ADDENDUM NO. 01

November 7, 2025

To Drawings and Specifications dated October 24, 2025

Reynolds Elementary School Maintenance Improvements
Spring Independent School District

11/07/25

Prepared & Issued by: IN2 Architecture/Coleman Partners
12222 Merit Drive, Suite 1140
Dallas, Texas 75251

Notice to Proposers:

A. This Addendum forms part of the Contract documents for the above-mentioned project and shall be incorporated integrally therewith.

C. Each proposer shall make necessary adjustments and submit his proposal with full knowledge of all modifications, clarifications, and supplemental data included therein. Where provisions of the following supplemental data differ from those of the original Contract Documents, this Addendum shall govern.

GENERAL

Item No. 1 Refer to attached Sign in Sheet from the Pre-Proposal Conference held on November 4, 2025.

QUESTIONS

Item No. 2 *Question:* According to the specifications, there are no extensions of time due to weather; however, another source states that there are. Is there or not?
Answer: Yes, extensions are allowed beyond the weather day allowance. Refer to AIA A201 for weather day allowance.

Item No. 3 *Question:* During the contract review process, after vendor selection, are changes allowed to the contract for mutually agreeable contract terms?
Answer: This is a District standard contract; there are small allowable movements within the contract, but please note any changes you would like to make to the deviations

Item No. 4 *Question:* Deadline is 11/19 on Ionwave for qualifications, will there be a new project for the pricing phase?
Answer: Yes, a second project will go live.

Item No. 5 *Question:* When and where can we start work prior to summer?
Answer: You can start on notice to proceed and when permit is available on-site work away from existing parking lots, and roofing as long as it does not interfere with ongoing campus operations.

Item No. 6 *Question:* Are there controlled working hours?
Answer: No, but work should not interfere with ongoing campus operations.

Item No. 7 *Question*: Is badging required?
Answer: Yes.

Item No. 8 *Question:* Is asbestos abatement required?
Answer: Yes, per asbestos report.

Item No. 9 *Question:* What jurisdiction is permitting?
Answer: Harris County

Item No. 10 *Question:* What is the status of the permit?
Answer: In review.

Item No. 11 *Question:* Who is responsible for the cost of the permit?
Answer: Contractor

Item No. 12 *Question:* How many permits are there?
Answer: 1 for building and 1 for civil

Item No. 13 *Question:* Who is responsible for furniture moving?
Answer: The only area affected that would require any moving is the kitchen, so the contractor should include.

Item No. 14 *Question:* Who is responsible for utility tap fees?
Answer: Owner

Item No. 15 *Question:* Is everything to be submitted in Ionwave? Pre-bid agenda states proposal is to be submitted in person.
Answer: It states Ionwave only

Item No. 16 *Question:* Are bids due at 1:30pm or 2:00pm on December 4th? Ionwave states 1:30pm, and pre-bid agenda states 2pm.
Answer: 2:00pm

Item No. 17 *Question:* Will there be any landscaping on this project? There is a note to demolish all the landscape and regrade and hydroseed areas affected by demolition. I do see in the specs it mentions topsoil, hydromulch, and sod. Is there a drawing we can measure to provide these items?
Answer: No

Item No. 18 *Question:* Bid documents asked for removal of aggregate panels. Is that just the tan color aggregate portion and not the white part?
Answer: No, it's the entire panel as described in bid documents.

Item No. 19 *Question*: Site drawing calls for removal of storage sheds and relocation per Owner's instruction. However, no new location is shown.
Answer: Sheds can be demolished and removed.

SPECIFICATIONS

Item No. 20 Table of Contents
A. Add enclosed sections:

02 82 00	ASBESTOS REMEDIATION
07 56 02	ACRYLIC COATING ON NUILT UP ROOFING
08 00 00	GLAZING

Item No. 21 Section 02 41 19, Selective Demolition
A. Discard and replace with enclosed.

Item No. 22 Section 07 56 01, Acrylic Coating on Metal
A. Discard and replace with enclosed.

Item No. 23 Section 08 41 13, Aluminum Framed Storefronts
A. Discard and replace with enclosed.

DRAWINGS

Item No. 24 Sheet AS-200, Site Plan
A. Discard and replace with enclosed adding chain-link pedestrian gate in front of existing gate.

Item No. 25 Sheet AS-201, Site Details
A. Discard and replace with enclosed adding chain ling gate details.

Item No. 26 Sheet AS-202, Site Details
A. Detail 6, revised gate post to be 6”x6”.

Item No. 27 Sheet AD-201, Composite Floor Plan- Demo
A. Revise demo tags for exterior doors shown on plan north side to be removed to be note DW-11- Carefully remove aluminum storefront frame and door as part of brick veneer removal. Salvage and store door and hardware for reinstallation in new frame.

Item No. 28 Sheet A-401, Enlarged Restroom Plans
A. Add attached partition type S-1, typical partition for all restroom chase walls.
B. Detail 24, Kitchen RR K107
    a. Existing door and frame to be reused.
C. Delete TA-6 from rooms 306, 407, 434, 210, and 333.

Item No. 29 Sheet A-900, Finish and Door Schedules
A. Basis of Design Product Finish Schedule
    a. Revise TA-7 to read TA-6.

CIVIL

Item No. 30 Sheet C3.01 Utility Plan (Sheet 1 of 2)
A. Discard and replace with enclosed.
    a. Added Profile sketch of proposed storm sewer outfall to Gladeridge Road and added 48-hour notice note per the direction of Harris County.
    b. Removed “OR APPROVED EQUAL” to Storm Water Quality Feature call out per the direction of Harris County.
    c. Contractor to install RCP storm sewer instead of HDPE storm sewer on last run exiting school site to existing storm sewer manhole in Gladeridge Road right of way per direction of Harris County
    d. Relocated location of restrictor to downstream of proposed SWQ unit per direction from Harris County.

ELECTRICAL

Item No. 31 Sheet E1.01, Electrical Composite Plan
A. Discard and replace with enclosed.
    a. Revise keyed note #2, note shall read:
    “PROVIDE NEW LIGHTING CONTACTORS 'C1' AND 'C2':
    • C1 - CANOPY LIGHTS, RE-USE EXISTING BMCS CONTROL POINT.
    • C2 - PARKING LOT LIGHTS, RE-USE EXISTING BMCS CONTROL POINT.”

Item No. 32 Sheet E2.01, Electrical Plans - Demolition
A. Discard and replace with enclosed.
    a. Revise keyed note #2, note shall read: “DISCONNECT AND REMOVE ALL ELECTRICAL TO EXISTING HAND DRYER, AND ASSOCIATED CONDUIT/WIRE BACK TO SOURCE. RE-LABEL EXISTING CIRCUIT BREAKER AS ‘SPARE’.”

Item No. 33 Sheet E3.01, Electrical Plans – New Work
A. Discard and replace with enclosed.
    a. Revise keyed note #2 and #3, note shall read: “NOT USED.”
    b. Delete electrical work for electric hand dryers.

PLUMBING

Item No. 34 Sheet P-4.01, Plumbing Plans – Enlarged

B. Discard and replace with enclosed.
   a. Revise Keynote #1 to state, “EXISTING LAVATORY FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, HW, SANITARY AND VENT BACK TO POINT INDICATED.”
   b. Revise Keynote #2 to state, “EXISTING WATER CLOSET FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, SANITARY AND VENT BACK TO POINT INDICATED.”
   c. Revise Keynote #3 to state, “EXISTING URINAL FIXTURE AND CARRIER TO BE REMOVED. REMOVE SANITARY, CW AND VENT BACK TO POINT INDICATED.”

Item No. 35 Sheet P-4.01, Plumbing Plans – Enlarged

B. Discard and replace with enclosed.
   a. Revise Keynote #1 to state, “EXISTING LAVATORY FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, HW, SANITARY AND VENT BACK TO POINT INDICATED.”
   b. Revise Keynote #2 to state, “EXISTING WATER CLOSET FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, SANITARY AND VENT BACK TO POINT INDICATED.”
   c. Revise Keynote #3 to state, “EXISTING URINAL FIXTURE AND CARRIER TO BE REMOVED. REMOVE SANITARY, CW AND VENT BACK TO POINT INDICATED.”

Item No. 36 Sheet P-4.01, Plumbing Plans – Enlarged

A. Discard and replace with enclosed.
   a. Revise Keynote #4 to state, “EXISTING LAVATORY FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, HW, SANITARY AND VENT BACK TO POINT INDICATED.”
   b. Revise Keynote #5 to state, “EXISTING WATER CLOSET FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, SANITARY AND VENT BACK TO POINT INDICATED.”

Item No. 37 Sheet P-6.01, Plumbing Schedules

A. Discard and replace with enclosed.
   a. Add Plumbing General Note #16, “CONTRACTOR SHALL SCOPE AND CAMERA THE EXISTING SANITARY LIES FOR THE ENTIRE BUILDING AND PROVIDE A SCALED DRAWING SHOWING THE EXACT SANITARY PIPE ROUTING INCLUDING PIPE SIZE, DEPTH, DIRECTION OF FLOW AND TTIE IN LOCATIONS. IDENTIFY AND LOCATE ANY BELLIES, CRACKS, OR SEPERATED FITTINGS AND OFFER REPAIR RECOMMENDATIONS TO THE OWNER AND DESIGN TEAM. PROVIDE COPIES OF THE VIDEOS TO OWNER, WALL CLEANOUTS ARE PRESENT IN THE HANDICAPPED STALS IN EACH STUDENT RESTROOM FOR PIPE ACCESS. A WATER CLOSET WILL BEED TO BE REMOVED IN THE FACULTY RESTROOMS TO GAIN ACCESS TO THE DANITARY PIPING. REINSTALL THE FIXTURE AFTER COPPLETION. A PDF, CAD OR REVIT COMPOSITE FLOOR PLAN WILL BE PROVIDED TO THE CONTRACTOR IN THE FORMAT OF THEIR CHOICE. THE KITCHEN SANITARY GREASE WASTE SYSTEM IS EXEMPT FROM THIS EXERCISE.”

TECHNOLOGY

Item No. 38 Sheet T2.01, Technology Plans

A. Remove Technology Plan Key Note #4.
B. Update Fire Alarm Legend

END OF ADDENDUM 01

ARCHITECTURE

Coleman Partners ARCHITECTS LLC

CSP NO. 26-03
REYNOLDS ELEMENTARY SCHOOL MAINTENANCE IMPROVEMENTS
SPRING INDEPENDENT SCHOOL DISTRICT

PRE-PROPOSAL CONFERENCE AGENDA

Tuesday, November 4, 2025 – 3:00PM

NAME	COMPANY	EMAIL
JEFF DELISLE	IN2	jdelisle@IN2.com
WENDY LEE	COLEMAN	WLEE@CPARCH.COM
Jerrold McMellon	Ally Roofing Services	JMcMellon@Ally Roofing Services, com
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Bruce NOWAK	Elevate - Bruce@LSreps.com	JASON @LSREPS.com
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Brandon Watson	DivisionOne Construction	bid@d1construction.com
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IN2 ARCHITECTURE

Coleman Partners ARCHITECTS LLC

CSP NO. 26-03
REYNOLDS ELEMENTARY SCHOOL MAINTENANCE IMPROVEMENTS
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PRE-PROPOSAL CONFERENCE AGENDA

Tuesday, November 4, 2025 – 3:00PM

NAME	COMPANY	EMAIL
FRONTES McGUEL	ALPHA REMEDIATION, INC	ALPHAREMEDIATION@GMAIL.COM
Jason Garcia	BASS Construction	Bids@BASSconstruction.com
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Charlotte Brad Domain	Domain Construction	domaindesigntx@gmail.com
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SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle or Carefully remove: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

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

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at **Project site**.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.

3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review areas where existing construction is to remain and requires protection.
5. Review procedure for noise and dust control.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Engineering Survey: Submit engineering survey of condition of building.

C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property**, for environmental protection, for dust control and, for noise control**. Indicate proposed locations and construction of barriers.

D. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's **building manager's** on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of elevator and stairs.
5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

E. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by salvage and demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before Work begins.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

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

1.7 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.8 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide minimum of 72 hours' notice to Owner of activities that will affect Owner's operations including but not limited to:
   1. Interruption of power
   2. Interruption of utility services.
   3. Excessive noise.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

   1. Coordinate removal of items by owner prior to selective demolition.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

   1. Hazardous materials will be removed by Owner before start of the Work.
   2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

   1. Hazardous material remediation is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
   3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.

F. Storage or sale of removed items or materials on-site is not permitted.

G. Traffic: Conduct operations and debris removal to ensure minimum interference with roads, streets, drives, fire lanes, walks, accessible paths, and adjacent occupied or used facilities.
   1. Do not close, block, or obstruct streets, drives, walks, or occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around obstructed traffic ways.

H. Explosives: Explosives are not permitted at the site.

I. Environmental Controls: Use water sprinkling, temporary enclosures, or other acceptable methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection. Do not use water when it may create hazardous or objectionable conditions.

J. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.9 COORDINATION

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

2.2 MATERIALS

A. Repair Materials: Use repair materials identical to existing materials.
1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
2. Use materials whose installed performance equals or surpasses that of existing materials.

B. Comply with material and installation requirements specified in individual Specification Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.

D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

E. Survey of Existing Conditions: Record existing conditions by use of **measured drawings or preconstruction photographs or video**.

1. Inventory and record the condition of items to be removed and salvaged.
2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

B. Pest Control: Employ certified, licensed exterminator to treat building and to control rodents and vermin before and during selective demolition operations.

C. Site Access and Temporary Controls: Conduct selective demolition and debris removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities. Comply with requirements for access and protection.

D. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
   2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
   3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
   4. Cover and protect furniture, furnishings, and equipment that have not been removed.
   5. Comply with requirements for temporary enclosures, dust control, heating, and cooling.

E. Furnishings and Equipment: Cover and protect furniture, equipment, and fixtures from spoilage or damage as necessary.

F. Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
   1. Construct dustproof partitions of not less than nominal 4 inch (100mm) studs, 5/8 inch (16mm) gypsum wallboard with joints taped on occupied side, and 1/2 inch (13mm) fire retardant plywood on the demolition side.
   2. Insulate partition to provide noise protection to occupied areas.
   3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
   4. Protect air handling equipment.
   5. Weatherstrip openings to prevent the spread of dust.

G. The contractor shall segregate the non-friable asbestos containing black moisture barrier mastic material and dispose of accordingly. Contractor shall provide NESHAP-trained individuals on site during this process. The Contractor's NESHAP-trained individuals will keep the asbestos containing materials wet, demarcate the area, and line the dumpsters with true 6-mil poly. Contractor will be responsible for transporting the asbestos material to an acceptable landfill. The Contractor will supply all barricade material, water, hoses, poly, dumpsters, PPE, transporting trucks and other **asbestos** related incidentals to complete the work. Material shall be kept wet at all times and no visible emissions will be allowed. All DSHS, TCEQ, EPA, DOT, OSHA and other applicable regulations shall be followed.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
    e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
    f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 POLLUTION CONTROL

A. Dust Control: Use water mist, temporary enclosures, and suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations including, but not limited to SCAQMD Rule 403 (Fugitive Test).

1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.

3.5 PROTECTION

A. Existing Facilities: Protect adjacent walkways, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

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

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
    a. Erect temporary pathways and means of egress necessary for ongoing operations compliant with Code and accessibility regulations.
    b. Provide temporary barricades and protection required to prevent injury and damage to adjacent buildings and facilities to remain.

2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

    a. Construct temporary insulated dustproof partitions to separate areas from noisy or extensive dirt or dust operations are performed. Equip partitions with dust-proof doors and security locks.
    b. Construct dustproof partitions of not less than nominal 4 inch (100mm) studs, 5/8 inch (16mm) gypsum wallboard with joints taped on occupied side, and 1/2 inch (13mm) fire retardant plywood on the demolition side.
    c. Insulate partition to provide noise protection to occupied areas.
    d. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
    e. Protect air handling equipment.
    f. Weatherstrip openings.

C. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

    1. Strengthen or add new supports when required during progress of selective demolition.

D. Damage: Promptly repair damages to adjacent components cause by demolition activities.

E. Remove temporary barricades and protections where hazards no longer exist.

3.6 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

    1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
    2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain fire watch during and for at least <**Insert number**> hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
10. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site and designated by Owner
5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition **and cleaned** and reinstalled in their original locations after selective demolition operations are complete.

F. Patching and Repair: Repair damage to adjacent construction caused by selective demolition operations promptly.

3.7 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

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

C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished and then break up and remove.

E. Interior Slab on Grade: Use best practice removal methods to prevent cracking or structurally disturbing adjacent slabs or partitions. Use power saw where possible.

F. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI Recommended Work Practices for the Removal of Resilient Floor Coverings. Do not use methods requiring solvent-based adhesive strippers.

G. Below Grade Voids: Completely fill below grade areas and voids resulting from demolition work. Provide fill consisting of approved earth, gravel, or sand, free of trash and debris, stones over 6 (150mm) inches in diameter, roots, or other organic matter.

H. Partitions: Completely remove indicated interior partitions and interior finishes indicated. Leave adjacent work scheduled to remain sound and ready for patching or for new finishes.

I. Doors and Frames: Remove doors, frames, and hardware where indicated. Clean, store, and protect for reinstallation or return hardware to Owner as directed.

J. Cut existing masonry walls for new doors, windows, or openings indicated. Leave openings ready to receive new work or patching.

K. Windows: Remove existing windows where indicated. Remove associated anchors, shims, blocking, operating devices, sealant, and trim. Cut back interior finishes required for plumb surface for patching. Leave openings ready for installation of new materials and finishes.

L. Mechanical, Electrical, and Structural Elements: If unanticipated mechanical, electrical, or structural elements conflicting with intended function or design are encountered, investigate and measure both nature and extent of the conflict.
   1. Submit written report to Architect in accurate detail. Pending receipt of directive, rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.
   2. HVAC Equipment: Remove air conditioning equipment without releasing refrigerants.

3.8 PATCHING AND REPAIRS

A. Promptly repair damage to adjacent construction caused by selective demolition operations.

B. Repairs: When necessary to repair existing surfaces, patch to produce surfaces suitable for new materials.
   1. Fill holes and depressions in existing masonry walls to remain with masonry patching material applied according to manufacturer's written recommendations.

C. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

D. Exterior soffit / Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

E. Floors and Walls: Where walls or partitions are demolished, extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

F. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

G. Where patching occurs in a painted surface, apply primer and intermediate paint coats over patch and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.

H. Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

I. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.9 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

3.10 CLEANING

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

END OF SECTION 024119

SECTION 02 82 00 - ASBESTOS REMEDIATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes: Requirements including but not limited to:
   1. Asbestos material abatement and disposal.
   2. Accessories necessary for complete removal.

1.3 SUBMITTAL

A. Submit copy of the signed waste manifests indicating the place, time and exact quantity of asbestos, received by an approved landfill.

1.4 QUALITY ASSURANCE

A. Qualifications: Entity having minimum 5 years documented experience, holding required current licenses for the removal, transport, and disposal and related activities relative to the work, having the required personal protective equipment and respirators for abatement operations, with current liability insurance, and who employs workers fully trained and knowledgeable in the removal of hazardous materials.

1.5 STOP ASBESTOS REMOVAL

A. If a verbal or written Stop Asbestos Removal Order is given**,** immediately stop asbestos removal and maintain HEPA filtered negative pressure air flow in the containment and adequately wet any exposed ACM.
   1. Do not resume asbestos removal activity until authorized to do so in writing.
   2. A stop asbestos removal order may be issued at any time it is determined that abatement conditions/activities are not within regulatory requirements or that an imminent hazard exists to human health or the environment.
   3. Work stoppage will continue until conditions have been corrected.

PART 2 - MATERIALS

Not used.

PART 3 - EXECUTION

3.1 REMEDIATION

A. The Owner has conducted an asbestos survey and has determined that asbestos may be present in areas where work will be performed. The survey is made available for review.
   1. As part of the work, the Owner requires asbestos removal to be performed under the construction contract.
   2. Asbestos may be present behind the aggregate panels scheduled to be removed.
   3. Refer to Asbestos report prepared by Terracon for other potential asbestos materials.
   4. If asbestos is found, stop work in the area and engage an asbestos removal firm to remediate the asbestos from the area. Do not resume work in the affected areas until the

abatement is complete and authorization to proceed with work in the affected areas is given. Work in areas not affected by asbestos may continue.

B. Assume responsibility and liability for compliance with applicable Federal, State, and Local regulations related to the asbestos abatement work.
   1. Provide and maintain training, accreditations, medical exams, medical records, personal protective equipment (PPE) including respiratory protection including respirator fit testing, as required by applicable Federal, State and Local regulations.
   2. Post required notices prior to the commencement of the work.
   3. Restrict access to containment areas to authorized, trained, and protected personnel.
   4. Prepare and post an emergency plan in clean room and equipment room of the decontamination unit.
   5. Do not permit workers to eat, drink, smoke, chew gum or tobacco, or break the protection of the respiratory protection system in the work area.

C. Entering and Existing Procedures: Establish procedures for entering and existing containment area. Provide personnel decontainment unknit with disposable coveralls, head covers, and clean respirators. Provide shower room between personnel decontainment area and equipment room.

D. Decontamination Procedures: Establish procedures for decontamination upon leaving containment are in accordance with federal and state regulations.

E. Provide negative pressure filtration systems to complete exchange air 4 time per hour. Provide standby system in the event of a machine failure or emergency.
   1. Continuously monitor and record the pressure differential between the work area and the building outside of the work area.

F. Prepare the Affected Area: Remove furnishings and materials to the extent necessary to remediate the asbestos.

G. Containment of Areas: Provide a secure containment work area in accordance with federal and state regulations. Avoid damage to existing partitions and ceilings scheduled to remain to the extent possible.
   1. Establish critical barriers over each opening into the work area.
   2. Close out vents and air ducts to prevent particulates from entering the HVAC system.

H. Debris: Place contaminated debris in a designated location within the containment area.
   1. Place debris in minimum 6 mil poly bags before removing from contaminated areas. Pass Clean or decontaminate bags and pass and pass through a double 6 mil flap doorway into another bag or fiber drum. Remove to disposal dumpster/gondola/vehicle. Do not permit unprotected personnel to come in contact with contaminated bags.
   2. Remove and dispose of contaminated debris legally.

I. Testing: Perform required tests and inspections upon completion of the work. Collect air samples and analyze in accordance with regulations. Upon satisfactory conclusion of testing, remove critical barriers.

J. After thorough decontamination, complete asbestos abatement work upon meeting the regulated area clearance criteria and fulfilling the following:
   1. Remove equipment, materials, and debris from the project area.
   2. Package and dispose asbestos waste as required.
   3. Repair or replace all interior finishes damaged during the abatement work.
   4. Fulfill other project closeout requirements as specified elsewhere in this specification.

3.2 CERTIFICATE OF COMPLETION BY CONTRACTOR

A. Submit a signed *Certificate of Completion* at the completion of the abatement and decontamination of the regulated area.

END OF SECTION 02 82 00

Asbestos Survey Report

Reynolds Elementary School Improvements
3975 Gladridge Drive
Houston, Texas

October 28, 2025 | Project Number: 92257C32

Prepared for:

Spring Independent School District
15300 Kuykendahl Road
Houston, Texas 77090

Asbestos Inspector
Jonathan Hernandez
TDSHS Licensed Asbestos Inspector
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October 28, 2025

Spring Independent School District
15300 Kuykendahl Road
Houston, Texas 77090

Attn: Ms. Joanis Riebl
P: 281-891-6156
E: jriebl@springisd.org

Re: Asbestos Survey Report
Reynolds Elementary School Improvements
3975 Gladridge Drive
Houston, Texas 77068
Terracon Project No. 92257C32 Spring ISD Bid #23-025

Ms. Riebl:

Terracon Consultants, Inc. (Terracon) is pleased to submit this asbestos survey report to Spring Independent School District (Client).

We appreciate the confidence you placed in us on this project and look forward to working with you on future projects. Please contact the undersigned if you have questions about this report.

Respectfully submitted,
Terracon Consultants, Inc.

Jonathan Hernandez
Field Work/Report Preparation
TDSHS Asbestos Inspector
DSHS License No. 60-4267

John A. Stone
Field Work
TDSHS Asbestos Consultant
DSHS License No. 10-5860

Aaron Dominguez
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DSHS License No. 60-3392

Kevin P. Maloney
Senior Project Manager
TDSHS Asbestos Consultant
DSHS License No. 10-5547

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1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted an asbestos survey of the Survey Area as defined in Section 2.0 in general accordance with Terracon Proposal No. P92257C32 dated September 15, 2025 and the Purchase Order No. P2602887 dated September 30, 2025 authorized by Spring Independent School District (Client).

Terracon reviewed the following survey documents and incorporated the findings into this survey:

- Prior survey reports were not provided to Terracon for review.

1.1 Project Objective

The objective of the asbestos survey was to identify the presence and location of accessible friable and nonfriable asbestos-containing materials (ACM) present in the survey areas, collect samples, and report our findings. This survey was requested by the Client prior to renovation of the Survey Area(s) defined below.

1.2 Limitations

The scope of the survey was limited to the Survey Area indicated in Section 2.0, at the request of Client. The interior, exterior, and roof were included in the survey. Destructive sampling was conducted as indicated in Terracon's proposal.

The following areas and/or materials were inaccessible during our survey:

- Mirror in restroom appeared to be mechanically fastened but Terracon was unable to check behind without creating a safety hazard.

Ceiling Systems - Terracon assessed multiple areas above the ceiling systems, where feasible, but did not observe additional suspect ACM, except where noted in this report. The potential exists for additional suspect ACM or quantities of ACM to be present above ceiling systems.

Floor Coverings - Terracon lifted floor coverings in several areas in the building, where feasible, but did not observe additional floor coverings or layers, except where noted in this report. However, as Terracon could not assess beneath all floor coverings in all areas, there may be isolated areas of additional suspect asbestos-containing material present beneath existing coverings.

Mirrors - Terracon observed a mirror that appeared to be mechanically fastened but was unable to access behind the mirror in the restroom without forcibly removing the mirror panel, potentially damaging the panel, and creating a safety hazard.

2.0 BUILDING AND SURVEY AREA DESCRIPTION

Survey Area	The survey area included interior, exterior and roof areas of the Reynolds Elementary School and associated structures (sheds, wood buildings).
Structure Use	School
Typical Interior Walls	Painted gypsum wallboard system, concrete masonry unit blocks and ceramic wall tiles
Typical Interior Ceilings	Painted gypsum wallboard system and ceiling tiles
Typical Interior Floors	Ceramic tile on a concrete substrate
Additional Information	N/A

3.0 FIELD ACTIVITIES

Terracon conducted the asbestos survey in general accordance with protocols established in Environmental Protection Agency (EPA) regulation 40 CFR 763, the Asbestos Hazard Emergency Response Act (AHERA), EPA regulation 40 CFR 61, the National Emission Standard for Hazardous Air Pollutants (NESHAP), and the Texas Department of State Health Services (DSHS) regulations promulgated under the Texas Asbestos Health Protection Rules (TAHPR). The following sections present a summary of our survey activities.

3.1 Visual Assessment

Our survey activities began with visual observation in the survey area(s) to identify homogeneous areas of suspect ACM. A homogeneous area (HA) consists of building materials that appear similar throughout in terms of color, texture, and date of application. Building materials identified as glass, wood, masonry, metal, or rubber were not considered suspect ACM. The assessment was conducted throughout visually accessible portions of the survey area(s).

3.2 Physical Assessment

Terracon conducted a physical assessment of each identified HA of suspect ACM to assess the friability and condition of the materials. EPA defines a friable material as a material which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Terracon assessed friability by physically touching suspect ACM.

3.3 Sample Collection

Based on results of the visual observation, Terracon collected random bulk samples from each identified HA of suspect ACM observed in general accordance with AHERA sampling protocols. Sample team members collected bulk samples using wet methods as applicable

to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using indelible ink.

3.4 Sample Analysis

Terracon delivered bulk samples under chain of custody to a laboratory that is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for analysis by Polarized Light Microscopy (PLM) with dispersion staining techniques per EPA Method 600/R-93/116. The percentage of asbestos where applicable was determined by microscopic visual estimation.

