July 3, 2019
Hanna ECHS New Gymnasium Facility – CSP 20-110

GOMEZ MENDEZ SAENZ, INC.
1150 PAREDES LINE RD.
BROWNSVILLE, TEXAS 78526
(956) 546-0110

ADDENDUM NO. 2

A. PURPOSE AND INTENT
This addendum is issued for the purpose of modifying the plans and specifications for the Hanna ECHS New Gymnasium Facility – CSP 20-110.

This addendum shall become part of the contract and all CONTRACTORS shall be bound by its content. All aspects of the specifications and drawings not covered herein shall remain the same.

The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this Addendum.

B. SCOPE

I. CLARIFICATIONS:

1. Pre-Proposal conference Agenda and Sign-In Sheet INCLUDED within this addendum.

II. SPECIFICATIONS:

1. Front End Specification, Instructions for Competitive Sealed Proposals
   Page 2, REVISE *Proposals Required* to read as follows*: Proposer must submit Four (4) Proposals (One original and Three Copies).*

2. Section 03341 – Lightweight Insulating Concrete
   This Spec Section will be ADDED and be part of the Contract Documents.

3. Section 07220 – Lightweight Insulating Concrete Roof Insulation
   This Spec Section will be DELETED from the Contract Documents

4. Section 07520 – Modified Bituminous Membrane Roofing
   REPLACE Section 07520 Modified Bituminous Membrane Roofing previously issued with Section 07520 – Modified Bituminous Sheet Roofing included in this Addendum.

5. Section 08300 – Special Doors
   This Spec Section will be ADDED and be part of the Contract Documents.

6. Section 08800 - Glass and Glazing
   Part 2 Products, Materials, Inboard Lite, ADD *Opaque (Satin) on #3 Surface.*

7. Section 09400 – Terrazzo
   This Spec Section will be ADDED and be part of the Contract Documents.

8. Section 09642 – Gymnasium Wood Flooring
   Subject to compliance with this section: *Horner Flooring Company, Inc. – SAFE 2 DIN, shall be an approved manufacturer and product.*

   Subject to compliance with this section: *Robbins Sports Surfaces – Bio-Cushion Classic, shall be an approved manufacturer and product.*

9. Section 11480 – Recreational Equipment
   Subject to compliance with this section: *Draper, Inc – EZ Fold, Steeleco shall be an approved manufacturer and product.*

10. Section 10216 – Solid Plastic Toilet Compartments
    This Spec Section will be ADDED and be part of the Contract Documents.

11. Section 12760 – Telescopic Bleachers
    Subject to compliance with this section: *Irwin Seating Company – Versa Tract Seating System shall be an approved manufacturer and product.*

    Subject to compliance with this section: *Interkal – Reverse Fold Telescoping Bleachers shall be an approved manufacturer and product.*

III. PLANS:

1. Sheet A2.01 – Floor plan
   a. Replace sheet A2.01 previously issued with sheet A2.01 included in this addendum.
2. Sheet A2.02 – 2nd Level Floor plan
   a. Replace sheet A2.02 previously issued with sheet A2.02 included in this addendum.
3. Sheet A2.03 – Fixture plan
   a. Replace sheet A2.03 previously issued with sheet A2.03 included in this addendum.

4. Sheet A2.04 – Reflected ceiling plan
    a. Replace sheet A2.04 previously issued with sheet A2.04 included in this addendum.
5. Sheet A2.05 – Roof plan
    a. Replace sheet A2.05 previously issued with sheet A2.05 included in this addendum.
6. Sheet A2.07 – Striping plan
    a. Add sheet A2.07 to contract documents included in this addendum.
7. Sheet A3.01 – Window & Door elevations
    a. Replace sheet A3.01 previously issued with sheet A3.01 included in this addendum.
8. Sheet A3.02 – Restroom enlargements
    a. Replace sheet A3.02 previously issued with sheet A3.02 included in this addendum.
9. Sheet A3.03 –Millwork elevations
    a. Add sheet A3.03 to contract documents included in this addendum.
10. Sheet A3.04 – Millwork sections
    a. Add sheet A3.04 to contract documents included in this addendum.
11. Sheet A3.05 – Concession plan and details
    a. Replace sheet A3.05 previously issued with sheet A3.05 included in this addendum.
12. Sheet A4.00 – Interior partitions
    a. Add sheet A4.00 to contract documents included in this addendum.
13. Sheet A4.02 – Wall Sections
    a. Replace sheet A4.02 previously issued with sheet A4.02 included in this addendum.
14. Sheet A4.03 – Wall Sections
    a. Replace sheet A4.03 previously issued with sheet A4.03 included in this addendum.
15. Sheet A4.04 – Wall Sections
    a. Replace sheet A4.04 previously issued with sheet A4.04 included in this addendum.
16. Sheet A4.05 – Wall Sections
    a. Replace sheet A4.05 previously issued with sheet A4.05 included in this addendum.
17. Sheet A4.06 – Wall Sections
    a. Replace sheet A4.06 previously issued with sheet A4.06 included in this addendum.
18. Sheet A4.07 – Wall Sections
    a. Replace sheet A4.07 previously issued with sheet A4.07 included in this addendum.

19. Sheet A4.08 – Wall Sections
    a. Replace sheet A4.08 previously issued with sheet A4.08 included in this addendum.
20. Sheet A4.09 – Wall Sections
    a. Replace sheet A4.09 previously issued with sheet A4.09 included in this addendum.
21. Sheet A4.10 – Wall Sections
    a. Replace sheet A4.10 previously issued with sheet A4.10 included in this addendum.
22. Sheet A5.01 – Elevations
    a. Replace sheet A5.01 previously issued with sheet A5.01 included in this addendum.

Civil Addendum Items: See Attached Information (3 Pages)
Landscape Addendum Items: See Attached Information (3 Pages)
Structural Addendum Items: See Attached Information (14 Pages)
MEP Addendum Items: See Attached Information (18 Pages)

End of Addendum 2

GMS ARCHITECTS

Pre-Proposal Conference
Brownsville ISD – Hanna ECHS Gymnasium Facility

June 25, 2019

- **Sign-In Sheet**

- **Design Team**
  - Design Team – GMS Architects, GRA Engineering, Ethos Engineering, SSP Design, Mejia and Rose

- **Construction Proposal Documents**
  - Hard Copies available thru Gomez Mendez Saenz, 1150 Paredes Line Rd., Brownsville TX 78521. Deposit is $250.00 per set. Deposits will be refunded if documents are returned in good condition no later than ten (10) calendar days after the bid opening.

- **Bidding Questions**
  - Project questions regarding the project shall be submitted in writing for a formal response via email to: David Monreal, dmonreal@gmsarchitects.com Written questions will be accepted until:
    - 12:00pm (Noon) Monday July 8, 2019.
  - Written question should be clear and concise. Include page number or detail reference.
  - Changes to the Bid Documents will only be issued thru an Addendum.
  - No Addendums have been issued as of today.

- **Bidding Information**
  - Sealed Proposals are due no later than **4:00pm, on Thursday July 11, 2019 @ BISD Purchasing Office.** Properly identified Proposals will be opened and read aloud at 4:15pm.
  - A 5% Bid Bond must accompany the proposal. Must be Original.
  - Project Allowances are noted in Section 01010 Summary of Work General Requirements.
  - Bid Items
    - There are (2) Alternate for this project. Listed in Section 01010 Summary of Work General Requirements.

- Review Ranking Evaluation and Ranking Criteria.
    - Provide (4) Binders (One Original and Three Copies)
    - Firm Construction Experience/Key Personnel/Conflict Resolution/Construction Performance and Financial Strength
    - Proposed Subcontractor Team to be Submit with Proposal. (The form included in the specifications will be replaced by Addendum)
    - Respond to every question for maximum points.
- Product Substitutions – Bidding Requirements
    - Must be submitted (10) days before receipt of bids.
        - Approvals will be issued via Addendum only.
    - Current Specs list a Basis of Design and approved manufactures.

- **Project Overview**
    - Project Estimated Budget is $10 Million
    - Building is approximately 38,000 Sf
    - Project consists of the following spaces:
        - Entry Foyer, Restrooms and Concessions Area
        - Aluminum Canopies at entry area
        - Large Volume Space with (3) Courts
            - Recessed Wood Flooring
            - Large Motorized Retractable Bleachers
        - Boys and Girls locker Rooms
        - Mechanical Chilled Water System
        - Mechanical Mezzanine over a portion of locker room area
        - Landscaping and Irrigation throughout campus
    - Type of Construction:
        - Foundation – Drilled Piers at perimeter walls/Concrete Slab on compacted select fill.
        - 12” CMU Bearing Walls at Large Volume Court Area. 8” CMU load bearing walls at entry restrooms and mezzanine/locker room area. Steel columns and beams with metal stud framing at curved Entry Foyer wall.
        - 64”D Long Span Joist, metal deck with Lightweight Insulated Concrete System – Large Volume Court Area.
        - Brick Veneer and EIFS at Exterior
    - Windstorm Certified
        - Refer to Roof Components, Exterior Cladding and Fenestration Design Wind Pressures – Listed in front end documents after Geotech report.

- **Questions?**

GMS ARCHITECTS

Brownsville ISD
Pre-Bid Conference – Hanna ECHS Gymnasium Facility
June 25, 2019

Name	Company	Phone Number	E-Mail
David Monreal	GMS Architects	956-546-0110	dmonreal@gmsarchitects.com
Fernando Villarreal	BISD	956-698-2400	fevillarreal@bisd.us
Rolando Borrayo	GMS Architects	546-0110	Rolando@gmsarchitects.com
Frank Mina	Wil-Con	956-655-0203	Frank@wil-con.com
Joe Guerrero	Ziwa	713-818-7358	joe@ziwacorp.com
Jorge Lopez	"	956-542-8162	jdlg@ziwacorp.com
Ruben Murrara	ZIWA	956-542-8167	ruben@ziwacorp.com
Dino Laurenti	NAH Sports Flooring	210-721-0533	dino@nahflooring.com
Rolando Ayala	Dailo Construction, Inc	956-630-9456	rolando@dailoconstruction.com
Roy Hernandez	Peacock General Contractors	956 423 6733	Peacockgeneral@hotmail.com
Gonzalo Rdz.	Wil-Con	956-650-5681	

SECTION 03341 - LIGHTWEIGHT INSULATING CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this Section.

1.2 DESCRIPTION OF WORK:

A. This section includes cast-in-place cellular lightweight insulating concrete for roof decks.

B. Related Sections include:

1. Metal Decking, Division 5
2. Rough Carpentry, Wood blocking and curbs, Division 6
3. Roof Membranes Division 7

C. Extent of lightweight insulating concrete (LtIns-Conc) is shown on drawings.

D. Slope requirements is shown on the drawings

1.3 DEFINITIONS

A. Cellular Lightweight Concrete: Low-density concrete produced using preformed foam.

1.4 REFERENCES

A. ASTM C 150, Standard Specification for Portland Cement

B. ASTM C 495, Standard Test Method for Compressive Strength of Lightweight Insulating Concrete

C. ASTM C 796, Standard Test Method for Foaming Agents for use in Producing Cellular Concrete Using Preformed Foam

D. ASTM C 869, Standard Specification for Foaming Agents Used in Making Preformed Foam for Cellular Concrete

E. ASTM C 578, Standard Specification for Rigid Cellular Polystyrene Thermal Insulation

F. ASTM C 513, Standard Test Method for Obtaining and Testing Specimens of Hardened Lightweight Insulating Concrete for Compressive Strength

1.5 QUALITY ASSURANCE:

A. Insulating Concrete Supplier: Regularly engaged in production of lightweight insulating concrete.

B. Insulating Concrete Applicator: Regularly engaged and properly equipped for application of lightweight insulating concrete, and as acceptable by aggregate manufacturer.

C. Testing Agency Qualification: an independent testing agency shall be qualified in accordance with ASTM C 1077 and ASTM E 39 for testing indicated.

D. FM Global: provide cellular lightweight insulating concrete that has been tested in accordance to FM (90PSF).

C. UL Fire Resistance Ratings: where indicated, provide cellular lightweight insulating concrete identical to those assemblies tested for fire resistance per ASTM E 119 and listed in UL's Fire Resistance Directory.

1.6 SUBMITTALS:

A. Product data for the cellular lightweight insulating concrete and the polystyrene insulating board indicating compliance with all applicable Approvals, Standards and required physical property values.

B. Florida Product Approval, 2010 Code Version, including HVHZ Approval

C. Miami Dade County, Notice of Product Acceptance - NOA

D. Shop drawings indicating polystyrene insulation layout and thicknesses, slope and drain locations, high and low point thickness from atop the structural deck.

E. Applicator shall be a firm Approved in writing by the foam concentrate Manufacturer. The Approval letter shall mention this project by name.

F. Certificates from manufacturers certifying that each of the following materials comply with referenced standards:

1. Portland Cement
2. Foaming Agent
3. Admixtures
4. Polystyrene Insulation Board

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1.7 DELIVERY, STORAGE AND HANDLING:

A. Deliver materials in manufacturer's original undamaged packages or acceptable bulk containers.

B. Store packaged materials to protect them from elements or physical damage.

C. Do not use cement which shows indications of moisture damage, caking, or other signs of deterioration.

1.8 JOB CONDITIONS:

A. Do not place lightweight insulating concrete when ambient temperature is below freezing.

B. When air temperature has fallen or is expected to fall below 40 degrees (4 degrees C), heat water and aggregates before mixing to attain concrete at point of placement with temperature of 50 degrees F (10 degrees C) min. and 80 degrees F (27 degrees C) max.

C. Do not place lightweight insulating concrete on surfaces which are covered with standing water, snow, or ice.

1.9 WARRANTY / GUARANTEE

A. Upon successful completion of the project, after all post installations have been completed, furnish the Owner a roof deck system manufacturer's warranty. The warranty shall be a term type and shall be issued to the Owner at no additional cost. Specific items covered under the warranty shall include:

1. The actual resistance to heat flow through the roof insulation will be at least 80% of the designed thermal resistance, provided the insulation is dry and the roof membrane is free of leaks.

2. The roof insulation will remain in a re-roof able condition should the roof membrane require replacement during the original term of the warranty (excluding damage caused by fastener withdrawal during the removal of the roof cover).

3. The roof insulation will not cause structural damage to the building as a

result of expansion from thermal or chemical reaction.

4. The roof insulation will not cause the roof membrane to leak as a result of vapor pressure build-up from batching (mixing) water used to produce the insulating concrete.

5. The roof insulation warranty period shall be 2 years from the substantial date of completion.

PART 2 - PRODUCTS

2.1 APPROVED MANUFACTURERS

A. Manufacturers whose products are listed and meet or exceed the requirements of this specification are approved for use.

B. Basis-of-Design: Celcore Incorporated, www.celcoreinc.com.

2.2 MATERIALS:

A. Cement: Portland Type I or Type II meeting ASTM C150.

B. Water: shall be clean, potable, free from injurious quantities of acid, alkali, salt, oil, organic matter and other impurities. The maximum permissible chloride level is 250 ppm.

C. Foaming Agent: meeting ASTM C 869 when tested in accordance with ASTM C 796. Foam concentrate shall be labeled bearing FM, UL and Miami-Dade Approval Marks.

D. Admixtures: as required by the insulating concrete manufacturer.

E. Insulating Board: shall be a product of expanded polystyrene meeting ASTM C 578, Type I, 1 lb/ft^3 nominal density with keying holes comprising approximately 3% of the gross surface area.

F. Curing Compound: as required by the insulating concrete manufacturer and applied in accordance with the manufacturers instructions.

2.3 DESIGN MIX:

Design lightweight insulating concrete mix to produce the following physical properties.

A. Wet Density at Point of Placement: : 42 lbs/ft^3 (+/- 3 lbs/ft^3) at the point of

placement when sampled in accordance with the applicable sections of ASTM C 495.

B. Oven Dry Density: 28 - 36 lbs/ft³ when tested in accordance with ASTM C 495.

C. Compressive Strength: Minimum 28 day compressive strength of 350 psi when tested in accordance with ASTM C 495.

2.4 CELLULAR INSULATING CONCRETE

A. Mix materials in strict accordance with recommendations of the manufacturer to yield the proper physical properties. Use the minimum amount of mix water required to produce concrete having good work-ability.

B. Mix and pump the cellular lightweight insulating concrete into place using a batch plant approved by the manufacturer. Thoroughly blend all materials before discharging the mixer.

C. Do not exceed maximum air content recommended by aggregate manufacturer.

D. Use minimum amount of water necessary to produce a workable mix.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Steel Deck: examine the decking for inadequate anchorage, foreign materials, debris, moisture or unevenness that would prevent proper application. Report inadequacies for correction.

3.2 PREPARATION

A. Control Joints: Install control joints at perimeter of roof deck and at junctures with vertical surfaces, including curbs, walls, and vents, for full depth of insulating concrete.

B. Provide 1" thick expansion joint material for roof areas with dimensions up to 100 ft. in length; 1-1/2" thick for roof areas exceeding 100 ft.

C. Cover and protect all equipment, stands, curbs, drains, etc., prior to beginning placement of the cellular insulating concrete.

D. Protect all elements to be surrounded by the insulating concrete placement from application damage or disfigurement.

3.3 INSTALLATION

A. Place a slurry layer of cellular concrete to a minimum thickness of 1/8 inch over top of the steel deck corrugations.

B. Immediately place the EPS holey board insulation into the fresh cellular concrete layer in a manner which causes the boards underside to make full contact with the concrete. Cellular concrete shall enter into the keying holes of the board. The insulation board shall be placed in a brick-like pattern of staggered joints butted tightly together.

C. Install insulation board in a stepped configuration with a maximum step of 1 inch.

D. The installed EPS holey board layer shall be allowed to set overnight undisturbed.

E. Set screeds to assure that the insulating concrete topping is placed to the proper thickness.

F. Place a minimum 2 inch thick topping layer of cellular insulating concrete above the insulation board. Screed and hand finished the placement to a smooth surface.

G. Apply a curing compound to the surface of the deck within 24 hour after placement of the deck topping. Curing shall be applied per manufacturer’s recommendations.

H. Begin curing operations immediately after placement, and air cure for not less than 3 days in accordance with manufacturer's recommendations.

I. Place lightweight insulating concrete in accordance with manufacturer's instructions, using equipment and procedures to avoid segregation of mix and loss of air content. Deposit and screed in a continuous operation until an entire panel or section of roof area is completed. Do no vibrate or work mix except for screeding or floating. Place lightweight insulating concrete to depths and slopes as shown on drawings. Leave top surface in acceptable condition to receive subsequent roofing application.

J. Provide temporary protection of removable waterproof covering to prevent direct exposure to moisture if roofing application is not started immediately after completion of curing.

3.4 FIELD QUALITY CONTROL:

A. Contractor shall engage an independent testing laboratory acceptable to

Architect to take samples and conduct tests to evaluate lightweight insulating concrete. Do not use same testing service which provided initial mix designs.

B. Take samples in accordance with ASTM C 172, except as modified by ASTM C 495.

C. Determine wet density in accordance with ASTM C 138.

D. Determine compressive strength and oven dry density in accordance with ASTM C 495. Make at least 6 molds during each placement.

E. Report test results to Architect, Contractor, and lightweight insulating concrete producer within 24 hours of completion of each test.

3.5 DEFECTIVE WORK:

A. Refinish or remove and replace lightweight insulating concrete surfaces which are not acceptable to receive roofing membrane or where physical properties do not meet specified requirements, as determined by Architect.

END OF SECTION

SECTION 07520 - MODIFIED BITUMINOUS SHEET ROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENT

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. Section 03341 - “Lightweight Insulating Concrete”

C. Section 06100 - “Rough Carpentry".

D. Section 07210 - “Roof and Deck Insulation".

E. Section 07015 - “Preparation for Re-Roofing”.

A. Section 07600 - “Flashing and Sheet Metal".

1.02 DESCRIPTION

A. Modified bituminous sheet roofing work including but not limited to:

One ply of SBS polyester/fiberglass/polyester reinforced base sheet over lightweight insulated concrete. One-ply of torch-applied 110-mil thick dual fiberglass scrim, SBS (styrene-butadiene-styrene) rubber modified base sheet, One-ply of torch-applied 195-mil thick SBS rubber, mineral surfaced, dual fiberglass scrim reinforced, modified roof membrane. 195 mil Torch-applied SBS mineral surfaced, polyester/fiberglass scrim reinforced, rubber modified roof membrane flashings.

1.03 References: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

Roofing Terminology: Refer to ASTM D 1079 for definitions of terms related to roofing work not otherwise defined in this Section.

ASTM D 41 1994 Asphalt Primer Used in Roofing, Damproofing, and Waterproofing

ASTM D 2178 1997a Asphalt Glass Felt Used in Roofing and Waterproofing.

ASTM D4586 Type II Class I Asphalt Roof Cement.

ASTM D6162- III Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester /Glass Fiber Reinforcement

ASTM D 5147 2001a Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.

B. FACTORY MUTUAL GLOBAL RESEARCH, FACTORY MUTUAL APPROVALS (FM) .

FM A/S4470 Class 1 Roof Covers

1.04 REGULATORY REQUIREMENTS

A. Fire and Wind Uplift Rating: Provide modified bitumen roof system and component materials that have been tested for application and slopes indicated that have been tested and listed by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class A for external fire and have been designed for listed wind loads in accordance with IBC 2006 and ASCE 7.

B. Provide roof-covering materials bearing Factory Mutual Classification Marking on bundle, package, or container indicating that materials have been produced under FM's Classification and Follow-up Service.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Roofing system manufacturer shall be ISO 9001 Certified and have a minimum of 10 years experience in manufacturing modified bitumen roofing products in the United States. Show evidence that the products and materials are manufactured in the United States and that materials provided conform to all requirements specified herein, and are chemically and physically compatible with each other and are suitable for inclusion within the total roof system specified herein. The Roofing System Manufacturer shall Indemnify the Architect for attorney's fees, related expenses and judgments incurred through litigation arising out of application or performance of the roof system, even if the litigation is groundless, false or fraudulent. The Architect shall be indemnified for a maximum aggregate sum of amount of $25,000.

B. Installer Qualifications: Installer (Roofer) shall be specializing in Built-up bituminous roof application with minimum 5 years experience and who is currently certified by modified bituminous sheet roofing system manufacturer as qualified to install manufacturer's roofing materials. Any one or more of the following causes may be considered sufficient for the

disqualification of installer:

1. Lack of responsibility as revealed by either financial, experience or equipment statements.

2. Lack of expertise as shown by past work and judged from the standpoint of workmanship and performance history.

3. Uncompleted work under other contracts which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded.

4. Being in arrears on existing contracts, in litigation with an Owner, or having defaulted on a previous contract.

C. Installer's Field Supervision: Installer to maintain a full-time supervisor/foreman on job site during all phases of modified bituminous sheet roofing work and at any time roofing work is in progress, proper supervision of workmen shall be maintained. A copy of the Specifications shall be in the possession of the supervisor/foreman at all times.

D. It shall be the Contractor's responsibility to respond immediately to correction of roof leakage during construction.

E. Pre-application Roofing Conference: Before scheduled commencement of modified bitumen sheet roofing installation and associated work, meet at Project site with Installer, installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing that must precede or follow roofing work (including mechanical work if any), Architect, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including test agencies, and governing authorities. Review foreseeable methods and procedures related to roofing work, including but not necessarily limited to the following:

1. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations, and other preparatory work.

2. Review roofing system requirements (drawings, specifications, and other contract documents).

3. Review required submittals, both completed and yet to be completed.

4. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment,

and facilities needed to make progress and avoid delays.

5. Review required inspection, testing, certifying, and material usage accounting procedures.

6. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).

7. Record (Contractor) discussions of conference, including decisions and agreements (or disagreements) reached, and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

1.06 SUBMITTALS

A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.

B. Manufacturer's Certification: (Use form attached to end of this Section) The Manufacturer's Certification Form must be signed by a corporate officer of the roofing system manufacturer with the Corporate Seal affixed thereto.

C. Product data for each type of product specified include manufacturer's technical product data, installation instructions, and recommendations for each type of roofing product required. Include data substantiating that materials comply with specified requirements.

E. For all modified bituminous sheet roofing include independent test data according to ASTM Designation D 5147-97 “Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material”, substantiating that materials comply with specified requirements.

F. Samples of the following:

Minimum, 3-by-5-inch samples of each colored modified bituminous mineral surfaced cap sheet and flashing materials to be exposed as finished roof surface.

G. Manufacturer's ISO 9001 Certification.

H. Manufacturer's Warranty: Submit sample copy of specified roofing manufacturer's “Twenty (20) Year Warranty".

I. Manufacture’s Indemnification Agreement.

J. Manufacturer’s Inspection Reports: The Roofing System Manufacturer will provide, when the project is in progress the following:

1. Keeping the Architect informed as to the progress and quality of the work as observed.

2. Provide jobsite inspections at least two (2) times a week.

3. Provide detailed weekly written reports to the Architect along with digital photographs of work in progress. All reports and photographs shall be descriptive of actual work in progress and be presented in a pre-approved manner.

4. Reporting to the Architect in writing, any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.

5. Confirming, after completion of the project and based on manufacturer's observations and tests, that manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported.

1.07 INSURANCE CERTIFICATION

A. Preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.08 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.

B. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure.

C. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene)

D. Do not leave unused rolled goods on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.

E. Handle and store materials or equipment in a manner to avoid significant or permanent deflection of deck.

1.09 PROJECT CONDITIONS

A. Weather Condition Limitations: Do not apply roofing membrane during inclement weather or when a 40% chance of precipitation is expected.

B. Do not apply roofing insulation or membrane to damp deck surface.

C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

D. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of Work to be installed in accordance with manufacturers' recommendations and warranty requirements.

1.10 EQUIPMENT SAFEGUARDS

A. Proper equipment is to be used to heat roofing membranes. Torches should be equipped with a pilot adjustment, flame height adjustment, 25 to 50 ft. of Approved or listed hose, pressure gauge and regulator. A spark igniter should be used. Torch trolleys and multiple torch head machines should be equipped with listed safety valves.

B. Safety caps are to be tied to all propane cylinders and installed on the valves whenever cylinders are not in use. Carts used to transport propane cylinders should be stable. Tall, narrow, standing cylinders should be chained against walls or in proper carts.

C. The propane cylinder should be adequately sized for the torch used. If frost buildup occurs on propane cylinders and the rate of vapor withdrawal is no longer adequate for operating conditions, the cylinder should not be placed on its side or heated with the torch flame. The hose should be disconnected and a larger cylinder used. Liquid propane cylinders may be of either the vapor withdrawal or liquid withdrawal type. With the vapor withdrawal type, vapor is drawn off from the torch head. Vapor withdrawal cylinders are equipped with female cylinder valves. Liquid withdrawal cylinders transfer the liquid, via a siphon tube, from the cylinder to the torch head where it is vaporized. Liquid withdrawal cylinders have male cylinder valves, which may be equipped with adapters.

D. Frost buildup only occurs with vapor withdrawal cylinders. This buildup can be the result of an undersized cylinder or low air temperatures. When vapor is dawn off more quickly than it is replaced, heat is absorbed and frost buildup occurs on the outside of the cylinder. Vapor pressure then further declines. Consequently, liquid withdrawal cylinders are preferred. However, if vapor withdrawal cylinders are used, or if the temperatures are low (below 20°F, -7°C), 40 or 100 lb (18.2 or 45.5 kg) cylinders should be used with larger torches (such as those used in the field of the roof).

E. Equipment should be thoroughly inspected and repaired or replaced as needed. Propane cylinders should be inspected for dents. If dents larger than 1 in. (25 mm) in diameter are found, the cylinder should be replaced. Torch and cylinder connectors should be visually inspected and checked for leaks with soap and water solution. An open flame should not be used to test for leaks.

F. Leaky equipment should not be used. Regulators adjustments and pressure gauges should be checked to assure they are operable. The vent on the regulator should be checked to assure it is not blocked. If an unstable flame occurs (one which roars loudly and tends to blows itself out), the equipment should be repaired or replaced immediately.

G. Propane cylinders should not be hoisted by their valves. Straps placed around the cylinders should be utilized.

H. A fire watch should be conducted for at least one hour after torch work has been completed. All roof areas worked on should be checked for hot spots and signs of smoldering. If available, infrared roof scanners should be used. The inside of the building should also be inspected for signs of fire and smoke. All “hot spots” or fires, even if extinguished, should be reported to the fire department. Smoldering may continue after extinguishment, may take place for hours before flaming begins, and may take place in areas unsuspected by the layman.

1.11 FIRE EXTINGUISHING EQUIPMENT

A. There should be at least one 10 lb (4.5 kg) multipurpose dry chemical portable extinguisher within 20 ft. (6.1 m) horizontal travel distance of torch-applied roofing equipment. For large roof areas, additional protection such as charged hose lines or additional extinguishers should be provided as practical.

1.12 FUEL HANDING SAFEGUARDS

A. Fuel containers, burners and related appurtenances of roofing equipment in which liquefied petroleum gas is used for heating should comply with NFPA58, *Standard for Storage and Handling of Liquefied Petroleum Gases.*

B. All fuel containers should be located at least 10 ft. (3 m) from the burner flame or at least 2 ft. (0.6 m) away when properly insulated from heat or flame.

1.13 INSTALLATION SAFEGUARDS

A. The flame from a hand-held torch should be constantly moved from side

to side. The exposed outer surface of the membrane coil should be heated until a slight sheen develops.

B. Caution should be used when working around roof openings, penetrations or flashings. Wood nailers, cant strips and metal flashing should not come in direct contact with the flame of the torch. Small detail torches should be used to heat the underside of the membrane away from these areas before securement.

C. The torch should not be used in areas where the flame impingement cannot be fully viewed. Back-heat and flop the material when flame is not visible.

D. Extreme caution is to be used near penetrations such as exhaust vents. Air conditioning units and ventilating fans should be shut down before torch work is done in surrounding areas.

E. Feather seams around details with heated trowel.

F. Expansion joints should be filled with mineral wool or ceramic fiber with a steel cover plate below.

G. No full-time torches should be used under any circumstances.

H. A torch stand is to be used to direct the flame upward when momentarily not in use.

I. The cylinder valve should be closed to burn off propane in the line before shutting of the torch head. The gas supply should be shut off whenever a propane odor is detected.

J. Torches should not be used near gas lines, electrical wires or flammable liquids during roof construction.

K. When foam plastic, kraft-faced glass fiber or wood fiber insulation or cant strips, or plastic fasteners are to be used, they should be covered with a minimum 40 lb base sheet adhered with hot asphalt before the torch applied membrane is installed.

L. Torch flames should not come in contact with exposed plastic roofing cement.

1.14 SEQUENCING AND SCHEDULING

A. Sequence installation of modified bituminous sheet roofing with related units of Work specified in other Sections to ensure that roof assemblies, including roof accessories, flashing, trim, and joint sealers, are protected

against damage from effects of weather, corrosion, and adjacent construction activity. Phased construction will not be accepted.

1.15 WARRANTY

Manufacturer's Warranty: “Twenty (20) year NDL Warranty", signed by a corporate officer of the corporation of modified bitumen sheet roofing system manufacturer, will pay all authorized cost or repair to the roof membrane system necessary to stop any leaks which occur during a Thirty (30) year period from the date of completion.

PART 2 - PRODUCTS

2.01 GENERAL

A. When a particular performance standard is specified, it shall be indicative of a minimum standard required. Products not meeting these minimum performance requirements, shall not be bid and will not be considered.

B. Provide as listed or approved substitution. All request for substitution must be submitted at least 7 DAYS prior to bidding and shall include the Substitution Request Form attached to the end of this Section.

C. Obtain primary products, including each type of roofing sheet, bitumen, membrane flashings from a single manufacturer. Provide secondary products as recommended by manufacturer of primary products for use with roofing system specified.

2.02 BITUMINOUS MATERIALS

A. Asphalt Primer: ASTM D 41, V.O.C compliant.

B. Asphalt Roofing Mastic: ASTM D 4586, Type II, V.O.C compliant.

2.03 SHEET MATERIALS

A. Base Sheet: Styrene-Butadiene-Styrene SBS polymer modified nailable base sheet reinforced with a high strength Polyester/Fiberglass/Polyester scrim conforming to the following minimum performance requirements according to ASTM D-5147 @ 77° F:

	Machine Direction	Cross Machine Direction
Tensile Strength	315 lbf/in.	315 lbf/in.
Elongation	5 %	6 %
Tear Strength	550 lbf/in.	550 lbf/in.
Pliability (ASTM D 149).	Pass	
Mass of Desaturated		

Polyester/Glass Mat (ASTM D146)	4.0 lb./100 sq. ft.
Surfacing and Stabilizer (ASTM D 4601)	Max 50%
Asphalt (ASTM D 226)	15 lb./100 sq. ft.
Thickness	60 mils

B. SBS Modified Torch Base Sheet: SBS (styrene-butadiene-styrene), rubber membrane, reinforced with dual fiberglass scrim designed for torching applications, conforming to the following minimum performance requirements according to ASTM D-5147 @ 77° F:

	Machine Direction	Cross Machine Direction
Tensile Strength	160 lbf/in.	90 lbf/in.
Elongation	3.9 %	4.5 %
Tear Strength	240 lbf/in.	145 lbf/in.
Low Temp. Flex.	Passes -10° F	
Thickness	110 mils	

C. Modified Bitumen Sheet Membrane: Mineral surfaced SBS (styrene-butadiene-styrene), rubber modified roof membrane; reinforced with a dual fiberglass scrim designed for torching applications, conforming to the following minimum performance requirements according to ASTM D-6163, Type III, Grade G and ASTM D-5147 @ 77° F:

	Machine Direction	Cross Machine Direction
Tensile Strength	210 lbf/in.	210.lbf/in.
Elongation	6.0%	6.0%
Tear Strength	250.lbf	250.lbf
Low Temp. Flex.	Passes -20° F	
Thickness	195 mils	
Solar reflectance	.73	
Emittance	.89	
SRI	90	

D. Flashing Membrane: Mineral surfaced SBS (styrene-butadiene-styrene), rubber modified roof membrane; reinforced with a dual fiberglass scrim designed for torching applications, conforming to the following minimum performance requirements according to ASTM D-5147 @ 77° F:

	Machine Direction	Cross Machine Direction
Tensile Strength	210 lbf/in.	210.lbf/in.
Elongation	6.0%	6.0%
Tear Strength	250.lbf	250.lbf
Low Temp. Flex.	Passes -20° F	
Thickness	195 mils	
Solar reflectance	.73	

Emittance	.89
SRI	90

2.04 MISCELLANEOUS MATERIALS

A. Base Sheet Fastener: Head Size: 1.125” x 1” Leg Length: 1.2”
Material: G-90 galvanized with CR-10 coating
Material Thickness: .014 nominal
Plate: Diameter: 2.75” Material: Galvalume®
Material Thickness: .014 nominal
OMG, Assembled CR 1.2 Base Sheet Fastener: CRBSA120

B. FlamLINE Waterproof Expansion Joint Tie-in between PVC & Torched SBS Membrane. Situra Inc.

C. Penetration Seals: Chem Curb System, Chem Link Inc.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrate surfaces to receive modified bitumen sheet roofing system and associated work and conditions under which roofing will be installed. Do not proceed with roofing until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.02 GENERAL INSTALLATION REQUIREMENTS

A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing modified bitumen sheet roofing system.

B. Protect other work from spillage of modified bitumen roofing materials, and prevent liquid materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of modified bituminous sheet roofing system work.

C. Code Compliance: Where required, install and test modified bitumen sheet roofing system to comply with governing regulations and specified requirements.

D. Coordinate installing roofing system components so that insulation and roofing plies are not exposed to precipitation or left exposed overnight. Provide cut offs at end of each day's work to cover exposed ply sheets and insulation with a course of coated felt with joints and edges sealed with roofing cement. Remove cut offs immediately before resuming work.

E. Apply roofing materials as specified herein unless recommended otherwise by manufacturer's instructions. Keep roofing materials dry before and during application. Do not permit phased construction. Complete application of roofing plies, cap sheet and flashing in a continuous operation. Begin and apply only as much roofing in one day as can be completed that same day.

F. Water Cutoffs: At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and any insulation. Provide temporary covering of two plies of No. 15 roofing felt set in adhesive; remove at beginning of next day's work. Seal off flutes in metal decking along cut off edge. Pull membrane free or cut to expose the insulation when resuming work, and remove the insulation sheets used for fill-in.

3.03 BASE SHEET INSTALLATION

A. Over areas of lightweight insulating fill: Roll out the base sheet and allow the base sheet to relax, keep sheet taut, start fastening at center of sheet and work in opposite directions. Push all wrinkles and buckles ahead as fastening proceeds.

B. Fasteners in FIELD, Zone 1 of the roof are placed 9” o.c. through 4” lap of the base sheet in two equally spaced rows 9” o.c. Fasteners are staggered between rows.

C. Fasteners at PERIMETERS, Zone 2 of the roof are placed 9” o.c. through 4” lap of the base sheet in three equally spaced rows in 9” o.c. Fasteners are staggered between rows.

D. Fasteners at CORNERS, Zone 3 of the roof are placed 6” o.c. through 4” lap of the base sheet in four equally spaced rows 6” o.c. Fasteners are staggered between rows.

D. Zone 2 and 3 require perimeter widths of 8 feet-10 inches.

3.04 TORCH BASE SHEET UNDERLAYMENT INSTALLATION

A. Install one layer of SBS Torch Base Sheet to properly prepared substrate where indicated, Shingle in proper direction to shed water on each area of roofing.

B. To a suitable substrate, lay out the roll in the course to be followed and unroll six (6) feet.

C. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate. Progressively unroll the sheet while heating and press

down with your foot to insure a proper bond.

D. After the major portion of the roll is bonded, re-roll the first six (6) feet and bond it in a similar fashion.

E. Repeat this operation with subsequent rolls with side laps of four (4) inches and end laps of eight inches.

F. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.

G. Extend underlayment two (2) inches beyond top edges of cants at wall and projection bases.

H. Install base flashing ply to all perimeter and projections details.

3.05 MINERAL SURFACED SBS MODIFIED MEMBRANE APPLICATION

A. Over the SBS Torch Base Sheet underlayment, lay out the roll in the course to be followed and unroll six (6) feet. Seams for the top layer of modified membrane will be staggered over the SBS Torch Base Sheet seams.

B. Using a roofing torch, heat the surface of the coiled portion until the burn-off backer melts away. At this point, the material is hot enough to lay into the substrate. Progressively unroll the sheet while heating and press down with your foot to insure a proper bond.

C. After the major portion of the roll is bonded, re-roll the first six (6) feet and bond it in a similar fashion.

D. Repeat this operation with subsequent rolls with side laps of four (4) inches and end laps of eight (8) inches.

E. Give each lap a finishing touch by passing the torch along the joint and spreading the melted bitumen evenly with a rounded trowel to insure a smooth, tight seal.

3.06 FLASHING MEMBRANE INSTALLATION

A. <u>All base flashings are to be installed and completed on a daily basis.</u> No condition should exist that will permit moisture entering behind, around, or under the roof or flashing membrane.

B. Prepare all walls, penetrations and expansion joints to be flashed and where shown on the drawings, with asphalt primer at the rate of .75 to 1 gallon per square. Allow primer to dry tack free.

C. The heat fused flashing membrane will be adhered to an underlying base ply of Self-Adhering SBS Fire Retardant membrane where indicated, or Torch Base Sheet nailed-off at all vertical surfaces where shown on the drawings.

D. The entire sheet of flashing membrane must be heated to the point when surface bitumen melts and begins to flow. Both surfaces along the lap areas shall be heated. The heated area will immediately be worked into place and securely bonded.

E. Seal all vertical laps of flashing membrane with an additional ply of 8-inch wide flashing membrane. All laps must be tested with a round nosed trowel putting pressure against the side lap to insure that a complete, positive bond has been achieved and to protect against a superficially closed lap.

F. After the laps have been tested, and a complete positive bond has been achieved, the applicator shall heat the seam edge and trowel along the seam edge. Troweling shall continue until a sloped, beveled edge has been produced.

G. Secure top of flashing membrane with termination bar and fasten 8-inches o. c.

H. Factory fabricated flashings, cap flashings and similar work to be coordinated with modified bitumen roofing work are specified in other Sections.

I. Miscellaneous sheet metal accessory items, including piping vents to be coordinated with modified bituminous roofing system work, are specified in other Sections.

3.07 PROTECTION

A. During execution of work covered by this Section, the Contractor shall provide protection for equipment, materials, inside and outside the building against falling debris, sparks, and water. Protection shall be provided in a manner to minimize interference, interruption, and inconvenience to other trades.

B. Protect building surfaces against damage from roofing work.

C. All workmen shall wear clean, soft rubber-soled shoes for any application work where they may be walking on the in-place roofing membrane. Precautions shall be taken to protect the membrane and to maintain a clean appearance. Protect roofing during remainder of construction period.

D. At end of construction period, or at a time when remaining construction will in no way affect or endanger roofing, inspect roofing and prepare a written report, with copies to Owner, describing nature and extent of deterioration or damage found.

3.08 FINAL INSPECTION

A. At completion of roofing installation and associated work, meet with Installer, installer of associated work. Owner, Architect, roofing system manufacturer's representative and other representatives directly concerned with performance of roofing system.

B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party attending.

C. The Owner, Architect and Roofing System Manufacturer reserve the right to request a certified photographic and recorded thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan and photographic records shall be provided by the Roofing Contractor free of charge.

D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.

E. Repair or replace (as required) deteriorated or defective work found at time of above inspection to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

F. The Contractor is to notify the Owner upon completion of corrections.

G. Following the final inspection, acceptance will be made in writing by the material manufacturer.

3.09 CLEANING

A. Remove drippage of the bitumen adhesives from all walls, windows, floors, ladders, and finished surfaces.

C. In areas where finished surfaces are soiled by asphalt or any other source of soiling caused by work of this Section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.

Roofing System Manufacturer's Certification Form

Project:

_____Certifies that;
(Roofing System Manufacturer)

_____, is currently approved by the
(Roofing Contractor)

Roofing System Manufacturer to install the specified roofing system for the referenced project and that the Roofing System Manufacturer has a minimum of 10 years experience in manufacturing roofing products in the United States and is currently ISO 9001 certified to by the International Organization for Standardization.

The Roofing System Manufacturer has reviewed all Bidding Documents in their entirety and approved of them as written and drawn.

Roofing System Manufacturer will provide a minimum of two weekly field inspection services by a full time employee of the manufacturer, during, and until all roof construction work is completed and accepted by the Architect and Owner.

The Roofing System Manufacturer shall Indemnify the Architect for attorney's fees, related expenses and judgments incurred through litigation arising out of application or performance of the roof system, even if the litigation is groundless, false or fraudulent. The Architect shall be indemnified for a maximum aggregate sum of amount of $100,000.

Roofing System Manufacturer will provide the manufacturer's Twenty (20) year guarantee as stipulated in the Contract Documents upon completion of the project.

By: _____
Name

Its _____
Title

(Affix Corporate Seal)

Date _____

END OF SECTION

SECTION 08300 - SPECIAL DOORS

PART 1 GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification sections, apply to work specified in this section.

DESCRIPTION OF WORK:

Special doors required for this work include but are not limited to, Overhead operating doors.
Insulated and Non-insulated doors are required.

Provide complete operating door assemblies including door curtains, guides, counterbalance mechanism, hardware, operators and installation accessories.

QUALITY ASSURANCE:

Furnish each door as a complete unit produced by one manufacturer, including hardware, accessories, mounting and installation components.

Insert and Anchorages: Furnish inserts and anchoring devices which must be set in concrete or built into masonry for the installation of the units. Provide setting drawings, templates, instructions and directions for installation of anchorage devices. Coordinate delivery with other work to avoid delay.

See concrete and masonry sections of these specifications for installation of inserts and anchorage devices.

SUBMITALLS:

Product Data: Submit manufacturer's product data, roughing-in diagrams, and installation instructions for each type and size of door. Include operating instructions and maintenance information.

Shop Drawings: Submit shop drawings for special components and installations which are not fully dimensioned or detailed on manufacturer's data sheets. Provide documentation for compliance with TDI, where applicable.

PART 2 - PRODUCTS

MATERIALS:

General: Special doors shall be the product of the manufacturer indicated and shall be the type, model and finish upon which the design is based. Equivalent products of other manufacturers will be considered provided approval is obtained from the Architect prior to bidding.

Door Types:

Rolling Counter Door:

Description; shall be equal to Overhead Door Corp., model no 651 Series. Provide unit with the following features;

X	Slat profile	Flat
X	slat material:	#4 finish stainless steel
X	Bottom Bar:	single stainless steel angle.
X	Guides:	aluminum box-type
X	Counterbalance:	torsion springs
X	Hood:	aluminum
X	Operation:	motor, MD 1/2hp, key station.c
X	Lock:	slide bolt (cylinder lock).
X	Mounting:	face of wall.

All other manufacturers for rolling doors and rolling grilles need to be approved by Architects office, prior to bidding.

PART 3 EXECUTION

INSTALLATION:

Install door and operating equipment complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment support in accordance with final shop drawings, manufacturer's instructions, and as specified herein.

Upon completion of installation including work by other trades, lubricate, test and adjust doors to operate easily, free from warp, twist or distortion and fitting weathertight for entire perimeter.

END OF SECTION 08300

SECTION 09400 TERRAZZO

PART 1 GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Epoxy Resin Terrazzo

QUALITY ASSURANCE:

NTMA Standards: Comply with applicable provisions and recommendations of National Terrazzo and Mosiac Association, Inc. as specified.

SUBMITTALS:

Product Data: Submit manufacturer's technical information and installation instructions for each type of terrazzo, accessory item, and material required.

Certification: Submit 2 copies of suppliers/manufacturers written certification that terrazzo materials meet or exceed specified NTMA properties.

Shop Drawings: Submit shop drawings showing layout of divider strips, control joint strips and base and border strips if required.

Samples: Submit 3 samples of each pattern, color and type of terrazzo required, not less than 6" square. Also, 6" long samples of accessories.

Maintenance Instructions: Submit 2 copies of written instructions for recommended periodic maintenance of each type of terrazzo.

PART 2 PRODUCTS

ACCEPTABLE MANUFACTURERS:

Divider, Accessory, Control and Expansion Strips:

Manhattan American Strip Div./Southern Stone Industries Inc.

Cleaners and Sealers:
- Bestal
- General Polymers Corp.
- Hillyard Chemical Company.
- Multi Clean Div./H.B. Fuller Company.

EPOXY TERRAZZO MATERIALS:

Aggregate Glass and Marble: Natural, sound, crushed marble chips without excessive flats or flakes, complying with NTMA requirements. No premix aggregate will be allowed.

Color, Pattern and Finish As Selected by Architect from full range of industry colors. Allow for at least (4) different colors in patterned floor design.

Terrazzo Selection: Terrazzo contractor shall provide standard terrazzo mixes according to NTMA Color Plate.

Matrix Pigments: Pure mineral or synthetic pigments, resistant to alkalies and non fading. Color to be White.

Curing Compound: Liquid membrane forming compound, ASTM C 309, Type 1.

Epoxy Resin Terrazzo Matrix: Thermosetting, amine-cured epoxy resin and hardener, mineral filler and color pigment, complying with NTMA “guide Specification for Epoxy Terrazzo” and as required to match Architect’s sample.

TERRAZZO ACCESSORIES:

Divider Strips: Depth and style as required for type and thickness of terrazzo. Width, material and color as indicated, to match Architect's sample. Angle or "T" type for adhesive bonding to substrate. Terrazzo panel sizes not to exceed 3'-0" x 3'-0".

If width and material are not indicated or established by Architect's sample, use divider strips with 1/16" wide top, as follows: White alloy zinc (interior only).

Accessory Strips: Match width, material and color of divider strips, unless otherwise indicated. Provide the following types of accessory strips as required for complete installation.

Base bead and cove base dividers, to align with floor dividers unless otherwise shown.

Channels to receive abrasive inerts.

Stair nosings for treads, landings and similar exposed edges of flooring.

Control or Expansion Strips: Double or split units, 1/8" wide, of same material and color as the divider strips. Provide 1/8" wide filler of same depth as strips, laminated between the strips.

Coordinate control joints with concret construction joints.

Control Joint Filler: White neoprene. Provide to coincide
with terrazzo strip pattern.
Expansion Joint Filler: Elastomeric sealant.

Cleaner: Liquid, neutral chemical cleaner, with Ph factor between 7 and 10, of formulation recommended by sealer manufacturer for type of terrazzo used, and complying with NTMA requirements.

Interior Floor Sealer: Colorless, slip and stain resistant penetrating sealer which will not affect color or physical properties of terrazzo surface.

Finish: Apply Hillyard Industries - Northstar #528 terrazzo finish after the floor has been sealed.

PART 3 EXECUTION

PREPARATION:

Clean and prepare substrate to comply with NTMA specifications for type of terrazzo application indicated. Clean area to receive terrazzo of loose chips and all foreign matter. Grind concrete substrate as required to provide surfaces within tolerances required by NTMA for type of terrazzo application indicated.

INSTALLATION, GENERAL:

Comply with NTMA and manufacturer's recommendations for proportioning mixes, installation of strips, and for placing, curing, grinding, grouting and finishing.

Provide terrazzo bases, thresholds, stair treads and landings, where indicated or scheduled, without interruptions of seams, except where divider strips, control joints and expansion joints are indicated or required. Place and finish terrazzo around obstructions to achieve continuous color, pattern and finish.

Install divider and accessory strips where indicated, in an adhesive setting bed, in accordance with manufacturer's instructions and without voids below strips. Provide mechanical anchorage as required for adequate attachment of strips to substrate.

Provide control joints where indicated by installing angle type divider strips back to back with neoprene rubber filler cemented between strips, flush with finish floor.

Provide for expansion joints where indicated, by installing angle type divider strips back to back, with removable filler of the width shown (but not less than 1/4" wide) between strips.

Joint sealants and installation are specified in Division 7.

Install abrasive inserts where indicated, and in accordance with insert manufacturer's instructions.

Surfacing: Grout and grind cured terrazzo topping in accordance with NTMA specifications. Finish by fine grinding with abrasive grit of size specified by NTMA, or as otherwise required to match Architect's sample.

CLEANING, SEALING AND PROTECTION:

Clean terrazzo after installation and finishing operations are completed, complying with sealer manufacturer's instructions.

Apply sealer to cleaned terrazzo surfaces to comply with sealer manufacturer's instructions.

Protect terrazzo from damage and wear during construction operation.

FINAL CLEANING:

Clean terrazzo as recommended by manufacturer of sealer and machine buff if required when building if ready for occupancy.

Upon completion the work shall be ready for final inspection and acceptance by the Owner or his Agent. The General Contractor shall protect the finished floor from the time that the Terrazzo Contractor completes the work and request final inspection.

END OF SECTION 09400

SECTION 10216 SOLID PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Solid plastic toilet compartments and urinal screens.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
   2. B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
   3. E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Fire Protection Association (NFPA) 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth.

1.3 SYSTEM DESCRIPTION

A. Compartment Configurations:
   1. Toilet partitions: Floor mounted, overhead braced.
   2. Urinal screens: Wall and Floor mounted. Urinal screen to have a 6” shoe secured to floor.

1.4 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Include dimensioned layout, elevations, trim, closures, and accessories.
   2. Product Data: Manufacturer's descriptive data for panels, hardware, and accessories.
   3. Samples: 2 x 3 inch samples showing available colors.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 5 years’ experience in manufacture of solid plastic toilet compartments with products in satisfactory use under similar service conditions.

B. Installer Qualifications: Minimum 5 years’ experience in work of this Section.

1.6 WARRANTIES

A. Provide manufacturer’s 25 year warranty against breakage, corrosion, and delamination under normal conditions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Scranton Products. (www.scrantonproducts.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Doors, Panels and Pilasters:
   1. High density polyethylene (HDPE), fabricated from polymer resins compounded under high pressure, forming single thickness panel.
   2. Waterproof and nonabsorbent, with self-lubricating surface, resistant to marks by pens, pencils, markers, and other writing instruments.
   3. 1 inch thick with edges rounded to 1/4 inch radius.
   4. Fire hazard classification: Not required.
   5. Color: To be selected from manufacturer's full color range. Allow for selection of (2) Colors.

B. Aluminum Extrusions: ASTM B221, 6463-T5 alloy and temper.

C. Stainless Steel: ASTM A167, Type 304.

2.3 HARDWARE

A. Hinges:
   1. 8 inches long, fabricated from heavy-duty extruded aluminum with bright dip anodized finish, wrap-around flanges, adjustable on 30-degree increments, through bolted to doors and pilasters with stainless steel, Torx head sex bolts.
   2. Hinges operate on field-adjustable nylon cams, field adjustable in 30 degree increments.

B. Door Strike and Keeper:
   1. 6 inches long, fabricate from heavy-duty extruded aluminum with bright dip anodized finish, with wrap-around flanges secured to pilasters with stainless steel tamper resistant Torx head sex bolts.
   2. Bumper: Extruded black vinyl.

C. Latch and Housing:
   1. Heavy-duty extruded aluminum.
   2. Latch housing: Bright dip anodized finish.
   3. Slide bolt and button: Black anodized finish.

D. Coat Hook/Bumper:
   1. Combination type, chrome plated Zamak.
   2. Equip outswing handicapped doors with second door pull and door stop.

E. Door Pulls: Chrome plated Zamak.

2.4 COMPONENTS

A. Doors and Dividing Panels: 55 inches high, mounted 14 inches above finished floor.

B. Pilasters: 82 inches high, fastened to pilaster sleeves with stainless steel tamper resistant Torx head sex bolt.

C. Pilaster Sleeves: 3 inches high, one-piece molded HDPE, secured to pilaster with stainless steel tamper resistant Torx head sex bolt.

D. Wall Brackets: 54 inches long, heavy-duty aluminum, bright dip anodized finish, fastened to pilasters and panels with stainless steel tamper resistant Torx head sex bolts.

E. Headrail: Heavy-duty extruded aluminum, anti-grip design, clear anodized finish, fastened to headrail bracket with stainless steel tamper resistant Torx head sex bolt and at top of pilaster with stainless steel tamper resistant Torx head screws.

F. Headrail Brackets: 20 gage stainless steel, satin finish, secured to wall with stainless steel tamper resistant Torx head screws.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install compartments in accordance with manufacturer’s instructions and approved Shop Drawings.

B. Install rigid, straight, plumb, and level.

C. Locate bottom edge of doors and panels 14 inches above finished floor.

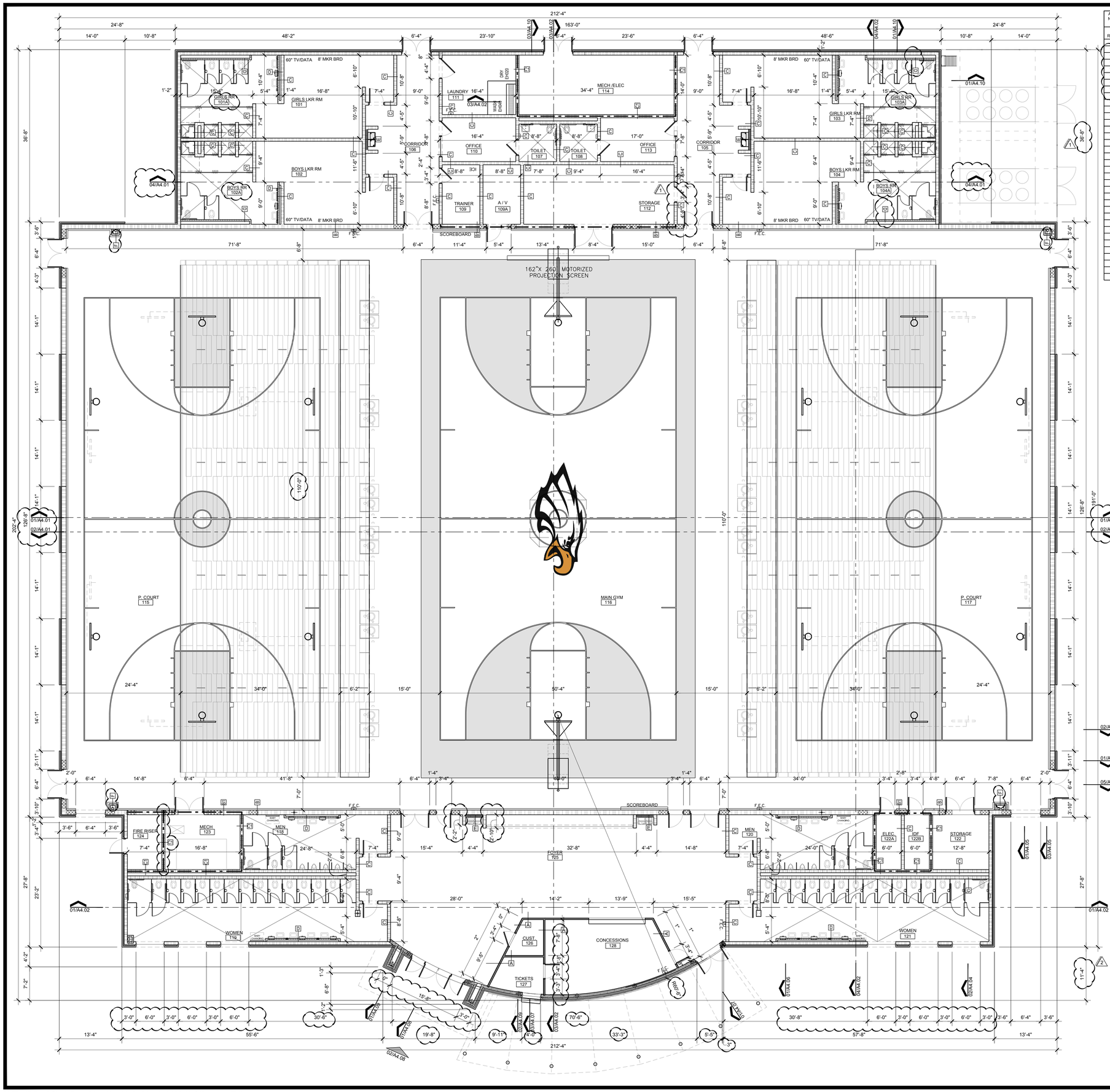
D. Provide uniform, maximum 3/8 inch vertical clearance at doors.

E. Not Acceptable: Evidence of cutting, drilling, or patching.

3.2 ADJUSTING

A. Adjust doors and latches to operate correctly.

END OF SECTION



ALL WALLS TO BE PAINTED UNLESS NOTED OTHERWISE	ROOM FINISH SCHEDULE										THIS SCHEDULE BASED ON PLAN NORTH ORIENTATION
				WALLS							
ROOM	ROOM NAME	BASE	FLR.	N	S	E	W	CLG.	CLG. HEIGHTS	REMARKS	
101	GIRLS LOCKER ROOM	RUBBER	RT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
101A	GIRLS RESTROOM	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"	6'-0" CT WAINSCOT	
102	BOYS LOCKEROOM	RUBBER	RT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
102A	BOYS RESTROOM	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"	6'-0" CT WAINSCOT	
103	GIRLS LOCKER ROOM	RUBBER	RT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
103A	GIRLS RESTROOM	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"	6'-0" CT WAINSCOT	
104	BOYS LOCKEROOM	RUBBER	RT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
104A	BOYS RESTROOM	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"	6'-0" CT WAINSCOT	
105	CORRIDOR	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
106	CORRIDOR	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
107	TOILET	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"	6'-0" CT WAINSCOT	
108	TOILET	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"	6'-0" CT WAINSCOT	
109	TRAINER	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
109A	AUDIO VISUAL	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SACII	9'-0"		
110	OFFICE	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
111	LAUNDRY	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
112	STORAGE	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
113	OFFICE	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
114	MECHE/ELEC	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD				
115	PRACTICE COURT	RUBBER	WD	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD				
116	MAIN COURT	RUBBER	WD	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD				
117	PRACTICE COURT	RUBBER	WD	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD				
118	MENS TOILETS	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
119	WOMEN TOILETS	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
120	MENS TOILETS	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
121	WOMEN TOILETS	CT	CT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	GYP/PTD	9'-0"		
122	STORAGE	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
122A	ELECTRICAL		CONC	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD				
122B	IDF	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SACII	9'-0"		
123	MECHANICAL	RUBBER	VCT	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD	SAC	9'-0"		
124	FIRE RISER		CONC	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD				
125	FOYER	TERAZ	TERAZ	CMU/PTD	GYP/PTD	CMU/PTD	CMU/PTD	EXP/PTD		CLOUDS AS SPEC.	
126	CUST/CDIAN	RUBBER	VCT	GYP/PTD	GYP/PTD	GYP/PTD	SAC	9'-0"			
127	TICKETS	RUBBER	VCT	GYP/PTD	GYP/PTD	GYP/PTD	GYP/PTD	SAC	9'-0"		
128	CONCESSIONS	RUBBER	TERAZ	FRP	FRP	FRP	FRP	SACIII	9'-0"	SAC	

F I N I S H L E G E N D :

RUBBER — RUBBER BASE
PTD — PAINTED
CMU/PTD — CONC. MASONRY UNIT PAINTED
GYP/PTD — GYPSUM BOARD PAINTED
CONC. — SEALED CONCRETE
MTL — METAL SOFFIT PANELS
C.T. — CERAMIC TILE BY DAL-TILE
FRP — FRP WALL PANEL
TERAZ — TERRAZO

W A L L T Y P E L E G E N D

B3 K4 — INDICATES 1HR FIRE RATED CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION (ABOVE CMU PROVIDE 5/8" TYPE X FIRE RATED GYP BRD EACH SIDE OF STUD AS NEEDED)

B — INDICATES 12" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

C — INDICATES 8" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

D — INDICATES 4" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

A — INDICATES 2X4 WOOD WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

E — INDICATES METAL STUD WALL REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION

INDICATES METAL STUD & BRICK WALL REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION

01 FLOOR PLAN

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

G E N E R A L N O T E S:

1. REFERENCE **A4.00 SERIES** FOR WALL SECTIONS NOTED ON THIS PLAN.
2. PROVIDE MASONRY CONTROL JOINTS AS PER STRUCTURAL STRUCTURAL .
3. PROVIDE TRANSITION STRIPS AT ALL DISSIMILAR FLOOR CONDITIONS
4. REFERENCE FIXTURE PLANS SHEET FOR FIXTURES, ACCESSORY REQUIREMENTS AND FLOOR TILE PATTERN LAYOUT
5. REFERENCE SHEET A3.01 FOR TOILET ENLARGEMENTS

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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BISD Hanna ECHS
Gymnasium Facility

REGISTERED ARCHITECT DAVID A. MONREAL 78556 STATE OF TEXAS
6-14-2019

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Date: JUNE, 2019
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Project Architect: David Monreal, AIA
Drawn By: RB
Job No. BISD Hanna Gymnasium
Sheet: A2.01

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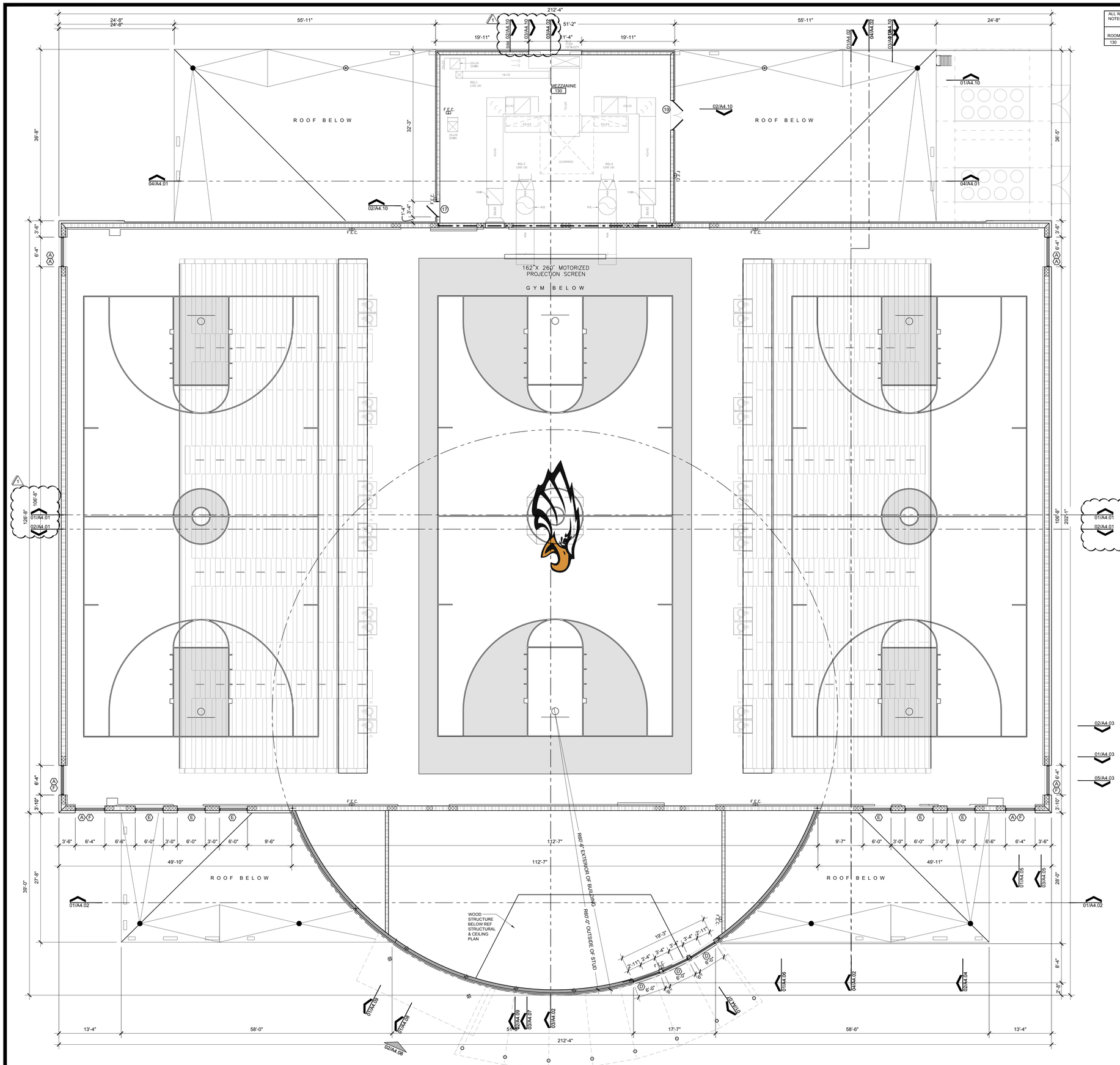

ALL WALLS TO BE PAINTED UNLESS NOTED OTHERWISE	ROOM FINISH SCHEDULE									THIS SCHEDULE BASED ON PLAN NORTH ORIENTATION
				WALLS						
ROOM	ROOM NAME	BASE	FLR.	N	S	E	W	CLG.	CLG. HEIGHTS	REMARKS
130	MEZZANINE		CONC.	CMU/PTD	CMU/PTD	CMU/PTD	CMU/PTD			

F I N I S H L E G E N D :

RUBBER — RUBBER BASE
PTD — PAINTED
CMU/PTD — CONC. MASONRY UNIT PAINTED
GYP/PTD — GYPSUM BOARD PAINTED
CONC. — SEALED CONCRETE
MTL — METAL SOFFIT PANELS
C.T. — CERAMIC TILE BY DAL-TILE
FRP — FRP WALL PANEL
TERAZ — TERRAZO

W A L L T Y P E L E G E N D

INDICATES 1HR FIRE RATED 8" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION (ABOVE CMU PROVIDE 5/8" TYPE X FIRE RATED GYP BRD EACH SIDE OF STUD)

INDICATES 12" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

INDICATES 8" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

INDICATES 4" CMU WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

INDICATES METAL STUD & BRICK WALL REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION

INDICATES 2X4 WOOD WALL REFER TO INTERIOR PARTITION SECTIONS FOR ADDITIONAL INFORMATION

01 2nd Level FLOOR PLAN

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

G E N E R A L N O T E S:

1. REFERENCE **A4.00 SERIES** FOR WALL SECTIONS NOTED ON THIS PLAN.
2. PROVIDE MASONRY CONTROL JOINTS AS PER STRUCTURAL STRUCTURAL .
3. PROVIDE TRANSITION STRIPS AT ALL DISSIMILAR FLOOR CONDITIONS
4. REFERENCE FIXTURE PLANS SHEET FOR FIXTURES, ACCESSORY REQUIREMENTS AND FLOOR TILE PATTERN LAYOUT
5. REFERENCE SHEET A3.01 FOR TOILET ENLARGEMENTS

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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6-14-2019

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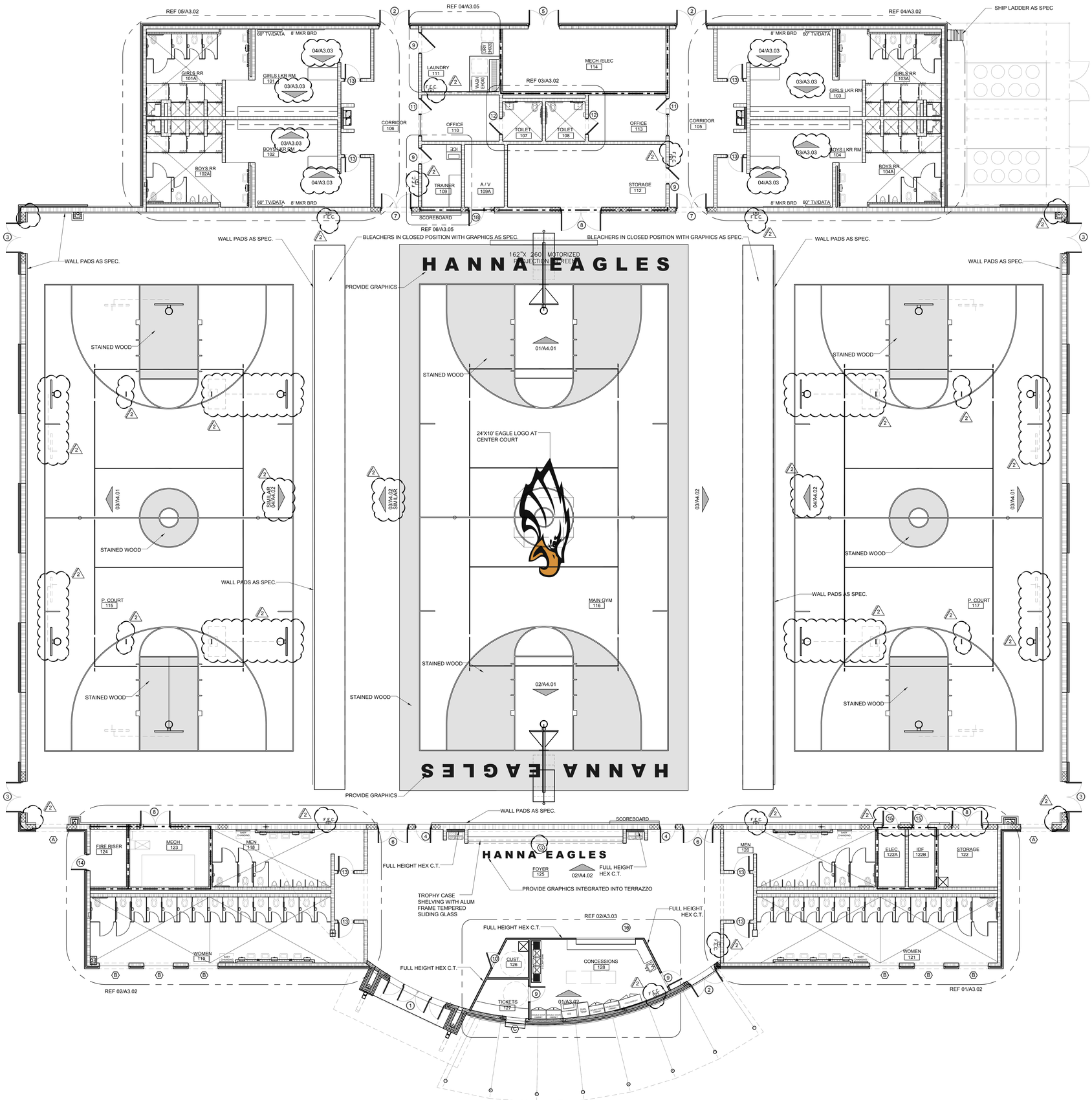

01 FIXTURE PLAN

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

NOTE: FEC INDICATES FIRE EXTINGUISHER PROVIDE TWO ADDITIONAL FIRE EXTINGUISHERS AS LOCATED BY ARCHITECT.

