



Addendum No.: 3

Date of Addendum: June 2, 2020

CT DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

Willard Diloreto Parking Garage
Paul Manafort Sr. Drive
New Britain, CT
CF – RC – 402

Original Bid Due Date / Time:

June 24, 2020

1:00 pm

Previous Addendums: Add. #2 dated 5/25/2020, Add. #1 dated 4/24/2020

TO: Prospective Bid Proposers:

This Addendum forms part of the "Contract Documents" and modifies or clarifies the original "Contract Documents" for this Project dated February 7, 2020. Prospective Bid Proposers **shall** acknowledge receipt of the total number the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form.

Failure to acknowledge receipt of the total number the Addenda issued for this Project on the space provided on Section 00 41 00 Bid Proposal Form shall subject Bid Proposers to disqualification.

The following clarifications are applicable to drawings and specifications for the project referenced above.

The Virtual Pre-Bid Meeting was held on Wednesday, May 27, 2020 at 10:00am. Attendance to the Virtual Pre-Bid Meeting was not mandatory but highly recommended. The meeting was recorded. Bidders can access the recording via the link below:

https://drive.google.com/file/d/1_jX0GQU3ufNLvhf-mAjjmKuZ3Tfaxj8y/view?usp=sharing

Questions from Bidders:

Item 1:

Question: Are penetrations through the precast slabs such as deck drains, sanitary risers, storm risers and cold water main installed/provided by the precast company?

Answer: No. Cores and penetrations though the precast are the responsibility of the contractor installing the work.

Item 2:

Question: Will there be any plumbing piping insulation required? Could not locate plumbing insulation specification.

Answer: Pipe insulation will be required for the following pipe systems:

Water piping (including valves, fittings, backflow preventers, etc.) within the Utility Room.

All cooling coil condensate drainage piping (including valves, fittings, etc.).

Insulate the specified pipe systems with ½" thick Type I preformed mineral fiber pipe insulation with factory-applied ASJ-SSL jacket, with thermal conductivity 'K' of 0.22 to 0.28 BTU x in/(hr x sq. ft. x deg F) at mean temperature of 100 deg F. Neatly tape/seal joints with materials specifically manufactured for the insulation type. Neatly provide molded, preformed mineral fiber insulation with PVC jacket for all fittings, valves, etc.

Insulation: Johns Manville - Micro-Lok.

Knauf Insulation - Earthwool 1000 Degree Pipe Insulation with ECOSE Technology.

Owens Corning; Fiberglas Pipe Insulation.

Fitting/Valve Covers : Johns Manville – Zeston.

Proto Corporation – LoSmoke.

P.I.C. Plastics, Inc. – FG Series.



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Speedline Corporation – SmokeSafe.

Item 3:

Question: Missing Med Voltage Cable Spec 260513- Specification sections 261200 at 3.5 -C -5 and specification section 261329 at 3.3 B 3 each reference missing spec section, please provide.

Answer: MV Cable shall meet the following specifications:

MEDIUM VOLTAGE CABLE

1. **Type MV-90, 15 kV shielded power cable.**
2. **Single or multiple copper conductor, 90C rating. 133% insulation level, sunlight resistant.**
3. **Cable shall conform to ICEA S-93-639, ICEA S-97-682, AEIC CS6-96, UL 1072, and shall be UL listed as Type MV-90.**
4. **Cable reel shall bear a tag containing name of manufacturer, UL label, cable type and year and month of manufacture. Cable shall be imprinted with name of manufacturer, UL label, cable type and year and month of manufacture.**
5. **Cable to be furnished in continuous length and shall be free of kinks and defects at time of delivery to jobsite.**
6. **Acceptable Manufacturers: Hubbell/Kerite, Okonite, Pirelli Cable, American IWC.**

Item 4:

Question: Medium Voltage cable size to the MV Switch or Utility Transformer- (assumed to be found in the missing spec section) please provide required cable size.

Answer: All medium voltage cable shall be #2 AWG.

Item 5:

Question: Electric vs Site Utility Contractor Scope Responsibility- Confirm assumption that electrical contractor, not the site utility contractor is to provide the Medium Voltage Switch and Utility transformer.

Answer: The transformer and switch must be furnished and installed as work of this project. Division of responsibility between trades is the responsibility of the prime bidder.

Item 6:

Question: Freestanding Variable Message Led Sign- noted on A100, but on electrical plans or in signage specification. Please confirm that this is part of the GC Bid with applicable specifications, detailing and related design (Civil, Foundation, Electrical, etc).

Answer: The Variable Message LED Sign and installation is to be included in the GC Bid. The specifications for the sign are included in specification Section 11 12 40 – Parking Count and Guidance System. The Electrical work for the Variable Message Sign can be found on drawing E201 and note 26 on E201.

Item 7:

Question: Site Plan CD101 calls for roughly 1100 lf of existing ornamental fence to be 'refurbished', while Site Preparation Plan CS101 calls for 550 lf of fence to be 'protected and maintained'. Please confirm the level of refurbishment intended for the existing to remain fence. Removed & refurbished off site or painted in place?

Answer: The intent is that fencing identified on CD101 as “to be maintained” should be refurbished in place.

Item 8:

Question: Detail 3 / CS501 calls for the newly installed fence to have a galvanized finish and top coat to match CCSU's Pantone Green. Would the engineer accept substituting the galvanized coating with a Zinc Rich Primer (Powder Coated Finish)?

Answer: Alternate coatings will only be allowed if approved by owner.



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Item 9:

Question: Specifications - Section 03410- Page 3, Paragraph 1.3D.3.b. – The reference to “pour strips at each level” does not appear to be applicable for this project. Please confirm that this project is designed to have pretopped washes and full depth girders as shown on Drawing S-302 Detail 1. As such, cast-in-place concrete pour strips and washes are not required for this project.

Answer: See revised Specification Section 03 41 00. Reference to cast in lace pour strips has been removed. Project has been designed for pre-topped washes.

Item10:

Question: Specifications - Section 03410- Page 3, Paragraph 1.3 E. – The reference to require; “...units with sections tested and listed by U.L. Fire resistance Directory...” is not consistent with local industry practice. Please confirm that the reference to UL listing & testing is not required and that Fire resistance of precast members is to be determined by applicable IBC Code criteria or PCI MNL 124MNL.

Answer: See revised Specification Section 03 41 00. Reference to U.L Fire Resistance Directory has been removed and replaced with the requirements of IBC Code and PCI 124MNL.

Item 11:

Question: Specifications - Section 03410- Page 4, Paragraph 2.4 A.1. – In order to ensure continuous source of cement supply and avoid disruption of precast production, we commonly use more than one source of cement. Please confirm that it is acceptable to the Architect to use more than one brand & type of cement.

Answer: See revised Specification Section 03 41 00. It is acceptable to use more than one brand and type of cement as long as the finish product’s color is consistent.

Item 12:

Question: Specifications - Section 03410- Page 5, Paragraph 2.5 H. – Please confirm that, embeds and accessories for the connection or attaching of subsequent construction materials or finishes to the precast structure are to be provided by the Trade requiring embed or accessory, not by the precaster.

Answer: See revised Specification Section 03 41 00. Section has been revised to include the requirement that all embeds and accessories for other Trades that are to be cast into the precast are to be provided by the Trade requiring them.

Item 13:

Question: Specifications - Section 03410- Page 7, Paragraph 2.8A.1. – This paragraph indicates Architectural precast finish to match Architect’s control samples. Is the Architects control sample available for viewing or in the absence of viewing (given the COVID-19 restrictions) is a high quality photograph available? Please provide concrete mix design describing the materials that were used to produce the control sample. (i.e., ratio of white to grey cement, type of sand, type of aggregate and color pigment; complete with dosage, if any required).

Answer: See revised Specification Section 03 41 00. Section has been revised to eliminate the Architect’s control sample and defines the Architectural finish and color as an Architectural precast buff finish utilizing 50% white cement, 50% grey cement and color pigment. All exterior precast units are to receive a light sandblast finish. Final selection will be made from samples provided by the precaster.

Item 14:

Question: Specifications - Section 03410- Page 7, Paragraph 2.9 – This paragraph indicates some Thin Brick Veneer requirements for the project, but does not provide color or blend of colors required for the thin brick. Architectural drawing A503 indicates the thin brick as: Flashed blend to match Willard Diloreto Hallbrick. When was the Willard Diloreto Hall building built? Was “Thin Brick” used on the Willard Diloreto Hall building? Was the “Scott S System” used on the Willard Diloreto Hall building? Is the source of the brick used on the Willard Diloreto Hall building known? How many brick colors are required to be blended and what is the percentage of each color required to achieve the blend?



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Answer: See revised Specification Section 03 41 00. The project intent is to match the Willard Deoreto Hall building brick as close as possible in color and blend. The Willard Deloreto building brick is a full brick, not a thin brick. The winning Bidder will be required to submit thin brick samples to be reviewed and approved.

Item 15:

Question: Specifications - Section 03410- Page 9, Paragraph 2.10 O.2. –This paragraph specifies color aggregate. Please clarify if a specific source and color of sand and stone is required, or is the precast allowed to use its local sources of sand & stone. This paragraph specifies a blend of white and gray cement. For bidding purposes, please define the percentage blend of each color cement.

Answer: See revised Specification Section 03 41 00. See response to Item 13 above regarding Architectural precast concrete.

Item 16:

Question: Layout and Elevation Drawings- We do not find any drawings or details that clearly define the edge/end finish of the wall panels with the built-in-pilasters located along the North & South Elevations of the garage. The Elevations show a 'thin brick' finish on the exterior face of the wall panels, but the return portion (edge of panel with built-in-pilaster) is not clearly defined. Detail cuts '2', '3', & '4', from drawing A203, and Wall Section 2 on drawing A601, do not indicate a requirement for thin brick on return portion of the precast wall panels. Please provide a detail showing the finish for the return portion (edge/end of panel with built in-pilaster).

Answer: See revised drawings A203, A402, A407, A409, A601 and A602 showing extents of thin brick and thin brick returns at openings.

Item 17:

Question: Layout Drawings- We do not find a schedule on any of the drawings, indicating CIP pilaster or precast column sizes. Drawing S302 indicates the precast inverted tee girders at the 'cross over'/end bays as being 3'-0" wide x 3'-0" deep which is the correct size of inverted tee girder for a 48' framing module. The inverted tee girders are supported on precast column corbels and/or built-in column pilaster/corbels on the precast shearwalls. The columns & pilasters are the typically the same 3'-0" width as the inverted tee girder. Drawings appear to indicate 2'-0" square columns by scale, at grids B2, C2, B6, C6, B7, & C7. Please confirm adequate CIP footing/pilaster size will be provided to accommodate a 3'-0" wide precast column and/or a 3'-0" wide built-in column pilaster on precast shearwalls supporting the 3'-0" wide precast inverted girders.

Answer: See revised drawing S102. Column sizes have been added to the pier details. Final precast column sizes will be per the precast engineer's design. Cast in place concrete piers will be adjusted, if necessary, to accommodate the precast column size.

Item 18:

Question: Drawing G003- Code Summary, bullet 6.A. - indicates Type IIB construction. All other references to the Construction Classification Type indicate Type 1B. Please confirm that bullet 6.A. should read Type 1B.

Answer: See revised drawing G003. The Construction Type for this project is Type 1B.

Item 19:

Question: Drawings A102, A103, A104, A701, S202, S203, S204. iDetails show drains centered on grids/double tee joint locations. With the use of pretopped double tee washes, the drain hardware assembly embedded in precast double tees needs to be contained in one (1) double tee member (not split between two tees). Please confirm that this is acceptable.

Answer: It is acceptable for the drain hardware being cast into double tee flanges to be placed in one (1) double tee member.

**Addendum No.: 3****Date of Addendum: June 2, 2020****Item 20:**

Question: Drawings A201 & A202- Please provide cornice detail at the top of the precast wall panels, centered on grid 2, shown on the North Elevation. Drawing appears to suggest full height vertical precast wall panels with a cornice at the top of the panel and section cuts shown on drawings A601 & A602 seem to indicate precast wall panels to be 12" thick. Based on full height vertical panels and a 12" thickness they become difficult to fabricate, handle and transport. Can the cornice at the top of the panel be a separate piece? Can the panel thickness be reduced to 8" thick? Can a stack of horizontal wall panels be provided in lieu of full height vertical panels?

Answer: See revised drawings A601 and A602 indicating cornice dimensions.

Item 21:

Question: Drawing A503 – (The Following two items are related to the Specification Questions in items 6) & 7) above. Garage Façade is noted to have the following finishes: Precast Concrete: Buff color precast with a medium sandblast finish to match sample. Is a sample available for viewing? Please provide concrete mix design describing the materials required. (i.e., ratio of white to grey cement, sand, aggregates and color pigment; complete with dosage, if any required). Thin Brick: Flashed blend to match Willard Diloreto Hall brick. When was the Willard Diloreto Hall building built? Was "Thin Brick" used on the Willard Diloreto Hall building? Was the "Scott S System" used on the Willard Diloreto Hall building? Is the source of the brick used on the Willard Diloreto Hall building known? How many brick colors are required to be blended and what is the percentage of each color required to achieve the blend?

Answer: See responses to Items 13 and 14 above for details on Architectural Precast and Thin Brick selection.

Item 22:

Question: Drawing A601- Wall Section 3 indicates the shearwalls along grids '1' & '8', as being 1'-2" thick whereas structural drawing S105 indicate shearwalls as 12" thick with 12" thick pilaster. Please advise if the thickness of the shearwalls is to be determined by the precast design engineer or provide the thickness required.

Answer: The thickness of the shear walls and the inclusion of a pilaster or corbel for the inverted tee girders are to be determined by the precast design engineer. The exterior face and width of the shear walls are to be as per the Drawings.

Item 23:

Question: Drawing S001 - Design Criteria - Please provide all necessary loading per the Connecticut State Building Code Section 1603.

Answer: Design loading is indicated on drawing S001. Snow drift loading information will be included in the next Addendum.

Item 24:

Question: Drawing S301 - Please advise if precast double tees are to be 2'-7" deep with 5" flanges as shown in Sections 1, 2, 3, and 5 or if they are to be 2'-6" deep with 4" flanges as shown in Section 4. Note: Details A, B, C, and D, indicate flange thickness of 4". Section 5 indicates litewalls along grids 'B' & 'C' as being 10" thick, whereas Sections 4 & 5 on drawing S105 indicate litewalls at 12" thick. Please provide the required thickness or advise if thickness is to be as determined by the precast design engineer. Section 1 – "Section at Double Tee" includes two (2) notes that are unclear. A note titled 'Additional Holes'. This note, as written, may be interpreted to mean that All Holes for MEP trades are to be provided as cast-in-sleeves, which is not the standard industry practice. Specification Section 034100 page 8 Paragraph 2.10 E. correctly describes that openings 10" square or round shown on the final precast shop drawings will be cast in, however smaller openings will be cut in the field by Trades requiring the openings. Please consider deleting or revising the note re: 'Additional Holes' to avoid confusion. The note that reads; "4" x 6" sleeve through stem, 3" max. per stem at 1/3 point from end and midspan", is unclear. Please clarify the number of 4" x 6" sleeves required at each Double Teestem.



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Answer: See revised drawing S301. Details 1,2,3, and 5 have been revised to indicate 2'-6" deep double tees with 4" flanges. The "Additional Holes" note on detail 1 has been eliminated. The notes regarding sleeves through the stems have been revised to indicate two (2) 4" x 6" sleeves through each stem at third points of the span.

Item 25:

Question: Drawing S303 - Stair Section 2 indicates precast double tee depth of 2'-10". Please advise if any 2'-10" deep precast tees are applicable to this project.

Answer: See revised drawing S303. The double tee depth in Stair Section 2 has been revised to 2'-6".

Item 26:

Question: Who is responsible for the pad mount high voltage switch?

Answer: The switch must be furnished and installed as work of this project. Division of responsibility between trades is the responsibility of the prime bidder.

Item 27:

Question: Who is responsible for the pad mount utility Transformer?

Answer: The transformer must be furnished and installed as work of this project. Division of responsibility between trades is the responsibility of the prime bidder.

Item 28:

Question: What is the wire size for the medium voltage feeder?

Answer: All medium voltage cable shall be #2 AWG.

Item 29:

Clarification:

Additional Information Related to HVAC Controls:

Monitoring (but not control) of HVAC systems serving the Pedestrian Bridge and Electrical Room are required via the following additional information: Contractor shall provide Procon Melco BEMS MINI BACnet interface controllers or equal. These interface controllers to be wired directly to the indoor units, serving the Pedestrian Bridge and Electrical Room. The controls contractor shall run a BACnet MS/TP communication wire from the Electrical Room data rack to this interface controller. See Specification:

SPECIFICATIONS:

- Allows for a third-party building management system to control a Mitsubishi Electric Cooling & Heating CITY MULTI®, M-Series, or P-Series indoor unit.
- One MelcoBEMS MINI (A1M) per indoor unit
- Indoor Unit Connection: CN105 – IT Terminal
- 12VDC power from indoor unit CN105 Connector
- Compatible with MAC-333IF connector CN505 IT
- *requires additional 12VDC power supply
- Communication protocols supported:
 - BACnet® MSTP (RS-485) with addressing 1-127
 - Procon and Indoor unit
 - Procon and BACnet®/MODBUS networks



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Item 30:

Question: Reference is made to section 2/S105 Grade Beam detail, grade beam appears to be integral with the Footing. Are we to assume this grade beam only happens where the footing is located?

Answer: Shear wall grade beams are to be integral with the shear wall footing. The shear wall grade beams extend from end to end of footing only.

Item 31:

Question: The footing schedule shown on S101 indicates the depths of footing M1, M2, M3 are 24". The sections through these footings on drawings S106, S107, S108 indicate a depth of 36", please clarify? Subsequent to the answer if these footings are intended to be 36" deep will the BOF elevation change, if you hold the BOF elevation at 155 the P2 piers will only be 6" high which is not what the section appear to depict?

Answer: This item was answered in Bid Addendum #2 issued on May 15, 2020.

Item 32:

Question: Reference is made to section 1/S107, Along column line 8 just south of column line A.3 there appears to be some type of footing and foundation wall intended to receive bottom of stair 2, we could not find any detail on type, size depth, dimensions?

Answer: See revised drawings S106, S107 and S108. Concrete piers to support the bottom run of the precast stairs have been dimensioned.

Item 33:

Question: Reference is made to section 1/S108, east of column line 8 just south of column line C.7 there appears to be some type of footing and foundation wall, intended to receive bottom of stair 3, we could not find any detail on type, size depth, dimensions?

Answer: See revised drawings S106, S107 and S108. Concrete piers to support the bottom run of the precast stairs have been dimensioned.

Item 34:

Question: Reference is made to Elevation 1/S104 Grid B Wall Elevation (Lite Wall), Between Col 3 and 4 there is a flag referring to 8 - CIP Conc Corbels on Wall (Far Side). Please indicate where we can find the detail for these?

Answer: See revised drawings #104 and S105. Details 4 and 4A indicate the cast in place corbel and reinforcing details. The section cuts on Elevation 1/S104 indicate the locations of the details.

Item 35:

Question: Reference is made to S101 Foundation Plan, Along Column Line B and C between Column 2 and 3 please provide a foundation section.

Answer: See revised drawing S101. Section cuts have been added for walls along B and C lines between column lines 2 and 3.

Item 36:

Question: What manufacturer is the basis of design, for specification section 11 12 40 PARKING COUNT & GUIDANCE SYSTEM (PCGS)?

Answer: Section 11 12 40 is an agnostic or genericized specification that is not based heavily or exclusively on any particular vendor or manufacturer. Any vendor who can meet the specification should be an acceptable vendor.

Item 37:

Question: For the concrete curbs that are shown on plan CS101 what areas should we use detail 10 on CS501 for CIP curb vs detail 7 on CS501 for precast curb.



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Answer: Both detail 7 and 10 indicate a cast-in-place curb. Detail 7 is to be used when concrete curb abuts a concrete walk and detail 10 is to be used when the curb is not abutting a concrete walk.

Item 38:

Question: For the bituminous pavement out in the road and the apron is there a detail available or should detail 6 on CS501 be used?

Answer: Bituminous concrete within the ROW shall follow the City of New Britain detail 6 on CS502.

ATTACHMENTS:

Specifications:

Section 03 41 00 Structural Precast Concrete

Drawings:

G003, A203, A205, A402, A407, A409, A503, A601, A602, S101, S102, S104, S105, S106, S107, S108, S301, S303

All questions must be **written** (not **verbal** or by **phone**) and emailed to the consulting Architect/Engineer (DESMAN -Thomas J. Basile, Email: tbasile@desman.com) with copies sent to the DAS/CS Project Manager (Stephen Burke, Email: Stephen.Burke@ct.gov) and Construction Manager JACOBS -Candy Glass, Email: Candy.Glass@jacobs.com

End of Addendum No. 3

Mellanee Walton

**Mellanee Walton, Associate Fiscal Administrative Officer
State of Connecticut
Department of Administrative Services, Construction
Services
Office of Legal Affairs, Policy, and Procurement
450 Columbus Boulevard, Suite 1302
Hartford, CT 06103**

PART 1 - GENERAL

1.1 SUMMARY

- A. The extent of work included in this Section is shown on the Drawings and is specified as follows:
1. Structural framing units including double tees, columns, beams and girders.
 2. Exterior spandrels, wall panels and perimeter columns with Architectural precast finish and thin-brick.
 3. Stairs and solid slab/plank units.
 4. Loadbearing "light-wall" or "stitch-wall" units and solid shear wall units.
 5. Fire walls and stair walls.
- B. Provide all labor, materials, equipment, services and accessories necessary to furnish and install the work of this Section, complete and functional.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and instructions for manufactured materials and products. Include manufacturer's certifications and laboratory test reports as required.
- B. Mix Designs: Submit written reports of proposed concrete mix as specified in Part 2 of this section.
- C. Shop Drawings: Submit shop drawings showing complete information for framing, connections, fabrication detailing and installation of precast concrete units. Indicate member dimensions and cross section; location, size and type of reinforcement, including special reinforcement and lifting devices necessary for handling and erection. Framing drawings shall be stamped and signed by a Professional Engineer licensed to practice in the State where the project is located and submitted for review; typical member shop drawings only to be submitted with calculations for review. Provide a record copy of all shop drawings and member drawings following completion of erection and any remediation work.
- D. Indicate layout, dimensions, and identification of each precast unit corresponding to sequence and procedure of installation. Indicate welded connections by AWS Standard symbols. Provide location and details of inserts, connections, and joints, including accessories and construction at openings in precast units.
1. Provide location and details of anchorage devices that are to be embedded in other construction. (foundations, structural support members other than precast concrete, etc.) Concrete contractor to furnish templates as required for accurate placement.
 2. Provide erection procedure for precast units and sequence of erection. Include requirement for stability guidelines during the structure's erection (bracing, guy cables, etc.)
- E. Calculations: Provide stamped and signed design calculations prepared by the registered Professional Engineer licensed to practice in the State where the project is located. Precast concrete units and connections shall be designed to withstand all applicable loads required by governing codes and erection conditions. See Paragraph 1.3D for detailed description.
- F. Samples:
1. Submit samples approximately 12 inches by 12 inches by 2 inches to illustrate the quality, color, and texture of the surface finish for the Architectural Finish precast units; exterior spandrels, wall panels and perimeter columns.
 - a. Submit sample boards of selected thin-brick materials for approval.
 2. Full Scale Mock-Up Panels: Upon approval of small sample panels, and before fabrication of any other architectural precast concrete work commences, fabricate three (3) full scale panel(s) approximately 8 feet long, for review and approval at the precaster's facility by the Architect. If the

range of color on the panel(s) is approved by the Architect, they shall be used as a standard of quality for architectural precast concrete work required for this project. Fabrication of the architectural precast work shall not commence until the Mock-Up panels have been approved by the Architect. Mock-up panels to incorporate an area of thin-brick no smaller than the scale of exterior spandrel section in at least one of the 8 foot long panels.

1.3 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except as otherwise indicated.
1. ACI 301 "Specifications for Structural Concrete".
 2. ACI 318 "Building Code Requirements for Structural Concrete".
 3. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
 4. Prestressed Concrete Institute MNL 116, Manual for Quality Control for Plants and Production of Precast Concrete Products".
 5. Prestressed Concrete Institute MNL 135, "Tolerance Manual for Precast and Prestressed Concrete Construction".
 6. Prestressed Concrete Institute, MNL 120, "PCI Design Handbook".
 7. American Welding Society, AWS D1.1, "Structural Welding Code-Steel", D1.4 "Structural Welding Code – Reinforcing Steel", D1.6 "Structural Welding Code – Stainless Steel", C5.4, "Recommended Practices for Stud Welding".
- B. Fabricator Qualifications: Firms which have five years successful experience in fabrication of precast concrete units similar to units required for this project will be acceptable. Fabricator must have sufficient production capacity to produce required units without causing delay in work.
1. Fabricator must be producer member of the Prestressed Concrete Institute (PCI) and/or participate in its Plant Certification Program, PCI Certification C3A (Structural w/Architectural Concrete Finish).
 2. Each facility utilized must be certified for the type of product produced.
- C. Erector Qualifications: The erector must be certified by PCI and shall have five years successful experience in the erection of precast concrete units similar to those required for this project. Submit proof of current erection certification certified for complex structural systems.
1. Welder Qualifications: Field Welder shall be certified on the material and for the type of welding performed. Submit proof of current certification.
- D. Analysis and Design by the Professional Engineer retained by the Fabricator: The Professional Engineer shall have a minimum of five years of experience in designing Precast Concrete Parking Structures.
1. All precast concrete units and precast concrete structural frame shall be analyzed and designed by the fabricator to support self-weight, superimposed dead, live and impact loads, volume change and thermal loads, handling loads and lateral (including but not limited to wind and seismic) loads as required for compliance with the governing Building Code. In addition, the following shall be required of the precast concrete fabricator:
 2. For precast concrete structures where stability of the structure and the structural resistance to the lateral loads in accordance with the governing Building Code is to be provided by the precast concrete components, walls, frames, braces, etc., either by themselves or in combination with other structural members, the precast concrete fabricator shall analyze the structure in accordance with the structural system identified in the contract documents. The fabricator shall calculate lateral loads as required by the Building Code to be used in such analysis for both the completed structure and relating to the erection sequencing.
 3. The precast concrete fabricator shall provide complete analysis and design calculations prepared and stamped by the Registered Engineer, licensed in State where project is located. The information in the calculations shall be paginated, provided with the index page, and shall include the following as a minimum:

- a. Sketches of structural system(s) which have been analyzed.
- b. Calculation of the required gravity and lateral loads.
- c. Sketches of models analyzed (with node and member numbering per computer analysis, if used).
- d. Summary of material and member properties and boundary conditions assumed.
- e. Summary of individual loadings and load combinations.
- f. Reactions at supports and connections due to the loading combinations considered.
- g. Forces in most critical individual members due to the loading combinations considered.
- h. Design calculations of representative connections and member reinforcement.

(Where word "Fabricator" is used, it means the Engineering Work to be done by the approved Professional Engineer retained by the Fabricator.)

- E. Fire-Resistance Rated Precast Units: Where precast concrete units are required to meet a particular fire-resistance classification, provide units that meet the fire resistance as determined by the applicable IBC Code criteria or PCI MNL 124MNL.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver precast concrete units to project site in such quantities and at such times to assure continuity of installation. Store off-loaded precast units within the boundaries of the project site to prevent cracking, distortion, staining, or other physical damage, and so that markings are visible. Lift and support units at designated lift points.
- B. Deliver anchorage items, which are to be embedded in other construction before start of such work. Provide setting diagrams, design templates, instructions and directions as required for installation.

PART 2 - PRODUCTS

2.1 FORMWORK

- A. Provide forms and where required, form facing materials of metal, plastic, wood, or other acceptable material that is non-reactive with concrete and will produce required finish surfaces.
- B. Accurately construct forms, mortar-tight, of sufficient strength to withstand pressures due to concrete placing operations, temperature changes, and when prestressed, pretensioning and detensioning operations. Maintain formwork to provide completed precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified in PCI MNL 116.

2.2 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A615, Grade 60, unless otherwise indicated. Reinforcement to be welded shall conform to ASTM A706 Grade 60.
- B. Steel Wire: ASTM A82, plain, cold-drawn, steel.
- C. Welded Wire Fabric: ASTM A185.
- D. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing, complying with CRSI recommendations.

1. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

E. Coated Reinforcement

1. Epoxy Coated: ASTM A775. Fusion bonded coating apply after fabrication and bending. Film thickness of coating after curing to be 7 to 12 mils when measured in accordance with Method G12. Provide epoxy coated reinforcing as defined below.
 - a. All embedded reinforcement extending from precast concrete components into the cast-in-place concrete topping if required by design.
 - b. All reinforcement placed into grouted joints between precast concrete units, if those joints are subject to elements or vehicular traffic.
 - c. Support steel for all epoxy coated reinforcing steel.
2. Epoxy Patching Compound: ASTM A775.

2.3 PRESTRESSING TENDONS

- A. Uncoated, 7-wire stress-relieved strand complying with ASTM A416. Use Grade 250 unless Grade 270 is indicated.
- B. Strand similar to above, but having size and ultimate strength of wires increased so that ultimate strength of the strand is increased approximately 15 percent, or strand with increased strength but with fewer number of wires per strand, may be used at manufacturer's option.

2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C150, Type I or Type III.
 1. Use only the same type of cement, fly ash and round granulated blast furnace slag throughout project in any one mix design, unless otherwise acceptable to Architect.
 2. Uniformity of cured concrete appearance resulting from the concrete mix and its constituents, manufacturing or handling practices is the manufacturer's responsibility.
- B. Aggregates: ASTM C33, and as herein specified. Provide aggregates from a single source for exposed concrete.
- C. Water: Potable.
- D. Air-Entraining Admixture: ASTM C260.
- E. Water-Reducing Admixture: ASTM C494, Type A, or other Type approved for fabricator's units.
- F. Corrosion Inhibiting Admixture: ASTM C494 Type C..

2.5 CONNECTION MATERIALS

- A. Carbon Steel Shapes and Plates: ASTM A36: All connection plates, bars and shapes shall be hot dip galvanized in accordance with ASTM A123 or A153 as applicable. Removal of zinc coating for welding and re-installation of the same after welding shall be per paragraph 3.1.C.2 of this specification section.
- B. Anchor Bolts: ASTM A307, low-carbon steel bolts, regular hexagon nuts and carbon steel washers.

1. Provide ASTM A307, with ASTM A563 heavy hex nuts and carbon steel washers.
- C. Threaded Fasteners: ASTM A307 or A325 heavy hexagon structural bolts, heavy hexagon nuts and washers.
1. Galvanized: ASTM A307 or A325, with ASTM A563 heavy hex nuts and carbon steel washers, hot-dip galvanized ASTM A153.
- D. Bolts at column splices: For anchoring columns within a 2'-0" height above a respective floor level, stainless steel anchor bolts conforming to ASTM F593, Group A, Type 304 shall be used together with corresponding stainless steel nuts and washers. For column splices outside of the 2'-0" zone above any floor level, see sub-paragraph C above.
- E. Bearing Pads: Provide bearing pads for precast concrete units as indicated on drawings.
1. Elastomeric Pads: Vulcanized, chloroprene elastomeric compound, molded to size or cut from a molded sheet, 50-60 shore A durometer.
 2. Frictionless Pads: Tetrafluoroethylene (TFE), with glass fiber reinforcing as required for service load bearing stress.
 3. Random Oriented Fiber Reinforced: Shall support compressive stress of 3,000 psi with no cracking, splitting or delaminating in internal portions of the pad. One specimen shall be tested for every 100 pads used.
 4. Cotton Duck Layer Reinforced: Elastomeric pads with closely spaced layers of fabric meeting AASHTO specification section 18.10.2.
 5. Plastic: Multi-monomer plastic strips shall be non-leaching and support construction loads with no visible overall expansion. Limit to plank bearing only.
 6. Tempered or Untempered Hardboard: Limit use to plank bearing only. Do not use in areas where bearing material in service may remain wet for extended periods of time.
- F. Tee Flange Connection: Plates and bars; stainless steel per ASTM A666, Type 304, Type 201L or Type 201LN, unless alternate material is acceptable to the Engineer of Record.
- G. Welding Electrodes: Comply with AWS standards.
- H. Accessories: Provide clips, hangers, and other accessories required for installation of project precast units. Embeds and accessories required for the connection or attaching of subsequent materials are to be provided by the Trade requiring the embeds. Embed materials that are to be cast into precast members are to be provided to the precaster in a timely manner as to not delay fabrication.

2.6 GROUT MATERIALS

- A. Cement Grout: Portland cement, ASTM C150, Type I, and clean, natural sand, ASTM C404. Mix at ratio of 1.0 part cement to 3.0 parts sand, by volume, with minimum water required for placement and hydration.
- B. Non-metallic, Shrinkage-Resistant Grout: Pre-mixed, non-metallic, non-corrosive, non-staining product containing selected silica sands, Portland cement, shrinkage compensating agents, plasticizing and water reducing agents, complying with ASTM C1107. Alternate grout material for the rebar splice connections to be in accordance with the manufacturer's recommendations.
1. Products: Subject to compliance with requirements, products, which may be incorporated in the work, include, but are not limited to, the following:
 - a. Euco N.S.: The Euclid Chemical Co.
 - b. Crystex; L & M Construction Chemicals
 - c. Masterflow 713 Plus; Master Builders
 - d. Five Star Grout; U.S. Grout Corp.

2.7 PROPORTIONING AND DESIGN OF MIXES

- A. Prepare design mixes for each type of concrete required in conformance with the requirements of Section 03 30 00 - Cast-in-Place Concrete.
1. Design mixes may be prepared by independent testing facility or by qualified precast manufacturing plant personnel, at precast manufacturer's option.
- B. Produce standard weight concrete consisting of specified Portland cement, aggregates, admixtures, and water to produce the following minimum properties.
1. Compressive strength; 5000-psi minimum at 28 days. Release strength for prestressed units: 3500 psi.
 2. Cure compression test cylinders using same methods as used for cast-in-place concrete work, and as required by the Section 01 40 00 of these Specifications.
- C. Submit written reports to Architect of proposed mix for each type of concrete at least 15 days prior to start of precast unit production. Do not begin concrete production until mixes and evaluations have been reviewed by Architect.
- D. Adjustment to Concrete Mixes: Mix design adjustments may be requested when characteristics of materials, job conditions, weather, test results, or other circumstances warrant. Laboratory test data for revised mix designs and strength results must be submitted to and accepted by Architect before using in the work.
- E. Admixtures:
1. Use air-entraining admixture in concrete and shall conform to the following air content limits, unless otherwise indicated. Total air content (percent by volume): 6% + 1-1/2% or 6% - 1%.
 2. Use water-reducing admixtures in strict compliance with manufacturer's directions. Admixtures to increase cement dispersion, or provide increased workability for low-slump concrete, may be used subject to Architect's acceptance.
 3. Use amounts as recommended by admixture manufacturer for climatic conditions prevailing at time of placing. Adjust quantities of admixtures as required to maintain quality control.
- F. Chloride Ion Content of Design Mix (ASTM C1218): For the purposes of this sub-section only, compliance to the requirements below shall be provided for elements of the structure exposed to the chloride ions in service. These include among others, precast concrete double-tees, double-ledger beams, single-ledger beams, spandrel beams, hollow-core slabs/planks, walls and columns in parking areas, reinforced concrete walls, columns and piers in parking areas, and cast-in-place concrete topping.
1. For protection against corrosion, maximum water soluble chloride ion concentration in hardened concrete at 28 days shall be limited to quantities indicated in the ACI 318 Table 4.4.1, except that percentages listed shall be taken against the weight of cementitious materials (Portland Cement plus Fly Ash or other pozzolans, plus GGBFS).
 2. Mixes with the water soluble chloride ion concentration in excess of the limits per ACI 318 Table 4.4.1 as determined by testing per ASTM C1218, will not be accepted. The contractor shall identify the source of the excess chloride ions (aggregates, water, admixtures, etc.) take measures to remove it from the affected mix(es). Alternatively, the contractor may choose to use the specified corrosion inhibiting admixture at 1 gallon per cubic yard for every 0.01% of excess water soluble chloride ion, to the maximum of 3 gallons per cubic yard.

2.8 ARCHITECTURAL PRECAST CONCRETE

- A.
1. Architectural Precast Concrete: All exterior precast units including but not limited to columns, shear walls, wall panels, cornices, stair and elevator towers and spandrels shall be cast and finished to produce an Architectural precast buff finish utilizing 50% white cement, 50% grey cement and color

pigment. All exterior precast units are to receive a light sandblast finish. Precast units shall be uniform in appearance, texture and buff color to match sample panels prepared by the Precaster and approved by the Owner and the Architect. Architectural concrete mix must include a blend of white/grey cement to ensure color consistency in the final product. Thin-brick shall color and size to be chosen by Architect from samples provided by Precaster.

2.9 THIN BRICK VENEER

- A. Materials: Scott S System Thin Brick, conforming to ASTM C 1088, fabricated to TBX tolerance, assembled in single-use (Brick Snap) Brick embed system or equal.
- B. Grade: Exterior
- C. Brick Size: 2-1/4 inches high by 7-5/8 inches wide by 9/16 inch thick.
 - 1. Face Brick Dimensional Tolerances: Maximum variation from indicated nominal dimensions:
 - a. Length: Plus 0, minus 1/16 inch
 - b. Height: Plus 0, minus 1/16 inch
 - c. Thickness: Plus or minus 1/16 inch
- D. Thin brick color and blend are to match the Willard & Deloreto Hall building brick located across the street from the project site.
- E. Single- Use Template System for Brick Embed Application: Scott System Brick Snap modular templates formed of recyclable styrene plastic to surround single brick units, having factory- applied bond breaker.
 - 2. Template Dimensional Tolerances: Maximum variation from indicated nominal dimensions of brick cavities:
 - a. Length: Plus or minus 1/64 inch.
 - b. Height: Plus or minus 1/64 inch
 - c. Depth: Plus or minus 1/64 inch
 - 2. Maximum variation from square, measured diagonally across non-adjacent corners: Plus or minus 1/64 inch

2.10 FABRICATION

- B. General: Fabricate precast concrete units complying with manufacturing and testing procedures, quality control recommendations, and dimensional tolerances of PCI MNL-116, and as specified for types of units required.
- C. Ready-Mix Concrete: Comply with requirements of ASTM C94, and as herein specified.
 - 1. Delete references for allowing additional water to be added to batch for material with insufficient slump. Addition of water to batch will not be permitted.
 - 2. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required when the air temperature is between 85 deg. F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hour to 75 minutes and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.
- D. Built-in Anchorages: Accurately position built-in anchorage devices and secure to formwork. Locate anchorages where they do not affect position of main reinforcement or placing of concrete. Do not relocate bearing plates in units unless acceptable to Architect.

1. Lifting devices shall be placed and cast so as not to weaken the unit during manufacturing, handling and erection. Such devices shall not interfere with the erection or placing of the unit in its final position in the building. These devices shall also be protected from rusting, or other deterioration or damage, and efforts made to minimize visibility the completed work.

- E. Cast-in Holes for openings larger than 10" diameter or 10" square in accordance with final shop drawings. Provide sleeves for horizontal electrical conduit runs and plumbing lines as required. Holes in precast flanges (ie., deck drains, etc.) and other small holes that will be field cut by trades requiring them will not be allowed without prior approval by the Architect/Engineer and the Precast Concrete Manufacturer. See Part 3 of this Section for additional information.

- F. Coat Surfaces of forms with bond-breaking compound before reinforcement is placed. Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces requiring bond or adhesion. Apply in compliance with manufacturer's instructions.

- G. Clean reinforcement of loose rust and mill scale, earth and other materials, which reduce or destroy bond with concrete.

- H. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required. Supports shall not be visible or cause any inconsistency to concrete color or finish.

- I. Place reinforcement to obtain at least the minimum cover for concrete protection. per ACI 318. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

- J. Pretensioning of tendons for prestressed concrete may be accomplished either by single strand tensioning method or multiple-strand tensioning method. Comply with PCI MNL-116 requirements.

- K. Place concrete in a continuous operation to prevent formation of seams or planes of weakness in precast units, complying with requirements of ACI 304R. Thoroughly consolidate placed concrete by internal and external vibration without dislocation or damage to reinforcement and built-in items.

