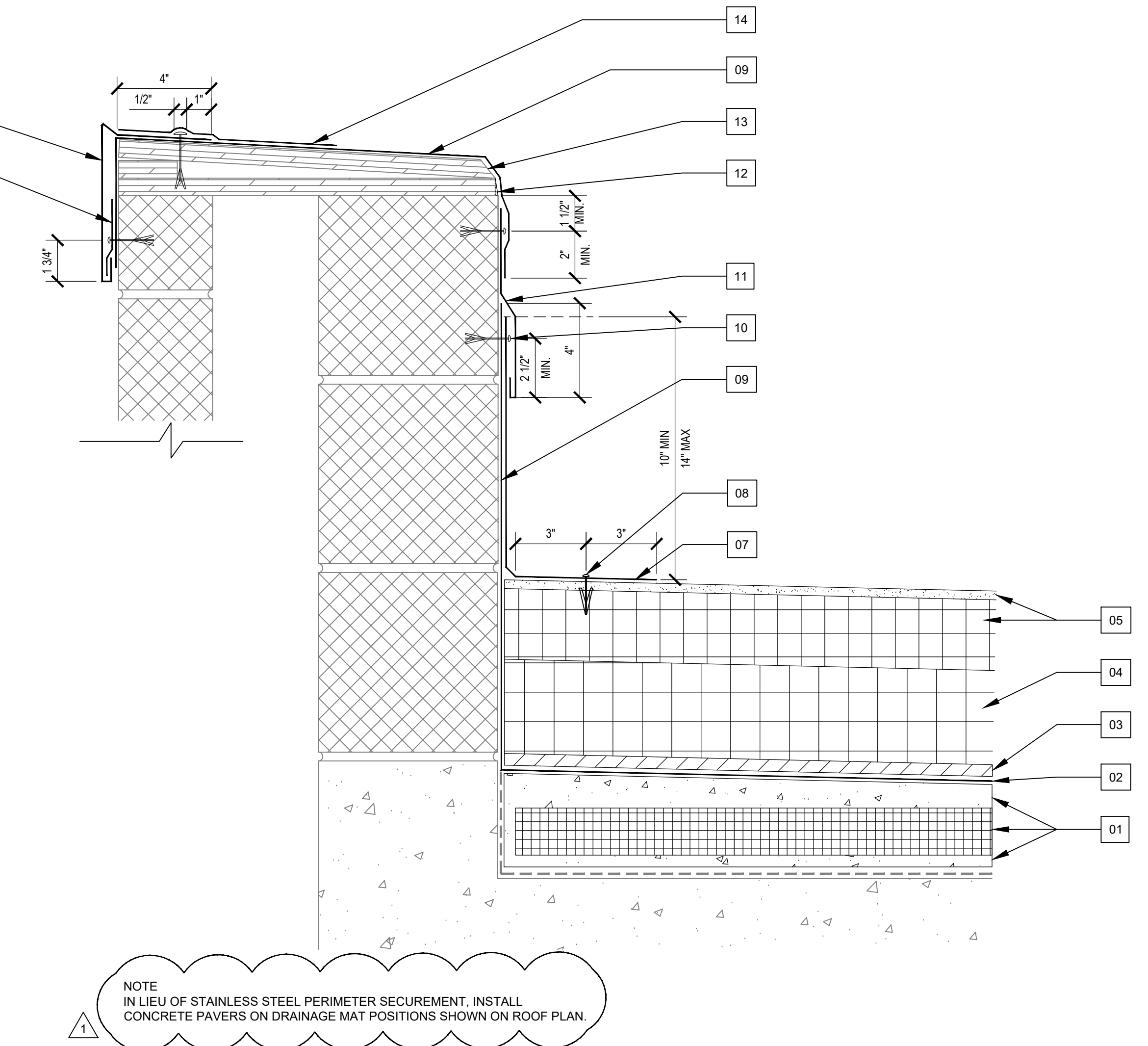
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DETAILS

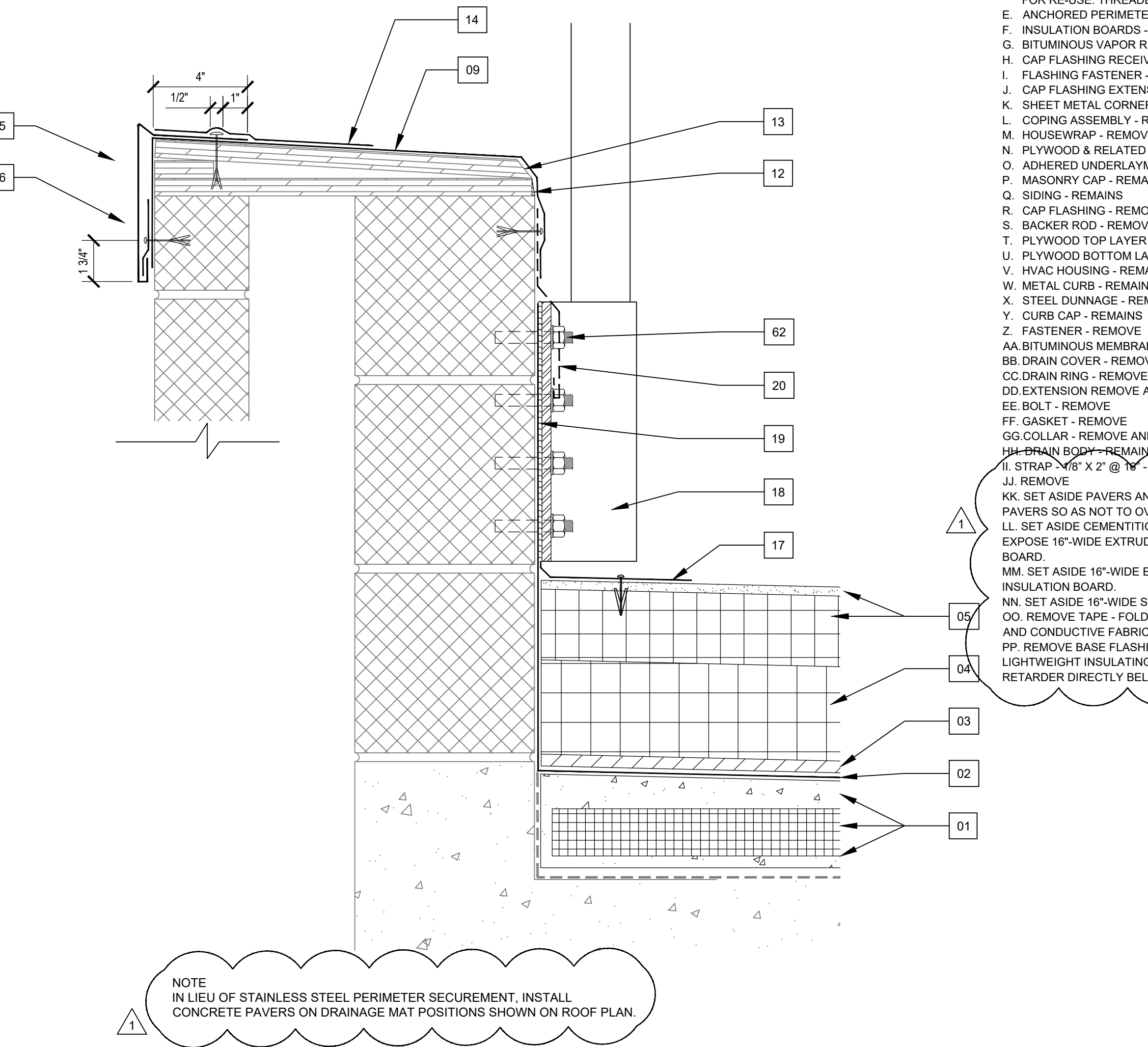
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A-501.01



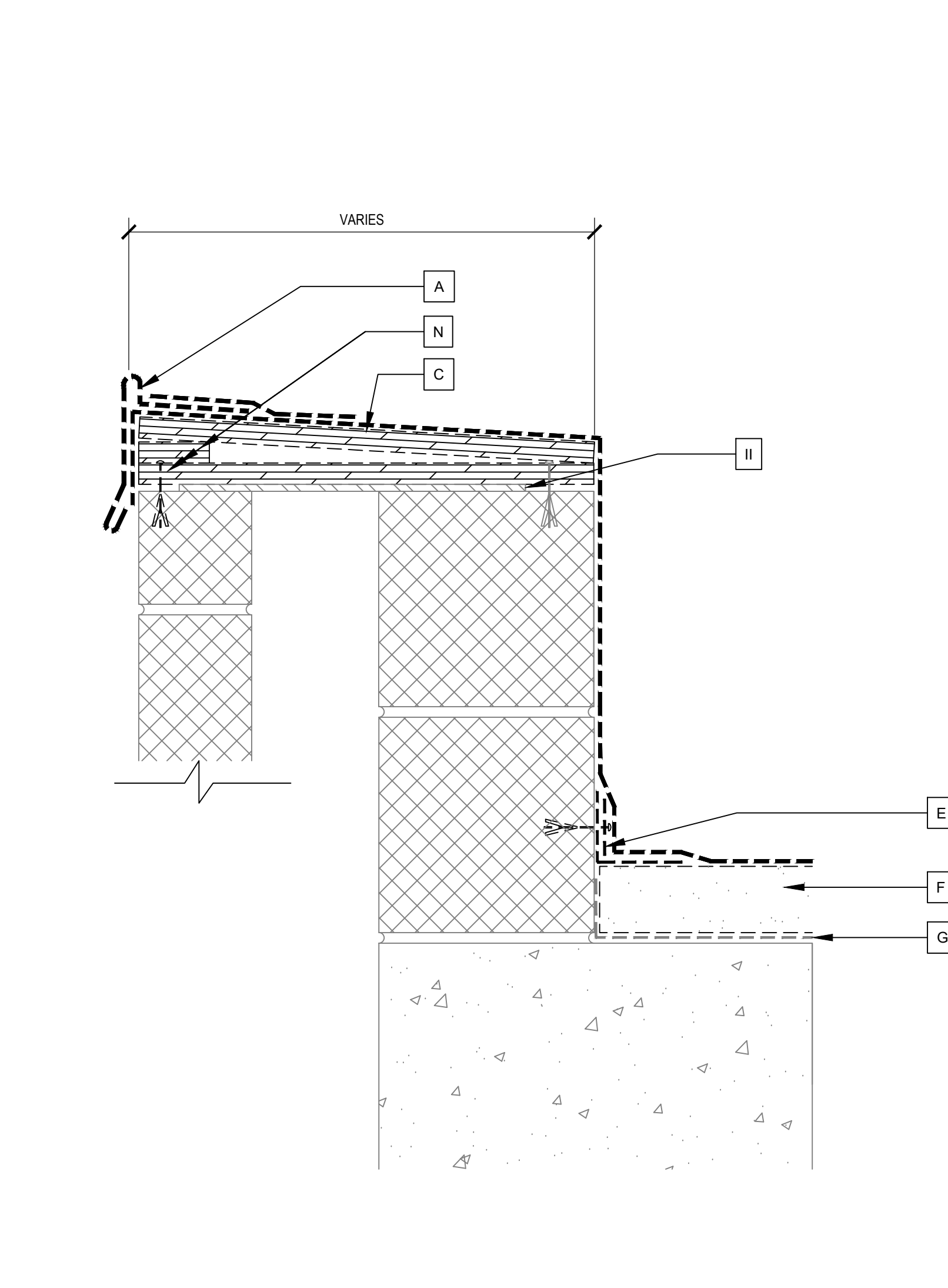
1E EXISTING PARAPET
 3" = 1'-0"



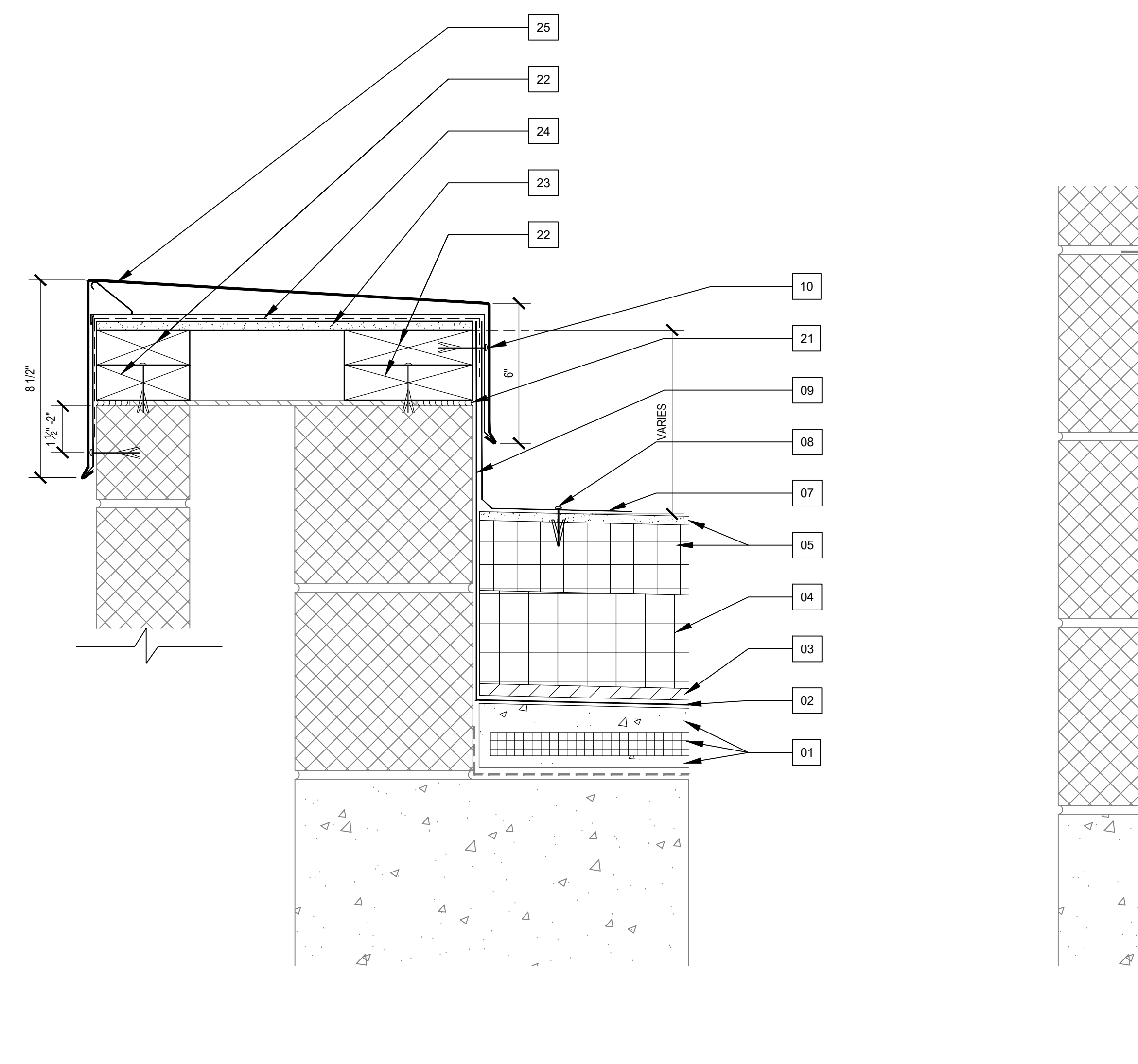
1R REVISED PARAPET
 3" = 1'-0"



