THE WARREN GROUP
ARCHITECTS INC.

1801 South 2nd Street, Ste. 330 McAllen, TX 78503

Addendum No. 3

DATE: Monday, July 1, 2019

PROJECT: City of Pharr/PSJA Aquatic Facility

PROJECT NO: 971805/ 1819-35-510-C011-051

LOCATION: 3001 N. Cage Blvd., Pharr, Texas 78577

FROM: Laura N. Warren, The Warren Group Architects, Inc.

The following revisions and clarifications shall be considered part of the record contract documents dated June 7, 2019 for the above referenced project and included in the contract amount. All general notes and specifications shall apply to this addendum. Where provisions of the following supplementary data differ from those of the original Contract Documents, this Addendum shall govern and take precedence.

The following scope adjustments have been made. Please adjust bids with the following noted changes:

Specifications

Item No. 1: *Refer to Project Manual dated June 7, 2019.* **Spec Section 00 43 21 Allowance Form dated 06/7/2019 has been revised to add Allowances 5 and 6. Replace with Spec Section 00 43 21 Allowance Form ADD3 dated June 28, 2019. Insert this section.**

Item No. 2: *Refer to Project Manual dated June 7, 2019.* **Spec Section 01 21 00 Allowances dated 06/7/2019 has been revised to add Allowances 5 and 6. Replace with Spec Section 01 21 00 Allowances ADD3 dated June 28, 2019. Insert this section.**

Item No. 3: *Refer to Project Manual dated June 7, 2019.* **Spec Section 05 81 00 Waterproof Expansion Joint Covers ADD 3 dated 06/26/2019 has been added. Insert this section.**

Item No. 4: *Refer to Project Manual dated June 7, 2019.* **Spec Section 07 81 00 Spray-Applied Fire Resistive Materials ADD 3 dated 06/26/2019 has been added. Insert this section.**

Item No. 5: *Refer to Project Manual dated June 7, 2019.* **Spec Section 09 65 19 Resilient Tile Flooring ADD 3 dated 06/26/2019 has been added. Insert this section.**

Item No. 6: *Refer to Project Manual dated June 7, 2019.* **Spec Section 09 90 01 Paints and Coatings ADD 3 dated 06/26/2019 has been added to replace Spec Section 09 90 00 Paints and Coatings dated June 7, 2019. Insert this section.**

Item No. 7: *Refer to Project Manual dated June 7, 2019.* **Spec Section 10 81 10 Electric Hand Dryers ADD 3 dated 06/26/2019 has been added to replace Spec Section 10 81 10 Electric Hand Dryers dated June 7, 2019. Insert this section.**

Item No. 8: *Refer to Project Manual dated June 7, 2019.* **Spec Section 13 11 06 Swimming Pool Timing System ADD 3 dated 06/26/2019 has been added to replace Spec Section 13 11 06 Swimming Pool Timing System dated June 7, 2019. Insert this section.**

Drawings

Item No. 9: *Refer to Construction Documents sheet SP0.00 dated June 7, 2019.* **A label has been added for the "Folding Trampoline and Spotting Rig" to clarify location. Refer to 30x42 sheet SP0.00 dated 6/26/2019.**

Item No. 10: *Refer to Construction Documents sheet S301dated June 7, 2019.* **Bleachers and Observation Framing Plans include addition of concrete step locations typical to every stairway leading to Observation deck. Refer to 30x42 sheet S301 dated 6/26/2019.**

Item No. 11: *Refer to Construction Documents sheet S552 dated June 7, 2019.* **Locker curbs have been added and truss end connections have been noted. Refer to 30x42 sheet S551 dated 6/26/2019.**

Item No. 12: *Refer to Construction Documents sheet S552 dated June 7, 2019.* **Several structure truss details have been modified. Refer to 30x42 sheet S552 dated 6/26/2019.**

Item No. 13: *Refer to Construction Documents sheet S553 dated June 7, 2019.* **New Structural Sheet has been added. Refer to 30x42 sheet S553 dated 6/26/2019.**

Item No. 14: *Refer to Construction Documents sheet S607 dated June 7, 2019.* **Building Sections at Spectator seating have been modified to include intermediate concrete steps between concrete seating steps. Refer to 30x42 sheet S607 dated 6/26/2019.**

Item No. 15: *Refer to Construction Documents sheet A1.02 dated June 7, 2019.* **The following revisions have been made:**
-Precast concrete cap had been noted along the top perimeter of dumpster enclosure walls.
-Van accessible has been added to sign detail
-Several signage and finish notes have been modified on all site monument signs. Refer to 30x42 sheet A1.02 ADD 3 dated 6/26/2019.

Item No. 16: *Refer to Construction Documents sheet A1.11B dated June 7, 2019.* **Louver locations have been provided. Refer to 30x42 sheet A1.11B ADD 3 dated 6/26/2019.**

Item No. 17: *Refer to Construction Documents sheet A1.11C dated June 7, 2019.* **Louver locations have been provided and diving platforms have been referenced. Refer to 30x42 sheet A1.11C ADD 3 dated 6/26/2019.**

Item No. 18: *Refer to Construction Documents sheet A1.12 dated June 7, 2019.* **Louver and window locations have been provided. Refer to 30x42 sheet A1.12 ADD 3 dated 6/26/2019.**

Item No. 19: *Refer to Construction Documents sheet A1.21A dated June 7, 2019.* **Note for CR Lawrence Sunshades has been provided. Refer to 30x42 sheet A1.21A ADD 3 dated 6/26/2019.**

Item No. 20: *Refer to Construction Documents sheet A1.41A dated June 7, 2019.* **Several Rooms have been revised to have PT-2, CONC-1 or VCT-1. Refer to 30x42 sheet A1.41A ADD 3 dated 6/26/2019.**

Item No. 21: *Refer to Construction Documents sheets A2.11 and A2.12 dated June 7, 2019.* **The following revisions have been made:**
-Dimensions to locate louvers have been provided.
-Louvers to have Kynar finish. Color to match wall where they are located.
-Reveals to be of integral color Dryvit Outsulation Plus MD.
Refer to 30x42 sheet A2.11 and A2.12 ADD 3 dated 6/26/2019.

Item No. 22: *Refer to Construction Documents sheet A3.02 dated June 7, 2019.* **Callouts for the Diving tower and pump pit have been provided. Refer to 30x42 sheet A3.02 ADD 3 dated 6/26/2019.**

Item No. 23: *Refer to Construction Documents sheets A4.11 and A4.12 dated June 7, 2019.* **The following revisions have been made:**
-Accessory schedule key 11 has been edited to remove the paper towel disposal.
-Accessible Signage has been located.
-Locker sizes have been provided.
-4" high concrete slab has been added for raised lockers.
Refer to 30x42 sheet A4.11 and A4.12 ADD 3 dated 6/26/2019.

Item No. 24: *Refer to Construction Documents sheet A4.13 dated June 7, 2019.* **Enlarged plans of second floor observation area have been provided. Refer to 30x42 sheet A4.13 ADD 3 dated 6/26/2019.**

Item No. 25: *Refer to Construction Documents sheet A4.32 dated June 7, 2019.* **Intermediate steps at concrete structure have been noted. Refer to 30x42 sheet A4.32 ADD 3 dated 6/26/2019.**

Item No. 26: *Refer to Construction Documents sheet A4.33 dated June 7, 2019.* **Intermediate steps at second level concrete structure have been noted and glass railing dimensions have been provided. Refer to 30x42 sheet A4.33 ADD 3 dated 6/26/2019.**

Item No. 27: *Refer to Construction Documents sheet A4.34 dated June 7, 2019.* **Stairs to Observation area have been noted to be sealed and have light broom texture and railing pickets have been noted. Refer to 30x42 sheet A4.34 ADD 3 dated 6/26/2019.**

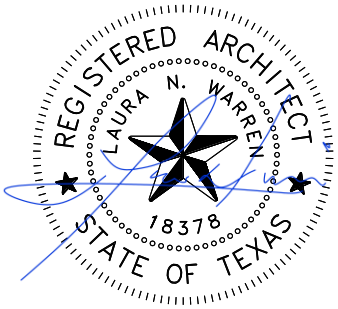
Item No. 28: *Refer to Construction Documents sheets A4.35, A4.36, and A4.37 dated June 7, 2019.* **New sheets have been provided to include Diving tower railings and details. Refer to 30x42 sheets A4.35, A4.36, and A4.37 ADD 3 dated 6/26/2019.**

Item No. 29: *Refer to Construction Documents sheet A6.11 dated June 7, 2019.* **The following modifications have been made:**
-Rooms have been modified to include all corrected finishes.
-All exposed structure to be primed and painted with 1-hour fire-rated intumescent paint and top-coated in pro-industrial waterbased Acrolon.
-All concealed structure to have 1-hour spray-applied fireproofing.
-Grout 3 has been removed and grout 2 modified.
-VCT-1 has been included to project.
-Intumescent paint has been listed as a finish paint.
Refer to 30x42 sheet A6.11 ADD 3 dated 6/26/2019.

Item No. 30: *Refer to Construction Documents MEP drawing set dated June 7, 2019.* **Refer to MEP Addendum #3 dated 6/26/2019.**

ISSUED BY:

Laura N. Warren, AIA/Principal
The Warren Group Architects, Inc.



Attachments:

PDF Format – 8.5"x11" 00 43 21 ADD3 dated 6/28/2019
PDF Format – 8.5"x11" 01 21 00 ADD3 dated 6/28/2019
PDF Format – 8.5"x11" 05 81 00 ADD3 dated 6/26/2019
PDF Format – 8.5"x11" 07 81 00 ADD3 dated 6/26/2019
PDF Format – 8.5"x11" 09 65 19 ADD3 dated 6/26/2019
PDF Format – 8.5"x11" 09 90 01 ADD3 dated 6/26/2019
PDF Format – 8.5"x11" 10 81 10 ADD3 dated 6/26/2019
PDF Format – 8.5"x11" 13 11 06 ADD3 dated 6/26/2019
PDF Format – 30"x42" SP0.00 ADD 3 dated 06/26/2019
PDF Format – 30"x42" S301 ADD 3 dated 06/26/2019
PDF Format – 30"x42" S551 ADD 3 dated 06/26/2019
PDF Format – 30"x42" S552 ADD 3 dated 06/26/2019
PDF Format – 30"x42" S553 ADD 3 dated 06/26/2019
PDF Format – 30"x42" S607 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A1.02 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A1.11B ADD 3 dated 06/26/2019
PDF Format – 30"x42" A1.11C ADD 3 dated 06/26/2019
PDF Format – 30"x42" A1.12 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A1.21A ADD 3 dated 06/26/2019
PDF Format – 30"x42" A1.41 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A2.11 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A2.12 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A3.02 ADD 3 dated 06/26/2019

PDF Format – 30"x42" A4.11 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A4.12 ADD 3 dated 06/26/2019
PDF Format – 30"x42" A4.13 ADD 3 dated 06/26/2019
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PDF Format – 30"x42" A4.33 ADD 3 dated 06/26/2019
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PDF Format – 30"x42" A4.37 ADD 3 dated 06/26/2019
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PDF Format – 30"x42" M1.01 ADD 3 dated 06/26/2019
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PDF Format – 30"x42" E1.02 ADD 3 dated 06/26/2019
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PDF Format – 30"x42" P1.01 ADD 3 dated 06/26/2019
PDF Format – 30"x42" P1.02 ADD 3 dated 06/26/2019
PDF Format – 30"x42" P1.05 ADD 3 dated 06/26/2019
PDF Format – 30"x42" P2.00 ADD 3 dated 06/26/2019
PDF Format – 30"x42" P2.01 ADD 3 dated 06/26/2019
PDF Format – 30"x42" P2.02 ADD 3 dated 06/26/2019

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MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS

600 E. Beaumont Suite #2
McAllen, Texas 78501
(956) 664-2727
Fax (956) 664-2726

ADDENDUM #3
CITY OF PHARR/PSJA AQUATIC FACILITY
06.26.2019

The following items shall become a part of the contract documents. Refer to full or partial sheets referenced and make changes noted. Bidders are responsible for reading all sections of the addendum. The Addendum consists of the following:

MECHANICAL

Item 1 Sheet M1.01, Mechanical Floor Plan, Remote touchscreen panel location for pool dehumidification units have been added to the plan. Refer to attached drawings.

Item 2 Sheet M1.06, Mechanical Elevations, General Notes have been added to the drawing. Refer to attached drawings.

Item 3 Sheet M3.02, Mechanical Details, Pool Unit Configuration Detail has been added and Pool AHU Furnace Direct Vent Detail has been modified. Refer to attached drawings.

Item 4 Sheet M3.03, Mechanical Controls, Details "D" and "E" have been added. Refer to attached drawings.

Item 5 Specification 15901, Building Automation System, The Building Automation System shall control the following hardware via BACnet:

-Lochinvar Pool Heaters (total of 3)
-Swimming Pool Controllers (total of 2); Refer to pool system schematic sheet "SP700"
-Pool Chemical Feed Pump Controller (total of 2)
-Elevator Separator Alarm Controller

The controls contractor shall make available all variables/parameters involved in the control sequence(s) thru the front-end graphics. Read/write capabilities shall be as allowed the units controller (to include application menu navigation and modes of operation selection).

ELECTRICAL

Item 1 Sheet E1.00, Electrical Site Plan, camera rough-in have been added to drawing. Refer to attached drawing.

Item 2 Sheet E1.01, Electrical Lighting Floor Plan, wall switches have been added to the drawing. Refer to attached drawing.

Item 3 Sheet E1.02, Electrical Power Floor Plan, card reader, camera, and wireless access point rough-in and door holders have been added to drawing. Refer to attached drawing.

Item 4 Sheet E1.03, Electrical Power Floor Plan, camera and wireless access point rough-in have been added to drawing. Refer to attached drawing.

MEP SOLUTIONS ENGINEERING

600 E. Beaumont Suite #2
McAllen, Texas 78501
(956) 664-2727
Fax (956) 664-2726

Item 5 Sheet E3.01, Electrical Lighting Fixture Schedule, revised fixture schedule. Refer to attached drawing.

PLUMBING

Item 1 Sheet P2.00, Plumbing Schedules, changes/additions to plumbing fixture schedule have been made. Refer to attached drawings.

Item 2 Specification 15080, Mechanical Insulation, all storm drainage piping located above ground shall be insulated (horizontal and vertical runs).

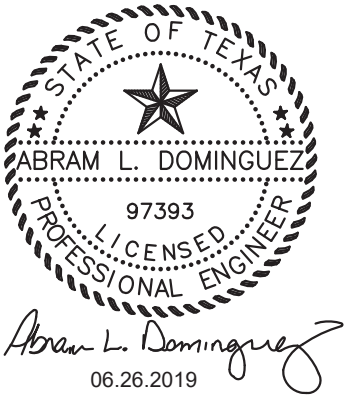
Item 3 Specification 15150, Sanitary Waste and Vent Piping, all waste and vent piping system located above and below ground shall be solid wall schedule 40 PVC DWV.

Item 4 Specification 15160, Storm Drainage Piping, all above ground storm drainage piping shall be schedule 40 PVC.

Item 5 Specification 15194, Fuel Gas Piping, Fuel Gas Piping located inside of pool equipment yard and pool mechanical rooms shall be schedule 40 galvanized piping.

Item 6 General Notes: All plumbing systems located inside of corrosive environments (pool areas, pump rooms, chemical storage, etc.) shall be supported with corrosion resistant hot dipped galvanized hangers and supports.





DOCUMENT 00 43 21
ALLOWANCE FORM

1.15 PROPOSER INFORMATION

A. Respondent: _____.

B. Project Name: City of Pharr/PSJA Aquatic Facility.

C. Project Number: 1819-35-510-C011-051

D. Project Location: 3001 N Cage Blvd., Pharr, Pharr, Texas 78577

E. Owner: City of Pharr, TX
Mr. Alex Meade, City Manager
118 South Cage Blvd.
Pharr, Texas 78577

F. Architect: Laura Warren, AIA/Principal, The Warren Group Architects, Inc., 1801 S. 2nd Street, Suite 330, McAllen, Texas 78503.

G. Architect Project Number: 971805

1.16 PROPOSAL FORM SUPPLEMENT

A. This form is required to be attached to the Proposal Form.

B. The undersigned Respondent certifies that Base Proposal submission to which this Proposal Supplement is attached includes those allowances described in the Contract Documents and scheduled in Section 01 21 00 "Allowances."

SUBMISSION OF PROPOSAL SUPPLEMENT

A. Allowance No.1: General Contractor to provide $15,000.00 (Fifteen Thousand U.S. Dollars) for Architectural Design Contingency Allowance.

B. Allowance No.2: General Contractor to provide $70,000.00 (Seventy Thousand U.S. Dollars) for MEP Allowance Commissioning IECC 2015.

C. Allowance No.3: General Contractor to provide $35,000.00 (Thirty Five Thousand U.S. Dollars) for MEP Allowance Test and Balance.

D. Allowance No.4: General Contractor to provide $83,000.00 (Eighty Three Thousand U.S. Dollars) for Structural Allowance of Concrete, Reinforcing Steel, Structural Steel, and CMU. Refer Allowance note on Structural Drawings.

E. Allowance No.5: General Contractor to provide $10,000.00 (Ten Thousand U.S. Dollars) Allowance for security and cameras other than the ones included in the drawings.

F. Allowance No.6: General Contractor to provide $15,000.00 (Fifteen Thousand U.S. Dollars) Allowance for signage other than the ones included in the drawings.

Respectfully submitted this ____ day of _____, 2019.

Submitted By: _____
(Name of Proposing firm or corporation)

Authorized Signature: _____
(Handwritten signature)

Signed By: _____
(Type or print name)

Title: _____
(Owner/Partner/President/Vice President)

END OF DOCUMENT

SECTION 01 21 00
ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements governing allowances.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Lump-sum allowances.
2. Quantity allowances.
3. Contingency allowances.
4. Testing and inspecting allowances.

C. Related Requirements:
1. Section 01 40 00 "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.4 ACTION SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.7 LUMP-SUM ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include freight**,** and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner and/or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

D. All Allowances remaining balance at the end of the project shall be returned/credited back to the Owner.

E. The allowance shall appear on the schedule of value as a line item.

1.8 TESTING AND INSPECTING ALLOWANCES

A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.

B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.

C. Costs of services not required by the Contract Documents are not included in the allowance.

D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

1.9 ADJUSTMENT OF ALLOWANCES

A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs in purchase amount only where indicated as part of the allowance.
2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No.1: General Contractor to provide $15,000.00 (Fifteen Thousand U.S. Dollars) for Architectural Design Contingency Allowance.

B. Allowance No.2: General Contractor to provide $70,000.00 (Seventy Thousand U.S. Dollars) for MEP Allowance Commissioning IECC 2015.

C. Allowance No.3: General Contractor to provide $35,000.00 (Thirty Five Thousand U.S. Dollars) for MEP Allowance Test and Balance.

D. Allowance No.4: General Contractor to provide $83,000.00 (Eighty Three Thousand U.S. Dollars) for Structural Allowance of Concrete, Reinforcing Steel, Structural Steel, and CMU. Refer Allowance note on Structural Drawings.

E. Allowance No.5: General Contractor to provide $10,000.00 (Ten Thousand U.S. Dollars) Allowance for security and cameras other than the ones included in the drawings.

F. Allowance No.6: General Contractor to provide $15,000.00 (Fifteen Thousand U.S. Dollars) Allowance for signage other than the ones included in the drawings.

END OF SECTION

Sections 05 81 00

Epoxy Bonded Sealing System - EBS Series
Waterproof Expansion Joint Sealing System

PART 1 – GENERAL

1.01 Work Included

A. The work shall consist of furnishing and installing waterproof expansion joints in accordance with the details shown on the plans and the requirements of the specifications. The expansion joints utilize extruded elastoprene seals epoxy bonded to the structural concrete joint opening creating a waterproof system.

B. Related Work
- Section 03300 - Cast-in-place concrete
- Section 05500 - miscellaneous metal / expansion joints
- Section 07600 - Flashing and sheet metal
- Section 07900 - Sealants, caulking and waterproofing

1.02 Submittals

A. General – Submit the following according to Division 1 Specification Section.

B. Standard Drawings – Submit typical expansion joint drawings(s) indicating pertinent dimensions, general construction, joint opening dimensions and product information.

1.03 Product Delivery, Storage and Handling

A. Deliver products to site in Manufacturer's original, intact, labeled containers and store under cover in a dry location until installed. Store off the ground in temperatures above 40ºF, protect from weather and construction activities.

1.04 Basis of Design

A. All joints shall be designed to meet the specified performance criteria of the project as manufactured by MM Systems Corp., 50 MM Way, Pendergrass, GA, 30567 Tel. 866.506.6929 Fax. 706.824.7501 / Web www.mmsystemscorp.com

B. Alternate manufacturers will not be considered for this project due to insufficient product evaluation time. Submit for future evaluation, products that meet the design criteria and exhibit performance features that are equal to or superior to those called for in the base product specification. Submittal of alternates must be made two weeks prior to bid opening on future projects to allow proper evaluation time. Alternate products not adhering to all listed design features will not be considered. Final decision will be at the sole discretion of the architect or consulting engineer.

1.05 Quality Assurance

A. Pre-construction – the General Contractor, Engineer/Architect, Concrete Subcontractor, Manufacturer's Representative and Certified Contractor, will conduct a pre-construction meeting to discuss joint gap construction, joint width settings and construction phasing. This meeting shall be held prior to any concrete placement at expansion joint locations and may be held in conjunction with the concrete pre-pour meeting.

B. Joint Opening Adjustment – the Project Engineer shall provide calculations to the concrete subcontractor to adjust the nominal joint opening the day of the concrete placement. Use a "temperature adjustment table" with expansion joint openings calculated in five (5ºF) degree increments based on a temperature range of 20ºF to 120ºF. Expansion joints shall not be installed until the structure has undergone its anticipated short-term shortening and creep.

C. Expansion Joint Surface Areas - two feet on each side of joint gap shall be finish-graded perpendicular to joint gap creating flush slab-to-slab transition. Elevations on each side shall be identical.

D. Pre-installation Inspection – the General Contractor, Engineer/Architect, Manufacturer's Representative and Certified Contractor, will conduct a pre-installation project site inspection. The General Contractor shall provide a field report that summarizes the project conditions and any remedial action necessary to correct field conditions (substrate, joint size, blockout, vertical offsets, etc.) that may affect expansion joint system performance.

E. Service Condition - insure that anticipated service conditions (loads, speed of traffic, movement, etc) are part of the expansion joint system selection criteria.

F. Certification / Installation – a factory-trained and "certified" contractor shall install the specified expansion joint system. The contractor shall provide proof of certification from manufacturer and proof of participation in manufacturer's continuing education program.

G. Warranty – the Manufacturer and Certified Contractor jointly warrant to the Owner that the expansion joint system shall be free from manufacturing, material and installation defects for a period of five (5) years from the date of installation, based on specified movements and design conditions for normal traffic use as recommended by the National Parking Association's "Parking Facility Maintenance Manual" and subject to the terms and conditions of the manufacturer's standard written limited warranty. The warranty covers leakage at the joint under normal use due to cohesive or adhesive failure and material failure related to tearing, weathering or abrasion. No liability or responsibility is accepted due to defects in the concrete. The Certified Contractor and Manufacturer will jointly warrant and provide at no charge, all materials and labor needed to properly repair defective expansion joint within the term of the warranty.

PART 2 – PRODUCT

2.01 General

A. Provide watertight expansion joint sealing system that meets the specified movement requirements and is capable of accommodating vehicular and pedestrian traffic.

B. System shall consist of a continuous elastoprene rubber seal profile secured to the structural concrete joint opening with a thixotropic epoxy paste adhesive.

C. Furnish approved Epoxy Bonded Sealing System “EBS Series” as manufactured by MM Systems Corporation.

D. Select the system size at each joint location based on the movement and design requirements that meet the project specification or as defined by the structural engineer of record.

E. The Certified Contractor must provide written confirmation, utilizing manufacturer’s product data, that the expansion joint seal selected will comply with and accommodate expansion, contraction and lateral shear throughout the full movement cycle.

2.02 Components and Materials

A. Epoxy Bonded Rubber Seal – material shall be a flexible, extruded ethelene propylene diene monomer rubber exhibiting the physical properties listed below. To ensure a watertight seal, the seal shall have ribbed sidewall profiles through which an epoxy adhesive bonds the seal to the vertical walls of the joint opening.

PHYSICAL PROPERTIES OF ELASTOPRENE-200 RUBBER SEAL:

Property	Requirement	ASTM Method
Tensile Strength	2800 psi (19 MPa)	D412
Ultimate Elongation	430%	D412
Hardness, Shore A	65 +/- 5 points	D2240
Compression Set		
22 hrs.	23% @ 212°F/100°C	D395
70 hrs.	26% @ 100°C	D395
Ozone Resistance	No Cracks	D1149
UV Resistance	Very Good	
Brittle Point	-76°F(-60°C)	D746
Oven Aging, 70h at 212°F (100°C)		D573
Tensile Strength	20% loss max.	
Elongation at Break	20% loss max.	
Oil Swell / Weight Change 70h at 212°F (100°C)	45% max	ASTM D471

B. Epoxy Adhesive – provide manufacturer's high strength aggregate reinforced epoxy adhesive consisting of liquid components "A" and "B".

2.03 Life Safety – Fire Barrier Systems (not required)

A. Approved PyroFlex® Fire Barrier Systems (PF Series), as manufactured by MM Systems Corporation - Supply fire-resistive barrier systems that have ratings equal to or greater than the rating of adjacent construction when tested in accordance with ASTM E1966 and ASTM E119. Provide specified (2, 3 or 4 hour) rated fire barrier expansion joint assembly.

B. Fire Barrier System shall be capable of anticipated movement and maintain fire rating through precondition cycling and fire performance testing in accordance with ASTM E1966. System shall have factory and field splices tested in accordance with ASTM E1966. Manufacturer shall provide field-splicing instructions.

Fire Barrier System shall have been tested in accordance with ASTM E1966 at a maximum joint opening as defined by ASTM E1399 which meets or exceeds the maximum joint opening required by the project design requirements. System and manufacturer shall be listed with an accredited independent laboratory.

2.04 Fabrication

A. Elastoprene Rubber Seal – Ship in the longest practical continuous length coiled on manufacturer's standard reel or on wooden pallets and shrink-wrapped.

B. Epoxy Adhesive – Ship in manufacturer's approved containers and packaged in cardboard cartons.

C. Fire Barriers (not required) – Ship manufacturer's standard assembly for the required hourly rating with ends prepared for field splicing. Assemblies shall be miter cut in the field to accommodate changes in direction.

2.05 Finishes

A. Elastoprene rubber seal shall be supplied in standard color: black.

PART 3 – EXECUTION

3.01 Installation

A. Preparation of the Work Area

1. The contractor shall provide properly formed concrete expansion joint openings constructed to the exact dimensions and elevations shown on manufacturer's standard system drawings or as shown on the contract drawings. Any edge or area in need of repair shall utilize structural concrete repair materials that provide a solid and square expansion joint opening. Deviations from these dimensions will not be allowed without the written consent.

2. The contractor shall insure that the joint opening sidewall interfaces run parallel to each other for the entire length of the joint. Sidewalls should be plumb and interfaces must be continuously equidistant from each other across the joint width to accommodate the proper installation of the expansion joint sealing system.

3. The contractor shall clean the joint opening of all contaminants by sandblasting immediately prior to installation of the joint system. Concrete form release agents, water repellents, laitance, surface dirt, rust, old sealants and other protective coatings are examples of materials that must be removed from the joint opening substrate in order to obtain the proper bond.

4. Areas adjacent to the joint must be masked with tape to assure neat, clean joint lines. (Remove tape prior to the curing process.)

5. The concrete must be completely dry and fully cured (28 days where the concrete has a moisture content that is below 4%) prior to placement of the expansion joint system. Joint openings requiring the use of structural repair material must be cured for 72 hours prior to joint system placement.

6. All cracks in areas adjacent to the joint must be repaired per the joint manufacturers recommendations.

B. Preparation of Elastoprene Rubber Seal

7. Uncoil the seal and allow it to relax to relieve any temporary coiling from shipment packaging. The seal shall be cut to the correct length without pulling or exerting excess tension.

8. Abrade the sidewalls surfaces that receive the adhesive with a powered wire-brush wheel. A roughened, dull finish must be obtained.

9. Condition the seal by scrubbing Xylene vigorously into the ribs of the profile using a stiff brush. Do this in two separate passes, and then wipe down the seal with Xylene.

C. Installation of Elastoprene Rubber Seal

10. Cap both ends of the seal and drill necessary vacuum holes.

11. Apply the epoxy adhesive per the manufacturers instructions to the joint opening interfaces and into the ribs of the seal. The ribs must be completely filled.

12. Deflate seal before installation. Allow seal to rest on temporary foam spacer blocks (for proper height adjustment) in the joint opening.

13. After proper positioning of the seal, release the vacuum and allow the seal to expand and push against the walls of the concrete joint opening. A small amount of adhesive should be visible above the ribbed area.

14. Clean all excess adhesive around the edges and top of the joint with a trowel or scraping tool

15. Important - Allow epoxy adhesive to cure (usually 24 hours). All seals must be installed in a state of compression.

16. Refer to Manufacturers Installation Guide for detailed step-by-step instructions.

3.02 Clean and Protect

A. Protect the system and its components during construction. Heavy construction vehicles will not be permitted to cross the expansion joint. Subsequent damage to the expansion joint system will be repaired at the general contractor's expense. After work is complete, clean exposed surfaces with a suitable cleaner that will not harm or attack the finish.

END OF SECTION

SECTION 078100
SPRAY-APPLIED FIRE RESISTIVE MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes Sprayed-Applied Fire-Resistive Materials (SFRMs).

B. Related Requirements:

1. Division 07 Section "Intumescent Mastic Fireproofing" for mastic and intumescent fire-resistive coatings.
2. Division 09 Section "Intumescent Painting" for intumescent paints that are fire retarding but not fire resistive.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review products, design ratings, restrained and unrestrained conditions, densities, thicknesses, bond strengths, and other performance requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Framing plans, schedules, or both, indicating the following:

1. Extent of fireproofing for each construction and fire-resistance rating.
2. Applicable fire-resistance design designations of a qualified testing and inspecting agency acceptable to authorities having jurisdiction.
3. Minimum fireproofing thicknesses needed to achieve required fire-resistance rating of each structural component and assembly.
4. Treatment of fireproofing after application.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and testing agency.

B. Product Certificates: For each type of fireproofing.

C. Evaluation Reports: For fireproofing, from third party.

D. Preconstruction Test Reports: For fireproofing.

E. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual certified, licensed, or otherwise qualified by fireproofing manufacturer as experienced and with sufficient trained staff to install manufacturer's products according to specified requirements.

B. Mockups: Build mockups Indicate portion of Work represented by mockup on Drawings or draw mockup as separate element.

1. Build mockup of as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

C. It is recommended that industry guidelines as noted in National Fireproofing Contractors Association (NFCA) 100 – Standard Practice for the Application of Spray-Applied Fire Resistive Materials (SFRMs) be maintained on the project site.

1.7 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Owner will engage a qualified testing agency to perform preconstruction testing on fireproofing.

1. Provide test specimens and assemblies representative of proposed materials and construction.

B. Preconstruction Adhesion and Compatibility Testing: Test for compliance with requirements for specified performance and test methods.

1. Bond Strength: Test for cohesive and adhesive strength according to ASTM E 736. Provide bond strength indicated in referenced fire-resistance design, but not less than minimum specified in Part 2.
2. Density: Test for density according to ASTM E 605. Provide density indicated in referenced fire-resistance design, but not less than minimum specified in Part 2.
3. Verify that manufacturer, through its own laboratory testing or field experience, attests that primers or coatings are compatible with fireproofing.
4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.