4.0 FINDINGS AND RECOMMENDATIONS

4.1 Findings

Terracon conducted the asbestos survey on October 8 and 9, 2025 and collected 123 bulk samples from 39 HA's of suspect ACM. The following personnel participated in the field work during the survey:

- Mr. John A. Stone a licensed Asbestos Consultant (TDSHS License No. 10-5860)
- Mr. Jonathan Hernandez a licensed Asbestos Inspector (DSHS License No. 60-4267)
- Mr. Christian H. Pedraza a licensed Asbestos Inspector (DSHS License No. 60-4222)

A summary of samples collected is presented in Appendix A. Drawings are provided in Appendix B. Site Photographs are presented in Appendix C. The Regulatory Overview is provided in Appendix D. The Asbestos Laboratory Analytical Report is included in Appendix E. Licenses and Certifications are provided in Appendix F.

Terracon's findings provided below are based upon laboratory results, and field observations:

Materials Reported to Contain Asbestos

Sample ID	Material	Material Location	Asbestos Content	Friability	Assessed Condition	Estimated Quantity
28, 29, 30	Dark rock wall panels with transite backing on green fiberglass	Interior of the exterior rock wall panels	Gray fibrous transite - 20% Chrysotile	Friable, Category II	Good	1,400 SF
31, 32, 33	Light rock edge panels with transite backing on green fiberglass	Interior of the exterior edge rock wall panels	Gray fibrous transite - 20% Chrysotile	Friable, Category II	Good	560 SF
NA[1]	Interior mirror and possible mirror mastic	Restroom	Assumed[1]	Unknown	Unknown	~40 SF

[1] Materials labeled as "Assumed" were not sampled. Assumed materials must be considered and managed as ACM until the material is sampled and laboratory analysis confirms the material does not contain asbestos.

4.2 Recommendations

Based upon our findings, Terracon makes the following recommendations (refer to the Regulatory Overview in Appendix D for additional information):

1. Exterior ACM that could potentially be rendered friable during renovation or demolition activities, should be removed by a qualified abatement contractor having a NESHAP trained person and a trained competent person, as defined by OSHA, onsite to ensure disturbance of the material does not cause airborne fiber counts to exceed the OSHA Permissible Exposure Limit (PEL) of 0.1 f/cc of air as an 8-hour TWA. To determine compliance with the OSHA standard, Terracon recommends air monitoring during activities that would disturb this material to verify the airborne fiber counts are maintained below the OSHA PEL.
2. It is important to note that the NESHAP and the State of Texas require written notification be submitted before beginning renovation projects that include the disturbance of certain quantities of ACM in a building or facility, or before the demolition of a building or facility, even when no asbestos is present. This written notification must be provided to DSHS, the state governing agency, at least 10 working days prior to the commencement of asbestos abatement or demolition activities

3. Excluded, inaccessible, or new materials that were not sampled during this survey must be inspected and sampled prior to disturbing those materials, or those materials must be assumed to be ACM. If the analysis determines that the new material contains asbestos and could potentially be disturbed during renovation or demolition activities, then proper abatement of the material, will be required. Additionally, prior to disturbing the material it must be removed, transported, and disposed of by properly trained/licensed personnel.

5.0 GENERAL COMMENTS

Terracon conducted this asbestos survey in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions, and recommendations expressed in this report are based on conditions observed during our survey. The information contained in this report is relevant to the dates on which this survey was conducted and should not be relied upon to represent conditions later.

This report has been prepared on behalf of and exclusively for use by Client for specific application to their project. This report is not a bidding document. Contractors, consultants, or others reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories, or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied, is made.

APPENDIX A
ASBESTOS SURVEY SAMPLE SUMMARY

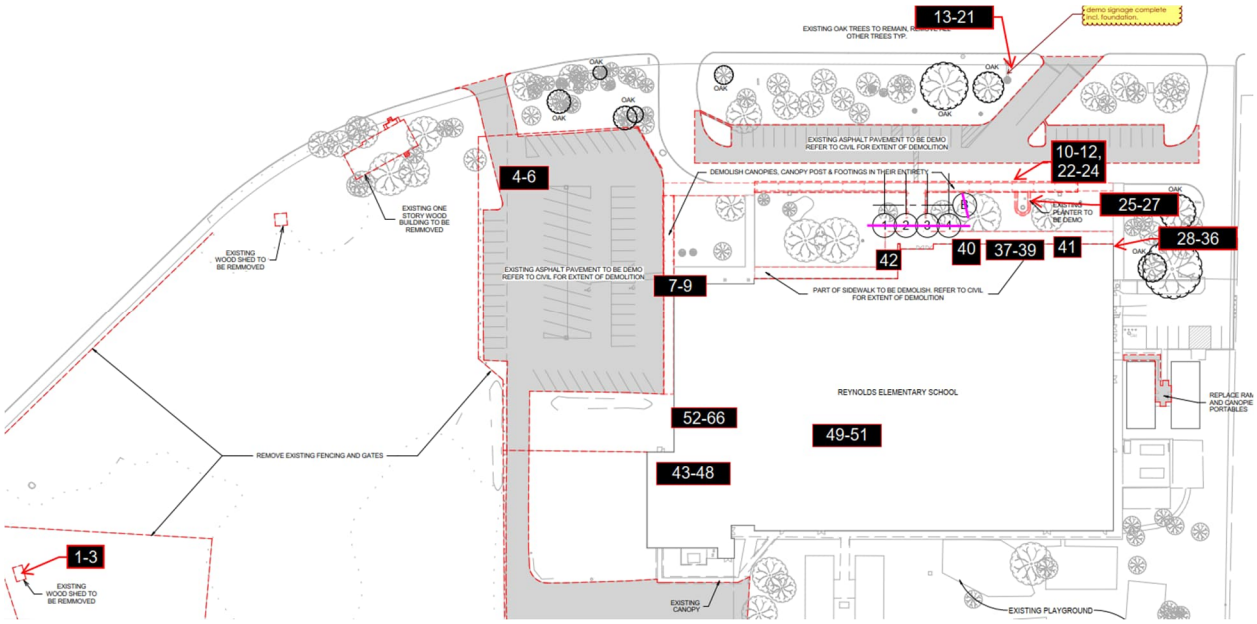
APPENDIX A - ASBESTOS SURVEY SAMPLE SUMMARY

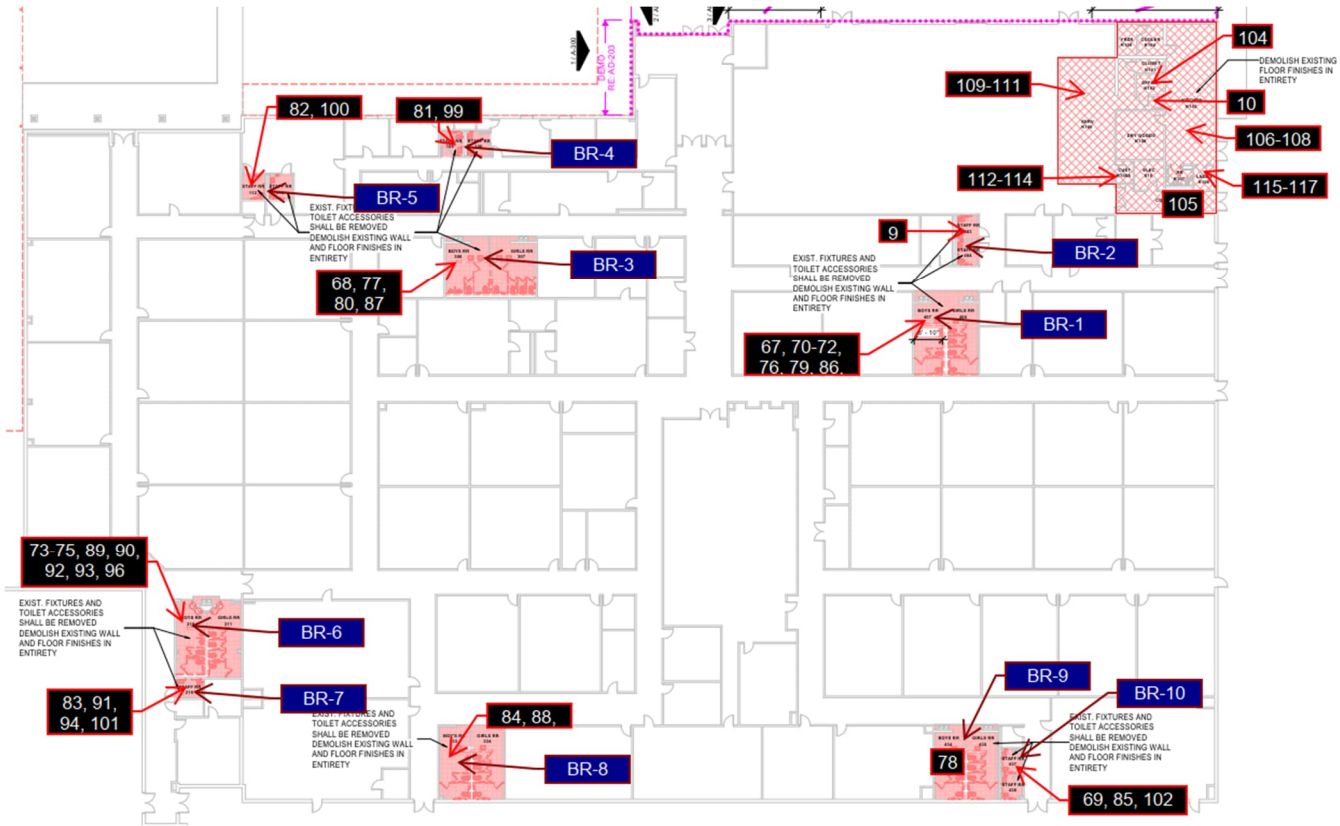
Sample ID	Material	Material Location	Asbestos Containing
01, 02, 03	Black composition roof shingles	Wood shed #1	No
04, 05, 06	Black asphalt parking lot surface	Parking lot	No
07, 08, 09	Gray foundation caulk	All canopies slated for demo	No
10, 11, 12	Gray concrete sidewalk (base of canopy poles)	All canopies slated for demo	No
13, 14, 15	Gray caulk on edge of sign	Name of school sign	No
16, 17, 18	Tan brick and white mortar	Name of school sign	No
19, 20, 21	White granite sign	Name of school sign	No
22, 23, 24	Sidewalk concrete and black expansion joint compound	All sidewalks slated for demo	No
25, 26, 27	Red brick planter	Planter around flag pole	No
28, 29, 30	Dark rock wall with transite backing on green fiberglass	Front (north) and west side of school building	Yes
31, 32, 33	Light rock edge panels with transite backing on green fiberglass	Front (north) and west side of school building	Yes
34, 35, 36	Off-white wall caulk on edge of rock, wall	Front (north) and west side of school building	No
37, 38, 39	Red wall caulk on edge of rock wall panel	Front (north) and west side of school building	No
40, 41, 42	White plaster on gray concrete	Front (north) soffits	No
43, 44, 45	TPO roof membrane	Southwest area of roof (Roof 3)	No
46, 47, 48	Off-white seam/transition caulk (TPO)	Roof 3	No
49, 50, 51	White over green over white coating on metal roof	Roof 2	No
52, 53, 54	(Built-up) Tar and gravel over foam roof	Roof 1	No
55, 56, 57	Composition shingle patches	Roof 1	No
58, 59, 60	Tar sealant with silver paint on HVAC unit base	Roof 1	No
61, 62, 63	Off-white parapet wall cap sealant	Roof 1	No
64, 65, 66	Black tar sealant on HVAC electric connection cover	Roof 1	No
67, 68, 69	Off-white ceramic wall tile system	BR-1, 2, 3, 4, 5 and 10	No
70, 71, 72	White caulk on sink	BR-1, 2, 3, 4, 5 and 10	No
73, 74, 75	White caulk on sink	BR-6 and 7	No
76, 77, 78	Brown 2”x2” ceramic floor tile system	BR- 6 and 7	No
79, 80, 81, 82, 83, 84, 85	Painted gypsum wallboard system (walls)	All interior POC	No

APPENDIX A - ASBESTOS SURVEY SAMPLE SUMMARY

Sample ID	Material	Material Location	Asbestos Containing
86, 87, 88	White 2'x2' gypsum ceiling tile	BR-1, 3, 8 and 9	No
89, 90, 91	White 4"x4" ceramic wall tile system	BR-6 and 7	No
92, 93, 94	Gray 2"x2" ceramic floor tile system	BR-6 and 7	No
95, 96, 97	Painted concrete masonry unit blocks (CMU)	BR-1, 3, 8 and 9	No
98, 99, 100, 101, 102	Painted gypsum wallboard system (ceilings)	BR-2, 4, 5, 6, 7 and 10	No
103, 104, 105	Tan 12"x12" floor tile with black mastic	Exit hallway, café office and hallway by office	No
106, 107, 108	Brown 2"x2" ceramic floor tile system	Food prep, storage and restroom	No
109, 110, 111	Tan 12"x12" ceramic floor tile system	Food service and café	No
112, 113, 114	Gray 12"x12" ceramic floor tile system	Food service	No
115, 116, 117	Brown 8"x12" ceramic cove base	Food prep, storage and restroom	No
118, 119, 120	Black composition roof shingles and tar paper	Roof – Boy scout building	No
121, 122, 123	Black tar paper and vapor barrier	Perimeter walls – Boy scout building behind siding	No

APPENDIX B
DRAWINGS


13-21
EXISTING OAK TREES TO REMAIN, REMOVE OTHER TREES TYP.
demo signage complete incl. foundation
OAK
EXISTING ASPHALT PAVEMENT TO BE DEMO REFER TO CIVIL FOR EXTENT OF DEMOLITION
10-12, 22-24
4-6
DEMOLISH CANOPIES, CANOPY POST & FOOTINGS IN THEIR ENTIRETY
EXISTING PLANTER TO BE DEMO
25-27
28-36
42
40
37-39
41
EXISTING ONE STORY WOOD BUILDING TO BE REMMOVED
EXISTING WOOD SHED TO BE REMMOVED
EXISTING ASPHALT PAVEMENT TO BE DEMO REFER TO CIVIL FOR EXTENT OF DEMOLITION
7-9
PART OF SIDEWALK TO BE DEMOLISH. REFER TO CIVIL FOR EXTENT OF DEMOLITION
REYNOLDS ELEMENTARY SCHOOL
REPLACE RAMP AND CANOPIE PORTABLES
52-66
49-51
43-48
REMOVE EXISTING FENCING AND GATES
1-3
EXISTING WOOD SHED TO BE REMMOVED
EXISTING CANOPY
EXISTING PLAYGROUND


DEMO RE: AD-203
82, 100
81, 99
BR-4
BR-5
EXIST. FIXTURES AND TOILET ACCESSORIES SHALL BE REMOVED DEMOLISH EXISTING WALL AND FLOOR FINISHES IN ENTIRETY
BR-3
68, 77, 80, 87
104
DEMOLISH EXISTING FLOOR FINISHES IN ENTIRETY
109-111
10
106-108
112-114
115-117
105
9
BR-2
EXIST. FIXTURES AND TOILET ACCESSORIES SHALL BE REMOVED DEMOLISH EXISTING WALL AND FLOOR FINISHES IN ENTIRETY
BR-1
67, 70-72, 76, 79, 86
73-75, 89, 90, 92, 93, 96
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83, 91, 94, 101
BR-7
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BR-8
BR-9
BR-10
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APPENDIX C
SITE PHOTOGRAPHS

SITE PHOTOGRAPHS

Photo #1 Exterior front view of the school

Photo #2 View of the asbestos-containing exterior rock wall panels with asbestos-containing edge wall panels

Photo #3 View of the planter border

Photo #4 View of the front sign of the school

Photo #5 View of the canopies slated for demolition

Photo #6 View of the asphalt parking lot

SITE PHOTOGRAPHS - CONTINUED

Photo #7 General view of the admin restrooms

Photo #8 General view of the restrooms

Photo #9 Interior view of the kitchen service area

Photo #10 Interior view of the kitchen food prep area

Photo #11 View of the exit hallway near the café

Photo #12 Exterior view of the wooden boy scouts shed

SITE PHOTOGRAPHS - CONTINUED

Photo #13 Additional view of the wooden boy scouts shed

Photo #14 Interior view of the wooden boy scouts shed

Photo #15 Exterior view of the small wooden storage building

Photo #16 Interior view of the small wooden storage building

Photo #17 View of Roof 1

Photo #18 View of Roof 2

Photo #19 Additional view of Roof 2

Photo #20 View of Roof 3

APPENDIX D
REGULATORY OVERVIEW

REGULATORY OVERVIEW

State Regulations

Title 25, Part 1, Chapter 296, the TAHPR, regulates asbestos fiber emission and asbestos waste disposal practices for public buildings. The TAHPR also requires the identification and classification of existing asbestos-containing building materials prior to demolition or renovation activity. Under TAHPR, asbestos containing building materials are classified as either friable or nonfriable ACM containing 1% or more asbestos. Friable materials are those that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.

The TAHPR requires any asbestos-related activity be conducted by DSHS licensed individuals. An asbestos related activity consists of the disturbance (whether intentional or unintentional), removal, encapsulation, or enclosure of asbestos, including preparations or final clearance activities, the performance of asbestos surveys, the development of management plans and response actions, asbestos project design, the collection or analysis of asbestos samples, monitoring for airborne asbestos, bidding for a contract for any of these activities, or any other activity required to be licensed under TAHPR.

The TAHPR requires abatement in public buildings to be conducted by a DSHS licensed asbestos abatement contractor in accordance with a project design prepared by a DSHS licensed asbestos consultant. In addition, a DSHS licensed asbestos consultant agency must perform third party air monitoring during the abatement activities.

The TAHPR requires written notification be submitted before beginning renovation projects which include the disturbance of any quantity of ACM in a public or commercial building or facility, and before the demolition of a building or facility, even when no asbestos is present. This written notification must be provided to the DSHS at least 10 working days prior to the commencement of asbestos abatement or demolition activities.

Federal Regulations

40 CFR Part 61 Subpart M, the asbestos NESHAP, regulates asbestos fiber emission and asbestos waste disposal practices for commercial buildings and facilities. The NESHAP requires the identification and classification of existing suspect asbestos-containing materials prior to demolition or renovation activity. Under NESHAP, materials containing >1% asbestos are classified as either friable, Category I nonfriable or Category II nonfriable ACM. Friable materials are those that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. Category I nonfriable ACM includes packing, gaskets, resilient floor coverings and asphalt roofing products. Category II nonfriable ACM are any nonfriable materials other than those classified as Category I materials.

Friable ACM, Category I and II nonfriable ACM in poor condition, that have become friable, or which will be subject to drilling, sanding, grinding, cutting, or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered regulated ACM (RACM).

The NESHAP requires that written notification be submitted before beginning renovation projects which include the disturbance of greater than 160 square feet, 260 linear feet, or 35 cubic feet of RACM in any building or facility, or before the demolition of any building or facility, even when no asbestos is present. This written notification must be provided at least 10 working days prior to the commencement of asbestos abatement or demolition activities.

29 CFR 1926.1101, the Occupational Safety and Health Administration (OSHA) Asbestos standard for the construction industry, regulates workplace exposure to asbestos. The OSHA standard classifies construction and maintenance activities which could disturb ACM and specifies work practices and precautions employers must follow when engaging in each class of regulated work. The OSHA standard also requires employee exposure to airborne asbestos fibers be maintained below the Permissible Exposure Limit (PEL) of 0.1 asbestos fibers per cubic centimeter (f/cc) of air as an 8-hour Time Weighted Average (TWA).

APPENDIX E
ASBESTOS LABORATORY ANALYTICAL REPORT

Micro Analytical Services, Inc. 11301 Richmond Ave. Ste.K100B♦Houston♦Tx 77082♦Phone(281)497-4500♦Fax(281)497-4517

NVLAP Lab Code: 200618-0 TDSHS License No. 30-0341

PLM BULK ASBESTOS ANALYSIS REPORT

CLIENT: Terracon **MAS JOB NO.:** 20145-00

PROJECT: Spring ISD - Reynolds Elementary School Improvement **REPORT DATE:** October 14, 2025

TERRACON PROJECT: 92257C32

IDENTIFICATION: Asbestos, Bulk Sample Analysis, Quantitation by Visual Area Estimation

TEST METHOD: Polarized Light Microscopy with Dispersion Staining
EPA - 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
EPA - 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Material

STATEMENT OF LABORATORY ACCREDITATION

These samples were analyzed at Micro Analytical Services, Inc. in the Asbestos Laboratory at 11301 Richmond Ave. Suite K100B, Houston, Texas, 77082. The Laboratory holds accreditation from the National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP). This laboratory is also licensed and authorized to perform as an Asbestos Laboratory in the State of Texas within the purview of Texas Civil Statutes, Article 4477-3a, as amended, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

The samples were analyzed in general accordance with the procedures outlined in the EPA - 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, EPA - 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Material, under AHERA, for the analysis of asbestos in building materials by polarized light microscopy. The results of each bulk sample relate only to the material tested as submitted to the laboratory and the results shall not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Specific questions concerning bulk sample results shall be directed to the Asbestos Bulk Laboratory at Micro Analytical Services, Inc.

Analyst: Tony T. Dang

Approved Signatory: 

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Polarized Light Microscopy Analysis

Terracon .
11555 Clay Road Suite 100
Houston, Texas 77043-1239

MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
1-RF3-1 MAS616796	1	Black fibrous roof shingle with pebbles	No		30% Aggregate 20% fibrous Glass 50% Asphalt
1-RF3-2 MAS616797	1	Black fibrous roof shingle with pebbles	No		30% Aggregate 20% fibrous Glass 50% Asphalt
1-RF3-3 MAS616798	1	Black fibrous roof shingle with pebbles	No		30% Aggregate 20% fibrous Glass 50% Asphalt
2-MA5-4 MAS616799	1	Black non-fibrous asphalt	No		100% Asphalt
2-MA5-4 MAS616799	2	Dark grey non-fibrous concrete	No		80% Aggregate 20% Other
2-MA5-5 MAS616800	1	Black non-fibrous asphalt	No		100% Asphalt
2-MA5-5 MAS616800	2	Dark grey non-fibrous concrete	No		80% Aggregate 20% Other
2-MA5-6 MAS616801	1	Black non-fibrous asphalt	No		100% Asphalt
2-MA5-6 MAS616801	2	Dark grey non-fibrous concrete	No		80% Aggregate 20% Other
3-CA6-7 MAS616802	1	Grey non-fibrous foundation caulking	No		100% Other
3-CA6-8 MAS616803	1	Grey non-fibrous foundation caulking	No		100% Other
3-CA6-9 MAS616804	1	Grey non-fibrous foundation caulking	No		100% Other

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Analyzed by: Tony Dang

Approved NVLAP Signatory: Tony Dang

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
4-MA5-10 MAS616805	1	Grey non-fibrous concrete	No		80% Aggregate 20% Other
4-MA5-11 MAS616806	1	Grey non-fibrous concrete	No		80% Aggregate 20% Other
4-MA5-12 MAS616807	1	Grey non-fibrous concrete	No		80% Aggregate 20% Other
5-CA3-13 MAS616808	1	Grey non-fibrous caulking	No		100% Other
5-CA3-14 MAS616809	1	Grey non-fibrous caulking	No		100% Other
5-CA3-15 MAS616810	1	Grey non-fibrous caulking	No		100% Other
6-MA1-16 MAS616811	1	Tan non-fibrous brick	No		100% Other
6-MA1-16 MAS616811	2	Grey non-fibrous mortar	No		80% Aggregate 20% Other
6-MA1-17 MAS616812	1	Tan non-fibrous brick	No		100% Other
6-MA1-17 MAS616812	2	Grey non-fibrous mortar	No		80% Aggregate 20% Other
6-MA1-18 MAS616813	1	Tan non-fibrous brick	No		100% Other
6-MA1-18 MAS616813	2	Grey non-fibrous mortar	No		80% Aggregate 20% Other
7-MA5-19 MAS616814	1	White non-fibrous granite with black specks	No		100% Other
7-MA5-20 MAS616815	1	White non-fibrous granite with black specks	No		100% Other

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
7-MA5-21 MAS616816	1	White non-fibrous granite with black specks	No		100% Other
8-MA5-22 MAS616817	1	Grey non-fibrous concrete	No		80% Aggregate 20% Other
8-MA5-22 MAS616817	2	Black non-fibrous expansion joint	No		100% Other
8-MA5-23 MAS616818	1	Grey non-fibrous concrete	No		80% Aggregate 20% Other
8-MA5-23 MAS616818	2	Black non-fibrous expansion joint	No		100% Other
8-MA5-24 MAS616819	1	Grey non-fibrous concrete	No		80% Aggregate 20% Other
8-MA5-24 MAS616819	2	Black non-fibrous expansion joint	No		100% Other
9-MA1-25 MAS616820	1	Red non-fibrous brick	No		100% Other
9-MA1-26 MAS616821	1	Red non-fibrous brick	No		100% Other
9-MA1-27 MAS616822	1	Red non-fibrous brick	No		100% Other
10-CP1-28 MAS616823	1	Grey fibrous rock wall panel	No		20% fibrous Glass 80% Other
10-CP1-28 MAS616823	2	Grey fibrous transite	Yes	20% Chrysotile	80% Other
10-CP1-29 MAS616824	1	Grey fibrous rock wall panel	No		20% fibrous Glass 80% Other
10-CP1-29 MAS616824	2	Grey fibrous transite	Yes	20% Chrysotile	80% Other

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10-CP1-30 MAS616825	1	Grey fibrous rock wall panel	No		20% fibrous Glass 80% Other
10-CP1-30 MAS616825	2	Grey fibrous transite	Yes	20% Chrysotile	80% Other
11-CP1-31 MAS616826	1	White fibrous rock wall panel	No		20% fibrous Glass 80% Other
11-CP1-31 MAS616826	2	Grey fibrous transite	Yes	20% Chrysotile	80% Other
11-CP1-32 MAS616827	1	White fibrous rock wall panel	No		20% fibrous Glass 80% Other
11-CP1-32 MAS616827	2	Grey fibrous transite	Yes	20% Chrysotile	80% Other
11-CP1-33 MAS616828	1	White fibrous rock wall panel	No		20% fibrous Glass 80% Other
11-CP1-33 MAS616828	2	Grey fibrous transite	Yes	20% Chrysotile	80% Other
12-CA3-34 MAS616829	1	Off-white non-fibrous wall caulking	No		100% Other
12-CA3-35 MAS616830	1	Off-white non-fibrous wall caulking	No		100% Other
12-CA3-36 MAS616831	1	Off-white non-fibrous wall caulking	No		100% Other
13-CA3-37 MAS616832	1	Red non-fibrous wall caulking	No		100% Other
13-CA3-38 MAS616833	1	Red non-fibrous wall caulking	No		100% Other
13-CA3-39 MAS616834	1	Red non-fibrous wall caulking	No		100% Other

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
14-HP3-40 MAS616835	1	White non-fibrous plaster	No		70% Aggregate 30% Other
14-HP3-40 MAS616835	2	Grey non-fibrous plaster	No		80% Aggregate 20% Other
14-HP3-41 MAS616836	1	White non-fibrous plaster	No		70% Aggregate 30% Other
14-HP3-41 MAS616836	2	Grey non-fibrous plaster	No		80% Aggregate 20% Other
14-HP3-42 MAS616837	1	White non-fibrous plaster	No		70% Aggregate 30% Other
14-HP3-42 MAS616837	2	Grey non-fibrous plaster	No		80% Aggregate 20% Other
15-RF6-43 MAS616838	1	Grey fibrous roof membrane	No		20% Synthetic 80% Other
15-RF6-43 MAS616838	2	Yellow non-fibrous foam with brown paper backing	No		30% Cellulose 70% Foam
15-RF6-44 MAS616839	1	Grey fibrous roof membrane	No		20% Synthetic 80% Other
15-RF6-44 MAS616839	2	Yellow non-fibrous foam with brown paper backing	No		30% Cellulose 70% Foam
15-RF6-45 MAS616840	1	Grey fibrous roof membrane	No		20% Synthetic 80% Other
15-RF6-45 MAS616840	2	Yellow non-fibrous foam with brown paper backing	No		30% Cellulose 70% Foam
16-RF5-46 MAS616841	1	White non-fibrous caulking	No		100% Other
16-RF5-47 MAS616842	1	White non-fibrous caulking	No		100% Other