- L. Identification: Provide permanent markings to identify pick-up points and orientation in structure, complying with markings indicated on final shop drawings. Imprint date of casting on each precast unit on a surface, which will not show on the exposed face of precast component or exterior of the finished structure.

- M. Curing by low-pressure steam, by steam vapor, by radiant heat and moisture, or other similar process may be employed to accelerate concrete hardening and to reduce curing time.

- N. Delay detensioning of prestressed units until concrete has attained at least 3500 psi or higher as required by design.
 1. If concrete has been heat-cured, perform detensioning while concrete is still warm and moist to avoid dimensional changes which may cause cracking or undesirable stresses in concrete.
 2. Detensioning of pretensioned tendons may be accomplished either by gradual release of tensioning jacks or by heat cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.

- O. Finish of Formed Surfaces: Provide finishes for formed surfaces of precast concrete as indicated for each type of unit, and as follows:
 1. Standard Finish: Tees, Beams, Girders and Interior Columns - Normal plant run finish produced in forms that impart a smooth finish to concrete. Small surface holes caused by air bubbles, normal form joint marks, and minor chips and spalls will be tolerated, but no major or unsightly imperfections, honeycomb, or structural defects will be permitted.

2. Architectural Finish: Perimeter columns, wall panels and exterior spandrels to receive an Architectural precast buff finish utilizing 50% white cement, 50% grey cement and color pigment. Finished precast units shall have a light sandblast finish, as indicated on the drawings, and shall have a uniform appearance in color and texture as approved by the Owner and the Architect.

P. Finish of Unformed Surfaces: Apply trowel finish to unformed surfaces unless otherwise indicated. Consolidate concrete, bring to proper level with straightedge, float and trowel to a smooth uniform finish. No surfaces exposed to freeze-thaw cycles in service shall be finished with power equipment, unless evidence acceptable to the Architect/Engineer presented by the manufacturer that such a finishing does not reduce the amount of air entrainment in the top 1/8" of precast concrete.

1. Provide a uniform broom finish on tees parallel with the long direction of the unit or swirl finish (at the manufacturer's option) as approved by the Architect. Example of manufacturer's broom finish to be reviewed for approval by architect during the Mock-Up review.
2. Provide an intentionally roughened surface (1/4" amplitude) on tees and beams to receive a concrete topping, where indicated on drawings.

Q. For Structural Precast with architectural finish: Comply with the dimensional tolerances of PCI MNL 116.

2.11 LONG SPAN UNITS

R. Type: Plant fabricated, precast prestressed double tee concrete units, produced under rigid, factory-inspected process.

S. Furnish units, which are free of voids or honeycomb, with straight true edges and surfaces.

T. Provide "Standard Finish" units as specified.

U. Where ends of strands will not be enclosed or covered, cut flush and cover with high strength mortar, bonded to unit with epoxy resin bonding agent.

V. Adequately reinforce units to resist transporting and handling stresses.

W. Include cast-in weld plates where required for anchorage or lateral bracing to framing units and adjacent precast members.

X. Coordinate with other trades for installation of items to be cast in long-span units.

Y. Provide block-outs for openings in accordance with design drawings or precast unit manufacturer's recommendations.

2.12 STRUCTURAL FRAMING UNITS

Z. Type: Plant fabricated precast prestressed column, girder, floor and stair slab panels, wall panels and spandrel units produced under a rigid factory-inspected process.

AA. Furnish units, which are free of voids or honeycomb, with straight true edges and surfaces.

BB. Provide "Standard Finish" or "Architectural Finish" units as specified.

CC. Where ends of strands will not be enclosed or covered, cut flush and cover with a high strength mortar bonded with an epoxy resin-bonding agent.

- DD. Adequately reinforce units to resist transporting and handling stresses.
- EE. Include cast-in weld plates where required for anchorage or lateral bracing to other supporting members.
- FF. Coordinate with other trades for the installation of items to be cast-in precast structural framing units.

2.13 SOURCE QUALITY CONTROL

- GG. The Owner may employ a separate testing laboratory to evaluate precast manufacturer's quality control and testing methods.
- HH. The precast manufacturer shall allow Owner's testing facility access to materials storage areas, concrete production equipment and concrete placement and curing facilities. Cooperate with Owner's testing laboratory and provide samples of materials and concrete mixes as may be requested for additional testing and evaluation.
- II. Dimensional Tolerances: Units having dimensions smaller or greater than required, and outside specified tolerance limits of MNL 116, will be subject to additional testing as herein specified.
- JJ. Precast units having dimensions greater than required will be rejected if appearance or function of the structure is adversely affected, or if larger dimensions interfere with other construction. Repair, or remove and replace rejected units as required to meet construction conditions.
 - 1. Precast units having dimensions smaller than required will be rejected unless directed otherwise by the Architect.
- KK. Strength of Units: The strength of precast concrete units will be considered potentially deficient if the manufacturing processes fail to comply with any of the requirements which may affect the strength of the precast units, including the following conditions.
 - 1. Failure to meet compressive strength tests requirements.
 - 2. Reinforcement, and pretensioning and detensioning of tendons of prestressed concrete, not conforming to specified fabrication requirements.
 - 3. Concrete curing, and protection of precast units against extremes in temperature, not as specified.
 - 4. Precast units damaged during handling and erection.
- LL. Testing Precast Units: When there is evidence that strength of precast concrete units does not meet specification requirements, the concrete testing service shall take cores drilled from hardened concrete for compressive strength determination, complying with ASTM C42 and as follows.
 - 1. Take at least three representative cores from precast units of suspect strength, from locations directed by Architect.
 - 2. Test cores in a saturated surface dry condition per ACI 318 if concrete will be wet during use of completed structure.
 - 3. Test cores in an air-dry condition per ACI 318 if concrete will be dry during use of completed structure.
 - 4. Strength of concrete for each series of cores will be considered satisfactory if their average compressive strength is at least 85 percent of 28-day design compressive strength.
 - 5. Test results will be made in writing on same day that tests are made, with copies to Architect, Contractor, and precast manufacturer. Include in test reports the project identification name and number, date, name of precast concrete manufacturer, name of concrete testing service, identification letter, name, and type of member or members represented by core tests, design compressive strength compression breaking strength and type of break (corrected for length-diameter ratio), direction of applied load to core with respect to horizontal plan of concrete as placed, and moisture condition of core at time of bearing.

- MM. Patching: Where core test results are satisfactory and precast units are acceptable for use in work, fill core holes solid with patching mortar, and finish to match adjacent concrete surfaces.
- NN. Defective Work: Precast concrete units which do not conform to specified requirements, including strength, tolerances, and finishes, shall be replaced with precast concrete units that meet requirements of this section. Precaster shall also be responsible for cost of corrections to other work affected by or resulting from corrections to precast concrete work.
- OO. Repair Work: If repairs are required for any precast concrete member after casting, the Precaster shall submit a description of the repair (E.G. crack, spall, etc.) and a detailed description of the proposed fix to be used for Architect's review.
 - 1. Mock-up: Upon acceptance by the Architect of the Precaster's repair procedure, a single repair shall be made for Architect review in accordance with the accepted procedure and, upon acceptance, this repair shall be maintained as a standard of acceptance for all future repairs of this type.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads during erection. All columns to be braced in all directions prior to erecting other members, unless stabilized in another acceptable method. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.
- B. Bearing Pads: Install flexible bearing pads where indicated, as precast units are being erected. Set pads on level, uniform bearing surfaces and maintain in correct position until precast units are placed.
- C. Welding: Perform welding in compliance with AWS D 1.1, including qualification of welders.
 - 1. Protect units from damage by field welding or cutting operations and provide non-combustible shield as required.
 - 2. Zinc coated (galvanized) surfaces shall be properly prepared for welding by grinding the coating and ascertaining no inclusion of zinc into any weld.
 - a. Surfaces where zinc coating has been either removed for welding or damaged due to handling shall be repaired. Repair damaged metal surfaces by cleaning in accordance with SSPC-SP6 and applying a coat of approved galvanizing repair compound. Where cleaning per SSPC-SP6 is impractical, use SSPC-SP3 standard. In all instances of coating repair on shop galvanized surfaces, the surface preparation prior to coating application as well the application of the coating shall be witnessed by the Owner's Testing Agency per Section 01 40 00 of these Specifications.
- D. Powder-Actuated Fasteners: Do not use powder-actuated fasteners for surface attachment of accessory items in precast, prestressed unit unless otherwise accepted by precast manufacturer.
- E. Erection Tolerances: Install precast units without exceeding tolerance limits specified in PCI MNL-127 "Recommended Practice for Erection of Precast Concrete" or PCI MNL-120 Chapter 8.
- F. Grouting Connections and Horizontal Joints: After precast concrete units have been placed and secured, grout open spaces at connection and joints as follows:

1. Non-structural horizontal joints: The joints shall be grouted with material per paragraph 2.06A of this Section if required by the precast manufacturer's design.
2. Structural joints: shrinkage-resistant grout consisting of premixed compound and water to provide a flyable mixture without segregation or bleeding.

Provide forms or other acceptable method to retain grout in place until sufficiently hard to support itself. Pack spaces with stiff grout materials, tamping until voids are completely filled. Place grout to finish smooth, plumb, and level with adjacent concrete surfaces. Keep grouted joints damp for not less than 24 hours after initial set. Promptly remove grout material from exposed surfaces before it hardens.

- G. Close coordination and cooperation must be maintained between the General Contractor or Construction Manager and the Precast Concrete Fabricator to overcome any physical obstructions in the area of the work which would prevent suitable access for trucks and cranes in the delivery, receipt and placing of the precast material.
- H. Any attachments made to the precast units in the field must be accepted by the Precast Concrete Fabricator as well as the Architect/Engineer to avoid cutting or otherwise damaging the prestressing tendons or reinforcing steel.
- I. If field cut openings are required by the Contractor, the Contractor shall coordinate with the Precast Concrete Fabricator. Locations and sizes shall be approved by the Architect/Engineer.

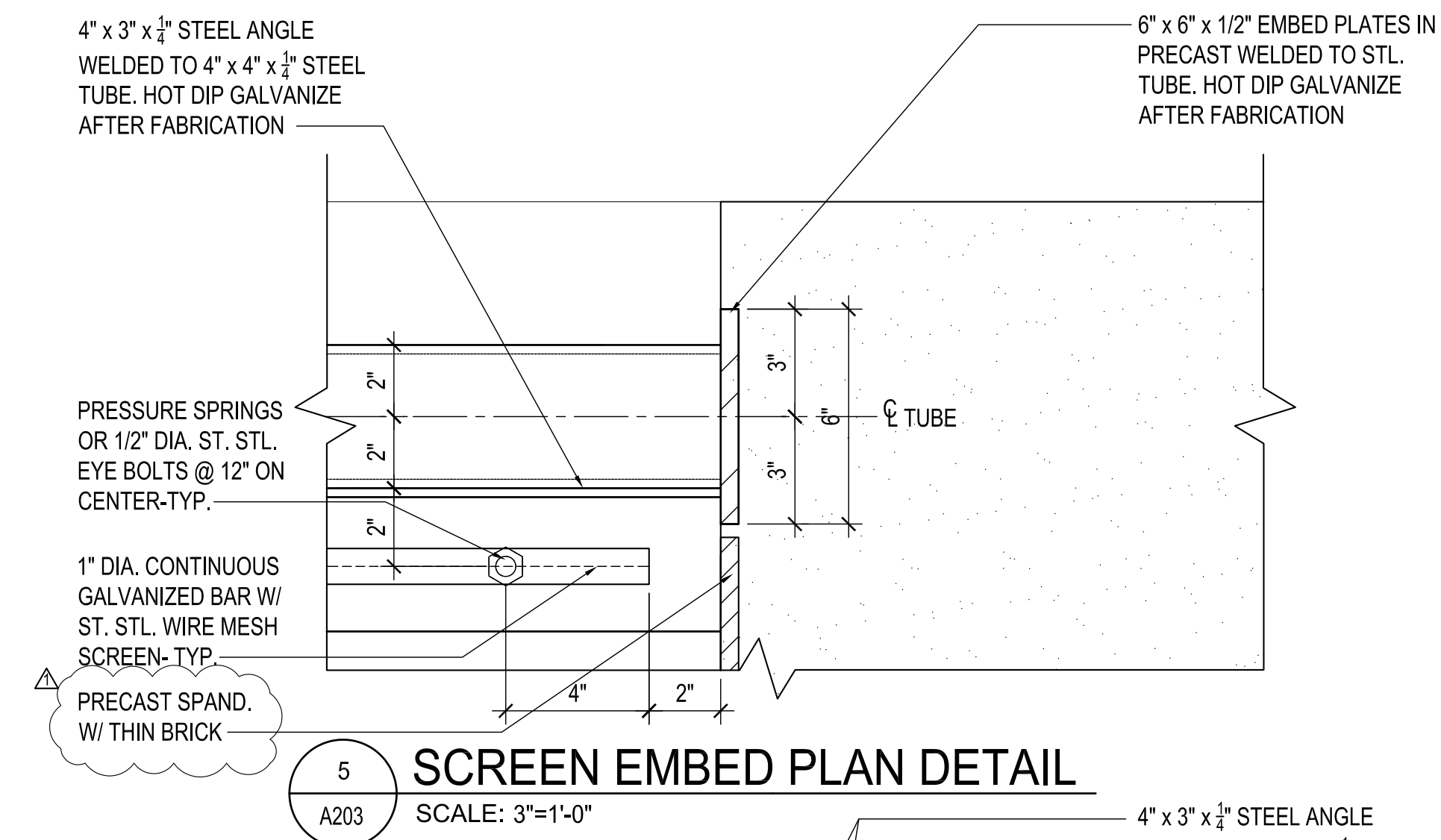
3.2 ADJUST AND CLEAN

- A. Plank and tees that are broken, cracked or chipped shall be repaired or replaced, as directed by the Architect/Engineer.
- B. Surfaces to receive topping shall be clean and thoroughly saturated prior to placing topping slab.
- C. Patch lifting pockets, inserts and other openings with patching mortar blended to match the color of the surrounding concrete. See Section 03 30 00 for patching materials.
- D. Patch defective areas with cement mortar and bonding agents as specified in Section 03 30 00. Blend patching mortar to match surrounding area.
- E. Repair or patch architectural concrete with mortar material identical in color to precast members so that when dry, the repair will match surrounding concrete surface.
- F. As directed by the Architect/Engineer, repair cracks in structural members with low viscosity epoxy, pressure injected or route a "V" groove over cracks and caulk with sealant. See Section 03 30 00 and Section 07 92 00 for materials.
- G. Precast manufacturer to remove rubbish and debris resulting from precast concrete work from premises upon completion.

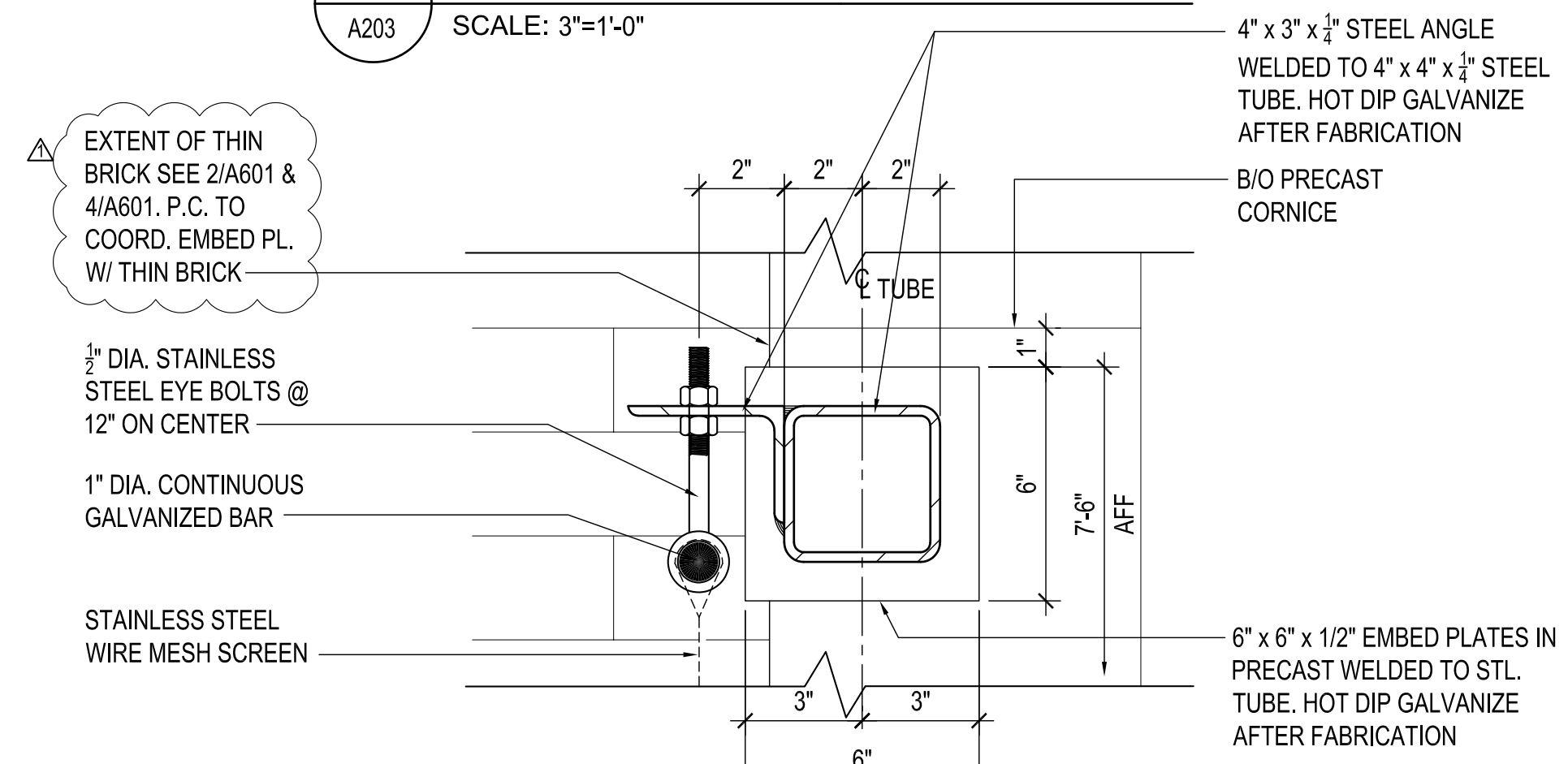
3.3 CERTIFICATION

- A. After the completion of the project, the Registered Professional Engineer retained by the Precast Fabricator (who certified precast drawings and calculations), shall inspect all the precast framing and connections in the field and submit a letter certifying that all members and connections have been observed and the as-built conditions are in accordance with the approved shop drawings and calculations.

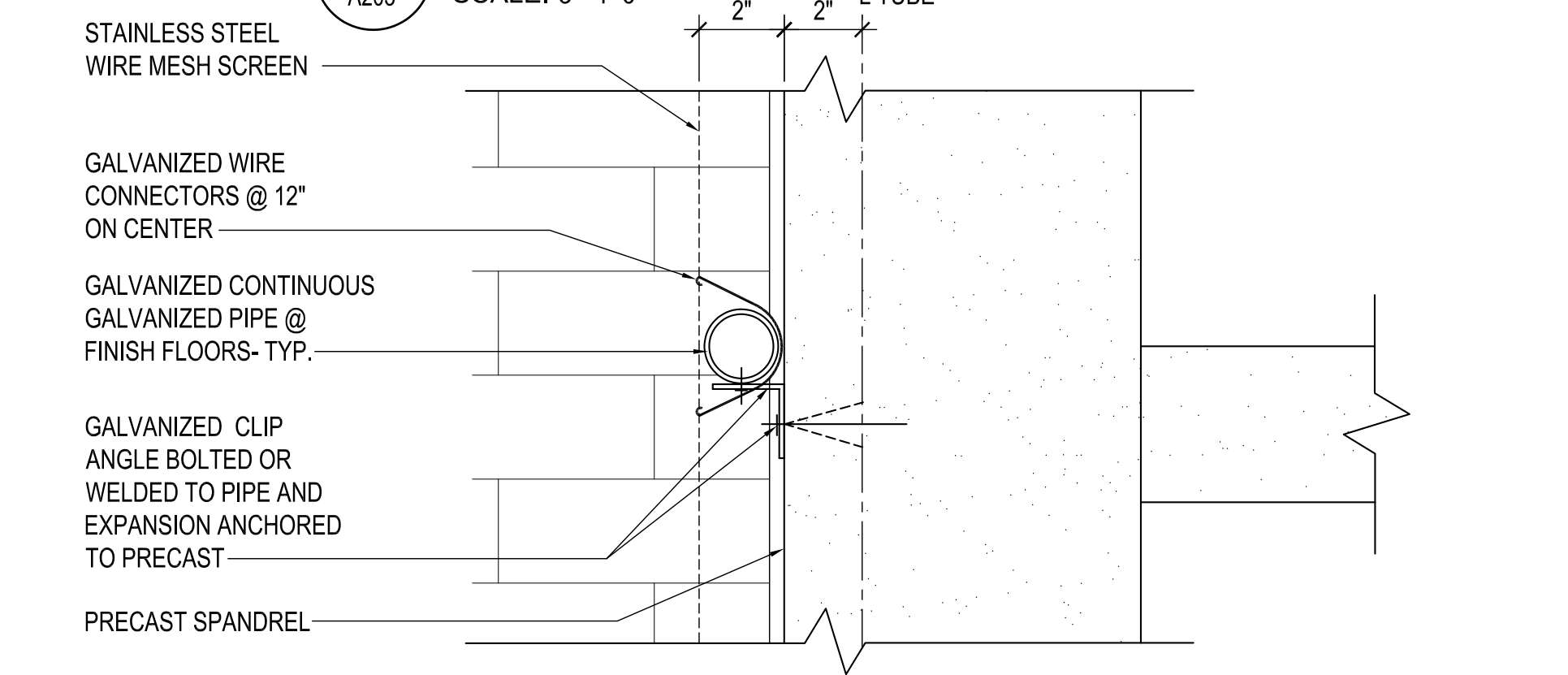
END OF SECTION 03 41 00



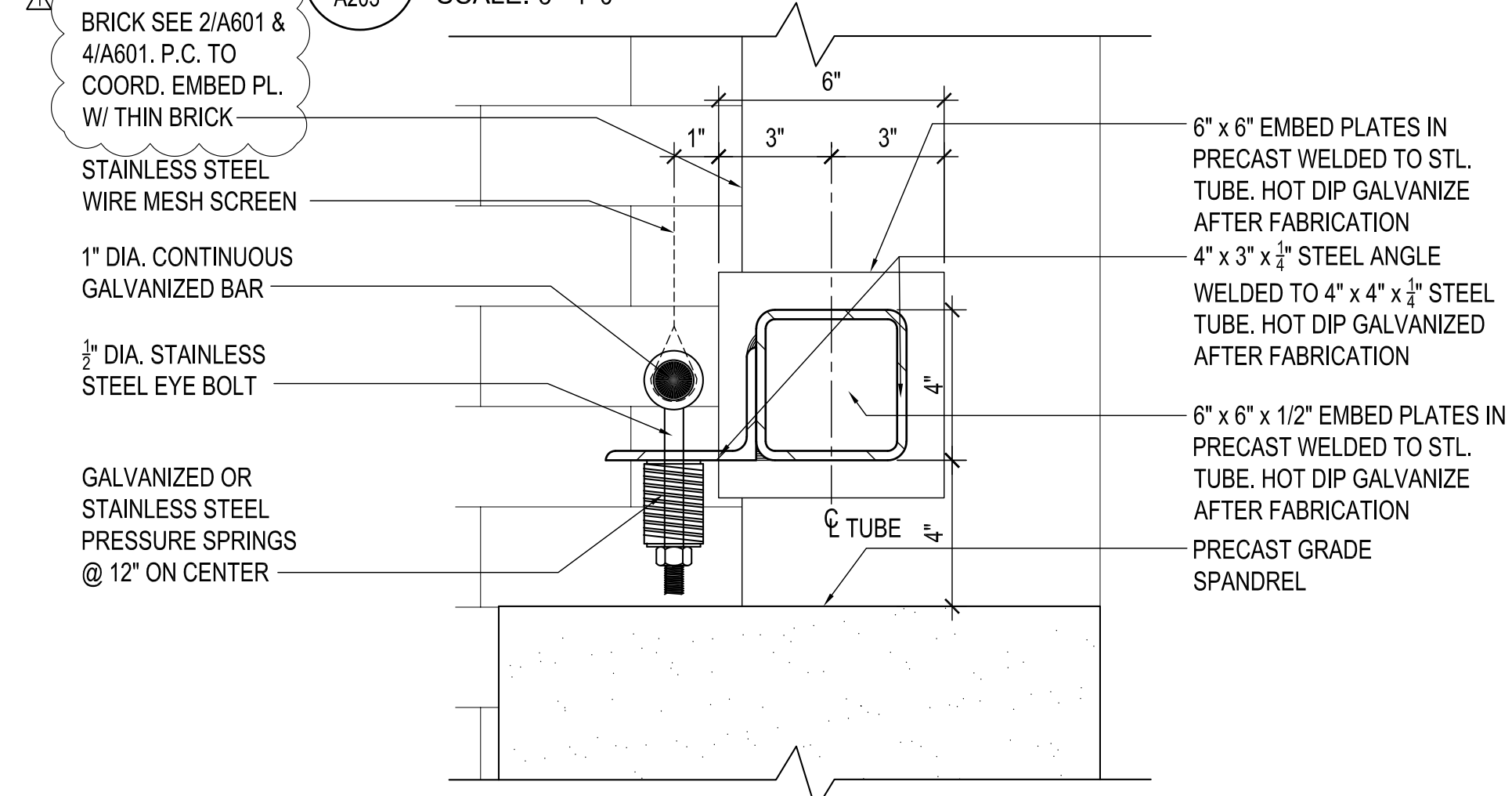
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 SCALE: 3"=1'-0"



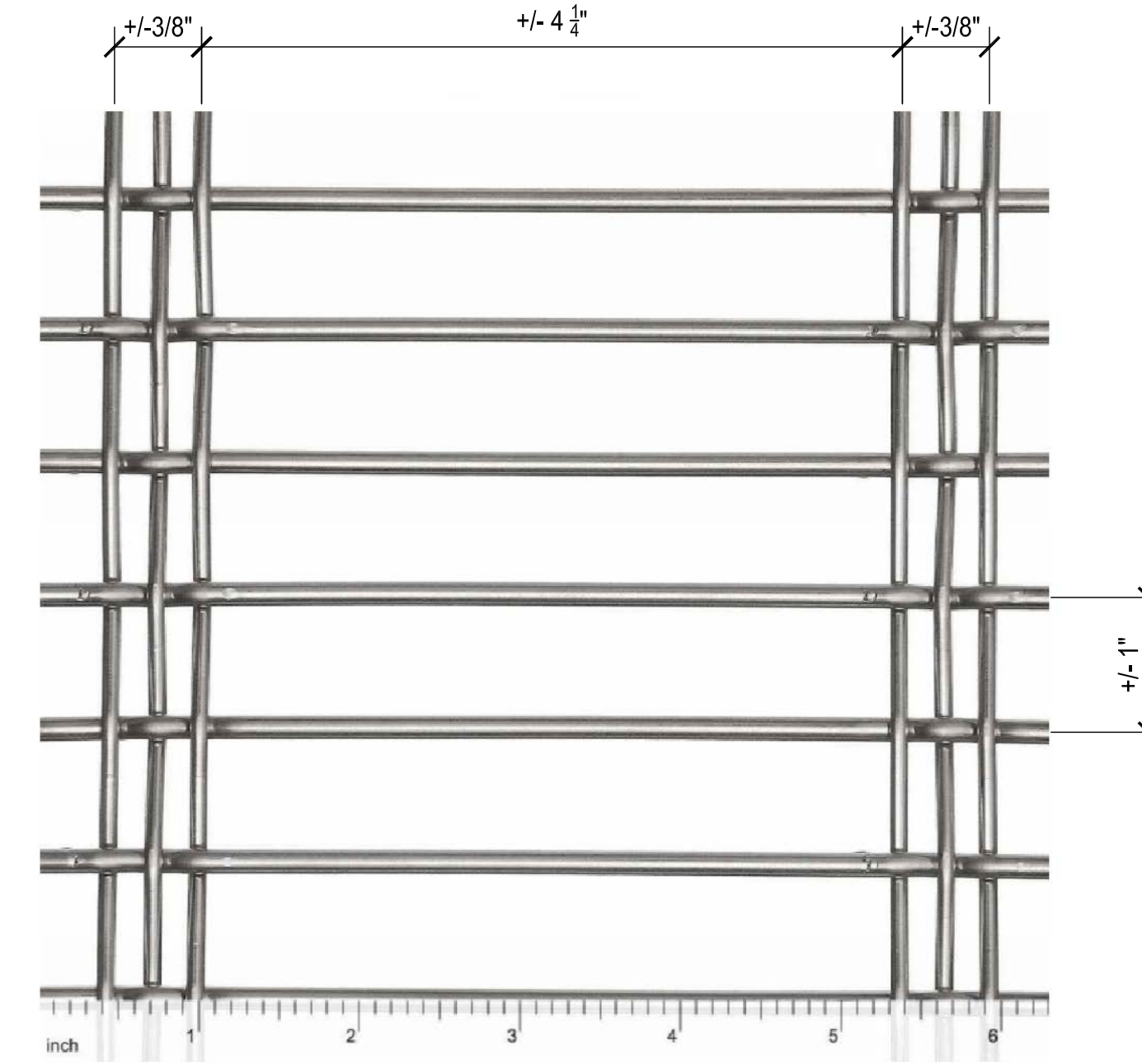
4 SCREEN TOP MOUNT DETAIL
 SCALE: 3"=1'-0"