5. For materials failing tests, obtain applied-fireproofing manufacturer's written instructions for corrective measures including the use of specially formulated bonding agents or primers.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not apply fireproofing when ambient or substrate temperature is 40 deg F 4.4 deg C or lower unless temporary protection and heat are provided to maintain temperature at or above this level for 24 hours prior to, during, and for 24 hours after product application.

B. Ventilation: Ventilate building spaces during and after application of fireproofing, providing a minimum 4 complete air exchanges per hour and according to manufacturer's written instructions until Spray-Applied Fire Resistive Materials are dried and cured. Use natural means or, if they are inadequate, forced-air circulation until fireproofing dries thoroughly.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Assemblies: Provide fireproofing, including auxiliary materials, according to requirements of each fire-resistance design and manufacturer's written instructions.

B. Source Limitations: Obtain fireproofing from single source.

C. Fire-Resistance Design: Indicated on Drawings, tested according to ASTM E 119/UL 263 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Steel members are to be considered unrestrained unless specifically noted otherwise.

D. VOC Content: Products shall comply with VOC content limits of authorities having jurisdiction.

E. Low-Emitting Materials: Fireproofing used within the weatherproofing system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

F. Asbestos: Provide products containing no detectable asbestos.

G. Products shall posses DECLARE Label
1. Declaration Status “LBC Red List Free”

2.2 SPRAY-APPLIED FIRE RESISTIVE MATERIALS

A. SFRM: Manufacturer's standard, factory-mixed, lightweight, dry formulation, complying with indicated fire-resistance design and mixed with water at Project site to form a slurry or mortar before conveyance and application or conveyed in a dry state and mixed with atomized water at place of application.

B. Products: Subject to compliance with requirements, provide one of the following:
   1. Concealed/Commercial SFRMs:
      a. Isolatek International:CAFCO® BLAZE-SHIELD® II
      b. Physical Properties:
         1) Bond Strength: Minimum 150-lbf/sq. ft. (7.18-kPa) cohesive and adhesive strength based on field testing according to ASTM E 736.
         2) Density: Not less than 15 lb/cu. ft. (240 kg/cu. m) as specified in the approved fire-resistance design, according to ASTM E 605.
         3) Thickness: As required for fire-resistance design indicated, measured according to requirements of fire-resistance design.
         4) Combustion Characteristics: When tested in accordance with ASTM E 136 shall be noncombustible.
         5) Surface-Burning Characteristics: When tested in accordance with ASTM E84 or CAN4-S102, the material shall exhibit the following surface burning characteristics:
            a) Flame Spread Index [10] or less
            b) Smoke Developed [10] or less
         6) Compressive Strength: When tested in accordance with ASTM E761, the material shall not deform more than 10 percent when subjected to a crushing force of 1,440 psf (68.9 kPa).
         7) Corrosion Resistance: No evidence of corrosion according to ASTM E 937.
         8) Deflection: No cracking, spalling, or delamination according to ASTM E 759.
         9) Effect of Impact on Bonding: No cracking, spalling, or delamination according to ASTM E 760.
         10) Air Erosion: Maximum weight loss of 0.025 g/sq. ft. (0.270 g/sq. m) in 24 hours according to ASTM E 859.
         11) Fungal Resistance: When tested in accordance with ASTM G21, the material shall show resistance to mold growth for a minimum period of 28

2.3 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that are compatible with fireproofing and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.

B. Substrate Primers: Primers approved by fireproofing manufacturer and complying with one or both of the following requirements:

   1. Fireproofing manufacturer shall be contacted for procedures on handling primed/painted steel.
   2. Primer's bond strength in required fire-resistance design complies with specified bond strength for fireproofing and with requirements in UL's "Fire Resistance Directory" or in

the listings of another qualified testing agency acceptable to authorities having jurisdiction, based on a series of bond tests according to ASTM E 736.

C. Bonding Agent: Product approved by fireproofing manufacturer and complying with requirements in UL's "Fire Resistance Directory" or in the listings of another qualified testing agency acceptable to authorities having jurisdiction.

D. Metal Lath: Expanded metal lath fabricated from material of weight, configuration, and finish required, according to fire-resistance designs indicated and fireproofing manufacturer's written recommendations. Include clips, lathing accessories, corner beads, and other anchorage devices required to attach lath to substrates and to receive fireproofing.

E. Reinforcing Fabric: Glass or carbon fiber fabric of type, weight, and form required to comply with fire-resistance designs indicated; approved and provided by fireproofing manufacturer.

F. Reinforcing Mesh: Metallic mesh reinforcement of type, weight, and form required to comply with fire-resistance design indicated; approved and provided by fireproofing manufacturer. Include pins and attachment.

G. Sealer: If required, a transparent-drying, water-dispersible, tinted protective coating as recommended by fireproofing manufacturer.

1. Product: Subject to compliance with requirements, provide CAFCO® BOND-SEAL or CAFCO® BOND-SEAL Type X" by Isolatek International.

H. Topcoat: If required, a topcoat suitable for application over applied fireproofing; of type recommended by fireproofing manufacturer.

1. Cement-Based Topcoat: Factory-mixed, cementitious hard-coat formulation for trowel or spray application over SFRM.

a. Product: Subject to compliance with requirements, provide CAFCO® FENDOLITE® M-II/CAFCO® FENDOLITE® TG by Isolatek International.

2. Water-Based Permeable Topcoat: Factory-mixed formulation for brush, roller, or spray application over applied SFRM. Provide application at a rate of [30 sq. ft./gal. (0.75 sq. m/L)] [60 sq. ft./gal. (1.5 sq. m/L)] [120 sq. ft./gal. (3 sq. m/L)].

a. Product: Subject to compliance with requirements, provide CAFCO® TOP-COTE by Isolatek International.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of the Work and according to each fire-resistance design. Verify compliance with the following:

1. Substrates are free of dirt, oil, grease, release agents, rolling compounds, mill scale, loose scale, incompatible primers, paints, and encapsulants, or other foreign substances capable of impairing bond of fireproofing with substrates under conditions of normal use or fire exposure.
2. Clips, hangers, supports, sleeves and other attachments to the substrate are to be placed by others prior to the application of the fireproofing materials.
3. The installation of ducts, piping, conduit or other suspended equipment shall not take place until the application of the fireproofing is complete in an area.

B. Fire protection shall not be applied to steel floor decks prior to the completion of concrete work on that deck.

C. The application of fireproofing to the underside of roof deck shall not commence until the roof is completely installed and tight, all penthouses are complete, all mechanical units have been placed, and construction roof traffic has ceased. When roof traffic is anticipated, as in the case of periodic maintenance, roofing pavers shall be installed as a walkway to distribute loads.

D. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.2 PREPARATION

A. Cover other work subject to damage from fallout or overspray of fireproofing materials during application.

B. Clean substrates of substances that could impair bond of fireproofing.

C. For applications visible on completion of Project, repair substrates to remove surface imperfections that could affect uniformity of texture and thickness in finished surface of fireproofing. Remove minor projections and fill voids that would telegraph through fire-resistive products after application.

3.3 APPLICATION

A. Construct fireproofing assemblies that are identical to fire-resistance design indicated and products as specified, tested, and substantiated by test reports for thickness, primers, sealers, topcoats, finishing, and other materials and procedures affecting fireproofing work.

B. Comply with fireproofing manufacturer's written instructions for mixing materials, application procedures, and types of equipment used to mix, convey, and apply fireproofing as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.

C. Coordinate application of fireproofing with other construction to minimize need to cut or remove fireproofing.

1. Do not begin applying fireproofing until clips, hangers, supports, sleeves, and other items penetrating fireproofing are in place.
2. Defer installing ducts, piping, and other items that would interfere with applying fireproofing until application of fireproofing is completed.

D. Metal Decks:

1. Do not apply fireproofing to underside of metal deck substrates until concrete topping, if any, has been completed.
2. Do not apply fireproofing to underside of metal roof deck until roofing has been completed; prohibit roof traffic during application and drying of fireproofing.
3. When roof traffic is anticipated, as in the case of periodic maintenance, roofing pavers shall be installed as a walkway to distribute loads.

E. Install auxiliary materials as required, as detailed, and according to fire-resistance design and fireproofing manufacturer's written recommendations for conditions of exposure and intended use. For auxiliary materials, use attachment and anchorage devices of type recommended in writing by fireproofing manufacturer.

F. Spray apply fireproofing to maximum extent possible. Following the spraying operation in each area, complete the coverage by trowel application or other placement method recommended in writing by fireproofing manufacturer.

G. Extend fireproofing in full thickness over entire area of each substrate to be protected.

H. Install body of fireproofing in a single course unless otherwise recommended in writing by fireproofing manufacturer.

I. For applications over encapsulant materials, including lockdown (post-removal) encapsulants, apply fireproofing that differs in color from that of encapsulant over which it is applied.

J. Where sealers are used, apply products that are tinted to differentiate them from fireproofing over which they are applied.

K. Provide a uniform finish complying with description indicated for each type of fireproofing material and matching finish approved for required mockups.

L. Cure fireproofing according to fireproofing manufacturer's written recommendations.

M. Do not install enclosing or concealing construction until after fireproofing has been applied, inspected, and tested and corrections have been made to deficient applications.

N. Finishes: Where indicated, apply fireproofing to produce the following finishes:

1. Manufacturer's Standard Finishes: Finish according to manufacturer's written instructions for each finish selected.
2. Spray-Textured Finish: Finish left as spray-applied with no further treatment.
3. Rolled, Spray-Textured Finish: Even finish produced by rolling spray-applied finish with a damp paint roller to remove drippings and excessive roughness.

4. Skip-Troweled Finish: Even leveled surface produced by troweling spray-applied finish to smooth out the texture and neaten edges.
5. Skip-Troweled Finish with Corner Beads: Even, leveled surface produced by troweling spray-applied finish to smooth out the texture, eliminate surface markings, and square off edges.

3.4 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Test and inspect as required by Chapter 17 of the IBC.

2. For reference, utilize AWCI - Inspection Procedure for Field-Applied Sprayed Fire-Resistive Materials, Technical Manual 12-A; an annotated guide.

B. Test and inspect completed work in successive stages. Do not proceed with application of fireproofing for the next area until test results for previously completed applications of fireproofing show compliance with requirements. Tested values must equal or exceed values as specified and as indicated and required for approved fire-resistance design.

C. Application will be considered defective if it does not pass tests and inspections.

1. Remove and replace fireproofing that does not pass tests and inspections, and retest.
2. Apply additional fireproofing, per manufacturer's written instructions, where test results indicate insufficient thickness, and retest.

D. Prepare test and inspection reports.

3.5 CLEANING, PROTECTING, AND REPAIRING

A. Cleaning: Immediately after completing spraying operations in each containable area of project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.

B. Protect fireproofing, according to advice of manufacturer and installer, from damage resulting from construction operations or other causes, so fireproofing will be without damage or deterioration at time of Substantial Completion.

C. As installation of other construction proceeds, inspect fireproofing and repair damaged areas and fireproofing removed due to work of other trades.

D. Repair fireproofing damaged by other work before concealing it with other construction.

E. Repair fireproofing by reapplying it using same method as original installation or using manufacturer's recommended trowel-applied product.

END OF SECTION 078100

SECTION 09 65 19
RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Vinyl composition floor tile.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.

   1. Show details of special patterns.

C. Samples: Full-size units of each color and pattern of floor tile required.

   1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches long, of each color required.

D. Samples for Initial Selection: For each type of floor tile indicated.

E. Samples for Verification: Full-size units of each color and pattern of floor tile required.

   1. For heat-welding bead, manufacturer's standard-size Samples, but not less than 9 inches long, of each color required.

F. Welded-Seam Samples: For seamless-installation technique indicated and for each flooring product, color, and pattern required; with seam running lengthwise and in center of 6-by-9-inch Sample applied to a rigid backing and prepared by Installer for this Project.

G. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by floor tile manufacturer for installation techniques required.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockups for floor tile including resilient base and accessories.
   a. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations indicated by Architect in drawings.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.9 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following time periods:

1. 48 hours before installation.

2. During installation.
3. 48 hours after installation.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during floor tile installation.

D. Close spaces to traffic for 48 hours after floor tile installation.

E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For resilient tile flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

B. FloorScore Compliance: Resilient tile flooring shall comply with requirements of FloorScore certification.

C. Low-Emitting Materials: Flooring system shall comply with the testing and product requirements of the Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 VINYL COMPOSITION FLOOR TILE

A. Products: Subject to compliance with requirements, provide the following available products that may be incorporated into the Work include, but are not limited to, the following:
1. Armstrong Imperial Texture Standard Excelon
2. Color: 51904 Sterling

B. Tile Standard: ASTM F 1066, Class 1, solid-color, Class 2, through-pattern, Class 3, surface-pattern tile.

C. Wearing Surface: Smooth.

D. Thickness: 1/8”.

E. Size: 12” by 12” inches and as indicated on drawings for Stair threads, landings and risers.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

1. Adhesives shall comply with the following limits for VOC content:

a. Vinyl Composition Tile Adhesives: 50 g/L or less.
b. Rubber Floor Adhesives: 60 g/L or less.

2. Adhesives shall comply with the testing and product requirements of the Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

C. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

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

3.2 PREPARATION

A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9, 10 pH.

4. Moisture Testing: Proceed with installation only after substrates pass testing according to floor tile manufacturer's written recommendations, but not less stringent than the following:

    a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have a maximum 75percent relative humidity level.

C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.

D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

E. Do not install floor tiles until they are the same temperature as the space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.

F. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles in pattern indicated.

C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles in pattern of colors and sizes indicated. As indicated on drawings.

D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.

G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

H. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

I. Seamless Installation:
   1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and heat weld with welding bead to permanently fuse sections into seamless flooring. Prepare, weld, and finish seams to produce surfaces flush with adjoining flooring surfaces.

   2. Chemically Bonded Seams: Bond seams with chemical-bonding compound to permanently fuse sections into a seamless flooring. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on flooring surfaces.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.

B. Perform the following operations immediately after completing floor tile installation:

   1. Remove adhesive and other blemishes from exposed surfaces.
   2. Sweep and vacuum surfaces thoroughly.
   3. Damp-mop surfaces to remove marks and soil.

C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.

   1. Apply three coat(s).

E. Joint Sealant: Apply sealant to resilient floor tile perimeter and around columns, at door frames, and at other joints and penetrations.

F. Cover floor tile until Substantial Completion.

END OF SECTION

SECTION 09 90 01
PAINTS AND COATINGS

The requirements of the “General Conditions”, the “Supplementary Conditions”, and “Division 1” sections of the Specifications, shall apply to this section of the Specifications.

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This Section includes surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.

1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.

B. Paint exposed surfaces whether or not colors are designated in "schedules," except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available. Sherwin Williams Coatings listed at the end of this specification where used to establish the level of quality of the coating systems. The coating manufacturer shall match the colors identified in the finish schedule.

1. Painting includes field painting exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.

C. Painting is not required on pre-finished items, finished metal surfaces, concealed surfaces, operating parts, and labels.

1. Pre-finished items not to be painted include the following factory-finished components:

a. Acoustic materials.

b. Finished mechanical and electrical equipment.

c. Light fixtures.

d. Switchgear.

e. Distribution cabinets.

f. Plastic laminate wood doors.

g. Wood veneer doors

h. Metal lockers.

i. Plastic laminate covered architectural casework.

j. Wood veneer woodwork and casework.

k. Metal flashings.

l. Curtain wall system.

2. Concealed surfaces not to be painted include wall or ceiling surfaces in the following generally inaccessible areas:

a. Furred areas.

b. Pipe spaces.

c. Ceiling plenums, with the following exception:

3. Finished metal surfaces not to be painted include:

a. Anodized aluminum.

b. Stainless steel.

c. Chromium plate.

d. Copper.

e. Bronze or brass.

4. Operating parts not to be painted include moving parts of operating equipment such as the following:

a. Valve and damper operators.

b. Linkages.

c. Sensing devices.

d. Motor and fan shafts.

5. Labels: Do not paint over Underwriter's Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.02 RELATED SECTIONS: The following items of related Work will be provided under other sections of the Specifications:

A. Section 01 35 45 - Sustainable Design Project Requirements.

B. Section 01 74 19 - Construction Waste Management

C. Section 05 12 00 - Structural Steel Framing: Shop Primed Items.

D. Section 05 21 00 - Steel Joist Framing: Shop Primed Items.

E. Section 05 50 00 - Metal Fabrications: Shop Primed Items.

F Section 05 51 00 - Metal Stairs: Shop Primed, Field Painted.

G. Section 08 12 14 - Standard Steel Frames: Shop Primed, Field Painted.

H. Section 08 13 14 - Standard Steel Doors: Shop Primed, Field Painted.

I. Section 22 05 53 - Identification for Plumbing Piping and Equipment.

J. Section 23 05 53 - Identification for HVAC Piping and Equipment.

K. Section 26 05 53 - Identification for Electrical Systems.

L. Section 27 05 53 - Identification for Communication Systems.

M. Section 05 05 13 - Shop Applied Coatings for Metal

N. Section 06 01 40 - Architectural Woodwork Refinishing

O. Section 06 05 83 - Shop Applied Wood Coatings

P. Section 07 19 00 - Water Repellents.

Q. Section 09 67 00 - Fluid Applied Flooring for Concrete

R. Section 09 93 00 - Stains and Transparent Finishes

S. Section 09 96 00 - High-Performance Coatings

1.03 REFERENCES

A. SSPC-SP 1 - Solvent Cleaning

B. SSPC-SP 2 - Hand Tool Cleaning

C. SSPC-SP 3 - Power Tool Cleaning

D. SSPC-SP 13 / Nace No. 6 Surface Preparation for Concrete

E. EPA-Method 24

F. GS-11, GC-03

1.04 SUBMITTALS

A. General: Submit Shop Drawings and Product Data to the Architect for review in accordance with the requirements in Section 01 33 23 - Shop Drawings and Samples, and as specified herein.

B. Submit, in accordance with, Section 01 33 00 – Submittal Procedures.

C. Product Data: Manufacturer's technical information, label analysis, application instructions and MSDS sheets for each material proposed for use.

1. List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.

2. Provide Material Safety and Data Sheets on each product specified.

D. Samples: Upon selection of colors by the architect, submit samples for Architect's review of color and texture only. Provide a listing of material and application for each coat of each finish sample.

1. On 12" x 12" hardboard, provide one sample of each paint color listed in the color schedule, with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color, and texture is achieved. Samples shall be steeped to show primer, first coat, and second coat.

2. On actual wood surfaces, provide two 4" x 8" samples of stained wood finish.

3. On actual wall surfaces and other exterior and interior building components, duplicate painted finishes of prepared samples when requested by Architect. On at least 100 sq. ft. of surface as directed, provide full-coat finish samples until

required sheen, color and texture is obtained; simulate finished lighting conditions for review of in-place work.

4. Do not proceed with painting until materials and finishes are approved by Architect.

1.05 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

B. Coordination of Work: Review other sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify the Architect of problems anticipated using the materials specified.

C. Material Quality: Provide the manufacturer's best quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary names used to designate colors or materials are not intended to imply that products named are required or to exclude equal products of other manufacturers.

2. Federal Specifications establish a minimum quality level for paint materials, except where other product identification is used. Provide written certification from the manufacturer that materials provided meet or exceed these criteria.

3. Products that comply with qualitative requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use when acceptable to the Architect. Furnish material data and manufacturer's certificate of performance to Architect for proposed substitutions.

D. Interior coating type: Provide interior painting systems which are VOC compliant as per Green Seal Environmental Standard GS-11 for interior paint VOC thresholds:

1. Non-flat: VOC not more than 50 g/L.

2. Flat: VOC not more than 50 g/L.

E. Interior/Exterior coatings type: Provide interior/exterior coating systems which are VOC compliant as per Rule 1168 of the South Coast Air Quality Management District for coatings, primers, stains:

1. Primers, Sealers and Undercoaters: VOC not more than 200 g/L.

2. Clear Wood Finishes:

   a. Varnish: VOC not more than 350 g/L.

   b. Sanding Sealers: VOC not more than 350 g/L.

   c. Lacquers: VOC not more than 275 g/L.

3. Stains, interior: VOC not more than 250 g/L.

4. Floor coatings: VOC not more than 100 g/L.

F. Exterior coating type: Provide exterior painting systems which are VOC compliant as per Green Seal Environmental Standard GS-11 for exterior paint VOC thresholds:

1. Non-flat: VOC not more than 200 g/L.

2. Flat: VOC not more than 100 g/L.

G. Interior/Exterior anti-corrosive and anti-rust coating types for ferrous metals: Provide interior/exterior painting systems for ferrous metals which are VOC compliant as per Green Seal Environmental Standard GC-03 for interior/exterior paint VOC thresholds:

1. Gloss: VOC not more than 250 g/L.

2. Semi-Gloss: VOC not more than 250 g/L.

3. Flat: VOC not more than 250 g/L.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

1. Product name or title of material.

2. Product description (generic classification or binder type).

3. Federal Specification number, if applicable.

4. Manufacturer's stock number and date of manufacture.

5. Contents by volume, for pigment and vehicle constituents.

6. Thinning instructions.

7. Application instructions.

8. Color name and number.

9. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

1. From freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

C. Packaging Waste Management: Separate packaging waste materials for reuse, recycling and/or landfill in accordance with Section 01 74 19 - Construction Waste Management and Disposal.

1.07 JOB CONDITIONS

A. Section 01 60 00 – Product Requirements.

B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint manufacturer.

C. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 deg F (10 deg C) and 90 deg F (32 deg C).

D. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 deg F (7 deg C) and 95 deg F (35 deg C).

E. Do not apply paint in snow, rain, fog, or mist, when the relative humidity exceeds 85 percent, at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

F. Provide lighting level of 80 foot candle measured mid-height at substrate surface.

1.08 EXTRA MATERIAL

A. Provide one gallon of each different paint system, and color with manufacturers name and color clearly labeled on the top of each container.

1.09 PRE-PAINTING CONFERENCE

A. Prior to finish painting, exterior and interior, General Contractor shall schedule a "Pre-Painting Conference" to be attended by the Architect, Contractor, Painting Subcontractor and Manufacturer's Representative (Manufacturer's Rep. to attend when required for special finishes.)

B. Agenda to include submittal of color and finishes sample (RE: Article 1.04 "Submittals" and review of color schedule.

C. Contractor to record discussions of conference including agreements and/or disagreements and distribute a copy of record to each party in attendance.

PART 2 - PRODUCTS

2.01 SUBSTITUTION

A. Manufacturers with comparable equivalent products may be acceptable, subject to conformance with these Specifications, the requirements of the Drawings, and the Architect’s review. Refer to Specification 01 25 00 – Substitution Procedures.

2.02 MANUFACTURERS

A. Coating Manufacturer:

1. Sherwin-Williams (S-W).

a. Refer to "List of Finishes" located on the drawings for paint colors. Coating manufacturer shall computer match the colors selected.

B. Substitutions are permitted. Coating systems submitted from Benjamin Moore and Co. or Pratt and Lambert shall match the systems including VOC limits and ASTM numbers specified at the end of this section.

C. Color Pigments: Pure, non-fading, applicable types to suit substrates and service indicated.

1. Lead content in pigment, if any, is limited to contain not more than 0.06% lead, as lead metal based on the total non-volatile (dry-film) of paint by weight.

PART 3- EXECUTION

3.01 EXAMINATION

A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.

1. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

B. Refer to Section 01 31 00 – Project Management & Coordination

C. Refer to Section 01 73 00 - Execution

3.02 PREPARATION

A. General Procedures: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

1. Clean surfaces before applying paint or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

B. Surface Preparation: Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.

2. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

a. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knob sealer before application of primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.

b. Prime, stain, or seal wood to be painted immediately upon delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.

c. When transparent finish is required, backprime with spar varnish.

d. Seal tops, bottoms, and cutouts of wood doors with a heavy coat of varnish or sealer immediately upon delivery.

3. Ferrous Metals: Clean non-galvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council.

a. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by the paint manufacturer, and touch up with the same primer as the shop coat.

4. Galvanized Surfaces: Allow to weather a minimum of 6 months prior to coating. Clean per SSPC-SP1 using detergent and water or a degreasing cleaner, then prime as required. When weathering is not possible or the surface has been treated with chromates or silicates, first Solvent Clean per SSPC-SP1 and apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP7 as necessary to remove these treatments.

5. Aluminum: Remove all oil, grease, dirt, oxide and other foreign material by solvent cleaning per SSPC-SP1, solvent cleaning.

6. Cementitious Materials: Prepare concrete, concrete masonry block, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.

a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.

b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's written instructions.

c. Cementitious materials shall have cured for a minimum of 30 days prior to painting.

d. Damaged areas shall be repaired using appropriate materials.

7. Drywall: Surface must be clean and dry. All nail or screw heads must be set and spackled. Joints must be taped and covered with joint compound. Spackled fastener heads and tape joints must be sanded smooth and all dust removed prior to painting.

8. Previously coated surfaces: Remove all surface contamination such as oil, grease, loose paint, mill scale, dirt, rust, mold, mildew, mortar efflorescence and scalers. Glossy surfaces of old paint films shall be clean and dull before painting. Clean and dull surface either by washing with an abrasive cleaner, or by washing and sanding. Spot prime bare areas with appropriate primer. Check for compatibility by applying a test patch of the specified system, coating an area of 3 square feet. Allow to dry for one week before testing adhesion as per ASTM D3359. If coating is incompatible, prepare surface in conformance with ASTM D4259.

C. Materials Preparation: Carefully mix and prepare paint materials in accordance with manufacturer's directions.

1. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.

2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and if necessary, strain material before using.

3. Use only thinners approved by the paint manufacturer, and only within recommended limits.

3.03 APPLICATION

A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Non-zinc coated architectural metals, steel doors and steel frames shall have all coatings spray applied. Brush application is not acceptable.

B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

1. Paint colors, surface treatments, and finishes are indicated in "schedules."

2. Provide finish coats that are compatible with primers used.

3. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.

4. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.

5. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.

6. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only before final installation of equipment.

7. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.

8. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.

9. Finish exterior doors on tops, bottoms, and side edges same as exterior faces.

10. Sand lightly between each succeeding enamel or varnish coat.

C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pre-treated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

D. Minimum Coating Thickness: Apply materials at not less than the manufacturer's recommended spreading rate. Provide a total dry film thickness of the entire system as recommended by the manufacturer.

E. Mechanical and Electrical work: Painting mechanical and electrical work is limited to items exposed in mechanical equipment rooms and in occupied spaces.

F. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears to assure a finish coat with no burn through or other defects due to insufficient sealing.

G. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

H. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

I. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

J. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.

1. Provide satin finish for final coats.

K. Stripple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.

L. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.04 CLEANING

A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

B. Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

3.05 PROTECTION

A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

B. Provide "wet paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.06 EXTERIOR PAINT SCHEDULE

A. General: Provide the following paint systems for the various substrates, as indicated:

B. Metals:

1. Ferrous Metal (Anti-Corrosive coating):

a. Sherwin Williams Acrolon 218 HS Polyurethane: 1 finish coat over primer on properly prepared surface:

b. Primer:

1) Sherwin-Williams Macropoxy 646 – One coat over prepared-cleaned surfaces

3. Stucco Surfaces and EIFS Substrates:

a. Primer:

1) Sherwin-Williams Loxon Concrete and Masonry Primer A24W8300 VOC: 97 g/L.

b. First and Second Coats:

1) Sherwin-Williams ConFlex XL High Build Elastomeric A05-450 Series (13.0 - 16.0 mils wet, 6.0 - 7.5 mils dry per coat)

4. Bollards

a. Primer:

1) Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer B66W300 VOC: 97 g/L.

b. First and Second Coats:

1) Sherwin-Williams Pro Industrial Urethane Alkyd (Safety Yellow) B54-150 Series

5. Parking Striping/Curb Ramps

    a. One Coat:

        1) Sherwin-Williams Set Fast Acrylic Traffic Marking Paint (Yellow)

3.07 INTERIOR PAINT SCHEDULE

A. General: Provide the following paint systems for the various substrates as indicated.

B. Drywall (walls and ceiling): Furnish sample on 2'x2' piece of drywall for architect to approve prior to application.

1. Gypsum Drywall Systems:

    a. Semi-Gloss Acrylic Enamel: 2 finish coats over primer on properly prepared surface:

    b. Texture

        1) USG Sheetrock Brand Wall and Ceiling Spray Texture (Multipurpose) (fine orange peel).

        2) Texture Additive: Sheetrock Brand First Coat: Add at a rate of 1 gal. per bag of texture-substitute for 1 gal. of water.
        VOC: 2 g/L.

    c. Primer:

        1) Sherwin-Williams Pro Mar 200 Zero VOC Primer B28W2600 (4 mils wet; 1.3 mils dry)
        VOC: 43 g/L < 50 g/L

    a. First and Second Coats:

        1) Sherwin-Williams Pro Mar 200 Zero VOC Acrylic Semi-Gloss (B31W2600) (4 mils wet, 1.4 mils dry per coat).
        VOC: 0 g/L < 50 g/L.

2. Gypsum Drywall Systems:

    a. Egg-Shell Acrylic Enamel: 2 finish coats over primer on properly prepared surface:

    b. Texture

1) USG Sheetrock Brand Wall and Ceiling Spray Texture (Multipurpose) (fine orange peel).

2) Texture Additive: Sheetrock Brand First Coat: Add at a rate of 1 gal. per bag of texture-substitute for 1 gal. of water.
VOC: 2 g/L.

c. Primer:

1) Sherwin-Williams Pro Mar 200 Zero VOC Primer B28W2600 (4 mils wet; 1.3 mils dry)
VOC: 43 g/L < 50 g/L

d. First and Second Coats:

1) Sherwin-Williams Pro Mar 200 Zero VOC Interior Latex Eg-Shel B20W2600 (4 mils wet, 1.7 mils dry per coat).
VOC: 41 g/L < 50 g/L.

C. Metals

1. Ferrous Metals:

a. Semi-Gloss Acrylic Enamel: 2 finish coats over primer on properly prepared surface:

b. Primer:

1) Sherwin-Williams Pro-Cryl Universal Water Based Primer (B66-310 Series) (5.0-10.0 mils wet, 2.0-4.0 mils dry).
VOC: Unreduced 89 g/L < 250 g/L.

c. First and Second Coats:

1) Sherwin-Williams Pro Industrial 0 VOC Acrylic Semi-Gloss (B31 Series) (4 mils wet, 1.4 mils dry per coat).
VOC: 0 g/L < 50 g/L.

2. Zinc Coated Metals:

a. Semi-Gloss Acrylic Enamel: 2 coats on properly prepared surface:

b. Primer

1) Sherwin-Williams Pro-Cryl Universal Water Based Primer (B66-310 Series) (5.0-10.0 mils wet, 2.0-4.0 mils dry).
VOC: Unreduced 89 g/L < 250 g/L.

c. First and Second Coats:

1) Sherwin-Williams Pro Industrial 0 VOC Acrylic Semi-Gloss (B66 W611) (4 mils wet, 1.4 mils dry per coat).
VOC: 0 g/L < 50 g/L.

3. Ferrous Metal Handrails and Guardrails:

a. Handrails:

1) Semi-Gloss Acrylic Enamel: 2 finish coats over primer on properly prepared surface.

2) Primer:

a) Sherwin-Williams Pro-Cryl Universal Water Based Primer (B66–310 Series) (5.0-10.0 mils wet, 2.0-4.0 mils dry). VOC: Unreduced 110 g/L < 200 g/L.