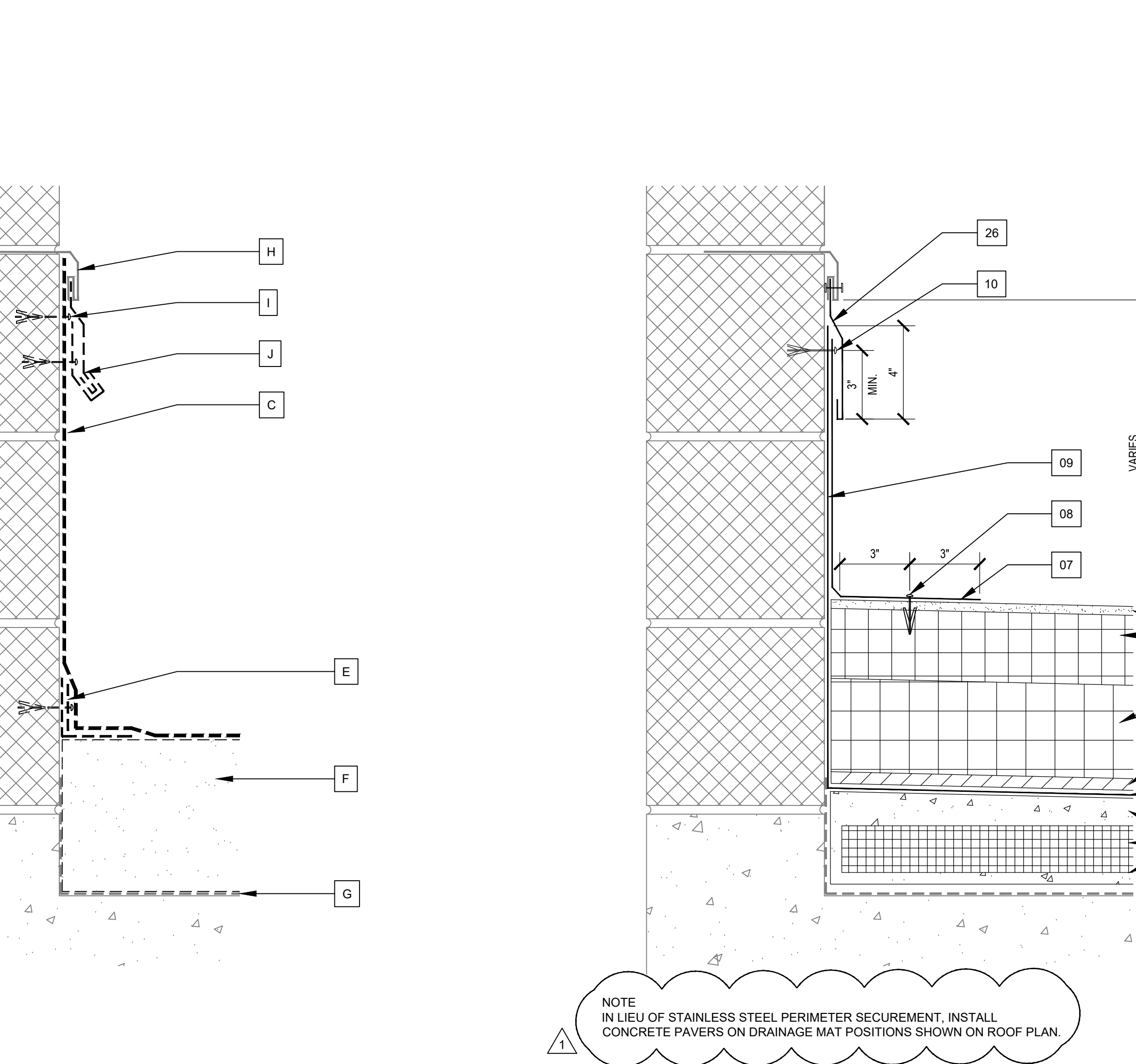
2R REVISED RAILING/SCREEN POST BRACKET
 3" = 1'-0"



3E EXISTING BULKHEAD PARAPET
 3" = 1'-0"



3R REVISED BULKHEAD PARAPET
 3" = 1'-0"



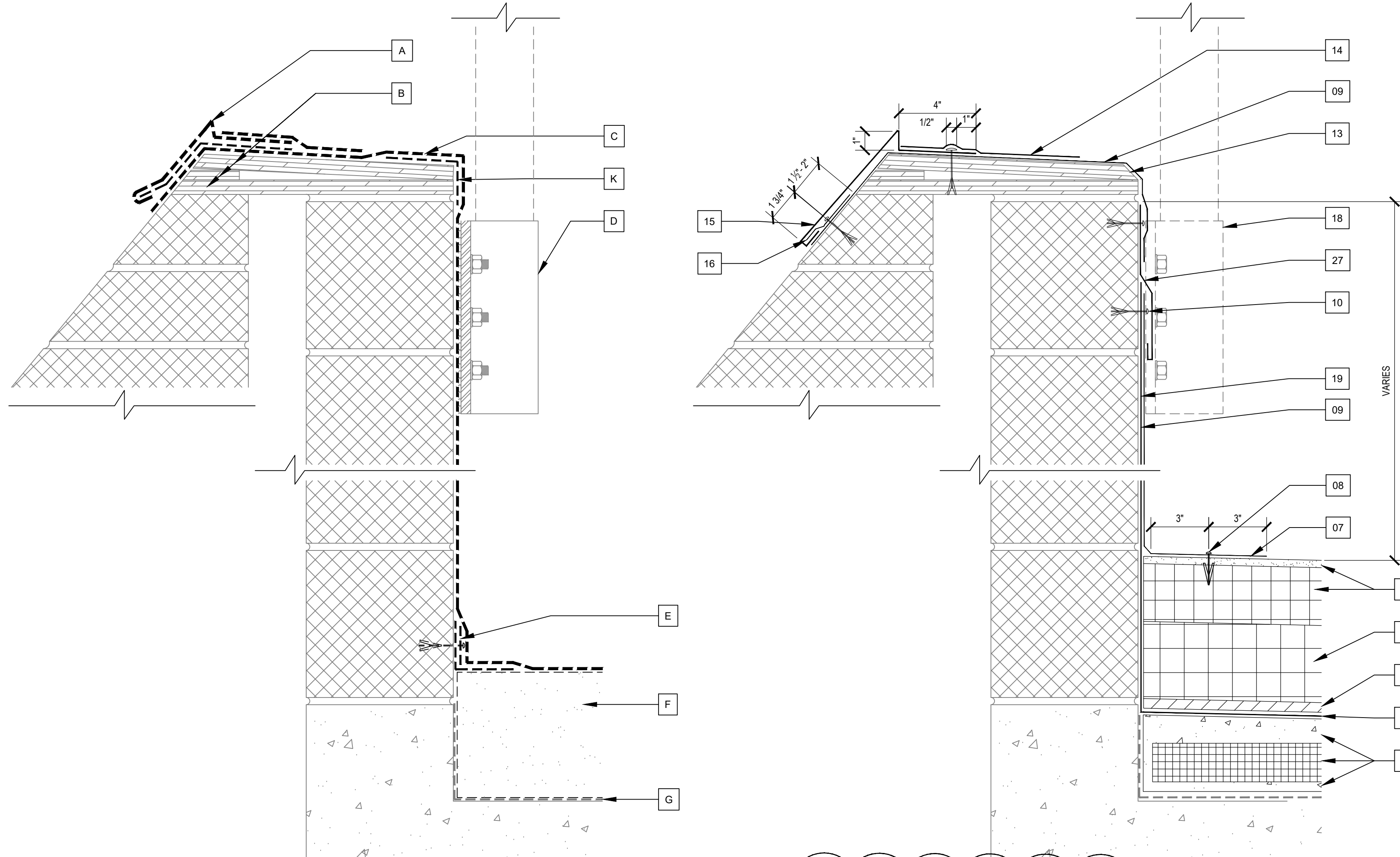
4E EXISTING BASE
 3" = 1'-0"



4R REVISED BASE
 3" = 1'-0"

Checked by:

Drawn by:



5E EXISTING PARAPET
3" = 1'-0"

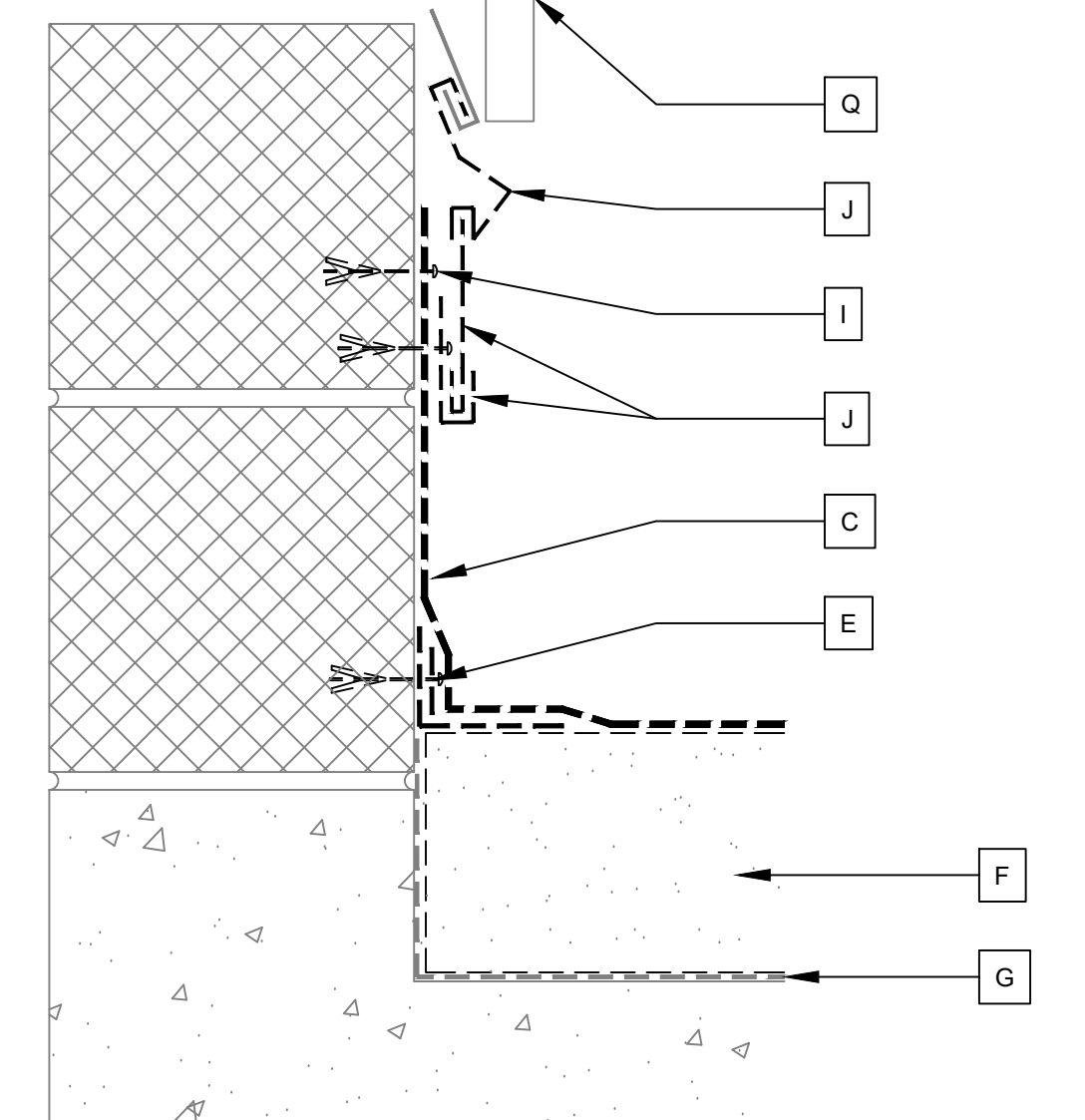
5R REVISED PARAPET
3" = 1'-0"

7E EXISTING BASE (SHED)
3" = 1'-0"