3 SCREEN INTERMEDIATE MOUNT DETAIL
 SCALE: 3"=1'-0"

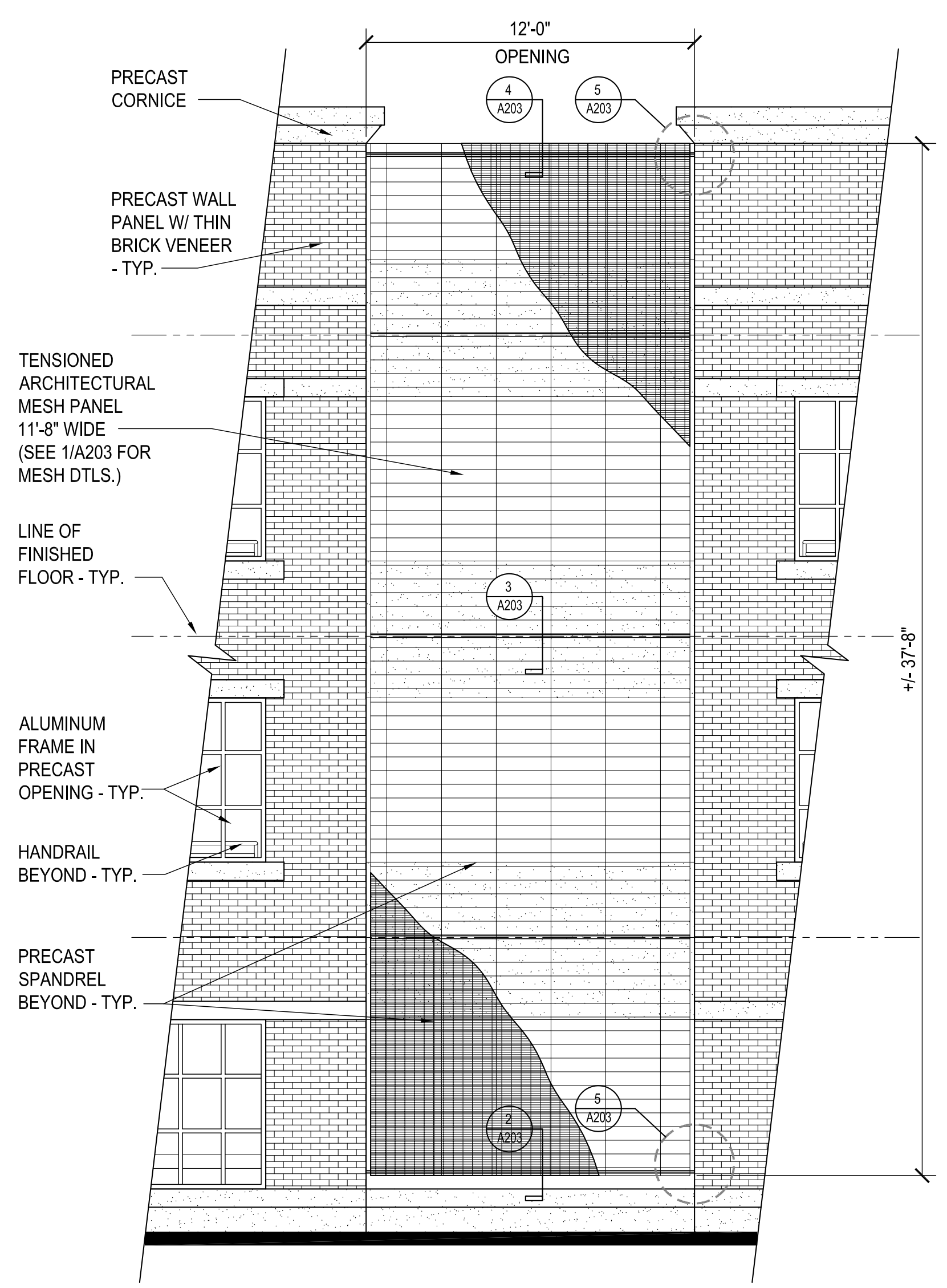


2 SCREEN BOTTOM MOUNT DETAIL
 SCALE: 3"=1'-0"



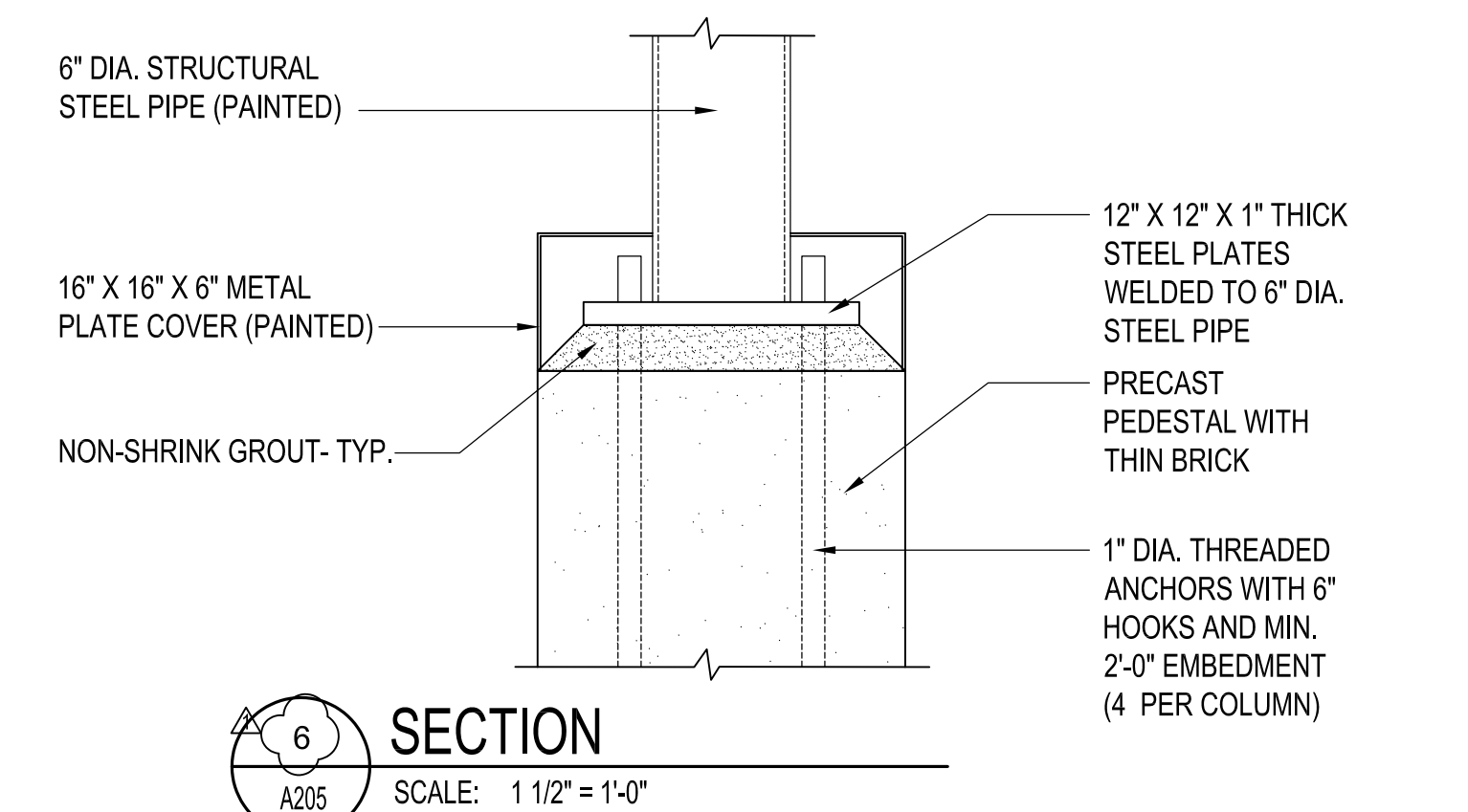
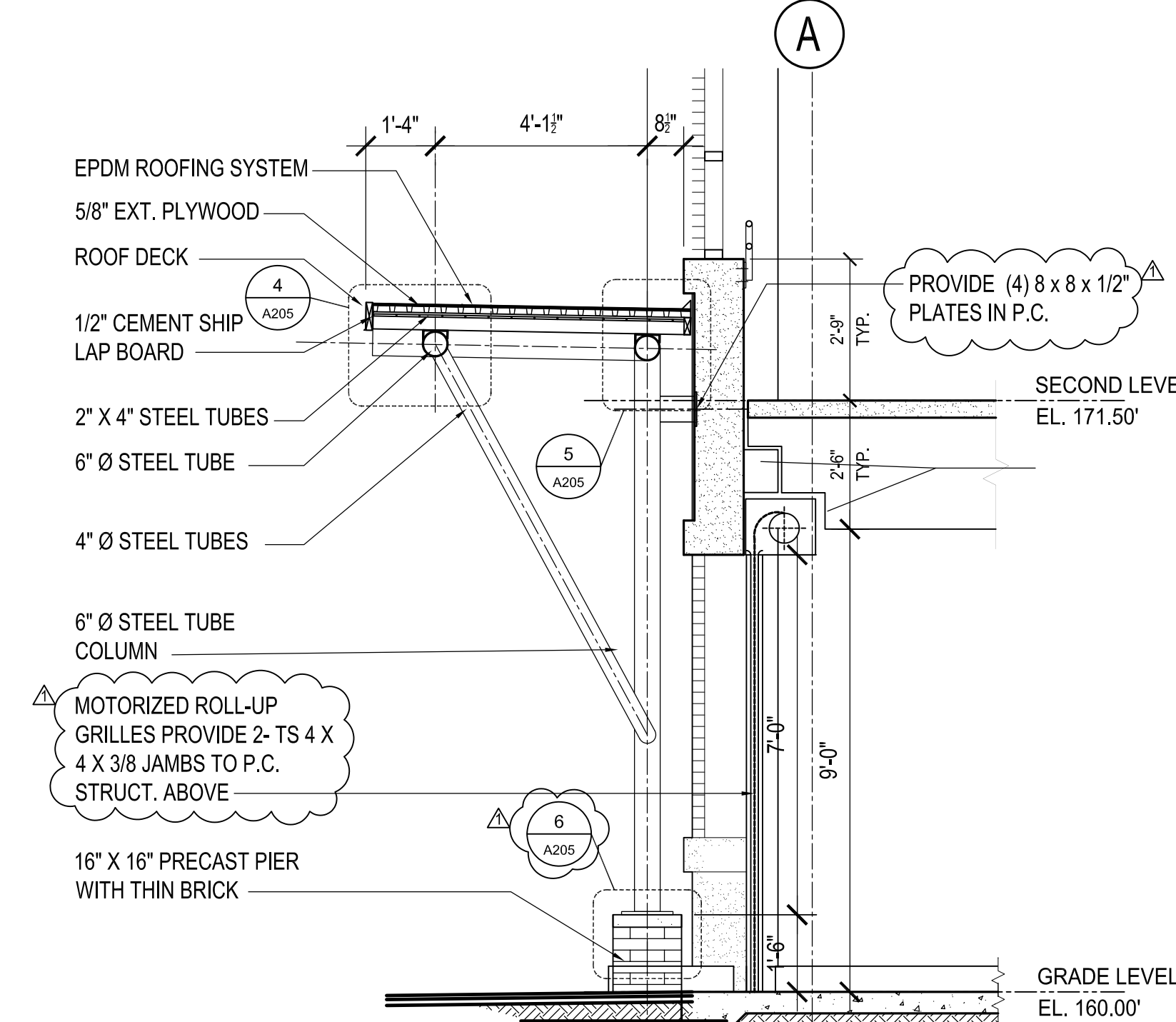
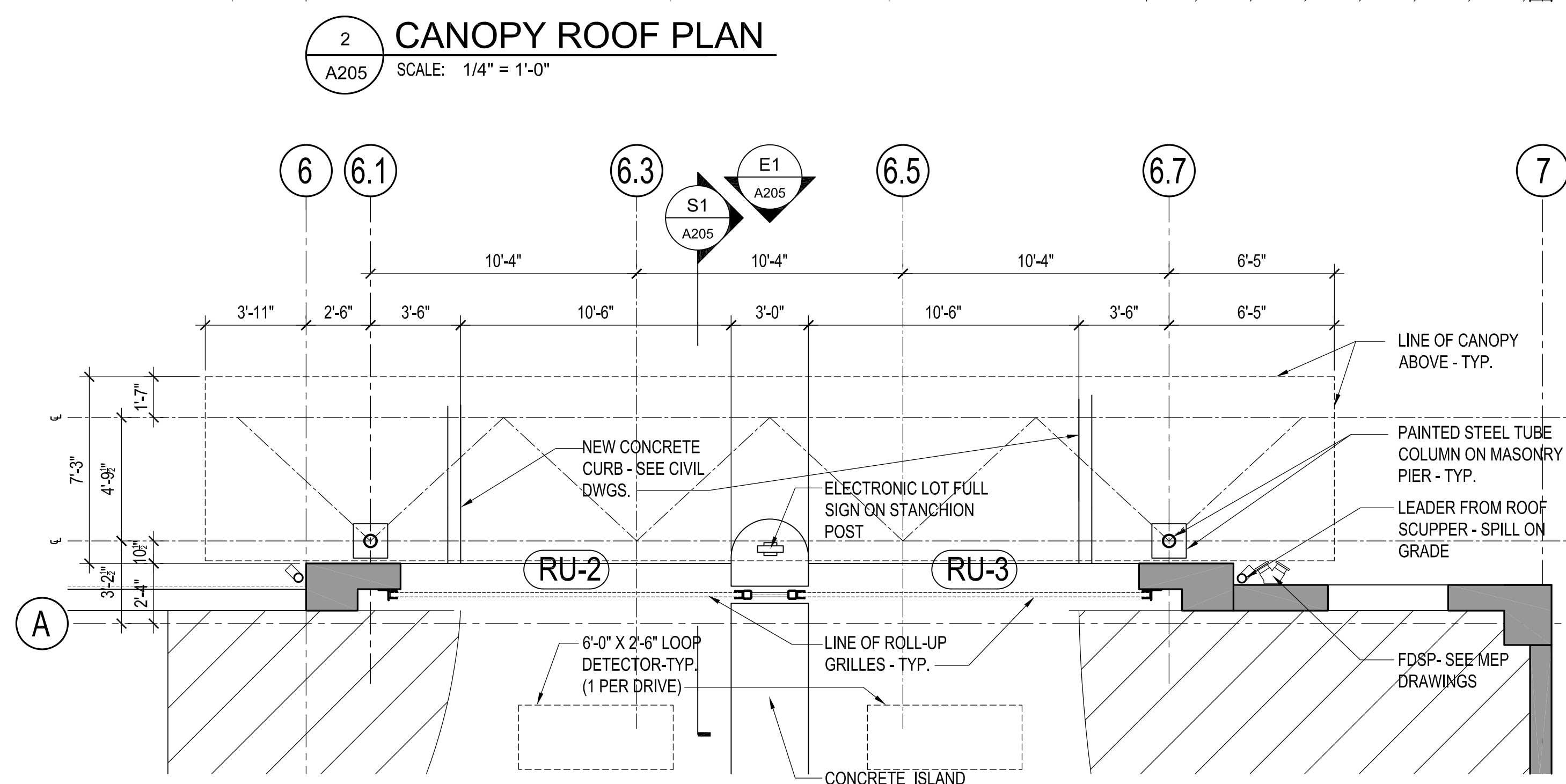
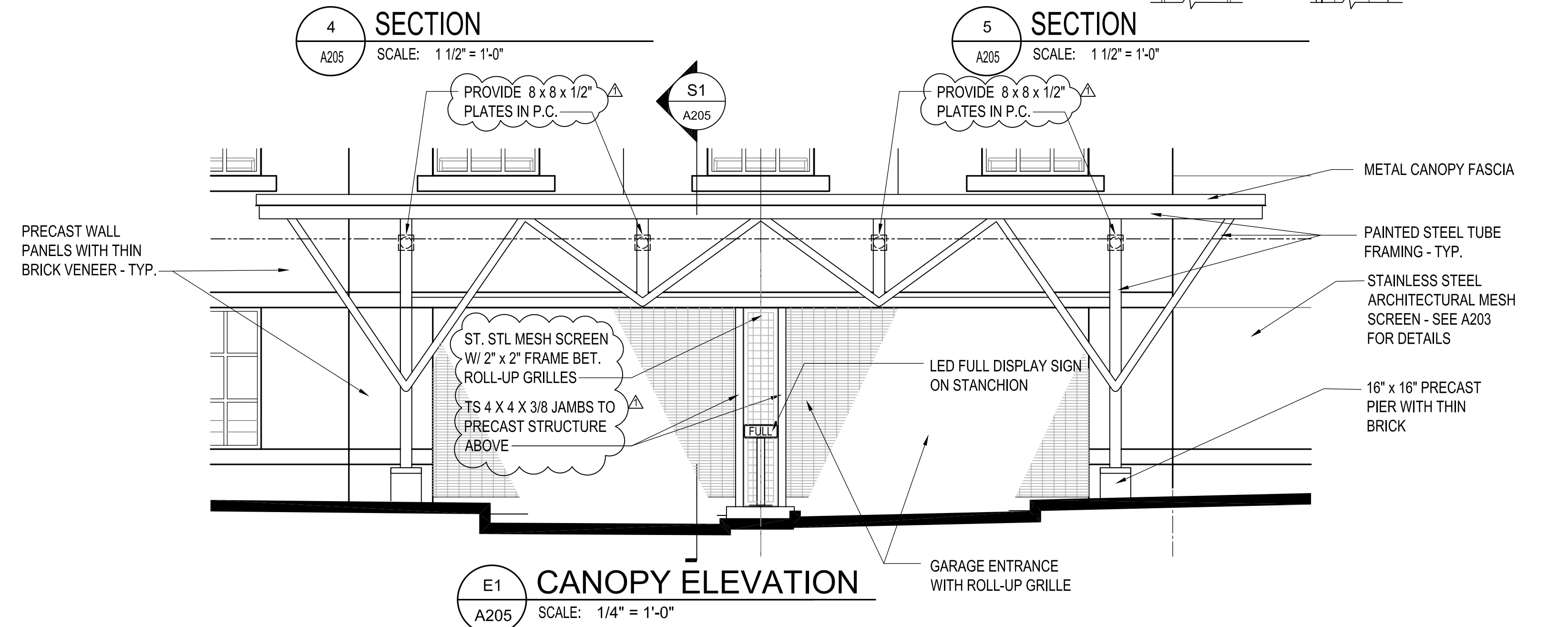
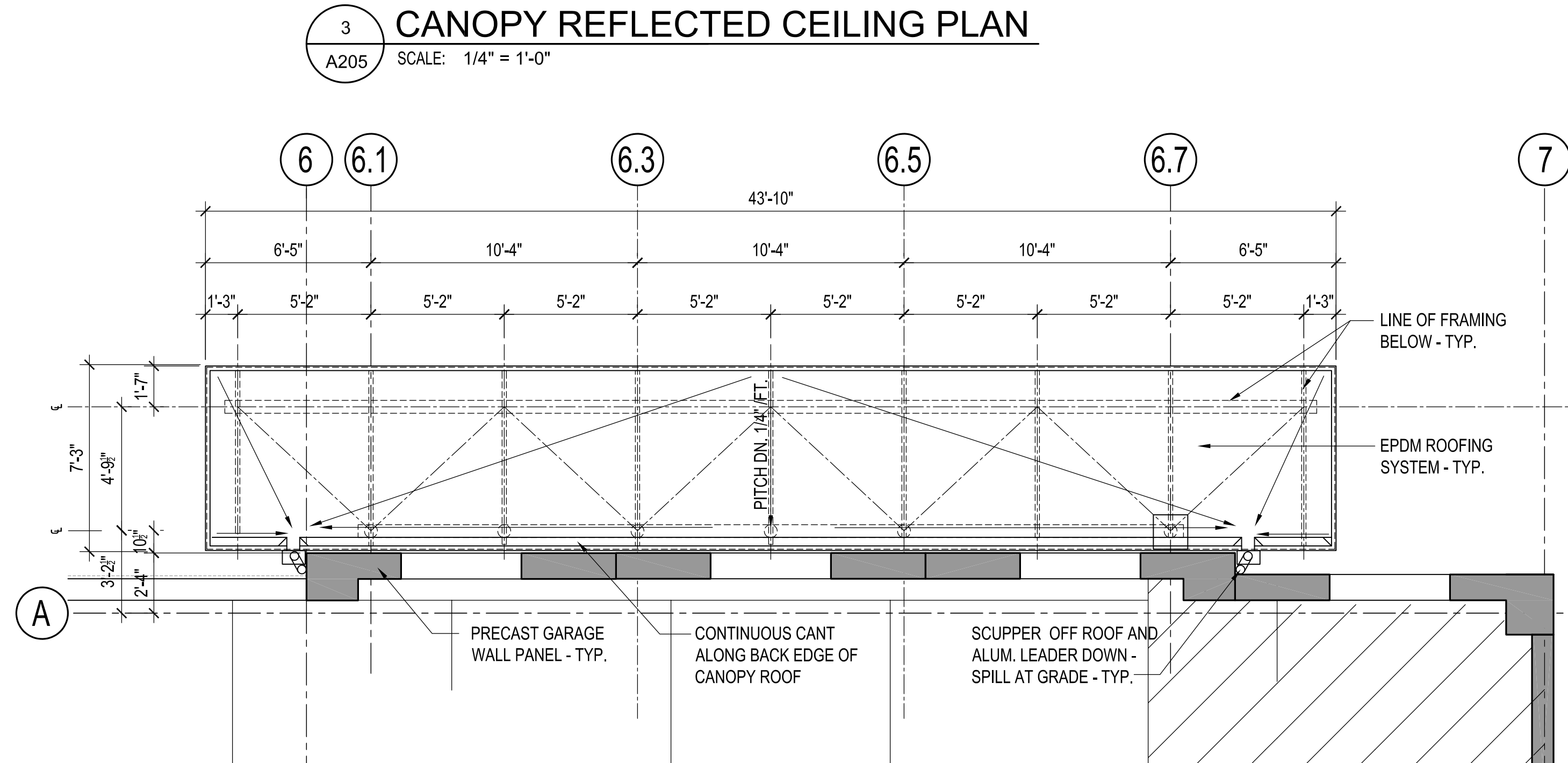
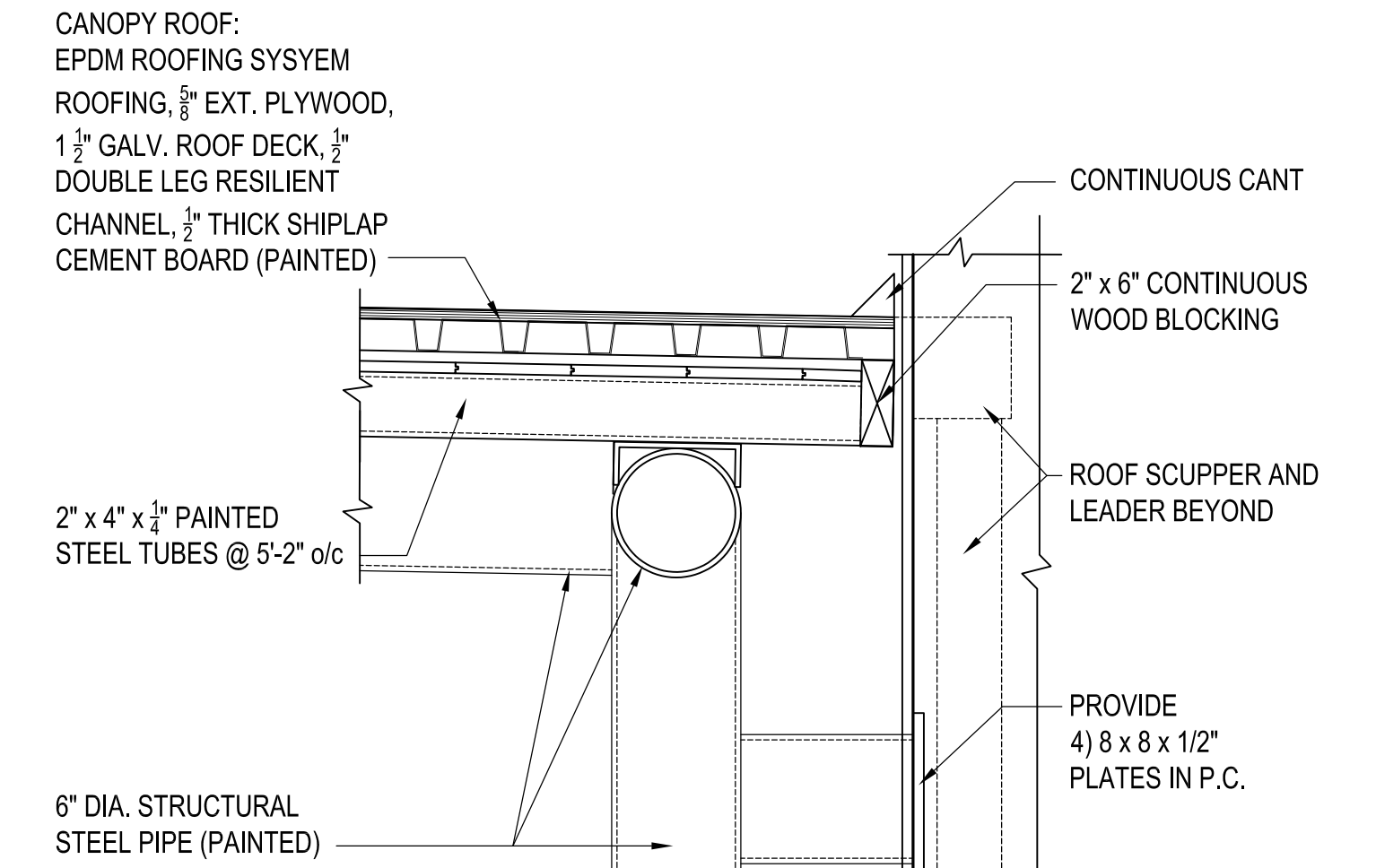
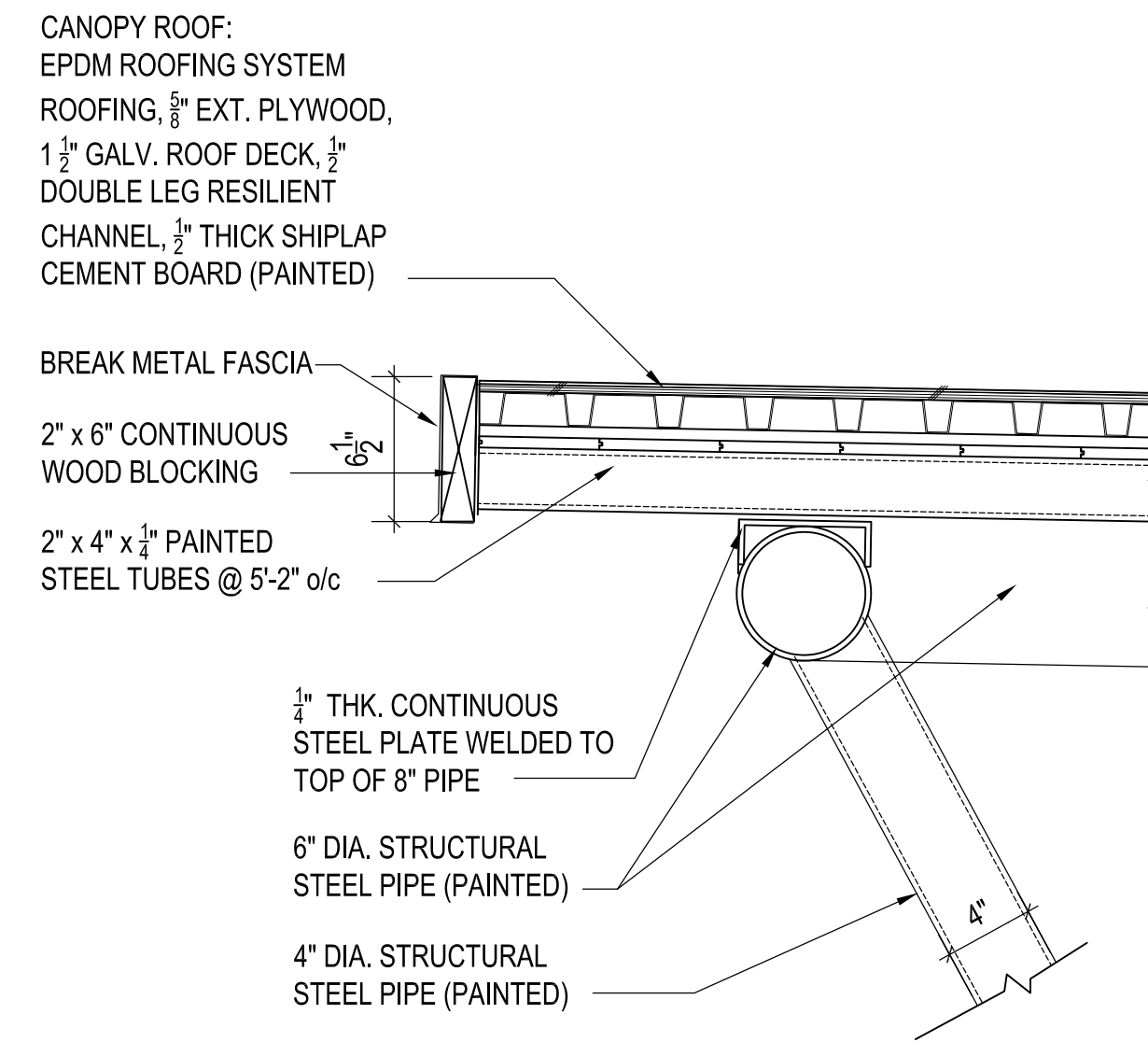
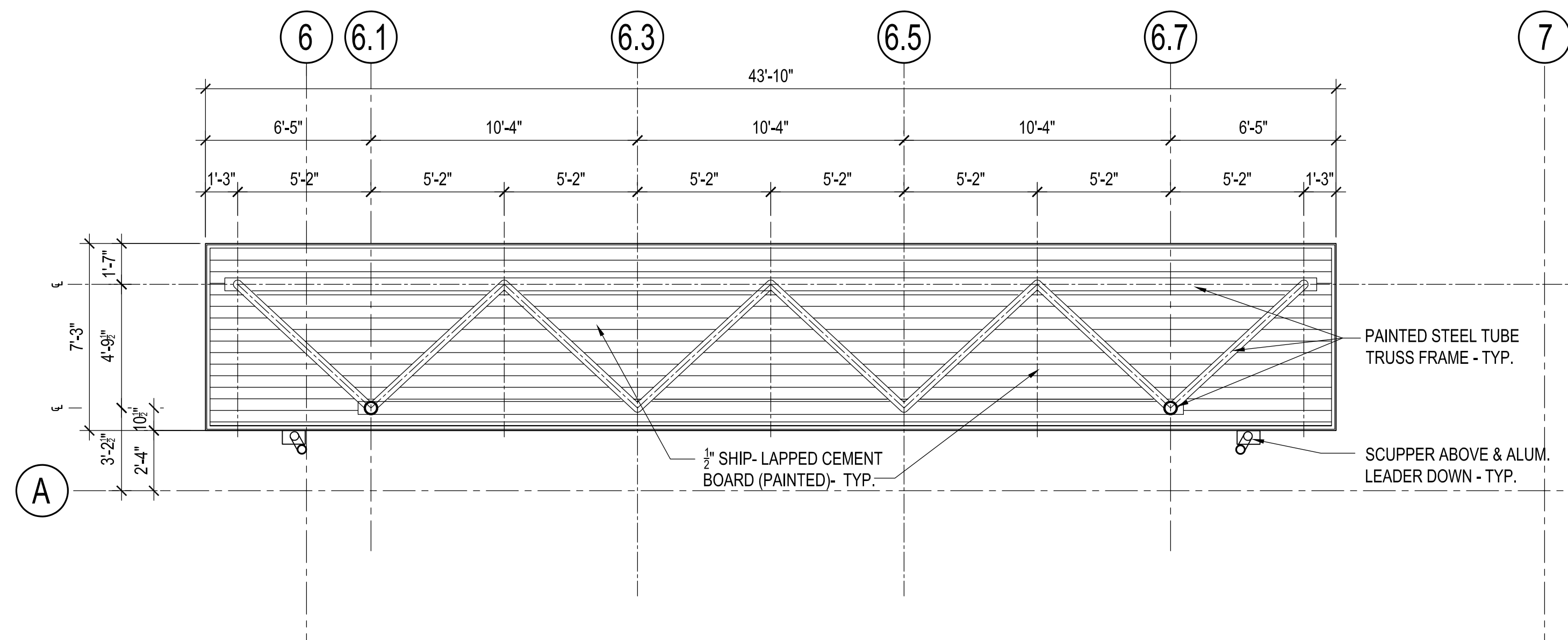
1 MESH DETAIL
 SCALE: NOT TO SCALE

ARCHITECTURAL STAINLESS STEEL MESH PANEL
 OPEN AREA: 75%, WEIGHT: 1.27 LBS./SQ. FT.

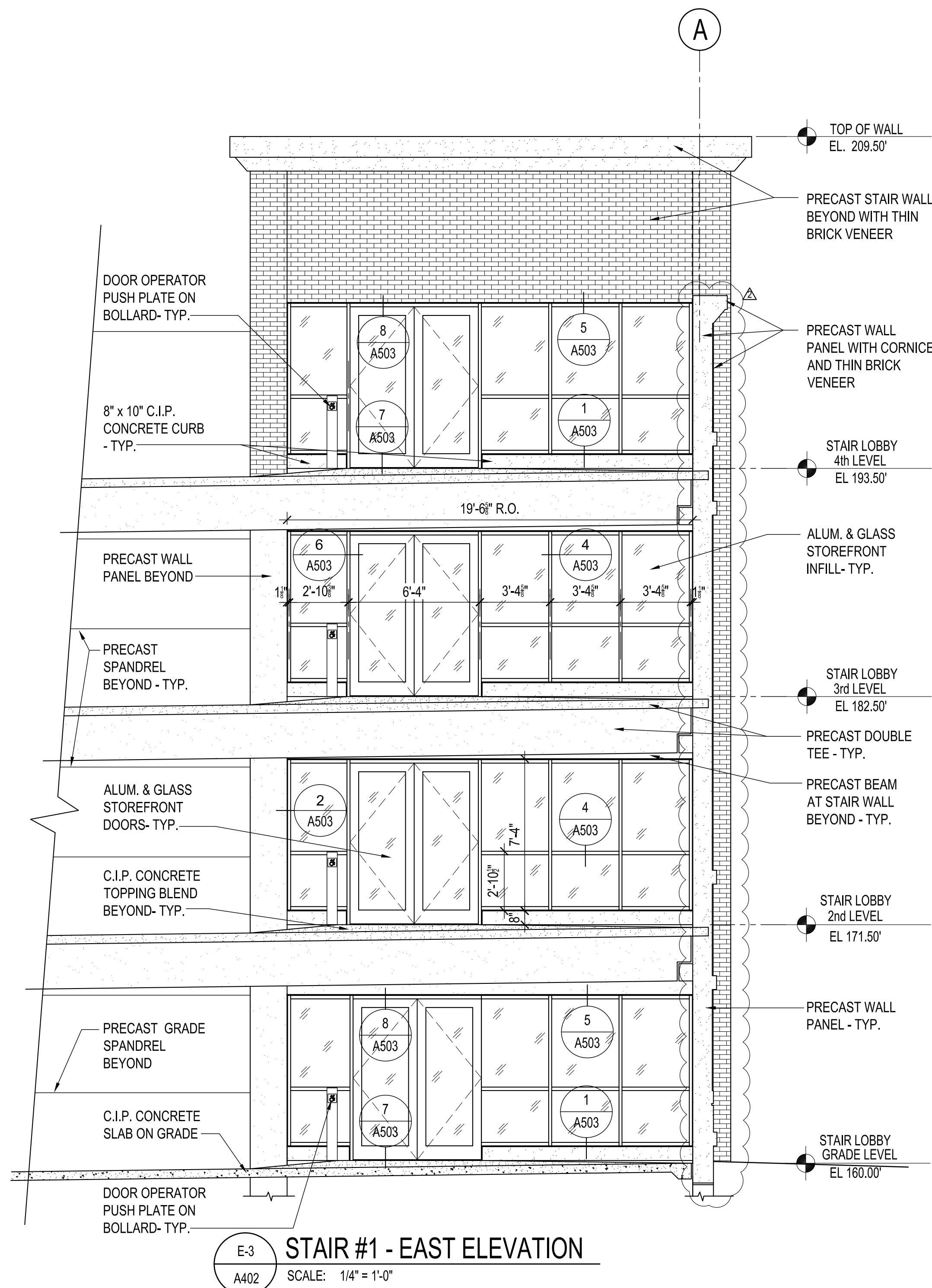


E-1 ARCHITECTURAL MESH SCREEN PANEL
 SCALE: 1/4"=1'-0"

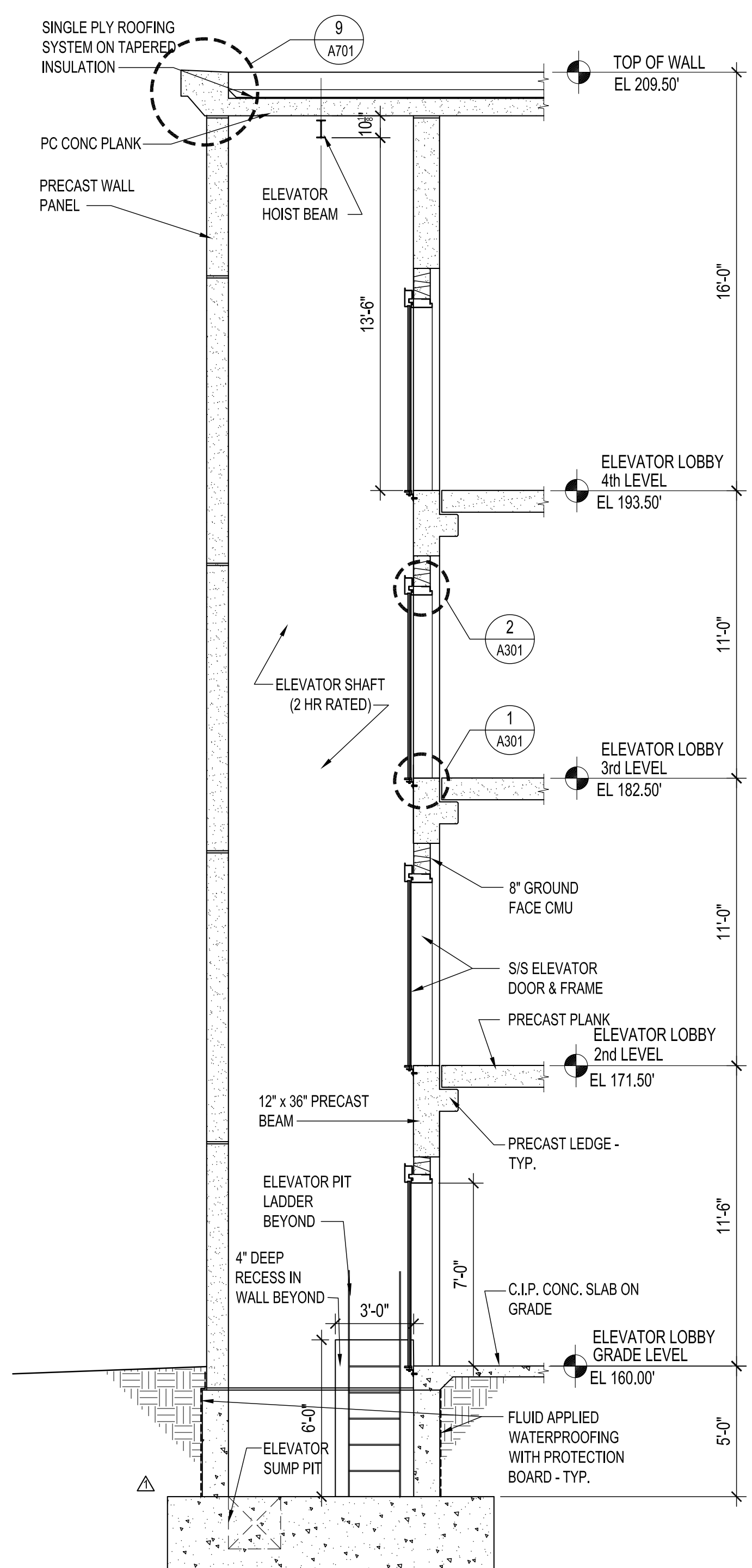
drawing title MESH SCREEN DETAILS			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES		
REVISIONS			drawing prepared by DESMAN		
mark	date	description	175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067		
	02/07/20	BID DOCUMENTS	date 06/27/2019		
	06/01/20	ADDENDUM NO. 3	scale AS NOTED		
			project WILLARD DILORETO PARKING GARAGE		
			drawn by AAA		
			approved by NLG		
			drawing no. A203		
CAD no. xxxxxxxxx.dwg			project no. CF-RC-402		



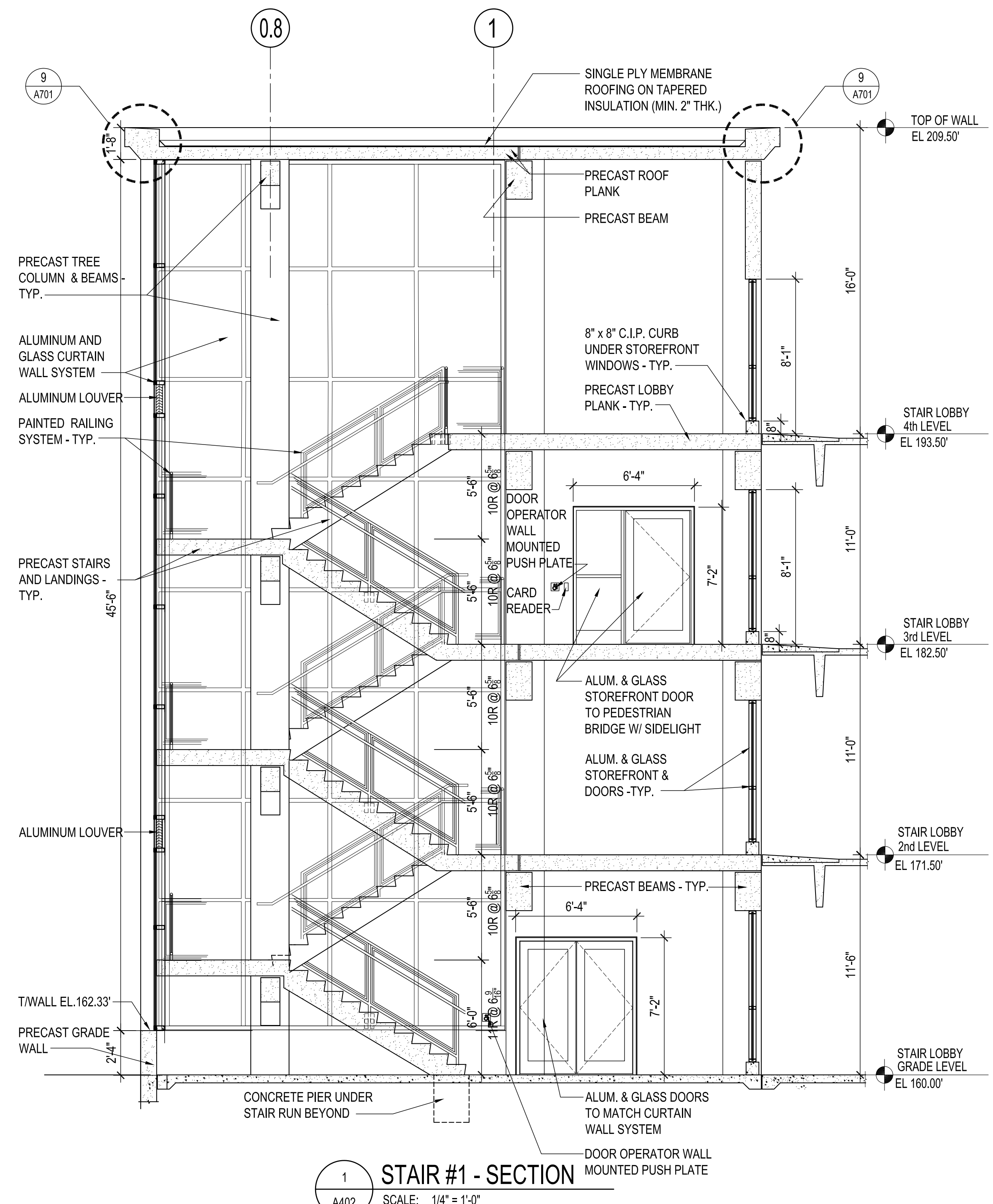
drawing title			STATE OF CONNECTICUT		
CANOPY PLANS, ELVATION & DETAILS			DEPARTMENT OF ADMINISTRATIVE SERVICES		
REVISIONS			drawing prepared by		
mark	date	description	DESMAN		date
	02/07/20	BID DOCUMENTS	175 CAPITAL BOULEVARD, SUITE 402		06/27/2019
	06/01/20	ADDENDUM NO. 3	ROCKY HILL, CONNECTICUT 06067		scale
			project		AS NOTED
			WILLARD DILORETO		drawn by
			PARKING GARAGE		AAA
			NEW BRITAIN, CONNECTICUT		approved by
					NLG
			drawing no.		A205
CAD no. xxxxxxxxx.dwg			project no. CF-RC-402		



E-3 STAIR #1 - EAST ELEVATION
A402 SCALE: 1/4" = 1'-0"