3) First and Second Coats:

a) Sherwin-Williams Pro Industrial 0 VOC Acrylic Semi-Gloss (B66W611) (4 mils wet, 1.4 mils dry per coat).
VOC: 0 g/L < 50 g/L.

3

4. Ferrous Metals – One hour fire rated:

a. Exposed steel structure over Natatorium area: Surfaces must be clean, dry and in sound condition. Remove all oil, dust, grease, dirt, loose rust and other foreign material to ensure adequate adhesion.

1) Waterbased Intumescent Coating with water based Acrolon top coat.

2) First Coat:

a) Sherwin-Williams FIRETEX FX5090 Waterbased Intumescent Coating (B59W5090)
- Wet Mills (microns) 40.0 Airless Spray/18.0 Brush
- Dry Mills (microns) 28.0 Airless Spray/ 12.0 Brush

Follow dry times as recommended by Sherwin Williams

3) Top Coat:

a) Sherwin-Williams Pro Industrial Waterbased Acrolon 100 per the appropriate UL Design – UL 263

Follow application conditions, clean-up instructions as per paint manufacturer.

D. Wood (Trim) Painted

1. Semi-Gloss Acrylic Enamel: 2 coats over primer on properly prepared surface: Verify all fasteners are set below the surface of the wood. Apply wood filler, compatible with paint, to all exposed indentations. Sand smooth.

2. Primer:

   a. Sherwin-Williams Premium Wood and Wall Primer (B28W08111) (3 mils wet, 1.3 mils dry)

   b. Sand prime coats with 220 grit sand paper.
   VOC: 36 g/L < 200 g/L.

3. First and Second Coats:

   a. Sherwin-Williams ProClassic Waterborne Acrylic Semi-Gloss (B31 Series) (4.0 mils wet, 1.4 mils dry per coat).
   VOC: 144 g/L < 150 g/L.

E. Wood (Trim) Clear wood finish:

1. Polyurethane, Satin: 2 coats. Verify all fasteners are set below the surface of the wood. Apply wood filler to all exposed indentations. Sand smooth.

2. First and Second Coats:

a. Sherwin-Williams Wood Classics Waterborne Polyurethane Varnish (A68 Series) (3.2 -4 mils wet; 0.8-1.0 mils dry per coat)
VOC: Satin 309 g/L < 350 g/L.

F. Wood (Stained) with clear polyurethane varnish

1. Stain: One coat of MINWAX Low VOC Wood Finish. Stain color as selected by Architect. VOC: 250 g/L = 250 g/L.

2. First and Second Coats:

a. MinWax 250 Waterbased Varnish (3.2 -4 mils wet; 0.8-1.0 mils dry per coat) VOC: Satin 309 g/L < 350 g/L.

G. Exposed Concrete Floors and Curbs in HVAC rooms:

1. Waterbased Urethane Finish: 2 coats over primer on properly prepared surface with anti-slip additive. Prepare concrete surfaces in accordance with SSPC-SP13/NACE 6.

2. Primer:
a. Sherwin-Williams ArmorSeal Water Based Epoxy Primer (B70AQ11, B60VQ11) (6.0-8.0 mils wet; 5.0-7.0 dry).
VOC: <20 g/L < 200 g/L.

3. First and Second Coats:

a. Sherwin-Williams ArmorSeal Armor-Plex Water Based Urethane (B65-750, B65V750), (3.5-5.0 mils wet, 2.0-3.0 mils dry per coat).

b. Anti-slip additive: H&C SharkGrip added to the coating.
VOC: Unreduced < 50 g/L < 150 g/L.

H. Masonry

1. Concrete Masonry Units:

a. Semi-Gloss Acrylic Enamel: 2 finish coats over primer on properly prepared surface:

b. Primer:

1) Sherwin-Williams PrepRite Block Filler (B25W25) (16 mils wet, 8 mils dry) VOC: 45 g/L.

c. First and Second Coats:

1) Sherwin-Williams ProClassic Waterborne Acrylic Semi-Gloss (B31 Series) (4 mils wet, 1.4 mils dry per coat).
VOC: 144 g/L < 150 g/L.

3.08 CONSTRUCTION WASTE

A. Comply with Section 01 74 19-Construction Waste for management for reuse, salvage or recycle non-hazardous waste material.

3.09 CLEAN-UP

A. Waste Management: Collect field generated construction waste created during construction or final cleaning.

END OF SECTION

SECTION 10 81 10
ELECTRIC HAND DRYERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Warm air, high speed, energy efficient self-contained electric hand dryers.

B. Warm air, self-contained electric hair dryers.

1.2 RELATED SECTIONS

A. Section 06100 - Rough Carpentry: Blocking in stud partitions for mounting hand dryers.

B. Section 16100 - Wiring Methods: Electrical supply, conduit, wiring, boxes, and wiring devices for hand dryers.

1.3 REFERENCES

A. ICC/ANSI A117.1 - American National Standard for Accessible and Useable Buildings and Facilities; 1998.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Operating instructions and performance.
3. Storage and handling requirements and recommendations.
4. Installation methods.

C. Shop Drawings showing dimensions, method of attachment, and required supports.

D. Dryer to be MADE IN USA Certified. Verify Certification #MAOAA.0027.

E. Electrical wiring diagrams for connection of hand dryers.

F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing electric hand dryers with 20 years minimum experience.

B. Equipment certified by Underwriters Laboratory, Inc., with UL labels.

C. Comply with ICC/ANSI A117.1.

1.6 WARRANTY

A. Provide manufacturer's standard limited warranty for period specified.

PART 2 PRODUCTS

2.1 MANUFACTURERS

3

A. Acceptable Manufacturer: Excel Dryer, Inc., which is located at: 357 Chestnut St. P. O. Box 365 ; East Longmeadow, MA 01028; Tel: 413-525-4531; Email: request info (sales@exceldryer.com); Web: www.exceldryer.com

B. Substitutions: Not permitted.

2.2 ELECTRIC HAND DRYERS

A. Hand Dryer: Warm air, rapid drying, energy efficient electric hand dryer; XLERATOR; surface mounted; entire dryer internally grounded.
   1. Warranty Period: 5 years; limited warranty.
   2. MADE IN USA Certified. Verify Certification # MAOAA.0027.
   3. Controls: Completely sealed control assembly and optics for protection against moisture, lint/dust and vandalism. Automatic, activated by infrared optical sensor. Operates while hands are under blower. Shut-off within 2 seconds when hands removed or in 35 seconds if hands not removed.
   4. Cover: Stainless steel with brushed finish.
   5. Air Intake: Small circular Inlet openings on bottom of cover.
   6. Air Outlet: Delivers focused air stream of 18,000 LFM at nozzle and 16,000 LFM at average hand position of 4 inches (102 mm) below air outlet.
   7. Noise Reduction Nozzle: 1.1 noise reduction nozzle. Reduces air deflection noise and decibel level by 9db.
   8. Wall Plate: Injection molded, rib reinforced plate with metal L brackets to attach cover, with ten 5/16 inch (8 mm) diameter holes for surface mounting to wall and three 7/8 inch (22 mm) diameter holes for electrical wiring; bottom hole suitable for surface conduit.
   9. Recess Kit: ADA compliant recess kit is fabricated of 22 GA 18-8 type 304 stainless steel with #4 satin finish with 16 GA18-8 type 304 stainless steel dryer mounting plate. All welded construction. 16-3/8 inches (416 mm) wide by 26 inches (660 mm) high by 3-3/8 inches (86 mm) deep.
   10. Nominal Size: 11-3/4 inches (298 mm) wide by 12-11/16 inches (322 mm) high by 6-11/16 inches (170 mm) deep.
   11. Weight:
       a. 15 pounds (6.8 kg) stainless cover.
   12. Power Source: 110/120 volt, 12.5 amp, 60 Hz
   13. Combination Motor and Blower: Series commutated, through-flow discharge, vacuum type; 5/8 HP, 20,000 RPM. Air flow rate: 19,000 linear feet per minute (97 meters per second) at air outlet, 16,000 linear feet per minute (81 meters per second) at average hand position of 4 inches (102 mm) below air outlet.
   14. Heater: Nichrome wire element, mounted inside blower housing to be vandal proof.
   15. Heater Safeguard: Automatic resetting thermostat to open when air flow is restricted and close when air flow is resumed.
   16. Air Temperature: 135 degrees F (55 degrees C) measured at average hand position of 4 inches (102 mm) below air outlet. Air Heater Output: 970 watts.
   17. All metal parts coated according to Underwriters Laboratories, Inc. requirements.
   18. Mount dryers at heights indicated on Drawings.

B. EXECUTION

2.3 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

2.4 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Coordinate requirements for blocking to ensure adequate means for support and installation of hand dryers.

D. Coordinate requirements for power supply, conduit, disconnect switches and wiring.

2.5 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install dryers at specified heights.

C. Install dryers securely to supporting substrate so that fixtures are level and aligned with each other. Use type and length of fastener as recommended by manufacturer for type of substrate.

2.6 PROTECTION

A. Inspect installation to verify secure and proper mounting. Test each dryer to verify operation, control functions, and performance. Correct deficiencies.

B. Protect installed driers until completion of project.

C. Replace damaged products before Substantial Completion.

END OF SECTION

SECTION 131106
SWIMMING POOL TIMING SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.2 SUMMARY OF WORK

A. Introduction

1. Provide all labor, materials, equipment and services necessary to install a complete electronic timing and scoreboard system with multi-sport capability for race swimming, diving, water polo, pace clock, and synchronized swimming.

B. Work included in this section

1. It is the intent of this section to place the entire responsibility for the complete electronic timing and scoreboard system (including all appropriate connections) with multi-sport capability under one vested supplier. The supplier is responsible for providing full integration of this system. Multiple suppliers for a system will not be approved.

C. Related work specified in Electrical sections. Reference Division 26 – Electrical. Work to be completed by other contractors.

1. Ground and bond all pool structures, fittings and equipment in accordance with Article 680 of the N.E.C. Test and verify that the system electrical ground is true and solid. Provide certification to this effort.

2. Obtain permits, inspections, and approvals of all wiring including grounding and bonding of all metal components associated with the pool in accordance with Local, State and National Electrical Codes.

3. Install power, conduits, electrical boxes, ethernet connections and wiring for the Contractor furnished electronic timing and scoreboard system with multi-sport capability for race swimming, diving, water polo, pace clock, and synchronized swimming.

4. Supply junction boxes for all equipment outlined in these specifications and depicted on the timing system drawings.

D. Basis of Design:

1. The complete electronic timing and scoreboard system with multi-sport capability is based upon Colorado Timing System, Inc.

1.3 ACCEPTABLE MANUFACTURERS AND SUPPLIERS

A. Colorado Time Systems, Inc., 1551 East 11th St., Loveland, CO 80537, 970-667-1000. (Basis of Design.)

1.4 SUBMITTALS

A. Submittals shall include the following:

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1. Product data

2. Shop drawings detailing system layout

3. Operations and maintenance manuals for system. Manuals shall include a complete parts list.

4. Warranty for each piece of equipment within this section.

1.5 JOB CONDITIONS

A. Manufacturers proposing to submit a quotation for the electronic timing and scoreboard system must confirm that all embedded items are compatible with the installation of their respective systems.

B. Manufacturers shall review the construction documents and shall notify the architect 10 days prior to the bid date of conflicts or additions to the work of other subcontractors for the proper installation of their system.

1.6 WARRANTIES

A. The CONTRACTOR shall warranty the completed installation of all systems in this section for one year.

B. The manufacturer shall warranty the scoreboard, computer consoles, touchpads, pace clocks and starting system for two years.

C. The manufacturer shall warranty the titanium timing system wall plate and deck plates for five years.

PART 2 -PRODUCTS

2.1 SCOREBOARD SYSTEM

A. LED Numeric Scoreboard System (One (1) required - Located at DIVE POOL)

1. Multi-Sport LED Scoreboard system shall display all necessary information for diving in compliance with the appropriate sanctioning body - USA DIVING, NCAA, and NFHS.

   a. Basis of Design: Multi-Sport LED Scoreboard System is based upon Colorado Timing System, Inc.

2. Each line of scoreboard shall use seven segments 10” high LED digits, red color.

3. Each line of scoreboard shall have an internal data selector switch to permit owner/operator selection of data codes to be installed at each line of scoreboard. Data select codes may be manually changed at the scoreboard or logically changed from the timer console. Scoreboards with fixed function displays are unacceptable.

4. Each line of scoreboard can have up to eight operable digits, eight operable decimals, and one operable colon to provide maximum display flexibility and reduced cost. Scoreboards with fixed decimals and colons are unacceptable.

5. Each line of scoreboard shall have an individual internal power supply and individual control circuit to limit loss of data to one line if a malfunction should occur or to permit its use as an independent line of scoreboard.

6. Each line of scoreboard shall have true multi-sport capability through the use of sliding digits to permit reformatting to desired configurations. Digits shall move freely without the use of hand tools.

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7. Each line of scoreboard shall be constructed identically (modular) to permit on-site substitution or replacement of failed unit.

8. The scoreboard shall be capable of being used in a time of day mode when not being used in display modes.

9. Power shall be 115VAC, 2 amp, 250 watts per module maximum.

10. Facility name panel(s) shall be provided per Architect.

11. Scoreboard shall display the following minimum requirements:

7 Line Scoreboard	Lead Diver, Current Diver, DD, Round, Award Judges scores up to 10 judges, Award Point to overtake leader

B. Full Color Video Display (two (2) required, as located in plan)

1. Full Color Video Display system shall display all necessary information to time swimming, diving, water polo, and synchronized swimming in compliance with the appropriate sanctioning body - FINA, USA SWIMMING, NCAA, and NFHS.

   a. Basis of Design: Multi-Sport LED Scoreboard System is based upon Colorado Timing System, Inc.

2. Display shall include: Full matrix LED scoreboard with computer controller, flat-wall mounting hardware and data/fiber cable up to 500'.

3. Display shall be a full color LED matrix display. Display shall be comprised of red, blue and green LEDs to form pixels. Display shall be capable of 281 trillion shades of color.

4. Display should be capable of 16-bit video processing, refresh rate of 240Hz, four levels of dimming capability and allow for Gamma correction.

   a. Display intensity shall be adjustable between 562-1500 nits for INDOOR.

5. The display shall have a built-in graphics and animation capability with Windows- based software. Graphics and animation shall have the capacity of being displayed on the entire matrix. All MS Windows fonts shall be compatible with the display.

6. Display must have the ability to show live video or DVD's.

7. Display shall allow for front access points for service.

8. Display shall include 2% spare critical parts.

9. Operation temperature shall be between 14F – 140F (-10c – 60c).

10. Humidity tolerance shall be between 0%-95%.

11. Each indoor pixel shall be comprised of 3 LED's 1R1G1B..

12. Scoreboard Details:

   a. MAIN SCOREBOARD (Located on West End wall of 50M pool)

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i. Minimum Viewing Distance: 50 ft to 150 ft.

ii. Pixel Spacing: 10 MM

iii. Active Area: 9.45(H) x 26.25(W)

iv. Pixel configuration shall be: 288 PIXELS HIGH x 800 PIXELS WIDE

b. SECONDARY SCOREBOARD (Located across 50M pool)

i. Minimum Viewing Distance: 50 ft to 150 ft.

ii. Pixel Spacing: 10 MM

iii. Active Area: 9.45(H) x 16.78(W)

iv. Pixel configuration shall be: 288 PIXELS HIGH x 512 PIXELS WIDE

C. Scoreboard Hanging Requirements

1. Scoreboard manufacturer shall provide drawings with hanging information.

a. Material: Scoreboard hangers shall be 316L stainless steel for an indoor natatorium.

b. Coordinate scoreboard hanging requirements with structural engineer prior to the submittal process.

2. Anchors

a. Metal studs with 5/8" Magnesiacore panels on walls

1) Refer to structural for specific anchoring fastener requirements to metal stud wall system.

3. Supports

a. Unistrut (LED Board)

1) Material

a) Fittings, unless noted, are made from hot-rolled, pickled and oiled steel plates, strip or coil, and conform to ASTM specifications A575, A576, A635, or A36. The fitting steel also meets the physical requirements of ASTM A1011 SS GR 33. The pick-ling of the steel produces a smooth surface free from scale. Many fittings are also available in stainless steel, aluminum and fiberglass. Consult factory for ordering information.

2) Finishes

a) Fittings are available in: Perma-Green III (GR), Electro-galvanized (EG), conforming to ASTM B633 Type III SC1; Hot-dipped galvanized (HG), conforming to ASTM A123 or A153.

b. Unistrut (Numeric Board)

1) Material

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a) Unistrut channels are accurately and carefully cold formed to size from low-carbon strip steel. All spot-welded combination members, except P1001T, are welded 3" (76 mm) maximum on center.

2) Finishes

a) All channels are available in Perma Green III (GR), Pre-galvanized (PG) conforming to ASTM A653 G90, Hot-dipped galvanized (HG) conforming to ASTM A123.

4. Brackets

a) Per ANSI B1.1- Surface roughness per ANSI B46.1- Surface roughness on holes 250 MAX unless otherwise specified. Variations in form from unmachined features are permitted within established – all filets 0.005-0.020 (APPROX. RADIUS) – Screw threads per ANSI B1.1- Pipe threads commercial standards. All edges and corners 0.005-0.020 (approx. radius or chamfer).

b) All materials and components used in the assembly of this item must be RoHS complaint material: 12GA (.105) HRS. The finish shall be ZINC CLEAR CHROMATE PLATED. Manufacturer shall break all sharp edges and corners.

c) All support hardware, brackets, fasteners, hangers, etc. used during installation of the scoreboard shall be Zinc Clear Chromated Plated.

2.2 MULTI-SPORT COMPUTER/TIMING SYSTEM

A. Multi-Sport Computer/Timing System shall be supplied with all necessary software to time swimming, diving, water polo, and synchronized swimming in compliance with the appropriate sanctioning body - USA SWIMMING, NCAA, and NFHS.

1. Basis of Design: Multi-Sport Computer/Timing System is based upon the GEN7 TIMING as manufacturer by Colorado Timing System, Inc.

B. Multi-Sport Computer/Timing System shall be a standalone unit with physical connections to timing inputs. Timer shall be controlled by user interface device (e.g., computer, tablet, etc.) via USB or TCP/IP.

1. Timer PC or tablet interface device shall be supplied with all necessary software to time and score swimming in compliance with the appropriate governing organization(s) - USA SWIMMING, NCAA, and NFHS.

2. Configuration of race courses shall be through graphical user interface. It is unacceptable that race configurations need specific cable connections to system connections such as wall plates defining a specific end of a course.

3. User interface shall display complete race status. The interface shall be capable of functioning as miniature scoreboard displaying information simultaneously for all active lanes including lane number, current length in race or final place, split or finish time, relay judging status indicator, and backup time and backup button status.

4. Timer shall automatically flag timing discrepancies (in the user interface, on the results printouts and in stored memory) greater than a user defined interval between touch pad and backup times.

C. Multi-Sport Computer/Timing System input/output ports must include:

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1. Shall accept inputs for up to 4 courses of up to 32 lanes each for a serial in-deck wiring installation and shall be able to time them simultaneously.

2. Up to 8 timers shall be supported to accept inputs of the same in-deck wiring installation for parallel race timing and backup.

3. Shall accept on-deck cable harness inputs for up to 20 lanes near end and/or far end.

4. Shall communicate with meet management peripheral software on a two-way “handshake” basis, enabling the meet manager’s resident computer to query the timer’s memory via the USB port or via the network at any time for any race results.

5. Shall provide backup time via push button provided on a per lane basis should swimmer fail to trigger touch pad or touch pad fail to register. Timer to be capable of accepting up to three backup button times per lane.

6. Shall automatically compare the touch pad hit of an incoming swimmer with the starting swimmer’s time of departure from the optional relay-judging platform. Results display both “plus” and “minus” takeoff times and can be printed and stored in race memory

D. Accuracy of Multi-Sport Computer/Timing System:

1. Shall time to a user-selectable resolution from 1 second to .001 second. It shall take starts and finishes from the near end and/or far end of the pool. It shall accept inputs from the start system; touch pads, up to three manual button backup times per lane, and relay judging platforms.

2. Shall be able to evaluate and report multiple states of timing component input condition, ranging from excellent to failure. It is unacceptable that only two states such as on or off are reported.

3. Shall have touch pad delay feature with ability to program delays from 1 to 99 seconds.

4. Shall permit the operator to correct for an erroneous touch by adding/subtracting a touch pad hit to correct the lengths completed. The interface shall not permit the operator to finish a race in any lane; timers including such a function are unacceptable because they permit the possibility of cheating.

5. Later recall of stored race data shall allow for a re-run of a given race including changes in user decisions.

E. Multi-Sport Computer/Timing System Detection:

1. Shall be capable of detecting timing components such as pushbuttons, touchpads, RJPs, speakers, Speedlight and start systems connected to an in-deck system and capable of detecting touchpads and RJPs connected to an on-deck system.

2. Shall be capable of reporting corrosion in the in-deck wiring installation.

F. Multi-Sport Computer/Timing System shall run off a 12 Volt power supply connected to a standard 110/240 VAC outlet and will automatically switch to (and display on screen of connected interface device) internal battery power source, in case of line power failure without affecting the continuity and accuracy of the timing system.

G. Multi-Sport Computer/Timing System shall interface to single-line and multi-line scoreboard and shall post immediate results to scoreboard in “Lane” or “Place” order (user selectable). The timer shall also have the capability to pull race results from memory and post those results to the scoreboard in “Lane” or “Place” order (user selectable).

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H. Multi-Sport Computer/Timing System shall include internal clock calendar with self-sustaining battery to time/date stamp all results.

I. Multi-Sport Computer/Timing System shall meet acceptable safety standards. Shall be UL approved, or equivalent.

J. Multi-Sport Computer/Timing System Storage and Internal Memory:

1. System shall store each and every timing input state change. It is not acceptable that state changes get discarded and are not available for later re-evaluation of a race.

2. All race data, including near and far end splits, shall be stored to internal memory for later recall to facilitate meet management connectivity and printing. Printed reports shall include cumulative and subtractive splits as well as relay judging times (when required).

3. Meet memory shall be capable of being transferred to external storage (via USB) or cloud data backup services (e.g., DropBox, Google Drive).

K. Multi-Sport Computer/Timing System shall have an Automatic Event Sequencer that is capable of holding both standard and user defined event sequences. The event order will be able to be downloaded from meet management software. The desired order is user selectable. EVENT SEQUENCES with appropriate race distance and race description for high school, college meets, and two “User Defined” meets to permit construction of custom meets, USA SWIMMING, NCAA, and NFHS. When recalled from memory, race distance and descriptions are automatically selected for the operator.

L. Multi-Sport Computer/Timing System shall have a user interface software that permits operation of essential functions including Lane Off/On, Finish Arm, Split Arm, & Print Results directly from the main screen to ensure speed and simplicity of operation during critical race times. The interface shall permit the operator to edit a time when required or to disqualify a lane (DQ), automatically posting it to the scoreboard, and provide automatic re-ranking of results. Any corrections generated by the operator (edit or disqualification) shall be clearly identified on the results printouts.

M. Multi-Sport Computer/Timing System shall include electronic beeper and LED signaling to indicate touchpad, backup button and RJP inputs. Timers which do not allow the user to configure (enable/disable) this feature are unacceptable.

N. Multi-Sport Computer/Timing System connectivity shall include:

1. USB (Type A) port for external storage

2. USB (Type B) port for meet management connectivity

3. USB (Type B) port for user interface computer connectivity

4. Ethernet port for network connectivity

5. 3 independent scoreboard output ports

6. Wireless 2.4GHz scoreboard connectivity

7. Connection for in-deck wiring and two connections for on-deck (near and far end) wiring

8. Start system connection directly to timer

9. External DC power port

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O. Multi-Sport Computer/Timing System shall be capable of updating internal software/firmware via Internet connection.

P. Multi-Sport Computer/Timing System software shall have the ability to adjust the intensity of LED scoreboard brightness.

2.3 SWIMMING TIMING SYSTEM CONNECTORS

A. General Description

1. The timing system shall employ topology of a single communication bus to which all timing and connectivity nodes are connected and communicate with each other

2. Connection points shall be production items and not a one off or prototypes

3. Exposed connectors shall feature titanium contacts. They shall be wet pluggable and electrically passive if not connected. No maintenance to prevent corrosion of deck plate connector contacts shall be needed.

4. Self-test capabilities to detect compromised timing bus wire terminations and scoreboard bus wire terminations

B. Wall Plates

1. Wall plates shall be provided as required in the quantities as shown on the drawings. Wall plates shall be the termination point for connections between deck cables, timers, start system, and other wall plates.

   a. Basis of Design: Wall plates are based upon TITANIUM SERIAL WALL PLATE as manufactured by Colorado Timing System, Inc.

2. Wall plates must allow for any, or all, of the following connections depending on location and usage:

   a. Connection to the timer.

      1) Connectivity to all timing courses and one scoreboard bus with one cable connection.

      2) Detection of presence or absence of connected timer.

      3) Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts).

   b. Connection to a start system and shall provide the following:

      1) Inputs for start system and speaker.

      2) Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts) and anomalies with the speaker input or start system.

      3) Detection of presence or absence of speaker input or start system.

   c. Connection to a scoreboard and shall provide the following:

      1) Detection of presence or absence of connected scoreboard.

      2) Self-test capabilities to detect compromised timing bus wire terminations.

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d. Connection to a bulkhead and shall provide the following:

1) Detection of presence or absence of connected bulkhead.

2) Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts).

3. Junction Boxes (Provided by Electrical Contractor):

a. Wall plate timing system components shall fit into a 12” x 12” x 6” PVC junction box.

b. Acceptable Manufacturer: Cantex (P/N 5133713) or similar box that will fit wall plate assembly of the following dimensions: 12” x 12” x 6” +-0.05”, cover plate width shall be 15” +-0.02” square

c. All conduit interconnects between timing system boxes (deck plates and wall plates) shall be PVC. Refer to drawings for sizing.

d. Verify routing of conduit with timing system manufacturer prior to install.

C. Deck Plates

1. Deck plates shall be provided as required in the quantities as shown on the drawings. Deck plates to permit plug-in connection for touch pads, A, B, C, backup buttons, electronic relay judging, start light signal, start speakers and a signal to start the timing device at each lane.

a. Basis of Design: Deck plates are based upon TITANIUM SERIAL DECK PLATE as manufactured by Colorado Timing System, Inc.

2. Domed deck plate node with contacts mounted on integrated slopes that cause corrosive pool water which creates water bridges to flow off through gravity, overcoming water surface tension and therefore reducing electrolytic currents and corrosion. No maintenance for corrosion shall be needed.

3. Titanium contacts as exposed connectors.

4. Inputs for button A, B, C, touchpad, start system, speaker, RJP and Speedlight (RJP as separate input, not piggy backed on another input).

5. Speedlight shall be controlled in synchronicity and individually per lane (requires RJPs).

6. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts) and anomalies with the timing components push buttons, touchpad, RJP, Speedlight, speaker or start system.

7. Ability to detect presence or absence of push buttons, touchpad, RJP, Speedlight, speaker or start system.

8. Plate shall have self-test capabilities to detect compromised timing bus wire terminations.

9. Junction Boxes (Provided by Electrical Contractor):

a. In deck system components shall fit into a 4” x 4” x 6” PVC junction box.

b. All conduit interconnects between timing system boxes (deck plates and wall plates) shall be PVC. Refer to drawings for sizing.

c. Verify routing of conduit with timing system manufacturer prior to install.

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D. Start System Deck Plate

1. Start system deck plates shall be provided as required in the quantities as shown on the drawings.

   a. Basis of Design: Start system deck plates are based upon TITANIUM SERIAL START SYSTEM DECK PLATE as manufactured by Colorado Timing System, Inc.

2. Connection to start system that shall provide the following:

   a. Inputs/outputs for start system and speaker.

   b. Detection of presence or absence of speaker input or start system.

   c. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts) and anomalies with the speaker or start system.

3. Junction Boxes (Provided by Electrical Contractor):

   a. In deck system components shall fit into a 4” x 4” x 6” PVC junction box.

   b. All conduit interconnects between timing system boxes (deck plates and wall plates) shall be PVC. Refer to drawings for sizing.

   c. Verify routing of conduit with timing system manufacturer prior to install.

E. Timer Deck Plate

1. Timer deck plates shall be provided as required in the quantities as shown on the drawings.

   a. Basis of Design: Timer deck plates are based upon TITANIUM SERIAL TIMER DECK PLATE as manufactured by Colorado Timing System, Inc.

2. Connection to timer which shall allow for a pool setup without a wall plate, and shall provide the following:

   a. Connectivity to all timing courses and one scoreboard bus with one cable connection

   b. Detection of presence or absence of connected timer

   c. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts)

   d. In deck system components shall fit into a 4” x 4” x 6” PVC junction box

3. Junction Boxes (Provided by Electrical Contractor):

   a. In deck system components shall fit into a 4” x 4” x 6” PVC junction box.

   b. All conduit interconnects between timing system boxes (deck plates and wall plates) shall be PVC. Refer to drawings for sizing.

   c. Verify routing of conduit with timing system manufacturer prior to install.

F. Bulkhead Deck Plate

1. Bulkhead deck plates shall be provided as required in the quantities as shown on the drawings.

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a. Basis of Design: Bulkhead deck plates are based upon TITANIUM SERIAL BULKHEAD DECK PLATE as manufactured by Colorado Timing System, Inc.

2. Connection to bulkhead that shall provide the following:

a. Detection of presence or absence of connected bulkhead.

b. Self-test capabilities to detect compromised timing bus wire terminations.

c. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts).

3. Junction Boxes (Provided by Electrical Contractor):

a. In deck system components shall fit into a 4" x 4" x 6" PVC junction box.

b. All conduit interconnects between timing system boxes (deck plates and wall plates) shall be PVC. Refer to drawings for sizing.

c. Verify routing of conduit with timing system manufacturer prior to install.

G. Scoreboard Deck Plate

1. Scoreboard deck plates shall be provided as required in the quantities as shown on the drawings.

a. Basis of Design: Scoreboard deck plates are based upon TITANIUM SERIAL SCOREBOARD DECK PLATE as manufactured by Colorado Timing System, Inc.

2. Connection to scoreboard that shall provide the following:

a. Detection of presence or absence of connected scoreboard cable.

b. Self-test capabilities to detect compromised scoreboard bus wire terminations.

c. Diagnostic capabilities to detect anomalies with connectors (corrosion, shorts).

3. Junction Boxes (Provided by Electrical Contractor):

a. In deck system components shall fit into a 4" x 4" x 6" PVC junction box.

b. All conduit interconnects between timing system boxes (deck plates and wall plates) shall be PVC. Refer to drawings for sizing.

c. Verify routing of conduit with timing system manufacturer prior to install.

2.4 SWIMMING TIMING START SYSTEM

A. Swimming Timing Start System (2 required) shall be provided to start the automatic swim timing system. The start system shall drive speakers mounted under the starting blocks, the relay judging platform strobe lights and deck side start indicators, with microphone.

1. Basis of Design: Swimming Timing Start System is based upon the CHAMPIONSHIP START SYSTEM as manufactured by Colorado Timing System, Inc.

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B. System shall drive up to twenty 6-watt (reflex) corrosion resistant speakers located under the individual starting blocks as well as be able to drive individual speed lights on each starting block.

C. System shall have the capability to use either wired or wireless microphones and shall have a volume control on each microphone input.

D. Start system shall have a high impact resistant plastic molded enclosure.

E. System shall have external connections for additional strobe light, speaker output and start output.

F. The system shall run off of an external 12-volt power and have 2 internal gel cell batteries. The internal batteries will automatically be recharged while the starter is plugged in to the external power supply.

