

ADDENDUM 06

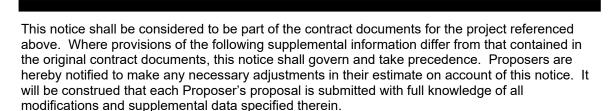
Date: March 29, 2022

To: All Proposers

From: Schwarz Hanson Architects

Project Name: Gregg County Parking Garage and Office

SHA Project No.: 20011 03.29.2022



Updated Items not related to specific questions:

- A. Bidders can submit one original response for the bid opening date but will need to deliver (4) more sets within 24hours.
- B. Added Specification 09 24 00 Cement Plastering

NOTE: Sheets that were revised and re-issued/appended to Addendum 06 include:

(G0.1, C-5, A2.6, A2.7, A2.8, A3.1, A3.2, A4.1, A4.2, A4.3, A4.4, A4.5, A4.6, A4.8, A4.9, A5.0, A5.1, A5.2, A5.3, A6.1, A7.1, A9.1)

NOTE: Spec Sections that are newly added, or were revised and reissued/appended to Addendum 06 include:

- 00 72 00
- 01 35 53
- 01 45 00
- 01 51 00
- 01 91 13
- 03 45 00



- 04 23 13
- 06 41 00
- 07 91 06
- 09 24 00

Civil RFI Questions and Responses (#s C1-C3):

Question #C1: On sheet C-1 there are a couple of notes to protect some existing sidewalks, with all of the equipment and traffic it may be much simpler to replace all the walks at the end of the project unless these have some intrinsic or historical aspect to them. Please clarify.

Response #C1: As work progresses remaining sidewalk can be evaluated for replacement.

Question #C2: On sheet C-5 there is a set of notes indicating what the City of Longview will be installing – 2" domestic tap, 8" tapping sleeve and valve, 8" detector check. The note states to contact development services for cost and coordination. Who did the engineers speak with, because development services did not know anything about this work. They could only provide generic pricing.

Response #C2: Plans have not been submitted to City for review and approval. Additional information can be provided after submittal.

Question #C3: On C-6 at the detail "planter behind curb detail" it has a note that states refer to landscape development plan, that does not seem to be included in the drawings. Please clarify.

Response #C3: Disregard the "landscape development plan" on the "Planter Behind Curb Detail".



Architecture RFI Questions and Responses (#s A1-A21):

Question #A1: Architectural section details show subsurface perimeter drain at the perimeter of the building. Plumbing and civil drawings do not address subsurface drainage at the perimeter of the building. Please advise.

Response #A1: Refer to civil drawings for revised perimeter drain locations and slopes.

Question #A2: I can not find where the wall-mounted standards/shelving is located that is specified in section 10 56 17. Can you please verify its existence/location?

Response #A2: Spec Section 10 56 17 to be deleted in its entirety and no used for bidding purposes. No shelves currently exist in the project that reference this spec.

Question #A3: Do all storefront, both exterior and interior, receive window shades?

Response #A3: Refer to the revised sheets A7.1 & A9.1 for updated tags and finish schedule information.

Question #A4: I don't see window film indicated on any of the elevations, so I'm assuming it's not required?

Response #A4: Refer to revised sheets A6.1 & A9.1 for updated glazing types and finish schedule information.

Question #A5: The security fencing/gates that are located at the garage entry @ the SW corner, and the garage lobby at the NE corner are denoted as steel on both sheet A2.1 and sheet A2.8. The elevations of these same fencing/gates on sheet A2.8 also refer them to be 'painted'; however, the Ameristar Echelon II product that is specified for this fencing/gates in section 32 31 19 is a powder-coated aluminum product. Please clarify.



Response #A5: Drawings have been updated to show a custom, pre-galvanized steel tube fence. Refer to revised Sheets A2.8, A3.2, & A6.1 for information on the custom fabricated steel gate. Omit in its entirety Spec Section 32 31 19.

Question #A6: The other issue with this security fencing/gates is that we think that Ameristar does not offer the sizes/configurations shown so, if that's the case, this fence may have to be custom-built on-site to achieve the desired sizes/configurations. Please verify.

Response #A6: Drawings have been updated to show a custom, pre-galvanized steel tube fence. Refer to revised Sheets A2.8, A3.2, & A6.1 for information on the custom fabricated steel gate. Omit in its entirety Spec Section 32 31 19.

Question #A7: The security gates shown on elevation 16 on sheet A2.8 appear to have panic/exit devices drawn. Please verify if panic/exit devices are required on these gates.

Response #A7: Refer to revised sheets A2.8 & A6.1 for updated hardware and specialty notes related to access control.

Question #A8: We spoke to the rep for the welded wire anti-climb security fence that is shown on the South elevation 1 on sheet A3.2. He said to accomplish what is shown, in regard to installing this product on the sloped ramps, is virtually impossible, as this product is strictly made for flat/level floor applications.

Response #A8: Drawings have been updated to show a custom, pre-galvanized steel tube fence. Refer to revised Sheets A2.8, A3.2, & A6.1 for information on the custom fabricated steel gate. Omit in its entirety Spec Section 32 31 19.

Question #A9: I see on the reflected ceiling plan, sheet A7.1, that there are four (4) windows that are called out to receive window shades along the West exterior wall (grid line 1). Are these the only windows on the project that get shades?

Response #A9: Refer to revised sheets A7.1 & A9.1 for tags and finish notes associated with these windows shades and the storefronts intended to receive them.



Question #A10: Do interior window elevations W13, W14, W15, W16 and W17 get solid surface sills?

Response #A10: No solid surface sills at these locations.

Question #A11: Specification 01 91 13, Subsection 1.01-D indicates that the Commissioning Authority is employed by the Owner. Specification 01 91 14, Subsection 1.01-D says that the Commissioning Authority is employed by the Construction Manager. Please clarify if the Construction Manager is to include costs to employ the Commissioning Authority.

Response #A11: Construction Manager at Risk is to include any and all costs to employ Commissioning Authority.

Question #A12: Specification 01 35 53 mentions guard services for security. Is the intent for the Contractor to provide a full-time security guard, or is jobsite security requirements left to the discretion of the Contractor?

Response #A12: The Services are not required but are strongly encouraged by Gregg County.

Question #A13: Specification 01 45 00 - 1.05 - D indicates that the Contractor is not to employ a testing agency. Specification 01 45 00 - 1.6 - A indicates that the Contractor is to pay for and employ a testing agency. Paragraph H of this spec section contradicts this and says that the Owner will pay for the testing. Specification 01 45 23 - 1.4 also requires the Contractor to employ and pay for testing. Please clarify if the Contractor is to pay for testing and inspections or if the Owner pays for testing and inspections.

Response #A13: Construction Manager at Risk is to include any and all costs to employ for testing and inspections.



Question #A14: The only locations I see that's calling for field-applied brick is, (A) at the monument sign (sheet A2.8), and (B) just outside of door 137A (section 10/A4.5). Please verify.

Response #A14: Confirmed. The brick needs to match color, finish, and size of the PCI certified thin brick applied to the precast panels. Grout is to match in color to the As-Cast panels.

Question #A15: Regarding the door hardware allowance and internal signage allowance set forth in Addendum #5, are these amounts for material only, or material and labor?

Response #A15: Revise the allowance for internal signage to \$30,000 and that is to include materials and labor. Revise the allowance for door hardware to \$124,000 and that is to include materials only. The allowance for the door hardware covers, but is not limited to; standard hardware sets, storefront door hardware, access control hardware, electric latch retracted exits/locks, power supplies, EPT hinges, and so forth.

Question #A16: Part 1 item 8 of the RFP requires a thumb drive to be submitted with the hard copies of the proposal. Given the short timeframe between final numbers coming in and proposal delivery, would it be acceptable to deliver the thumb drive copy separate from the hard copies of the proposal at a later time?

Response #A16: Bidders may submit one original bid at the time of the opening. Bidders can submit documents in separate sealed envelopes as long as the name of bidder and bid number are labeled on the outside of the sealed envelopes. Within 24 hours vendors shall submit to the Gregg County Purchasing Agent 4 copies of their bids and a jump drive with the bid downloaded and or emailed to the purchasing agent at kelli.davis@co.gregg.tx.us

Question #A17: Please provide a section cut at the monument sign detail 5/A2.8.

Response #A17: Section cut will be provided to the awarded bidder at a later date.



Question #A18: Please provide section cuts outside of door 137A at details 15 & 16 on sheet A5.5.

Response #A18: Section cut will be provided to the awarded bidder at a later date.

Question #A19: Regarding the two locations mentioned in #A18, are these also the only two locations that are to receive the weather barrier product as specified in section 07 25 00?

Response #A19: Confirmed. Revised details for 15/A5.5 & 16/A5.5 will be provided to the awarded bidder at a later date.

Question #A20: On sheet A3.3 details 14, 13, and 12, is there a product in mind for the mechanical screens? If so can a specification be supplied?

Response #A20: Mechanical Screening shall be the following or equal: CityScapes Architectural Innovations, Metal Infill Series, 7.2 Rib Infill, Smooth aluminum, 3003 H14 alloy, 16 gauge (.063"), 4000 Series powder finish on both sides

Question #A21: Specifications in several sections mention mock ups to be provided, but the size of the mock up is not specified. I was unable to find any drawings on the Architectural Drawings that showed the mock-up requirements and details. Please provide drawings showing the size of the mock-up and all of the components and details required

Response #A21: Refer to revised sheet A5.3 for a wall mockup. Further details can be provided to the awarded contractor at a later date.

MEP RFI Questions and Responses (#s M1-M5):



Question #M1: A contractor for fire alarm emailed me to inquire if this would be an acceptable substitution as an or equal to Simplex and Notifier.

Response #M1: Notifier is an acceptable substitution.

Question #M2: In the office area, can the fire alarm, data/telecom, and other control-voltage cabling be run free-air in J-Hooks? Or do these control-voltage cables need to be in conduit above the lay-in ceiling? Typically, control-voltage cables are run free-air with J-hooks in lay-in office areas.

Response #M2: Install fire alarm cables in EMT, data/telecom cables can be run in J-hooks.

Question #M3: Can we use EMT conduit for the overhead conduit in the dedicated electrical rooms?

Response #M3: EMT is acceptable in the electrical rooms.

Question #M4: (SUBSTITUTION REQUEST) Please see our respectful request to provide our equipment; Lennox (Furnaces), Lennox (Condensers), Daikin North America (Furnaces), Daikin North America (Furnaces), Daikin North America (small capacity split-systems), Marvair (Wall Mounted Package Units) as approved equal(s) on your upcoming project. We fully understand that your approval does not relieve us of meeting the project specifications or overall intent of the project.

Response #M4: The proposed substitutions are acceptable as long as they perform the same as specified and fit in the locations.

Question #M5: Looking at the parking control scope, I don't see any barrier gates or access control equipment only Vehicle Detection Loops as part of the overhead door installation. Is the security vendor providing software to control access to the garage?

Response #M5: Control arm gates are not required. Owner's security will manage credentials and software controlling access on the software side. Loops, pedestal,



overhead doors and associated conduit rough-in to the electrical/idf/between devices will be required to be provided within the project scope.

Structural RFI Questions and Responses (#s S1-S3):

Question #S1: All below-grade concrete details on sheets A4.3 through A4.6 reference 'waterproofing membrane and drain board', which appears to reference what is specified in section 07 14 16; however, paragraph 1.2.A in section 07 11 13 (bituminous damp-proofing) references damp-proofing being applied to several different concrete surfaces, both below and above grade, as well as above-grade masonry walls. I have not seen damp-proofing called out on any details in the plans, either on concrete or masonry surfaces. Is section 07 11 13 – Bituminous Damp-proofing applicable to this project? If so, where?

Response #S1: Section 07 11 13 is to be applied to the surfaces scheduled in the specification where no waterproofing w/drainage board is indicated in arch/structural.

Question #S2: Please provide elevations for the top of all foundation and retaining walls. Please refer to details 1-4, 6-8, and 12 on sheet S-511.

Response #S2: The top of wall elevation varies by location (section 8 probably most dramatically represents this) and thus we are unable to provide the elevations in the sections. Wall heights are provided within the sections and foundation/referenced top of floor heights are provided in plan.

Question #S3: What is the desired/required thickness of the traffic coating specified in section 07 18 00?

Response #S3: As required by each of the indicated manufactures specifications to achieve their 'heavy' vehicular application, it could vary.

End of Response

SECTION 00 72 00 ADDENDUM 06 GENERAL CONDITIONS 03/29/2022

FORM OF GENERAL CONDITIONS A133 - 2019

1.01 THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION (AIA DOCUMENT A201 - 2017), AS MODIFIED BY OWNER HEREAFTER REFERRED TO AS THE "GENERAL CONDITIONS" ARE HEREBY MADE PART OF THESE CONTRACT DOCUMENTS TO THE SAME EXTENT AS IF CONTAINED HEREIN IN FULL, EXCEPT AS MODIFIED, AMENDED, REVISED, RESCINDED OR SUPPLEMENTED BY THE REMAINING CONTRACT DOCUMENTS.

END OF SECTION

General Conditions 00 72 00 - 1

SECTION 01 35 53 SECURITY PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security measures including formal security program, entry control, personnel identification, guard service, miscellaneous restrictions, and [].

1.02 SECURITY PROGRAM

- A. Protect Work and Owner's operations from theft, vandalism, and unauthorized entry.
- B. Initiate program at project mobilization.
- C. Maintain program throughout construction period until Owner occupancy.

 D. A full time security guard is not required; however, job site.

1.03 ENTRY CONTROL

security is strongly encouraged by the County.

A. Restrict entrance of persons and vehicles into Project site

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B. Allow entrance only to authorized persons with proper identification.

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C. Maintain log of workers and visitors, make available to Owner on request.

1.04 PERSONNEL IDENTIFICATION

- A. Provide identification badge to each person authorized to enter premises.
- B. Badge To Include: Personal photograph, name, assigned number, expiration date and employer.
- C. Require return of badges at expiration of their employment on the Work.

1.05 GUARD SERVICE

1.06 RESTRICTIONS

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

Security Procedures 01 35 53 - 1

SECTION 01 45 00 - QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance Control of Installation
- B. Tolerances
- C. References and Standards
- D. Inspection and Testing Laboratory Services
- E. Manufacturers' Field Services

1.2 RELATED SECTIONS

A. Section 01 33 00 - Submittals: Schedule of construction materials testing, laboratory qualifications, test results.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from City of Longview before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer of Record before proceeding.

C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Engineer of Record or the City of Longview shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 INSPECTION AND TESTING LABORATORY SERVICES

- A. Employ and pay for specified services of an independent firm to perform testing for verification of compliance to contract document.
- B. The independent firm will perform tests and other services specified in individual specification sections and as required by the City of Longview.
- C. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the City of Longview.
- D. Reports will be submitted by the independent firm to the Engineer of Record or the City of Longview and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify City of Longview and independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing does not relieve Contractor to perform Work to contract requirements.
- G. Re-testing required due to non-conformance with specified requirements shall be ADDENDUM 06 performed by the same independent firm, and as instructed by the Engineer of Record. Construction Manager
 - H. The Owner'shall be'responsible for paying for tests indicating conformance with specified requirements has been met. The Contractor shall be responsible for testing charges incurred as a result of failed tests and will be billed directly to for such charges.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specifications sections.
- D. Verify that utility services are available, of the correct characteristics and in the correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

SECTION 01 51 00 TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities: Provision of electricity, lighting, heat, ventilation, and water.

1.02 RELATED REQUIREMENTS

- A. Section 01 50 00 Temporary Facilities and Controls:
 - 1. Temporary telecommunications services for administrative purposes.
 - 2. Temporary sanitary facilities required by law.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction Current Edition.

1.04 TEMPORARY ELECTRICITY

- A. Cost: By Contractor.
- B. Provide power service required from utility source.
- Provide temporary electric feeder from existing building electrical service at location as directed.
- D. Power Service Characteristics: [] volt, [] ampere, three phase, four wire.
- E. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- F. Provide main service disconnect and over-current protection at convenient location and meter.
- G. Permanent convenience receptacles may be utilized during construction.
- H. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1.05 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain LED, compact fluorescent, or high-intensity discharge lighting as suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.
- B. Provide and maintain 1 watt/sq ft (10.8 watt/sq m) lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- D. Maintain lighting and provide routine repairs.

E. Permanent building lighting may be utilized during construction.

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1.06 TEMPORARY HEATING

A. Cost of Energy: By Contractor.

OMIT THIS REQUIREMENT AND REFER TO INDIVIDUAL SPEC SECTION FOR MFR INSTALLATION REQUIREMENT

B. Provide heating devices and heat as reeded to maintain specified conditions for construction operations.

- C. Maintain minimum ambient temperature of 50 degrees F (10 degrees C) in areas where construction is in progress, unless indicated otherwise in specifications.
- D. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.07 TEMPORARY COOLING

- A. Cost of Energy: By Contractor.
- B. Provide cooling devices and cooling as needed to maintain specified conditions for construction operations.

Temporary Utilities 01 51 00 - 2

- C. Maintain maximum ambient temperature of 80 degrees F (26 degrees C) in areas where construction is in progress, unless indicated otherwise in specifications.
- D. Prior to operation of permanent equipment for temporary cooling purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.08 TEMPORARY VENTILATION

1.09 TEMPORARY WATER SERVICE

- A. Cost of Water Used: By Contractor.
- B. Provide and maintain suitable quality water service for construction operations at time of project mobilization.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

Temporary Utilities 01 51 00 - 2

SECTION 01 91 13

GENERAL COMMISSIONING REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Commissioning is intended to achieve the following specific objectives; this section specifies the Contractor's responsibilities for commissioning:
 - Verify that the work is installed in accordance with Contract Documents and the manufacturer's recommendations and instructions, and that it receives adequate operational checkout prior to startup: Startup reports and Prefunctional Checklists executed by Contractor are utilized to achieve this.
 - 2. Verify and document that functional performance is in accordance with Contract Documents: Functional Tests executed by Contractor and witnessed by the Commissioning Authority are utilized to achieve this.
 - 3. Verify that operation and maintenance manuals submitted to Owner are complete: Detailed operation and maintenance (O&M) data submittals by Contractor are utilized to achieve this.
 - 4. Verify that the Owner's operating personnel are adequately trained: Formal training conducted by Contractor is utilized to achieve this.
- B. Commissioning, including Functional Tests, O&M documentation review, and training, is to occur after startup and initial checkout and be completed before Substantial Completion.
- C. The Commissioning Authority directs and coordinates all commissioning activities; this section describes some but not all of the Commissioning Authority's responsibilities.
- the Construction Manager D. The Commissioning Authority is employed by Owner.

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1.02 SCOPE OF COMMISSIONING

- A. The following are to be commissioned:
- B. Building envelope:
 - 1. Air tightness.
- C. Plumbing Systems:
 - 1. Water heaters.
 - 2. Recirculation pumps.
- E. HVAC System, including:
 - 1. Major and minor equipment items.

- 2. Piping systems and equipment.
- 3. Ductwork and accessories.
- 4. Control system.
- 5. Variable frequency drives.

F. Special Ventilation:

- 1. Vehicle exhaust systems.
- 2. Specialty fans.
- G. Other equipment and systems explicitly identified elsewhere in Contract Documents as requiring commissioning.

1.03 RELATED REQUIREMENTS

- A. Section 01 7800 Closeout Submittals: Scope and procedures for operation and maintenance manuals and project record documents.
- B. Section 01 9114 Commissioning Authority Responsibilities.
- C. Section 23 0800 Commissioning of HVAC: HVAC control system testing; other requirements.

1.04 REFERENCE STANDARDS

- A. CSI/CSC MF Masterformat; 2016.
- B. PECI (Samples) Sample Forms for Prefunctional Checklists and Functional Performance Tests; Current Edition.

PART 2 PRODUCTS

2.01 TEST EQUIPMENT

- A. Provide all standard testing equipment required to perform startup and initial checkout and required Functional Testing; unless otherwise noted such testing equipment will NOT become the property of Owner.
- B. Calibration Tolerances: Provide testing equipment of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified. If not otherwise noted, the following minimum requirements apply:
 - 1. Temperature Sensors and Digital Thermometers: Certified calibration within past year to accuracy of 0.5 degree F and resolution of plus/minus 0.1 degree F.
 - 2. Pressure Sensors: Accuracy of plus/minus 2.0 percent of the value range being measured (not full range of meter), calibrated within the last year.

- 3. Calibration: According to the manufacturer's recommended intervals and when dropped or damaged; affix calibration tags or keep certificates readily available for inspection.
- C. Equipment-Specific Tools: Where special testing equipment, tools and instruments are specific to a piece of equipment, are only available from the vendor, and are required in order to accomplish startup or Functional Testing, provide such equipment, tools, and instruments as part of the work at no extra cost to Owner; such equipment, tools, and instruments are to become the property of Owner.
- C. Dataloggers: Independent equipment and software for monitoring flows, currents, status, pressures, etc. of equipment.
 - 1. Dataloggers required to for Functional Tests will be provided by the Commissioning Authority and will not become the property of Owner.

PART 3 EXECUTION

3.01 COMMISSIONING PLAN

- A. Commissioning Authority has prepared the Commissioning Plan.
 - 1. Attend meetings called by the Commissioning Authority for purposes of completing the commissioning plan.
 - 2. Require attendance and participation of relevant subcontractors, installers, suppliers, and manufacturer representatives.
- B. Contractor is responsible for compliance with the Commissioning Plan.
- C. Commissioning Plan: The commissioning schedule, procedures, and coordination requirements for all parties in the commissioning process.
 - Commissioning will be phased (by floors, for example) to minimize the total construction time.
- D. Basis of Design Documentation (BOD): Detailed documentation of the functional requirements of the project; descriptions of the systems, components, and methods chosen to meet the design intent; assumptions underlying the design intent.
 - 1. Basis of Design Documentation is to be prepared by Architect.
 - 2. Basis of Design Documentation is to be prepared by Design-Builder.
- E. Commissioning Schedule:
 - 1. Submit anticipated dates of startup of each item of equipment and system to Commissioning Authority within 60 days after award of Contract.
 - 2. Re-submit anticipated startup dates monthly, but not less than 4 weeks prior to startup.

- 3. Prefunctional Checklists and Functional Tests are to be performed in sequence from components, to subsystems, to systems.
- 4. Provide sufficient notice to Commissioning Authority for delivery of relevant Checklists and Functional Test procedures, to avoid delay.

3.02 DOCUMENTATION IDENTIFICATION SYSTEM

- A. Give each submitted form or report a unique identification; use the following scheme.
- B. Type of Document: Use the following prefixes:
 - 1. Startup Plan: SP-.
 - 2. Startup Report: SR-.
 - 3. Prefunctional Checklist: PC-.
 - 4. Functional Test Procedure: FTP-.
 - 5. Functional Test Report: FTR-.
- C. System Type: Use the first 4 digits from CSI/CSC MF (Master Format), that are applicable to the system; for example:
 - 1. 2300: HVAC system as a whole.
 - 2. 2320: HVAC Piping and Pumps.
 - 3. 2330: HVAC Air Distribution.
- D. Component Number: Assign numbers sequentially, using 1, 2, or 3 digits as required to accommodate the number of units in the system.
- E. Test, Revision, or Submittal Number: Number each successive iteration sequentially, starting with 1.
- F. Example: PC-2320-001.2 would be the Prefunctional Checklist for equipment item 1 in the HVAC piping system, probably a pump; this is the second, revised submittal of this checklist.

3.03 STARTUP PLANS AND REPORTS

- A. Startup Plans: For each item of equipment and system for which the manufacturer provides a startup plan, submit the plan not less than 8 weeks prior to startup.
- B. Startup Reports: For each item of equipment and system for which the manufacturer provides a startup checklist (or startup plan or field checkout sheet), document compliance by submitting the completed startup checklist prior to startup, signed and dated by responsible entity.
- C. Submit directly to the Commissioning Authority.