NOTE:
PROVIDE FOR THE FOLLOWING STRIPPED COURTS

- 3- FULL SIZE VOLLEYBALL COURTS
- 3- FULL SIZE BASKETBALL COURTS
- MAIN COURT CUSTOM GRAPHICS AT CENTER CIRCLE AND END COURT
- MAIN COURT STAINED BORDER AREA AND 3 POINT LANE AREA
- PRACTICE COURT STAINED FREE THROW LANE AREA'S
- PRACTICE COURT STAINED CENTER CIRCLE AREA'S
- 8 CROSS COURT FREE THROUGH HASH MARKS

NOTE: PROVIDE DIRECT ATTACH TECTUM PANELS AT WALLS REFERENCE SHEET A4.01 FOR ELEVATIONS

GENERAL NOTES:

1.) PROVIDE FOR TWO (2) FIRE EXTINGUISHERS AND CABINETS IN ADDITION TO THOSE SHOWN ON THIS PLAN - TO BE LOCATED AS PER ARCHITECT'S OFFICE.

2.) GENERAL CONTRACTOR TO CONTACT ARCHITECTS OFFICE IF ANY FLOOR TILE DESIGN IS UNCLEAR REGARDING SIZE, COLOR, OR LOCATION

3.) PROVIDE TRANSITION STRIPS AT ALL DISSIMILAR FLOOR CONDITIONS

4.) REFERENCE ROOM FINISH SCHEDULE ON SHEET A2.01 FOR ROOM FINISH INFORMATION

5.) PROVIDE FOR UP TO THREE VCT COLORS IN CORRIDORS AND WAITING.

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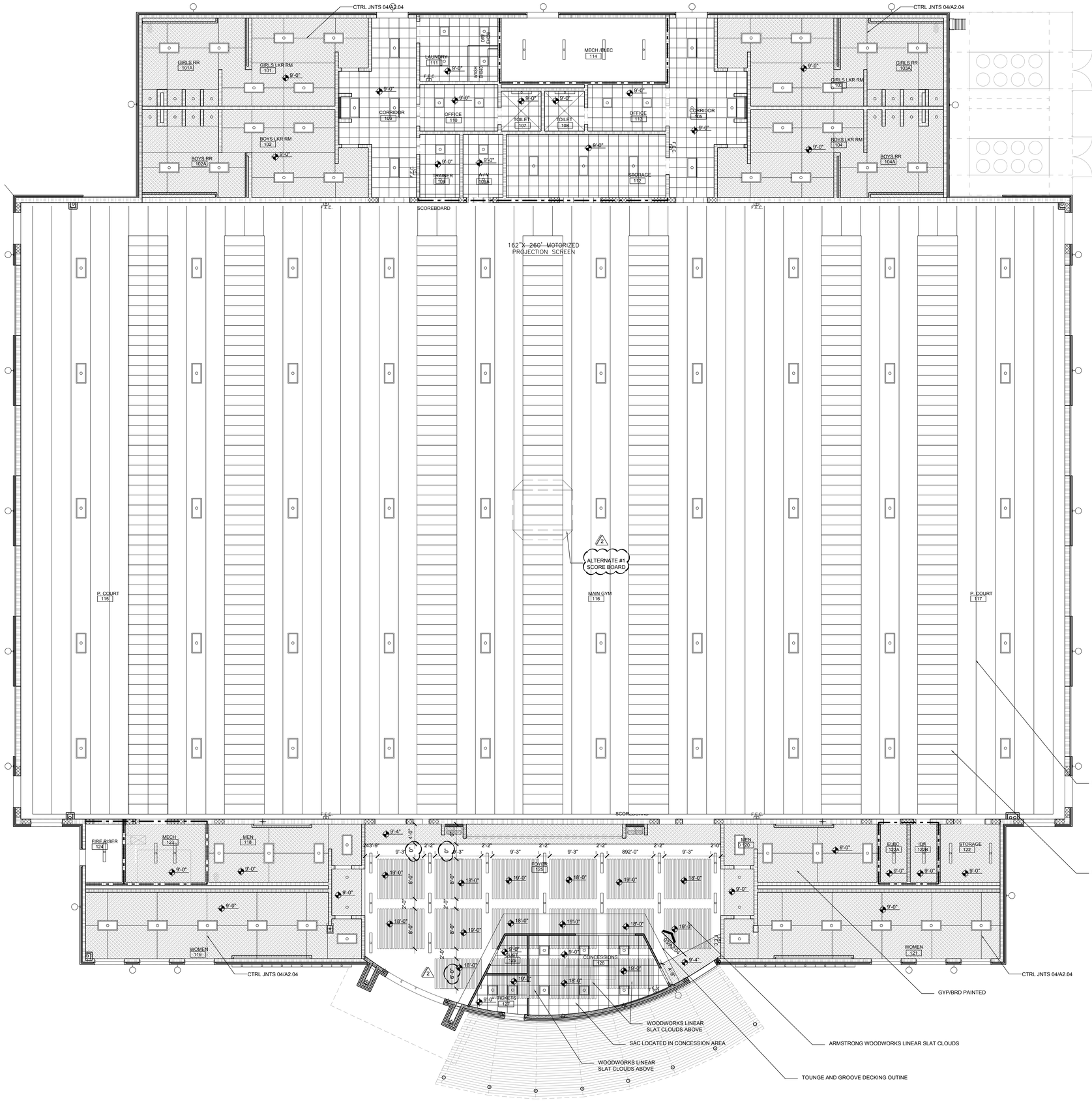
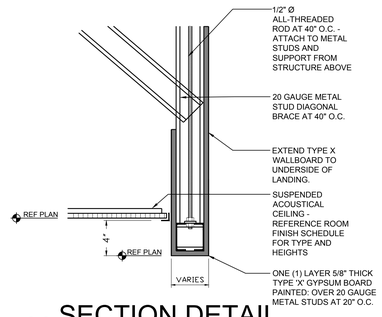


01 REFLECTED CEILING PLAN

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

NOTE: REFER TO ROOM FINISHED SCHEDULE FOR CEILING TYPES TO BE USED ON THIS PLAN

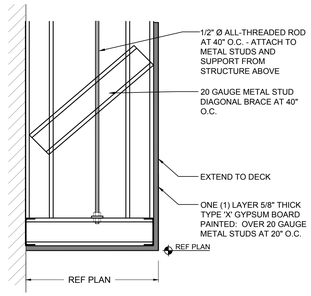
PROVIDE FOR ALL STRUCTURE INCLUDED BUT NOT LIMITED TO PIPING, CONDUITS AND ANY METAL SUPPORT OR ANCHORING TO BE PAINTED WITH TNEMEC PAINT SYSTEM



02 SECTION DETAIL

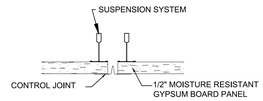
SCALE 1" = 1'-0"

NOTE: AT COOLER/FREZZER PROVIDE FURRDOWN DEPTH AS PER MFG. REQUIREMENTS



03 SECTION DETAIL

SCALE 1" = 1'-0"



04 GYP BRD CTRL JNT

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Job No.	BISD Hanna Gymnasium
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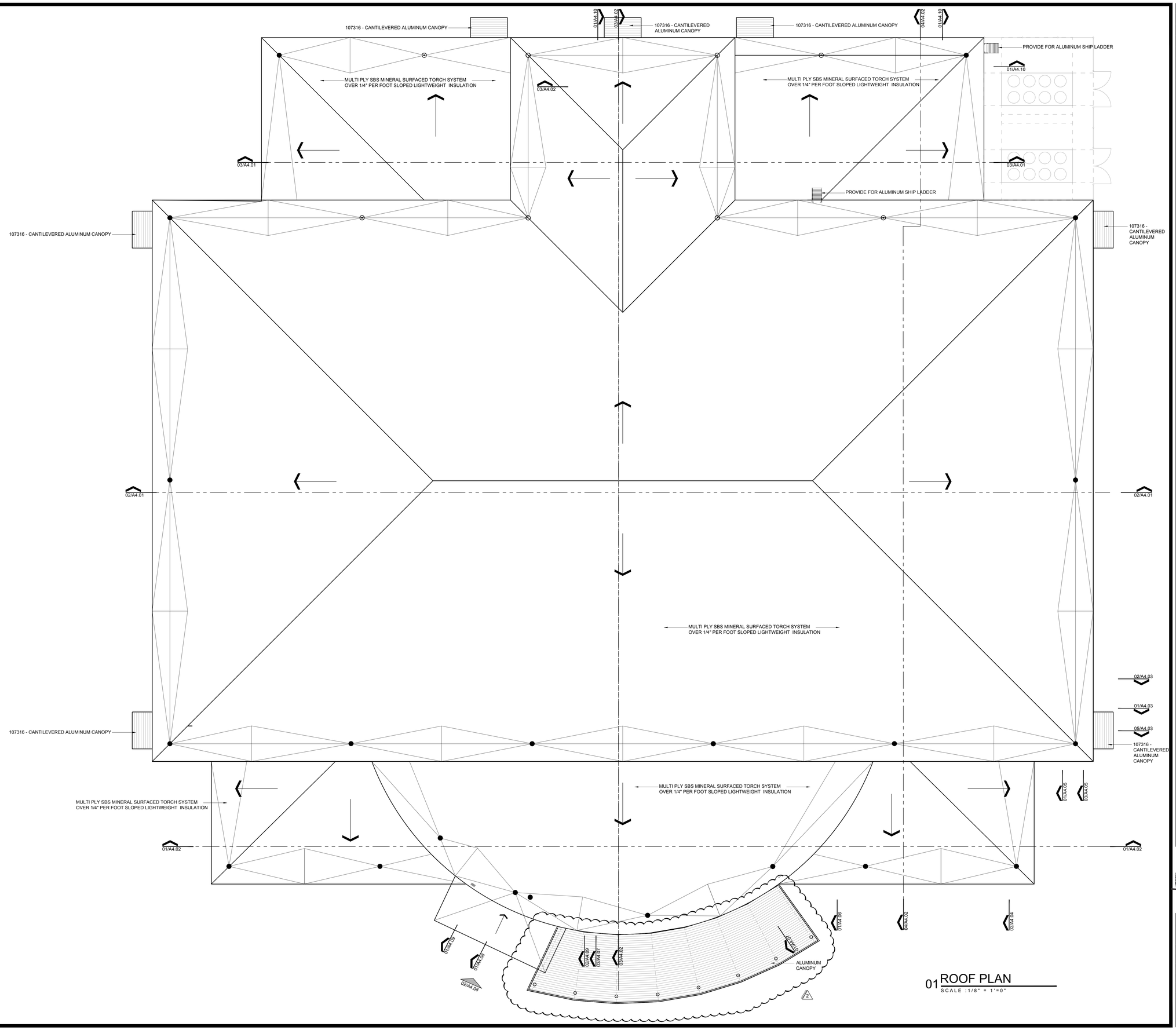

01 ROOF PLAN
SCALE : 1/8" = 1'=0"

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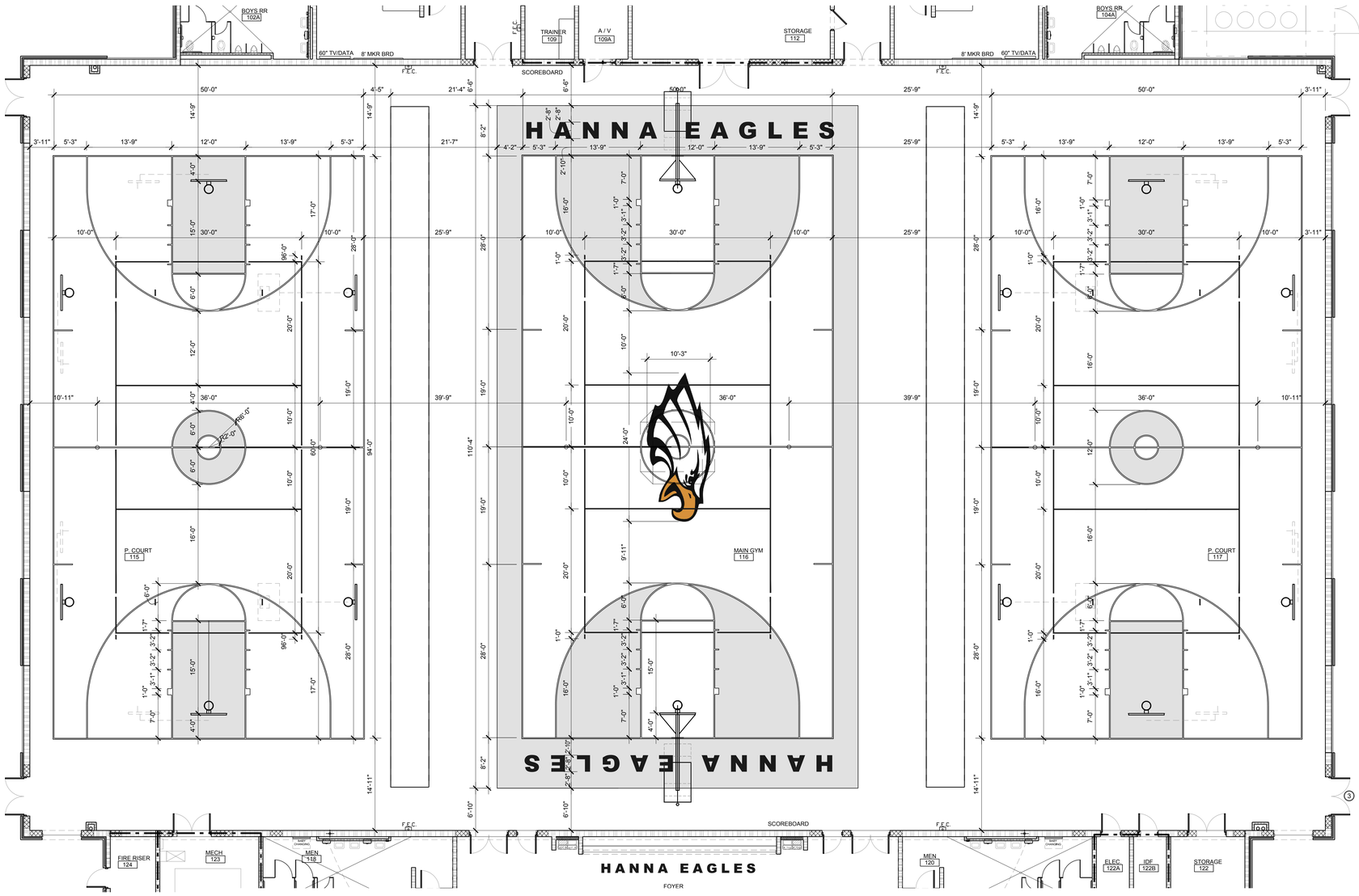

01 STRIPING PLAN

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

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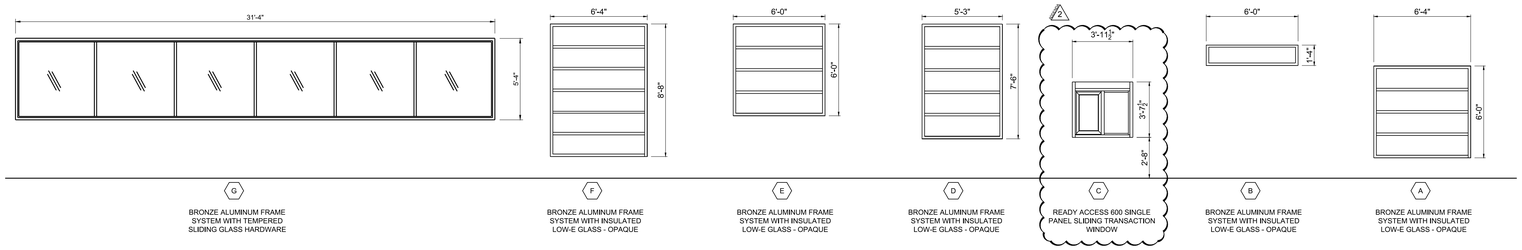
WINDOW SCHEDULE

WDW NO.	MATL	SIZE W	SIZE H	ELEVATION HEAD	ELEVATION SILL	GLASS	DETAIL JAMB	DETAIL HEAD	DETAIL SILL	REMARKS
A	BRNZ-ALUM	6'-4"	6'-0"	SEE SHEET SERIES 5.00 FOR WINDOW HEIGHTS		LOW- E INSUL OPAQUE	02/A3.02	04/A4.05	05/A4.06	
B	BRNZ-ALUM	6'-0"	4'-4"			LOW- E INSUL OPAQUE		04/A4.05	05/A4.06	
C	BRNZ-ALUM	3'-11.5"	3'-7.5"			HI IMPACT				
D	BRNZ-ALUM	5'-3"	7'-8"			LOW- E INSUL OPAQUE		05/A4.07	06/A4.07	
E	BRNZ-ALUM	6'-0"	6'-0"			LOW- E INSUL OPAQUE		04/A4.05	05/A4.06	
F	BRNZ-ALUM	6'-4"	8'-8"			LOW- E INSUL OPAQUE		04/A4.05	05/A4.06	
G	BRNZ-ALUM	31'-4"	5'-4"			TEMPERED GLASS				SLIDING GLASS HARDWARE



BRONZE ALUMINUM FRAME SYSTEM WITH TEMPERED SLIDING GLASS HARDWARE

BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS - OPAQUE

BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS - OPAQUE

BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS - OPAQUE

READY ACCESS 600 SINGLE PANEL SLIDING TRANSACTION WINDOW

BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS - OPAQUE

BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS - OPAQUE

REFERENCE SHEET SERIES A5.00 FOR WINDOW ELEVATIONS AND HEIGHTS

WINDOW ELEVATIONS

SCALE 1/4" = 1'-0"

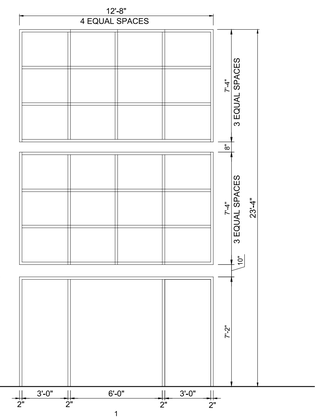
N O T E: 1.) ALL EXTERIOR WINDOW FRAMES AND GLAZING TO MEET STRUCTURAL WIND LOAD PRESSURES.

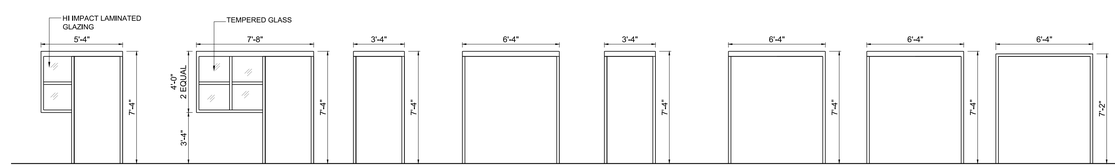
D O O R S C H E D U L E

DOOR NO.	DOOR MATL.	DOOR W	DOOR H	DOOR T	FRAME MATL.	FRAME W	FRAME H	FRAME T	HDWR	DETAIL JAMB	DETAIL HEAD	DETAIL SILL	REMARKS
1	ALUM.	SEE REMARKS	7'-0"	1 3/4"	ALUM.	12'-8"	23'-10"	VERIFY		03/A4.08	03/A4.08	01/A3.01	1 PAIR 2 SINGLE
2	ALUM.	PR - 3'-0"	7'-0"	1 3/4"	ALUM.	6'-4"	7'-2"	VERIFY		02/A3.01	04/A3.01	01/A3.01	
3	H.M.	PR - 3'-0"	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		03/A3.01	05/A3.01	01/A3.01	
4	H.M.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01	01/A3.01	
5	H.M.	PR - 3'-0"	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		03/A3.01	05/A3.01	01/A3.01	
6	S.C.	SEE REMARKS	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		1 PAIR 1 SINGLE
7	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		
8	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		
9	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		10/A3.01 @WD WALL DETAIL
10	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		10/A3.01 @WD WALL DETAIL
11	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	7'-8"	7'-4"	VERIFY		07/A3.01	09A3.01		
12	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		
13	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		
14	H.M.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		
15	S.C.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		
16	ALUM.	12'-0"	6'-0"	VERIFY	VERIFY	VERIFY	VERIFY	VERIFY					VERIFY FRAME REQUIREMENTS WITH MFG.
17	H.M.	3'-0"	7'-0"	1 3/4"	H.M.	3'-4"	7'-4"	VERIFY		07/A3.01	06/A4.10	07/A4.10	ON ROOF TOP MEZZANINE
18	H.M.	3'-0"	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		07/A3.01	09A3.01		HI IMPACT GLAZING
19	H.M.	PR - 3'-0"	7'-0"	1 3/4"	H.M.	6'-4"	7'-4"	VERIFY		07/A3.01	06/A4.10	07/A4.10	

NOTE : PROVIDE LABELED DOORS AND HARDWARE AT ALL FIRE RATED PARTITIONS
NOTE : ALL EXTERIOR HOLLOW METAL DOORS & FRAMES TO BE HOT DIPPED Galv. - TYP.
NOTE : ALL GIVEN DIMENSIONS OF DOOR LITES ARE VISIBLE GLASS AREA - ACTUAL LIGHT OPENING TO VARY BY MANUFACTURE'S REQUIREMENTS

NOTE : REFER TO FIXTURE PLANS FOR CORRESPONDING DOOR HARDWARE SETS
NOTE : PROVIDE CYLINDERS OF ALL LOCKSETS TO BE KEYED TO EXISTING GRANDMASTER SYSTEM.
NOTE : CONTRACTOR MUST PROVIDE TRANSITION STRIPS AT ALL DISSIMILAR FLOOR CONDITIONS BETWEEN ROOMS AT DOOR SILLS





18 HOLLOW METAL

11 HOLLOW METAL

9,10,12,13,14,15,17 HOLLOW METAL FRAMES ON EXTERIOR WALL TO BE HOT DIPPED GALVANIZED

6 HOLLOW METAL

4 HOLLOW METAL

19 HOLLOW METAL FRAMES ON EXTERIOR WALL TO BE HOT DIPPED GALVANIZED

3,5,7,8 HOLLOW METAL

2 BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS TINTED AS SPECIFIED

1 BRONZE ALUMINUM FRAME SYSTEM WITH INSULATED LOW-E GLASS TINTED AS SPECIFIED

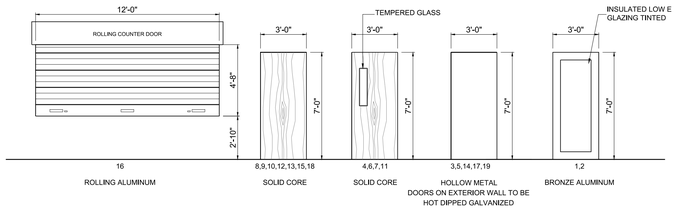
DOOR FRAME ELEVATIONS

SCALE 1/4" = 1'-0"

NOTE: ALL EXTERIOR HOLLOW METAL DOOR FRAMES TO BE HOT DIPPED GALVANIZED REGARDLESS WHETHER NOTED OR NOT.

ALL EXTERIOR GLAZING ASSEMBLIES FOR WINDOWS & STOREFRONTS NEED TO BE DESIGNED TO MEET ASCE 7-05 WIND PRESSURES & SHALL BE IMPACT RESISTANT MEETING ASTM E 1996 FOR LARGE MISSILES.

ALL EXTERIOR WINDOWS, DOORS, STOREFRONTS & O.H. DOOR ASSEMBLIES SHALL BE CERTIFIED TO MEET THE PROJECTS MINIMUM DESIGN WIND PRESSURES. REFERENCE STRUCTURAL DRAWINGS FOR DESIGN WIND PRESSURE REQUIREMENTS - TYPICAL THROUGHOUT PROJECT



16 ROLLING ALUMINUM

8,9,10,12,13,15,18 SOLID CORE

4,6,7,11 SOLID CORE

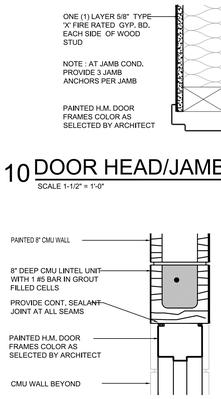
3,5,14,17,19 HOLLOW METAL DOORS ON EXTERIOR WALL TO BE HOT DIPPED GALVANIZED

1,2 BRONZE ALUMINUM

DOOR ELEVATIONS

SCALE 1/4" = 1'-0"

NOTE: ALL EXTERIOR HOLLOW METAL DOORS TO BE HOT DIPPED GALVANIZED REGARDLESS WHETHER NOTED OR NOT.

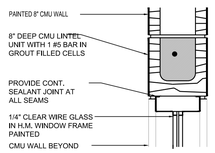


10 DOOR HEAD/JAMB DETAIL

SCALE 1-1/2" = 1'-0"

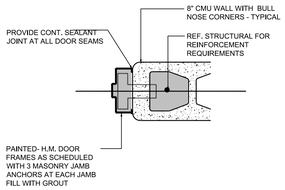
09 DOOR HEAD DETAIL

SCALE 1-1/2" = 1'-0"



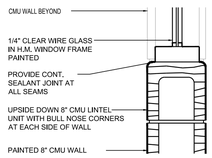
08 WINDOW HEAD DETAIL

SCALE 1-1/2" = 1'-0"



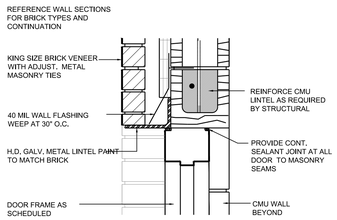
07 DOOR JAMB DETAIL

SCALE 1-1/2" = 1'-0"



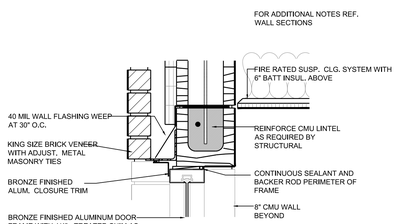
06 WINDOW SILL DETAIL

SCALE 1-1/2" = 1'-0"



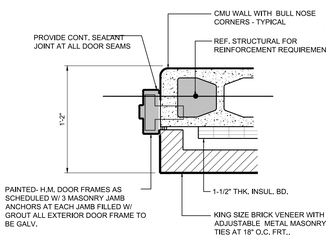
05 DOOR HEAD DETAIL

SCALE 1-1/2" = 1'-0"



04 DOOR HEAD DETAIL

SCALE 1-1/2" = 1'-0"



03 DOOR JAMB DETAIL

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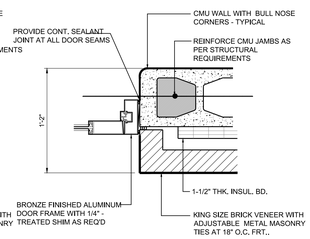
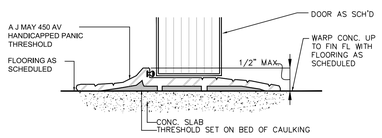


02 DOOR JAMB DETAIL

SCALE 1-1/2" = 1'-0"



01 THRESHOLD DETAIL

SCALE : NONE

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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BISD Hanna ECHS
Gymnasium Facility

REGISTERED ARCHITECT DAVID A. MONREAL 19556 STATE OF TEXAS
6-14-2019

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Architects-Planners
Interior Designers

Date: JUNE, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: RB
Job No. BISD Hanna Gymnasium
Sheet: A3.01

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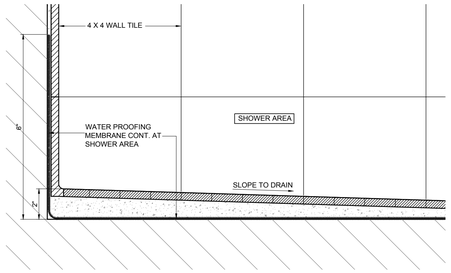
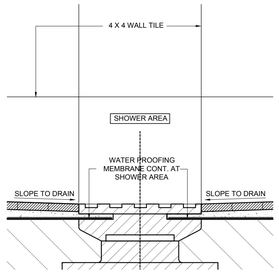
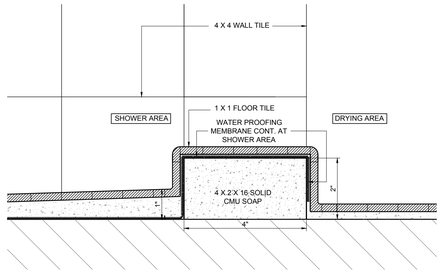


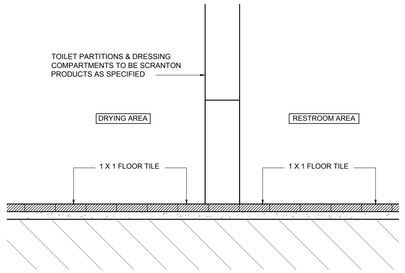
06 PLAN ENLARGEMENT
SCALE= 3" = 1'-0"



07 PLAN ENLARGEMENT
SCALE= 3" = 1'-0"



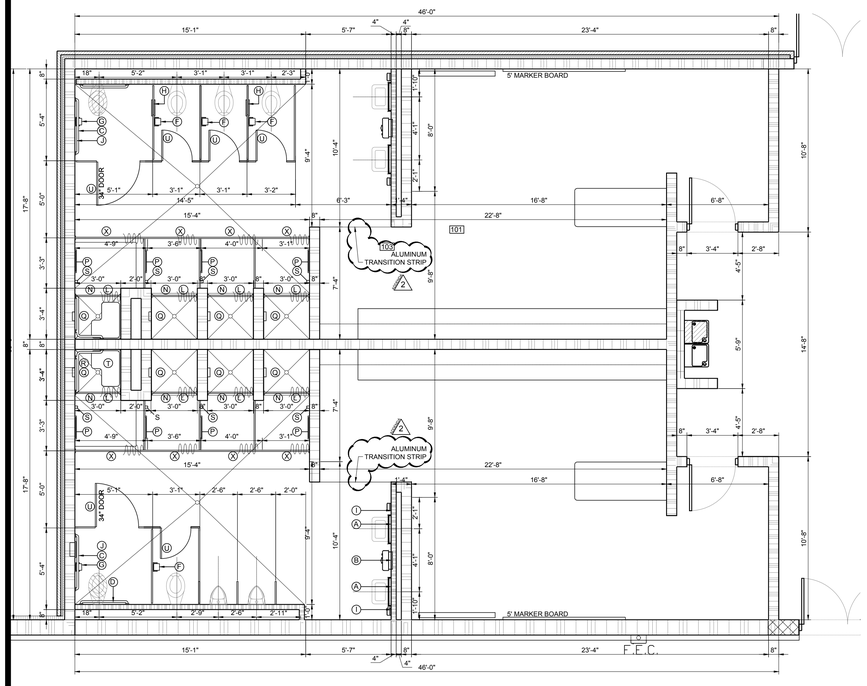
08 PLAN ENLARGEMENT
SCALE= 3" = 1'-0"



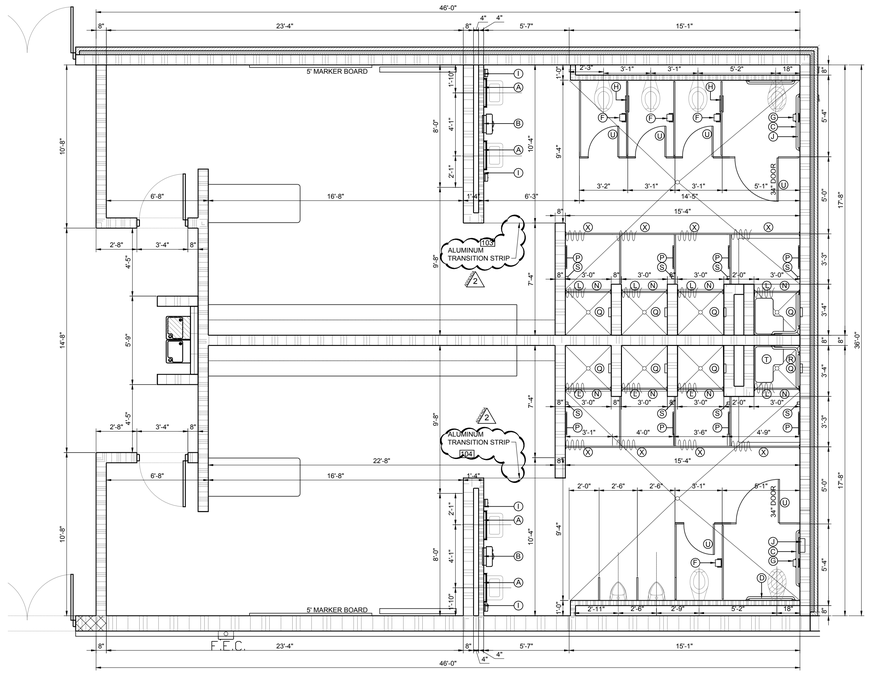
09 PLAN ENLARGEMENT
SCALE= 3" = 1'-0"

ACCESSORY LEGEND

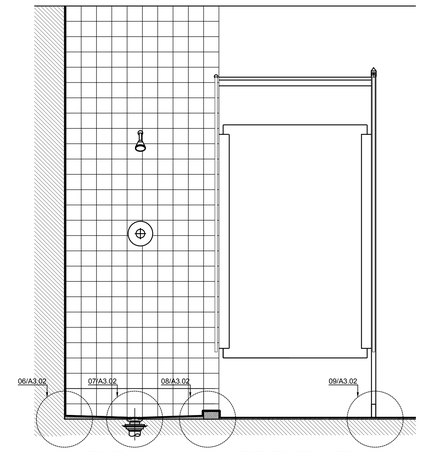
No.	NAME	No.	NAME
A	SS CHANNEL FRAME MIRROR MOD # B-165-1836	Q	SOAP DISH MOD # B-438
B	HOT AIR DRYER (REFER TO M.E.P.)	R	CONTINUOS GRAB BAR MOD # B-6806 SERIES
C	42" LONG GRAB BAR MOD # B-6806 SERIES	S	METAL "J" HOOK BY TOILET PARTITION MFG
D	36" LONG GRAB BAR MOD # B-6806 SERIES	T	REVERSIBLE FOLDING SHOWER SEAT B-5181
E	MOP AND BROOM HOLDER MOD # B-223X36	U	COAT HOOK WITH BUMPER ONE AT EACH STALL DOOR BY TOILET PARTITION MFG.
F	DOUBLE TOILET TISSUE DISPENSER MOD # B-274	V	BABY CHANGING STATION MOD # EQUAL TO KB200-01 KOALA HORIZONTAL
G	DOUBLE TOILET TISSUE DISPENSER MOD # B-2740 (ADA)	W	PROVIDE DOOR PULL ON BOTH SIDES OF ACCESSIBLE AND AMBULATORY STALL DOOR
H	PARTITION MOUNTED SANITARY NAPKIN DISPOSAL MOD # B-354 SERVES TWO STALLS	X	SHOWER CURTAIN BY TOILET PARTITION MFG. PROVIDE 2 AT EACH SHOWER STALL WITH REQUIRED HOOKS
I	LIQUID SOAP DISPENSER WALL MOUNT MOD # B-2111		TOILET PARTITIONS & DRESSING COMPARTMENTS ALONG WITH ITEMS (P)(S)(W)(X) TO BE SCRANTON PRODUCTS AS SPECIFIED
J	RECESSED SANITARY NAPKIN DISPOSAL MOD # B-35303		GENERAL NOTE FOR ALL TOILET ROOMS: PROVIDE CERAMIC TILE WAINSCOT BEHIND ALL MIRRORS.
K	RECESSED PAPER TOWEL DISPENSER & WASTE RECEPTACLE MOD # B-3904		PROVIDE 4"X4" CONT. TILE BORDER AROUND ALL MIRRORS
L	SHOWER ROD MOD # B-6047- 36"		ALL ACCESSORIES & FIXTURES SHALL BE MOUNTED FOR ADULT HEIGHT
M	SHOWER ROD MOD # B-6047- 60" NOT USED		
N	SHOWER CURTAIN WITH HOOKS MOD # 204-2 42"		
O	SHOWER CURTAIN W/ HOOKS MOD # 204-3 -70" NOT USED		
P	GARMENT BAR BY TOILET PARTITION MFG 18"		



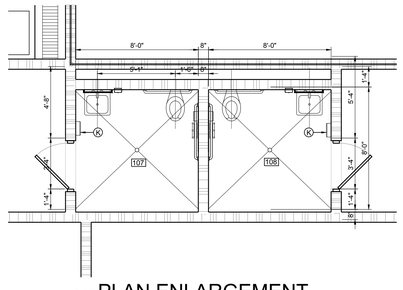
05 PLAN ENLARGEMENT
SCALE= 1/4" = 1'-0"



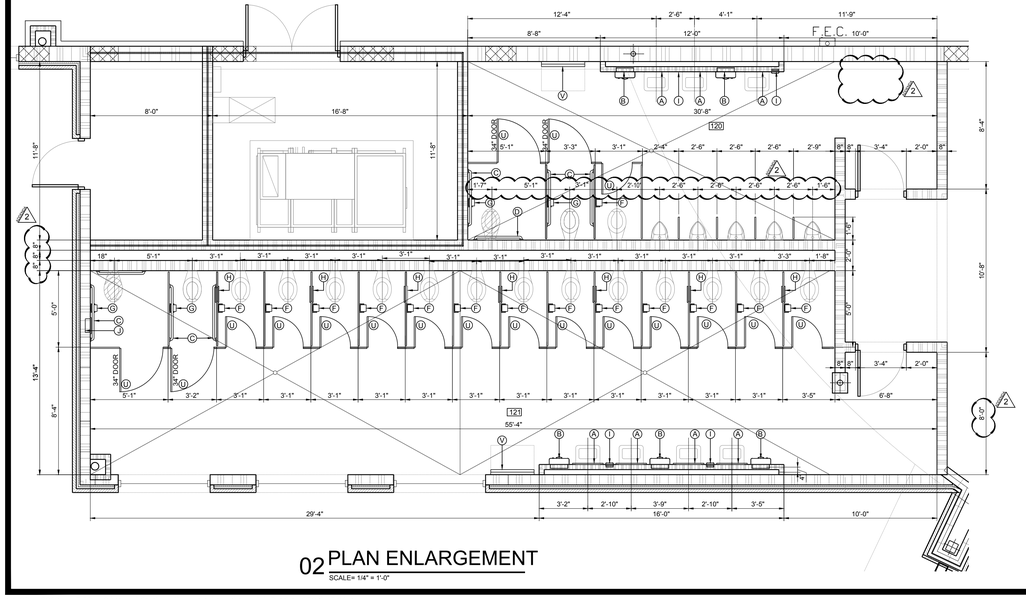
04 PLAN ENLARGEMENT
SCALE= 1/4" = 1'-0"



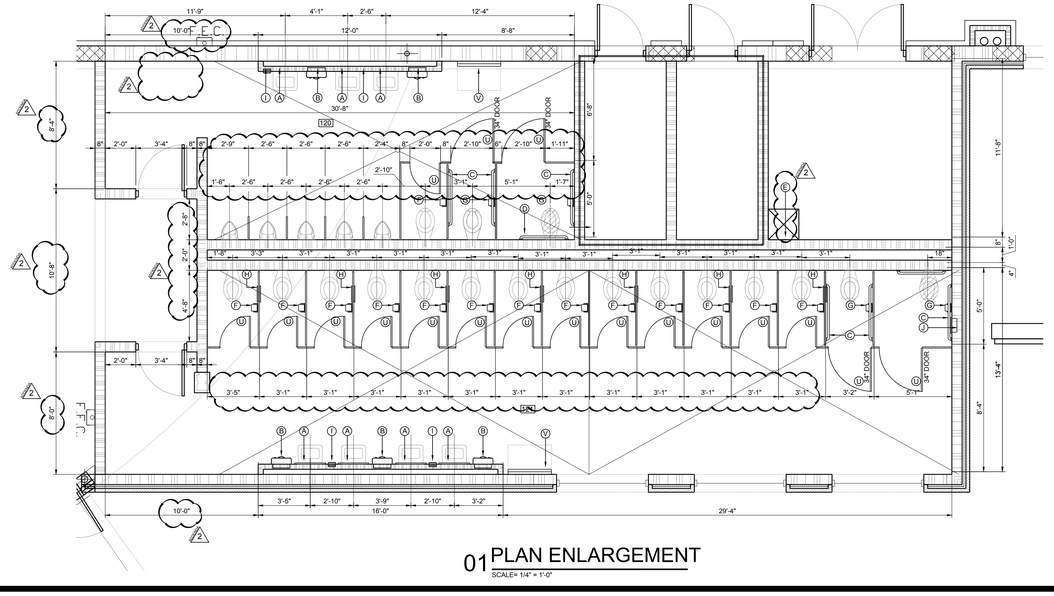
10 TYPICAL SHOWER ELEVATION
SCALE= 3/4" = 1'-0"



03 PLAN ENLARGEMENT
SCALE= 1/4" = 1'-0"



02 PLAN ENLARGEMENT
SCALE= 1/4" = 1'-0"



01 PLAN ENLARGEMENT
SCALE= 1/4" = 1'-0"

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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Gymnasium Facility

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Date:	JUNE, 2019
Scale:	As Noted
Project Architect:	David Monreal, AIA
Drawn By:	RB
Job No:	BISD Hanna Gymnasium
Sheet:	A3.02

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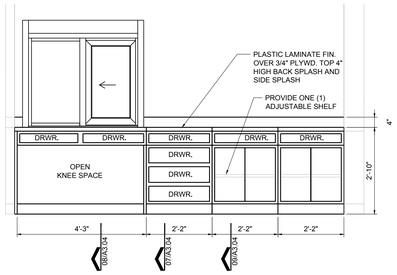
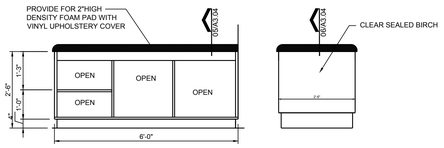


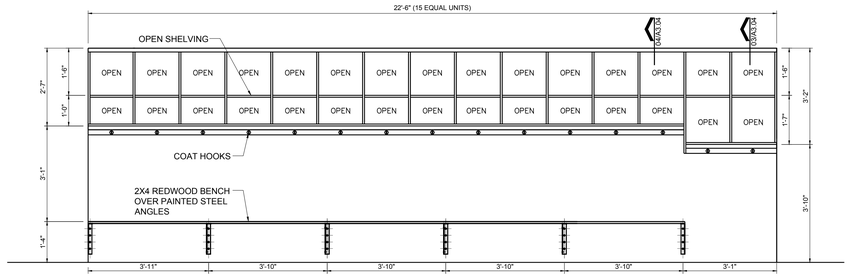
05 CABINET ELEVATION

SCALE: 1/2" = 1'-0" TICKET ROOM



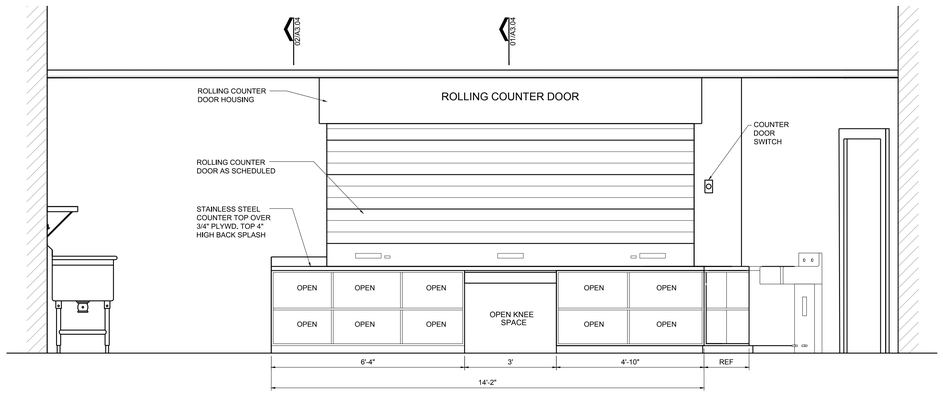
04 CABINET ELEVATION

SCALE: 1/2" = 1'-0" LOCKER ROOMS



03 MILLWORK ELEVATION

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



02 MILLWORK ELEVATION

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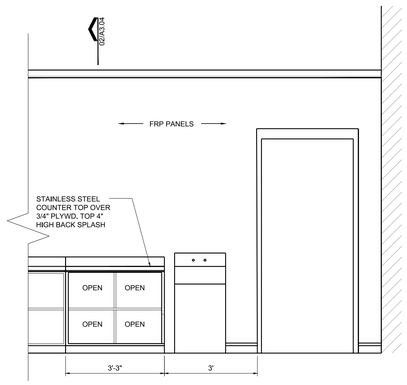

01 MILLWORK ELEVATION

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

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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Gymnasium Facility

REGISTERED ARCHITECT DAVID A. MONREAL 78556 STATE OF TEXAS

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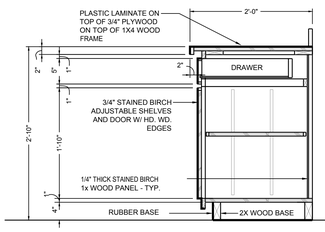
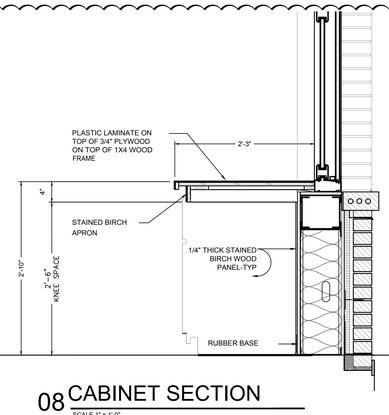
Architects-Planners
Interior Designers

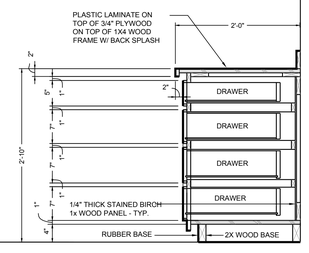
Date: JUNE, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: RB
Job No. BISD Hanna Gymnasium
Sheet: A3.03



09 CABINET SECTION
SCALE 1" = 1'-0"



08 CABINET SECTION
SCALE 1" = 1'-0"



07 CABINET SECTION
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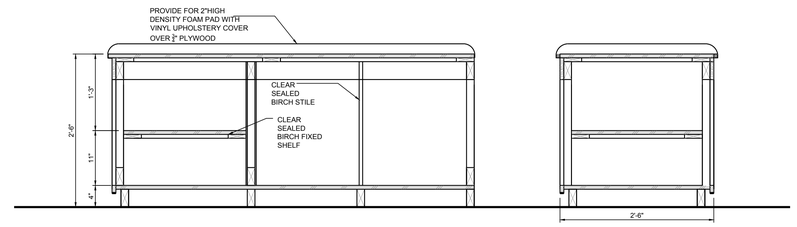
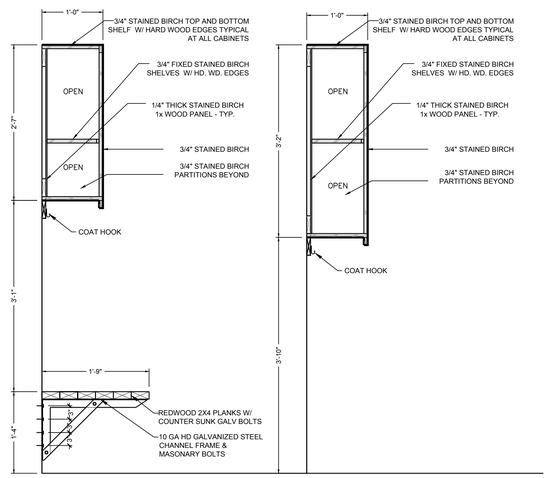


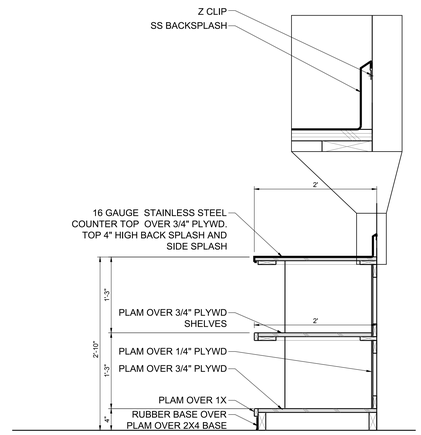
06 MILLWORK SECTION
SCALE: 1" = 1'-0"

05 MILLWORK SECTION
SCALE: 1" = 1'-0"

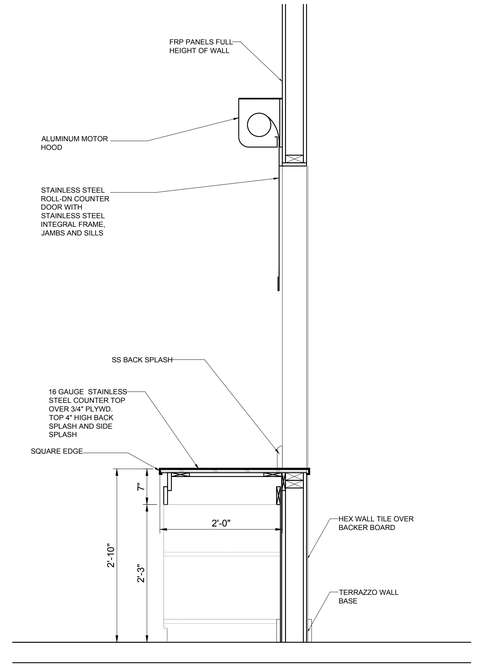


04 MILLWORK SECTION
SCALE: 1" = 1'-0"

03 MILLWORK SECTION
SCALE: 1" = 1'-0"



02 MILLWORK SECTION
SCALE: 1" = 1'-0"



01 MILLWORK SECTION
SCALE: 1" = 1'-0"

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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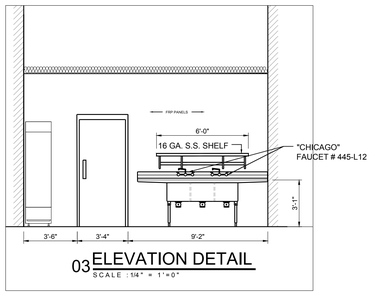
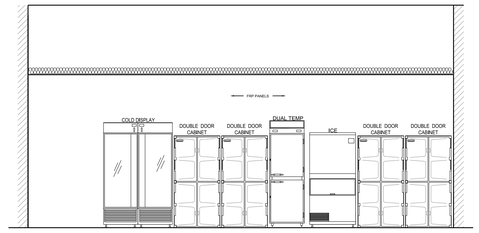
Project Architect: David Monreal, AIA
Drawn By: RB
Job No. BISD Hanna Gymnasium
Sheet: A3.04

Jul 02, 2019 - 3:52pmC:\Users\Station-1\appdata\local\temp\AcPublish_8504\A3.01.dwg

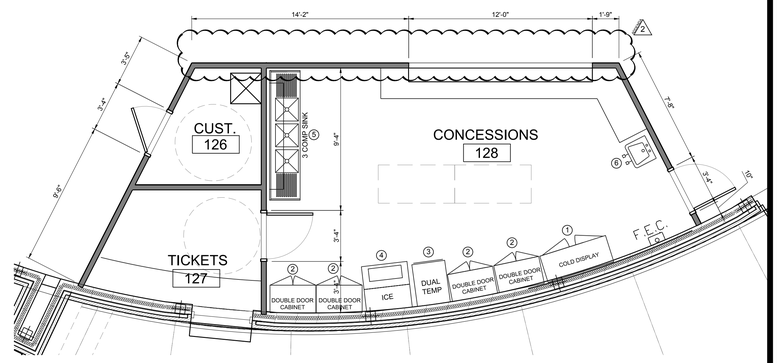
CONCESSION LEGEND		
No.	NAME	
1	COLD DISPLAY	BY OWNER CONTRACTOR INSTALLED
2	DOUBLE DOOR CABINET RUBBERMAID 7083 72" FOUR SHELF DOUBLE-DOOR RESIN STORAGE CABINETS	
3	DUAL TEMP REFIGERATOR/ FREEZER	BY OWNER CONTRACTOR INSTALLED
4	ICE MACHINE SCOTSMAN C0530SR-1D PLUIS SERIES 30" PROVIDE ALL NECESSARY ACCESSORIES AND PIPING REQUIRED FOR PROPER INSTALLATION.	
5	3 COMPARTMENT SINK (ADVANCE TABCO 18X24 BOWL SIZE_93-63-54-18L)	
6	HANDSINK_ADVANCE TABCO_7-PS-50)	
7	DRYER CONTINENTAL KDE/KDG 208/60/1_4 PRONG CORD,30 W/ HEATING ELEMENT FROM FACTORY	
8	WASHER CONTINENTAL EH040_ELEC AUX HEAT_208/603,2W+G,40AMP	



03 ELEVATION DETAIL
SCALE : 1/4" = 1'=0"



02 ELEVATION DETAIL
SCALE : 1/4" = 1'=0"



01 CONCESSIONS
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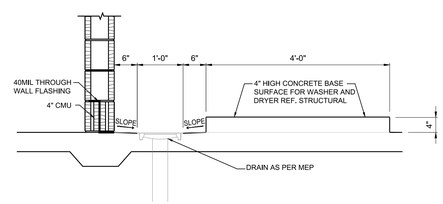
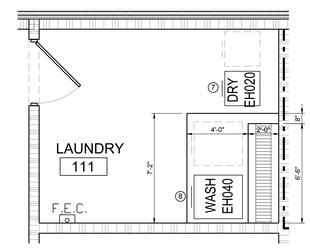


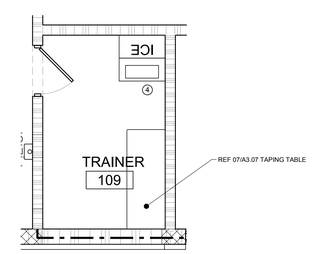
05 LAUNDRY ROOM
SCALE : 1/4" = 1'=0"



04 LAUNDRY ROOM
SCALE : 1/4" = 1'=0"

07 TAPING TABLE IMAGE
SCALE : NTS

PROVIDE FOR PROTEAM BY HAUSMANN A9078 CABINET TREATMENT TABLE & ACCESORIES
- GAS SPRING BACKREST (69-)
- ELEVATING SPLIT LEGS (A961)
- DOUBLE DOORS (A962)
- MODALITY DRAWER (A964)
- 3 DRAWERS (A966)



06 TRAINER ROOM ENLARGEMENT
SCALE : 1/4" = 1'=0"

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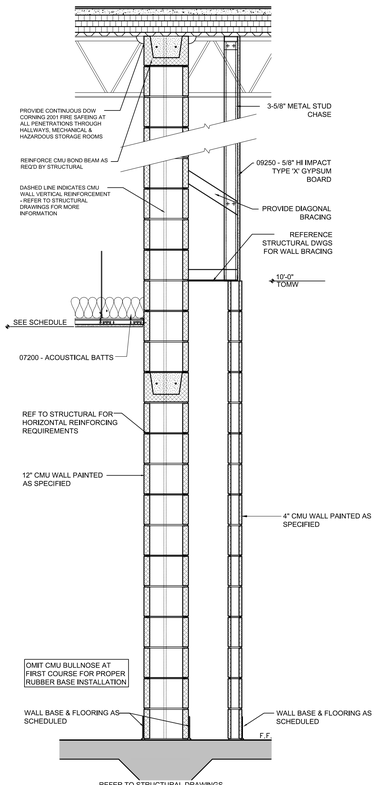
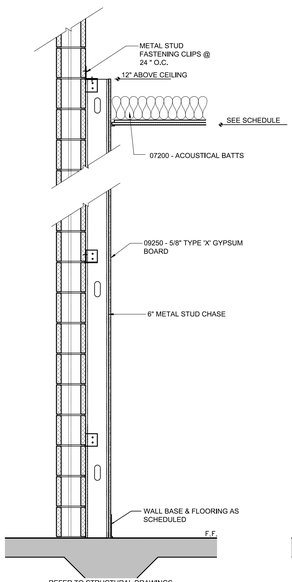
Drawn By:	RB
Job No.	BISD Hanna Gymnasium
Sheet:	A3.05



05 F WALL SECTION
SCALE : 3/4" = 1'=0"



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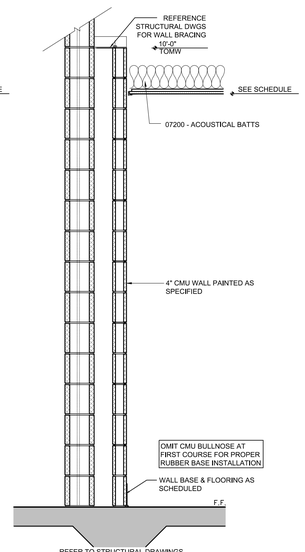

05 D WALL SECTION
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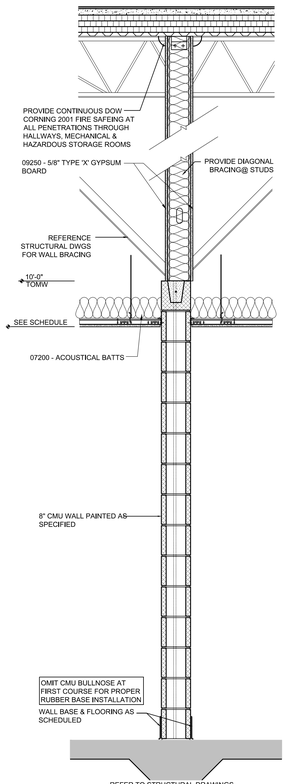
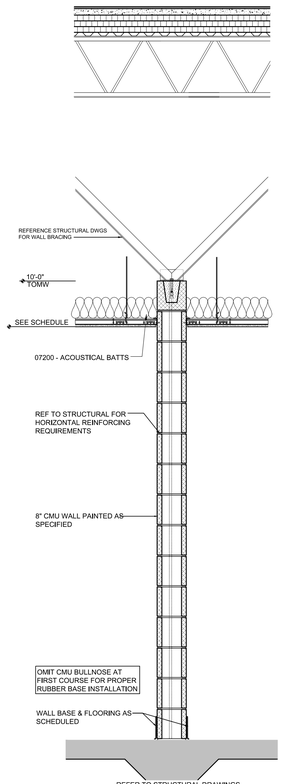
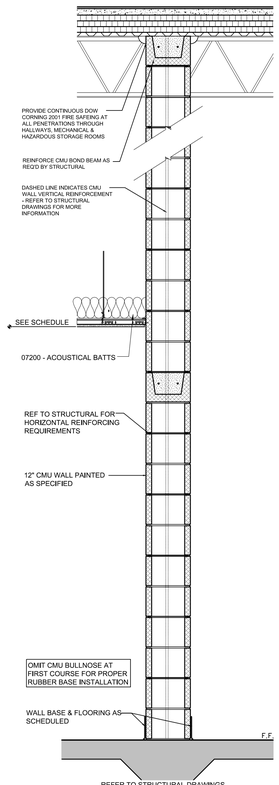


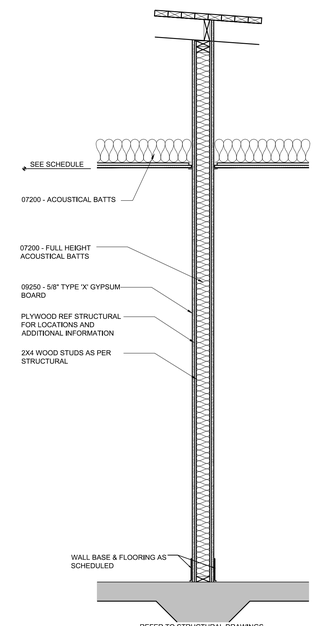
04 C1 WALL SECTION
SCALE : 3/4" = 1'=0"
1 HR RATED PARTITION