G. There shall be a LED warning light on the system showing when the internal batteries are starting to get low on power.

H. Starting Block Speaker:

1. Provided one speaker per championship starting block, plus one spare speaker (16 required). Speaker shall be mounted on starting platform. Speaker shall be corrosion resistant and designed to be used in an aquatic environment and rated for such use.

   a. Basis of Design: The starting block speaker is based upon the CTS MODEL SP-6/45 as supplied by Colorado Timing System, Inc.

2. The loudspeaker shall be a flex driver type horn projector of integrated construction. It shall be rated 6 watts for voice or music material with an on-axis frequency response of 320-6000 Hz (“6dB). The sound pressure level shall average 97dB(1W/1M) for 500 to 5000 Hz.

3. The horn and mounting base shall be tan in color and constructed of impact & UV resistant ABS, which will retain mechanical properties from -20q to +160qF. The driver cone diaphragm shall be moisture resistant. All materials shall resist damage from extreme weather exposure. Electrical connector shall be of 2-conductor banana type, .750 center to center.

4. Provision for mounting shall be clearance slots in the adjustable base and hole location points in the horn flange for adapting unit to be recess mounted.

2.5 DIVING

A. Diving scoring system shall utilize scoreboard to display diving scores and results without modification from swimming configuration.

1. Basis of Design: The diving scoring system is based upon GEN7 DIVING as supplied by Colorado Timing System, Inc.

B. Diving Scoring Software:

1. Diving scoring system software shall support standard and synchronized scoring.

2. Accept seven (7), judges’ input scores and compute award based upon proper formulas for seven (7), judges. Software shall be operable with either remote judges’ terminals or manual input of flash card scores.

3. System must be expandable to use up to eleven judges scoring terminals.

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4. Permit display of the lead diver number, current diver number, dive number, degree of difficulty, judges' scores and diver's calculated award and total score.

5. Permit entry of all diving data into non-volatile memory for storage or receive data from meet management computer without additional modifications. Data shall include diver number, round number, dive number, and position. Degree of difficulty shall be automatically calculated based upon dive number per current USA DIVING/NCAA/NFHS regulations. Dive degree of difficulty can also be manually input.

6. Automatically recall the diver with round number, dive number and DD using minimal keystrokes. Systems which require live entry of dive information are unacceptable.

7. Permit storage of diver's point totals and provide ranking of the divers at the end of each round.

8. Permit editing of judges' scores if required by meet officials.

9. Provide an output for computer data handling of diving events.

10. Permit two-point deduction from the judges' scores and zero points for a failed dive. Such changes shall be clearly shown on the printout.

11. Printout shall provide preliminary data, diver ranking by rounds, and results of individual dives with judges' scores.

12. Judges' terminals shall be housed in sealed, water-resistant, shockproof housing.

13. The terminals shall provide a signal to inform the judge that the diving console has requested a score. Signal shall cease when an appropriate score is transmitted. They shall also allow each judge to input a score with a minimum of keystrokes, review that score via a built-in LCD display, and correct a score if needed before transmitting to the Judging Software.

14. The Software shall provide a switchable mode for sending data to the scoreboard display.

    a. Mode- Automatic- In this mode the software must send the judges scoring information to the display with no software operator interaction.

    b. Mode- Hold for Authorization – In this mode the software must receive authorization from a referee terminal or an assistant referee terminal prior to sending the scoring data to the display.

C. Remote Judging Terminal:

1. Interface hub shall plug into the PC via USB 2.0 or greater

2. Judges terminals shall include a quick release mating connector for connection to the Diving Cable Breakout Box.

3. Judges' terminals shall include rugged communications cable to connect to the diving interface box. Cable should be removable for easy cost-effective replacement of the cable.

4. Judges' terminals shall utilize sealed keyboards with a 128x64 Pixel Backlit LCD display suitable for indoor and sunlight readability.

5. Judges terminal LCD must be capable of displaying Divers Name.

6. Judges terminal LCD must be capable of displaying Divers Team or Country Name.

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7. Judges terminal LCD must be capable of displaying scores of other judges once the scores have been accepted.

8. Judges terminal LCD must be capable of displaying Dive and Dive Degree of Difficulty

9. Judges terminal LCD must be capable of displaying the terminal number, so they can be easily identified to the judge

10. Judges terminals shall include a request change button to notify the software that the judge's input is requesting permission to correct the submitted score.

11. Judges terminals must be able to be assigned as a Referee's terminal or Assistant Referee's terminal allowing the device to control when the judging data is transmitted to the scoreboard display.

12. Provide seven (7), Judging Terminals (JT-01) with associated cables. Provide one interface hub box (IH-01) with associated cables. Provide two (2) cable breakout box (CB-01) with associated cables.

2.6 WATER POLO

A. Water Polo Scoring

1. Provide water polo program with the Multi-Sport Computer/Timing System. Water polo basic system shall include: water polo software, user interface with toggle for start/stop, scoreboard horn, signage for scoreboard, and manual.

   a. Basis of Design: The water polo program is based upon Colorado Timing System, Inc.

2. Accessory software program shall turn multi-sport computer and multi-sport scoreboard into complete water polo scoring system.

3. Features shall include presentable period times, timeout times, eject times for up to three players, game times, and shot time.

4. Selectable options shall include display of game time in seconds, tenths, and/or hundredths, keeps player fouls "on the fly" and records in memory.

5. Water polo scoreboard display functions shall include game time, shot time, penalty times, three (3) team scores, period number, player fouls and time of day.

6. Interface unit shall permit hand-held switch control of shot clock reset function and toggle switch for the start/stop of game time.

7. Miscellaneous features shall include: 12 or 24-hour time of day display, tenths of hundredths of a second remaining display, total game time display, individual player foul totals display.

8. Game time shall display to .01 seconds when stopped.

9. Multi-Sport Computer/Timing System shall be capable of operating two shot clocks in addition to water polo scoring.

B. Water Polo Table Top Controller

1. Provide water polo table top controller (1 required) for water polo scoring. Controller shall have:

   a. Buttons with tactile dome feedback

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b. Large transflective LCD screen that is easily readable in all environments from darkness to bright sunlight

c. Built-In real time clock to keep time of day

d. Configurable defaults allow customizing to your league rules

e. Slide-in keyboard insert

f. Able to operate multiple scoreboards with one controller

g. Supports the external Run/Stop/Reset switch to allow for additional clock operators

h. Include (1 RSR) Stop/Start/Reset switch

C. Portable Deck Clock (Shot Clock/Pace Clock)

1. Two (2) portable shot clock/pace clock shall be provided for water polo course. Shot clocks shall NOT be provided for water polo practice courses.

   a. Basis of Design: The portable deck clock (shot clock) is based upon the DC-1500 as manufactured by Colorado Timing System, Inc.

2. The clock shall include a ruggedized polyethylene enclosure that is water and sun resistant and completely corrosion free. The enclosure shall include a built-in handle to allow for easy carrying from point to point.

3. The deck clock shall be capable of being used as a game/shot clock for many sports or set to pace in time of day.

4. The deck close shall include LED digits with variable intensity settings to allow for visibility in a variety of environments and times of day or night. Time of day or game time shall be displayed at the top of the clock, with 5” digits displaying hours and minutes. 10” digits shall show seconds for pacing or shot time.

5. The deck clock shall in an integrated 2.4GHz wireless adaptor to receive game/shot data from tabletop or handheld controllers. Data can also be received from a Multi-Sport Computer/Timing System with a wireless adapter.

6. The deck clock shall be capable of providing pace in time of day (hours, minutes and seconds) without any controller. Multiple clocks shall automatically synchronize in pace mode.

7. The clock shall include an integrated horn. The horn shall produce both game and shot tones.

D. Wireless Water Polo Scoreboard

1. Provide an integrated Wireless Mini Scoreboard for water polo scoring. Scoreboard to display period/shot, game time, and home/ guest scores with 5” LED digits. Scoreboard shall include a wheeled scoreboard caddy.

   a. Basis of Design: The wireless water polo scoreboard is based upon the MS-0055 as manufactured by Colorado Timing System, Inc.

2. Power: Scoreboard shall have 115-230 V, 2 A 50/60 Hz power.

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3. Scoreboard shall include a rugged powder-coated aluminum enclosure. All digits and circuit boards are conformal coated to protect against corrosion. The high gain flush mount patch antenna shall be mounted internally and shall be protected by a Lexan cover to prevent breakage by errant balls and/or weather.

4. The scoreboard shall include an integrated 2.4GHz wireless adapter to receive game/shot data from tabletop or handheld controllers. Data can also be received from a Multi-Sport Computer/Timing System with a wireless adapter.

5. Provide scoreboard caddy for water polo scoreboard.

2.7 SWIMMING TIMING COMPONENTS

A. Gutter Hung Touchpads

1. Provide 18 touchpads (18 required for the Main Course) and 12 touchpads (12 required for the Cross Course) to time swimming, in compliance with the appropriate sanctioning body.

   a. Basis of Design: The gutter hung touchpad is based upon the AQUAGRIP GUTTER HUNG TOUCHPAD as manufactured by Colorado Timing System, Inc.

2. Touchpad shall be constructed of an all-plastic exterior with only electrical connector metal exposed. Touchpad shall be the following dimensions:

   a. Touch pad shall be the TP-78G AQUAGRIP, 78” wide x 22” tall x 0.3” thick. (CROSS COURSE)

   b. Touch pad shall be the TP-90G AQUAGRIP, 90” wide x 22” tall x 0.3” thick. (MAIN COURSE)

3. Touchpad shall have a uniform fine grit and non-abrasive surface that prevents swimmer slippage in any direction.

4. Touchpad markings shall have contrasting colors with a 2” black border and black end-wall cross pattern for portion covered by touchpads.

5. Touchpad brackets shall be custom made to fit the pool. Contractor to provide sufficient number of brackets for support of each touchpad.

   a. Contractor to provide an additional 2 spare touchpad brackets.

6. Touchpad shall have a two-year warranty without a requirement to purchase a protective touchpad cart.

7. Touchpad caddy for storing the number of touch pads supplied shall be (1) CAD-TP/P and (2) CAD-TP96.

B. Relay Judging Platforms

1. Provide one (1) relay judging platform to time swim start reaction in compliance with the appropriate sanctioning body. Platform shall electronically indicate when a swimmer has left the starting block in relation to the incoming swimmer’s touch of the timing pad. Accuracy shall be 1/100th of a second

   a. Basis of Design: The relay judging platform as manufactured by Colorado Timing System, Inc.

2. Relay Judging Platform shall have a non-skid surface to prevent swimmer slippage.

3. Top and front surface shall be sensitive to the swimmer’s push off.

4. Each platform shall be capable of securing to starting blocks.

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5. Refer to starting block specification for starting block top size. Relay Judging Platform shall be sized to adequately cover starting block.

6. LED Speed Light

   a. Platforms shall come equipped with speed light, LED lights that flash with the start signal.

C. Push Buttons

1. Provide two (2) back-up buttons for each touchpad provided.

2. Back-up buttons to be plunger style button with a 5’ cable.

D. Swimming Timing Systems Caddies

1. Provide touchpad caddy for storing all touch pads. The correct number of touchpad caddies shall be supplied to store all touchpads. Caddy shall be sized to match timing system touch pad widths. Touchpad caddy shall consist of an aluminum frame with four freewheeling casters. The CONTRACTOR is responsible for assembly. Touchpad caddy shall be CAD-TP/P and CAD/TP96 as manufactured by Colorado Timing Systems, Inc.

2.8 PACE/SHOT CLOCKS

A. Multi-Sport Computer/Timing System Pace Clock Program

1. Accessory software program shall turn multi-sport computer and multi-sport scoreboard into an effective training system and coaching tool.

   a. Basis of Design: GEN7 PACE CLOCK PROGRAM as manufactured by Colorado Timing System, Inc.

2. Accessory software program shall turn multi-sport computer and multi-sport scoreboard into an effective training system and coaching tool.

3. Interface to HYTEK's "Workout Manager" software with direct download to computer timer.

4. Programmable workouts are saved into memory for up to 80 workouts.

5. Workouts display on multi-line scoreboard by lane. E. START/STOP all lanes with one keystroke, or individually.

6. Include programmable "fudge factor" for coaches' election.

B. Slim Pace Clocks

1. Pace clocks shall be provided as required in the quantities as shown on the drawings.

   a. Basis of Design: SLIM PACE CLOCKS as manufactured by Colorado Timing System, Inc.

2. Pace clock shall include thirteen (13”) high visibility LED digits, with variable intensity settings. The pace clock shall include a rugged powder-coated aluminum enclosure, conformal coated to protect against corrosion, a real time of day clock, and shall be suitable for indoor or outdoor use

3. Pace clock shall include twelve (12) operating channels to eliminate interference.

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4. Pace clocks have an integrated real time of day chip (RTC). If multiple pace clocks are used in a facility, they will synchronize the time automatically.

5. Pace clock shall include a wireless frequency of 2.4 GHz and have autosensing power capabilities for 120/240 VAC.

6. Pace clock shall have four (13") digits.

   a. Overall Size (H x W x D): 19.25" x 42.25" x 2.8"

   b. Weight: 15 lbs

C. PC-PRO Deck Clock

1. Deck clock (one (1) required.

   a. Basis of Design: PC-PRO-R as manufactured by Colorado Timing System, Inc.

2. Deck clock shall have the capability of being controlled by a hand-held console for pacing functions. Additionally, it shall be capable of being controlled with the Multi-Sport Computer/Timing System.

3. Deck clock shall have an external switch to change from a pacing function to a water polo function.

4. Deck clock shall have the capability of using the Multi-Sport Computer/Timing System to run the water polo functions.

5. Deck clock shall be capable of 15 training modes (Lap Counter, Simple Pace Clock, Pace Clock with Cumulative Splits, Pace Clock with Lap Splits, Relay Exchanges, etc.)

6. Deck clock shall have the capability to be set up as either Master or Slave. Permanent shot clock/pace set as Master must re-transmit Pace Clock data to Slave Pace Clocks set to receive data on the same frequency.

7. Deck clock must be able to receive shot clock data from a Multi-Sport Computer/Timing System.

8. Deck clock shall have the capability to adjust the LED intensity using a Multi-Sport Computer/Timing System or via the control panel.

9. Pace clock shall include a wireless frequency of 60/50Hz and have autosensing power capabilities for 110/220 VAC.

10. Deck clock shall have four (4) 10" LED digits. Unit with digits less than 10" will not be accepted due to inadequate viewing distance.

    a. Overall Size (H x W x D): 13.5" x 36.25" x 4.75"

    b. Weight: 29 lbs

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2.9 MATERIAL LIST - GEN7 SERIAL SYSTEM

	GEN7 Serial	
Qty		
1	**GEN7-TMR**	Gen7 Timer
1	**R-920-055**	Power Supply – UL Type A (US & Canada)
2	**R-600-302**	Laptop for user interface
Qty	***Floor plates & Hub***	
4	**TDPI-S2**	Titanium Starter Connect
3	**TDPI-BH3**	Titanium Bulkhead Connect- in deck
2	**TDPI-BH4**	Titanium Bulkhead Connect- on bulkhead order 1 per bulkhead
43	**TDPI-D**	Titanium Domed Deck Plate- intelligent
13	**R-530-085**	Tough gel – order one 2-part tube for every 4 deck nodes
Qty	***Wall plate***	
8	**R-1004-0549**	15x15 metal wall plate w/hardware- holds connect hubs (listed below)
6	**WPI-T1**	Wall plate- Titanium Timer Connect
6	**WPI-SC5**	Wall plate- Titanium Scoreboard Connect
1	**WPI-F4**	Wall plate – Fiber & Legacy Connect- YDS } both do not have to be
5	**WPI-485**	Wall plate – non-titanium 485 data for Gen7 Diving Use with R-015-674-xx cable
Qty	***Connection cables***	
2	**R-015-706-8**	8 meter starter cable (26 feet)
2	**R-015-707-8**	8 meter scoreboard cable (26 feet)
2	**R-015-711-4**	4 meter bulkhead cable (13 feet)
1	**R-015-715-8**	8 meter timer cable (26 feet)
Qty	***Cable installation***	
1	**TDPI-K1**	Kit- scoreboard bus head & tail node installation order 1 per scbd bus
1	**TDPI-K2**	Kit- timing bus head & tail node installation order 1 per timing bus
1000	**R-015-737**	Timing bus cable – 7-conductor sold in feet
1000	**R-015-726**	Scoreboard bus cable – 4-conductor (2 pair) sold in feet

PART 3 - EXECUTION

3.1 EXISTING CONDITIONS

A. Verify that all work by others, related to this section, is installed.

B. Carefully examine all the construction documents that affect the work of this section.

C. Prior to starting work, notify the Architect and General Contractor of any defects requiring correction.

D. Protect other materials and installed work against damage while completing work in this section.

3.2 INSTALLATION

A. Furnish and install all custom cables, connecters, scoreboard mounting brackets, and fasteners.

B. Provide scaffolding and labor for mounting scoreboard and pulling cables.

C. Furnish and install equipment in accordance with the manufacturers drawings and instructions.

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3

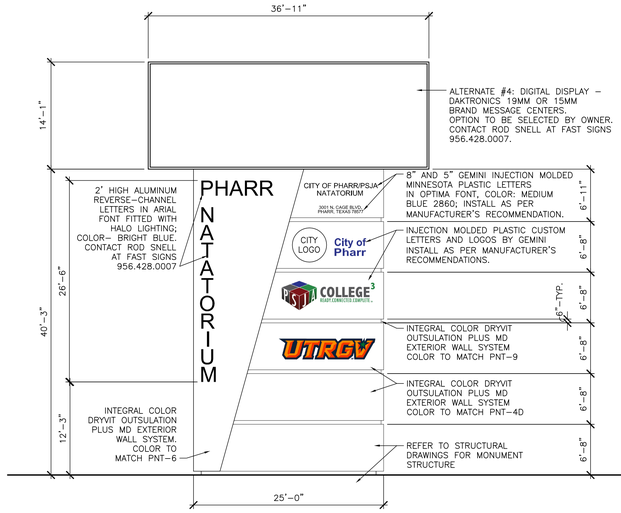
D. Provide scoreboard mounting, all timing system cable terminations, system checkout, and local operator training at time of installation. Training shall consist of two 8-hour day sessions and attendance at the 1st meet to provide system support.

E. Furnish as-built drawings precisely locating all items.

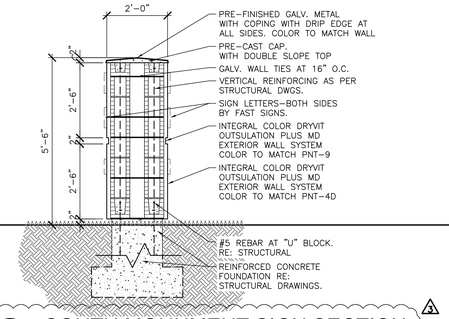
F. Wiring and grounding shall be installed in strict accordance with the latest edition of the National Electric Code – Article 680.

END OF SECTION

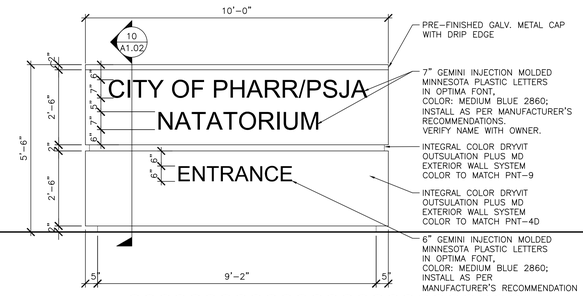
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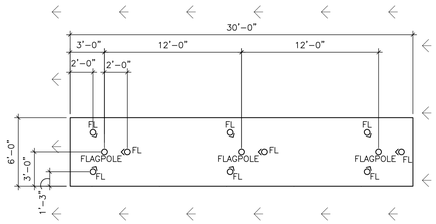
11 ELEVATION EAST MONUMENT SIGN
SCALE: 1/8"=1'-0"



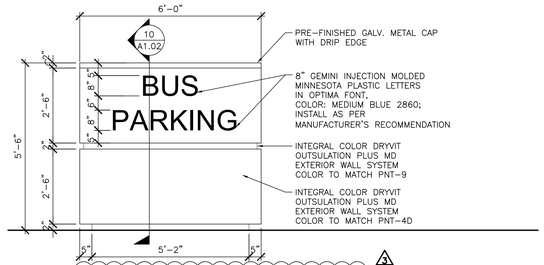
10 SOUTH MONUMENT SIGN SECTION
SCALE: 1/2"=1'-0"



9 ELEVATION SOUTH MONUMENT SIGN
SCALE: 1/2"=1'-0"



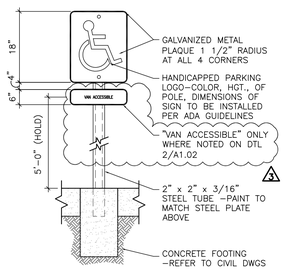
13 FLAGPOLE PLINTH
SCALE: 3/16" = 1'-0"
SITE_DETL_008



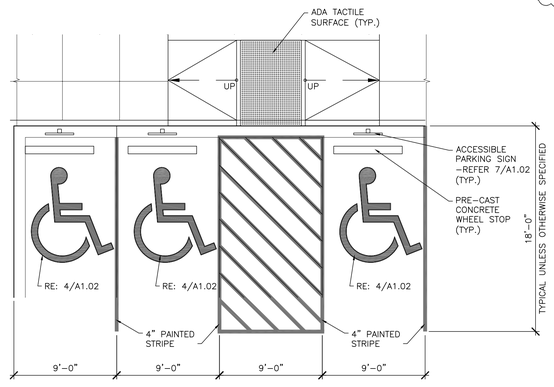
8 ELEVATION BUS PARKING SIGN
SCALE: 1/2"=1'-0"

NOTE:

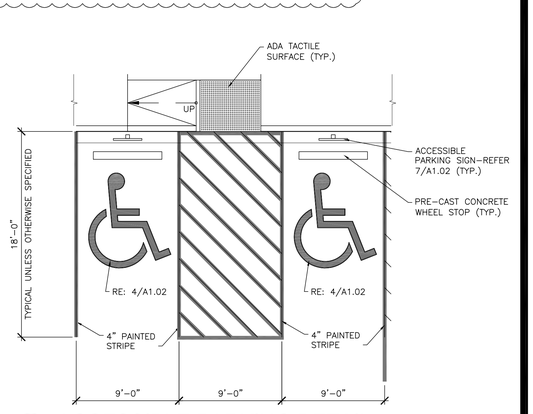
1. SIGNS SHOULD BE PROPERLY CENTERED AT FRONT OF PARKING SPACE
2. SIGN FACE SHOULD BE LOCATED NO FURTHER THAN 6' FROM THE FRONT OF EACH PARKING SPACE WITH MINIMUM 3'-0" CLEAR
3. MOUNT SIGN ON COLUMN OR WALL AT SIM. CONDITION
4. WHERE SIGN IS PLACED IN PAVED AREA AT PARKING STALLS, PROVIDE PRECAST BUMPERS
5. PROVIDE "VAN ACCESSIBLE" SIGN AS SHOWN AT VAN ACCESSIBLE PARKING SPACE



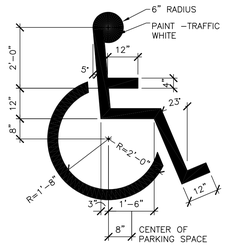
7 ACCESSIBLE SIGN DETAIL
NOT TO SCALE
SITE_DETL_004



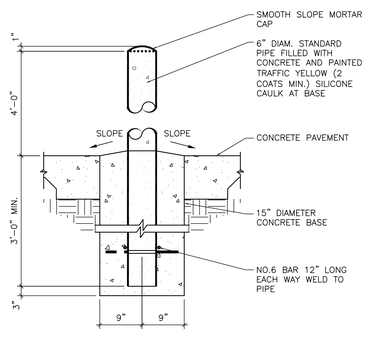
6 ACCESSIBLE PARKING DETAIL
SCALE: 3/16" = 1'-0"
SITE_DETL_006



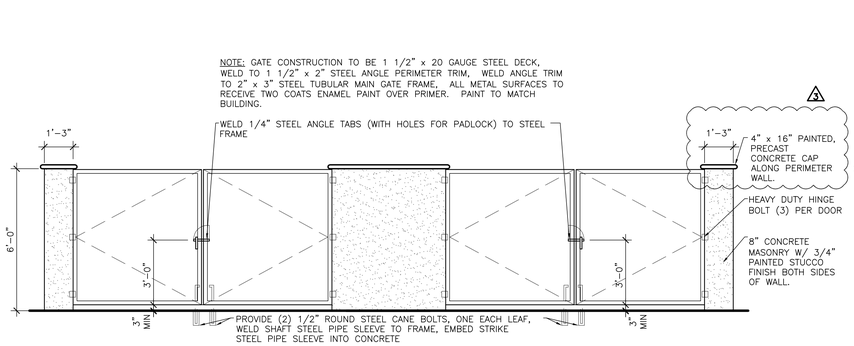
5 ACCESSIBLE PARKING DETAIL
SCALE: 3/16" = 1'-0"
SITE_DETL_005



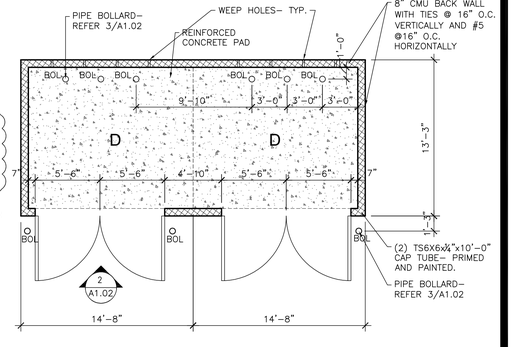
4 ACCESSIBLE PARKING SYMBOL
NOT TO SCALE
SITE_DETL_007



3 PIPE BOLLARD-A- DETAIL
SCALE: 3/8"=1'-0"
SITE_DETL_003



2 DUMPSTER ENCLOSURE ELEVATION
SCALE: 1/2"=1'-0"
SITE_DETL_02



1 DUMPSTER ENCLOSURE DETAIL
SCALE: 3/16"=1'-0"
SITE_DETL_01

TWG
THE WARREN GROUP ARCHITECTS, INC.
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twgarch.com

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REVISION	DATE	APPROVED BY	DESCRIPTION
ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

SEAL
REGISTERED ARCHITECT
JUAN M. WARREN
18378
STATE OF TEXAS
EXP 10-31-19

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A1.02 ADD3
SITE PLAN DETAILS

SHEET NOTES

1. DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATIONS, IF NEEDED.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED AND NOT FOUND, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
3. ALL DOOR FRAMES ARE TO BE INSTALLED 4" MIN. AWAY OF ADJACENT PERPENDICULAR WALLS UNLESS OTHERWISE NOTED.
4. REFER TO STRL DWGS FOR ADDITIONAL STRUCTURAL SPECIFIC INFORMATION.
5. REFER TO MEP DWGS FOR ADDITIONAL MEP SPECIFIC INFORMATION.
6. REFER TO POOL CONSULTANT DWGS FOR ADDITIONAL POOL SPECIFIC INFORMATION.
7. REFER TO ROOF PLAN FOR ROOF DRAIN LOCATIONS.
8. REFER TO G0.01 FOR KEYS AND SYMBOLS.

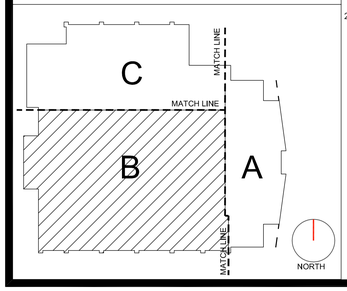
SHEET LEGEND

- ALTERNATE. SEE SPECIFICATIONS.
- MATCH LINE
- F.E.C. — FIRE EXTINGUISHER IN RECESSED CABINET
- E.W.C. — HI-LO ELECTRICAL WATER COOLER
- FD. — FLOOR DRAIN
- RD. — ROOF DRAIN
- O.D. — OVERFLOW DRAIN
- P.P. — ADA PUSH PLATE
- C.J. — CONTROL JOINT REFER 3/A5.11

WALL LEGEND

- 1HR. FIRE RATED WALL
- XX — INTERIOR WALL TYPE RE: A6.01 FOR WALL TYPES
- EWA-# — EXTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES
- IWA-# — INTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES

KEY PLAN



1 FLOOR PLAN-B
SCALE: 1/8"=1'-0"

THE WARREN GROUP ARCHITECTS, INC.
1801 SOUTH SECOND ST.
SUITE 330
McALLEN, TX 78503
956 . 994.1900
twgarch.com

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REVISION	DATE	APPROVED BY	DESCRIPTION
ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

SEAL
REGISTERED ARCHITECT
18379
STATE OF TEXAS
EXP 10-31-19

PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A1.11B ADD3
FLOOR PLAN-B

SHEET NOTES

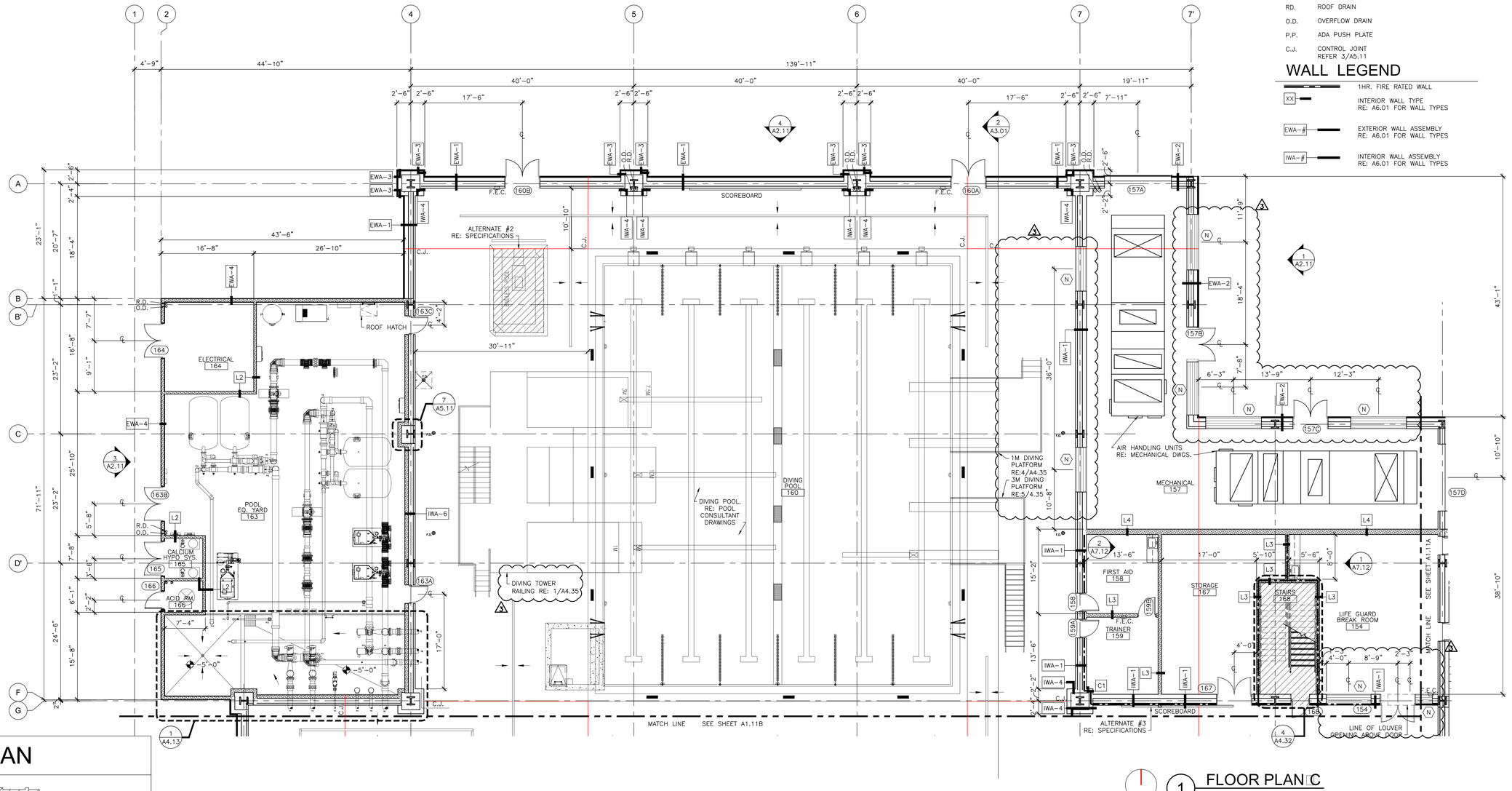
1. DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATIONS, IF NEEDED.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED AND NOT FOUND, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
3. ALL DOOR FRAMES ARE TO BE INSTALLED 4" MIN. AWAY OF ADJACENT PERPENDICULAR WALLS UNLESS OTHERWISE NOTED.
4. REFER TO STRL DWGS FOR ADDITIONAL STRUCTURAL SPECIFIC INFORMATION.
5. REFER TO MEP DWGS FOR ADDITIONAL MEP SPECIFIC INFORMATION.
6. REFER TO POOL CONSULTANT DWGS FOR ADDITIONAL POOL SPECIFIC INFORMATION.
7. REFER TO ROOF PLAN FOR ROOF DRAIN LOCATIONS.
8. REFER TO G0.01 FOR KEYS AND SYMBOLS.