3.04 PREFUNCTIONAL CHECKLISTS

- A. A Prefunctional Checklist is required to be filled out for each item of equipment or other assembly specified to be commissioned.
 - 1. No sampling of identical or near-identical items is allowed.
 - 2. These checklists do not replace manufacturers' recommended startup checklists, regardless of apparent redundancy.
 - 3. Prefunctional Checklist forms will not be complete until after award of the contract; the following types of information will be gathered via the completed Checklist forms:
 - a. Certification by installing contractor that the unit is properly installed, started up, and operating and ready for Functional Testing.
 - b. Confirmation of receipt of each shop drawing and commissioning submittal specified, itemized by unit.
 - c. Manufacturer, model number, and relevant capacity information; list information "as specified," "as submitted," and "as installed."
 - Serial number of installed unit.
 - e. List of inspections to be conducted to document proper installation prior to startup and Functional Testing; these will be primarily static inspections and procedures; for equipment and systems may include normal manufacturer's start-up checklist items and minor testing.
 - f. Sensor and actuator calibration information.
 - 4. All preliminary Prefunctional Checklists are included in Contract Documents; the Commissioning Authority has the authority to modify these and will furnish final versions as applicable.
 - 5. A preliminary list of Prefunctional Checklists is attached, to indicate anticipated scope.
 - 6. PECI (Samples) found at http://www.peci.org/library/mcpgs.htm indicate anticipated level of detail for Prefunctional Checklists.
- B. Contractor is responsible for filling out Prefunctional Checklists, after completion of installation and before startup; witnessing by the Commissioning Authority is not required unless otherwise specified.
 - Each line item without deficiency is to be witnessed, initialed, and dated by the actual witness; checklists are not complete until all line items are initialed and dated complete without deficiencies.
 - Checklists with incomplete items may be submitted for approval provided the Contractor attests that incomplete items do not preclude the performance of safe and reliable Functional Testing; re-submission of the Checklist is required upon completion of remaining items.
 - 3. Individual Checklists may contain line items that are the responsibility of more than one installer; Contractor shall assign responsibility to appropriate installers or subcontractors, with identification recorded on the form.
 - 4. If any Checklist line item is not relevant, record reasons on the form.
 - 5. Contractor may independently perform startup inspections and/or tests, at Contractor's option.

- Regardless of these reporting requirements, Contractor is responsible for correct startup and operation.
- 7. Submit completed Checklists to Commissioning Authority within two days of completion.
- Commissioning Authority is responsible for furnishing the Prefunctional Checklists to Contractor.
 - Initial Drafts: Contractor is responsible for initial draft of Prefunctional Checklist where so indicated in Contract Documents.
 - 2. Provide all additional information requested by Commissioning Authority to aid in preparation of checklists, such as shop drawing submittals, manufacturers' startup checklists, and O&M data.
 - 3. Commissioning Authority may add any relevant items deemed necessary regardless of whether they are explicitly mentioned in Contract Documents or not.
 - 4. When asked to review the proposed Checklists, do so in a timely manner.
- D. Commissioning Authority Witnessing: Required for:
 - 1. Each piece of primary equipment, unless sampling of multiple similar units is allowed by the commissioning plan.
 - 2. A sampling of non-primary equipment, as allowed by the commissioning plan.
- E. Deficiencies: Correct deficiencies and re-inspect or re-test, as applicable, at no extra cost to Owner.
 - 1. If difficulty in correction would delay progress, report deficiency to the Commissioning Authority immediately.

3.05 FUNCTIONAL TESTS

- A. A Functional Test is required for each item of equipment, system, or other assembly specified to be commissioned, unless sampling of multiple identical or near-identical units is allowed by the final test procedures.
- B. Contractor is responsible for execution of required Functional Tests, after completion of Prefunctional Checklist and before closeout.
- C. Commissioning Authority is responsible for witnessing and reporting results of Functional Tests, including preparation and completion of forms for that purpose.
- D. Contractor is responsible for correction of deficiencies and re-testing at no extra cost to Owner; if a deficiency is not corrected and re-tested immediately, the Commissioning Authority will document the deficiency and the Contractor's stated intentions regarding correction.
 - 1. Deficiencies are any condition in the installation or function of a component, piece of equipment or system that is not in compliance with Contract Documents or does not perform properly.
 - 2. Use the standard form provided with copies submitted to Owner and Contractor.

- 3. When the deficiency has been corrected, the Contractor completes the form certifying that the item is ready to be re-tested and returns the form to the Commissioning Authority; the Commissioning Authority will reschedule the test and the Contractor shall re-test.
- 4. Identical or Near-Identical Items: If 10 percent, or three, whichever is greater, of identical or near-identical items fail to perform due to material or manufacturing defect, all items will be considered defective; provide a proposal for correction within 2 weeks after notification of defect, including provision for testing sample installations prior to replacement of all items.
- Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing.
- 6. Contractor shall bear the cost of Owner and Commissioning Authority personnel time witnessing re-testing if the test failed due to failure to execute the relevant Prefunctional Checklist correctly; if the test failed for reasons that would not have been identified in the Prefunctional Checklist process, Contractor shall bear the cost of the second and subsequent re-tests.

E. Functional Test Procedures:

- Some test procedures are included in Contract Documents; where Functional Test procedures are not included in Contract Documents, test procedures will be determined by the Commissioning Authority with input by and coordination with Contractor.
- 2. Examples of Functional Testing:
 - a. Test the dynamic function and operation of equipment and systems (rather than just components) using manual (direct observation) or monitoring methods under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint).
 - b. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc.
 - c. Systems are run through all the HVAC control system's sequences of operation and components are verified to be responding as the sequence's state.
 - d. Traditional air or water test and balancing (TAB) is not Functional Testing; spot checking of TAB by demonstration to the Commissioning Authority is Functional Testing.
- 3. Some preliminary Functional Test procedures are included in Contract Documents; the Commissioning Authority has the authority to modify these and will furnish final versions as applicable.
- 4. A preliminary list of Functional Tests is attached, to indicate anticipated scope.
- 5. PECI (Samples) found at http://www.peci.org/library/mcpgs.htm indicated anticipated level of detail for Functional Tests.
- F. Deferred Functional Tests: Some tests may need to be performed later, after substantial completion, due to partial occupancy, equipment, seasonal requirements, design or other site conditions; performance of these tests remains the Contractor's responsibility regardless of timing.
- G. Factory Tests: Commissioning Authority and Contractor are responsible for coordinating testing of equipment at the factory by factory personnel, to ensure compliance with commissioning requirements.

H. Field Tests By Others: Where Functional Tests are indicated as to be performed by others not subject to Contract Documents, those tests are not subject to these commissioning requirements.

3.06 SENSOR AND ACTUATOR CALIBRATION

- A. Calibrate all field-installed temperature, relative humidity, carbon monoxide, carbon dioxide, and pressure sensors and gauges, and all actuators (dampers and valves) on this piece of equipment shall be calibrated. Sensors installed in the unit at the factory with calibration certification provided need not be field calibrated.
- B. Calibrate using the methods described below; alternate methods may be used, if approved by Commissioning Authority and Owner beforehand. See PART 2 for test instrument requirements. Record methods used on the relevant Prefunctional Checklist or other suitable forms, documenting initial, intermediate and final results.

C. All Sensors:

- 1. Verify that sensor location is appropriate and away from potential causes of erratic operation.
- 2. Verify that sensors with shielded cable are grounded only at one end.
- 3. For sensor pairs that are used to determine a temperature or pressure difference, for temperature make sure they are reading within 0.2 degree F of each other, and for pressure, within tolerance equal to 2 percent of the reading, of each other.
- 4. Tolerances for critical applications may be tighter.
- D. Sensors Without Transmitters Standard Application:
 - 1. Make a reading with a calibrated test instrument within 6 inches of the site sensor.
 - 2. Verify that the sensor reading, via the permanent thermostat, gauge or building automation system, is within the tolerances in the table below of the instrument-measured value.
 - 3. If not, install offset, calibrate or replace sensor.
- E. Sensors With Transmitters Standard Application.
 - 1. Disconnect sensor.
 - 2. Connect a signal generator in place of sensor.
 - 3. Connect ammeter in series between transmitter and building automation system control panel.
 - 4. Using manufacturer's resistance-temperature data, simulate minimum desired temperature.
 - 5. Adjust transmitter potentiometer zero until 4 mA is read by the ammeter.
 - 6. Repeat for the maximum temperature matching 20 mA to the potentiometer span or maximum and verify at the building automation system.
 - 7. Record all values and recalibrate controller as necessary to comply with specified control ramps, reset schedules, proportional relationship, reset relationship and P/I reaction.
 - Reconnect sensor.
 - 9. Make a reading with a calibrated test instrument within 6 inches of the site sensor.

- 10. Verify that the sensor reading, via the permanent thermostat, gauge or building automation system, is within the tolerances in the table below of the instrument-measured value.
- 11. If not, replace sensor and repeat.
- 12. For pressure sensors, perform a similar process with a suitable signal generator.
- F. Sensor Tolerances for Standard Applications: Plus/minus the following maximums:
 - 1. Watthour, Voltage, Amperage: 1 percent of design.
 - 2. Pressure, Air, Water, Gas: 3 percent of design.
 - 3. Air Temperatures (Outside Air, Space Air, Duct Air): 0.4 degrees F.
 - 4. Relative Humidity: 4 percent of design.
 - 5. Barometric Pressure: 0.1 inch of Hg.
 - 6. Flow Rate, Air: 10 percent of design.
 - 7. Flow Rate, Water: 4 percent of design.
 - 8. Flow Rate, Steam: 3 percent of design.
 - 9. AHU Wet Bulb and Dew Point: 2.0 degrees F.
 - 10. Hot Water Coil and Boiler Water Temperature: 1.5 degrees F.
 - 11. Cooling Coil, Chilled and Condenser Water Temperatures: 0.4 degrees F.
 - 12. Combustion Flue Temperature: 5.0 degrees F.
 - 13. Oxygen and CO2 Monitors: 0.1 percentage points.
 - 14. CO Monitor: 0.01 percentage points.
 - 15. Natural Gas and Oil Flow Rate: 1 percent of design.
- G. Critical Applications: For some applications more rigorous calibration techniques may be required for selected sensors. Describe any such methods used on an attached sheet.
- H. Valve/Damper Stroke Setup and Check:
 - 1. For all valve/damper actuator positions checked, verify the actual position against the control system readout.
 - 2. Set pump/fan to normal operating mode.
 - 3. Command valve/damper closed; visually verify that valve/damper is closed and adjust output zero signal as required.
 - 4. Command valve/damper to open; verify position is full open and adjust output signal as required.
 - 5. Command valve/damper to a few intermediate positions.
 - 6. If actual valve/damper position does not reasonably correspond, replace actuator or add pilot positioner (for pneumatics).
- I. Isolation Valve or System Valve Leak Check: For valves not associated with coils.
 - 1. With full pressure in the system, command valve closed.
 - 2. Use an ultra-sonic flow meter to detect flow or leakage.

3.07 TEST PROCEDURES - GENERAL

- A. Provide skilled technicians to execute starting of equipment and to execute the Functional Tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments and problem-solving.
- B. Provide all necessary materials and system modifications required to produce the flows, pressures, temperatures, and conditions necessary to execute the test according to the specified conditions. At completion of the test, return all affected equipment and systems to their pre-test condition.
- C. Sampling: Where Functional Testing of fewer than the total number of multiple identical or near-identical items is explicitly permitted, perform sampling as follows:
 - 1. Identical Units: Defined as units with same application and sequence of operation; only minor size or capacity difference.
 - 2. Sampling is not allowed for:
 - a. Major equipment.
 - b. Life-safety-critical equipment.
 - c. Prefunctional Checklist execution.
 - 3. XX = the percent of the group of identical equipment to be included in each sample; defined for specific type of equipment.
 - 4. YY = the percent of the sample that if failed will require another sample to be tested; defined for specific type of equipment.
 - 5. Randomly test at least XX percent of each group of identical equipment, but not less than three units. This constitutes the "first sample."
 - If YY percent of the units in the first sample fail, test another XX percent of the remaining identical units.
 - 7. If YY percent of the units in the second sample fail, test all remaining identical units.
 - 8. If frequent failures occur, resulting in more troubleshooting than testing, the Commissioning Authority may stop the testing and require Contractor to perform and document a checkout of the remaining units prior to continuing testing.
- D. Manual Testing: Use hand-held instruments, immediate control system readouts, or direct observation to verify performance (contrasted to analyzing monitored data taken over time to make the "observation").
- E. Simulating Conditions: Artificially create the necessary condition for the purpose of testing the response of a system; for example apply hot air to a space sensor using a hair dryer to see the response in a VAV box.
- F. Simulating Signals: Disconnect the sensor and use a signal generator to send an amperage, resistance or pressure to the transducer and control system to simulate the sensor value.
- G. Over-Writing Values: Change the sensor value known to the control system in the control system to see the response of the system; for example, change the outside air temperature value from 50 degrees F to 75 degrees F to verify economizer operation.

- H. Indirect Indicators: Remote indicators of a response or condition, such as a reading from a control system screen reporting a damper to be 100 percent closed, are considered indirect indicators.
- I. Monitoring: Record parameters (flow, current, status, pressure, etc.) of equipment operation using dataloggers or the trending capabilities of the relevant control systems; where monitoring of specific points is called for in Functional Test Procedures:
 - 1. All points that are monitored by the relevant control system shall be trended by Contractor; at the Commissioning Authority's request, Contractor shall trend up to 20 percent more points than specified at no extra charge.
 - 2. Other points will be monitored by the Commissioning Authority using dataloggers.
 - 3. At the option of the Commissioning Authority, some control system monitoring may be replaced with datalogger monitoring.
 - 4. Provide hard copies of monitored data in columnar format with time down left column and at least 5 columns of point values on same page.
 - 5. Graphical output is desirable and is required for all output if the system can produce it.
 - 6. Monitoring may be used to augment manual testing.

3.08 OPERATION AND MAINTENANCE MANUALS

- A. See Section 01 7800 Closeout Submittals for additional requirements.
- B. Add design intent documentation furnished by Architect to manuals prior to submission to Owner.
- C. Submit manuals related to items that were commissioned to Commissioning Authority for review; make changes recommended by Commissioning Authority.
- Commissioning Authority will add commissioning records to manuals after submission to Owner.

END OF SECTION

SECTION 03 45 00

PRECAST ARCHITECTURAL CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Architectural precast concrete cladding units.
- B. Related Sections include the following:
 - Division 03 Section "Cast-In-Place Concrete" for installing connection anchors in concrete.
 - 2. Division 05 Section "Structural Steel Framing" for furnishing and installing connections attached to structural-steel framing.
 - 3. Division 05 Section "Metal Fabrications" for kickers and other miscellaneous steel shapes.
 - 4. Division 07 Section "Water Repellents" for water-repellent finish treatments.
 - 5. Division 08 Section "Aluminum Windows" for windows set into architectural precast concrete units.

1.3 **DEFINITION**

A. Design Reference Sample: Sample of approved architectural precast concrete color, finish and texture, preapproved by Architect.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide architectural precast concrete units and connections capable of withstanding the following design loads within limits and under conditions indicated:
 - 1. Loads: As indicated.
 - 2. Dead Loads: See Structural General Notes
 - 3. Live Loads: See Structural General Notes
 - 4. Wind Loads: See Structural General Notes
 - 5. Seismic Loads: See Structural General Notes
 - 6. Project Specific Loads: as indicated on Structural sheets, where specified
 - 7. Design framing system and connections to maintain clearances at openings, to allow for fabrication and construction tolerances, to accommodate live-load deflection, shrinkage and creep of primary building structure, and other building movements as follows:

- a. Upward and downward movement of 1/2 inch.
- 8. Thermal Movements: Provide for in-plane thermal movements resulting from annual ambient temperature changes of 100 deg.
- 9. Fire-Resistance Rating: Select material and minimum thicknesses to provide 2-hour fire rating.
- 10. Window Washing System: Design precast units supporting window washing system indicated to resist pull-out and horizontal shear forces transmitted from window washing equipment.
- 11. Vehicular Impact Loads: Design spandrel beams acting as vehicular barriers for passenger cars to resist a single 6000-lb service load and 10,000-lb ultimate load applied horizontally in any direction to the spandrel beam, with anchorages or attachments capable of transferring this load to the structure. Design spandrel beams assuming the load to act at a height of 18 inches and 27 inches (not concurrently) above the floor or ramp surface on an area not to exceed 1 sq. ft.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each precast concrete mixture. Include compressive strength and water-absorption tests.
- C. Shop Drawings: Detail fabrication and installation of architectural precast concrete units. Indicate locations, plans, elevations, dimensions, shapes, and cross sections of each unit. Indicate joints, reveals, and extent and location of each surface finish. Indicate details at building corners.
 - 1. Indicate separate face and backup mixture locations and thicknesses.
 - 2. Indicate welded connections by AWS standard symbols. Detail loose and cast-in hardware and connections.
 - 3. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
 - 4. Indicate locations, extent, and treatment of dry joints if two-stage casting is proposed.
 - 5. Include plans and elevations showing unit location and sequence of erection for special conditions.
 - 6. Indicate location of each architectural precast concrete unit by same identification mark placed on panel.
 - 7. Indicate relationship of architectural precast concrete units to adjacent materials.
 - 8. Indicate locations and details of brick units, including corner units and special shapes, and joint treatment.
 - 9. Indicate locations and details of stone facings, anchors, and joint widths.
 - 10. Design Modifications: If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and Shop Drawings. Do not adversely affect the appearance, durability, or strength of units when modifying details or materials and maintain the general design concept.
 - 11. Comprehensive engineering analysis signed and sealed by the qualified professional engineer licensed to perform work in the state of Texas and responsible for preparation of precast shop drawings. Show governing panel types, connections, and types of reinforcement, including special reinforcement. Indicate location, type, magnitude, and direction of loads imposed on the building structural frame from architectural precast concrete.

- D. Samples: For each type of finish indicated on exposed surfaces of architectural precast concrete units, in sets of 3, illustrating full range of finish, color, and texture variations expected; approximately 12 by 12 by 2 inches.
 - 1. When other faces of precast concrete unit are exposed, include Samples illustrating workmanship, color, and texture of backup concrete as well as facing concrete.
 - 2. Samples for each brick unit required, showing full range of color and texture expected. Include Sample showing color and texture of joint treatment.
 - a. Grout Samples for Initial Selection: Color charts consisting of actual sections of grout showing manufacturer's full range of colors.
 - b. Grout Samples for Verification: Showing color and texture of joint treatment.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, fabricator and testing agency.
- B. Welding certificates.
- C. Material Certificates: For the following items, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Reinforcing materials and prestressing tendons.
 - Admixtures.
 - 4. Bearing pads.
 - 5. Structural-steel shapes and hollow structural sections.
 - 6. Brick units and accessories.
 - 7. Stone anchors.
- D. Material Test Reports: For aggregates.
- E. Source quality-control test reports.
- F. Field quality-control test reports.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A precast concrete erector shall be fully certified by PCI, prior to beginning any work at the job site to erect Category A (Architectural Systems) for non-load bearing members.
- B. Installer Qualifications: A precast concrete erector who has retained a "PCI-Certified Field Auditor" to conduct a field audit of a project in same category as this Project before erection of precast concrete and who can produce an Erectors' Post-Audit Declaration.
- C. Fabricator Qualifications: A firm that assumes responsibility for engineering architectural precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
 - 1. Participates in PCI's plant certification program at time of bidding and is designated a PCI-certified plant for Group A, Category A1 Architectural Cladding and Load Bearing Units.

- D. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
- E. Design Standards: Comply with ACI 318 and design recommendations of PCI MNL 120, "PCI Design Handbook Precast and Prestressed Concrete," applicable to types of architectural precast concrete units indicated.
- F. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117, "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products."
- G. Welding: Qualify procedures and personnel according to AWS D1.1/D.1.1M, "Structural Welding Code Steel"; and AWS D1.4, "Structural Welding Code Reinforcing Steel."
- H. Calculated Fire-Test-Response Characteristics: Where indicated, provide architectural precast concrete units whose fire resistance has been calculated according to PCI MNL 124, "Design for Fire Resistance of Precast Prestressed Concrete" and is acceptable to authorities having jurisdiction.
- I. Sample Panels: After sample approval and before fabricating architectural precast concrete units, produce a minimum of 2 sample panels approximately 16 sq. ft. in area for review by Architect. Incorporate full-scale details of architectural features, finishes, textures, and transitions in sample panels.
 - 1. Locate panels where indicated or, if not indicated, as directed by Architect.
 - 2. Damage part of an exposed-face surface for each finish, color, and texture, and demonstrate adequacy of repair techniques proposed for repair of surface blemishes.
 - 3. After acceptance of repair technique, maintain one sample panel at manufacturer's plant and one at Project site in an undisturbed condition as a standard for judging the completed Work.
 - 4. Demolish and remove sample panels when directed.
- J. Mockups: After sample panel approval but before production of architectural precast concrete units, construct full-sized mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup as indicated on Drawings including sealants and architectural precast concrete complete with anchors, connections, flashings, and joint fillers.
 - 2. Approved mockups may become part of the completed Work if undamaged at time of Substantial Completion.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents unless such deviations are specifically approved by Architect in writing.
- K. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management And Coordination."

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver architectural precast concrete units in such quantities and at such times to limit unloading units temporarily on the ground.
- B. Support units during shipment on nonstaining shock-absorbing material.

- C. Store units with adequate dunnage and bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.
- D. Place stored units so identification marks are clearly visible, and units can be inspected.
- E. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses which would cause cracking or damage.
- F. Lift and support units only at designated points shown on Shop Drawings.

1.9 SEQUENCING

A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction without delaying the Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Pre-cast Concrete Panel:
 - 1. Enterprise Precast; <u>www.enterpriseprecast.com</u> (or approved equal)
 - a. Minimum Plant Rating: A-B
 - Substitutions: See Section 01 60 00 Product Requirements.

2.2 MOLD MATERIALS

- A. Molds: Rigid, dimensionally stable, non-absorptive material, warp and buckle free, that will provide continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.
 - 1. Mold-Release Agent: Commercially produced liquid-release agent that will not bond with, stain or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.
- B. Form Liners: Units of face design, texture, arrangement, and configuration. Furnish with manufacturer's recommended liquid-release agent that will not bond with, stain, or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.
- C. Surface Retarder: Chemical set retarder, capable of temporarily delaying final hardening of newly placed concrete mixture to depth of reveal specified.

2.3 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706, deformed.
- C. Galvanized Reinforcing Bars: ASTM A 615, ASTM A 706, Grade 60 deformed bars, Class II zinc coated, hot-dip galvanized.

- D. Steel Bar Mats: ASTM A 184, fabricated from ASTM A 615 or ASTM A 706, Grade 60 deformed bars, assembled with clips.
- E. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- F. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- G. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 117.

2.4 PRESTRESSING TENDONS

A. Prestressing Strand: ASTM A 416, Grade 270, uncoated, 7-wire, low-relaxation strand.

2.5 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type III, gray, unless otherwise indicated.
 - 1. For surfaces exposed to view in finished structure, mix gray with white cement, of same type, brand, and mill source.
- B. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C 33, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
 - 1. Face-Mixture-Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining; to match selected finish sample.
 - a. Gradation: Gap graded.
 - 2. Face-Mixture-Fine Aggregates: Selected, natural or manufactured sand of same material as coarse aggregate, unless otherwise approved by Architect.
- C. Coloring Admixture: ASTM C 979, synthetic or natural mineral-oxide pigments or colored water-reducing admixtures, temperature stable, and nonfading.
- D. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 117.
- E. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- F. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.
 - 1. Water-Reducing Admixtures: ASTM C 494, Type A.
 - 2. Retarding Admixture: ASTM C 494, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
 - 4. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
 - 5. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
 - 6. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
 - 7. Plasticizing and Retarding Admixture: ASTM C 1017.

2.6 STEEL CONNECTION MATERIALS

- A. Carbon-Steel Shapes and Plates: ASTM A 36.
- B. Carbon-Steel-Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished, AWS D1.1/D1.1M, Type A or B, with arc shields
- C. Malleable Iron Castings: ASTM A 47.
- D. Carbon-Steel Structural Tubing: ASTM A 500, Grade B.
- E. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706.
- F. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts, ASTM A 563; and flat, unhardened steel washers, ASTM F 844.
- G. Anchor Rods: ASTM F 1554, Grade 36 or Grade 55
- H. Zinc-Coated Finish: For exterior steel items (all exposed steel connections at precast walls and spandrel beams) and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123, after fabrication and completion of connections, and ASTM A 153, as applicable.
- Shop-Primed Finish: Prepare surfaces of non-galvanized steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3 and shop-apply rust- inhibitive primer according to SSPC-PA 1.
- J. Welding Electrodes: Comply with AWS standards.