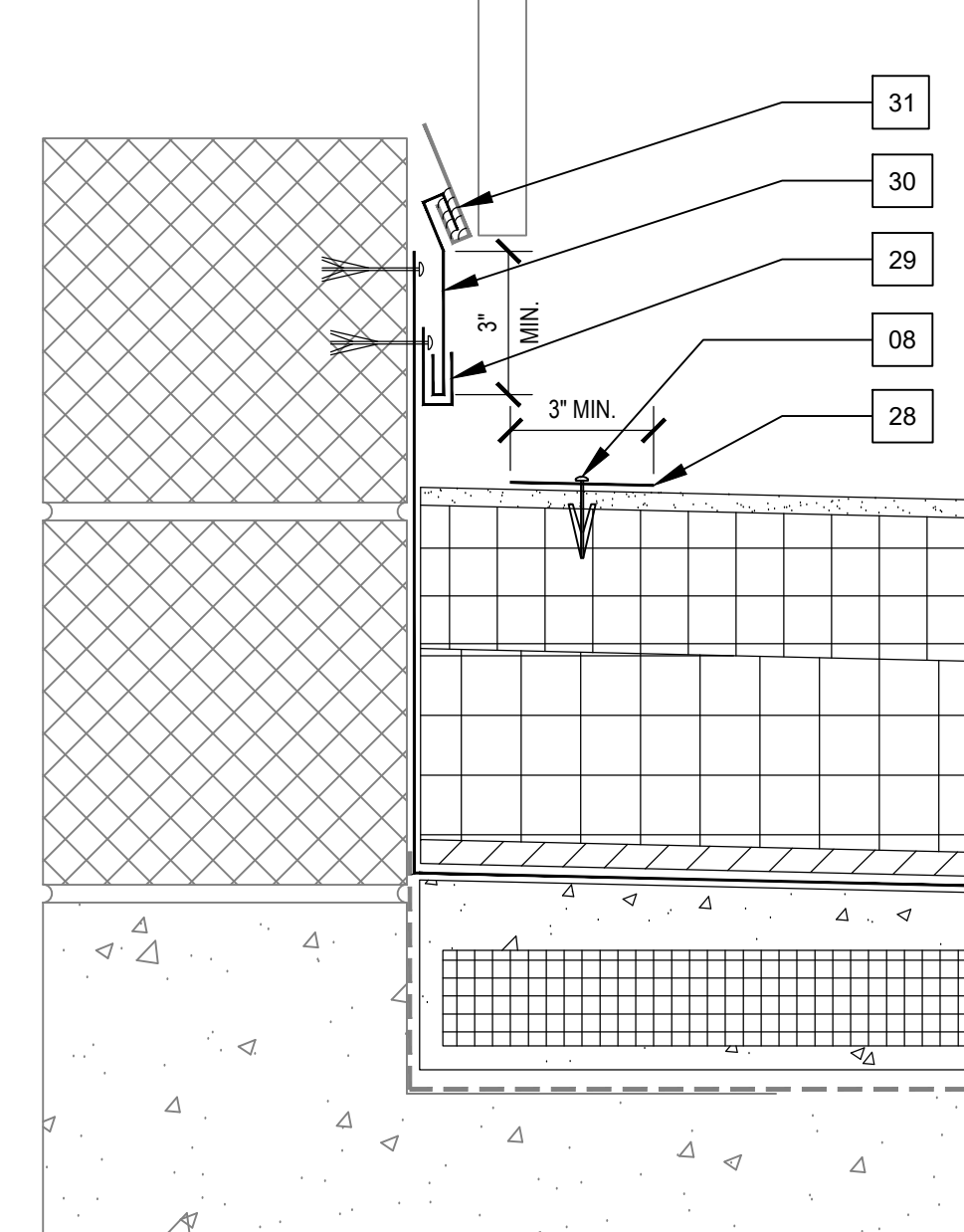
7R REVISED BASE (SHED)
3" = 1'-0"

DRAWING NOTES

- EXISTING**
- A. GRAVEL STOP ASSEMBLY - REMOVE
 - B. PLYWOOD - REMAINS
 - C. EPDM MEMBRANE - REMOVE
 - D. FENCING/LINING/BACKET - REMOVE AND SET ASIDE FOR RE-USE. THREADED RODS REMAIN
 - E. ANCHORED PERIMETER STRIP - REMOVE
 - F. INSULATION BOARDS - REMOVE
 - G. BITUMINOUS VAPOR RETARDER - REMAINS
 - H. CAP FLASHING RECEIVER - REMAINS
 - I. FLASHING FASTENER - REMOVE
 - J. CAP FLASHING EXTENSION & CLEAT - REMOVE
 - K. SHEET METAL CORNER - REMOVE
 - L. COPING ASSEMBLY - REMOVE
 - M. HOUSEWRAP - REMOVE
 - N. PLYWOOD & RELATED ANCHORS - REMOVE
 - O. ADHERED UNDERLAYMENT - REMOVE
 - P. MASONRY CAP - REMAINS
 - Q. SIDING - REMAINS
 - R. CAP FLASHING - REMOVE
 - S. BACKER ROD - REMOVE
 - T. PLYWOOD TOP LAYER & SHIM - REMOVE
 - U. PLYWOOD BOTTOM LAYERS - REMAIN
 - V. HVAC HOUSING - REMAINS
 - W. METAL CURB - REMAINS
 - X. STEEL DUNNAGE - REMAINS
 - Y. CURB CAP - REMAINS
 - Z. FASTENER - REMOVE
 - AA. BITUMINOUS MEMBRANE - REMOVE
 - BB. DRAIN COVER - REMOVE
 - CC. DRAIN RING - REMOVE AND SET ASIDE FOR RE-USE
 - DD. EXTENSION REMOVE AND SET ASIDE FOR RE-USE
 - EE. BOLT - REMOVE
 - FF. GASKET - REMOVE
 - GG. COLLECTOR - REMOVE
 - HH. DRAIN BODY - REMAINS
 - II. STRAP - 1/8" X 2" @ 16" - REMAINS/REMOVE
 - JJ. II. STRAP - 1/8" X 2" @ 16" - REMAINS/REMOVE
 - KK. SET ASIDE PAVERS AND DRAINAGE MAT - RELOCATE PAVERS SO AS NOT TO OVERLOAD THE STRUCTURE
 - LL. SET ASIDE CEMENTITIOUS BOARD INSULATION TO EXPOSE 16" WIDE EXTRUDED POLYSTYRENE INSULATION BOARD
 - MM. SET ASIDE 16" WIDE EXTRUDED POLYSTYRENE INSULATION BOARD
 - NN. SET ASIDE 16" WIDE STRIP OF DRAINAGE MAT
 - OO. REMOVE TAPE - FOLD BACK POLYETHYLENE SHEET AND CONDUCTIVE FABRIC AS NECESSARY.
 - PP. REMOVE BASE FLASHING AND ROOFING MEMBRANE, LIGHTWEIGHT INSULATING CONCRETE, AND VAPOR RETARDER DIRECTLY BELOW.



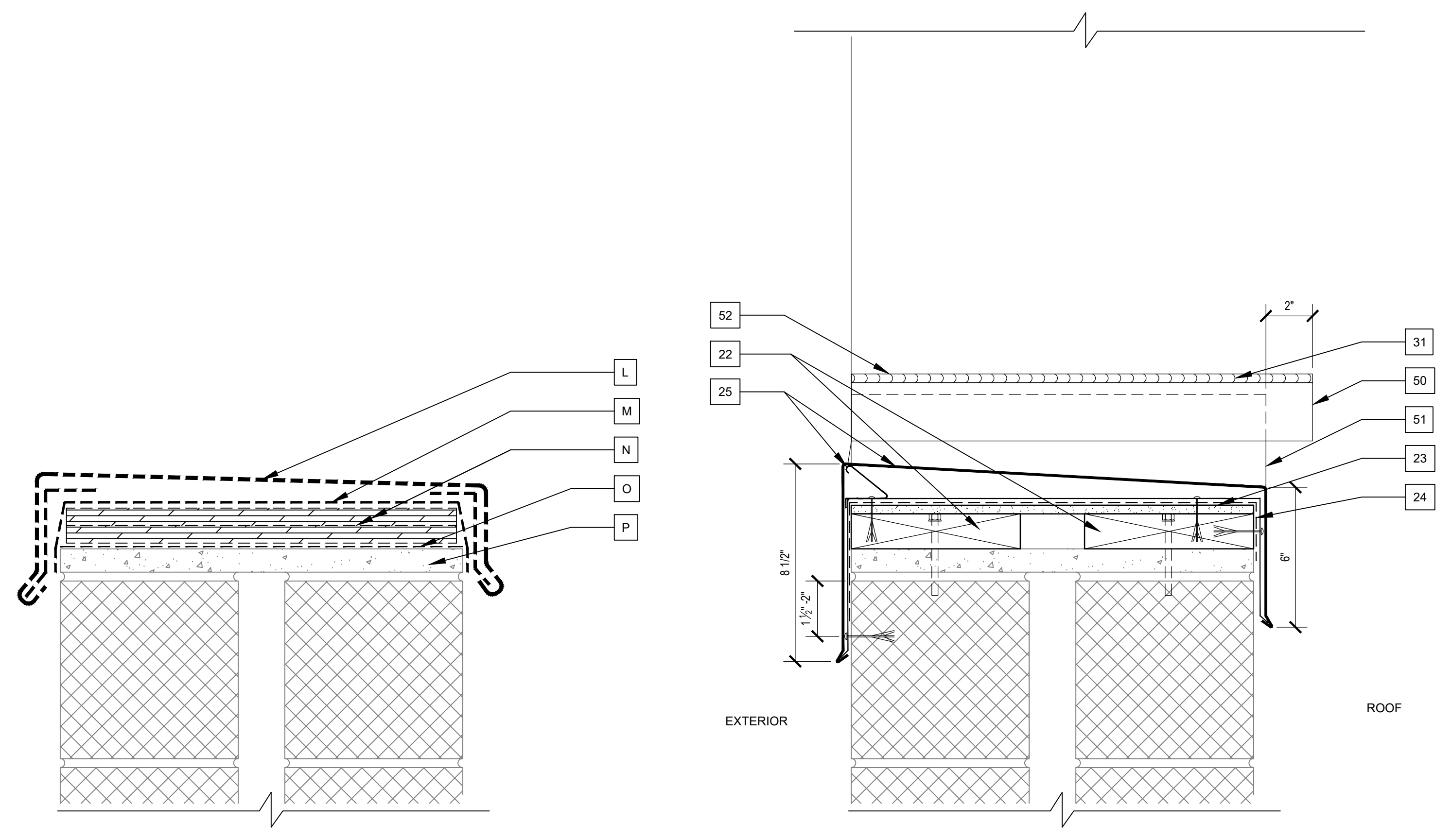
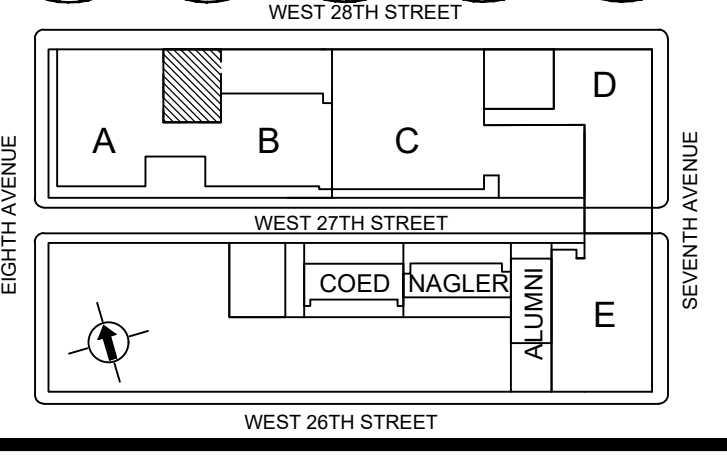
NOTE
IN LIEU OF STAINLESS STEEL PERIMETER SECURITY, INSTALL CONCRETE PAVERS ON DRAINAGE MAT POSITIONS SHOWN ON ROOF PLAN.



Issued / Revised		
No.	Date	Description
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01	03/25/2022	ADDENDUM 3