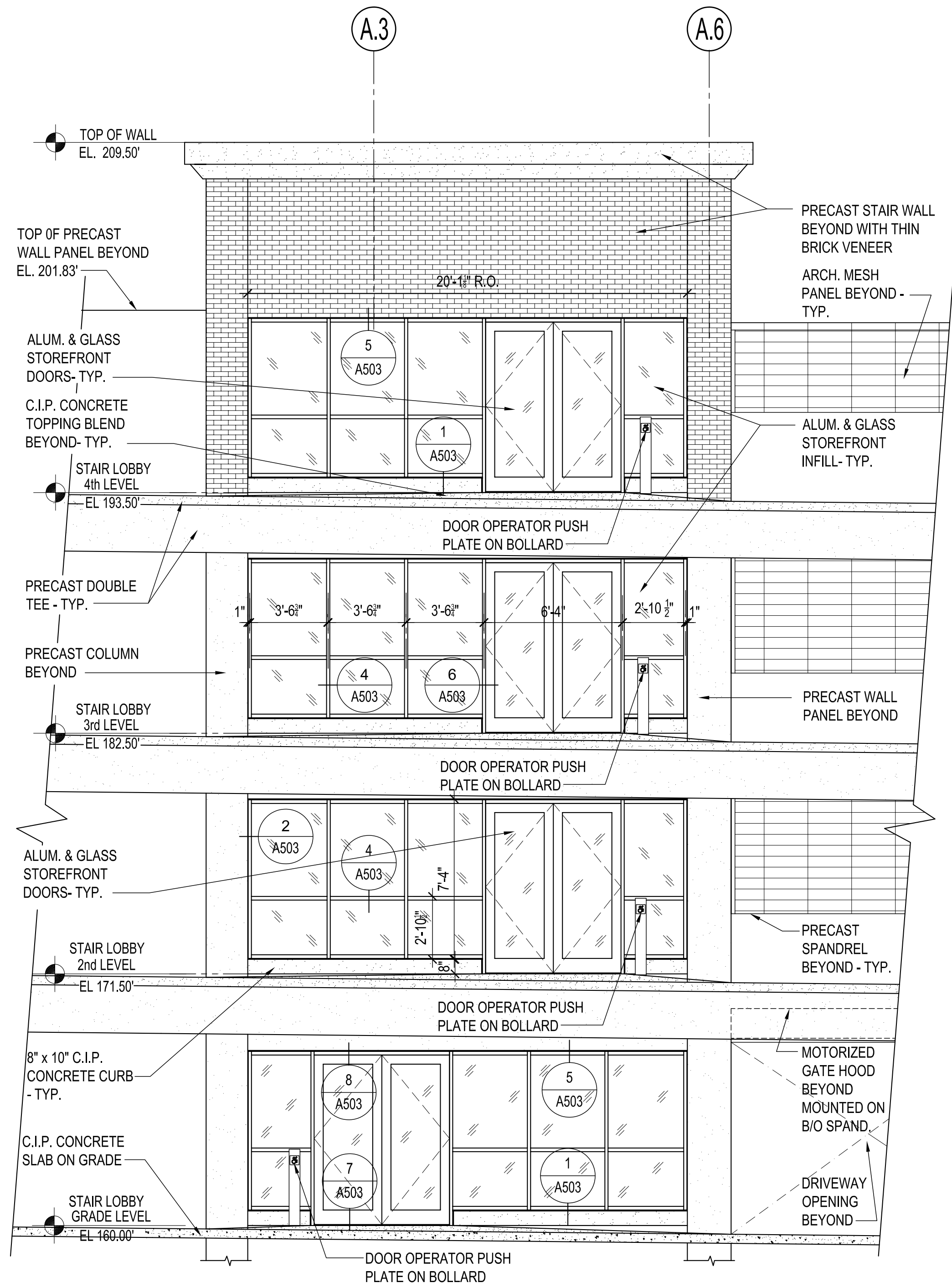


2 SECTION THRU ELEVATOR SHAFT
A402 SCALE: 1/4" = 1'-0"

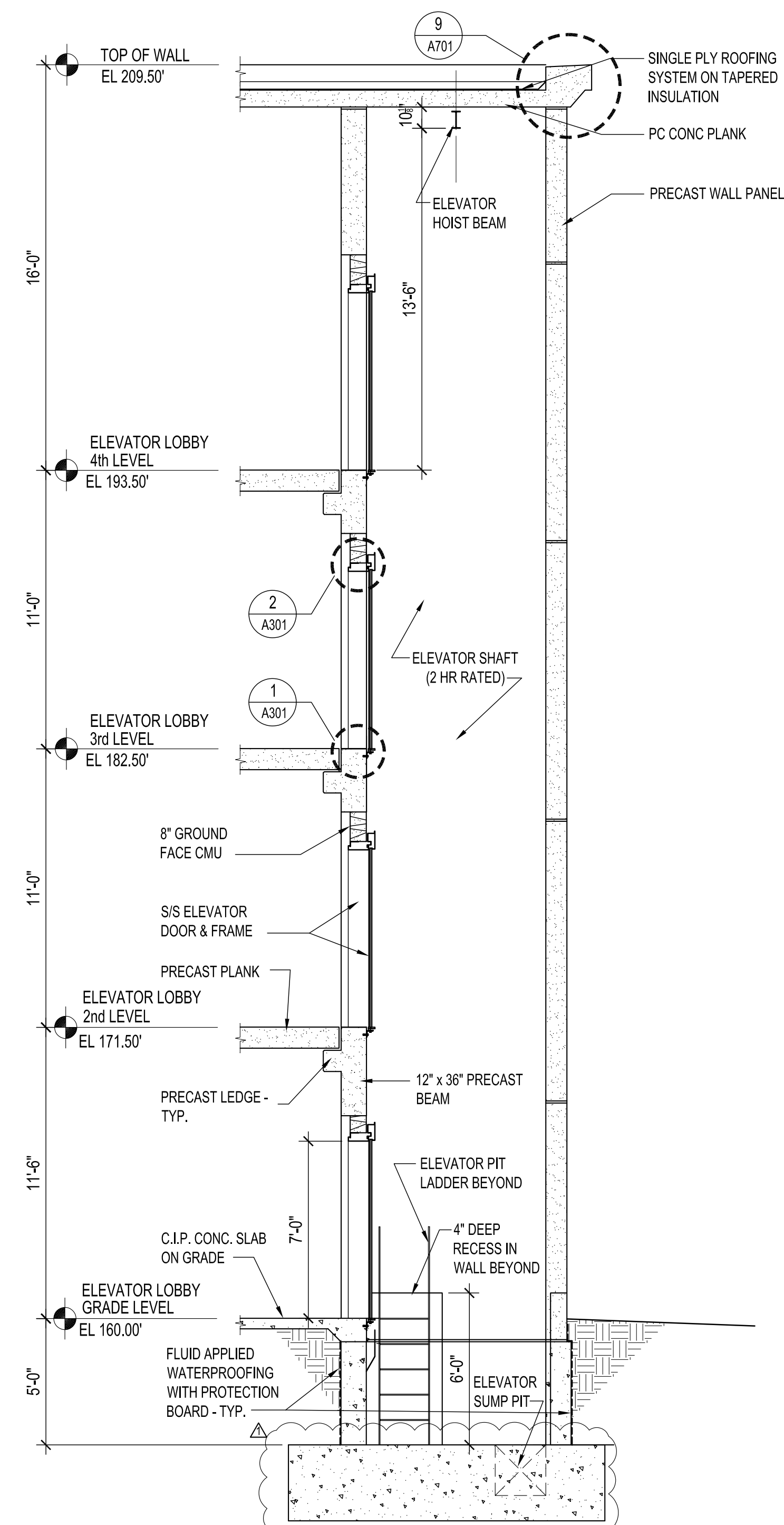


1 STAIR #1 - SECTION
A402 SCALE: 1/4" = 1'-0"

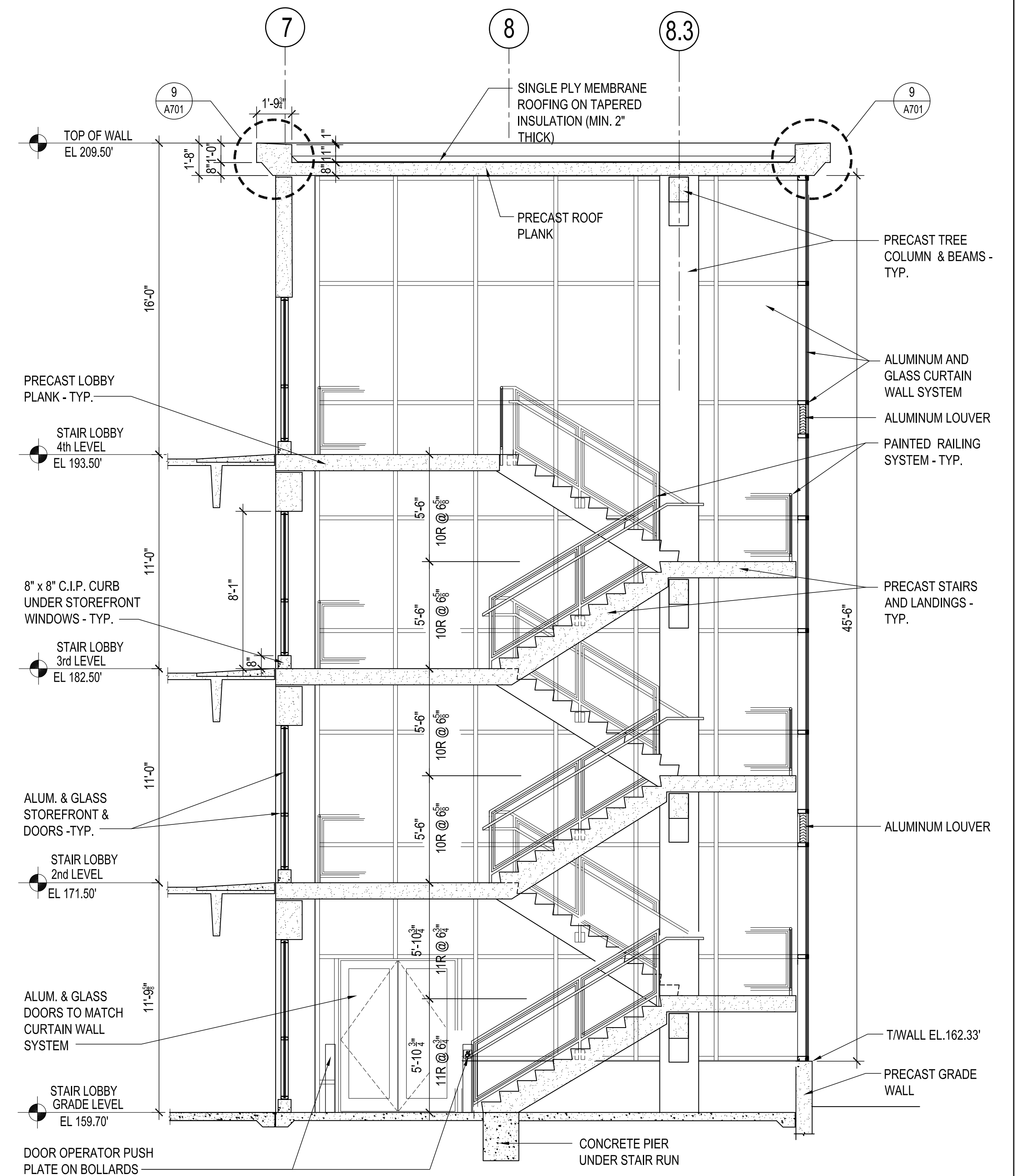
drawing title			STATE OF CONNECTICUT		
STAIR No. 1 - SECTIONS			DEPARTMENT OF ADMINISTRATIVE SERVICES		
REVISIONS					
mark	date	description	drawing prepared by	date	
	02/07/20	BID DOCUMENTS	DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	06/27/2019	
▲	05/15/20	ADDENDUM NO. 2		scale	AS NOTED
▲	06/01/20	ADDENDUM NO. 3		project	
			WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	drawn by AAA approved by NLG drawing no.	
CAD no. xxxxxxxx.dwg			project no. CF-RC-402	A402	



E-3 STAIR #2 - WEST ELEVATION
 A405 SCALE: 1/4" = 1'-0"

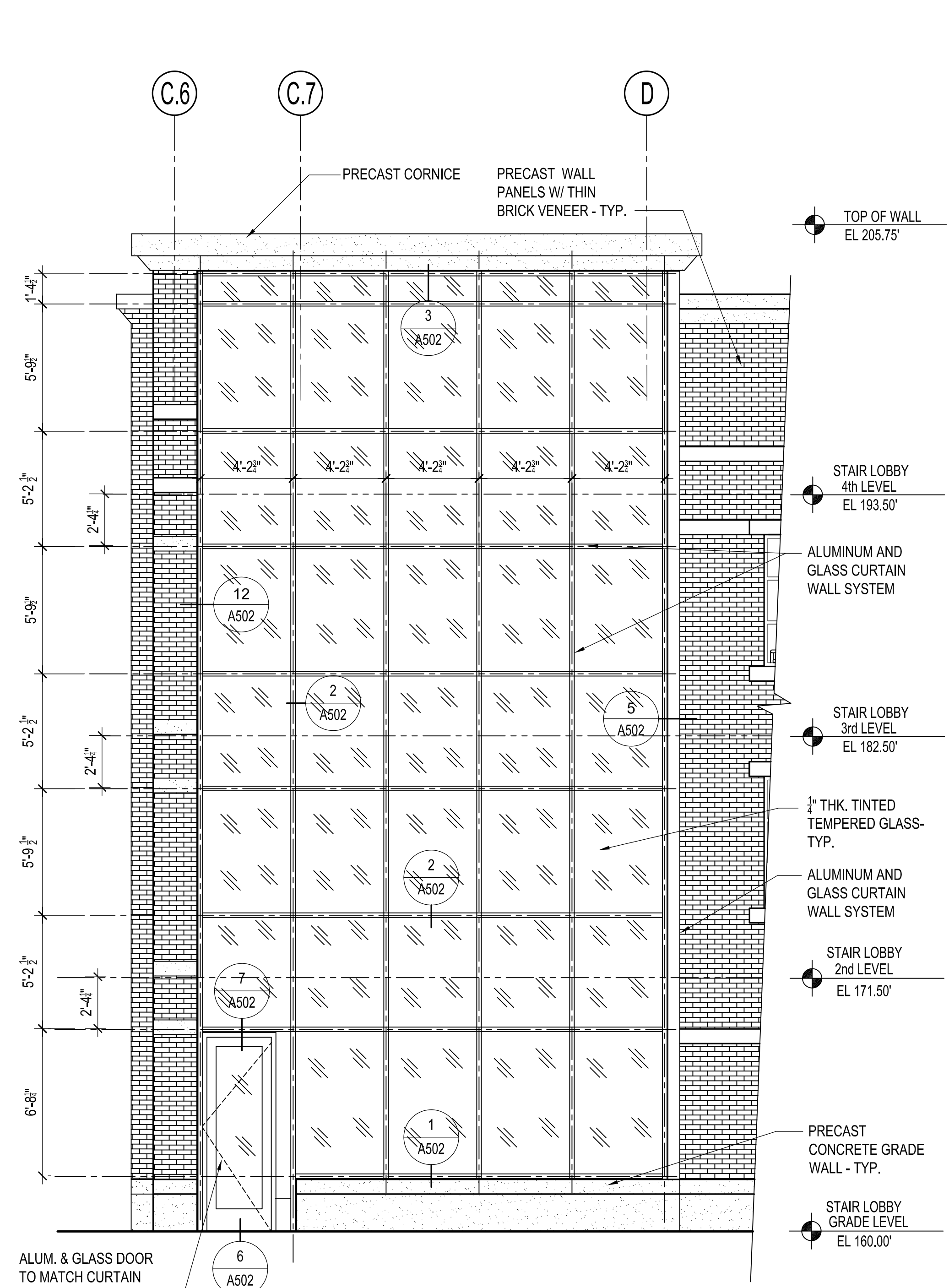


3 SECTION THRU ELEVATOR SHAFT
 A405 SCALE: 1/4" = 1'-0"

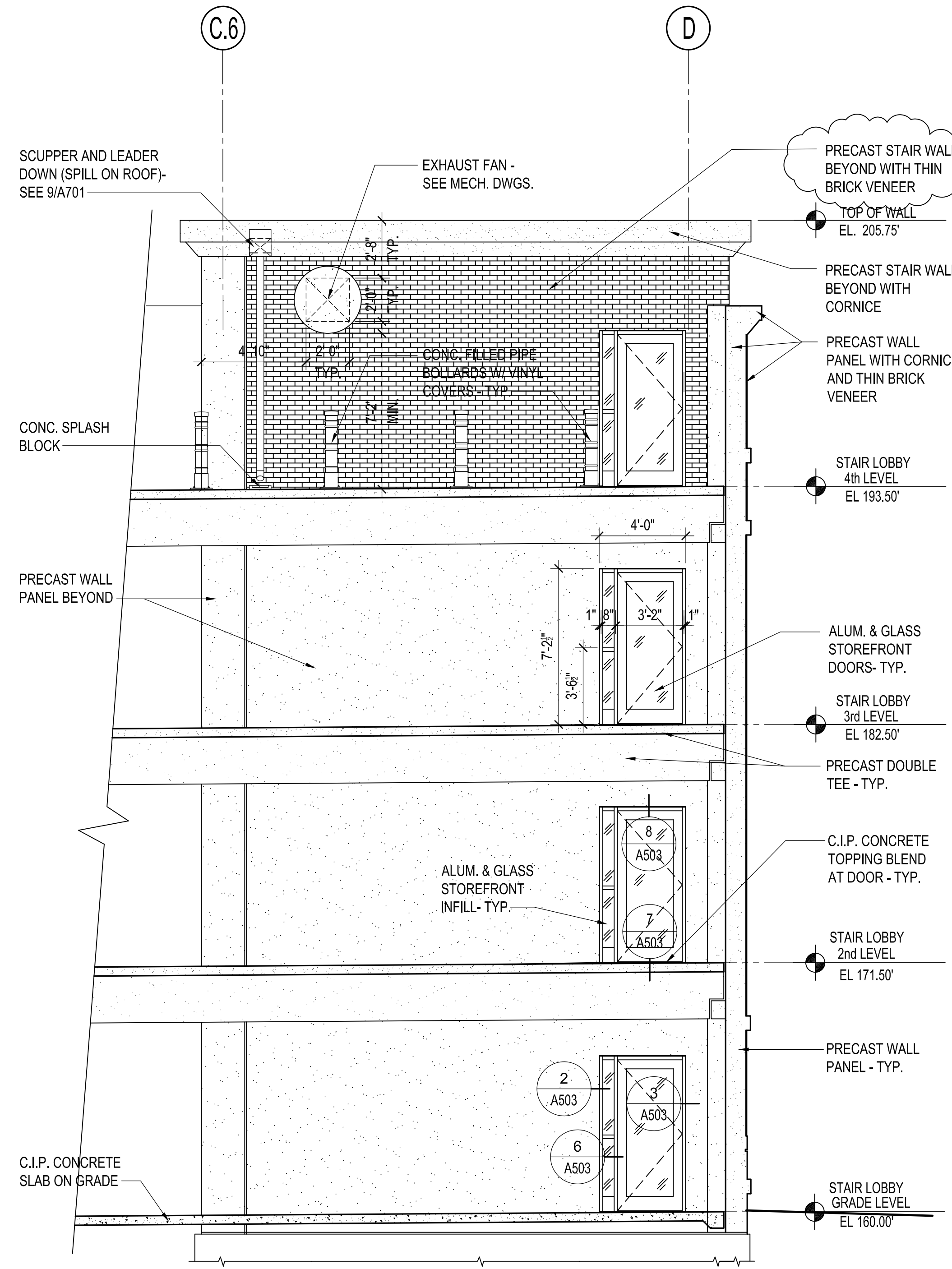


2 STAIR #2 - SECTION
 A405 SCALE: 1/4" = 1'-0"

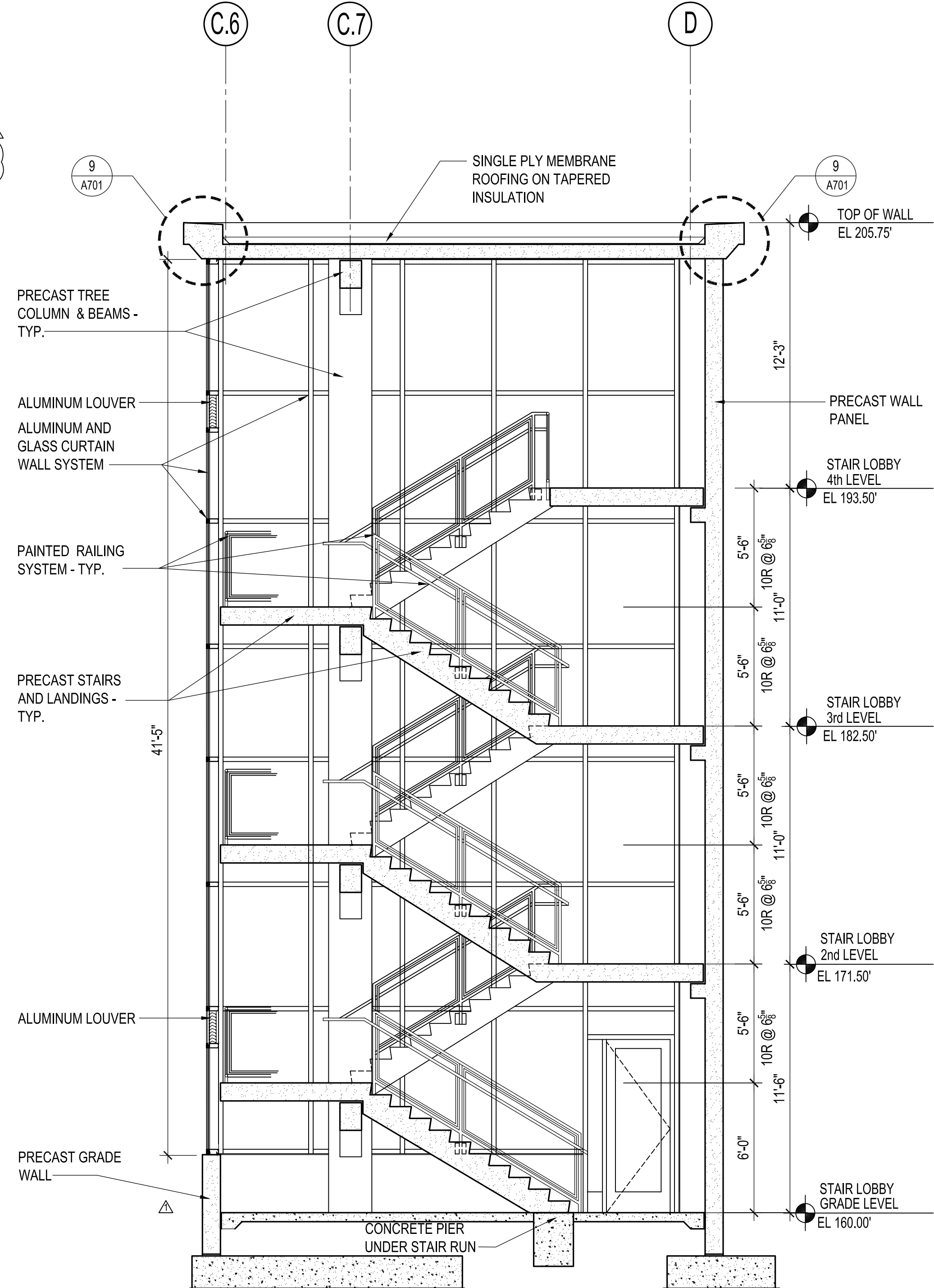
drawing title		STAIR No. 2 - SECTIONS & ELEVATION		STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
mark		date		drawing prepared by	
A		02/07/20		DESMAN	
		05/15/20		175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	
				date	
				06/27/2019	
				scale	
				AS NOTED	
				project	
				WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	
				drawn by	
				AAA	
				approved by	
				NLG	
				drawing no.	
				A405	
CAD no.		project no.			
xxxxxxxxx.dwg		CF-RC-402			



E-1 STAIR #3 - EAST ELEVATION
SCALE: 1/4" = 1'-0"

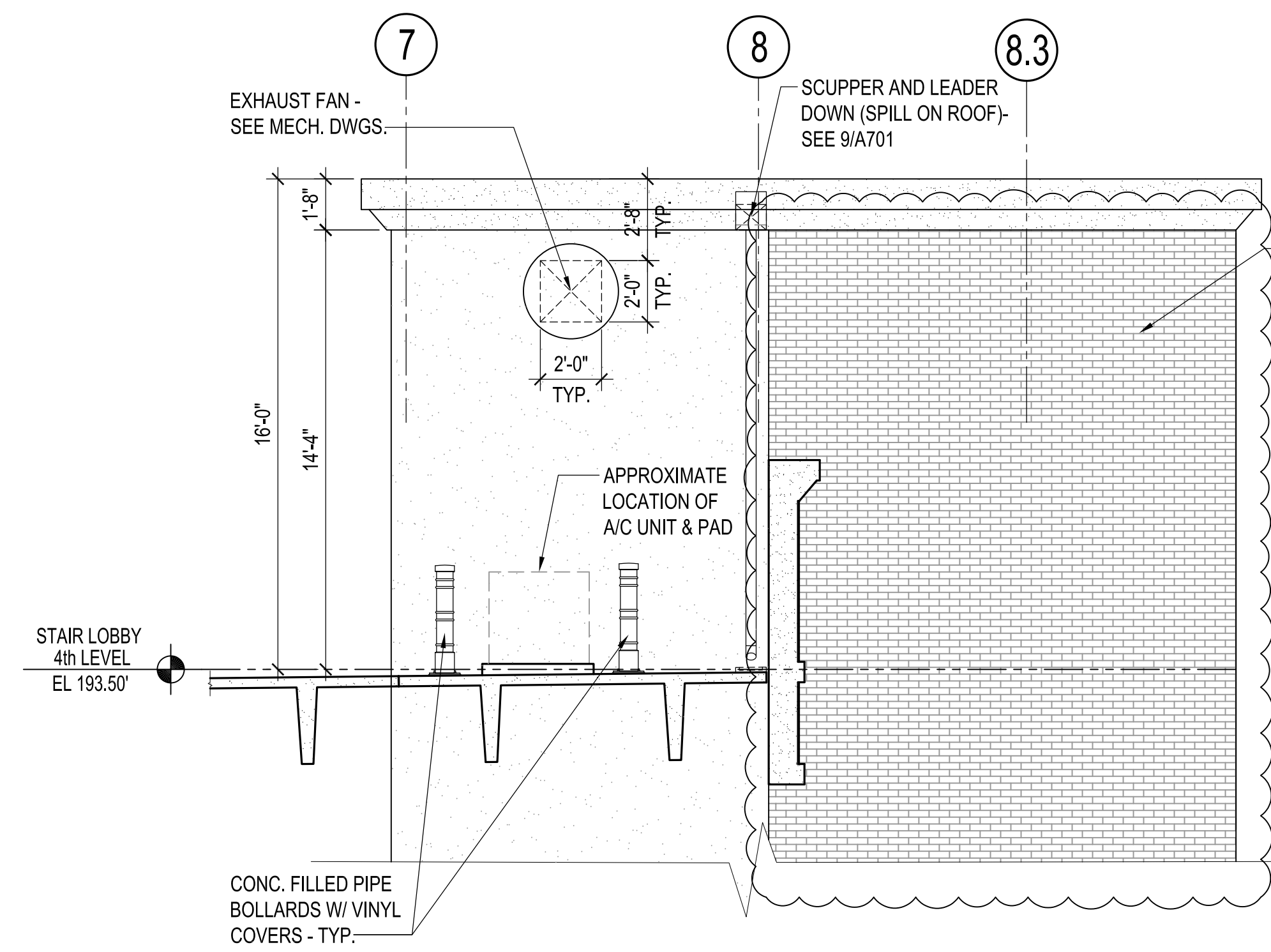


E-2 STAIR #3 - WEST ELEVATION
SCALE: 1/4" = 1'-0"

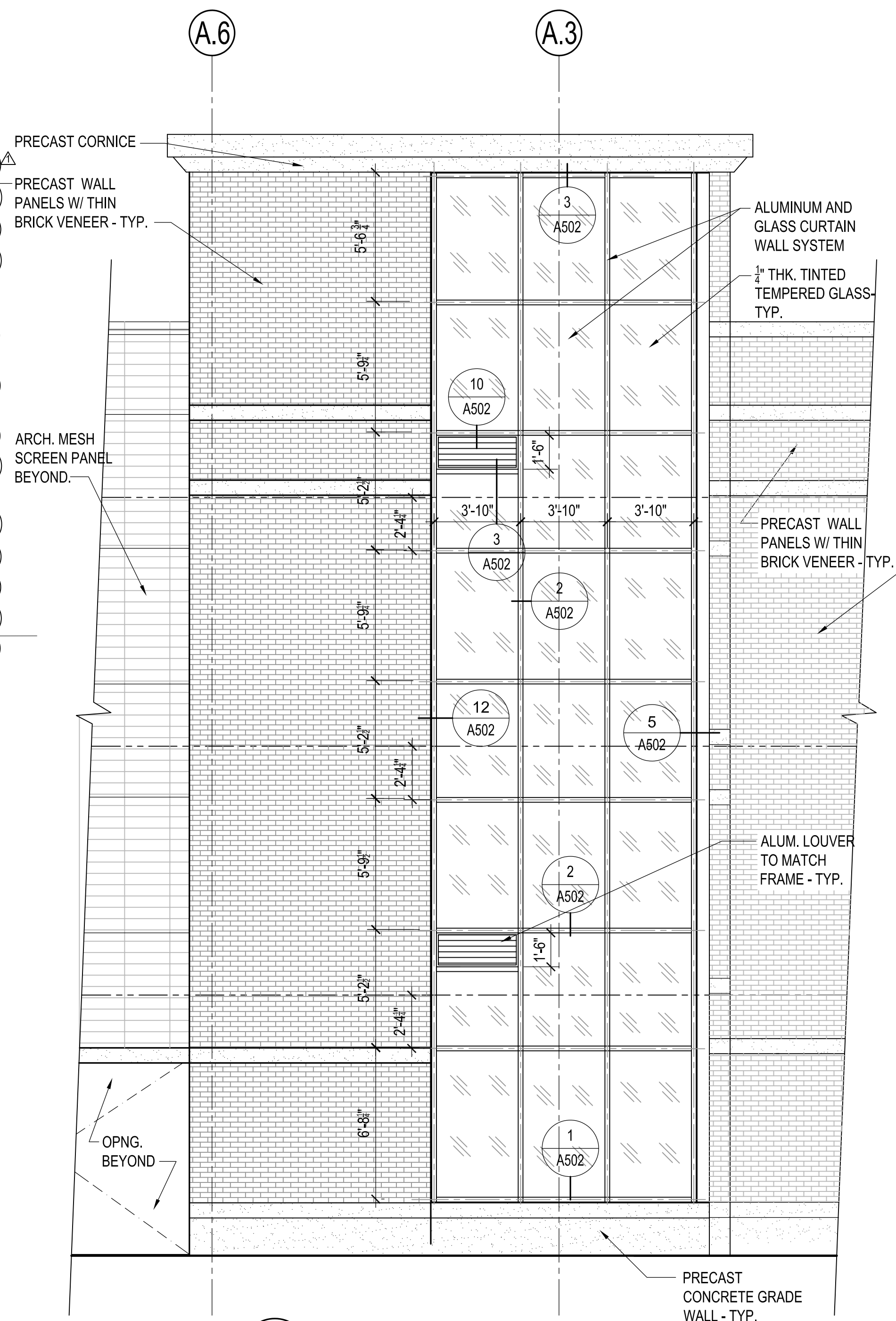


1 STAIR #3 - SECTION
SCALE: 1/4" = 1'-0"

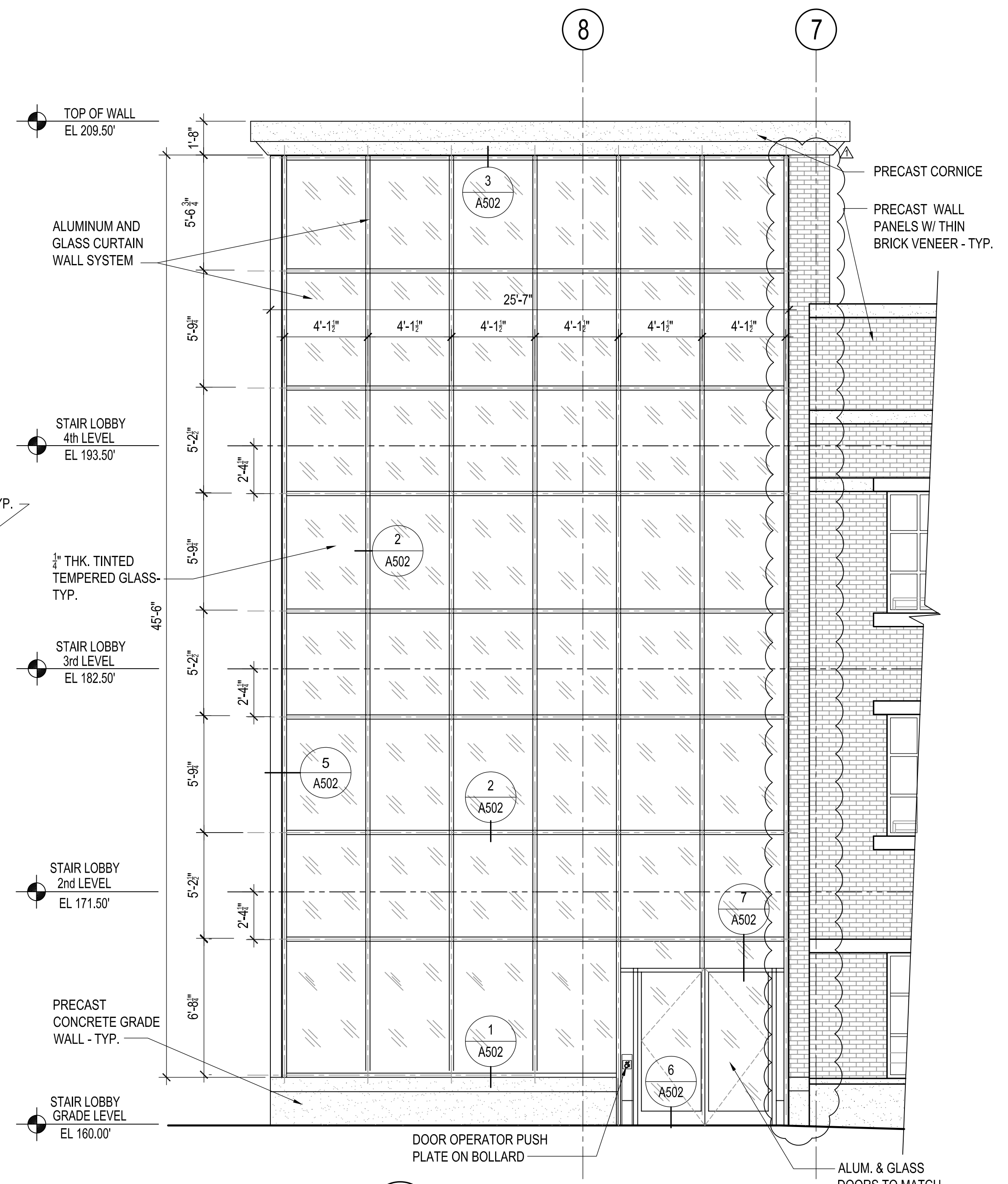
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STAIR No. 3 - SECTIONS & ELEVATION			DEPARTMENT OF ADMINISTRATIVE SERVICES	
REVISIONS				
mark	date	description	drawing prepared by	date
	02/07/20	BID DOCUMENTS	DES MAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	06/27/2019
	05/15/20	ADDENDUM NO. 2		scale AS NOTED
	06/01/20	ADDENDUM NO. 3		
project			drawn by	
WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT			AAA	
CAD no. xxxxxxxxx.dwg			approved by	
project no. CF-RC-402			NLG	
			drawing no.	
				A407



E-3 STAIR #2 - SOUTH ELEVATION
A409 SCALE: 1/4" = 1'-0" AT ROOF LEVEL

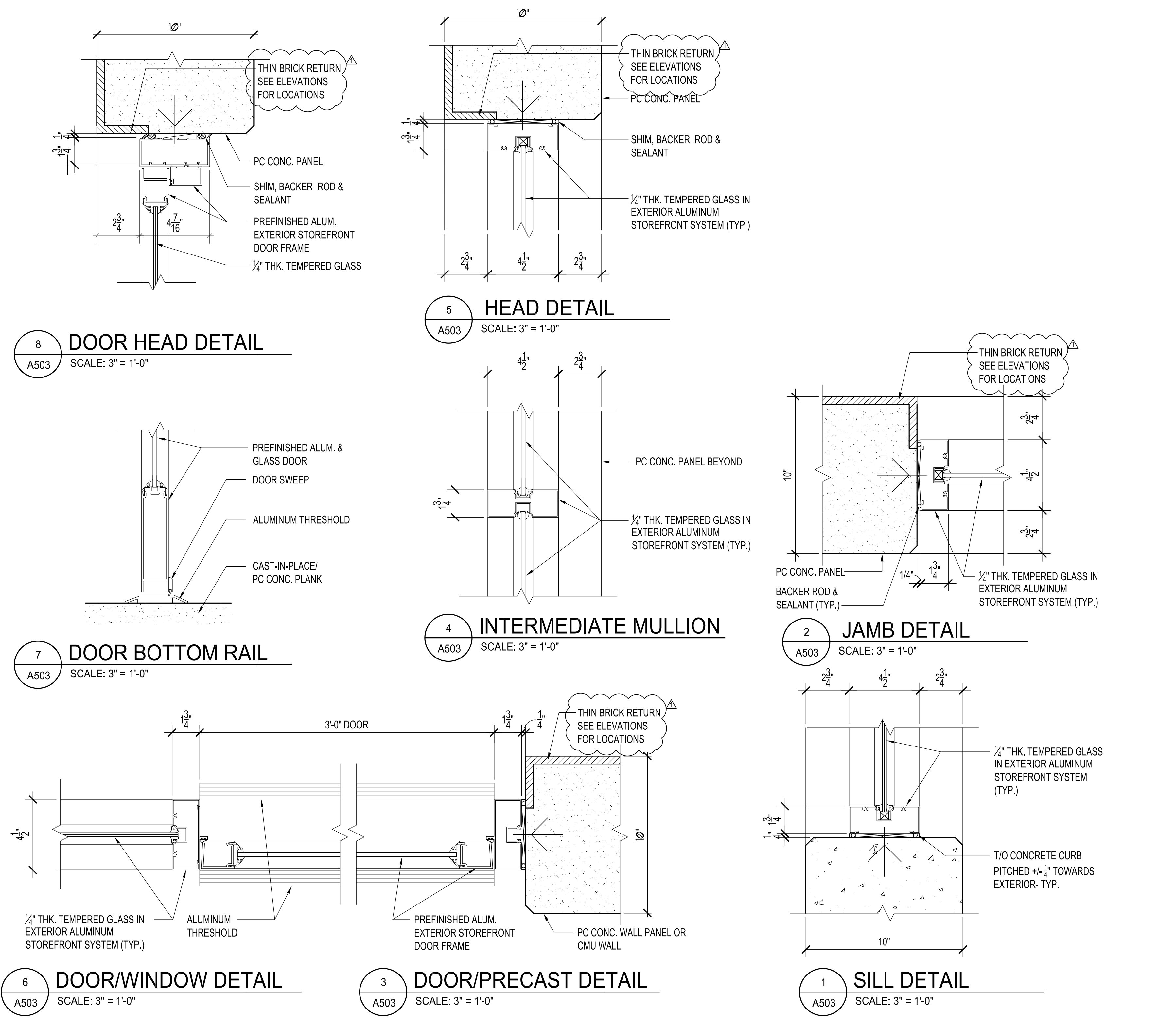


E-2 STAIR #2 - EAST ELEVATION
A409 SCALE: 1/4" = 1'-0"



E-1 STAIR #2 - NORTH ELEVATION
A409 SCALE: 1/4" = 1'-0"

drawing title STAIR No. 2 - ELEVATIONS			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES		
REVISIONS			drawing prepared by DESMAN		
mark	date	description	175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067		date 06/27/2019
	02/07/20	BID DOCUMENTS			scale AS NOTED
	06/01/20	ADDENDUM NO. 3			
			project WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT		drawn by AAA
					approved by NLG
					drawing no. A409
			CAD no. xxxxxxxxx.dwg		project no. CF-RC-402

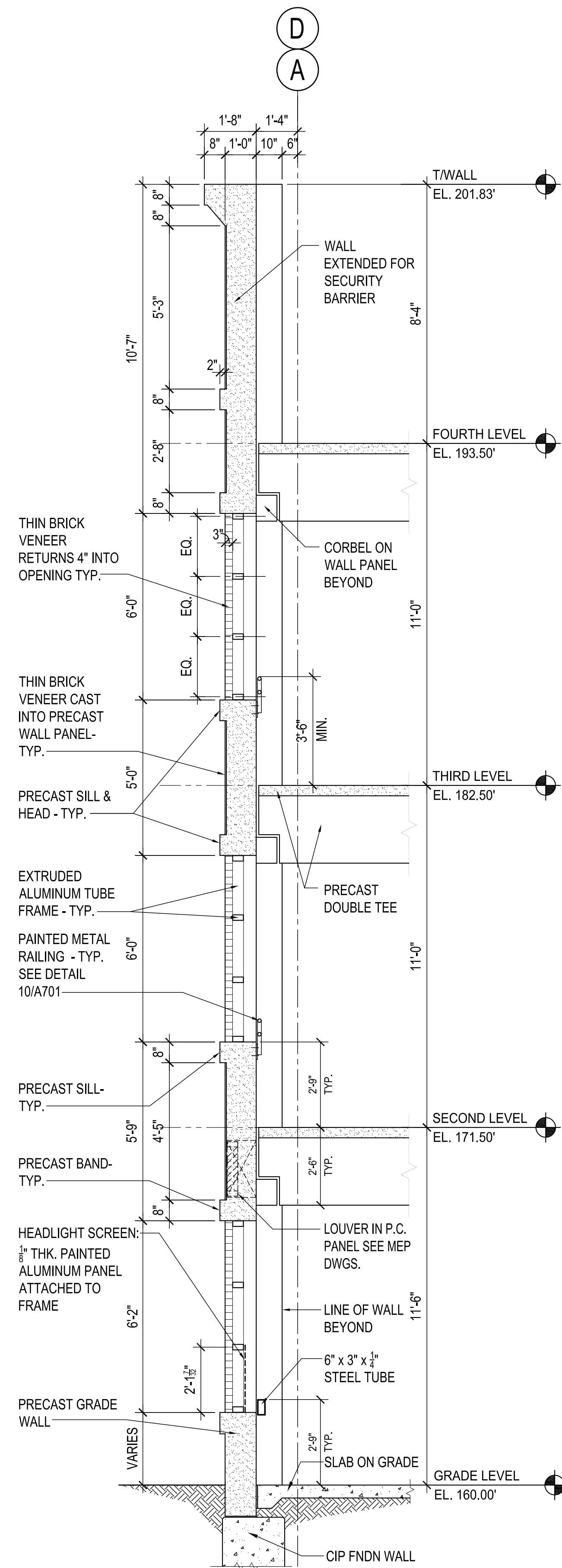


STOREFRONT DETAILS

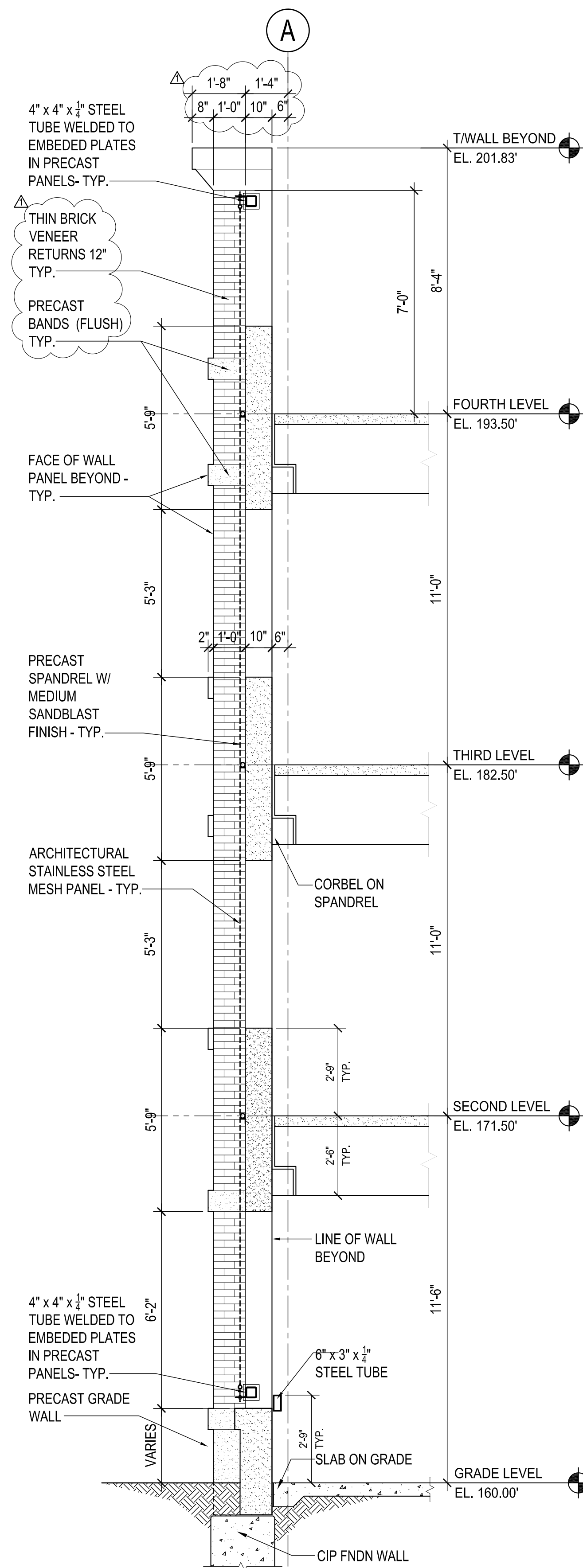
ITEM	FINISH
Garage Façade:	
Precast Concrete:	Buff color precast with medium sandblast finish to match sample
Thin Brick:	Flashed blend to match Willard Deloreto Hall brick.
Mesh Panels:	Stainless Steel Architectural mesh panel (as per dtls. on A203)
Aluminum Frames In punched openings:	2" x 4" extruded aluminum frames. Finish: clear anodized
Guardrails in punched openings (Ext. walls):	Primer galvanized, and finish painted in field. Color: Charcoal Gray
Rolling Grilles:	Aluminum curtains, clear anodized finish.
Screen infills on West façade	2" x 2" Stainless steel mesh in stainless steel frames.
Stair Railings: * See Add Alt #1 Below	Guardrails: 2" x 2" galvanized mesh screen in galvanized frames. Handrails: Stainless steel pipe handrail.
Stair Tower Floors	Precast plank.
Stair Exterior Curtain Wall	6" deep curtain wall frames. Color: Clear anodized aluminum. Tinted Tempered glass. Color: Blue/grey
Stair Interior Enclosure Walls	1 3/4" x 4 1/2" extruded aluminum storefront. Color: Clearanodized aluminum. Clear tempered glass
Interior of Stair Towers	Painted precast concrete. Color: White
Elevator front wall	Ground Faced Concrete Block. Color: White
Elevator interior:	Doors: Stainless Steel. Walls: Textured Stainless-Steel Panels, Ceiling: Luminous ceiling with Lexan translucent panels. Floor: Rubber tiles. Color: TBD
Headlight screens at Grade Level	1/8" thick aluminum panels with pre-finished paint system. Color: Charcoal Grey
Utility & Storage Rooms	Walls: Concrete Block; Painted on face facing inside of garage.
Pedestrian Bridge:	
Structural Steel Truss Frame	Structural Steel Tubes, painted finish. Color: White
Curtain Wall	6" deep Structural Silicone Glazed curtain wall frame. Color: Clear anodized aluminum. 1" Insulated glass panel, Tinted Tempered glass. Color: Blue/grey
Spandrel Glass	1" Insulated Glass panel. Inside panel painted or ceramic frit. Color: Grey
Aluminum Panels	MCM composite aluminum panel system. Color: Grey
Exterior Soffit	Metal Plank System, painted aluminum. Color: Grey to match aluminum panels system
Handrail	Stainless steel pipe railing
Interior ceiling	Suspended, painted aluminum plank ceiling system. Color: White.
Entry doors & Side Lites	Aluminum storefront system. Color: Clear anodized aluminum. Clear tempered glass
Bridge Floor	Concrete slab with light broom finish.
Fire Rated End Walls	Metal stud infill walls with fire-safing insulation and 2 layers of 5/8" thick Gyp. Board, taped, joint compound and painted. Color: TBD.
Snow Gate	Galvanized Steel
Entrance Canopy	Painted Steel Pipe and Tubes.