2.7 BEARING PADS

- A. Provide one of the following bearing pads for architectural precast concrete units as follows:
 - 1. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. Type A durometer hardness of 70 to 90, ASTM D 2240; capable of supporting a compressive stress of 3000 psi with no cracking, splitting, or delaminating in the internal portions of pad.
 - 2. High-Density Plastic: Multimonomer, nonleaching, plastic strip.
- B. Joints between precast pieces: Non-load bearing vertical spacers only:
 - 1. Fiber impregnated elastomeric bearing pads.
 - 2. Durometer hardness 80 minimum.
 - 3. Acceptable materials:
 - a. "Vossco," Voss Engineering Co., Chicago, IL.
 - b. "Comcord," JVI, Inc., Skokie, IL.
- C. Shims for bearing pads:
 - Galvanized ASTM A 36 steel. Do not stack steel shims more than 3 high. Tack weld multiple shims together on at least 2 faces or corners. Touch up galvanizing damaged by welding. See Section "Cast-in-Place Concrete" for materials.
 - 2. High-Density Plastic: A maximum of 1 plastic shim and a maximum of $\frac{1}{2}$ " in thickness may be used to adjust for field tolerances. Precaster shall submit certification of bearing capacity of plastic shim materials for approval prior to installation.

2.8 ACCESSORIES

A. Precast Accessories: Provide clips, hangers, plastic or steel shims, and other accessories required to install architectural precast concrete units.

2.9 GROUT MATERIALS

A. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.

2.10 CONCRETE MIXTURES

- A. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at architectural precast concrete fabricator's option.
- B. Normal-Weight Concrete Mixtures: Proportion face and backup mixtures or full-depth mixtures, at fabricator's option by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete.
- C. Requirements for concrete miture proportions are shown on Drawings:
 - 1. Compressive strength
 - 2. Slump
 - 3. Water-cementitious materials ratio
 - 4. Air content
- D. Supplementary Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete as follows:
 - 1. Fly Ash or other pozzolans conforming to ASTM C 618: 25 percent.
 - 2. Slag conforming to ASTM C 989: 50 percent.
 - 3. Total of fly ash or other pozzolans and slag: 50 percent. Within the total, fly ash or pozzolans not exceeding 25 percent.

E. Air Entrainment:

1. See General Notes on Drawings for total average air content (percent by volume).

F. Chloride Ion Content of Mixture:

- Water soluble chloride ion content of mix (including all constituents) shall not exceed 0.06% chloride ions by weight of cement for prestressed concrete and 0.15% for reinforced concrete. Test to determine chloride ion content shall conform to ASTM C 1218.
- G. Admixtures: Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing admixture or high-range water-reducing admixture (super-plasticizer) in concrete, as required, for placement and workability.
 - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 3. Use high range water-reducing admixture in pumped concrete, concrete for parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio of 0.45 or less. Use normal or mid-range ASTM Type A water reducing admixture for concrete with water-cementitious materials ratio greater than 0.45.

- H. Engineer's acceptance of mixture shall not relieve precast concrete fabricator from responsibility for any variation from requirements of Contract Documents unless precast concrete fabricator has in writing called Engineer's attention to each such variation at time of submission and Engineer has given written approval of each such variation.
- I. Adjustment to Concrete Mixtures: Mixture proportion adjustments may be requested by precast concrete fabricator when characteristics of materials, job conditions, weather, test results, or other circumstances warrant. Laboratory test data for revised mixture proportions and strength results must be submitted to and accepted by Engineer before using in work.

2.11 MOLD FABRICATION

- A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.
 - 1. Place form liners accurately to provide finished surface texture indicated. Provide solid backing and supports to maintain stability of liners during concrete placement. Coat form liner with form-release agent.
- B. Maintain molds to provide completed architectural precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.
 - 1. Form joints are not permitted on faces exposed to view in the finished work.
 - 2. Edge and Corner Treatment: Uniformly chamfered.

2.12 FABRICATION

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
 - 1. Weld-headed studs and deformed bar anchors used for anchorage according to AWS D1.1/D1.1M and AWS C5.4, "Recommended Practices for Stud Welding."
- B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing architectural precast concrete units to supporting and adjacent construction.
- C. Cast-in reglets, slots, holes, and other accessories in architectural precast concrete units as indicated on the Contract Drawings.
- D. Cast-in openings larger than 10 inches in any dimension. Do not drill or cut openings or prestressing strand without Architect's approval.
- E. Reinforcement: Comply with recommendations in PCI MNL 117 for fabricating, placing, and supporting reinforcement.

- Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcing exceeds limits specified in ASTM A 775, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
- 2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
- 3. Place reinforcing steel and prestressing strand to maintain at least 1-inch minimum concrete cover. Increase cover requirements for reinforcing steel to 1-1/2 inches when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
- 4. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.
- F. Reinforce architectural precast concrete units to resist handling, transportation, and erection stresses.
- G. Prestress tendons for architectural precast concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 117.
 - 1. Delay detensioning or post-tensioning of precast, prestressed architectural concrete units until concrete has reached its indicated minimum design release compressive strength as established by test cylinders cured under same conditions as concrete.
 - 2. Detension pretensioned tendons either by gradually releasing tensioning jacks or by heatcutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.
 - 3. If concrete has been heat cured, detension while concrete is still warm and moist to avoid dimensional changes that may cause cracking or undesirable stresses.
 - 4. Protect strand ends and anchorages with bituminous, zinc-rich, or epoxy paint to avoid corrosion and possible rust spots.
- H. Comply with requirements in PCI MNL 117 and requirements in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
- I. Place face mixture to a minimum thickness after consolidation of the greater of 1 inch or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing coverspecified.
- J. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.
 - 1. Place backup concrete mixture to ensure bond with face-mixture concrete.
- K. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 117.
 - 1. Place self-consolidating concrete without vibration according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."
- L. Comply with PCI MNL 117 for hot- and cold-weather concrete placement.

- M. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that will not show in finished structure.
- N. Cure concrete, according to requirements in PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product. Limit concrete temperature to 140° F during accelerated curing unless test data is submitted that cement is not subject to delayed ettringite formation (DEF).
- O. Discard and replace architectural precast concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 117 and Architect's approval.

2.13 FABRICATION TOLERANCES

A. Fabricate architectural precast concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished panel complies with PCI MNL 117 product tolerances as well as position tolerances for cast-in items.

2.14 FINISHES

- A. Concrete Color Mixture: Form Finish, 50% Grey Cement + 50% White Cement As-Cast
 - 1. Panels to be manufactured in accordance with PCI MNL 117 specification.
- B. Specialty Finish: Light Sandblasting To give the appearance of cast stone. Refer to contract drawings for locations that receive the light sandblasting finish.
- C. PCI Thin-Brick Veneer Finish
 - 1. Reference Spec Section 04 23 13 Thin Brick
- D. Panel faces shall be free of joint marks, grain, and other obvious defects. Corners, including false joints shall be uniform, straight, and sharp. Finish exposed-face surfaces of architectural precast concrete units to match approved mockups and as follows:
 - 1. PCI's "Architectural Precast Concrete Color and Texture Selection Guide," of plate numbers indicated.
 - 2. Formed surfaces: Fill air pockets and holes over 0.25 in. in diameter with sand-cement paste and grind smooth all form offsets or fins over 0.125 in.
 - 3. Unformed surfaces: face toward inside of parking structure.
 - 4. Spandrel beams:
 - a. Interior face: steel trowel finish, or textured finish per accepted sample.
 - b. Exterior face, ends, bottom and top; smooth dense surface standard finish.
 - 5. Wall panels:
 - a. Stair walls, interior faces: steel trowel finish.

2.15 SOURCE QUALITY CONTROL

A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 117 requirements. If using self-consolidating concrete, also test and inspect according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."

- B. Owner will employ an independent testing agency to evaluate architectural precast concrete fabricator's quality-control and testing methods.
 - Allow Owner's testing agency access to material storage areas, concrete production equipment, concrete placement, and curing facilities. Cooperate with Owner's testing agency and provide samples of materials and concrete mixtures as may be requested for additional testing and evaluation.
- C. Strength of precast concrete units will be considered deficient if units fail to comply with ACI 318 requirements for concrete strength.
- D. Testing: If there is evidence that strength of precast concrete units may be deficient or may not comply with ACI 318 requirements, precaster will employ an independent testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42.
 - 1. A minimum of three representative cores will be taken from units of suspect strength, from locations directed by Architect.
 - 2. Cores will be tested in an air-dry condition.
 - 3. Strength of concrete for each series of 3 cores will be considered satisfactory if average compressive strength is equal to at least 85 percent of 28-day design compressive strength and no single core is less than 75 percent of 28-day design compressive strength.
 - 4. Test results will be made in writing on same day that tests are performed, with copies to Architect, Contractor, and precast concrete fabricator. Test reports will include the following:
 - a. Project identification name and number.
 - b. Date when tests were performed.
 - c. Name of precast concrete fabricator.
 - d. Name of concrete testing agency.
 - e. Identification letter, name, and type of precast concrete unit(s) represented by core tests; design compressive strength; type of break; compressive strength at breaks, corrected for length-diameter ratio; and direction of applied load to core in relation to horizontal plane of concrete as placed.
- E. Patching: If core test results are satisfactory and precast concrete units comply with requirements, clean and dampen core holes and solidly fill with precast concrete mixture that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Do not install precast concrete units until supporting cast-in-place building structural framing has attained minimum allowable design compressive strength or supporting steel or other structure is complete.

3.2 INSTALLATION

- A. Install clips, hangers, bearing pads, and other accessories required for connecting architectural precast concrete units to supporting members and backup materials.
- B. Erect architectural precast concrete level, plumb, and square within specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment as units are being permanently connected.
 - 1. Install temporary steel or plastic spacing shims or bearing pads as precast concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
 - 2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
 - 3. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.
 - 4. Unless otherwise indicated, maintain uniform joint widths of 3/4 inch.
- C. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.
 - 1. Do not permit connections to disrupt continuity of roof flashing.
- D. Welding: Comply with applicable AWS D1.1/D1.1M and AWS D1.4 for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.
 - 1. Protect architectural precast concrete units and bearing pads from damage by field welding or cutting operations, and provide noncombustible shields as required.
 - 2. Welds not specified shall be continuous fillet welds, using no less than the minimum fillet as specified by AWS.
 - Clean weld-affected metal surfaces with chipping hammer followed by brushing, and apply a minimum 4.0-mil- thick coat of galvanized repair paint to galvanized surfaces according to ASTM A 780.
 - 4. Clean weld-affected metal surfaces with chipping hammer followed by brushing, and reprime damaged painted surfaces.
 - 5. Remove, reweld, or repair incomplete and defective welds.
- E. At bolted connections, use lock washers, tack welding, or other approved means to prevent loosening of nuts after final adjustment.
 - Where slotted connections are used, verify bolt position and tightness. For sliding connections, properly secure bolt but allow bolt to move within connection slot. For friction connections, apply specified bolt torque and check 25 percent of bolts at random by calibrated torque wrench.
- F. Grouting Connections: Grout connections where required or indicated. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely filled. Place grout to finish smooth, level, and plumb 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 affects finishes or hardens.

3.3 ERECTION TOLERANCES

A. Erect architectural precast concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 117, Appendix I.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections and prepare test reports.
- B. As pieces arrive at jobsite, General Contractor's Quality Control inspector shall check the production control tag for each piece to verify that the piece is complete and correct.
- C. Any defective Work that cannot be repaired to satisfaction of Engineer/Architect, whether found at site or at shop at any time before completion and acceptance of Project, will be rejected regardless of previous reviews and shall be remade or reconstructed to satisfaction of Engineer/Architect. However, finishes accepted at shop will not be rejected at site.
- D. Improperly located bearing pads or those of incorrect material will not be accepted by Engineer/Architect and shall be relocated or modified at expense of Contractor, no matter when rejected.
- E. Performance Requirements:
 - 1. Conduct inspections, perform testing, and make repairs or replace unsatisfactory precast pieces as required.
 - 2. Limitations as to amount of patching which will be permitted are subject to acceptance of Engineer/Architect.
 - 3. In-place precast pieces may be rejected for any 1 of the following:
 - a. Exceeding specified installation tolerances.
 - b. Damaged during construction operations.
 - c. Exposed-to-view surfaces which develop surface finish deficiencies.
 - d. Other defects as listed in PCI MNL-117.
- F. Welds and high-strength bolt connections are subject to inspection and tesing by Testing Agency. As minimum, following testing shall be performed:
 - 1. Welds: Visually inspect all welds.
 - a. Test 25% of all field fillet welds and 5% of all shop welds
 - b. Testing: Penetrating dye or magnetic particle at Inspector discretion.
 - c. One spot test per partial penetration weld using magnetic or ultrasonic testing.
 - 2. Bolted Connections: Visual inspection of all connections. Check proper torque with calibrated torque wrench at minimum of 2 bolts of every connection.
- G. Field welds will be subject to visual inspections and nondestructive testing according to ASTM E 165 or ASTM E 709. High-strength bolted connections will be subject to inspections.
- H. Testing Agency has authority to reject materials, welds, and connections not meeting Specifications.
- I. Testing Agency will report test results promptly and in writing to Contractor and Engineer/Architect.

J. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 REPAIRS

- A. Repair or remove and replace work where tests and inspections indicate that it does not comply with specified requirements.
- B. Repair architectural precast concrete units if permitted by Architect. The Architect reserves the right to reject repaired units that do not comply with requirements.
- C. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet.
- D. Field repairs of damaged architectural precast concrete units involve the following:
 - 1. Repair isolated random cracks that have little movement and single holes not over 1 in. in diameter in accordance with manufacturer's requirements. As a minimum, manufacturer requirements shall be submitted for record and address the procedures and materials specified in Division 07 Section "Waterproofing System." Receive Engineer's written acceptance of materials selected prior to application.
 - a. Repair isolated random vertical cracks more than 0.01 in. wide, using epoxy injection product specified in part 2 heading "Related Materials" of this section.
 - 2. Repairs and repaired pieces shall be subject to 5 yr warrantly provided by precaster. See Part 1 heading "Repair Warranty."
- E. Repairs and repaired pieces shall have documented design.
- F. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780.
- G. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
- H. Remove and replace damaged architectural precast concrete units when repairs do not comply with requirements.

3.6 CLEANING

- A. Clean surfaces of precast concrete units exposed to view.
- B. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.
- C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
 - 1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.

2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION 034500

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SECTION 04 23 13 THIN BRICK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Thin brick veneer

1.02 RELATED REQUIREMENTS

A. Section 03 45 00 Precast Architectural Concrete.

1.03 REFERENCES

- A. ASTM C 67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- ASTM C 1088 Standard Specification for Thin Veneer Brick Units Made from Clay or Shale.
- For embedded applications, see Precast Concrete Institute (PCI) and Tilt-Up Concrete Association (TCA)

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 Administrative Requirements.
- B. [Product Data]: Manufacturer's catalog data, detail sheets, and printed installation instructions.
- C. Selection Samples: For each product requiring color/texture selection, provide full size samples for final selection.
- D. Verification Samples: For each product, color, and texture selected, provide two full-size units representing actual color and texture of products to be installed.

1.05 MOCK-UP

- A. Construct sample panel at location indicated or directed, and as follows:
- B. Size: 4 feet by 4 feet (1.2 m by 1.2 m) embed into Pre-Cast Architectural Concrete Panels.
 - Include all unit types and sizes to bused, and mortar joint treatment.
- C. Obtain architect's acceptance of sample panel before beginning construction activities of this section.
- D. Do not remove sample panel until construction activities of this section have been accepted by architect.

1.06 DELIVERY, STORAGE, AND HANDLING

- Deliver products of this section on pallets, with individual faces protected; keep dry.
- Store units in protected area or under cover on level ground; keep dry. Do not double stack pallets.

PART 2 PRODUCTS

2.01 MANUFACTURERS

Distributed by: Blackson Brick Company. Justin Sterna. justin@blacksonbrick.com

ADDENDUM 06 03/29/2022

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Substitutions: See Section01 60 00-Product Requirements.

2.02 MATERIALS

Summitville Thin Brick by Blackson Brick Company

- Thin Brick: ASTM C 1088, Type TBX or TBS, tested in accordance with ASTM C67, as manufactured by Endicott Thin Brick, LLC. And PCI/TCA specifications.
 - 1.
 - 2.
 - Approved Color: Summittville Decator Blend County Special Blend 3.
 - Trim Units: Matching thin brick.
 - a. Edge cap C 3-5/8" bed (92.1 mm), 7-5/8" (193.7 mm) long, 3-5/8" face
 - Corners: Matching thin brick Modular Thin Brick 2 1/4" face. 7 5/8" long. 2 1/4" face verify with MFR

BC448: 3-5/8" (92.1mm) face, 7-5/8" (193.7mm) long, 1/2" (12.7mm) thick

-Modular Thin Brick - 9/16" thick x 2 1/4" face x 7 5/8" long - verify with MFR

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PART 3 EXECUTION

3.01 INSTALLATION

- A. Install thin brick in accordance with BIA Technote 28C or appropriate industry standards.
- B. Reference system manufacturer's printed instructions, approved submittals and in proper relationship with adjacent construction.

END OF SECTION

Thin Brick 04 23 13 - 2

SECTION 06 41 00 ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Specially fabricated cabinet units.
- B. Countertops.
- C. Hardware.

1.02 RELATED REQUIREMENTS

A. Section 12 36 00 - Countertops.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).
- B. AWMAC/WI (NAAWS) North American Architectural Woodwork Standards, U.S. Version 4.0 2021, with Errata.
- C. BHMA A156.9 Cabinet Hardware 2020.
- D. NEMA LD 3 High-Pressure Decorative Laminates 2005.
- E. UL (DIR) Online Certifications Directory Current Edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - 1. Scale of Drawings: 1-1/2 inch to 1 foot (125 mm to 1 m), minimum.
 - Provide the information required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
- C. Product Data: Provide data for hardware accessories.
- D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches (300 mm) square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.
- E. Samples: Submit actual sample items of proposed pulls, hinges, shelf standards, and locksets, demonstrating hardware design, quality, and finish.

1.06 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
 - 1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.08 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

- A. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Plastic Laminate Faced Cabinets: Premium grade.
- C. Cabinets at []:
 - 1. Finish Exposed Exterior Surfaces: Decorative laminate.

- 2. Finish - Exposed Interior Surfaces: Decorative laminate.
- Finish Semi-Exposed Surfaces: Decorative laminate 3.
- Finish Concealed Surfaces: Melamine. 4
- Door and Drawer Front Edge Profiles: Square edge with thin applied band, exposed 5. laminate body at corners to be sealed with a matching 2mm PVC bead.
- Door and Drawer Front Retention Profiles: Fixed panel. 6.
- Casework Construction Type: Type A Frameless. 7.
- Interface Style for Cabinet and Door: Style 1 Overlay: flush overlay. 8.
- 9. Adjustable Shelf Loading: 50 lbs. per sq. ft.
 - Deflection: L/144. a.
- 10. Cabinet Doors and Drawer Fronts: Flush style.
- 11. Drawer Side Construction: Multiple-dovetailed.
- 12. Drawer Construction Technique: Dovetail joints.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.
- Hardwood Edgebanding: Use solid hardwood edgebanding matching species, color, grain, and grade for exposed portions of cabinetry.

2.03 LAMINATE MATERIALS

- Manufacturers:
 - Wilsonart LLC; [____]: www.wilsonart.com/#sle.
 - Formica: www.formica.com 2.
 - 3. Octolam; www.octolam.com
 - Substitutions: See Section 01 60 00 Product Requirements.
- High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.

2.04 COUNTERTOPS

A. Countertops are specified in Section 12 36 00.

2.05 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Fasteners: Size and type to suit application.
- Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chromeplated finish in exposed locations.
- Concealed Joint Fasteners: Threaded steel.
- Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to match adjacent surface.

2.06 HARDWARE

- A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.
- Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch (25 mm) spacing adjustments.
- C. Fixed Specialty Shelf Supports:
 - Material: Steel.
 - Manufacturer's standard, factory-applied, textured powder coat. 2.
 - 3 Color: White.
- Countertop Supports:
 - Material: Aluminum 1.

Finish/Color: As selected by architect from manufacturer's available options 2.

Manufacturers:

Rakks/Rangine Corporation; Sill Supports:/www.rakks.com/#sle

Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

E. Drawer and Door Pulls: Extruded aluminum pull, 8" width of drawer, satin finish...

Architectural Wood Casework

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ADDENDUM 06

03/29/2022

NO LOCKS

- G. Catches: Magnetic.
- H. Drawer Slides:
 - Type: Extension types as indicated.
 - 2. Static Load Capacity: Commercial grade.
 - 3. Mounting: Side mounted.
 - 4. Stops: Integral type.
 - 5. Features: Provide self closing/stay closed type.
 - 6. Manufacturers:
 - a. Accuride International, Inc: www.accuride.com/#sle.
 - b. Grass America Inc; [____]: www.grassusa.com/#sle.
 - c. Hettich America, LP; [____]: www.hettich.com/#sle.
 - d. Knape & Vogt Manufacturing Company: www.knapeandvogt.com/#sle.
 - e. Substitutions: See Section 01 60 00 Product Requirements.
- I. Drawer Systems: Integrated drawer slide and side.
 - 1. Side Type: Single Wall.
 - 2. Static Load Capacity: Residential/Light Commercial grade.
 - 3. Mounting: Side mounted.
 - 4. Stops: Integral type.
 - 5. Features: Provide self closing/stay closed type.
- J. Hinges: European style concealed self-closing type, steel with satin finish.
 - 1. Manufacturers:
 - a. Grass America Inc: www.grassusa.com/#sle.
 - b. Hardware Resources; [_____]: www.hardwareresources.com/#sle.
 - c. Hettich America, LP; [____]: www.hettich.com/#sle.
 - d. Blum, Inc; []: www.blum.com/#sle.
 - e. Substitutions: See Section 01 60 00 Product Requirements.
- K. Soft Close Adapter: Concealed, frame-mounted, screw-adjustable damper; steel with satin finish.

2.07 FABRICATION

- A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs. (Locate counter butt joints minimum 600 mm from sink cut-outs.)
 - 1. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- E. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches (400 mm) on center.
- F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

- A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units.

- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch (0.79 mm). Do not use additional overlay trim for this purpose.
- E. Secure cabinets to floor using appropriate angles and anchorages.
- F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.03 ADJUSTING

- A. Adjust installed work.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 07 91 06 DECK AND PARKING JOINT SEALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Watertight Joint System for Decks, Stadiums & Below-Grade Walls

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
 - 1. Convene at Project site 2 weeks prior to beginning work of this Section.
 - 2. Attendance: Contractor, Construction Manager, joint seal installer, and related trades
- B. Review and discuss:
 - 1. Joint seal manufacturer's requirements, project conditions, substrate requirements allowable structural movement at joints, and protection of completed work.
 - Transitions in plane and direction, and requirement for continuity of seal through watertight transitions from wall expansion joint to other interfacing expansion joint systems at adjacent construction.

1.03 SUBMITTALS

- A. Shop Drawings:
 - 1. Indicate joint locations, dimensions, and adjacent construction.
 - 2. Provide details for transitions in plane and direction for continuity of seal through watertight transitions from wall expansion joint to other interfacing expansion joint systems at adjacent construction.
- B. Product Data: Material description and application instructions.
- C. Samples:
 - 1. Minimum 2 x 2 inch joint seal samples showing available colors.
 - 2. Minimum 6 inch long samples of each joint seal.
- D. Manufacturer's certification that:
 - 1. Products are capable of withstanding temperature of 150 degrees F (65 degrees C) for 3 hours while compressed to minimum of movement capability dimension without evidence of bleeding of impregnation medium from material.
 - 2. Same material after heat stability test and after cooling to room temperature will self-expand to maximum of movement capability dimension within 24 hours at 68 degrees F (20 degrees C).

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Minimum 10 years documented experience in production of specified materials.
 - 2. Certified to ISO 9001 and 14001.
- Installer Qualifications: Minimum 2 years documented experience in work of this Section.

1.05 DELIVERY, STORAGE AND HANDLING

A. In accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Emseal Joint Systems, Ltd., www.emseal.com. ADDENDUM 06
- B. Substitutions: See Section 01 60 00-Product Requirements.

03/29/2022

2.02 MATERIALS

For horizontal applications

Deck and Parking Joint Seal:

- 1. Source: DSM System. Reference Colorseal for all vertical applications
- 2. Description: Precompressed, silicone coated and acrylic impregnated-foam hybrid installed into field-applied epoxy adhesive, with silicone sealant band on joint faces.
- 3. Form: Precompressed to less than nominal material size for installation into designed joint size equal to material nominal size.
- 4. Movement capability: Plus or minus 50 percent, total 100 percent; pass ASTM E1399.

- 5. Color: Standard Gray at all interior location. Color to match brick veneer at exterior locations.
- 6. Adhesive: Epoxy type, furnished by joint seal manufacturer.
- 7. Silicone: Field applied sealant band at face of seal to substrate interface, furnished by joint seal manufacturer; same material and color as factory coating.
 - a. Abrasion resistance: Maximum 1 percent weight loss, tested to ASTM D4060.
 - b. Fuel resistance: Pass ASTM C719 and ASTM C1135.