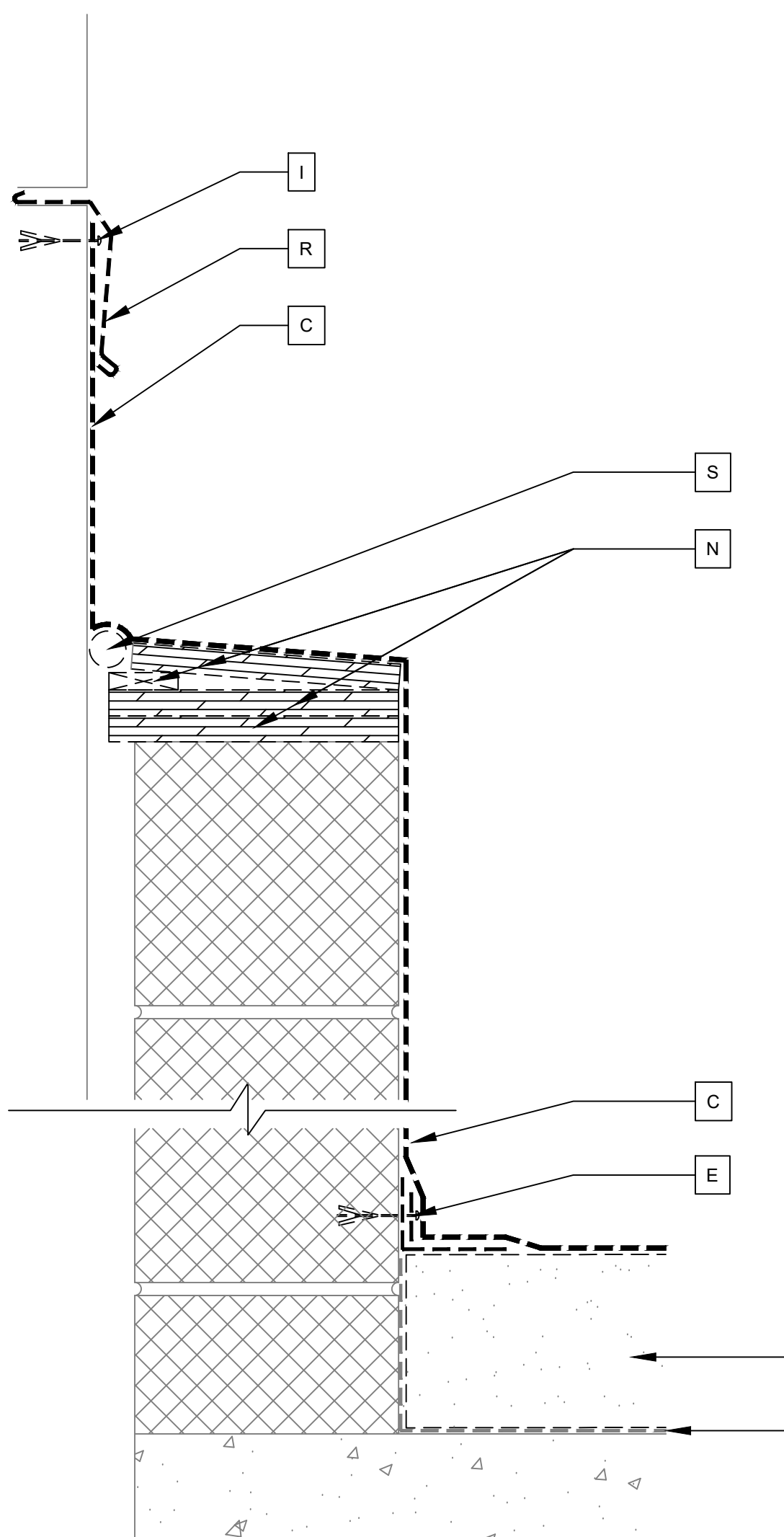
DRAWING NOTES

- REVISED / NEW (UNLESS NOTED AS EXISTING TO REMAIN)**
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 3. DRAINAGE MAT
 4. EXTRUDED POLYSTYRENE INSULATION BOARDS
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 7. STAINLESS STEEL PERIMETER SECURITY
 8. SECUREMENT FASTENER AT PANEL @ 18" +/- MIN. 3" FROM PANEL JOINTS
 9. MEMBRANE FLASHING - 2 PLYS
 10. MASONRY ANCHORS @ 5"
 11. COATED COPPER CAP FLASHING - MASONRY ANCHORS @ 12"
 12. FILL VOID WITH SEALANT
 13. CHAMFER PLYWOOD EDGE
 14. MEMBRANE STRIPPING
 15. 3/4" ALUMINUM GRAVEL STOP - 2" NAILS STAGGERED @ 3" O.C.
 16. 3/4" ALUMINUM CONTINUOUS HOOK STRIP - MASONRY ANCHORS @ 12"
 17. PERIMETER SECURITY BETWEEN BRACKETS
 18. RAILINGS/SCREEN POST BRACKET - SIZE VARIES - REMOVE, REFINISH, RESTORE
 19. FULL SEALANT BED BEHIND BRACKET PLATES
 20. COATED COPPER CAP FLASHING BETWEEN BRACKETS, END 1" FROM BRACKET PLATE SIDE EDGES
 21. SHIM AS NEEDED FOR BLOCKING ASSEMBLIES TO BE SECURE, LEVEL, & AT SAME ELEVATION
 22. WOOD BLOCKING - CONCRETE SCREWS @ 24" O.C., STAGGERED
 23. COVER BOARD, 1/4" THICK
 24. UNDERLAYMENT
 25. MANUFACTURED COPING ASSEMBLY
 26. COATED COPPER CAP FLASHING EXTENSION - RIVET @ 8"
 27. COATED COPPER CAP FLASHING - MASONRY ANCHORS @ 9" - END 1" FROM BRACKET PLATE SIDE EDGES
 28. STAINLESS STEEL SECUREMENT STRAP
 29. COATED COPPER CLEAT 1" WIDE @ 24"
 30. COATED COPPER CAP FLASHING EXTENSION - INTERLOCK IN SEALANT
 31. SEALANT
 32. CONTINUATION OF CAP FLASHING & PERIMETER SECURITY - SEE DETAIL 1R & DRAWING 00
 33. WOOD BLOCKING - ANCHOR BASE LAYER W/CONCRETE SCREWS @ 24" O.C., STAGGERED
 34. 3/4" PLYWOOD
 35. PLASTIC SHEET WITH MINERAL WOOL INSULATION FILL
 36. MANUFACTURED EXPANSION JOINT ASSEMBLY
 37. COATED COPPER CAP FLASHING - LEAD WEDGES @ 24"
 38. BITUMINOUS MEMBRANE STRIP TO EXTEND EXISTING BASE SHEET TO LIGHTWEIGHT CONCRETE SURFACE, AS NEEDED
 39. SELF-ADHESIVE MEMBRANE - PRIME METAL
 40. STAINLESS STEEL SCREW & WASHER W/NEOPRENE INSERT @ 9"
 41. STAINLESS STEEL SCREW @ 9"
 42. MEMBRANE & FLASHING PLYS
 43. FULL SEALANT BED IN LAPS - FASTEN WITH STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS SPACED @ 12"
 44. ALUMINUM GRATING - 1-1/4" X 2" X 2", CENTERED ON DRAIN
 45. CAST IRON DOME
 46. BOLTS
 47. LEAD FLASHING - 30" X 30" - PRIME AND SET IN FULL ROOFING CEMENT BED
 48. GASKETS
 49. MINERAL WOOL INSULATION
 50. 3/4" ALUMINUM CAP FLASHING
 51. COPING ASSEMBLY ENDWALL FLASHING - EXTEND UNDERLAYMENT 3" UP ONTO MASONRY
 52. REGLET, 1-1/2" DEEP
 53. 1/2" X 1" GASKET
 54. WOOD BLOCKING
 55. REMOVE/DISCONNECT/RECONNECT FAN AS NEEDED
 56. PRIMA-BASED FLASHING
 57. EXISTING STEEL DUNNAGE SUPPORT
 58. EXISTING REGLET
 59. COATED COPPER BASE FLASHING - FASTEN TO PARAPET ONLY
 60. FASTENER, TYP., INTO PLYWOOD
 61. BACKER ROD AND SEALANT AT BASE FLASHING ENDS
 62. STAINLESS STEEL NUT, TYP.
 63. COAT EXPOSED EDGES OF BOARDS
 64. STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS @ 24" O.C.
 65. CONDUCTIVE WIRE MESH
 66. CONDUCTIVE FABRIC COVER SENSORS & CABLES
 67. POLYETHYLENE SHEET
 68. HVAC UNIT, GASKET, BLOCKING, CURB BY OTHERS
 69. 3/4" ALUMINUM CAP FLASHING - OVERLAP LENGTHS AND CORNERS 3" MIN. - APPLY FULL SEALANT BED IN LAPS - FASTEN WITH STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS SPACED @ 12"
 70. VAPOR RETARDER
 71. DUCT INSULATION AND WATER PROOFING BY OTHERS
 72. WOOD BLOCKING - ANCHOR TO DECK
 73. SELF TAPPING SCREW & WASHER @ 12"
 74. CONCRETE PAVERS - SEE ROOF PLAN FOR LAYOUT
 75. EXTRUDED POLYSTYRENE INSULATION BOARDS - ROW CLOSEST TO CURB SHALL BE 6" WIDE AND LAID PARALLEL TO CURB SIDES
 76. DRAINAGE MAT - INSTALL 16" WIDE STRIP PARALLEL TO CURB SIDES
 77. POSITION LEAK DETECTION POLYETHYLENE SHEET AND CONDUCTIVE FABRIC 1" FROM EDGE OF BASE FLASHING 2ND PLY
 78. DRAINAGE MAT UNDER CONCRETE PAVERS.
- REVISED / NEW - 2023 HVAC REPLACEMENT**
79. 3/4" ALUMINUM CAP FLASHING ASSEMBLY - RIVET RECEIVER AND EXTENSION @ 12"
 80. BASE FLASHING 1ST PLY
 81. BASE FLASHING 2ND PLY
 82. CONCRETE PAVERS - RESTORE TO ORIGINAL POSITIONS - HOLD BACK 2" FROM FLASHING
 83. DRAINAGE MAT UNDER PAVERS - RESTORE
 84. CEMENTITIOUS BOARD INSULATION - RESTORE
 85. EXTRUDED POLYSTYRENE INSULATION BOARD - RESTORE
 86. DRAINAGE MAT - RESTORE
 87. ROOFING MEMBRANE 2ND PLY - EXTEND 4" PAST MAKE-UP PLY
 88. POLYETHYLENE SHEET AND CONDUCTIVE FABRIC - RESTORE - RETAPE EDGE SHEET
 89. POLYISOCYANURATE INSULATION BOARD IN URETHANE ROOFING ADHESIVE - MATCH SLOPE OF ADJACING LIGHTWEIGHT INSULATING CONCRETE
 90. 1/2" THK GYPSUM-BASED COVER BOARD - SURFACE AT SAME ELEVATION OF EXISTING ROOFING MEMBRANE
 91. MAKE-UP PLY USING 1ST PLY OF ROOFING MEMBRANE - EXTEND 4" ONTO EXISTING ROOFING MEMBRANE
 92. EXISTING ROOFING MEMBRANE
 93. VAPOR RETARDER FROM EDGE OF EXISTING VAPOR RETARDER TO GYPSUM-BASED COVER BOARD TOP SURFACE

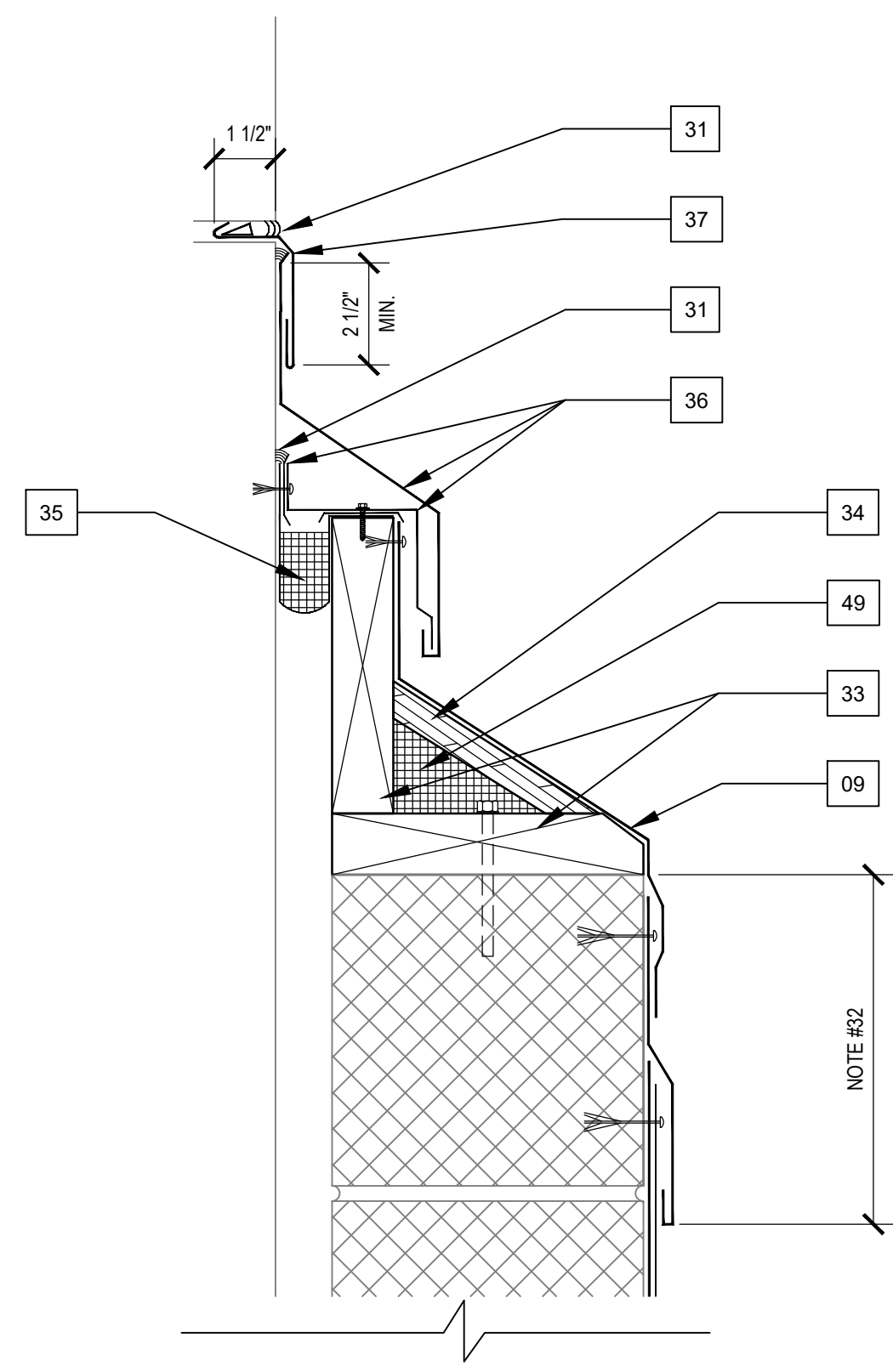


6E EXISTING COPING
3" = 1'-0"

6R REVISED COPING
3" = 1'-0"



8E EXISTING EXPANSION JOINT
3" = 1'-0"



8R REVISED EXPANSION JOINT
3" = 1'-0"