*SUPPLEMENTAL BID #1:
All guardrail frames, plates, anchors & wire mesh to be Colorgalv. finish.

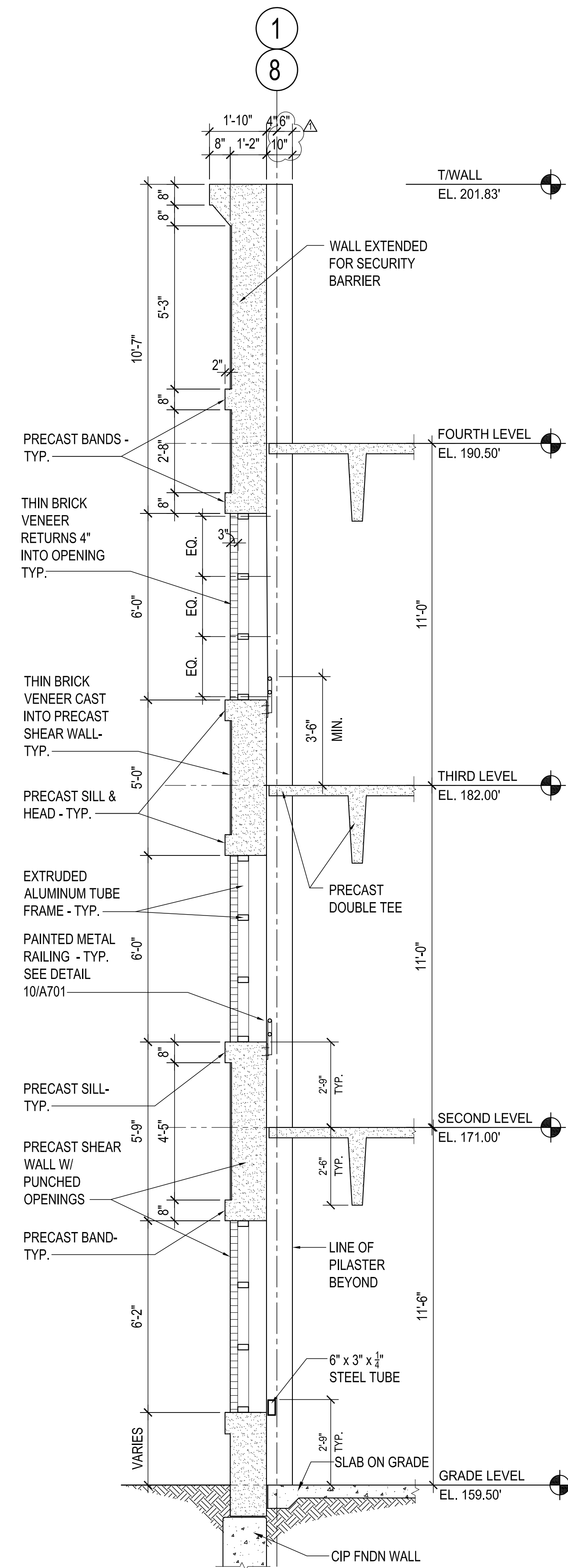
drawing title STOREFRONT DETAILS & FINISH SCHEDULE			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES		
REVISIONS			drawing prepared by DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067		
mark	date	description	date 06/27/2019		
	02/07/20	BID DOCUMENTS	scale AS NOTED		
	06/01/20	ADDENDUM NO. 3	project WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT		
			approved by NLG		
			drawing no. A503		
CAD no. xxxxxxxxx.dwg		project no. CF-RC-402			



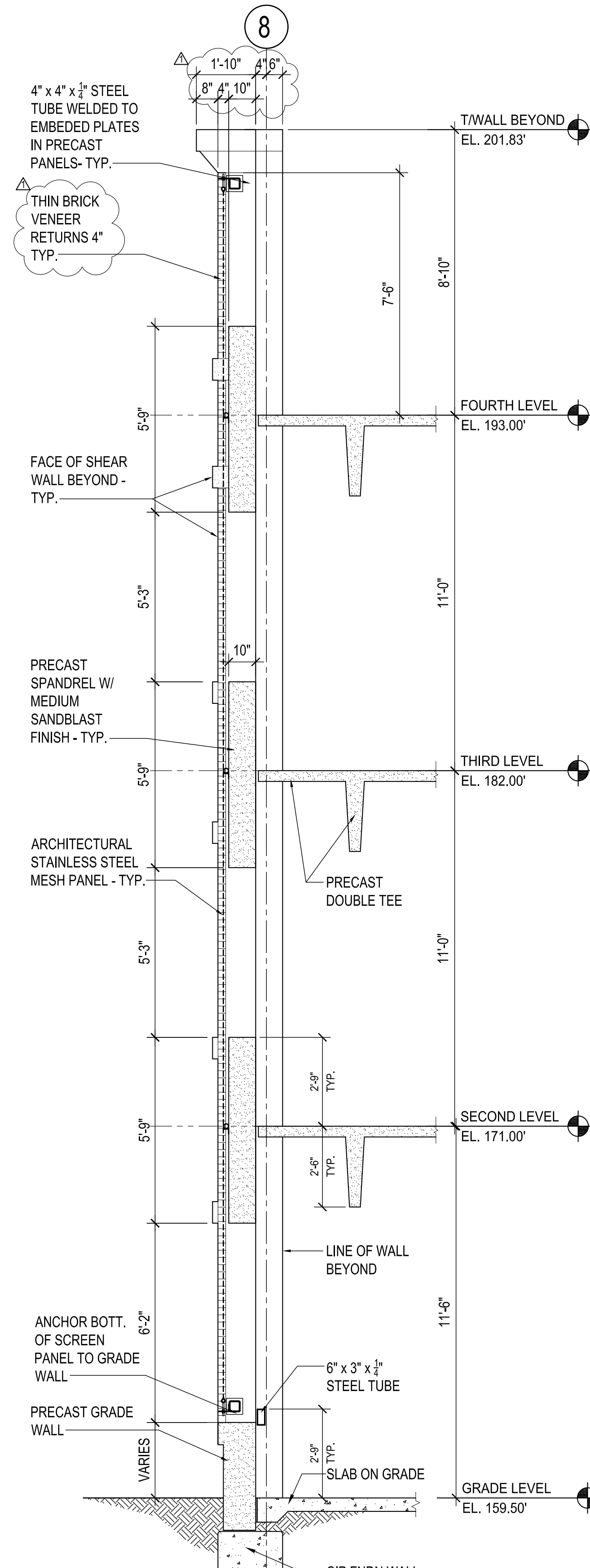
1 WALL SECTION
A601 SCALE: 3/8"=1'-0"



2 WALL SECTION
A601 SCALE: 3/8"=1'-0"

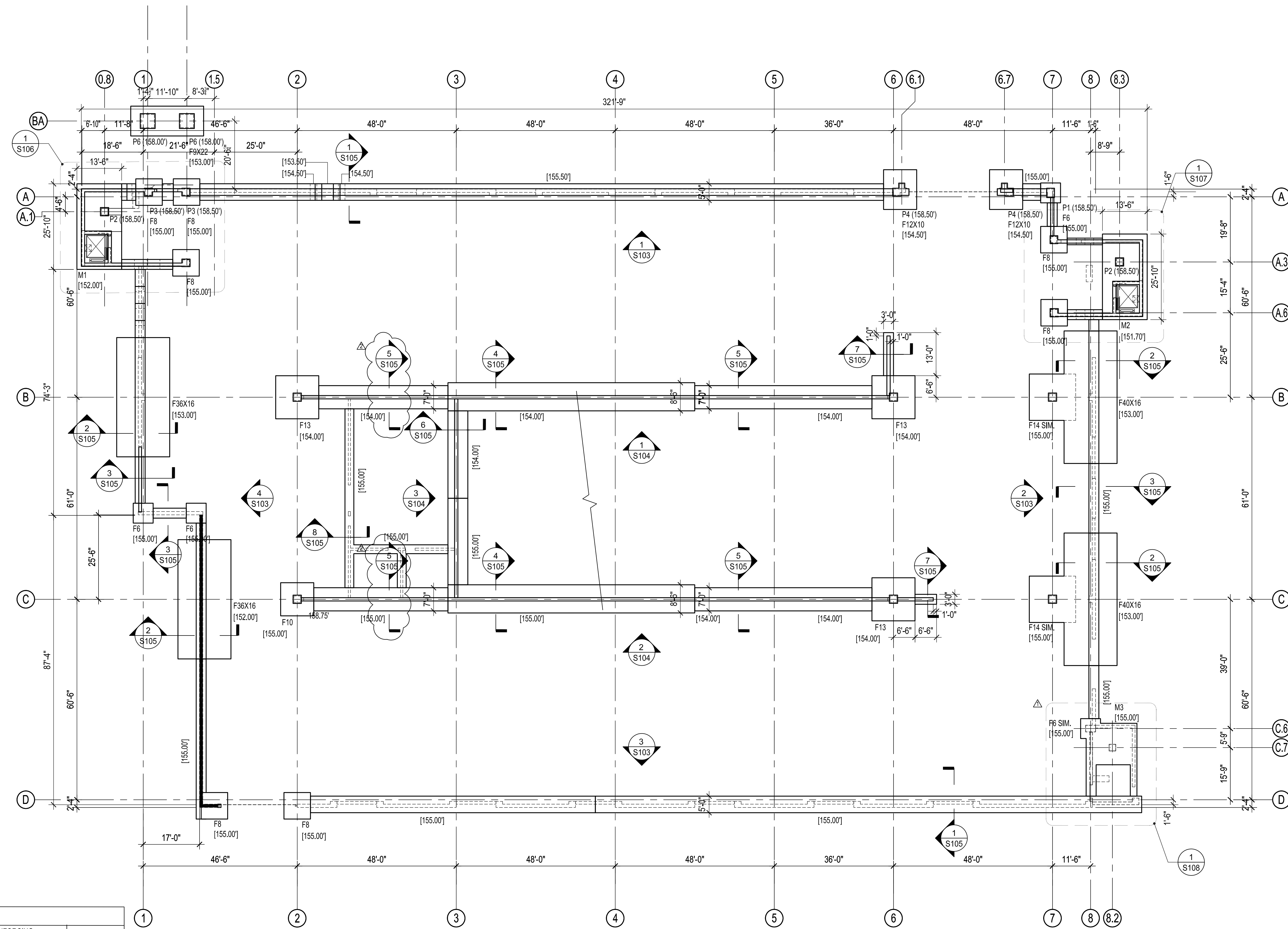


3 WALL SECTION
A601 SCALE: 3/8"=1'-0"



4 WALL SECTION
A601 SCALE: 3/8"=1'-0"

WALL SECTIONS #1			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
REVISIONS				
mark	date	description	drawing prepared by	date
	02/07/20	BID DOCUMENTS	DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	06/27/2019
	06/01/20	ADDENDUM NO. 3		scale AS NOTED
			project	drawn by
			WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	AAA
				approved by
				NLG
				drawing no.
				A601
CAD no. xxxxxxxxx.dwg		project no. CF-RC-402		



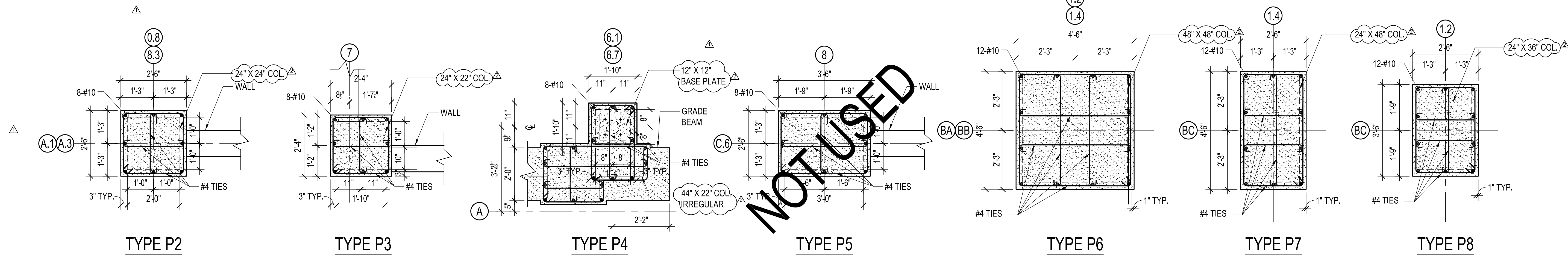
FOOTING SCHEDULE								
MARK	SIZE			BOTTOM REINFORCING		TOP REINFORCING		REMARKS
	A-LONG FT-IN	B-SHORT FT-IN	D IN	'A' BARS	'B' BARS	'A' BARS	'B' BARS	
F6	6'-0"	6'-0"	18"	7-#6	7-#6			
F8	8'-0"	8'-0"	18"	10-#7	10-#7			
F10	10'-0"	10'-0"	24"	13-#7	13-#7			
F13	13'-0"	13'-0"	36"	14-#9	14-#9			
F14	14'-0"	14'-0"	36"	15-#9	15-#9			
M1			36"	#8@12"	#8@12"	#8@12"	#8@12"	
M2			36"	#8@12"	#8@12"	#8@12"	#8@12"	
M3			36"	#8@12"	#8@12"	#8@12"	#8@12"	
F36X16	36'-0"	16'-0"	36"	17-#9	37-#9	17-#7	37-#7	
F40X16	40'-0"	16'-0"	36"	17-#10	41-#9	17-#9	41-#8	

1
S101
FOUNDATION PLAN
SCALE: 1/16" = 1'-0"

- NOTES:**
- GARAGE FOOTINGS ARE TO BE 4,000 PSI CONCRETE U.N.O. AND ARE TO BEAR ON GROUND IMPROVEMENT BY USE OF AGGREGATE PIERS, AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - SEE CONCRETE NOTES ON S001.
 - REFER TO ENLARGED PLANS FOR SIZE AND LOCATION OF STAIR FOOTINGS AND PIERS.
 - MINIMUM DEPTH OF FOOTINGS SHALL BE 3'-6" BELOW FINAL GRADE FOR FROST.
 - CANOPY AND MASONRY WALL FOOTINGS SHALL BEAR ON 4 KSF STRUCTURAL FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - REFER TO DRAWING S102 FOR VARIOUS PIER PLAN DETAILS.
 - REFER TO DRAWING S102 FOR VARIOUS COLUMN TYPE DETAILS.
 - PROVIDE SLAB-ON-GRADE (S.O.G.), SEE TYPICAL DETAILS ALL AREAS (U.O.N.).
 - SEE S201 FOR SLAB-ON-GRADE PLAN WITH ELEVATIONS.
 - FOR ALL PARTITION WALL LOCATIONS, SEE ARCHITECTURAL PLANS.

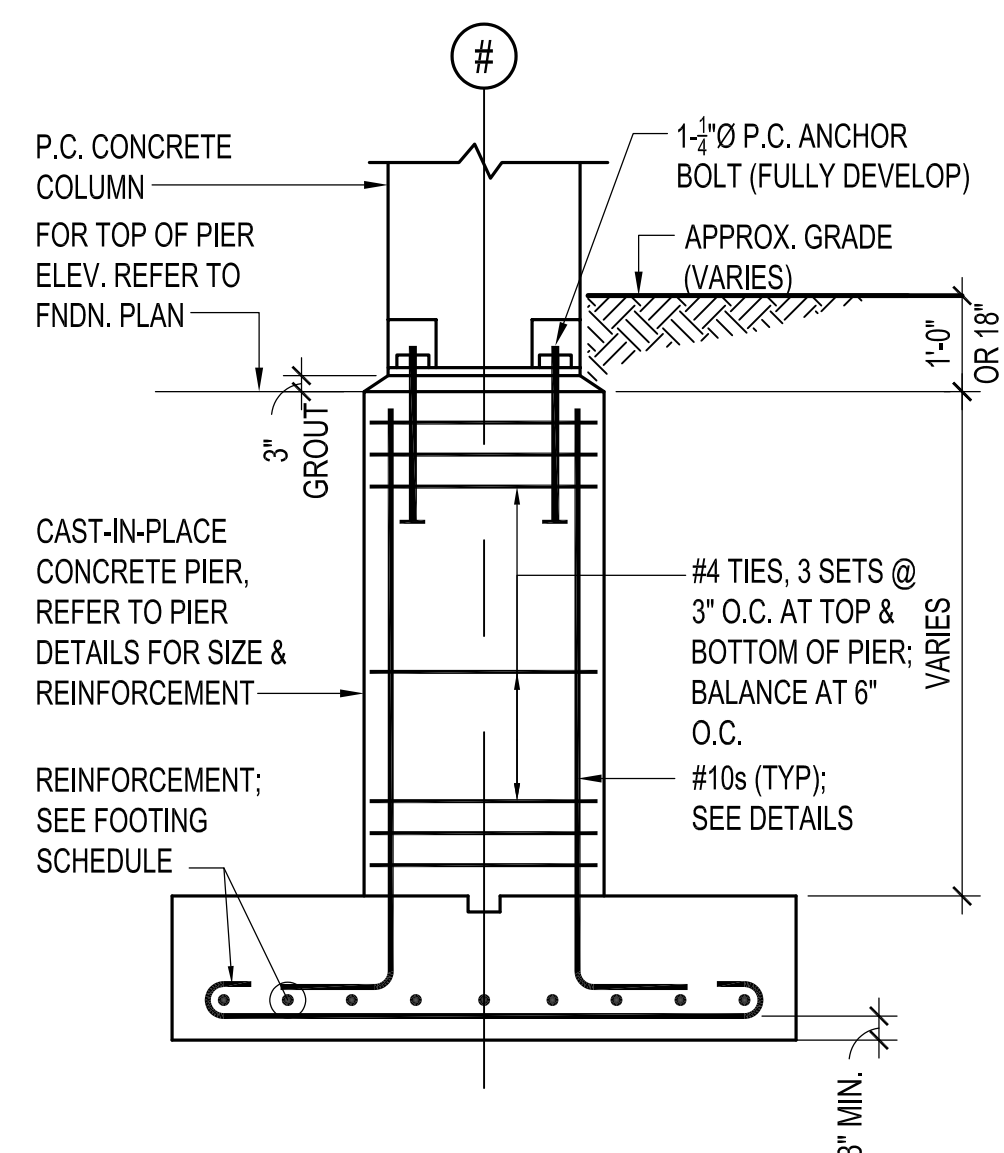
LEGEND:
 F# DENOTES FOOTING TYPE
 P# DENOTES PIER TYPE
 (XXX.XX) DENOTES TOP OF WALL, GRADE BEAM OR PIER ELEVATION
 [XXX.XX] DENOTES BOTTOM OF FOOTING OR MAT ELEVATION
 SW-X DENOTES PRECAST SHEARWALL ABOVE
 S.F. DENOTES STEPPED FOOTING (SEE TYPICAL DETAIL ON S003)

drawing title FOUNDATION PLAN			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
REVISIONS			drawing prepared by DESMAN	
mark	date	description	175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	
	02/07/20	BID DOCUMENTS	date 06/27/2019	
	05/15/20	ADDENDUM NO. 2	scale AS NOTED	
	06/01/20	ADDENDUM NO. 3	project WILLARD DILORETO PARKING GARAGE	
drawing no.			drawing no. S101	
CAD no. xxxxxxxxx.dwg			project no. CF-RC-402	



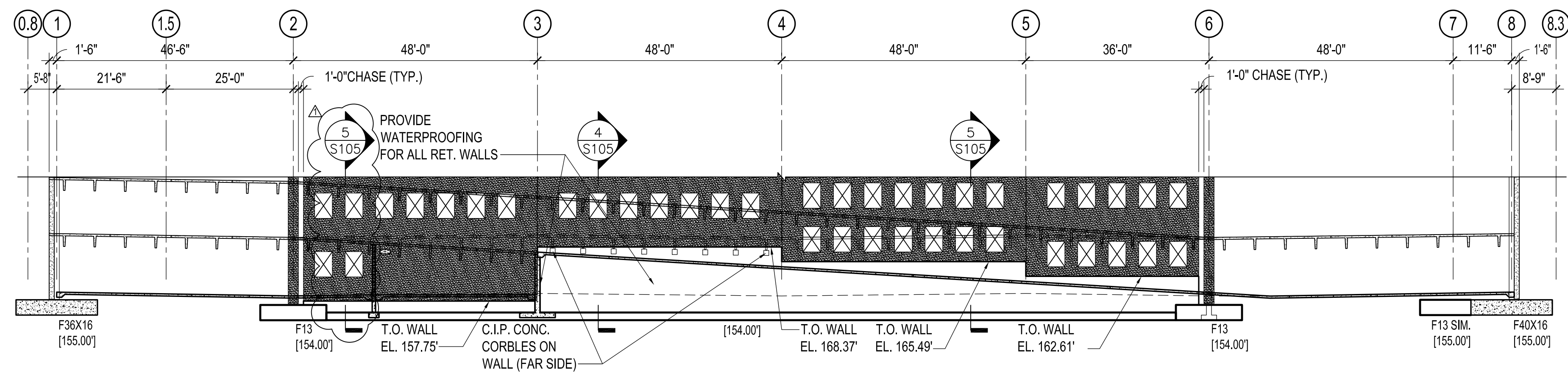
NOT USED

1 PIER DETAILS
SCALE: 1/2" = 1'-0"

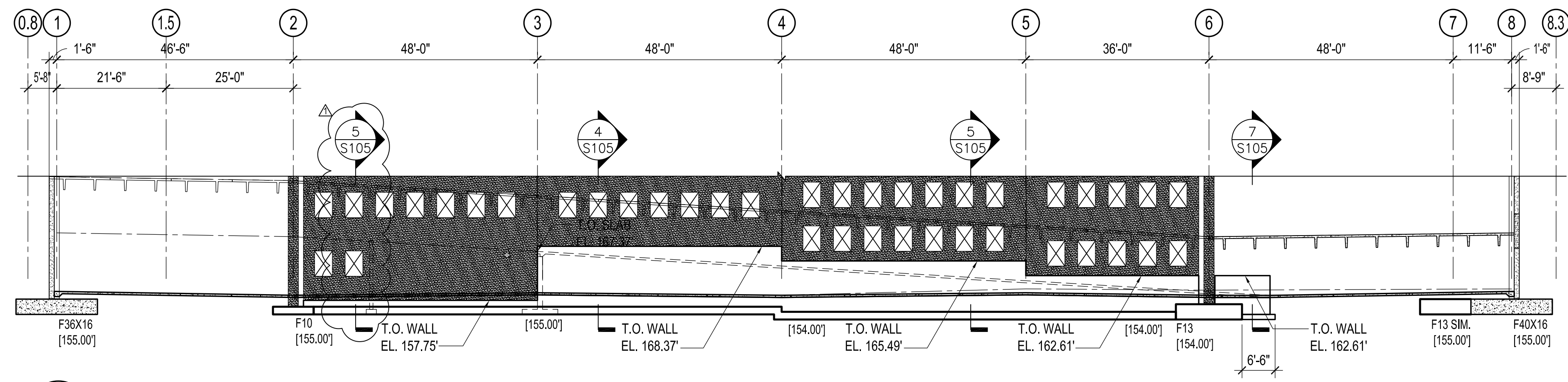


2 PIER DETAIL
SCALE: 1/2" = 1'-0"

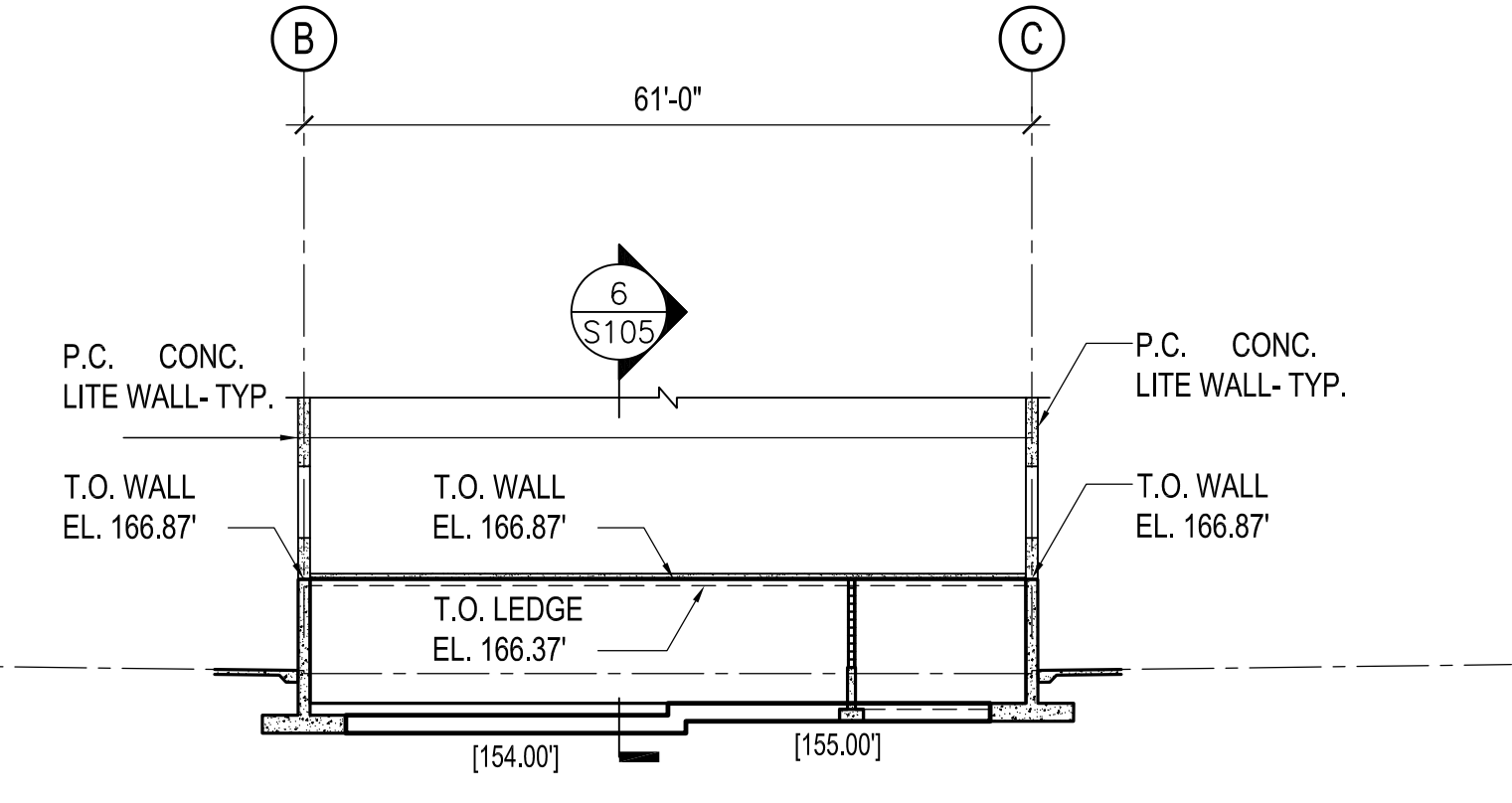
drawing title			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
PIER DETAILS				
REVISIONS				
mark	date	description	drawing prepared by	
			DESMAN	
			175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	
			date	
			06/27/2019	
			scale	
			AS NOTED	
			project	
			WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	
			drawn by	
			AAA	
			approved by	
			NLG	
			drawing no.	
			S102	
			CAD no.	project no.
			xxxxxxxxx.dwg	CF-RC-402