SHEET LEGEND

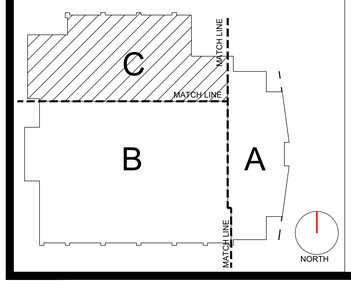
	ALTERNATE. SEE SPECIFICATIONS.
	MATCH LINE
F.E.C.	FIRE EXTINGUISHER IN RECESSED CABINET
E.W.C.	HI-LO ELECTRICAL WATER COOLER
FD.	FLOOR DRAIN
RD.	ROOF DRAIN
O.D.	OVERFLOW DRAIN
P.P.	ADA PUSH PLATE
C.J.	CONTROL JOINT REFER 3/A5.11

WALL LEGEND

	1HR. FIRE RATED WALL
XX	INTERIOR WALL TYPE RE: A6.01 FOR WALL TYPES
EWA-#	EXTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES
IWA-#	INTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES



KEY PLAN



NORTH

1 FLOOR PLAN - C

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

TWG
THE WARREN GROUP ARCHITECTS, INC.
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SEAL

REGISTERED ARCHITECT JAMES E. WARREN 18378 STATE OF TEXAS

EXP 10-31-19

PROPOSED

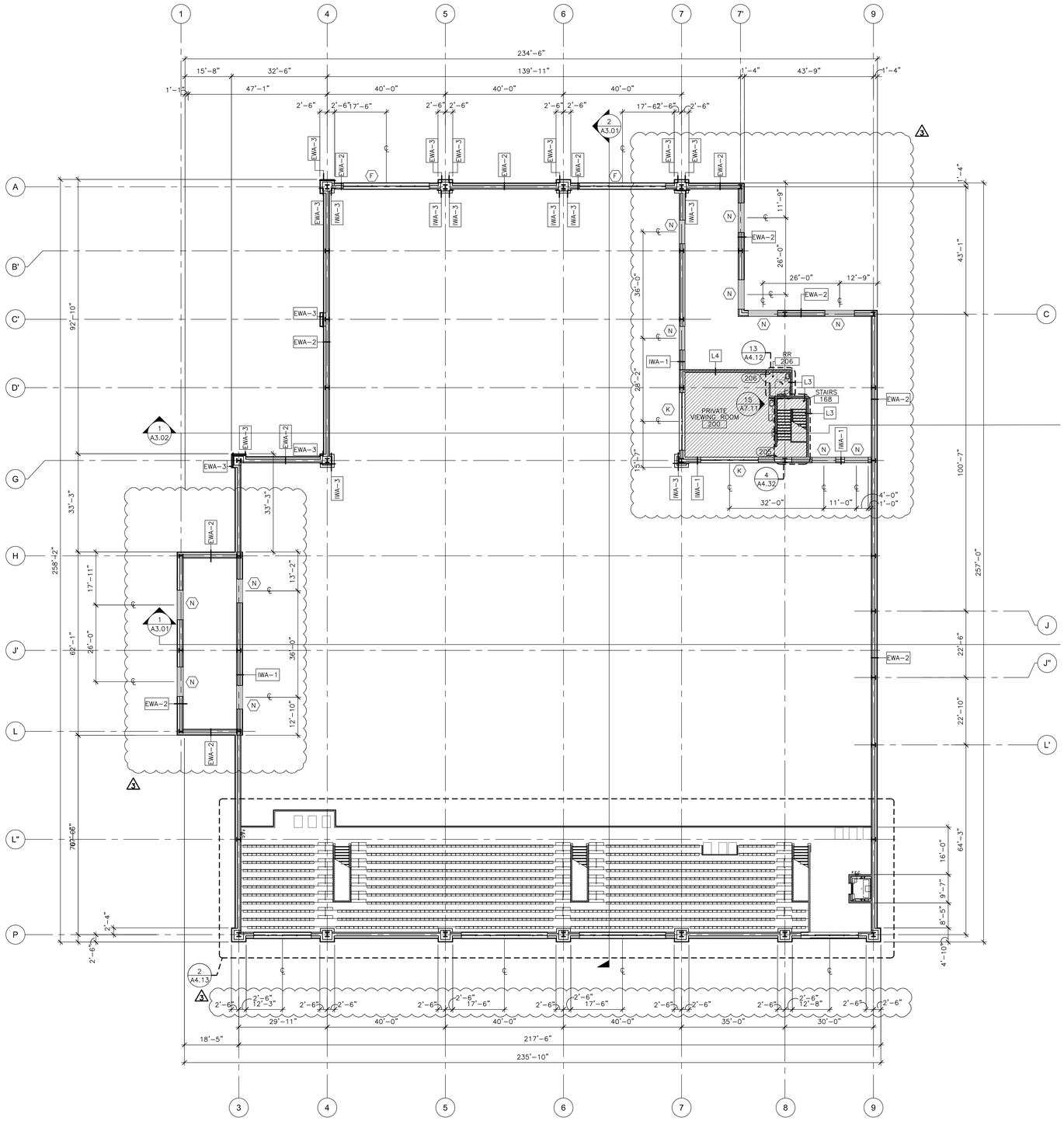
CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A1.11C ADD3

FLOOR PLAN - C



NORTH

1 FLOOR PLAN-SECOND FLOOR

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

SHEET NOTES

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7. REFER TO ROOF PLAN FOR ROOF DRAIN LOCATIONS.
8. REFER TO G0.01 FOR KEYS AND SYMBOLS.

SHEET LEGEND

ALTERNATE. SEE SPECIFICATIONS.

MATCH LINE

10"D X 18"W INFINITY SEATS IN COBALT BLUE, TREAD MOUNTED WITH GALVANIZED BRACKETS BY IRWIN SEATING COMPANY

F.E.C. FIRE EXTINGUISHER IN RECESSED CABINET

WALL LEGEND

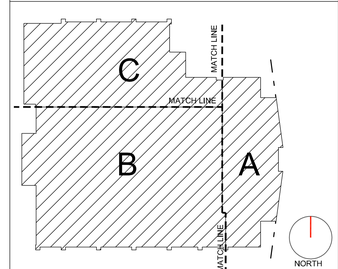
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EWA-# — EXTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES

IWA-# — INTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES

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SEAL

REGISTERED ARCHITECT 18378 STATE OF TEXAS

EXP 10-31-19

PROPOSED

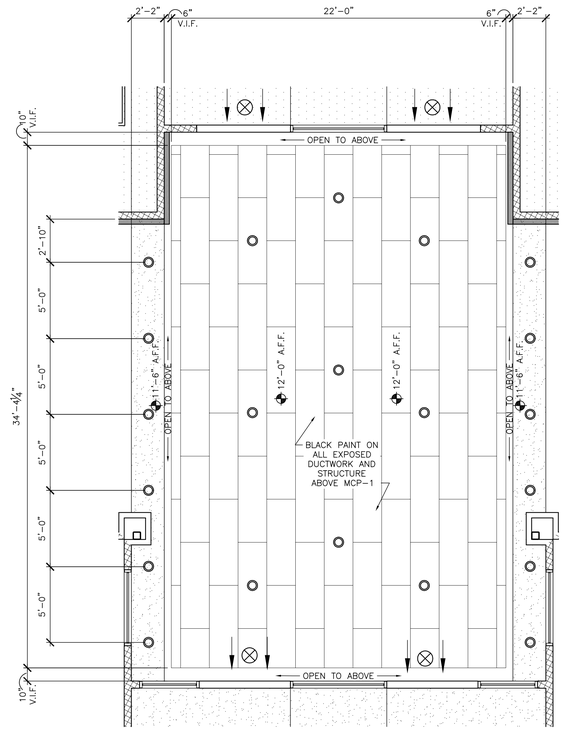
CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

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REVISED	06/26/2019

A1.12 ADD3

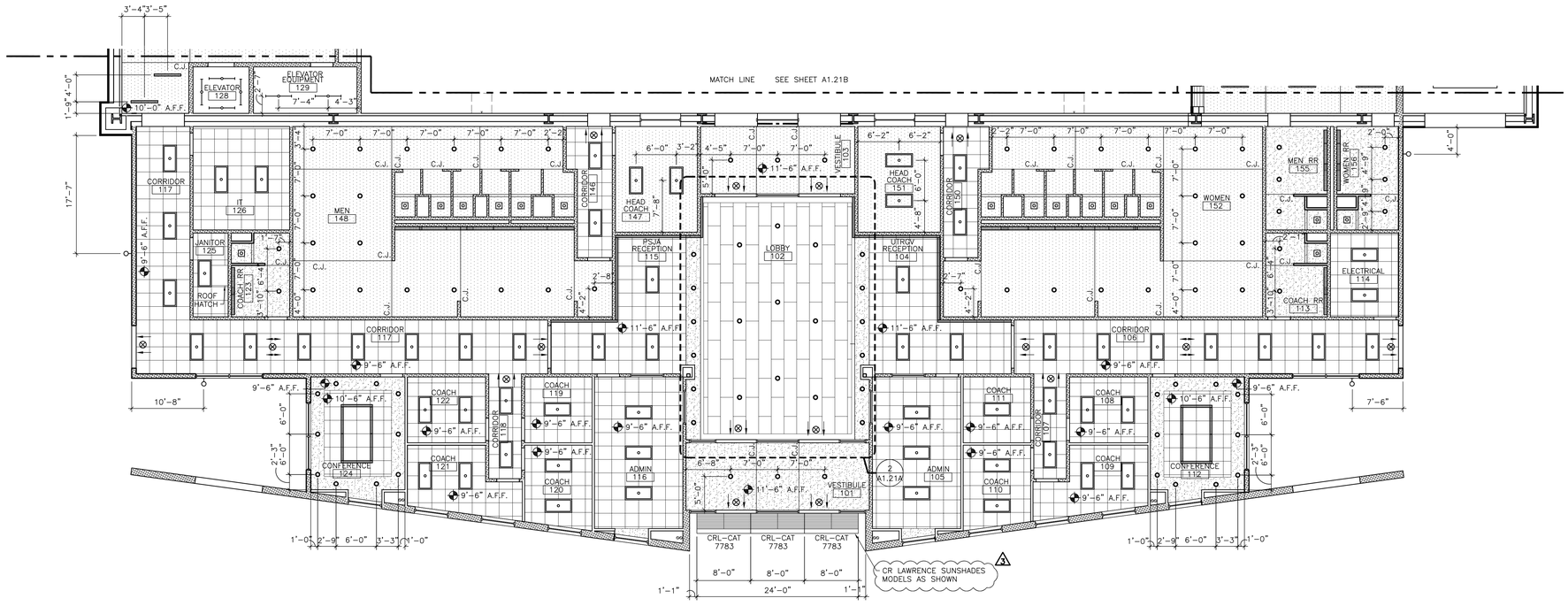
OVERALL FLOOR PLAN SECOND FLOOR



NORTH

2 ENLARGED PARTIAL RCP-FIRST FLOOR-A

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



NORTH

1 RCP-FIRST FLOOR-A

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

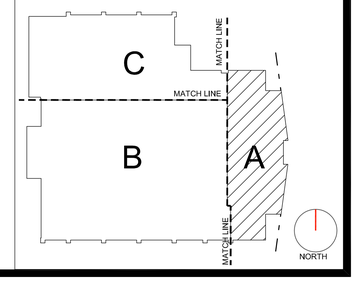
SHEET NOTES

1. ALL CEILING HEIGHTS AT 9'-0" UNLESS OTHERWISE NOTED.
2. CENTER CEILING TILE GRID WITHIN ROOM UNLESS DIMENSIONED OTHERWISE.
3. CENTER LIGHT FIXTURES, MECHANICAL GRILLES, AND OTHER CEILING MOUNTED DEVICES WITHIN CEILING TILES/PANELS UNLESS NOTED OTHERWISE.
4. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPES, EXIT SIGNS, SWITCHING AND CIRCUITING.
5. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION PERTAINING TO HVAC AND SMOKE CONTROL DEVICES AND REQUIREMENTS.
6. G.C. TO VERIFY AND COORDINATE LOCATIONS OF ACCESS PANELS AND OTHER CEILING PENETRATING ITEMS NOT SHOWN ON THE REFLECTED CEILING PLANS.

SHEET LEGEND

- MCP-1 RE: A6.11 FOR FINISH AND MATERIAL DESCRIPTIONS
- PAINTED GYPSUM BOARD
- MAGNESIACORE BOARD
- 2'X2' ACOUSTICAL CEILING TILE
- EMERGENCY EXIT LIGHT/SIGN
- WALL PACK
- 6" LED RECESSED CAN LIGHT
- 2'X4' RECESSED LIGHT
- 1'X4' SUSPENDED LIGHT FIXTURE WITH PROTECT CAGE
- 4' LED LINEAR COVE LIGHT
- 2' LED LINEAR COVE LIGHT
- LED LINEAR LIGHT
- LED HIGH BAY LUMINAIRE
- 1HR. FIRE RATED PARTITION
- X'-X" C.H. CEILING HEIGHT
- C.J. CONTROL JOINT RE: 1/A5.11

KEY PLAN



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SEAL

REGISTERED ARCHITECT 18378 STATE OF TEXAS

EXP 10-31-19

PROPOSED

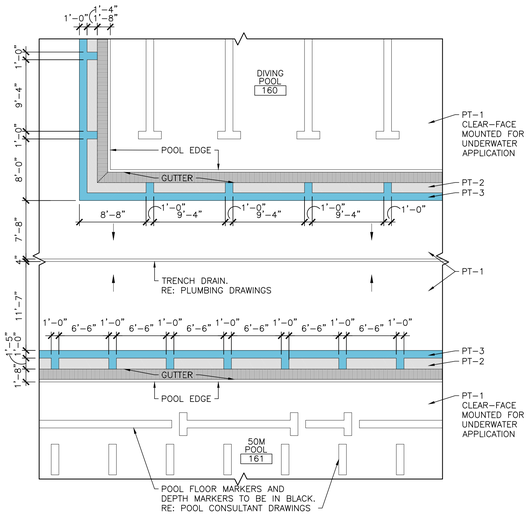
CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

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A1.21A ADD3

RCP- FIRST FLOOR-A

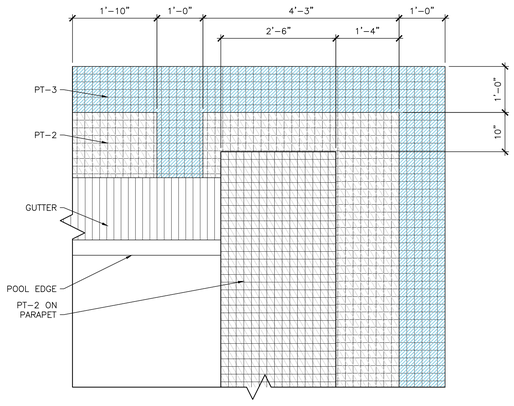


ENLARGED FLOOR PATTERN PLAN

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

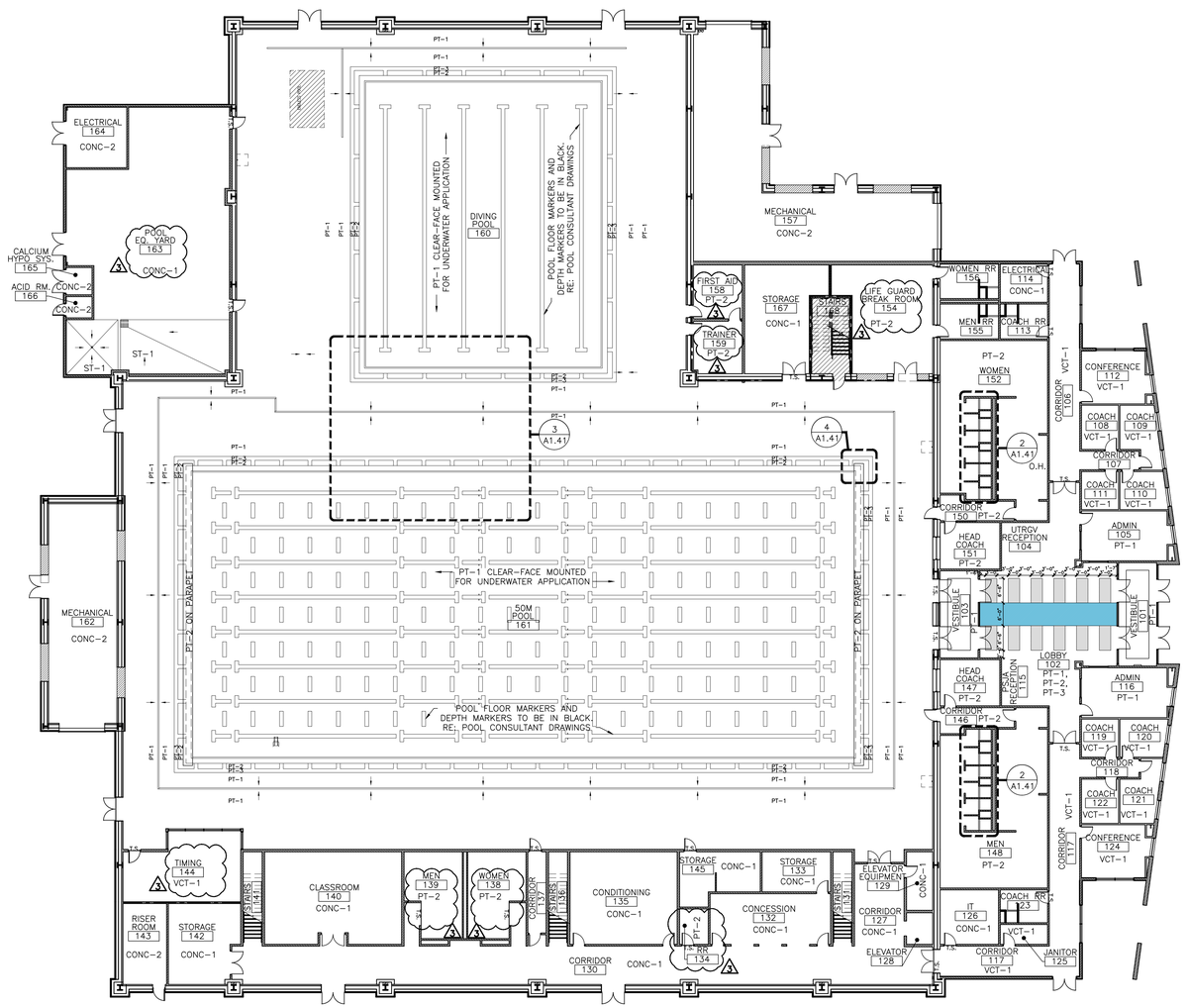
ENLARGED FLOOR PATTERN PLAN

2 SCALE: 3/8"=1'0"



ENLARGED POOL CORNER FLOOR PATTERN PLAN

4 SCALE: 3/4"=1'0"



FLOOR PATTERN PLAN

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

NORTH

SHEET NOTES

1. FLOOR PATTERNS SUBJECT TO OWNER APPROVAL PRIOR TO INSTALLATION.
2. G.C. TO COORDINATE WITH MILLWORK INSTALLER TO FILL IN FLOORING BELOW OPEN COUNTERS.
4. G. C. TO PROVIDE TAS-ADA COMPLIANT FLOOR TRANSITION STRIPS BETWEEN FLOOR FINISHES.
5. REFER TO SHEET A6.11 FOR ADDITIONAL FINISH INFORMATION

SHEET LEGEND

- PT-1
- PT-2
- PT-3
- PT-17

T.S. NON-CORROSIVE TRANSITION STRIP

THE WARREN GROUP ARCHITECTS, INC.

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SEAL

REGISTERED ARCHITECT JAMES E. WARREN 18378 STATE OF TEXAS

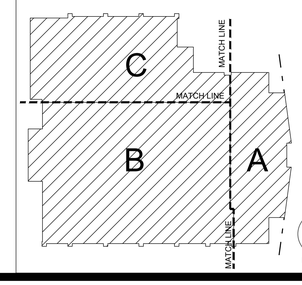
EXP 10-31-19

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

KEY PLAN



PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A1.41 ADD3

FLOOR PATTERN PLAN

SHEET NOTES

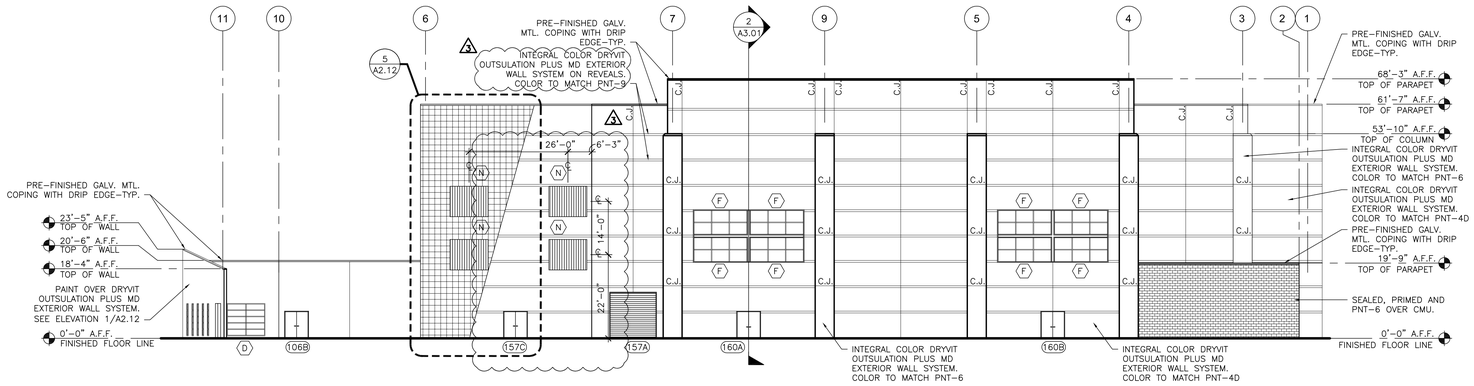
1. REFER TO SHEET A6.21 FOR DOOR AND WINDOW SCHEDULE.
2. REFER TO SHEET A6.22 FOR DOOR AND WINDOW ELEVATIONS.
3. REFER TO SHEET A6.11 FOR FINISH SCHEDULE.

SHEET LEGEND

CMU BLOCK

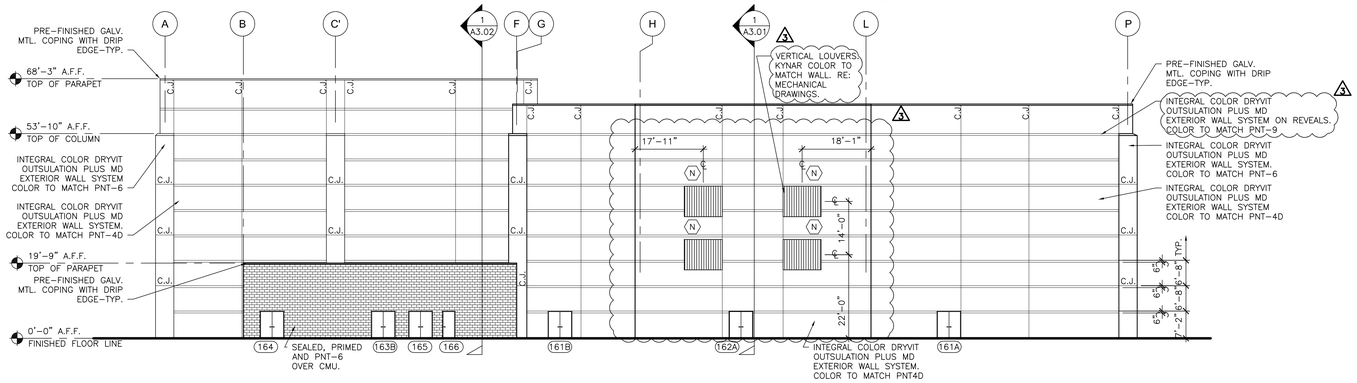
PORCELAIN TILE

C.J. CONTROL "V" JOINTS REFER TO 2/A5.11



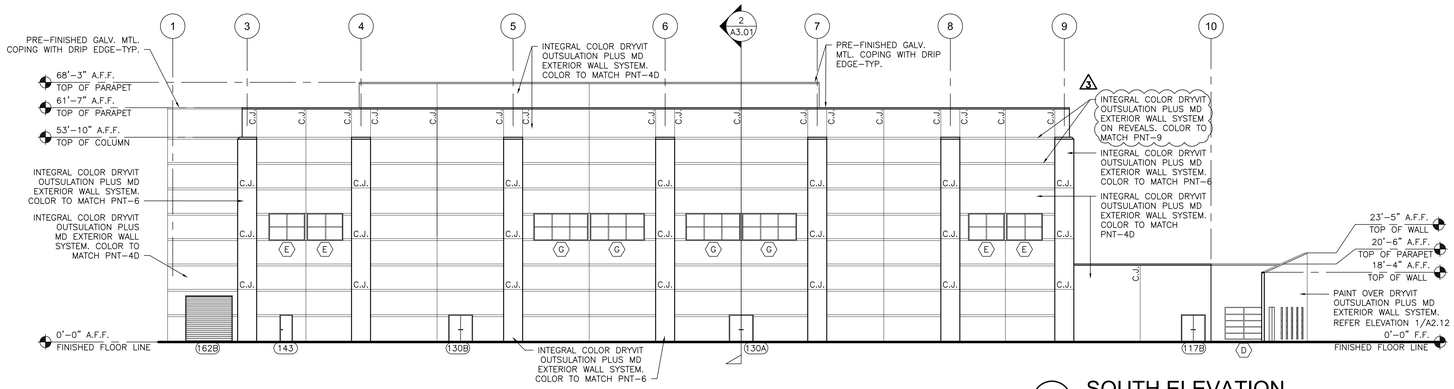
4 NORTH ELEVATION

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



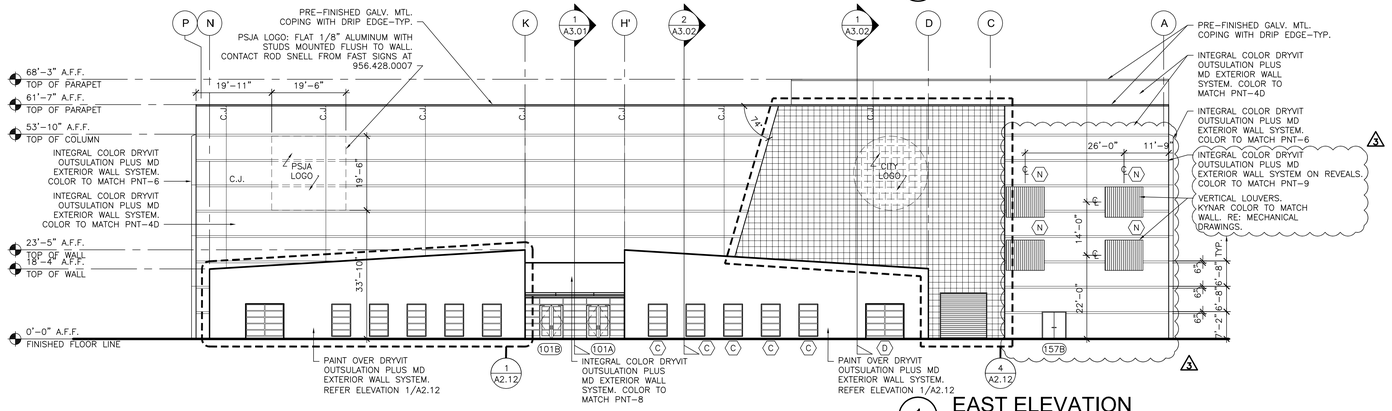
3 WEST ELEVATION

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



2 SOUTH ELEVATION

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



1 EAST ELEVATION

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

THE WARREN GROUP ARCHITECTS, INC.
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McALLEN, TX 78503
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SEAL

REGISTERED ARCHITECT DORA N. WARREN 18376 STATE OF TEXAS

EXP 10-31-19

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

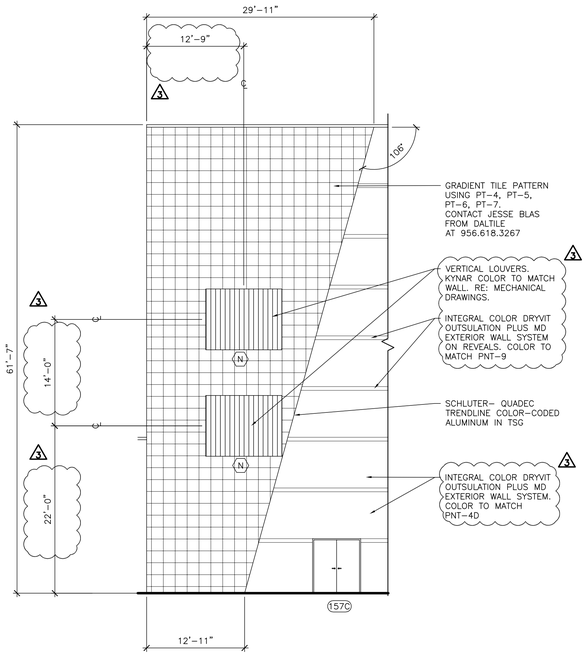
PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A2.11 ADD3

EXTERIOR ELEVATIONS

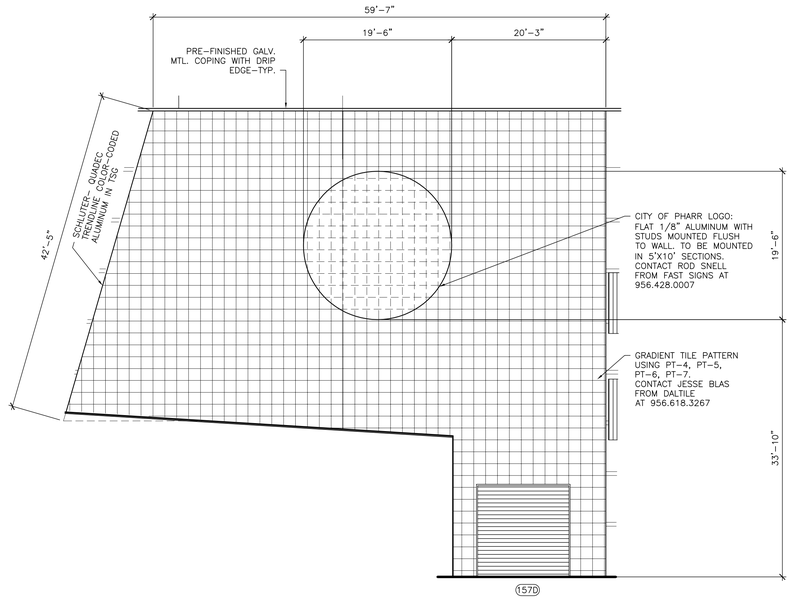
SHEET NOTES

1. REFER TO SHEET A6.21 FOR DOOR AND WINDOW SCHEDULE.
2. REFER TO SHEET A6.22 FOR DOOR AND WINDOW ELEVATIONS.
3. REFER TO SHEET A6.11 FOR FINISH SCHEDULE.