DETAILS

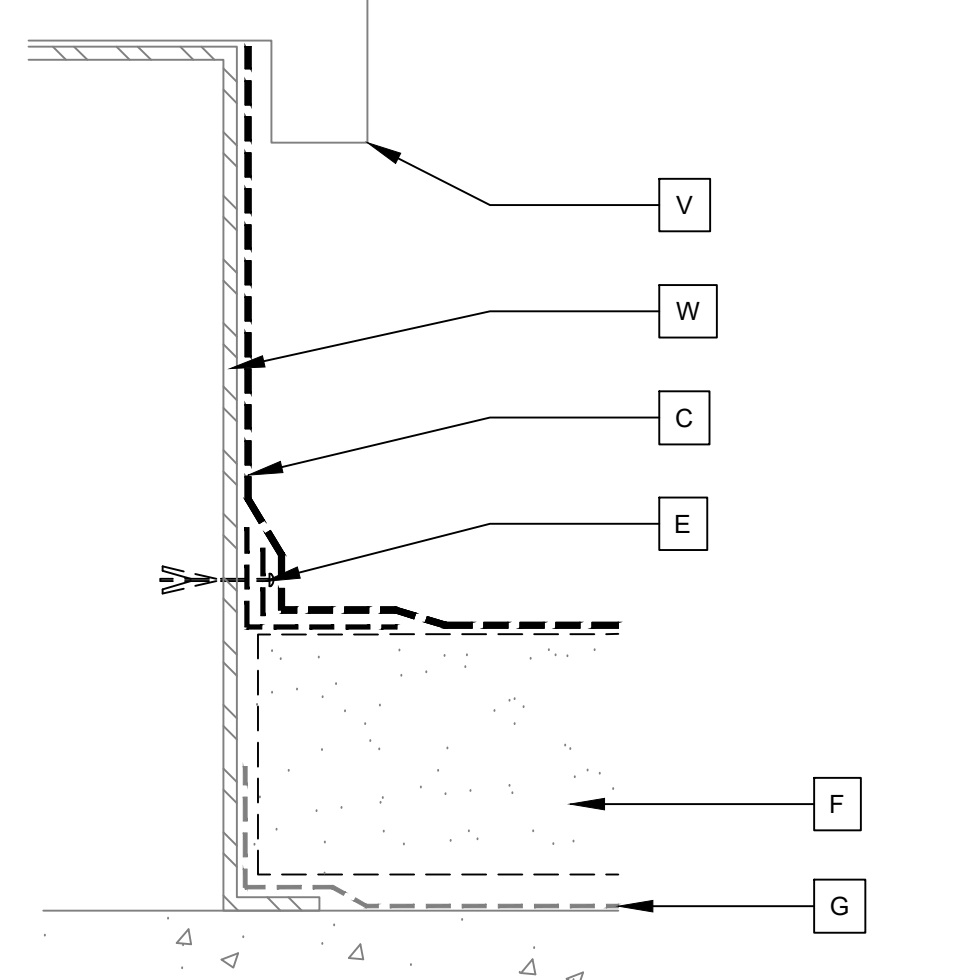
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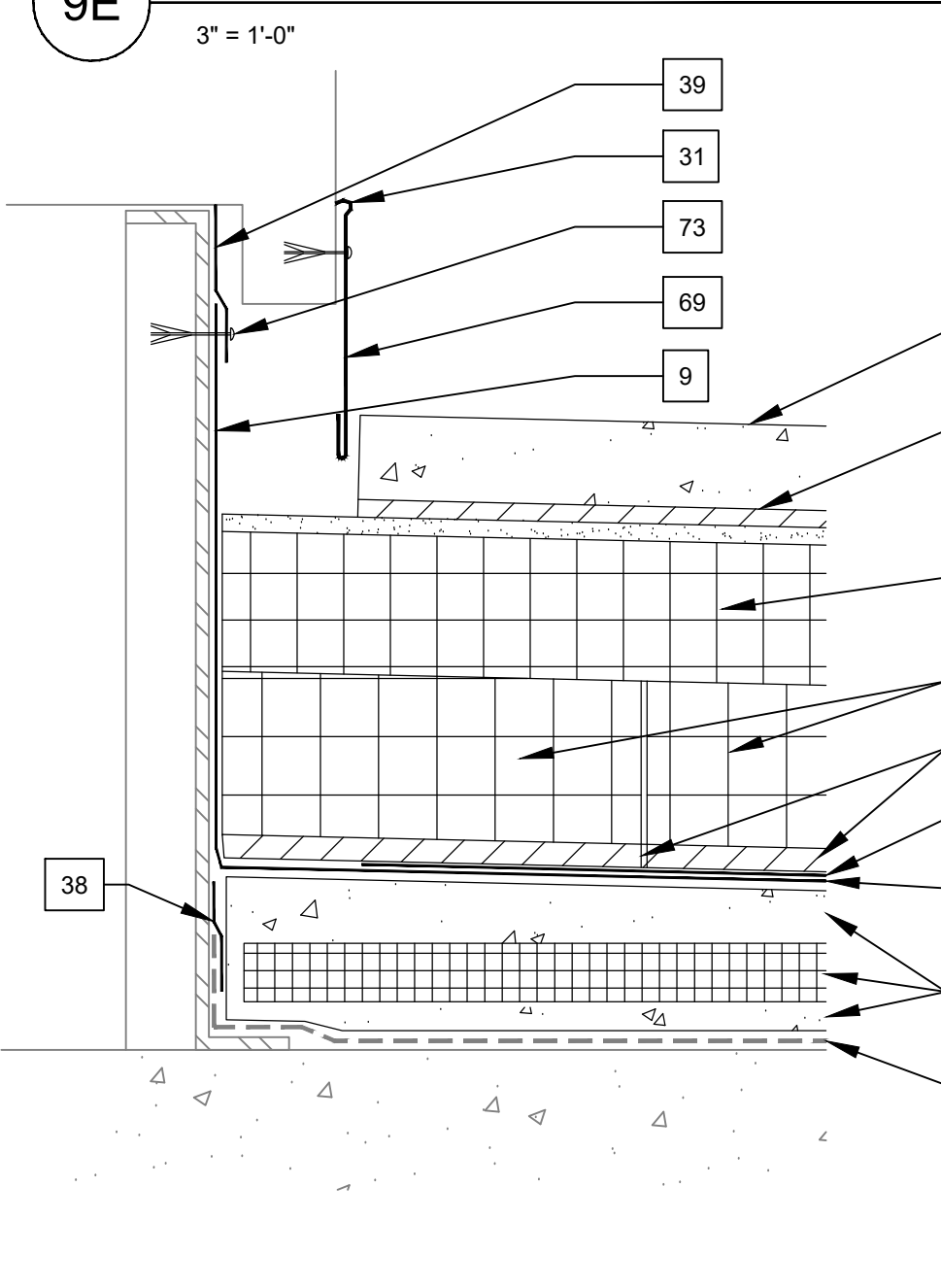
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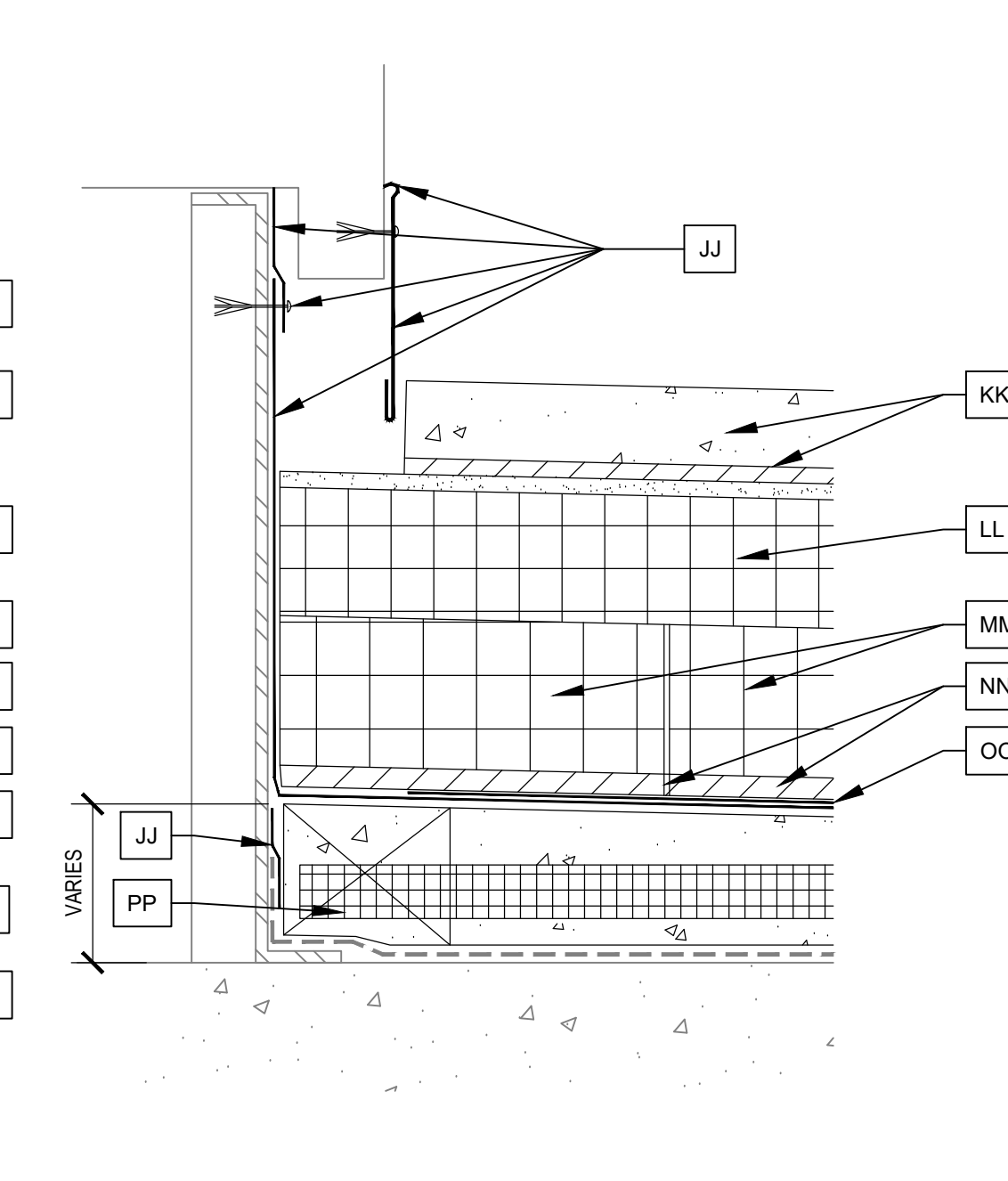
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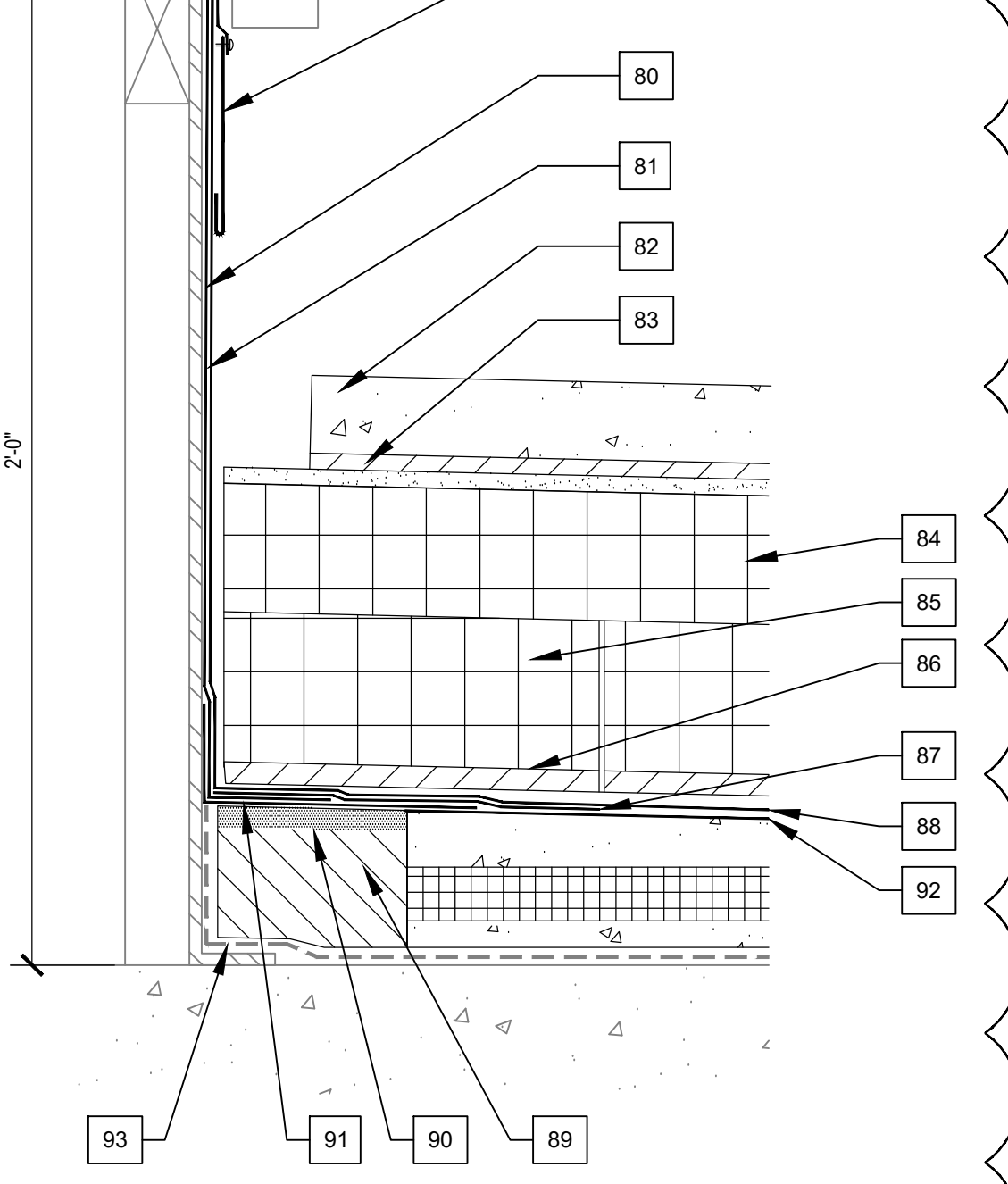
9E EXIST. BASE AT HVAC HOUSING
3" = 1'-0"