PART 3 EXECUTION

3.01 PREPARATION

A. Clean joints thoroughly; remove loose and foreign matter that could impair adhesion or performance.

3.02 INSTALLATION

- A. Install joint seal in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Remove joint seal from precompressed packaging, immediately insert into joint, and allow to expand.
- C. Use temporary retainers if required to maintain joint seals in position until expansion is complete.

END OF SECTION

SECTION 09 24 00 CEMENT PLASTERING

> ADDENDUM 06 03/29/2022

PART 1 GENERAL

1.01 **SECTION INCLUDES**

A. Cement plastering.

1.02 RELATED REQUIREMENTS

- A. Section 07 25 00 Weather Barriers.
- B. Section 09 22 36 Lath: Lath, furring, beads, screeds, and joint accessories for plaster base.

1.03 REFERENCE STANDARDS

- A. ASTM C91/C91M Standard Specification for Masonry Cement 2018.
- B. ASTM C150/C150M Standard Specification for Portland Cement 2020.
- C. ASTM C206 Standard Specification for Finishing Hydrated Lime 2014.
- D. ASTM C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters 2015 (Reapproved 2020).
- E. ASTM C926 Standard Specification for Application of Portland Cement-Based Plaster 2020.
- F. ASTM C932 Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering 2006 (Reapproved 2019).

1.04 **SUBMITTALS**

- A. See Section 01 30 00 Administrative Requirements, for submittals procedures.
- B. Product Data: Provide data on plaster materials and trim accessories.
- C. Evaluation Service Reports: Show compliance with specified requirements.
- D. Samples:
 - 1. Submit two samples, [12 x 12] by [___] inch ([___] by [___] mm) in size illustrating finish color and texture.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum five years documented experience.
- B. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

1.06 **MOCK-UP**

- A. Construct mock-up of exterior wall, [4' x 4'] feet ([____] m) long by [____] feet ([____] m) wide, illustrating surface finish.
 - 1. Locate where directed.

1.07 FIELD CONDITIONS

A. Exterior Plaster Work: Do not apply plaster when substrate or ambient air temperature is 40 degrees F (4 degrees C) or lower, or when temperature is expected to drop below 40 degrees F (4 degrees C) within 48 hours of application.

PART 2 PRODUCTS

2.01 PORTLAND CEMENT PLASTER ASSEMBLIES

- A. Exterior Stucco: Portland cement plaster system, made of finish, brown, and scratch coat and reinforcing mesh.
 - 1. Manufacturers:
 - a. Master Wall, Inc.; Cemplaster Fiberstucco: www.masterwall.com.
 - b. Parex USA, Inc.; Armourwall 300 WaterMaster Krak-Shield: www.parexusa.com.
 - c. Substitutions: See Section 01 6000 Product Requirements.

2.02 CEMENT PLASTER APPLICATIONS

- A. Lath Plaster Base: Metal lath.
 - 1. Plaster Type: Factory prepared plaster mix.
 - 2. Number of Coats: Three.

Cement Plastering 09 24 00 - 2

- 3. First Coat: Apply to a nominal thickness of 3/8 inch (9 mm).
- 4. Second Coat: Apply to a nominal thickness of 3/8 inch (9 mm).
- 5. Leveling Coat: Apply to a nominal thickness of 1/32 to 1/16 inch (0.79 to 1.6 mm).
- Finish: Elastomeric.

2.03 JOBSITE MIXED CEMENT PLASTER

- A. Materials:
 - 1. Portland Cement: ASTM C150/C150M, Type I.
 - a. Finish Coat: Color chosen by Architect from manufacturer's full color options.
 - 2. Masonry Cement: ASTM C91/C91M, Type N.
 - 3. Lime: ASTM C206 Type S.
 - 4. Sand: Clean, well graded, and complying with ASTM C897.
 - 5. Water: Clean, fresh, potable, and free of mineral or organic matter that could adversely affect plaster.
 - 6. Color Pigment: Synthetic type, [_____] color as selected.

2.04 ACCESSORIES

- A. Lath: As specified in Section 09 22 36.
- B. Beads, Screeds, and Joint Accessories: As specified in Section 09 22 36.
- C. Bonding Compound: Provide type recommended for bonding plaster to solid surfaces, complying with ASTM C932.
- D. Reinforcing Mesh: 4.5 oz/sq yd (153 g/sq m) alkali-resistant mesh.
- E. Water Resistive Barrier: As specified in Section 07 25 00.

PART 3 EXECUTION

3.01 **EXAMINATION**

- A. Verify existing conditions are acceptable prior to starting this work.
- B. Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are properly in place.
- C. Verify mechanical and electrical equipment and services located within areas to receive this work have been properly tested and approved.

3.02 **MIXING**

- A. Mix only as much plaster as can be used prior to initial set.
- B. Mix materials dry, to uniform color and consistency, before adding water.
- C. Do not retemper mixes after initial set has occurred.
- D. Protect mixtures from frost or freezing temperatures, contamination, and excessive evaporation.

3.03 APPLICATION

- A. Apply plaster in accordance with manufacturer's written instructions and comply with ASTM C926.
- B. Leveling Coat:
 - Apply leveling coat to specified thickness.
 - 2. Fully embed reinforcing mesh in leveling coat.
- C. Finish Coats:
 - 1. Primer and Elastomeric Coatings:
 - a. Remove surface contaminants such as dust and dirt without damaging substrate.
 - b. Apply primer in accordance with manufacturer's instructions.
 - Apply finish coating in number of coats and to thickness recommended by manufacturer.

3.04 TOLERANCES

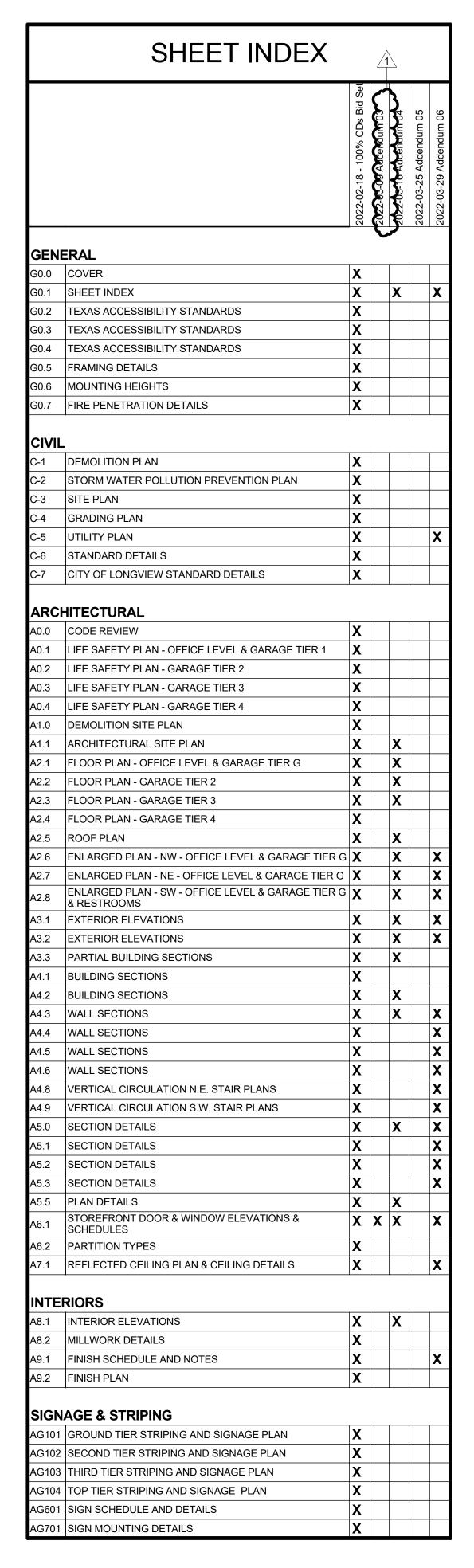
3.05 REPAIR

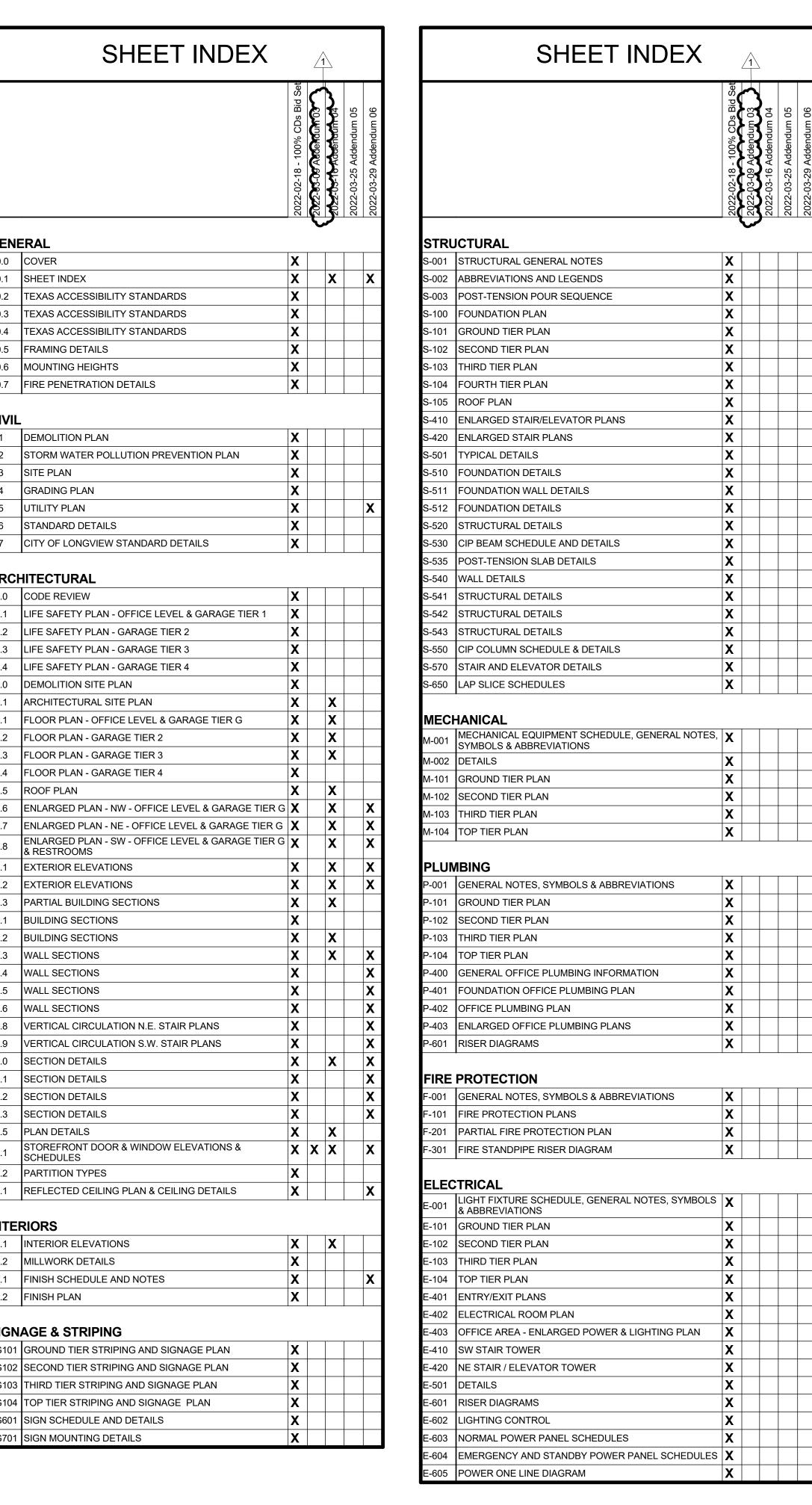
A. Patching: Remove loose, damaged or defective plaster and replace with plaster of same composition; finish to match surrounding area.

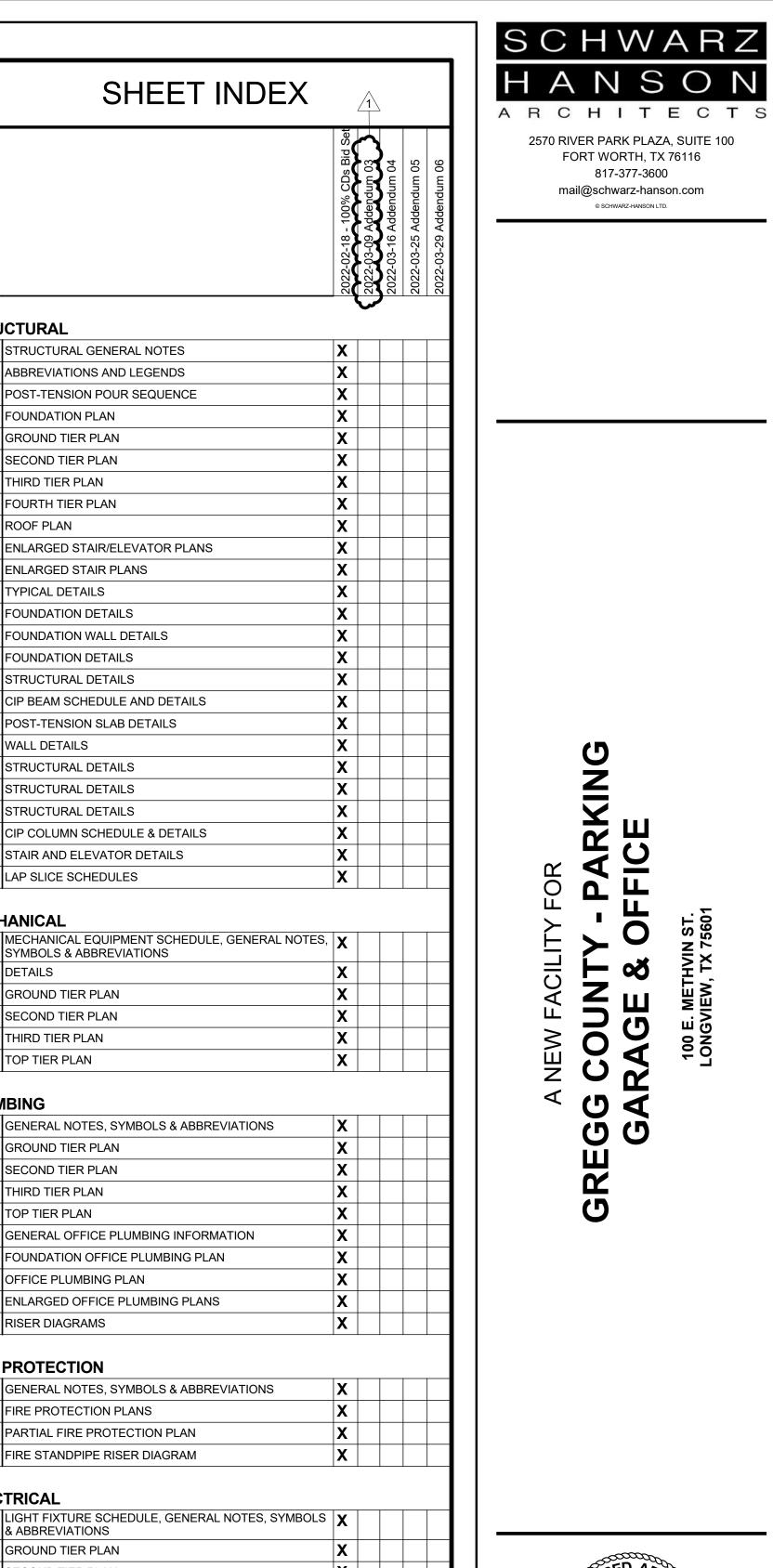
END OF SECTION

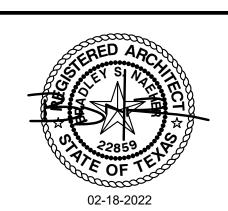
Cement Plastering 09 24 00 - 2

ACOUST.	ACOUSTICAL	K/S	KNEE SPACE		
ADA	AMERICAN'S WITH DISABILITIES ACT	LT.	LIGHT		
AFF	ABOVE FINISH FLOOR	MAX.	MAXIMUM		
ALUM.	ALUMINIUM	MAT'L	MATERIAL		
ANOD.	ALUMINIUM ANODIZED	MFR.	MANUFACTURER MINIMUM METAL NOT TO SCALE		
B.O.	BOTTOM OF	MIN.			
CF	CUBIC FOOT	MTL.			
CABT.	CABINET	NTS.			
_		O.C.	ON CENTER		
C.I.P	CAST IN PLACE	O.F.C.I	OWNER FURNISHED/CONTRACTO		
C.J. C.L.	CONTROL JOINT/ CONSTRUCTION JOINT CENTER LINE		INSTALLED		
C.L. CLG.	CEILING	O.H.	OPPOSITE HAND		
CMU	CONCRETE MASONARY UNIT	OSB	ORIENTED STRAND BOARD		
COL.	COLUMN	P.LAM.	PLASTIC LAMINATE		
COMM.	COMMUNICATIONS	REF.	REFERENCE		
CONC.	CONCRETE	REQ.	REQUIRED		
CONT.	CONTINUOUS	RQMTS.	REQUIREMENTS		
COORD.	COORDINATE	RM.	ROOM		
COORR.	CORRIDOR	R.O.	ROUGH OPENING		
DBL.	DOUBLE	SCHED.	SCHEDULED		
DR.	DOOR	SHWR	SHOWER		
DS.	DOWNSPOUT	STF	STOREFRONT		
EA.	EACH	STN.	STAIN		
EQ.	EQUAL	S.F.	SQUARE FOOT		
E.I.F.S	EXTERIOR INSULATED FINISH SYSTEM	SHT.	SHEET		
E.J.	EXPANSION JOINT	STOR.	STORAGE		
EWC	ELECTRIC WATER COOLER	SUSP.	SUSPENDED		
EXIST	EXISTING	TAS	TEXAS ACCESSIBILITY STANDARD		
F.A.C.P.	FIRE ALARM CONTROL PANEL	T.B.T.& P.T	TAPE, BED, TEXTURE, & PAINT		
F.D.	FLOOR DRAIN	TELE.	TELEPHONE		
F.DWN	FURR- DOWN	T.H.	THRESHOLD		
F.D.C.	FIRE DEPARTMENT CONNECTION	T.O.	TOP OF		
F.E.	FIRE EXTINGUISHER	T&G	TONGUE AND GROOVE		
F.E.C.	FIRE EXTINGUISHER CABINET	TYP.	TYPICAL		
FRP	FIREGLASS REINFORCED PANELS	U.N.O.	UNLESS NOTED OTHERWISE		
F.F.	FINISH FLOOR	VCT	VINYL COMPOSITION TILE		
GYP. BD.	GYPSUM BOARD	W/	WITH		
H.C./H. CAP.	HANDICAP ACCESSIBLE	WD. WP	WOOD WATER PROOF		
H.B.	HOSE BIB	WSCT.	WAINSCOT		
H.D. HT.	HEAD HEIGHT	NOTE THE	ADOVE LICT DOES NOT SOME		
НМ	HOLLOW METAL		NOTE: THE ABOVE LIST DOES NOT CONTAIN ALL ABBREVIATIONS USED IN THE DRAWINGS.		
HT./HGT.	HEIGHT				
WH	WATER HEATER				
JT.	JOINT				









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PROJECT NO.: 20011 DATE: 03/03/2022

REVISION SCHEDULE 1 ADDENDUM 04

SHEET NAME

SHEET INDEX

PROPOSED OVERHEAD ELECTRIC TO BE INSTALLED

BY SWEPCO (TYP.)

INSTALL 260± L.F. 6" PERFORATED

REFER TO ARCHITECTURAL/STRUCTURAL

PLANS FOR ADDITIONAL INFORMATION.

PVC PIPE AT 1.00% MINIMUM.

GAS AND TELEPHONE

SERVICE LOCATED

IN ALLEY.

BENCH ON THE RESIDENCE OF THE RESIDENCE

FL=340.16

SAWCUT REMOVE AND

NSTALL STORM MANHOLE 6" (IN) = 341.50 12" (IN) =341.50 FL 12" (OUT) = 340.50 $OP = 344.6 \pm (MATCH F.G.)$

REMOVE EXISTING 6" ROOF

FL 12" RCP =339.42

DRAIN PIPE CONNECT 12" RCF

ADJUST LID TO FINISH GRADE

NE FLANGE BOLT ON FIRE HYDRAN LOCATED AT THE SEC CORNER OF

CENTER STREET AND BANK STREET.

ELEV.=345.89°

REPLACE CONCRETE

S NEEDED.

FFE= 347.80

CITY TO INSTALL:

OF THE BUILDING.

~2" DOMESTIC TAP, 28± L.F. TYPE 'K' COPPER SERVICE, METER AND BOX.

~8" TAPING SLEEVE AND VALVE, 28± L.F

THE EXACT LOCATION OF WATER SERVICE OUT

REFERENCE ARCHITECTURAL

AND M.E.P. PLANS FOR

EXACT LOCATION OF UTILITY

BANK ALLEY

SAWCUT REMOVE AND

REPLACE CONCRETE, CURB

CONSTRUCT S.S.M.H.

FL 4" (IN)=342.00

ON EXISTING SEWER LINE

EX. FL 6" (OUT)=341.80

 $TOP = 345.5 \pm (MATCH F.G.)$

AND ASPHALT AS NEEDED

CONNECTIONS TO BUILDING

FX. S.S.M.H.

FL = 339.49 (SE - NW)

FL=339.70 (SW)

8" C900 WATER LINE.

CONTRACTOR TO EXTEND LINES TO THE BUILDING. REFER TO PLUMBING PLAN FOR

(CONTACT DEVELOPMENT SERVICES FOR

COST & COORDINATION, 903-237-1060)

~8" DETECTOR CHECK.

ONEWAY TRAFFIC --

INSTALL 23± L.F.

2" RCP @ 4.70%

PROPOSED OVERHEAD

LECTRIC TO BE INSTALLED

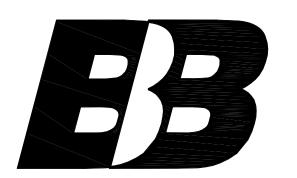
BY SWEPCO (TYP.)



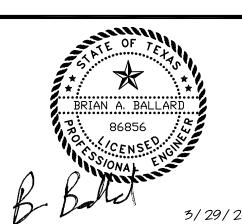
- CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURE. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED TO, ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH PERFORMANCE
- 3. ALL WORK ON THIS PLAN SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LONGVIEW AND PROJECT SPECIFICATIONS.
- 4. CONTRACTOR SHALL, ON ALL UTILITIES, COORDINATE INSPECTION WITH APPROPRIATE AUTHORITIES PRIOR TO COVERING TRENCHES.
- 5. CONSTRUCTION SHALL COMPLY WITH GOVERNING CODES AND REQUIREMENTS. CONTRACTOR SHALL CONDUCT ALL REQUIRED TESTS TO THE SATISFACTION OF THE UTILITY COMPANIES AND OWNERS
- 6. ALL UTILITY CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CITY OF LONGVIEW APPROVED PRODUCTS LIST. REFER TO WATER AND SANITARY SEWER DETAILS SHEETS.
- 7. ADJUST PAVEMENT AND/OR CURB ELEVATIONS AS NECESSARY TO ASSURE A SMOOTH FIT & CONTINUOUS GRADE WITH EXISTING.
- 8. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES AND NOTIFYING THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION.
- 9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM SEWER STRUCTURES, PIPES, AND ALL UTILITIES PRIOR TO CONSTRUCTION.
- 10. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE FOUR (4) INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH STANDARD SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- 11. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL PLANS, POWER COMPANY, TELEPHONE COMPANY & GAS CO. FOR ACTUAL ROUTING OF POWER AND SERVICES TO BUILDING.
- 12. CONSTRUCTION SHALL COMPLY WITH ALL GOVERNING CODES AND BE CONSTRUCTED TO SAME.

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PROJECT NO.: 20-030

DATE: MARCH 29, 2022 **REVISION SCHEDULE** Δ Description 08/27/2021 50% CD's 70% CD's 10/27/2021 90% CD's 1/22/2021 100% CD's 02/18/2022 1 ADDENDUM 06 03-29-2022

SHEET NAME

UTILITY PLAN

SHEET NO.