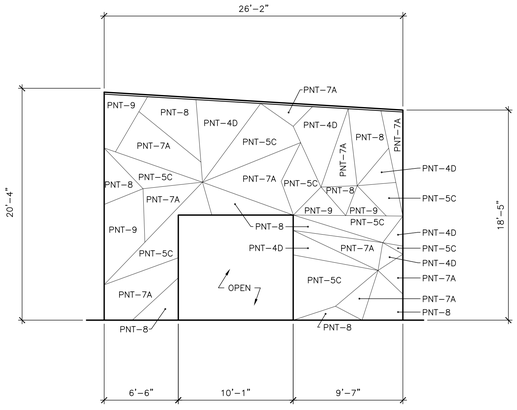
4 NORTH ELEVATION ENLARGEMENT

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



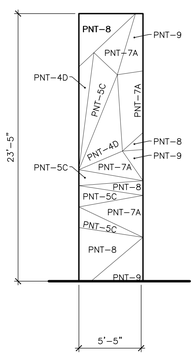
3 EAST ELEVATION ENLARGEMENT

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



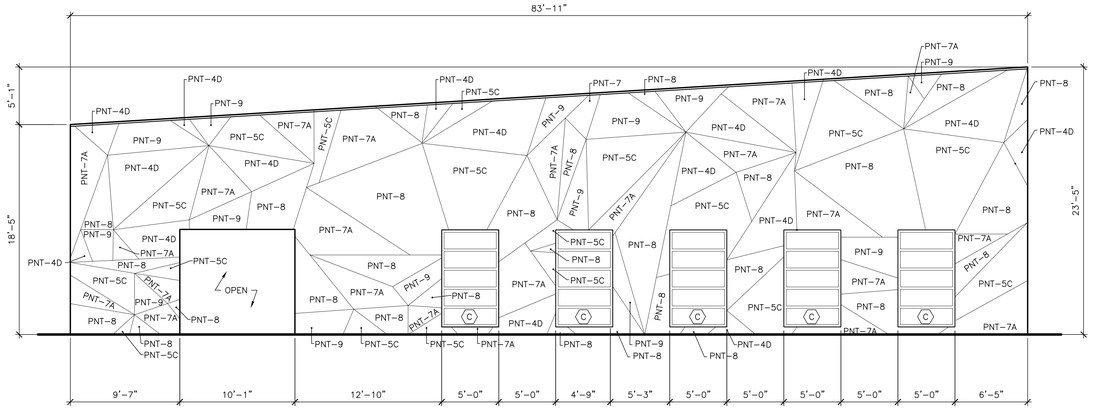
3 WEST ELEVATION ENLARGEMENT WALL PAINT PATTERN

SCALE: 3/16"=1'-0"



2 NORTH ELEVATION ENLARGEMENT WALL PAINT PATTERN

SCALE: 3/16"=1'-0"



1 EAST ELEVATION ENLARGEMENT WALL PAINT PATTERN

SCALE: 3/16"=1'-0"

THE WARREN GROUP ARCHITECTS, INC.

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McALLEN, TX 78503
9 5 6 . 9 9 4 . 1 9 0 0
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SEAL

REGISTERED ARCHITECT
18379
STATE OF TEXAS
EXP 10-31-19

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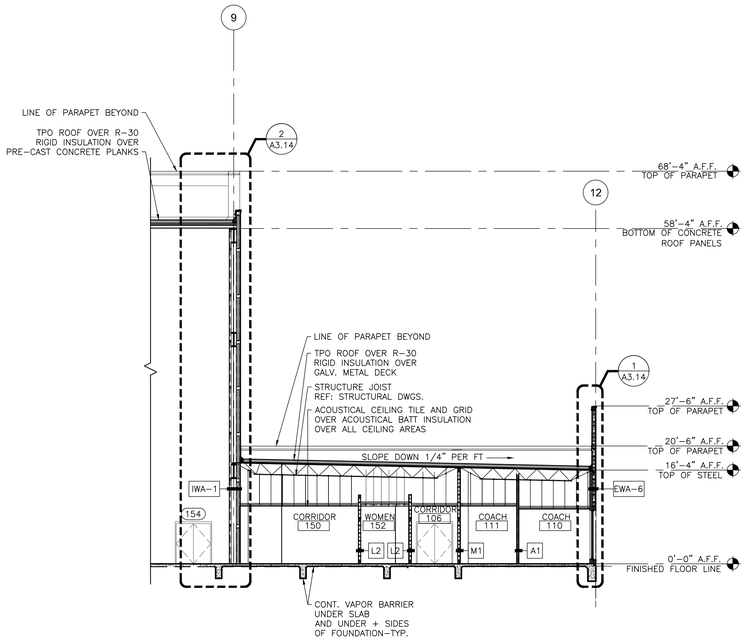
CITY OF PHARR/PSJA AQUATIC FACILITY

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PHARR, TEXAS 78577

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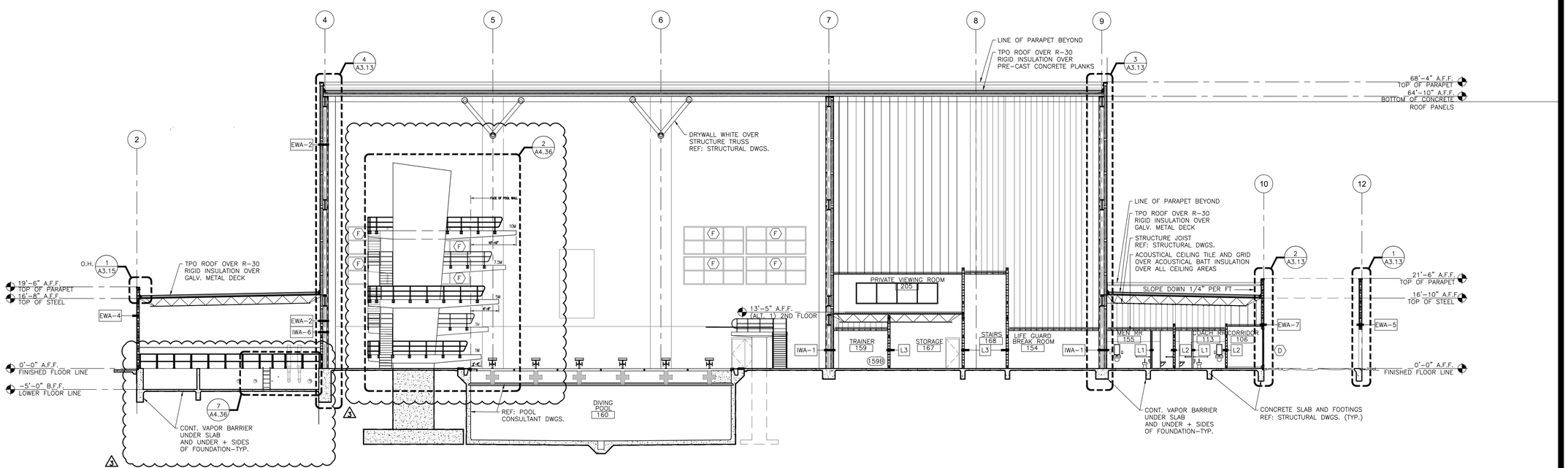
A2.12 ADD3

PARTIAL ENLARGED ELEVATIONS



2 PARTIAL BUILDING SECTION

SCALE: 3/32"=1'0"



1 BUILDING SECTION

SCALE: 3/32"=1'0"

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ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

SEAL

REGISTERED ARCHITECT
18378
STATE OF TEXAS

EXP 10-31-19

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A3.02 ADD3

BUILDING SECTIONS

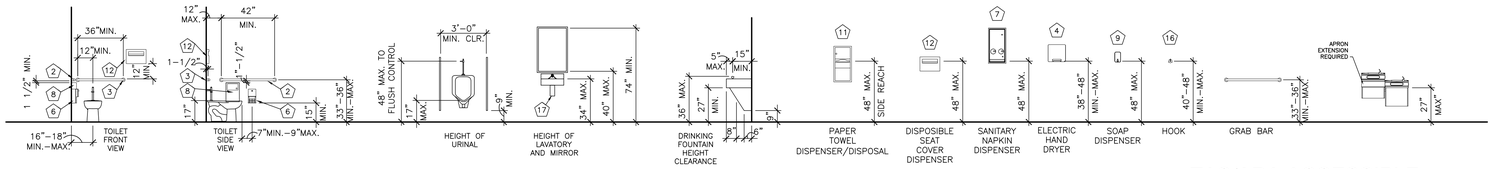
SHEET NOTES

1. GENERAL CONTRACTOR TO COMPLY WITH ALL TAS AND ADA APPLICABLE CODES AND REGULATIONS.
2. GENERAL CONTRACTOR TO COORDINATE WITH OWNER FOR ALL ACCESSORY PLACEMENTS AND TO INSTALL THEM PER TAS AND ADA ACCESSIBLE MOUNTING AND ACCESSORY SCHEDULE HEIGHTS.
3. ALL TOILET PARTITIONS TO BE FLOOR ANCHORED.
4. URINAL PARTITIONS TO BE WALL MOUNTED.
5. FOR WALL TILING PATTERN RE:12/A4.12.

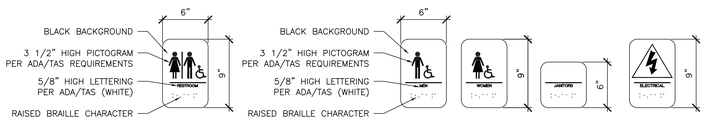
ACCESSORY SCHEDULE

KEY	ITEM	ADULT	
		STANDARD	HANDICAP (HC)
–	WATER CLOSET (WC)	15" TO TOP OF SEAT	17" TO TOP OF SEAT
–	URINAL (UR)	24" TO TOP OF RIM	17" TO TOP OF RIM
–	LAVATORY (LAV)	34 TO TOP	27" TO BOTTOM OF APRON
1	GRAB BAR (48")	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE
2	GRAB BAR (42")	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE
3	GRAB BAR (36")	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE
4	ELECTRIC HAND DRYER	48" TO CONTROL	38" TO CONTROL
5	FRAMED WALL MOUNTED MIRROR	74" TO TOP	40" TO BOTTOM OF REFLECTIVE SURFACE
6	TISSUE DISPENSER	15" TO CONTROL DEVICE	15" TO CONTROL DEVICE
7	SANITARY NAPKIN DISPENSER	48" TO CONTROL DEVICE	48" TO CONTROL DEVICE
8	SANITARY NAPKIN DISPOSAL	19" TO CONTROL DEVICE	19" TO CONTROL DEVICE
9	WALL MOUNTED RECESSED SOAP DISPENSER	48" TO CONTROL DEVICE	48" TO CONTROL DEVICE
10	COUNTER MOUNTED SOAP DISPENSER	AT COUNTER	AT COUNTER – 34" MAX.
11	PAPER TOWEL DISPENSER	48" TO CONTROL DEVICE	48" TO CONTROL DEVICE
12	DISPOSIBLE SEAT COVER DISPENSER	48" TO CONTROL DEVICE	48" TO CONTROL DEVICE
13	MOP–HOOK	48" TO CONTROL DEVICE	48" TO CONTROL DEVICE
14	ACCESSIBLE SIGNAGE	60" TO CENTER OF SIGN	60" TO CENTER OF SIGN
15	DIAPER CHANGING STATION	27" TO UNDER OF UNFOLDED SURFACE	–
16	CLOTHES/TOWEL HOOK	–	48" MAXIMUM TO CENTER
17	FOAM PIPE INSULATION WRAPPING	ALL EXPOSED LAVATORY PIPING	
18	SHOWER COMPARTMENT SEAT	–	17" MIN 19" MAX TO TOP OF UNFOLDED SURFACE
19	SHOWER CURTAIN AND ROD	76 1/2" TO CENTER OF BAR FOR 72" CURTAIN	–
20	SHOWER HEAD	SHOWER HEAD	48"WITH HOSE RE: MEP DWG'S
21	GRAB BAR (18")	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE
22	GRAB BAR (24")	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE
23	GRAB BAR (60")	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE
24	TWO–WALL GRAB BAR	–	33" MIN./36" MAX. TO THE TOP OF THE GRIPPING SURFACE

NOTE: NOT ALL ACCESSORIES MAY BE USED.

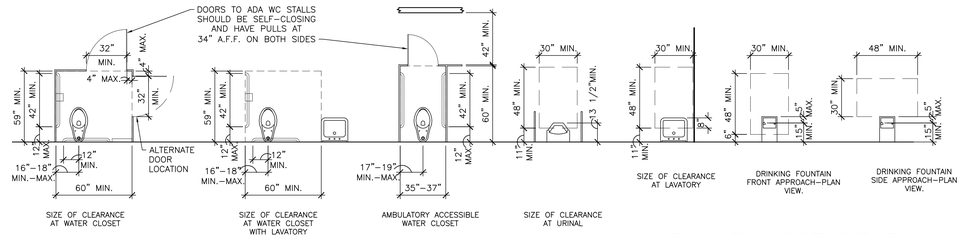


16 TAS/ADA ACCESSIBLE MOUNTING HEIGHT
SCALE:1/4"=1'-0"



NOTES:
1. GENERAL CONTRACTOR TO COMPLY WITH ALL APPLICABLE ADA/TAS REQUIREMENTS.

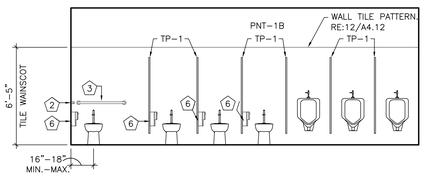
15 TAS/ADA ACCESSIBLE SIGNAGE SCHEDULE
SCALE: 1 1/2"=1'-0"



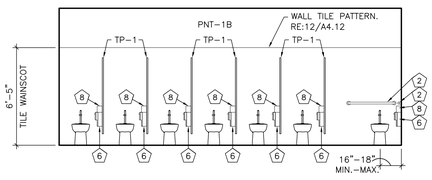
14 TAS/ADA ACCESSIBLE FIXTURE CLEARANCE
SCALE: 1/4"=1'-0"

13 ELEVATION MEN 139
SCALE: 1/4"=1'-0"

12 ELEVATION WOMEN 138
SCALE: 1/4"=1'-0"



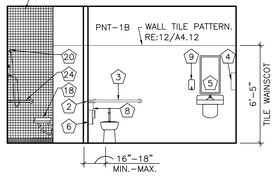
11 ELEVATION MEN 139
SCALE: 1/4"=1'-0"



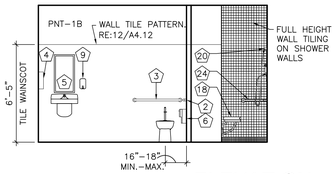
10 ELEVATION WOMEN 138
SCALE: 1/4"=1'-0"

NORTH

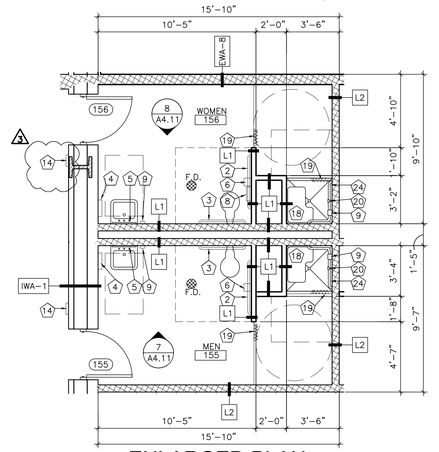
9 ENLARGED PLAN WOMEN 138 & MEN 139
SCALE: 1/4"=1'-0"



8 ELEVATION WOMEN 156
SCALE: 1/4"=1'-0"



7 ELEVATION MEN 155
SCALE: 1/4"=1'-0"



NORTH

1 ENLARGED PLAN MEN 155 & WOMEN 156
SCALE: 1/4"=1'-0"

6 ELEVATION RR 134
SCALE: 1/4"=1'-0"

5 ELEVATION RR 134
SCALE: 1/4"=1'-0"

4 ENLARGED PLAN RR 134
SCALE: 1/4"=1'-0"

3 ELEVATION COACH RR 113 & 123
SCALE: 1/4"=1'-0"

2 ENLARGED PLAN COACH RR 113 & 123
SCALE: 1/4"=1'-0"

THE WARREN GROUP ARCHITECTS, INC.
1801 SOUTH SECOND ST.
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McALLEN, TX 78503
956 . 994.1900
twgarch.com

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SEAL
REGISTERED ARCHITECT
18378
STATE OF TEXAS
EXP 10–31–19

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

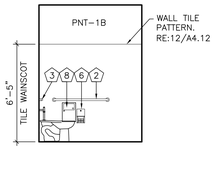
3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971809
DATE	06/07/2019
REVISED	06/26/2019

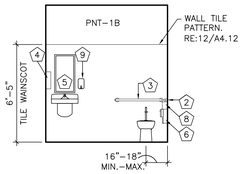
A4.11 ADD3
ENLARGED FLOOR PLANS

SHEET NOTES

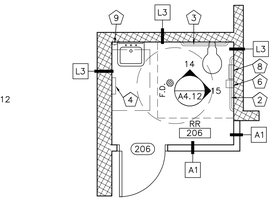
1. GENERAL CONTRACTOR TO COMPLY WITH ALL TAS AND ADA APPLICABLE CODES AND REGULATIONS.
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4. URINAL PARTITIONS TO BE WALL MOUNTED.
5. FOR WALL TILING PATTERN RE:12/A4.12.
6. REFER SHEET A4.11 FOR RESTROOM ACCESSORY SCHEDULE.



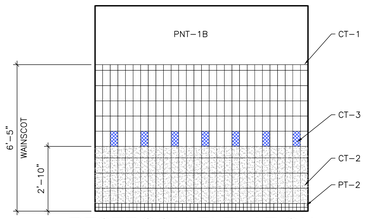
15 ALTERNATE 1 ELEVATION RR 206
SCALE: 1/4"=1'-0"



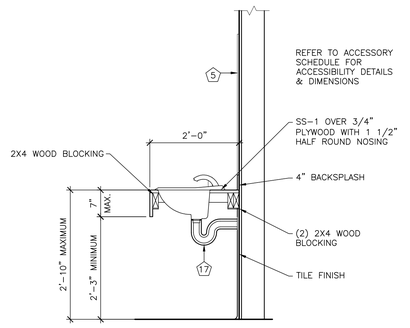
14 ALTERNATE 1 ELEVATION RR 206
SCALE: 1/4"=1'-0"



13 ALTERNATE 1 ENLARGED PLAN RR 206
SCALE: 1/4"=1'-0"

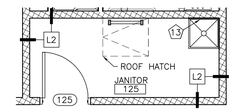


12 RESTROOM ELEVATION WALL TILING PATTERN-TYP.
SCALE: 1/4"=1'-0"

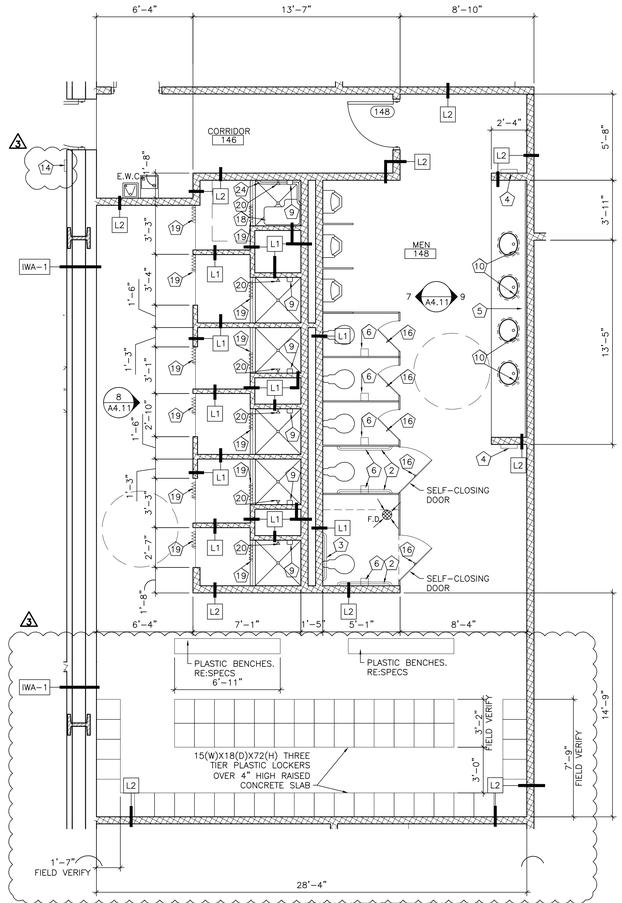


11 LAVATORY COUNTER SECTION
SCALE: 3/4" = 1'-0"

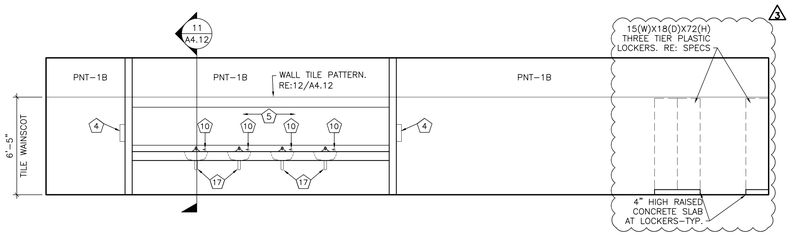
MWRK_SECT_005



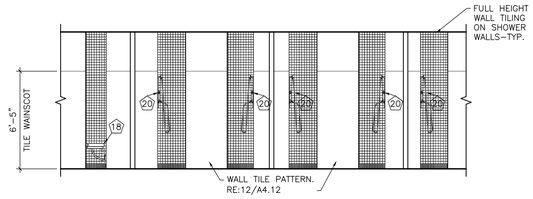
10 ENLARGED PLAN JANITOR 125
SCALE: 1/4"=1'-0"



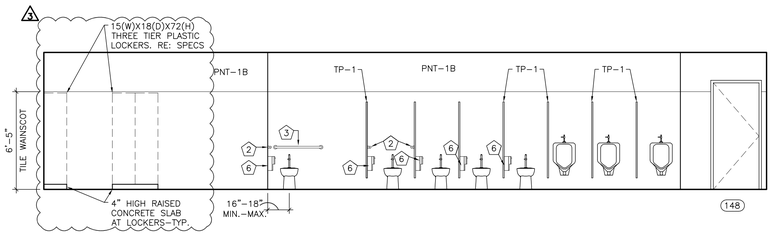
6 ENLARGED PLAN MEN 148
SCALE: 1/4"=1'-0"



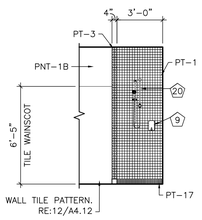
9 ELEVATION MEN 148
SCALE: 1/4"=1'-0"



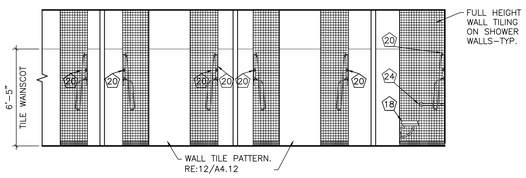
8 ELEVATION MEN 148
SCALE: 1/4"=1'-0"



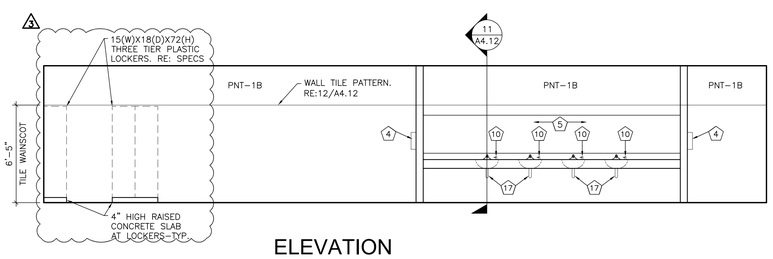
7 ELEVATION MEN 148
SCALE: 1/4"=1'-0"



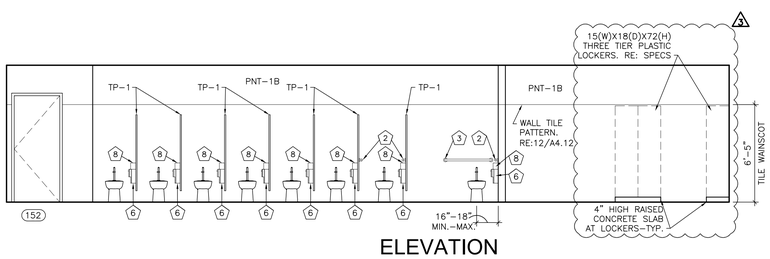
5 TYPICAL ELEVATION SHOWER AREA
SCALE: 1/4"=1'-0"



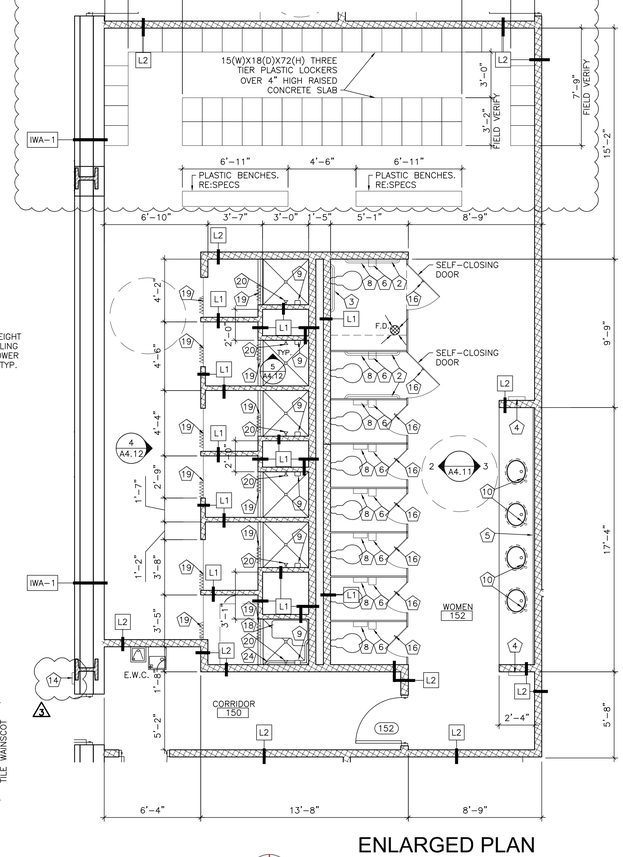
4 ELEVATION WOMEN 152
SCALE: 1/4"=1'-0"



3 ELEVATION WOMEN 152
SCALE: 1/4"=1'-0"



2 ELEVATION WOMEN 152
SCALE: 1/4"=1'-0"



1 ENLARGED PLAN WOMEN 152
SCALE: 1/4"=1'-0"

TWG
THE WARREN GROUP ARCHITECTS, INC.
1801 SOUTH SECOND ST.
SUITE 330
McALLEN, TX 78503
956 . 994.1900
twgarch.com

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SEAL

REGISTERED ARCHITECT
TOMAS A. WARREN III
18376
STATE OF TEXAS

EXP 10-31-19

PROPOSED

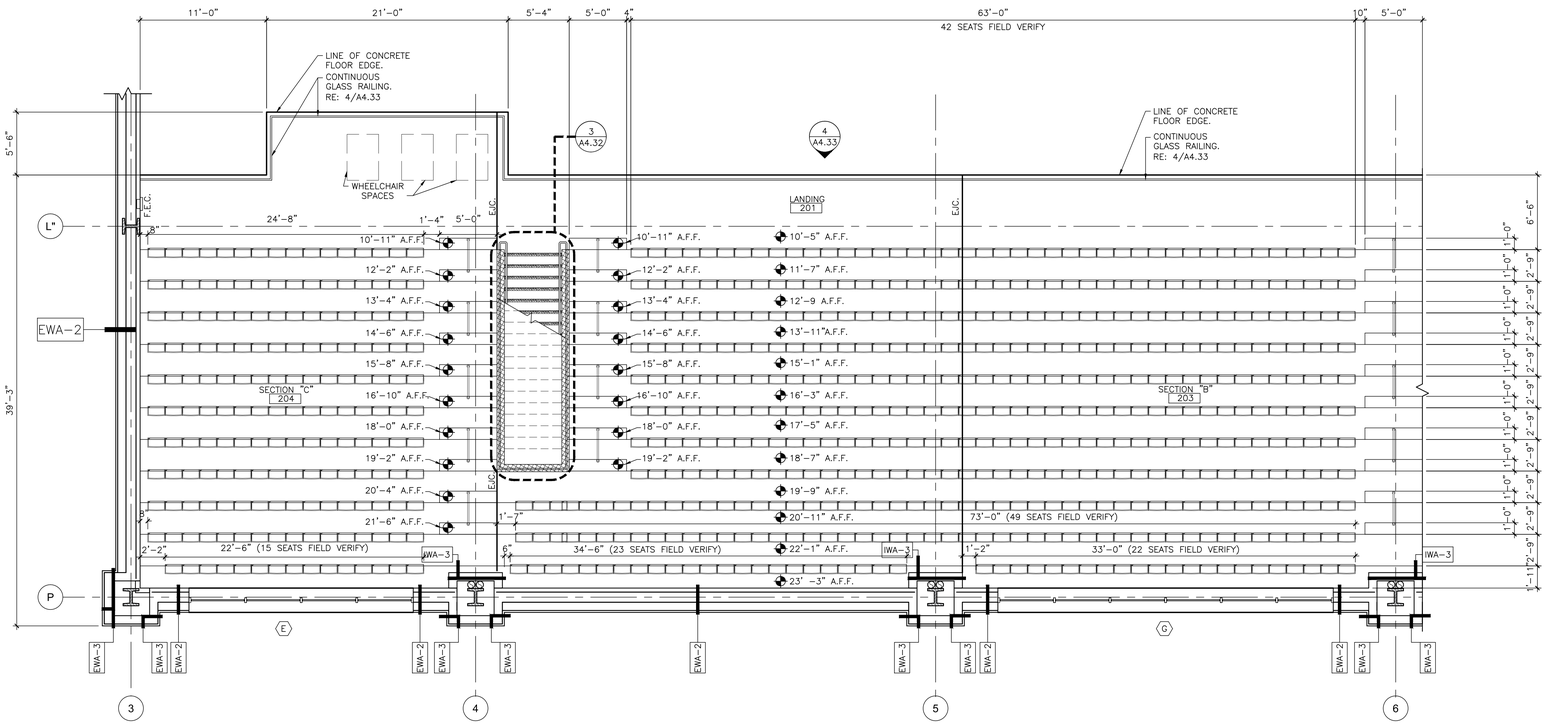
CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A4.12 ADD3