03 C WALL SECTION
SCALE : 3/4" = 1'=0"



02 B WALL SECTION
SCALE : 3/4" = 1'=0"
1 HR RATED PARTITION
B1 INDICATES FIRE RATED PARTITION



01 A WALL SECTION
SCALE : 3/4" = 1'=0"

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Sheet: A4.00

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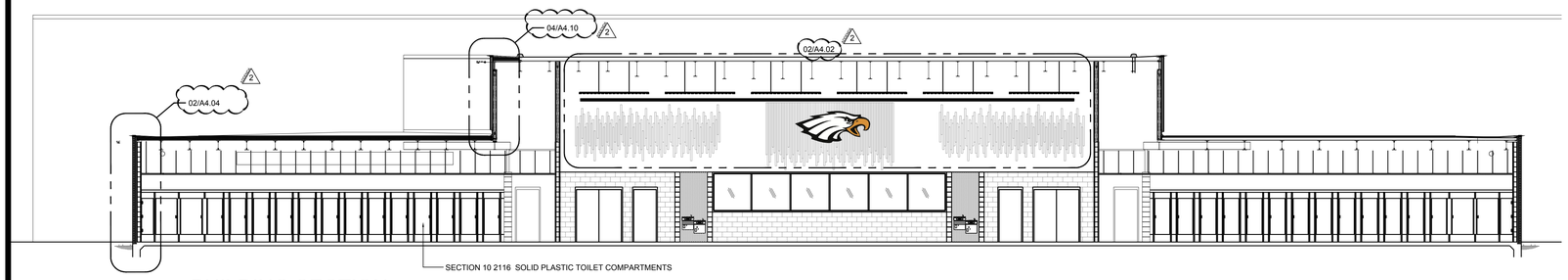
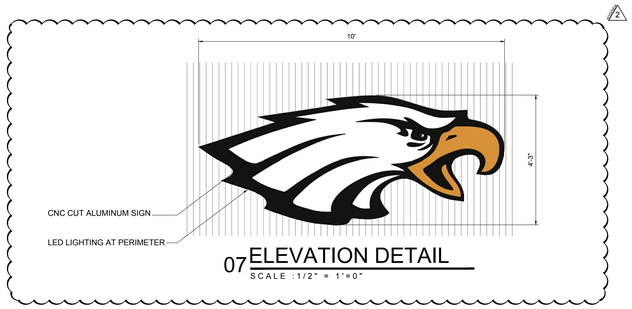
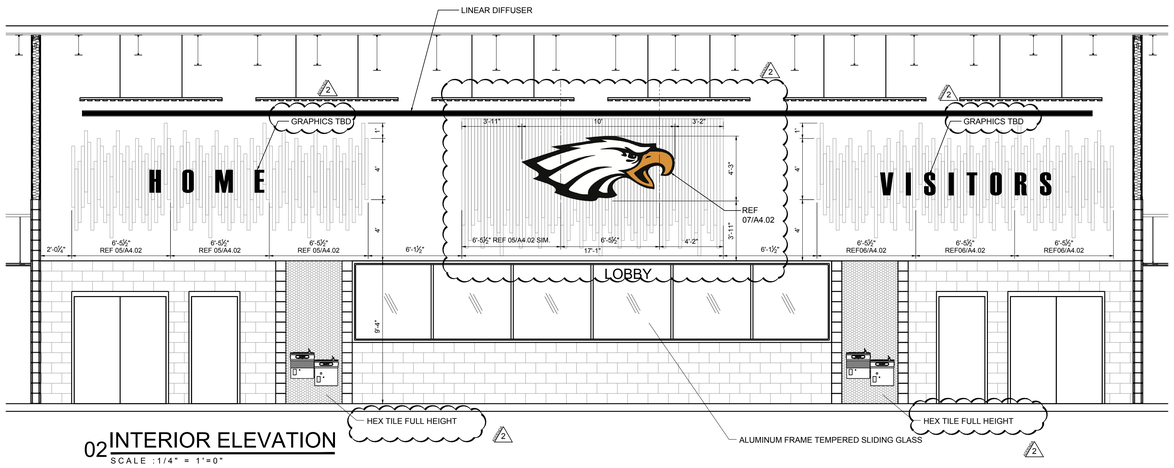


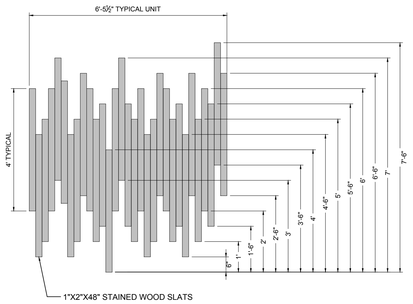
01 BUILDING SECTION
SCALE : 1/4" = 1'=0"



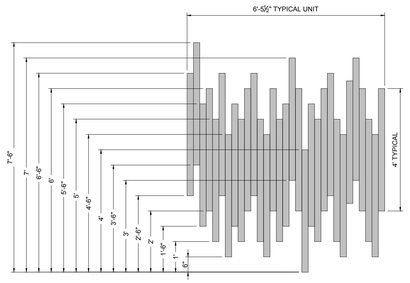
07 ELEVATION DETAIL
SCALE : 1/2" = 1'=0"



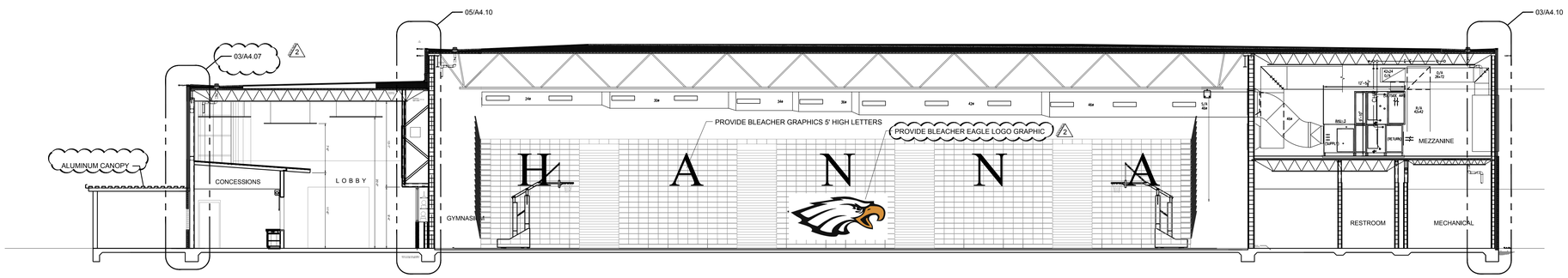
02 INTERIOR ELEVATION
SCALE : 1/4" = 1'=0"



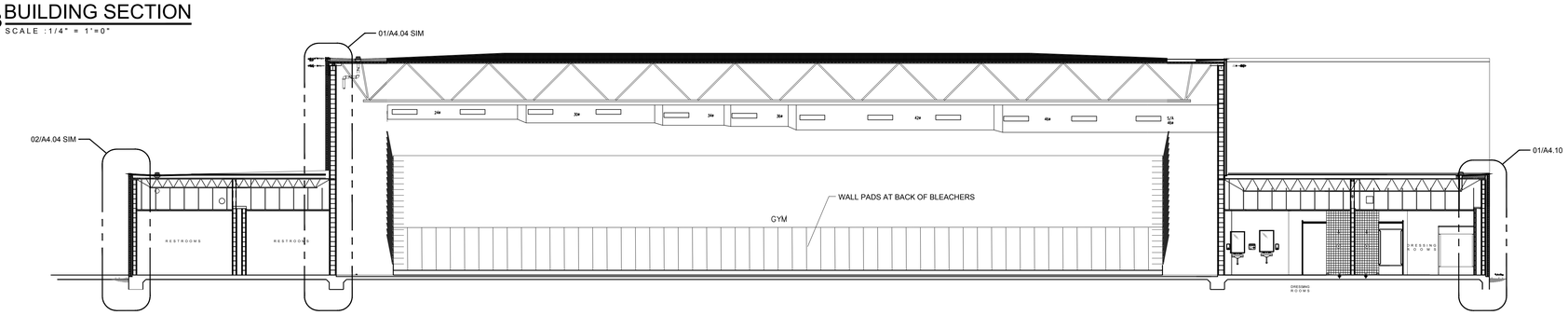
05 ELEVATION DETAIL
SCALE : 1/2" = 1'=0"



06 ELEVATION DETAIL
SCALE : 1/2" = 1'=0"



03 BUILDING SECTION
SCALE : 1/4" = 1'=0"



04 BUILDING SECTION
SCALE : 1/4" = 1'=0"

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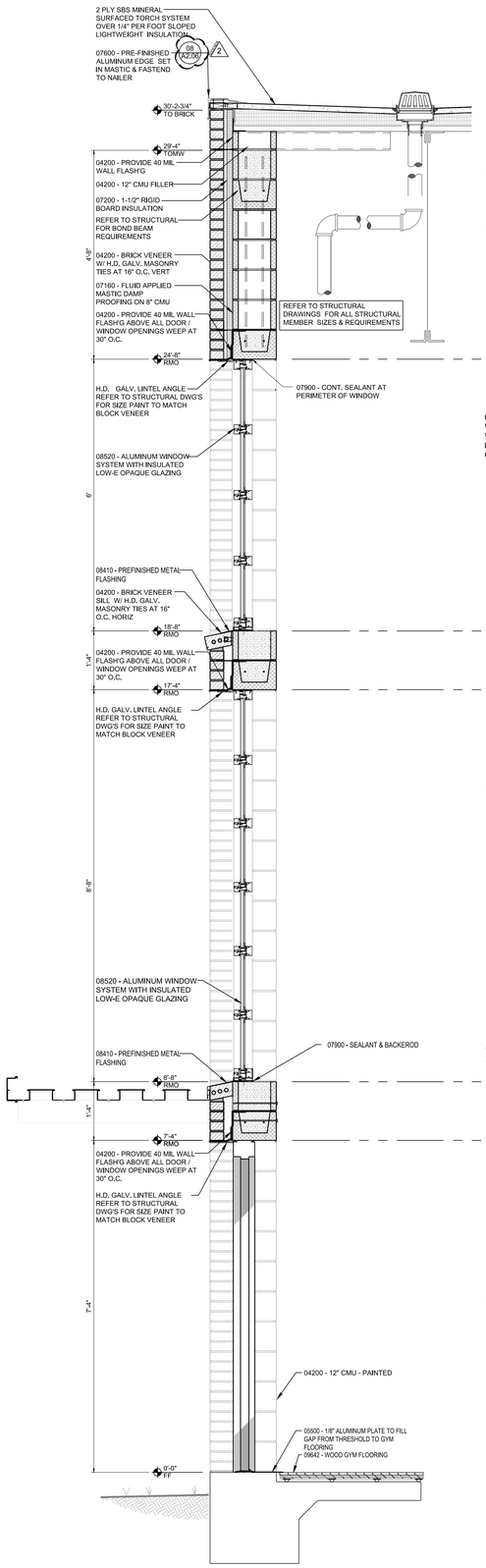
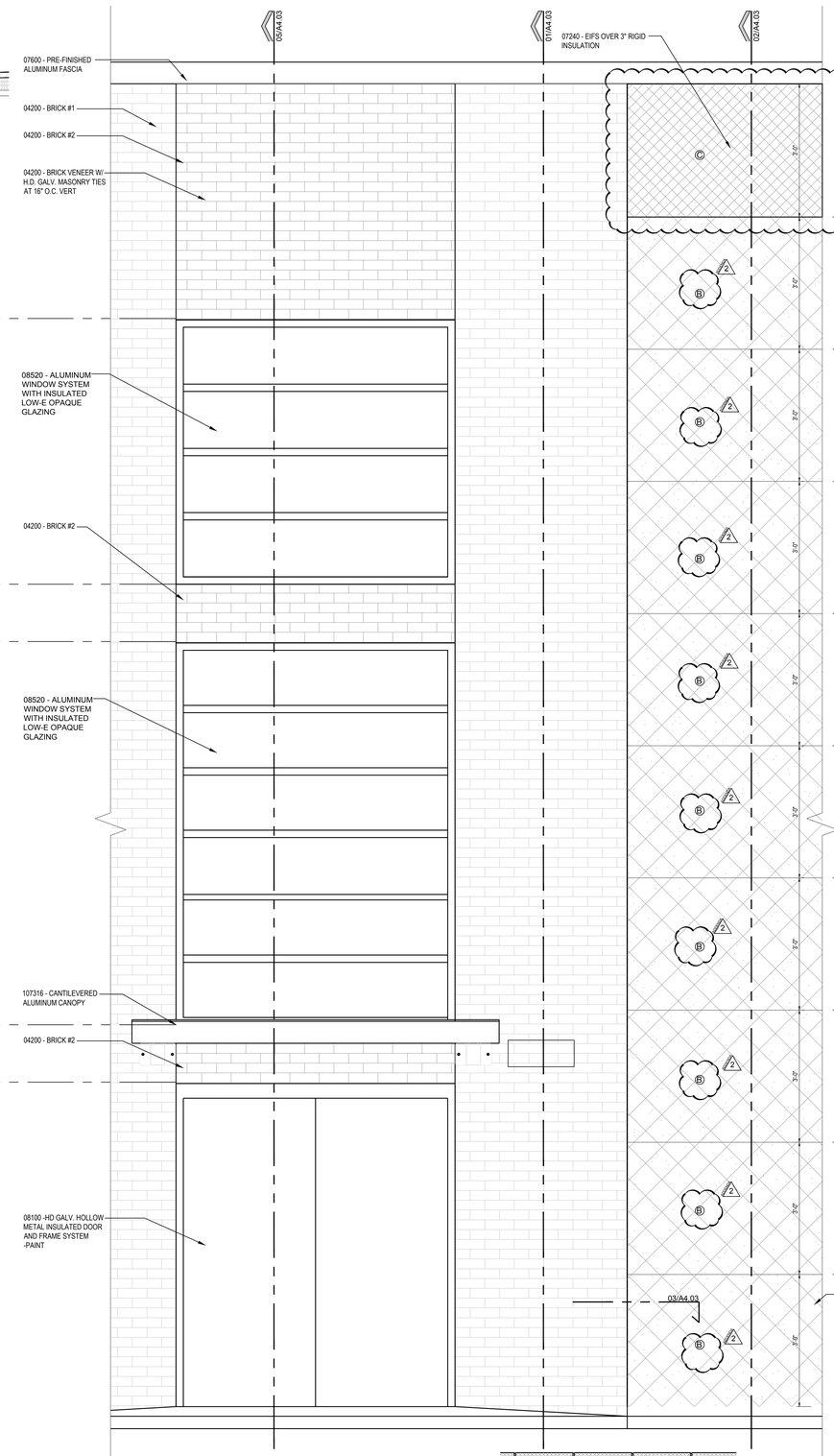
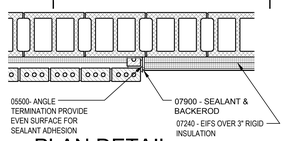


05 WALL SECTION
SCALE : 3/4" = 1'=0"



04 PARTIAL ELEVATION
SCALE : 3/4" = 1'=0"



03 PLAN DETAIL
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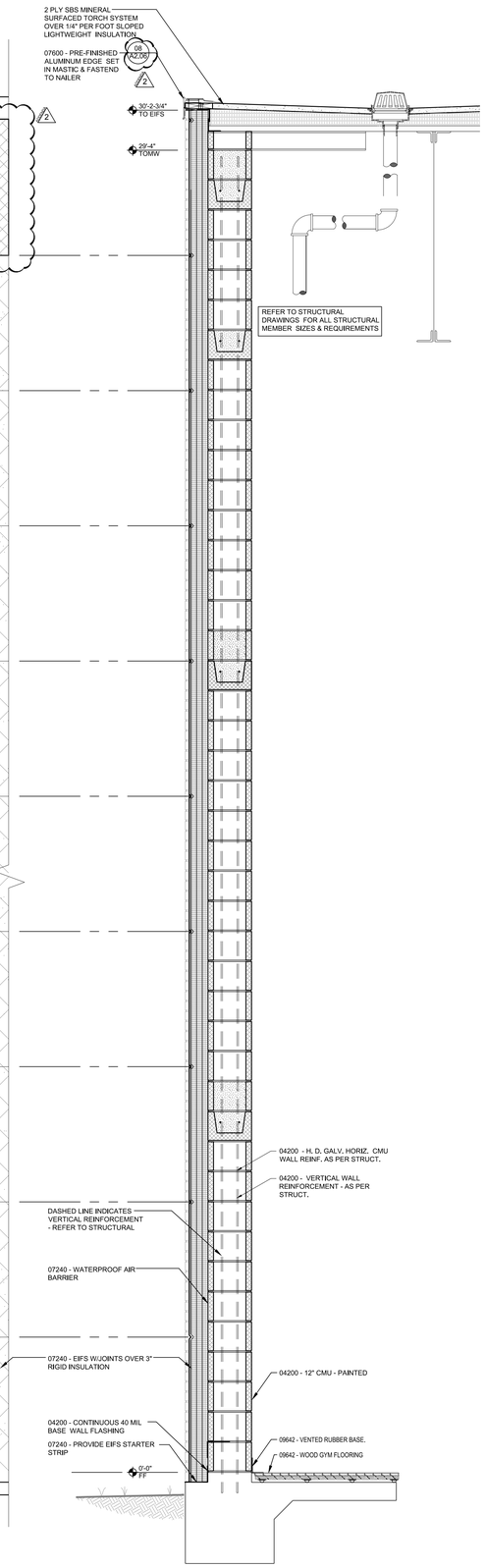

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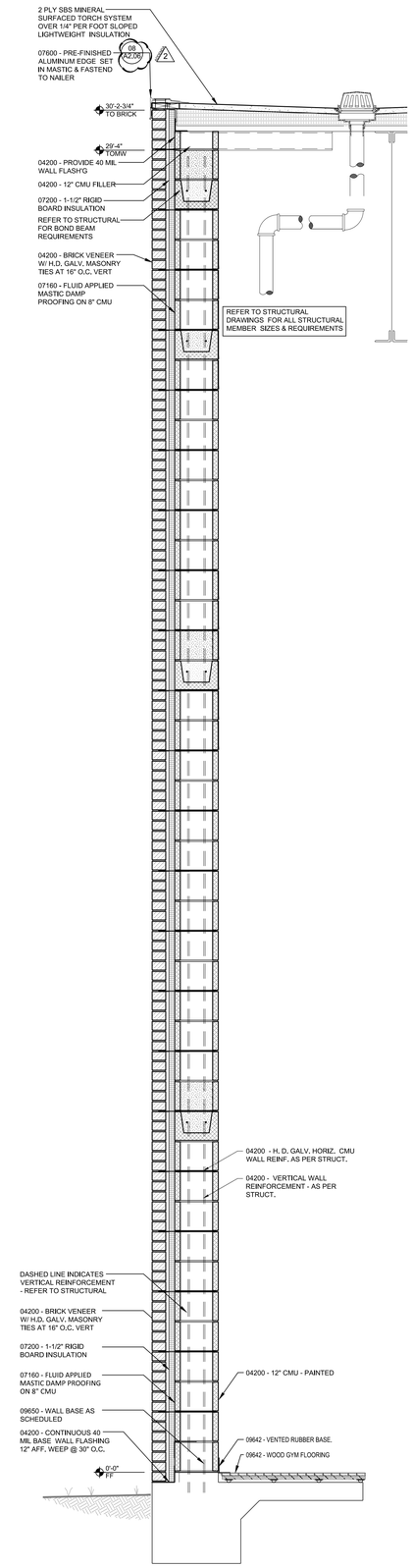

01 WALL SECTION BRICK
SCALE : 3/4" = 1'=0"

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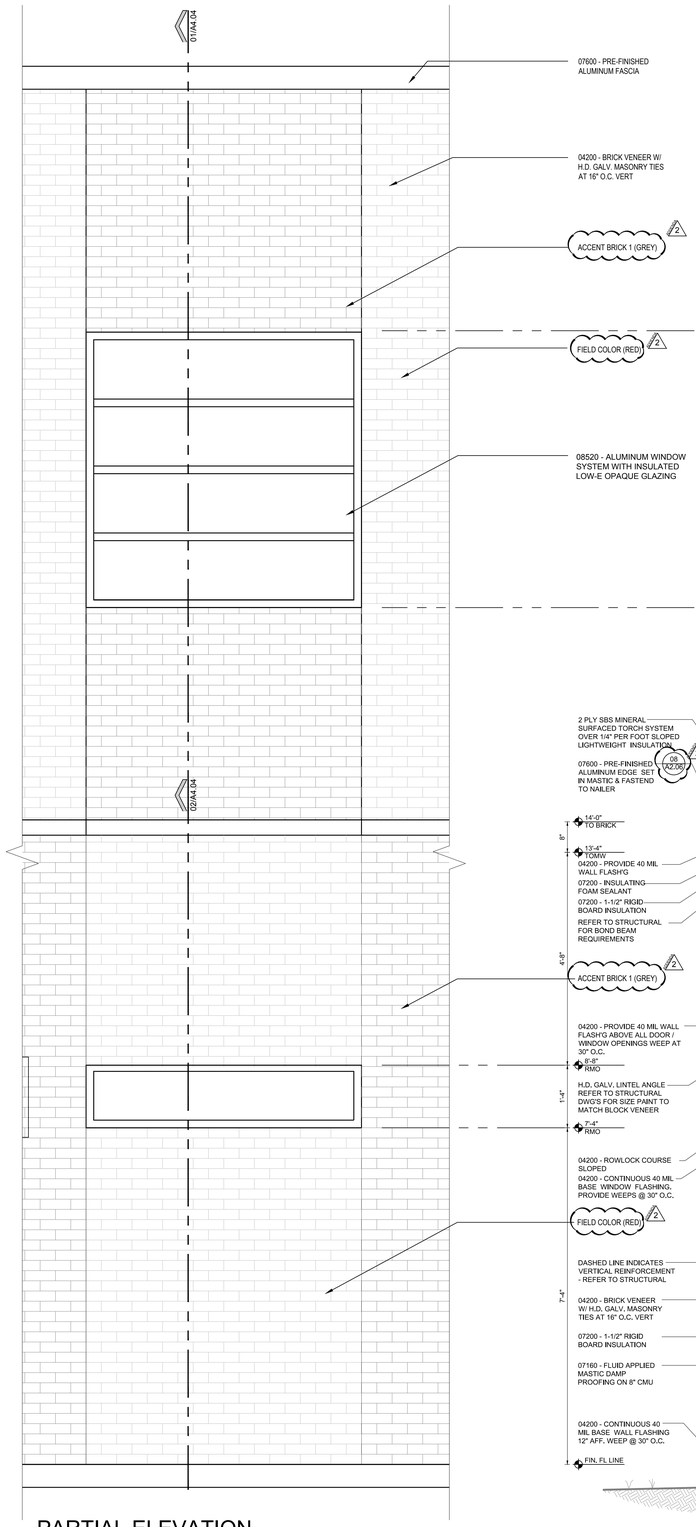
Sheet: A4.03



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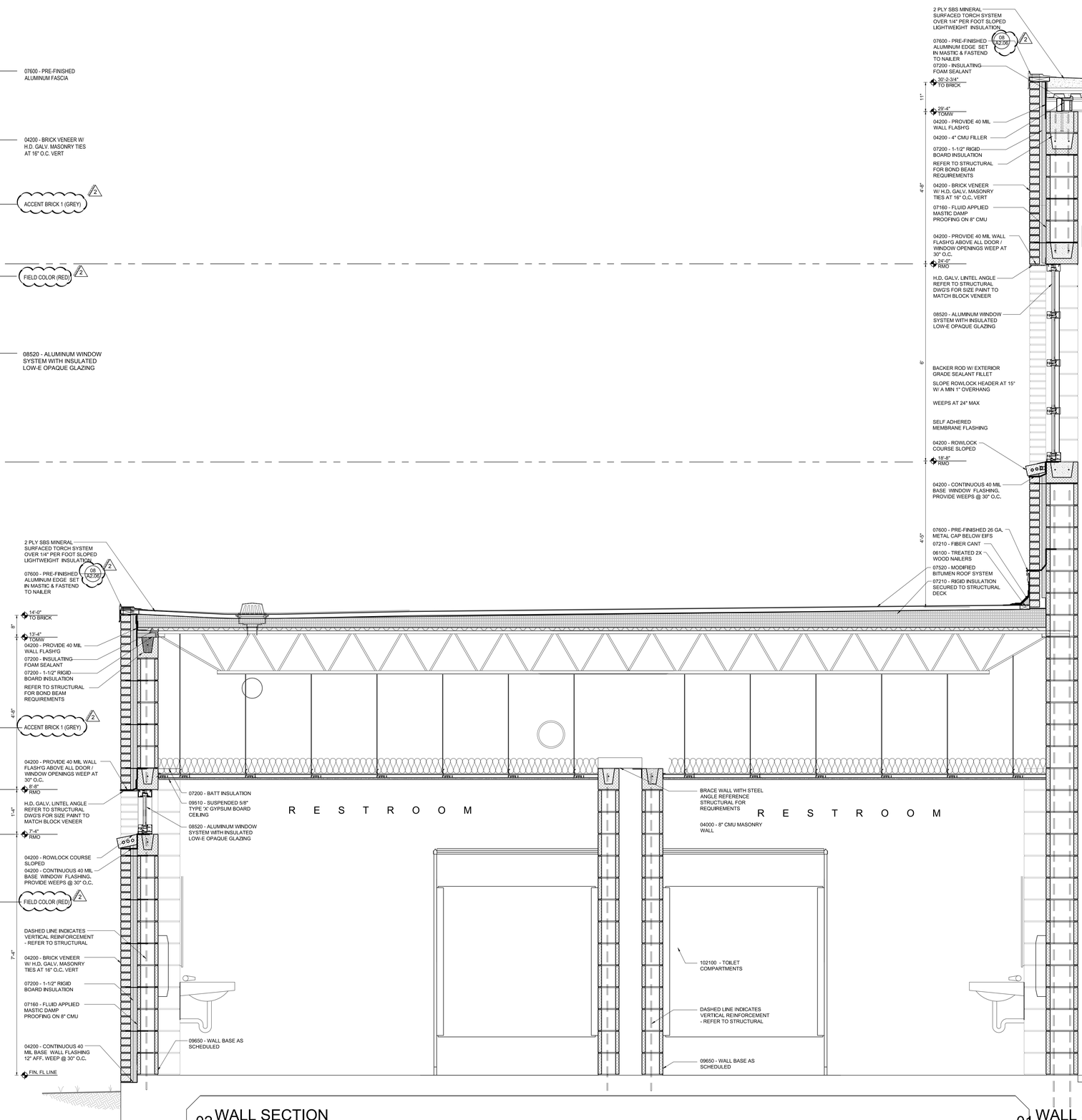

02 WALL SECTION
SCALE : 3/4" = 1'=0"

01 WALL SECTION
SCALE : 3/4" = 1'=0"

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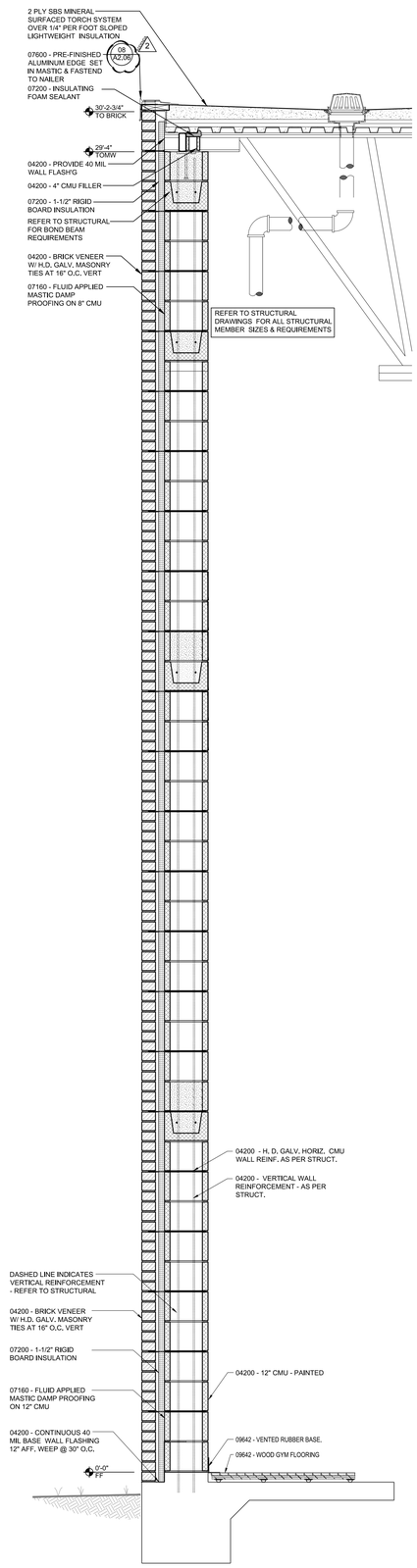

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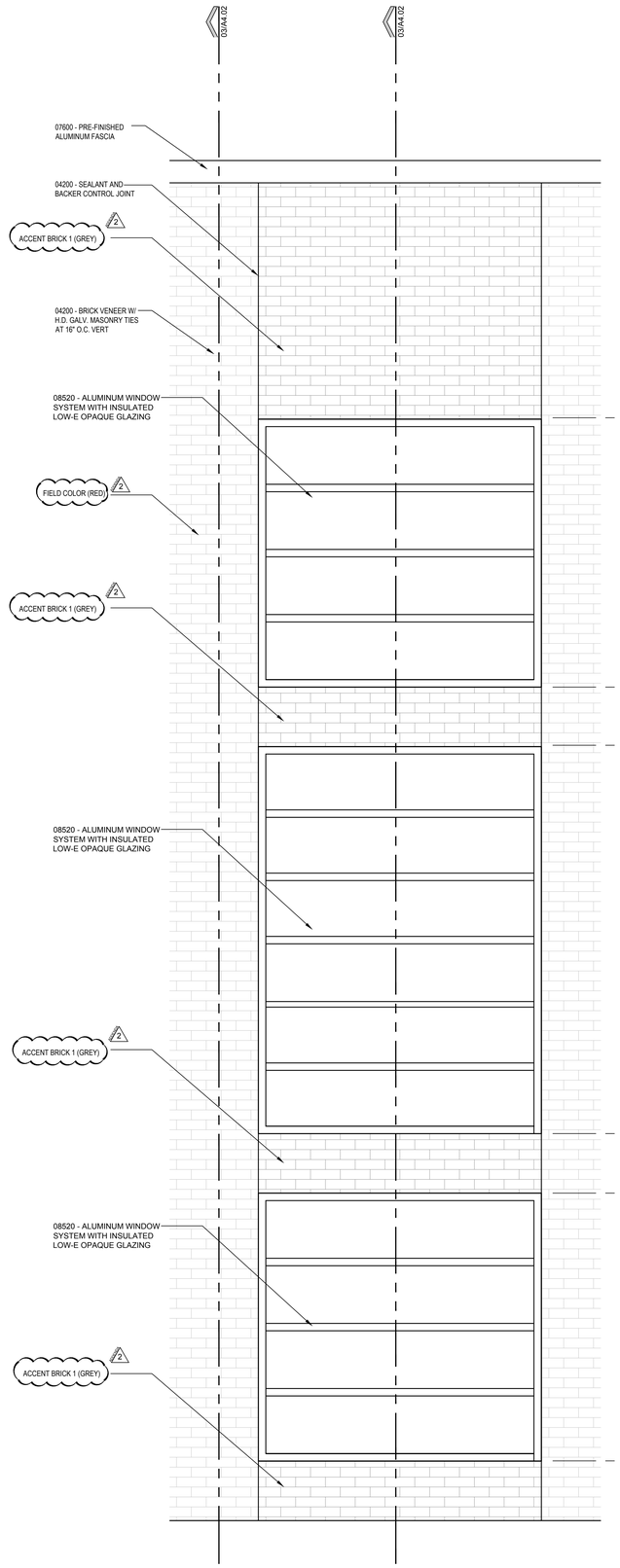

02 PARTIAL ELEVATION
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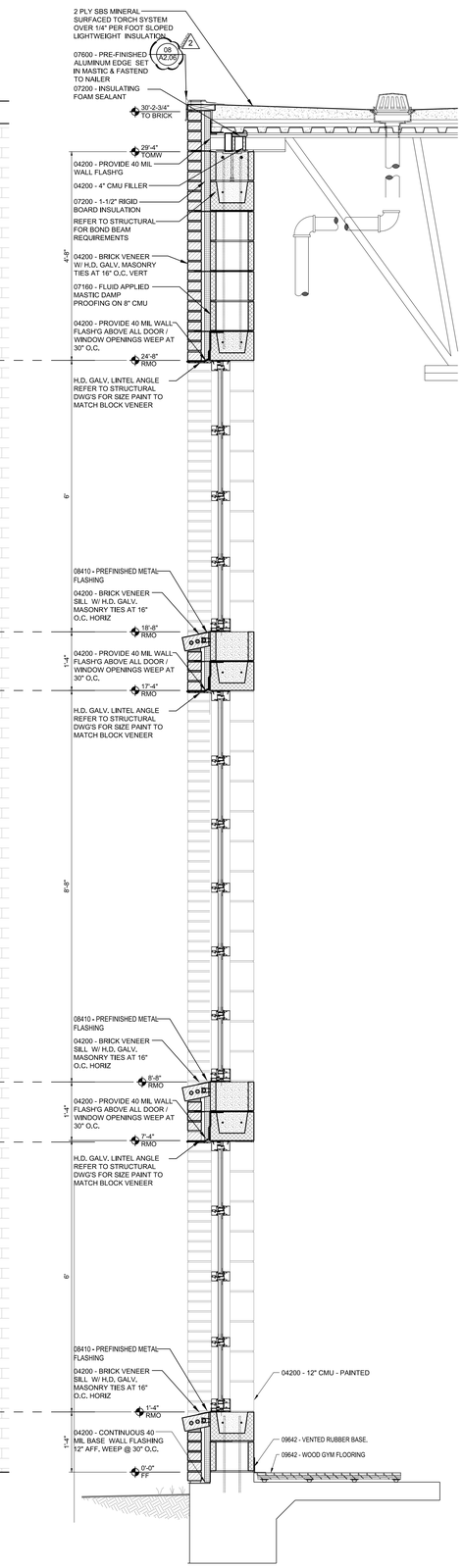

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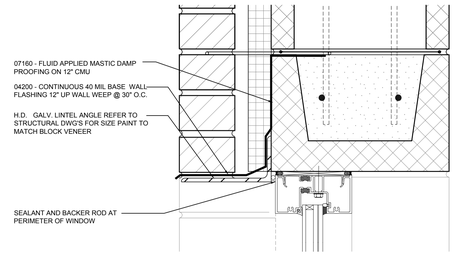

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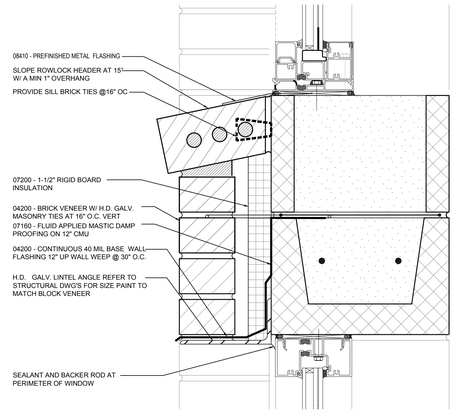

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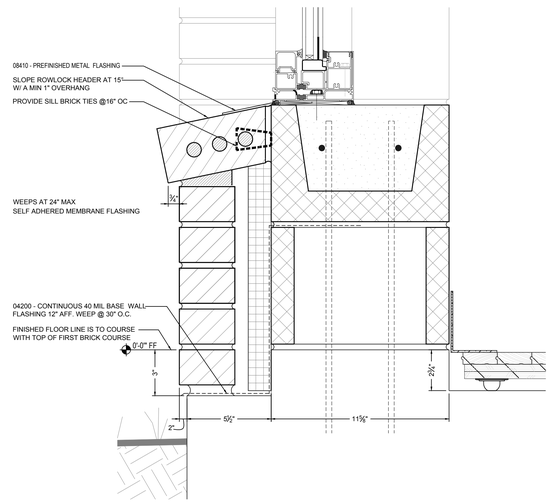

06 WALL SECTION
SCALE : 3/4" = 1'=0"

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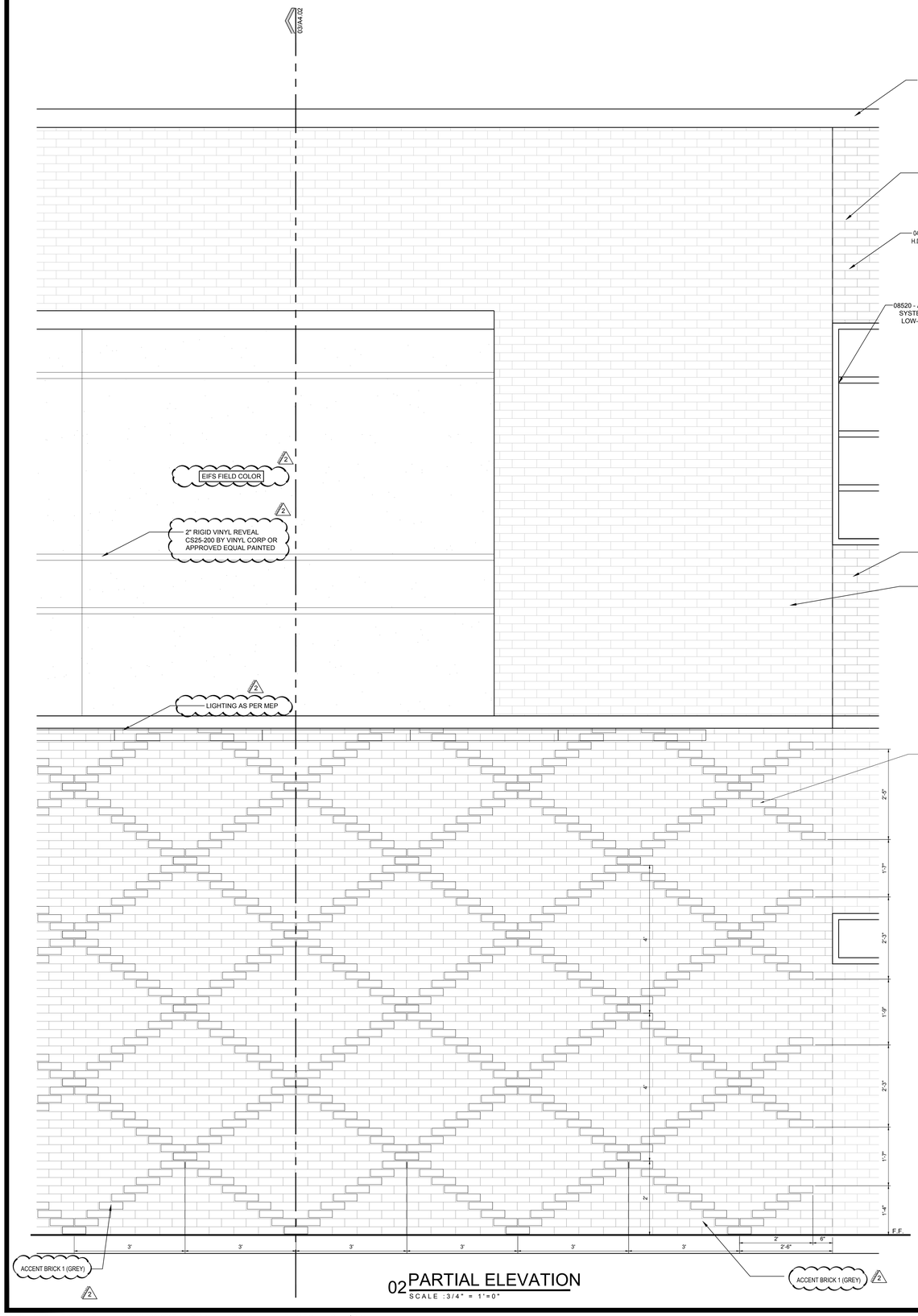
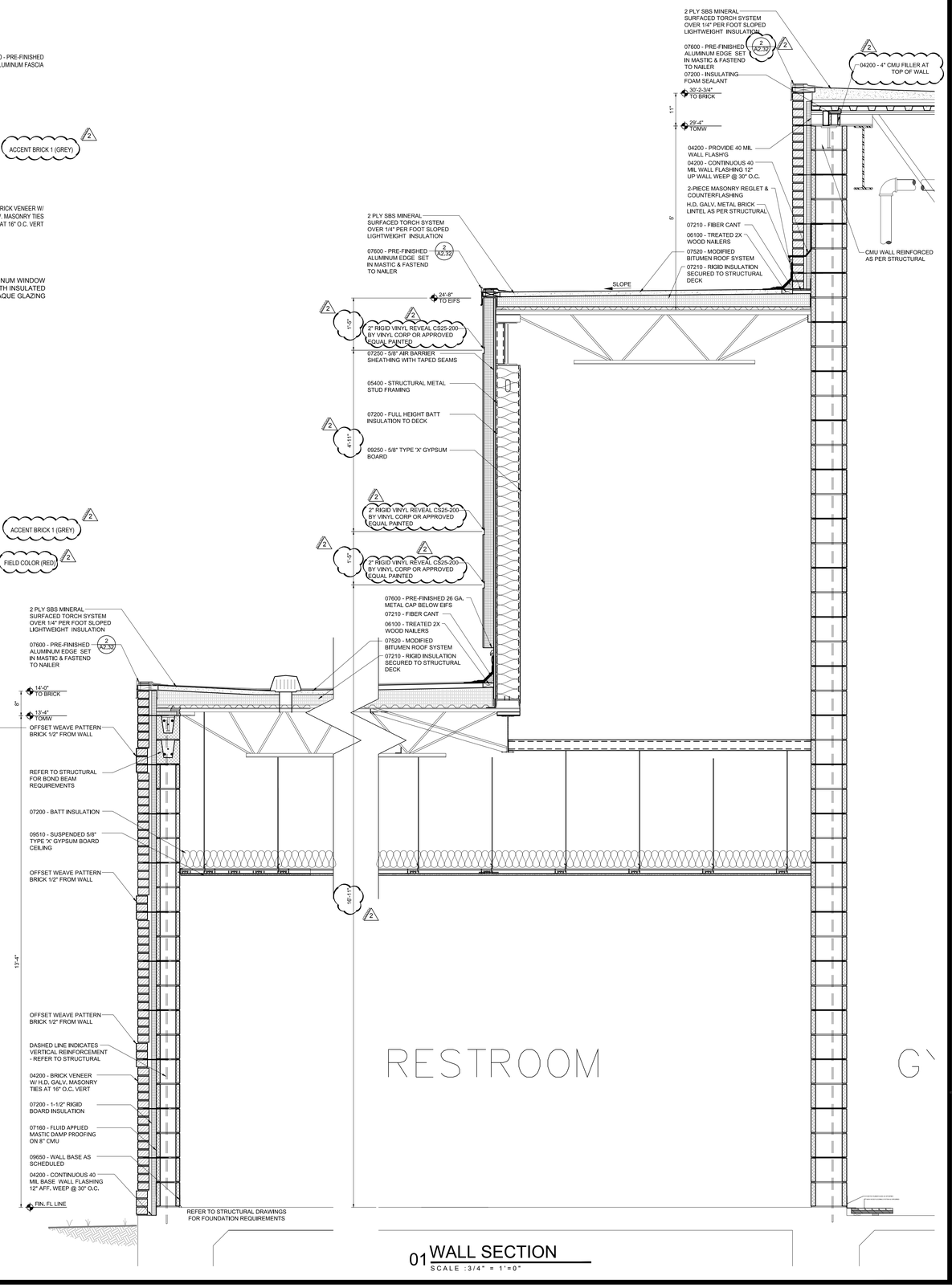
Job No: BISD Hanna Gymnasium
Sheet: A4.05



02 PARTIAL ELEVATION
SCALE : 3/4" = 1'=0"



01 WALL SECTION
SCALE : 3/4" = 1'=0"

No.	REVISIONS	BY
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BISD Hanna ECHS
Gymnasium Facility

REGISTERED ARCHITECT DAVID A. MONREAL 19556 STATE OF TEXAS
6-14-2019

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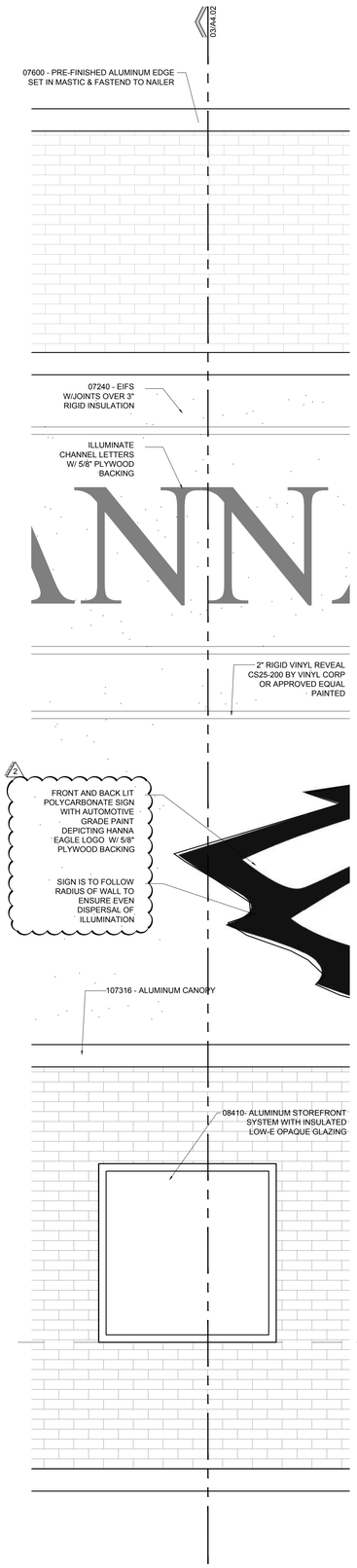
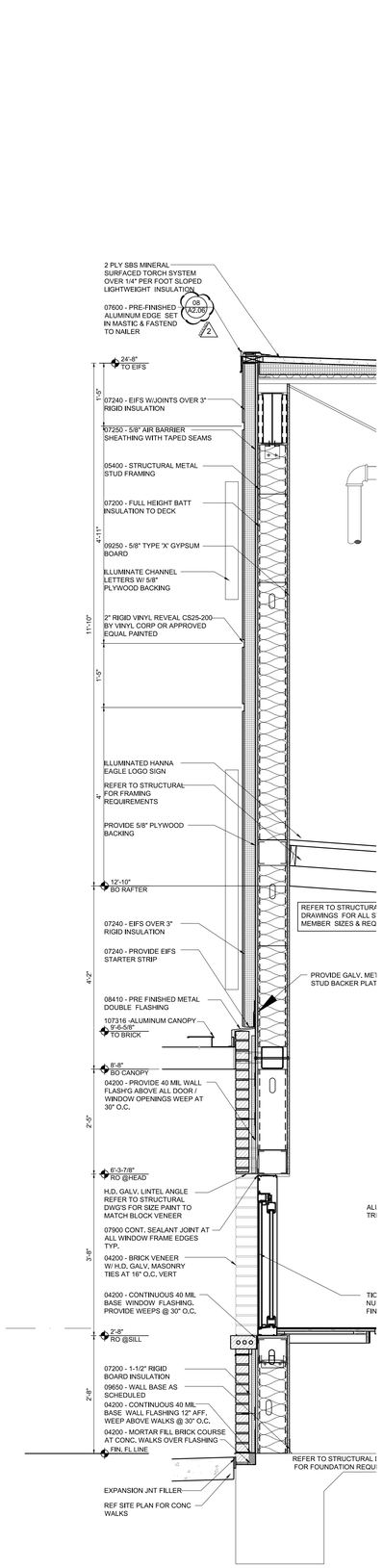
Architects-Planners
Interior Designers

Date: JUNE, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: RB
Job No.: BISD Hanna Gymnasium
Sheet: A4.06

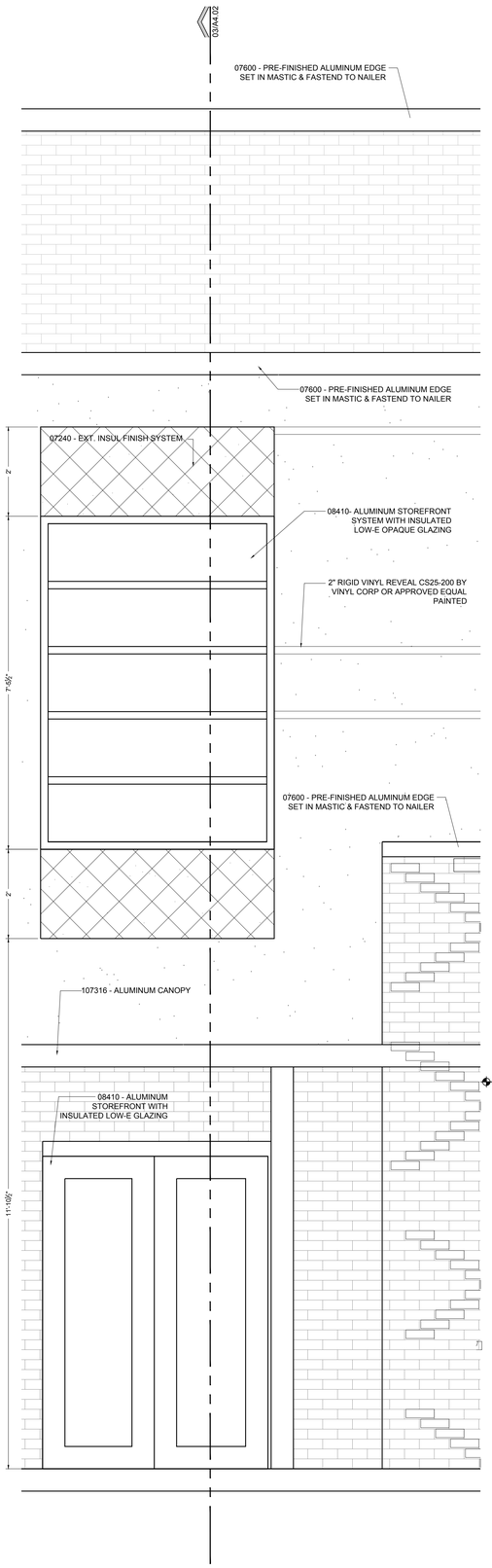
Jul 02, 2019 - 3:25pm\\Gmsserver\2006\B0012717 - BISD Hanna ECHS Gymnasium Facility\Hanna Gym_WS.dwg



04 PARTIAL ELEVATION
SCALE : 3/4" = 1'=0"



03 WALL SECTION
SCALE : 3/4" = 1'=0"



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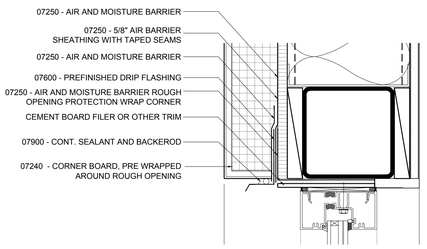

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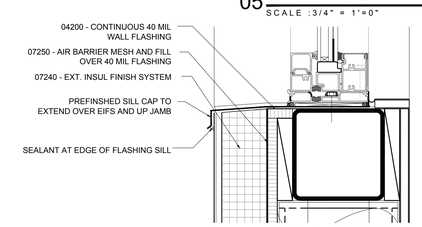

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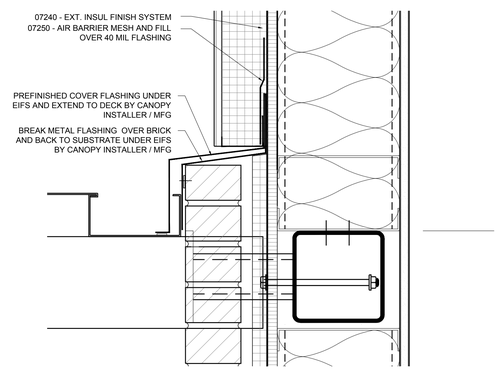

07 WALL SECTION
SCALE : 3/4" = 1'=0"

01 WALL SECTION
SCALE : 3/4" = 1'=0"

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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BISD Hanna ECHS Gymnasium Facility

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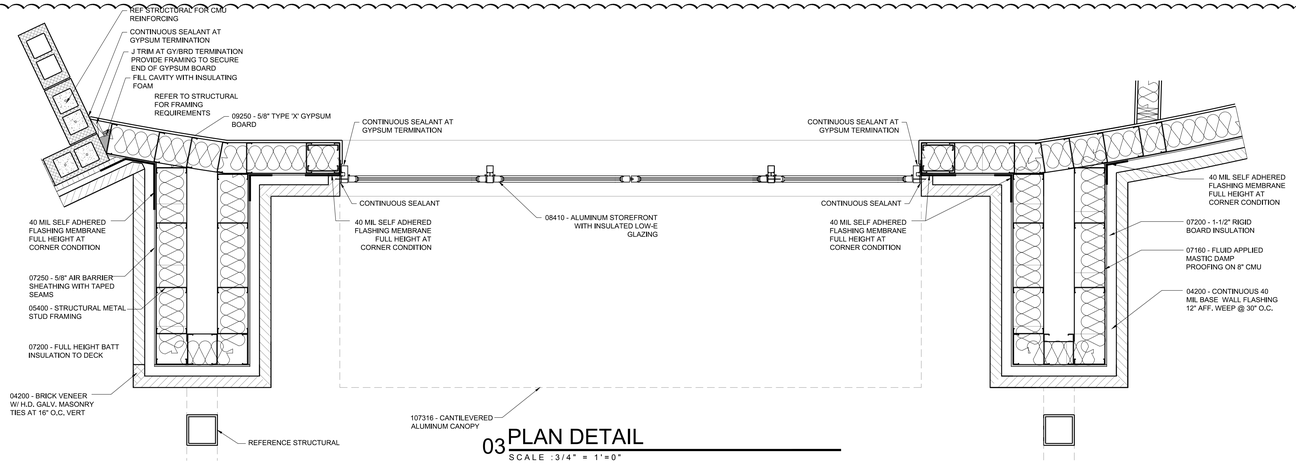

03 PLAN DETAIL
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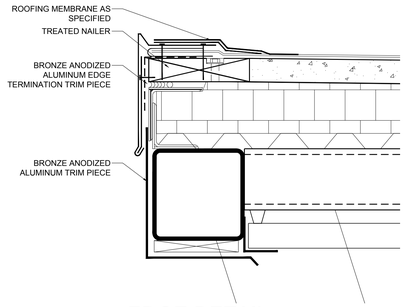

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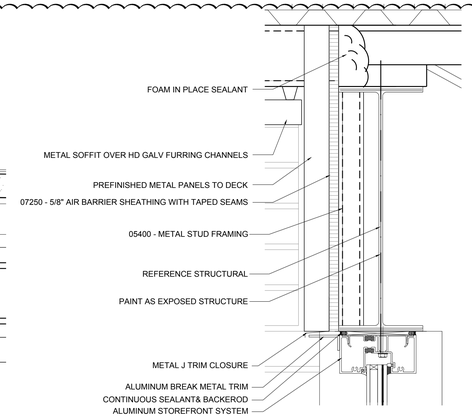
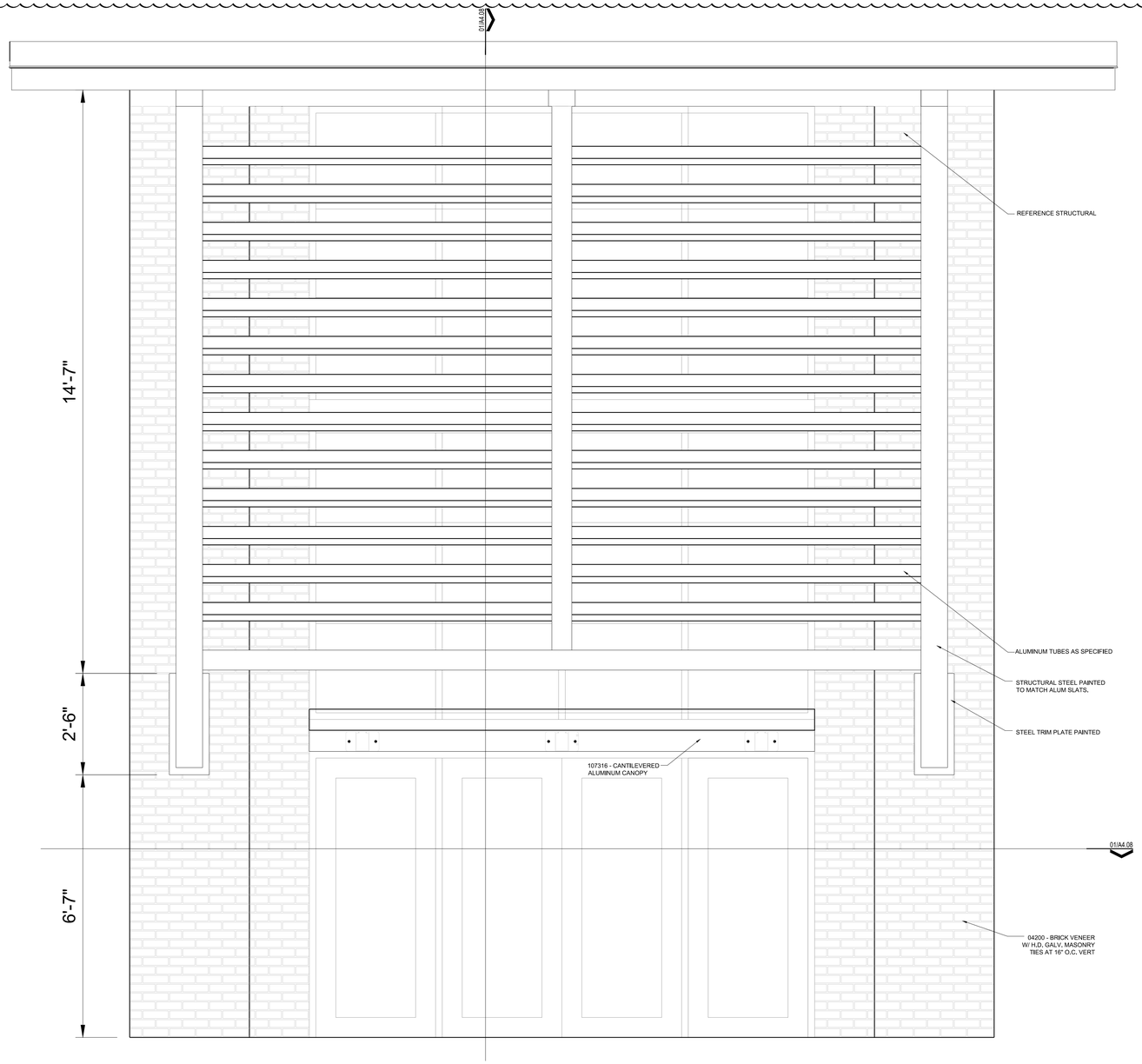


04 HEAD DETAIL
SCALE : 3" = 1'=0"



02 ENTRY ELEVATION
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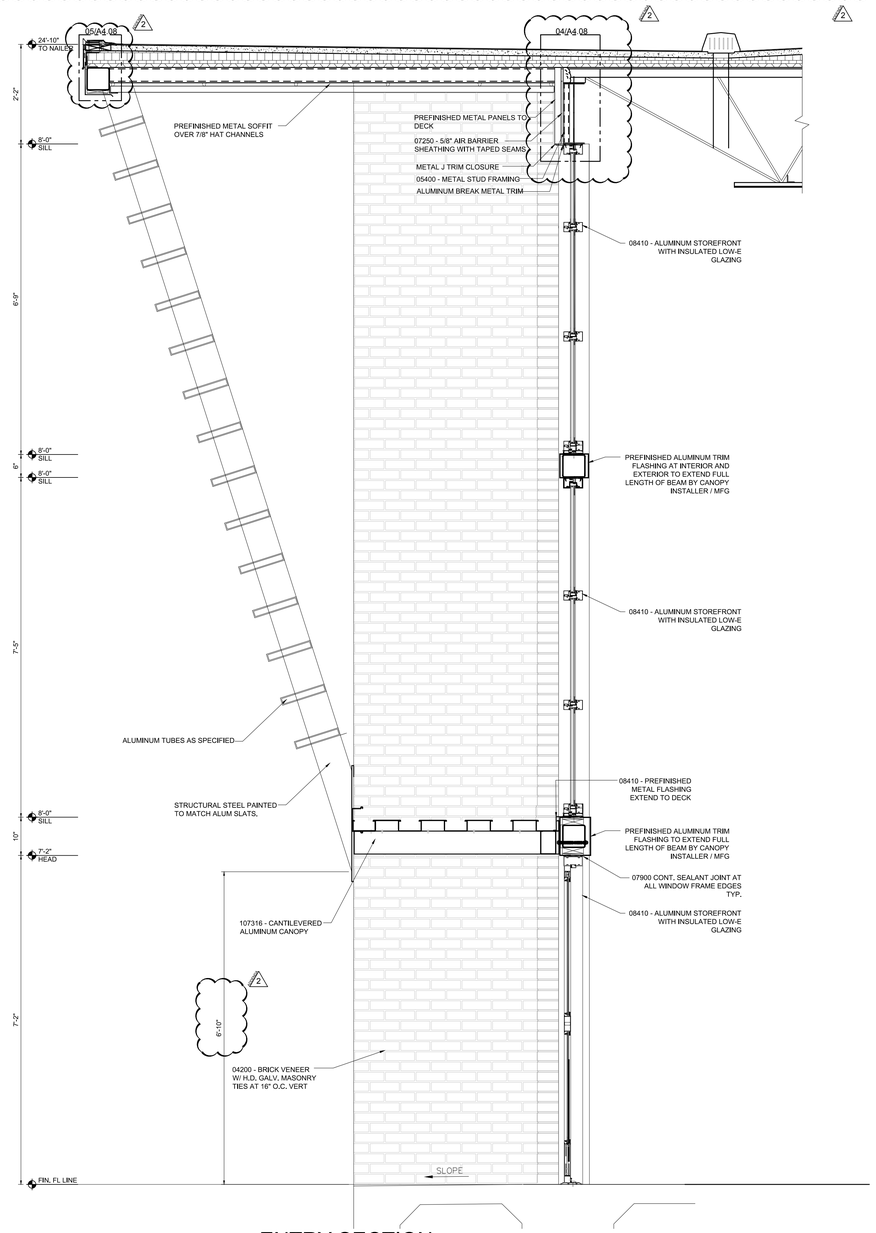

01 ENTRY SECTION
SCALE : 3/4" = 1'=0"

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BISD Hanna ECHS
Gymnasium Facility

REGISTERED ARCHITECT DAVID A. MONREAL 19556 STATE OF TEXAS
6-14-2019

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Job No. BISD Hanna Gymnasium
Sheet:
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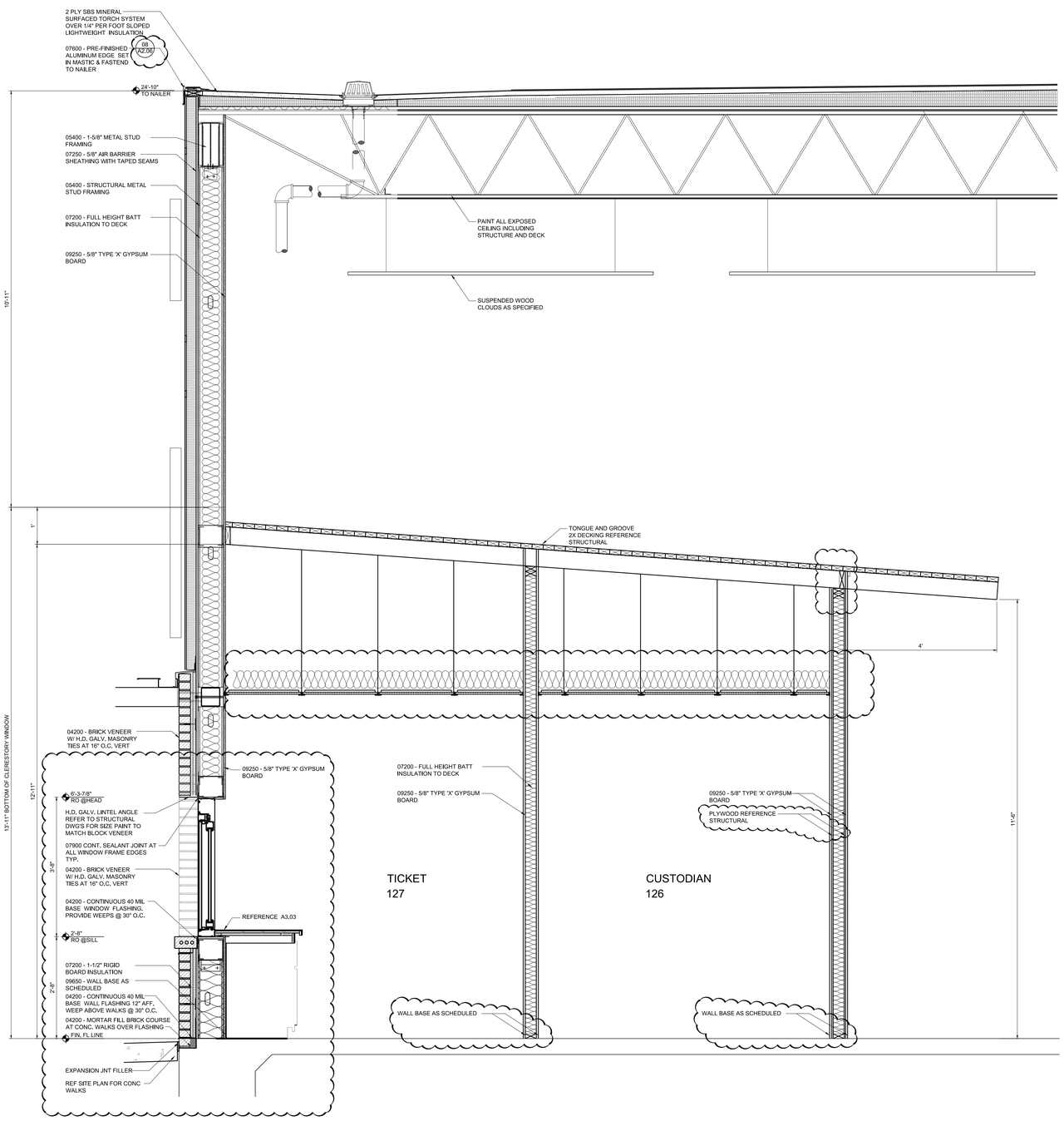