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
16-RF5-48 MAS616843	1	White non-fibrous caulking	No		100% Other
17-RF5-49 MAS616844	1	White/green fibrous roofing material	No		20% Synthetic 80% Other
17-RF5-50 MAS616845	1	White/green fibrous roofing material	No		20% Synthetic 80% Other
17-RF5-51 MAS616846	1	White/green fibrous roofing material	No		20% Synthetic 80% Other
18-RF8-52 MAS616847	1	Black fibrous roof core material	No		20% fibrous Glass 30% Aggregate 50% Bitumen
18-RF8-52 MAS616847	2	Beige fibrous insulation	No		80% Cellulose 20% Perlite
18-RF8-52 MAS616847	3	Yellow non-fibrous foam with brown paper backing	No		30% Cellulose 70% Foam
18-RF8-53 MAS616848	1	Black fibrous roof core material	No		20% fibrous Glass 30% Aggregate 50% Bitumen
18-RF8-53 MAS616848	2	Beige fibrous insulation	No		80% Cellulose 20% Perlite
18-RF8-53 MAS616848	3	Yellow non-fibrous foam with brown paper backing	No		30% Cellulose 70% Foam
18-RF8-54 MAS616849	1	Black fibrous roof core material	No		20% fibrous Glass 30% Aggregate 50% Bitumen
18-RF8-54 MAS616849	2	Beige fibrous insulation	No		80% Cellulose 20% Perlite

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
18-RF8-54 MAS616849	3	Yellow non-fibrous foam with brown paper backing	No		30% Cellulose 70% Foam
19-RF3-55 MAS616850	1	Black fibrous roofing material with pebbles	No		20% fibrous Glass 30% Aggregate 50% Bitumen
19-RF3-56 MAS616851	1	Black fibrous roofing material with pebbles	No		20% fibrous Glass 30% Aggregate 50% Bitumen
19-RF3-57 MAS616852	1	Black fibrous roofing material with pebbles	No		20% fibrous Glass 30% Aggregate 50% Bitumen
20-RF7-58 MAS616853	1	Black fibrous roofing material with silver paint	No		10% fibrous Glass 20% Aggregate 70% Bitumen
20-RF7-59 MAS616854	1	Black fibrous roofing material with silver paint	No		10% fibrous Glass 20% Aggregate 70% Bitumen
20-RF7-60 MAS616855	1	Black fibrous roofing material with silver paint	No		10% fibrous Glass 20% Aggregate 70% Bitumen
21-RF7-61 MAS616856	1	White non-fibrous sealant	No		100% Other
21-RF7-62 MAS616857	1	White non-fibrous sealant	No		100% Other
21-RF7-63 MAS616858	1	White non-fibrous sealant	No		100% Other
22-RF7-64 MAS616859	1	Black non-fibrous tar with silver paint	No		90% Tar 10% Other

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
22-RF7-65 MAS616860	1	Black non-fibrous tar with silver paint	No		90% Tar 10% Other
22-RF7-66 MAS616861	1	Black non-fibrous tar with silver paint	No		90% Tar 10% Other
23-MA5-67 MAS616862	1	Off-white non-fibrous ceramic tile	No		100% Other
23-MA5-67 MAS616862	2	White non-fibrous mortar	No		100% Other
23-MA5-68 MAS616863	1	Off-white non-fibrous ceramic tile	No		100% Other
23-MA5-68 MAS616863	2	White non-fibrous mortar	No		100% Other
23-MA5-69 MAS616864	1	Off-white non-fibrous ceramic tile	No		100% Other
23-MA5-69 MAS616864	2	White non-fibrous mortar	No		100% Other
24-CA2-70 MAS616865	1	White non-fibrous caulking	No		100% Other
24-CA2-71 MAS616866	1	White non-fibrous caulking	No		100% Other
24-CA2-72 MAS616867	1	White non-fibrous caulking	No		100% Other
25-CA2-73 MAS616868	1	White non-fibrous caulking	No		100% Other
25-CA2-74 MAS616869	1	White non-fibrous caulking	No		100% Other
25-CA2-75 MAS616870	1	White non-fibrous caulking	No		100% Other

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Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
26-FT5-76 MAS616871	1	Brown non-fibrous ceramic tile	No		100% Other
26-FT5-76 MAS616871	2	White non-fibrous mortar	No		100% Other
26-FT5-76 MAS616871	3	Grey non-fibrous grout	No		100% Other
26-FT5-77 MAS616872	1	Brown non-fibrous ceramic tile	No		100% Other
26-FT5-77 MAS616872	2	White non-fibrous mortar	No		100% Other
26-FT5-77 MAS616872	3	Grey non-fibrous grout	No		100% Other
26-FT5-78 MAS616873	1	Brown non-fibrous ceramic tile	No		100% Other
26-FT5-78 MAS616873	2	White non-fibrous mortar	No		100% Other
26-FT5-78 MAS616873	3	Grey non-fibrous grout	No		100% Other
27-WB4-79 MAS616874	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-79 MAS616874	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
27-WB4-79 MAS616874	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
27-WB4-80 MAS616875	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-80 MAS616875	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other

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Analyzed by: Tony Dang

Approved NVLAP Signatory: Tony Dang

Micro Analytical Services, Inc. 11301 Richmond Ave. Ste. K100B♦Houston♦Texas 77082♦Phone(281) 497-4500♦Fax(281) 497-4517

Polarized Light Microscopy Analysis

Terracon .
11555 Clay Road Suite 100
Houston, Texas 77043-1239

MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
27-WB4-80 MAS616875	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
27-WB4-81 MAS616876	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-81 MAS616876	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
27-WB4-81 MAS616876	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
27-WB4-82 MAS616877	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-82 MAS616877	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
27-WB4-82 MAS616877	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
27-WB4-83 MAS616878	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-83 MAS616878	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
27-WB4-83 MAS616878	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
27-WB4-84 MAS616879	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-84 MAS616879	2	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
27-WB4-85 MAS616880	1	White non-fibrous texture with white paint	No		100% Other
27-WB4-85 MAS616880	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other

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MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
27-WB4-85 MAS616880	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
28-CT3-86 MAS616881	1	White non-fibrous wall cover	No		100% Other
28-CT3-86 MAS616881	2	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
28-CT3-87 MAS616882	1	White non-fibrous wall cover	No		100% Other
28-CT3-87 MAS616882	2	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
28-CT3-88 MAS616883	1	White non-fibrous wall cover	No		100% Other
28-CT3-88 MAS616883	2	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
29-MA4-89 MAS616884	1	White non-fibrous ceramic tile	No		100% Other
29-MA4-90 MAS616885	1	White non-fibrous ceramic tile	No		100% Other
29-MA4-91 MAS616886	1	White non-fibrous ceramic tile	No		100% Other
30-FT5-92 MAS616887	1	Grey non-fibrous ceramic tile	No		100% Other
30-FT5-92 MAS616887	2	White non-fibrous mortar	No		100% Other
30-FT5-92 MAS616887	3	Grey non-fibrous grout	No		100% Other
30-FT5-93 MAS616888	1	Grey non-fibrous ceramic tile	No		100% Other

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Polarized Light Microscopy Analysis

Terracon .
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MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
30-FT5-93 MAS616888	2	White non-fibrous mortar	No		100% Other
30-FT5-93 MAS616888	3	Grey non-fibrous grout	No		100% Other
30-FT5-94 MAS616889	1	Grey non-fibrous ceramic tile	No		100% Other
30-FT5-94 MAS616889	2	White non-fibrous mortar	No		100% Other
30-FT5-94 MAS616889	3	Grey non-fibrous grout	No		100% Other
31-SC4-95 MAS616890	1	Dark grey non-fibrous CMU with white paint	No		80% Aggregate 20% Other
31-SC4-95 MAS616890	2	Grey non-fibrous mortar with white paint	No		70% Aggregate 30% Other
31-SC4-96 MAS616891	1	Dark grey non-fibrous CMU with white paint	No		80% Aggregate 20% Other
31-SC4-96 MAS616891	2	Grey non-fibrous mortar with white paint	No		70% Aggregate 30% Other
31-SC4-97 MAS616892	1	Dark grey non-fibrous CMU with white paint	No		80% Aggregate 20% Other
31-SC4-97 MAS616892	2	Grey non-fibrous mortar with white paint	No		70% Aggregate 30% Other
32-WB4-98 MAS616893	1	White non-fibrous texture with white paint	No		100% Other
32-WB4-98 MAS616893	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
32-WB4-98 MAS616893	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum

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Polarized Light Microscopy Analysis

Terracon .
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MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
32-WB4-99 MAS616894	1	White non-fibrous texture with white paint	No		100% Other
32-WB4-99 MAS616894	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
32-WB4-99 MAS616894	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
32-WB4-100 MAS616895	1	White non-fibrous texture with white paint	No		100% Other
32-WB4-100 MAS616895	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
32-WB4-100 MAS616895	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
32-WB4-101 MAS616896	1	White non-fibrous texture with white paint	No		100% Other
32-WB4-101 MAS616896	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
32-WB4-101 MAS616896	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
32-WB4-102 MAS616897	1	White non-fibrous texture with white paint	No		100% Other
32-WB4-102 MAS616897	2	White non-fibrous joint compound with white paint	No		70% Cellulose 30% Other
32-WB4-102 MAS616897	3	White fibrous gypsum with brown paper	No		40% Cellulose 60% Gypsum
33-FT2-103 MAS616898	1	Tan non-fibrous floor tile	No		100% Other
33-FT2-103 MAS616898	2	Black fibrous mastic	No		3% Cellulose 97% Mastic

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MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
33-FT2-104 MAS616899	1	Tan non-fibrous floor tile	No		100% Other
33-FT2-104 MAS616899	2	Black fibrous mastic	No		3% Cellulose 97% Mastic
33-FT2-105 MAS616900	1	Tan non-fibrous floor tile	No		100% Other
33-FT2-105 MAS616900	2	Black fibrous mastic	No		3% Cellulose 97% Mastic
34-FT5-106 MAS616901	1	Brown non-fibrous ceramic tile	No		100% Other
34-FT5-106 MAS616901	2	Beige non-fibrous mortar	No		70% Aggregate 30% Other
34-FT5-106 MAS616901	3	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
34-FT5-107 MAS616902	1	Brown non-fibrous ceramic tile	No		100% Other
34-FT5-107 MAS616902	2	Beige non-fibrous mortar	No		70% Aggregate 30% Other
34-FT5-107 MAS616902	3	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
34-FT5-108 MAS616903	1	Brown non-fibrous ceramic tile	No		100% Other
34-FT5-108 MAS616903	2	Beige non-fibrous mortar	No		70% Aggregate 30% Other
34-FT5-108 MAS616903	3	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
35-FT5-109 MAS616904	1	Brown non-fibrous ceramic tile	No		100% Other

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11555 Clay Road Suite 100
Houston, Texas 77043-1239

MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
35-FT5-109 MAS616904	2	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
35-FT5-110 MAS616905	1	Brown non-fibrous ceramic tile	No		100% Other
35-FT5-110 MAS616905	2	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
35-FT5-111 MAS616906	1	Brown non-fibrous ceramic tile	No		100% Other
35-FT5-111 MAS616906	2	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
36-FT5-112 MAS616907	1	Grey non-fibrous ceramic tile	No		100% Other
36-FT5-112 MAS616907	2	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
36-FT5-113 MAS616908	1	Grey non-fibrous ceramic tile	No		100% Other
36-FT5-113 MAS616908	2	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
36-FT5-114 MAS616909	1	Grey non-fibrous ceramic tile	No		100% Other
36-FT5-114 MAS616909	2	Dark grey non-fibrous grout	No		70% Aggregate 30% Other
37-FT3-115 MAS616910	1	Brown non-fibrous ceramic tile	No		100% Other
37-FT5-115 MAS616910	2	Dark grey non-fibrous mortar	No		70% Aggregate 30% Other
37-FT5-115 MAS616910	3	Grey non-fibrous grout	No		70% Aggregate 30% Other

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MAS Project #: 20145-00
Date Received: 10/09/2025
Date Analyzed: 10/14/2025

Project Name: Spring ISD - Reynolds Elementary School Improvement

Field ID/ Lab ID	Layer #	Sample Description	Asbestos Detected? (Yes/No)	Asbestos Constituents (%)	Non-Asbestos Constituents (%)
37-FT3-116 MAS616911	1	Brown non-fibrous ceramic tile	No		100% Other
37-FT5-116 MAS616911	2	Dark grey non-fibrous mortar	No		70% Aggregate 30% Other
37-FT5-116 MAS616911	3	Grey non-fibrous grout	No		70% Aggregate 30% Other
37-FT3-117 MAS616912	1	Brown non-fibrous ceramic tile	No		100% Other
37-FT5-117 MAS616912	2	Dark grey non-fibrous mortar	No		70% Aggregate 30% Other
37-FT5-117 MAS616912	3	Grey non-fibrous grout	No		70% Aggregate 30% Other
38-RF3-118 MAS616913	1	Black fibrous roof shingle with pebbles	No		30% Aggregate 30% fibrous Glass 40% Bitumen
38-RF3-119 MAS616914	1	Black fibrous roof shingle with pebbles	No		30% Aggregate 30% fibrous Glass 40% Bitumen
38-RF3-120 MAS616915	1	Black fibrous roof shingle with pebbles	No		30% Aggregate 30% fibrous Glass 40% Bitumen
39-SC2-121 MAS616916	1	Black fibrous vapor barrier	No		70% Cellulose 30% Bitumen
39-SC2-122 MAS616917	1	Black fibrous vapor barrier	No		70% Cellulose 30% Bitumen
39-SC2-123 MAS616918	1	Black fibrous vapor barrier	No		70% Cellulose 30% Bitumen

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Asbestos Bulk Sample Chain of Custody

Company: Terracon	Contact: Aaron.Dominguez@Terracon.com	Project Name: Spring ISD-Reynolds Elementary School Improvements
Address: 11555 Clayton Road Suite 100		Project #: 92257C32
City: Houston	Email:	
State/Zip: Texas 77043-1239		Number of Samples: 123
Phone: (713)690-8989		
Fax: (713)690-8787	Date Collected: 10-9-2025	MAS Project #: 20145

Turn around time (circle): Emergency 1-day 2-day 3-day 4-day (5-day) Positive Stop: Yes (No)

Field ID	Lab ID	Sample Description	Sample Location	Comments
See Attached				

Relinquished by: Jonathan Hale Date: 10-9-2025 Time: 4:58 P.M.

Received by: TONY DANG Date: 10/9/25 Time: 4:58 PM

Relinquished by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

Terracon Project No.: 92257C32

Page 1 of 6

Inspector: Christian Pedraza / Jonathan Hernandez

Date Collected 10/8/25

Sample No: (HA, BS, Code, Sample No.)	Condition (ND, D, SD)	Material Description and Sample Location (What is it/Where was it taken)	Material Location/HA (Where it's found)	Quantity (SF or LF)
1 - RF3 - 1	ND	Black Composition Roof Shingles — Wood Shed #1	Wood Sheds #1	~ 70 SF
- - 2				
- - 3				
2 - MA5 - 4	N/D	Black Asphalt Parking lot Surface — Southwest Parking Lot	Parking Lot (Asphalt)	~ 36,355 SF
- - 5				
- - 6				
3 - CA6 - 7	ND	Gray foundation Caulk — Southwest Canopy	All Canopies SLATED for DEMO	127 LF
- - 8		Sidewalk Canopy Pole " Mount		
- - 9				
4 - MA5 - 10	ND	Gray Concrete Sidewalk — Southwest Canopy	All Canopies SLATED for DEMO	42 SF
- - 11		(Base of Canopy Poles		
- - 12				
5 - CA3 - 13	ND	Gray Caulk on Edge of — Front of School	Name of School - Sign	10 LF
- - 14		Sign -		
- - 15				
6 - MA1 - 16	ND	Tan Brick & White Mortar (Sign) — Front of School	Name of School - Sign	50 SF
- - 17				
- - 18				
7 - MA5 - 19	ND	White Granite Sign - — Front of School	— Name of School - Sign	30 SF
- - 20				
- - 21				
8 - MA5 - 22	ND	Sidewalk Concrete & Black Expansion Joint Compound. — North Side Walk	— All Side Walks SLATED for DEMO	30545 SF
- - 23				
- - 24				

PHOTOS OF ALL HA'S

Terracon Project No.: 92257C32

Page 2 of 6

Inspector: Christian Pedraza / Jonathan Hernandez

Date Collected 10-9-25

Sample No: (HA, BS, Code, Sample No.)	Condition (ND, D, SD)	Material Description and Sample Location (What is it/Where was it taken)	Material Location/HA (Where it's found)	Quantity (SF or LF)
9 - MA1 -25	ND	RED BRICK PLANTER By FLAG pole	PLANTER AROUND FLAG POLE -	~120 SF
- -26	↓	BORDER ↓	↓	
- -27	↓	↓	↓	
10 - CP1 -28	ND	DARK ROCK WALL PANEL WITH TRANSITE BACKING ON GREEN FIBERGLASS WEST SIDE OF Building	FRONT (North) & WEST SIDE OF Building	~480 SF
- -29	↓	↓ ↓	↓	
- -30	↓	↓ ↓	↓	
11 - CP1 -31	ND	LIGHT ROCK EDGE PANELS WITH TRANSITE BACKING ON GREEN FIBERGLASS WEST SIDE OF Building	FRONT (NORTH) & WEST SIDE OF Building	~400 SF
- -32	↓	↓ ↓	↓	
- -33	↓	↓ ↓	↓	
12 - CA3 -34	ND	OFF-WHITE WALL CAULK ON EDGE OF ROCK WALL PANEL WEST SIDE OF Building	FRONT (North) & WEST SIDE OF Building	~130 LF
- -35	↓	↓ ↓	↓	
- -36	↓	↓ ↓	↓	
13 - CA3 -37	ND	RED WALL CAULK ON EDGE OF ROCK WALL PANEL ↓	↓	~40 LF
- -38	↓	↓	↓	
- -39	↓	↓ South Soffits	↓	
14 - HP3 -40	ND	WHITE PLASTER ON GRAY CONCRETE ↓	FRONT (North) SOFFITS	~2800 SF
- -41	↓	↓	↓	
- -42	↓	↓	↓	
15 - RF6 -43	ND	TPO ROOF MEMBRANE SOUTHWEST	SOUTHWEST AREA OF ROOF (ROOF 3)	~6,750 SF
- -44	↓	↓	↓	
- -45	↓	↓	↓	
16 - RF5 -46	ND	OFF-WHITE SEAM/TRANSITION CAULK (TPO) ROOF 3	ROOF 3	~75 LF
- -47	↓	↓	↓	
- -48	↓	↓	↓	

PHOTOS OF ALL HA'S

Terracon Project No.: 92257C32

Page 3 of 6

Inspector: Jay Stone/Jonathan Hernandez

Date Collected 10-9-2025

Sample No: (HA, BS, Code, Sample No.)	Condition (ND, D, SD)	Material Description and Sample Location (What is it/Where was it taken)	Material Location/HA (Where it's found)	Quantity (SF or LF)
17 - RF5 - 49	ND	white over green over white coating on metal roof — Roof 2	Roof 2	~59,706 SF
- 50	↓	↓	↓	
- 51	↓	↓	↓	
18 - RF8 - 52	ND	(Built up) Tar & gravel over over foam — Roof 1	Roof 1	~6,300 SF
- 53	↓	↓	↓	
- 54	↓	↓	↓	
19 - RF3 - 55	ND	Composition Shingle Patches — Roof 1	Roof 1	~336 SF
- 56	↓	↓	↓	
- 57	↓	↓	↓	
20 - RF7 - 58	ND	Tar Sealant with silver Paint on HVAC Unit base (7 units) — Roof 1	Roof 1	~168 SF
- 59	↓	↓	↓	
- 60	↓	↓	↓	
21 - RF7 - 61	ND	off-white Parapet wall cap Sealant — Roof 1	Roof	~200 LF
- 62	↓	↓	↓	
- 63	↓	↓	↓	
22 - RF7 - 64	ND	Black Tar Sealant on HVAC Election connection cover — Roof 1	Roof 1	~2 LF
- 65	↓	↓	↓	
- 66	↓	↓	↓	
23 - MA5 - 67	ND	off-white CERAMIC WALL TILE SYSTEM — BR-1	BR-1, 2, 3, 4, 5, 10	~3,780 SF
- 68	↓	BR-3		
- 69	↓	BR-10		
24 - CA2 - 70	ND	white CAULK - SINK - BR-1	BR-1, 2, 3, 4, 5, 10	~20 LF
- 71	↓	↓		
- 72	↓	↓		

PHOTOS OF ALL HA'S

Terracon Project No.: 92257C32

Page 4 of 6

Inspector: Jay Stone / Jonathan Hernandez

Date Collected 10-9-2025

Sample No: (HA, BS, Code, Sample No.)	Condition (ND, D, SD)	Material Description and Sample Location (What is it/Where was it taken)		Material Location/HA (Where it's found)	Quantity (SF or LF)
25 - CA2 - 73	ND	White Caulk - Sink.	BR-6	BR- 6, 7 (3 SINKS)	~30 LF
- -74	↓	↓	↓		
- -75	↓	↓	↓		
26 - FT5 -76	ND	Brown 2"x2" Ceramic /	BR-1		2,128
- -77	↓	Fliertile System	BR-3		
- -78	↓	↓	BR-9		
27 - WB4 -79	ND	Painted Gypsum Wallboard System - Walls	BR-1	All POC	~4,256 SF
- -80	↓	↓	BR-3		
- -81	↓	↓	BR-4		
- -82	↓	↓	BR-5		
- -83	↓	↓	BR-7		
- -84	↓	↓	BR-8		
- -85	↓	↓	BR-10		
28 - CT3 -86	ND	White 2'x2' Gypsum Ceiling Tile	BR-1	BR-1, BR-3, BR-8, BR-9	~1,680 SF
- -87	↓	↓	BR-3		
- -88	↓	↓	BR-8		
29 - MA4 -89	ND	White 4"x4" Ceramic Wall Tile System	BR-6	BR-6, 7	~1,160 SF
- -90	↓	↓	BR-6		
- -91	↓	↓	BR-7		
30 - FT5 -92	ND	Gray 2"x2" Ceramic Floor Tile System	BR-6	BR-6, 7	~484 SF
- -93	↓	↓	BR-6		
- -94	↓	↓	BR-7		
- -					
- -					

PHOTOS OF ALL HA'S

Terracon Project No.: 92257C32

Page 5 of 6

Inspector: Jay Stone/Jonathan Hernandez

Date Collected 10-9-25

Sample No: (HA, BS, Code, Sample No.)	Condition (ND, D, SD)	Material Description and Sample Location (What is it/Where was it taken)		Material Location/HA (Where it's found)	Quantity (SF or LF)
31 - SC4 - 95	ND	PAINTED CONCRETE MASONRY UNIT (CMU)	BR-1	BR-1, 3, 8, 9	~800 SF
- 96			BR-6		
- 97			BR-8		
32 - WB4 - 98	ND	PAINTED GYPSUM WALLBOARD SYSTEM - CEILING	BR-2	BR-2, 4, 5, 6, 7, 10	~1,036 SF
- 99			BR-4		
- 100			BR-5		
- 101			BR-7		
- 102			BR-10		
33 - FT2 - 103,	D	TAN 12"X12" FLOOR TILE WITH BLACK MASTIC	HALLWAY BY OFFICE	EXIT HALLWAY, CAFE OFFICE, HALLWAY	~479 SF
- 104			OFFICE	BY OFFICE	
- 105			EXIT HALLWAY		
34 - FT5 - 106	ND	BROWN 2"X2" CERAMIC FLOOR TILE SYSTEM	FOOD PREP	FOOD PREP, STORAGE, REST ROOM	~1,664 SF
- 107					
- 108					
35 - FT5 - 109	ND	TAN 12"X12" CERAMIC FLOOR TILE SYSTEM	FOOD SERVICE	FOOD SERVICE & CAFE -	~495 SF
- 110					
- 111					
36 - FT5 - 112	ND	GRAY 12"X12" CERAMIC FLOOR TILE SYSTEM	FOOD SERVICE	FOOD SERVICE	~105 SF
- 113					
- 114					
37 - FC3 - 115	D	BROWN 8"X12" CERAMIC COVE BASE	FOOD PREP	FOOD PREP, STORAGE, REST ROOM	~200 LF
- 116					
- 117					
-					

PHOTOS OF ALL HA'S

Terracon Project No.: 92257C32

Page 6 of 6

Inspector: JAY STONE / JONATHAN HERNANDEZ

Date Collected 10-9-25

Sample No: (HA, BS, Code, Sample No.)	Condition (ND, D, SD)	Material Description and Sample Location (What is it/Where was it taken)	Material Location/HA (Where it's found)	Quantity (SF or LF)
38 - RF3 - 118	ND	Black Composition Roof Shingles & TAR PAPER — WOOD Boy Scout Building	Roof - Boy Scout Building	~3000 SF
- 119	↓			
- 120	↓			
39 - SC2 - 121	ND	BLACK TAR PAPER & VAPOR BARRIER	PERIMETER WALLS - Boy Scout Building Behind SIDING	1,800SF
- 122	↓			
- 123	↓			
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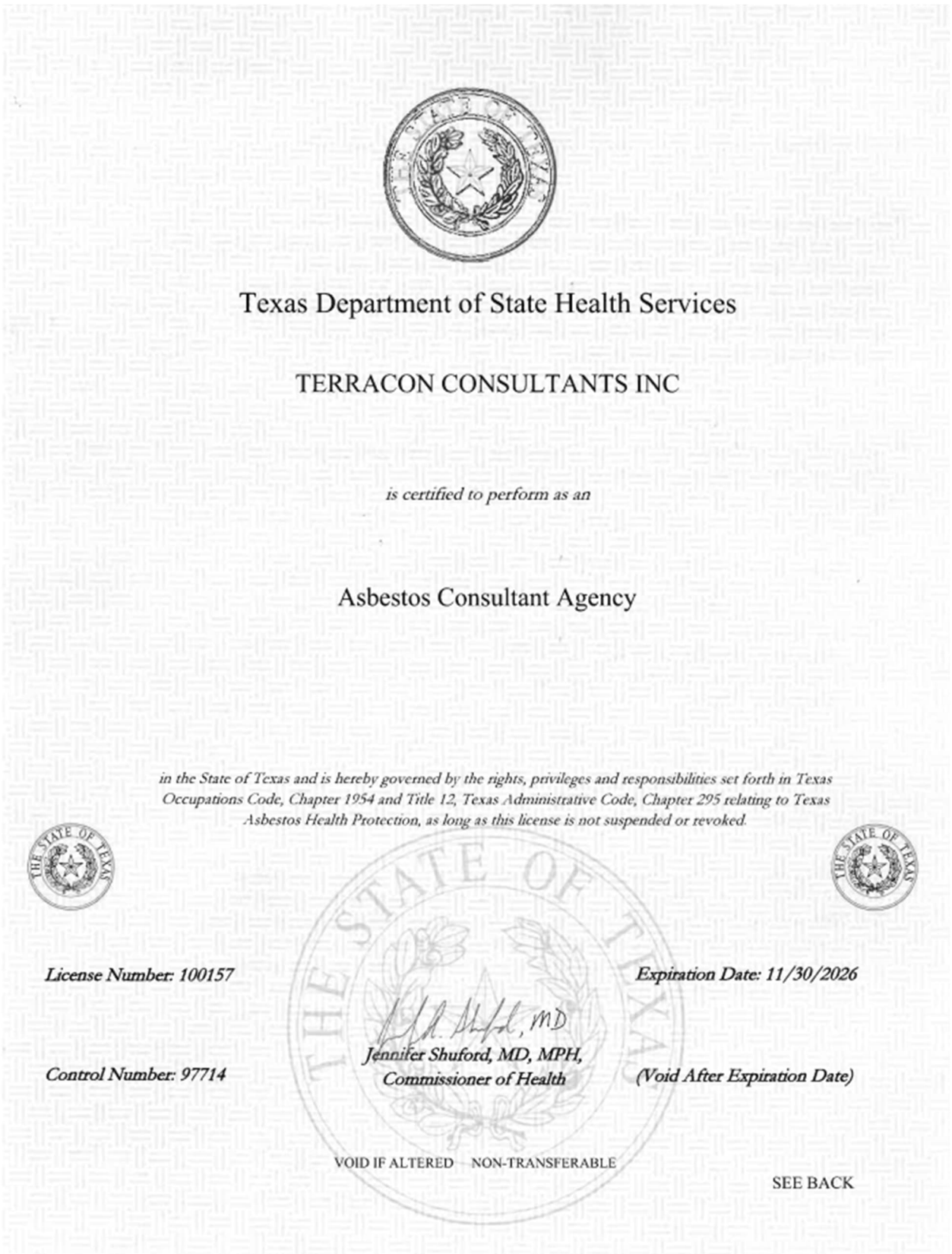
PHOTOS OF ALL HA'S

APPENDIX F
LICENSES & CERTIFICATIONS



Texas Department of State Health Services

TERRACON CONSULTANTS INC

is certified to perform as an

Asbestos Consultant Agency

in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1954 and Title 12, Texas Administrative Code, Chapter 295 relating to Texas Asbestos Health Protection, as long as this license is not suspended or revoked.