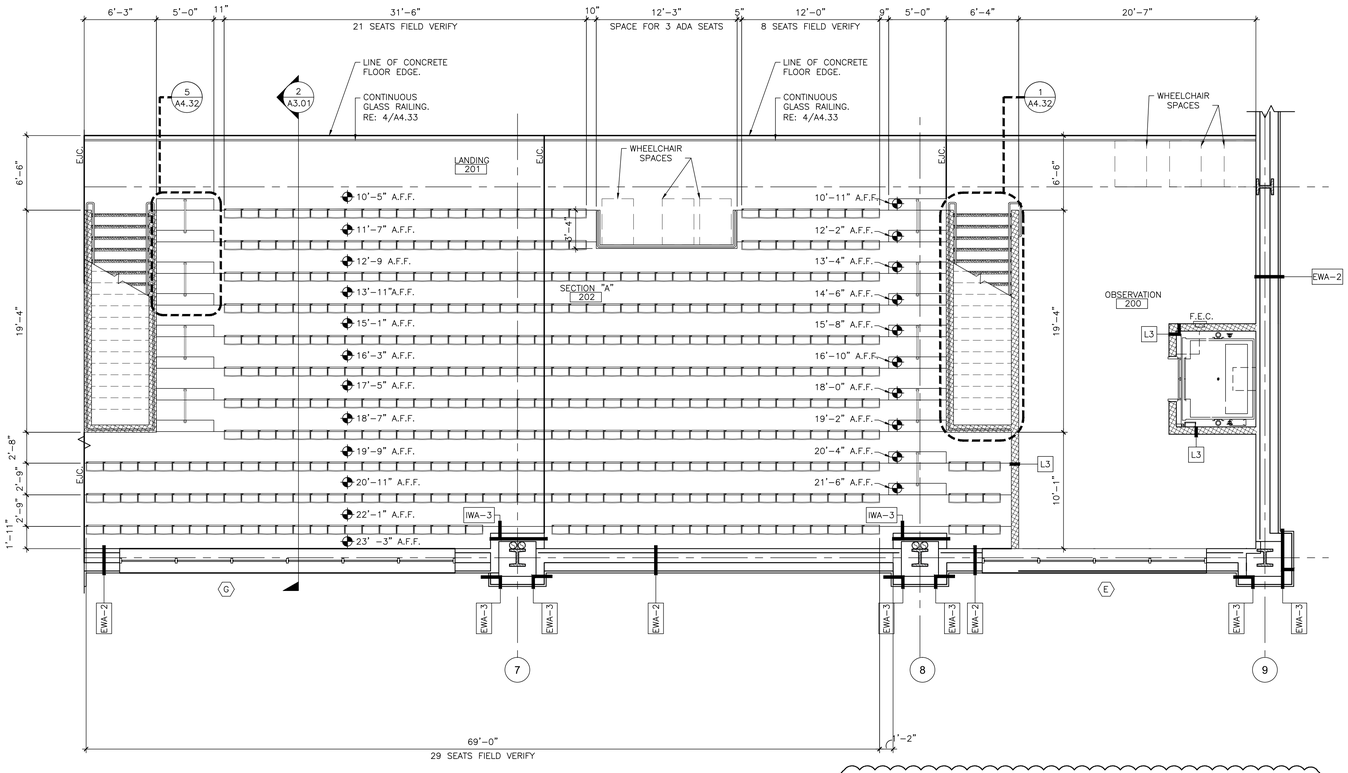
ENLARGED FLOOR PLANS



NORTH

3 ENLARGED PARTIAL FLOOR PLAN - SECOND FLOOR

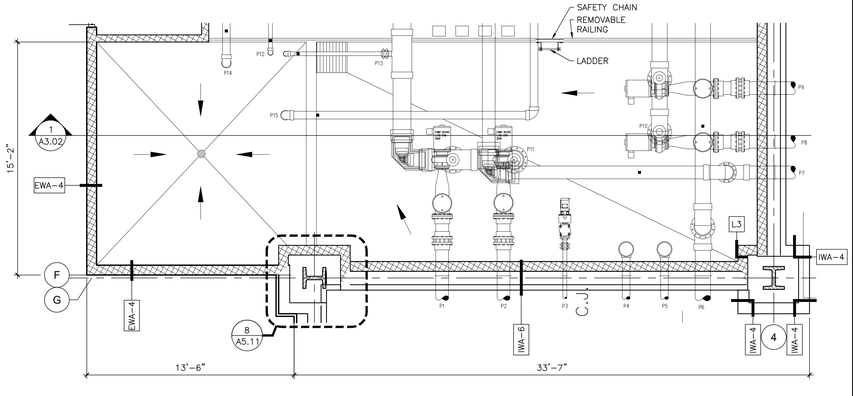
SCALE: 1/8" = 1'-0"



NORTH

2 ENLARGED PARTIAL FLOOR PLAN - SECOND FLOOR

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



NORTH

1 ENLARGED PARTIAL FLOOR PLAN - FIRST FLOOR

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

SHEET NOTES

1. DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATIONS, IF NEEDED.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED AND NOT FOUND, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
3. ALL DOOR FRAMES ARE TO BE INSTALLED 4" AWAY OF ADJACENT PERPENDICULAR WALLS UNLESS OTHERWISE NOTED.
4. REFER TO STRL DWGS FOR ADDITIONAL STRUCTURAL SPECIFIC INFORMATION.
5. REFER TO MEP DWGS FOR ADDITIONAL MEP SPECIFIC INFORMATION.
6. REFER TO POOL CONSULTANT DWGS FOR ADDITIONAL POOL SPECIFIC INFORMATION.
7. REFER TO ROOF PLAN FOR ROOF DRAIN LOCATIONS.
8. REFER TO G0.01 FOR KEYS AND SYMBOLS.

SHEET LEGEND

ALTERNATE. SEE SPECIFICATIONS.

MATCH LINE

10"D X 18"W INFINITY SEATS IN COBALT BLUE, TREAD MOUNTED WITH GALVANIZED BRACKETS BY IRWIN SEATING COMPANY

F.E.C. FIRE EXTINGUISHER IN RECESSED CABINET

EJC EXP. JOINT COVER RE: SPECS

WALL LEGEND

1HR. FIRE RATED WALL

XX — INTERIOR WALL TYPE RE: A6.01 FOR WALL TYPES

EWA-# — EXTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES

IWA-# — INTERIOR WALL ASSEMBLY RE: A6.01 FOR WALL TYPES

THE WARREN GROUP ARCHITECTS, INC.
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McALLEN, TX 78503
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SEAL

REGISTERED ARCHITECT — ALMA A. WARREN — 18378 — STATE OF TEXAS

EXP 10-31-19

PROPOSED

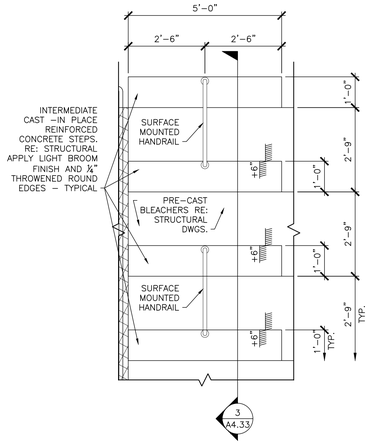
CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A4.13 ADD3

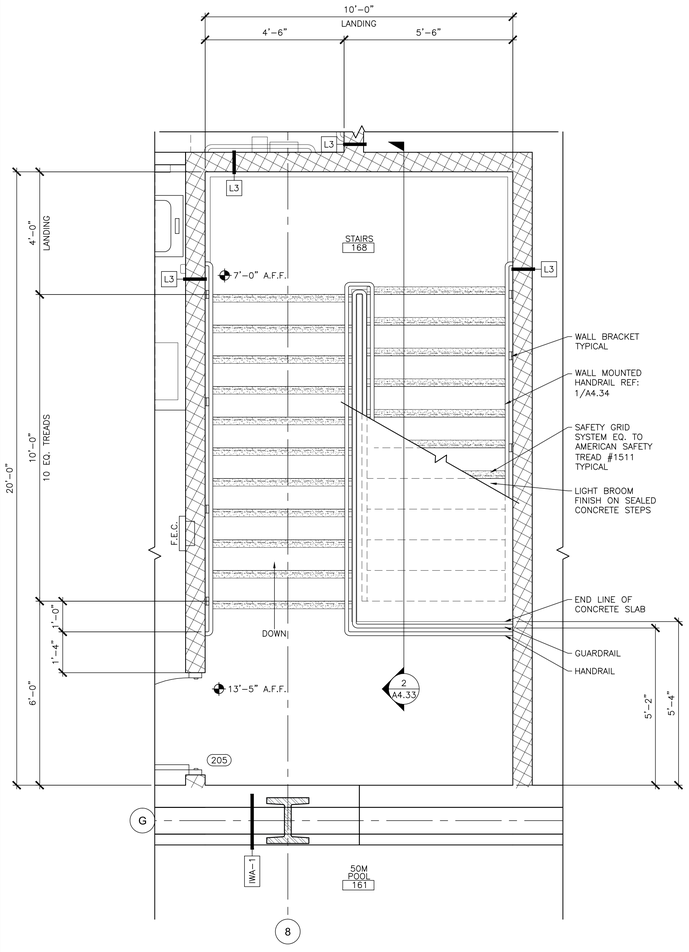
ENLARGED FLOOR PLANS



SEATING HANDRAIL SECOND FLOOR PLAN

5 — SCALE:3/2":1'0"

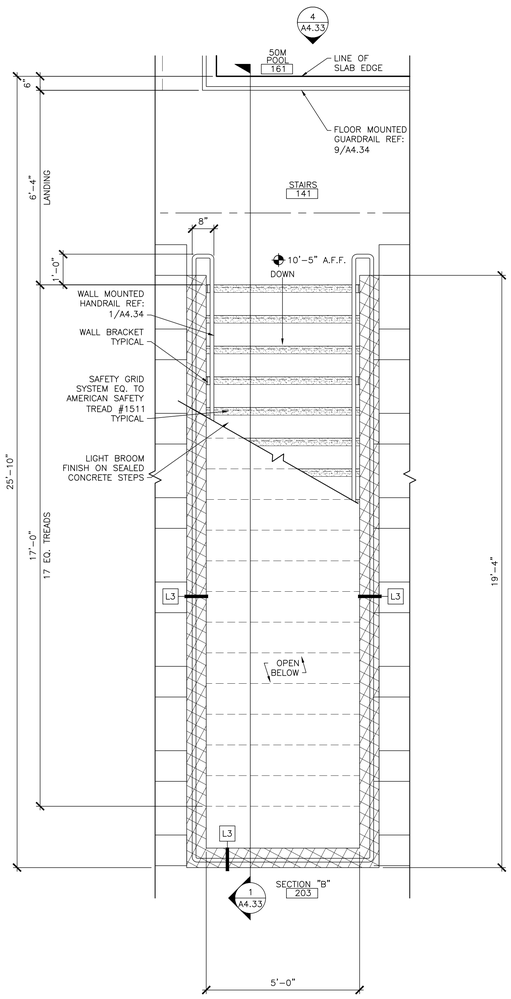
NORTH



ALT.□1 STAIR 168 AT SECOND FLOOR PLAN

4 — SCALE:1/2":1'0"

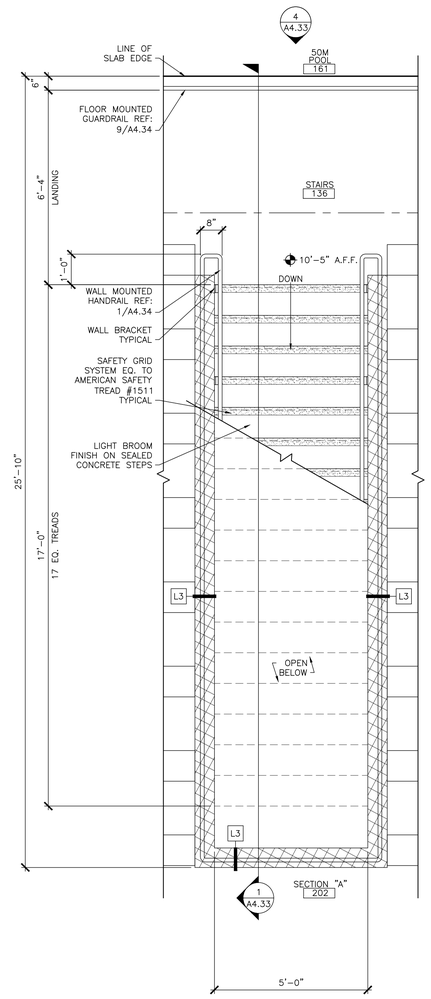
NORTH



STAIR 141 AT SECOND FLOOR PLAN

3 — SCALE:1/2":1'0"

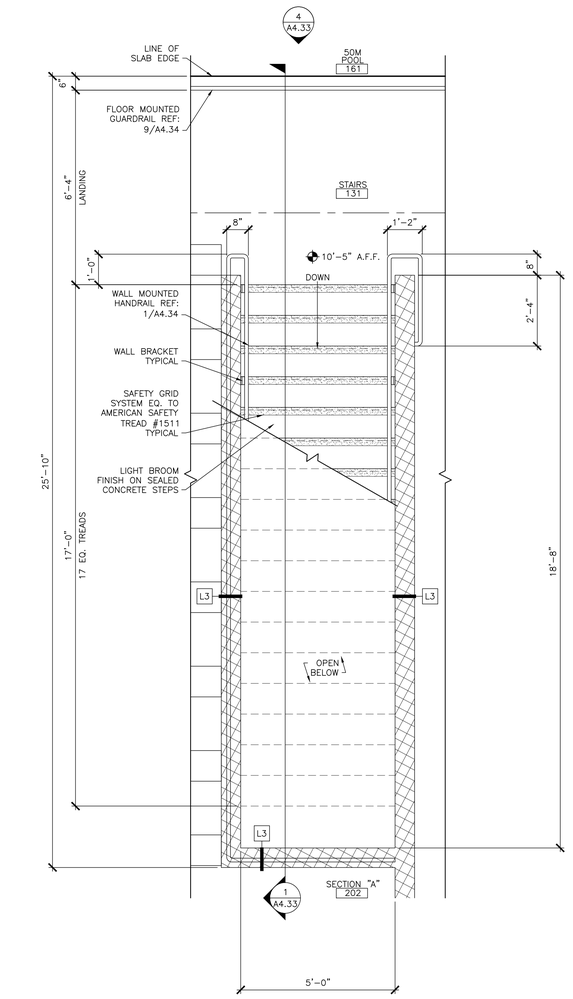
NORTH



STAIR 136 AT SECOND FLOOR PLAN

2 — SCALE:1/2":1'0"

NORTH



STAIR 131 AT SECOND FLOOR PLAN

1 — SCALE:1/2":1'0"

NORTH

THE WARREN GROUP
ARCHITECTS, INC.
1801 SOUTH SECOND ST.
SUITE 330
McALLEN, TX 78503
956.994.1900
twgarch.com

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ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

SEAL

REGISTERED ARCHITECT
18375
STATE OF TEXAS
EXP 10-31-19

PROPOSED

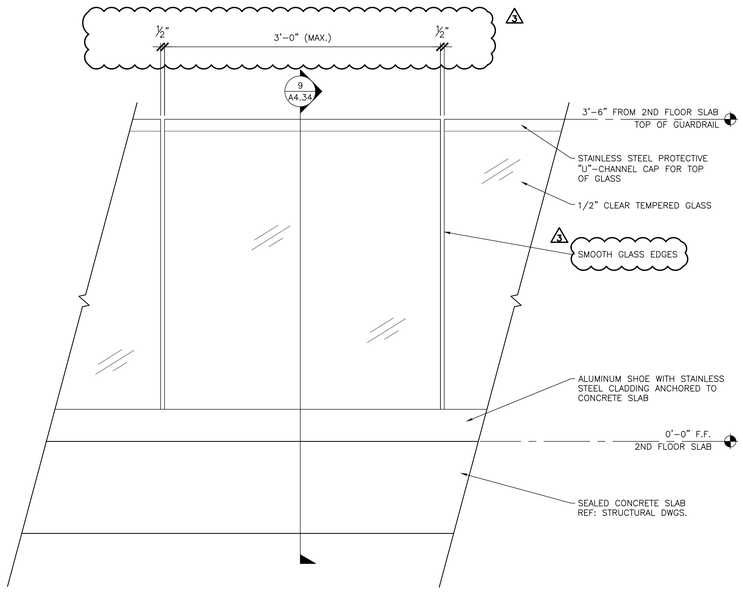
CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019 △3

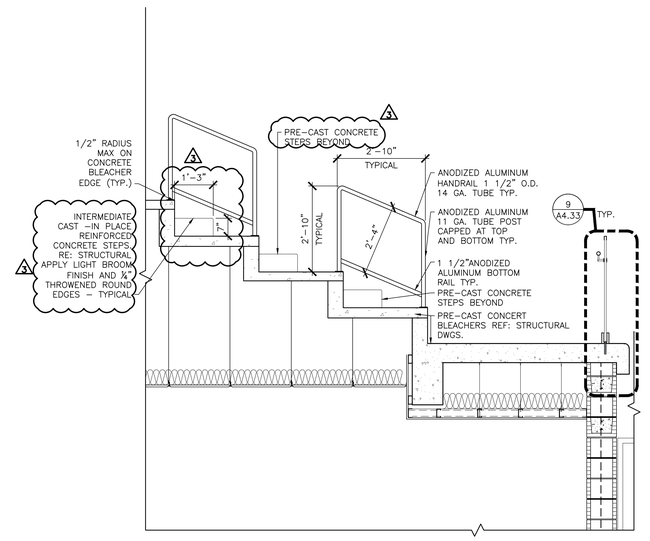
A4.32 ADD3

ENLARGED
STAIRWAY PLANS



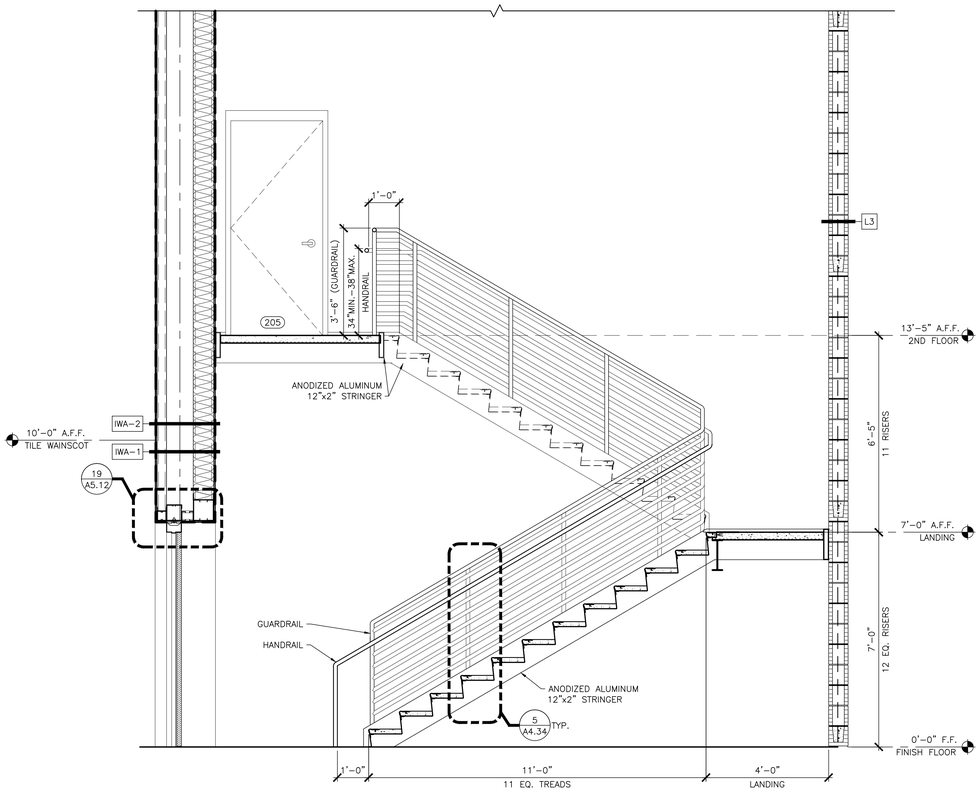
4 GLASS RAILING PARTIAL ELEVATION

SCALE:3/2"=1'0"



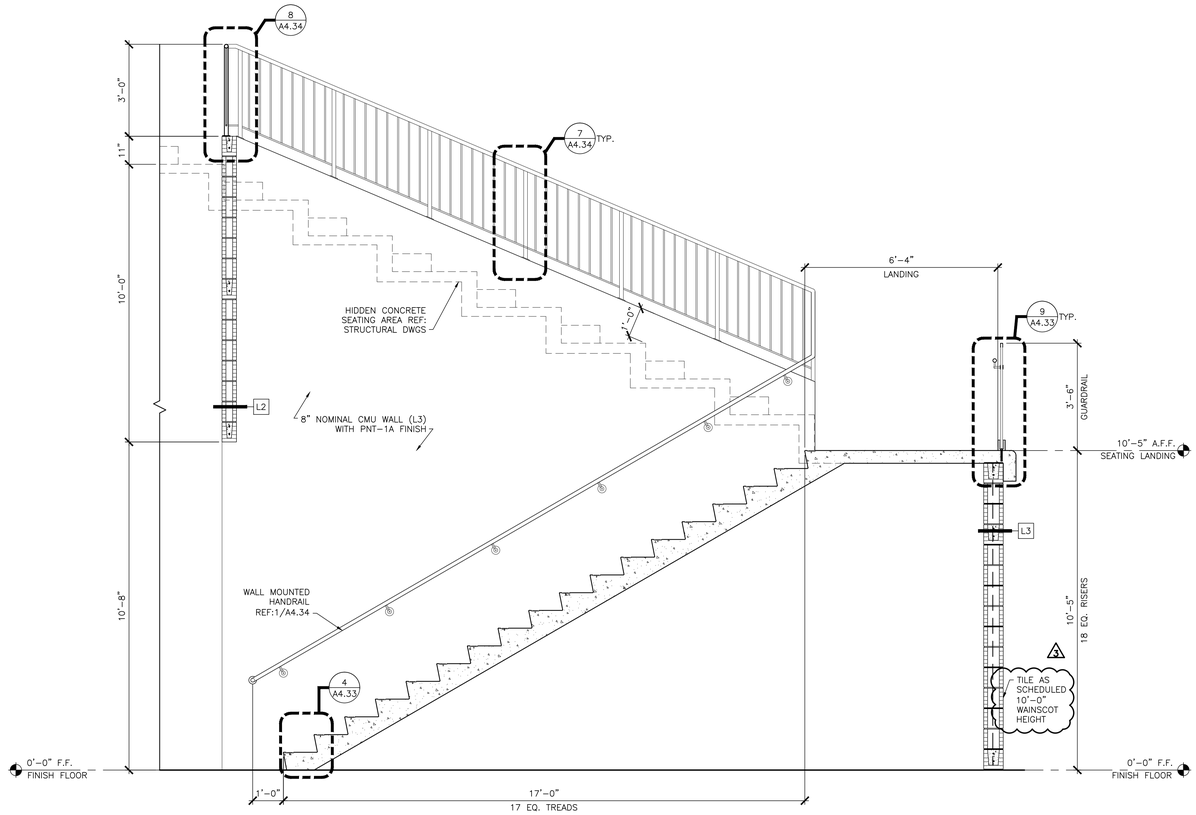
3 SEATING HARDRAIL

SCALE:3/2"=1'0"



2 STAIR 168 SECTION

SCALE:1/2"=1'0"



1 STAIR 131, 136, 141 SECTION

SCALE:1/2"=1'0"

TWG
THE WARREN GROUP ARCHITECTS, INC.
1801 SOUTH SECOND ST.
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956.994.1900
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SEAL



EXP 10-31-19

PROPOSED

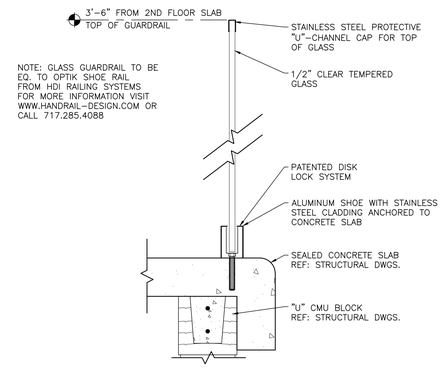
CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019 3

A4.33 ADD3

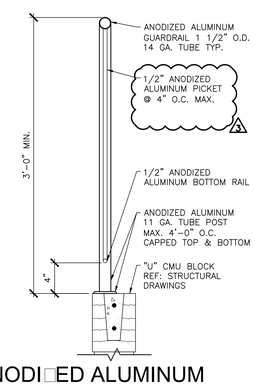
STAIRWAY SECTIONS



9 GLASS GUARDRAIL DETAIL

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

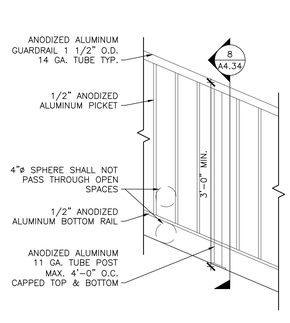
STRS_DETL_009



8 ANODIZED ALUMINUM GUARDRAIL DETAIL

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

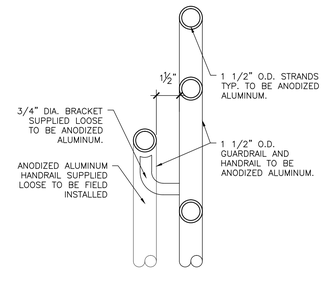
STRS_DETL_008



7 STAIR RAIL DETAIL - STAIRS 131, 136, 141

SCALE: 1" = 1'-0"

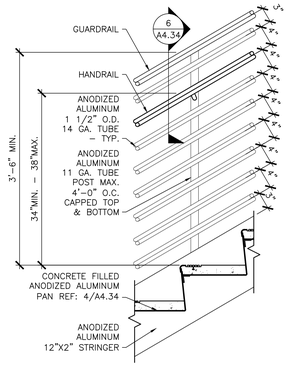
STRS_DETL_007



6 STAIR GUARDRAIL WITH HANDRAIL DETAIL

SCALE: 3" = 1'-0"

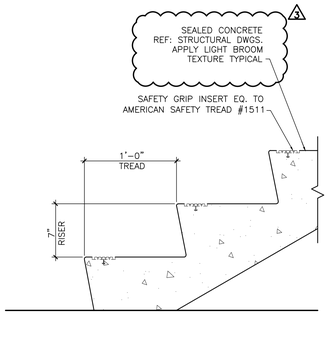
STRS_DETL_002



5 STAIR RAIL DETAIL - STAIR 168

SCALE: 1" = 1'-0"

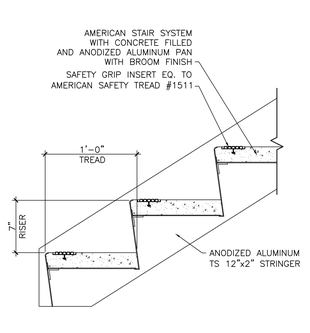
STRS_DETL_001



4 STAIR ASSEMBLY DETAIL - 131,136,141

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

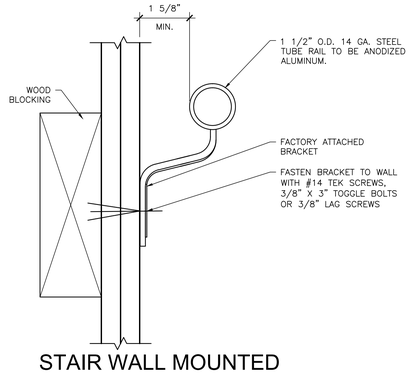
STRS_DETL_006



3 STAIR ASSEMBLY DETAIL - STAIRS 168

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

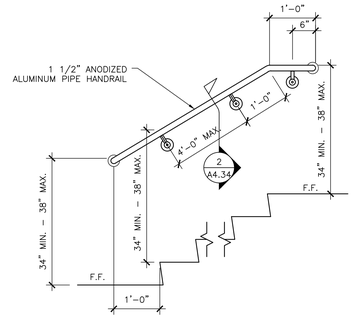
STRS_DETL_005



2 STAIR WALL MOUNTED HANDRAIL DETAIL

SCALE: 6" = 1'-0"

STRS_DETL_004



1 TYPICAL WALL MOUNTED STAIR RAIL ELEVATION

SCALE: 3/4" = 1'-0"

STRS_DETL_003

THE WARREN GROUP
ARCHITECTS, INC.