--- 511--- EXISTING 1' CONTOUR PROPOSED 1' CONTOUR 8" W PROPOSED 8" WATER SERVICE LINE PROPOSED 2" WATER SERVICE LINE PROPOSED 6" PERFORATED PVC PIPE — — — EX. WTR — — — EXISTING WATER LINE

EXISTING SANITARY SEWER CLEANOUT

- - - EX. SS- - - EXISTING SANITARY LINE

LEGEND

EXISTING

BRICK BUILDING

FIRST STATE INVESTORS 4200, LLC

213 INVESTMENTS, LLC

DOC. No. 201314442

07/23/2013

(O.P.R.G.C.T.)

CONTRACTOR TO PROTECT

ADJACENT STRUCTURE DURING

DEMOLITION AND CONSTRUCTION.

W/W/W/W

PROPOSED UTILITY

POLE TO BE

INSTALLED BY SWEPCO

PLANS SUBJECT TO REVIEW AND APPROVAL BY JURISDICTIONAL ENTITIES

*** STOP! CALL BEFORE YOU DIG! *** As required by "The Texas Underground Facility Damage Prevention and Safety Act" Texas One Call System must be contacted (800-245-4545) at least 48 hours prior to any excavation operations being performed. It is the Contractor's responsibility to contact Texas One Call System.

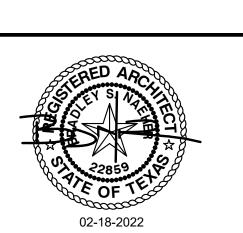
** NOTICE TO CONTRACTORS Topographic information provided by <u>SUMMIT SURVEYING, INC.</u> Registered Professional Land

Surveyors, Tyler, Texas. The contractor shall notify the engineer and Owner immediately, in writing, of any discrepancies or omissions to the topographic information. The contractor(s) shall be responsible for confirming the location (horizontal/vertical) of any buried cables, conduits, pipes, and structures (storm sewer, sanitary sewer, water, gas, television, telephone, etc.) which impact the construction site. The contractor(s) shall notify the owner and engineer if any discrepancies are found between the actual conditions versus the data contained in the construction plans. Any costs incurred as the result of not confirming the actual location (horizontal/vertical) of said cables, conduits, pipes, and structures shall be borne by the contractor. Additionally, the contractor(s) shall notify the owner and engineer if any errors or discrepancies are found on the construction documents (ps&e), which negatively impact the project. Engineer and owner shall be indemnified of problems and/or cost which may result from contractor's failure to notify engineer and owner.



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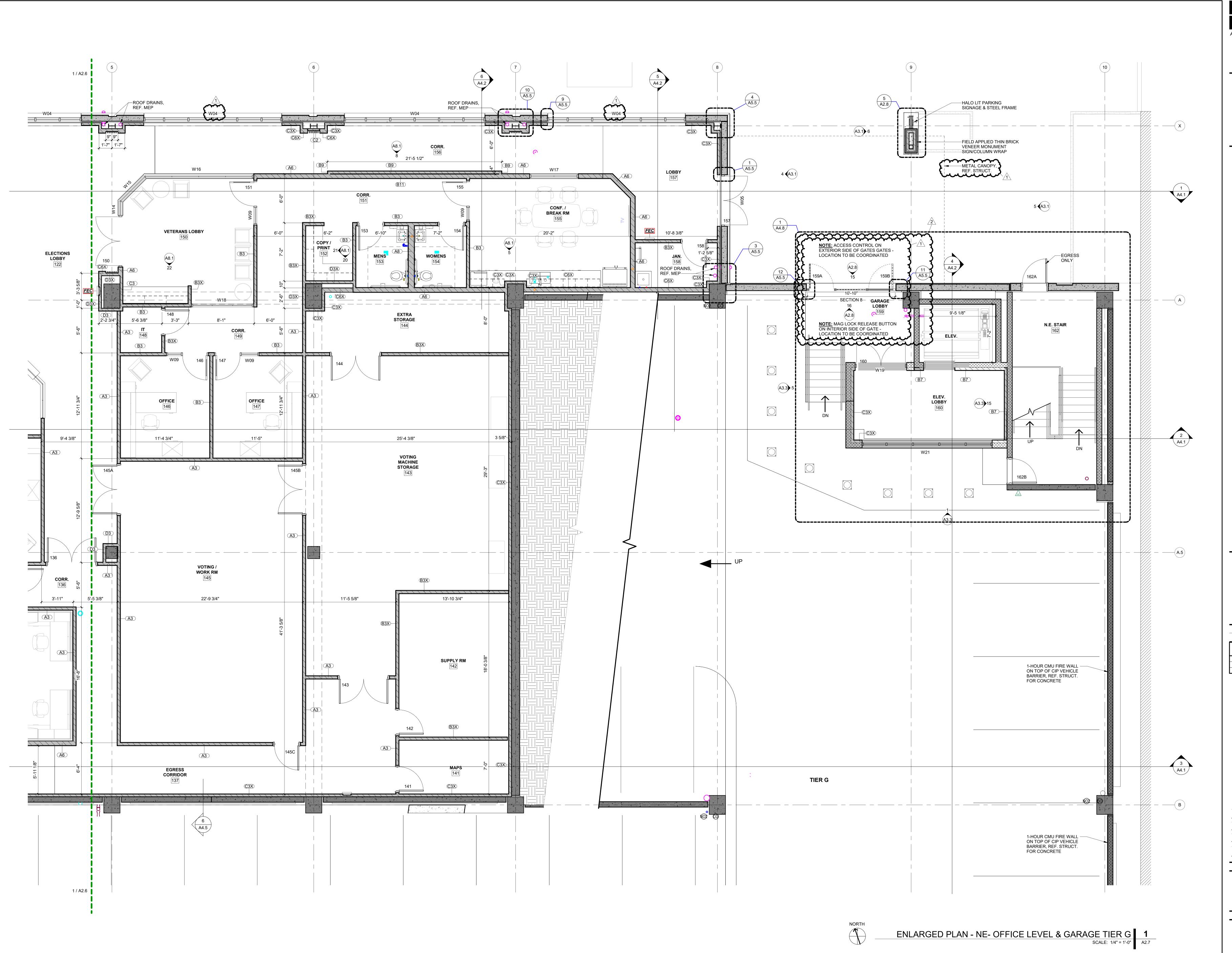
PROJECT NO.: 20011 DATE: 03/03/2022

REVISION SCHEDULE

TIER 3 _TIER 2 OFFICE/TIER G SHEET NAME

ENLARGED PLAN - NW -OFFICE LEVEL & GARAGE TIER G

A2.6



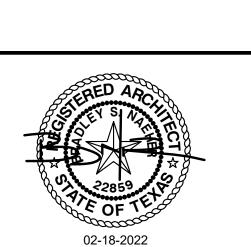
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S S S

GREGG COUNTY - PAR GARAGE & OFFIC



PROJECT NO.: 20011 DATE: 03/03/2022

 REVISION SCHEDULE

 Δ
 Description
 Date

 1
 ADDENDUM 04
 03-15-2022

 2
 ADDENDUM 06
 03-29-2022

TIER 4

TIER 3

TIER 2

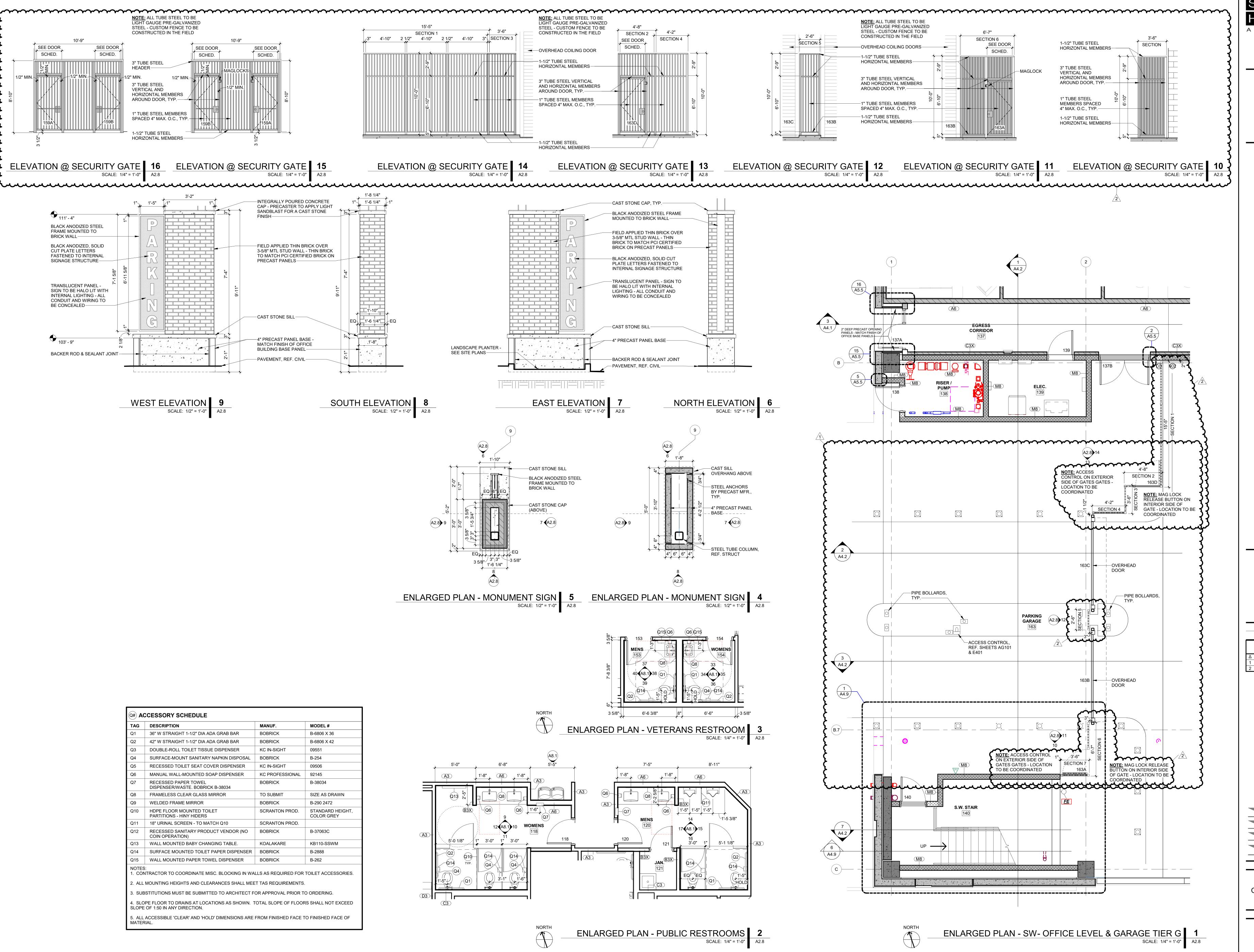
OFFICE/TIER G

SHEET NAME

ENLARGED PLAN - NE -OFFICE LEVEL & GARAGE TIER G

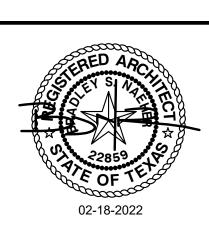
SHEET NO.

A2.7



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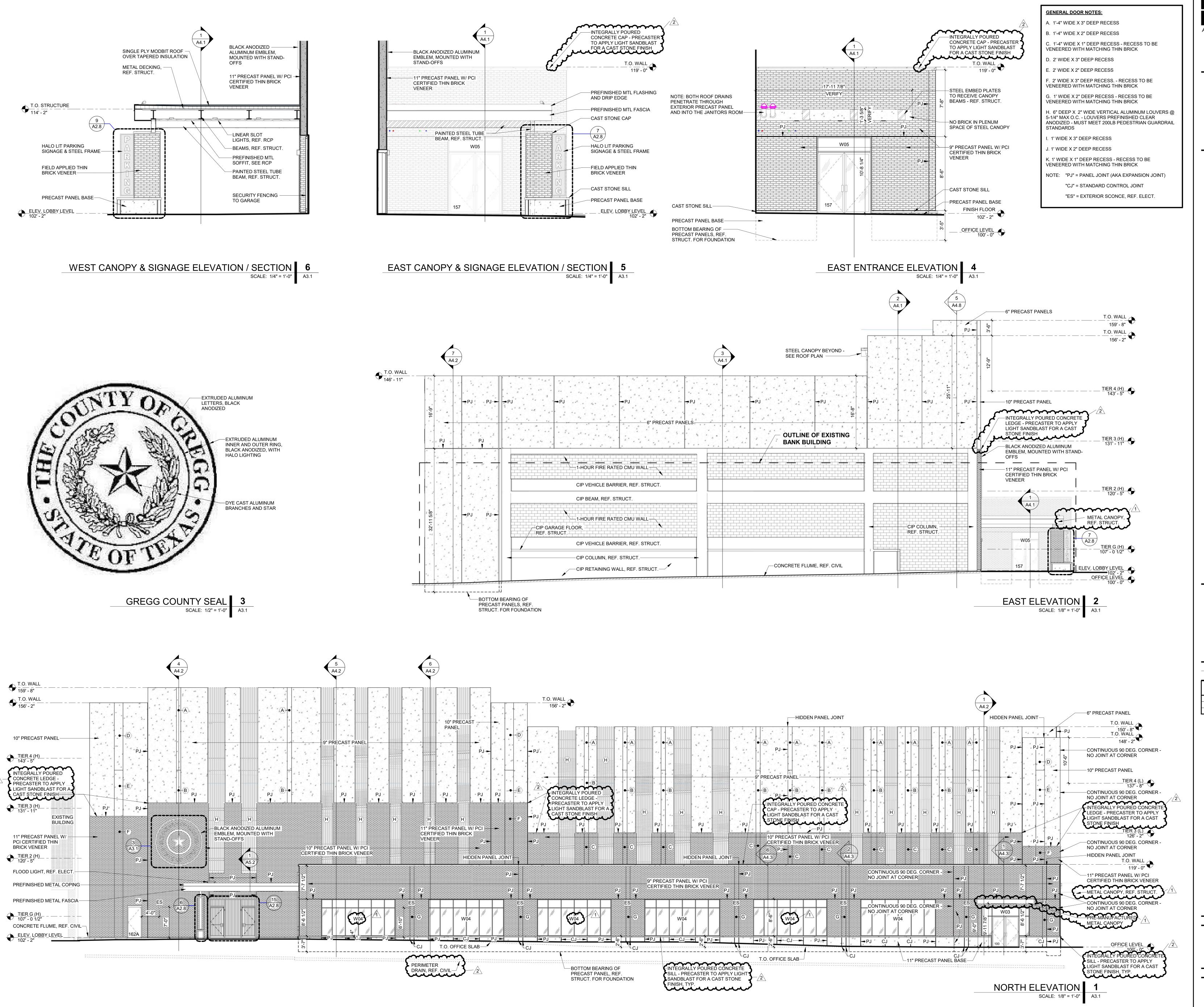


PROJECT NO.: 20011 DATE: 03/03/2022

REVISION SCHEDULE 1 ADDENDUM 04 2 ADDENDUM 06

TIER 3 TIER 2 OFFICE/TIER G SHEET NAME

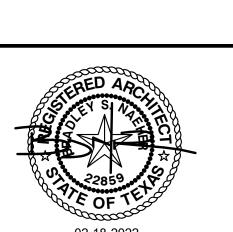
ENLARGED PLAN - SW -OFFICE LEVEL & GARAGE TIER G & RESTROOMS



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GREGG COUNTY - PARKING
GARAGE & OFFICE
100 E. METHVIN ST.



PROJECT NO.: 20011 DATE: 03/03/2022

 REVISION SCHEDULE

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 Description
 Date

 1
 ADDENDUM 04
 03-15-2022

 2
 ADDENDUM 06
 03-29-2022

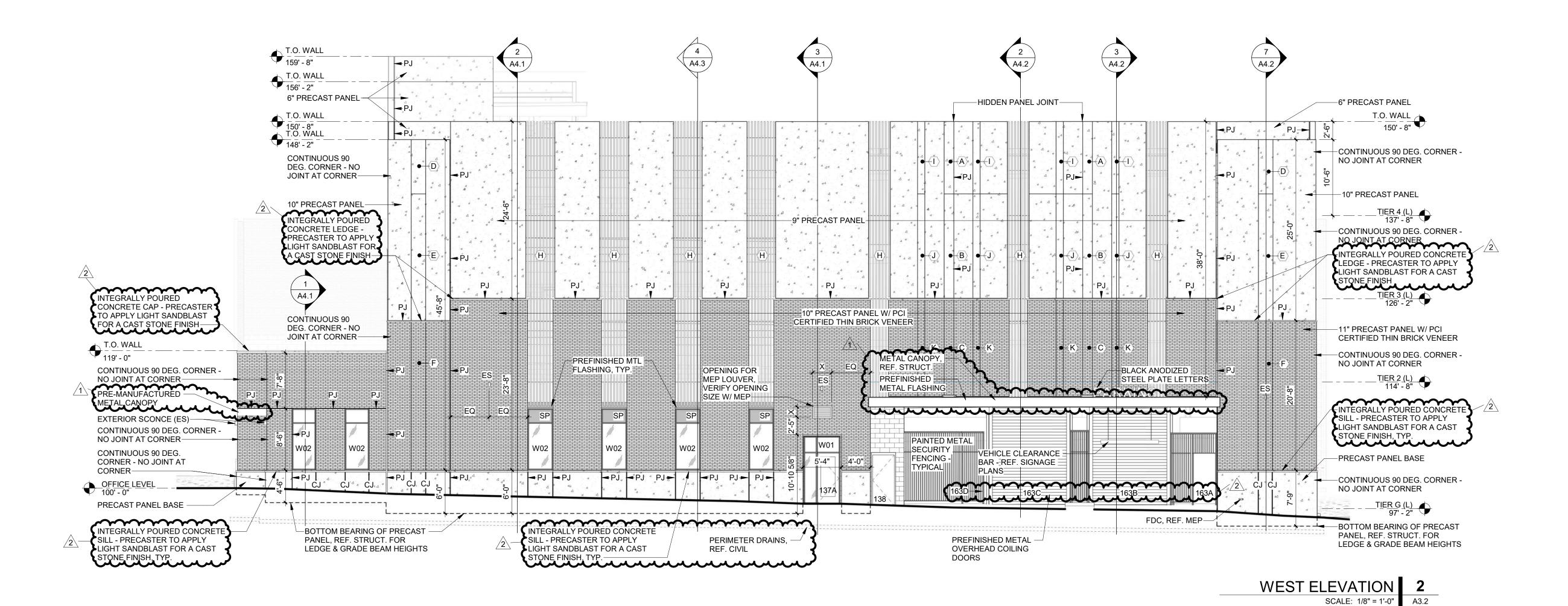
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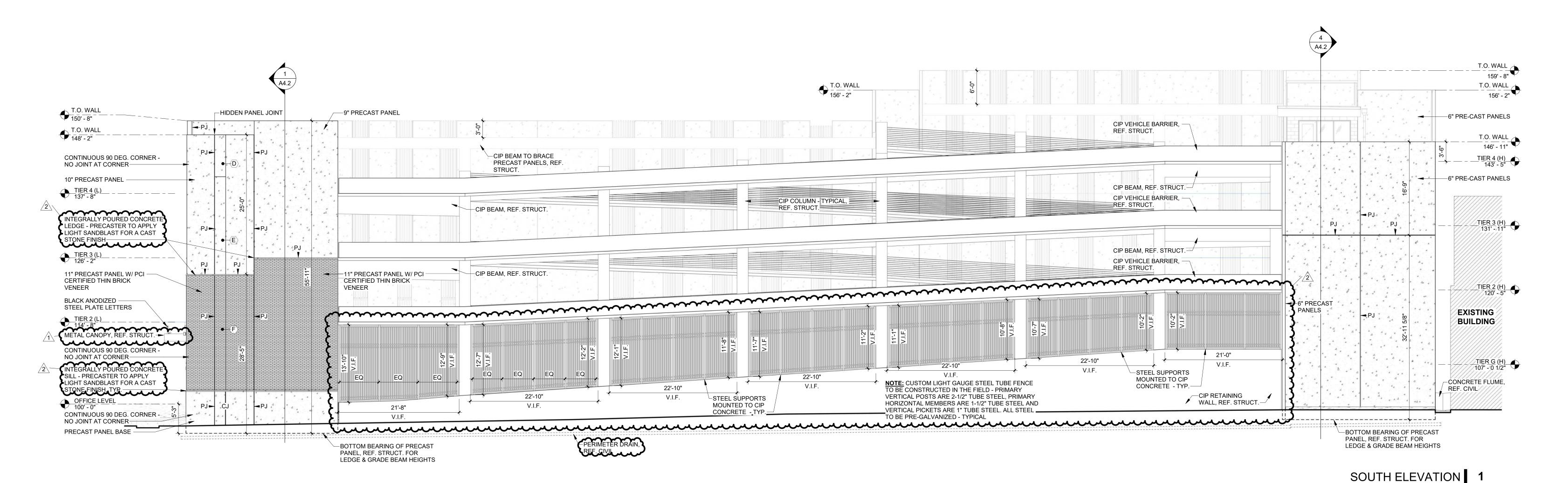
EXTERIOR ELEVATIONS

SHEET NO.

A3.1

NOTE: "PJ" = PANEL JOINT (AKA EXPANSION JOINT) "CJ" = STANDARD CONTROL JOINT "ES" = EXTERIOR SCONCE, REF. ELECT.





SHEET NAME

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0"

SHEET NO.