License Number: 100157

Expiration Date: 11/30/2026

Jennifer Shuford, MD, MPH,
Commissioner of Health

Control Number: 97714

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

SEE BACK

Texas Department of State Health Services

MICRO ANALYTICAL SERVICES INC

is certified to perform as an

Asbestos Laboratory

PCM, PLM

in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1954 and Title 12, Texas Administrative Code, Chapter 295 relating to Texas Asbestos Health Protection, as long as this license is not suspended or revoked.

License Number: 300341

Expiration Date: 01/25/2026

Jennifer Shuford, MD, MPH,
Commissioner of Health

Control Number: 96774

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

SEE BACK


TEXAS
Health and Human Services
Texas Department of State Health Services

Asbestos Inspector

JONATHAN HERNANDEZ
License Number: 604267
Control Number: 101228
Expiration Date: 10-Jul-2027


Texas Department of State Health Services

Asbestos Individual Consultant

JOHN A STONE
License No. 105860
Control No. 98321
Expiration Date: 1-Jan-2026

TEXAS
Health and Human Services | Texas Department of State Health Services

Asbestos Inspector

CHRISTIAN HUMBERTO PEDRAZA

License Number: 604222

Control Number: 101022

Expiration Date: 28-Oct-2026

SECTION 07 56 01 – ACRYLIC APPLIED ELASTOMERIC ROOFING ON METAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Qualifications, Standards and Materials for new roof assembly.
   2. Cleaning roofing surface.
   3. Acrylic elastomeric coating.
   4. Reinforced Flashing System.
   5. Traffic pads.

B. Related Sections:
   1. Division 07 Section “Roof Repair Preparation” for deck repair and replacement.
   2. Division 07 Section “Sheet Metal Flashing and Trim” for metal roof penetration flashings, flashings, and counterflashings.

1.3 DEFINITIONS

A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

B. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.

1.4 ACTION SUBMITTALS

A. Product List: Submit list of proposed Products and manufacturers, including all items specified in Part 2 – Products or otherwise required by the Work.

B. Product Data: For each type of product indicated.

C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
   1. Base flashings and penetrations.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer and manufacturer to certify and document items in Article on Quality Assurance.

B. Manufacturer's Certification: Provide current letter(s) on coating manufacturer's letterhead, signed by an authorized employee or corporate officer attesting to following:

   1. Products: Certify that coating system complies with requirements specified in "Performance Requirements" Article. Submit evidence of meeting performance requirements, including that:
      a. Coating system components are physically and chemically compatible for installation as designed, and;
      b. All proposed materials, including those by other manufacturer, are acceptable to coating manufacturer for use in system, and;

c. Proposed system meets all criteria for issuance of required manufacturer's warranty.
d. Specifically identify and define any deviations.

2. Installer Certificates: Signed by coating system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
3. The use of products from various manufacturers must be approved by the Primary Manufacturer of the roof system. Contractor must provide a Systems Letter where Primary Manufacturer declares that all products are compatible and the roof system is eligible to receive a 10-year NDL Warranty. Or, else, a substitution can be submitted, for review (following the substitution approval process outlined in the project manual.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of membrane roofing system.

D. Manufacturer's Installation Instructions: Include installation sequence, special instructions, and Material Safety Data Sheets (MSDS).

E. Daily Inspection Form: Check list document or form with signature line for Project Manager or Superintendent, signifying installation is in accordance with specified requirements, and tie-ins and temporary flashings are properly sealed at end of each working day and as otherwise required to ensure water-tightness.

F. Manufacturer's Field Reports: Summarize findings of each inspection. Indicate any discrepancies from recommended installation methods, corrective action recommended to installer, and any non-compliant or unsatisfactory conditions.

1.6 CLOSEOUT SUBMITTALS

A. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

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

C. Project Record Documents: Accurately record exact location of all roof membrane penetrations.

D. Warranties: Sample of special warranties.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for membrane roofing system identical to that used for this Project, with minimum five years documented experience.

B. Installer Qualifications: A qualified firm that has been continuously approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product for minimum of three years prior to Bid Date, and that is eligible to receive manufacturer's warranty; with minimum five years documented experience, including:
1. Personnel trained and certified by local authority having jurisdiction for all torch applications.

C. Workers: All roofers and laborers to be direct employees of Primary Contractor.
1. Project Manager and Superintendent: Minimum five years roofing experience and employed by Contractor for a minimum one year prior to Bid Date.
2. Non-working Supervisor: Able to communicate effectively with School staff and Applicator's workers and employed by Contractor for a minimum one year prior to Bid Date.

D. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to UL 790.

E. Source Limitations: Obtain components for roofing system from or approved by coating system manufacturer.

F. Perform Work in accordance with NRCA Manual of Roof Maintenance and Roof Repair, NRCA Roofing and Waterproofing Manual, and manufacturer's instructions.

G. Maintain one copy of each document accessible to site.

H. Assign a qualified, full-time, non-working supervisor to be on Project site at all times during installation of Work.

I. Designate a responsible Project Manager or Superintendent to inspect all installed Work, particularly tie-ins and temporary flashings, at end of each working day and as otherwise required to ensure water-tightness.
   1. Verify Inspection by signature on approved Daily Inspection Form signifying installation is in accordance with specified requirements.

J. Maintain and operate all equipment in accordance with equipment manufacturer’s instructions.

K. Preinstallation Roofing Conference: Conduct conference at Project site.
   1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, coating system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
   2. Review methods and procedures related to coating installation, including manufacturer's written instructions.
   3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   4. Review structural loading limitations of roof deck during and after roofing.
   5. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
   6. Review governing regulations and requirements for insurance and certificates if applicable.
   7. Review temporary protection requirements for roofing system during and after installation.
   8. Review roof observation and repair procedures after roofing installation.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
   1. Inspect for damage. Remove from site and replace any damaged materials.
   2. Store products in weather protected environment, clear of ground and moisture.
   3. Stand and store roll materials on end.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
   1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.
   1. Do not store more materials on roof than can be installed within two days, unless specifically approved otherwise.

2. Maximum Allowable Loading on Roof: 20 pounds per square foot.

1.9 PROJECT CONDITIONS

A. Weather Limitations:
1. Install all materials in accordance with Manufacturer's published safety and weather precautions.
2. Do not apply if rain is expected within 1 hour. For cold weather application, keep material stored above 65 °F. For application in temperatures below freezing or above 120 °F.
3. Take all measures necessary to protect unrelated surfaces from coating overspray or spillage.

1.10 COORDINATION

A. Coordinate work under provisions of Division 01 Section “Administration Requirements.”

B. Coordinate with demolition work and with work of other trades to ensure sufficient materials and manpower are available to completely replace and make watertight all roofing removed each day.

C. Coordinate installation of associated metal flashings and roof-related items as work of this Section proceeds.

D. Schedule work to avoid storage on and traffic over finished work.

1.11 WARRANTY

A. Manufacturers 20 YEAR NDL material and Labor Warranty.

B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form in Division 01 “Applicator Warranty”, signed by Installer, covering Work of this Section, including all components of coating system such as coating, base flashing materials, and accessories, for the following warranty period:
1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ACRYLIC ELASTOMERIC COATING MATERIALS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Elastek #127 Solar One Plus (Basis of Design) Contact Texas Lone Star Reps 281-888-7464
a. Or approved substitution by contractor prior to bid. Refer to Division 1.

B. Roofing Coating System: Elastek #127 Solar One Plus

C. Cleaner: Trisodium Phosphate Solution if metal surface is dirty, oily, etc.
1. Sacrificial Tape: ScothBlue™ Original Painter’s Tape or equivalent (as needed)
2. Primer: ERsystems Acrylic Rust Primer
3. Polyurethane Gap/Joint Sealant: ERSYSTEMS ® H.E.R
4. Related Materials
a. Gap/Joint Sealant: Permathane SM7120PU
b. Gap/Joint Sealant: Elastek #103 Crack & Joint Sealant
c. Gap/Joint Fabric: POLYTEK Polyester Knit Fabric
5. Fasteners: Oversized Self Drilling & Self Tapping Metal
6. ELASTEK® #505 PUDDLE PLASTER: Paste-like, black reinforced asphalt emulsion
7. lightweight filler.

8. ERSYSTEMS® QUICKET: Self leveling repair sealant. Quickly builds cricket and a pourable sealer.
9. Coating: Elastek #127 Solar One Plus.

D. AUXILIARY ROOFING MEMBRANE MATERIALS

E. Sheet: Metal flashing sheet is specified in Division 07 Section "Sheet Metal Flashing and Trim."

F. Plumbing Stacks: Prefabricated Roof Jacks; Shall be heavy duty EPDM type product; consultant/manufacturer approved.

G. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Metal panels must be structurally sound and securely fastened. Severe oxidation may render some panels unsuitable to serve as a proper substrate for the coating and should be replaced as needed.

B. Verify that substrate is ready to receive work; surface is clean, dry, and free of substances that could affect bond.

C. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect, general contractor, or owner prior to starting the waterproofing application.

D. Inspect metal fasteners and retighten where possible. Where fasteners are stripped out, missing, corroded, or neoprene grommets are deteriorated, replace with oversize screws. Inspect horizontal and vertical seams, panel end laps, and tension bars/strap.

3.2 PREPARATION

A. Walk the roof deck and tighten all loose fasteners. Replace missing fasteners and all fasteners that are stripped with oversized fasteners.

B. Metal panels which no longer have integrity due to excessive rust and deterioration must be replaced.

C. Panels with seam gaps of 1/8" or more must be stitched as tight as possible with additional screws. Any horizontal seams where the purlin screws are more than 2” from the overlap must be stitched tight at the seam with a minimum of 6 per 3’ panel. Light gauge metal panels may flex open at the horizontal lap seam when walked on. Additional stitch screws and/or polyester fabric reinforcement may be required in the pan of the panel to reduce deflection. Manufacturers joint sealant may be used to seal gaps prior to stitching metal with appropriate fasteners. PERMATHANE® SM7120PU may be used to seal gaps prior to stitching metal with appropriate fasteners.

3.3 CLEANING

A. Prepare the roof surface by high pressure washing, rinse well and let dry. Use a tri-sodium phosphate (TSP) solution if the metal surface is especially dirty, oily, etc. Water pressure of 2,000 psi to 3,000 psi will be required to remove loose rust, dirt, paint, and miscellaneous soils.

B. Galvanized metal surfaces may require an acid etch to remove debris, which may interfere with proper bonding. The dilute acid solution must be thoroughly rinsed from the roof.

C. If rust is a hard scale, it may require power brushing to remove and get down to a sound substrate

D. If silicone products have been used in attempts at waterproofing, they must be removed prior to coating applications.

E. If asphalt-based roof coatings have been previously used to repair roof seams and fastener heads, do not apply solvents to clean these areas. Remove asphalt coating with power washing, scraping, or brushing.

F. After pressure washing and cleaning, remove all loose coating, scale and other foreign matter with a putty knife or other appropriate tool. Brush clean and apply coating directly over the tightly bound coating which remains. Let dry completely before proceeding.

3.4 DRAINAGE

A. Areas exhibiting a lack of positive drainage or ponding water will adversely affect performance of any roofing system and will be excluded from warranty. Where positive drainage does not exist, water removal from the roof surface must be facilitated by lowering drains and/or taking other corrective action. Additional maintenance inspections, repair work, the addition or use of primers and/or higher system mil-build may be required in these areas to extend coating life.

3.5 PRIMING

A. Coat all rusty surfaces with rust primer. Apply rust primer at 0.5 gallon per 100 square feet for modest rust. (total dry mils 3, minimum 2.5)

B. Under normal drying conditions, rust primer may be re-coated within 2 to 4 hours.

3.6 SEAMS, FASTENERS & PENETRATIONSREPAIRS:

A. Waterproof seams: Apply Polyurethane Gap/Joint Sealant by pumping a bead 1" to 1.5" wide into place along the vertical seam. Fill the underside of the seam with Polyurethane Gap/Joint Sealant by brushing perpendicular to the seam with a 3" wide brush and then feather the Polyurethane Gap/Joint Sealant to a 3" width along the seam. Polyurethane Gap/Joint Sealant shall be approximately 60 wet mils (1/16") thick directly over the area of the seam. Horizontal seams are sealed in the same manner as vertical seams. Two coats may be required in some areas to achieve DMT specified. Horizontal seams may be reinforced with polyester fabric embedded into the Polyurethane Gap/Joint Sealant at areas where excessive movement of the panels is known to exist or where gaps between the panels exist even after additional fasteners are added.

B. Fasteners: Polyurethane Gap/Joint Sealant shall be applied at 60 wet mils over all fastener heads, extending 1.5" in all directions around the fastener head.

C. Penetrations & Flashings: Seal with Polyurethane Gap/Joint Sealant by applying a 60 wet mils thickness for 3" to 4" around the base of the penetration. Polyester fabric may be embedded in the Polyurethane Gap/Joint Sealant to bridge gaps and reinforce the membrane.

D. Gutters & valleys: Seal with Polyurethane Gap/Joint Sealant by applying a 60 wet mils thickness over the area to be sealed and for 3"-4" up and beyond the area to be sealed. If necessary, embed polyester fabric of the appropriate width, and brush or roll additional Polyurethane Gap/Joint Sealant over the fabric, making certain all wrinkles are rolled out of the fabric. Let Polyurethane Gap/Joint Sealant cure for 24 hours prior to applying Finish Coat.

E. ***Gutters must be clean and free of debris. Apply light pressure water and a cleaner such as Gaco wash to prep the surface. Treat seams with H.E.R single component polyurethane. Let H.E.R product cure for 12-24Hours. inspect the seams and then apply***

a top coat of Gaco S4200 High solid silicone at a rate of 2.25gallons per 100sqft to fully coat the internal lining of the Gutter system.

F. Skylights: Edges shall be sealed with Polyurethane Gap/Joint Sealant as described above.

G. Typical roofs will require .4 to .5 gallons per 100 square feet of Polyurethane Gap/Joint Sealant to complete the waterproofing of seams and fasteners. Waterproofing penetrations, valleys, and repair areas will require additional Polyurethane Gap/Joint Sealant Application of 60 wet mils requires approximately 4 gallons per 100 square feet.

H. Inspection of all Polyurethane Gap/Joint Sealant application should be done to assure that work is satisfactory and complete, and that the sealing of gaps and bolt heads has been accomplished.
1. Polyurethane Gap/Joint Sealant over seams, fasteners and penetrations and repair areas shall be 50 dry mils minimum.
2. The roof is watertight at this point.

I. ACRYLIC COATING (Note: Total dry mil minimums not acceptable uniformly over entire field):
1. Acrylic coating applied at the rate of 2.5 gallons per 100 square feet in two passes at 1.25 gallons per 100 square feet per pass, total dry mil: 21, minimum 18.
2. Typical treatment for recoat is 8-24 hours.
3. Contact manufacturer Technical Department for warranty requirements.

3.7 CLEAN UP

A. Clean up tools and equipment immediately after spraying by using a 1 to 2 % solution of aqua ammonia followed by a clean water rinse. Follow spray equipment manufacturer's guidelines on clean up, storage and maintenance of spray equipment.

3.8 FIELD QUALITY CONTROL

A. Any variations from the specified limits found by the Applicator or owner's representative shall be corrected by the Applicator.
B. No traffic shall be permitted on the coated surface for a minimum of three (3) days. Damage to the surface by other trades shall not be the responsibility of the Applicator.

3.9 PROTECTION OF FINISHED WORK

A. Protect finished Work under provisions of Division 01 Section "Temporary Facilities and Controls."

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

C. Where traffic must continue over finished roof installation, protect surfaces.
1. Minimum Protection: Cushion layer of insulation, minimum 1-inch thick, and one layer of plywood minimum 3/4-inch thick. Ballast plywood for site and personnel protection.

D. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION 075601

SECTION 08 41 13 – ALUMINUM-FRAMED STOREFRONTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes: Requirements including but not limited to:
   1. Exterior storefront framing.
   2. Accessories necessary for a complete installation.

1.3 PERFORMANCE REQUIREMENTS

A. Performance: Aluminum framed systems shall withstand the effects of specified performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:
   1. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
   2. Dimensional tolerances of building frame and other adjacent construction.
   3. Failure includes the following:
      a. Deflection exceeding specified limits.
      b. Thermal stresses transferring to building structure.
      c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
      d. Noise or vibration created by wind and by thermal and structural movements.
      e. Loosening or weakening of fasteners, attachments, and other components.
      f. Sealant failure.
      g. Failure of operating units.

B. Structural Loads:
   1. Wind Loads: Indicated on Drawings.

C. Deflection of Framing Members:
   1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed L/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch19 mm, whichever is less.
   2. Deflection Parallel to Glazing Plane: Limited to L/360 of clear span or 1/8 inch3.2 mm, whichever is smaller.

D. Structural Test Performance: Provide aluminum framed systems tested according to ASTM E 330 as follows:
   1. When tested at positive and negative wind load design pressures, systems do not evidence deflection exceeding specified limits.
   2. When tested at 150 percent of positive and negative wind load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
   3. Test Durations: As required by design wind velocity, but not fewer than 10 seconds.

E. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft.0.03 L/s per sq. m of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 6.24 lbf/sq. ft. (300 Pa.

F. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa.

G. Thermal Movements: Provide aluminum-framed systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 degrees F (67 degrees C, ambient; 180 degrees F100 degrees C, material surfaces.
   2. Interior Ambient-Air Temperature: 75 degrees F (24 degrees C.

H. Condensation Resistance: Provide aluminum framed systems with fixed glazing and framing areas having condensation-resistance factor (CRF) of not less than 45 when tested according to AAMA 1503.

I. Thermal Conductance: Provide aluminum framed systems with fixed glazing and framing areas having an average U-factor of not more than 0.57 Btu/sq. ft. x h x degrees F3.23 W/sq. m x K when tested according to AAMA 1503.

1.4 SUBMITTALS

A. Product Data: Technical data for each type of product indicated including construction details, material descriptions, dimensions of individual components and profiles, and finishes for aluminum framed systems.

B. Shop Drawings: Submit aluminum storefront framing and entrances shop drawings including plans, elevations, sections, full size details, and attachments to other Work.
   1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.
   2. For entrance doors, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.

C. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related Work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

D. Engineer’s calculations of performance requirements.

E. Maintenance Data: For aluminum framed systems to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Accessibility Requirements: Comply with applicable requirements.

a. U.S. Architectural and Transportation Barriers Compliance Board Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG).
b. ICC/ANSI A117.1 Accessible and Useable Building and Facilities.
c. Texas Accessibility Standards (TAS) 2012.

B. Installer Qualifications: Installer having minimum 10 years documented experience who is an authorized representative of the manufacturer and is trained and approved for installation of units required.

C. Engineering Responsibility: Prepare data for aluminum framed systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in systems similar to those indicated.

D. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in service performance.
1. Do not revise intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review.

E. Source Limitations: Obtain aluminum framed entrances from single source from single manufacturer.

F. Preinstallation Conference: Conduct conference at site.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for aluminum framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 WARRANTY

A. Warranty: Written warranty signed by Manufacturer, Contractor, and Installer in which manufacturer agrees to repair or replace components of aluminum framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration caused by thermal movements.
c. Water leakage through fixed glazing and framing areas.
d. Failure of operating components.

2. Warranty Period: Two years from date of Substantial Completion.

B. Finish Warranty: Written warranty signed by manufacturer in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.
1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

1.1 MATERIALS

A. Basis of Design: Kawneer Trifab 451/451T (Product Evaluation CWSF-34), impact resistant system, maximum design pressure +/- 45 psf. Subject to compliance with requirements, provide comparable storefront system by one of the following:
   1. EFCO Corporation.
   2. Old Castle Building Envelope
   3. Tubelite, Inc.
   4. US Aluminum Corporation.
   5. Vistawall.
   6. YKK America AP, Inc.

B. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
   1. Sheet and Plate: ASTM B 209ASTM B 209M.
   2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221ASTM B 221M.
   3. Extruded Structural Pipe and Tubes: ASTM B 429.
   4. Structural Profiles: ASTM B 308/B 308M.

C. Framing Members: Extruded aluminum framing members of thickness required and reinforced necessary to support imposed loads.
   1. Construction: Nonthermal/Thermal.
   2. Glazing System: Retained mechanically with gaskets on four sides.
   3. Glazing Plane: Center.

D. Accessories:
   1. Brackets and Reinforcements: High strength aluminum with nonstaining, nonferrous shims for aligning system components.
   2. Fasteners and Accessories: Corrosion resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
      a. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
      b. Reinforce members as required to receive fastener threads.
   3. Concrete and Masonry Inserts: Hot dip galvanized cast iron, malleable iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.
   4. Concealed Flashing: Corrosion resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.
   5. Framing System Gaskets and Sealants: Recommended by manufacturer for joint type.

E. Glazing: Refer to Section 08 80 00 for impact resistant laminated insulating glass with low-e coating on Number 2 surface.
   1. Glazing Gaskets: Compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.
   2. Spacers and Setting Blocks: Elastomeric type.

F. Windows with head up to 20’ AFF as a minimum shall be constructed or unitized factory constructed window systems.

G. Accessories:
   1. Joint Sealants: For installation at perimeter of aluminum framed systems, refer to Section 07 92 00.
   2. Bituminous Paint: Cold applied, asphalt mastic paint complying with SSPC-Paint 12

requirements except containing no asbestos; formulated for 30 mil 0.762 mm thickness per coat.

1.2 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Framing Members: Fabricate components that, when assembled, have specified characteristics:
1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
4. Physical and thermal isolation of glazing from framing members.
5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
6. Provisions for field replacement of glazing from interior for vision glass and exterior for spandrel glazing or metal panels.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.Provide sill receptors with end dams at all sill conditions.
8. **Profile and minimum size as indicated in drawing.**

C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

D. Storefront Framing: Fabricate components for assembly using screw spline system.

E. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

F. Vertical members of storefront and curtain wall trim not to exceed 10 feet in length.

1.3 ALUMINUM FINISHES

A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
1. Color: Clear anodized.
2. **Match existing.**

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions for compliance with requirements for installation tolerances and conditions affecting performance of the Work. Proceed with installation after correcting unsatisfactory conditions.

3.2 INSTALLATION

A. Comply with aluminum framed storefront manufacturer recommended installation instructions. Coordinate installation with curtain wall work.
1. Do not install damaged components.
2. Fit joints to produce hairline joints free of burrs and distortion.
3. Rigidly secure nonmovement joints.
4. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.

5. Seal joints watertight unless otherwise indicated.

B. Metal Protection:
   1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
   2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 to produce weathertight installation.Install components plumb and true in alignment with established lines and grades, and without warp or rack.

E. Install glazing specified in Section 08 80 00.

F. Entrance Doors and Hardware: Install existing doors in new storefront frame to produce smooth operation and tight fit at contact points.
   1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
   2. **Field Installed Entrance Door Hardware: Provide and install new manufacturer's standard continuous hinges, gaskets and metal thresholds. Install existing door and remaining salvaged hardware.**

G. Install perimeter joint sealants as specified in Section 07 92 00 to produce weathertight installation.

3.3 ERECTION TOLERANCES

A. Install aluminum framed systems to comply with the following maximum erection tolerances:
   1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
   2. Alignment:
      a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch1.5 mm.
      b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch0.8 mm.

B. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch3 mm.

3.4 ADJUSTING

A. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.
   1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches 75 mm from the latch, measured to the leading door edge.

END OF SECTION 08 41 13

SECTION 08 80 00 -GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
   1. Windows.
   2. Storefront framing.
   3. Glazing sealants and accessories.

1.2 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

C. IBC: International Building Code.

D. Interspace: Space between lites of an insulating-glass unit.

1.3 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.
   1. Tinted glass.
   2. Laminated glass.
   3. Insulating glass.

C. Glazing Accessory Samples: For sealants, in 12-inch (300-mm) lengths. Install sealant Samples between two strips of material representative in color of the adjoining framing system.

D. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

E. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturers of insulating-glass units with sputter-coated, low-E coatings.

B. Product Certificates: For glass.

C. Product Test Reports: For insulating glass and glazing sealants, for tests performed by a

qualified testing agency.

1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

D. Preconstruction adhesion and compatibility test report.

E. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.

B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.

D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

E. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Install glazing in mockups specified in Section 08 41 13 "Aluminum-Framed Entrances and Storefronts" and Section 08 44 13 "Glazed Aluminum Curtain Walls" to match glazing systems required for Project, including glazing methods.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 PRECONSTRUCTION TESTING

A. Preconstruction Adhesion and Compatibility Testing: Test each glass product, tape sealant, gasket, glazing accessory, and glass-framing member for adhesion to and compatibility with elastomeric glazing sealants.

1. Testing is not required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.
2. Use ASTM C 1087 to determine whether priming and other specific joint- preparation techniques are required to obtain rapid, optimum adhesion of

   glazing sealants to glass, tape sealants, gaskets, and glazing channel substrates.
3. Test no fewer than 2 Samples of each type of material, including joint substrates, shims, sealant backings, secondary seals, and miscellaneous materials.
4. Schedule enough time for testing and analyzing results to prevent delaying the Work.
5. For materials failing tests, submit sealant manufacturer's written instructions for corrective measures including the use of specially formulated primers.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
   1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 deg F (4.4 deg C).

1.10 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.
   1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty for Insulating Glass: Manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
   1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.
   1. Obtain tinted glass from single source from single manufacturer.
   2. Obtain reflective-coated glass from single source from single manufacturer.

B. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design glazing.

C. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined according to the IBC and ASTM E 1300.
   1. Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, based on heights above grade indicated on Drawings.
      a. Wind Design Data: As indicated on Drawings.
   2. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1

inch (25 mm), whichever is less.

3. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.

D. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

E. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.
2. For laminated-glass lites, properties are based on products of construction indicated.
3. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
4. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).
5. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
6. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."
2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
4. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

D. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.

1. Minimum Glass Thickness for Exterior Lites: 1/4-inch (6 mm).
2. Minimum Glass Thickness for Interior Lites up to 96-inches tall: 3/8-inch (10 mm).
   a. Provide load charts or calculation to determine maximum allowable width of each lite.
3. Minimum Glass Thickness for Lites 96 to 120-inches tall: 1/2-inch (12 mm).
   a. Provide load charts or calculation to determine maximum allowable width of each lite.
4. Thickness of Tinted Glass: Provide same thickness for each tint color indicated throughout Project.

E. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance

Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

A. Primary Float Glass
   1. Clear Annealed Float Glass: ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.
   2. Minimum Thickness: 6 mm.
      a. Products: Subject to compliance with requirements, provide one of the following:
         1) AFGD, clear float glass.
         2) Guardian, clear glass.
         3) Pilkington Libbey-Owens-Ford (LOF), clear glass
         4) Vitro Architectural Glass, clear glass.