02 CONCESSION SECTION
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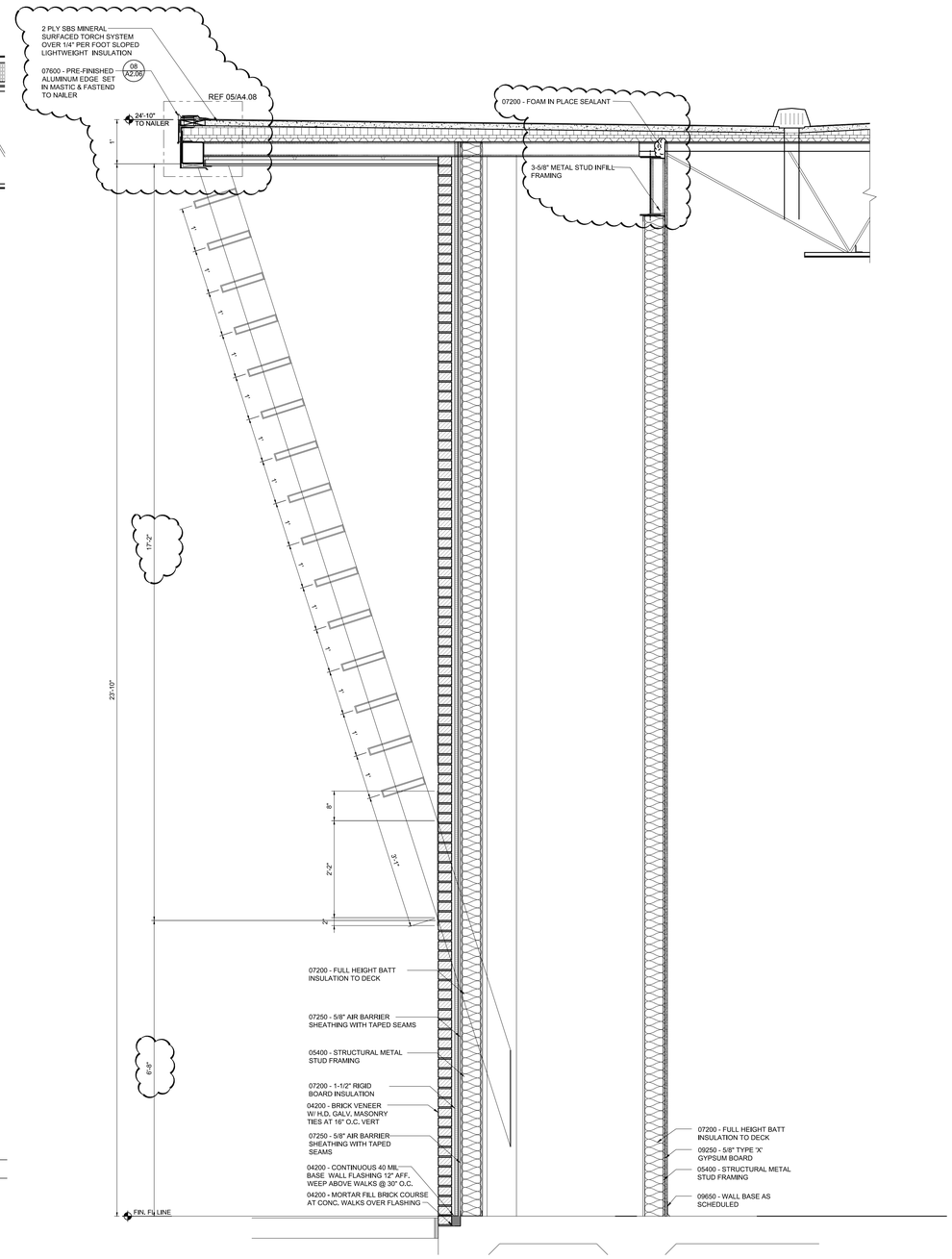

01 ENTRY SECTION
SCALE : 3/4" = 1'=0"

No.	REVISIONS	BY
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BISD Hanna ECHS
Gymnasium Facility

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6-14-2019

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Job No. BISD Hanna Gymnasium
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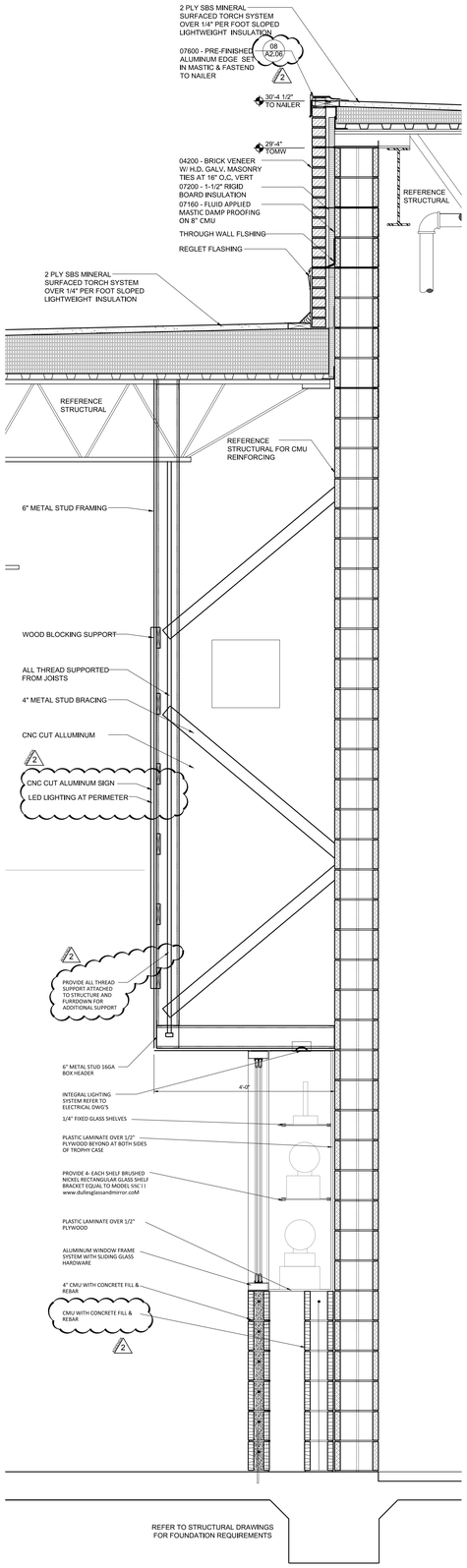
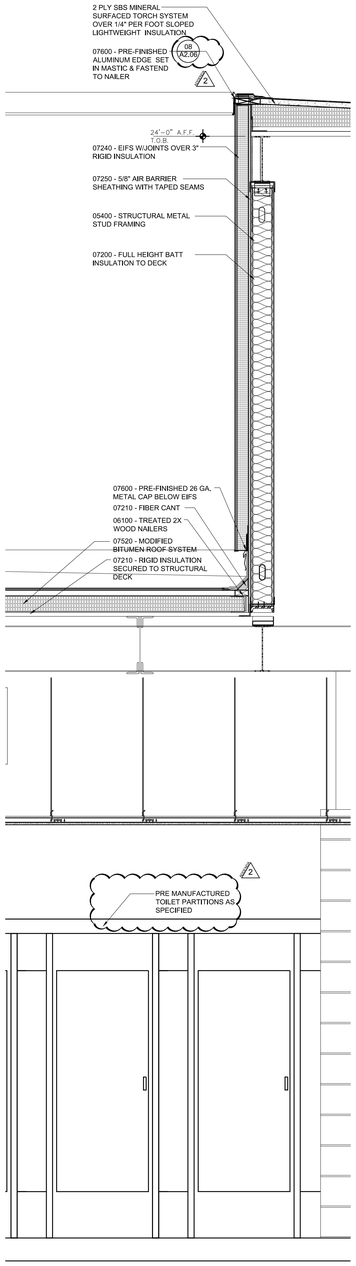


05 WALL SECTION
SCALE : 3/4" = 1'=0"



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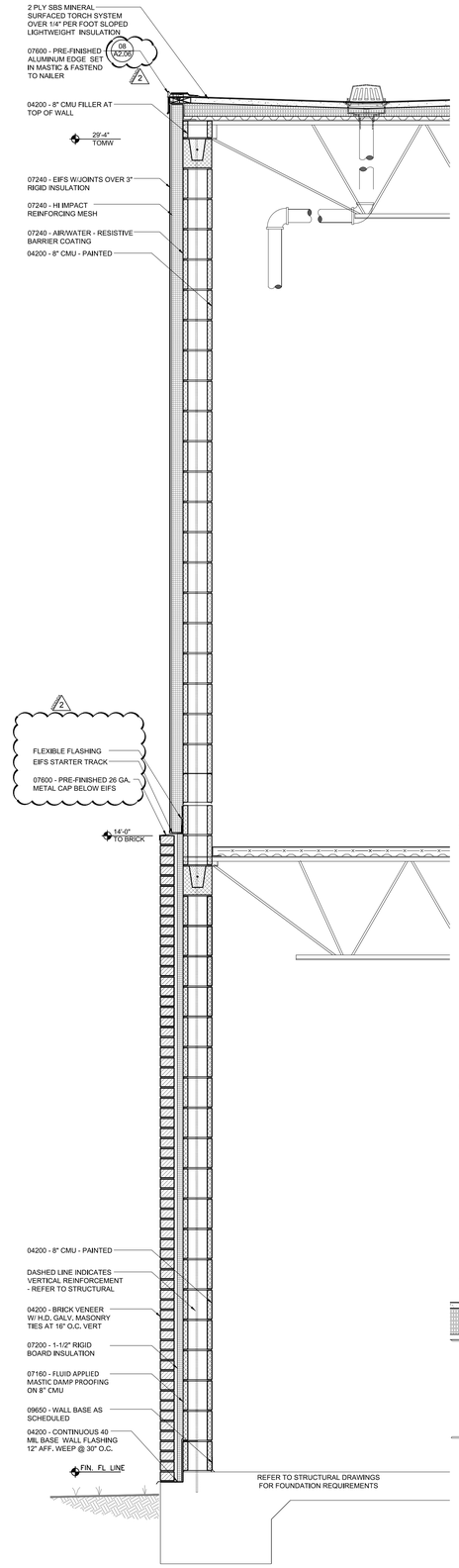

03 WALL SECTION
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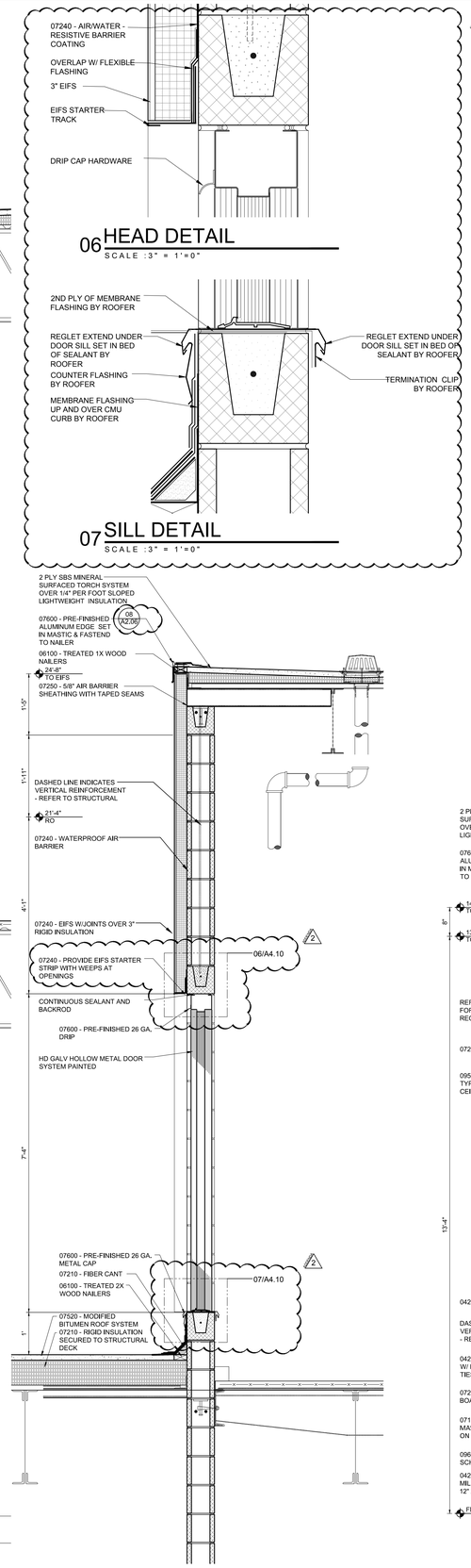
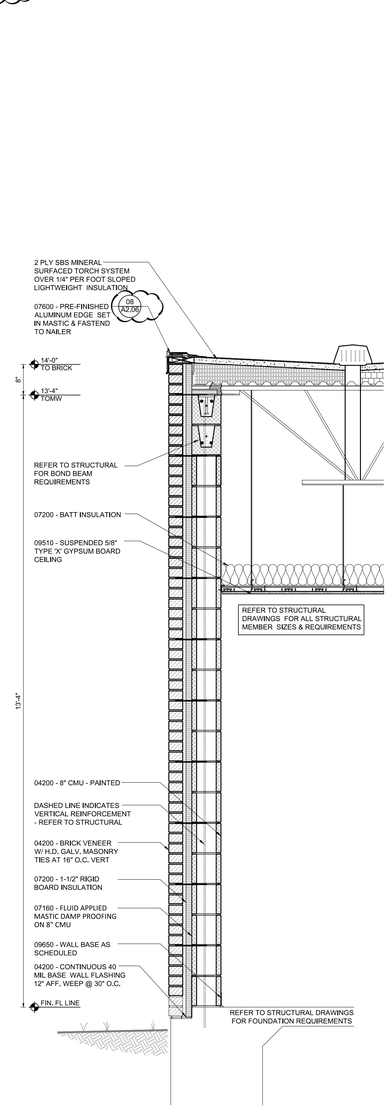


02 WALL SECTION
SCALE : 3/4" = 1'=0"

06 HEAD DETAIL
SCALE : 3" = 1'=0"

07 SILL DETAIL
SCALE : 3" = 1'=0"



01 WALL SECTION
SCALE : 3/4" = 1'=0"

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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6-14-2019

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Date: JUNE, 2019
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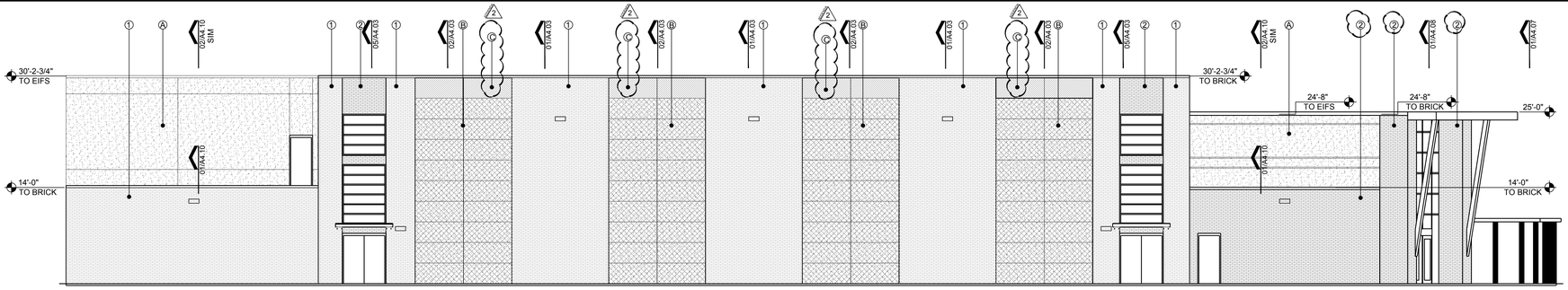
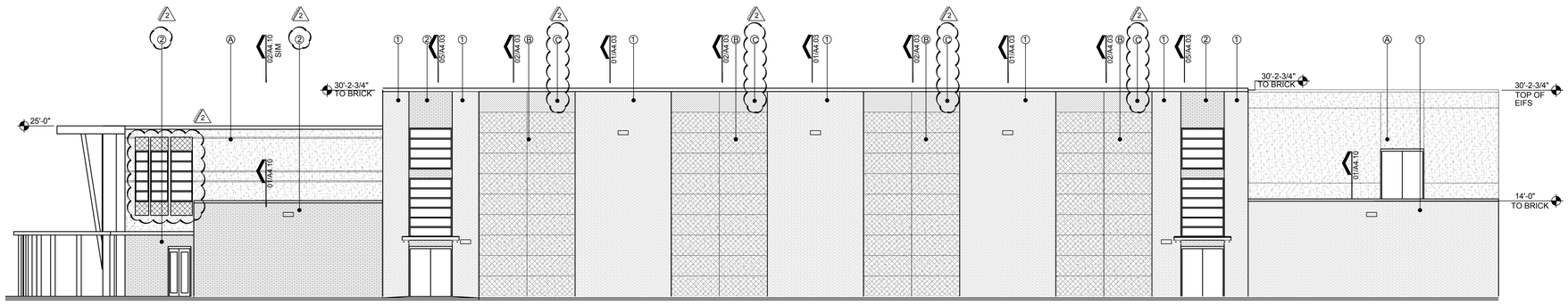
Drawn By: RB
Job No. BISD Hanna Gymnasium
Sheet: A4.10



04 WEST ELEVATION
SCALE : 1/8" = 1'=0"



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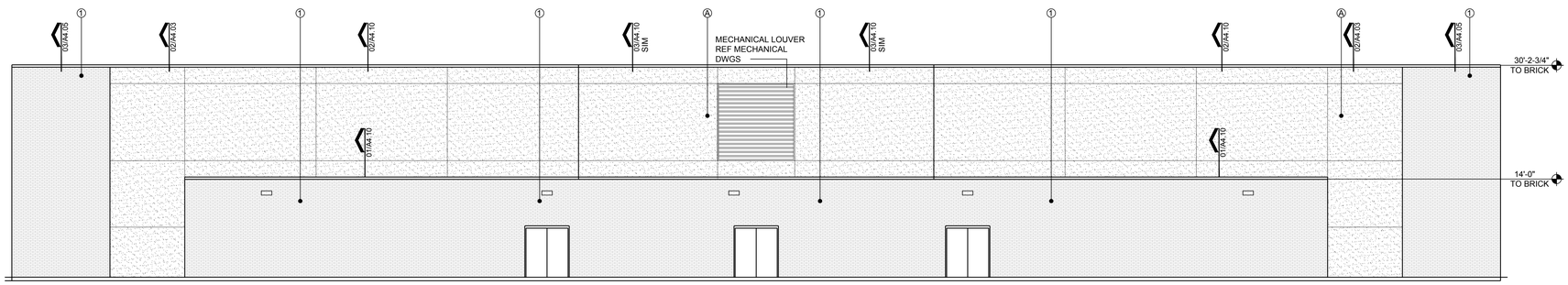
SCALE : 1/8" = 1'=0"



02 SOUTH ELEVATION
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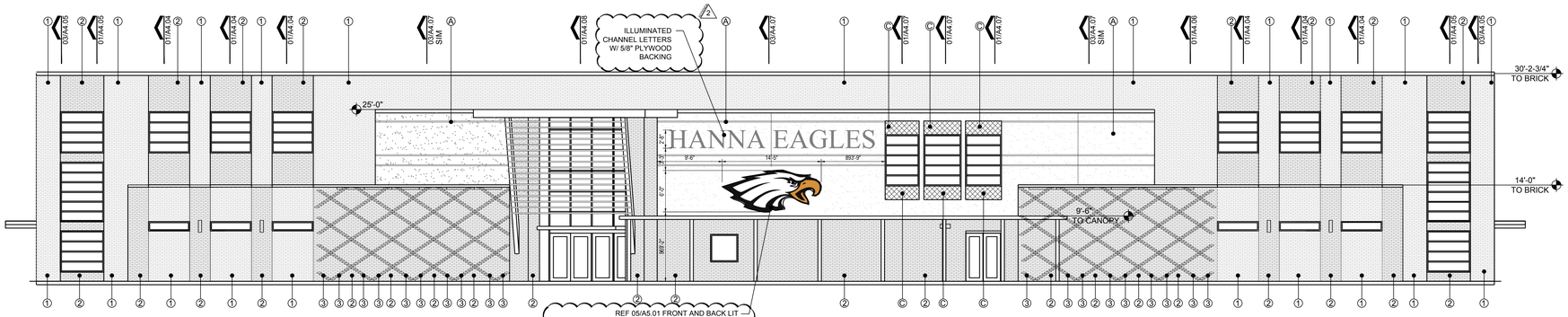


01 NORTH ELEVATION
SCALE : 1/8" = 1'=0"

07240 - EIFS SURFACE
ALLOW FOR ONE FIELD COLOR
& TWO ACCENT COLORS
(COLORS TO BE SELECTED AT A
LATER DATE)
LEGEND

2

Ⓐ 04200 - EIFS FIELD
(BEIGE)

Ⓑ 04200 - EIFS ACCENT 1
(GREY)

Ⓒ 04200 - EIFS ACCENT 2
(GOLD)

04200 - BRICK VENEER
ALLOW FOR ONE FIELD COLOR
& TWO ACCENT COLORS
(COLORS TO BE SELECTED AT
A LATER DATE)

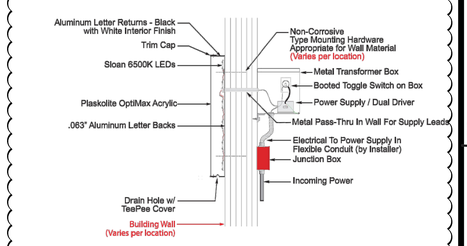
LEGEND

2

① 04200 - BRICK FIELD
(RED)

② 04200 - BRICK ACCENT 1
(GREY)

③ 04200 - BRICK ACCENT 2
(DARK GREY)



SIGNS & MORE
2108 CENTRAL BOULEVARD
BROWNSVILLE, TX. 78520

WEB: signsandmore.us
PHONE: (956)561-7283

05 ILLUMINATED CHANNEL LETTERS
NOT TO SCALE — LETTERS AND LOGOS TO USE AUTOMOTIVE PAINT

No.	REVISIONS	BY
2	ADDENDA 2 7-2-2019	

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BISD Hanna ECHS
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6-14-2019

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Project Architect: David Monneal, AIA
Drawn By: RB
Job No. BISD Hanna Gymnasium
Sheet: A5.01

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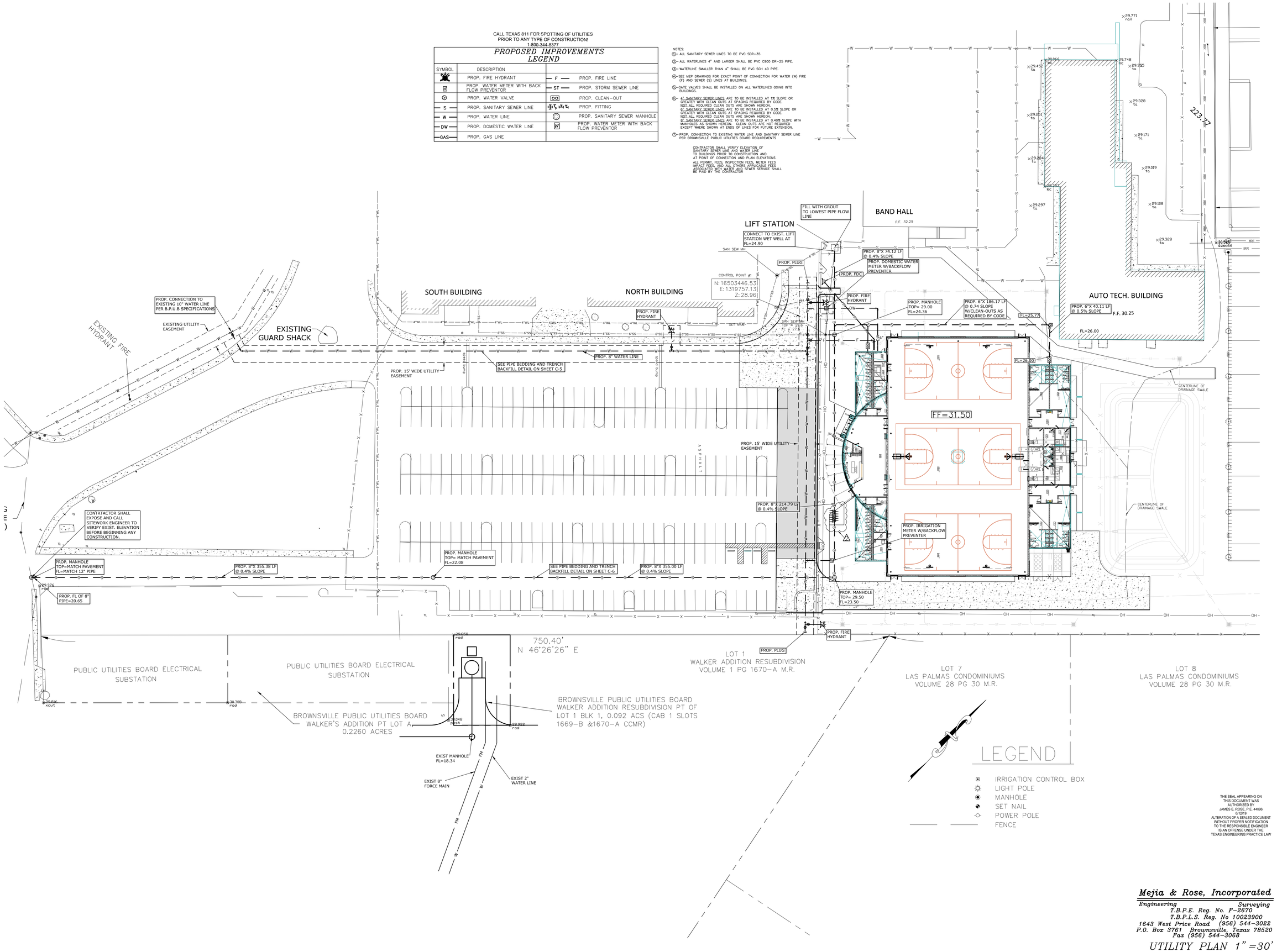
CALL TEXAS 811 FOR SPOTTING OF UTILITIES
PRIOR TO ANY TYPE OF CONSTRUCTION!
1-800-344-8377

PROPOSED IMPROVEMENTS LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PROP. FIRE HYDRANT	— F —	PROP. FIRE LINE
	PROP. WATER METER WITH BACK FLOW PREVENTOR	— ST —	PROP. STORM SEWER LINE
	PROP. WATER VALVE		PROP. CLEAN-OUT
— S —	PROP. SANITARY SEWER LINE		PROP. FITTING
— W —	PROP. WATER LINE		PROP. SANITARY SEWER MANHOLE
— DW —	PROP. DOMESTIC WATER LINE		PROP. WATER METER WITH BACK FLOW PREVENTOR
— GAS —	PROP. GAS LINE		

NOTES:
1- ALL SANITARY SEWER LINES TO BE PVC SDR-35
2- ALL WATERLINES 4" AND LARGER SHALL BE PVC C900 DR-25 PIPE.
3- WATERLINE SMALLER THAN 4" SHALL BE PVC SCH 40 PIPE.
4- SEE MEP DRAWINGS FOR EXACT POINT OF CONNECTION FOR WATER (W) FIRE (F) AND SEWER (S) LINES AT BUILDINGS.
5- GATE VALVES SHALL BE INSTALLED ON ALL WATERLINES GOING INTO BUILDINGS.
6- 4" SANITARY SEWER LINES ARE TO BE INSTALLED AT 1% SLOPE OR GREATER WITH CLEAN OUTS AT SPACING REQUIRED BY CODE. NOT ALL REQUIRED CLEAN OUTS ARE SHOWN HEREON. 6" SANITARY SEWER LINES ARE TO BE INSTALLED AT 0.5% SLOPE OR GREATER WITH CLEAN OUTS AT SPACING REQUIRED BY CODE. NOT ALL REQUIRED CLEAN OUTS ARE SHOWN HEREON. 8" SANITARY SEWER LINES ARE TO BE INSTALLED AT 0.40% SLOPE WITH MANHOLES AS SHOWN HEREON. CLEAN OUTS ARE NOT REQUIRED EXCEPT WHERE SHOWN AT ENDS OF LINES FOR FUTURE EXTENSION.
7- PROP. CONNECTION TO EXISTING WATER LINE AND SANITARY SEWER LINE PER BROWNSVILLE PUBLIC UTILITIES BOARD REQUIREMENTS

CONTRACTOR SHALL VERIFY ELEVATION OF SANITARY SEWER LINE AND WATER LINE TO BUILDINGS PRIOR TO CONSTRUCTION AND AT POINT OF CONNECTION AND PLAN ELEVATIONS
ALL PERMIT, FEES, INSPECTION FEES, METER FEES IMPACT FEES, AND ALL OTHERS APPLICABLE FEES ASSOCIATED WITH WATER AND SEWER SERVICE SHALL BE PAID BY THE CONTRACTOR



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STATE OF TEXAS
JAMES E. ROSE
44096
LICENSED PROFESSIONAL ENGINEER

Mejia & Rose, Incorporated
Engineering Surveying
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T.B.P.L.S. Reg. No 10023900
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P.O. Box 3761 Brownsville, Texas 78520
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UTILITY PLAN 1"=30'

No.	REVISIONS	BY
1	6-27-19	M&R

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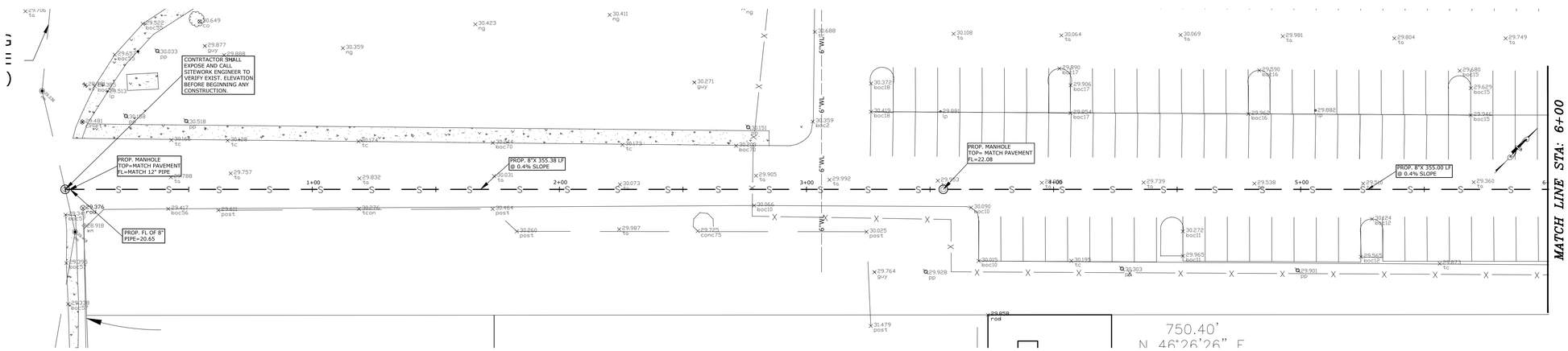
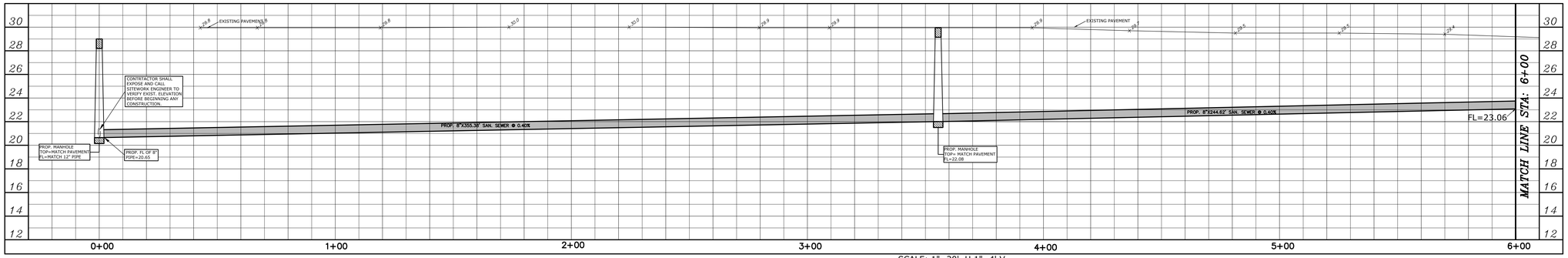
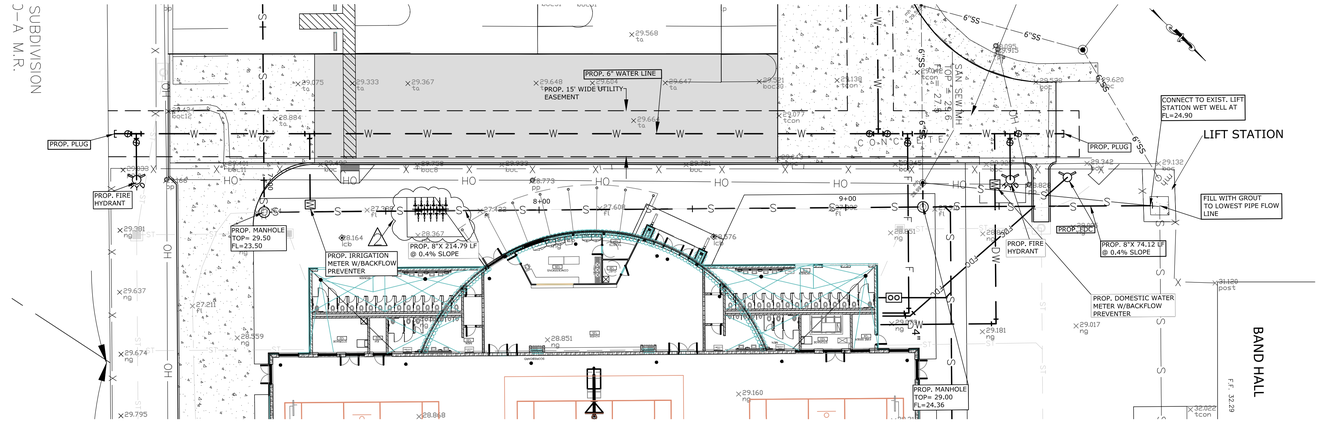
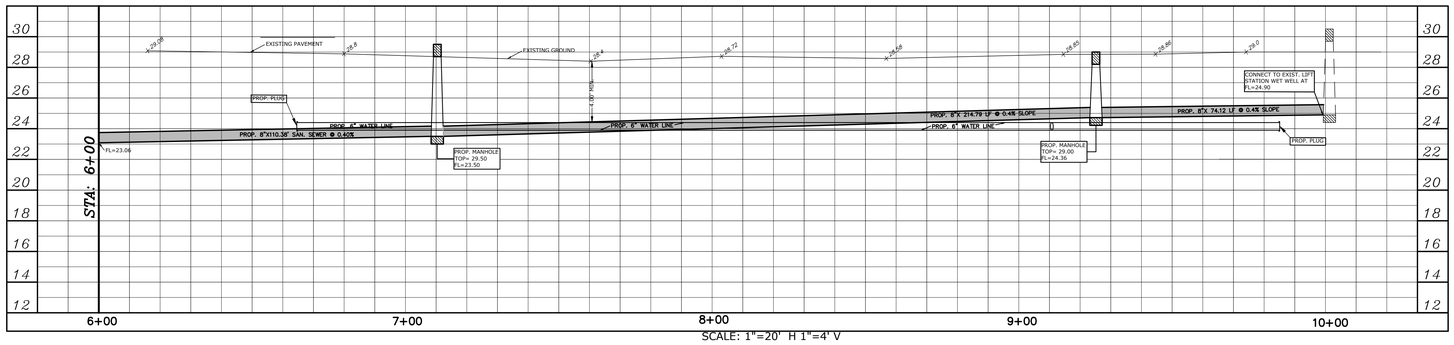
Job No.: BISD Hanna Gymnasium
Sheet: C-2 OF C-7





SCALE: 1"=20' H 1"=4' V





SCALE: 1"=20' H 1"=4' V

No.	REVISIONS	BY
1	6-27-19	M&R

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STATE OF TEXAS
JAMES E. ROSE
44096
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Drawn By:	
Job No.	BISD Hanna Gymnasium
Sheet:	C-2.1 OF C-7

Mejia & Rose, Incorporated
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1643 West Price Road (956) 544-3022
P.O. Box 3761 Brownsville, Texas 78520
Fax (956) 544-3068

UTILITY PROFILE 1"=20'

25 YEAR STORM

PRE-DEVELOPMENT RUNOFF RATE (Q=DA)

Reach	Time of Conc. (min.)	Intensity (In/hr)	Area (acre)	Runoff Coef. C	Discharge Q (cfs)
Overall	50	3.20	21.268	0.27	18.46

DETENTION CALCULATION SHEET

TOTAL TRIBUTARY AREA:	4.00	acres
DEVELOPED RUNOFF COEFFICIENT:	0.84	
RELEASE RATE:	5.94	cfs
STORAGE VOLUME DETERMINATION:	0.597	acre-ft

RUNOFF FACTOR C	STORM DURATION T (hr.)	RAINFALL INTENSITY I (In/hr)	DRAINAGE AREA A (acres)	INFLOW RATE Q=CIA (cfs)	RELEASE RATE QO (cfs)	STORAGE RATE Q1-QO (cfs)	STORAGE RATE 1/12(Q1-QO)(T) (acre-ft.)
0.84	0.17	7.90	4.000	26.54	5.94	20.60	0.292
0.84	0.33	6.50	4.000	21.84	5.94	15.90	0.437
0.84	0.50	5.50	4.000	18.48	5.94	12.54	0.523
0.84	0.67	4.85	4.000	16.30	5.94	10.36	0.578
0.84	0.83	4.25	4.000	14.28	5.94	8.34	0.577
0.84	1.00	3.90	4.000	13.10	5.94	7.16	0.597
0.84	1.50	3.00	4.000	10.08	5.94	4.14	0.345
0.84	2.00	2.50	4.000	8.40	5.94	2.46	0.246
0.84	3.00	2.10	4.000	7.22	5.94	1.28	0.179
0.84	4.00	1.80	4.000	6.05	5.94	0.11	0.036
0.84	5.00	1.55	4.000	5.21	5.94	−0.73	−0.305
0.84	6.00	1.40	4.000	4.70	5.94	−1.24	−0.618
0.84	7.00	1.10	4.000	3.70	5.94	−2.24	−1.309
0.84	8.00	0.85	4.000	2.86	5.94	−3.08	−2.056
0.84	9.00	0.80	4.000	2.69	5.94	−3.25	−2.439
0.84	10.00	0.74	4.000	2.49	5.94	−3.45	−2.875

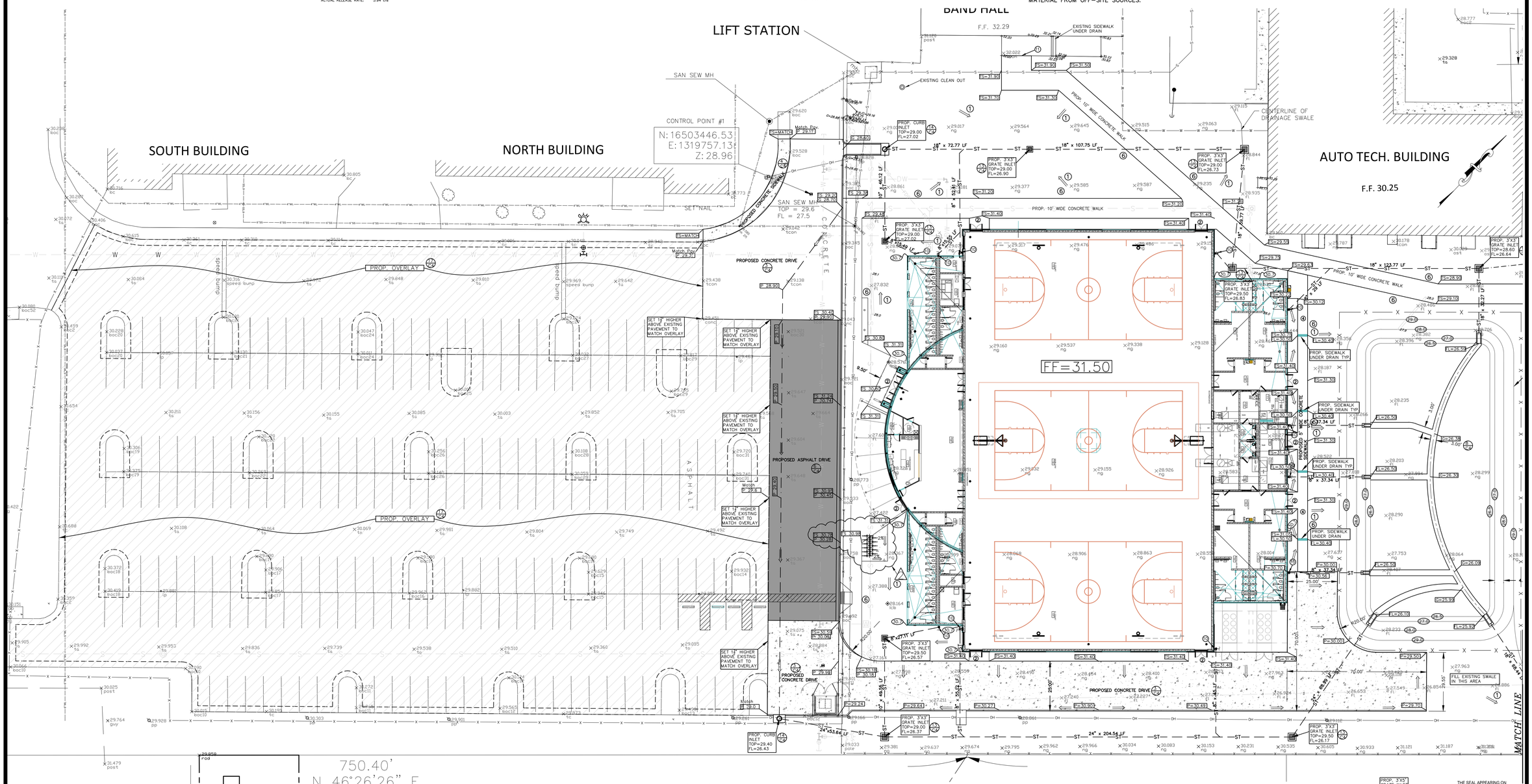
TOTAL VOLUME REQUIRED= 26,005 cu. ft.
TOTAL VOLUME PROVIDED= 33,898.5 cu. ft.
ACTUAL RELEASE RATE: 5.94 cfs

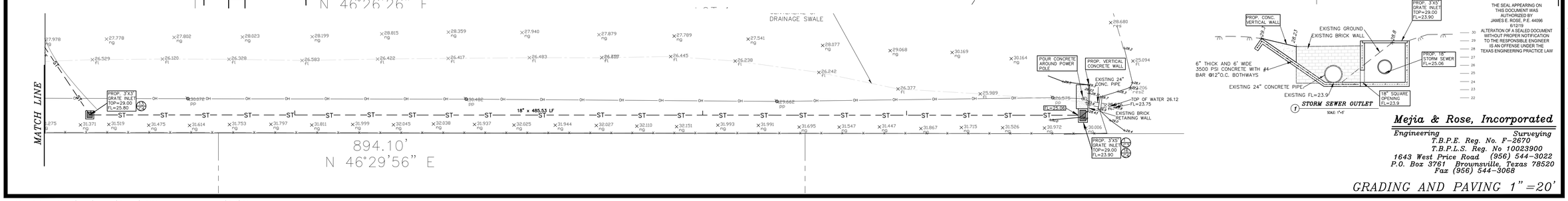
GRADING PLAN NOTES

1. GRADE ALL AREAS (SMOOTH AND FINELY GRADED AS NEEDED TO RECIEVE HYDROMULCHING OR SOD) TO DRAIN TO THE NEAREST DRAINAGE OUTLET OR SWALE
2. SIDEWALK TO MATCH FINISHED FLOOR OR DOORWAYS. SLOPE AWAY FROM BUILDING @ 2% SLOPE
3. ALL DEBRIS AND EXCESS EARTH MATERIAL GENERATED BY THE SITEWORK OPERATIONS WILL BECOME PROPERTY OF THE CONTRACTOR TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED AT HIS EXPENSE.
4. NO SIDEWALKS SHALL HAVE A CROSS SLOPE GREATER THAN 2% OR LONGITUDINAL SLOPE GREATER THAN 5%.
5. EXCEPT WHERE SPECIFICALLY SHOWN ON PLANS. STORM SEWER PIPE 12" TO 60" DIAMETER SHALL BE: REINFORCED CONCRETE PIPE (CLIII RUBBER GASKETED) OR ADS HP HIGH PERFORMANCE POLYPROPYLENE PIPE WITH WATER TIGHT FITTINGS. STORM SEWER PIPE 4" TO 10" DIAMETER SHALL BE: CORRUGATED POLYETHYLENE PIPE SMOOTH INTERIOR ADS N-12 HQ PIPE WITH WATER TIGHT FITTINGS OR APPROVED EQUAL MEETING AASHTO DESIGNATION M252-921 OR PVC SDR 35 PIPE. ALL STORM SEWER PIPE SHALL BE BEDDED IN SAND, SAME AS SANITARY SEWER AND WATER LINE PIPE.
6. BACKFILL ALL CURB & GUTTER, PAVEMENT EDGES AND SIDEWALKS TO 3" BELOW TOP OF CURB OR SIDEWALK AND SLOPE TO EXISTING GROUND AT 10 TO 1.
7. NO IRRIGATION SPRINKLER HEADS OR PIPING SHALL BE INSTALLED IN ANY AREA UNTILL FINAL GRADING IN THAT AREA HAS BEEN COMPLETED AND APPROVED BY SITEWORK ENGINEER.
8. SAW CUT EXISTING ASPHALT IN A NEAT STRAIGHT LINE
9. MATCH EXISTING ASPHALT
10. PROP. CONNECTION TO ROOF DRAIN
11. PROP. DRILL 6" DEEP INTO EXISTING WALK AT 12" O.C. AND INSERT #3 BAR X 18" LONG.
12. IN THE EVENT THAT ON-SITE EXCAVATION DOES NOT GENERATE ENOUGH MATERIAL TO ACHIEVE THE PROPOSED GRADING PLAN, THE CONTRACTOR SHALL PROVIDE AT HIS EXPENSE APPROVED SOIL MATERIAL FROM OFF-SITE SOURCES.

LEGEND

- INDICATES PROPOSED GROUND SURFACE SPOT ELEVATION
- INDICATES PROPOSED DIRECTION OF GRADE
- INDICATES SIDEWALK TRENCH UNDER DRAIN
- INDICATES PROPOSED SWALE
- 27.5 — INDICATES TYPICAL PROPOSED FINISHED GROUND SURFACE CONTOUR
- TC 25.75 INDICATES PROPOSED TOP OF CURB ELEV.
- TS 25.85 INDICATES PROPOSED TOP OF SIDEWALK ELEV.
- P 25.75 INDICATES PROPOSED PAVEMENT ELEVATION
- G 25.75 INDICATES PROPOSED GUTTER ELEVATION





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GRADING AND PAVING 1"=20'

No.	REVISIONS	BY
1	6-27-19	M&R

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BISD Hanna ECHS Gymnasium Facility

STATE OF TEXAS
JAMES E. ROSE
44096
LICENSED
PROFESSIONAL ENGINEER

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Gomez Mendez Saenz Inc.
Architects-Planners
Interior Designers

Date: June, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By:
Job No.: BISD Hanna Gymnasium
Sheet: C-3 OF C-7

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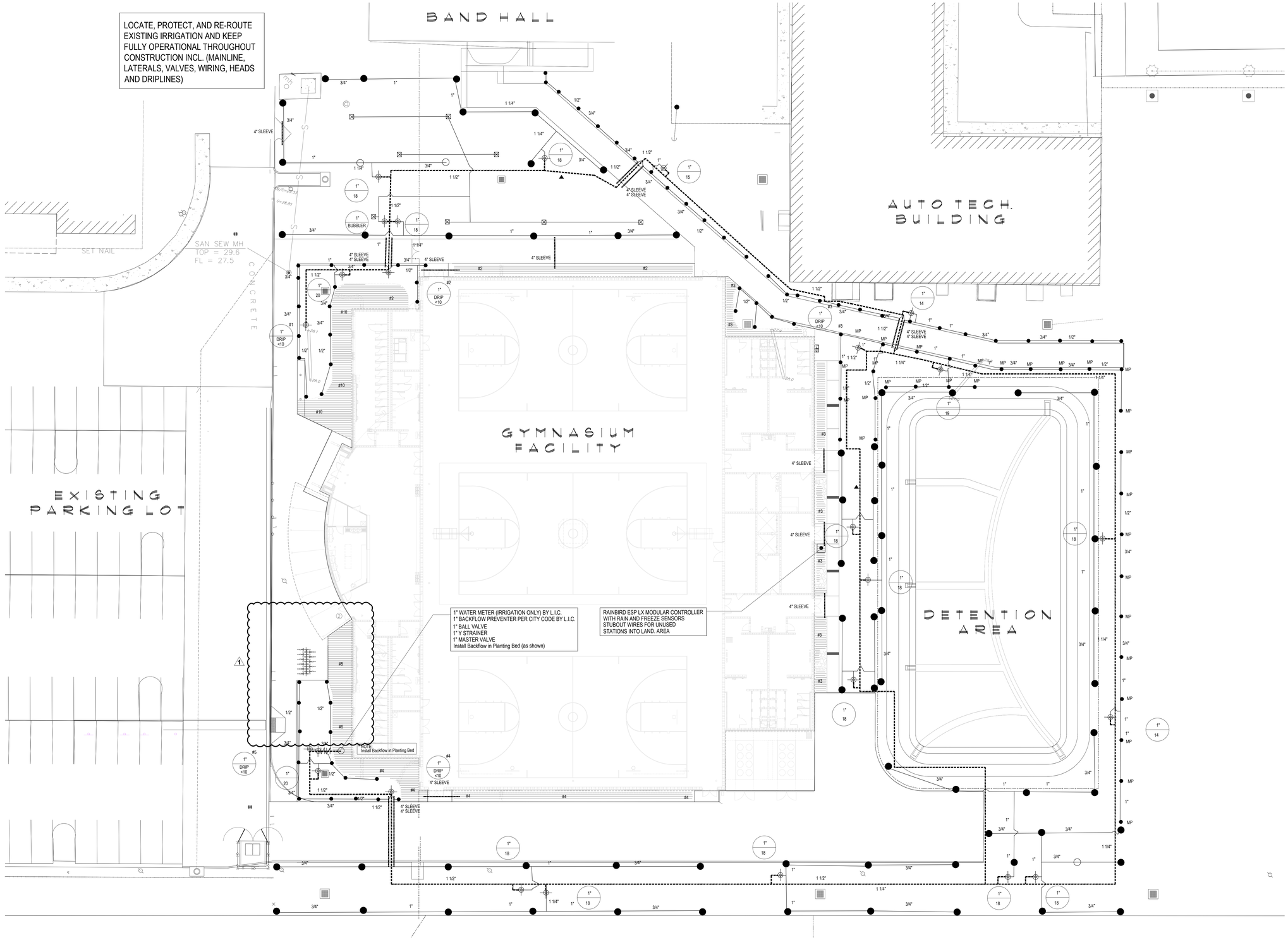

IRRIGATION LEGEND

MP●	RAINBIRD R-VAN SERIES ROTARY NO□□LE
⊠	RAINBIRD 1404 BUBBLER HEAD
●	RAINBIRD 5000 PC
○	RAINBIRD 5000 FC
	RAINBIRD PEB SERIES ELECTRIC VALVE
▲	RAINBIRD □UICK COUPLER VALVE (33-DLRC)
	CONTROLLER (ESP-LX) RAINBIRD WIRELESS RAIN/FREE□E SENSOR
	WATER METER (AS SI□ED)
	BACKFLOW PREVENTER (AS SI□ED)
	CLASS 200 PVC LATERAL PIPING
	CLASS 200 PVC MAINLINE
	SCH. 40 PVC SLEEVING (AS SI□ED)
	VALVE SI□E
	GPM
DRIPLINE (BED)	RAINBIRD DRIPLINE XFS (18" LATERAL SPACING, 12" EMITER SPACING) XF SERIES TIE DOWN STAKES (TDS-050) □ 36" O.C. & TWO ON EACH TEE/ELBOW PVC LATERAL PIPING SI□ED AS RE□UIRED RAINBIRD DRIP CONTROL □ONE KIT SC□-100-PRB-COM (EACH DRIP □ONE) 1" BALL VALVE WITH REGULATED PRESSURE AND 200 MESH FILTRATION (1) DRIP SYSTEM OPERATION INDICATOR (OPERIND) PER IRRIGATION □ONE

INSTALL ALL E□UIPMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS.

SLEEVING NOTES

1. Irrigation Contractor shall supply and install sleeves and conduits at twenty-four (24") inches below finish grade of the top of pavement. Bore as re□uired.
2. Irrigation Contractor shall extend sleeves one (1') foot beyond edge of all pavement.
3. Irrigation Contractor shall cap pipe ends using PVC caps.
4. All sleeves shall be Schedule 40 PVC pipe.
5. ALL sleeves shall be bored under existing pavement.

IRRIGATION PLAN
SCALE: 1/16" = 1'-0"

No.	REVISIONS	BY
1	ADDENDUM #2 6/27/19	

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BISD Hanna ECHS Gymnasium Facility

6/12/19

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Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: YM
Job No. BISD Hanna Gymnasium
Sheet: L1.01

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PLANT SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	TYPE	SIZE	SPACING	QTY
	PALMS					
WASH	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	B/B	15-20' TRUNK	A.S.	7
WILD	PHOENIX SYLVESTRIS	WILD DATE PALM	B/B	8-10' TRUNK	A.S.	2
	TREES					
LAUR	SOPHORA SECUNDIFLORA	MOUNTAIN LAUREL (CONT. GRN)	24" BOX	MULTI-TRUNK - 6'-0" HT	A.S.	5
LIVE	QUERCUS VIRGINIANA	LIVE OAK (CONTAINER GROWN)	24" BOX	2-3" CAL. 11' HT x 6' W	A.S.	1
MESQ	PROSOPIS GLANDULOSA	HONEY MESQUITE	B/B	2-3" CAL.	A.S.	3
ORCH	BAUHINA BLAKEANA	'HONG KONG' ORCHID TREE	30 GAL	3-4" CAL. 10'H x 5'W	A.S.	3
SYCA	PLATANUS MEXICANA	MEXICAN SYCAMORE	B/B	3" CAL. - 10'H x 6'W	A.S.	4
	SHRUBS					
BIRD	STRELITZIA REGINAE	BIRD OF PARADISE	15 GAL	20-25 CANES	A.S.	4
IRIS	DIETES IRIDIOIDES	WHITE AFRICAN IRIS	3 GAL	18"HT-BUSHY	18" O.C.	48
	GROUND COVERS					
BLUE	RUELLIA SQUARROSA	BLUE SHADE RUELLIA	1 GAL		12" O.C.	271
JASM	TRACH. ASIATICUM	ASIAN JASMINE	1 GAL		12" O.C.	824
WEDL	WEDELIA TRILOBATA	WEDELIA	4" POTS		A.S.	512
	GRASS					
HYDRO	CYNODON DACTYLON	COMMON BERMUDA HYDROMULCH				20,300 S.F.
HYDRO*	CYNODON DACTYLON	COMMON BERMUDA HYDROMULCH (WITH TACKIFIER)				14,400 S.F.
SOD	CYNODON DACTYLON	# 1 CERTIFIED '419' HYBRID BERMUDA SOD				1,500 S.Y.

NOTE: CONTAINER GROWN MATERIAL SHALL BE GLEN FLORA FARMS OR APPROVED EQUAL.

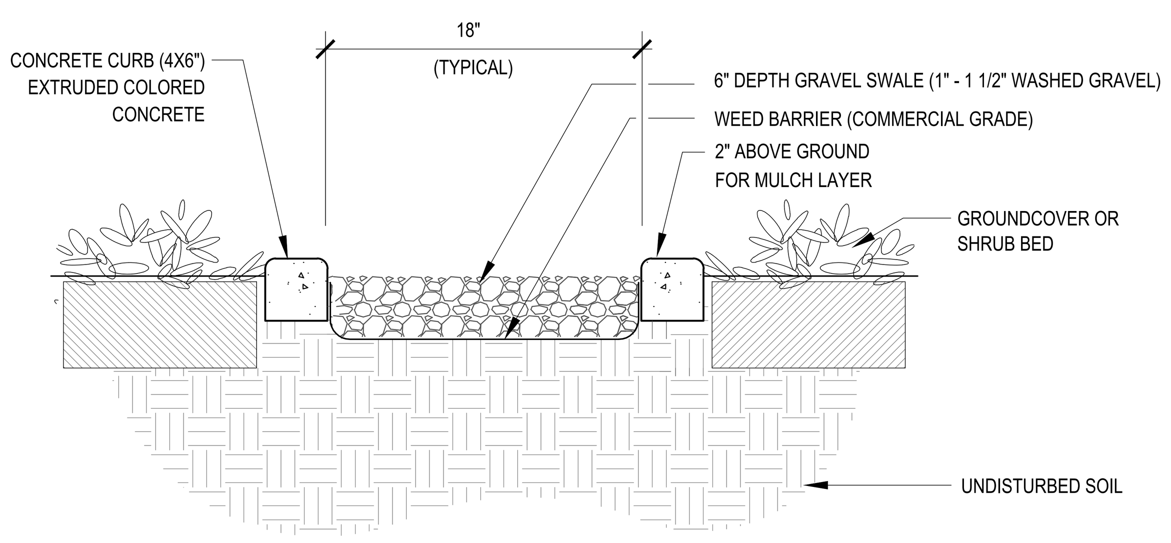
MATERIAL SCHEDULE

DESCRIPTION	NOTES	QUANTITY
PREMIUM COMPOST	2" LAYER PREMIUM COMPOST (EARTHWISE ORGANICS MIX)	18 C.Y.
SCREENED TOP SOIL	8" FOR ALL PLANTING BEDS	83 C.Y.
MULCH (HARDWOOD)	2" MIN. FOR ALL PLANTING BEDS AND WATERING BASINS (TEXAS NATIVES HARDWOOD)	306 BAGS (2 C.F.)
HERBICIDE	ALL PLANTING BED AREAS AS SPECIFIED	3,400 S.F.
FERTILIZER	ALL PLANT MATERIAL PER DETAILS	3,400 S.F.
PLANTING TABLETS	PER DETAILS / AS SPECIFIED	--
PRE-EMERGENT	ALL PLANTING BED AREAS AS SPECIFIED	3,400 S.F.
GUYING / STAKING	ALL TREES/PALMS PER DETAILS	--
CONCRETE EDGE	6" x 4" EXTRUDED COLORED CONCRETE EDGING 'TEXAS BUFF' COLOR PER PLANS/DETAILS	336 L.F.
ROCK SWALE	18" WIDE WASHED GRAVEL (1" - 1 1/2") SWALE PER DETAILS AT RAIN GUTTER LOCATIONS	150 L.F.
TREE RINGS	36" DIA. 5" COMMERCIAL GRADE ALUMINUM EDGE 'DREAMSCAPE' TREE RINGS PER PLAN/DETAILS	13
IRRIGATION SYSTEM	COMPLETE AUTOMATIC IRRIGATION SYSTEM/ADJUSTMENTS BY LICENSED CONTR.	--

NOTE: CONTRACTORS MUST REVIEW TECHNICAL SPECIFICATIONS FOR ADDITIONAL PRODUCT INFORMATION AND PROJECT REQUIREMENTS.

LANDSCAPE CONSTRUCTION NOTES

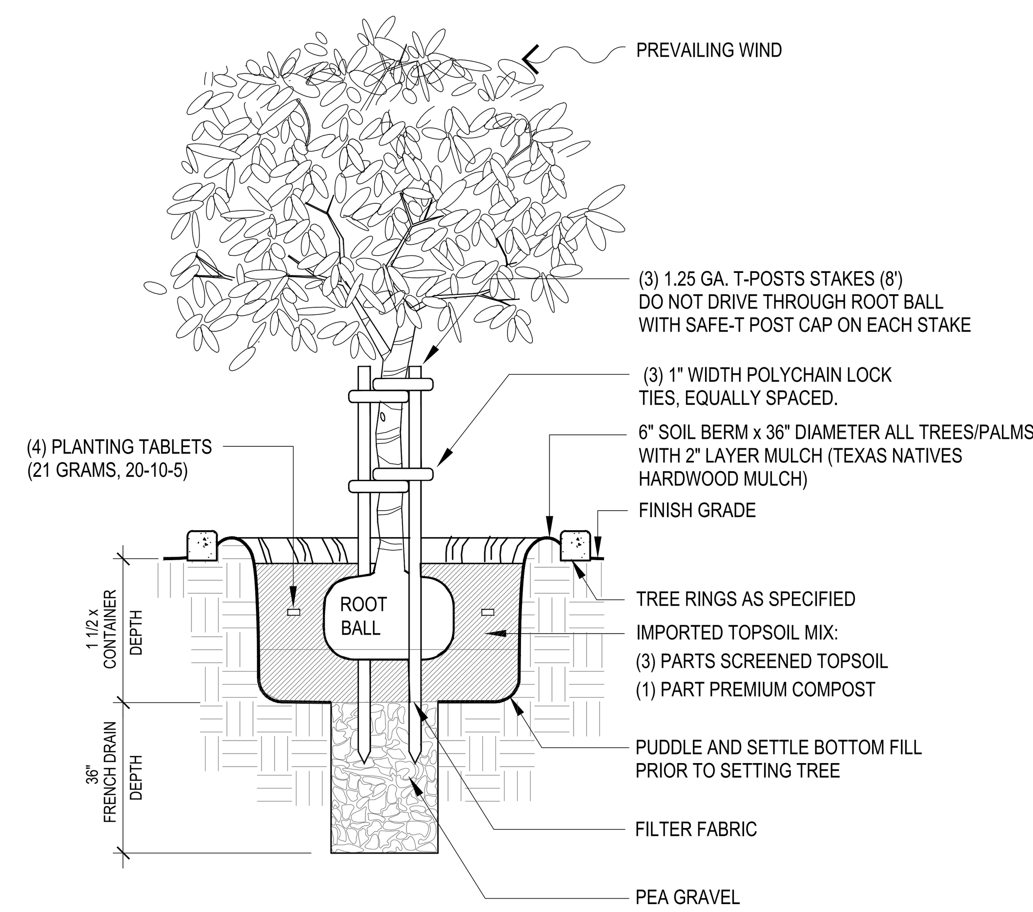
1. WORK UNDER THIS CONTRACT INCLUDES SITE REVIEW AND COORDINATION WITH EXISTING CONDITIONS, SITE CLEANUP, EXCAVATION, BED PREP, TILLING, EDGING, PLANTING, STAKING, IRRIGATION, MAINTENANCE, AND GUARANTEE.
2. LANDSCAPE CONTRACTOR SHALL FIELD VERIFY ALL QUANTITIES AND DIMENSIONS PRIOR TO BIDDING. QUANTITIES SHOWN IN SCHEDULE ARE FOR CONVENIENCE ONLY.
3. NOTIFY SSP DESIGN PRIOR TO BID OF ANY DISCREPANCIES IN DRAWINGS/DETAILS OR INSUFFICIENT QUANTITIES DUE TO DIFFERENCES IN PLAN AND ACTUAL FIELD CONDITIONS.
4. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES. SPOTTING OF ALL UTILITIES IS REQUIRED.
5. NOTIFY AND MEET WITH SSP DESIGN PRIOR TO ANY CONSTRUCTION FOR VERIFICATION/INTERPRETATION OF PLANS.
6. LANDSCAPE CONTRACTOR SHALL VERIFY ALL PROPERTY BOUNDARIES AND LIMITS OF WORK WITH GENERAL CONTRACTOR/CIVIL ENGINEER. DO NOT BEGIN LANDSCAPE CONSTRUCTION UNTIL ALL BOUNDARIES, EASEMENTS AND RIGHTS-OF-WAY HAVE BEEN VERIFIED IN THE FIELD.
7. LANDSCAPE CONTRACTOR SHALL STAKE OUT ALL BEDS, TREES, PALM LOCATIONS PRIOR TO INSTALLATION FOR APPROVAL BY SSP DESIGN.
8. LANDSCAPE CONTRACTOR TO COORDINATE WITH SSP DESIGN TO ENSURE PROPER PLACEMENT OF PLANT MATERIAL AND IRRIGATION EQUIPMENT.
9. LANDSCAPE CONTRACTOR TO INSTALL EXTRUDED CONCRETE EDGING AS SHOWN ON PLANS.
10. LANDSCAPE CONTRACTOR TO SUPPLY/INSTALL 36" DIA. TREE RINGS AS SHOWN ON PLANS/DETAILS.
11. NOTIFY SSP DESIGN PRIOR TO PLANTING OPERATIONS FOR APPROVAL OF ALL PLANT MATERIAL ON SITE. ANY PLANT MATERIAL NOT APPROVED BY SSP DESIGN WILL BE SUBJECT TO REJECTION.
12. IRRIGATION CONTRACTOR SHALL SUPPLY AND INSTALL COMPLETE AUTOMATIC IRRIGATION SYSTEM MAINLINE, SLEEVES, LATERALS, AND POP-UP HEADS, AND ADJUSTMENTS, TO COVER ALL LANDSCAPE AREAS AS PER PLANS/DETAILS. IRRIGATION SYSTEM SHALL BE INSTALLED BY A TEXAS LICENSED IRRIGATOR ONLY.
13. LANDSCAPE CONTRACTOR SHALL REMOVE ALL EXISTING GRASS/WEEDS BY HERBICIDING PRIOR TO BED PREP AND SOIL REPLACEMENT.
14. LANDSCAPE CONTRACTOR SHALL REMOVE 12" OF EXST'G SOIL WITHIN ALL BED AREAS AND REPLACE WITH IMPORTED TOP SOIL/PREMIUM COMPOST MIX.
15. LANDSCAPE CONTRACTOR SHALL CONSTRUCT 6"x36" WATERING BASINS AROUND ALL TREES/PALMS WITH A MIN. 2" LAYER OF CYPRESS MULCH.
16. LANDSCAPE CONTRACTOR SHALL LOOSEN / GRADE ALL LAWN AREAS PRIOR TO HYDRO-MULCHING/SODDING TO ENSURE PROPER DRAINAGE AND UNIFORM SURFACE.
17. LANDSCAPE CONTRACTOR SHALL REMOVE ALL EXISTING GRASS AND WEEDS BY HERBICIDING, DISKING, FLOATING AND LIGHT GRADING OF ENTIRE PROJECT AREA PRIOR TO SODDING/HYDROMULCHING.
18. LANDSCAPE CONTRACTOR SHALL ESTABLISH AND MAINTAIN ALL PLANT MATERIAL FOR 90 DAYS AFTER 'SUBSTANTIAL COMPLETION' AND SHALL GUARANTEE ALL TREES/PALMS FOR A PERIOD OF ONE YEAR.
19. IRRIGATION CONTRACTOR SHALL GUARANTEE ALL SYSTEM COMPONENTS FOR A PERIOD OF ONE YEAR.
20. SEE SPECIFICATIONS FOR FURTHER INSTRUCTIONS/REQUIREMENTS.