0

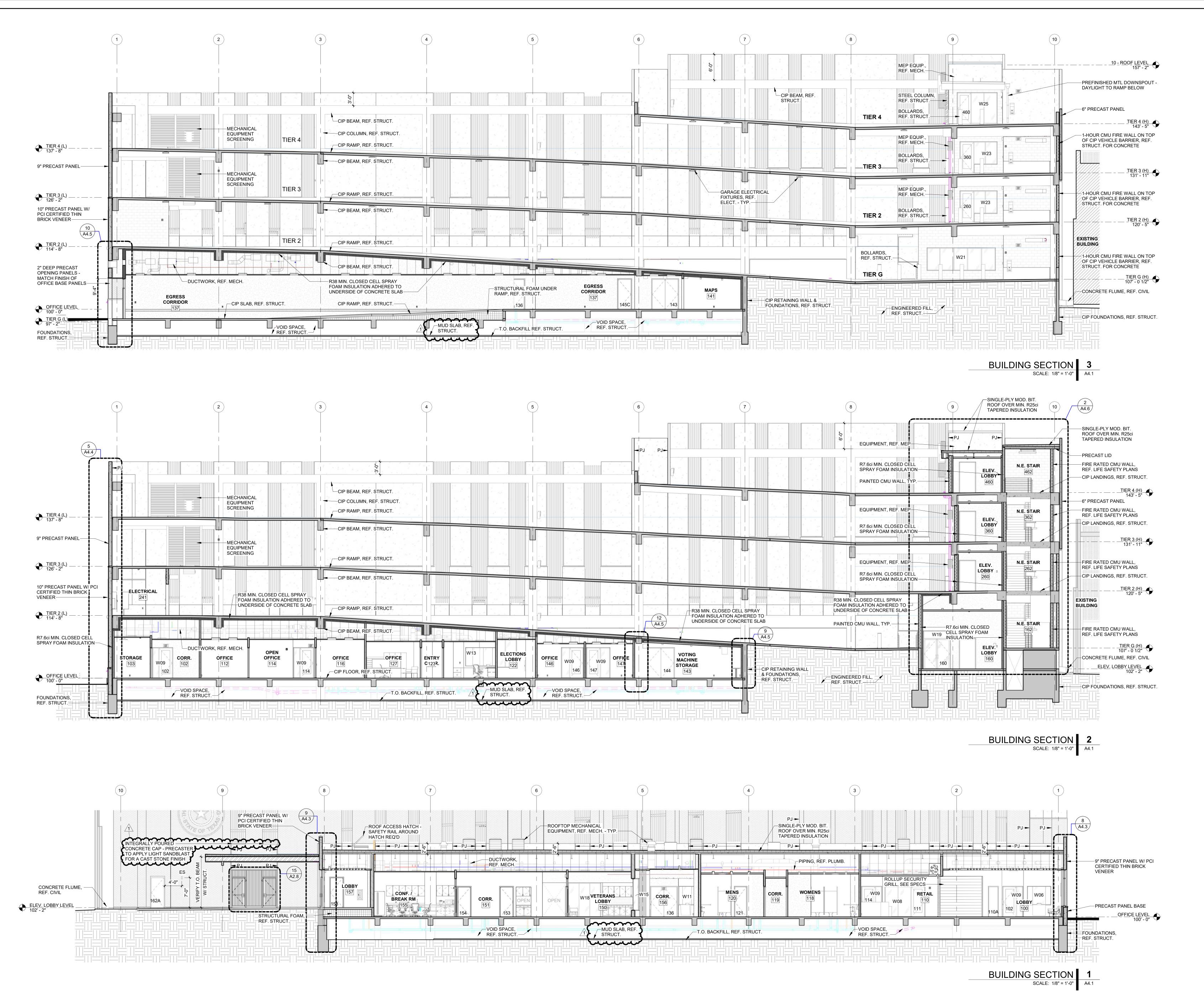
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02-18-2022 PROJECT NO.: 20011

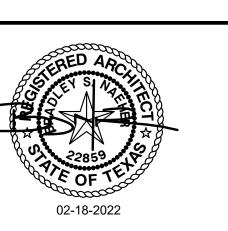
DATE: 03/03/2022 **REVISION SCHEDULE** 1 ADDENDUM 04 03-15-202 2 ADDENDUM 06



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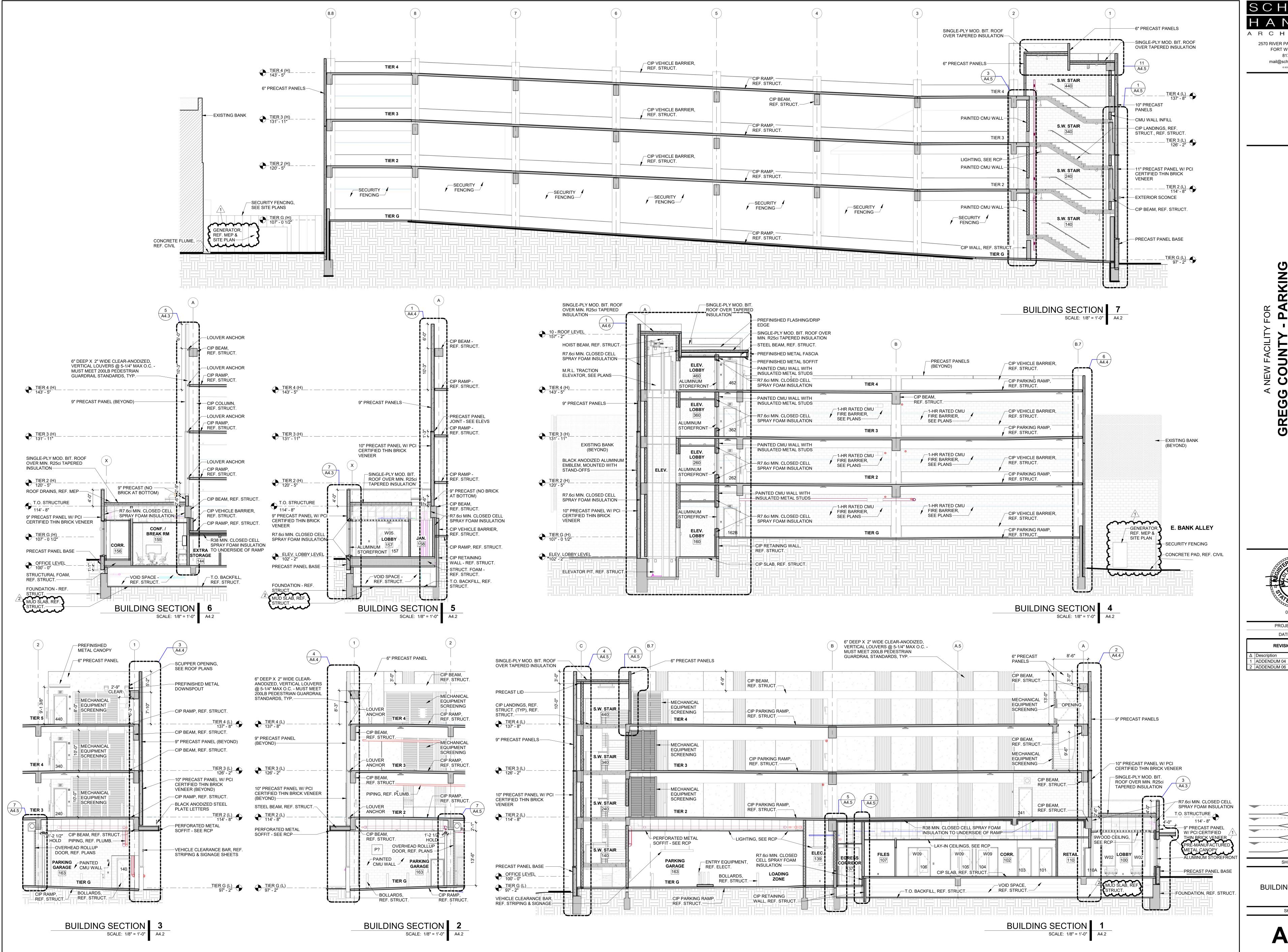


PROJECT NO.: 20011 DATE: 03/03/2022 **REVISION SCHEDULE**

1 ADDENDUM 06

SHEET NAME

BUILDING SECTIONS



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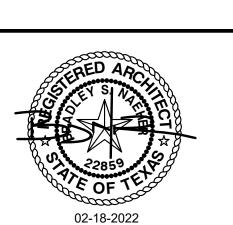
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REVISION SCHEDULE

TIER 4

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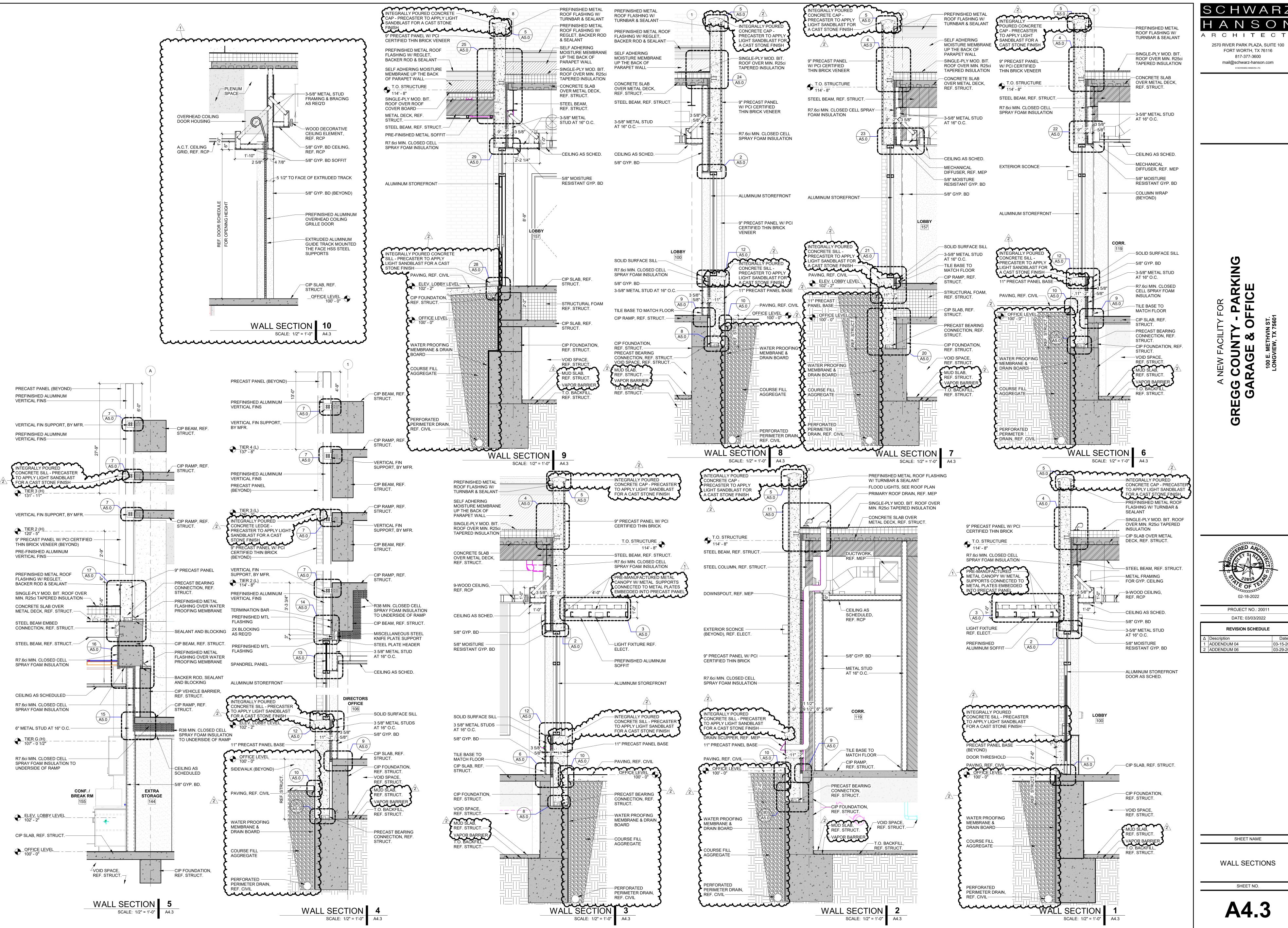
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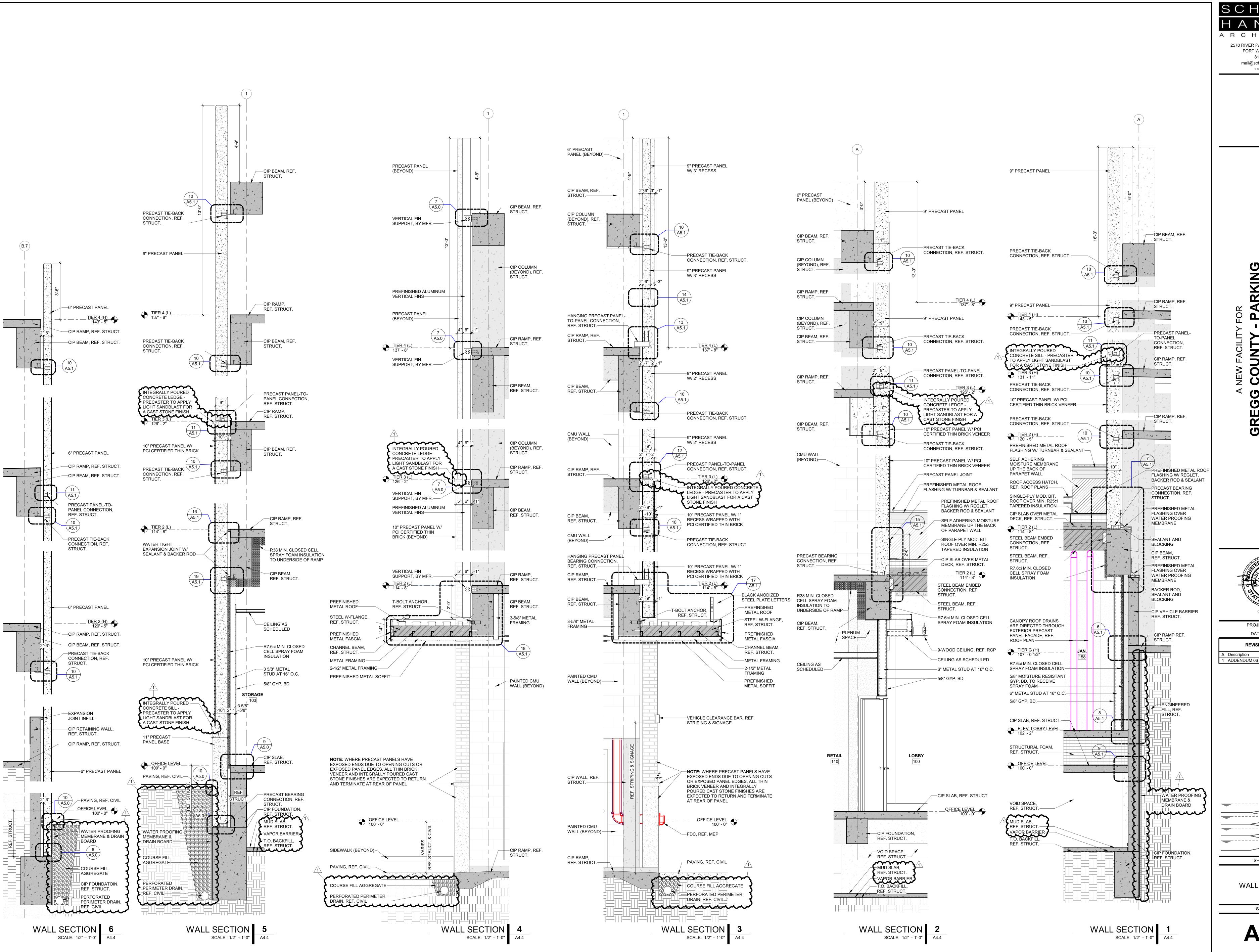
SHEET NAME

BUILDING SECTIONS

Δ4 2



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TIER 4

TIER 3

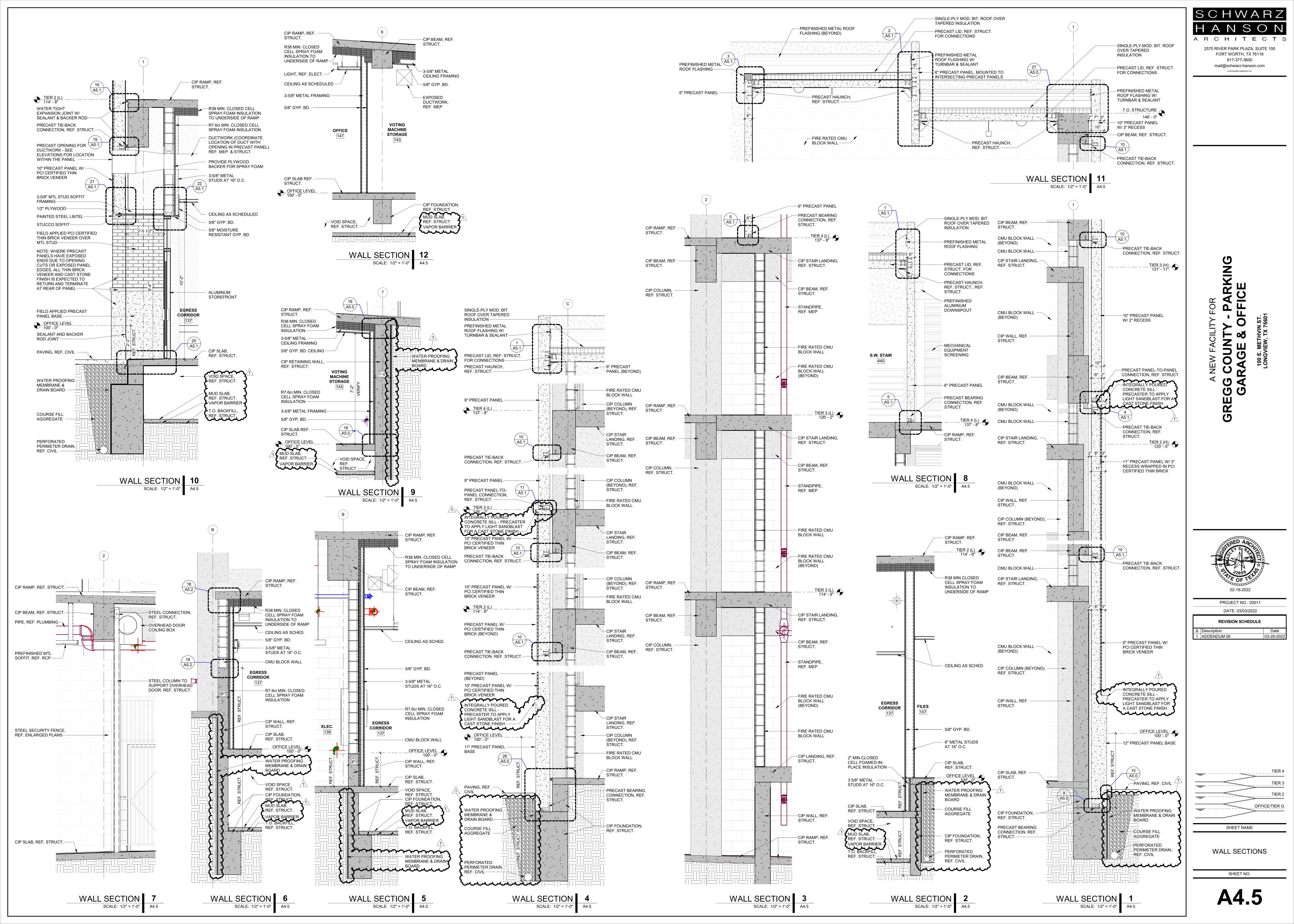
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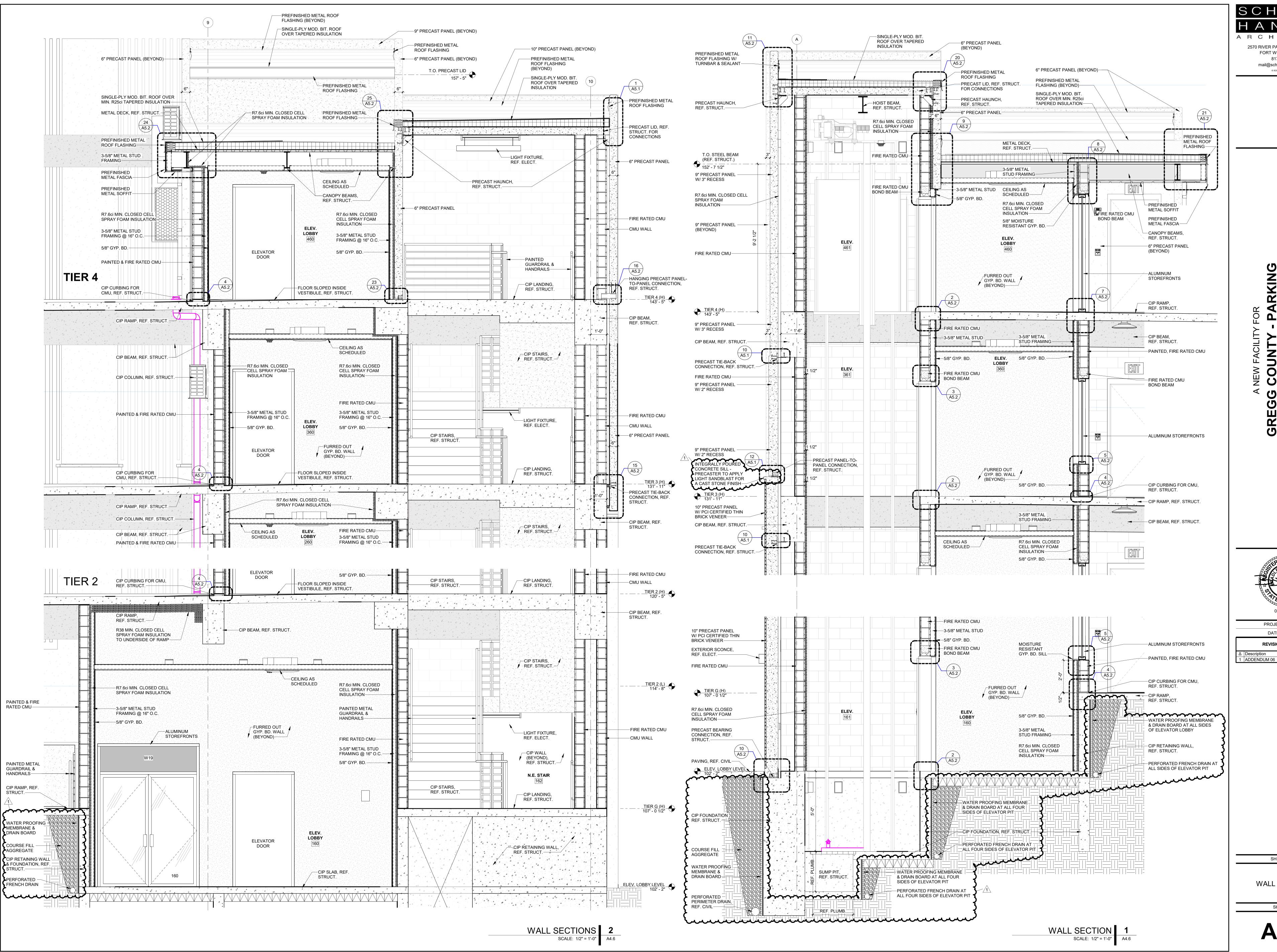
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SHEET NAME

WALL SECTIONS

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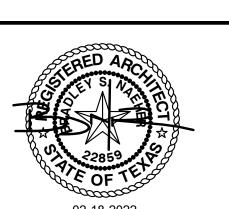
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100 E. METHVIN ST.



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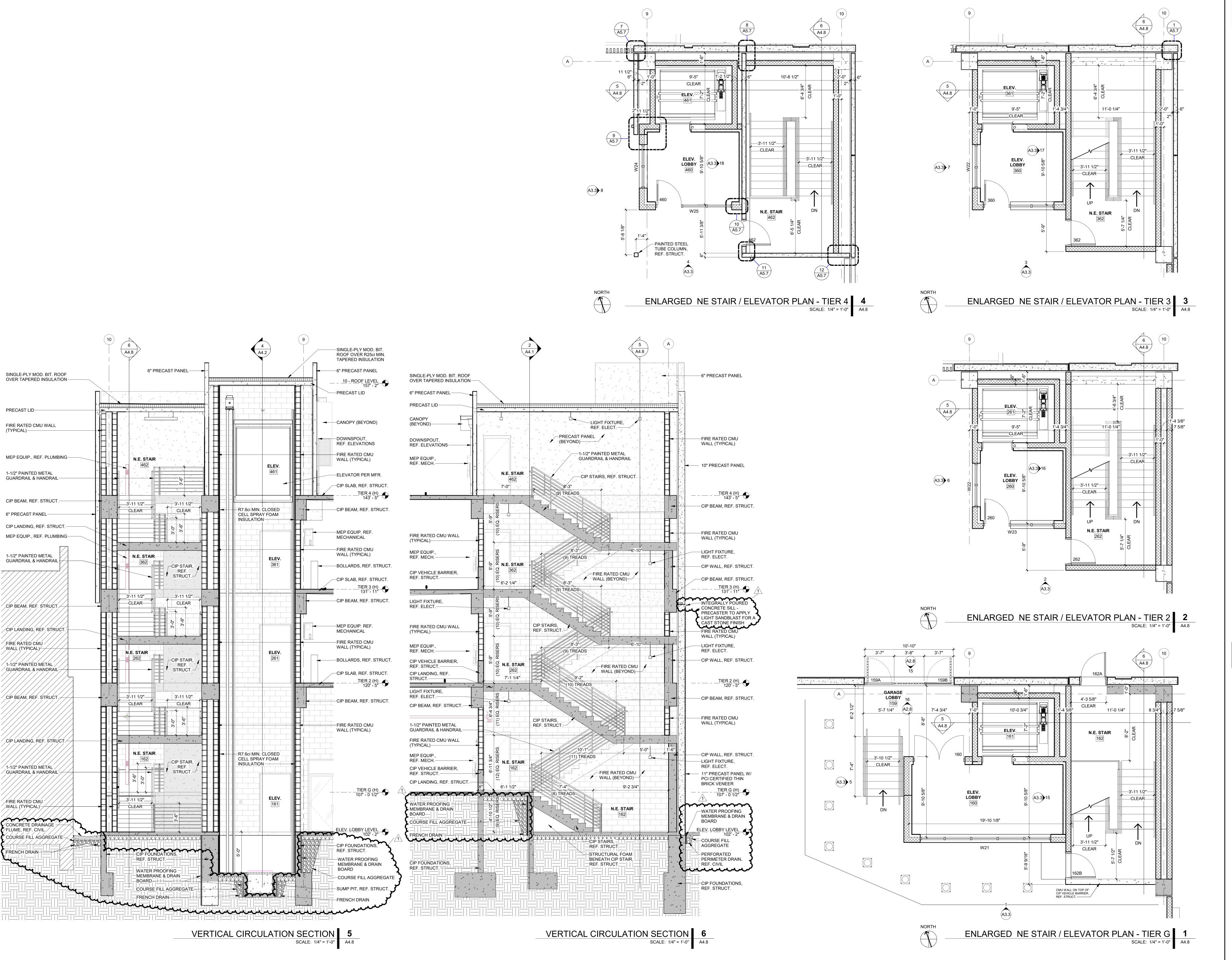
REVISION SCHEDULE