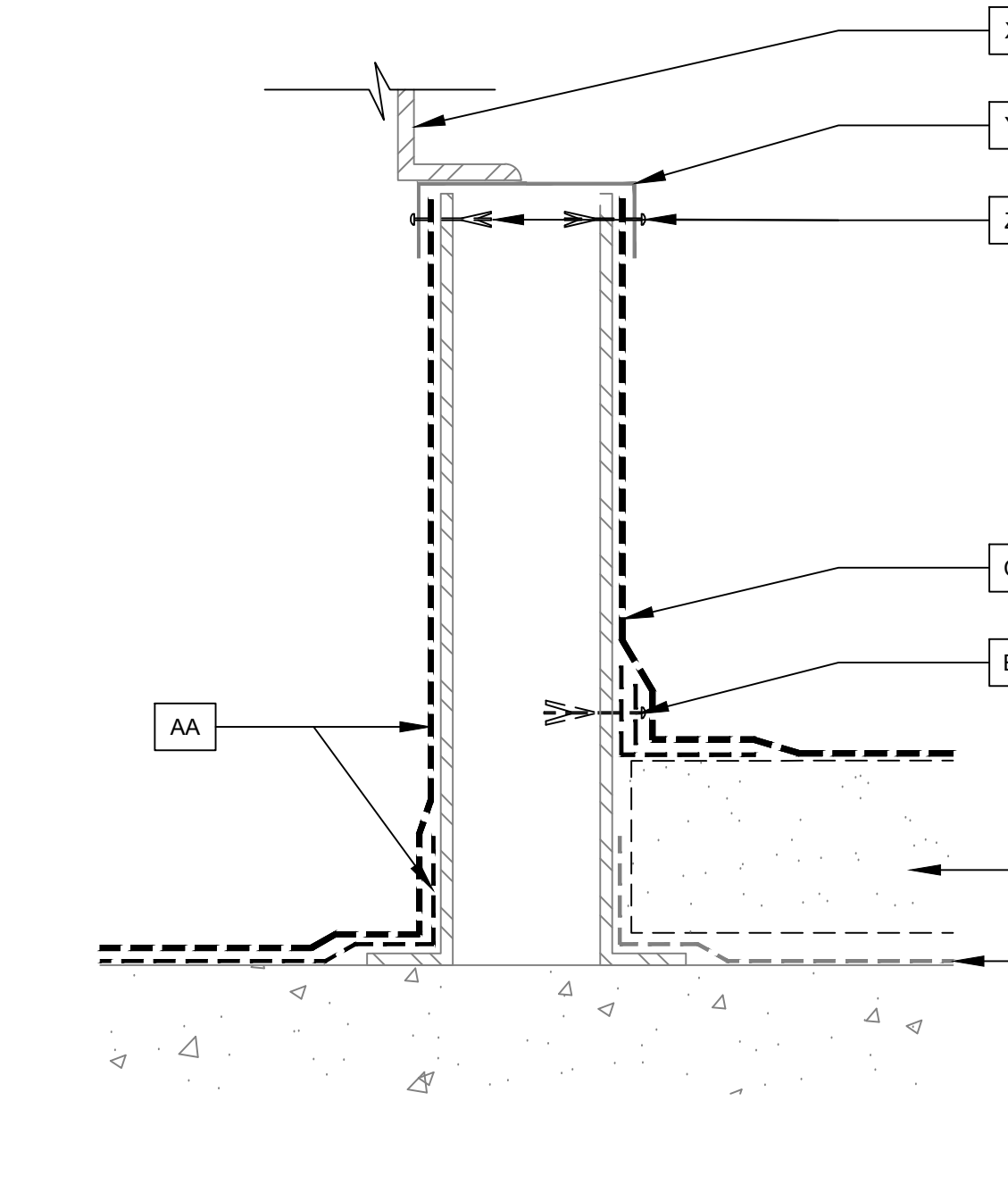
9A BASE AT HVAC CURB
3" = 1'-0"



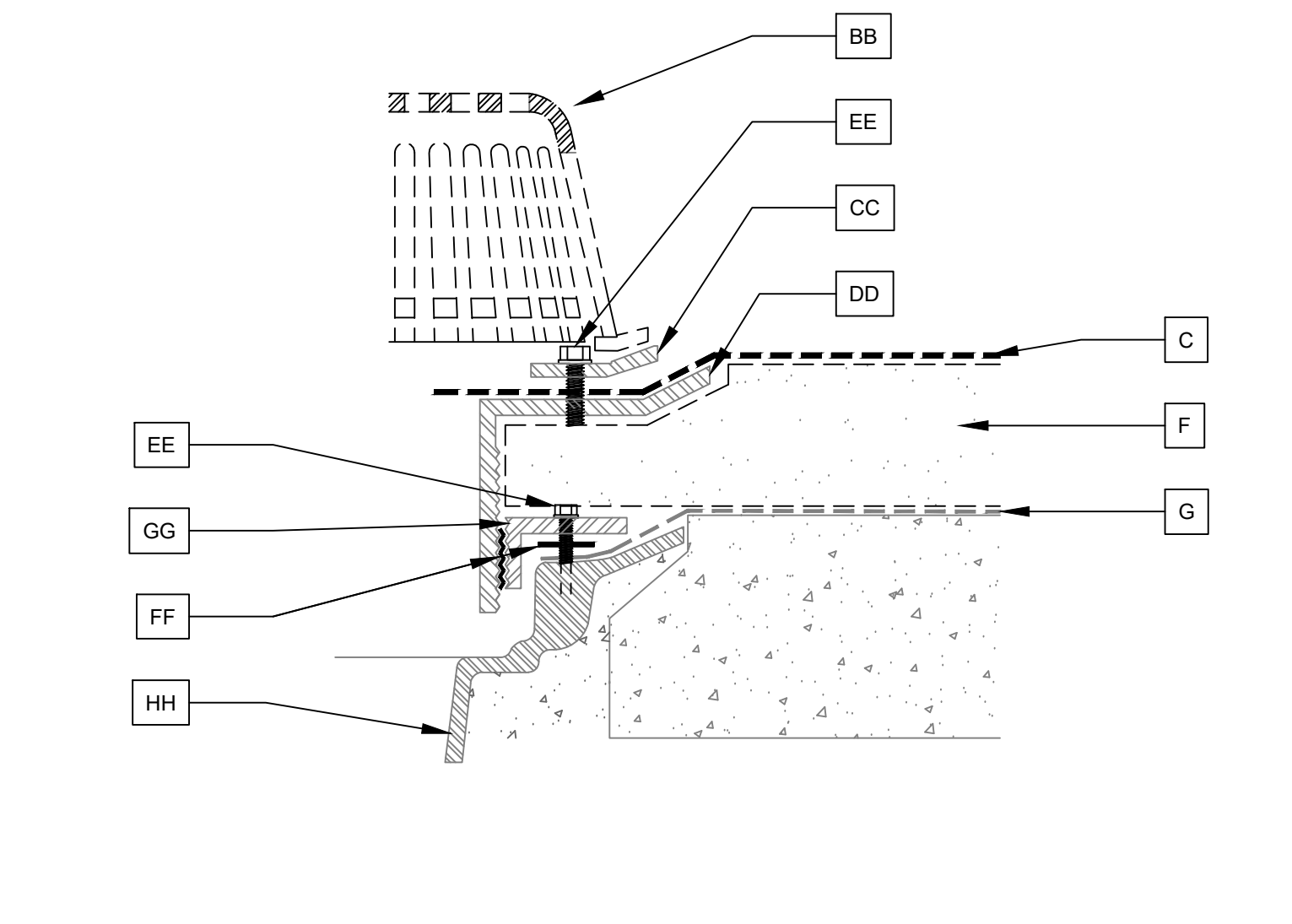
9B 2023 - EXIST. BASE AT HVAC CURB
3" = 1'-0"



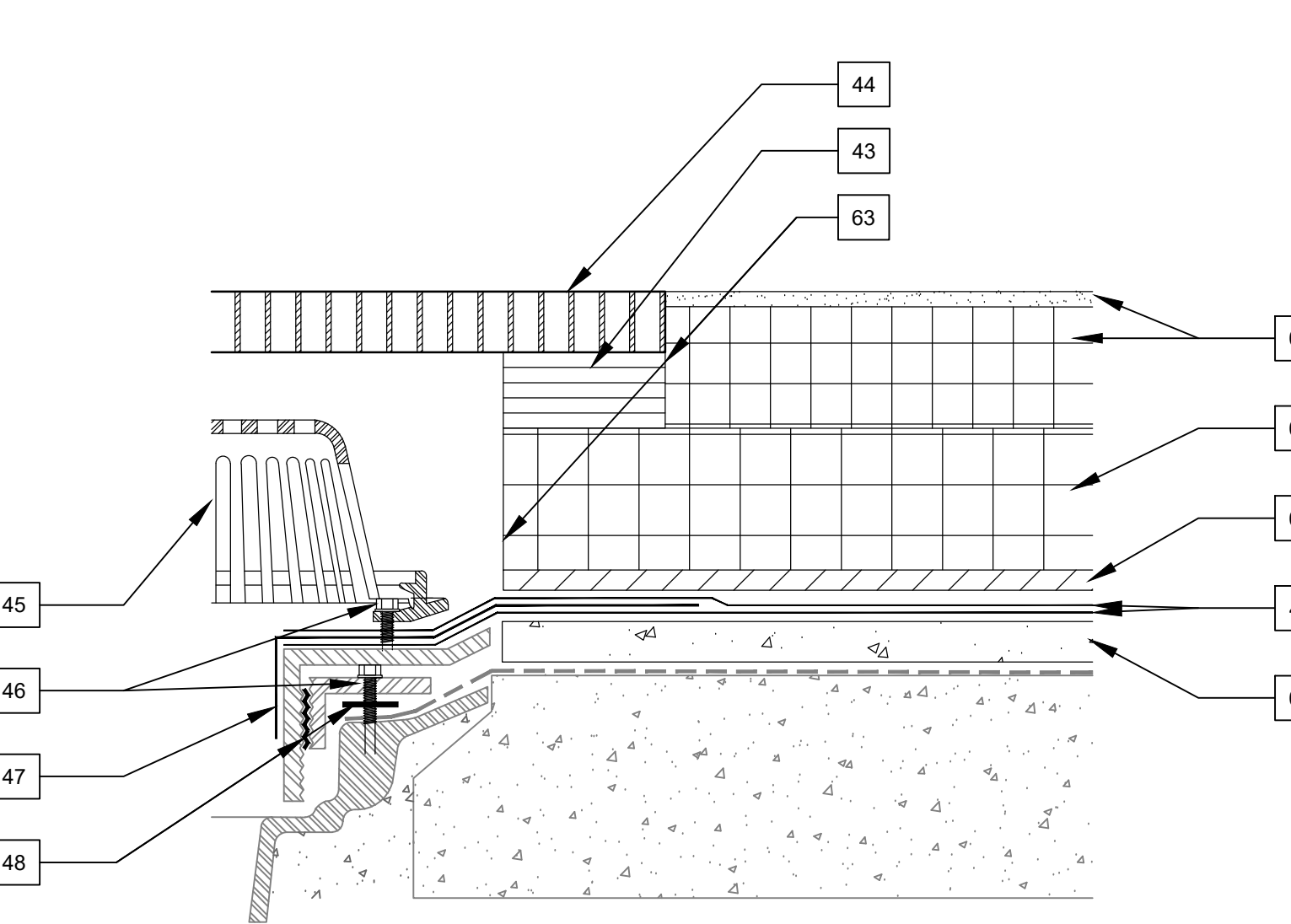
9C 2023 INSTALL - BASE AT NEW HVAC CURB
3" = 1'-0"



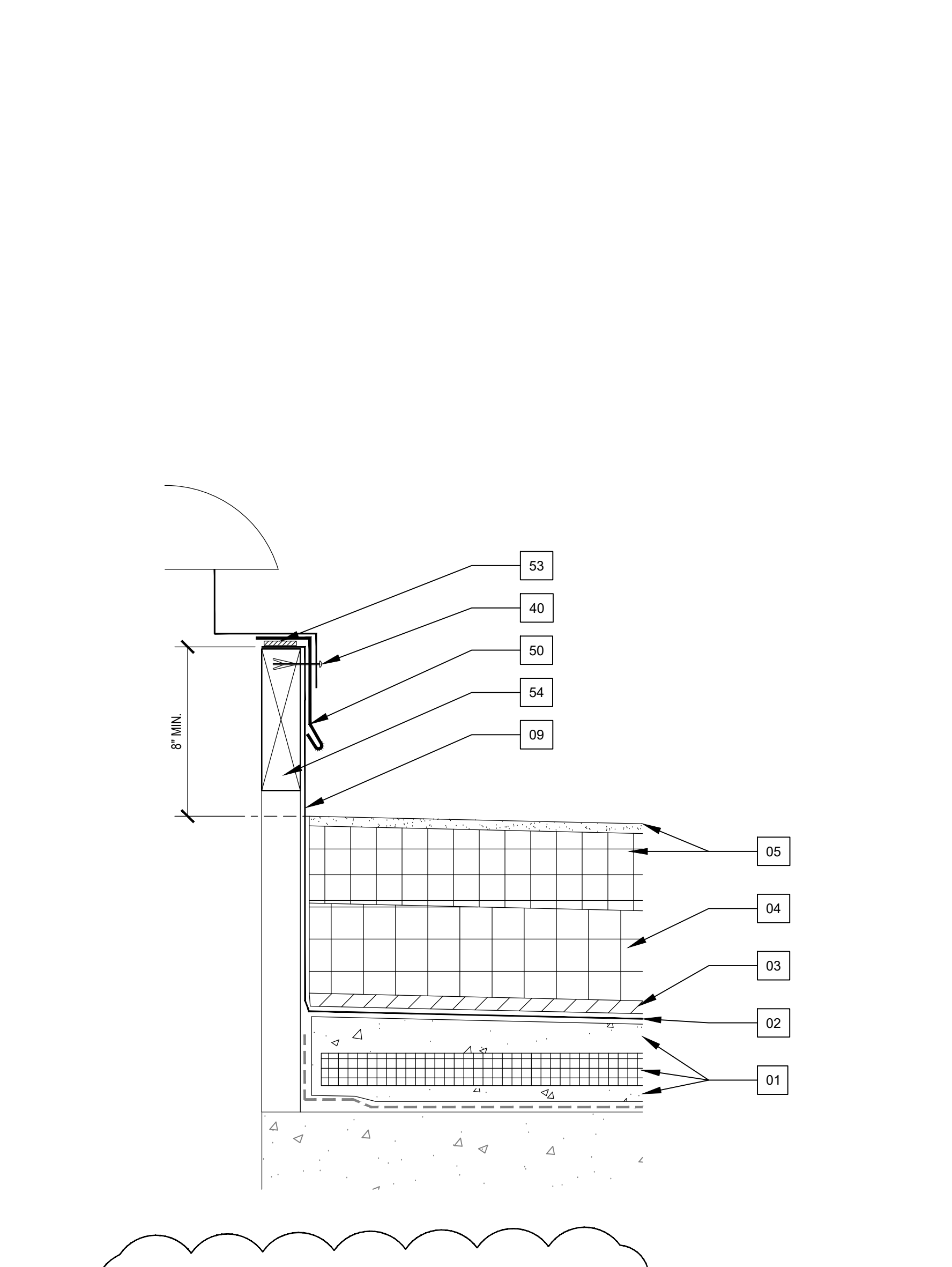
10E EXISTING RETENTION CURB
3" = 1'-0"