1 GRID B WALL ELEVATION (LITE WALL)
S104 SCALE: 1/16"=1'-0"

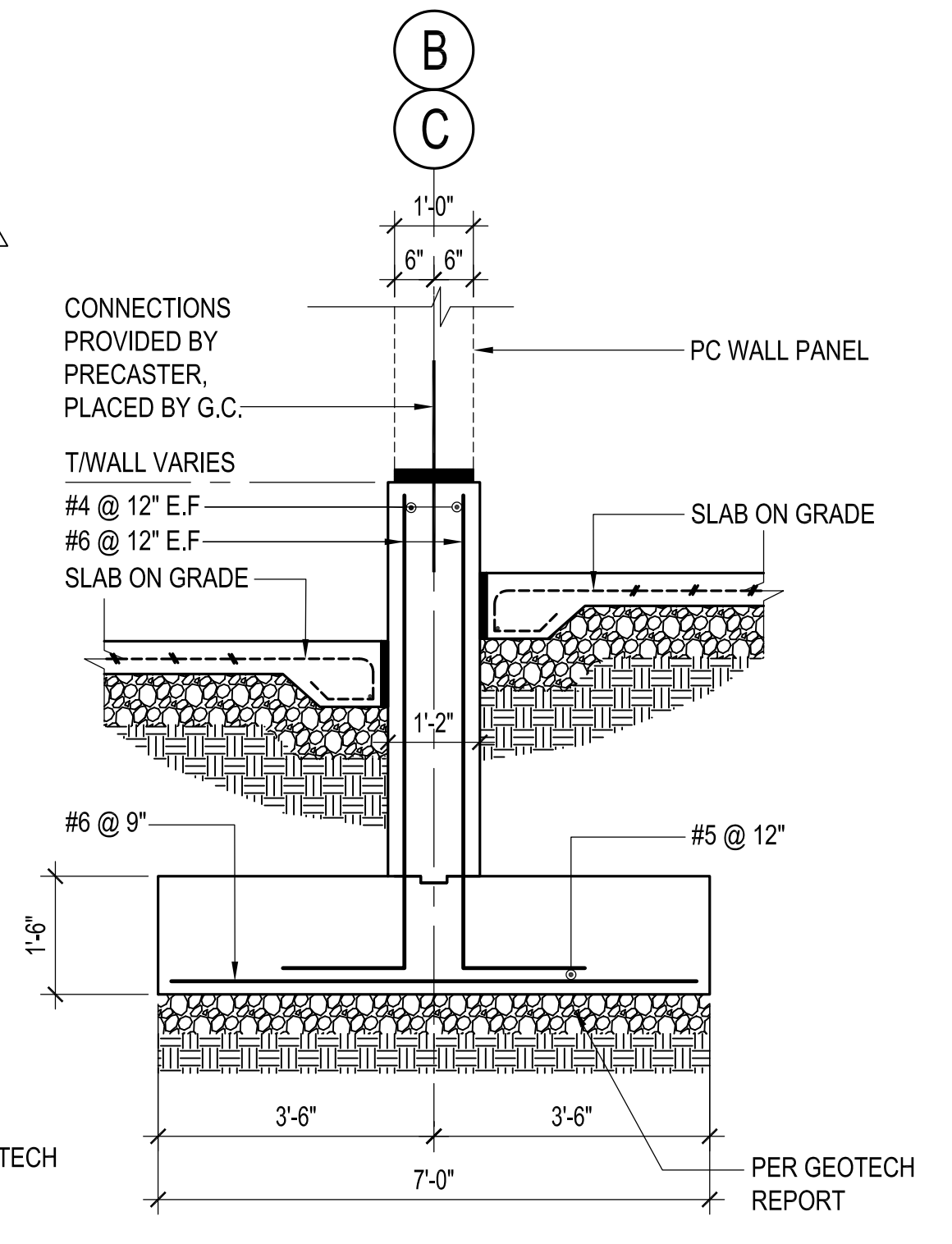
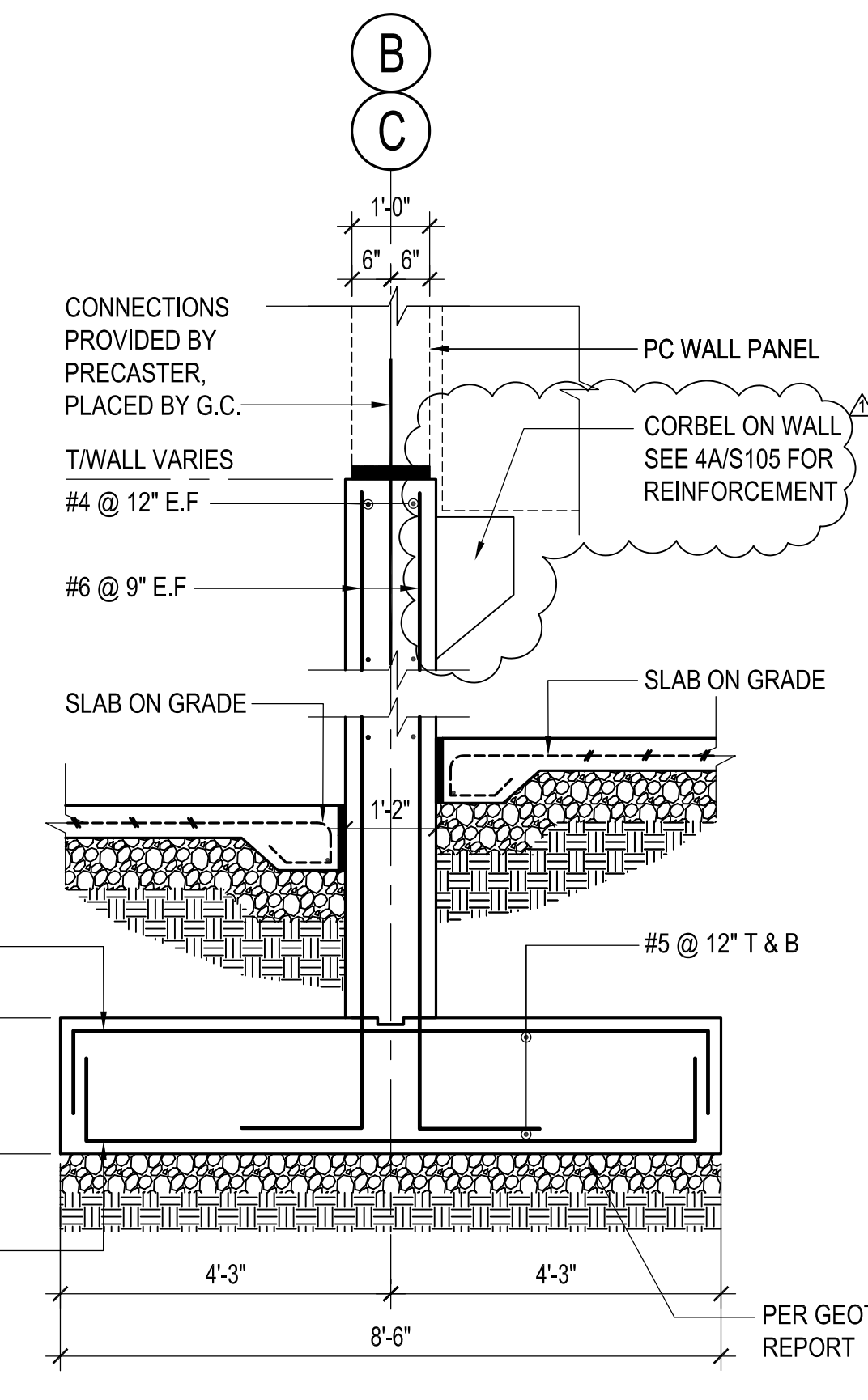
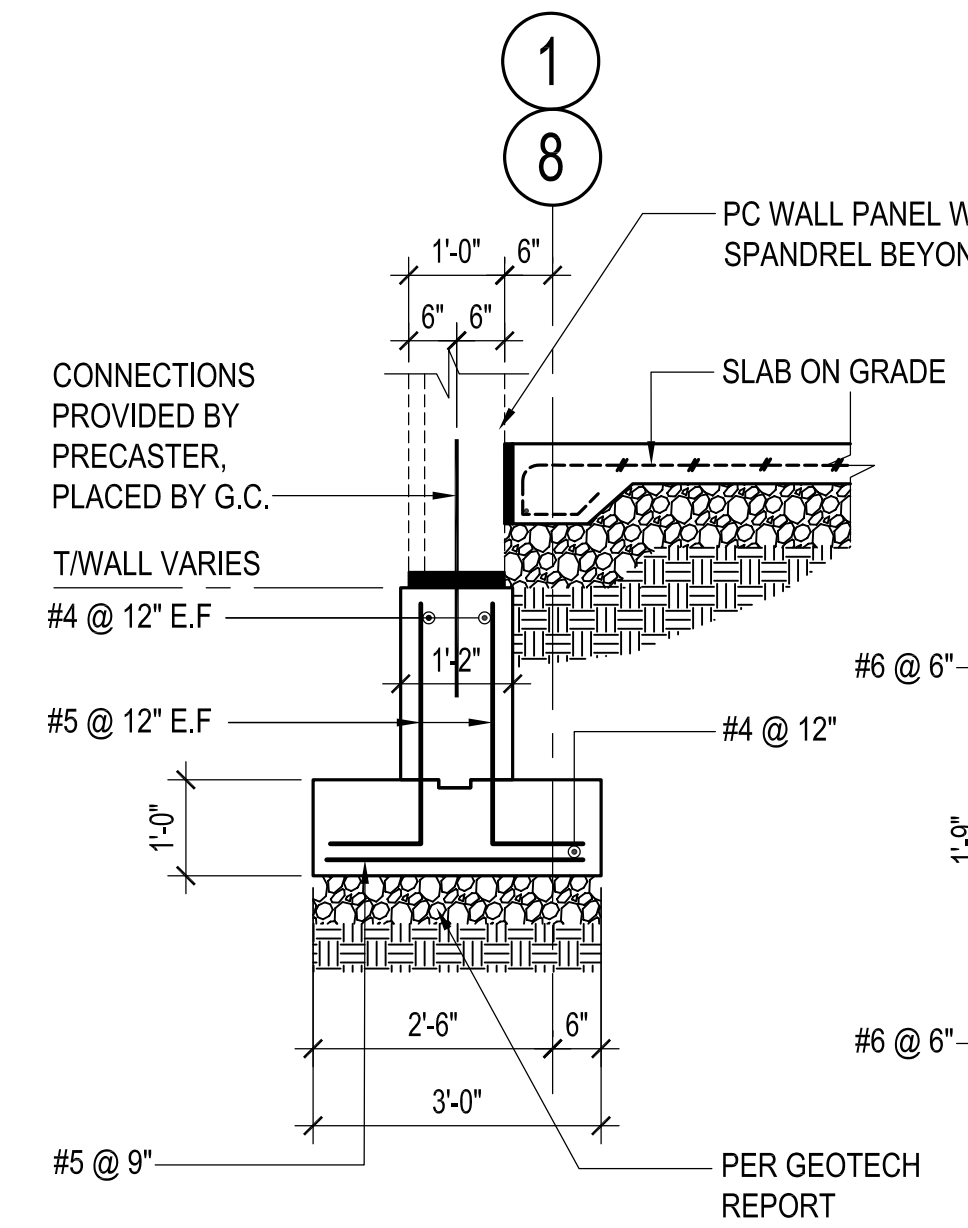
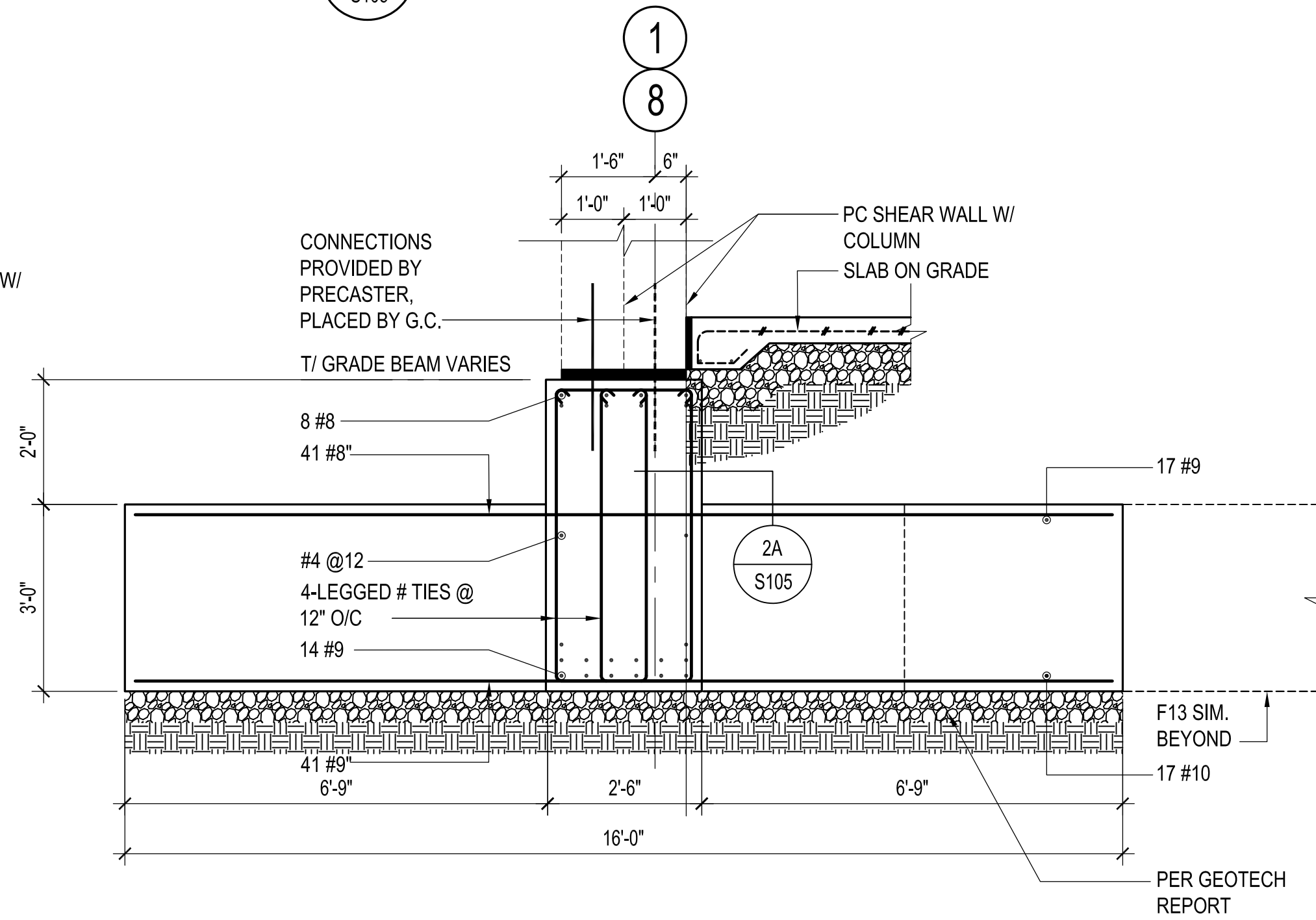
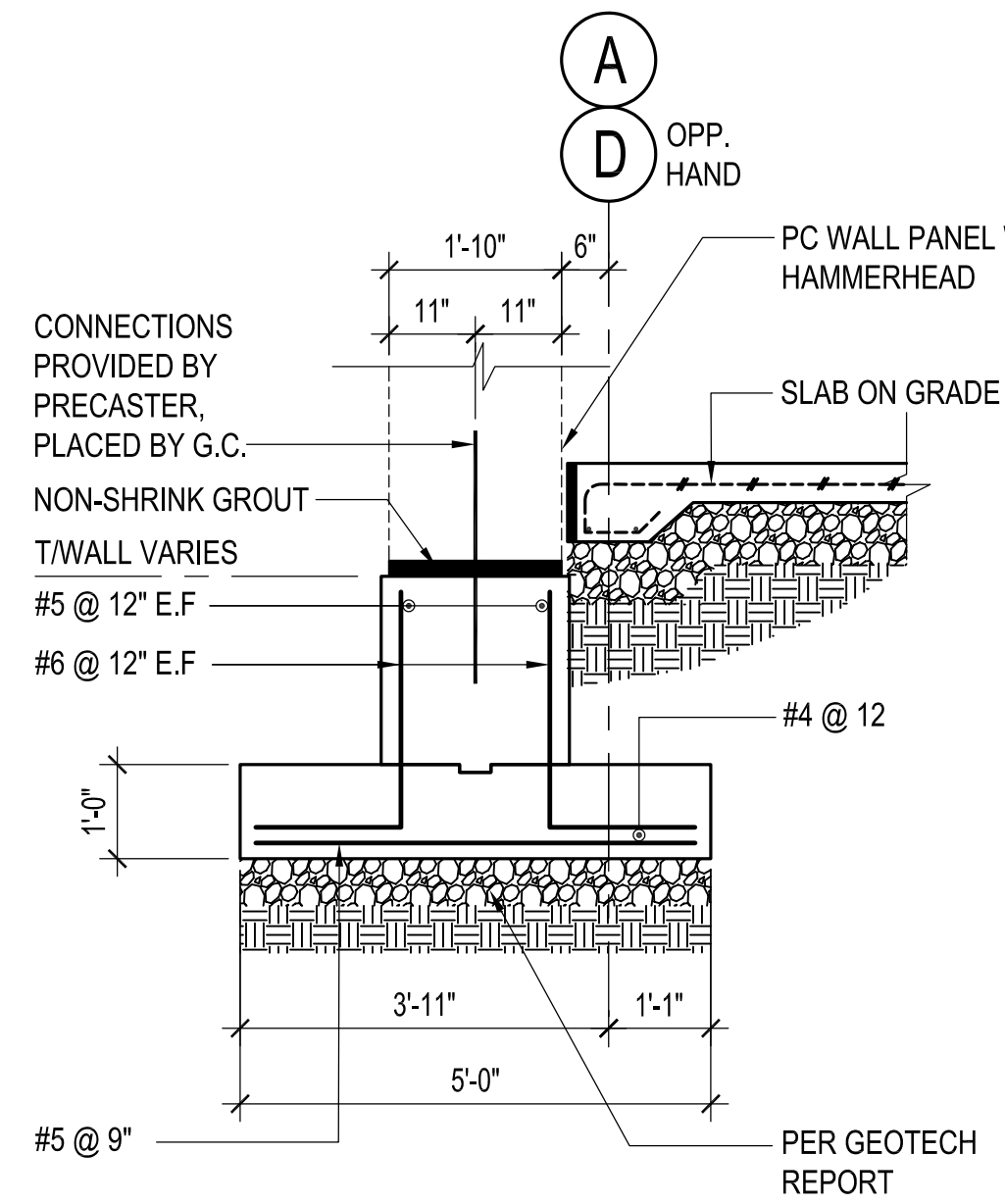
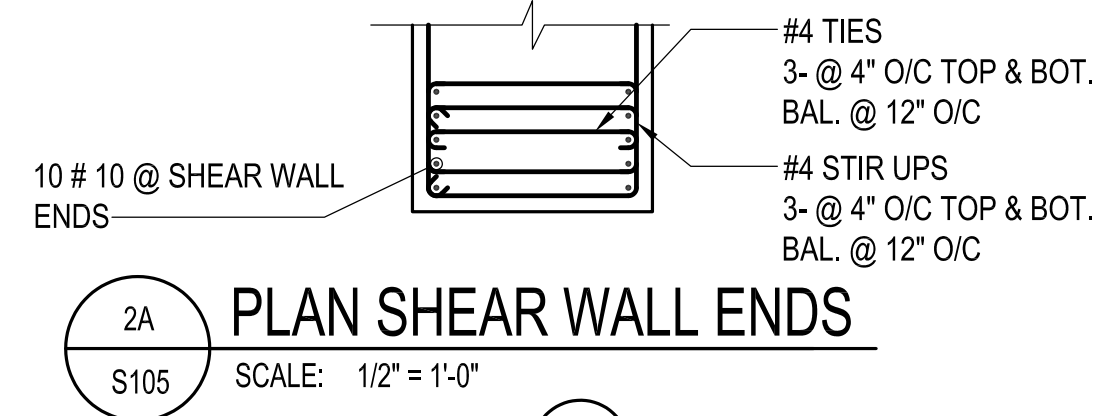


2 GRID C WALL ELEVATION (LITE WALL)
S104 SCALE: 1/16"=1'-0"



3 GRID 3 WALL ELEVATION (LAUNCH WALL)
S104 SCALE: 1/16"=1'-0"

drawing title		FOUNDATION ELEVATIONS #2		STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
REVISIONS					
mark	date	description	drawing prepared by	date	scale
	02/07/20	BID DOCUMENTS	DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	06/27/2019	AS NOTED
	06/01/20	ADDENDUM NO. 3			
project			drawn by	drawing no.	
WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT			AAA	S104	
approved by			project no.		
NLG			CF-RC-402		
drawing no.			CAD no.		
			xxxxxxx.dwg		



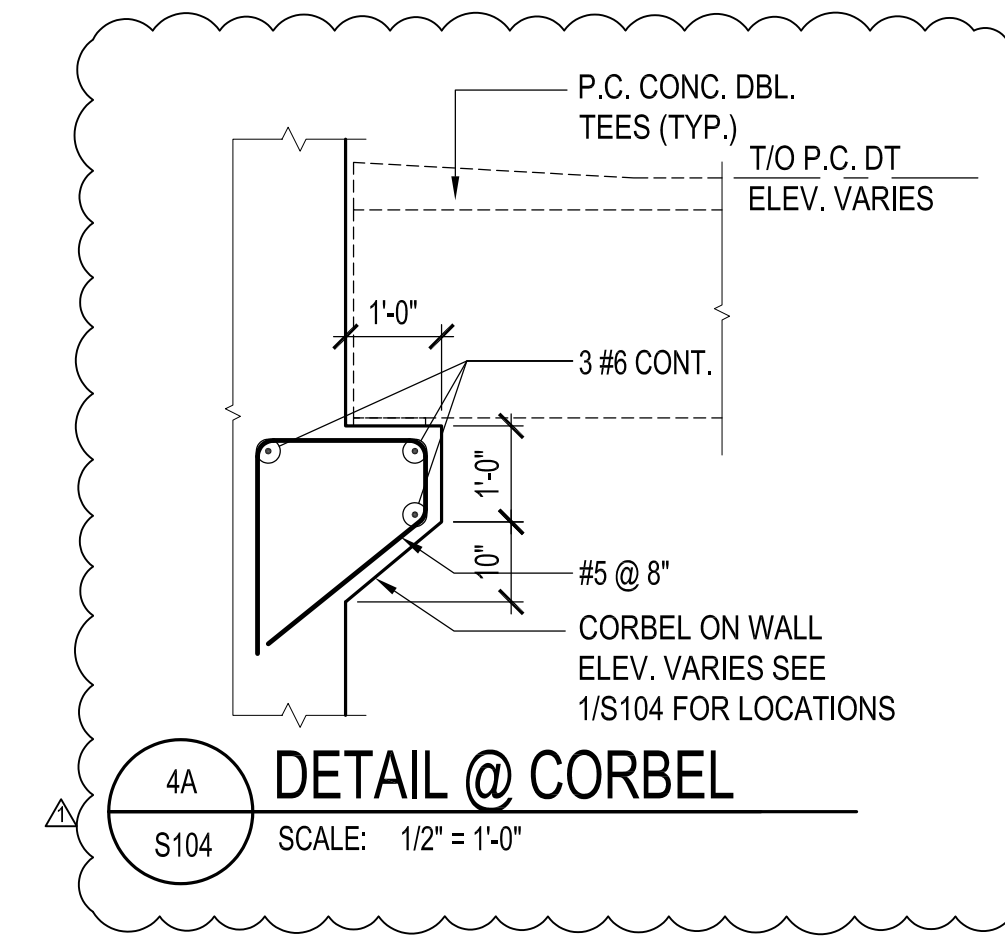
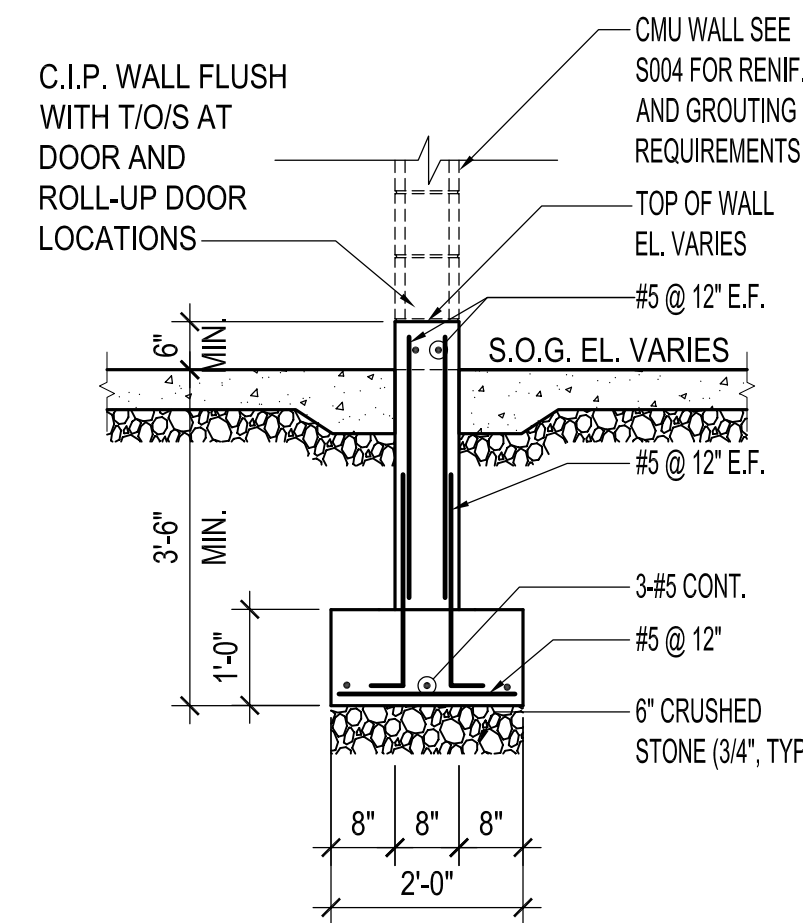
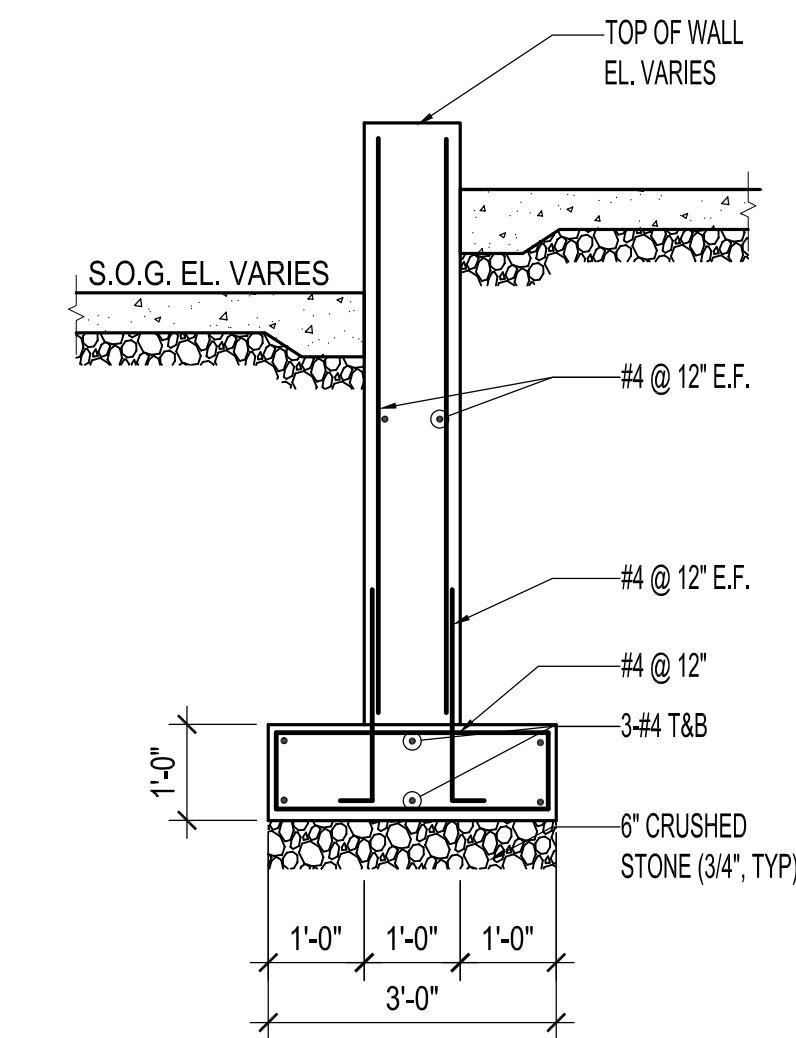
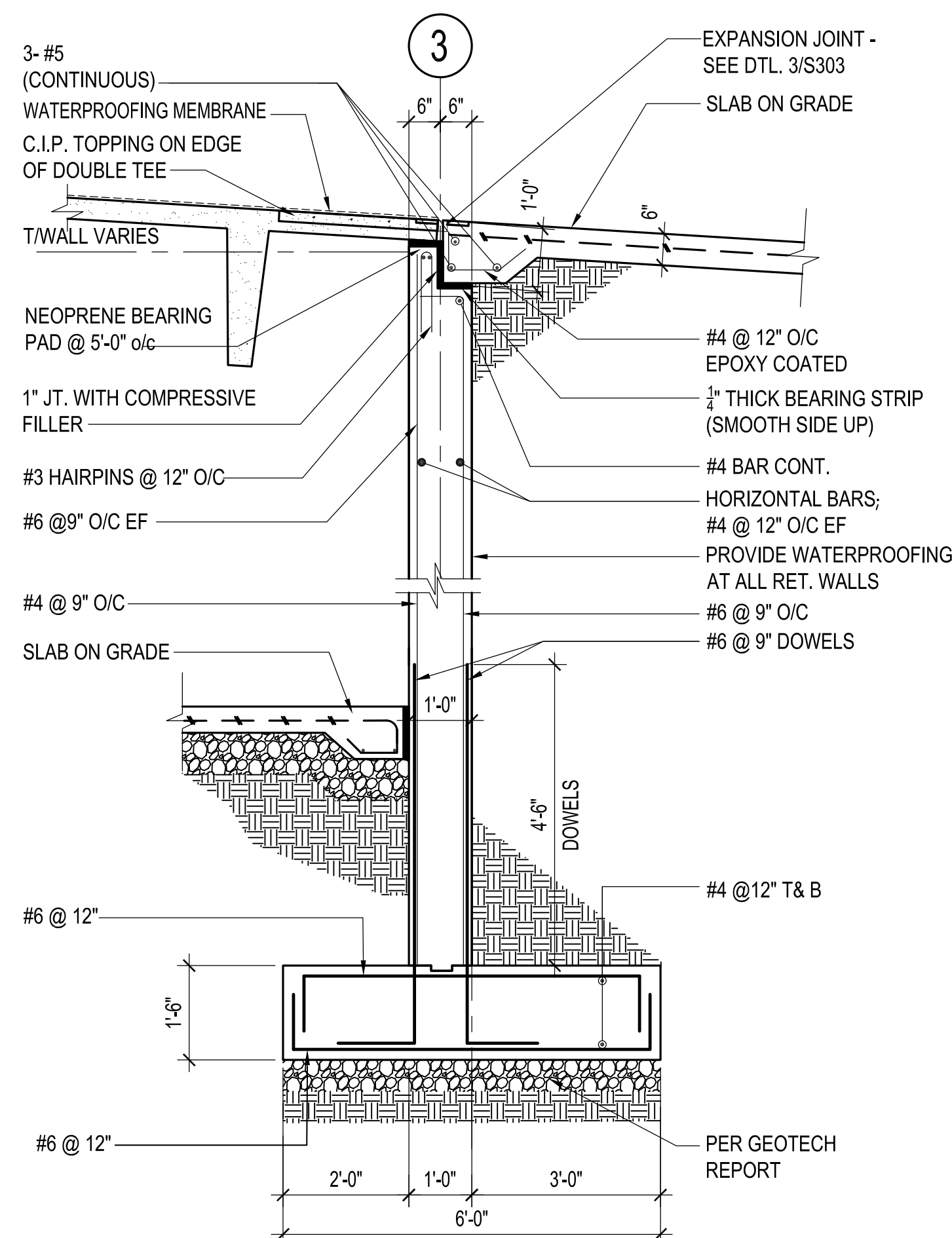
1 SECTION THRU WALL
SCALE: 1/2" = 1'-0"

2 SECTION THRU SHEAR WALL/ GRADE BEAM
SCALE: 1/2" = 1'-0"

3 SECTION THRU WALL
SCALE: 1/2" = 1'-0"

4 SECTION THRU LITE WALL
SCALE: 1/2" = 1'-0"

5 SECTION THRU LITE WALL
SCALE: 1/2" = 1'-0"

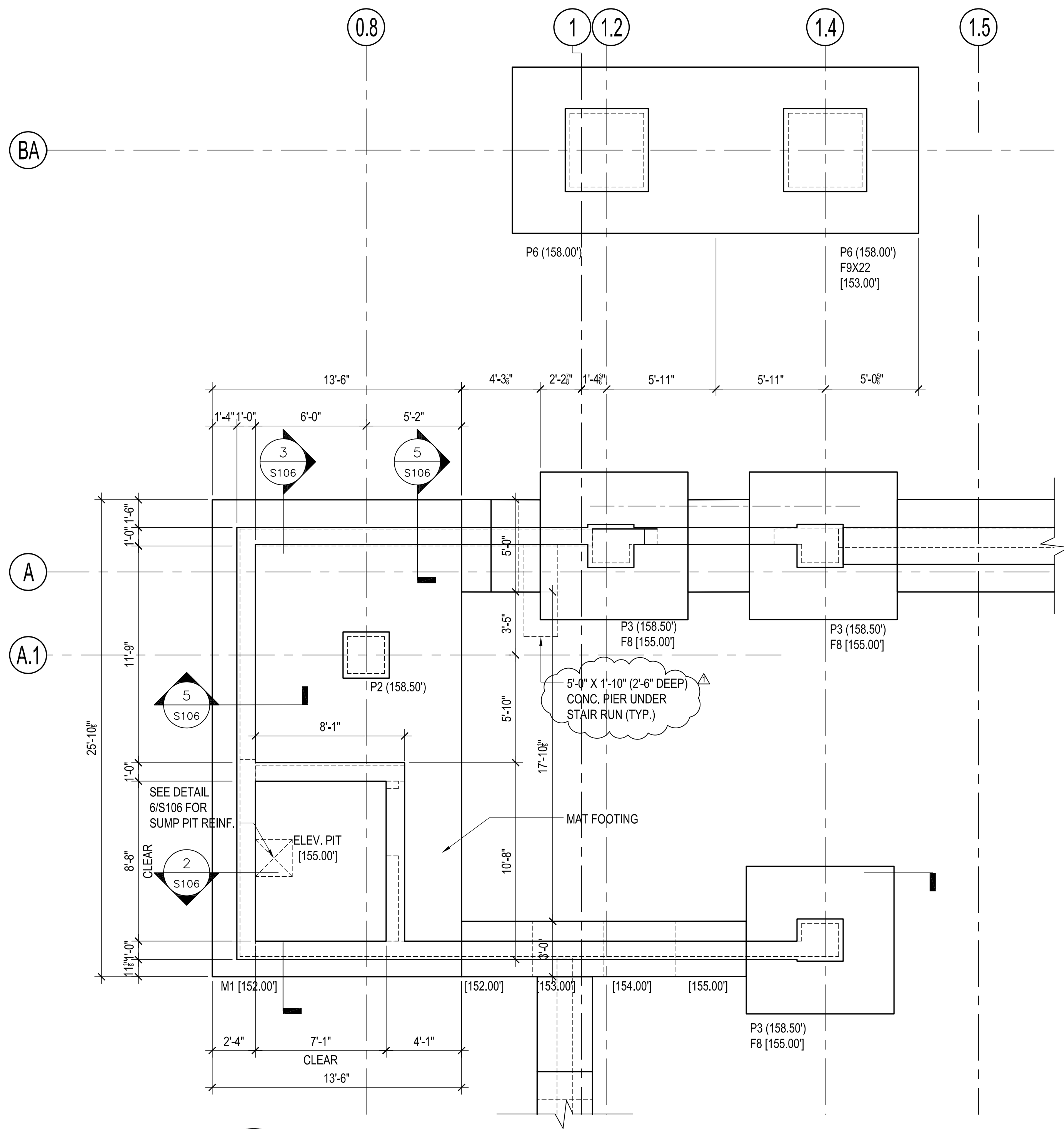


7 SECTION GRADE WALL
SCALE: 1/2" = 1'-0"

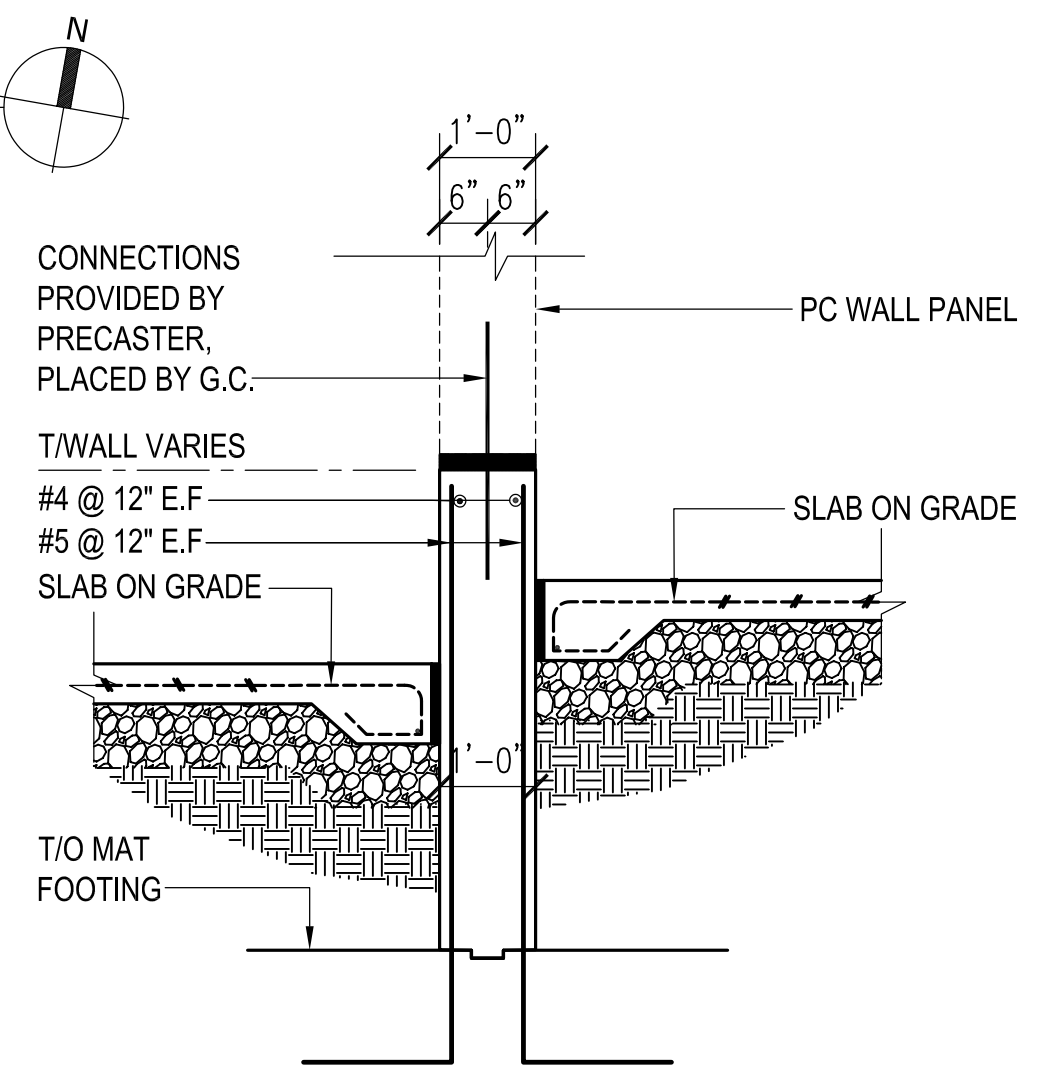
8 SECTION CMU WALL
SCALE: 1/2" = 1'-0"

4A DETAIL @ CORBEL
SCALE: 1/2" = 1'-0"

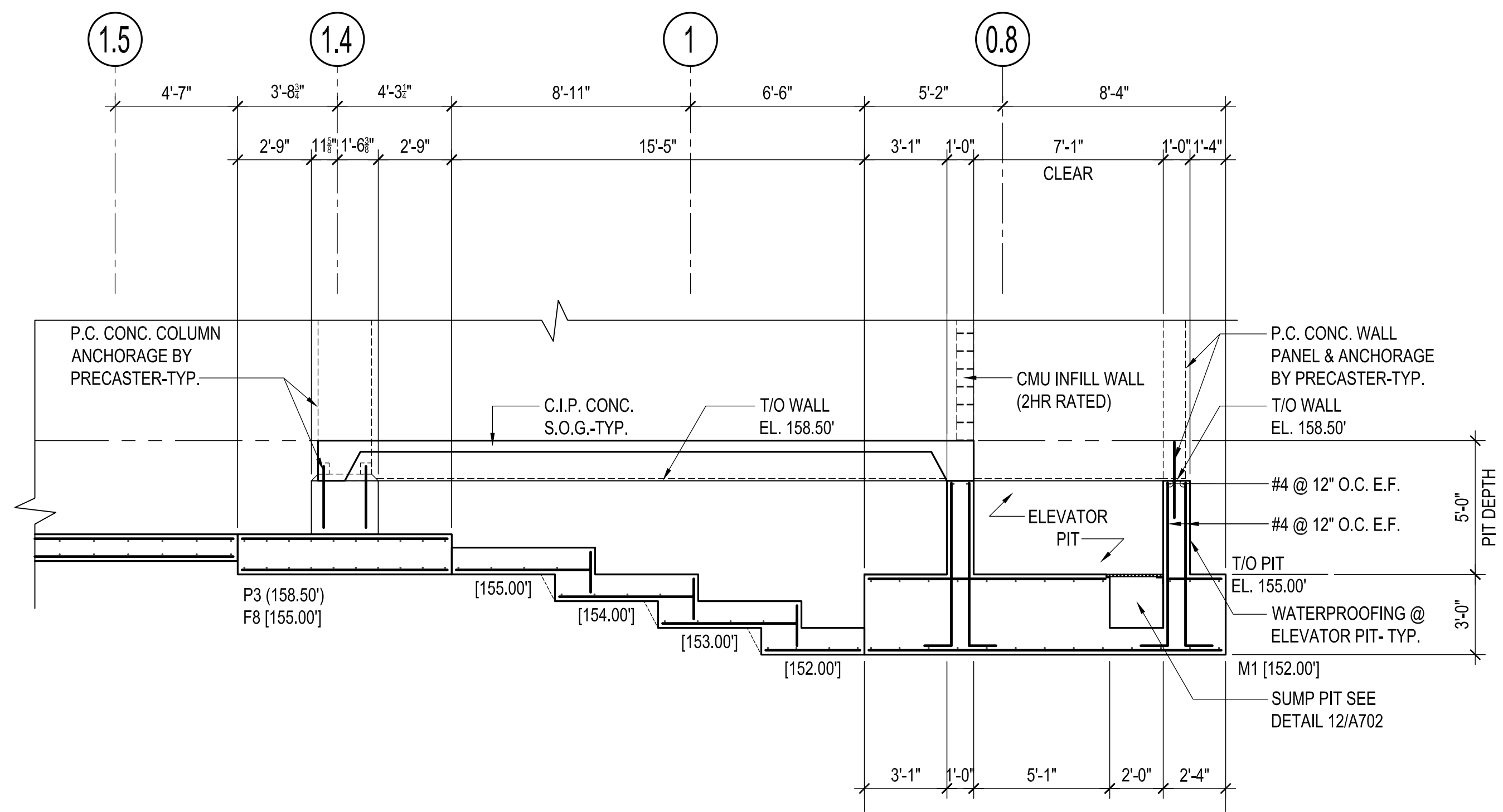
drawing title			STATE OF CONNECTICUT		
FOUNDATION WALL SECTIONS			DEPARTMENT OF ADMINISTRATIVE SERVICES		
REVISIONS					
mark	date	description	drawing prepared by	date	scale
	02/07/20	BID DOCUMENTS	DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	06/27/2019	AS NOTED
	06/01/20	ADDENDUM NO. 3			
			project	WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	
			drawn by	AAA	
			approved by	NLG	
			drawing no.	S105	
CAD no. xxxxxxxxx.dwg			project no.	CF-RC-402	



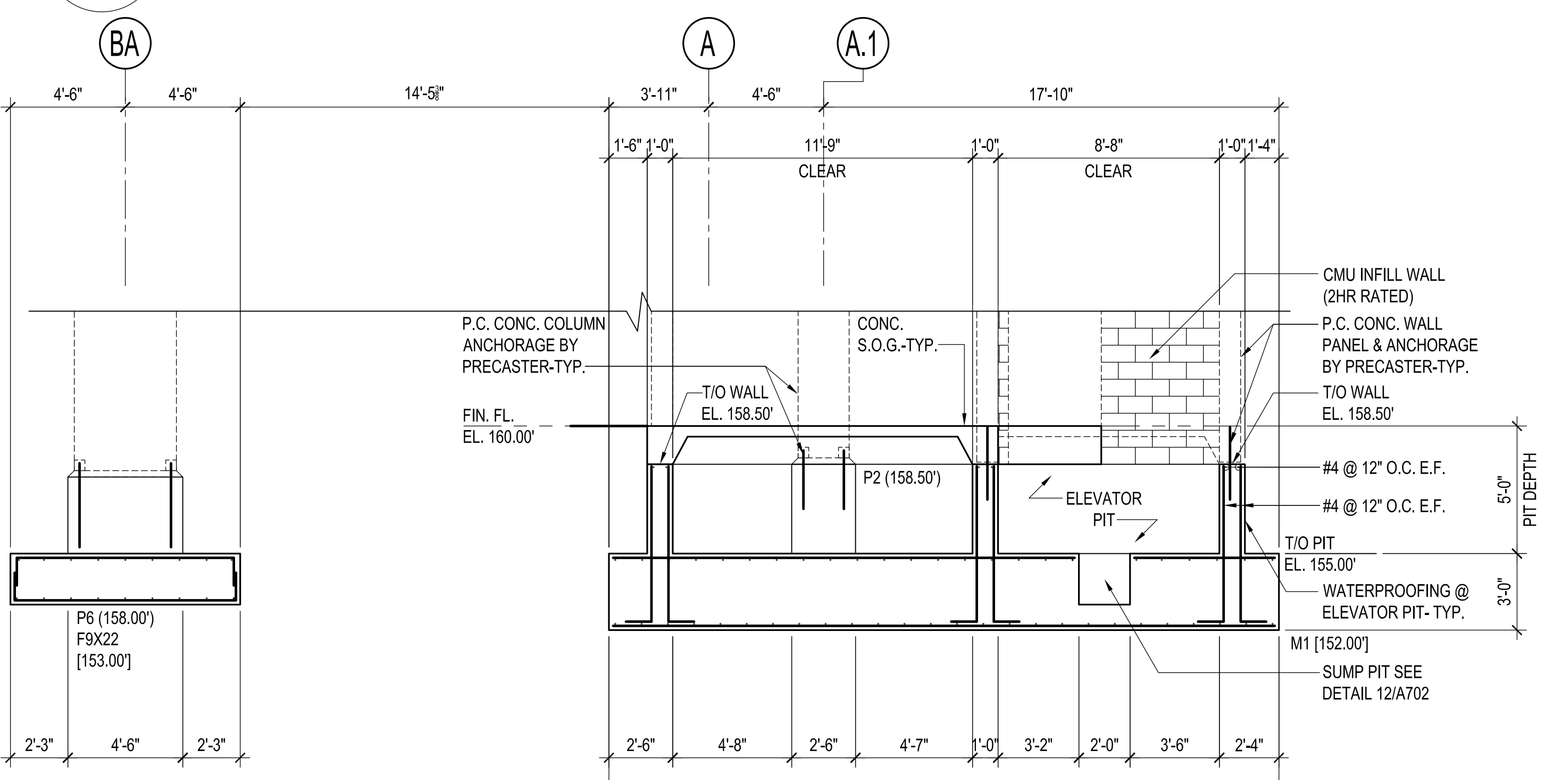
1 STAIR NO. 1 FOUNDATION PLAN
S106 SCALE: 1/4" = 1'-0"