Description Da

SHEET NAME

WALL SECTIONS

Δ46



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DATE: 03/03/2022

REVISION SCHEDULE

Δ Description Date
1 ADDENDUM 06 03-29-2

TIER 4

TIER 3

TIER 2

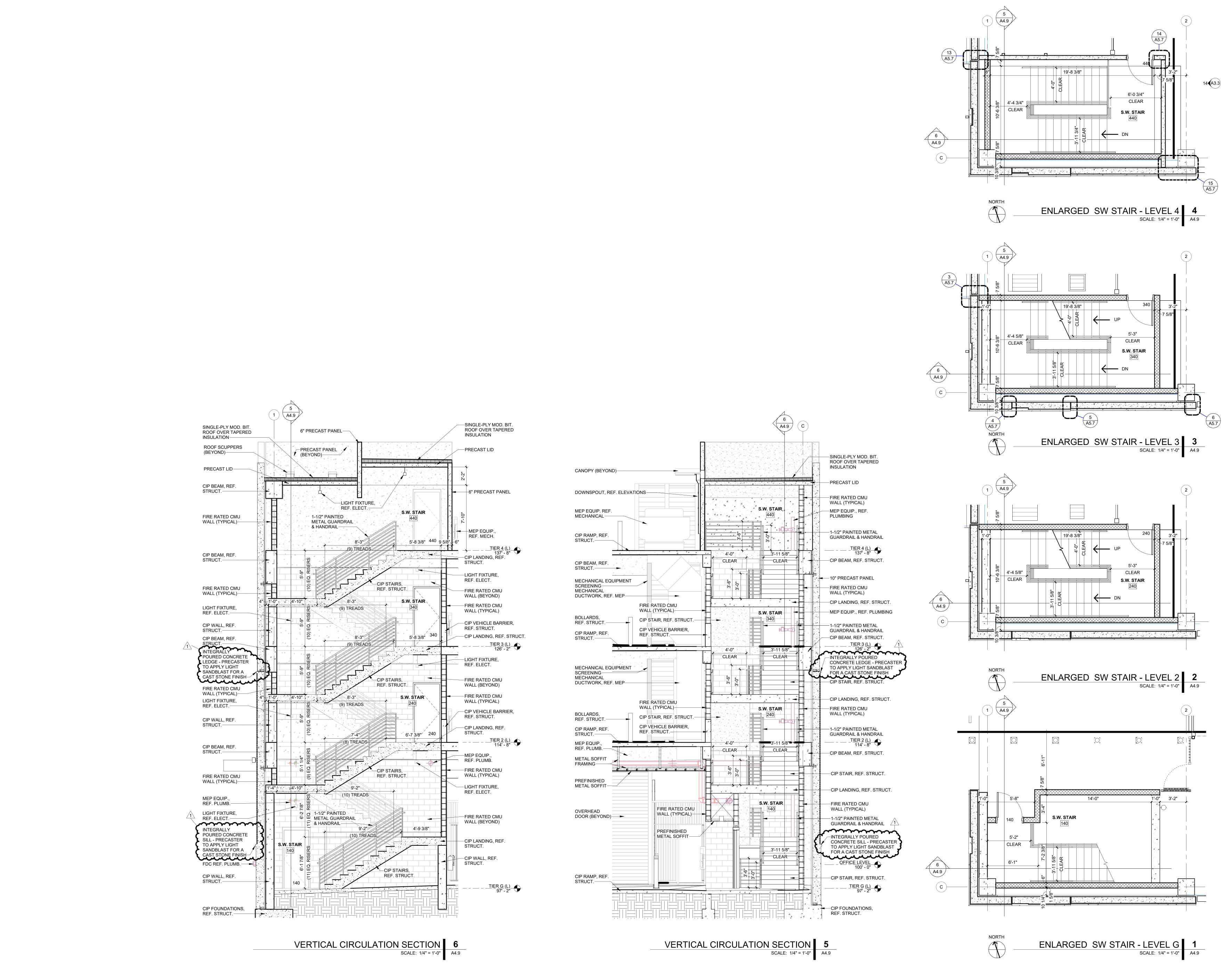
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SHEET NAME

VERTICAL CIRCULATION N.E. STAIR PLANS

SHEET NO.

A4.8

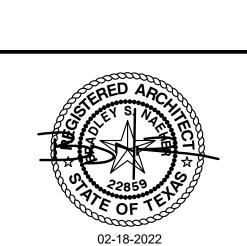


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REVISION SCHEDULE

Δ Description Date 1 ADDENDUM 06 03-29-

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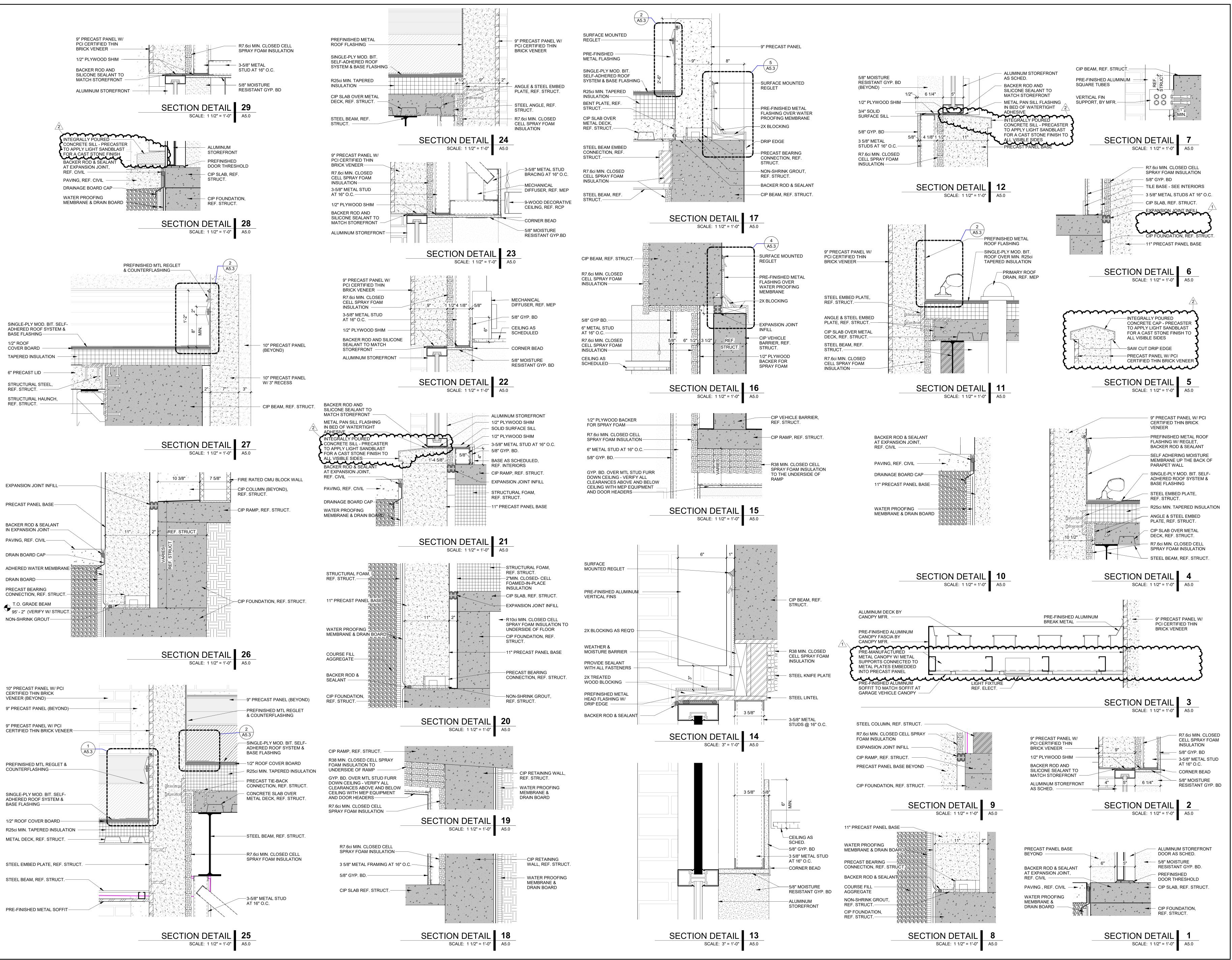
TIER 2

OFFICE/TIER G

SHEET NAME

VERTICAL CIRCULATION S.W. STAIR PLANS

A4.9



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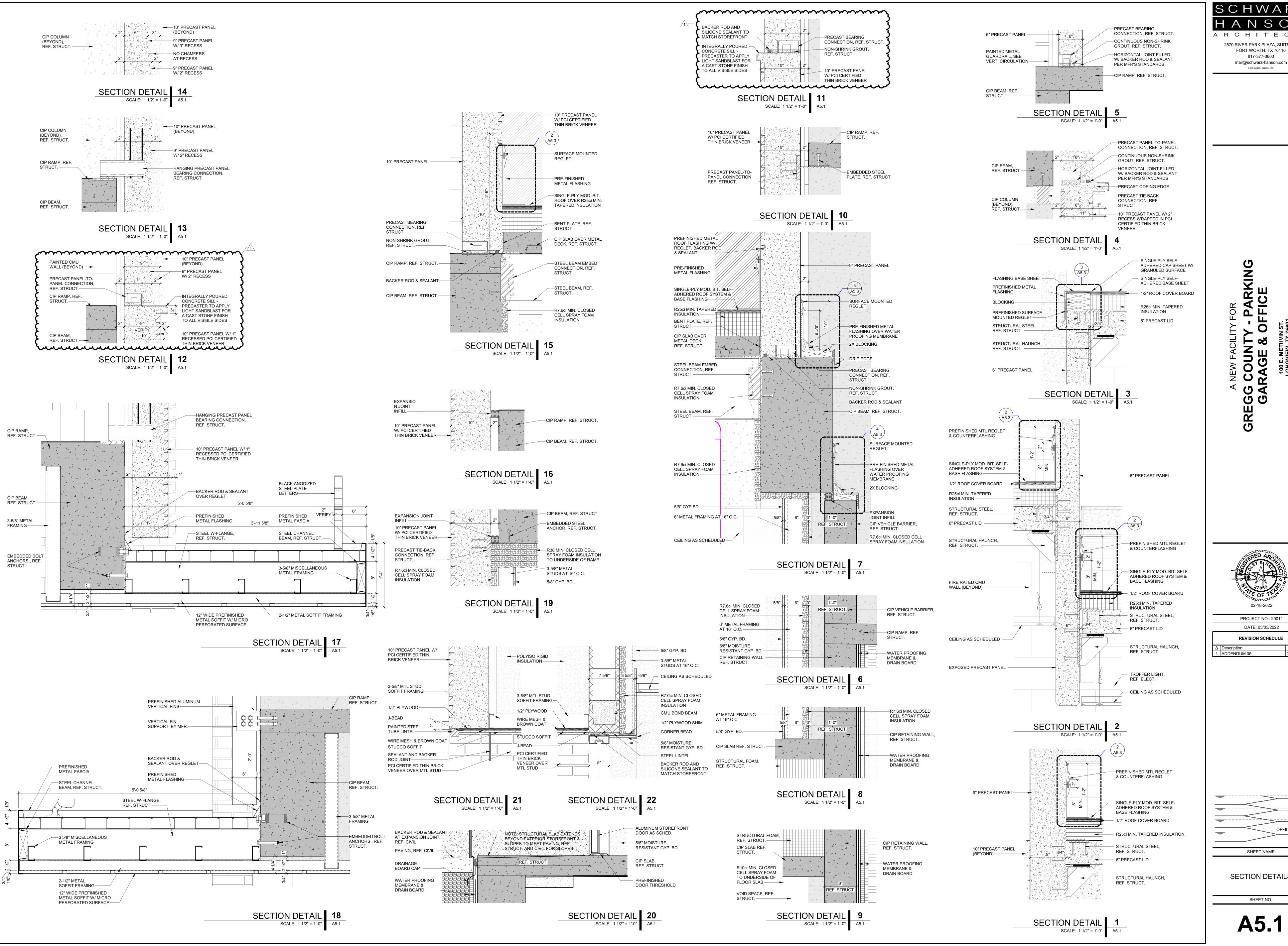
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PROJECT NO.: 20011 DATE: 03/03/2022 **REVISION SCHEDULE**

03-15-202 ADDENDUM 04 2 ADDENDUM 06

TIER 4 TIER 3 TIER 2 _____ OFFICE/TIER G SHEET NAME

SECTION DETAILS



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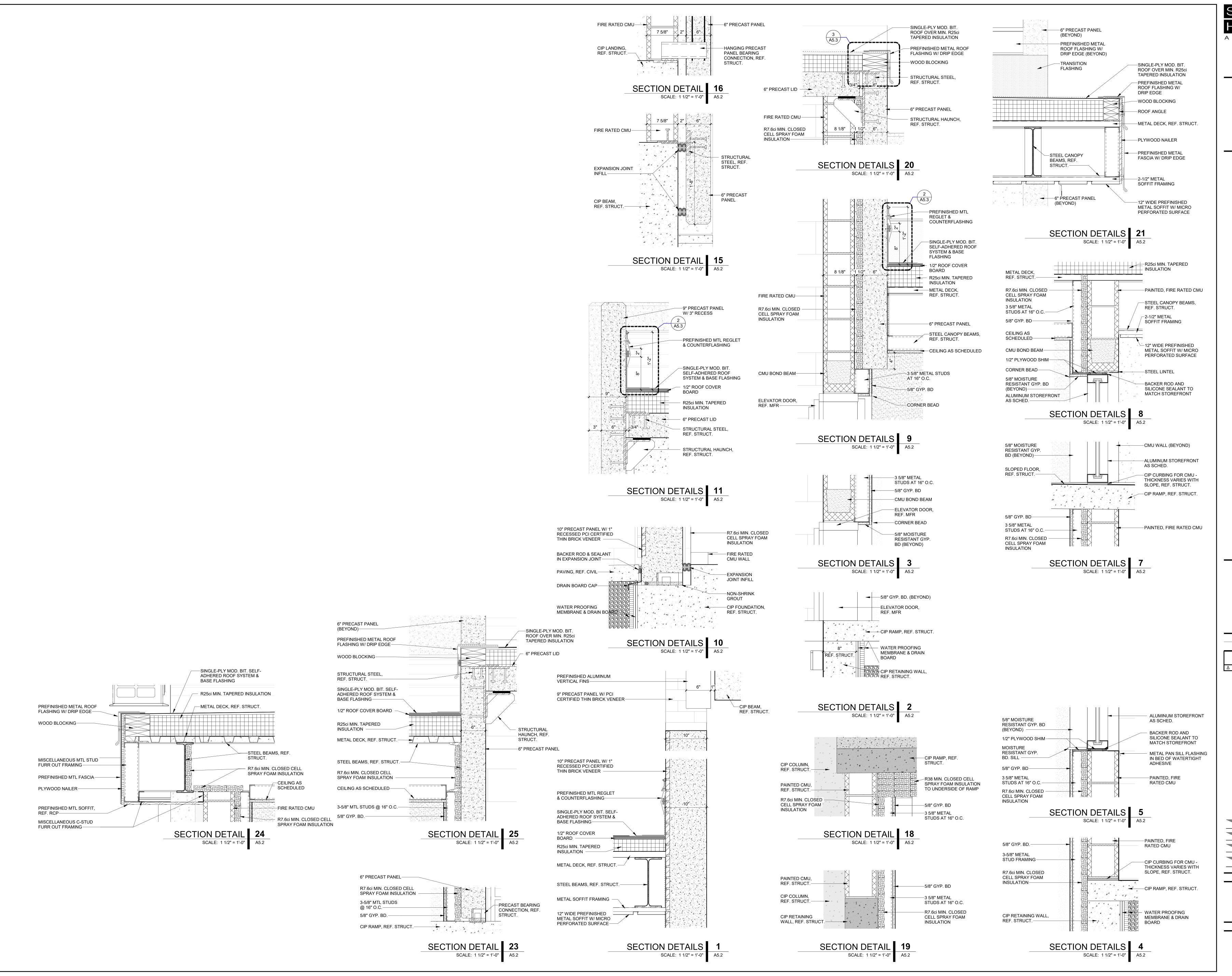
PROJECT NO.: 20011 DATE: 03/03/2022

REVISION SCHEDULE 1 ADDENDUM 06

> TIER 3 TIER 2 OFFICE/TIER G SHEET NAME

SECTION DETAILS

A5.1

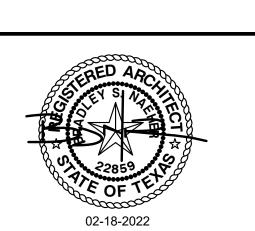


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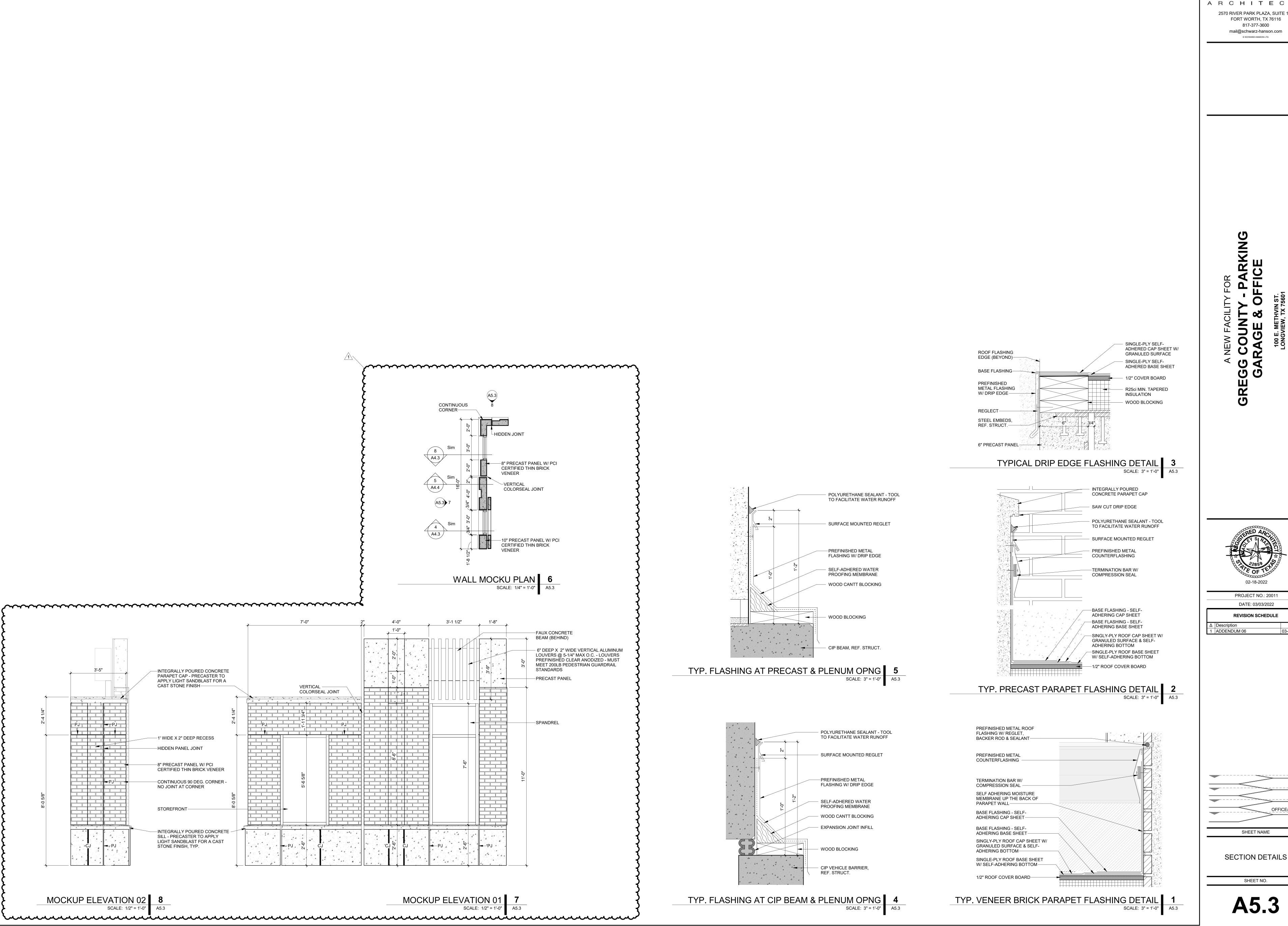
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TIER 3
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OFFICE/TIER G

SHEET NAME

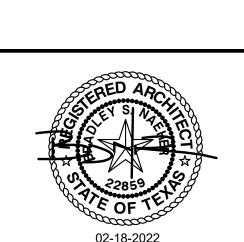
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A5.2



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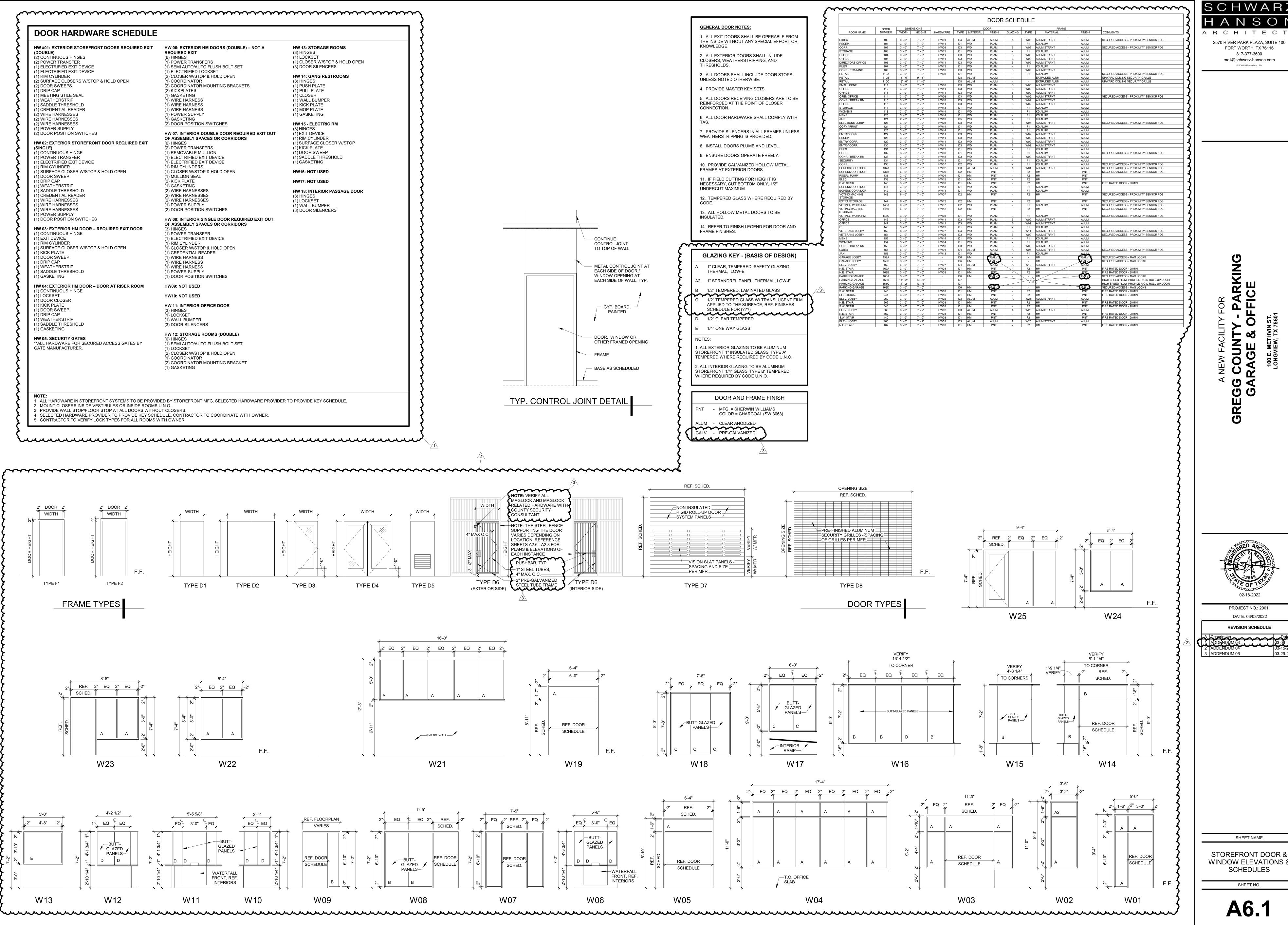
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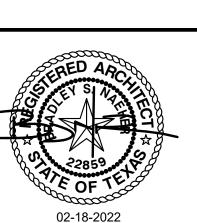
1 ADDENDUM 06