B. Heat-Treated Clear Float Glass
   1. Heat Treated Float Glass: ASTM C 1048, Condition A (uncoated); Quality-Q3 and as follows:
      a. Class: 1 (clear).
      b. Minimum Thickness: 6 mm.
      c. Kind: FT (fully tempered).
   2. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
   3. For clear or low-iron glass 1/4” to 3/8” thick without ceramic frit or ink, maximum + or – 100 mD (millidiopter) over 95% of the glass surface.
   4. Maximum peak to valley rollerwave 0.003” (0.08mm) in the central area and 0.008” (0.20mm) within 10.5” (267mm) of the leading and trailing edge

2.5 INSULATING GLASS

A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.
   1. Sealing System: Dual seal, with manufacturer's standard primary and silicone sealant complying with ASTM C 1249 for secondary seal.
   2. Sealed Insulating Glass Units to be double sealed with a primary seal of polyisobutylene and a secondary seal of silicone complying with ASTM C 1249.
      a. Minimum thickness of the secondary seal shall be 1/16” (1.59mm).
      b. Target width of the primary seal shall be 5/32” (3.97mm).
      c. No voids or skips in the primary seal allowed.
      d. Up to a maximum of 3/32" of the air spacer may be visible above the primary polyisobutylene sealant.
      e. Gaps or skips between primary and secondary sealant are permitted to a maximum width of 1/16” (1.59mm) by maximum length of 2” (51mm) with gaps separated by at least 18” (457mm). Continuous contact between the primary seal and the secondary seal is desired.
   3. Spacer: Manufacturer's standard spacer material and construction.
   4. Desiccant: Molecular sieve or silica gel, or a blend of both.

B. Basis of Design Product:
   1. Glass (**Type IG-1**): Low-e-coated, clear insulating glass.
      a. Overall Unit Thickness: 1-inch (25 mm).
      b. Thickness of Outer Glass Lite: 1/4-inch (6.0 mm).
      c. Outdoor Lite: Ultraclear (Optiwhite) heat strengthened float, fully tempered where required or indicated (GL-1A HS or GL-1A FT).

d. Interspace Content: Air.
e. Interspace Size: 1/2 inch (12.7 mm)
f. Thickness of Inner Glass Lite: 1/4-inch (6.0 mm).
g. Indoor Lite: Ultraclear (Optiwhite) Heat strengthened float glass (GL-1A HS or GL-1A FT), fully tempered where required or indicated.
h. Performance Characteristics:
   1) Visible Light Transmittance: 49 percent minimum.
   2) Winter Nighttime U-Factor: 0.29 maximum.
   3) Solar Heat Gain Coefficient:0.25 maximum.
   4) Exterior Reflectivity: 26 percent.
i. Provide safety glazing labeling where required.
j. Basis of Design: Solarban R77 Acuity + Acuity as manufactured by Vitro.
k. **Tint and coating to match existing.**

2.6 GLAZING SEALANTS

A. General:
1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Sealant shall have a VOC content of 250 g/L or less.
4. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Dow Corning Corporation.
   b. GE Construction Sealants; Momentive Performance Materials Inc.
   c. May National Associates, Inc.; a subsidiary of Sika Corporation.
   d. Pecora Corporation.
   e. Sika Corporation.
   f. Tremco Incorporated.
2. Applications: Window perimeters or panel to panel joints. To coat over end dams or other internal seals in curtain wall systems.

2.7 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
2. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.

2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.8 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

2.9 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
   1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
      a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
   1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
   2. Presence and functioning of weep systems.
   3. Minimum required face and edge clearances.
   4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
   1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
   2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and

press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.5 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.6 CLEANING AND PROTECTION

A. Immediately after installation remove nonpermanent labels and clean surfaces.

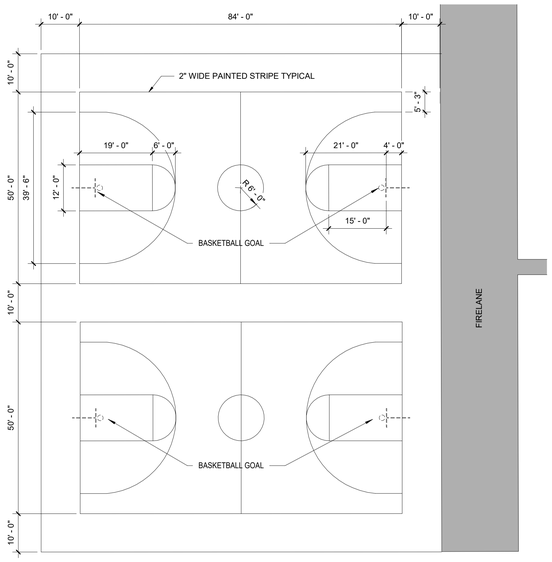
B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

1. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

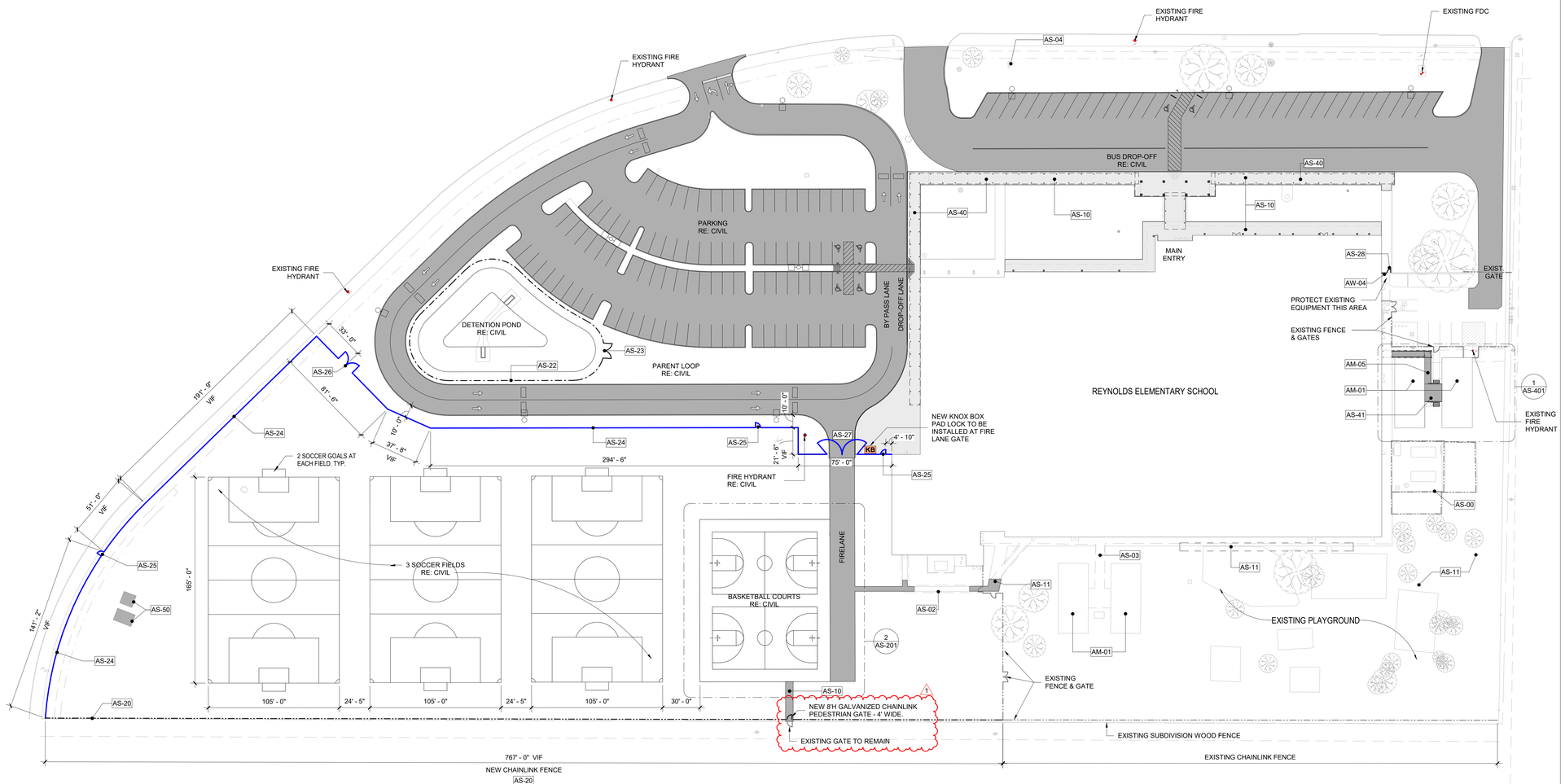
D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 08 80 00



2 BASKETBALL COURT PLANS

1/16" = 1'-0"



1 SITE PLAN

1" = 40'-0"

KEYNOTES

AM-01	EXISTING PORTABLES.
AM-05	NEW PRE-FABRICATED ALUM. RAMP, LANDING, STAIR, & DECK SYSTEM - RE: SPECIFICATIONS
AS-00	EXISTING CHAINLINK FENCE AND GATE
AS-02	EXISTING ALUMINUM WALKWAY CANOPY TO REMAIN. REMOVE AND REINSTALL AS REQUIRED TO ACCOMMODATE CIVIL WORK IN THIS AREA
AS-03	EXISTING ALUMINUM WALKWAY CANOPY, RAMP AND STAIR TO PORTABLE BUILDINGS
AS-04	EXISTING ELECTRONIC MARQUEE SIGN
AS-10	NEW SIDEWALK. RE: CIVIL
AS-11	REFER TO CIVIL FOR WORK IN THIS AREA.
AS-20	NEW 8'H GALVANIZED CHAINLINK FENCE. INSTALL IN FRONT OF EXISTING WOOD FENCE. MATCH, ALIGN AND CONNECT WITH EXISTING. RE: SPEC
AS-22	NEW 6'H BLACK COATED CHAINLINK FENCE AROUND DETENTION POND. RE: SPEC.
AS-23	NEW 6'H BLACK COATED CHAINLINK DOUBLE GATE - 12' WIDE.
AS-24	NEW 8'H BLACK ORNAMENTAL FENCE. RE: SPEC.
AS-25	NEW 8'H BLACK ORNAMENTAL EXIT GATE - 4' WIDE. RE: SPEC.
AS-26	NEW 8'H BLACK ORNAMENTAL DOUBLE GATE - 16' WIDE. RE: SPEC.
AS-27	NEW 8'H BLACK ORNAMENTAL DOUBLE GATE - 24' WIDE. RE: SPEC.
AS-28	NEW 5'-6" H GALVANIZED CHAINLINK GATE & (2) POSTS AT REBUILT BRICK SCREEN WALL - V.I.F. THE WIDTH OF THE GATE +/- 4'-6" W
AS-40	NEW ALUMINUM WALKWAY CANOPY - RE: SHEET A-201. FOR UNDER CANOPY DECK LIGHTING - RE: ELECTRICAL
AS-41	NEW CANTILEVER ALUMINUM WALKWAY CANOPY AT PORTABLES - RE: SHEET AS-401. FOR UNDER CANOPY DECK LIGHTING - RE: ELECTRICAL
AS-50	MOVE STORAGE SHEDS TO THIS NEWLY CLEARED LOCATION PER OWNER'S INSTRUCTION. PREP AREA TO RECEIVE BUILDINGS ONTO NEW LEVEL GROUND AREAS / SUBFLOORS IF REQ'D. VERIFY IN FIELD.
AW-04	REBUILD BRICK SCREEN WALL WITH SALVAGED BRICK TO MATCH & ALIGN WITH EXISTING ADJACENT. EXISTING BRICK SCREEN WALL WAS +/- 3'-10"W X 5'-6"H SCREEN WALL

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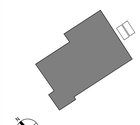
REYNOLDS ELEMENTARY MAINTENANCE IMPROVEMENTS

REYNOLDS ELEMENTARY SCHOOL
3975 Gladebridge Dr. Houston, TX 77068

KEY PLAN



REGISTERED ARCHITECT
WENDY H. LEE
22139
STATE OF TEXAS

11.07.2025

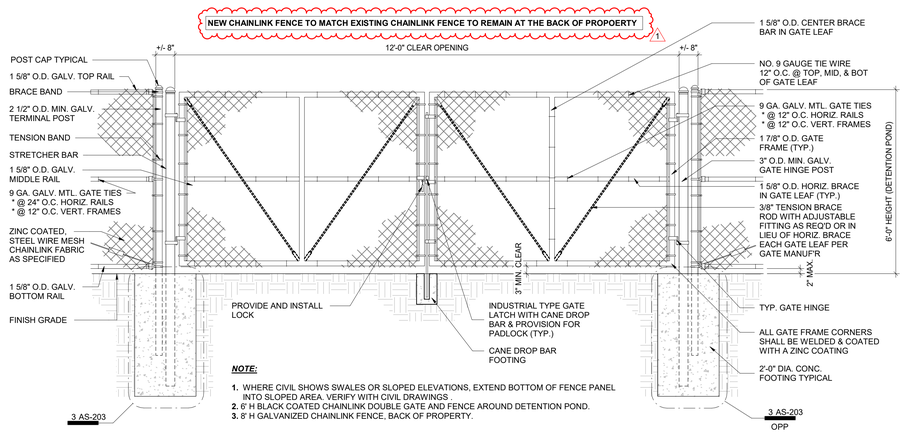
CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.24.2025	ISSUE FOR PROPOSALS

REVISIONS

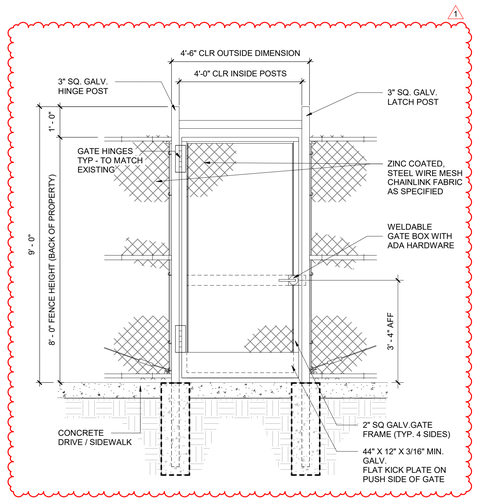
No.	Description	Date
1	ADDENDUM 01	11.07.2025

SITE PLAN

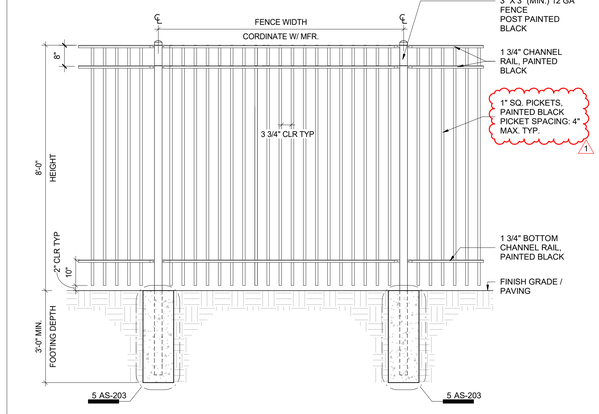
AS-201



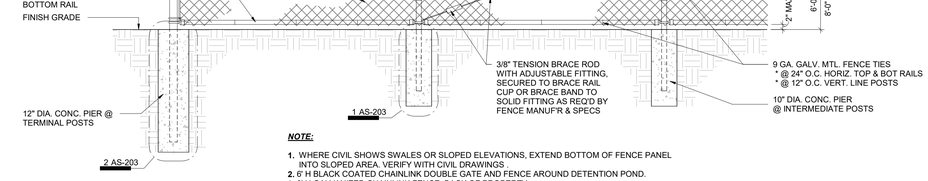
1 CHAINLINK - DBL GATE ELEVATION
1/2" = 1'-0"



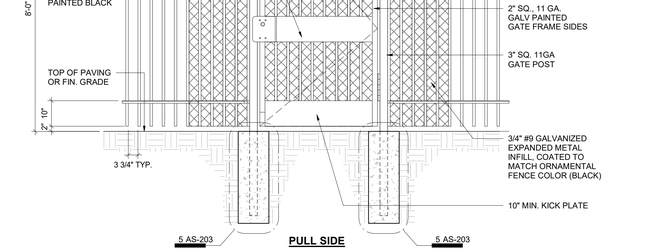
6 CHAINLINK FENCE - PEDESTRIAN GATE ELEVATIONS
1/2" = 1'-0"

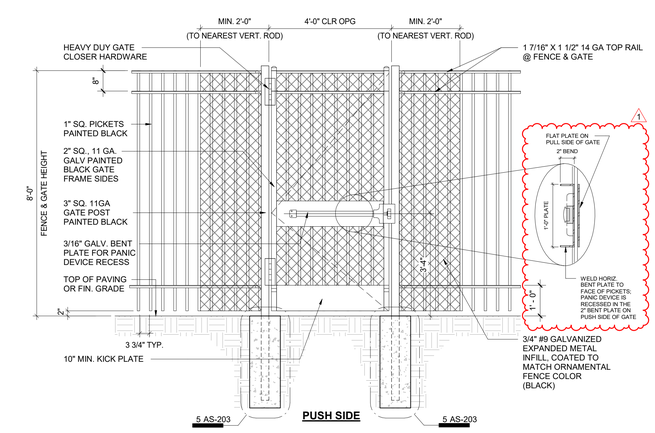


3 ORNAMENTAL FENCE - TYPICAL PANEL ELEVATION
1/2" = 1'-0"



2 CHAINLINK - FENCE ELEVATION 6' - 8'
1/2" = 1'-0"

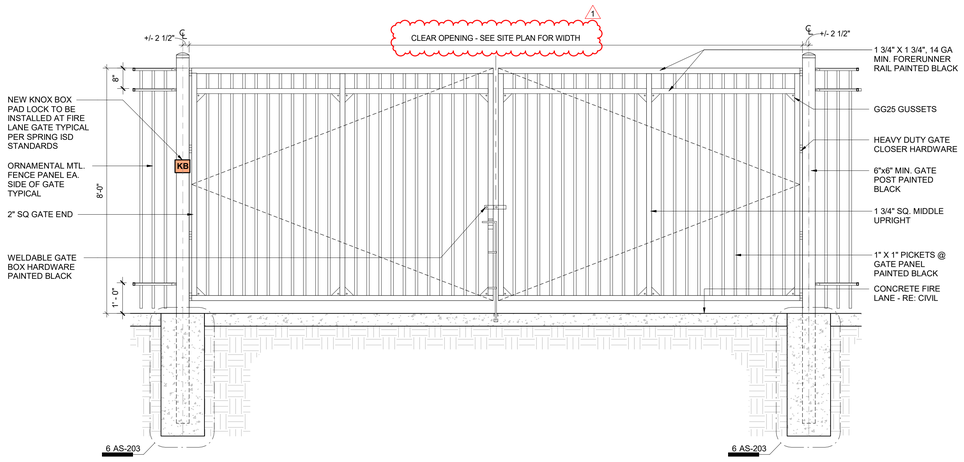




GATE HARDWARE SET NO. 2:
(EGRESS GATE W/ STOP)

1 HINGES	MAMMOTH 180 BY DOOR MANUF		
1 EXIT DEVICE -SPAR#04971	CCSD 19 TB 43 70 8804	US32D	SA
1 VANDAL RESISTANT TRIM	826 (HAND TRIM)	US32D	SA
1 INTERCHANGEABLE CORE	ICX-7	626	BE
1 CONST. CORE	7190224	GREEN	BE
1 BALANCE HARDWARE BY DOOR MANUFACTURER			OT
1 GATE STOP W/ RUBBER BUMPER LOCINOX GATESTOP			

NOTE: TRIM IS ORDERED AS RH OR LH



4 ORNAMENTAL GATE - DOUBLE SWING FIRE LANE GATE ELEVATION
1/2" = 1'-0"

5 ORNAMENTAL FENCE - EXIT GATE ELEVATIONS
1/2" = 1'-0"

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REYNOLDS ELEMENTARY MAINTENANCE IMPROVEMENTS

REYNOLDS ELEMENTARY SCHOOL
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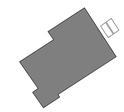
KEY PLAN



11.07.2025

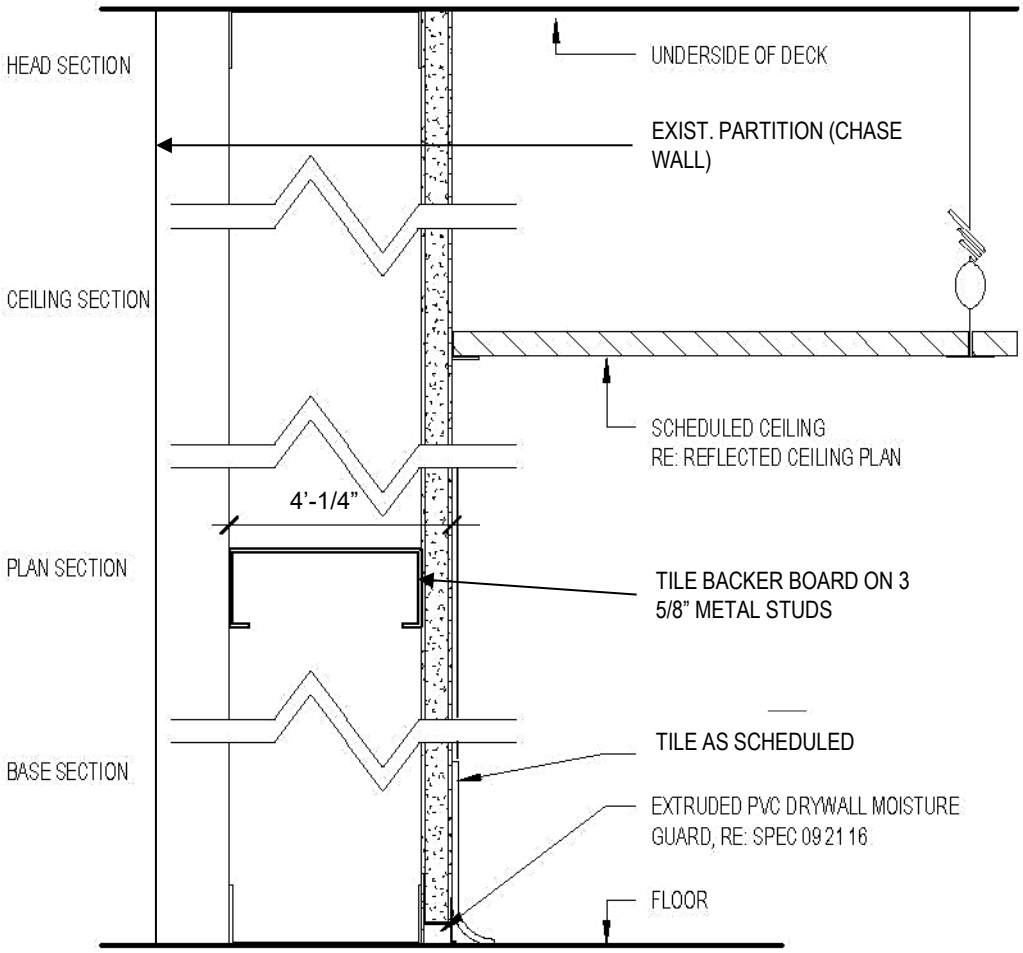
CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.24.2025	ISSUE FOR PROPOSALS

REVISIONS

No.	Description	Date
1	ADDENDUM 01	11.07.2025

SITE DETAILS

AS-202



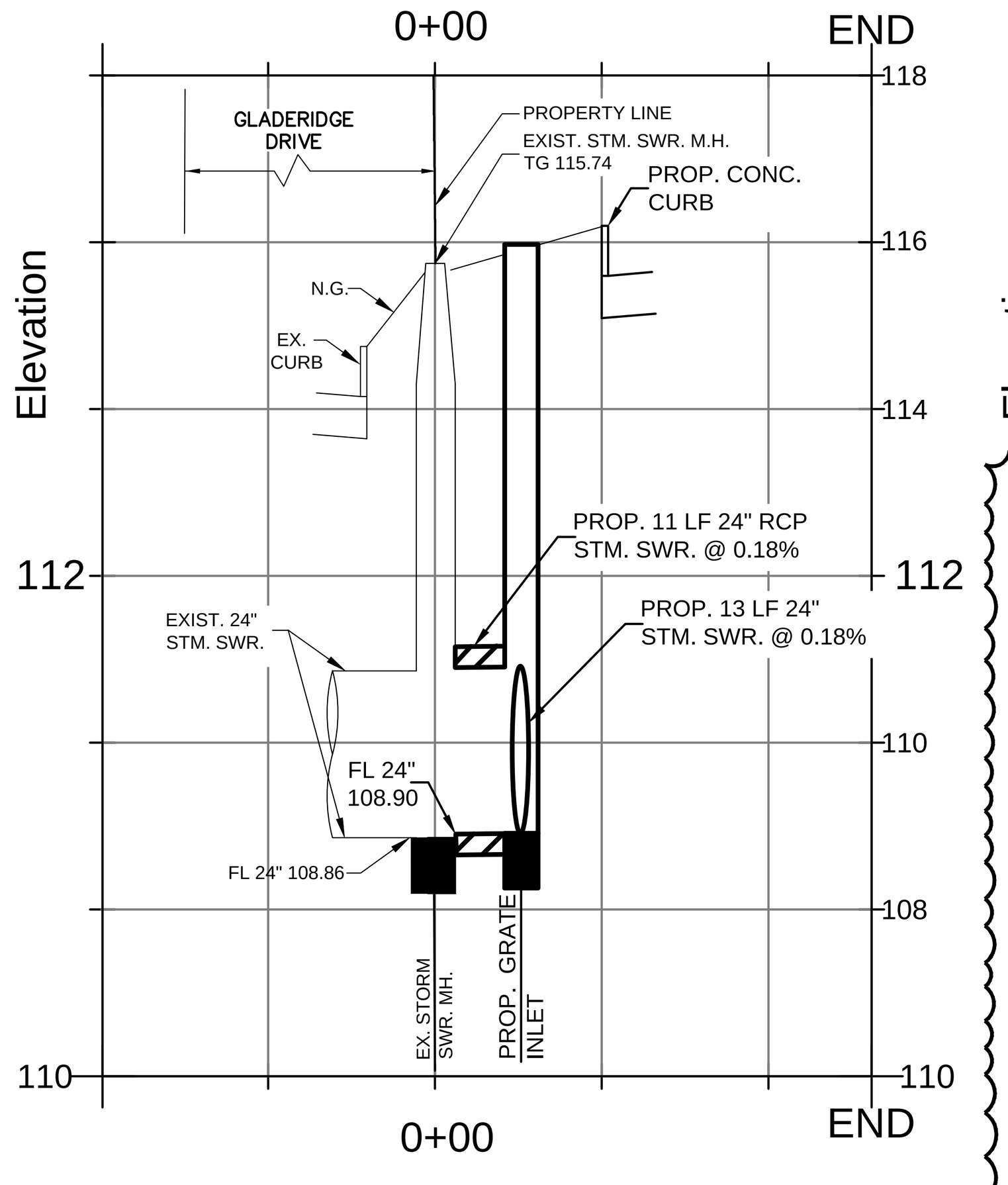
PARTITION TYPE S-1 – TYP. ALL RR CHASE WALLS

NTS

48 HOUR NOTICE: CONTRACTOR SHALL NOTIFY HARRIS COUNTY PRIOR TO COMMENCING CONSTRUCTION AND/OR BACKFILLING ANY UTILITIES WITH HARRIS COUNTY RIGHT OF WAY. CONTRACTOR(S) TO CONTACT PUBLIC REVIEW DEPARTMENT @ 713-274-3931 OR Public.Review@harriscountytx.gov

SIGNED/SEALED AS-BUILT DRAWINGS FOR ALL WORK IN THE HARRIS COUNTY RIGHT OF WAY MUST BE SUBMITTED TO HARRIS COUNTY PER CURRENT REGULATION, PRIOR TO REQUESTING THE INSPECTION AND POWER RELEASE. SUBMIT THE DRAWINGS TO: ePERMIT WHEN REQUESTING FOR AN INSPECTION: https://epermits.harriscountytx.gov/InspectionRequest.aspx