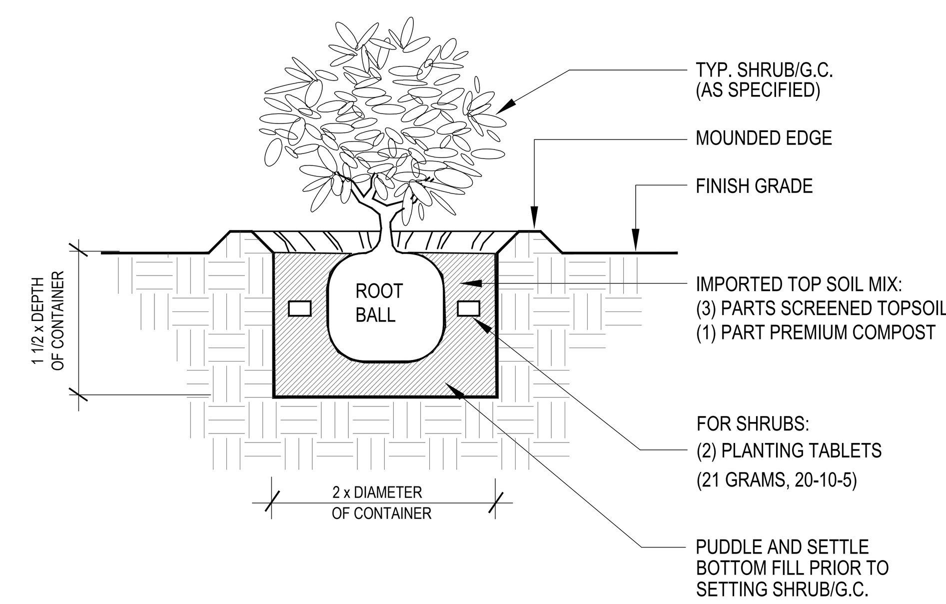
NOTES:

1. CONCRETE CURBING TO HAVE 1 1/2" DEEP CONTRACTION JOINTS @ 5'-0" SPACING.
2. CONCRETE CURBING TO HAVE TAPERED DRAINAGE POINTS AT 10' O.C.
3. 2500-3000 PSI COMPRESSIVE STRENGTH, 490 PSI FLEXURAL STRENGTH.
4. USE HALF-INCH POLYPROPYLENE FIBER REINFORCEMENT.
5. NATURAL FINISH AND TEXAS BUFF COLOR.
6. EQUAL TO 'CURB APPEAL' EDGING (956-867-8350).

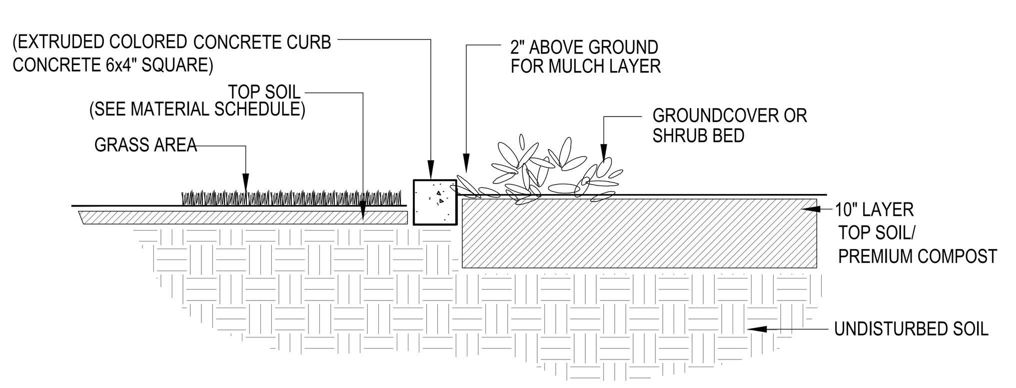
1 ROCK SWALE DETAIL
NOT TO SCALE



2 TREE PLANTING DETAIL
NOT TO SCALE



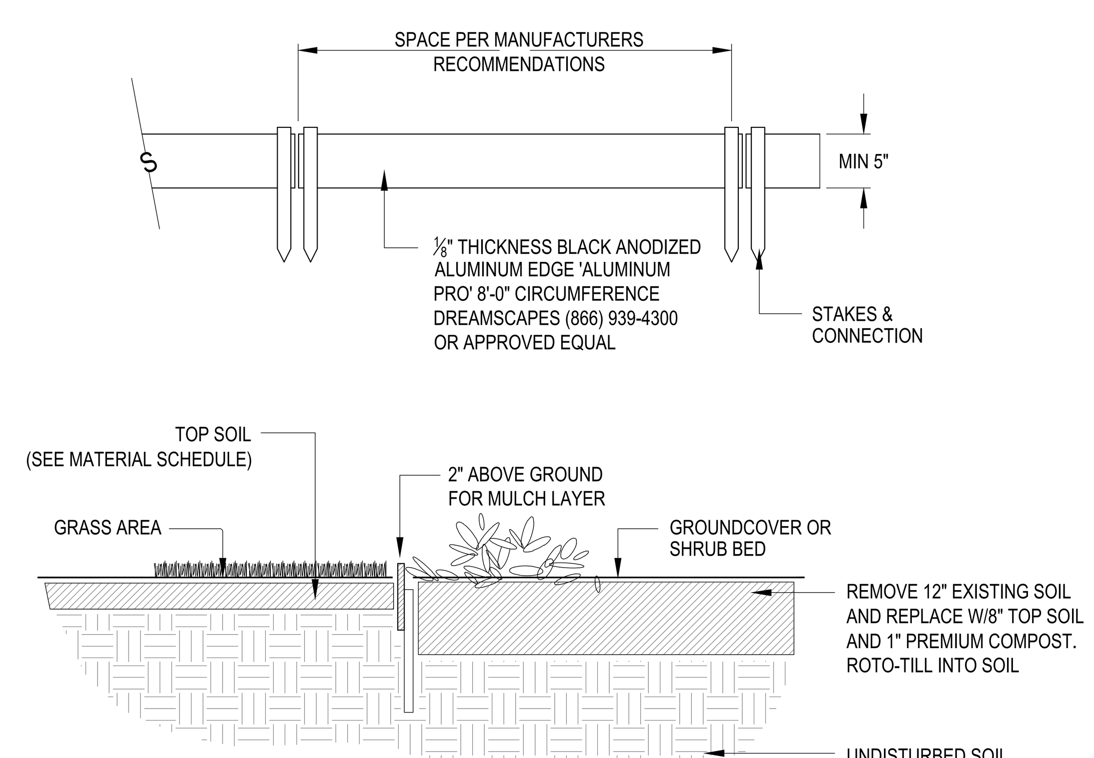
3 SHRUB/G.C. PLANTING DETAIL
NOT TO SCALE



NOTES:

1. CONCRETE CURBING TO HAVE 1 1/2" DEEP CONTRACTION JOINTS @ 5'-0" SPACING.
2. CONCRETE CURBING TO HAVE TAPERED DRAINAGE POINTS AT 10' O.C.
3. 2500-3000 PSI COMPRESSIVE STRENGTH, 490 PSI FLEXURAL STRENGTH.
4. USE HALF-INCH POLYPROPYLENE FIBER REINFORCEMENT.
5. SMOOTH NATURAL FINISH, COLOR TO MATCH BUILDING.
6. EQUAL TO 'CURB APPEAL' EDGING (956-867-8350).

4 CONCRETE EDGE DETAIL
NOT TO SCALE



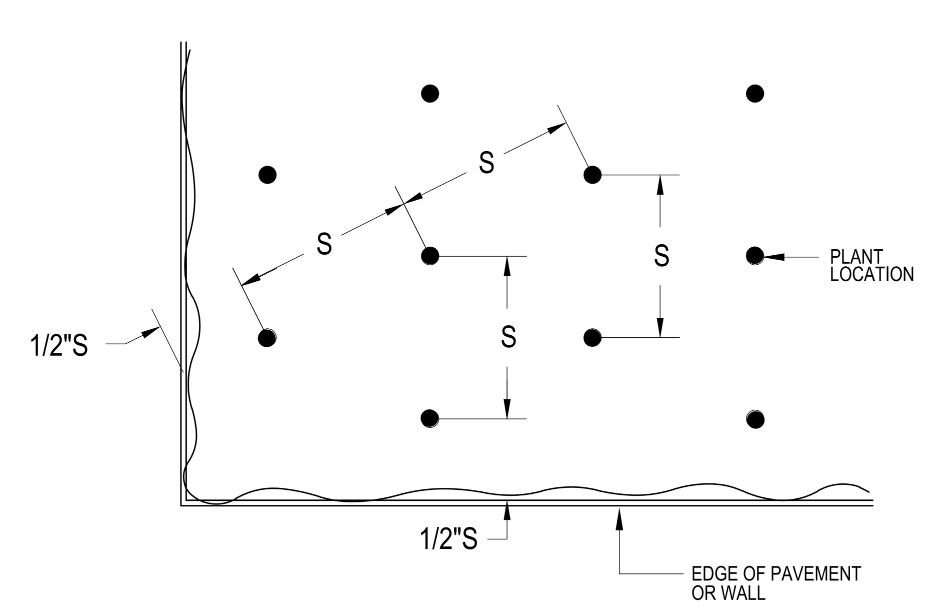
NOTE:

ALL EDGING TO BE ANGLED WITH 6" OVERLAP AND FLUSH WITH ADJACENT PAVEMENT

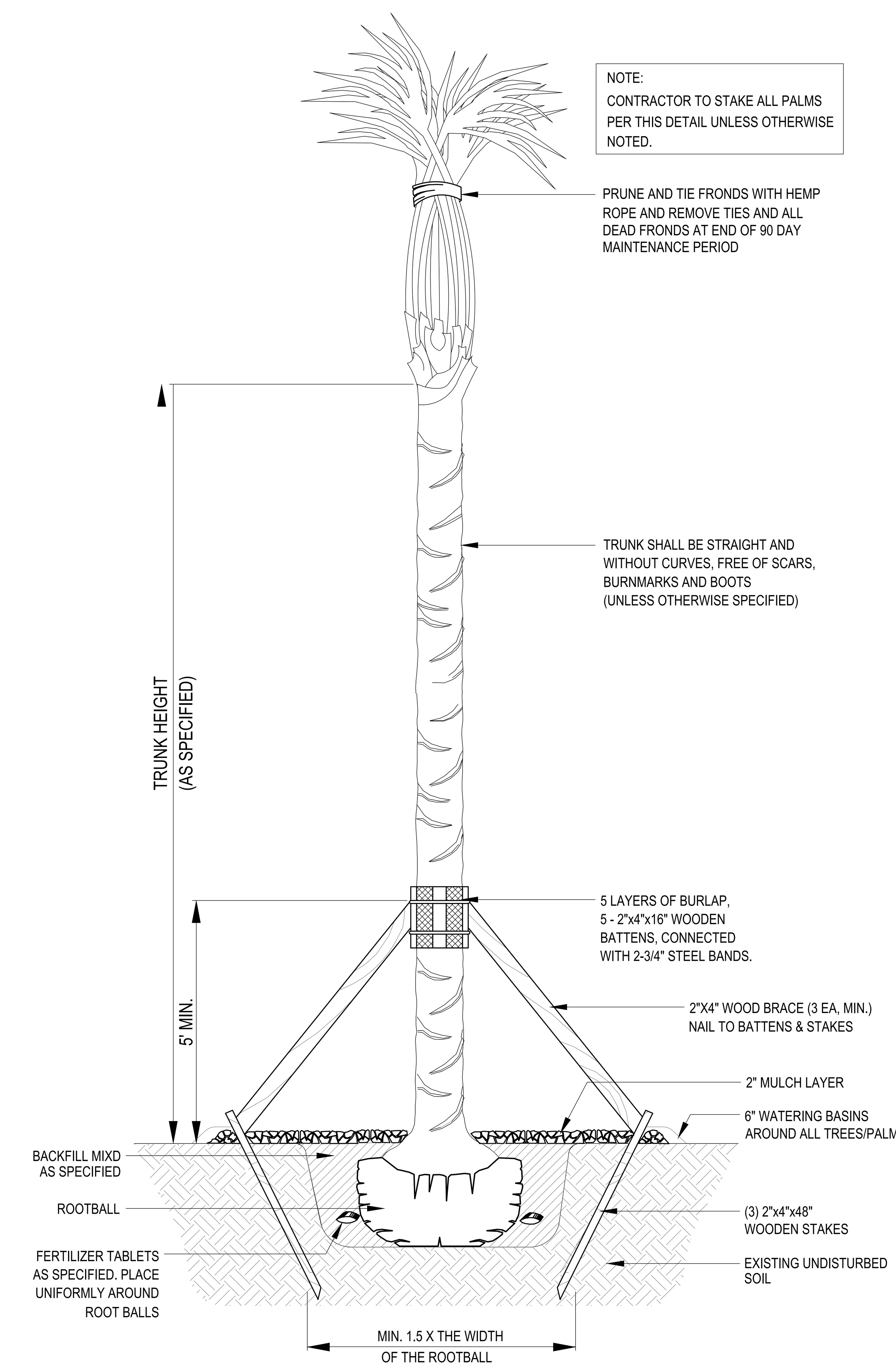
5 TREE RING DETAIL
NOT TO SCALE

NOTE:

1. S = SPACING, (REFER PLANT LIST FOR AMOUNT OF SPACING.)
2. USE SPACING LAYOUT FOR SHRUBS, GROUNDCOVERS AND ANNUALS.



6 TRIANGULAR PLANT SPACING DIAGRAM
NOT TO SCALE



7 PALM PLANTING DETAIL
NOT TO SCALE

No.	REVISIONS	BY
1	ADDENDUM #2 6/27/19	

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SSP Design

BISD Hanna ECHS
Gymnasium Facility

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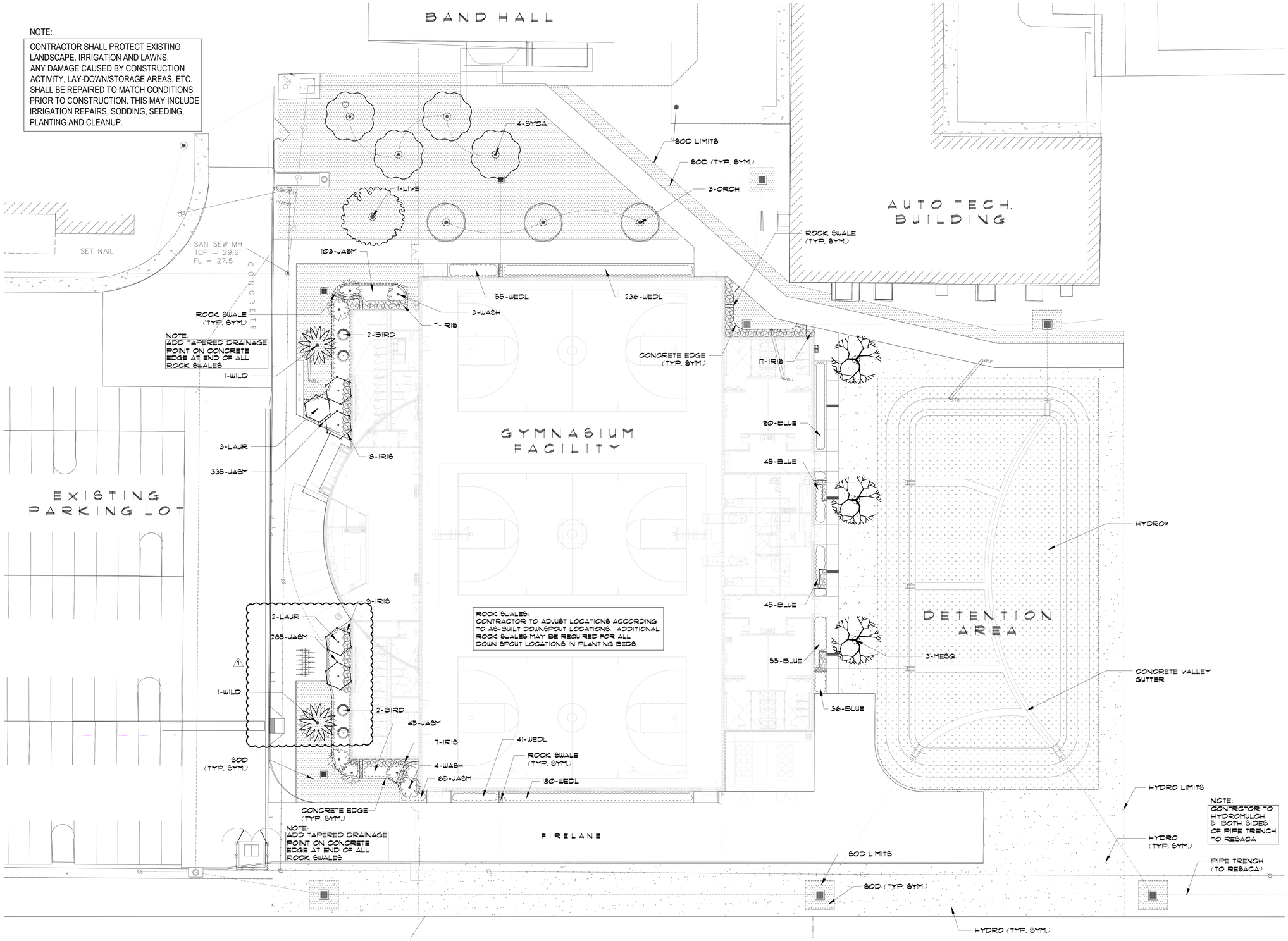
Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By:
Job No. BISD Hanna Gymnasium
Sheet:

L2.02

NOTE:

CONTRACTOR SHALL PROTECT EXISTING LANDSCAPE, IRRIGATION AND LAWNS. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITY, LAY-DOWN/STORAGE AREAS, ETC. SHALL BE REPAIRED TO MATCH CONDITIONS PRIOR TO CONSTRUCTION. THIS MAY INCLUDE IRRIGATION REPAIRS, SODDING, SEEDING, PLANTING AND CLEANUP.



LANDSCAPE PLAN

SCALE: 1/16" = 1'-0"

No.	REVISIONS	BY
1	ADDENDUM #2 6/27/19	

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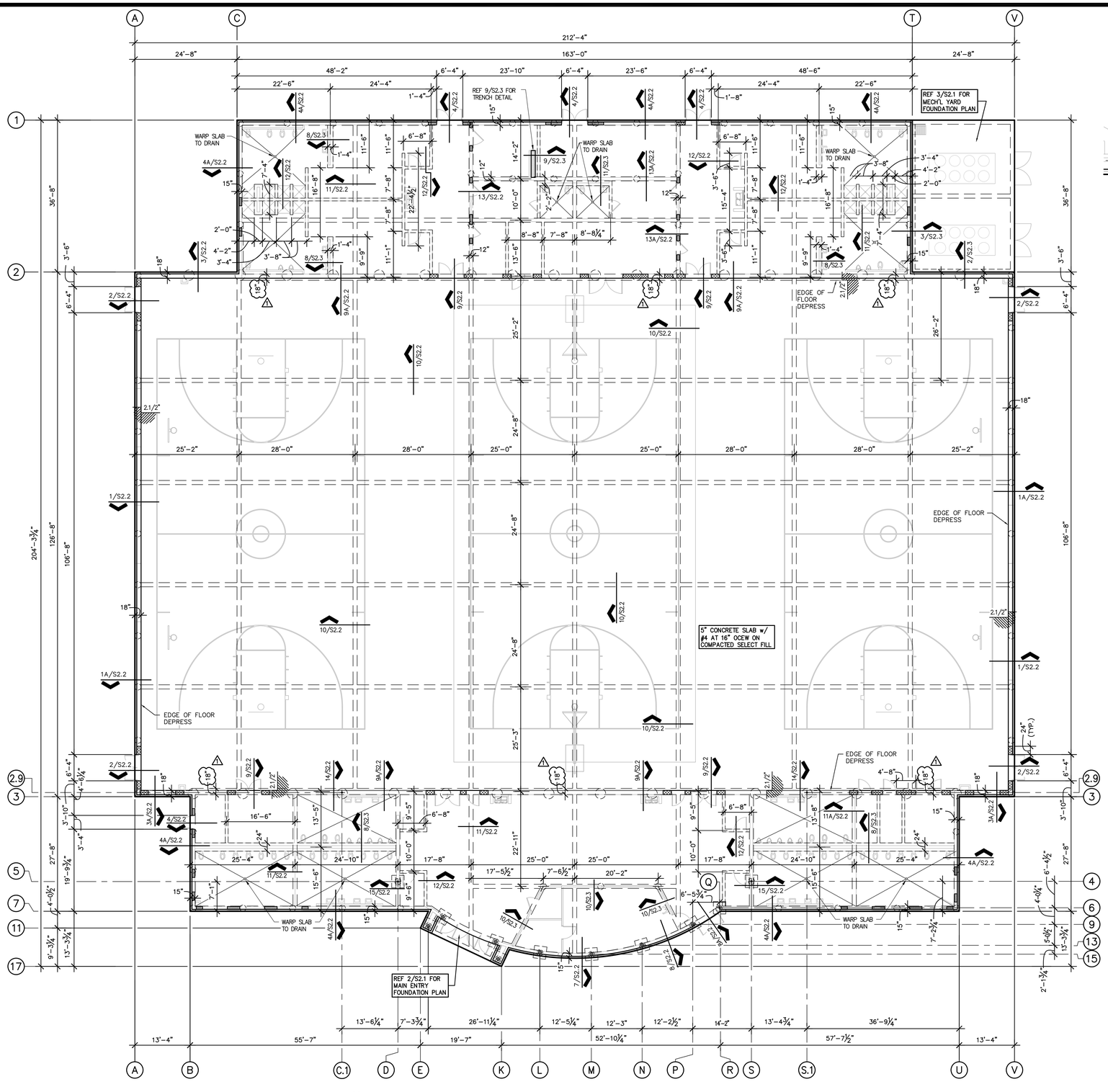
Sheet: L2.01



1 FOUNDATION PLAN

3/32" = 1'-0" GYMNASIUM

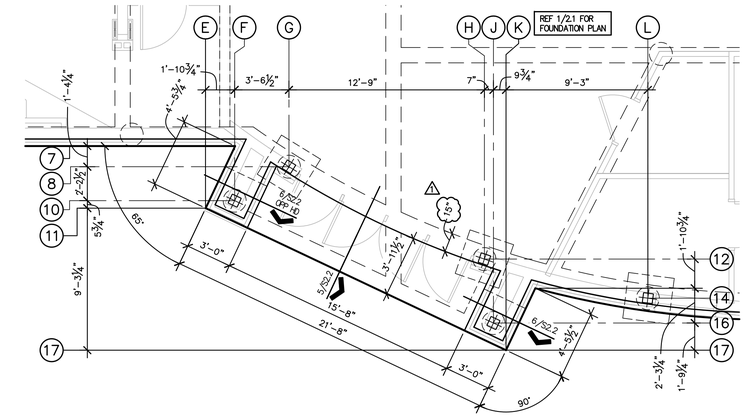
N
PLAN NORTH

NOTES:

1. REFERENCE ROOF FRAMING PLAN FOR COLUMN / BASEPLATE LOCATIONS. FOUNDATION PLAN DIMENSIONS GENERALLY DENOTE GRADE BEAM CENTERLINE AND OUTSIDE FACE OF CONCRETE.
2. SPLICE JOINTS FOR TOP BARS FOR REINFORCED CONCRETE GRADE BEAMS SHALL BE LOCATED AT MIDDLE THIRD OF THE SPAN OF THE BEAMS.
3. SPLICE JOINTS FOR BOTTOM BARS FOR REINFORCED CONCRETE GRADE BEAMS SHALL BE LOCATED AT SUPPORTS.
4. CONSTRUCTION JOINTS OF CONCRETE GRADE BEAMS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SPAN. CONTRACTOR TO SUBMIT PROPOSED LOCATION OF CONSTRUCTION JOINTS TO ARCHITECT/ENGINEER FOR APPROVAL.
5. LAPPING OF SPLICE BARS AT SPLICE JOINTS SHALL BE 62 BAR DIAMETER OR A MINIMUM OF 36" LONG.
6. ALL CONDUIT GREATER THAN 1.1/2" IN DIAMETER (O.D.) SHALL BE RECESSED TO PROVIDE 1.1/2" CLEAR DISTANCE BETWEEN SLAB REBAR & CONDUIT.
7. MAINTAIN 2" MINIMUM CLEAR DISTANCE BETWEEN ALL CONDUIT IN SLAB.
8. A SINGLE CONDUIT (MAX 3" O.D.) MAY BE PLACED WITHIN THE BEAM CAGE. ALL CONDUIT IN BEAM CAGES TO BE TIED TO STIRRUPS MINIMUM OF 4" FROM HORIZONTAL BARS.
9. PLUMBING LINES SHALL NOT BE PLACED IN BOTTOM OF GRADE BEAM TRENCHES.
10. PLUMBING LINES PASSING THROUGH GRADE BEAMS SHALL BE SLEEVED. BEAMS SHALL BE DEEPENED AND BENT REBAR PROVIDED IF LOCATION OF DRAIN LINES REQUIRES CUTTING BOTTOM BARS. REFERENCE 1/S2.3.
11. REFERENCE PLUMBING DRAWINGS FOR EXACT LOCATION OF FLOOR DRAINS AND OTHER SLAB PENETRATIONS.
12. INDICATES 8" CMU w/ #5 VERTICAL BARS AT 8" o/c.
13. INDICATES 12" CMU w/ 2-#6 VERTICAL BARS AT 8" o/c.
14. REFERENCE 1/S2.1C FOR CONTROL JOINT PLAN.
15. REFERENCE 1/S2.1P FOR PIER PLAN.

BASEPLATE SCHEDULE

COLUMN	PLATE TxWxL	ANCHORS
HSS8x8x1/4	1" x 12" x 12"	4-3/4" DIA x 8" WHS
4" DIA XS PIPE	3/4" x 9" x 9"	4-3/4" DIA x 8" WHS
5" DIA XS PIPE	1" x 10" x 10"	4-3/4" DIA x 8" WHS

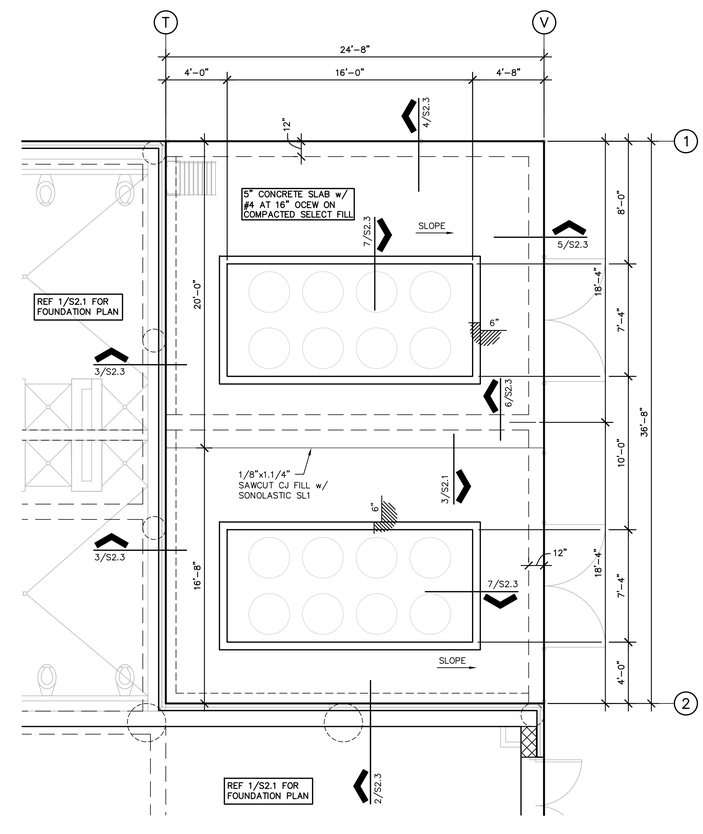


2 MAIN ENTRY FOUNDATION PLAN

1/4" = 1'-0" GYMNASIUM

NOTES:

1. REFERENCE 1/S2.1 FOR FOUNDATION PLAN AND NOTES.



3 MECHANICAL YARD FOUNDATION PLAN

1/4" = 1'-0"

NOTES:

1. REFERENCE 1/S2.1 FOR FOUNDATION PLAN AND NOTES.

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Gymnasium Facility

HUMBERTO CANAZOS 103450 LICENSED PROFESSIONAL ENGINEER
6/27/19

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Scale:	As Noted
Drawn By:	IG, JA
Checked By:	BD, JS, CG
Job No.	192-511
Sheet:	S2.1-R1

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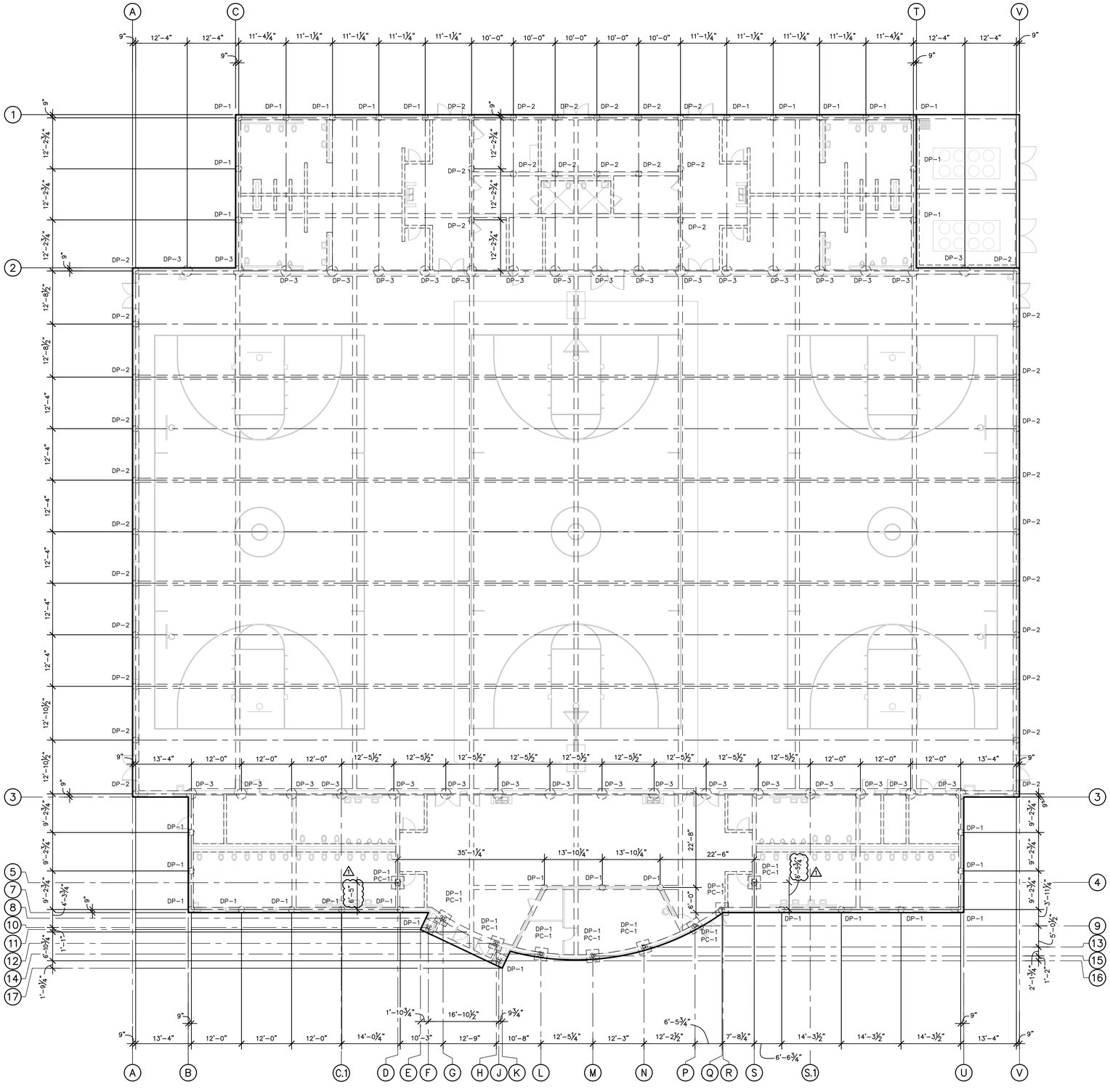
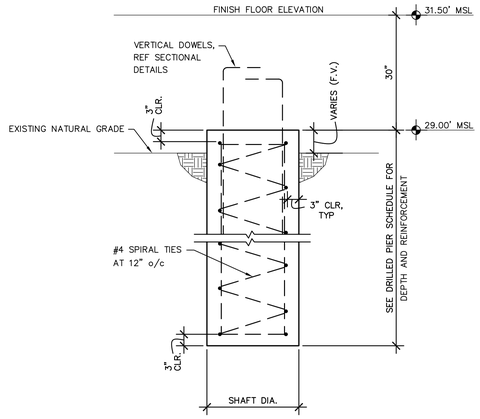


1 DRILLED PIER PLAN

3/32" = 1'-0" GYMNASIUM

NOTES:

1. REFERENCE 1/S2.1 FOR FOUNDATION PLAN.
2. REFERENCE 1/S2.1C FOR CONTROL JOINT PLAN.
3. REFERENCE 2/S2.1P FOR DRILLED PIER SCHEDULE



2 DRILLED PIER PROFILE

3/4"=1'-0"

DRILLED PIER SCHEDULE				
MARK	SHAFT DIA. FEET	VERTICAL REINFORCING	DEPTH (FEET)	BEARING DEPTH BELOW MEAN SEA LEVEL (FEET MSL)
DP-1	1'-6"	8-#6	35'-0"	-6.00'
DP-2	1'-6"	8-#6	45'-0"	-16.00'
DP-3	2'-6"	10-#8	45'-0"	-16.00'

PIER CAP SCHEDULE		
MARK	SIZE	REINFORCING
PC-1	3'-0"x3'-0"	#5 AT 12" OCEW

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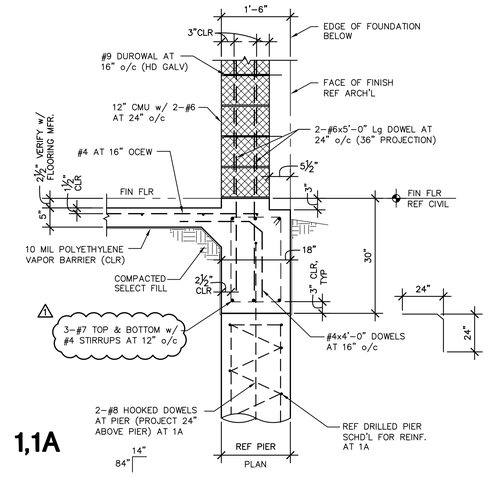

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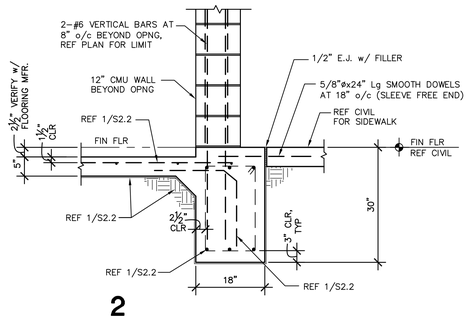

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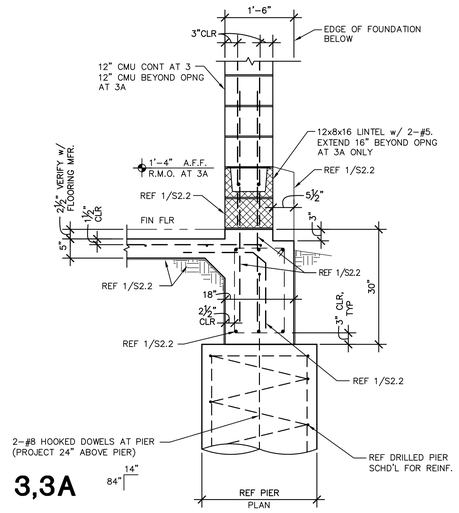

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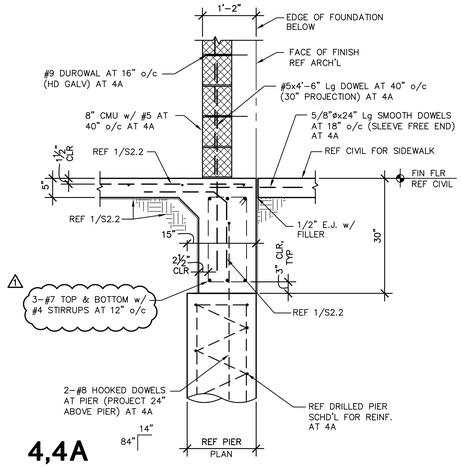

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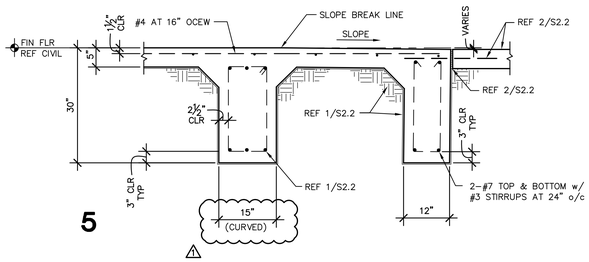

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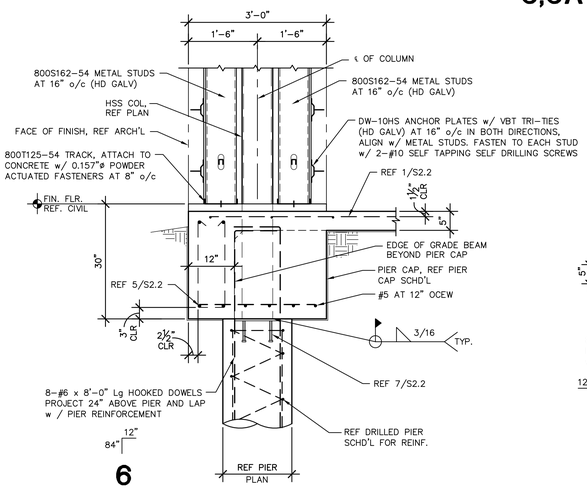

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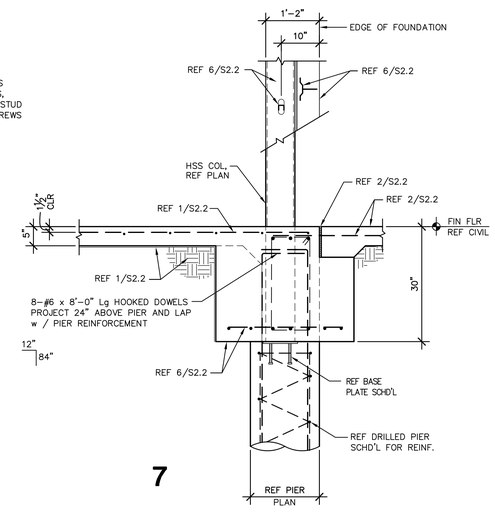

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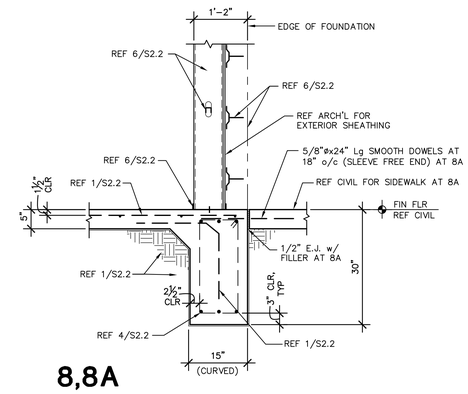

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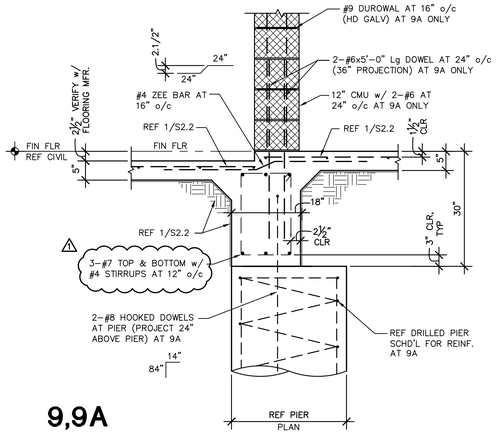

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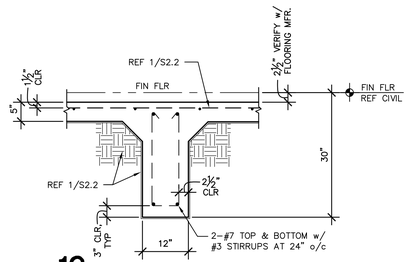

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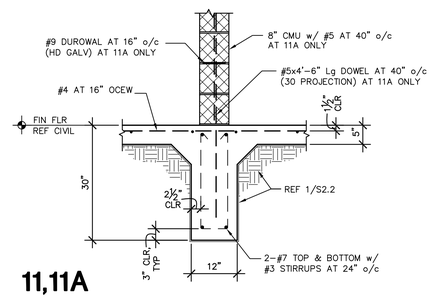

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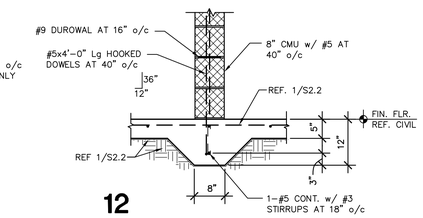

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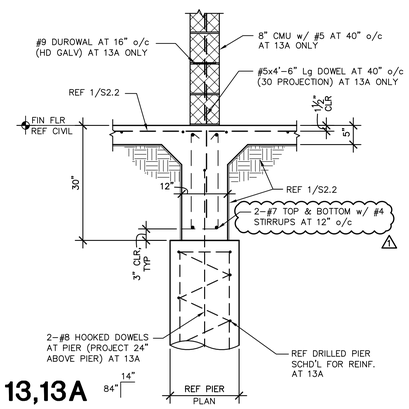

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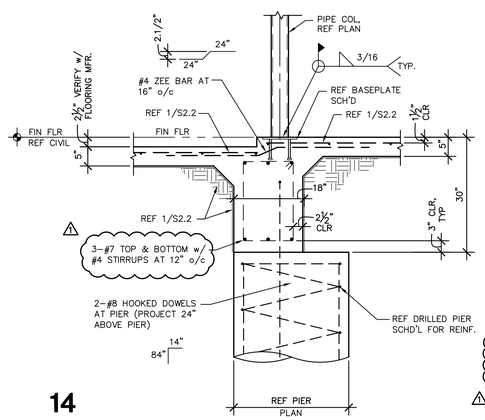

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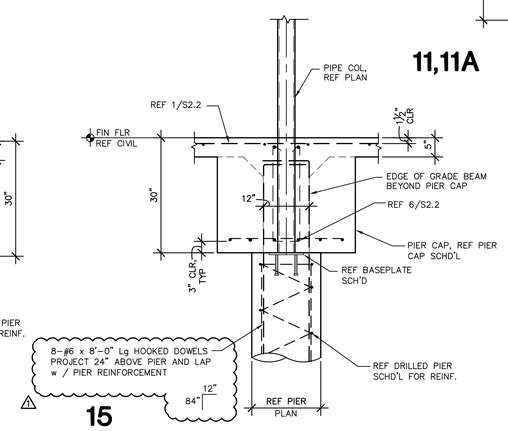

15

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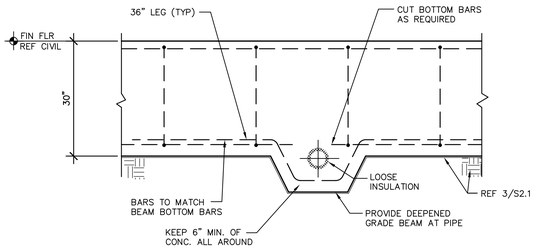
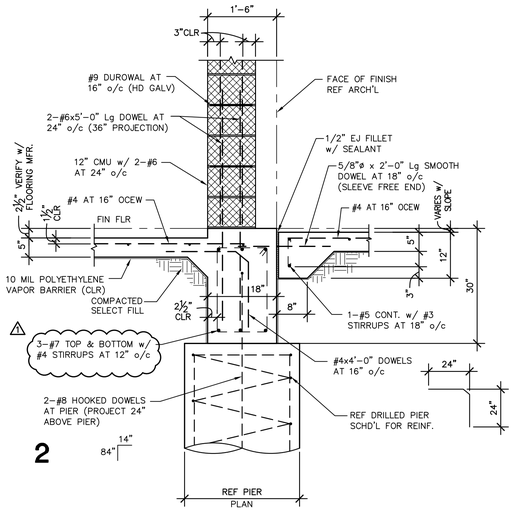


1 TOP OF SLEEVE INTERRUPTS REINFORCING



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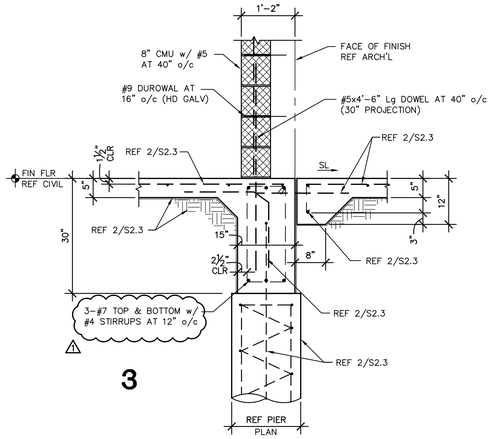

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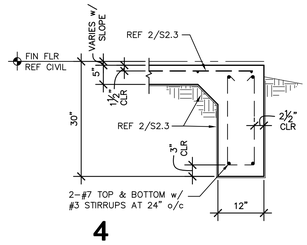

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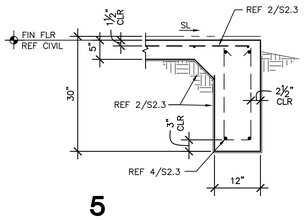

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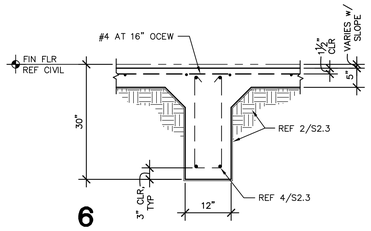

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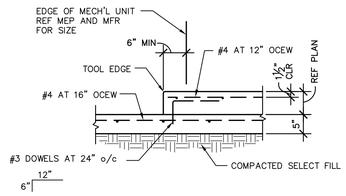
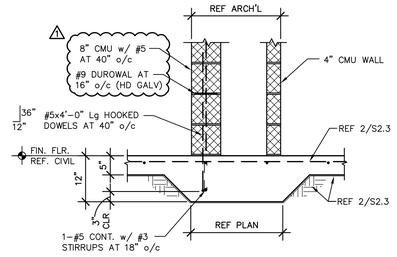


7 HOUSEKEEPING PAD

NOTE:
1. COORDINATE SIZE, LOCATION AND QUANTITIES OF HOUSEKEEPING PADS WITH MEP.



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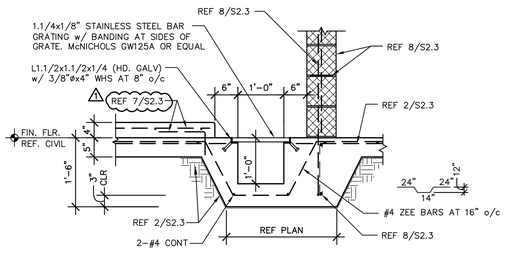
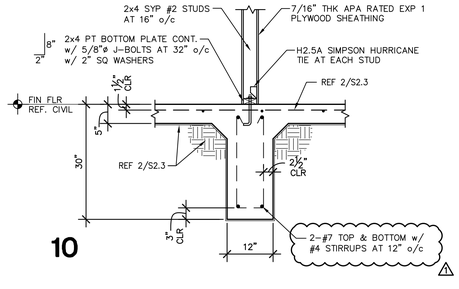


9 TRENCH DETAIL

VERIFY SIZE & LOCATION OF TRENCH WITH ARCHITECTURAL & PLUMBING PRIOR TO POURING



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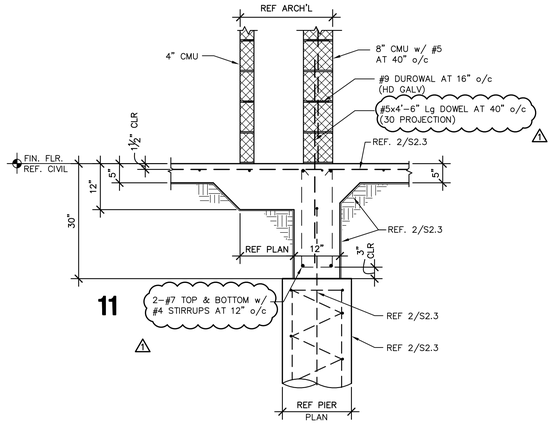

11

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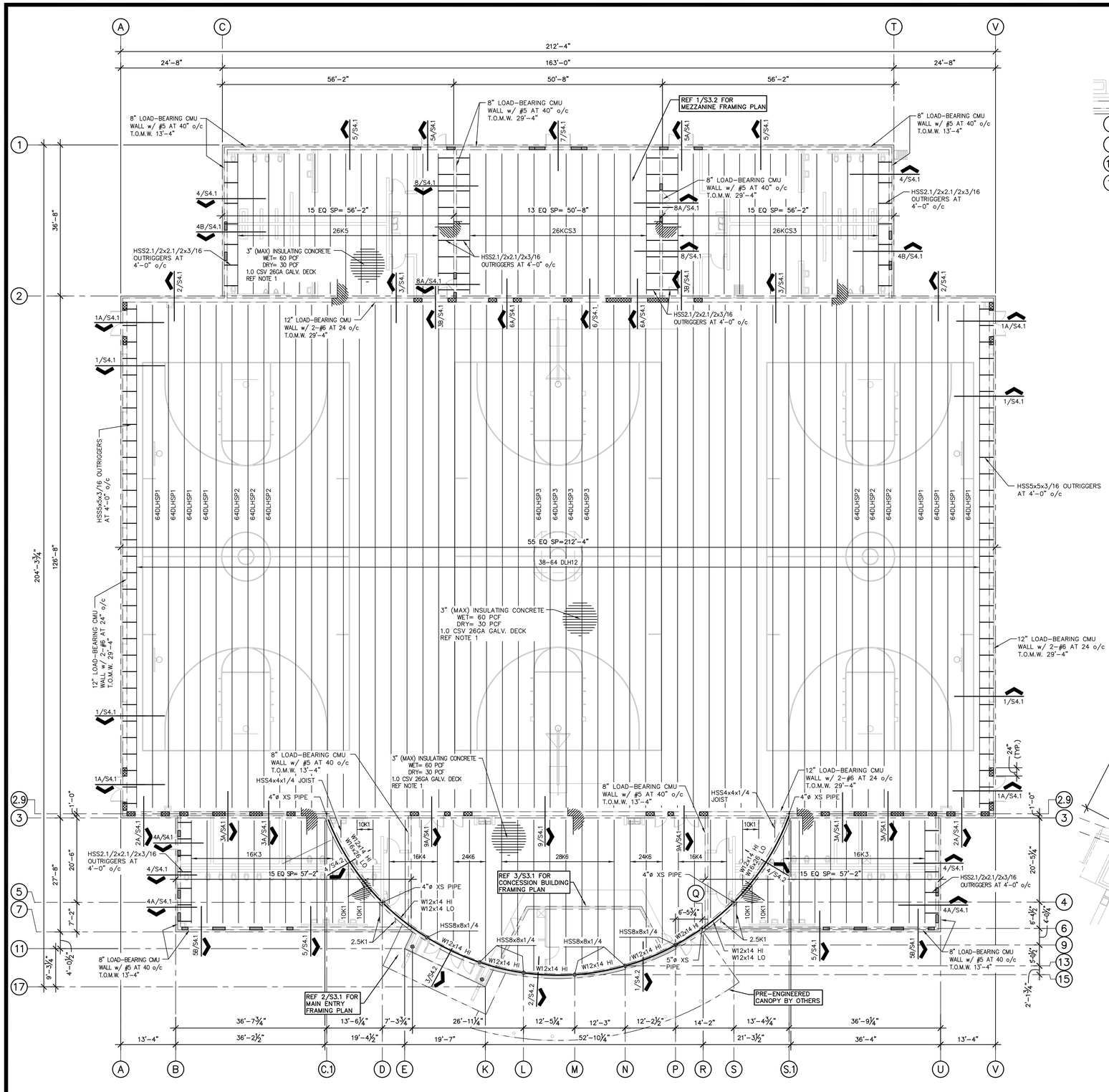


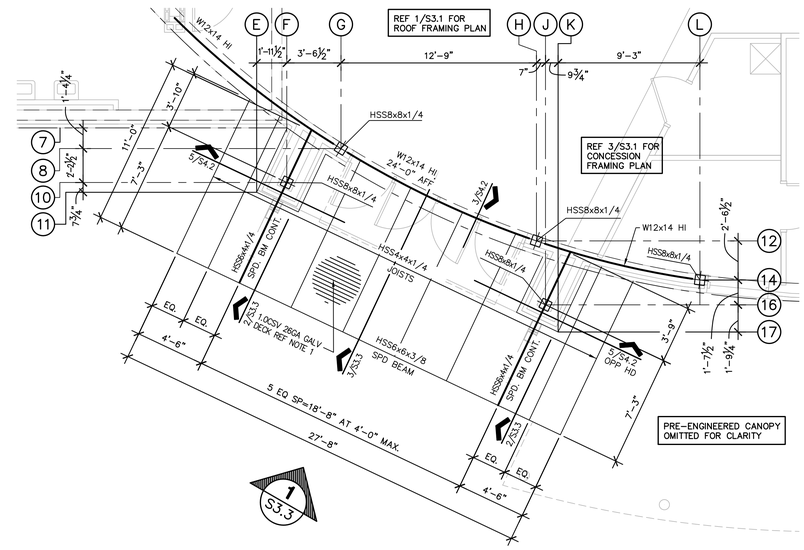
1 ROOF FRAMING PLAN

3/32" = 1'-0" GYMNASIUM

N PLAN NORTH

NOTES:

1. ROOF DECK SHALL BE 1.0CSV 26GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (I=0.042 IN^4/FT; Sp=0.067 IN^3/FT; Sn=0.071 IN^3/FT; Fy=60KS1). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 33/4 PATTERN AND 2-#10 TEK SCREW SIDE LAP FASTENERS.
2. INDICATES 8" CMU w/ #5 VERTICAL BARS AT 8" o/c.
3. INDICATES 12" CMU w/ 2-#6 VERTICAL BARS AT 8" o/c.
4. REFERENCE 4/S3.3 FOR SPECIAL JOIST PROFILES.
5. PROVIDE A BRACE ON TOP OF ALL CMU WALLS LONGER THAN 10'-0" BETWEEN INTERSECTING CMU WALLS. REFERENCE DETAILS ON SHEET S1.3.
6. REFERENCE DETAILS ON S1.3 FOR TYPICAL DUCT OPENINGS THROUGH CMU WALLS.
7. MECHANICAL OPENINGS IN CMU MUST BE COORDINATED WITH STRUCTURAL ENGINEER.



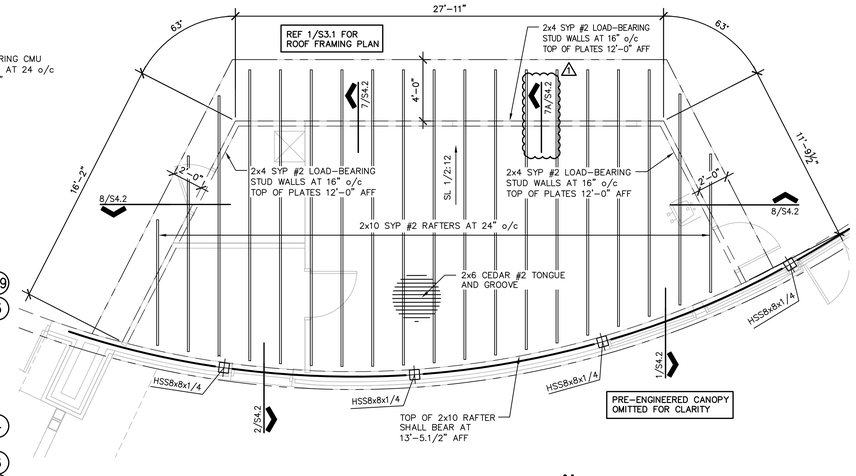
2 MAIN ENTRY FRAMING PLAN

1/4" = 1'-0" FOYER

N PLAN NORTH

NOTES:

1. ROOF DECK SHALL BE 1.0CSV 26GA GALV DECK BY VULCRAFT OR APPROVED EQUAL. (I=0.042 IN^4/FT; Sp=0.067 IN^3/FT; Sn=0.071 IN^3/FT; Fy=60KS1). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 33/4 PATTERN AND 2-#10 TEK SCREW SIDE LAP FASTENERS.
2. REFERENCE 1/S3.1 FOR ROOF FRAMING PLAN.
3. REFERENCE 1/S3.3 FOR FRONT FRAME ELEVATION.



3 ROOF FRAMING PLAN

1/4" = 1'-0" CONCESSION BUILDING

N PLAN NORTH

NOTES:

1. ROOF DECK SHALL BE 2x6 CEDAR #2 TONGUE & GROOVE DECKING.
2. REFERENCE TONGUE & GROOVE DECKING NAILING SCHEDULE FOR PROPER DECKING ATTACHMENT.
3. TOP OF RAFTERS SHALL BE 13'-5.1/2 A.F.F. UNLESS NOTED OTHERWISE.

TONGUE & GROOVE DECKING NAILING SCHEDULE
8d NAILS AT EACH SUPPORT AND AT 12" o/c ALONG EDGE OF TONGUE AND GROOVE DECKING

ALL 8d NAILS TO MEET MINIMUM LENGTH/DIAMETER BELOW.
LENGTH – 2.1/2"
DIAMETER – 0.131"

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103450
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6/27/19

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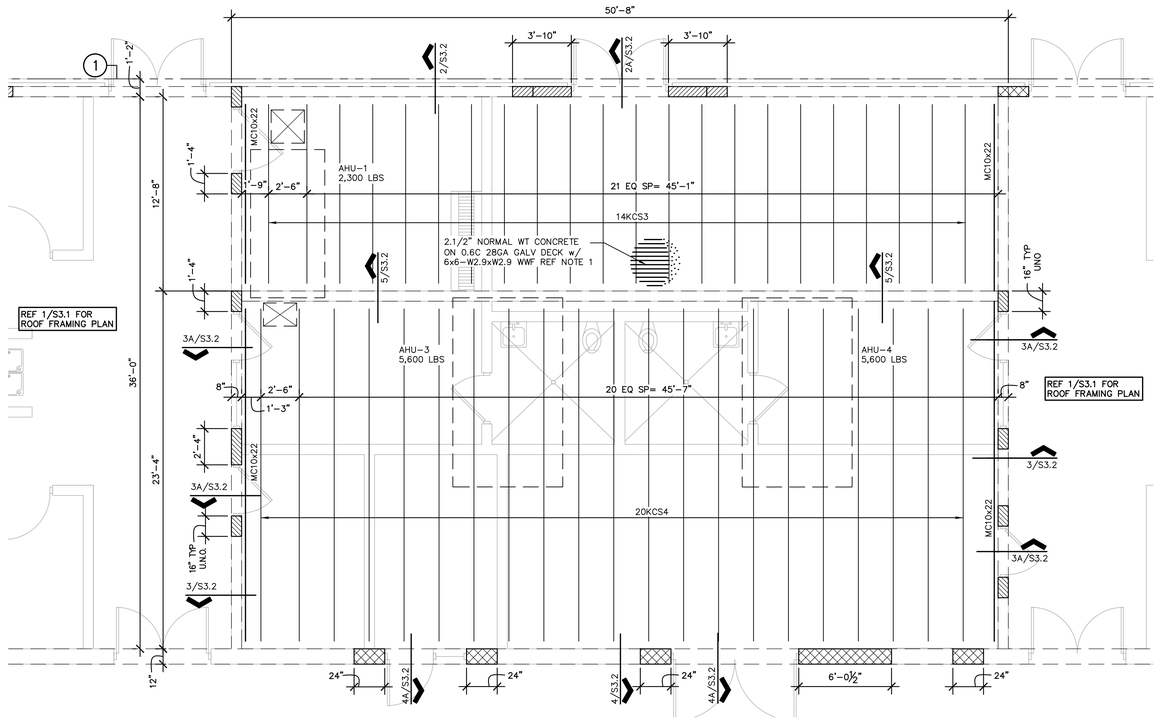


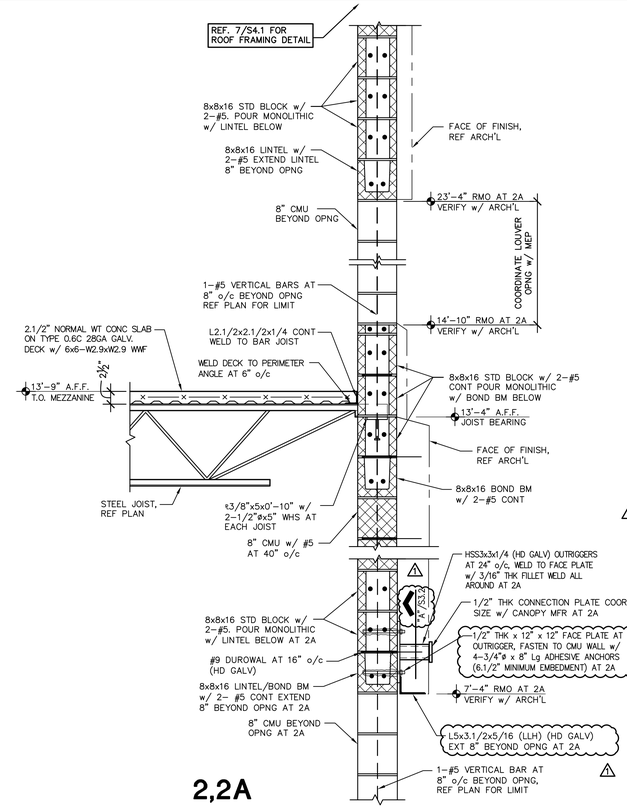
1 MEZZANINE FRAMING PLAN

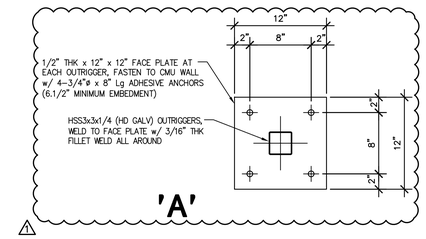
1/4" = 1'-0"

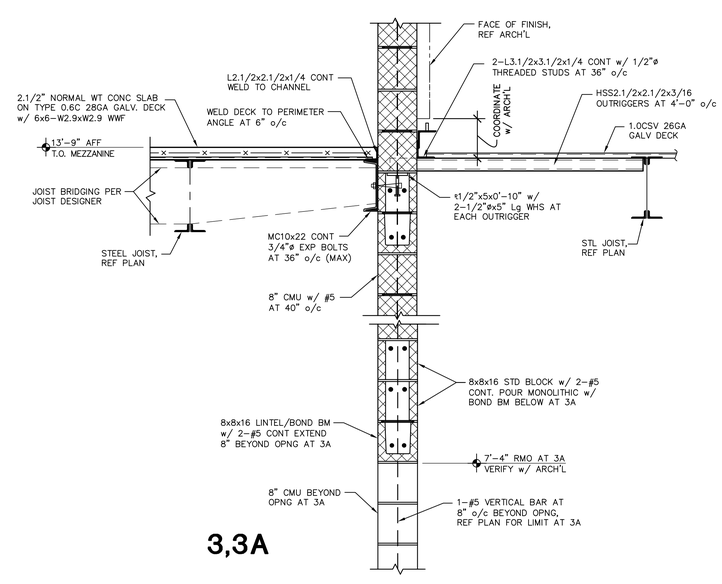
N
PLAN NORTH

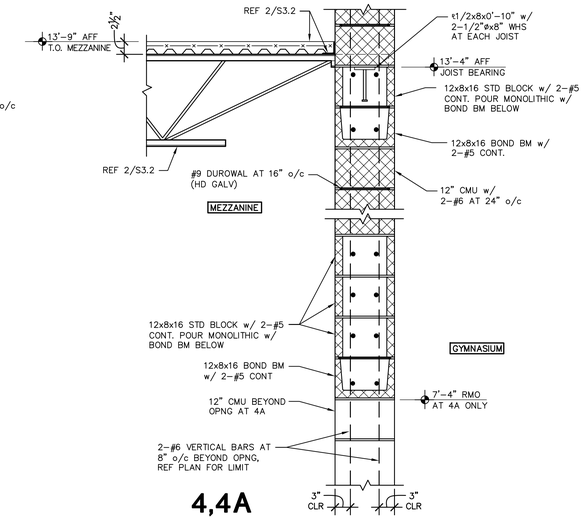
NOTES:

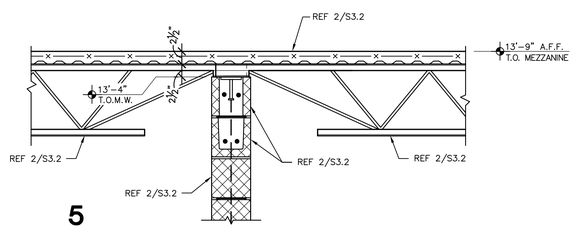
1. DECK SHALL BE 0.6C 28GA GALVANIZED DECK BY VULCRAFT OR APPROVED EQUAL. (Ip=0.012 IN²/FT; Sp=0.035 IN³/FT; Sn=0.036 IN³/FT; Fy = 60 KSI). ATTACH DECK TO SUPPORTS USING 5/8" PUDDLE WELDS ON A 30/4 PATTERN, WELDING WASHERS REQUIRED.
2. REFERENCE DETAIL 6/S3.2 FOR PENETRATIONS THRU MEZZANINE FLOOR FRAMING. CONTRACTOR SHOULD CONTACT ENGINEER PRIOR TO INSTALLATION OF EQUIPMENT IF THERE IS A CONFLICT BETWEEN PENETRATIONS AND FRAMING.
3. PRIOR TO INSTALLATION OF MECHANICAL EQUIPMENT, NOTIFY ENGINEER IF EQUIPMENT IS HEAVIER THAN WEIGHTS SHOWN ON MEP PLAN TO ALLOW FOR VERIFICATION OF STRUCTURAL CAPACITY OF FRAMING MEMBERS.
4. REF. 8/S3.2 FOR TYPICAL MECHANICAL EQUIPMENT SUPPORT DETAIL.
5. INDICATES 8" CMU w/ 1-#5 VERTICAL BAR AT 8" o/c.
6. INDICATES 12" CMU w/ 2-#6 VERTICAL BAR AT 8" o/c.
7. REFERENCE 1/S3.1 FOR ROOF FRAMING PLAN.