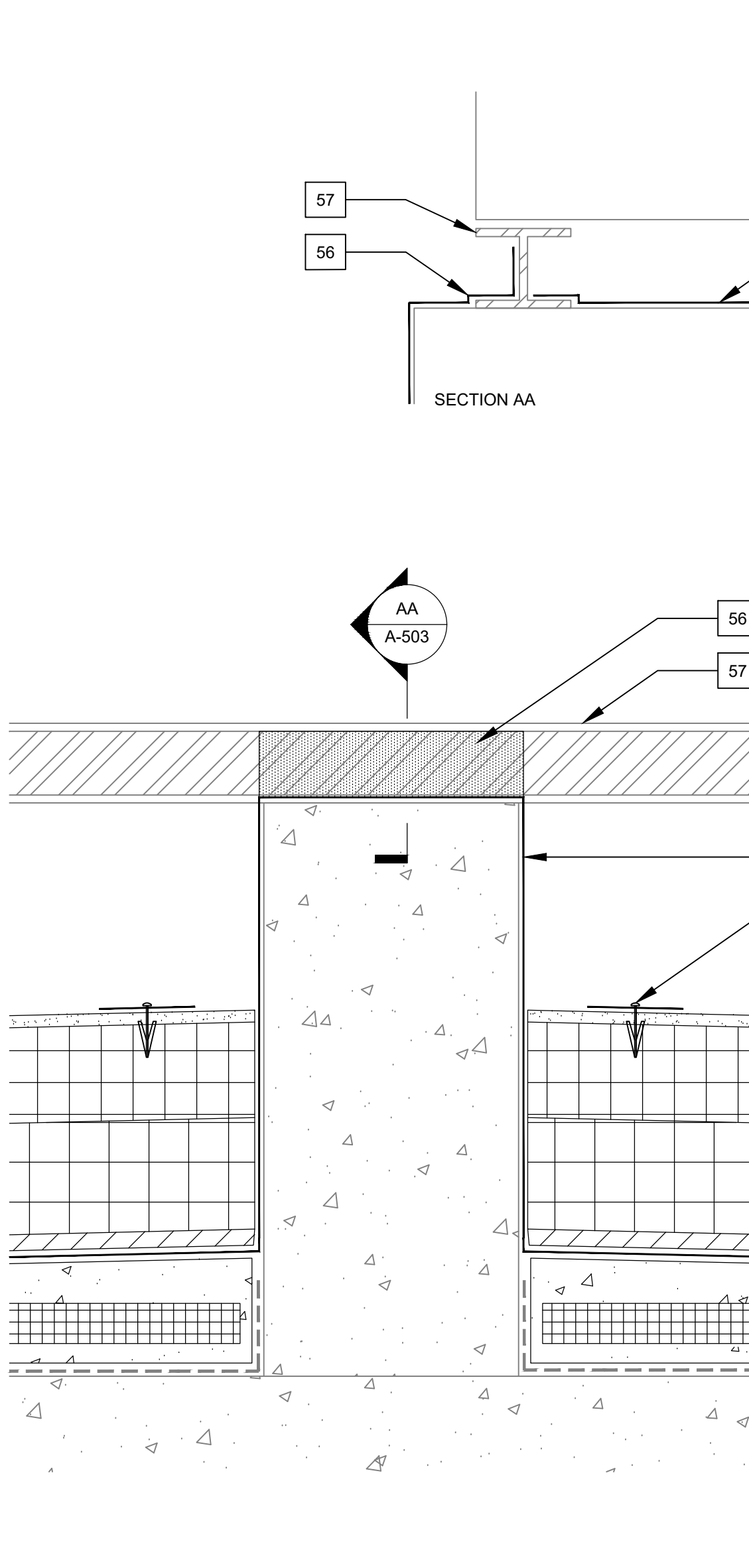
11E EXISTING DRAIN
3" = 1'-0"



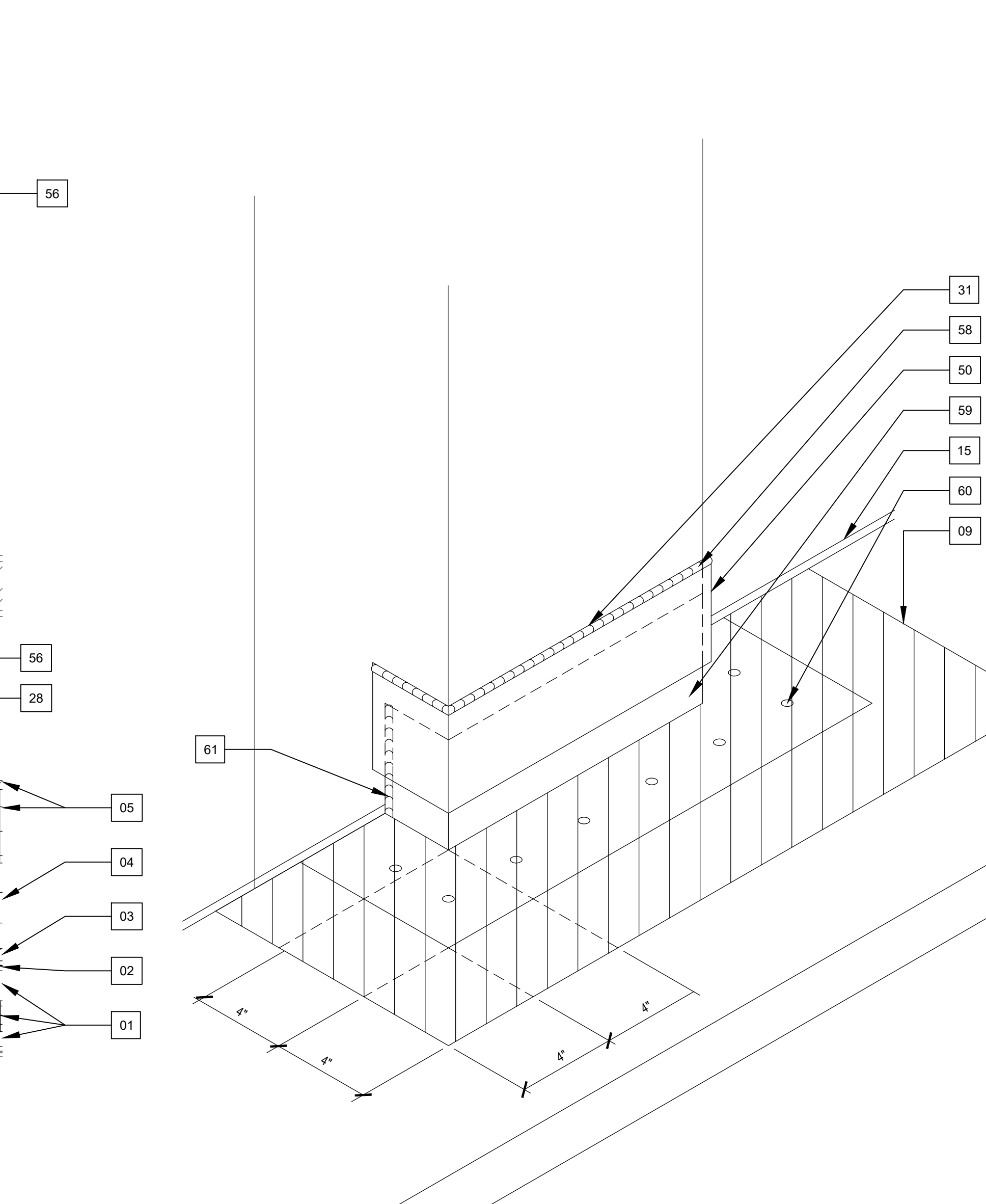
11R REVISED DRAIN
3" = 1'-0"



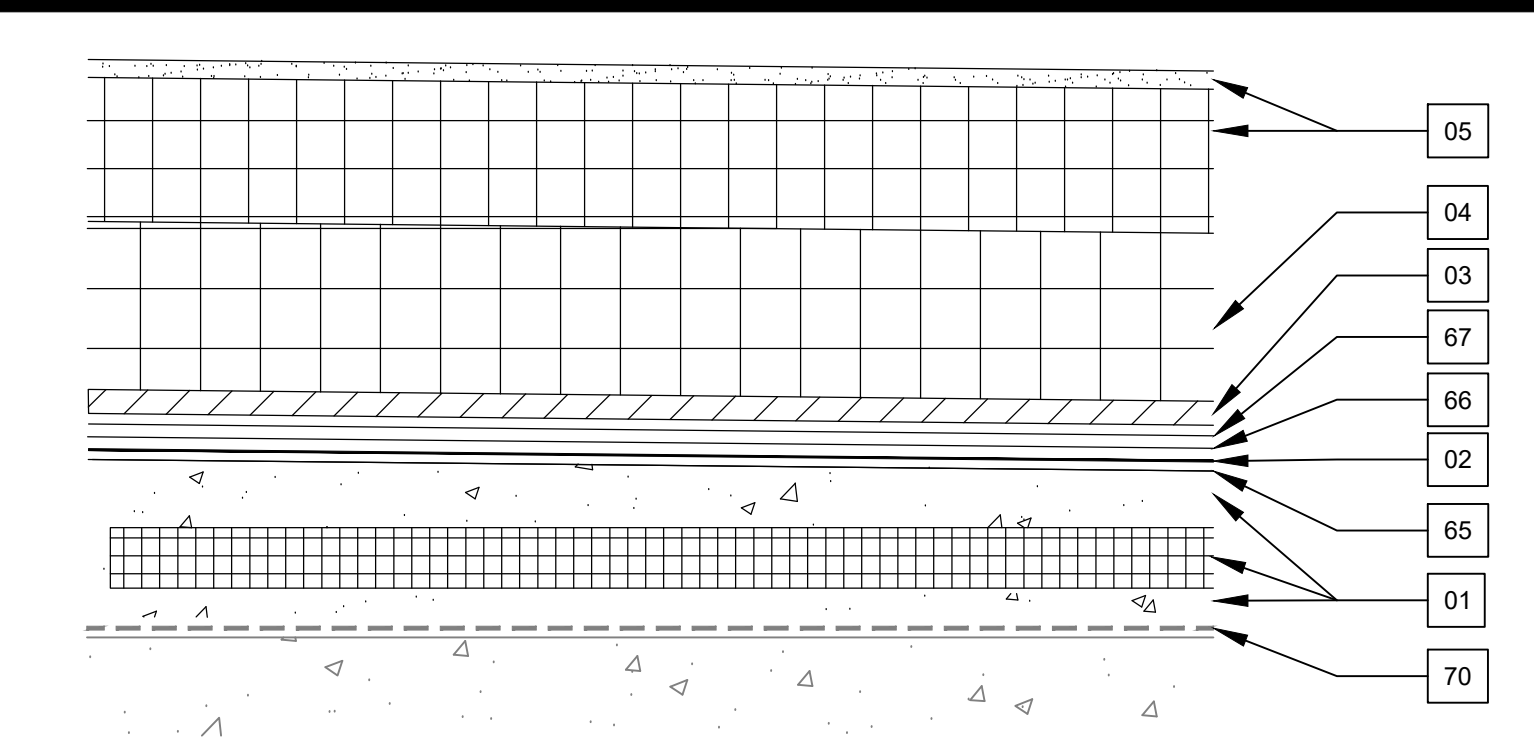
12R REVISED FAN ON CURB
3" = 1'-0"



13R REVISED CONCRETE CURB
3" = 1'-0"