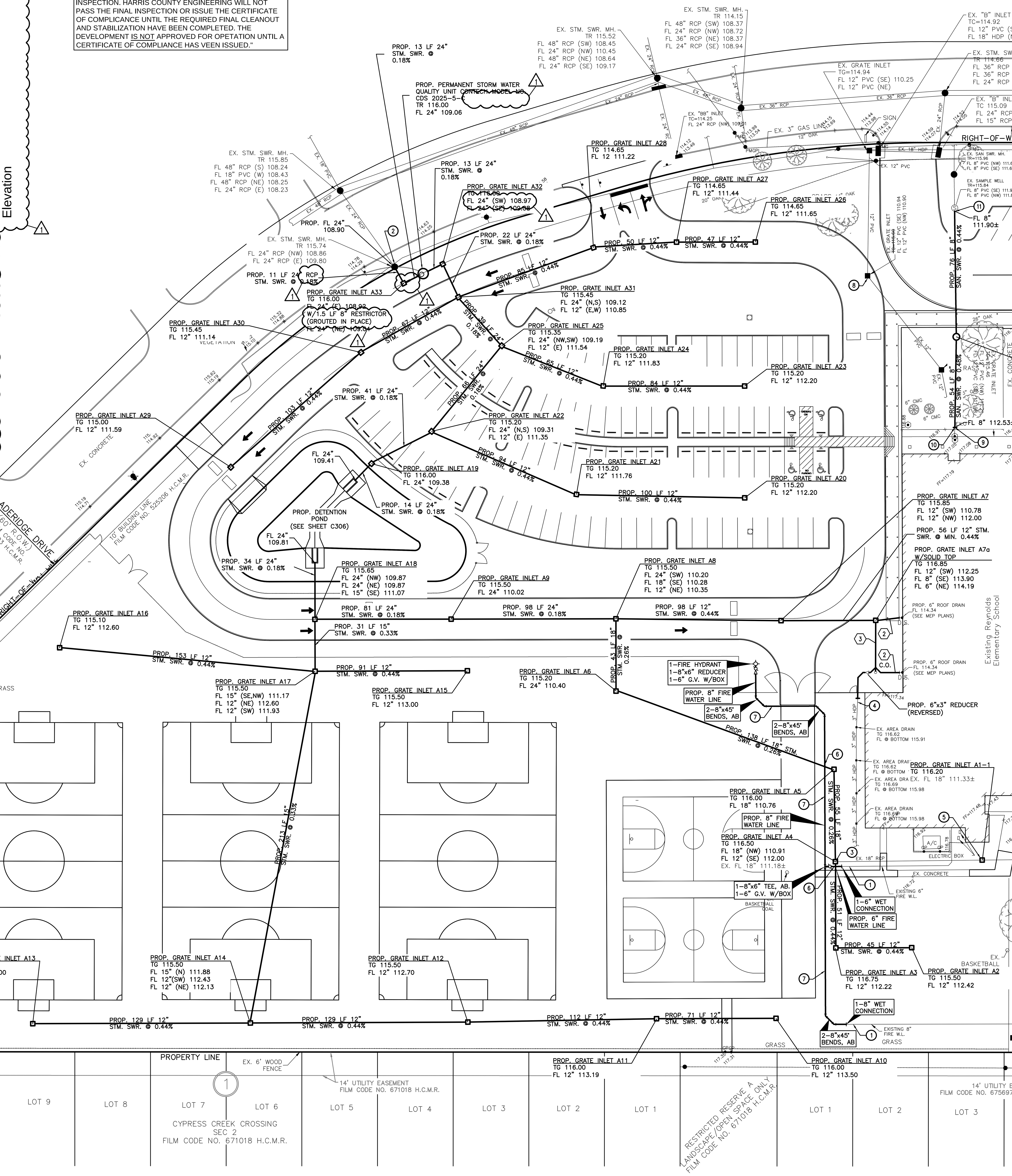
Storm - Connection PROFILE



Scale 1"=20' (H)
1"=2' (V)

"SWQMP PERMIT REQUIREMENTS"

"UPON COMPLETION OF CONSTRUCTION THE PERMANENT STORM WATER QUALITY FEATURE WILL BE CLEANED OF ALL SEDIMENT AND DEBRIS THAT MAY HAVE ACCUMULATED. ADDITIONALLY, ALL DISTURBED AREAS RELATED TO THIS PROJECT WILL BE COMPLETELY STABILIZED. THIS WILL BE DONE PRIOR TO SUBMITTING AN "AS BUILT CERTIFICATE" AND CALLING FOR FINAL INSPECTION. HARRIS COUNTY ENGINEERING WILL NOT PASS THE FINAL INSPECTION OR ISSUE THE CERTIFICATE OF COMPLICANCE UNTIL THE REQUIRED FINAL CLEANOUT AND STABILIZATION HAVE BEEN COMPLETED. THE DEVELOPMENT IS NOT APPROVED FOR OPETATION UNTIL A CERTIFICATE OF COMPLIANCE HAS VEEN ISSUED."



MATCH LINE (SEE SHEET C302)

SCALE: 1"= 30'

FLOODPLAIN NOTE:

ACCORDING TO F.I.R.M. MAP NO. 48201C0455L (COMMUNITY–PANEL NO. 4802870455L), MAP REVISED DATE: JUNE 18, 2007. THE SUBJECT PROPERTY LIES WITHIN THE AREA DESIGNATED AS ZONE "X" UNSHADED. DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD.

REFERENCE BENCHMARK:

RM110075 – HARRIS COUNTY FLOODPLAIN REFERENCE MARK NUMBER 110075 IS A BRASS DISK STAMPED 110075. LOCATED ON A "BB" INLET ON THE NORTHSIDE OF CONNERS ACE AT IT'S INTERSECTION WITH WILDING WIMBLEDON. IN KEY 330R NEAR STREAM K100–00–00 IN THE CYPRESS CREEK WATERSHED.
ELEVATION = 106.02' (NAVD 88, 2001 ADJ.)

TEMPORARY BENCHMARKS:

TBM"A" – BOX CUT ON THE NORTHEAST CORNER OF GRATE INLET LOCATED ±275 FEET, SOUTHEAST OF THE MOST WESTERLY DRIVEWAY INTO THE SCHOOL.
ELEVATION = 116.22'

TBM"B" – BOX CUT ON EDGE OF SIDEWALK LOCATED ±9 FEET, SOUTHWEST OF THE NORTHEAST CORNER OF ASPHALT PARKING LOT ON THE SOUTH SIDE OF THE SCHOOL.
ELEVATION = 116.03'

TBM"D" – BOX CUT ON TOP OF CONCRETE BASE FOR LIGHT STANDARD LOCATED ON THE MOST EASTERLY LIGHT STANDARD NEAR THE NORTHEAST CORNER OF THE SCHOOL.
ELEVATION = 118.88'

LEGEND:

○	PROPOSED MANHOLE
◎	PROPOSED MANHOLE W/GRATE TOP
▫	PROPOSED GRATE/CURB INLET
→	DIRECTION OF FLOW
FL	FLOW LINE
°C.O.	PROPOSED CLEANOUT
⟨1⟩	PROP. 4" STM. SWR. @ 1.00% MIN.
⟨2⟩	PROP. 6" STM. SWR. @ 1.00% MIN.
⟨3⟩	PROP. 8" STM. SWR. @ 1.00% MIN.
⟨4⟩	PROP. 10" STM. SWR. @ 1.00% MIN.

KEY NOTES:

(1) PRIOR TO CONSTRUCTION CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING WATER LINE. IF CONFLICT ARISES CONTRACTOR TO CONTACT ENGINEER.

(2) CONTRACTOR TO CONNECT PROPOSED 24" STORM SEWER TO EXISTING STORM MANHOLE WITH WATER TIGHT CONNECTIONS (SEE PROFILE THIS SHEET).

(3) CONTRACTOR TO CONSTRUCT PROPOSED GRATE INLET ON EXISTING 18" STORM SEWER WITH WATER TIGHT CONNECTIONS.

(4) CONTRACTOR TO CONNECT EXISTING 3" STORM SEWER TO PROPOSED 3" PVC STORM SEWER MATCHING EXISTING MATERIAL TO FIRST INLET STRUCTURE (NO FERNCO COUPLERS ALLOWED).

(5) CONTRACTOR TO CONSTRUCT PROPOSED GRATE INLET ON EXISTING 18" STORM SEWER WITH WATER TIGHT CONNECTIONS.

(6) CONTRACTOR TO OFFSET PROPOSED WATER LINE BELOW PROPOSED STORM SEWER MAINTAINING MINIMUM 12" VERTICAL CLEARANCE.

(7) CONTRACTOR TO INSTALL PROPOSED FIRE WATER LINE MAINTAINING MINIMUM 4' COVERAGE FROM FINISHED GRADE TO TOP OF WATER LINE. IF COVERAGE CANNOT BE ACHIEVED CONTRACTOR TO CONTACT ENGINEER.

(8) CONTRACTOR TO ADJUST EXISTING GRATE INLET TOP TO MATCH PROPOSED PAVEMENT ELEVATION (TG 115.30±)

(9) CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING SANITARY SEWER. IF CONFLICT ARISES CONTRACTOR TO CONTACT ENGINEER.

(10) CONTRACTOR TO CONNECT PROPOSED SANITARY SEWER TO EXISTING SANITARY SEWER. CONTRACTOR TO MATCH EXISTING SIZE AND MATERIAL OF EXISTING STUB OUT TO FIRST INLET STRUCTURE (NO FERNCO COUPLERS ALLOWED).

(11) CONTRACTOR TO CONNECT PROPOSED 8" SANITARY SEWER TO EXISTING SAMPLING WELL WITH WATER TIGHT GASKETED CONNECTION.

FIRE LINE NOTE: UNDERGROUND FIRE LINES MUST BE SUBMITTED TO FIRE PROTECTION GROUP FOR REVIEW AND A NOTIFICATION OF CONSTRUCTION IN RIGHT-OF-WAY PERMIT WILL BE REQUIRED FOR THE PROPOSED WORK WITHIN HARRIS COUNTY RIGHT-OF-WAY

NOTES TO CONTRACTOR:

1. ALL UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETE OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING ANY WORK. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES (SEE NOTE 6 GENERAL CONSTRUCTION NOTES).
3. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES (PRIVATE OR PUBLIC) IN THE FIELD PRIOR TO CONSTRUCTION. IF A CONFLICT IS DISCOVERED, CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

ALL PROPOSED GRATE INLETS TO INSTALLED WITH PEDESTRIAN GRATE TOPS (MODEL NO. V4880-3) UNLESS OTHERWISE NOTED.

UTILITY ONE CALL
CONTRACTOR TO CALL BEFORE DIGGING !!!!
PHONE:
HOUSTON 811

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ARCHITECT COLEMAN PARTNERS ARCHITECTS T 225-387-4414
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REYNOLDS ELEMENTARY MAINTENANCE IMPROVEMENTS

REYNOLDS ELEMENTARY SCHOOL
3975 Gladeridge Dr, Houston, TX 77068

BROOKS & SPARKS, INC.
F-880
STATE OF TEXAS
FRANK E. BROOKS
49225
REGISTERED PROFESSIONAL ENGINEER
10/22/25

CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.22.2025	BID / PERMIT

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	11/7/25

UTILITY PLAN
(SHEET 1 OF 2)

C301

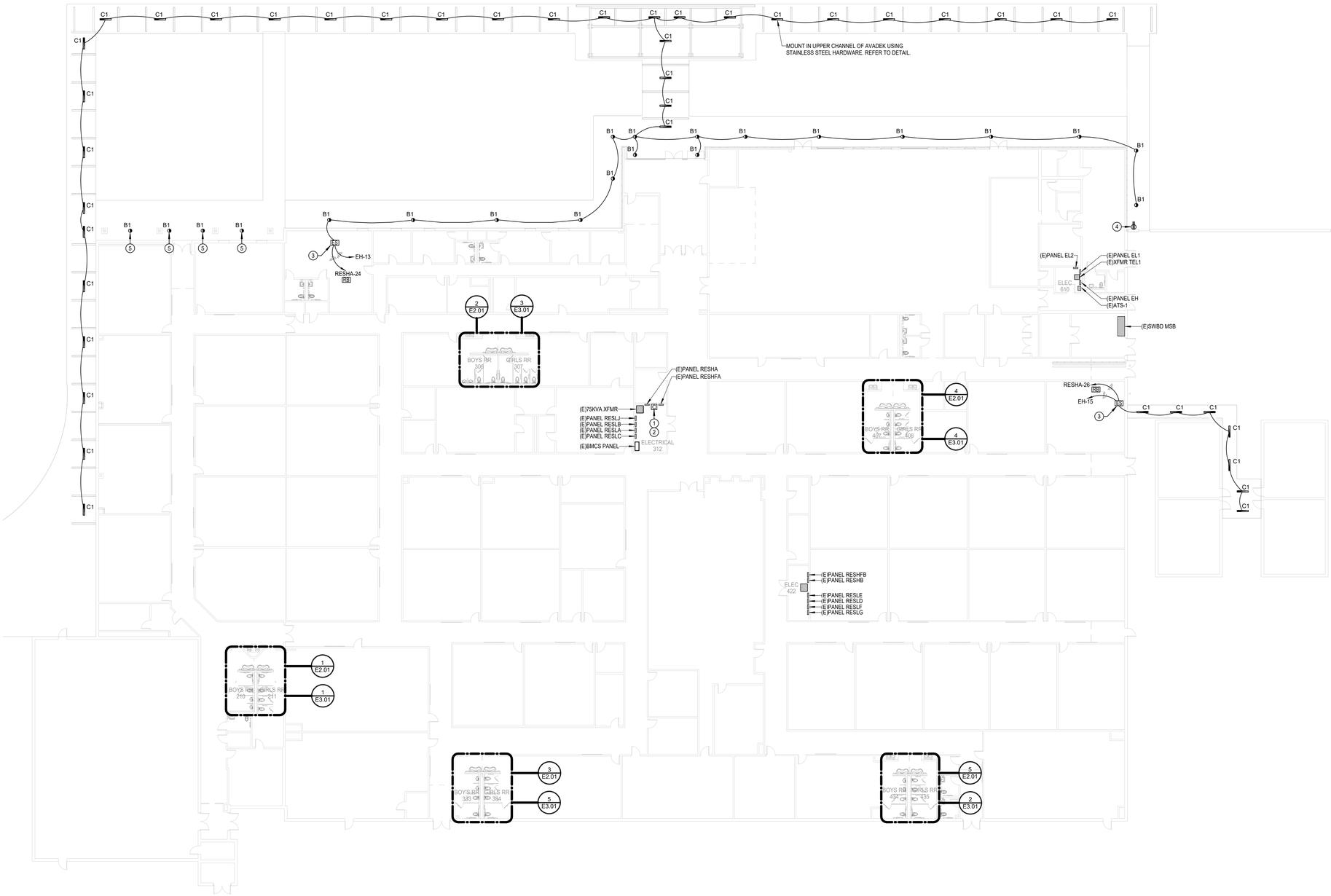
04 Nov 2025 9:32AM GregL
F:\project\BROOK_SP\IN2 Architect\475-0001_Reynolds Elementary\Civil\C301 UTILITY PLAN 1.dwg
Includes Xref(s): Xtb.dwg; X-Seal.dwg; Xtopo.dwg; Xsite.dwg; XUtl.dwg

ELECTRICAL GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CONTACTORS, DISCONNECTS, ETC., SHALL REMAIN.
2. VERIFY ALL DEMOLITION AND NEW WORK WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.

ELECTRICAL KEYED NOTES:

1. DISCONNECT AND REMOVE EXISTING CONTACTOR AND REPLACE WITH NEW.
2. PROVIDE NEW LIGHTING CONTACTORS 'C1' AND 'C2'.
   - C1 - CANOPY LIGHTS, RE-USE EXISTING BMCS CONTROL POINT.
   - C2 - PARKING LOT LIGHTS, RE-USE EXISTING BMCS CONTROL POINT.
3. PROVIDE NEW UL1008 EMERGENCY TRANSFER DEVICE FOR CANOPY EGRESS LIGHTING. LOCATE IN ELECTRICAL 312.
4. RE-INSTALL EXISTING 250V, 60A RECEPTACLE ON BRICK WALL AND CONNECT TO EXISTING CIRCUITRY PRESERVED DURING DEMOLITION.
5. **ALTERNATE PRICING:** PROVIDE NEW LIGHT FIXTURE IN EXISTING LOCATION. CONNECT TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION. RE-USE EXISTING BMCS CONTROLS.



1 **ELECTRICAL COMPOSITE PLAN**
Scale: 1/16" = 1'-0"

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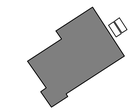
REYNOLDS ELEMENTARY MAINTENANCE IMPROVEMENTS

REYNOLDS ELEMENTARY SCHOOL
3510 Glasbridge Dr, Houston, TX 77082

KEY PLAN



STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED
11.07.25

CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.24.2025	ISSUE FOR PROPOSALS

REVISIONS

No.	Description	Date
1	ADDENDUM 1	11-07-2025

ELECTRICAL COMPOSITE PLAN

E1.01

LINETYPE LEGEND	
————	EXISTING TO REMAIN
- - - - - - - - -	DISCONNECT AND REMOVE

DEMOLITION / EXISTING DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION, AND WHEN AVAILABLE, EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING EXISTING INSTALLATION, AND IMMEDIATELY AFTER SUCH DISCREPANCIES ARE DISCOVERED. CONTRACTOR TO VERIFY EXISTING CONDITIONS ON FIELD AND NOTIFY ENGINEER IF THERE ARE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND DRAWINGS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL REMOVE SUCH EXISTING WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

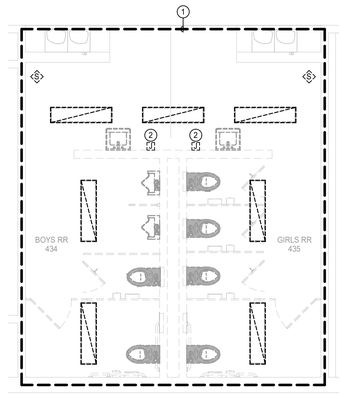
OWNER OR ITS REPRESENTATIVE SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED FROM THIS PROJECT. CONTRACTOR TO NOTIFY AN OWNER REPRESENTATIVE PRIOR TO DEMOLITION WORK TO DISCUSS ALL RETURNED ITEMS.

ELECTRICAL GENERAL NOTES:

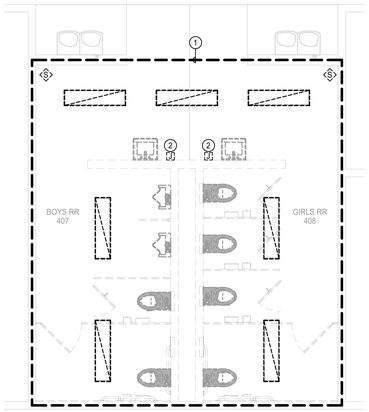
1. DISCONNECT AND REMOVE ALL ABANDONED WIRING AND CONDUIT.
2. DISCONNECT AND REMOVE ALL CONDUIT, WIRE, AND DISCONNECTING MEANS ASSOCIATED WITH HVAC EQUIPMENT BEING REMOVED.
3. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CONTACTORS, DISCONNECTS, ETC...SHALL REMAIN.
4. DISCONNECT AND REMOVE ALL ELECTRICAL FROM WALLS SCHEDULED TO BE DEMOLISHED AND AS SHOWN. UNLESS INDICATED OTHERWISE, DISCONNECT BRANCH CIRCUIT BACK TO NEAREST JUNCTION BOX ABOVE CEILING SPACE FOR RE-USE. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT EXTENT OF WALL DEMOLITION.
5. EXCEPT AS OTHERWISE NOTED, ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.
6. CONTRACTOR TO FILL IN ALL HOLES LEFT BY THE DEMOLITION OF EXISTING CONDUIT PENETRATIONS.

ELECTRICAL KEYED NOTES:

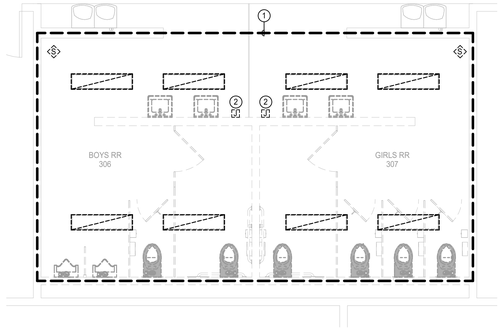
1. DISCONNECT AND REMOVE ALL LIGHTING AND ASSOCIATED CONDUIT/WIRE BACK TO NEAREST ACTIVE BOX ABOVE CEILING. LIGHTING INCLUDES BUT IS NOT LIMITED TO: LIGHTING FIXTURES, EXIT SIGNAGE, LIGHT SWITCHES, SWITCH-LEGS, LIGHTING CONTROLS/SENSORS, LIGHTING RELAYS, ETC. ALL EXISTING LIGHTING BRANCH CIRCUITS (NORMAL/EMERGENCY) SHALL REMAIN AND BE RE-USED; ALL EXISTING LIGHT SWITCH BOXES SHALL REMAIN AND SHALL BE RE-USED AS PRACTICAL FOR NEW WIRING DEVICES.
2. DISCONNECT AND REMOVE ALL ELECTRICAL TO EXISTING HAND DRYER, AND ASSOCIATED CONDUIT/WIRE BACK TO SOURCE. RE-LABEL EXISTING CIRCUIT BREAKER AS 'SPARE'.



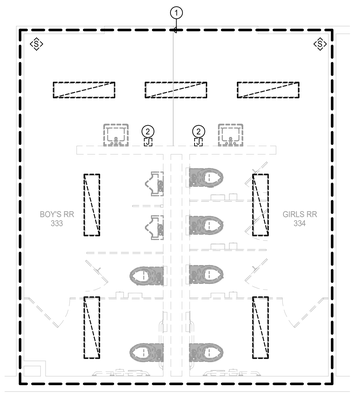
5 ELECTRICAL DEMOLITION PLAN - RESTROOMS 434/435
Scale: 1/4" = 1'-0"



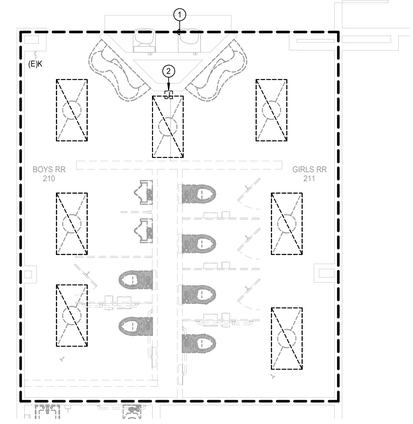
4 ELECTRICAL DEMOLITION PLAN - RESTROOMS 407/408
Scale: 1/4" = 1'-0"



2 ELECTRICAL DEMOLITION PLAN - RESTROOMS 306/307
Scale: 1/4" = 1'-0"



3 ELECTRICAL DEMOLITION PLAN - RESTROOMS 333/334
Scale: 1/4" = 1'-0"



1 ELECTRICAL DEMOLITION PLAN - RESTROOMS 210/211
Scale: 1/4" = 1'-0"

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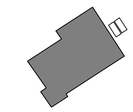

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1	ADDENDUM 1	11-07-2025

ELECTRICAL PLANS - DEMOLITION

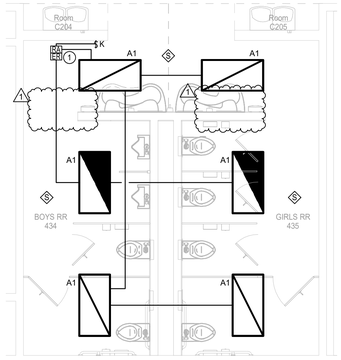
E2.01

ELECTRICAL GENERAL NOTES:

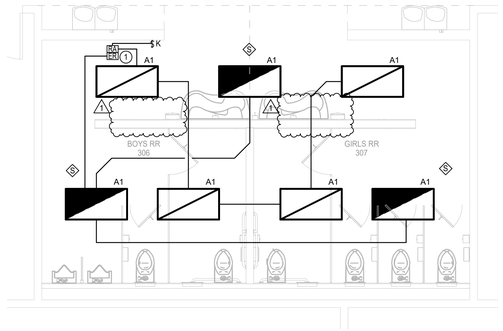
1. LOCATION OF NEW / REPLACEMENT LIGHT FIXTURES SHALL RE-USE EXISTING J-BOX, PROVIDE NEW FIXTURE WHIPS AS PRACTICAL. EXTEND WIRING WITH MATCHING CONDUCTORS / CONDUIT AND PROVIDE NEW J-BOX ABOVE ACCESSIBLE CEILING WITH ½-INCH FLEXIBLE STEEL CONDUIT OR STEEL MC CABLE. LENGTH NOT TO EXCEED 6-FEET. "DAISY CHAINING" LIGHT FIXTURES INSTALLED FOR LAY-IN CEILING AREAS IS NOT ALLOWED. FOR NON-ACCESSIBLE CEILINGS, LIGHT FIXTURE WHIPS SHALL BE ½-INCH FLEXIBLE STEEL CONDUIT, LENGTH AS REQUIRED TO MAKE A TAP AT AN ACCESSIBLE J-BOX. RECESSED LIGHT FIXTURES IN NON-ACCESSIBLECEILINGS MAY BE DAISY CHAINED USING THE LIGHT FIXTURE'S INTEGRAL, UL LISTED J-BOX OR INTERNAL WIRE WAY THAT IS ACCESSIBLE THROUGH FIXTURE FROM BELOW THE CEILING. REFER TO SPECIFICATION SECTION 26 05 33 CONDUIT SYSTEMS.
2. LIGHTING CONTROLS WHERE PROVIDED SHALL COMPLY WITH IECC 2015. REFER TO CONTROLS SCHEDULE FOR ALL LIGHTING CONTROLS, SENSORS, AND SWITCHING SCHEMES THROUGHOUT FACILITY.
3. CONTRACTOR SHALL MAINTAIN CONSTANT UNSWITCHED POWER FOR EMERGENCY RELAYS, BATTERY PACKS AND / OR EXIT SIGNS.
4. LOCATE DIGITAL LIGHTING CONTROLLER AND / OR EMERGENCY LOAD CONTROL RELAY ABOVE ACCESSIBLE CEILING 12-FEET AFF OR BELOW ADJACENT TO SWITCH CONTROLLING THE SPACE. IN NON-ACCESSIBLE AND / OR HIGH CEILING AREAS, LOCATE DIGITAL LIGHTING CONTROLLER IN ADJACENT ANCILLARY AREA WITH ACCESSIBLE CEILING. IN AREAS WITH NO CEILING AND / OR IN EXTERIOR APPLICATIONS LOCATE ADJACENT TO PANEL SERVING THE LOAD. PROVIDE PLASTIC TAPE MACHINE TYPED NAME PLATE TO BOTTOM OF CEILING T-GRID BELOW RELAY LOCATION. WHITE LETTERS ON BLACK BACKGROUND WITH 1/4" HIGH LETTERS ON 1/2" TALL LABEL FOR DIGITAL MODULE, INDICATE AS: DLM.
5. OCCUPANCY / VACANCY SENSOR AND DAYLIGHTING SENSOR LOCATIONS INDICATE SPACE OR AREA CONTROLLED, CONTRACTOR TO PROVIDE ACTUAL QUANTITIES, TYPES, AND MOUNTING LOCATIONS AS RECOMMENDED BY MANUFACTURER.

ELECTRICAL KEYED NOTES:

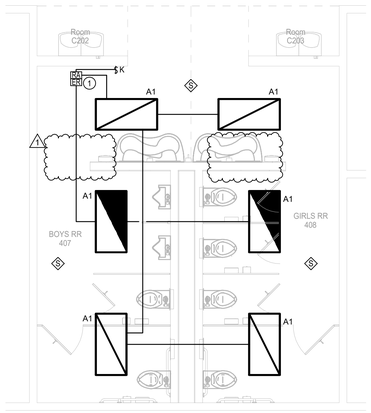
1. CONNECT TO EXISTING CIRCUIT PRESERVED DURING DEMOLITION, EXTEND CONDUIT/WIRE AND MAKE FINAL CONNECTION.
2. NOT USED.
3. NOT USED.