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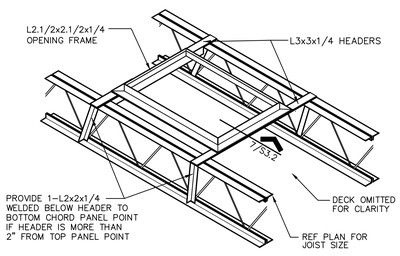
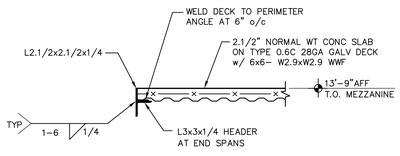
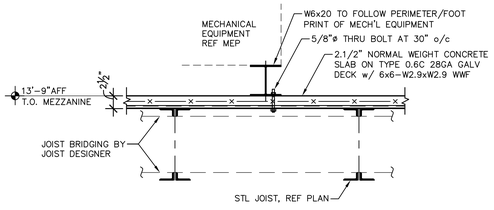


6 FLOOR OPENING FRAME DETAIL

REF ARCH'L & MECH'L FOR
OPENING SIZE & LOCATION



7 OPENING SUPPORT FRAME



8 TYPICAL MECHANICAL EQUIPMENT SUPPORT

NOTE:
REFERENCE MEP FOR REQUIRED
LOCATION OF SUPPORT

No.	REVISIONS	BY
1	06-27-19	

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STATE OF TEXAS
HERIBERTO CANAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
6/27/19

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Interior Designers

Date: June 12, 2019
Scale: As Noted
Drawn By: IG, JA
Checked By: BD, JS, CG
Job No. 192-511
Sheet: S3.2-R1

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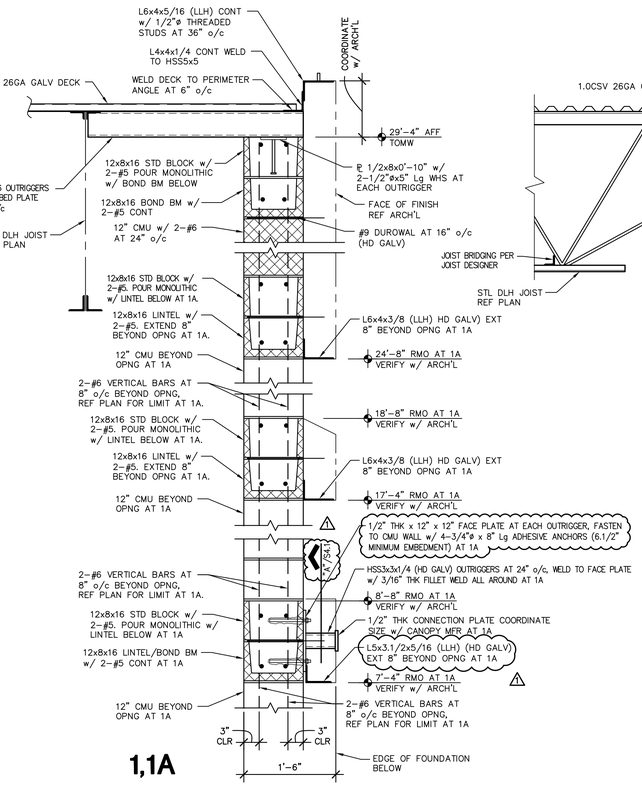

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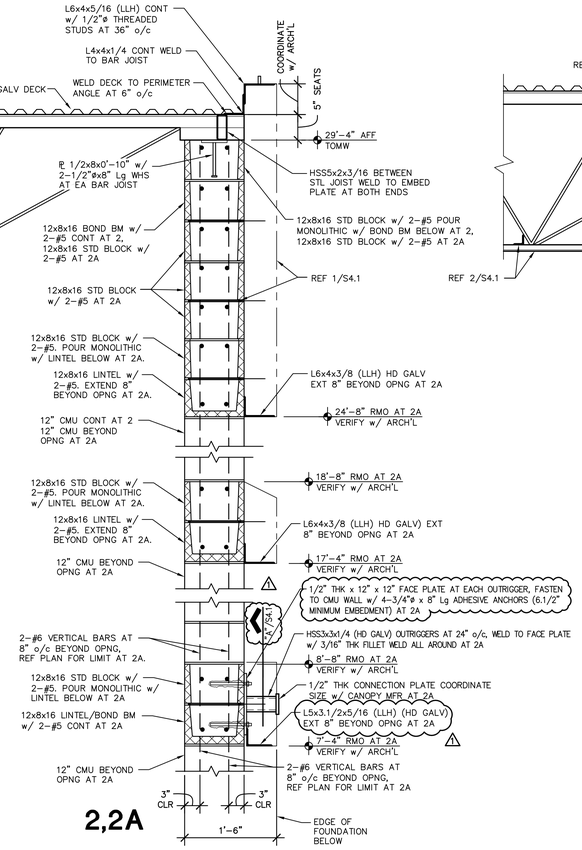

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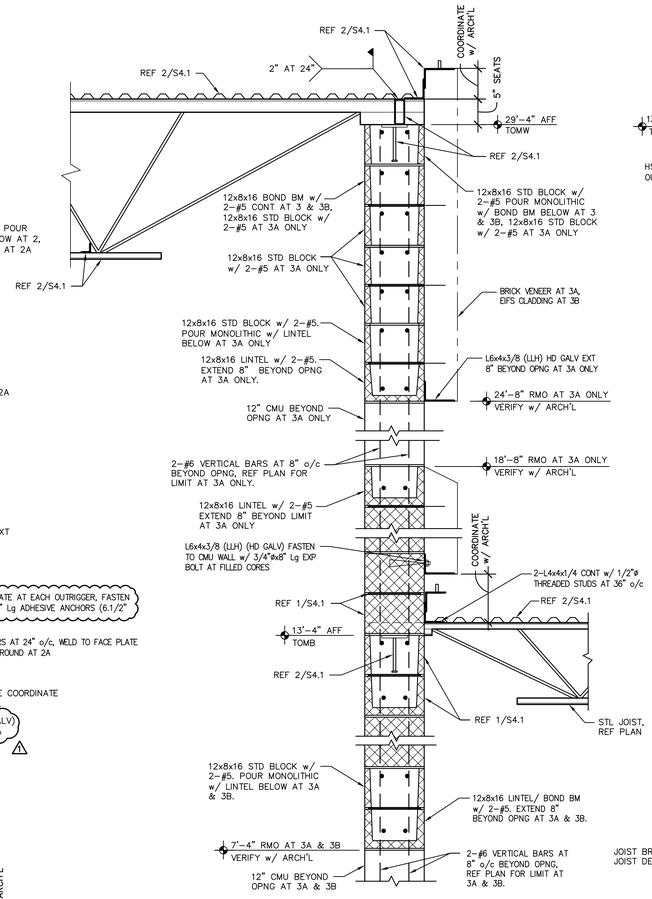

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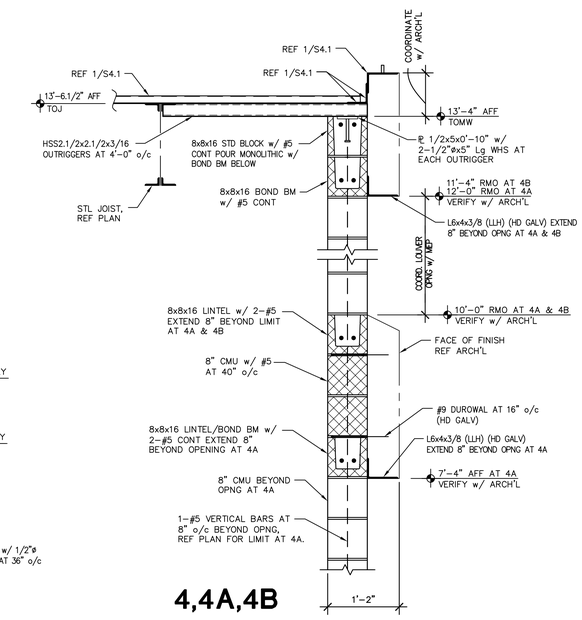

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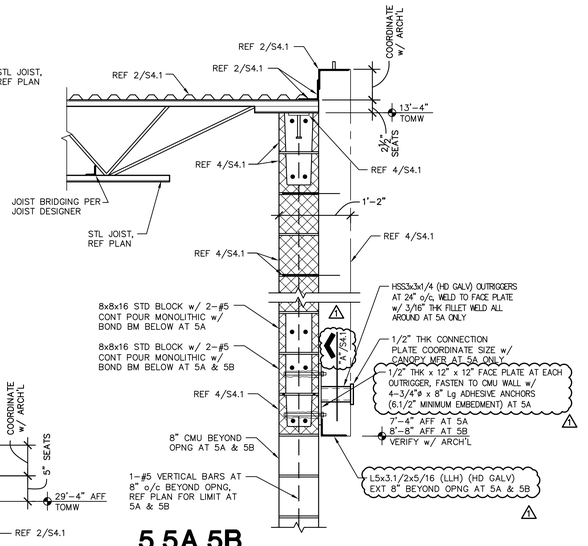

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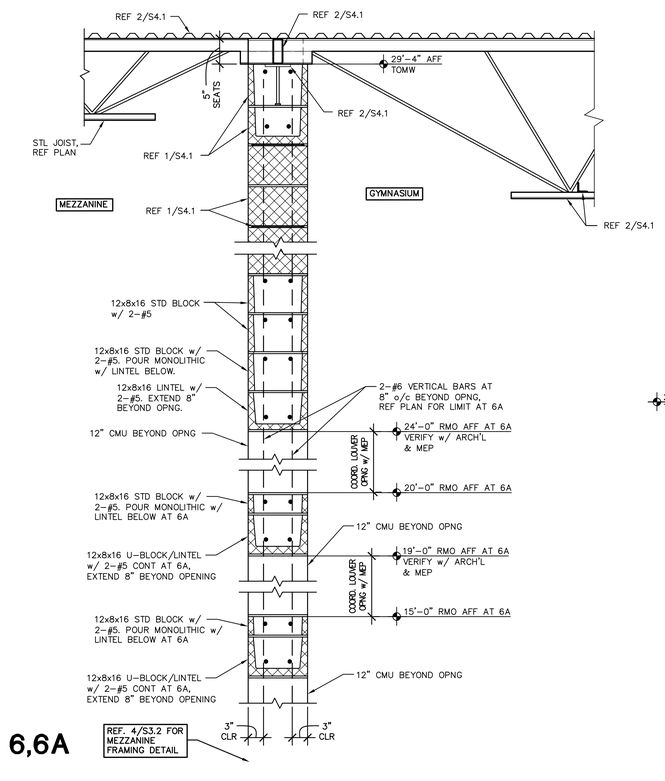

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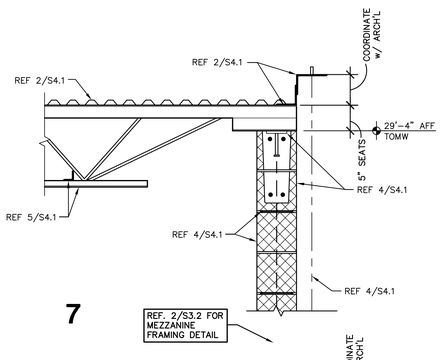

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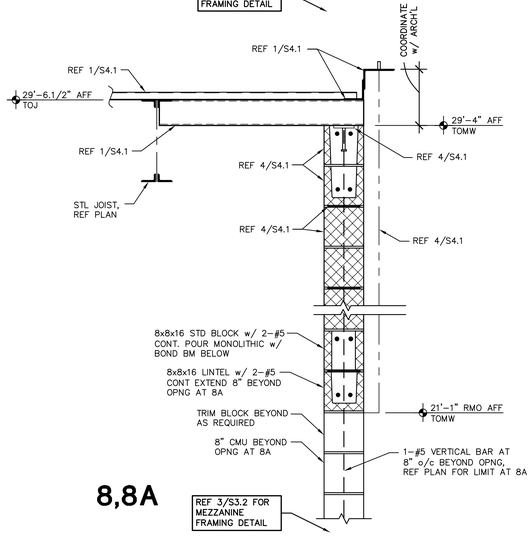

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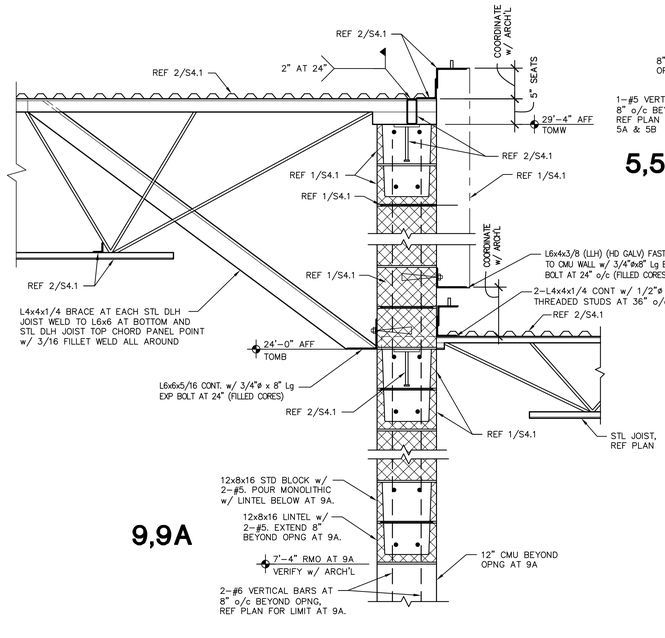

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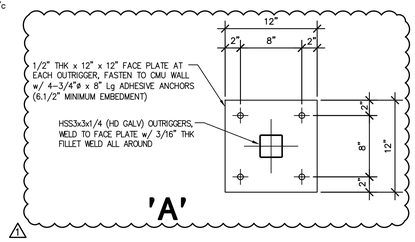

'A'

No.	REVISIONS	BY
1	06-27-19	

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Architects-Planners
Interior Designers

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Scale:	As Noted
Drawn By:	IG, JA
Checked By:	BD, JS, CG
Job No.	192-511
Sheet:	S4.1-R1

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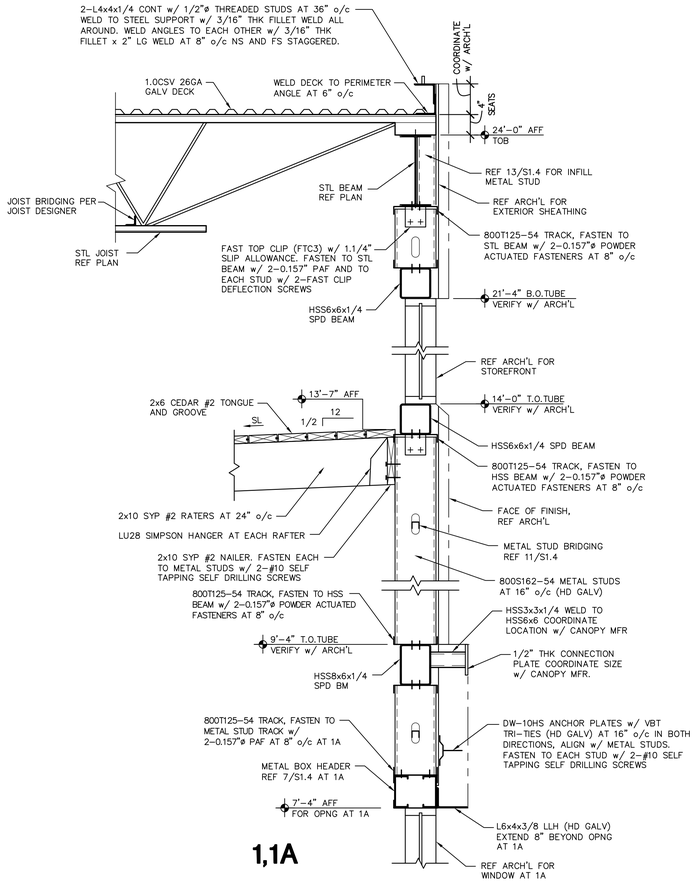

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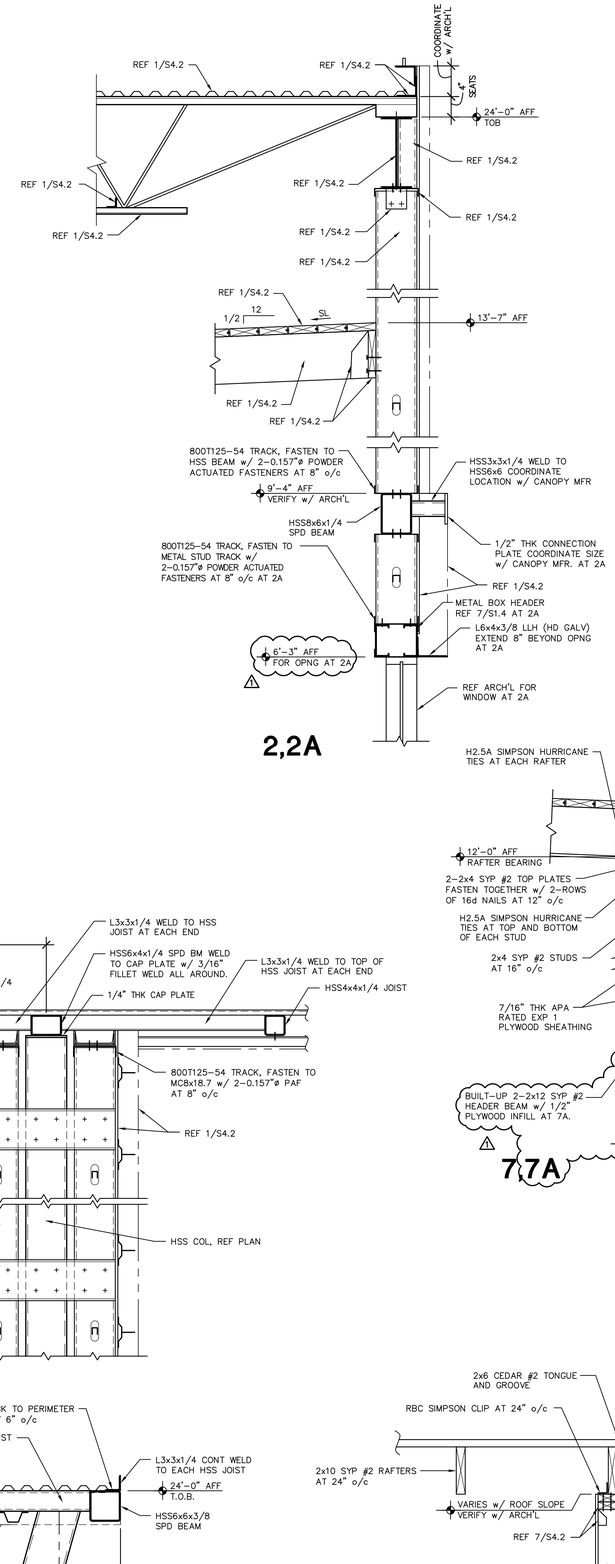

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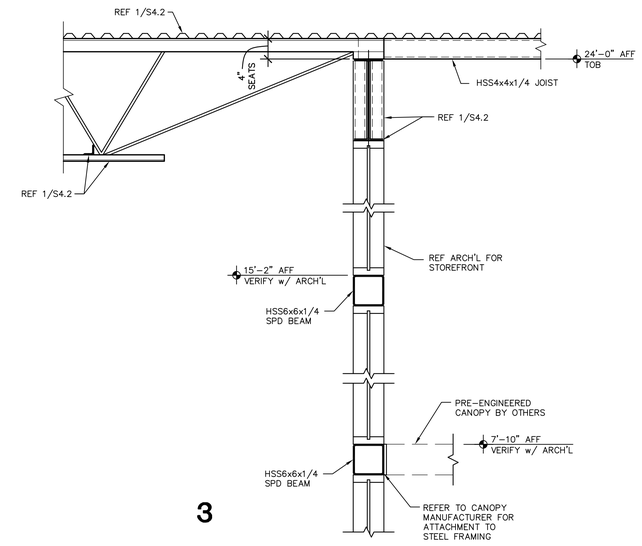

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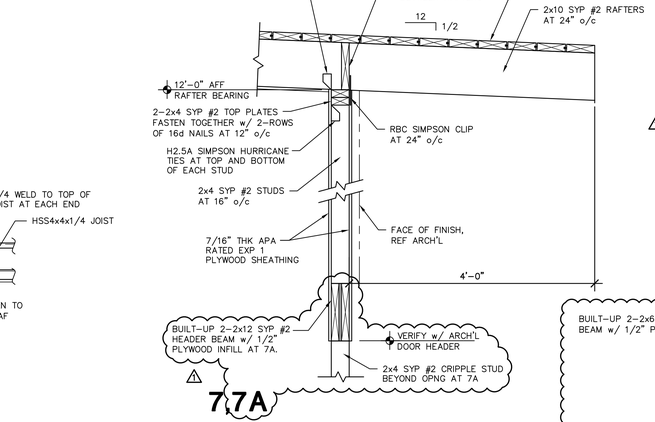

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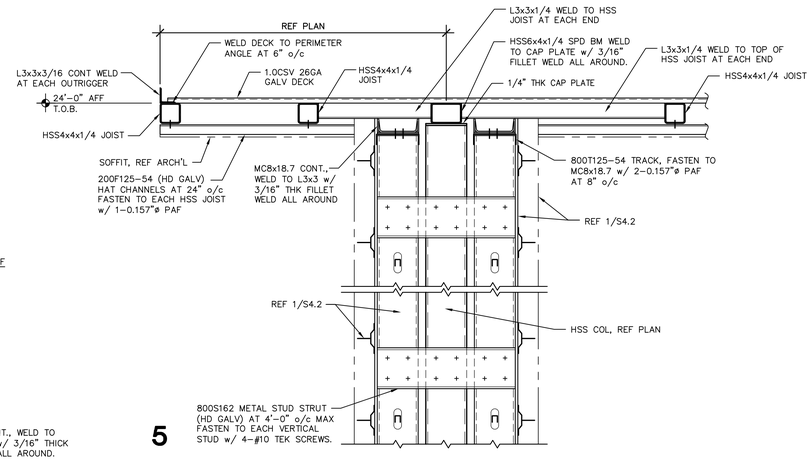

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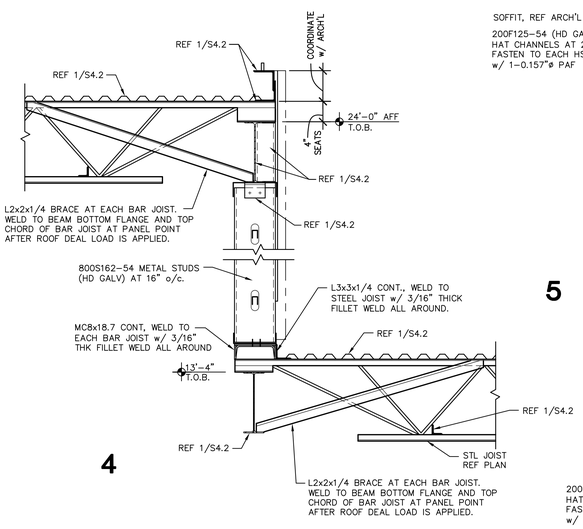

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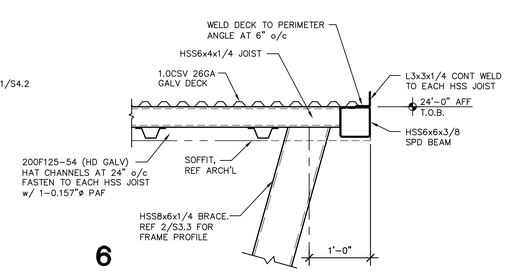

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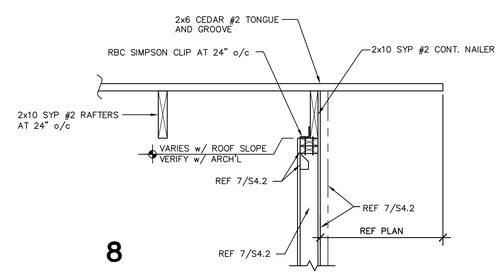

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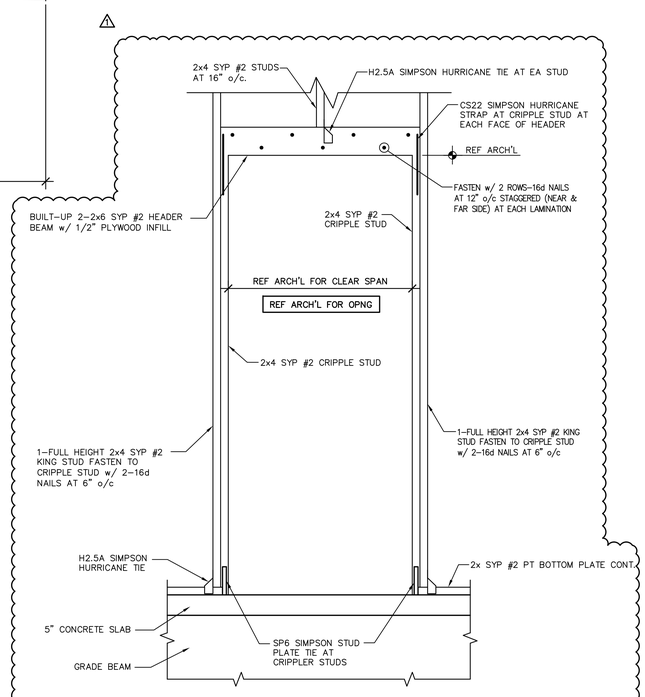

9 TYPICAL DOOR OPENING DETAIL

No.	REVISIONS	BY
1	06-27-19	

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LICENSED PROFESSIONAL ENGINEER
6/27/19

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Checked By:	BD, JS, CG
Job No.	192-511
Sheet:	S4.2-R1

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June 27, 2019
BISD Hanna Gymnasium Facility

STATE OF TEXAS
CESAR A. GONZALEZ
108611
LICENSED
PROFESSIONAL ENGINEER

STATE OF TEXAS
RAY PEYNADO
125390
LICENSED
PROFESSIONAL ENGINEER

ADDENDUM NO. 2

A. PURPOSE AND INTENT

This addendum is issued for the purpose of modifying the plans and specifications for the project referenced above.
This addendum shall become part of the contract and all contractors shall be bound by its content.
All aspects of the specifications and drawings not covered herein shall remain the same.
The General Conditions and the Special Conditions of the specifications shall govern all parts of the work and apply in full force to this addendum.

B. SCOPE

I. Specifications:

1) Section 23 0993, Item 1.10, B.2: Add the following:
   a) Per piping schematic, provide motorized isolation valves on the chiller supply lines. Interlock isolation valves with respective chillers. Provide appropriate delays to allow valve enough time to open completely before starting chiller. Provide delay between chiller Off signal and valve closing as well.

2) Section 232116 – Hydronic Piping Specialties:
   a) Add Grundfos to list of acceptable manufacturers for expansion tanks and air separators.

3) Section 232123 – Hydronic Pumps:
   a) Add Grundfos to list of acceptable manufacturers.

4) Section 232123 – Hydronic Pumps:
   a) Add Grundfos to list of acceptable manufacturers.

5) Section 268050 – Hand Dryers:
   a) 2.1 Manufacturers: Bobrick and Excel Dryer are approved.

II. Drawings:

1) Sheet MEP1.01.
   a) Revised MEP Site Plan. See attached sheet.

2) Sheet M4.01:
   a) Revised Enlarged Mechanical Plans. See attached sheet.

3) Sheet M4.02:
   a) Revised Mechanical Elevations. See attached sheet.

4) Sheet M5.01:
   a) Revised Central Plant - Chilled Water Piping Schematic Diagram. See attached sheet.

5) Sheet M6.01:
   a) Revised Mechanical Schedules. See attached sheet.

6) Sheet M7.02:
   a) Revised Mechanical Details. See attached sheet.

7) Sheet E3.01:
   a) Revised Lighting Plan for trophy case, logo sign and main disconnect relocation. See attached sheet.

8) Sheet E4.01:
   a) Revised Electrical Plan for chill water valves connection, projector and main disconnect relocations. See attached sheet.

9) Sheet E4.02:
   a) Revised Electrical Plan for duct heater connection location. See attached sheet.

10) Sheet E5.01:
   a) Revised Luminaire Schedule and added luminaire image. See attached sheet.

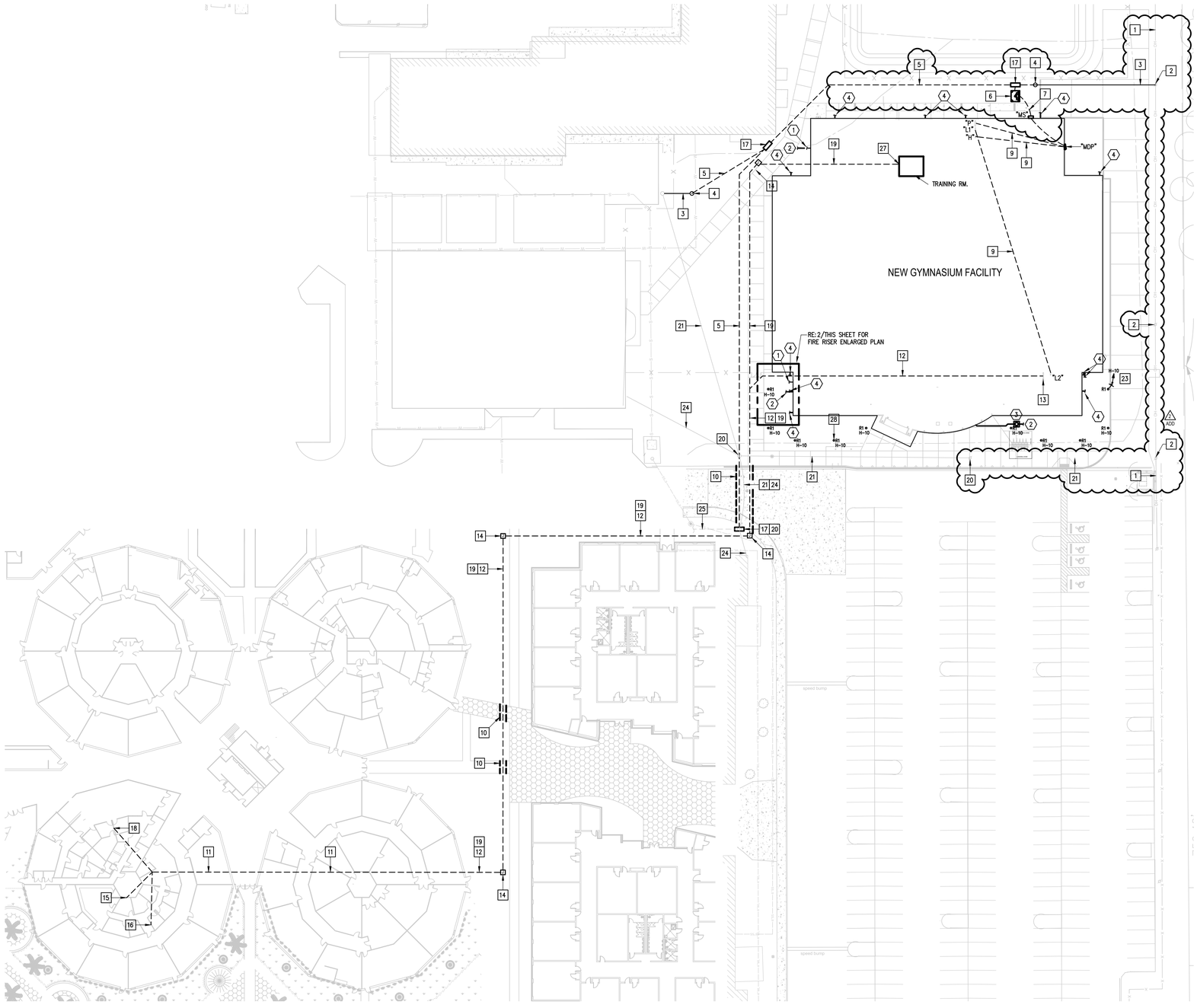
11) Sheet E6.01:
   a) Revised Electrical Riser Diagram and Keyed Notes. See attached sheet.

12) Sheet E8.01:
    a) Revised Scissor Lift and Projector Detail #12. See attached sheet.

13) Sheet P2.01:
    a) Revised Plumbing Plan. See attached sheet.

14) Sheet P3.02:
    a) Revised Waste and Vent Plan. See attached sheet.

15) Sheet P5.02:
    a) Revised Plumbing Details. See attached sheet.



01 M.E.P SITE PLAN
SCALE : 1" = 30' - 0"

NORTH

ELECTRICAL KEYED NOTES:

1. EXISTING ELECTRIC 3ø UTILITY OVERHEAD SERVICE LINES.
2. EXISTING ELECTRIC UTILITY POWER POLE.
3. NEW ELECTRIC UTILITY OVERHEAD SERVICE LINE.
4. NEW ELECTRIC UTILITY POWER POLE WITH RISER DIP POLE.
5. PROVIDE UNDERGROUND PRIMARY ELECTRIC LINE.
6. PROVIDE ELECTRIC UTILITY PAD MOUNT TRANSFORMER CONCRETE PAD.
7. PROVIDE UNDERGROUND SECONDARY ELECTRIC LINE AND WITH 2" RED CONCRETE TOPPING.
8. NOT USED. ADD
9. PROVIDE FEEDER TO PANELBOARDS. SEE FEEDER SCHEDULE.
10. BORE UNDER EXISTING ROAD/SIDEWALK.
11. RUN RACEWAYS IN CRAWL SPACE.
12. PROVIDE THE FOLLOWING:
    1-2" RACEWAY WITH PULLWIRE – (F.A. RACEWAYS)
    1-2" RACEWAY WITH PULLWIRE – (INTERCOM)
13. RISE UP RACEWAYS AT WIREWAY.
14. PROVIDE NEW 36"X36" TIER 22 RATED POLYMER CONCRETE PULL BOX WITH "COMMUNICATIONS" COVER LOGO – SEE DETAIL.
15. APPROXIMATE LOCATION OF EXISTING "DUKANE" INTERCOM CONSOLE.
16. APPROXIMATE LOCATION OF EXISTING MDF ROOM.
17. PROVIDE ELECTRIC UTILITY PAD MOUNT SECTIONALIZER CONCRETE PAD.
18. APPROXIMATE LOCATION OF EXISTING "EST-3" FIRE ALARM CONTROL PANEL.
19. PROVIDE 1-4" RACEWAY WITH PULLWIRE – (DATA).
20. EXISTING ELECTRIC UTILITY POWER POLE (AND FLOOD LIGHT IF APPLICABLE) TO BE REMOVED. COORDINATE WITH UTILITY COMPANY (PUB).
21. EXISTING ELECTRIC UTILITY OVERHEAD SERVICE LINES TO BE REMOVED. COORDINATE WITH UTILITY COMPANY (PUB).
22. EXISTING ELECTRIC UTILITY POWER POLE WITH POLE MOUNT TRANSFORMERS TO REMAIN. COORDINATE WITH UTILITY COMPANY (PUB).
23. CONNECT VIA LUTRON "QS" LINK.
24. EXISTING SPECIAL SYSTEMS AERIAL LINES TO BE REMOVED BY OWNER (BISD).
25. EXISTING ELECTRIC UTILITY UNDERGROUND SERVICE LINES.
26. NOT USED. ADD
27. RISE UP RACEWAYS IN WALL CAVITY BEHIND DATA RACK.
28. PROVIDE BOLLARD LIGHT AS SCHEDULED. SEE DETAIL 14/E8.01.

PLUMBING KEYED NOTES:

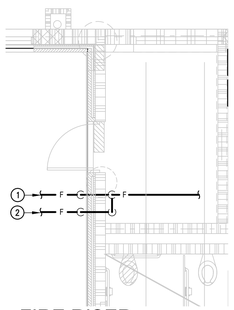
1. PROVIDE 2 1/2" DOMESTIC WATERLINE. SEE CIVIL DRAWINGS FOR CONNECTION AND CONTINUATION. (COORDINATE)
2. PROVIDE 6" SANITARY SEWER LINE. SEE CIVIL DRAWINGS FOR CONNECTION AND CONTINUATION. (COORDINATE)
3. NEW 250 GALLON GREASE INTERCEPTOR.
4. CONNECT STORM PIPING DROP DISCHARGING AT THIS APPROXIMATE LOCATION TO STORM DRAIN SYSTEM. REFER TO PLUMBING PLAN FOR MORE DETAIL AND CIVIL PLAN FOR CONNECTION AND CONTINUATION.

FIRE SUPPRESSION KEYED NOTES:

1. PROVIDE 6" FIRE SPRINKLER LINE. REFER TO CIVIL DRAWING FOR FIRE LINE CONTINUATION. VERIFY SIZE OF FIRE SPRINKLER LINE BY MEANS OF CALCULATION AND COORDINATE WITH GENERAL CONTRACTOR. COORDINATE FREE STANDING FDC AND PROVISION OF BACKFLOW PREVENTER WITH CIVIL. REFER TO PLUMBING SHEETS AND SPECIFICATIONS FOR MORE INFORMATION.
2. PROVIDE 6" FIRE SPRINKLER LINE TO SERVE FREE STANDING FDC OUTSIDE THE BUILDING. COORDINATE WITH CIVIL. VERIFY SIZE OF FIRE SPRINKLER LINE BY MEANS OF CALCULATION AND COORDINATE WITH GENERAL CONTRACTOR.

GENERAL NOTES:

1. COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
2. FIELD VERIFY PROJECT SITE EXISTING CONDITIONS AND ELEVATIONS PRIOR TO BEGINNING ANY WORK.
3. COORDINATE ELECTRICAL AND PLUMBING WITH GENERAL CONSTRUCTION.
4. PHASING AND SEQUENCE OF CONSTRUCTION SHALL BE PER ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
5. FIELD VERIFY/SPOT EXACT LOCATIONS AND EXISTING CONDITIONS OF EXISTING PLUMBING, AND ELECTRICAL. IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE AND WORKABLE SYSTEMS. SHOULD BIDDER FIND OMISSIONS OR DISCREPANCIES IN THE PLANS, BIDDER SHALL NOTIFY THE ENGINEER PRIOR TO THE BID DATE AND A WRITTEN CLARIFICATION WILL BE ISSUED.
6. DAMAGED ITEMS SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER. CONTRACTORS ARE REQUIRED TO SEARCH AND INVESTIGATE FOR EXISTING UTILITIES BEFORE EXCAVATING.
7. ALL MATERIALS AND LABOR, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR. INCLUDE ALL COSTS OF CHANGES, IF/AS REQUIRED IN BID PROPOSAL.
8. PROVIDE J-BOXES (POLYMER CONCRETE) AS REQUIRED FOR PULL WIRING.
9. ELECTRICAL WIRING SHALL NOT BE SPLICED BELOW GRADE.
10. PERFORM ALL WORK PER LATEST VERSION OF NATIONAL ELECTRICAL CODE, AND APPLICABLE LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
11. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
12. CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
13. NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
14. COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
15. SEAL AROUND ELECTRICAL RACEWAYS AT ALL WALLS, A/C ROOMS AND WALL LOUVER PENETRATIONS WITH FIREPROOF CAULKING. RE: SPECS. PROVIDE FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE, TO PROVIDE FINISHED LOOK.
16. TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE UTILITY CONFLICTS THAT CAN BE REASONABLY RESOLVED BY COORDINATION DURING SHOP DRAWING PHASE.
17. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND ELECTRICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
18. MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT.
19. AFFIX ID TAGS TO ALL DIVISION 26 EQUIPMENT.
20. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MECHANICAL AND PLUMBING CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
21. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
22. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
23. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
24. WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
25. SLEEVE ALL EXTERIOR WALL PENETRATIONS.
26. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.

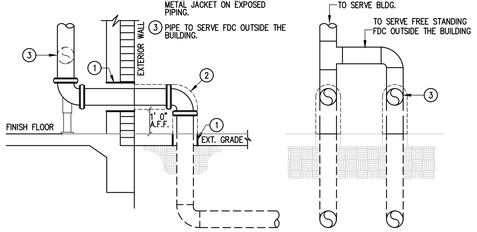


02 FIRE RISER ENLARED PLAN
SCALE : 1/4" = 1' - 0"

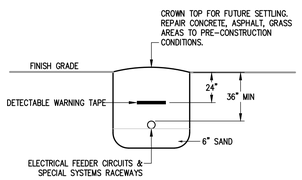
NORTH

DETAIL KEYED NOTES

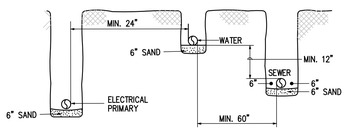
1. SLEEVE.
2. PROVIDE 1" CLOSED-CELL INSULATION WITH ALUMINUM METAL JACKET ON EXPOSED PIPING.
3. PIPE TO SERVE FDC OUTSIDE THE BUILDING.



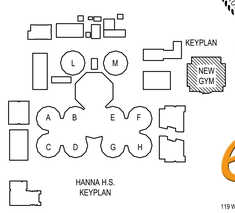
03 FIRE RISER ENTRANCE DETAIL
SCALE : NOT TO SCALE



04 BURIAL DETAIL FOR ELECTRICAL RACEWAYS
SCALE : NONE



05 TRENCHING DETAIL
SCALE : NONE



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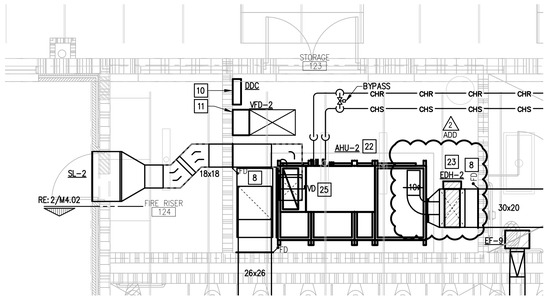
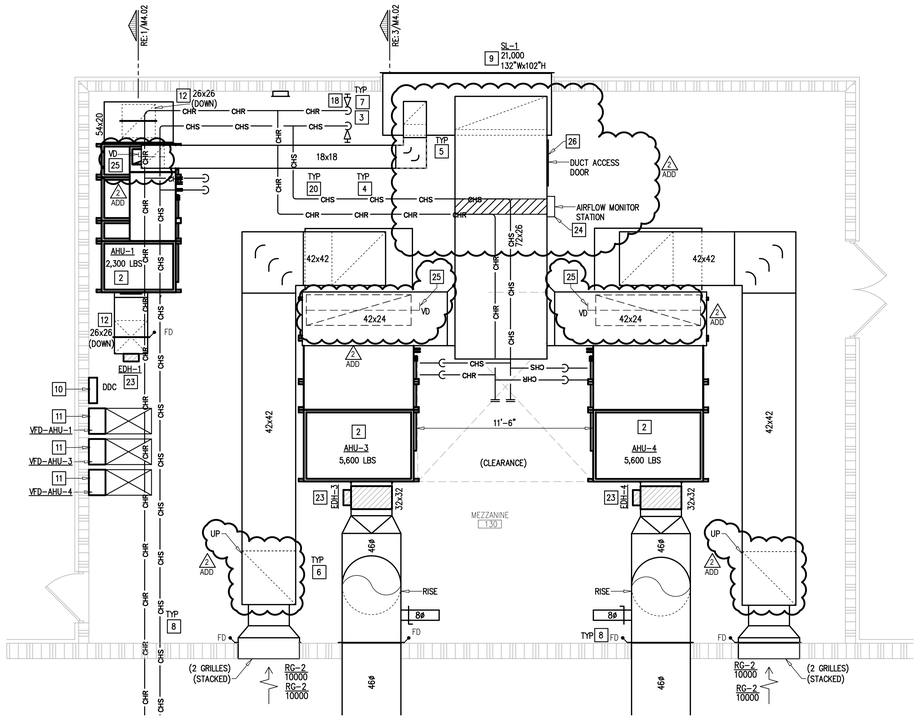
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No: BISD Hanna Gymnasium
Sheet:

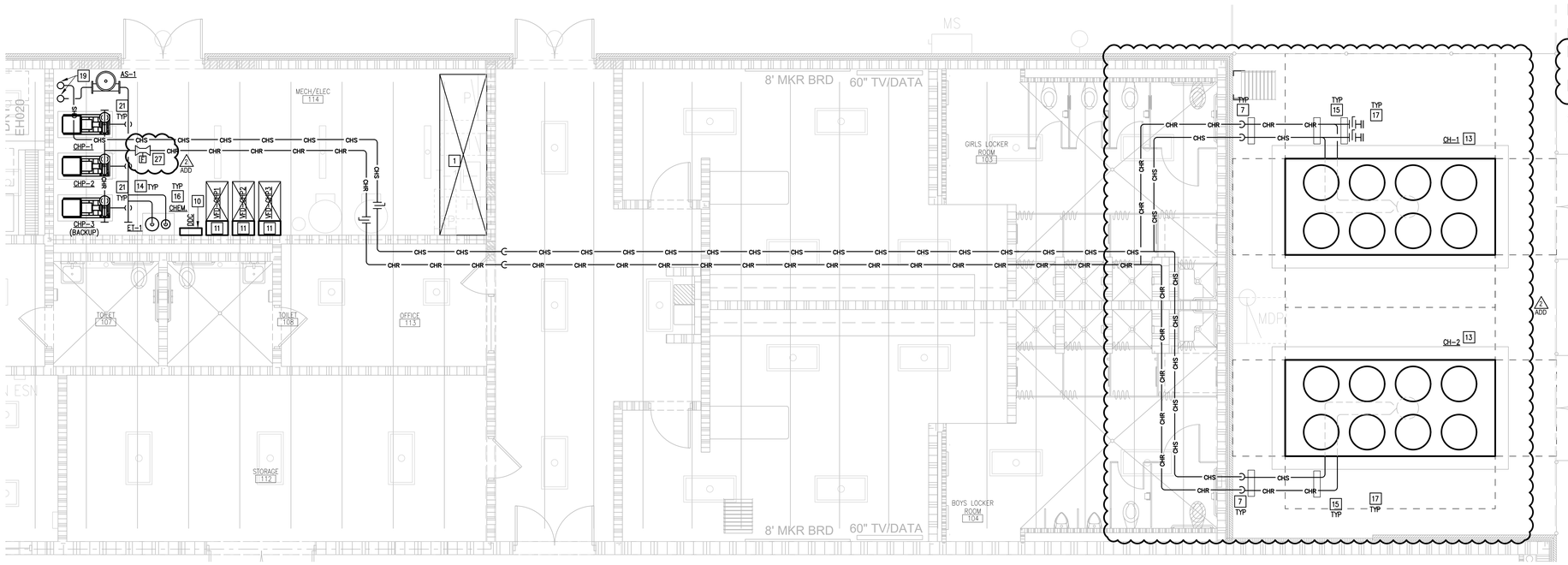
MEP1.01



01 ENLARGED MECHANICAL PLAN
SCALE : 1/4" = 1'=0"
NORTH



02 ENLARGED MEZZANINE MECHANICAL PLAN
SCALE : 1/4" = 1'=0"
NORTH



03 ENLARGED MECHANICAL PLAN
SCALE : 1/4" = 1'=0"
NORTH

MECHANICAL GENERAL NOTES:

1. PRIOR TO LABELING EQUIPMENT, COORDINATE DESIGNATION AND IDENTIFICATION WITH OWNER AND BUILDING AUTOMATION SYSTEM.

MECHANICAL KEYED NOTES:

1. CODE AND WORKING CLEARANCE FOR ELECTRICAL PANELS. DO NOT ROUTE DUCT OR PIPING DIRECTLY ABOVE ELECTRICAL EQUIPMENT FOOTPRINT. SEE ELECTRICAL PLANS FOR EXACT LOCATION. (TYP.)
2. PROVIDE CENTRAL STATION AIR HANDLING UNIT AS SCHEDULED. MOUNT UNIT ON STRUCTURAL BASE AND PROVIDE AUXILIARY DRAIN PAN. ROUTE COPPER CONDENSATE LINE TO PLUMBING RECEPTACLE AND INSULATE PER SPECIFICATIONS. DROP CHW LINES NEXT TO UNIT TO AVOID INTERFERENCE WITH MAINTENANCE ACCESS. POSITION UNIT TO ALLOW REQUIRED CLEARANCES, AND ALIGN TO MINIMIZE DUCTWORK TRANSITIONS BETWEEN UNIT OPENINGS AND TRUNK DUCTS. REFER TO AHUS VIEWS AND ELEVATIONS. COORDINATE UNIT DIMENSIONS, ORIENTATION, CONFIGURATION, AND CONNECTION LOCATIONS PRIOR TO ORDERING.
3. RISE WITH CHILLED WATER PIPING AT THIS APPROXIMATE LOCATION FROM MECHANICAL ROOM BELOW.
4. INSTALL CHW LINES AS HIGH AS POSSIBLE TO AVOID CONFLICT WITH DUCTWORK. PROVIDE CORROSION RESISTANT COATING ON CHW LINES PRIOR TO INSULATING THEM. SEE SPECIFICATIONS.
5. ROUTE OUTSIDE AIR DUCT TO INTAKE CONNECTION AT AHU. ROUTE DUCT AS HIGH AS POSSIBLE. INSULATE WITH 2" DUCT WRAP. PROVIDE MANUAL VOLUME DAMPER.
6. DUCTWORK ROUTING SHOWN IS DIAGRAMMATIC IN NATURE. FIELD-VERIFY STRUCTURE AND SPACE AVAILABILITY PRIOR TO SUBMITTING SHOP DRAWINGS. COORDINATE WITH ARCHITECT AND ENGINEER IN CASE OF CONFLICTS. (TYP.)
7. SLEEVE ALL WALL PENETRATIONS PER SPECIFICATIONS. SEAL AROUND DUCTS & PIPING AT ALL WALLS, AC ROOMS AND WALL LOUVER PENETRATIONS WITH FIRE-PROOF CAULKING. PROVIDE ESCUTCHEON PLATES AND FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE TO PROVIDE A FINISH LOOK. (TYP.)
8. PROVIDE 1-1/2 HOUR RATING, DYNAMIC FIRE DAMPER EQUAL TO RUSKIN DIBD2 AND DUCT ACCESS DOOR EQUAL TO RUSKIN ADH-22 FOR RECTANGULAR DUCT, ACUDOR RD FOR ROUND DUCT. (TYPICAL). PROVIDE FIRE DAMPER AT WALL PENETRATIONS AS SHOWN.: ACCESS PANEL SHALL BE IN CEILING SPACE.
9. PROVIDE LOUVER AS SCHEDULED. COORDINATE FINAL FINISH, SIZE AND LOCATION WITH ARCHITECT PRIOR TO ORDERING. (TYP.)
10. LOCATE DDC PANEL AT THIS APPROXIMATE LOCATION. REFER TO SPECIFICATION FOR DDC CONTROLS AND SEQUENCES OF OPERATION. COORDINATE PROVISION OF DDC SENSORS IN RETURN AIR INTAKE CABINET OF AIR HANDLING UNIT. COORDINATE WITH CONTROLS CONTRACTOR.
11. PROVIDE VFD PER SCHEDULE WITH NEMA-1 ENCLOSURE FOR MOUNTING INDOORS. MAINTAIN MINIMUM 3'-0" CLEARANCE IN FRONT OF VFD. (TYPICAL)
12. ROUTE DUCTWORK DOWN TO CEILING SPACE BELOW MEZZANINE FLOOR. COORDINATE FLOOR PENETRATION AND ROUTING WITH GENERAL CONTRACTOR.
13. PROVIDE AIR COOLED CHILLER AS PER SCHEDULE AND SPECIFICATIONS. PROVIDE 6" CONCRETE PAD. PAD SHALL BE 12" LARGER ON ALL SIDES. RE: TO STRUCTURAL DRAWINGS FOR CHILLER FOUNDATION DETAILS.
14. PROVIDE PUMPS, AIR SEPARATOR, EXPANSION TANK, AND CHEMICAL POT FEEDER ON 4" CONCRETE PADS. PAD SHALL BE 4" LARGER ON ALL SIDES FOR ALL EQUIPMENT EXCEPT CHILLER. REFER TO STRUCTURAL DRAWINGS.
15. PIPE SUPPORTS AND STANCHIONS SHALL BE HOT DIPPED GALVANIZED AND PAINTED. BASE PLATE SHALL BE INSTALLED ON A 4" CONCRETE PAD. REFER TO DETAIL SHEET.
16. PROVIDE HYDRONIC PIPING WITH THERMOWELLS, PRESSURE GAUGES, THERMOMETERS, FLOW SWITCHES, MANUAL VALVES, ETC. PROVIDE PIPING SPECIALTIES SUCH AS AIR SEPARATOR, EXPANSION TANK, MAKE UP WATER, CHEMICAL FEEDER, ETC. SEE PIPING SCHEMATIC AND ASSOCIATED DETAILS. PROVIDE HOUSEKEEPING CONCRETE PAD.
17. PROVIDE ALUMINUM METAL JACKETING WITH APPROPRIATE IDENTIFICATION FOR ALL EXPOSED CHW PIPING. SEE SPECIFICATIONS.
18. PROVIDE ISOLATION VALVES WITHIN MECHANICAL ROOM.
19. RISE WITH CHILLED WATER PIPING UP TO MEZZANINE AT THIS APPROXIMATE LOCATION.
20. RUN CHILLED WATER PIPING HIGH BETWEEN ROOF JOISTS TO MAINTAIN MAXIMUM HEAD CLEARANCE.
21. PROVIDE PUMPS ON VIBRATION ISOLATING INERTIA BASES.
22. PROVIDE CENTRAL STATION AIR HANDLING UNIT AS SCHEDULED. PROVIDE 6" HOUSEKEEPING PAD PER DETAIL SHEET. PAD SHALL BE MINIMUM 6" LARGER THAN EQUIPMENT FOOTPRINT ON ALL SIDES. ROUTE COPPER CONDENSATE LINE TO PLUMBING RECEPTACLE AND INSULATE PER SPECIFICATIONS. DROP CHW LINES NEXT TO UNIT TO AVOID INTERFERENCE WITH MAINTENANCE ACCESS. POSITION UNIT TO ALLOW REQUIRED CLEARANCES, AND ALIGN TO MINIMIZE DUCTWORK TRANSITIONS BETWEEN UNIT OPENINGS AND TRUNK DUCTS. REFER TO AHUS VIEWS AND ELEVATIONS. COORDINATE UNIT DIMENSIONS, ORIENTATION, CONFIGURATION, AND CONNECTION LOCATIONS PRIOR TO ORDERING.
23. PROVIDE DUCT HEATER AS SCHEDULED.
24. PROVIDE OUTSIDE AIR MONITORING STATION AS SHOWN. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
25. PROVIDE MANUAL BALANCING AIR DAMPER AT OUTSIDE AIR DUCTS AS SHOWN.
26. PROVIDE LARGE DUCT ACCESS DOOR EQUAL TO RUSKIN GPAD 36"X24" TO PROVIDE "HEAD AND SHOULDER" MAINTENANCE CLEARANCE. INSTALL ACCESS PANEL UPSTREAM BETWEEN INTAKE LOUVER AND MONITORING STATION.
27. PROVIDE LINE SIZE FLOW METER ONICON MODEL F1210 OR APPROVED EQUAL. REFER TO SPECIFICATIONS FOR MORE INFORMATION.

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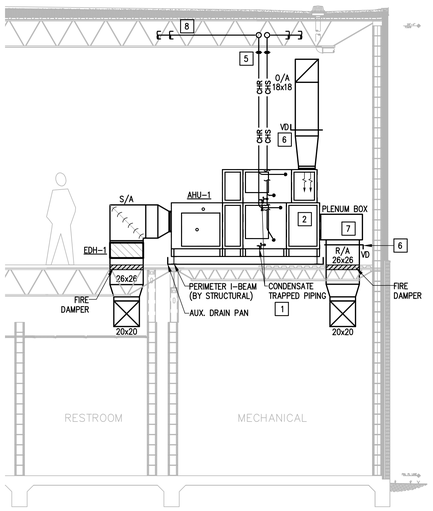
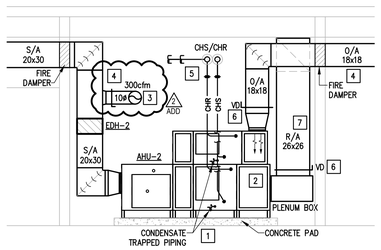


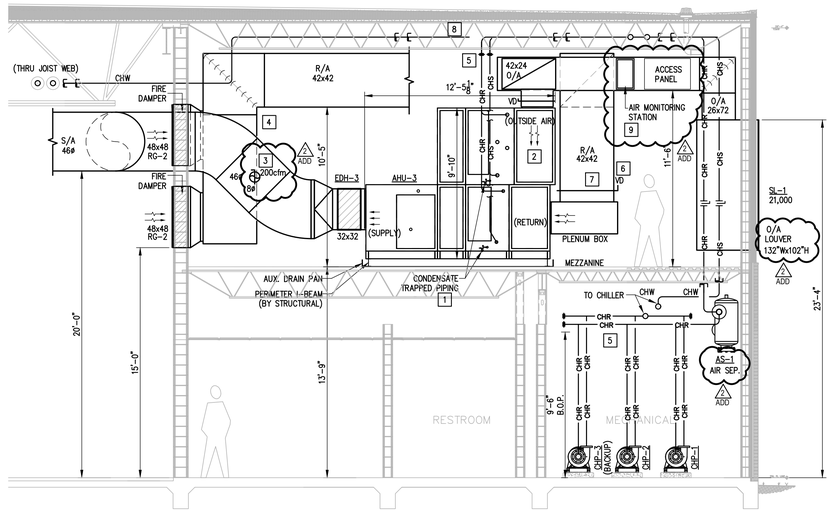
01 AHU-1 MECHANICAL ELEVATION

SCALE : 1/4" = 1'=0"



02 AHU-2 MECHANICAL ELEVATION

SCALE : 1/4" = 1'=0"

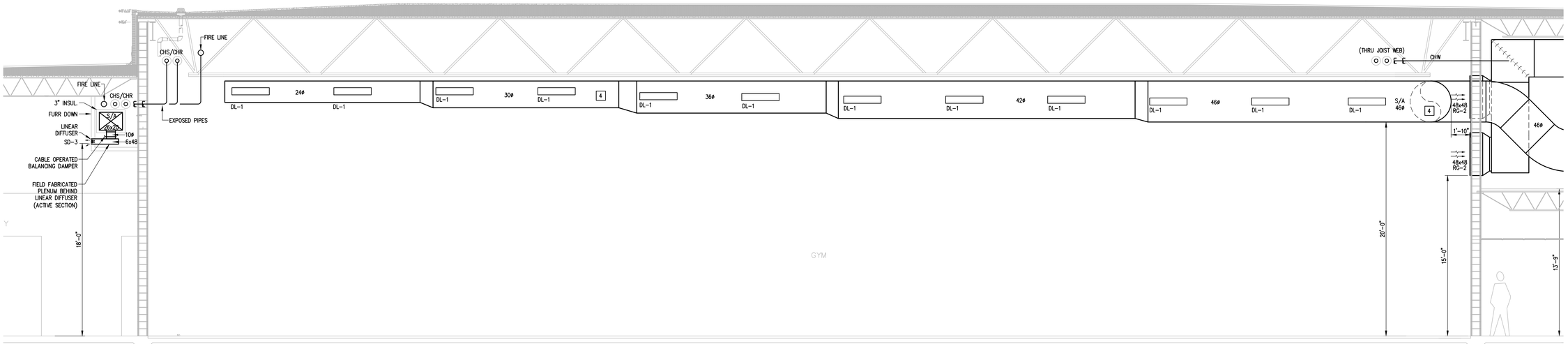


03 AHU-3 (AHU-4 SIMILAR) MECHANICAL ELEVATION

SCALE : 1/4" = 1'=0"

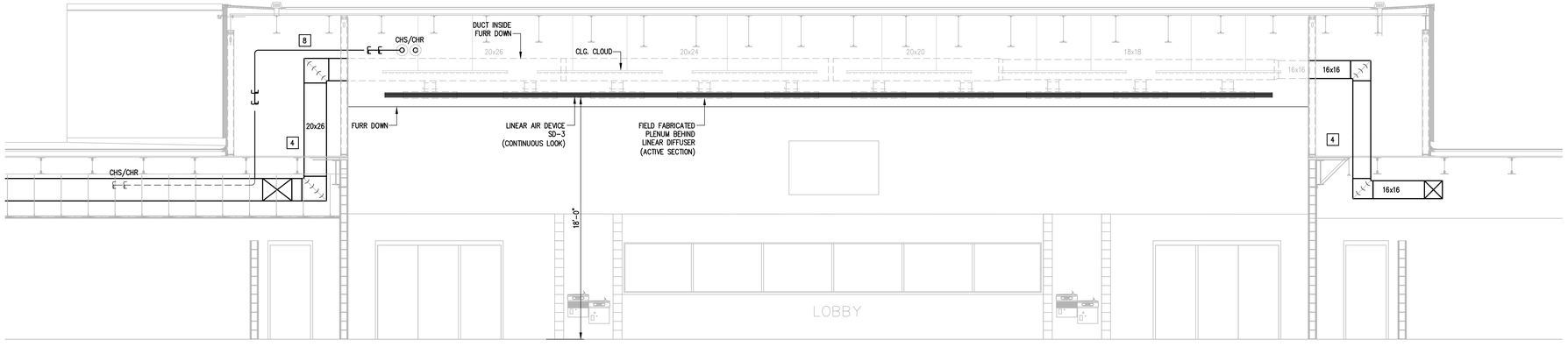
KEYED NOTES:

1. SYMBOL IS DIAGRAMMATIC. COORDINATE CONDENSATE TRAP SIZE AND DEPTH WITH AHU SUPPLIER. PROVIDE INSULATED COPPER CONDENSATE DRAIN LINE ON UNISTRUT SLEEPERS, AND ROUTE LINE TO DRAIN RECEPTOR. PROVIDE INSULATION. PROVIDE COPPER TUBING FROM AIR VENT DISCHARGE TO DRAIN.
2. MOTORIZED OUTSIDE AIR AND RETURN AIR DAMPERS IN AHU BY MANUFACTURER. ACTUATORS BY CONTROLS.
3. PROVIDE INSULATED ROUND DUCT, CFM AS SHOWN WITH VOLUME DAMPER TO SERVE MECHANICAL ROOM.
4. DUCTWORK ROUTING SHOWN IS DIAGRAMMATIC IN NATURE. FIELD-VERIFY STRUCTURE AND SPACE AVAILABILITY PRIOR TO SUBMITTING SHOP DRAWINGS. COORDINATE WITH ARCHITECT AND ENGINEER IN CASE OF CONFLICTS. (TYPICAL)
5. OPTIMIZE ROUTING OF CHILLED WATER PIPING AND COIL CONNECTIONS TO PREVENT BLOCKAGE OF AHU'S ACCESS DOORS. ACCESS DOORS SHALL HAVE A CLEAR SWING FOR SERVICE. ALL FITTINGS, VALVES, AND ACCESSORIES. SEE ASSOCIATED DETAIL ON DETAIL SHEET.(TYPICAL)
6. MANUAL VOLUME DAMPER MOUNTED IN RETURN AIR AND OUTSIDE AIR DUCTS.
7. SMOKE DETECTOR TO BE INSTALLED AT RETURN AIR DUCT OF AIR HANDLING UNIT. RE: ELECTRICAL.
8. INSTALL CHW LINES AS HIGH AS POSSIBLE TO AVOID CONFLICT WITH DUCTWORK. PROVIDE CORROSION RESISTANT COATING ON CHW LINES PRIOR TO INSULATING THEM. SEE SPECIFICATIONS.
9. PROVIDE OUTSIDE AIR MONITORING STATION AS SHOWN. REFER TO SPECIFICATIONS FOR MORE INFORMATION. PROVIDE REMOTE LCD READOUT. READOUT SHALL BE LOCATED WHERE EASILY ACCESSIBLE AND VISIBLE ON NEARBY WALL. MOUNT LCD READOUT AT 48" A.F.F.