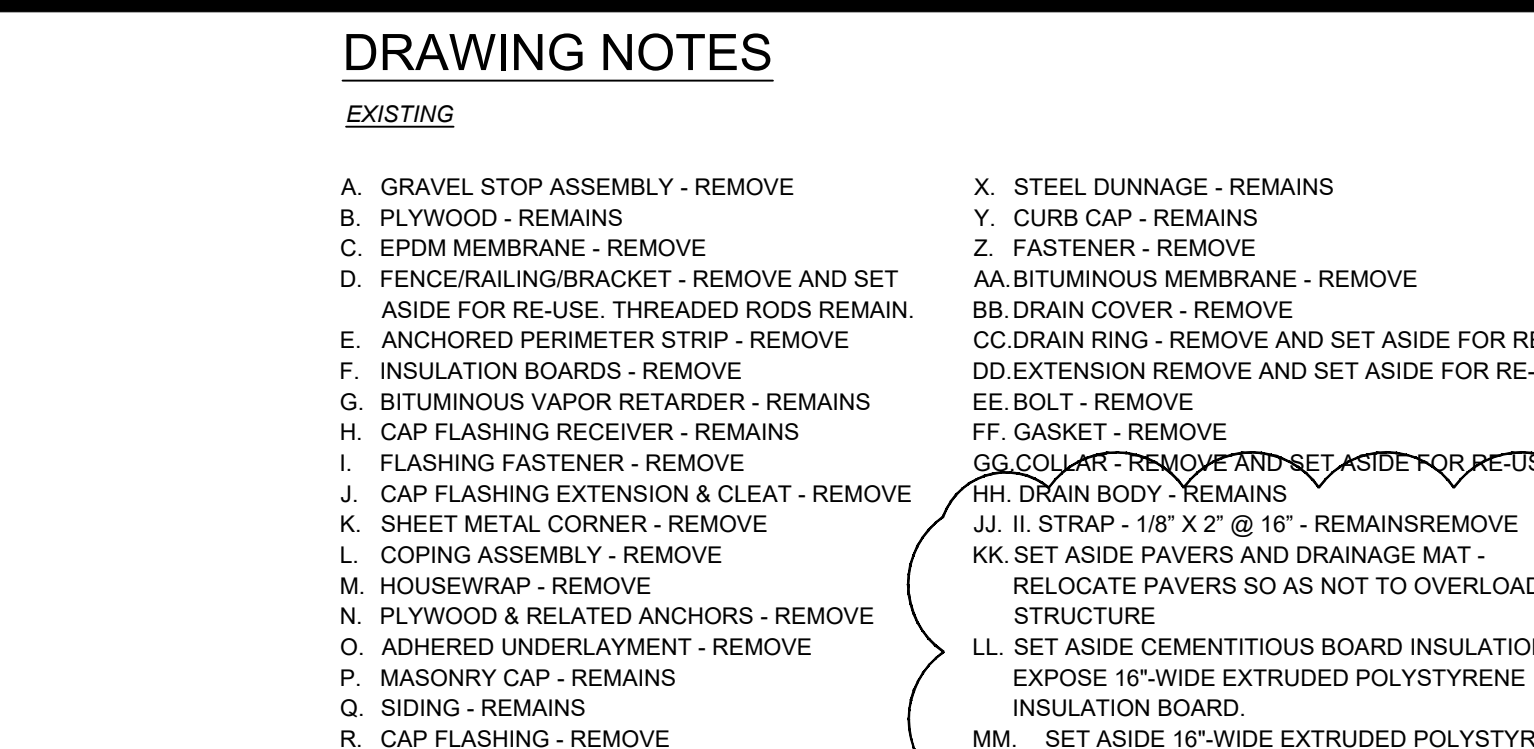


14R REVISED EXPANSION JOINT AT WEST PARAPET COLUMN
3" = 1'-0"



10A NEW ROOF ASSEMBLY
3" = 1'-0"

NOTE: LEAK DETECTION SYSTEM COMPONENTS INDICATED IN THIS DRAWING - CONDUCTIVE WIRE MESH, CONDUCTIVE FABRIC, SENSORS & CABLES, POLYETHYLENE SHEET - ARE NOT SHOWN ON OTHER REVISED/NEW DRAWINGS. FOR CLARITY, THE LEAK DETECTION SYSTEM SHALL BE INSTALLED THROUGHOUT THE ROOF. SEE SPECIFICATION SECTION 075900 FOR ADDITIONAL INFORMATION.



10R REVISED RETENTION CURB
3" = 1'-0"

NOTE: IN LIEU OF STAINLESS STEEL PERIMETER SECUREMENT, INSTALL CONCRETE PAVERS ON DRAINAGE MAT POSITIONS SHOWN ON ROOF PLAN.

DRAWING NOTES

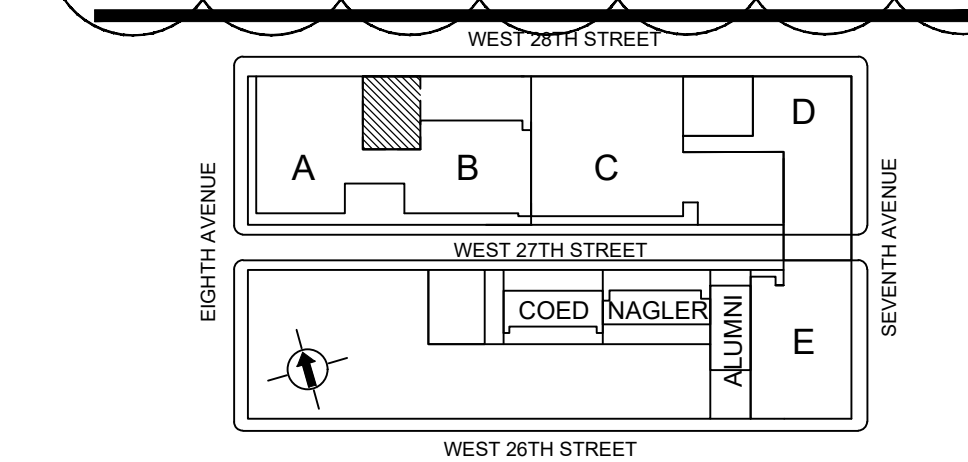
- EXISTING**
- A. GRAVEL STOP ASSEMBLY - REMOVE
 - B. PLYWOOD - REMAINS
 - C. EPDM MEMBRANE - REMOVE
 - D. FENCING/LINING/BRACKET - REMOVE AND SET ASIDE FOR RE-USE. THREADED RODS REMAIN
 - E. ANCHORED PERIMETER STRIP - REMOVE
 - F. INSULATION BOARDS - REMOVE
 - G. BITUMINOUS VAPOR RETARDER - REMAINS
 - H. CAP FLASHING RECEIVER - REMAINS
 - I. FLASHING FASTENER - REMOVE
 - J. CAP FLASHING EXTENSION & CLEAT - REMOVE
 - K. SHEET METAL CORNER - REMOVE
 - L. COPING ASSEMBLY - REMOVE
 - M. HOUSEWRAP - REMOVE
 - N. PLYWOOD & RELATED ANCHORS - REMOVE
 - O. ADHERED UNDERLAYMENT - REMOVE
 - P. MASONRY CAP - REMAINS
 - Q. SIKING - REMAINS
 - R. CAP FLASHING - REMOVE
 - S. BACKER ROD - REMOVE
 - T. PLYWOOD TOP LAYER & SHIM - REMOVE
 - U. PLYWOOD BOTTOM LAYERS - REMAIN
 - V. HVAC HOUSING - REMAINS
 - W. METAL CURB - REMAINS
 - X. STEEL DUNNAGE - REMAINS
 - Y. CURB CAP - REMAINS
 - Z. FASTENER - REMOVE
 - AA. BITUMINOUS MEMBRANE - REMOVE
 - BB. DRAIN COVER - REMOVE
 - CC. DRAIN RING - REMOVE AND SET ASIDE FOR RE-USE
 - DD. EXTENSION REMOVE AND SET ASIDE FOR RE-USE
 - EE. BOLT - REMOVE
 - FF. GASKET - REMOVE
 - GG. GASKET - REMOVE AND SET ASIDE FOR RE-USE
 - HH. DRAIN BODY - REMAINS
 - II. STRIP - 1/8" X 2" @ 16" - REMAINS
 - JJ. II. STRIP - 1/8" X 2" @ 16" - REMAINS
 - KK. SET ASIDE PAVERS AND DRAINAGE MAT - RELOCATE PAVERS SO AS NOT TO OVERLOAD THE STRUCTURE
 - LL. SET ASIDE CEMENTITIOUS BOARD INSULATION TO EXPOSE 16" WIDE EXTRUDED POLYSTYRENE INSULATION BOARD
 - MM. SET ASIDE 16" WIDE EXTRUDED POLYSTYRENE INSULATION BOARD
 - NN. SET ASIDE 16" WIDE STRIP OF DRAINAGE MAT
 - OO. REMOVE TAPE - FOLD BACK POLYETHYLENE SHEET AND CONDUCTIVE FABRIC AS NECESSARY.
 - PP. REMOVE BASE FLASHING, AND ROOFING MEMBRANE, LIGHTWEIGHT INSULATING CONCRETE, AND VAPOR RETARDER DIRECTLY BELOW.

Issued / Revised		
No.	Date	Description
	06/01/2021	CONSTRUCTION DOCUMENTS
	02/23/2022	CONSTRUCTION DOCUMENTS
01	03/25/2022	ADDENDUM 3

DRAWING NOTES

- REVISED / NEW (UNLESS NOTED AS EXISTING TO REMAIN)**
1. LIGHTWEIGHT INSULATING CONCRETE - CONCRETE & EMBEDDED INSULATION THICKNESS VARIES
 2. ROOFING MEMBRANE - NAILED BASE. 2 TORCH-APPLIED PLYS
 3. DRAINAGE MAT
 4. EXTRUDED POLYSTYRENE INSULATION BOARDS
 5. CEMENTITIOUS BOARD INSULATION
 6. TORCH-APPLIED VAPOR RETARDER
 7. STAINLESS STEEL PERIMETER SECUREMENT
 8. SECUREMENT FASTENER AT PANEL @ 18" MIN. 3" FROM PANEL JOINTS
 9. MEMBRANE FLASHING - 2 PLYS
 10. MASONRY ANCHORS @ 9"
 11. COATED COPPER CAP FLASHING - MASONRY ANCHORS @ 12"
 12. FILL VOID WITH SEALANT
 13. CHAMFER PLYWOOD EDGE
 14. MEMBRANE STRIPPING
 15. 0407 ALUMINUM GRAVEL STOP - 2" NAILS STAGGERED @ 3" O.C.
 16. 0407 ALUMINUM CONTINUOUS HOOK STRIP - MASONRY ANCHORS @ 12"
 17. PERIMETER SECUREMENT SET BETWEEN BRACKETS
 18. RAILINGS/SCREEN POST BRACKET - SIZE VARIES - REMOVE, REFINISH, RESTORE
 19. FULL SEALANT BED BEHIND BRACKET PLATES
 20. COATED COPPER CAP FLASHING BETWEEN BRACKETS, END 1" FROM BRACKET PLATE SIDE EDGES
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 22. WOOD BLOCKING - CONCRETE SCREWS @ 24" O.C., STAGGERED
 23. COVER BOARD, 1/4" THICK
 24. UNDERLAYMENT
 25. MANUFACTURED COPING ASSEMBLY
 26. COATED COPPER CAP FLASHING EXTENSION - RIVET @ 8"
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 29. COATED COPPER CLEAT 1" WIDE @ 24"
 30. COATED COPPER CAP FLASHING EXTENSION - INTERLOCK IN SEALANT
 31. SEALANT
 32. CONTINUATION OF CAP FLASHING & PERIMETER SECUREMENT - SEE DETAIL 1R & 10R
 33. WOOD BLOCKING - ANCHOR BASE LAYER W/CONCRETE
 34. 3/4" PLYWOOD
 35. PLASTIC SHEET WITH MINERAL WOOL INSULATION FILL
 36. MANUFACTURED EXPANSION JOINT ASSEMBLY
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 40. STAINLESS STEEL SCREW & WASHER W/NEOPRENE INSERT @ 9"
 41. STAINLESS STEEL SCREW @ 9"
 42. MEMBRANE & FLASHING PLYS
 43. PLASTIC PEDestal SHIMS AS NEEDED FOR GRATING & PANEL SURFACES TO MATCH CONCRETE SURFACE, AS NEEDED
 44. ALUMINUM GRATING - 1-1/4" X 2" X 2", CENTERED ON DRAIN
 45. CAST IRON DOME
 46. BOLTS
 47. LEAD FLASHING - 30" X 30" - PRIME AND SET IN FULL ROOFING CEMENT BED
 48. GASKETS
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 53. 1/2" T GASKET
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 59. COATED COPPER BASE FLASHING - FASTEN TO PARAPET ONLY
 60. FASTENER, TYP. INTO PLYWOOD
 61. BACKER ROD AND SEALANT AT BASE FLASHING ENDS
 62. STAINLESS STEEL NUT, TYP.
 63. COAT EXPOSED EDGES OF BOARDS
 64. STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS @ 24" O.C.
 65. CONDUCTIVE WIRE MESH
 66. CONDUCTIVE FABRIC OVER SENSORS & CABLES
 67. POLYETHYLENE SHEET
 68. HVAC UNIT, GASKET, BLOCKING, CURB BY OTHERS
 69. 0407 ALUMINUM CAP FLASHING - OVERLAP LENGTHS AND CORNERS 3" MIN. - APPLY FULL SEALANT BED IN LAPS - FASTEN WITH STAINLESS STEEL SCREWS AND WASHERS WITH NEOPRENE INSERTS SPACED @ 12"
 70. VAPOR RETARDER
 71. BLUE DUCT INSULATION AND WATERPROOFING BY OTHERS
 72. WOOD BLOCKING - ANCHOR TO DECK
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- REVISED / NEW - 2023 HVAC REPLACEMENT**
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 81. BASE FLASHING 2ND PLY
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 83. DRAINAGE MAT UNDER PAVERS - RESTORE
 84. CEMENTITIOUS BOARD INSULATION - RESTORE
 85. EXTRUDED POLYSTYRENE INSULATION BOARD - RESTORE
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 91. MAKE-UP PLY USING 1ST PLY OF ROOFING MEMBRANE - EXTEND 4" ONTO EXISTING ROOFING MEMBRANE
 92. EXISTING ROOFING MEMBRANE
 93. VAPOR RETARDER FROM EDGE OF EXISTING VAPOR RETARDER TO GYPSUM-BASED COVER BOARD TOP SURFACE



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DETAILS

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