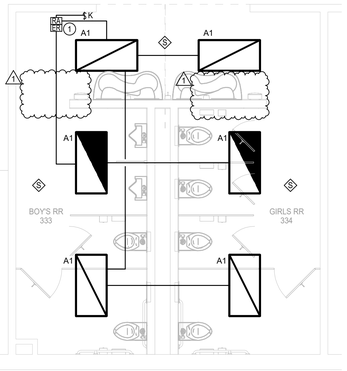
5 ELECTRICAL PLAN - RESTROOMS 434/435
Scale: 1/4" = 1'-0"



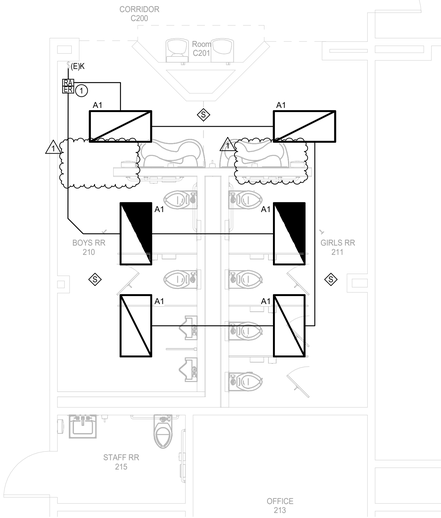
2 ELECTRICAL PLAN - RESTROOMS 306/307
Scale: 1/4" = 1'-0"



4 ELECTRICAL PLAN - RESTROOMS 407/408
Scale: 1/4" = 1'-0"



3 ELECTRICAL PLAN - RESTROOMS 333/334
Scale: 1/4" = 1'-0"



1 ELECTRICAL PLAN - RESTROOMS 210/211
Scale: 1/4" = 1'-0"

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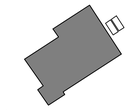

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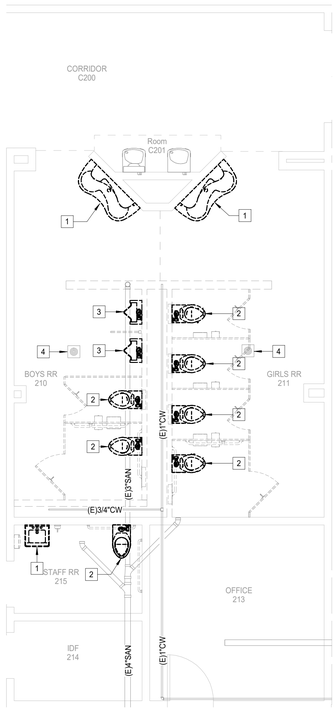
1	ADDENDUM 1	11-07-2025

ELECTRICAL PLANS - NEW WORK

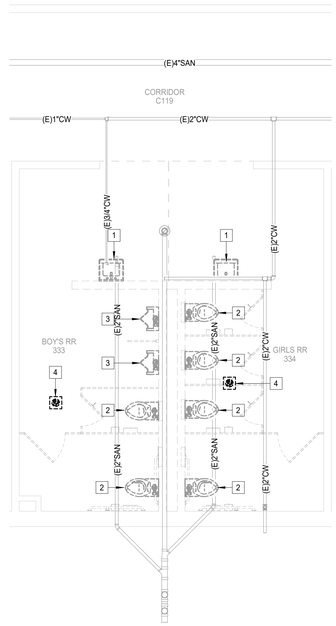
E3.01

PLUMBING KEYED NOTES

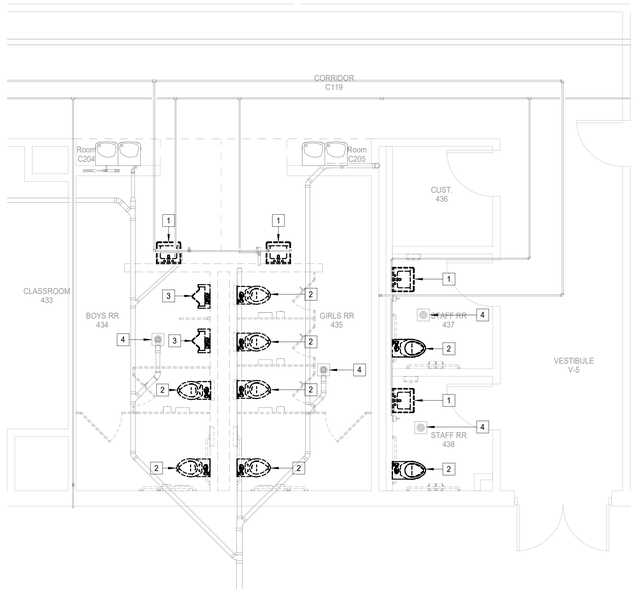
1	EXISTING LAVATORY FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, HW, SANITARY AND VENT BACK TO POINT INDICATED.
2	EXISTING WATER CLOSET FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, SANITARY AND VENT BACK TO POINT INDICATED.
3	EXISTING URINAL FIXTURE AND CARRIER TO BE REMOVED. REMOVE SANITARY, CW AND VENT BACK TO POINT INDICATED.
4	REMOVE AND CLEAN FLOOR DRAIN'S FACE PLATE AND REINSTALL. HOST FLOOR REPLACEMENT. EXISTING FLOOR DRAIN TO REMAIN.



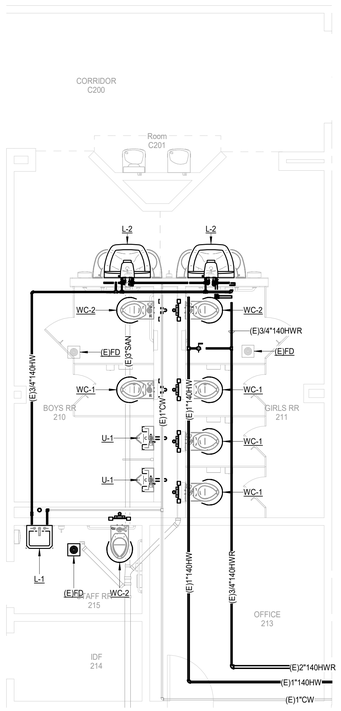
6 **PLUMBING DEMOLITION - BOYS RR 210, GIRLS RR211, & STAFF RR 215**
Scale: N.T.S.



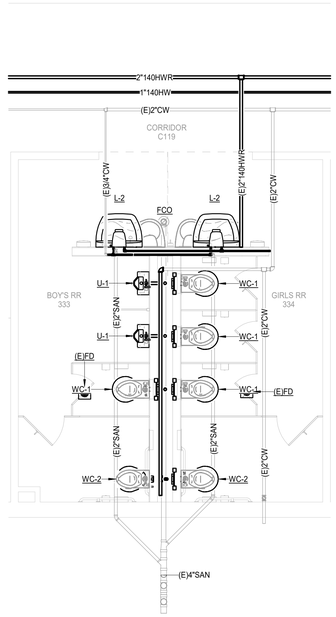
5 **PLUMBING DEMOLITION - BOYS RR & GIRLS RR 334**
Scale: N.T.S.



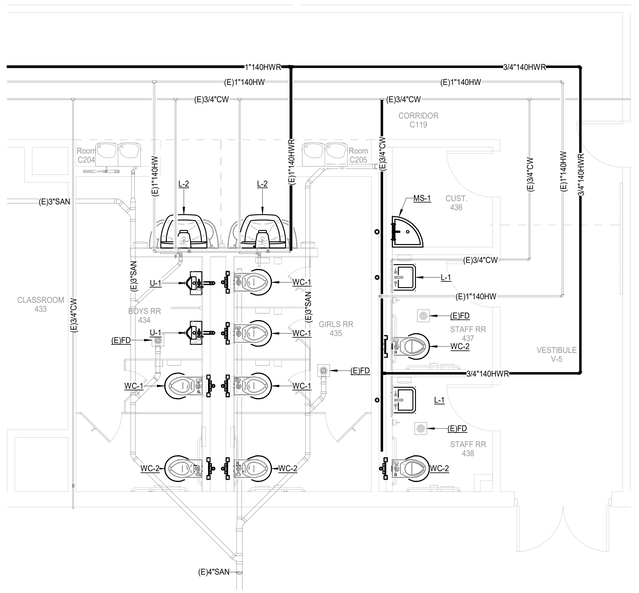
4 **PLUMBING DEMOLITION - BOYS RR 434 & GIRS RR 435**
Scale: N.T.S.



3 **PLUMBING FLOOR PLAN - BOYS RR 210, GIRLS RR211, & STAFF RR 215**
Scale: N.T.S.



2 **PLUMBING FLOOR PLAN - BOYS RR & GIRLS RR 334**
Scale: N.T.S.



1 **PLUMBING FLOOR PLAN - BOYS RR 407 & GIRS RR 408**
Scale: N.T.S.

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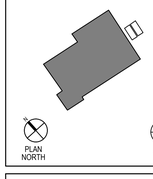

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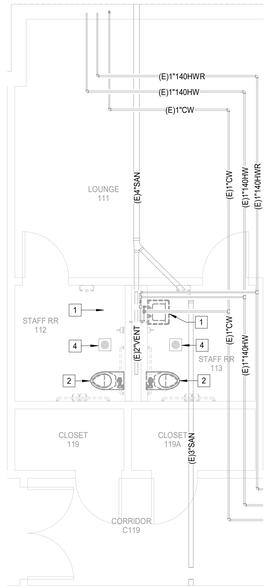
PLUMBING PLANS - ENLARGED

P4.01

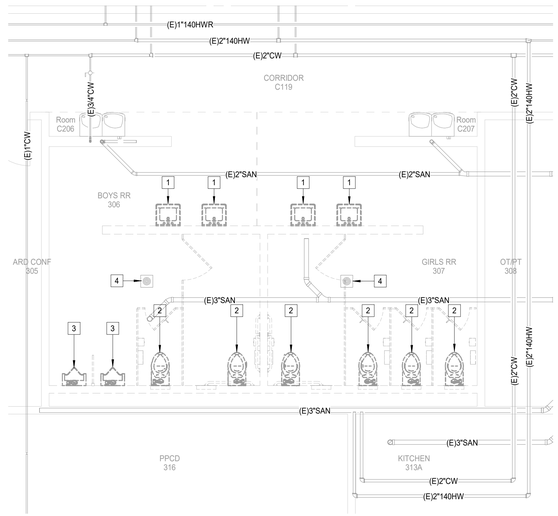
PLUMBING KEYED NOTES

1	EXISTING LAVATORY FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, HW, SANITARY AND VENT BACK TO POINT INDICATED.
2	EXISTING WATER CLOSET FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, SANITARY AND VENT BACK TO POINT INDICATED.
3	EXISTING URINAL FIXTURE AND CARRIER TO BE REMOVED. REMOVE SANITARY, CW AND VENT BACK TO POINT INDICATED.
4	REMOVE AND CLEAN FLOOR DRAIN'S FACE PLATE AND REINSTALL POST FLOOR REPLACEMENT. EXISTING FLOOR DRAIN TO REMAIN.



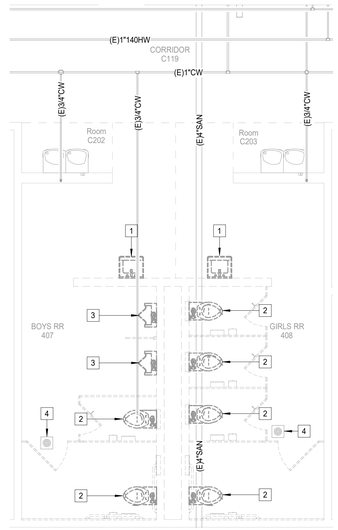
6 PLUMBING DEMOLITION - STAFF RR 112 & 113

Scale: N.T.S.



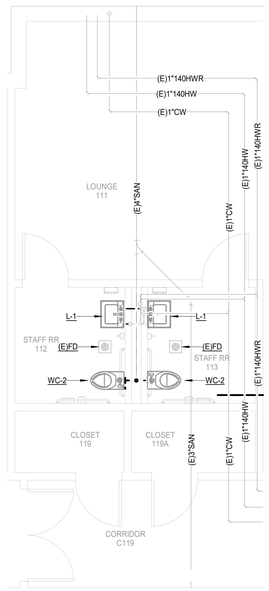
5 PLUMBING DEMOLITION - BOYS RR 308 & GIRS RR 307

Scale: N.T.S.



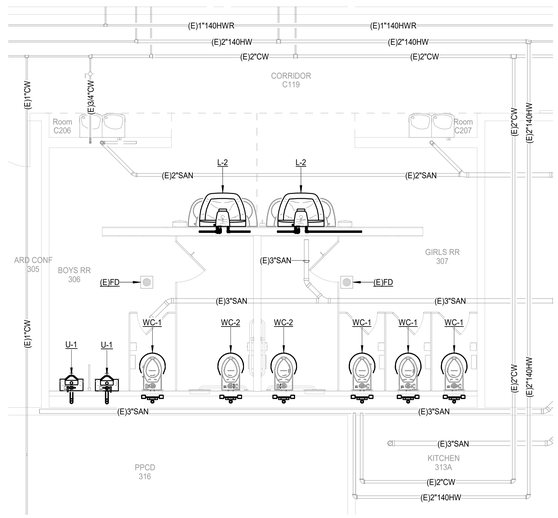
4 PLUMBING DEMOLITION - BOYS RR 407 & GIRS RR 408

Scale: N.T.S.



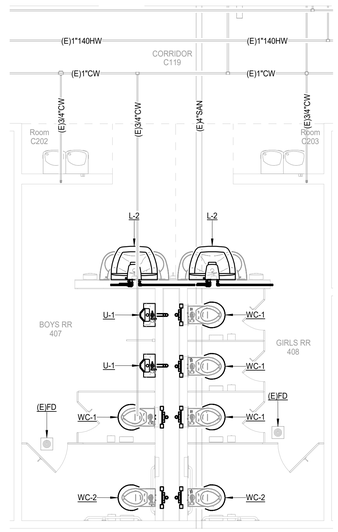
3 PLUMBING FLOOR PLAN - STAFF RR 112 & 113

Scale: N.T.S.



2 PLUMBING FLOOR PLAN - BOYS RR 306 & GIRLS RR 307

Scale: N.T.S.



1 PLUMBING FLOOR PLAN - BOYS RR 407 & GIRS RR 408

Scale: N.T.S.

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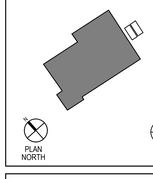

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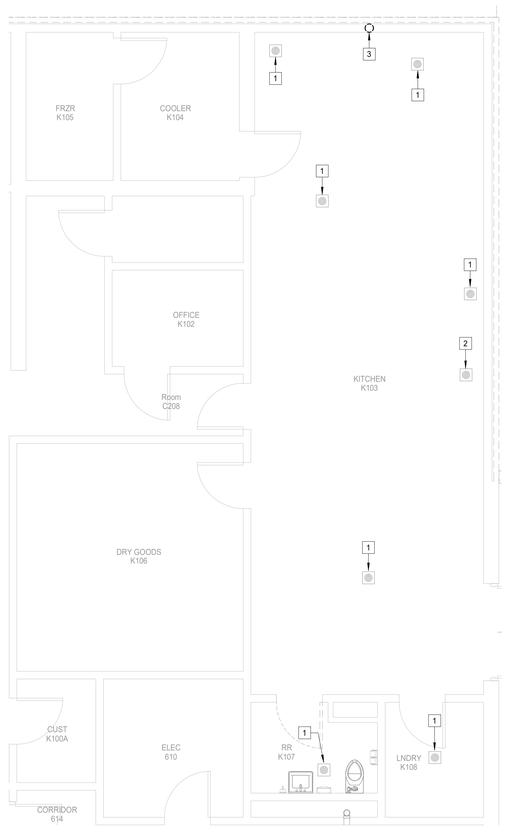
PLUMBING PLANS - ENLARGED

P4.02

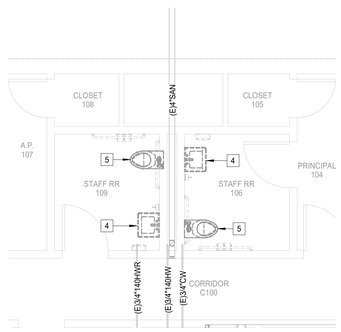
PLUMBING KEYED NOTES

1	REMOVE AND CLEAN FLOOR DRAIN & FACE PLATE AND REINSTALL POST FLOOR REPLACEMENT. EXISTING FLOOR DRAIN TO REMAIN.
2	REMOVE AND CLEAN FLOOR SINK & FACE PLATE AND REINSTALL POST FLOOR REPLACEMENT. EXISTING FLOOR SINK TO REMAIN.
3	~~EXISTING STORM FROM ROOF DRAIN ABOVE TO REMAIN. CONNECT NEW STORM AT FIRST FLOOR.~~
4	EXISTING LAVATORY FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, HW, SANITARY AND VENT BACK TO POINT INDICATED.
5	EXISTING WATER CLOSET FIXTURE AND CARRIER TO BE REMOVED. REMOVE CW, SANITARY AND VENT BACK TO POINT INDICATED.

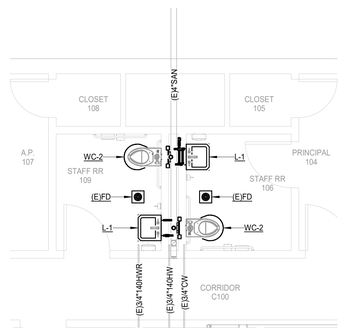


6 **PLUMBING DEMOLITION - KITCHEN K103, RR K107,& LNDRY K108**
Scale: N.T.S.

5 **PLUMBING FLOOR PLAN - KITCHEN K103, RR K107,& LNDRY K108**
Scale: N.T.S.



4 **PLUMBING DEMOLITION - STAFF RR 108 & 109**
Scale: N.T.S.



3 **PLUMBING FLOOR PLAN - STAFF RR 108 & 109**
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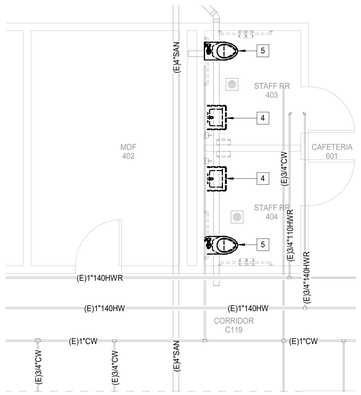
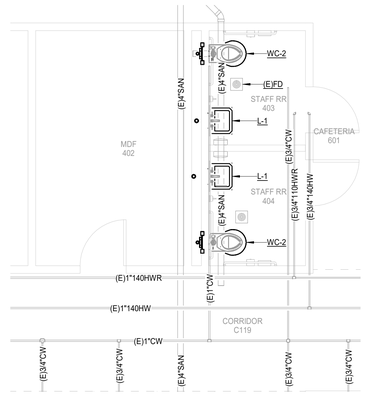


2 **PLUMBING DEMOLITION - STAFF RR 403 & 404**
Scale: N.T.S.



1 **PLUMBING FLOOR PLAN - STAFF RR 403 & 404**
Scale: N.T.S.

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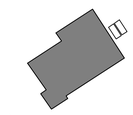
KEY PLAN



STATE OF TEXAS
BRADLEY KALMANS
80219
LICENSED
PROFESSIONAL ENGINEER
11.07.25

CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.24.2025	ISSUE FOR PROPOSALS

REVISIONS

No.	Description	Date
1	ADDENDUM 1	11-07-2025

PLUMBING PLANS - ENLARGED

P4.03

PLUMBING PIPING LEGEND

SYMBOLS	DESCRIPTION
SAN	SANITARY OR WASTE PIPING ABOVE GRADE (SAN)
SAN	SANITARY OR WASTE PIPING BELOW GRADE (SAN)
GW	GREASE WASTE PIPING (GW)
GW	GREASE WASTE PIPING BELOW GRADE (GW)
SD	STORM DRAIN PIPING (SD)
SD	STORM DRAIN PIPING BELOW GRADE (GW)
SSD	SUB-SOIL DRAIN OR FOOTING DRAIN (SSD)
AW	ACID WASTE PIPING (AW)
AW	ACID WASTE PIPING BELOW GRADE (AW)
PD	PUMPED DISCHARGE (PD)
CD	CONDENSATE DRAIN PIPING (CD)
D	CONDENSATE - INDIRECT DRAIN PIPING (D)
	VENT PIPING (V)
CW	COLD WATER PIPING (CW)
HW	HOT WATER PIPING (HW)
HWR	HOT WATER RETURN PIPING (HWR)
SCW	SOFT COLD WATER PIPING (SCW)
CDW	CHILLED DRINKING WATER PIPING (CDW)
TP	TRAP PRIMER LINE (TP)
F	FIRE PROTECTION PIPING (F)
AS	AUTOMATIC SPRINKLER PIPING (AS)
GAS	NATURAL GAS PIPING (G)
GV	GAS VENT PIPING (GV)
AIR	COMPRESSED AIR PIPING (A)
	FLOW DIRECTIONAL ARROW
	SHUT-OFF VALVE
	BALANCING VALVE (BV)
	SOLENOID VALVE (SV)
	BALL VALVE (BV)
	BUTTERFLY VALVE
	LUBRICATED PACKED PLUG STOP STOP COCK (PC)
	HORIZONTAL SWING CHECK
	UNION
	HORIZONTAL SWING CHECK
	REDUCER OR INCREASER
	ECCENTRIC REDUCER
	REDUCED PRESSURE BACKFLOW PREVENTER (RPBFP)
	PIPING DOWN
	RISE OR DROP PIPING
	PIPING UP -OR- PIPING UP & DOWN
	CAP ON END OF PIPE
	CLEANOUT (WALL OR CEILING) (CO)
	FLOOR CLEANOUT (FCO)
	EXTERIOR CLEANOUT WITH 18"x18"x4" CONCRETE PAD (ECO)
	TWO-WAY CLEANOUT (PROVIDE 18"x24"x4" CONCRETE PAD OUTSIDE)
	FIRE DEPARTMENT VALVE AT RISER
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION
	PRESSURE REDUCING VALVE (PRV)
	BRANCH CONNECTION OUT OF TOP
	BRANCH CONNECTION OUT OF BOTTOM
	BRANCH CONNECTION OUT OF SIDE
	WYE & 1/8TH BEND BRANCH CONNECTION
	WYE BRANCH CONNECTION
	HOSE BIBB
	PRESSURE GAUGE WITH COCK
	THERMOMETER
	GAS PRESSURE REGULATOR
	TEST COCK
	GAS METER
	WALL HYDRANT
	VALVE IN RISE
	ASME TEMPERATURE & PRESSURE RELIEF VALVE
	VACUUM RELIEF VALVE
	ANGLE VALVE
	OS&Y VALVE
	ROOF DRAIN
1	REFER TO KEYED NOTE
FS	FLOW SWITCH
	FLOOR SINK (FS)
	FLOOR DRAIN (FD)
	FLOOR DRAIN WITH P-TRAP (FD)
	FLOOR DRAIN WITH P-TRAP AT 45° ANGLE (FD)
	HUB DRAIN (HD)
	ACCESS PANEL FOR TRAP PRIMER OR SHOCK ABSORBER
AP	ACCESS PANEL LOCATION SYMBOL
A	SHOCK ABSORBER
	AIR CHAMBER
(E)	EXISTING
(N)	NEW
VTR	VENT THRU ROOF
B.F.F.	BELOW FINISHED FLOOR
A.F.F.	ABOVE FINISHED FLOOR
	NEW CONNECTION
IE=100.00'	INVERT ELEVATION
1	DELTA CHANGE SYMBOL
P 1	4" VTR RISER FLAG

PLUMBING FIXTURE SCHEDULE

TYPE:	WC-1 (STANDARD HEIGHT)
DESCRIPTION:	WATER CLOSET, WALL HUNG, WHITE VITREOUS CHINA WITH ANTIMICROBIAL SURFACE, 1.28 GALLON PER FLUSH SIPHON JET ACTION, ELONGATED CLOSET BOWL WITH 1- 1/2" TOP SPUD AND BOLT COVERS. AMERICAN STANDARD AFWALL #3351.101 ELONGATED OPEN FRONT SEAT WITH SELF SUSTAINING CONCEALED CHECK HINGES. BLACK SEAT COLOR. BEMIS #1955SSCT 0047.
SEAT:	
FLUSH VALVE:	1.28 GALLON FLUSH CYCLE. EXPOSED, DIAPHRAGM TYPE, CHROME PLATED CLOSET FLUSHOMETER. VACUUM BREAKER, SPUD COUPLING FOR 1-1/2" TOP SPUD. SLOAN ROYAL II #111-1.28.
CARRIER:	WADE 311 (HORIZONTAL) AND 330 (VERTICAL) SERIES WITH 500 LB WEIGHT CAPACITY AND FLUSH VALVE SUPPORT (-AM1).
ROUGH-IN:	4" WASTE, 2" VENT, 1" COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT REQUIREMENTS.
TYPE:	WC-2 (T.A.S. / ADA COMPLIANT)
DESCRIPTION:	WATER CLOSET, WALL HUNG, WHITE VITREOUS CHINA WITH ANTIMICROBIAL SURFACE, 1.28 GALLON PER FLUSH SIPHON JET ACTION, ELONGATED CLOSET BOWL WITH 1- 1/2" TOP SPUD AND BOLT COVERS. AMERICAN STANDARD AFWALL #3351.101 ELONGATED OPEN FRONT SEAT WITH SELF SUSTAINING CONCEALED CHECK HINGES. BLACK SEAT COLOR. BEMIS #1955SSCT 0047. BEMIS #1955SSCT.
SEAT:	
FLUSH VALVE:	1.28 GALLON FLUSH CYCLE. EXPOSED, DIAPHRAGM TYPE, CHROME PLATED CLOSET FLUSHOMETER. VACUUM BREAKER, SPUD COUPLING FOR 1-1/2" TOP SPUD. SLOAN ROYAL II #111-1.28.
CARRIER:	WADE 311 (HORIZONTAL) AND 330 (VERTICAL) SERIES WITH 500 LB WEIGHT CAPACITY AND FLUSH VALVE SUPPORT (-AM1).
ROUGH-IN:	4" WASTE, 2" VENT, 1" COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT REQUIREMENTS.
TYPE:	U-1 (T.A.S. COMPLIANT)
DESCRIPTION:	URINAL, WALL HUNG, WHITE VITREOUS CHINA, 0.5 GALLON PER FLUSH, WASHOUT FLUSH ACTION, INTEGRAL TRAP, REMOVABLE DOMED STRAINER. AMERICAN STANDARD "WASHBROOK" 6590.001
FLUSH VALVE:	0.5 GALLON FLUSH CYCLE. EXPOSED, DIAPHRAGM TYPE, CHROME PLATED URINAL FLUSHOMETER. VACUUM BREAKER, SPUD COUPLING FOR 3/4" TOP SPUD. SLOAN ROYAL II #186-0.5.
CARRIER:	RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 4" SQUARE BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, UPPER AND LOWER BEARING PLATES WITH THREADED STUDS. WADE 401-AM1-M36.
ROUGH-IN:	2" WASTE, 2" VENT, 3/4" COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.
TYPE:	L-1 (T.A.S. COMPLIANT) - METERED - TEMPERED WATER FOR STUDENTS
DESCRIPTION:	LAVATORY, WALL HUNG, WHITE VITREOUS CHINA, 20-1/2" X 18-1/4" WITH FRONT OVERFLOW AND CONCEALED ARM SUPPORTS, 4" CENTERSET FAUCET HOLES. AMERICAN STANDARD LUCERNE #0355.012.
FAUCET:	CHROME PLATED BRASS DECK MOUNTED LAVATORY FAUCET WITH COVER PLATE, 4-1/8" SPOUT, AND PUSH BUTTON HANDLE INDEXED "PUSH". SELF CLOSING METERING CARTRIDGE. VANDAL RESISTANT 0.5 GPM NON-AERATING LAMINAR FLOW OUTLET. CHICAGO MODEL #857-E56VP-665PSHABCP
STRAINER:	1-1/4" 17 GAUGE CHROME PLATED BRASS GRID STRAINER WITH TAILPIECE. MCGUIRE #155A.
P-TRAP:	1-1/4" 17 GAUGE CHROME PLATED HEAVY CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE #8872C.
SUPPLIES:	1/2" I.P.S. X 3/8" O.D.CHROME PLATED LOOSE KEY STOP VALVE WITH ESCUTCHEON AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE #LFH2165LK.
CARRIER:	RECTANGULAR STEEL TUBING UPRIGHTS WITH WELDED 3" X 4-1/2" BASE ANCHORED TO CONCRETE WITH (4) 1/2" BOLTS, ADJUSTABLE SLEEVE, THREADED CONCEALED ARMS, ALIGNMENT BAR, LOCKING DEVICE, AND LEVELING SCREWS. WADE 520-08.
ROUGH-IN:	2" WASTE, 2" VENT, 1/2" COLD WATER ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.
TYPE:	L-2 (T.A.S. COMPLIANT)
DESCRIPTION:	WALL-MOUNTED 3-USER, VANDAL-RESISTANT SHALLOW BOWL WASH FOUNTAIN PREASSEMBLED BOWL AND PEDESTAL UNIT CONSTRUCTED OF STAINLESS STEEL WITH CHROME PLATED EXPOSED FITTINGS. INCLUDES INDIVIDUAL SPRAY HEADS PER STATION WITH STAINLESS STEEL SUPPORT TUBE, MIXING VALVE, VOLUME CONTROL VALVE, WASTE AND SUPPLY CONNECTIONS WITH STOPS, STRAINERS, AND CHECK VALVES. VANDAL-RESISTANT CONSTRUCTION WITH CONCEALED SPRAY HEADS AND CONNECTIONS. TERREON - MF2939
BOWL:	36-INCH (914 MM) DIAMETER, 5 INCH (127 MM) DEEP, WITH BACKSPLASH.
UNIT HEIGHT:	34 INCH (864 MM)
HAND CONTROL PUSHBUTTON OPERATION:	OPERATION OF PUSHBUTTON ACTIVATES AN AIR METERING VALVE WITH FIELD-ADJUSTABLE TIMING.
P-TRAP:	1-1/4" 17 GAUGE CHROME PLATED HEAVY CAST BRASS TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON PLATE. MCGUIRE 8872.
SUPPLIES:	1/2" I.P.S. X 3/8" O.D.CHROME PLATED LOOSE KEY STOP VALVE WITH ESCUTCHEON AND 3/8" COMPRESSION CHROME PLATED FLEXIBLE RISERS. MCGUIRE 2165LK.
ROUGH-IN:	2" WASTE, 2" VENT, 1/2" HOT AND COLD WATER. REFER TO ARCHITECTURAL DRAWINGS FOR HEIGHT REQUIREMENTS.
TYPE:	RD-1
DESCRIPTION:	ROOF DRAIN. CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, ALUMINUM DOME, UNDERDECK CLAMP AND ADJUSTABLE EXTENSION AS REQUIRED FOR ROOF CONSTRUCTION. WADE 3000-46-52-53 FOR 6" AND SMALLER, WADE 3001-46-52-53 FOR 8" AND LARGER.
ROUGH-IN:	REFER TO FLOOR PLANS FOR SIZES.