04 GYMNASIUM MECHANICAL ELEVATION

SCALE : 1/4" = 1'=0"



05 LOBBY MECHANICAL ELEVATION

SCALE : 1/4" = 1'=0"

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Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
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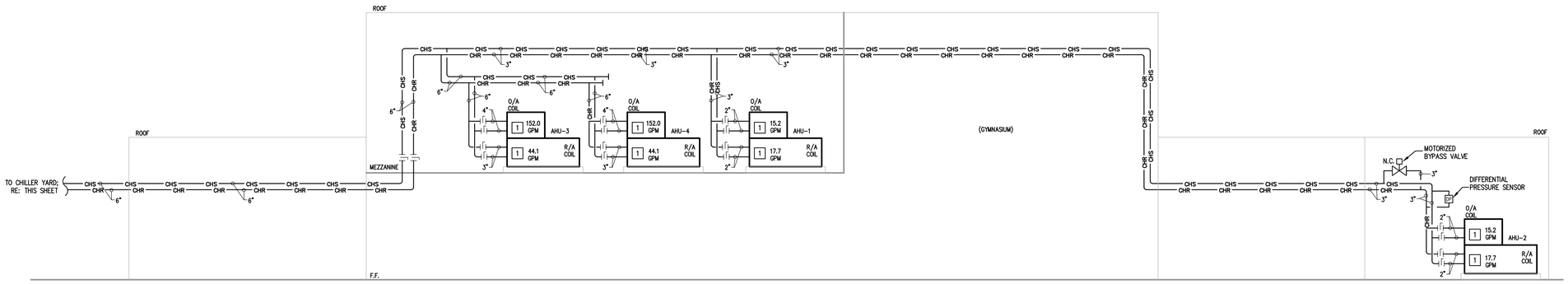
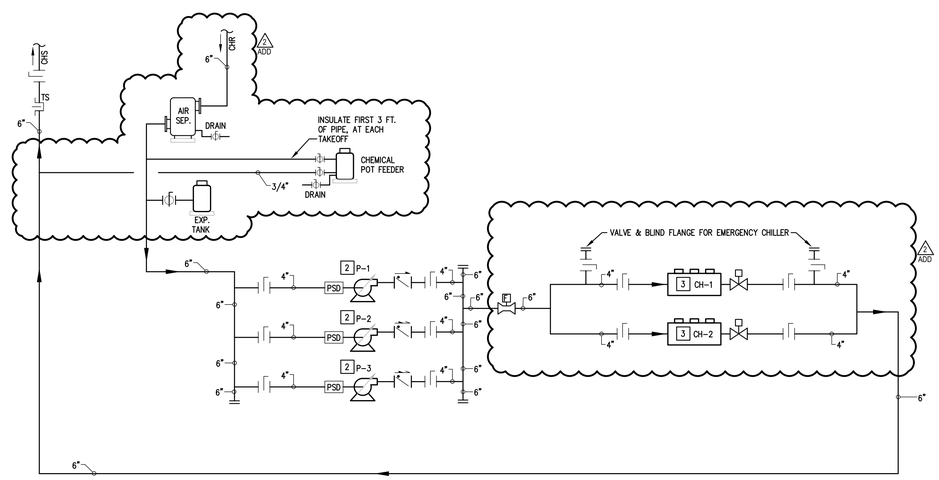


1 CHILLED WATER PIPING SCHEMATIC DIAGRAM

SCALE: NOT TO SCALE



2 CENTRAL PLANT - CHILLED WATER PIPING SCHEMATIC DIAGRAM

SCALE: NOT TO SCALE

NOTES:

1. PROVIDE MULTIPLE REDUCERS (2-1/2" TO 3", 3" TO 4") AT SUCTION AND DISCHARGE OF PUMPS. ALL VALVES, SUCTION DIFFUSERS, ETC. SHALL BE LINE SIZE. SINGLE PIPE REDUCER WITH FLOW STRAIGHTENING VANES WILL BE ACCEPTED (METRAFLEX OR EQUAL).
2. TEMPERATURE AND PRESSURE GAGES AND PT TEST PORTS ARE NOT SHOWN ON PIPING SCHEMATICS. SEE CONNECTION DETAILS FOR REQUIREMENTS.

GENERAL NOTES:

1. ALL PIPING WELDS MUST BE WIRE-BRUSHED AND PAINTED A MINIMUM OF 12" ON EITHER SIDE OF WELD PRIOR TO INSULATION.
2. CLEAN AND PREPARE SURFACE OF CHILLED WATER PIPING BEFORE INSULATING. APPLY CORROSION COATING TO ALL PIPING. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
3. INSULATE PER SPECIFICATIONS ALL PIPING, VALVES, FITTINGS, PUMP BODIES AND COLD SURFACES THAT ARE CAPABLE OF GENERATING CONDENSATION. FIBERGLASS INSULATION WILL NOT BE ALLOWED.
4. PRIOR TO INSTALLATION OF EQUIPMENT, VERIFY THAT MANUFACTURER RECOMMENDED AND CODE REQUIRED CLEARANCES ARE AVAILABLE.
5. INSTALL PIPES AND DUCTS AS HIGH AS POSSIBLE TO ALLOW MAXIMUM POSSIBLE HEADROOM. MIN. 9' AFF.
6. PROVIDE P/T TEST PORT WITHIN 6 INCHES OF EVERY PRESSURE GAGE AND THERMOWELL. SEE PIPING SCHEMATIC FOR LOCATIONS.
7. REFER TO HYDRONIC PIPING SCHEMATICS FOR DETAILS.
8. FOR ALL PIPING SUPPORTS LOCATED OUTDOORS, PROVIDE THE FOLLOWING:
   - A) POLYAMIDE PRIME COAT OF DEVOE PAINTS, DEVRAN 201.
   - B) INTERMEDIATE TOP COAT OF DEVOE PAINTS, DEVRAN 224HS.
   - C) TOP COAT OF DEVOE PAINTS, DEVTHANE 379.
9. GPM's ARE SHOWN FOR VERIFICATION PURPOSE ONLY. DO NOT USE THIS DATA FOR TAB. IN CASE OF CONFLICT, OR IF FLOW DATA DO NOT MATCH WITH THOSE FOR SCHEDULED EQUIPMENT, USE LARGER OF THE TWO.
10. REFER TO SPECIFICATIONS FOR CONTROL COMPONENTS, DEVICES, AND SENSORS TO BE COORDINATED WITH MECHANICAL WORK.
11. AT LOWEST POINT IN PIPING ENTERING CHILLER BARRELS, PROVIDE 6" LONG DRAIN NIPPLES AND BALL VALVES FOR DRAINING CHILLER.

KEYED NOTES:

1. PROVIDE 2-WAY CONTROL VALVE AT AHU. REFER TO CHILLED WATER COIL CONNECTION SCHEMATIC WITH 2-WAY VALVE ON DETAIL SHEET.
2. REFER TO END SUCTION PUMP DETAIL ON DETAIL SHEET.
3. REFER TO CHILLER CHILLED WATER PIPING DETAIL ON DETAIL SHEET.

LEGEND:

- AIR SEPARATOR
- AUTOMATIC VALVE
- MANUAL VALVE
- PRESSURE SENSOR
- STRAINER
- FLOW METER
- PUMP SUCTION DIFFUSER
- BALL VALVE
- WATER METER
- BLIND FLANGE
- PUMP
- PUMP WITH VFD
- PRESSURE VALVE
- NEW EQUIPMENT
- NEW PIPING
- THERMOWELL FOR DDC TEMPERATURE SENSOR
- FLOW SWITCH
- CHECK VALVE

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PUMP SCHEDULE

MARK	LOCATION	QTY	TYPE	MANUFACTURER & MODEL NUMBER	GPM	HEAD (FT)	MIN. HP	MIN. EFF.	RPM	ELECTRICAL	NOTES
CHP-1, 2	PUMP ROOM	2	END SUCTION	BELL & GOSSETT E1510-2EB	240	100	10	70.6%	1,750	480V / 3PH / 60HZ	ALL
CHP-3 BACKUP	PUMP ROOM	1	END SUCTION	BELL & GOSSETT E1510-2EB	240	100	10	70.6%	1,750	480V / 3PH / 60HZ	ALL

NOTES:
1. PROVIDE NON-OVERLOADING, PREMIUM EFFICIENCY, TEFC MOTORS, RATED FOR VFD DUTY.
2. PROVIDE COUPLINGS RATED FOR VFD DUTY. FALK T31 SPACER TYPE.
3. FACTORY REPRESENTATIVE SHALL FIELD-VERIFY PUMP ALIGNMENT WITH LASER ALIGNMENT TOOLS.
4. PROVIDE SUCTION DIFFUSERS AND SHAFT GROUNDING ON MOTORS.
5. PROVIDE PUMP AND MOTOR COATING/PAINT RATED FOR EXTERIOR INSTALLATION IN CORROSIVE ENVIRONMENT.
6. PROVIDE SPRING TYPE VIBRATION ISOLATION INERTIA BASE.

EXPANSION TANK SCHEDULE

MARK	SERVICE	TYPE	ACCEPTANCE VOLUME GALLONS	(DIAMETER) X (HEIGHT)	LOCATION	MANUFACTURER & MODEL NUMBER OR EQUAL	NOTES
ET-1	CHILLED WATER	VERTICAL FLOOR MOUNT BLADDER	53	24"x37"	PUMP ROOM	BELL AND GOSSETT B-200	ALL

NOTES:
1. PROVIDE LINE SIZE AIR SEPARATOR, BELL AND GOSSETT ROLAIRTROL RL-6F FOR 6" CONNECTION.

AIR SEPARATOR SCHEDULE

MARK	SERVICE	VOLUME GALLONS	(WIDTH) X (HEIGHT)	LOCATION	MANUFACTURER & MODEL NUMBER OR EQUAL	NOTES
AS-1	CHILLED WATER	34	25.75"x44"	PUMP ROOM	BELL AND GOSSETT ROLAIRTROL RL-6F	ALL

2 ADD

ELECTRIC DUCT HEATER SCHEDULE

MARK	UNIT TYPE	DUCT SIZE (INCHES)	TOTAL (HALF) CFM	SERVES	KW	STG.	ELECT. V/PH/HZ	NOTES	MANUFACTURER MODEL NUMBER
EDH-1	DUCT MOUNTED	26X26	5000 (2500)	AHU-1	25	SCR	480/3/60	ALL	WARREN CBK
EDH-2	DUCT MOUNTED	30X20	5000 (2500)	AHU-2	25	SCR	480/3/60	ALL	WARREN CBK
EDH-3	DUCT MOUNTED	32X32	20000 (10000)	AHU-3	90	SCR	480/3/60	ALL	WARREN CBK
EDH-4	DUCT MOUNTED	32X32	20000 (10000)	AHU-4	90	SCR	480/3/60	ALL	WARREN CBK

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL".
2. PROVIDE AIR PRESSURE SWITCH, MAGNETIC CONTACTORS, HI LIMIT CONTROL, PRIMARY AND SECONDARY OVER CURRENT PROTECTION (FUSES), DOOR INTERLOCKED DISCONNECT SWITCH.
3. DIV. 26 TO PROVIDE SAFETY DISCONNECT (SEPARATED FROM AHU FAN).
4. HEATER SIZED FOR ONLY HALF OF THE TOTAL AIRFLOW. REFER TO SEQUENCES OF OPERATIONS.

AIR DEVICE & DIFFUSER SCHEDULE

SUPPLY AIR DIFFUSER (SD-1)

TITUS OMNI-AA NC < 20			DESCRIPTION: ALUMINUM SQUARE CEILING DIFFUSER, BORDER TYPE 3, COLOR WHITE WITH ROUND NECK AND FULL FACE		
CLG. MODULE SIZE INCHES	FACE SIZE INCHES	ROUND NECK SIZE	FLEX DUCT SIZE	DIFFUSER DIFFUSION PATTERN & CFM	NOTES
24 X 24	24 X 24	TO MATCH NC CRITERIA	SEE PLAN	SD1-CFM	1-4,6

SUPPLY AIR GRILLE (SD-2) SIDE WALL

TITUS 301FL NC < 20		DESCRIPTION: AEROBLADE, ALUMINUM, DOUBLE DEFLECTION DIFFUSER BORDER TYPE 1 (SURFACE MOUNT) STATIC PRESSURE: < 0.05" W.G.		
NOMINAL DUCT SIZE INCHES (INLET)	FACE SIZE INCHES (INCLUDING FRAME)		DIFFUSER DIFFUSION PATTERN & CFM	NOTES
12 X 10	INLET SIZE PLUS 1-3/4"		SD2-CFM	1-4,6,8

SUPPLY AIR DIFFUSER (SD-3)

TITUS ML-39 NC < 17			DESCRIPTION: HIGH PERFORMANCE, LINEAR SLOT DIFFUSER. SEE PLAN FOR LENGTH.		
CFM RANGE	# SLOTS	SIZE OF SLOTS INCHES	(ACTIVE SECTION) PLENUM LENGTH INCHES	DIFFUSER DIFFUSION PATTERN & CFM	NOTES
0-250	2	1	48"	SD3-CFM	1, 4, 6, 7, 9, 11

2 ADD

SUPPLY DRUM LOUVER (DL-1)

TITUS S-DL-SV NC < 20			DESCRIPTION: HIGH PERFORMANCE, ALUMINUM, SUPPLY, DRUM LOUVER, CURVED FRAME, DUCT MOUNTED, OPPOSED BLADE DAMPER.		
CFM RANGE	CLG. MODULE SIZE INCHES	LISTED SIZE INCHES (INLET)	NOMINAL LENGTH INCHES	DIFFUSER DIFFUSION PATTERN & CFM	NOTES
0 - 1000	–	36 X 8	–	DL1-CFM	1, 5, 6, 10

RETURN, TRANSFER AIR GRILLE (RG-1, TG-1)

TITUS 50F NC < 20			DESCRIPTION: ALUMINUM GRID EGGCRATE RETURN GRILLE WITH BORDER TYPE 3 (LAY-IN) OR BORDER TYP 1 (SURFACE MOUNT).	
CFM RANGE	CLG. MODULE SIZE INCHES	NOMINAL DUCT SIZE INCHES (INLET)	DIFFUSER DIFFUSION PATTERN & CFM	NOTES
0 - 1600	24 X 24	18 X 18	RG1-CFM (RETURN AIR GRILLES ONLY)	1,4,6
0 - 1600	24 X 24	18 X 18	TG1-CFM (TRANSFER AIR GRILLES ONLY)	1,4,6

RETURN AIR GRILLE (RG-2, TG-2)

TITUS 60FLHD NC < 25			DESCRIPTION: BAR RETURN HEAVY DUTY GRILLE SURFACE MOUNTED, 1/2" SPACING	
CFM RANGE	FACE SIZE INCHES	NOMINAL DUCT SIZE INCHES (INLET)	DIFFUSER DIFFUSION PATTERN & CFM	NOTES
0-7000	48 X 48	48 X 48	RG2-CFM	1,4,6
0-1000	24 X 16	24 X 16	TG2-CFM	1,4,7

NOTES:
1. PROVIDE MANUFACTURER'S STANDARD BAKED WHITE ENAMEL FINISH.
2. PROVIDE FULL SIZE BACK PAN WITH DUCT ADAPTER.
3. INSULATE BACK PAN ON ALL SUPPLY AIR DIFFUSERS AND GRILLES.
4. PROVIDE MOUNTING FRAME TYPE COMPATIBLE WITH SCHEDULED CEILING OR WALL (SURFACE OR LAY-IN).
5. PROVIDE OPPOSED BLADE BALANCING DAMPER ADJUSTABLE THRU FACE OF DIFFUSER.
6. AIR DEVICES SHALL MATCH ARCHITECTURAL FINISH. COORDINATE COLOR WITH ARCHITECT.
7. PROVIDE BORDER TYPE 15, WITH CONCEALED FASTENING.
8. PROVIDE NECK MOUNTED OPPOSED BLADE DAMPER.
9. PROVIDE BORDER TYPE 9A, WITH FLANGE BORDER.
10. PROVIDE MOUNTING FRAME COMPATIBLE WITH SPIRAL DUCT MOUNTING.
11. ENSURE TO SELECT LINEAR AIR DEVICE FACTORY FINISH TO MATCH ARCHITECTURAL FINISH, OR SELECT PAINTABLE LINEAR AIR DEVICE AND PAINT TO MATCH ARCHITECTURAL FINISH. COORDINATE COLOR WITH ARCHITECTURAL.

2 ADD

AIR COOLED CHILLER SCHEDULE

MARK	QTY	NOMINAL (TONS)	CAPACITY (TONS)	AMBIENT TEMP (F)	FLOW (GPM)	MAX PD (FT WG)	EWT (F)	LWT (F)	# OF COMPRESSORS TYPE	MIN % CAPACITY	ELEC. V-PH-HZ	MCA	MOCP	IPLV AT ARI	FULL LOAD EER AT ARI	DIMENSIONS (LxWxH) IN.	OPERATING WEIGHT (LB)	MANUFACTURER & MODEL NUMBER
																		DAIKIN
CH-1, 2	2	120	120	100	240.0	10	56	44	4, SCROLL, 2 CKTS	25	480-3-60	260.5	300.0	17.25	10.39	192x88x99	6,226	AGZ120E

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR CHANGES TO DESIGN RESULTING FROM SELECTION OF OTHER MANUFACTURERS EQUIPMENT.
2. LISTED CAPACITY BASED ON ACTUAL CONDITIONS LISTED ABOVE. EFFICIENCIES LISTED AT ARI CONDITIONS.
3. PROVIDE CHILLER WITH FACTORY INSTALLED HAIL GUARDS, CONDENSER COIL COATING (E-COAT), LOW SOUND ACOUSTICAL PACKAGE (SOUND POWER-95dBA)
4. PROVIDE UNIT WITH LOW AMBIENT CONTROL TO 40°F, ACROSS THE LINE STARTER, AND SUCTION SERVICE VALVES.
5. CONDENSER COILS SHALL HAVE COPPER TUBES AND ALUMINUM FINS OR MICRO-CHANNEL COILS. PROVIDE E-COATING.
6. PROVIDE CHILLER WITH SINGLE POINT POWER CONNECTION, INCLUDING POWER FOR CONTROLS.
7. PROVIDE TERMINAL BLOCK FOR POWER CONNECTION. DIV. 26 WILL PROVIDE EXTERNALLY MOUNTED NON-FUSED DISCONNECT.
8. PROVIDE DEMAND LIMITING VIA 4-20MA INPUT FEATURE TO LIMIT MACHINE CAPACITY.

DUAL PATH AIR HANDLER UNIT SCHEDULE

MARK	TYPE	TOTAL CFM	OA CFM	ESP (INCHES)	MIN. HP	ELECT.	CHILLED WATER COIL TOTAL MBH	SENSIBLE MBH	EAT DB/WB	LAT DB/WB	EWT/LWT	GPM	WEIGHT (LBS.)	DAIKIN MODEL NUMBER	SERVES	NOTES
AHU-1	COMMON FAN	5,000	–	1.25	7.5	480/3/60	–	–	–	–	–	–	2,300	CAH009		1 thru 12
	RETURN AIR UNIT	4,000	–	–	–	–	106.0	90.7	76/64	55.0/55.0	44/56	17.7			LOCKERS	
	OUTSIDE AIR UNIT	1,000	1,000	–	–	–	91.2	32.4	83.0/79.3	53.0/53.0	44/56	15.2			NORTH	
AHU-2	COMMON FAN	5,000	–	1.25	7.5	480/3/60	–	–	–	–	–	–	2,300	CAH009		1 thru 12
	RETURN AIR UNIT	4,000	–	–	–	–	106.0	90.7	76/64	55.0/55.0	44/56	17.7			SOUTH RR	
	OUTSIDE AIR UNIT	1,000	1,000	–	–	–	91.2	32.4	83.0/79.3	53.0/53.0	44/56	15.2			CONCESSION	
AHU-3	COMMON FAN	20,000	–	1.25	20	480/3/60	–	–	–	–	–	–	5,600	CAH022		1 thru 12
	RETURN AIR UNIT	10,000	–	–	–	–	264.9	226.8	76/64	55.0/55.0	44/56	44.1			GYM	
	OUTSIDE AIR UNIT	10,000	10,000	–	–	–	912.2	324.0	83.0/79.3	53.0/53.0	44/56	152.0			EAST	
AHU-4	COMMON FAN	20,000	–	1.25	20	480/3/60	–	–	–	–	–	–	5,600	CAH022		1 thru 12
	RETURN AIR UNIT	10,000	–	–	–	–	264.9	226.8	76/64	55.0/55.0	44/56	44.1			GYM	
	OUTSIDE AIR UNIT	10,000	10,000	–	–	–	912.2	324.0	83.0/79.3	53.0/53.0	44/56	152.0			WEST	

NOTES:
1. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL". SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND SUBSTITUTION PROCEDURES.
2. ESP IS STRICTLY EXTERNAL STATIC PRESSURE AND IS IN ADDITION TO ANY FILTERS, COILS, HEATERS OR OTHER ACCESSORIES INCLUDED WITH THE AIR HANDLING UNIT.
3. MOTOR SHALL BE NON-OVERLOADING TYPE, TEFC, PREMIUM EFFICIENCY (E+3) INVERTER RATED. CUSTOM MOTOR IS NOT ACCEPTABLE. MOTOR SHALL BE AVAILABLE AT REGULAR SUPPLY HOUSES.
4. PROVIDE DUAL PATH UNIT, WITH SUPPORT KIT AND OUTSIDE AIR COIL ON TOP OF MAIN AIR HANDLING COIL. PROVIDE SINGLE SUPPLY AIR FAN.
5. PROVIDE FILTER MIXING BOXSECTION, COIL SECTION, AND FAN SECTION, WITH DOORS ACCESS SIDE FOR EACH. PROVIDE GALVANIZED FILTER PAD FRAMES/RACKS NO LONGER THAN 24". SEE SPECIFICATIONS.
6. PROVIDE STAINLESS STEEL LINER AND CASING IN COIL SECTION. EXTEND STAINLESS STEEL DRAIN PAN WITH THROUGH EXTENDED COIL SECTION.
7. PROVIDE MINIMUM 18" ACCESS DOORS ON SECTION IMMEDIATELY DOWNSTREAM OF THE COIL SECTION.
8. COILS SHALL BE MAXIMUM 8 ROWS WITH 11 FINS PER INCH OR LESS.
9. PROVIDE DWDI AIRFOIL OR FORWARD CURVED FANS WITH BELT GUARD, 2" SPRING ISOLATORS AND SEISMIC SNUBBERS.
10. PROVIDE LIGHT IN FAN SECTION WITH SWITCH, FIELD POWERED. COORDINATE WITH ELECTRICAL CONTRACTOR.
11. PROVIDE OUTSIDE AND RETURN AIR DAMPERS. COORDINATE ACTUATORS WITH DDC CONTRACTOR.
12. ALL COIL SHALL HAVE 5/8" TUBES, 1/2" TUBES ARE NOT ACCEPTABLE

EXHAUST FAN SCHEDULE

MARK	ROOM NUMBER SERVING	TYPE	ELECTR. V/H/P	CFM	INPUT WATTS	MOTOR HP	E.S.P. IN. H20	SOUND IN SONES	MANUFACTURER & MODEL NUMBER	WEIGHT (LBS)	CONTROL NOTES	NOTES
EF-1	GIRLS LOCKERS/TOILETS DRESSING 101	CEILING MOUNTED	120/60/1	610	241.0	–	0.4	5.0	LOREN COOK GC-720	34	A	1-6
EF-2	BOYS LOCKERS/TOILETS DRESSING 102	CEILING MOUNTED	120/60/1	610	241.0	–	0.4	5.0	LOREN COOK GC-720	34	A	1-6
EF-3	GIRLS LOCKERS/TOILETS DRESSING 103	CEILING MOUNTED	120/60/1	610	241.0	–	0.4	5.0	LOREN COOK GC-720	34	A	1-6
EF-4	BOYS LOCKERS/TOILETS DRESSING 104	CEILING MOUNTED	120/60/1	610	241.0	–	0.4	5.0	LOREN COOK GC-720	34	A	1-6
EF-5	LAUNDRY 111	CEILING MOUNTED	120/60/1	200	74.2	–	0.6	3.5	LOREN COOK GC-422	31	A	1-6
EF-6	TOILET 107	CEILING MOUNTED	120/60/1	75	55.9	–	0.6	2.0	LOREN COOK GC-186	15	B	1-6
EF-7	TOILET 108	CEILING MOUNTED	120/60/1	75	55.9	–	0.6	2.0	LOREN COOK GC-186	15	B	1-6
EF-8	WOMENS RR 119	CEILING MOUNTED	120/60/1	1125	–	0.5	0.4	3.0	LOREN COOK GC-1000	94	A	1-6
EF-9	MENS RR 118	CEILING MOUNTED	120/60/1	600	283.0	–	0.4	4.5	LOREN COOK GC-740	34	A	1-6
EF-10	WOMENS RR 121	CEILING MOUNTED	120/60/1	1125	–	0.50	0.4	3.0	LOREN COOK GC-1000	94	A	1-6
EF-11	MENS RR 120	CEILING MOUNTED	120/60/1	600	283.0	–	0.4	4.5	LOREN COOK GC-740	34	A	1-6
EF-12	CONCESSIONS 128	CEILING MOUNTED	120/60/1	180	69.4	–	0.6	3.5	LOREN COOK GC-422	29	A	1-6
EF-13	CUSTODIAN 126	CEILING MOUNTED	120/60/1	50	31.2	–	0.6	2.0	LOREN COOK GC-146	15	B	1-6

NOTES:
1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE FIELD-INSTALLED FAN SPEED CONTROLLER. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
4. PROVIDE FAN WITH ALL ALUMINUM BACKDRAFT DAMPER.
5. PROVIDE PAINTED WHITE DELUXE ALUMINUM GRILLE WHERE AVAILABLE. IF DELUXE ALUMINUM GRILLE IS NOT AVAILABLE, PROVIDE PAINTED WHITE STYRENE GRILLE.
6. PROVIDE SPRING TYPE VIBRATION ISOLATORS FROM MANUFACTURER.

CONTROL NOTES:
A. PROVIDE DDC START/STOP POINTS. REFER TO SEQUENCES OF OPERATIONS.
B. FAN SHALL BE OPERATED BY A WALL SWITCH VIA THE OCCUPANCY SENSOR PROVIDED BY DIV.26 COORDINATE WITH ELECTRICAL CONTRACTOR.

LOUVER SCHEDULE

MARK	SERVES	CFM RANGE	FACE SIZE (W X H)	MIN. FREE AREA (FT2)	MANUFACTURER & MODEL NUMBER	NOTES
Supply						
SL-1	AHU-1 AHU-3, AHU-4	21000	132 X 102	47.54	RUSKIN EME520MD	1-6
SL-2	AHU-2	1000	36 X 24	2.22	RUSKIN EME520MD	1-6
Exhaust						
EL-1	EF-1, EF-2 EF-5	1420	64 X 16	2.53	RUSKIN EME520MD	1-6
EL-2	EF-3, EF-4 EF-6, EF-7	1370	64 X 16	2.53	RUSKIN EME520MD	1-6
EL-3	EF-8, EF-9	1725	42 X 24	3.13	RUSKIN EME520MD	1-6
EL-4	EF-10, EF-11 EF-12, EF-13	1930	54 X 24	4.07	RUSKIN EME520MD	1-6

NOTES:
1. PRIOR TO ORDERING, COORDINATE LOUVER FINISH AND EXACT FACE SIZE WITH ARCHITECT.
2. PROVIDE STAINLESS STEEL INSECT SCREEN AND HARDWARE.
3. PROVIDE FACTORY APPLIED KYNAR 500 FINISH.
4. LOUVERS SHALL HAVE FACTORY APPLIED CUSTOM COLOR. COORDINATE CUSTOM COLOR WITH OWNER & GENERAL CONTRACTOR PRIOR TO ORDERING.
5. DURING SUBMITTAL PHASE PROVIDE TDI EVALUATION REPORT INDICATING INSTALLATION DETAILS SPECIFICALLY FOR THE PROJECT'S WALL SUBSTRATE. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR WALL SUBSTRATE DETAILS.

VFD SCHEDULE

MARK	EQUIPMENT SERVED	MOTOR HP	FL AMPS	ELECTRICAL V/P/Hz	MANUFACTURER & MODEL NUMBER	NOTES
AIR HANDLER UNITS						
VFD-1	AHU-1	7.5	11	480/3/60	DANFOSS VLT-HVAC	1-3
VFD-2	AHU-2	7.5	11	480/3/60	DANFOSS VLT-HVAC	1-3
VFD-3	AHU-3	20	27	480/3/60	DANFOSS VLT-HVAC	1-3
VFD-4	AHU-4	20	27	480/3/60	DANFOSS VLT-HVAC	1-3
CHILLED WATER PUMPS						
VFD-CHP1	CHP-1	10	14	480/3/60	DANFOSS VLT-HVAC	1-3
VFD-CHP2	CHP-2	10	14	480/3/60	DANFOSS VLT-HVAC	1-3
VFD-CHP3	CHP-3	10	14	480/3/60	DANFOSS VLT-HVAC	1-3

NOTES:
1. PROVIDE NEMA 1 ENCLOSURE FOR VFD LOCATED INDOORS.
2. PROVIDE INTEGRAL DISCONNECT.
3. PROVIDE BYPASS WITH VFDS.

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Gymnasium Facility

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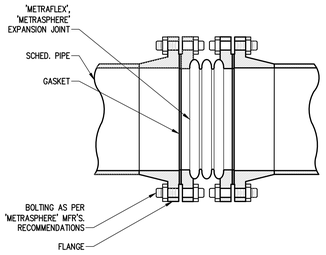
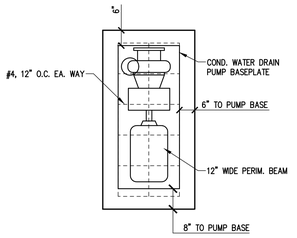
Architects-Planners
Interior Designers

Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No. BISD Hanna Gymnasium
Sheet: M6.01

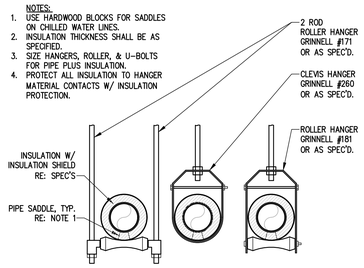


01 TYPICAL EXPANSION JOINT
SCALE : NOT TO SCALE



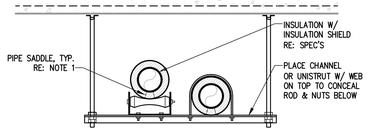
NOTE: PROVIDE SPRING TYPE VIBRATION ISOLATION INERTIA BASE.

02 PUMP HOUSEKEEPING PAD
SCALE : NOT TO SCALE



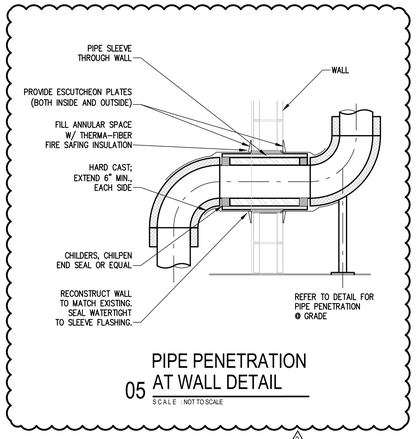
NOTES:
1. USE HARDWOOD BLOCKS FOR SADDLES ON CHILLED WATER LINES.
2. INSULATION THICKNESS SHALL BE AS SPECIFIED.
3. SIZE HANGERS, ROLLER, & U-BOLTS FOR PIPE PLUS INSULATION.
4. PROTECT ALL INSULATION TO HANGER MATERIAL CONTACTS W/ INSULATION PROTECTION.

03 PIPING HANGER DETAIL
SCALE : NOT TO SCALE



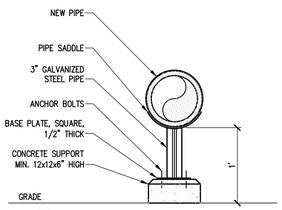
NOTES:
1. USE HARDWOOD BLOCKS FOR SADDLES ON CHILLED WATER LINES.
2. INSULATION THICKNESS SHALL BE AS SPECIFIED. SIZE HANGERS, ROLLER, & U-BOLTS FOR PIPE PLUS INSULATION.
3. PROTECT ALL INSULATION TO HANGER MATERIAL
4. CONTACTS W/ INSULATION PROTECTION.

04 PIPING HANGER DETAIL
SCALE : NOT TO SCALE



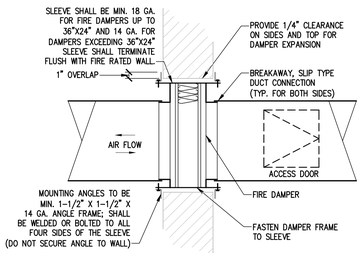
05 PIPE PENETRATION AT WALL DETAIL
SCALE : NOT TO SCALE

ADD



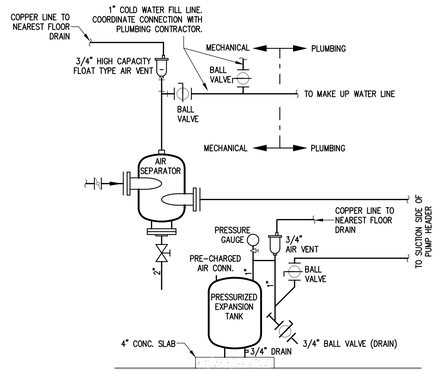
NOTE:
1. ALL STEEL EXPOSED TO EXTERIOR SHALL BE HOT DIPPED GALVANIZED & PAINTED WITH EPOXY PAINT.

06 CONCRETE PIPE SUPPORT DETAIL
SCALE : NOT TO SCALE

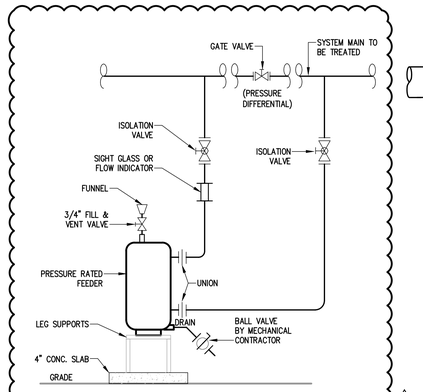


NOTES:
1. FIRE DAMPER TO BE LABELED IN ACCORDANCE WITH UL STANDARDS, AND STATE FIRE MARSHALL APPROVED.
2. INSTALLATION DETAILS SHALL MEET NFPA 90A & B REQUIREMENTS.
3. LOCATE ACCESS DOOR FOR BEST ACCESS TO LINK.
4. FUSIBLE LINK TO BE RATED FOR 50% ABOVE MAXIMUM OPERATING TEMPERATURE OF SYSTEM.
5. FOR STAINLESS STEEL FIRE DAMPER METAL GAUGE, REFER TO MANUFACTURER RECOMMENDATIONS.
6. FIRE DAMPER SHALL BE RATED FOR DYNAMIC DUTY. SLEEVE SHALL TERMINATE FLUSH WITH FIRE RATED WALL.

07 FIRE DAMPER WITH ACCESS PANEL
SCALE : NOT TO SCALE

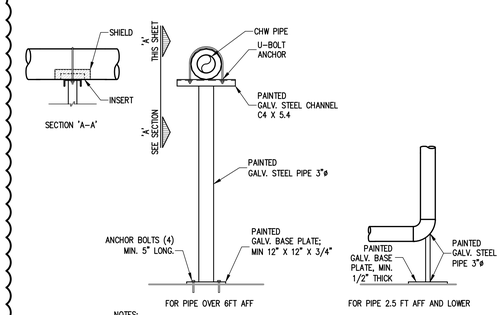


08 AIR SEPARATOR & EXPANSION TANK DETAIL
SCALE : NOT TO SCALE



09 CHEMICAL TREATMENT POT FEEDER
SCALE : NOT TO SCALE

ADD

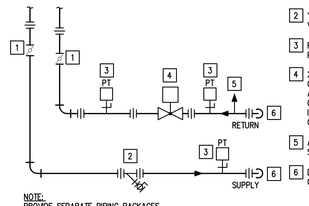


NOTES:
1. ALL EXTERIOR SUPPORT STRUCTURE SHALL HAVE 4" CONCRETE PAD UNDER BASE PLATE.
2. ALL STEEL EXPOSED TO EXTERIOR SHALL BE HOT DIPPED GALVANIZED & PAINTED WITH EPOXY PAINT.

10 PIPE SUPPORT STRUCTURE
SCALE : NOT TO SCALE

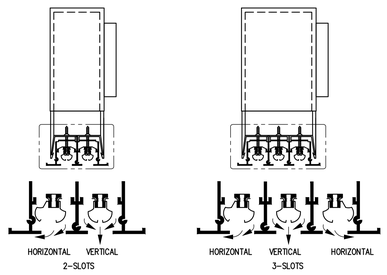
KEYED NOTES

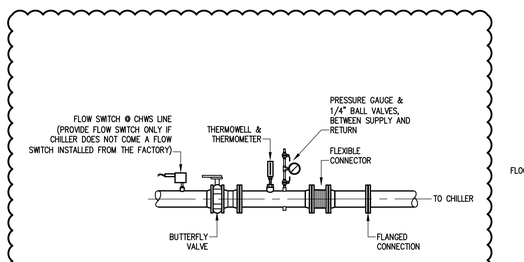
1. 2-1/2" & LARGER BUTTERFLY VALVES FOR SHUTOFF, LINE SIZE; BALL VALVES FOR 2" AND BELOW
2. Y STRAINER WITH 3/4" BALL VALVE ON DISCHARGE
3. PRESSURE/TEMPERATURE TEST PLUG WITH COCK AND CAP
4. 2-WAY MODULATING DDC CONTROL VALVE WITH ELECTRIC ACTUATOR, PROVIDED BY CONTROLS CONTRACTOR INSTALLED BY MECHANICAL CONTRACTOR
5. AUTOMATIC AIR VENT W/MANUAL SHUT-OFF
6. DIELECTRIC STEEL/COPPER CONNECTION AT UNIT



NOTE:
PROVIDE SEPARATE PIPING PACKAGES FOR TOP AND BOTTOM UNITS OF DUAL PATH AIR HANDLERS.

11 CHILLED WATER COIL CONNECTION SCHEMATIC
SCALE : NOT TO SCALE

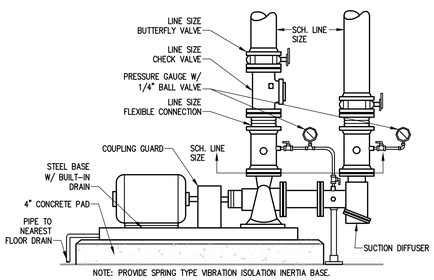




NOTE: PROVIDE STRAINER ON RETURN LINE TO CHILLER.

12 CHILLER PIPING CONNECTION DETAIL
SCALE : NOT TO SCALE

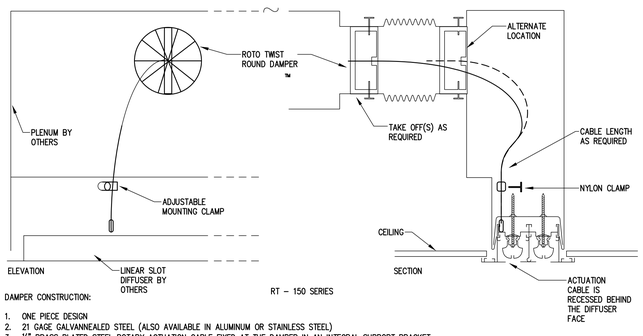
ADD



NOTE: PROVIDE SPRING TYPE VIBRATION ISOLATION INERTIA BASE.

NOTES:
1. PIPE SIZE INDICATED ON DRAWING SHALL BE FULL SIZE TO POINT OF CONNECTION TO PUMP FLANGES. PIPING COMPONENTS SUCH AS VALVES, STRAINERS, FLEXIBLE CONNECTORS SHALL BE SAME SIZE AS PIPING SERVING PUMPS.
2. INSULATE CHILLED WATER PUMPS AS PER SPECIFICATIONS.

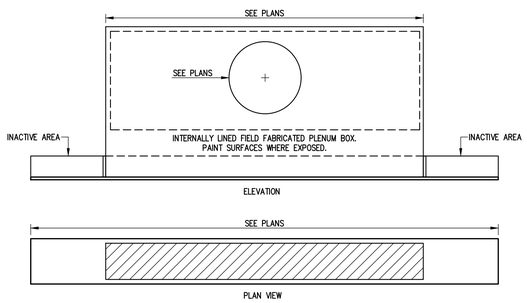
13 END SUCTION PUMP DETAIL
SCALE : NOT TO SCALE



DAMPER CONSTRUCTION:
1. ONE PIECE DESIGN
2. 21 GAGE GALVANNEALED STEEL (ALSO AVAILABLE IN ALUMINUM OR STAINLESS STEEL)
3. ¼" BRASS PLATED STEEL ROTARY ACTUATION CABLE FIXED AT THE DAMPER IN AN INTEGRAL SUPPORT BRACKET.

(DETAIL COURTESY OF ROTOTWIST.)

14 CABLE OPERATED VOLUME DAMPER DETAIL
SCALE : NOT TO SCALE



15 FLOWBAR DIFFUSER DETAIL
SCALE : NOT TO SCALE

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Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
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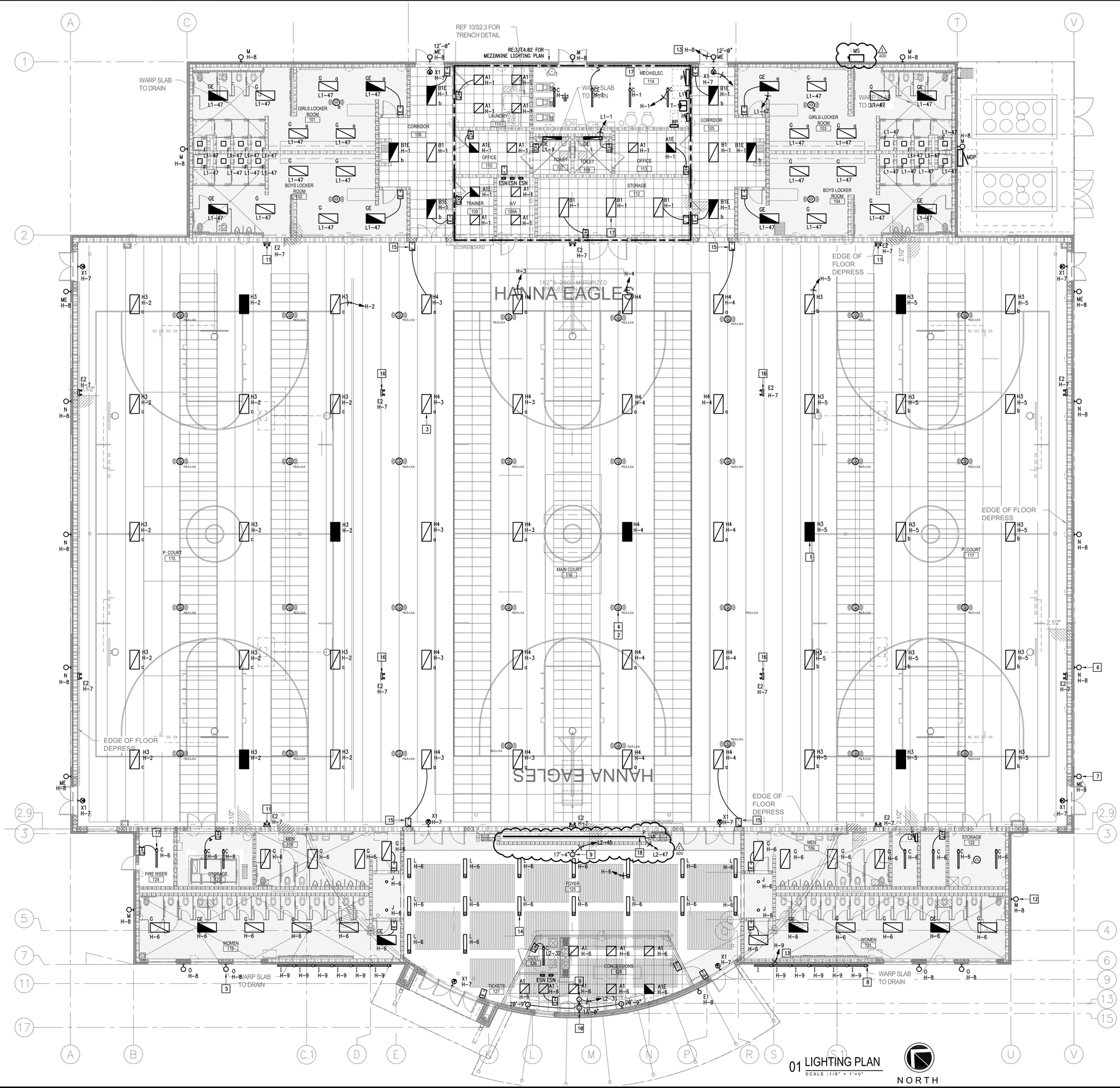

01 LIGHTING PLAN
SCALE :1/8" = 1'-0"

GENERAL NOTES:

1. LIGHTING BRANCH CIRCUIT HOMERUNS SHALL BE 3/4" – 2#12 & #12G. 20A/277V HOMERUNS EXCEEDING 200FT THE WIRE SIZE SHALL BE #10 & #8 FOR 275'.
2. INTERIOR LIGHTING CONTROLS SHALL BE BY VACANCY SENSORS.
3. PROVIDE 0–10V SIGNAL WIRING TO EACH DIMMED LIGHT FIXTURE DRIVER AND WALL SWITCH.
4. EXTERIOR LIGHTING CONTROLS SHALL BE BY LIGHTING MANAGEMENT PANEL.
5. PAINT ALL EXPOSED RACEWAYS, HANGERS, BOXES, SUPPORTS AND ACCESSORIES IN INTERIOR AND EXTERIOR EXPOSED AREAS. COORDINATE PAINT TYPE, COLOR AND SCOPE OF WORK WITH ARCHITECT.

KEYED NOTES:

1. NIGHT LIGHT TO REMAIN UNSWITCHED – TYPICAL.
2. MOUNT TO BOTTTOM OF STRUCTURE STEEL – TYPICAL.
3. SEE DETAIL 01/E8.01 FOR MOUNTING.
4. REFER TO LIGHTING CONTROLS ONE–LINE DIAGRAM FOR ALL WIRING REQUIREMENTS – TYPICAL.
5. WALL MOUNT LIGHT FIXTURE TYPE "O" AT 8'–0"AFF TO CENTER OF FIXTURE – TYPICAL.
6. WALL MOUNT LIGHT FIXTURE TYPE "N" AT 24'–0"AFF TO CENTER OF FIXTURE (UNO) – TYPICAL.
7. WALL MOUNT LIGHT FIXTURE TYPE "ME" AT 8'–0"AFF TO CENTER OF FIXTURE (UNO) – TYPICAL.
8. WALL MOUNT LIGHT FIXTURE TYPE "I" AT 13'–8"AFF TO TOP OF FIXTURE – TYPICAL.
9. CONNECT LOGO SIGN POWER SUPPLIES ABOVE CEILING. COORDINATE EXACT LOCATION WITH SIGN CONTRACTOR.
10. PROVIDE J–BOX AND 3/4" RACEWAY ROUTED ABOVE CEILING BACK TO LOGO SIGN POWER SUPPLIES LOCATION. COORDINATE EXACT LOCATIONS WITH SIGN CONTRACTOR PRIOR TO ANY ROUGH–IN. INDICATED HEIGHT IS APPROXIMATE – TYPICAL OF 3.
11. WALL MOUNT FIXTURE TYPE "E2" AT 12'–0" A.F.F. (U.N.O.) TO CENTER OF FIXTURE – TYPICAL.
12. WALL MOUNT LIGHT FIXTURE TYPE "M" AT 12'–0"AFF TO CENTER OF FIXTURE – TYPICAL.
13. CONNECT VIA LUTRON "QS" LINK.
14. SUSPEND LIGHT FIXTURE TYPE "L" AT 20'–0"AFF TO BOTTOM OF FIXTURE – TYPICAL.
15. PROVIDE CLEAR LOCKING COVER.
16. PROVIDE PENDANT MOUNTED. BOTTOM OF FIXTURE TO ALIGN WITH BOTTOM OF STRUCTURE STEEL JOIST. SEE DETAIL 01/E8.01.
17. PROVIDE UNISTRUT SUPPORT AND THREADED RODS TO SUSPEND LIGHT FIXTURE AT 9'–0"AFF. COORDINATE INSTALLATION WITH HVAC DUCT WORK.
18. ADD PROVIDE TROPHY CASE LIGHTING FLUSH MOUNTED IN CEILING. CONNECT DRIVERS, TAPE LIGHTS AND DIMMING SWITCH.

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1 ADD	JUNE 27 , 2019	

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Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No. BISD Hanna Gymnasium
Sheet: E3.01

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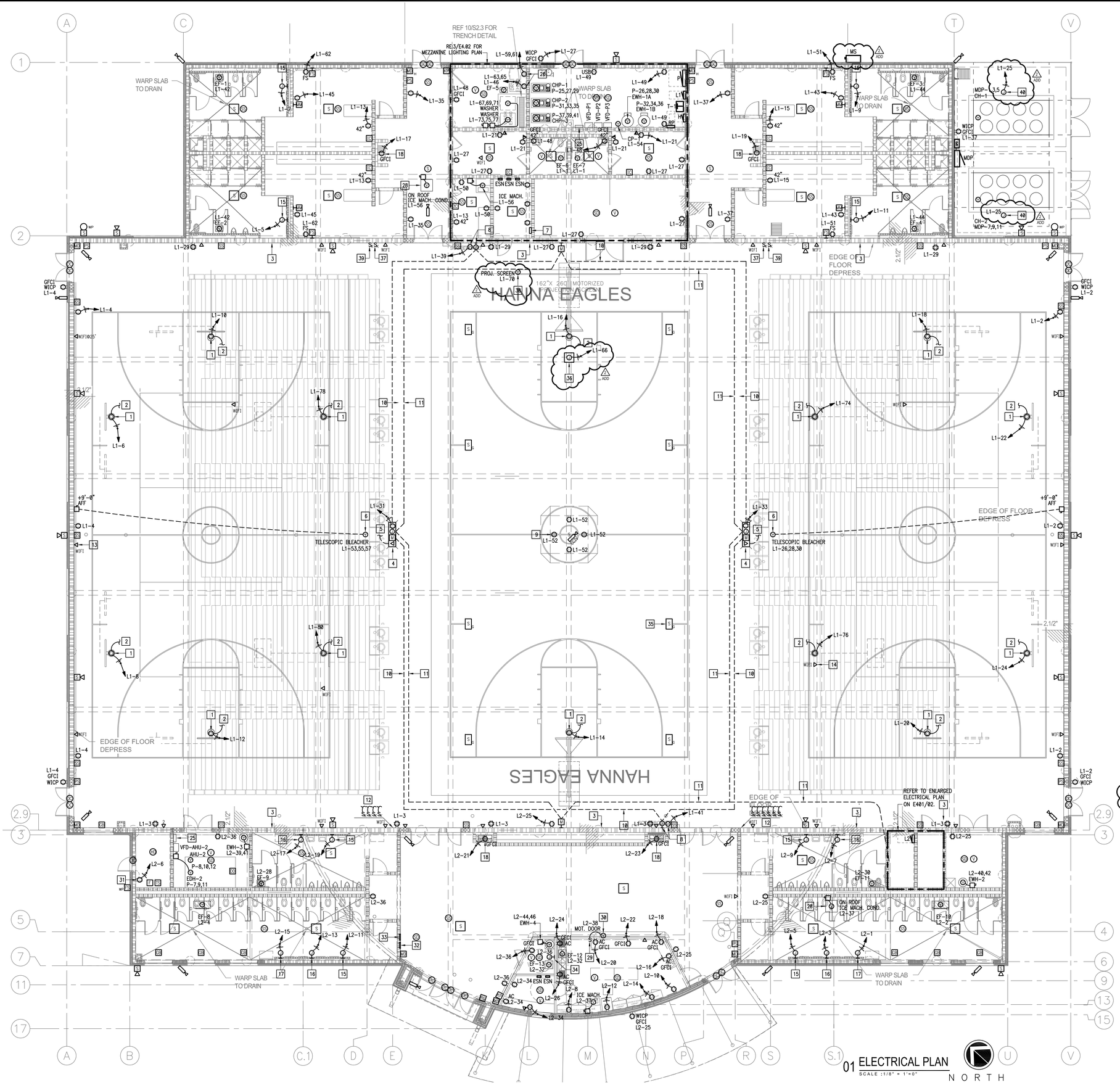


01 ELECTRICAL PLAN
SCALE : 1/8" = 1'-0"

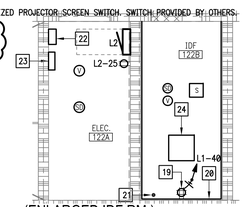
NORTH

GENERAL NOTES:

1. ELECTRICAL BRANCH CIRCUIT HOMERUNS SHALL BE 3/4" – 2#12 & #12G. 20A/120V HOMERUNS EXCEEDING 100FT, THE WIRE SIZE SHALL BE #10 & #8 FOR 175'.
2. HOMERUNS – INSTALL NO MORE THAN THREE PER RACEWAY (INCLUDING LIGHTING BRANCH CIRCUITS).
3. PROVIDE ALL ELECTRICAL RECEPTACLES INSTALLED WITH THE GROUND OPENING IN THE "UP" POSITION.
4. SPECIAL SYSTEMS (FIRE ALARM, INTRUSION DETECTION, VOICE, DATA, INTERCOM, ETC.) BACK BOX AND RACEWAYS LOCATED IN EXPOSED CEILING AREAS SHALL TERMINATE AT NEAREST CONCEALED CEILING OR CABLE TRAY. EXPOSED CABLING IS ONLY ALLOWED IN AREAS WHERE CABLING CAN BE CONCEALED ABOVE ACCESSIBLE CEILING SPACE WITH J-HOOKS.
5. PROVIDE FIRE STOPPING AT ALL FIRE WALL PENETRATIONS; PROVIDE EXPANSION PLATES & BONDING JUMPERS AT BUILDING EXPANSION JOINTS.
6. PROVIDE 1-2" RACEWAY (SLEEVE) 12" ABOVE CEILING AT ALL ROOMS . DOORS THAT LEAD TO CORRIDORS (FLOOR TO CEILING WALLS) FOR SPECIAL SYSTEMS WIRING.
7. USE TAMPER RESISTANT RECEPTACLES THROUGHOUT.

KEYED NOTES:

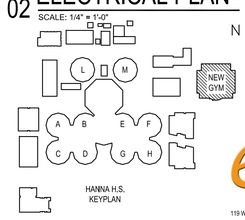
1. ATTACH RECEPTACLE TO THE CEILING STRUCTURE STEEL & CONNECT MOTORIZED BACKSTOP. VERIFY POINT OF CONNECTION W/ BACKSTOP SUPPLIER PRIOR TO ROUGH-IN.
2. TO MOTORIZED BACKBOARD KEYED SWITCH – SEE DETAIL. FURNISHED BY BACKSTOP SUPPLIER; INSTALLED & CONNECTED BY ELECTRICAL CONTRACTOR.
3. PROVIDE AN EXTENSION RING ON WIRING DEVICES LOCATED ON THIS WALL TO INSTALL FLUSH MOUNTED WITH PROTECTIVE PADDING.
4. INSTALL DEVICES INSIDE FLUSH MOUNTED FLOORBOX. COORDINATE THE SCORE KEEPERS TABLE EXACT LOCATION PRIOR TO ROUGH-IN (COVER PLATE FLUSH MOUNTED).
5. PROVIDE 1.25" RACEWAY W/ PULLWIRE (DATA). STUB-UP RACEWAY IN WALL CAVITY BEHIND DATA RACK TO AN ACCESSIBLE LOCATION ABOVE CEILING.
6. CONNECT MOTORIZED TELESCOPIC BLEACHERS. COORDINATE EXACT POINT OF CONNECTION AND LOCATION OF SAFETY SWITCH BELOW BLEACHERS WITH EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH-IN. SEE CONNECTION SCHEDULE.
7. PROVIDE WALL MOUNTED AMPLIFIER. BRANCH CIRCUIT: 1/2" – 2#12 & #12G, L1-23.
8. CONNECT WALL MOUNT SCOREBOARD. SEE ARCHITECT DRAWINGS FOR EXACT LOCATION.
9. CONNECT SUSPENDED SCOREBOARD. SECURE WIRING DEVICE TO STRUCTURE STEEL – TYPICAL OF 4.
10. PROVIDE 3/4" RACEWAY W/ PULLWIRE (SCOREBOARD CONTROLS).
11. PROVIDE 1.25" RACEWAY W/ PULLWIRE (P.A. SYSTEM).
12. TO CONTROL MOTORIZED BACKBOARDS.
13. MOUNT AT 15' AFF. STUB-OUT CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE TO ALLOW FOR CABLING TO MDF/IDF ROOM – TYPICAL.
14. MOUNT TO BOTTOM OF STEEL JOIST. STUB-OUT CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE TO ALLOW FOR CABLING TO MDF/IDF ROOM.
15. PROVIDE INFRARED RECESSED MOUNTED HAND DRYER. HAND DRYER SHALL BE BOBRICK B-750 (NO SUBSTITUTION). BRANCH CIRCUIT: 3/4" C 2#10 & #10G. MOUNT @ +38" A.F.F. (BOTTOM). VERIFY THE EXACT LOCATION WITH THE ARCHITECTURAL PLANS.
16. PROVIDE INFRARED RECESSED MOUNTED HAND DRYER. HAND DRYER SHALL BE BOBRICK B-750 (NO SUBSTITUTION). BRANCH CIRCUIT: 3/4" CC 2#10 & #10G. MOUNT @ +43" A.F.F. (BOTTOM). VERIFY THE EXACT LOCATION WITH THE ARCHITECTURAL PLANS.
17. PROVIDE INFRARED RECESSED MOUNTED HAND DRYER. HAND DRYER SHALL BE BOBRICK B-750 (NO SUBSTITUTION). BRANCH CIRCUIT: 3/4" CC 2#10 & #10G. MOUNT @ +46" A.F.F. (BOTTOM). VERIFY THE EXACT LOCATION WITH THE ARCHITECTURAL PLANS.
18. CONNECT ELECTRIC DRINKING FOUNTAIN. ROUGH-IN AT 17-7/16" TO CENTER OF J-BOX – TYPICAL. COORDINATE WITH PLUMBING CONTRACTOR.
19. CONNECT DATA RACK.
20. PROVIDE 3/4" X 4' X 4', PLYWOOD TELEPHONE/DATA BOARD ON ALL WALLS. FIRE RESISTIVE TREATED (A-D INT-APA). MOUNT AT 6" BELOW CEILING.
21. PROVIDE GROUND BUS BAR. REFER TO GROUNDING ELECTRICAL RISER DIAGRAM.
22. PROVIDE INTRUSION DETECTION SYSTEM PANEL; BRANCH CIRCUIT: 1/2" – 2#12 & #12G, L2-35.
23. PROVIDE FIRE ALARM CONTROL PANEL WITH EMERGENCY VOICE SYSTEM; BRANCH CIRCUIT: 1/2" – 2#12 & #12G, L2-33. PROVIDE TWO TELEPHONE CONNECTIONS.
24. DATA RACK – PROVIDED BY OWNER.
25. CONNECT HVAC DDC CONTROL PANEL TO NEAREST 120V, 20A/1P SPARE BREAKER.
26. PROVIDE SPECIAL RECEPTACLE FOR DRYER (NEMA 10-30R); BRANCH CIRCUIT: 3/4" – 3#10 & #10G.
27. NOT USED.
28. CONNECT ICE MACHINE REMOTE CONDENSER ON ROOF. OBTAIN POWER FROM ICE MACHINE. ROUTE CONNECTION THROUGH ROOF PENETRATION – SEE ARCHITECTURAL DRAWINGS.
29. CONNECT AND INSTALL ROLLING MOTORIZED DOOR SWITCH. SWITCH PROVIDED BY OTHERS.
30. CONNECT ROLLING MOTORIZED DOOR; BRANCH CIRCUIT: 1/2" – 2#10 & #10G. COORDINATE POINT OF CONNECTION WITH SUPPLIER.
31. CONNECT FLOW SWITCH.
32. FIRE ALARM REMOTE ANNUNCIATOR (FLUSH MOUNTED) FACING LOBBY. COORDINATE WITH FIRE ALARM CONTRACTOR.
33. PROVIDE FIRE ALARM VOICE EVACUATION REMOTE MICROPHONE (FLUSH MOUNTED) FACING LOBBY. COORDINATE WITH FIRE ALARM CONTRACTOR.
34. CONNECT ELECTRONIC PRIMER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
35. SEE MOUNTING DETAIL 01/E8.01 – TYPICAL.
36. PROVIDE CEILING MOUNTED SCISSOR LIFT AND PROJECTOR. SEE DETAIL 12/E8.01.
37. PROVIDE SCISSOR LIFT KEYED SWITCH DRAPER MODEL NO. SP-KSM AT 48"AFF.
38. CONNECT MOTORIZED PROJECTOR SCREEN. COORDINATE POINT OF CONNECTION WITH SUPPLIER.
39. CONNECT AND INSTALL MOTORIZED PROJECTOR SCREEN SWITCH. SWITCH PROVIDED BY OTHERS.
40. CONNECT ISOLATION VALVE. COORDINATE EXACT LOCATION WITH HVAC CONTRACTOR. (ADD)



(ENLARGED IDF RM.)

02 ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

NORTH



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Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No. BISD Hanna Gymnasium
Sheet: E4.01

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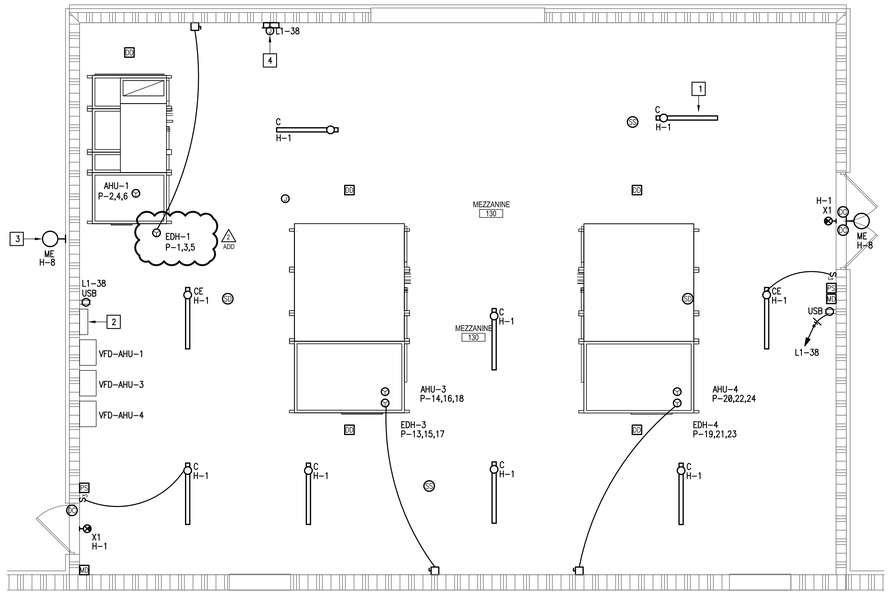
GENERAL NOTES:

1. BRANCH CIRCUIT HOMERUNS SHALL BE 3/4" – 2#12 & #12G. 20A/120V HOMERUNS EXCEEDING 100FT, THE WIRE SIZE SHALL BE #10 & #8 FOR 175'.
2. HOMERUNS – INSTALL NO MORE THAN THREE PER RACEWAY(INCLUDING LIGHTING BRANCH CIRCUITS).
3. PROVIDE ALL ELECTRICAL RECEPTACLES INSTALLED WITH THE GROUND OPENING IN THE "UP" POSITION.
4. PROVIDE J-HOOKS TO SUPPORT THE FIRE ALARM, INTRUSION DETECTION, VOICE, INTERCOM AND DATA CABLING.
5. PROVIDE FIRE STOPPING AT ALL FIRE WALL PENETRATIONS; PROVIDE EXPANSION PLATES & BONDING JUMPERS AT BUILDING EXPANSION JOINTS.
6. USE TAMPER RESISTANT RECEPTACLES THROUGHOUT.

KEYED NOTES:

1. PROVIDE UNISTRUT SUPPORT AND THREADED RODS TO SUSPEND LIGHT FIXTURE AT 9'-0"AFF. COORDINATE INSTALLATION WITH HVAC DUCT WORK – TYPICAL.
2. CONNECT HVAC DDC CONTROL PANEL TO NEAREST 120V, 20A/1P SPARE BREAKER.
3. WALL MOUNT LIGHT FIXTURE TYPE "ME" AT 8'-0" ABOVE ROOF FLOOR TO CENTER OF FIXTURE (UNO) – TYPICAL.
4. CONNECT ELECTRONIC PRIMER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.