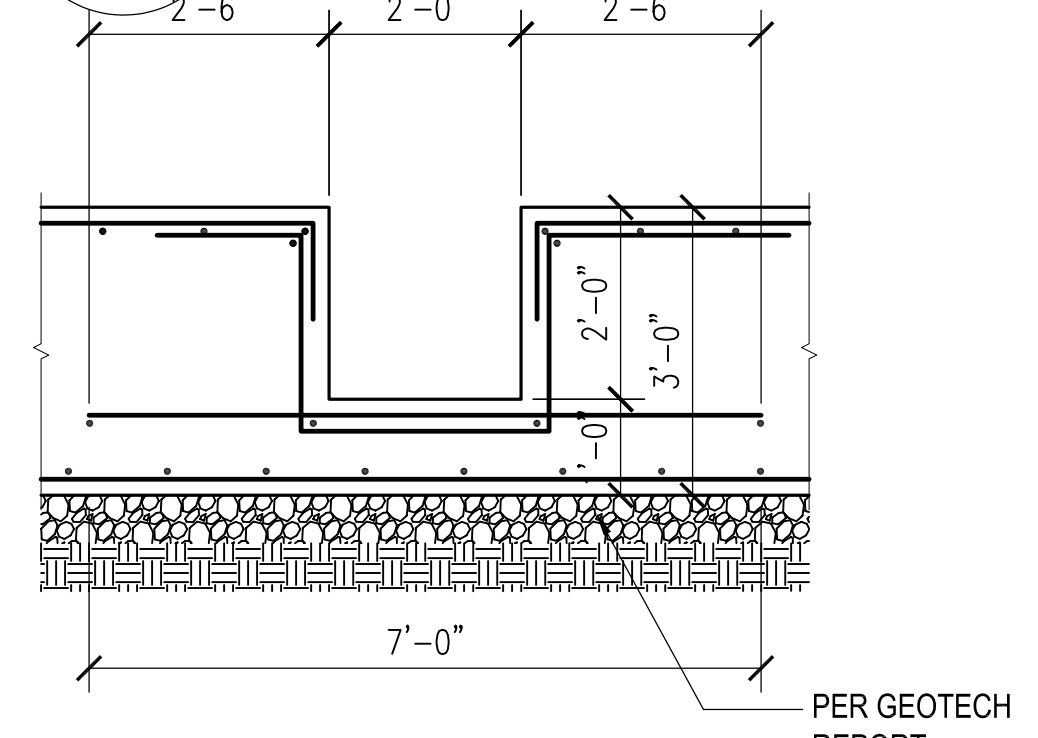
5 SECTION THRU WALL
S106 SCALE: 1/2" = 1'-0"



2 STAIR NO. 1 SECTION (E-W)
S106 SCALE: 1/4" = 1'-0"

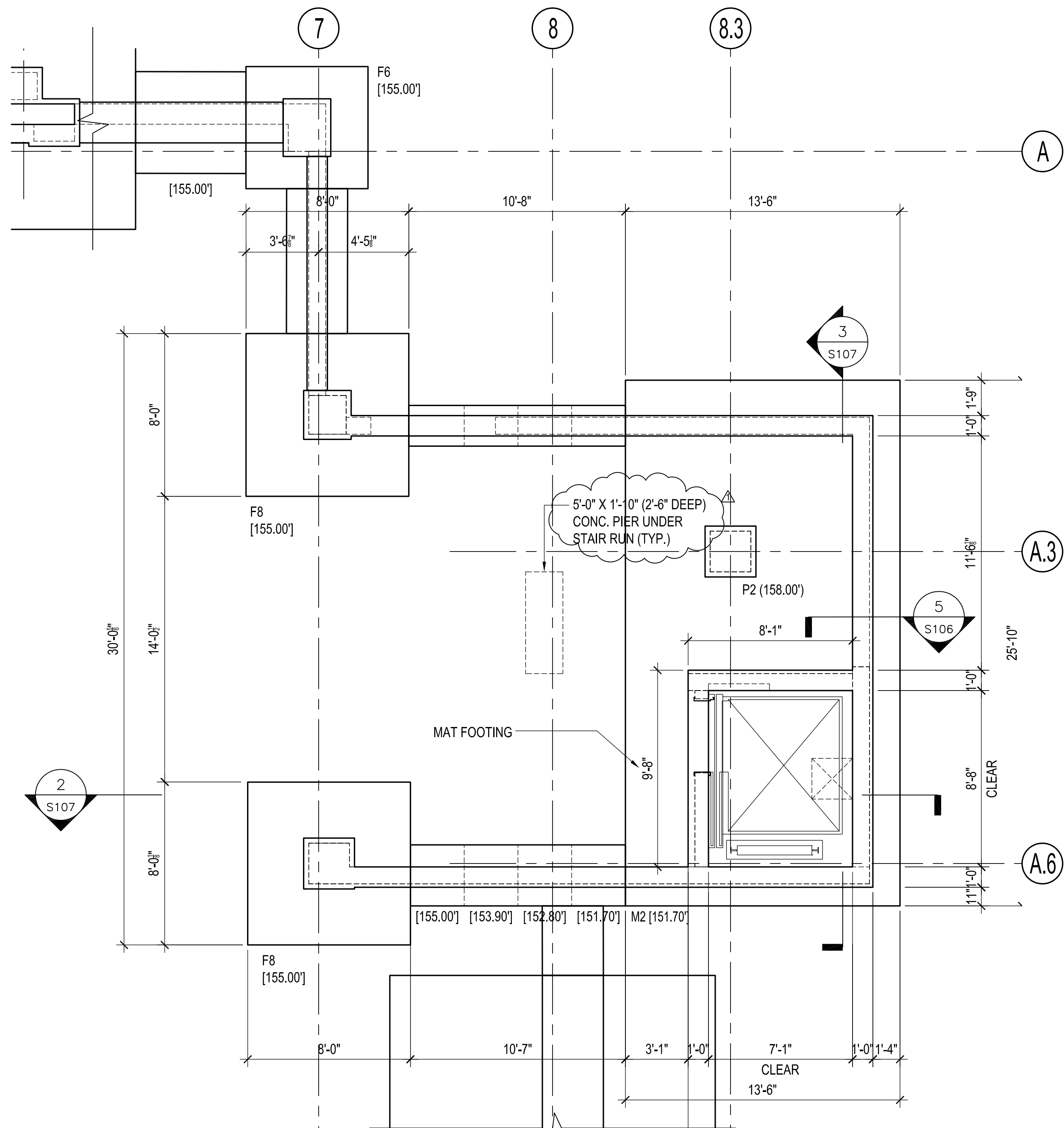


3 STAIR NO. 1 SECTION (N-S)
S106 SCALE: 1/4" = 1'-0"

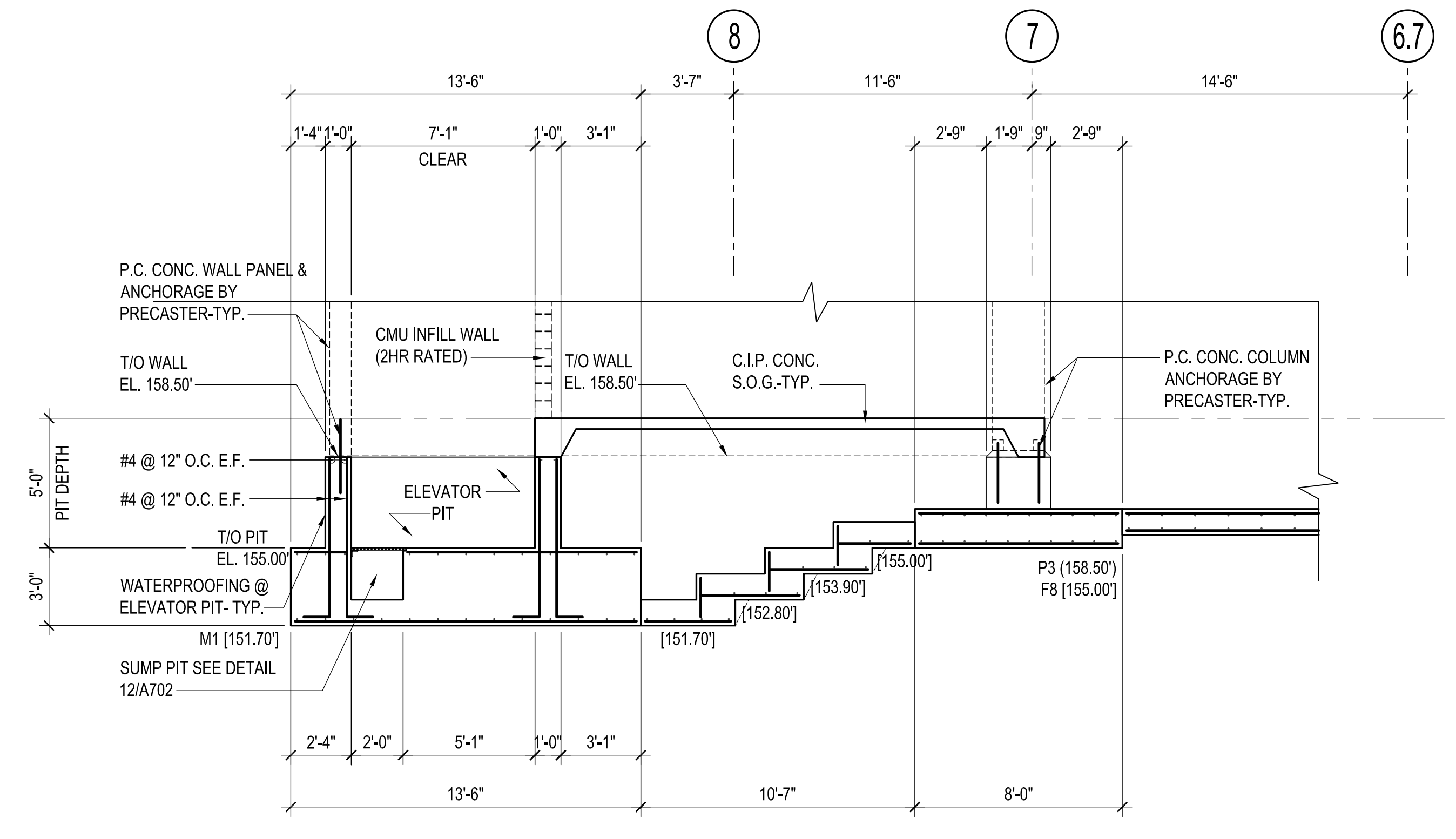


6 SECTION THRU ELEV. SUMP PIT
S106 SCALE: 1/2" = 1'-0"

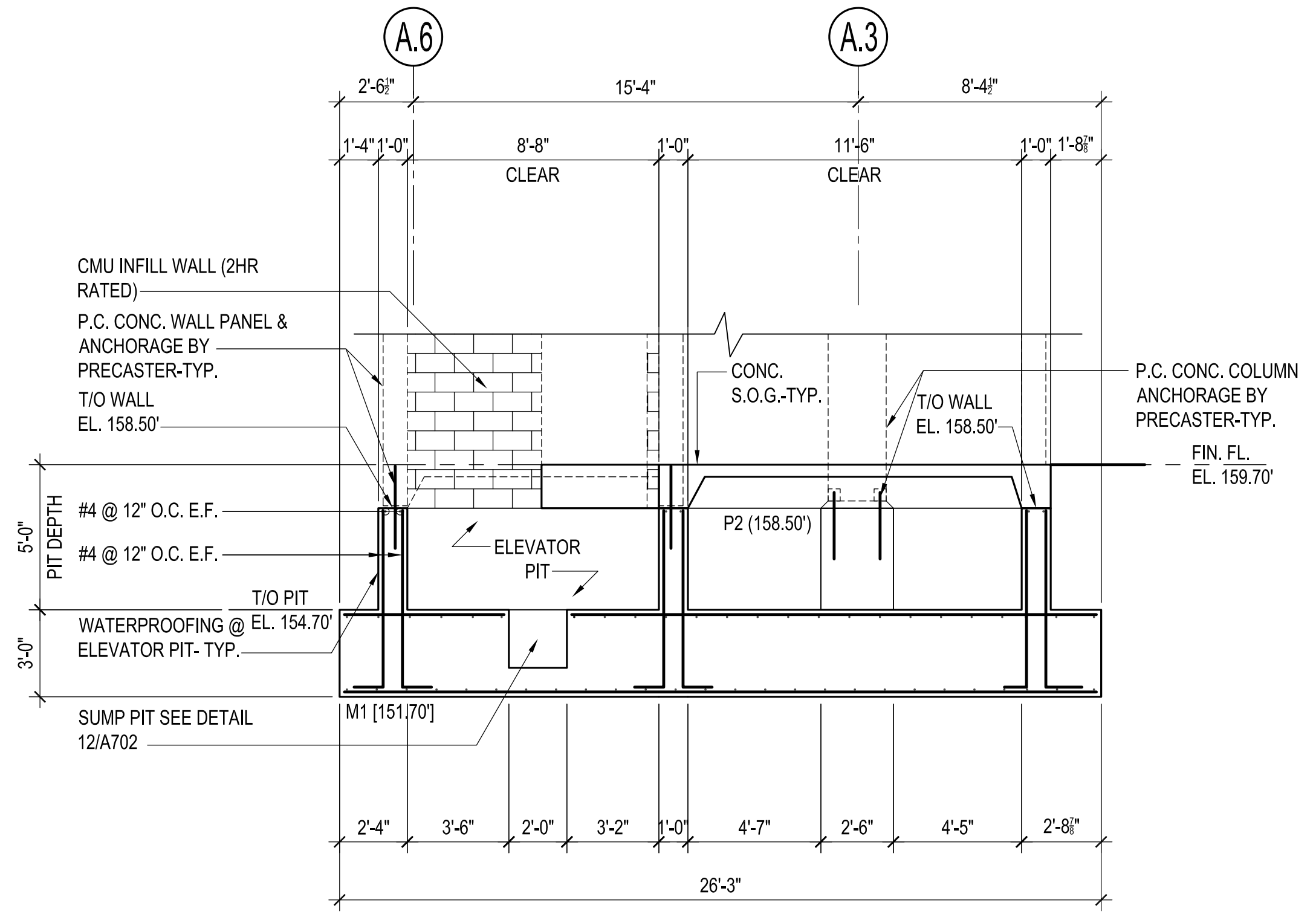
drawing title			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
STAIR NO. 1 FOUNDATION PLAN			drawing prepared by DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067	
REVISIONS			date 06/27/2019	
mark	date	description	scale AS NOTED	
	02/07/20	BID DOCUMENTS		
	06/01/20	ADDENDUM NO. 3		
project			drawn by AAA	
WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT			approved by NLG	
drawing no.			S106	
CADD no. xxxxxxxxx.dwg		project no. CF-RC-402		



1 STAIR NO. 2 FOUNDATION PLAN
 SCALE: 1/4" = 1'-0"

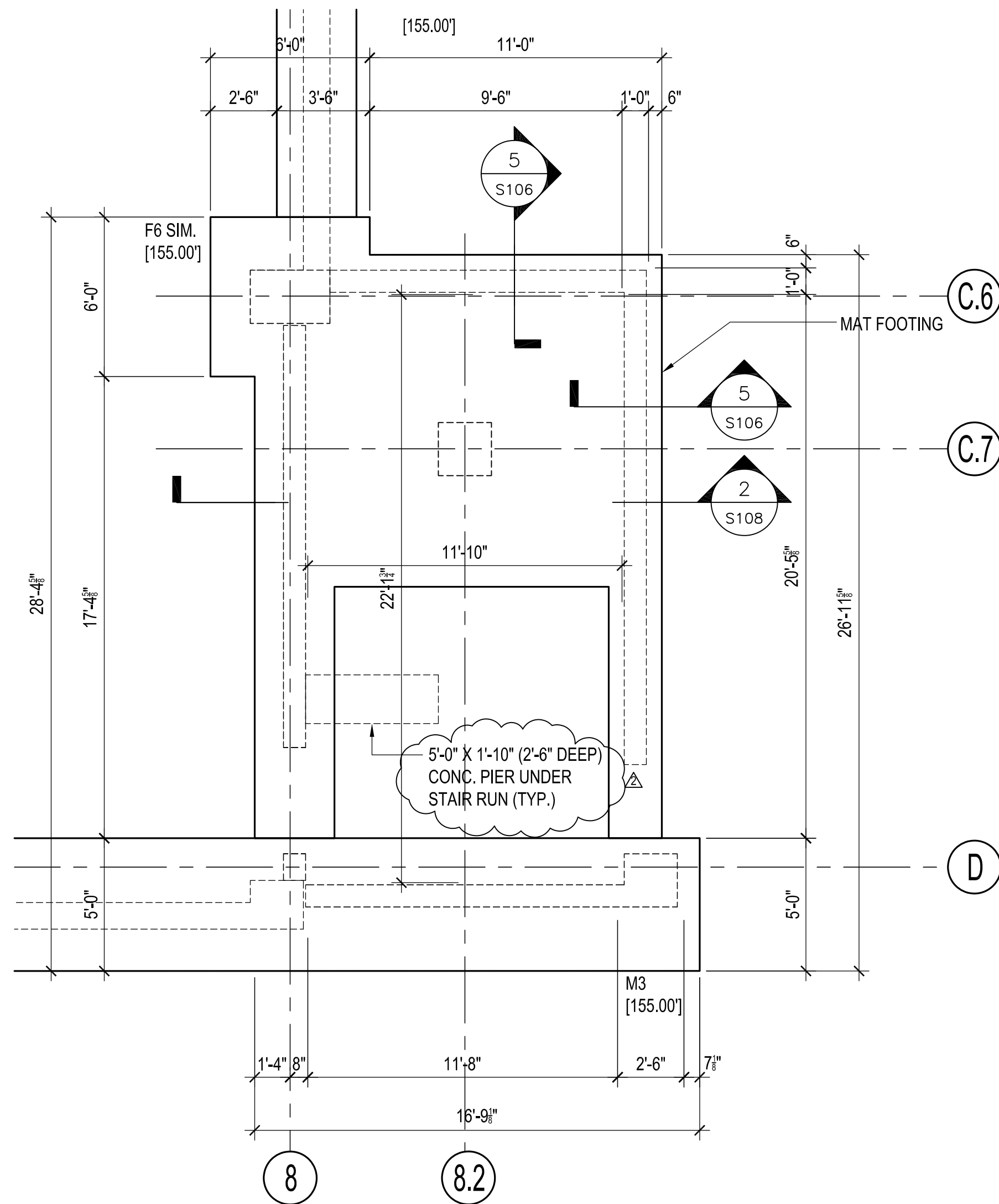


2 STAIR NO. 2 SECTION (E-W)
 SCALE: 1/4" = 1'-0"

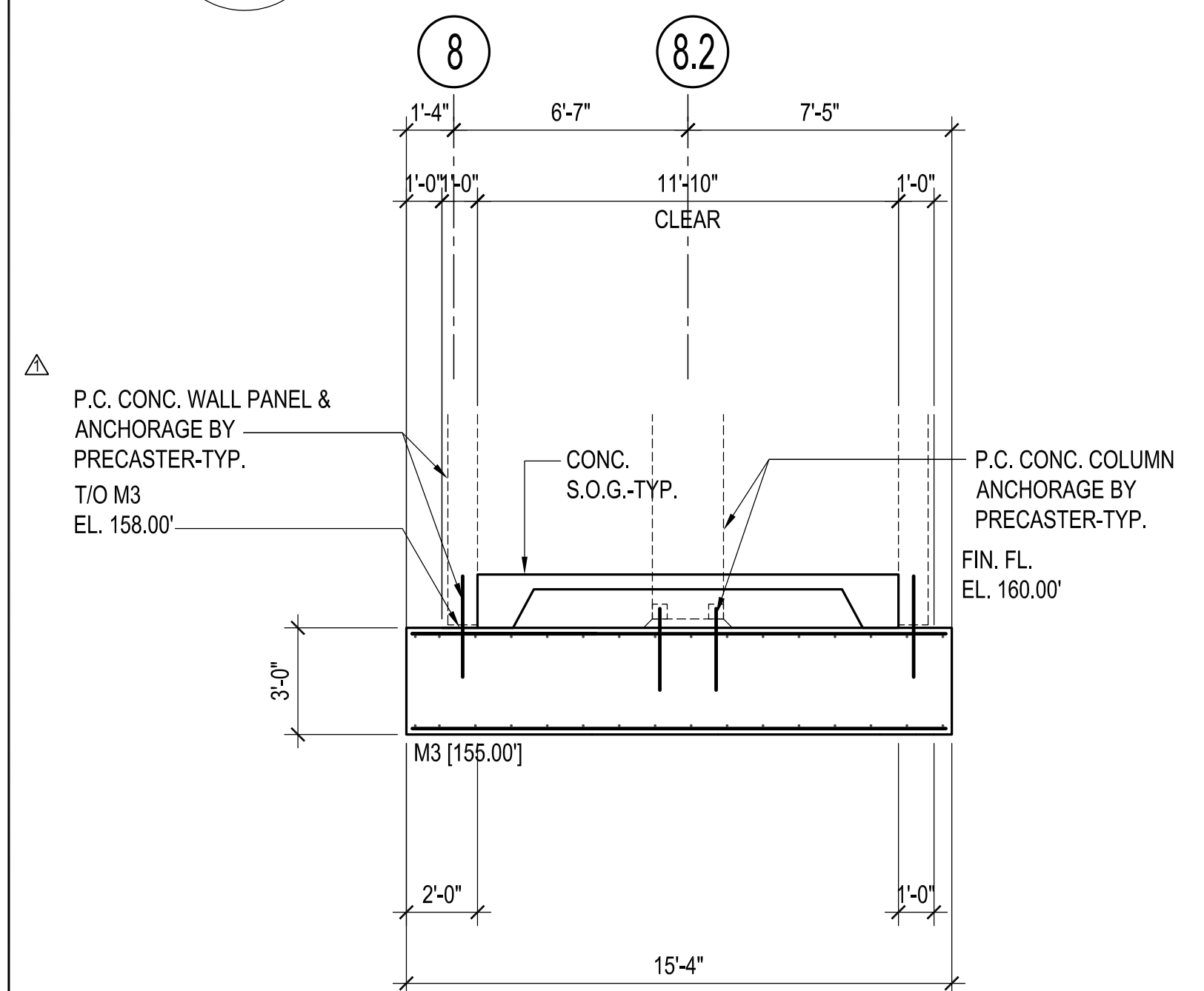


3 STAIR NO. 2 SECTION (N-S)
 SCALE: 1/4" = 1'-0"

drawing title			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES		
STAIR NO. 2 FOUNDATION PLAN			drawing prepared by		
REVISIONS			DESMAN		
mark	date	description	175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067		
	02/07/20	BID DOCUMENTS	date 06/27/2019		
	06/01/20	ADDENDUM NO. 3	scale AS NOTED		
project			drawing no.		
WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT			AAA		
approved by			NLG		
drawing no.			S107		
CAD no. xxxxxxxxx.dwg		project no. CF-RC-402			

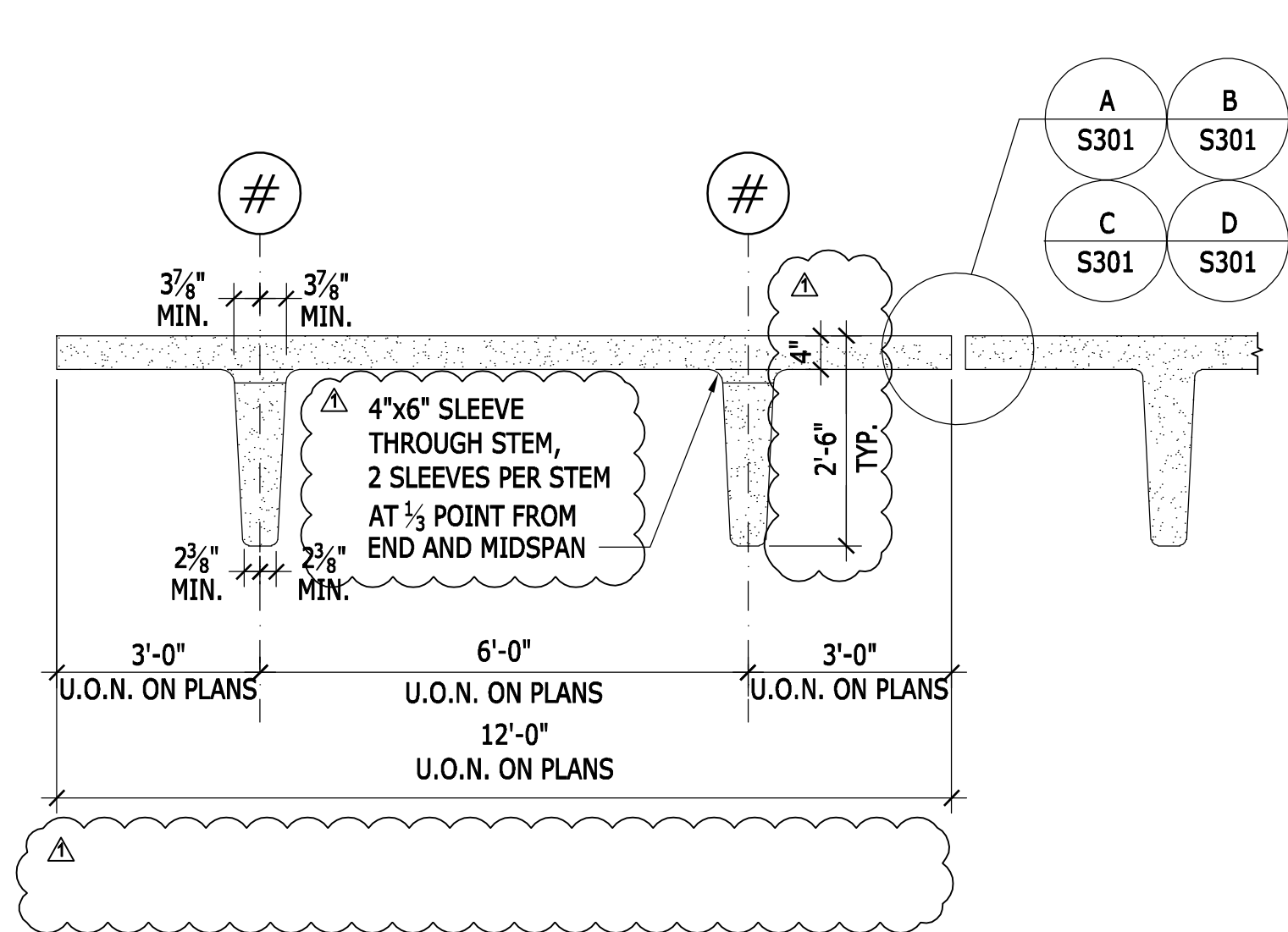


1
S108 **STAIR NO.3 FOUNDATION PLAN**
SCALE: 1/4" = 1'-0"

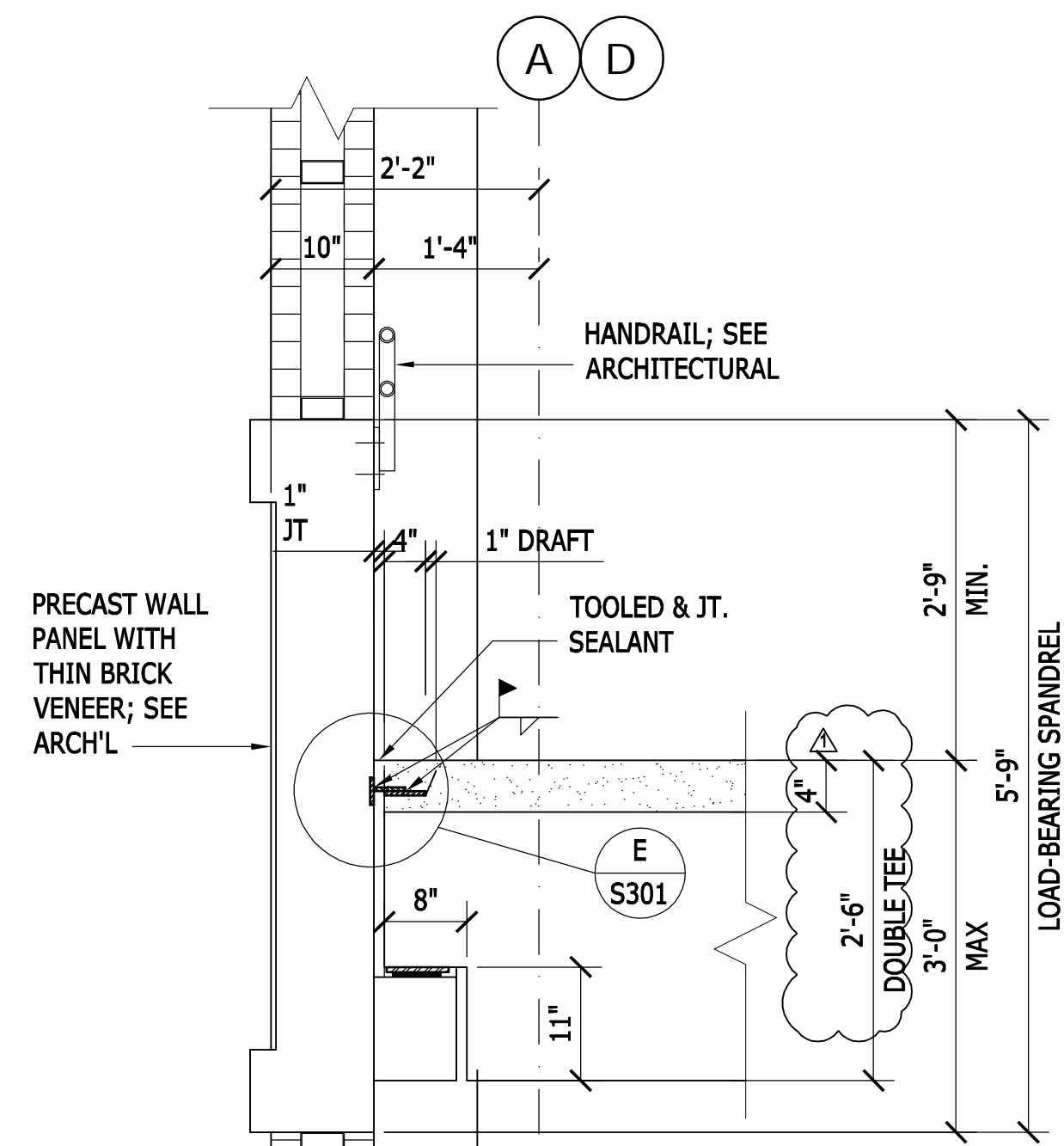


2
S108 **STAIR NO.3 SECTION (E-W)**
SCALE: 1/4" = 1'-0"

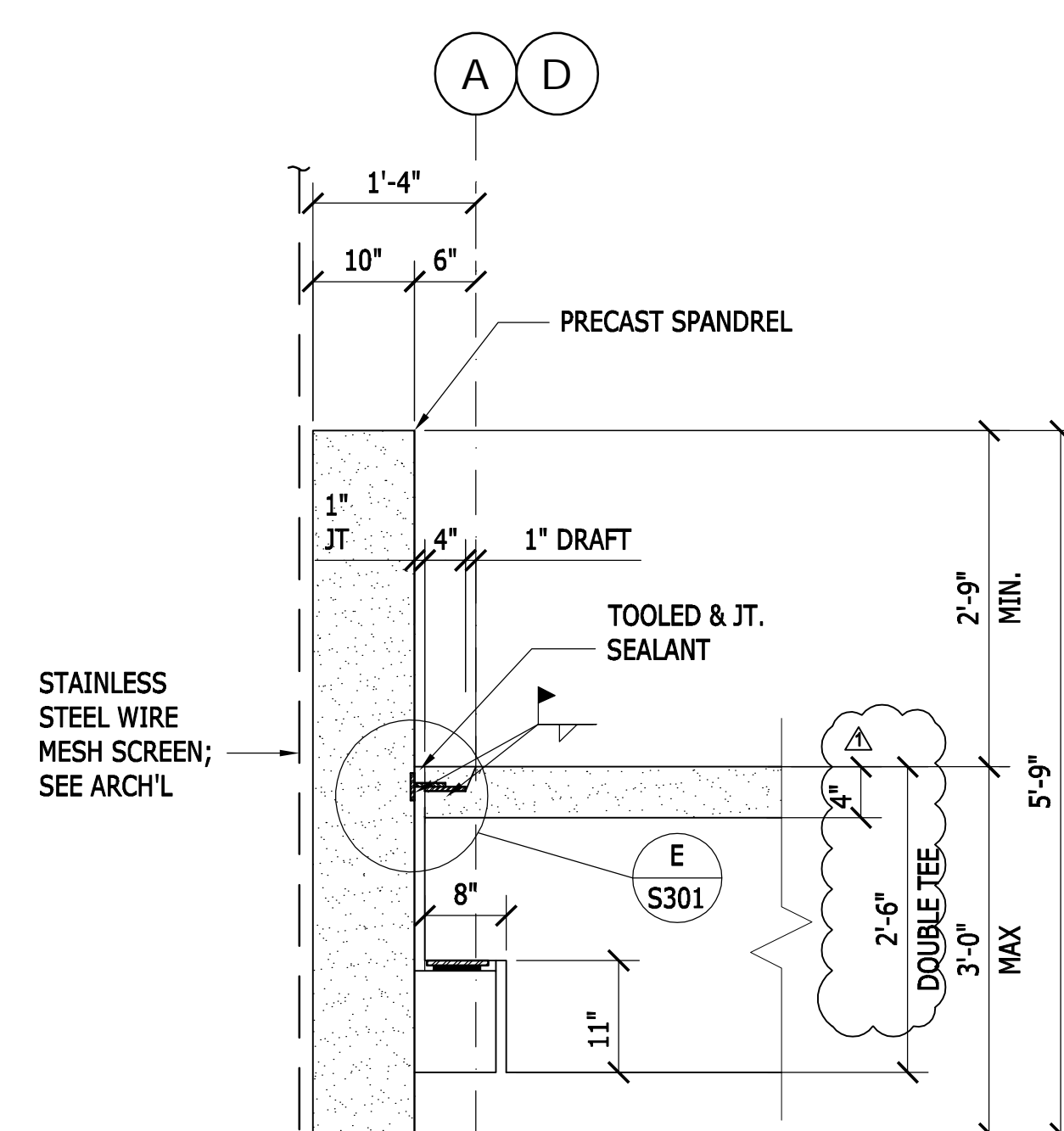
drawing title			STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES		
STAIR NO.3 FOUNDATION PLAN			drawing prepared by DESMAN 175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067		
REVISIONS			date 06/27/2019		
mark	date	description	scale AS NOTED		
	02/07/20	BID DOCUMENTS			
△	05/15/20	ADDENDUM NO. 2			
△	06/01/20	ADDENDUM NO. 3			
project			drawn by AAA		
WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT			approved by NLG		
drawing no.			S108		
CAD no. xxxxxxxx.dwg		project no. CF-RC-402			



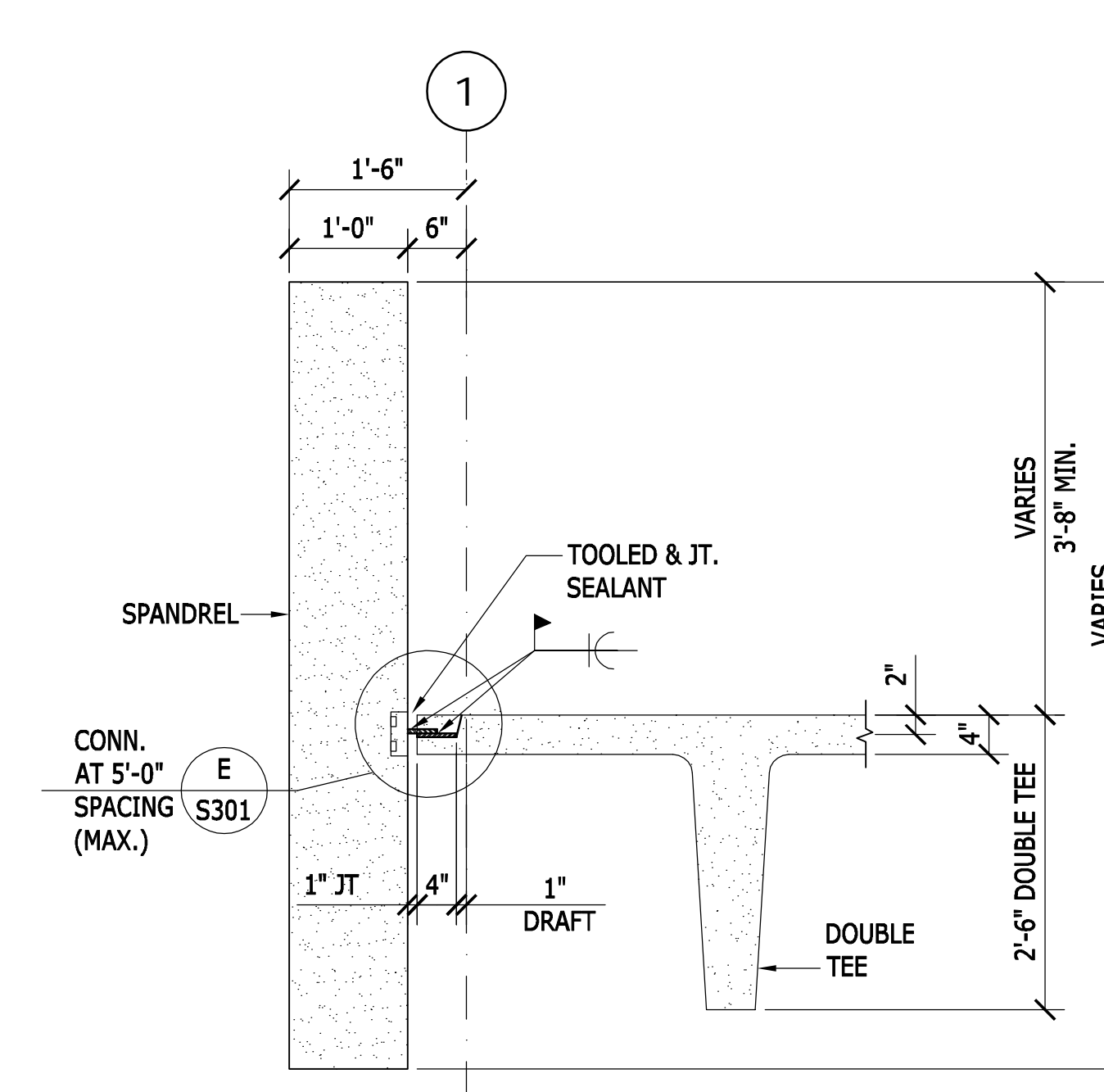
1 SECTION AT DOUBLE TEE
S301 SCALE: 1/2" = 1'-0"



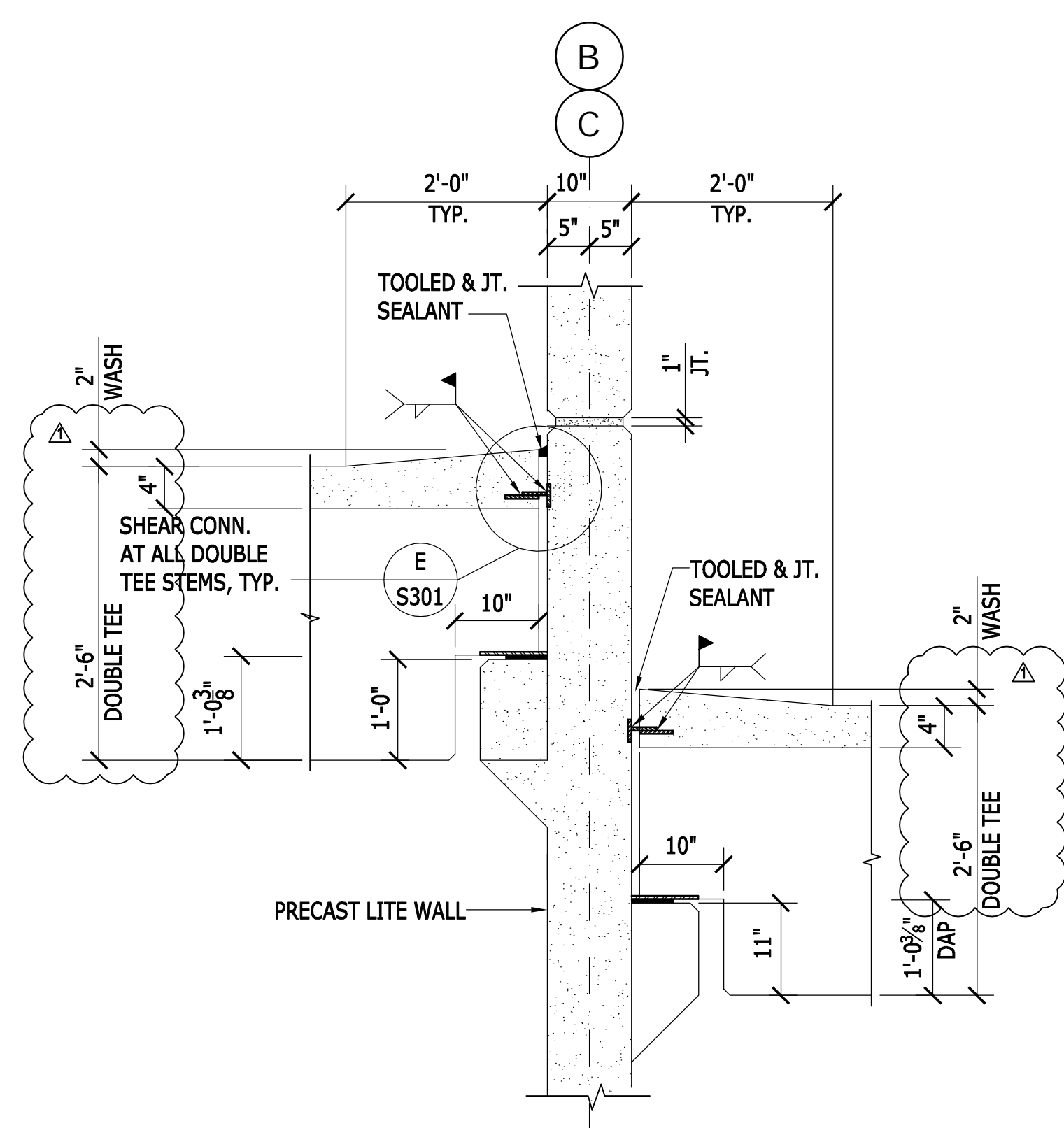
2 SECTION AT PRECAST WALL PANEL WITH PUNCHED OPENING
S301 SCALE: 3/4" = 1'-0"