GENERAL NOTES:

ALL LAVATORIES AND SINKS SHALL BE SUPPLIED WITH HOT AND COLD WATER (UNLESS NOTED TO BE COLD WATER ONLY) TO FAUCETS AS INDICATED ON PLANS AND FIXTURE SCHEDULE. PROVIDE CHROME PLATED BRASS SUPPLY STOPS WITH LOOSE KEYS AND WALL ESCUTCHEONS. PROVIDE CHROME PLATED FLEXIBLE RISERS OF SIZE REQUIRED TO PROPERLY CONNECT FIXTURES. PROVIDE 17 GAUGE CHROME PLATED CAST BRASS P-TRAP WITH CLEANOUT AND EXTENSION TO WALL WITH ESCUTCHEON (UNLESS NOTED TO BE AN ACID WASTE FIXTURE). REFER TO FIXTURE SCHEDULE FOR MINIMUM SIZES OF PLUMBING FIXTURE ROUGH-INS.

INSULATION KITS AT ALL LAVATORIES AND SINKS REQUIRED TO BE T.A.S. ACCESSIBLE (MCGUIRE OR TRUEBRO). ALL SUCH FIXTURES AND FINAL INSTALLATIONS SHALL COMPLY WITH THE STATE ACCESSIBILITY STANDARDS REQUIREMENTS.

INSERT TRAP GUARDS AFTER FINAL RODDING OF DRAINS. INSTALL TRAP GUARD WITH CLEAR SILICONE CAULK FOR GAS-TIGHT SEAL. FOR DRAIN RODDING AFTER INSTALLATION. INSERT SEWER TAPE THROUGH LIGHTLY GREASED 1-1/2" PVC PIPE TO PROTECT TRAP GUARD.

PROVIDE AND INSTALL ACID RESISTANT P-TRAPS ON ALL SCIENCE, BIOLOGY, CHEMISTRY, AND PHYSICS CLASSROOM SINKS.

DISREGARD FIXTURES LISTED THAT ARE NOT ON THIS JOB.

THERMOSTATIC MIXING VALVE SCHEDULE

ITEM NO.	TEMP. IN DEG. F	TEMP. OUT DEG. F	MIN. FLOW GPM	DES. FLOW GPM	VALVE FINISH	THERMO METER	UNION CONN.	PRESS. DIFF.	MANUFACTURER / MODEL
TMV-1	160	110	0.5	30	RB	YES	YES	4	SYMMONS #4-900-ASB-W
TMV-1	160	110	0.5	30	RB	YES	YES	4	SYMMONS #4-900-ASB-W
TMV-1	160	110	0.5	30	RB	YES	YES	4	SYMMONS #4-900-ASB-W
TMV-1	160	110	0.5	30	RB	YES	YES	4	SYMMONS #4-900-ASB-W

NOTES: TMV-3 AND TMV-4 SHALL BE PIPED TO MEET T.A.S. REQUIRED CLEARANCES.

SHOCK ARRESTOR SCHEDULE

P.D.I. SYMBOLS:	FIXTURE UNITS:	THREADED CONNECTION	CERTIFICATION
A	1 - 11	1/2"	ASSE 1010
B	12 - 32	3/4"	ASSE 1010
C	33 - 60	1"	ASSE 1010
D	61 - 113	1"	ASSE 1010
E	114 - 154	1"	ASSE 1010
F	155 - 330	1"	ASSE 1010

PLUMBING GENERAL NOTES

1 ALL WORK, METHODS AND INSTALLATIONS INVOLVED IN THE PLUMBING DESIGN SHALL BE IN ACCORDANCE WITH THE CITY BUILDING CODE AND INSPECTION REGULATIONS AND ALL OTHER OFFICIALS HAVING JURISDICTION.

2 THIS CONTRACTOR SHALL COORDINATE ROUTING OF PIPING IN CEILING SPACES WITH MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTWORK AND CONDUIT. SHOULD A CONFLICT OCCUR THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT/ ENGINEER PRIOR TO INSTALLING AN ALTERNATE PIPING PLAN.

PLUMBING GENERAL NOTES

1. WITHIN THE EXISTING BUILDING, EXISTING WATER, WASTE AND VENT SERVICES ARE TO BE MODIFIED AS EQUIRED AND REUSED FOR THE INSTALLATION OF NEW AND/OR RELOCATED PLUMBING FIXTURES. REFER TO PLUMBING FLOOR PLANS FOR POINTS OF CONNECTION.
2. WITHIN THE EXISTING BUILDING, SAWCUT AND REMOVE EXISTING FLOOR SLAB AS REQUIRED TO PROVIDE NEW AND/OR RELOCATED PLUMBING FIXTURES, CLEANOUTS, AND UNDERSLAB WASTE AND VENT PIPING. PATCH AND REFINISH FLOOR TO MATCH EXISTING.
3. IN AREAS WHERE THE FLOOR SLAB IS REMOVED, CONTRACTOR SHALL ALSO REMOVE UNDERSLAB WASTE AND VENT PIPING WHICH SERVES FIXTURES DESIGNATED FOR REMOVAL. PRIOR TO ANY REMOVAL, FIELD VERIFY THAT LINES TO BE REMOVED DO NOT SERVE ANY EXISTING FIXTURES TO REMAIN OR NEW FIXTURES TO BE INSTALLED.
4. IN AREAS WHERE THE FLOOR SLAB IS NOT REMOVED, CONTRACTOR SHALL ABANDON IN PLACE ANY UNDERSLAB WASTE AND VENT PIPING NO LONGER NEEDED, UNLESS THE PIPING MUST BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION. IF NEW WORK DOES NOT NECESSITATE THEIR REMOVAL, CUT AND PLUG SUCH LINES BELOW SLAB, AND PATCH FLOOR TO MATCH EXISTING.
5. FIELD VERIFY EXACT LOCATION, SIZE, DEPTH, DIRECTION OF FLOW, CAPACITY, PIPE MATERIAL AND CONDITION OF EXISTING WASTE PIPING PRIOR TO BEGINNING CONSTRUCTION. ENSURE THAT PROPER CONNECTIONS TO AND EXTENSION OF SUCH UTILITIES CAN BE MADE.
6. WASTE LINES TO BE RE-USED OR RECONNECTED TO SHALL BE THOROUGHLY RODDED OUT AND FLUSHED TO ENSURE THEY ARE FREE FROM BLOCKAGES.
7. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING BELOW SLAB WITH COLUMN FOOTINGS, GRADE BEAMS, UNDERGROUND PLUMBING AND ELECTRICAL UTILITIES, AND OTHER SUB-SURFACE BUILDING ELEMENTS.
8. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING IN CEILING SPACES WITH MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTWORK AND CONDUIT. SHOULD A CONFLICT OCCUR THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO INSTALLING AN ALTERNATE PIPING PLAN.
9. CONTRACTOR TO COORDINATE ALL REMODEL WORK WITH THE WORK OF OTHER TRADES TO AVOID CONFLICTS AND TO MINIMIZE INTERRUPTION OF SERVICES. COORDINATE ALL FIXTURE AND EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS WITH LATEST ARCHITECTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO ANY ROUGH-INS.
10. DO NOT ROUGH-IN FROM THESE DRAWINGS. REFER TO LATEST ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS.
11. CONTRACTOR TO FIELD VERIFY AS NECESSARY THE EXACT ROUTING AND SIZES OF ALL PIPING.
12. ALL WORK, METHODS AND INSTALLATIONS INVOLVED IN THE PLUMBING DESIGN SHALL BE IN ACCORDANCE WITH THE CITY BUILDING CODE, INSPECTION REGULATIONS AND ALL OTHER OFFICIALS HAVING JURISDICTION.
13. THE PROPER INSTALLATION OF NEW FIXTURES AND THE PROPER CONTINUED OPERATION OF EXISTING FIXTURES TO REMAIN SHALL DETERMINE THE EXTENT AND NATURE OF PLUMBING REMODEL WORK.
14. EACH VENT SHALL TERMINATE VERTICALLY NOT LESS THAN 6" ABOVE ROOF. MAINTAIN MINIMUM 10'-0" DISTANCE BETWEEN VENT TERMINALS THROUGH ROOF AND ALL FRESH AIR INTAKES, AND A MINIMUM 5'-0" FROM ANY EXTERIOR WALL.
15. PRIOR TO BEGINNING CONSTRUCTION, COORDINATE BUILDING BACKFLOW PREVENTION REQUIREMENTS WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND PROVIDE AS DIRECTED.
16. CONTRACTOR SHALL SCOPE AND CAMERA THE EXISTING SANITARY LIES FOR THE ENTIRE BUILDING AND PROVIDE A SCALED DRAWING SHOWING THE EXACT SANITARY PIPE ROUTING INCLUDING PIPE SIZE, DEPTH, DIRECTION OF FLOW AND TIE IN LOCATIONS. IDENTIFY AND LOCATE ANY BELLIES, CRACKS, OR SEPERATED FITTINGS AND OFFER REPAIR RECOMMENDATIONS TO THE OWNER AND DESIGN TEAM. PROVIDE COPIES OF THE VIDEOS TO OWNER, WALL CLEANOUTS ARE PRESENT IN THE HANDICAPPED STALS IN EACH STUDENT RESTROOM FOR PIPE ACCESS. A WATER CLOSET WILL BEED TO BE REMOVED IN THE FACULTY RESTROOMS TO GAIN ACCESS TO THE DANITARY PIPING. REINSTALL THE FIXTURE AFTER COPPLETION. A PDF, CAD OR REVIT COMPOSITE FLOOR PLAN WILL BE PROVIDED TO THE CONTRACTOR IN THE FORMAT OF THEIR CHOICE. THE KITCHEN SANITARY GREASE WASTE SYSTEM IS EXEMPT FROM THIS EXERCISE.

PLUMBING MATERIAL LIST

ABOVE GRADE, INSIDE BUILDING

SANITARY WASTE AND VENT PIPING SHALL BE

NO-HUB CAST IRON SYSTEM CONFORMING TO CISPI. STANDARD NO. 301-75. NEOPRENE GASKETS SHALL CONFORM TO ASTM STANDARD C564-75, OR,

STORM PIPING SHALL BE

SERVICE WEIGHT CAST IRON HUB AND SPIGOT PIPE AND FITTINGS WITH ELASTOMERIC GASKETS JOINTS.

DOMESTIC WATER PIPING SHALL BE

DRAWN (HARD) COPPER WATER TUBE, TYPE "L", ASTM B88, WITH WROUGHT COPPER FITTINGS, ANSI B16.22 AND 95-5 SOLDER JOINTS.

ACID WASTE AND VENT PIPING SHALL BE

GLASS- BOROSILICATE ACID RESISTANT GLASS PIPE AND FITTINGS WITH TFE SEAL RINGS OR FLANGES. SYSTEM SHALL COMPLY WITH FEDERAL SPECIFICATION DD-G-541-B. PROVIDE BEAD-END PIPING.

BELOW GRADE, INSIDE BUILDING

SANITARY WASTE AND VENT PIPING SHALL BE

SCHEDULE 40 DWV POLYVINYL CHLORIDE PIPE AND FITTINGS CONFORMING TO ASTM-2665 WITH SOLVENT WELDED JOINTS. DO NOT USE IN AIR SUPPLY OR RETURN PLENUMS, AND OR WHERE FIRE RATED WALLS, PARTITIONS, OR FLOORS ARE PENETRATED.

STORM PIPING SHALL BE

SCHEDULE 40 DWV POLYVINYL CHLORIDE PIPE AND FITTINGS CONFORMING TO ASTM-2665 WITH SOLVENT WELDED JOINTS.

DOMESTIC WATER PIPING SHALL BE

ANNEALED (SOFT) COPPER WATER TUBE, TYPE "K", ASTM B88, WITH NO JOINTS OR FITTINGS BELOW SLAB.

ACID WASTE AND VENT PIPING SHALL BE

NON-FLAME RETARDANT POLYPROPYLENE PIPE WITH FUSION WELDED FITTINGS.

GAS PIPING SHALL BE

PIPE 2" AND SMALLER. PROVIDE SCHEDULE 40 ASTM A 53 BLACK STEEL WITH FACTORY FABRICATED SOCKET WELD FITTINGS.

PIPE LARGER THAN 2", USE SCHEDULE 40 ASTM A 53 BLACK STEEL PIPE WITH LONG RADIUS WELD FITTINGS.

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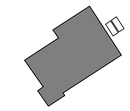
spring ISD

REYNOLDS ELEMENTARY MAINTENANCE IMPROVEMENTS

REYNOLDS ELEMENTARY SCHOOL
3919 Gladeridge Dr, Houston, TX 77066

KEY PLAN



PLAN NORTH / TRUE

11.07.25

CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.24.2025	ISSUE FOR PROPOSALS

REVISIONS

No.	Description	Date
1	ADDENDUM 1	11-07-2025

PLUMBING SCHEDULES

P6.01

TECHNOLOGY LEGEND

SYMBOL	DESCRIPTION	ELEVATION	BACK BOX/RACEWAY	NOTES
▼	WALL MOUNTED NETWORK OUTLET D#: NUMBER OF DATA DROPS IN OUTLET AP: WIRELESS ACCESS POINT	+18" AFF, UNLESS OTHERWISE NOTED	4"X4"X2 1/8" BACK BOX WITH 1-G MUD RING, 1"C	

NOTES:
1. #-G INDICATES BACK BOX SIZE.
2. #-C INDICATES CONDUIT SIZE.
3. UNO: UNLESS NOTED OTHERWISE
4. CONDUIT STUB UP AND SLEEVES SHALL HAVE A SOLID UNCUT PLASTIC PROTECTIVE BUSHING.
5. NO CONDUITS SHALL EXCEED FOR 40% MAXIMUM FILL RATIO. CONTRACTOR TO PROVIDE ADDITIONAL CONDUITS REQUIRED.

INTERCOM LEGEND

SYMBOL	DESCRIPTION	ELEVATION	BACK BOX/RACEWAY	NOTES
S2	CEILING MOUNT INTERCOM SPEAKER, HARD CEILING.	CEILING	CONTRACTOR PROVIDED	
S4	WALL MOUNT EXTERIOR INTERCOM SPEAKER	+10' AFF UNO	CONTRACTOR PROVIDED	

NOTES:
1. #-G INDICATES BACK BOX SIZE.
2. #-C INDICATES CONDUIT SIZE.
3. UNO: UNLESS NOTED OTHERWISE
4. THE SYSTEM INTEGRATOR SHALL COORDINATE ALL BOX AND CONDUIT SIZE REQUIREMENTS PRIOR TO ROUGH-IN BY THE PROJECTS ELECTRICAL CONTRACTOR.
5. PROVIDE AND INSTALL ONE (1) CATEGORY CABLE TO CONNECT DEVICE TO NETWORK

VIDEO SURVEILLANCE LEGEND

SYMBOL	DESCRIPTION	ELEVATION	BACK BOX/RACEWAY	NOTES
⊡	1-SENSOR CAMERA	REFERENCE FLOOR PLANS	4"X4"X2 1/8" BACK BOX WITH 1-G MUD RING, 1"C	
⊢	SYMBOL INDICATES THAT A VIDEO SURVEILLANCE DEVICE IS WALL MOUNTED			

NOTES:
1. #-G INDICATES BACK BOX SIZE.
2. #-C INDICATES CONDUIT SIZE.
3. UNO: UNLESS NOTED OTHERWISE
4. THE SYSTEM INTEGRATOR SHALL COORDINATE ALL BOX AND CONDUIT SIZE REQUIREMENTS PRIOR TO ROUGH-IN BY THE PROJECTS ELECTRICAL CONTRACTOR.
5. PROVIDE AND INSTALL ONE (1) CATEGORY CABLE TO CONNECT DEVICE TO NETWORK

FIRE ALARM

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL
S	EXTERIOR FIRE ALARM SPEAKER. CONTRACTOR TO FEILD VERIFY EXISTING LOCATION.
⊠	INDICATES EXISTING WALL MOUNTED FIRE ALARM SPEAKER STROBE DEVICE. TYPICAL FOR ALL SHOWN IN PROJECT. CONTRACTOR TO FIELD VERIFY EXISTING LOCATION.

NOTES:
1. FIRE ALARM SYSTEM IS PERFORMANCE BASED PER SPECIFICATIONS. CONTRACTOR TO REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. A LICENSED FIRE ALARM PLANNING SUPERINTENDENT CERTIFIED TO A MINIMUM LEVEL 3, IN THE SUBFIELD OF FIRE ALARM SYSTEMS THROUGH THE NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET), SHALL PROVIDE PLANS AND CALCULATIONS FOR A MANUAL AND AUTOMATIC FIRE DETECTION AND ALARM SYSTEM TO COMPLY WITH THE BUILDING SPACE LAYOUT, BUILDING OCCUPANCY, CURRENT NFPA 72, LOCAL AND STATE CODE REQUIREMENTS, AND THE FIRE ALARM AND DETECTION SYSTEM SPECIFICATIONS.

SUBSCRIPTS AND ABBREVIATIONS

TEXT	DESCRIPTION
'WP'	DEVICE SHALL BE WEATHER PROOF AND RATED FOR EXTERIOR CONDITIONS
•	FIELD COORDINATE ELEVATION.
AFF	ABOVE FINISHED FLOOR
'UC'	DEVICE IS TO BE MOUNTED ON THE UNDERSIDE OF THE ELEVATED CANOPY.
'WM'	DEVICE IS TO BE WALL MOUNTED.
'WG'	WIRE GUARD TO BE PROVIDED AND INSTALLED TO PROTECT ASSOCIATED DEVICE.

SUBSCRIPTS LEGEND - EXISTING DEVICES

TEXT	DESCRIPTION
'E'	EXISTING TO REMAIN.
'D'	DEVICE IS EXISTING AND IS TO BE REMOVED. CONTRACTOR TO REMOVE THE DEVICE AND RETURN TO OWNER.
'R'	REMOVE EXISTING DEVICE AND RELOCATE TO A LOCATION INDICATED ON THE DRAWINGS.

TECHNOLOGY PLAN KEY NOTES

1 INDICATES APROXIMATE LOCATION OF IDF ROOM

2 ALL INTERCOM SPEAKERS AND FIRE ALARM DEVICES SHALL BE REMOVED, BAGGED, SUSPENDED IN THE CEILING AND REINSTALLED AFTER RESTROOM SCOPE OF WORK IS COMPLETED. FIELD VERIFY EXACT DEVICES LOCATIONS AND QUANTITIES.

3 EXISTING DEVICE SHALL BE REMOVED AND REINSTALLED DURING CONSTRUCTION. DEVICE SHALL BE REINSTALLED 8" BELOW NEW CANOPY. CONFIRM FINAL ROUGH IN LOCATION WITH ARCHITECT AND AND OWNER.

TECHNOLOGY PLAN GENERAL NOTES

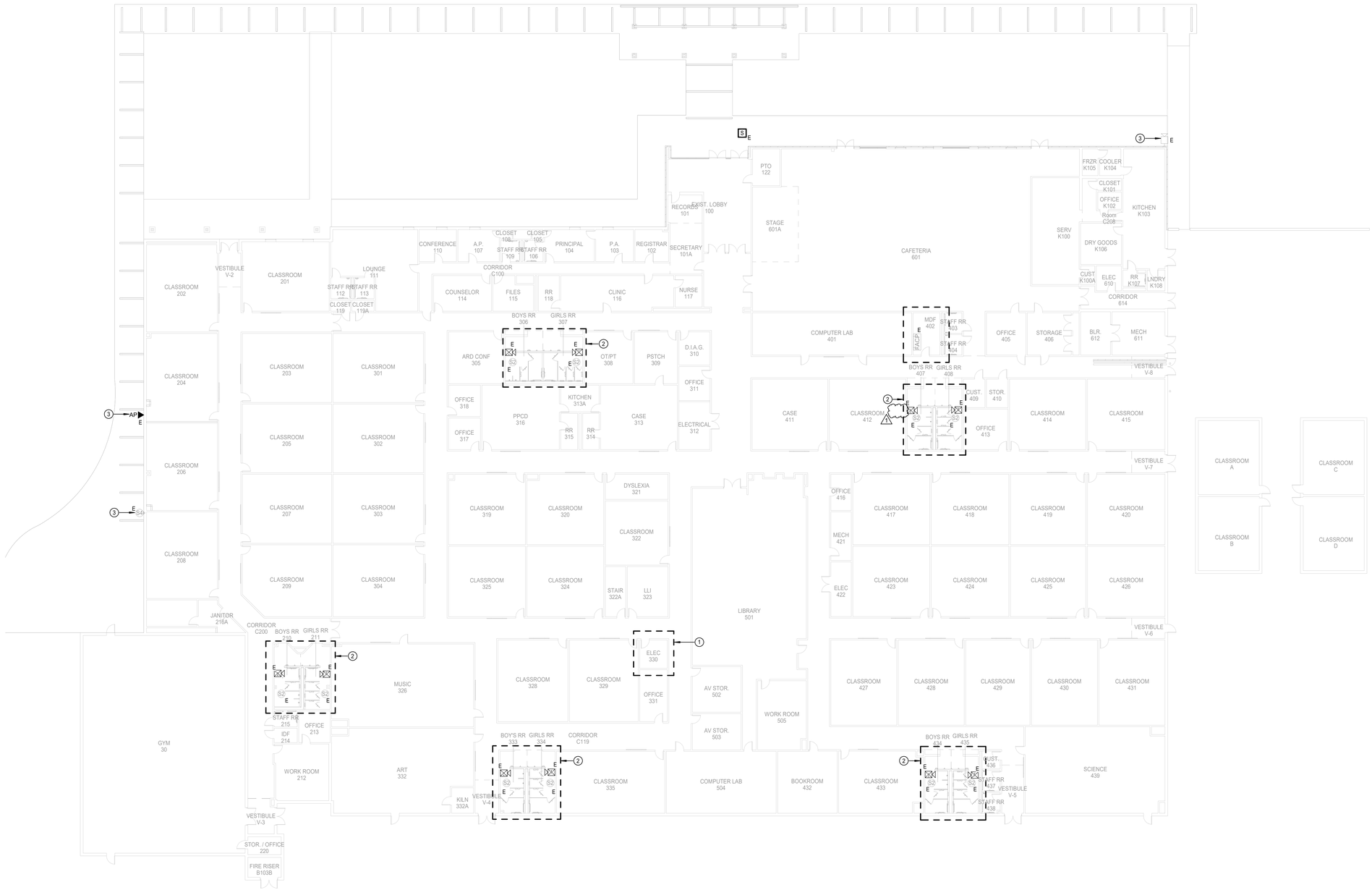
A COORDINATE ALL FINAL MOUNTING HEIGHTS, FOR WALL MOUNTED DEVICES, PRIOR TO ROUGH-IN. COORDINATE WITH ARCHITECT AND OWNER.

B COORDINATE ALL CEILING DEVICE LOCATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

C REFERENCE TECHNOLOGY NOTES & LEGENDS AND ELECTRICAL PLANS FOR ADDITIONAL INFORMATION AND DEVICE/OUTLET LOCATIONS.

D EXISTING DEVICE LOCATIONS DETERMINED VIA CASUAL SITE OBSERVATIONS. CONTRACTOR SHALL VERIFY ALL DIV 27 AND DIV 28 DEVICES LOCATED IN PROJECTS SCOPE OF WORK. REFERENCE ARCHITECTURAL AMD MEP PLANS FOR ADDITIONAL SCOPE INFORMATION.

E CONTRACTOR TO FEILD TEST ALL DIV 27 AND 28 DEVICES THAT WILL BE REMOVED AND REINSTALLED IN SCOPE OF THIS PROJECT. PROIR TO REMOVAL TO VERIFY PROPER FUNCTIONING CONDITION OF DEVICE. UPON REINSTALLATION CONTRACTOR SHALL TEST DEVICE TO ENSURE CONTINUED FUNCTIONALITY.



1 **TECHNOLOGY FLOOR PLAN**
Scale: 1/16" = 1'-0"

IN2 ARCHITECTURE
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Coleman Partners ARCHITECTS
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STRUCTURAL
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MEP
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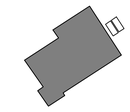
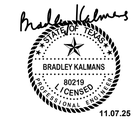
spring ISD

REYNOLDS ELEMENTARY MAINTENANCE IMPROVEMENTS

REYNOLDS ELEMENTARY SCHOOL
3919 Glasbridge Dr, Houston, TX 77066

KEY PLAN





CLIENT	IN2 PROJECT NUMBER
SISD	2411
DATE	ISSUE
10.24.2025	ISSUE FOR PROPOSALS

REVISIONS

No.	Description	Date
1	ADDENDUM 1	11-07-2025

TECHNOLOGY PLANS

T2.01