_TIER 3 TIER 2 OFFICE/TIER G SHEET NAME



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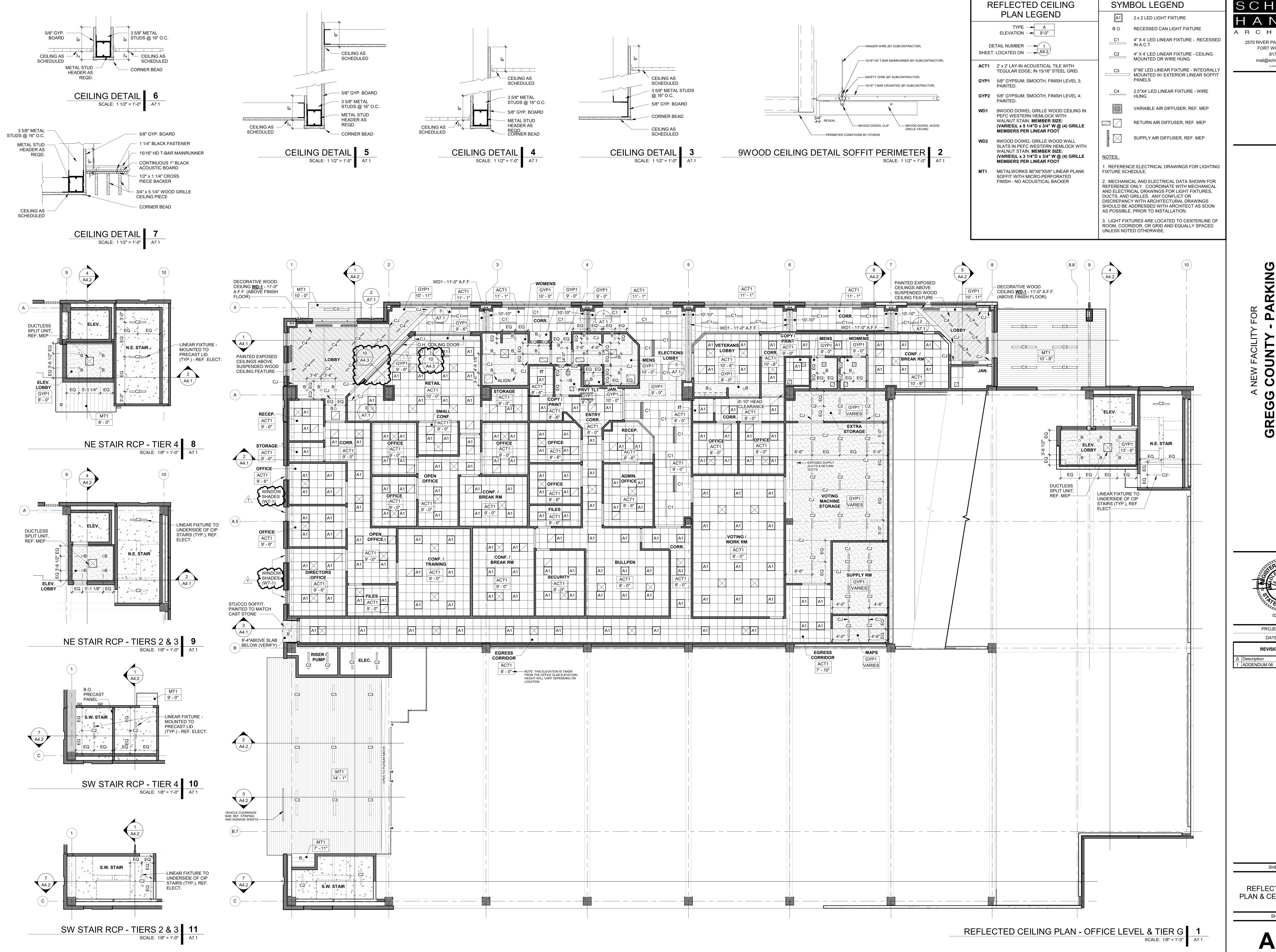
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1 ADDENDUM 03 03-09-2022
2 ADDENDUM 04 03-15-2022

SHEET NAME

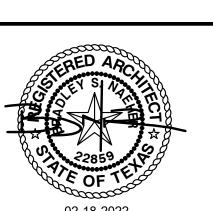
STOREFRONT DOOR & WINDOW ELEVATIONS & SCHEDULES

A6.1



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PROJECT NO.: 20011 DATE: 03/03/2022

REVISION SCHEDULE

SHEET NAME

REFLECTED CEILING PLAN & CEILING DETAILS

── DOOR FRAME

BEYOND

DOOR

SCALE: 3" = 1'-0"

(WHERE OCCURS)

CONCRETE SLAB

SCHEDULED

AND STOP

TRANSITION:

'RENO-RAMP'

SCHEDULED

SCHLUTER

- CONCRETE

FINISH AS

SHEET NAME NOTES SHEET NO.

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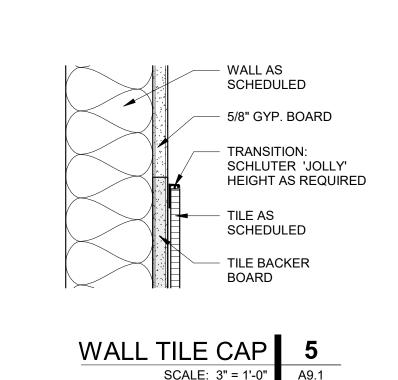
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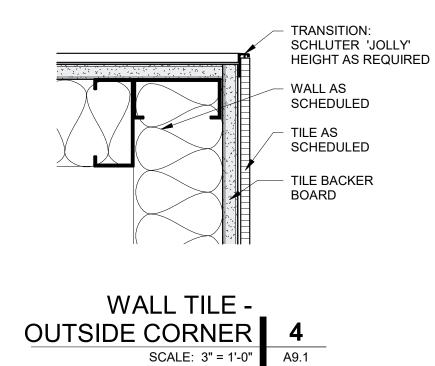
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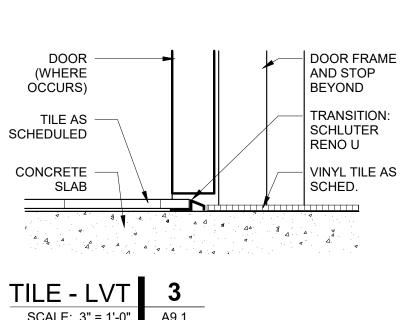
FINISH SCHEDULE AND

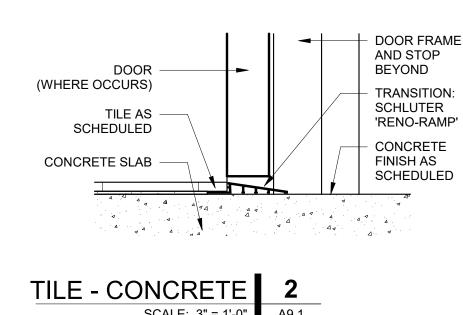


(WHERE OCCURS) DOOR FRAME AND STOP BEYOND CONCEALED REDUCER TRANSITION: FLUSH STRIP 1/8" HT OR AS REQ'D **BUTT-JOINT** VINYL TILE/ PLANK AS SCHED. CARPET AS SCHED. CONCRETE SLAB -









- TRANSITION: 'RENO-RAMP' SCHEDULED SCALE: 3" = 1'-0" A9.1

SCALE: 3" = 1'-0" A9.1

TAG	DESCRIPTION	MANUFACTURER	STYLE / FINISH	COLOR	SIZE	REMARKS	CONTACT
B-1	RUBBER BASE	JOHNSONITE	TRADITIONAL COVE	20 CHARCOAL WG	4" HT	USE WITH LVT, CARPET AND CONCRETE	-
B-2	PORCELAIN TILE COVE BASE	CROSSVILLE TILE	BULLNOSE COVE/ UPS	MOONSTRUCK KOSMOS	4" X 24"	USE WITH T1	
FRP	FIBER-REINFORCED PANEL	MARLITE	PEBBLED	P199 BRIGHT WHITE	4' X 9' X 3/32'	JANITOR CLOSETS	-
P-1	WALL PAINT	BENJAMIN MOORE	EGGSHELL	OC-20 PALE OAK	-	PAINT, TAPE, BED & LEVEL 4 SMOOTH FINISH	-
P-2	WALL PAINT	SHERWIN WILLIAMS	EGGSHELL	PEPPERCORN SW7674	-	PAINT, TAPE, BED & LEVEL 4 SMOOTH FINISH	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
P-3	WALL PAINT	SHERWIN WILLIAMS	EGGSHELL	REPOSE GRAY SW7015	-	PAINT, TAPE, BED & LEVEL 4 SMOOTH FINISH	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
P-4	WALL PAINT	SHERWIN WILLIAMS	FLAT	TRICORN BLACK SW6258	-	PAINT, TAPE, BED & LEVEL 4 SMOOTH FINISH	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
P-5	WALL PAINT	SHERWIN WILLIAMS	EGGSHELL	VINTAGE VESSEL SW9050	-	ACCENT PAINT IN PARKING GARAGE	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
P-6	WALL PAINT	SHERWIN WILLIAMS	EGGSHELL	GOLDENROD SW6677	-	ACCENT PAINT IN PARKING GARAGE	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
P-7	WALL PAINT	SHERWIN WILLIAMS	EGGSHELL	COPPER HARBOR SW6634	-	ACCENT PAINT IN PARKING GARAGE	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
P-8	WALL PAINT	SHERWIN WILLIAMS	EGGSHELL	INLAND SW6452	-	ACCENT PAINT IN PARKING GARAGE	BRETT C. HUCKELBURY 214-728-6696 BCHUCKELBURY@SHERWIN.COM
PL-1	PLASTIC LAMINATE	OCTOLAM	STANDARD FINISH	AMERICAN WALNUT 293	-	MILLWORK CABINETS AS SPECIFIED	CINDY ROSEWELL 214-608-9721 CROSEWELL@OCTOLAM.COM
PL-2	PLASTIC LAMINATE	WILSONART	FINE VELVET FINISH	GREY MESH 4877-38		COUNTERTOPS AS SPECIFIED	LISA PORTILLO 254-721-2374 PORTILL@WILSONART.COM
DR-1	PLASTIC LAMINATE	FORMICA	MATTE FINISH	STORM 912-58	-	DOORS	LAURIE HOLCOMB 972-795-3018 LHOLCOMB@WURTHLAC.COM
SC-1	SEALED CONCRETE	TO BID	SAND TO LIGHT GREY	CLEAR	-	-	-
SS-1	SOLID SURFACE	SILESTONE	POLISHED	CALACATTA GOLD	2 CM	COUNTERTOPS AS SPECIFIED	JENNY GOODSON PHONE JENNYG@COSENTINO
SS-2	SOLID SURFACE	DURASEIN	-	LUNA	1/2"	WINDOW SILLS	HEATHER WOLLITZ 817-789-1152 HWOLLITZ@BPITEAM.COM
T-1	PORCELAIN TILE	CROSSVILLE	UPS- UNPOLISHED W/ CROSS SHEEN	MOONSTRUCK KOSMOS	12" X 24"	PATTERN: DIAGONAL BRICK. REFER TO FINISH PLAN	KELLEY MAYES 214-213-8850 KMAYES@CROSSVILLESTUDIOS.COM
T-2	CERAMIC TILE	ANATOLIA CERAMIC TILE	MODULATION- GLOSSY	WHITE	12" X 24"	RR WALL TILE	HEATHER WOLLITZ 817-789-1152 HWOLLITZ@BPITEAM.COM
T-3	PORCELAIN TILE	CROSSVILLE	CRAYONS PICKET/ MATTE	WHITE	3"X12"	BACKSPLASH AS SPECIFIED	KELLEY MAYES 214-213-8850 KMAYES@CROSSVILLEINC.COM
T-4	PORCELAIN TILE	AMERICAN OLEAN	UNPOLISHED	NEOSPECK DARK GRAY NEOS	5 12"X24"	PATTERN: BRICK. REFER TO FINISH PLAN	HEATHER WOLLITZ 817-789-1152 HWOLLITZ@BPITEAM.COM
G-1	GROUT	MAPEI	EPOXY	39 IVORY	1/8"	TO BE USED WITH T1	
G-2	GROUT	MAPEI	EPOXY NON-SANDED	107 IRON	1/16"	TO BE USED WITH T4	
G-3	GROUT	MAPEI	EPOXY NON-SANDED	02 ALABASTER	1/16"	TO BE USED WITH T2, T3	
VT-1	LUXURY VINYL TILE	EF CONTRACT	WOODLANDS	EFCWL008 ACACIA	7" X 48"	INSTALL IN 1/3 OFFSET	MATTHEW SHUMWAY 469-450-8439 MATTHEW.SHUMWAY@EFCONTRACTFLOORING.
CP-1	CARPET TILE	EF CONTRACT	VEIL	VLT55 SHADE	12" X48"	INSTALLATION: ASHLAR	MATTHEW SHUMWAY 469-450-8439 MATTHEW.SHUMWAY@EFCONTRACTFLOORING.
WD-1	WOOD CEILING	9WOOD	WESTERN HEMLOCK DOWEL GRILLE 1216-4	WALNUT STAIN	3/4"W X 5 1/4"D	REFER RCP. SUBJECT TO LONG LEAD TIME.	JOHN MELIES 972-377-8777 JOHN@AMITEXAS.COM
WD-2	WOOD WALL GRILLE	9WOOD	WESTERN HEMLOCK DOWEL GRILLE 1214-4	WALNUT STAIN	3/4"W X 3 1/4"	CORR. 120 COLUMNS. SUBJECT TO LONG LEAD TIME.	JOHN MELIES 972-377-8777 JOHN@AMITEXAS.COM
WG-1	VINYL GRAPHIC	KOROSEAL DIGITAL TYPE II CLASS A WALL COVERING	CUSTOM GRAPHIC DIGITALLY	CORRIDOR 156 GRAPHIC. COORDINATE WITH OWNER FOR IMAGES.		BASIS OF DESIGN. USE SCHLUTER ALUM. VINPRO-S EDGE TRIM 1/8" AT EDGES	JAIMIE WESTEMEIER 214-244-4843 JWESTEMEIER@KOROSEAL.COM
NG-2	VINYL GRAPHIC	KOROSEAL DIGITAL TYPE II CLASS A WALL COVERING	CUSTOM GRAPHIC DIGITALLY PRINTED WITH UV INKS	GROUND FLOOR GARAGE	8' 9" X 13' 6" V.I.F.	BASIS OF DESIGN	JAIMIE WESTEMEIER 214-244-4843 JWESTEMEIER@KOROSEAL.COM
VG-3	VINYL GRAPHIC	KOROSEAL DIGITAL TYPE II CLASS A WALL COVERING		FIRST FLOOR GARAGE	8' 9" X 9' V.I.F.	BASIS OF DESIGN	JAIMIE WESTEMEIER 214-244-4843 JWESTEMEIER@KOROSEAL.COM
VG-4	VINYL GRAPHIC	KOROSEAL DIGITAL TYPE II CLASS A WALL COVERING		SECOND FLOOR GARAGE	8' 9" X 9' V.I.F.	BASIS OF DESIGN	JAIMIE WESTEMEIER 214-244-4843 JWESTEMEIER@KOROSEAL.COM
VG-5	VINYL GRAPHIC		CUSTOM GRAPHIC DIGITALLY PRINTED WITH UV INKS	THIRD FLOOR GARAGE	8' X 9' 11" V.IE	PASIS OF DESIGN	JAIMIE WESTEMEIER 214-244-4843 JWESTEMEIER@KOROSEAL.COM
VF-1	WINDOW FILM	3M	FASARA FROST/MATTE SH2FGLU 1270, LUCE	CLEAR	50" X 98.4 FT	REFER A6.1 FOR LOCATIONS.	
	WINDOW TREATMENT	SFW CONTRACT	MANUAL ROLLER SHADES	LINEN/FOG		FIELD MEASURE FOR ALL SHADES. REFER A7.1 FOR	

NOTES - INTERIOR FINISHES

FINISHES - GENERAL 1. THE ARCHITECTURAL DRAWINGS SHOULD BE USED WITH AND IN CONJUNCTION WITH THE CIVIL, STRUCTURAL, MEP, FIRE PROTECTION DRAWINGS AND SPECIFICATIONS. THE GENERAL CONTRACTOR

IS RESPONSIBLE FOR ALL COORDINATION BETWEEN THE DRAWINGS. DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. 2. ALL PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE FIRE BLOCKED AND SEALED PER UL APPROVED METHODS. 3. THE GENERAL CONTRACTOR IS TO ENSURE THE CONTINUITY OF NEW OR EXISTING FIRE-RATED

CONSTRUCTION. 4. ALL FINISH MATERIALS MUST COMPLY WITH THE BUILDING CODE REQUIREMENTS FOR FLAME SPREAD AND SMOKE DEVELOPED INDEXES.

5. ALL MANUFACTURER'S NAME, TRADEMARK, LOGOS, ETC. SHALL NOT BE VISIBLE TO THE PUBLIC, UNLESS REQUIRED BY THE BUILDING CODE. 6. DO NOT SCALE DRAWINGS; WRITTEN DIMENSIONS GOVERN. IN CASE OF CONFLICT, NOTIFY ARCHITECT OF ANY DISCREPANCIES IN FIELD PRIOR TO PROCEEDING.

7. IT IS THE INTENT OF THE DRAWINGS THAT ALL EXPOSED SURFACES RECEIVE FINISHES AS INDICATED ON THE DRAWINGS, UNO. 8. THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL FINISHES WITH ALL MILLWORK, FURNITURE, EQUIPMENT, MECHANICAL DEVICES, ELECTRICAL/DATA DEVICES, AND A/V TO ENSURE PROPER PLACEMENT. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING.

9. THE GENERAL CONTRACTOR SHALL COORDINATE AND CONFIRM COMPATIBILITY OF ALL FINISHES, MATERIALS, SEALANTS, SEALERS, PAINTS, ADHESIVES, ETC. WITH SUBSTRATES, ADJACENT MATERIALS, ETC. NOTIFY INTERIOR DESIGNER OF ANY DISCREPANCIES PRIOR TO PROCEEDING. 10. UPON COMPLETION OF ALL WORK, GENERAL CONTRACTOR SHALL TOUCH-UP ALL FINISHES PRIOR TO MOVE IN.

11. SUBSTITUTIONS MUST NOT BE MADE UNLESS APPROVED BY THE INTERIOR DESIGNER. 12. ALL FINISHES SHALL BE INSPECTED ON SITE FOR ANY DEFECTS OR DYE LOT INCONSISTENCIES. NOTIFY ARCHITECT/INTERIOR DESIGNER OF ANY DEFECTS OR INSTALLATION PROBLEMS. 13. CONTRACTOR IS RESPONSIBLE FOR DELIVERY AND LEAD TIMES. IT IS THE CONTRACTOR'S RESPONSIBLE TO ORDER LONGER LEAD TIME MATERIALS IN ADVANCE SO AS NOT TO DISRUPT THE

INSTALLATION SCHEDULE. 14. FINISHES MUST BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. ANY FINISH THAT HAS PATTERN, REPEAT, OR NAP SHALL ALIGN AND RUN IN THE SAME DIRECTION. 15. ANY WORKMANSHIP NOT IN COMPLIANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS WILL NOT BE ACCEPTED.

19. SCHLUTER (OR EQ.) TILE EDGE TRIM TO BE INSTALLED AT ALL EXPOSED TILE EDGES AND CORNERS

16. PROTECT ALL FINISHES, BOXED OR INSTALLED. EACH TRADE IS RESPONSIBLE FOR PROTECTING THEIR WORK FROM OTHER TRADES. 17. AT COMPLETION, ALL FINISHES SHALL BE IN "LIKE NEW" CONDITION.

18. GROUT LINES AT WALL AND FLOOR TILE SHALL BE 1/16" THICK, U.N.O.

(AT WALL, BASE, OR FLOOR)

FINISHES - SLAB, FLOORING AND BASE 1. FLOOR SURFACE MUST BE LEVELED AND INSPECTED BY CONTRACTOR PRIOR TO INSTALLATION OF MATERIALS.

2. IF THE SLAB FAILS TO MEET THE REQUIREMENTS OF THE MANUFACTURER, THE ARCHITECT MUST BE NOTIFIED IN WRITING. 3. ALL SLIGHT DEPRESSIONS AND IMPERFECTIONS MUST BE SKIM COATED. 4. ALL TRANSITIONS MUST MEET ADA STANDARDS. WHERE A TRANSITION MEETS AT A DOORWAY

THE FINISHES SHALL MEET IN THE CENTER OF THAT DOORWAY. 5. BASE SHALL BE INSTALLAED IN WHOLE UNITS AND SHALL NOT BE SMALLER THAN 1'-0" AT A

6. BASE SHALL BE MITRE CUT AT OUTSIDE CORNERS. 7. ALL FLOORING SHOULD EXTEND UNDER FREESTANDING FURNITURE AND NEW CASEWORK/MILLWORK. FINISHES - WALLS

1. CONTRACTOR TO PROVIDE PAINT DRAW DOWN SUBMITTALS FOR APPROVAL PRIOR TO FIELD WORK. 2. ALIGN ALL GROUT LINES OF WALL TILE WITH FLOOR TILE, UNO. 3. ALL VERTICAL AND EXTERNAL CORNERS AND EDGES OF WALL TILE TO RECEIVE TILE TRIM AS

SPECIFIED. TILE EDGE SHALL NOT BE EXPOSED, U.N.O. 4. ALL JOINTS, SCREWS, OR OTHER DEPRESSIONS IN SURFACE OF GYPSUM BOARD SHALL BE TREATED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JOINTS, UNO, SHALL BE TAPED, BEDDED, AND SANDED. PARTITIONS SHALL HAVE A SMOOTH SURFACE TO RECEIVE FINISH WALL TREATMENT AS SPEC. FINISHED JOINTS SHALL BE NOT LESS THAN 14" IN

5. ALL VERTICAL AND HORIZONTAL EXTERNAL CORNERS OF GYPSUM BOARD SHALL HAVE CORNER REINFORCEMENTS PROVIDED. INSTALL CORNER BEADS WITH SUITABLE FASTENERS. INSTALL CASING BEADS WHERE GYPSUM SURFACES TERMINATE OR MEET DISSIMILAR MATERIALS. 6. FINISHED DRYWALL CONSTRUCTION SHALL BE FREE OF NOTICEABLE DEFECTS WHICH INCLUDE JOINT RIDGING, STAVED JOINTS, BOARD EDGES DAMAGED OR OUT OF PLACE, JOIN BLISTERS, SCREW POPS, PIN HOLES IN JOINT TREATMENT OR ANY OTHER NOTICEABLE DEFECTS. FINISH WALLS SHALL BE TRUE TO LINE, PERFECTLY SMOOTH, AND READY TO RECEIVE FINISH MATERIAL AS SPEC.

FINISHES - CASEWORK 1. HINGES - CONCEALED; NORTON OR APPROVED EQUAL; FULL EXTENSION DRAWER GLIDES. 2. CABINETS TO BE MADE OUT OF 3/4" THICK PLAM AS SPEC. INTERIORS TO BE WHITE MELAMINE. 3. ALL OUTSIDE EDGES OF PLASTIC LAMINATE CONSTRUCTION TO BE SEALED WITH 1MM PVC BEAD SO AS TO CONCEAL LAMINATE BODY. 4. PULLS - 6" BAR PULLS TO BE PROVIDED AT ALL CABINETS AND DRAWERS. CHAMPAGNE BRONZE

5. BASE CABINETS TO BE 23" DEEP, U.N.O. ON MILLWORK SECTIONS. 6. REFER TO INTERIOR ELEVATIONS FOR COUNTERTOP FINISH DESIGNATIONS. REFER TO MILLWORK SECTIONS FOR COUNTER EDGE TREATMENTS. 7. INSTALL MATCHING, FINISHED, STRAIGHT END PANELS ON ALL EXPOSED ENDS AND SIDES OF

MILLWORK, U.N.O. 8. CABINET PULLS SHALL BE LOCATED PER AWI STANDARD LOCATIONS, U.N.O. FINISHES - INTERIOR DOORS 1. REFERENCE DOOR SCHEDULED AND LEGENDS FOR DOOR AND FRAME FINISHES.

2. DOORS AT DEMOUNTABLE PARTITIONS TO BE PROVIDED BY DEMOUNTABLE PARTITION

FINISHES - WINDOW TREATMENTS . WINDOW FILM TO BE INSTALLED AT INSIDE FACES OF GLASS WALLS, WHERE INDICATED IN THE

INTERIOR FINISH SCHEDULE

FOR SOURCING FINISHES AS SPECIFIED OR APPROVED EQUAL FROM RELEVANT DISTRIBUTORS AS NEEDED.