01 LIGHTING AND ELECTRICAL MEZZANINE PLAN

SCALE :1/4" = 1'-0"

NORTH

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Job No.	BISD Hanna Gymnasium.
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01 TYPE A1 & A1E
SCALE : NOT TO SCALE

02 TYPE B1 & B1E
SCALE : NOT TO SCALE

03 TYPE C, CE
SCALE : NOT TO SCALE

04 TYPE D
SCALE : NOT TO SCALE

05 TYPE E1
SCALE : NOT TO SCALE

06 TYPE E2
SCALE : NOT TO SCALE

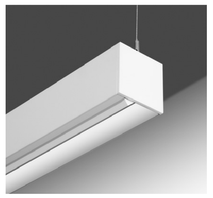
07 TYPE F
SCALE : NOT TO SCALE

08 TYPE G, GE
SCALE : NOT TO SCALE

09 TYPE H3 & H4
SCALE : NOT TO SCALE

10 TYPE I
SCALE : NOT TO SCALE

11 TYPE J
SCALE : NOT TO SCALE



12 TYPE L
SCALE : NOT TO SCALE

13 TYPE M & ME
SCALE : NOT TO SCALE

14 TYPE N
SCALE : NOT TO SCALE

15 TYPE O
SCALE : NOT TO SCALE

LUMINAIRE SCHEDULE

CALLOUT	LAMP	DESCRIPTION	DRIVER	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE	LUMENS
A1	LED	2'x2' LAY-IN FLAT PANEL	0-10V	RECESSED	LITHONIA: EPANL 2X2 3400LM 40K ZT MVOLT LEDALUX: ECOPNL-2X2-40-U-4K	30	277V 1P 2W		3479
A1E	LED	2'x2' LAY-IN FLAT PANEL	0-10V	RECESSED	LITHONIA: EPANL 2X2 3400LM 40K ZT MVOLT EL14L LEDALUX: ECOPNL-2X2-40-U-4K-BU	30	277V 1P 2W	PROVIDE WITH AN EMERGENCY BATTERY PACK.	3479
B1	LED	24" X 48" SEALED LAY-IN TROFFER	0-10V	RECESSED	LITHONIA: 2GTL F4 48L FW PCL12187 SWL EZ1 ABC LP840 LSI: GA24-LED-SS-NW-UE-TG-PC187	47	277V 1P 2W	PROVIDE WITH .187" POLYCARBONATE DIFFUSER AND WITH AN ALUMINUM DOOR & ADDITIONAL GASKETING.	5439
B1E	LED	24" X 48" SEALED LAY-IN TROFFER	0-10V	RECESSED	LITHONIA: 2GTL F4 48L FW PCL12187 SWL EZ1 EL14L ABC LP840 LSI: GA24-LED-SS-NW-UE-TG-PC187-EM	47	277V 1P 2W	PROVIDE WITH .187" POLYCARBONATE DIFFUSER AND WITH AN ALUMINUM DOOR & ADDITIONAL GASKETING.	5439
C	LED	STRIP LIGHT	0-10V	SURFACE	LITHONIA: ZL1N L48 3000LM FST MVOLT 40K 80CRI WH LSI: SDL 2 LED LW NW UE	31	120V 1P 2W 277V 1P 2W		3438
CE	LED	STRIP LIGHT	0-10V	SURFACE	LITHONIA: ZL1N L48 3000LM FST MVOLT 40K 80CRI E7W WH LSI: SDL 2 LED LW NW UE EM	25	277V 1P 2W	PROVIDE WITH AN EMERGENCY BATTERY PACK.	3438
DE	LED	WALL BRACKET	0-10V	WALL	LITHONIA: 2GTL F 4 40L EZ1 EL14L LP840 LSI: W44-LED-HO-NW-UE-EM	32	120V 1P 2W	PROVIDE WITH AN EMERGENCY BATTERY PACK.	4079
E1	(2) XENON	EMERGENCY LIGHTING UNIT		WALL	LITHONIA: AFN _ X PREM MULE LIGHTING: MAKO-3 X SD	2	277V 1P 2W	PROVIDE WITH A NI-CAD BATTERY PACK & SELF DIAGNOSTICS. STANDARD FINISH TO BE SELECTED AT A LATER DATE.	0
E2	INC.	EMERGENCY LIGHTING UNIT		WALL	LITHONIA: IND12100 W H5012S SEL ISOLITE: ELN12 LC120 2 X	20	277V 1P 2W	PROVIDE WITH A WIREGUARD, SELF-DIAGNOSTICS, LOAD DISCONNECT, & TIME DELAY. PROVIDE PENDANT MOUNT KIT ELA IND PM WHERE DESIGNATED ON DRAWINGS.	0
F	LED	SURFACE MOUNTED SQUARE	0-10V	SURFACE	KENALL: MS11FL-PP-MW-10L40K-DV LUMINAIRE LED: SWP1212-15W-4000K-120-277-CP-WHT-DIM	13	120V 1P 2W		1307
G	LED	FLANGE TROFFER	0-10V	CEILING	LITHONIA: 2VRTL F L48 5000LM ICW AP125FL MVOLT GZ1 40K 80CRI WH CERTOLUX: VRF-3836 2X4 C/14GHA. CRS -LED 8 40K 52L UNV - P43/.187	47	120V 1P 2W 277V 1P 2W		5200
GE	LED	FLANGE TROFFER	0-10V	CEILING	LITHONIA: 2VRTL F L48 5000LM ICW AP125FL MVOLT GZ1 40K 80CRI PS1050 WH CERTOLUX: VRF-3836 2X4 C/14GHA. CRS -LED 8 40K 52L UNV - P43/.187 B39	47	120V 1P 2W 277V 1P 2W	PROVIDE BATTERY PACK.	5200
H3	LED	HIGH BAY	0-10V	SURFACE	LITHONIA: IBG 4FT 36000LM SEF WD AFL 40K 80CRI LSI: ALI4-LEDHE-36L-DA-W-UNV-DIM-40	221	277V 1P 2W	PROVIDE WITH A .125 FROSTED POLYCARB LENS AND A WIRE GUARD.	33203
H4	LED	HIGH BAY	0-10V	SURFACE	LITHONIA: IBG 4FT 48000LM SEF WD AFL 40K 80CRI LSI: ALI4-LEDHE-48L-DA-W-UNV-DIM-40	293	277V 1P 2W	PROVIDE WITH A .125 POLYCARB LENS AND A WIRE GUARD.	45973
I	LED	LINEAR WALL WASHER	0-10V	ARM	LUMENPULSE: LOGP HO-10FT-120V-48-40K-WW-WAM18-X-DIM IGUZZINI: I.BB72-120V-15 / I.5577	62	277V 1P 2W	PROVIDE UL LISTED FOR WET LOCATIONS, MOUNTING ARMS & WITH JUMPER CABLES.	3592
J	LED	6" DOWNLIGHT	0-10V	RECESSED	LITHONIA: WF6 LED 40K MW JESCO: RLH-60-12-JB-RIC-4080-WH/WH	13	277V 1P 2W		1200
L	LED	4' SUSPENDED LIGHT	0-10V	PENDANT	FINELITE: HP-4 ID X SO HO 4000K	9	277V 1P 2W		1566
M	LED	WALL SCONCE	0-10V	SURFACE	LITHONIA: WSR LED 1 10A700/40K SR4 MVOLT X RAYON: T650LED DL 30 UN112 40 WT	22	277V 1P 2W	PROVIDE UL LISTED FOR WET LOCATIONS. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.	2053
ME	LED	WALL SCONCE	0-10V	SURFACE	LITHONIA: WSR LED 1 10A700/40K SR4 MVOLT ELCW X RAYON: T650LED DL 30 UN112 40 WT EM	22	277V 1P 2W	PROVIDE UL LISTED FOR WET LOCATIONS AND WITH AN EMERGENCY BATTERY PACK. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.	2053
N	LED	WALLPACK	0-10V	SURFACE	LITHONIA: WSR LED 2 10A700/40K SR4 MVOLT X RAYON: T650LED DL 45 UN112 40 WT MTO	45	277V 1P 2W	PROVIDE UL LISTED FOR WET LOCATIONS. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.	2863
O	LED	WALL SCONCE	0-10V	SURFACE	BEGA: 66519 CON-TECH: CYL6-4-40K-MVD-UD-X-M-CLR-X	36	277V 1P 2W	PROVIDE UL LISTED FOR WET LOCATIONS. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.	2600
P (ADD 1)	LED	TAPE LIGHT	0-10V	SURFACE	NOVA FLEX: NF-DS-O-160-24V-4100K/NF-CH-4540-X-WHITE/DVP-10P LLI: LLI-LHE4.4W-65-42-24V-90-360/LLI-XR-ELF-W-F-360/LLI-PS-DM-150W-XXV-KO	132	120V 1P 2W	PROVIDE WITH RECESSED HOUSING, DRIVERS & DIMMING SWITCH.	12330
R1	LED	BOLLARD	0-10V	SURFACE	BEGA: 99778 WITH 99624 TUBE	34	277V 1P 2W	PROVIDE U.L. LISTED FOR WET LOCATION. STANDARD COLOR FINISH TO BE SELECTED AT A LATER DATE.	398
X1	LED	SINGLE SIDED EXIT SIGN		WALL/CEILING	BEGHELLI: FTZ-SA-LR1-UWW MULE LIGHTING: WLCX-1-R-W-U-SD	3	277V 1P 2W	PROVIDE WITH A UNIVERSAL MOUNTING CANOPY, LIGHT EMITTING DIODES, & A NI-CAD BATTERY PACK.	0

GENERAL NOTES:
1. OTHER LIGHT FIXTURE MANUFACTURERS THAN THOSE LISTED ON THIS SCHEDULE ARE REQUIRED TO OBTAIN PRIOR APPROVAL BY SUBMITTING CUT SHEETS OF THEIR SUBSTITUTIONS AT LEAST (10) DAYS PRIOR TO BID. CUT SHEETS SHALL INDICATE/HIGHLIGHT PHOTOMETRIC CURVE, EFFICIENCY & CONSTRUCTION FOR DIRECT COMPARISON.
2. EXTRA MATERIALS: SEE SPECIFCATIONS.
3. EMERGENCY BATTERY PACKS SHALL BE COMPLETE FACTORY INSTALLED WITH NI-CAD BATTERY, CHARGER INDICATING LIGHT, ELECTRONIC CIRCUITRY, 1400 LUMENS OUTPUT, 90 MINUTES DURATION & FIVE FULL YEARS WARRANTY.
4. FURNISH ALL 2' X 4' AND 2' X 2' LAY-IN LIGHT FIXTURES WITH INTEGRAL CEILING CLIPS.

15 TYPE R1
SCALE : NOT TO SCALE

16 TYPE X1
SCALE : NOT TO SCALE

17 TYPE P
SCALE : NOT TO SCALE

ADD 1

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06.12.2019

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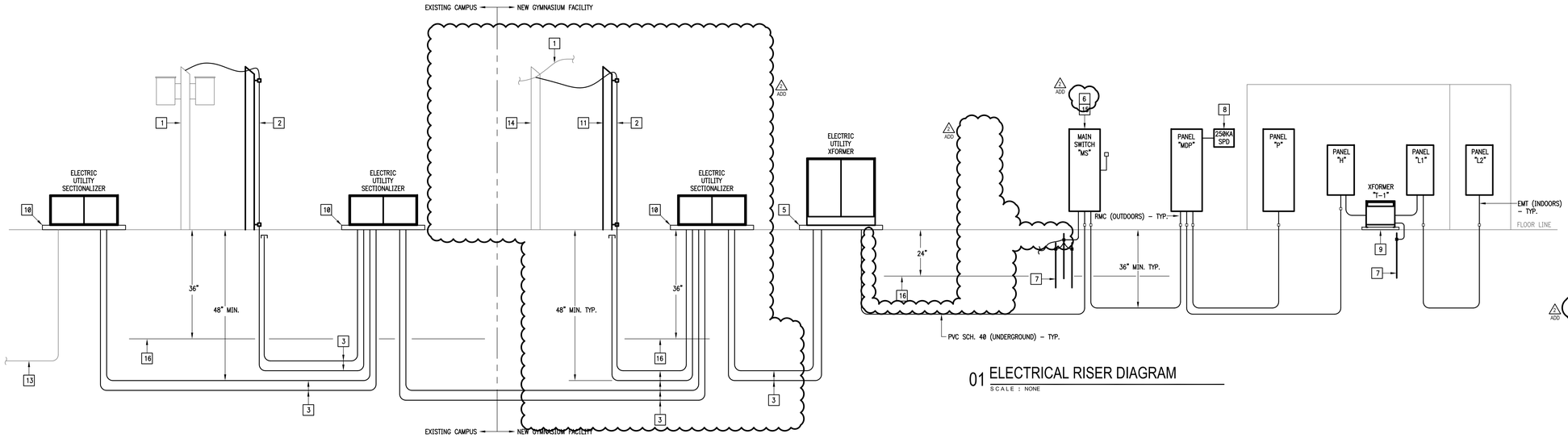
Gomez Mendez Saenz Inc.
Architects-Planners
Interior Designers

Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No.: BISD Hanna Gymnasium
Sheet: E5.01



01 ELECTRICAL RISER DIAGRAM
SCALE : NONE

RACEWAYS EMBEDDED IN FOUNDATION GENERAL NOTES:

RACEWAYS EMBEDED WITHIN THE SLAB SHALL COMPLY WITH THE FOLLOWING:
1. SHALL HAVE A MINIMUM SPACING OF 2".
2. SHALL NOT BE LARGER THAN 1".
3. SHALL NOT BE RUN THROUGH THE SURFACE AREA OF THE FOOTING.
4. SHALL NOT BE CROSSED OVER/UNDER EACH OTHER WITHIN THE SLAB.
5. SHALL NOT BE TIED TO THE REBAR.
6. SHALL BE A MINIMUM OF 1.5" AWAY FROM SLAB REBAR. IF SPACING CANNOT BE ACCOMPLISHED; IT SHALL BE PROVIDED BELOW GRADE.

ELECTRICAL RISER DIAGRAM KEYED NOTES:

1. EXISTING ELECTRIC UTILITY 3ø OVERHEAD SERVICE LINES.
2. NEW ELECTRIC UTILITY DIP POLE. COORDINATE EXACT LOCATION WITH ELECTRIC UTILITY COMPANY (PUB).
3. PROVIDE(2)-4" RACEWAYS FOR PRIMARY LINE WITH 4" RED CONCRETE TOPPING. PROVIDE LONG SWEEP RADIUS ELBOWS.
4. EXISTING RACEWAYS FOR PRIMARY LINE.
5. PROVIDE ELECTRIC UTILITY TRANSFORMER CONCRETE PAD - SEE DETAIL.
6. ADD PROVIDE ELECTRIC UTILITIES PRIMARY METERING.
7. SEE GROUNDING RISER DIAGRAM - TYPICAL.
8. PROVIDE 250KA EXTERNALLY MOUNTED SPD CURRENT TECHNOLOGY MODEL #SL3-250-480-3Y-MD-B-M2-F-HPI.
9. PROVIDE 4" HOUSEKEEPING CONCRETE PAD - TYPICAL.
10. PROVIDE ELECTRIC UTILITY SECTIONALIZER CONCRETE PAD - SEE DETAIL. COORDINATE EXACT LOCATION WITH ELECTRIC UTILITY COMPANY (PUB).
11. NEW ELECTRIC UTILITY POWER POLE. COORDINATE EXACT LOCATION WITH ELECTRIC UTILITY COMPANY (PUB).
12. EXISTING ELECTRIC UTILITY POWER POLE WITH POLE MOUNT TRANSFORMERS TO BE RE-FED BY ELECTRIC UTILITY COMPANY (PUB).
13. EXISTING ELECTRIC UTILITY UNDERGROUND SERVICE LINES.
14. EXISTING ELECTRIC UTILITY POWER POLE.
15. PROVIDE MAIN DISCONNECT SWITCH, 800A, 3P3F, 800AF, S/N, 600V, NEMA 4X SS ENCLOSURE.
16. PROVIDE CONTINUOUS UNDERGROUND WARNING TAPE.

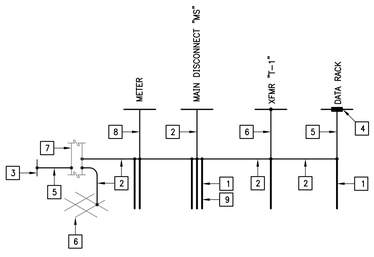
FEEDER SCHEDULE:

FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
125	1.5" - 4#1 & #6G	L2
200	2" - 4#3/0 & #6G	H
350	3" - 4#500KCMIL & #3G	L1
500	(2-RUNS) 3" - 4#250KCMIL & #2G	P
800	(2-RUNS) 4" - 4#600KCMIL & #1/0G	MDP
800	(2-RUNS) 4" - 4#600KCMIL	MS

SIZING METHOD: COPPER 75°C

TRANSFORMER SCHEDULE:

DESIGN	KVA	PV	SV	DEGREE RISE	CONNECTION	FREQ HZ	SERVES PANELS	CAT. NO.	PRIMARY FEEDER (75°C COPPER)
T-1	112.5	480	120/208	115	DELTA Y	60	L1	POWER SMITH: ESAVER20M-112.5-480-208-HD-T115-F60	2" - 3#3/0 & #6G



02 GROUNDING RISER DIAGRAM
SCALE : NONE

GROUNDING RISER KEYED NOTES:

1. 3/4"X 10' COPPER CLAD GROUND RODS - TYPICAL.
2. #3/0 BARE COPPER GROUND ELECTRODE CONDUCTOR.
3. BOND/CLAMP TO COPPER WATER LINE.
4. GROUNDING BUS BAR - TYPICAL.
5. #4 BARE COPPER GROUND CONDUCTOR.
6. CADWELD CONNECT TO FOUNDATION REBAR.
7. CADWELD CONNECT TO STRUCTURE STEEL.
8. #4 BARE COPPER GROUND CONDUCTOR.
9. INSTALL IN A TRIANGULAR PATTERN MIN. 6' APART.

EQUIPMENT CONNECTION SCHEDULE:

DESIGN	HP/KW	FLA	MCA	MOCP	VOLTAGE	DISCONNECT	BRANCH CIRCUIT
AHU-1	7.5 HP	11.0	13.7	30	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	3/4" - 3#10 & #10G
AHU-2	7.5 HP	11.0	13.7	30	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	3/4" - 3#10 & #10G
AHU-3	20 HP	27.0	33.8	70	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	1" - 3#4 & #8G
AHU-4	20 HP	27.0	33.8	70	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	1" - 3#4 & #8G
EDH-1	25 KW	30.1	-	40	480V/3PHASE	60A, 3PNF, 600V, NEMA 1 DISCONNECT.	3/4" - 3#8 & #10G
EDH-2	25 KW	30.1	-	40	480V/3PHASE	60A, 3PNF, 600V, NEMA 1 DISCONNECT.	3/4" - 3#8 & #10G
EDH-3	90 KW	108.3	-	150	480V/3PHASE	200A, 3PNF, 600V, NEMA 1 DISCONNECT.	1.5" - 3#1/0 & #6G
EDH-4	90 KW	108.3	-	150	480V/3PHASE	200A, 3PNF, 600V, NEMA 1 DISCONNECT.	1.5" - 3#1/0 & #6G
CH-1	-	218.0	260.5	300	480V/3PHASE	(2) NONE.	3" - 4#350KCMIL & #4G
CH-2	-	218.0	260.5	300	480V/3PHASE	(2) NONE.	3" - 4#350KCMIL & #4G
CHP-1	10 HP	14.0	17.5	35	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	3/4" - 3#10 & #10G
CHP-2	10 HP	14.0	17.5	35	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	3/4" - 3#10 & #10G
CHP-3	10 HP	14.0	17.5	35	480V/3PHASE	(1) VARIABLE FREQUENCY DRIVE.	3/4" - 3#10 & #10G
EWH-1A	24 KW	28.9	-	40	480V/3PHASE	(2) NONE.	3/4" - 3#8 & #10G
EWH-1B	24 KW	28.9	-	40	480V/3PHASE	(2) NONE.	3/4" - 3#8 & #10G
EWH-2	3 KW	14.4	-	20	208V/1PHASE	30A, 3PNF, 240V, NEMA 1 DISCONNECT.	1/2" - 2#12 & #12G
EWH-3	3 KW	14.4	-	20	208V/1PHASE	30A, 3PNF, 240V, NEMA 1 DISCONNECT.	1/2" - 2#12 & #12G
EWH-4	3 KW	14.4	-	20	208V/1PHASE	30A, 3PNF, 240V, NEMA 1 DISCONNECT.	1/2" - 2#12 & #12G
WASHER	-	-	-	40	208V/3PHASE	60A, 3PNF, 240V, NEMA 4X SS DISCONNECT.	3/4" - 4#8 & #10G
ICE MACH.	-	16.2	-	20	120V/1PHASE	30A, 2PNF, 240V, NEMA 1.	1/2" - 2#12 & #12G
ICE MACH. COND.	-	2.7	-	20	120V/1PHASE	30A, 2PNF, 240V, NEMA 4X SS DISCONNECT.	1/2" - 2#12 & #12G
CP-1	1/12 HP	-	-	20	120V/1PHASE	(2) NONE.	1/2" - 2#12 & #12G

(1) PROVIDED BY DIVISION 23. INSTALLED AND CONNECTED BY DIVISION 26.

(2) MEANS OF DISCONNECT IS THE CIRCUIT BREAKER (WITHIN SIGHT).

GENERAL NOTE: LOCATE EQUIPMENT MEANS OF DISCONNECT WITHIN EQUIPMENT SIGHT. DO NOT INSTALL ON EQUIPMENT, BELOW DUCTWORK OR PLUMBING LINES.

EXHAUST FAN CONNECTION SCHEDULE:

DESIGNATION	HP/WATTS	FLA	VOLTAGE	CONNECTION FOR EACH	BRANCH CIRCUIT
EF-1	241 W	2.2	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-2	241 W	2.2	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-3	241 W	2.2	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-4	241 W	2.2	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-5	76.4 W	0.7	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-6	55.9 W	0.5	120V/1PHASE	CONNECT AT CEILING. SWITCH VIA OCCUPANCY SENSOR.	1/2" - 2#12 & #12G
EF-7	55.9 W	0.5	120V/1PHASE	CONNECT AT CEILING. SWITCH VIA OCCUPANCY SENSOR.	1/2" - 2#12 & #12G
EF-8	1/2 HP	9.8	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	3/4" - 2#10 & #10G
EF-9	283 W	2.6	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-10	1/2 HP	9.8	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	3/4" - 2#10 & #10G
EF-11	283 W	2.6	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-12	64.9 W	0.6	120V/1PHASE	CONNECT AT CEILING. INTERLOCKING BY HVAC CONTROLS CONTRACTOR.	1/2" - 2#12 & #12G
EF-13	31.2 W	0.3	120V/1PHASE	CONNECT AT CEILING. SWITCH VIA OCCUPANCY SENSOR.	1/2" - 2#12 & #12G

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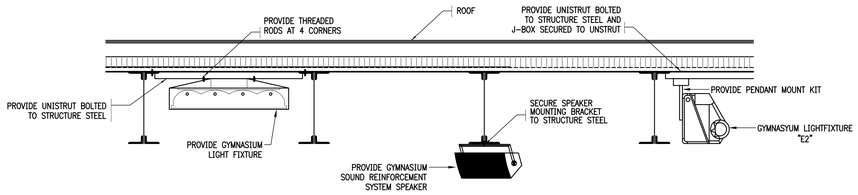
Architects-Planners
Interior Designers

Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No: BISD Hanna Gymnasium
Sheet:

E6.01

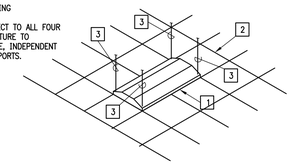


GYMNASIUM LIGHTING & SPEAKER CEILING MOUNTING DETAIL

01 SCALE : NOT TO SCALE

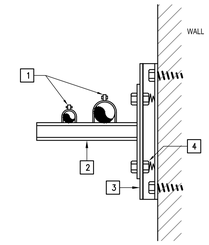
KEYED NOTES:

1. 2'x 4' LAY-IN FLUORESCENT FIXTURE
2. SUSPENDED CEILING
3. TIE WIRE, CONNECT TO ALL FOUR CORNERS OF FIXTURE TO STRUCTURE ABOVE, INDEPENDENT OF CEILING SUPPORTS.



TYPICAL LAY-IN FIXTURE SUPPORT

02 SCALE : NOT TO SCALE

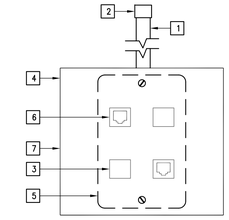


KEYED NOTES:

1. CONDUIT CLAMPS.
2. GALVANIZED UNISTRUT WALL BRACKET.
3. RAMSET OR BOLT GALVANIZED UNISTRUT TO WALL.
4. SELF HOLDING CLAMPING NUT WITH SPRING.

RACEWAY RUNS SUPPORT DETAIL

03 SCALE : NOT TO SCALE

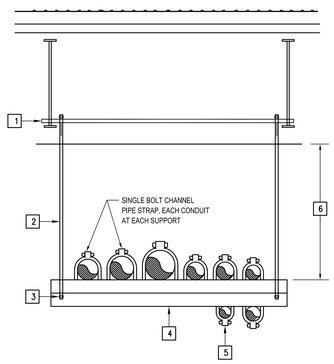


KEYED NOTES:

1. 1" EMT STUBBED ABOVE CLG.
2. INSULATING BUSHING
3. BLANK FILLER COVER
4. COVERPLATE
5. STEEL MUD RING
6. CATEGORY SIX JACK – PROVIDED BY OWNER
7. 4"X4"X2-5/8" DEEP BOX

TYPICAL DATA/TELEPHONE OUTLET DETAIL

04 SCALE : NOT TO SCALE

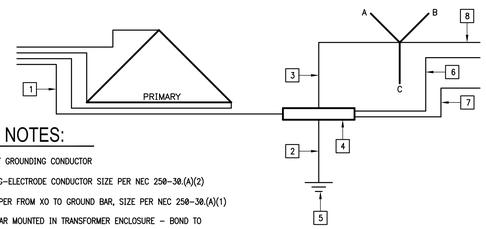


KEYED NOTES:

1. UNISTRUT STRUCTURAL CHANNEL SECURED TO TO JOIST AT BOTH ENDS.
2. 1/2" GALVANIZED ROD MINIMUM.
3. LOCKNUT.
4. GALVANIZED UNISTRUT 8'-0" O/C MAXIMUM.
5. 0'-1" MAXIMUM SIZE ON BOTTOM OF UNISTRUT.
6. VARIES.

HORIZONTAL RACEWAYS SUPPORT DETAIL

05 SCALE : NOT TO SCALE

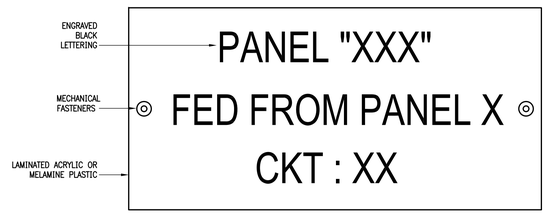


KEYED NOTES:

1. EQUIPMENT GROUNDING CONDUCTOR
2. GROUNDING-ELECTRODE CONDUCTOR SIZE PER NEC 250-30.(A)(2)
3. BOND JUMPER FROM XO TO GROUND BAR, SIZE PER NEC 250-30.(A)(1)
4. GROUND BAR MOUNTED IN TRANSFORMER ENCLOSURE – BOND TO FRAME.
5. GROUNDING ELECTRODES PER NEC 250-30. (A)(3)REBAR FOUNDATION.
6. GREEN/YELLOW IG GROUNDING CONDUCTOR, SIZE PER NEC 250-146, 250-146.(D)
7. GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZE PER NEC 250-122.
8. OUTPUT NEUTRAL – 200% SIZE FOR NONLINEAR LOADS.

TRANSFORMER WIRING DIAGRAM DETAIL

06 SCALE : NOT TO SCALE



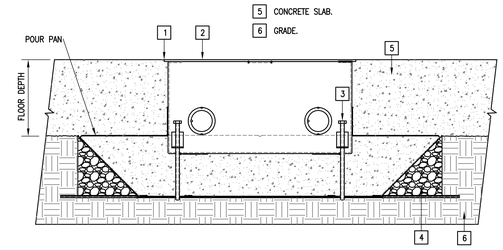
NOTE: ATTACH NAMEPLATES TO ALL ELECTRICAL GEAR AS NOTED ON SECTION 16075.

EQUIPMENT IDENTIFICATION LABEL DETAIL

07 SCALE : NOT TO SCALE

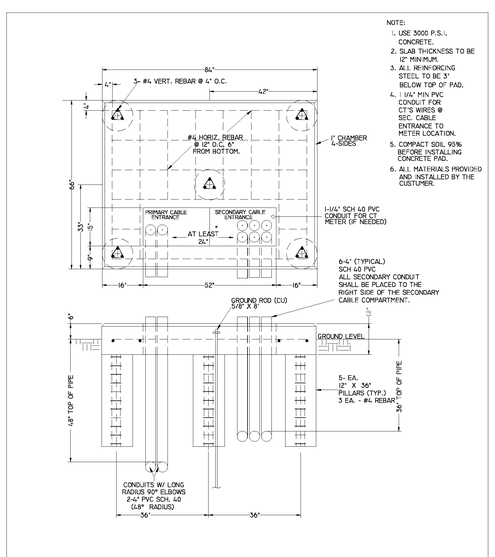
KEYED NOTES:

1. ENCLOSURE TOP IS TO BE PLUMB, LEVEL AND FLUSH WITH THE FINISHED SURFACE.
2. TEMPORARY CONSTRUCTION COVER TO BE REPLACED BY FINISH COVER PRIOR TO CARPET/TILE/WOOD INSTALLATION.
3. ADJUSTMENT SCREWS PROVIDED IN THE PAN KIT.
4. NEW 3/4" – DIA. GRAVEL FILL.
5. CONCRETE SLAB.
6. GRADE.



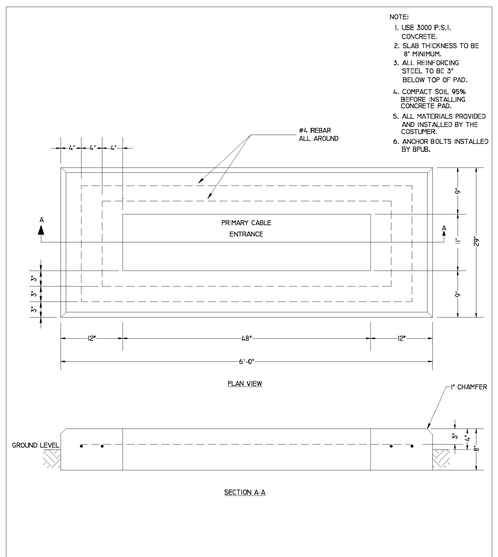
FLOOR BOX WITH POUR PAN DETAIL

08 SCALE : NOT TO SCALE



BROWNSVILLE P.U.B. 3Ø TRANSFORMER CONCRETE PAD DETAIL

09 SCALE : NOT TO SCALE

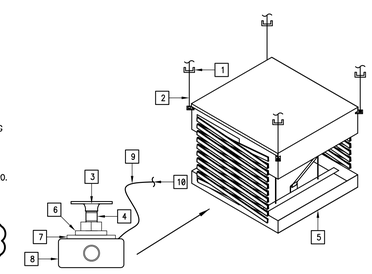


BROWNSVILLE P.U.B. 3Ø SECTIONALIZER CONCRETE PAD DETAIL

10 SCALE : NOT TO SCALE

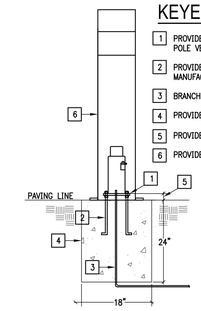
KEYED NOTES:

1. PROVIDE UNISTRUT SUPPORTS SECURED TO STRUCTURAL STEEL – TYPICAL.
2. PROVIDE THREADED RODS – TYPICAL.
3. PROVIDE DRAPER UNIVERSAL PROJECTOR MOUNTING BRACKET.
4. PROVIDE 1.5" CMA EXTENSION COLUMN.
5. PROVIDE DRAPER MOTORIZED SCISSOR LIFT SL PRO.
6. RPA-240.
7. PROVIDE LCD/DLP BRACKET.
8. ADD PROVIDE PROJECTOR EPSON PRO G7805. MOUNT PROJECTOR TO BOTTOM OF SCISSOR LIFT.
9. 2 EACH MHR-VGA CABLES.
10. TERMINATE AT MULTIMEDIA OUTLET.



SCISSOR LIFT & PROJECTOR DETAIL

12 SCALE : NOT TO SCALE

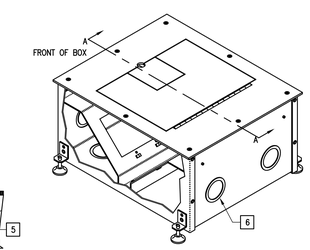


KEYED NOTES:

1. PROVIDE DOUBLE NUTS FOR ADJUSTMENT OF POLE VERTICAL ALIGNMENT.
2. PROVIDE ANCHOR BOLTS TO MATCH BOLLARD MANUFACTURER.
3. BRANCH CIRCUIT – SEE SITE PLAN FOR SIZE.
4. PROVIDE 4,000PSI CONCRETE FOUNDATION.
5. PROVIDE 1-1/2" ANCHOR BOLT PROJECTION.
6. PROVIDE BOLLARD LIGHT AS SCHEDULED.

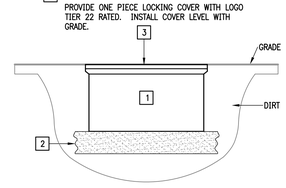
BOLLARD LIGHT FOUNDATION DETAIL

14 SCALE : NOT TO SCALE



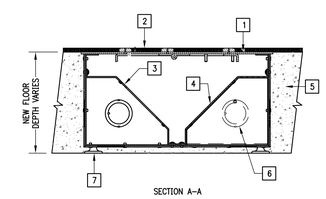
KEYED NOTES:

1. PROVIDE POLYMER CONCRETE PULL BOX TIER 22 RATED. COMPLYING WITH ANSI/SCTE 77 AND NEC 314.30.
2. PROVIDE 8" OF GRAVEL OR CRUSHED ROCK.
3. PROVIDE ONE PIECE LOCKING COVER WITH LOGO TIER 22 RATED. INSTALL COVER LEVEL WITH GRADE.



POLYMER CONCRETE PULLBOX DETAIL

11 SCALE : NONE



NOTES:

1. PROVIDE CUT OUT, POUR PAN, AND NEW CONCRETE AS REQUIRED TO INSTALL FLOOR BOX FLUSH WITH FINISHED FLOOR.
2. SEE ELECTRICAL DRAWINGS FOR POWER AND SPECIAL SYSTEMS COMPONENT REQUIREMENTS

KEYED NOTES:

1. TOP OF FLOOR BOX COVER MUST BE FLUSH WITH FINISHED FLOOR.
2. WOOD/TILE TRIM INSERTED ONTO FLANGED COVER.
3. 4-GANG (POWER).
4. 4-GANG (SPECIAL SYSTEMS).
5. POURED CONCRETE.
6. RACEWAY KNOCKOUTS - TYPICAL.
7. LEVELING FEET - TYPICAL.

TYPICAL WOOD/TILE FLOOR BOX DETAIL

13 SCALE : NOT TO SCALE

No.	REVISIONS	BY
1 ADD	JUNE 27 , 2019	

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LICENSED
PROFESSIONAL ENGINEER
06.12.2019

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Gomez Mendez Saenz Inc.
Architects-Planners
Interior Designers

Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No. BISD Hanna Gymnasium
Sheet: E8.01

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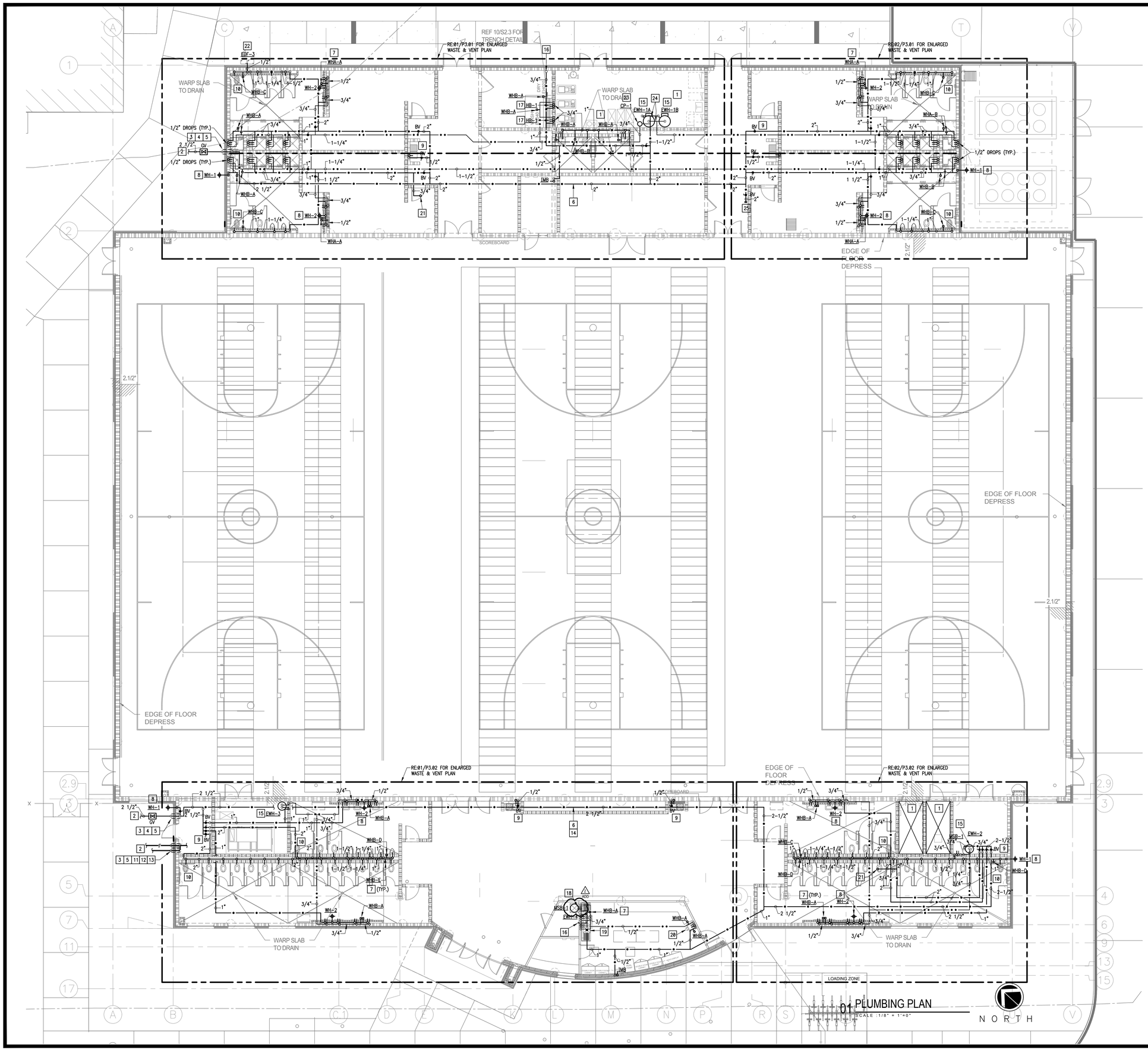
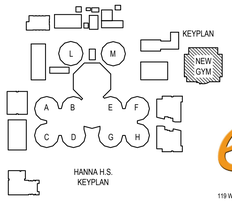


01 PLUMBING PLAN

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

PLUMBING KEYED NOTES:

1. CLEARANCE FOR ELECTRICAL PANELS. ROUTE NO PIPING OVER THIS AREA. REFER TO ELECTRICAL PLANS FOR EXACT LOCATION OF ELECTRICAL ROOMS.
2. REFER TO MEP SITE PLAN FOR CONTINUATION.
3. SLEEVE ALL GRADE BEAMS, FLOOR SLABS AND MASONRY WALL PENETRATIONS PER DETAIL WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT.
4. PROVIDE GATE VALVE IN QUAZITE BOX. SEE ASSOCIATED DETAIL ON DETAIL SHEET.
5. PROVIDE 1" CLOSED-CELL INSULATION WITH METAL JACKET ON EXPOSED PIPING. PENETRATE EXTERIOR WALL AS LOW AS POSSIBLE. TURN DOWN TO UNDERGROUND.
6. PROVIDE PIPING SUPPORT AS PER SPECS AND DETAIL. SEE ASSOCIATED DETAIL ON DETAIL SHEET. (TYPICAL)
7. PROVIDE BELLOWS TYPE WATER HAMMER ARRESTOR (WHB), MIFAB OR APPROVED EQUAL. INDICATED MODEL (A,B,C,D,E,F) AS PER MIFAB SIZING CHART. PROVIDE 12"X12" ACCESS PANEL WHERE INSTALLED IN AN INACCESSIBLE AREA. ACCESS PANEL EQUAL TO ACUDOR MODEL UF5000 WITH CYLINDER LOCK AND KEY AND PAINT TO MATCH THE WALL/CEILING. (TYPICAL)
8. PROVIDE WALL HYDRANT AS SCHEDULED. PROVIDE CLOSE COUPLED HYDRANT TO ENSURE PIPE TURNS UP INSIDE BLOCK WALL. COORDINATE WALL THICKNESS WITH WALL HYDRANT MANUFACTURER DATA. (TYPICAL)
9. PROVIDE BRONZE ISOLATION BALL VALVE ABOVE CEILING OR BEHIND WALL. PROVIDE 12"X12" ACCESS PANEL WHERE INSTALLED IN AN INACCESSIBLE AREA. ACCESS PANEL EQUAL TO ACUDOR MODEL UF5000 WITH CYLINDER LOCK AND KEY AND PAINT TO MATCH THE WALL/CEILING. PROVIDE VALVE IDENTIFICATION TAGS AS PER SPECIFICATIONS. (TYPICAL)
10. INSTALL WATER CLOSET FLUSH VALVE HANDLE TOWARDS WIDE SIDE OF THE ROOM. COORDINATE WITH GENERAL CONTRACTOR.
11. FIRE SPRINKLER RISER LOCATION. SEE SPECIFICATION FOR ADDITIONAL INFORMATION.
12. PROVIDE FIRE SPRINKLER LINE WITH BACK FLOW PREVENTER ON RISER. REFER TO CIVIL DRAWING FOR FIRE LINE CONTINUATION. VERIFY SIZE OF FIRE SPRINKLER LINE BY MEANS OF CALCULATION AND COORDINATE WITH GENERAL CONTRACTOR.
13. COORDINATE FREE STANDING FDC AND PROVISION OF BACK FLOW PREVENTER WITH CIVIL.
14. PAINT ALL EXPOSED PIPING TO MATCH ARCHITECTURAL FINISHES. COORDINATE COLOR WITH ARCHITECT.
15. PROVIDE ELECTRIC WATER HEATER AS SCHEDULED. SEE ASSOCIATED DETAIL ON DETAILS SHEET.
16. RISE UP WITH 3/4" COLD WATER LINE TO ELECTRONIC TRAP PRIMER ON MEZZANINE FLOOR. REFER TO @3/P3.01.
17. PROVIDE 3/4" CW AND 3/4" HW LINES (HB-1) AT APPROXIMATELY 48" A.F.F. FOR COMMERCIAL WASHER CONNECTIONS. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR.
18. RUN 3/4" CW LINE AND 3/4" HW LINE IN WALL CAVITY TO SUPPLY WATER TO EWH-4 AND MSB-1.
19. THREE COMPARTMENT SINK, FAUCETS AND DISPOSER SPECIFIED BY ARCHITECT (COORDINATE). PROVIDE (2) 3/4" CW AND 3/4" HW AT 8" O.C./ 16"A.F.F. DISPOSER: CONNECT 1/2" CW THRU SOLENOID VALVE VACUUM BRKR AND FLOW CONTROL.
20. HAND SINK AND FAUCET SPECIFIED BY ARCHITECT (COORDINATE). PROVIDE 1/2" CW AND 1/2" HW AT 8" O.C./16" A.F.F. PROVIDE POINT OF USE THERMOSTATIC VALVE LEONARD #270-LF-BRKT-BV OR APPROVED EQUAL.
21. RISE UP WITH 3/4" CW LINE TO ROOF HYDRANT ON ROOF. SEE ASSOCIATED DETAIL ON DETAILS SHEET.
22. PROVIDE OUTDOOR ELECTRIC DRINKING FOUNTAIN AS SCHEDULED.
23. PROVIDE CIRCULATING PUMP AS SCHEDULED. SEE ASSOCIATED DETAIL ON DETAILS SHEET.
24. PROVIDE A DUAL UNIT MANIFOLD KIT A.O. SMITH MODEL #100109231. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
25. CAP END OF DOMESTIC WATER LINE FOR FUTURE ADDITION OF BUILDING FIXTURES.



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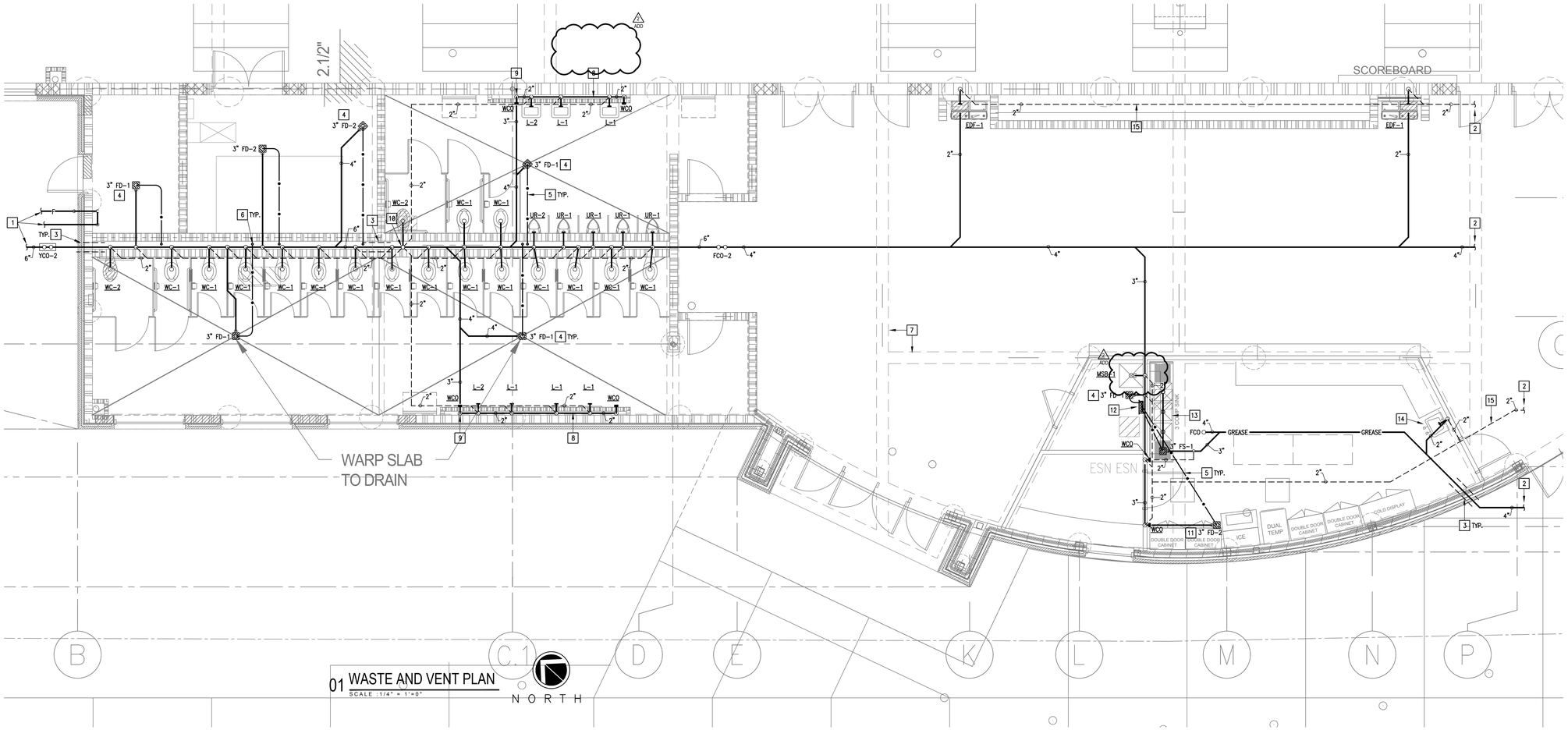
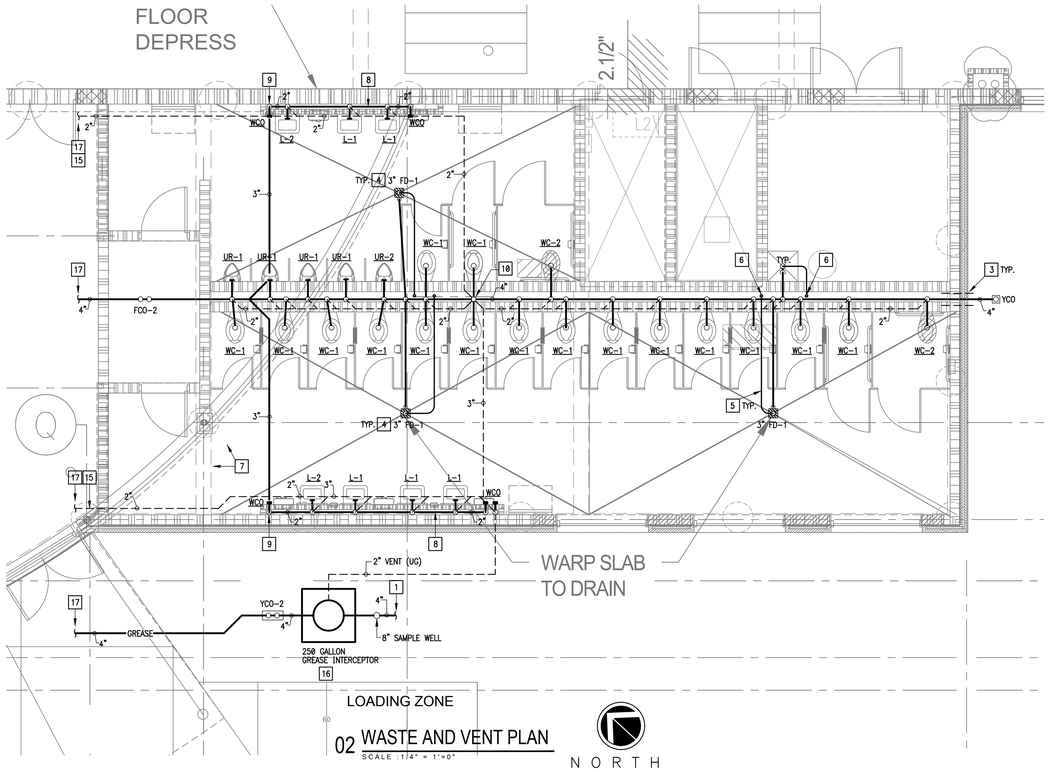
Architects-Planners
Interior Designers

Date:	June 12, 2019
Scale:	As Noted
Project Architect:	David Monreal, AIA
Drawn By:	ETHOS
Job No.	BISD Hanna Gymnasium
Sheet:	P2.01



01 WASTE AND VENT PLAN
SCALE : 1/4" = 1'-0"



02 WASTE AND VENT PLAN
SCALE : 1/4" = 1'-0"

KEYED NOTES:

1. REFER TO MEP SITE PLAN FOR CONTINUATION.
2. REFER TO 02/THIS SHEET FOR CONTINUATION
3. SLEEVE ALL GRADE BEAMS, FLOOR SLABS AND MASONRY WALL PENETRATIONS PER DETAIL WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT.
4. PROVIDE FLOOR DRAIN AS SCHEDULED. SET FLUSH WITH FINISHED FLOOR. SEE ASSOCIATED DETAIL ON DETAIL SHEET.
5. PROVIDE 1/2" SOFT DRAWN COPPER FROM TRAP-PRIMER. ROUTE PIPING UNDERNEATH THE POLYETHYLENE VAPOR BARRIER. PIPING SHALL NOT BE EMBEDDED IN THE CONCRETE FLOOR SLAB. ENCASE PIPING INSIDE WALL AND UNDER FLOOR SLAB IN POLYETHYLENE SLEEVE. "POLY-SLEEVE" OR EQUAL.
6. CONNECT TO (WC) FLUSH VALVE TRAP-PRIMER. SEE ASSOCIATED DETAIL ON DETAIL SHEET.
7. STRUCTURAL FOUNDATION SHOWN FOR REFERENCE AND COORDINATION PURPOSES. REFER TO STRUCTURAL DRAWINGS FOR MORE DETAILS.
8. ROUTE WASTE LINE ABOVE CONCRETE SLAB INSIDE CHASE.
9. DROP WASTE LINE DOWN TO UNDERGROUND AT APPROXIMATELY THIS LOCATION. PROVIDE A WCO AT APPROXIMATELY 24" AFF.
10. PROVIDE 4" VENT UP THRU ROOF.
11. PROVIDE FLOOR DRAIN AS SCHEDULED FOR ICE MAKER DRAIN. SET FLUSH WITH FINISHED FLOOR. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR.
12. PROVIDE ELECTRONIC TRAP PRIMER PRECISION PLUMBING PRODUCTS (PPP) MODEL PTS-4 OR APPROVED EQUAL. PROVIDE SURFACE MOUNT CABINET WITH ACCESS DOOR. PROVIDE A COPPER DISTRIBUTION MANIFOLD WITH 4 OUTLETS AND CAP UNUSED OUTLETS. SEE ASSOCIATED DETAIL ON DETAILS SHEET.
13. THREE COMPARTMENT SINK, FAUCETS AND DISPOSER SPECIFIED BY ARCHITECT (COORDINATE). PROVIDE A 2" COPPER WASTE LINE CONNECTION AND ROUTE TO FLOOR SINK, TERMINATE WITH 90 DEG. ELBOW WITH A 2" AIR GAP.
14. HAND SINK AND FAUCET SPECIFIED BY ARCHITECT (COORDINATE). PROVIDE A 1 1/2" WASTE CONNECTION THROUGH A 17 GA. P-TRAP WITH CLEANOUT.
15. ROUTE VENT LINE IN CEILING SPACE FUR DOWN. COORDINATE WITH GENERAL AND MECHANICAL CONTRACTOR.
16. PROVIDE GREASE INTERCEPTOR AS SPECIFIED. SEE ASSOCIATED DETAIL ON DETAILS SHEET.
17. REFER TO 01/THIS SHEET FOR CONTINUATION.

No.	REVISIONS	BY
1 ADD	JUNE 27 , 2019	

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Architects-Planners
Interior Designers

Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No. BISD Hanna Gymnasium
Sheet: P3.02

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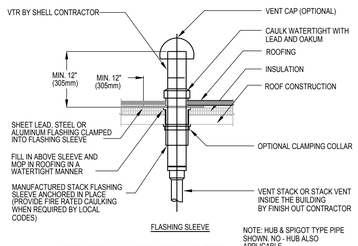
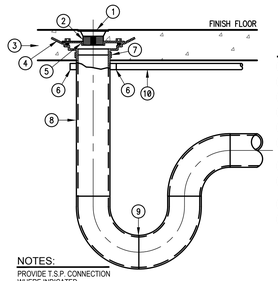


NOTE:LOCATE MIN. 25'-0" FROM MECHANICAL EQUIP.

01 VENT THRU ROOF DETAIL

SCALE : NOT TO SCALE



KEYED NOTES

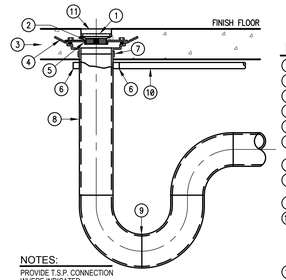
1. TYPE B STRAINER.
2. ADJUSTABLE DRAIN HEAD.
3. CONCRETE.
4. MEMBRANE.
5. FLASHING COLLAR.
6. TRAP PRIMER FITTING PROVISION.
7. S.S. "NO-HUB" ASSEMBLY.
8. PIPE SIZE AS INDICATED ON PLAN.
9. DEEP SEAL P-TRAP.
10. 1/2" SOFT DRAWN COPPER FROM TRAP PRIMER. ENCASE PIPING INSIDE MASONRY WALL OR UNDER SLAB IN POLYETHYLENE SLEEVE. "POLY-SLEEVE" OR EQUAL.

NOTES:

PROVIDE T.S.P. CONNECTION WHERE INDICATED.
1/2" TRAP PRIMER LINE SHALL NOT BE EMBEDDED IN THE CONCRETE FLOOR SLAB. ROUTE UNDERNEATH THE POLYETHYLENE VAPOR BARRIER.

02 FD-1 FLOOR DRAIN WITH TRAP PRIMER DETAIL

SCALE : NOT TO SCALE



KEYED NOTES

1. TYPE I STRAINER.
2. ADJUSTABLE DRAIN HEAD.
3. CONCRETE.
4. MEMBRANE.
5. FLASHING COLLAR.
6. TRAP PRIMER FITTING PROVISION.
7. S.S. "NO-HUB" ASSEMBLY.
8. PIPE SIZE AS INDICATED ON PLAN.
9. DEEP SEAL P-TRAP.
10. 1/2" SOFT DRAWN COPPER FROM TRAP PRIMER. ENCASE PIPING INSIDE MASONRY WALL OR UNDER SLAB IN POLYETHYLENE SLEEVE. "POLY-SLEEVE" OR EQUAL.
11. SET EXTENDED RIM FLUSH WITH FINISHED FLOOR.

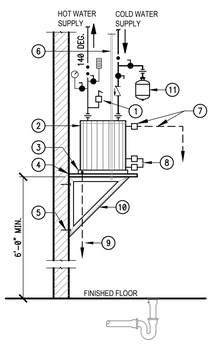
NOTES:

PROVIDE T.S.P. CONNECTION WHERE INDICATED.
1/2" TRAP PRIMER LINE SHALL NOT BE EMBEDDED IN THE CONCRETE FLOOR SLAB. ROUTE UNDERNEATH THE POLYETHYLENE VAPOR BARRIER.

03 FD-2 FLOOR DRAIN WITH TRAP PRIMER DETAIL

SCALE : NOT TO SCALE

NOTE:
PROVIDE HEAT TRAP DEVICE OR AN ARRANGEMENT OF TUBING AS PER IEEC. INSULATE THE FIRST 8' OF OUTLET PIPING AND THE INLET PIPING BETWEEN THE STORAGE TANK AND A HEAT TRAP (INCLUDE THE HEAT TRAP).



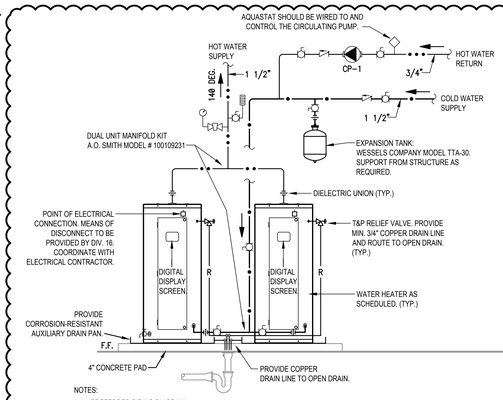
KEYED NOTES

1. POP-OFF VALVE/ANTI-SIPHON DEVICE.
2. ELECTRIC WATER HEATER AS SCHEDULED.
3. PAN WITH DRAIN.
4. 3/4" MIN. MOISTURE RESISTANT PLYWD.
5. SECURE TO WALL AS REQUIRED.
6. (2) 3/8"Ø RODS. SECURE TO STRUCTURE.
7. RELIEF VALVE WITH 3/4"MIN. COPPER DRAIN LINE TO MOP SINK OR OPEN DRAIN.
8. HEATING ELEMENT AS SPEC'D.
9. COPPER DRAIN LINE TO MOP SINK OR OPEN DRAIN.
10. (2) KNEE BRACES, L 1.25X1.25X.25 GALV., @ 8" O.C. WITH WELDED JOINTS.
11. EXPANSION TANK: WESSELS COMPANY MODEL TTA-5.

04 WALL MOUNTED (EWH-2 THRU EWH-4) ELECTRIC WATER HEATER DETAIL

SCALE : NOT TO SCALE

ADD



NOTES:

1. PREFERRED PIPING DIAGRAM.
2. THE TEMPERATURE AND PRESSURE RELIEF VALVE SETTING SHALL NOT EXCEED PRESSURE RATING OF ANY COMPONENT IN THE SYSTEM.
3. PROVIDE HEAT TRAP DEVICE OR AN ARRANGEMENT OF TUBING AS PER IECC. INSULATE THE FIRST 8' OF OUTLET PIPING AND THE INLET PIPING BETWEEN THE STORAGE TANK AND HEAT TRAP (INCLUDE THE HEAT TRAP).

LEGEND

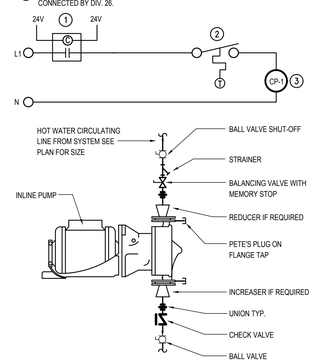
TEMPERATURE & PRESSURE RELIEF VALVE	CHECK VALVE	FULL PORT BALL VALVE	PRESSURE GAUGE	PLUG VALVE
AQUASTAT	DRAIN	TEMPERATURE GAGE	CIRCULATING PUMP	

05 FLOOR MOUNTED (EWH-1A & EWH-1B) ELECTRIC WATER HEATER DETAIL

SCALE : NOT TO SCALE

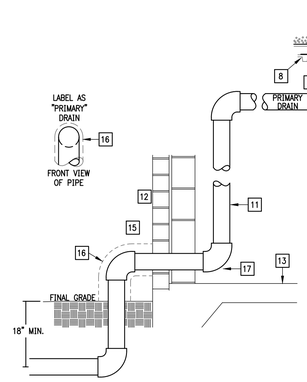
NOTES:

1. POWER TO PUMP TO BE CONTROLLED BY HVAC BUILDING AUTOMATION SYTEM. COORDINATE WITH ELECTRICAL CONTRACTOR.
2. LINE VOLTAGE AQUASTAT CONTROLLER FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR. CONNECTED BY ELECTRICAL CONTRACTOR. AQUASTAT CLOSES WHEN STORAGE TANK WATER TEMPERATURE DROPS BELOW 120°F. (ADJ.).
3. CIRCULATING PUMP FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR. CONNECTED BY DIV. 26.



06 CIRCULATING PUMP WIRING SCHEMATIC & DETAIL

SCALE : NOT TO SCALE

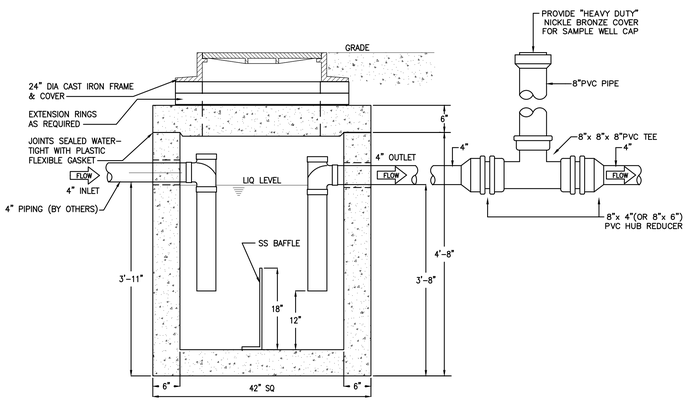


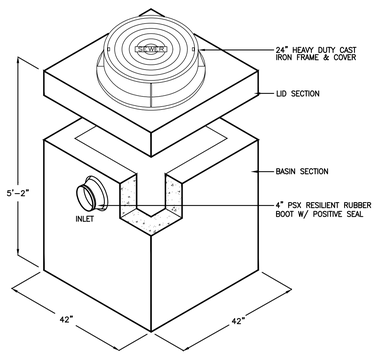
07 RD-1 PRIMARY ROOF DRAIN DETAIL

SCALE : NOT TO SCALE

ROOF DRAIN DETAIL KEYED NOTES:

1. ROOF DRAIN
2. DRAIN BODY
3. UNDER DECK CLAMP
4. ROOF SUMP RECEIVER
5. EXTENSION COLLAR
6. 4# LEAD FLASHING--EXTEND MINIMUM 12" FROM DRAIN BODY
7. COUNTER FLASHING
8. ROOF DECK
9. MINIMUM 1/4" PER FEET SLOPE ON HORIZONTAL RUNS
10. RUBBER "O" RINGS TYPE EXPANSION COUPLING WITHIN 4 FEET OF EACH ROOF DRAIN.
11. RAIN WATER CONDUCTOR INSIDE PIPE CHASE
12. WALL
13. FLOOR
14. ROOF
15. PROVIDE DOWNSPOUT NOZZLE EQUAL TO JOSAM 2510.
16. ALUMINUM METAL JACKET
17. FILL BLOCK WITH CONCRETE AT ELBOW AREA





GREASE INTERCEPTOR SCHEDULE							
MODEL NO.	CAPACITY USGal	TOTAL WEIGHT LBS	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
GT-250	250	7,200	3'-6"	3'-6"	5'-2"	3'-11"	3'-8"

CONCRETE : CLASS I/II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNITS IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. RATED FOR H-20 LOADING.

REINFORCEMENT: GRADE 60 REINFORCED WITH STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48 CLASS 35.

ENGINEERING DATA: INTERCEPTOR IS STRUCTURALLY AND HYDRAULICALLY ENGINEERED CONFORMING TO UNIFORM PLUMBING CODE.

NOMINAL LIQUID CAPACITY AS INDICATED ON PLAN. SHOP DRAWINGS SHALL INCLUDE COMPLETE STRUCTURAL & BOUYANCY CALCULATIONS CERTIFIED BY A REGISTERED ENGINEER.

FIELD EXCAVATION AND PREPARATION SHALL BE COMPLETED PRIOR TO DELIVERY OF INTERCEPTOR. USE DIMENSIONAL DATA AS SHOWN.

08 GREASE INTERCEPTOR DETAIL

SCALE : NOT TO SCALE

ethos engineering
119 W. VAN BUREN AVE. STE.101
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED ENGINEERING FIRM F-15998

No.	REVISIONS	BY
1 ADD	JUNE 27 , 2019	

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BISD Hanna ECHS Gymnasium Facility

CESAR A. GONZALEZ
108611
06.12.2019

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Gomez Mendez Saenz Inc.
Architects-Planners
Interior Designers

Date: June 12, 2019
Scale: As Noted
Project Architect: David Monreal, AIA
Drawn By: ETHOS
Job No.: BISD Hanna Gymnasium
Sheet: P5.02