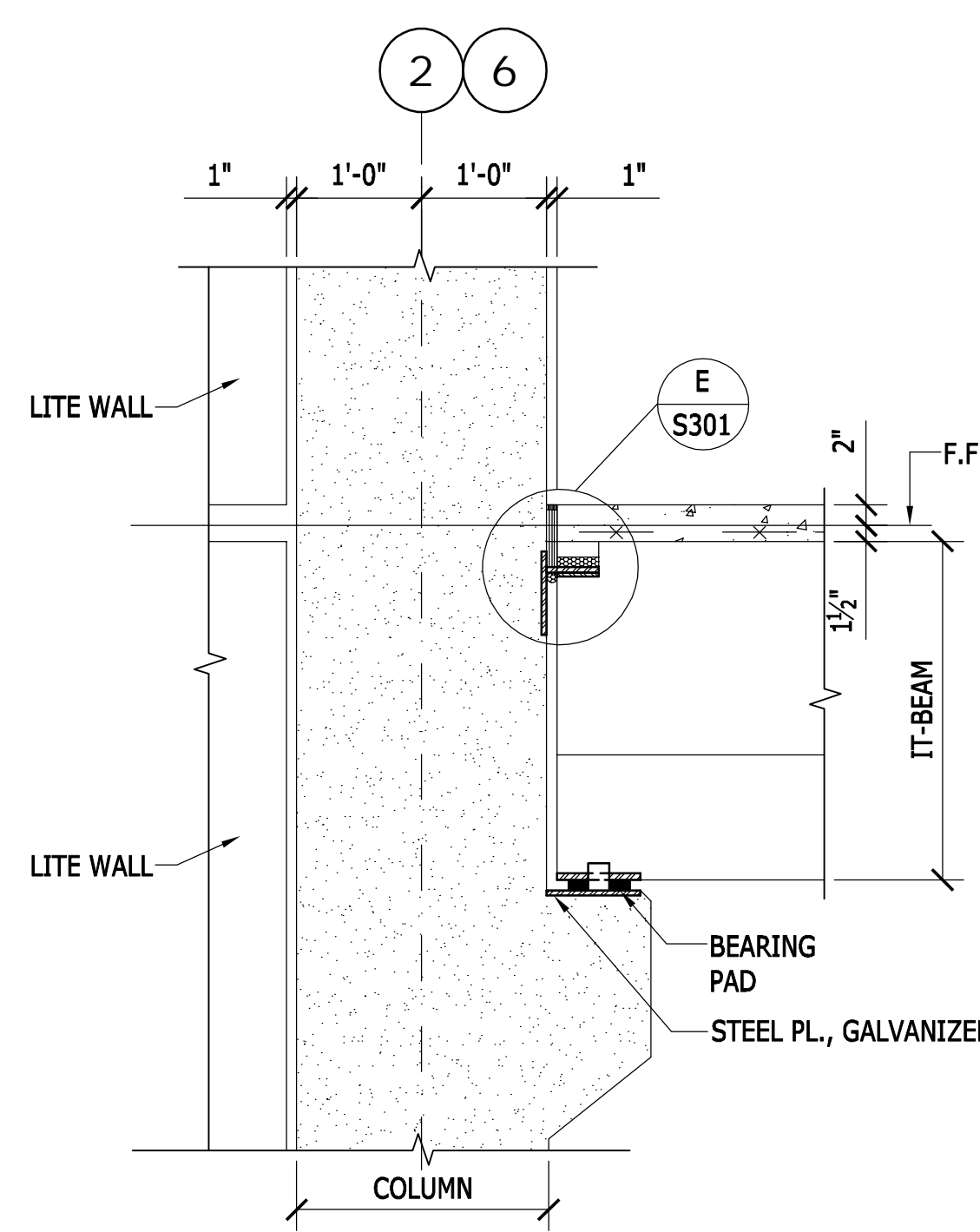
3 LOAD BEARING SPANDREL WITH STAINLESS STEEL MESH
S301 SCALE: 3/4" = 1'-0"



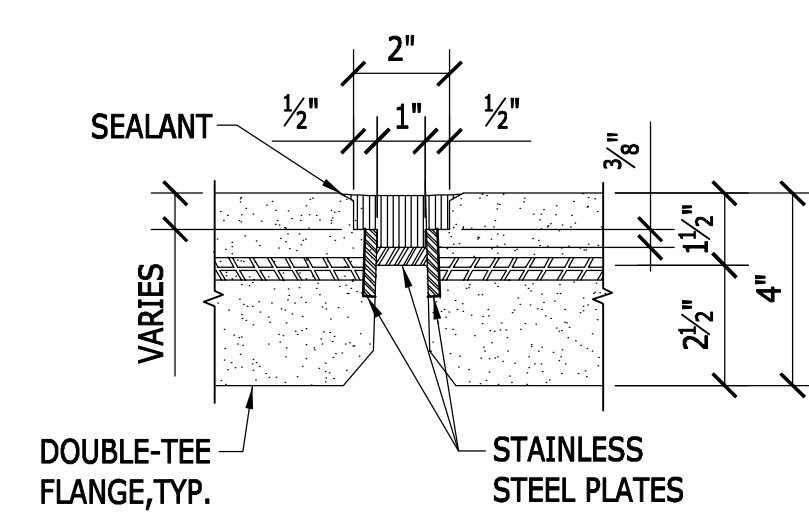
4 NON LOAD-BEARING SPANDREL
S301 SCALE: 3/4" = 1'-0"



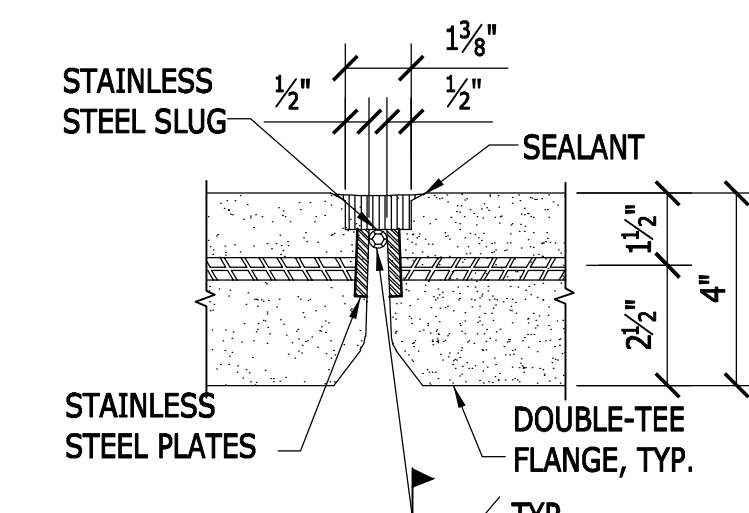
5 SECTION AT LITEWALL
S301 SCALE: 3/4" = 1'-0"



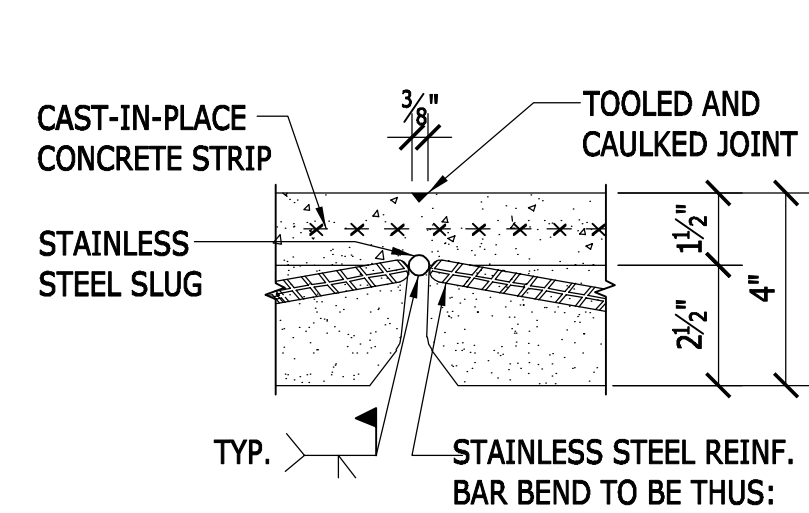
6 SECTION AT COLUMN
S301 SCALE: 3/4" = 1'-0"



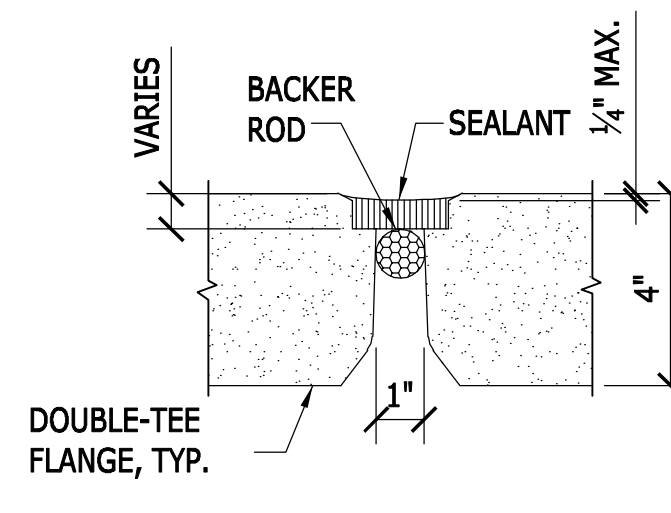
A FLANGE TO FLANGE CONNECTION, TYPE 1
S301 SCALE: 3" = 1'-0"



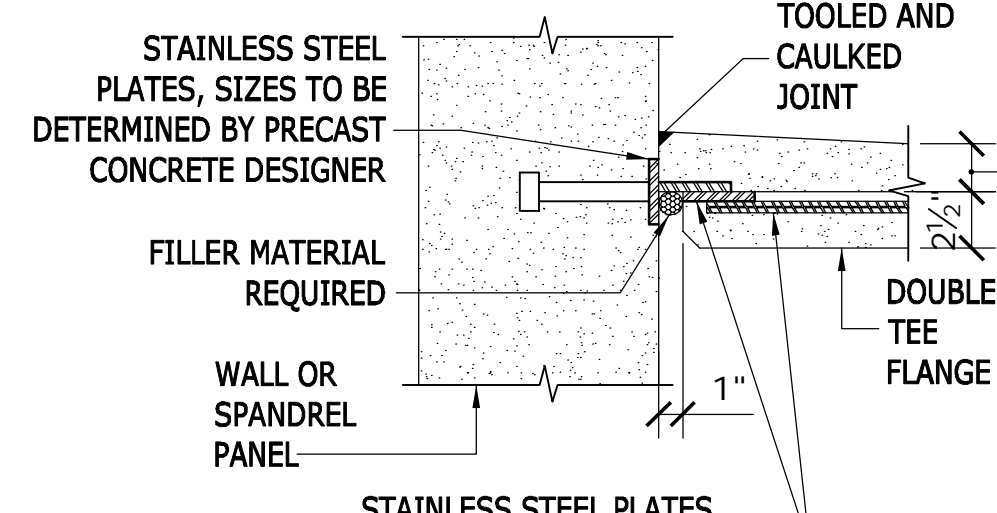
B FLANGE TO FLANGE CONNECTION, TYPE 2
S301 SCALE: 3" = 1'-0"



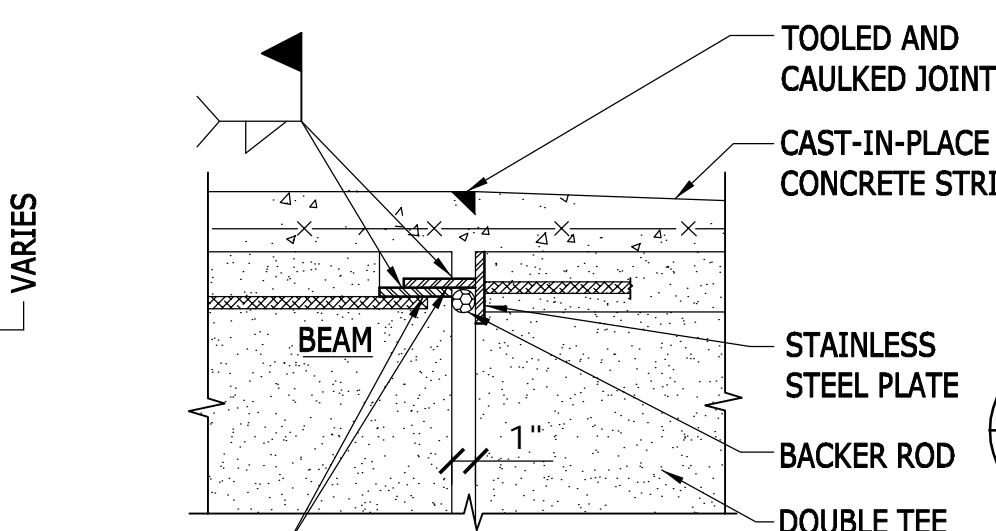
C FLANGE TO FLANGE CONNECTION AT CAST-IN-PLACE CONCRETE STRIPS
S301 SCALE: 3" = 1'-0"



D FLANGE TO FLANGE SEALANT PLACEMENT
S301 SCALE: 3" = 1'-0"

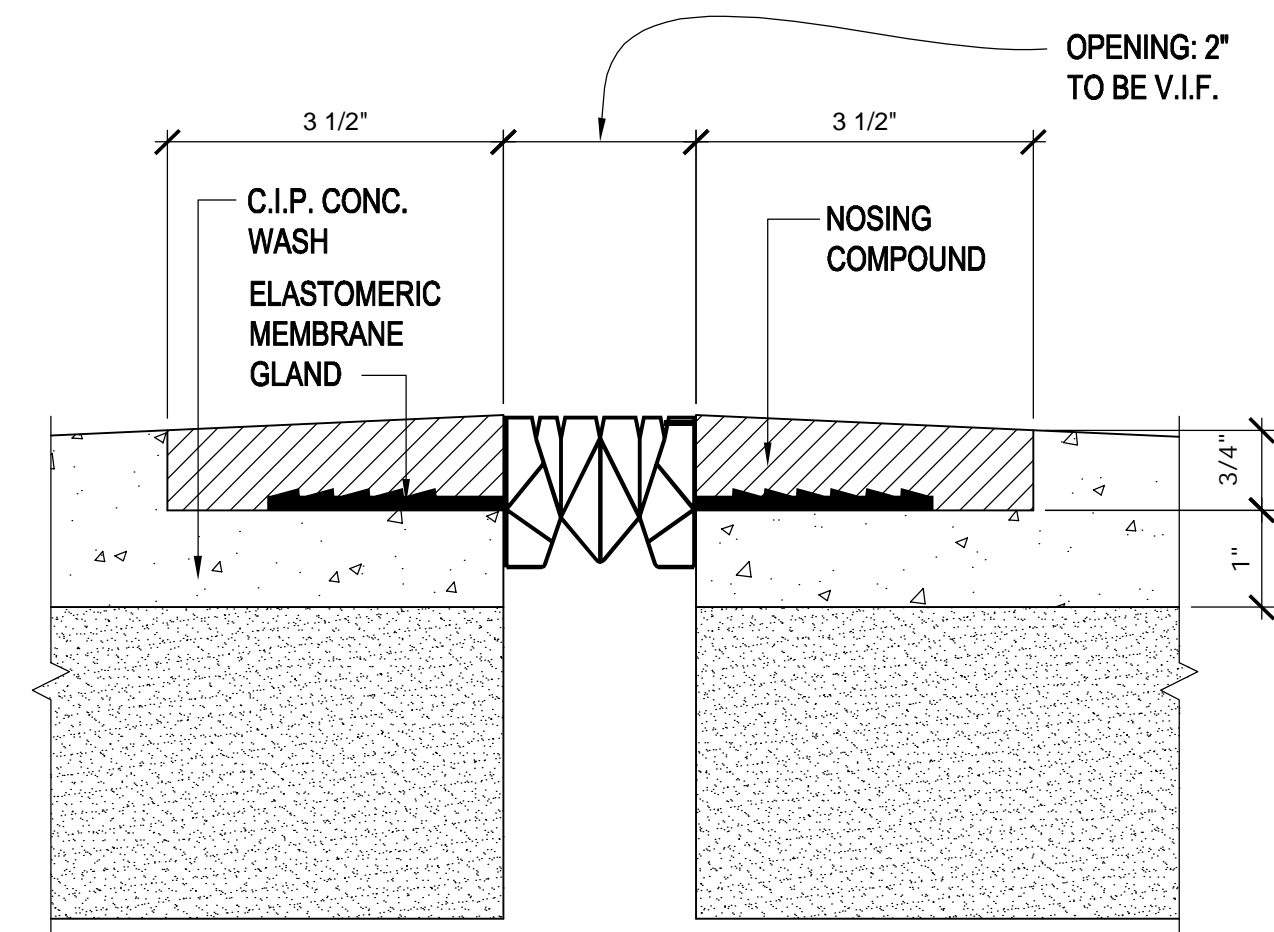


E DETAIL AT PRECAST WALL/ SPANDREL PANELS
S301 SCALE: 1 1/2" = 1'-0"

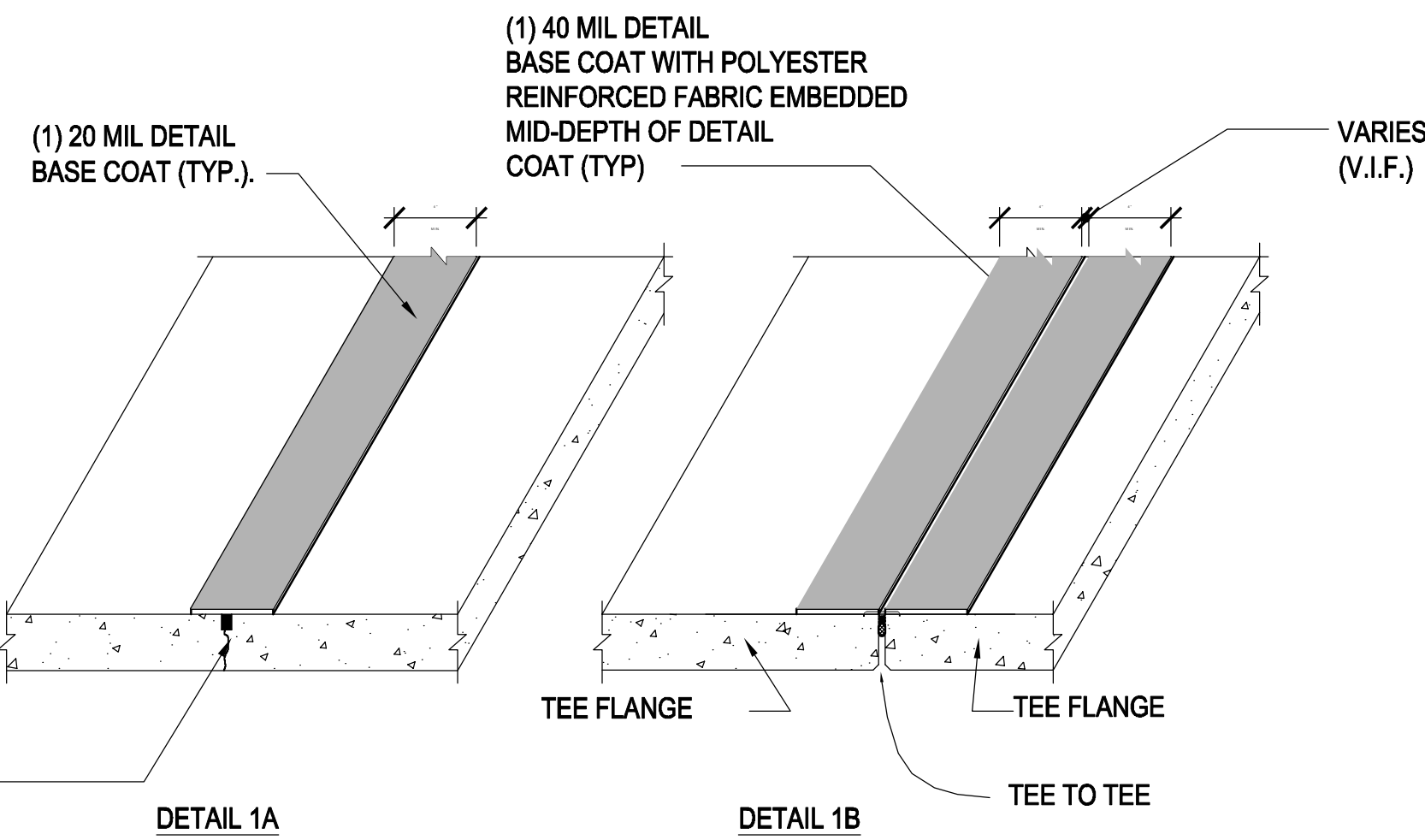
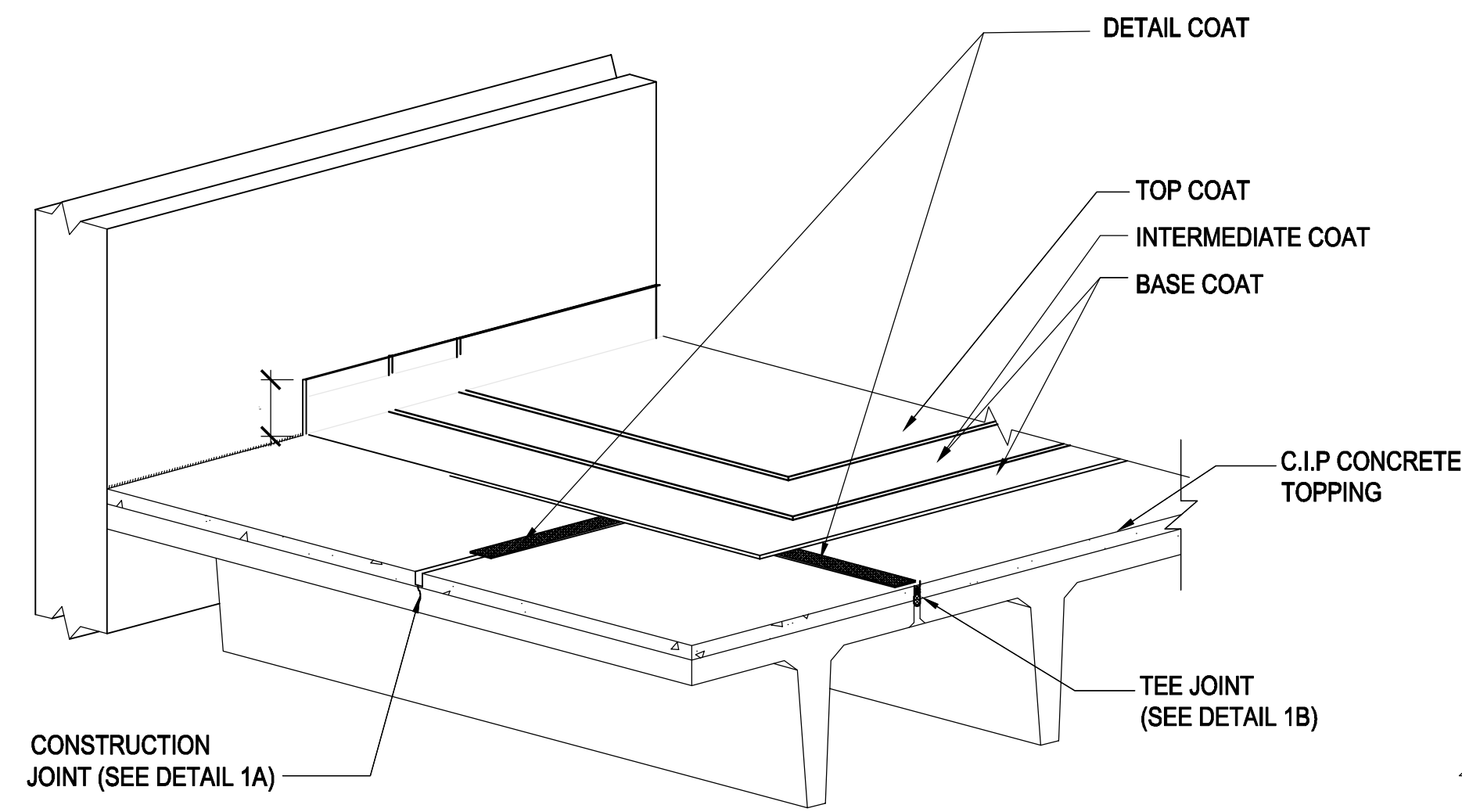


F DETAIL
S301 SCALE: 1 1/2" = 1'-0"

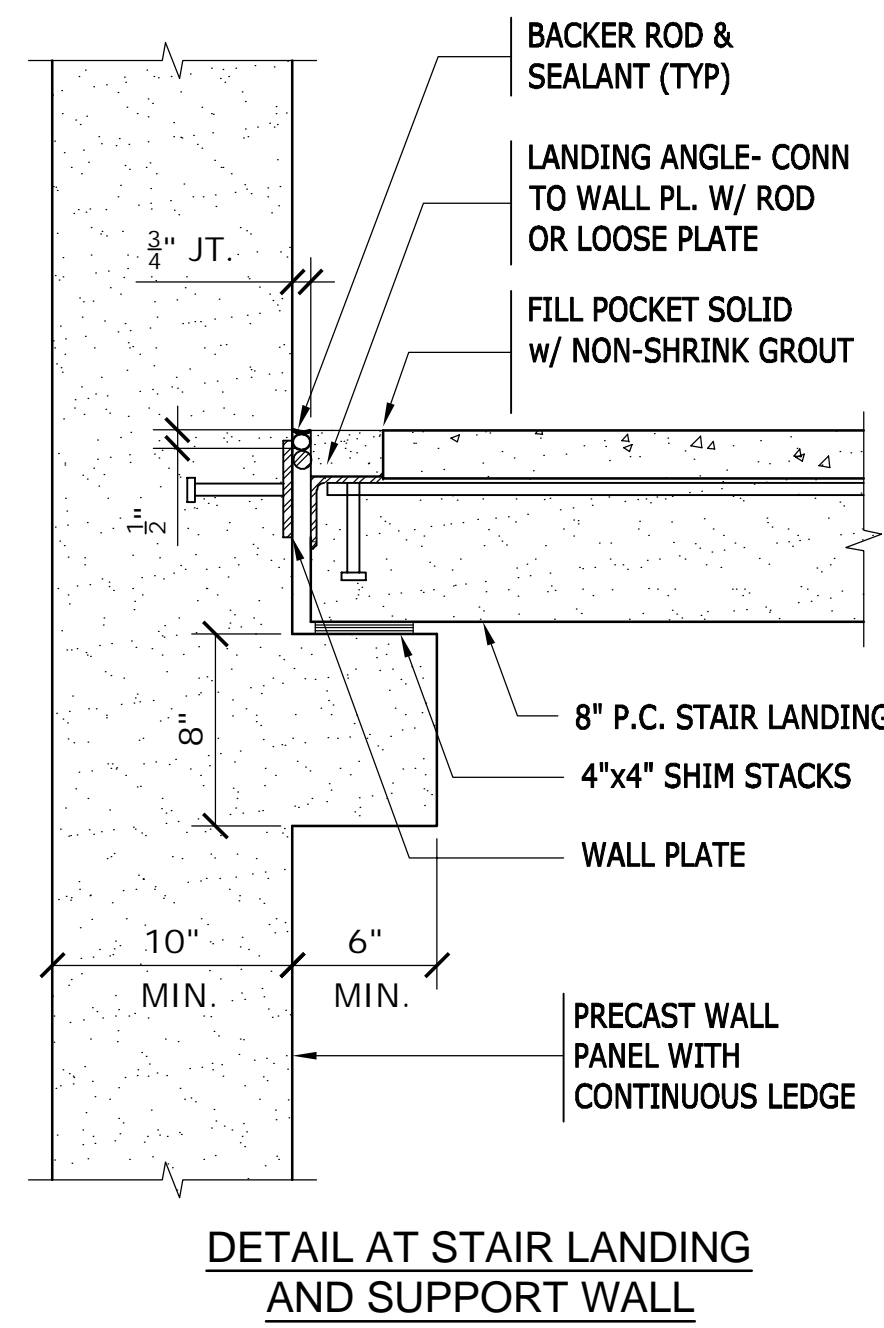
REVISIONS			drawing prepared by		date
mark	date	description			scale
	02/07/20	BID DOCUMENTS	DESMAN		06/27/2019
	06/01/20	ADDENDUM NO. 3	175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067		AS NOTED
drawing title			project		drawn by
TYPICAL PRECAST DETAILS #1			WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT		AAA
STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES			approved by		NLG
			drawing no.		S301
CAD no. xxxxxxxx.dwg			project no. CF-RC-402		



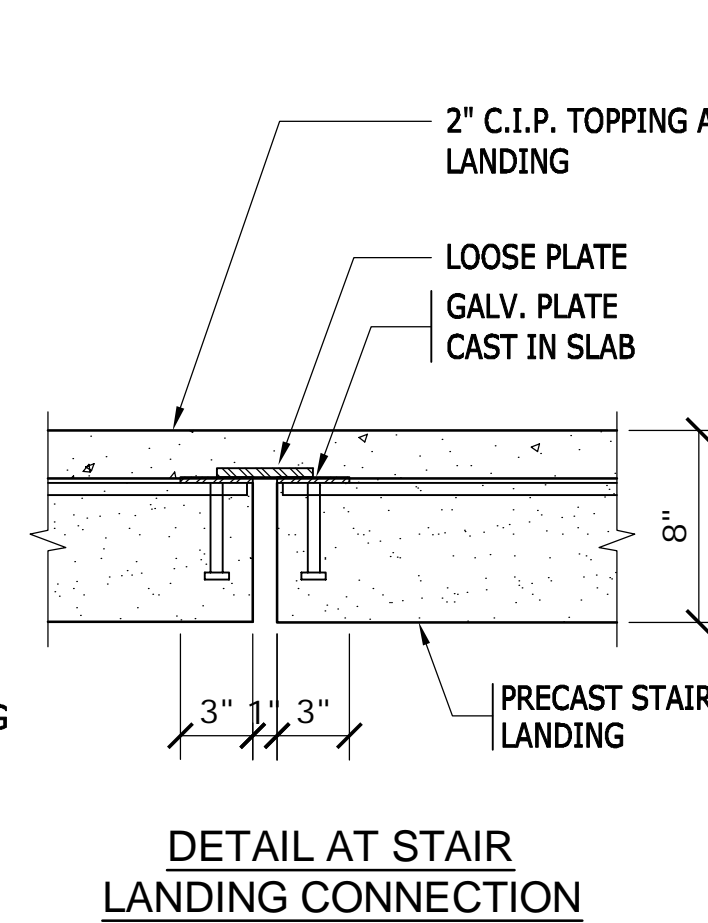
3 EXPANSION JOINT DETAIL
S303 SCALE: 6" = 1'-0"



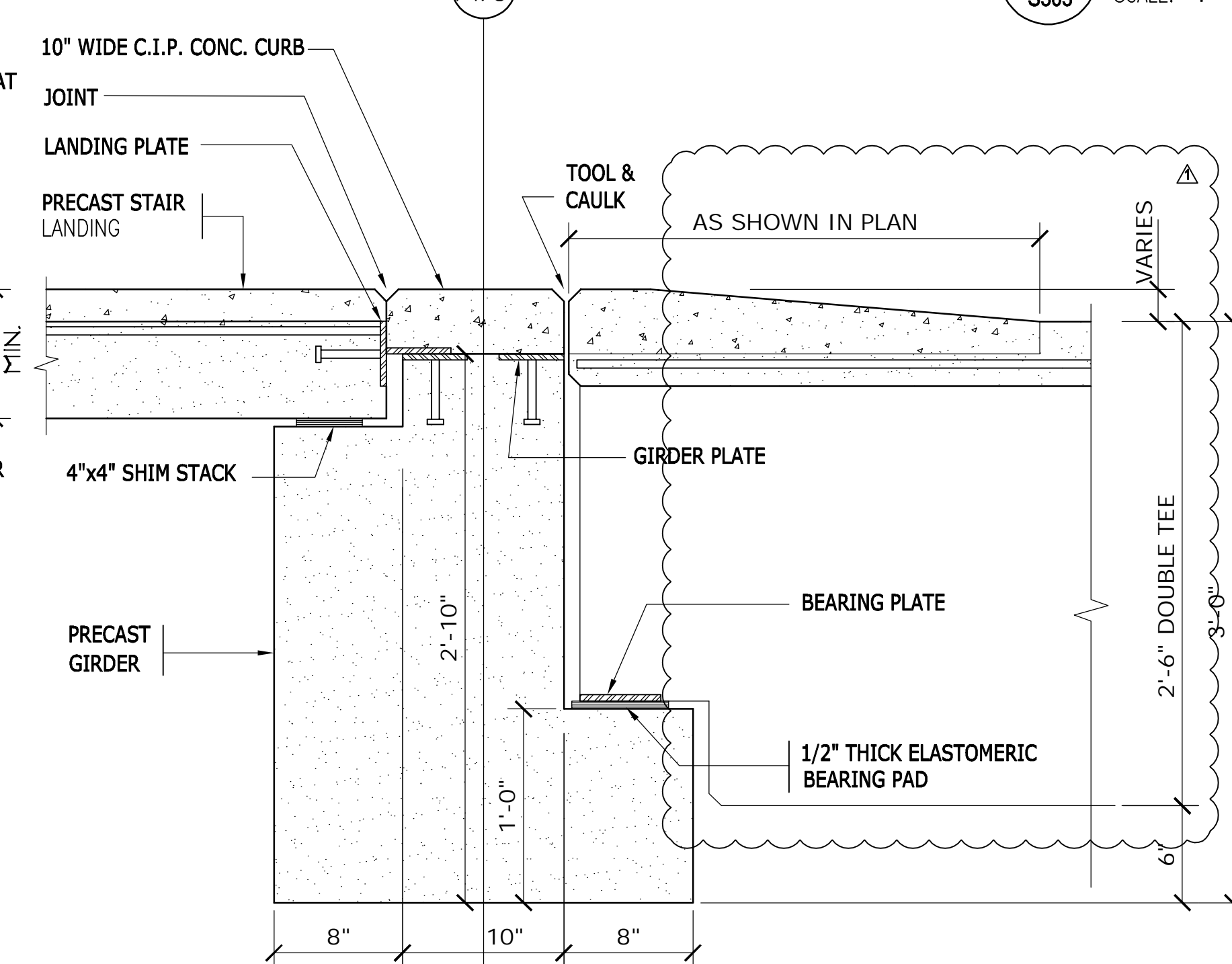
4 WATERPROOFING MEMBRANE DETAILS
S303 SCALE: 1" = 1'-0"



DETAIL AT STAIR LANDING AND SUPPORT WALL

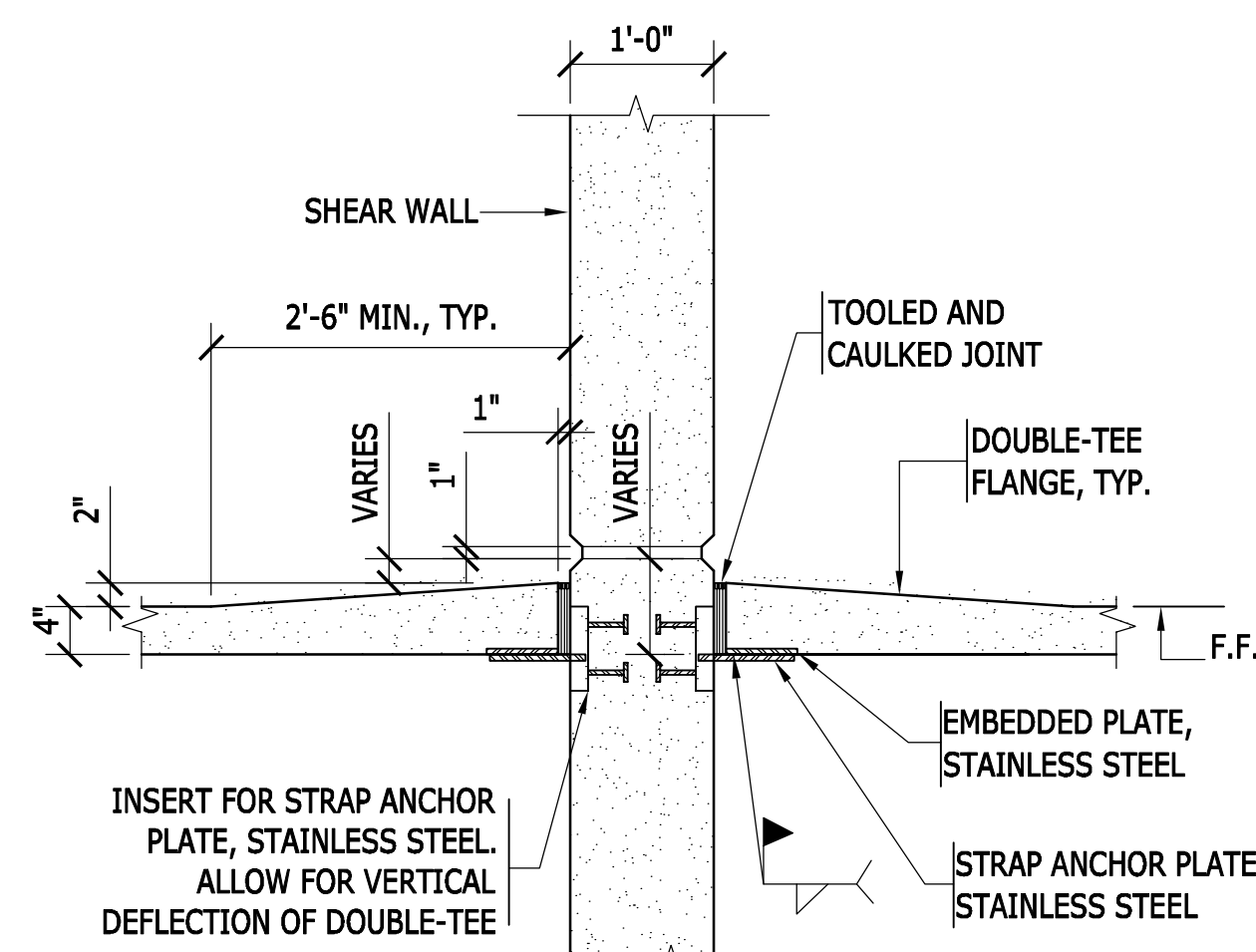


DETAIL AT STAIR LANDING CONNECTION



DETAIL AT STAIR LOBBY AND L-GIRDER

2 STAIR SECTIONS
S303 SCALE: 1/2" = 1'-0"



1 HORIZONTAL PRECAST JOINT
S303 SCALE: 1/2" = 1'-0"

drawing title		STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
TYPICAL PRECAST DETAILS #3			
REVISIONS			
mark	date	description	drawing prepared by
	02/07/20	BID DOCUMENTS	DESMAN
	05/15/20	ADDENDUM NO. 2	175 CAPITAL BOULEVARD, SUITE 402 ROCKY HILL, CONNECTICUT 06067
date		date	
06/27/2019		06/27/2019	
scale		scale	
AS NOTED		AS NOTED	
project		project	
WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT		WILLARD DILORETO PARKING GARAGE NEW BRITAIN, CONNECTICUT	
drawing no.		drawing no.	
S303		S303	
CAD no. xxxxxxxxx.dwg		project no. CF-RC-402	