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SEAL

REGISTERED ARCHITECT
KEITH M. WARREN
18375
STATE OF TEXAS
EXP. 10-31-19

PROPOSED

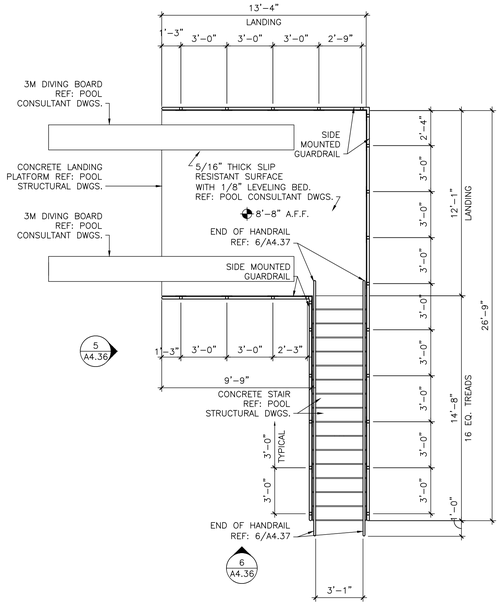
CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019 3

A4.34 ADD3

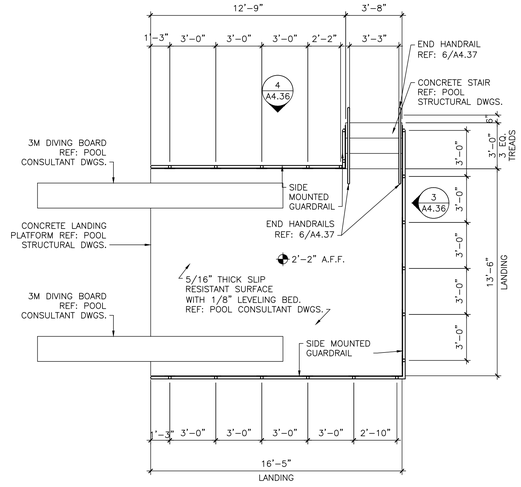
STAIRWAY DETAILS



NORTH

5 DIVING POOL 160
3M DIVING PLATFORM

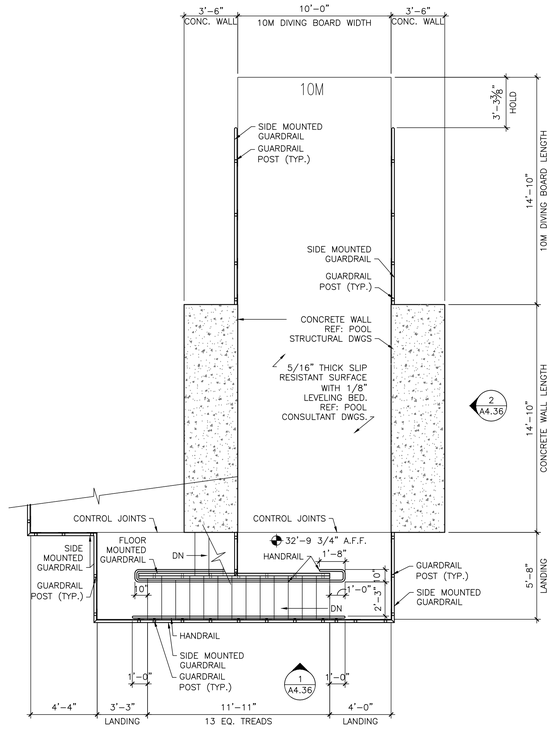
SCALE:1/4":1'0"



NORTH

4 DIVING POOL 160
1M DIVING PLATFORM

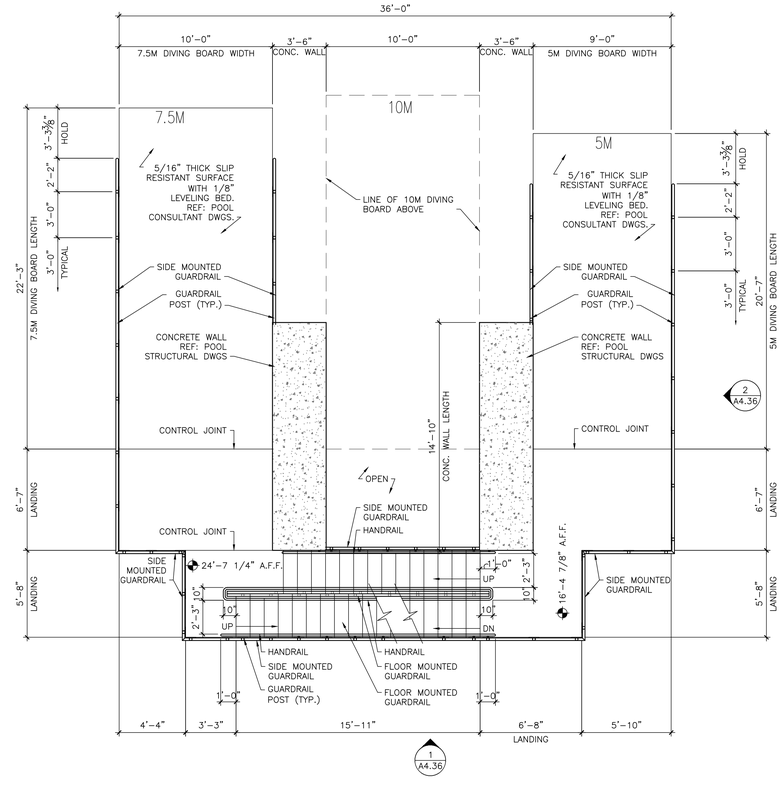
SCALE:1/4":1'0"



NORTH

3 DIVING POOL 160
DIVING TOWER AT 10M

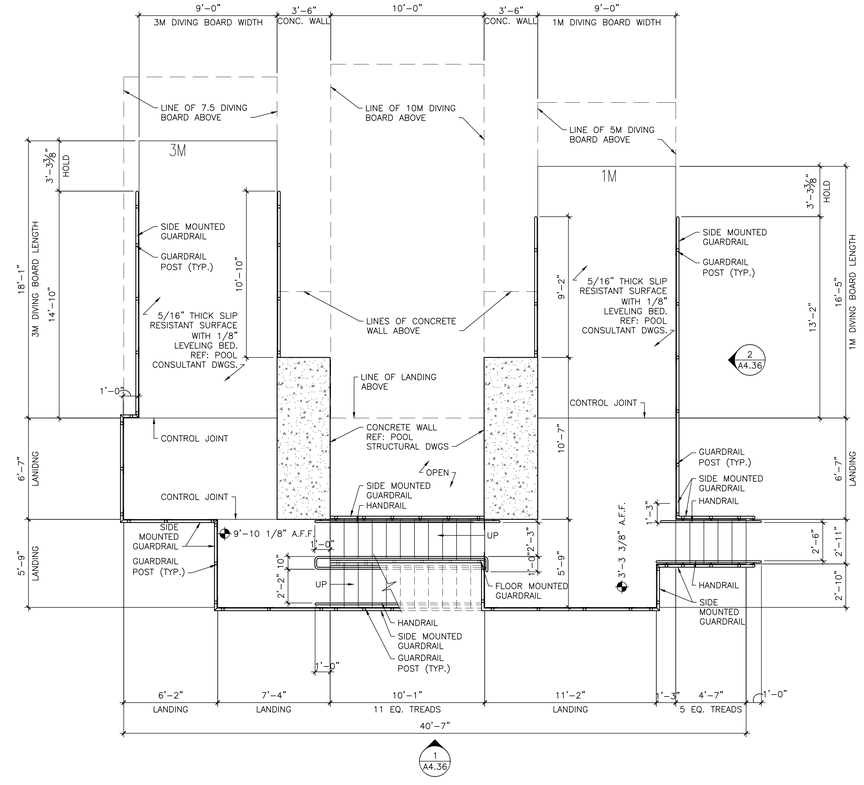
SCALE:1/4":1'0"



NORTH

2 DIVING POOL 160
DIVING TOWER AT 5M □ 7.5M

SCALE:1/4":1'0"



NORTH

1 DIVING POOL 160
DIVING TOWER AT 1M □ 3M

SCALE:1/4":1'0"

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SEAL

REGISTERED ARCHITECT
JUAN M. GARZA
18378
STATE OF TEXAS

EXP 10-31-19

PROPOSED

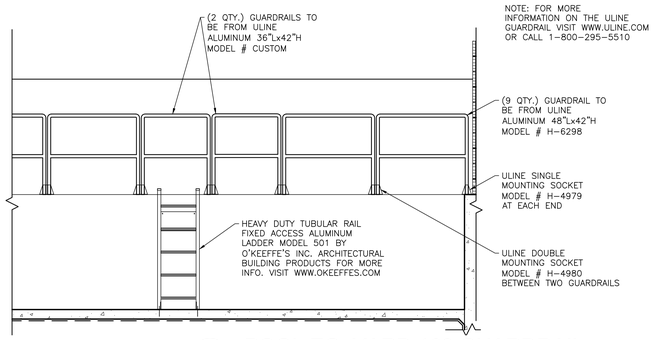
CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

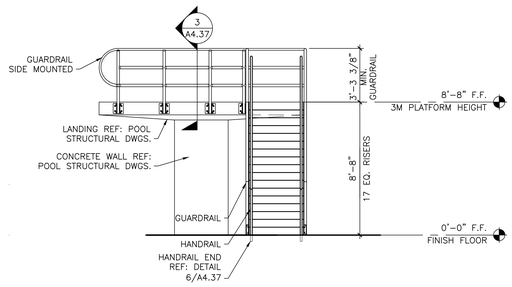
PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019 3

A4.35 ADD3

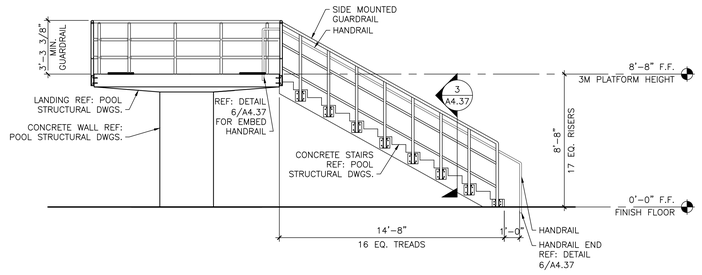
ENLARGED
STAIRWAY PLANS



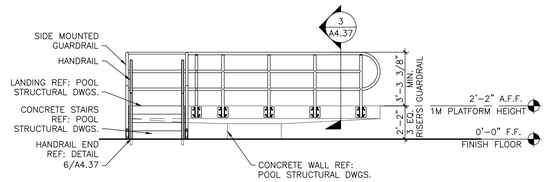
7 POOL EQ. YARD 163 GUARDRAIL
SCALE:1/4"=1'0"



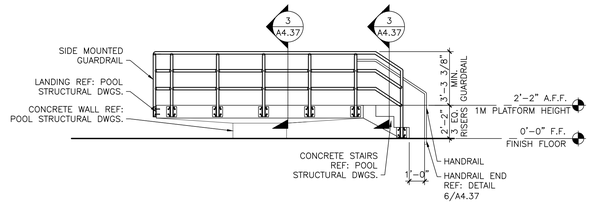
6 DIVING POOL 160 3M DIVING PLATFORM ELEVATION
SCALE:1/4"=1'0"



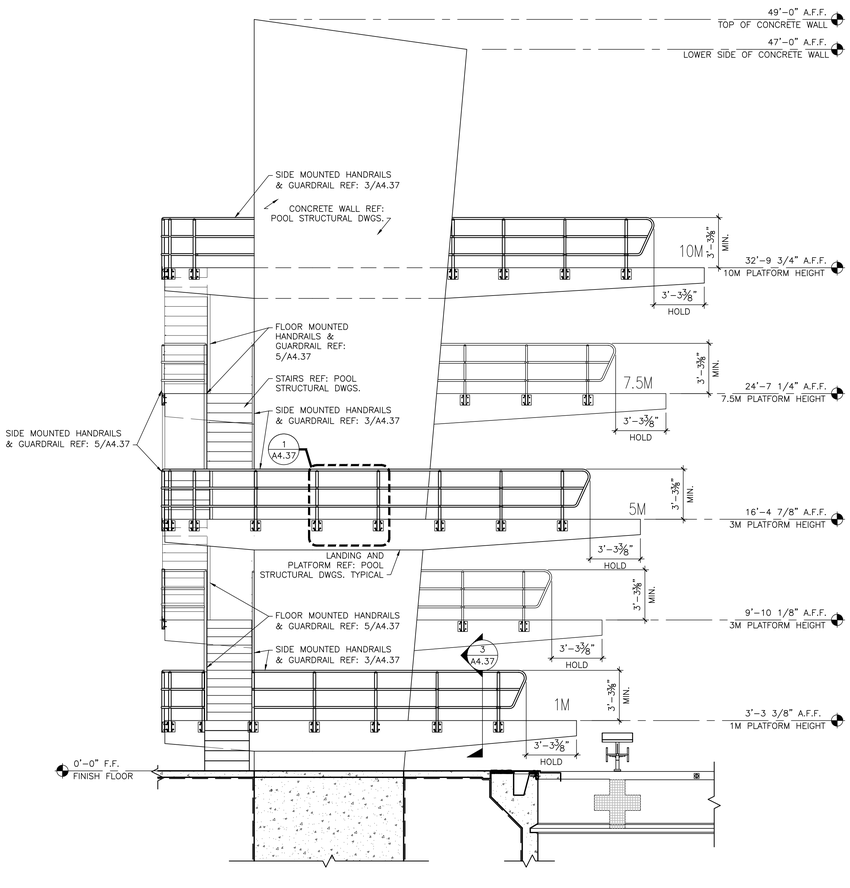
5 DIVING POOL 160 3M DIVING PLATFORM ELEVATION
SCALE:1/4"=1'0"



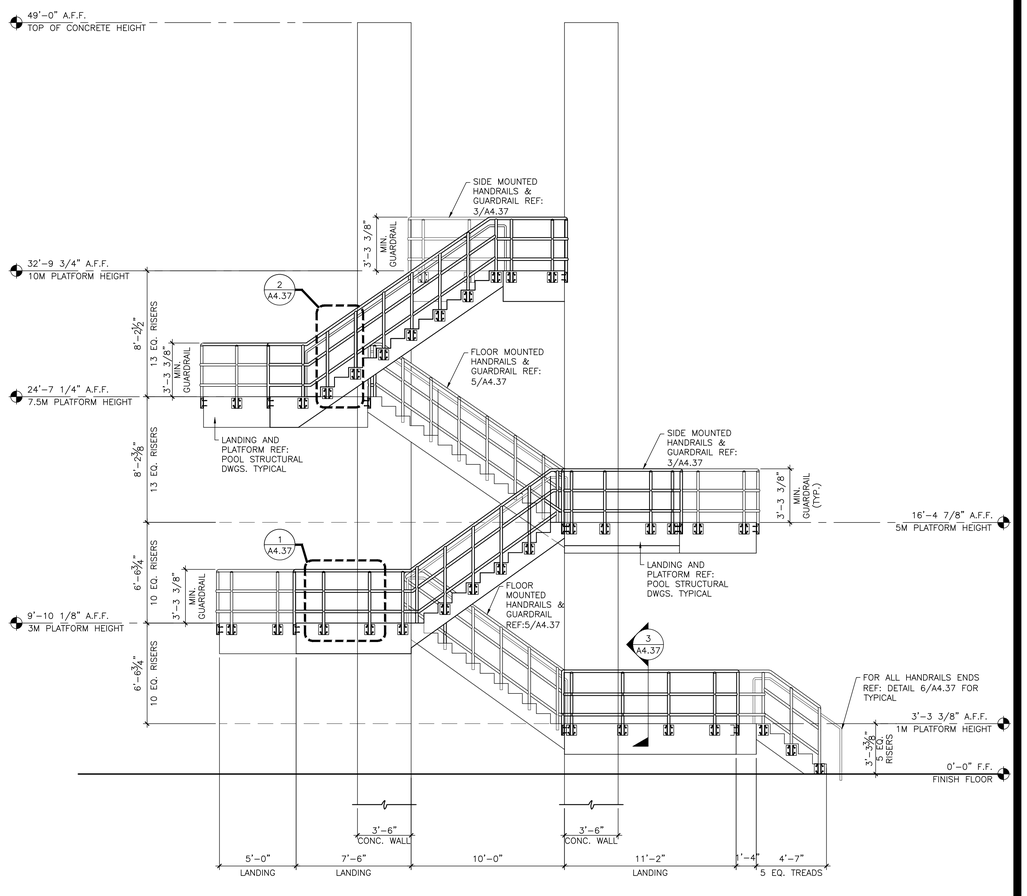
4 DIVING POOL 160 1M DIVING PLATFORM ELEVATION
SCALE:1/4"=1'0"



3 DIVING POOL 160 1M DIVING PLATFORM ELEVATION
SCALE:1/4"=1'0"



2 DIVING POOL 160 DIVING TOWER ELEVATION
SCALE:1/4"=1'0"



1 DIVING POOL 160 DIVING TOWER ELEVATION
SCALE:1/4"=1'0"

THE WARREN GROUP ARCHITECTS, INC.
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SEAL
REGISTERED ARCHITECT
18378
STATE OF TEXAS
EXP. 10-31-19

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

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A4.36 ADD3
DIVING PLATFORM ELEVATIONS

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ARCHITECTS, INC.

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SEAL

REGISTERED ARCHITECT
CHRIS M. WARREN
18375
STATE OF TEXAS

EXP 10-31-19

PROPOSED

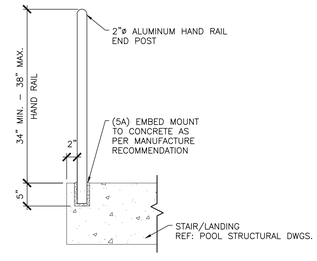
CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019 3

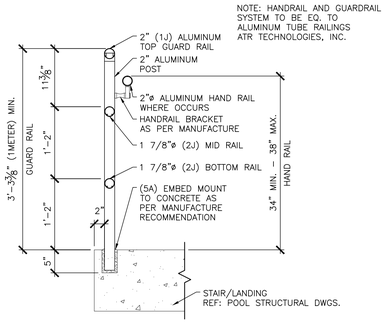
A4.37 ADD3
DIVING PLATFORM ELEVATIONS

NOTE: HANDRAIL AND GUARDRAIL SYSTEM TO BE EQ. TO ALUMINUM TUBE RAILINGS ATR TECHNOLOGIES, INC.



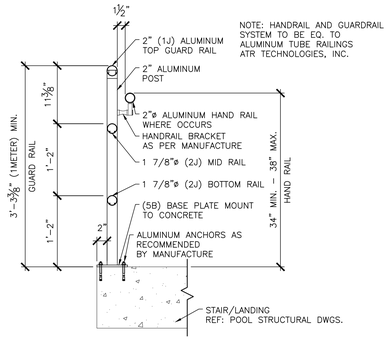
6 FLOOR MOUNT RAIL SECTION
SCALE: 1"=1'0" STRS_DETL_015

NOTE: HANDRAIL AND GUARDRAIL SYSTEM TO BE EQ. TO ALUMINUM TUBE RAILINGS ATR TECHNOLOGIES, INC.



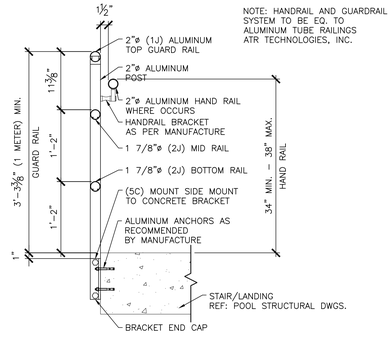
5 FLOOR MOUNT RAIL SECTION
SCALE: 1"=1'0" STRS_DETL_012

NOTE: HANDRAIL AND GUARDRAIL SYSTEM TO BE EQ. TO ALUMINUM TUBE RAILINGS ATR TECHNOLOGIES, INC.

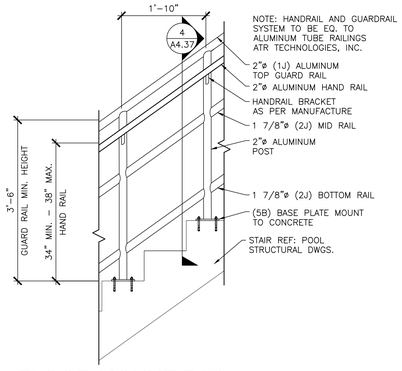


4 FLOOR MOUNT RAIL SECTION
SCALE: 1"=1'0" STRS_DETL_011

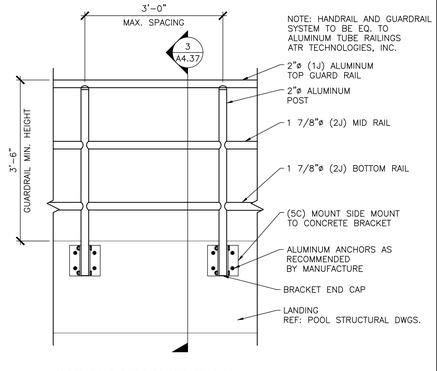
NOTE: HANDRAIL AND GUARDRAIL SYSTEM TO BE EQ. TO ALUMINUM TUBE RAILINGS ATR TECHNOLOGIES, INC.



3 SIDE MOUNT RAIL SECTION
SCALE: 1"=1'0" STRS_DETL_010



2 FLOOR MOUNT RAIL ELVATION AT STAIRS
SCALE: 3/4" = 1'0" STRS_DETL_014



1 SIDE MOUNT RAIL ELVATION AT LANDING
SCALE: 3/4" = 1'0" STRS_DETL_013

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	BASE	FLOOR	WALL				CEILING	NOTES
				NORTH	EAST	SOUTH	WEST		
101	VESTIBULE	PT-1, GRT-1	PT-1, GRT-1	PNT-1B	GYP.BD.-2, PNT-1B	PNT-1B	GYP.BD.-2, PNT-1B	GYP.BD.-2, PNT-1C	4"BUILD-UP BASE
102	LOBBY	PT-1, GRT-1	PT-1, PT-2, PT-3, GRT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-4B	GYP.BD.-1, PNT-1B	MCP-1; GYP-1, PNT-1C	4"BUILD-UP BASE
103	VESTIBULE	PT-1, GRT-1	PT-1, GRT-1	PNT-1A	GYP.BD.-2, PNT-1A	PNT-1A	MG, PNT-1A	MG; PNT-1A	4"BUILD-UP BASE
104	UTRGV RECEPTION	PT-1, GRT-1	PT-1, GRT-1	PNT-1B	PNT-1B	PNT-1B	PNT-1B	ACG-1, ACT-1; GYP-1, PNT-1C	4"BUILD-UP BASE
105	ADMIN	PT-1, GRT-1	PT-1, GRT-1	GYP.BD.-1, PNT-3B	GYP.BD.-1; PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-1B	ACG-1, ACT-1; GYP-1, PNT-1C	4"BUILD-UP BASE
106	CORRIDOR	RB-1	VCT-1	PNT-1B	PNT-1B	PNT-1B	PNT-4B	ACG-1, ACT-1	
107	CORRIDOR	RB-1	VCT-1	PNT-1B	PNT-1B	PNT-1B	–	ACG-1, ACT-1	
108	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-5B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-1B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
109	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-5B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-1B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
110	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-5B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
111	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-5B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
112	CONFERENCE	RB-1	VCT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-4B	GYP.BD.-1, PNT-1B	ACG-1, ACT-1; GYP-1, PNT-1C	
113	COACH RR	PT-2, GRT-2	PT-2, GRT-2	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	GYP-2, PNT-1C	
114	ELECTRICAL	RB-1	CONC-1	PNT-1B	PNT-1B	PNT-1B	PNT-1B	ACG-1, ACT-1	
115	PSJA RECEPTION	PT-1, GRT-1	PT-1, GRT-1	PNT-1B	PNT-1B	PNT-1B	PNT-1B	ACG-1, ACT-1; GYP-1, PNT-1C	4"BUILD-UP BASE
116	ADMIN.	PT-1, GRT-1	PT-1, GRT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-3B	GYP.BD.-1, PNT-1B	ACG-1, ACT-1; GYP-1, PNT-1C	4"BUILD-UP BASE
117	CORRIDOR	RB-1	VCT-1	PNT-1B, 4B	PNT-1B	PNT-3B	PNT-1B, PNT-4B	ACG-1, ACT-1	
118	CORRIDOR	RB-1	VCT-1	PNT-1B	PNT-1B	PNT-1B	–	ACG-1, ACT-1	
119	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-5B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-1B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
120	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-5B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-1B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
121	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-5B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
122	COACH	RB-1	VCT-1	GYP.BD.-1, PNT-1B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-5B	GYP.BD.-1, PNT-5B	ACG-1, ACT-1	
123	COACH RR	PT-2, GRT-2	PT-2, GRT-2	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	GYP-2, PNT-1C	4"BUILD-UP BASE
124	CONFERENCE	RB-1	VCT-1	GYP.BD.-1, PNT-4B	GYP.BD.-1; PNT-1B	GYP.BD.-1, PNT-1B	GYP.BD.-1, PNT-1B	ACG-1, ACT-1; GYP-1, PNT-1C	
125	JANITOR	RB-1	VCT-1	PNT-1B	PNT-1B	PNT-1B	PNT-1B	ACG-1, ACT-1	
126	IT	RB-1	CONC-1	PNT-1B	PNT-1B	PNT-1B	MG, PNT-1B	ACG-1, ACT-1	
127	CORRIDOR	CT-1, GRT-1	CONC-1	PNT-1A	PNT-1A	–	GYP.BD.-1, PNT-1A	MG; PNT-1A	SANITARY COVE BASE
128	ELEVATOR	–	VCT-1	REFER SPECIFICATIONS					
129	ELEVATOR EQUIPMENT	RB-1	CONC-1	PNT-1A	PNT-1A	PNT-1A	PNT-1A	EXPOSED	
130	CORRIDOR	CT-1, GRT-1	CONC-1	PNT-1A	PNT-1A	MG; PNT-2A, PNT-4A	PNT-1A	MG; PNT-1A	SANITARY COVE BASE
131	STAIRS	CT-1, GRT-1	CONC-1	–	PNT-1A	PNT-1A	PNT-1A	–	SANITARY COVE BASE
132	CONCESSION	CT-1, GRT-1	CONC-1	PNT-3A	PNT-1A	PNT-1A	PNT-1A	ACG-1, ACT-2	SANITARY COVE BASE
133	STORAGE	RB-1	CONC-1	PNT-1A	PNT-1A	PNT-1A	PNT-1A	EXPOSED, PNT-10	
134	RR	PT-2, GRT-2	PT-2, GRT-2	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	MG; PNT-1A	
135	CONDITIONING	CT-1, GRT-1	CONC-1	PNT-5A	PNT-1A	PNT-1A	PNT-5A	EXPOSED, DRYFALL BLACK	BLACK PAINT 10' AND ABOVE; SANITARY COVE BASE
136	STAIRS	CT-1, GRT-1	CONC-1	–	PNT-1A	PNT-1A	PNT-1A	–	SANITARY COVE BASE
137	CORRIDOR	CT-1, GRT-1	CONC-1	PNT-1A	PNT-1A	PNT-1A	PNT-1A	MG; PNT-1A	SANITARY COVE BASE
138	WOMEN RR	PT-2, GRT-2	PT-2, GRT-2	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	MG; PNT-1A	
139	MEN RR	PT-2, GRT-2	PT-2, GRT-2	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	PNT-1A; CT-1; CT-2; CT-3; GRT-1	MG; PNT-1A	
140	CLASSROOM	CT-1, GRT-1	CONC-1	PNT-2A	PNT-1A	PNT-1A	PNT-1A	ACG-1, ACT-1	SANITARY COVE BASE
141	STAIRS	CT-1, GRT-1	CONC-1	–	PNT-1A	PNT-1A	PNT-1A	–	SANITARY COVE BASE
142	STORAGE	RB-1	CONC-1	PNT-1B	PNT-1B	MG, PNT-1B	PNT-1B	EXPOSED	
143	RISER ROOM	RB-1	CONC-2	PNT-1B	PNT-1B	MG, PNT-1B	MG, PNT-1B	EXPOSED	
144	TIMING	RB-1	VCT-1	PNT-1A	PNT-1A	PNT-3A	PNT-1A	ACG-1, ACT-2	
145	STORAGE	RB-1	CONC-1	PNT-1A	PNT-1A	PNT-1A	PNT-1A	EXPOSED	
146	CORRIDOR	PT-2, GRT-2	PT-2; GRT-2	PNT-1A	PNT-1A	PNT-1A	MG, PNT-1A	ACG-1, ACT-2	4"BUILD-UP BASE
147	HEAD COACH	PT-2, GRT-2	PT-2; GRT-2	PNT-2A	PNT-1A	PNT-1A	MG; PNT-1A	MG; PNT-1A	4"BUILD-UP BASE
148	MENS RR	PT-2, GRT-2	PT-2; GRT-2; PT-17; PT-3	PNT-1A, CT-1, CT-2, CT-3. GRT-1	PNT-1A, CT-1, CT-2, CT-3. GRT-1	PNT-1A, CT-1, CT-2, CT-3. GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3. GRT-1	MG; PNT-1A	
149	CHANGING ROOM	NOT USED							
150	CORRIDOR	PT-2; GRT-2	PT-2; GRT-2	GYP.BD.-2, PNT-2A	GYP.BD.-2; PNT-1A	GYP.BD.-2; PNT-1A	MG, PNT-1A	ACG-1, ACT-2	4"BUILD-UP BASE
151	HEAD COACH	PT-2, GRT-2	PT-2; GRT-2	PNT-1A	PNT-2A	PNT-2A	MG, PNT-1A	MG; PNT-1A	4"BUILD-UP BASE
152	WOMENS RR	PT-2, GRT-2	PT-2; GRT-2; PT-17; PT-3	PNT-1A, CT-1, CT-2, CT-3. GRT-1	PNT-1A, CT-1, CT-2, CT-3. GRT-1	PNT-1A, CT-1, CT-2, CT-3. GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3. GRT-1	MG; PNT-1A	
153	CHANGING ROOM	NOT USED							
154	LIFE GUARD BREAK ROOM	PT-2; GRT-2	PT-2; GRT-2	PNT-3A	MG, PNT-1A	MG, PNT-1A	PNT-1, PNT-3A	MG; PNT-1A	
155	MEN RR	PT-2; GRT-2	PT-2; GRT-2	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	MG, PNT-1B; CT-1; CT-2; CT-3; GRT-1	GYP-2, PNT-1C	
156	WOMEN RR	PT-2; GRT-2	PT-2; GRT-2	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	MG, PNT-1B; CT-1; CT-2; CT-3; GRT-1	GYP-2, PNT-1C	
157	MECHANICAL	–	CONC-2	MG, PNT-1A	MG, PNT-1A	PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
158	FIRST AID	PT-2; GRT-2	PT-2; GRT-2	PNT-3A	PNT-3A	PNT-1A	MG, PNT-1A	MG; PNT-1A	4"BUILD-UP BASE
159	TRAINER	PT-2; GRT-2	PT-2; GRT-2	PNT-1A	PNT-3A	MG, PNT-3A	MG, PNT-1A	MG; PNT-1A	4"BUILD-UP BASE
160	DIVING POOL	PT-2; GRT-1	PT-1; PT-2; PT-3; GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	EXPOSED, PNT-10	
161	50M POOL	PT-2; GRT-1	PT-1; PT-2; PT-3; GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	MG, PNT-1A, CT-1, CT-2, CT-3, GRT-1	MG; WALL PATTERN 2, PNT-1A, CT-1, CT-2, CT-3, GRT-1	EXPOSED, PNT-10	
162	MECHANICAL	–	CONC-2	MG, PNT-1A	MG; PNT-1A	MG, PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
163	POOL EQUIPMENT YARD	–	ST-1, CONC-1	PNT-1A	PNT-1A	PNT-1A	PNT-1A	EXPOSED, PNT-10	
164	ELECTRICAL	–	CONC-2	PNT-1B	PNT-1B	PNT-1B	PNT-1B	EXPOSED, PNT-10	
165	CALCIUM HYPO SYST.	–	CONC-2	PNT-1B	PNT-1B	PNT-1B	PNT-1B	EXPOSED, PNT-10	
166	ACID ROOM	–	CONC-2	PNT-1B	PNT-1B	PNT-1B	PNT-1B	EXPOSED, PNT-10	
167	STORAGE	RB-1	CONC-1	PNT-1A	PNT-1A	MG, PNT-1A	PNT-1A	EXPOSED, PNT-10	
168	STAIRS	–	CONC-1	PNT-1A	PNT-1A	PNT-1A	PNT-1A	EXPOSED, PNT-10	

ROOM NO.	ROOM NAME	BASE	FLOOR	WALL				CEILING	NOTES
				NORTH	EAST	SOUTH	WEST		
200	OBSERVATION	RB-1	CONC-1	–	MG, PNT-1A	MG, PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
201	LANDING	RB-1	CONC-1	–	MG, PNT-1A	MG, PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
202	SECTION "A"	RB-1	CONC-1	–	MG, PNT-1A	MG, PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
203	SECTION "B"	RB-1	CONC-1	–	MG, PNT-1A	MG, PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
204	SECTION "C"	RB-1	CONC-1	–	MG, PNT-1A	MG, PNT-1A	MG, PNT-1A	EXPOSED, PNT-10	
205	PRIVATE VIEWING ROOM	RB-1	CPT-1	PNT-2A	GYP BD. 2, PNT-1A	MG, PNT-1A	MG, PNT-1A	ACG-1, ACT-1	
206	RR	PT-2; GRT-2	PT-2; GRT-2	PNT-1B; CT-1; CT-2; CT-3; GRT-1	PNT-1B; CT-1; CT-2; CT-3; GRT-1	GYP. BD.-2, PNT-1B; CT-1; CT-2; CT-3; GRT-1	GRYP. BD.-2, PNT-1B; CT-1; CT-2; CT-3; GRT-1	GYP-2; PNT-1C	

GENERAL NOTES

1. ALL CEILING HEIGHTS TO BE 9'-0" A.F.F. UNLESS OTHERWISE NOTED.
2. ALL WALL FINISH SURFACES TO HAVE SMOOTH FINISH – NO TEXTURE.
3. ALL WALLS WITH NEW FINISHES TO RECEIVE ONE PRIMER COAT AND TWO FINISH COATS OF NEW PAINT FINISH. REFER SPECIFICATIONS.
4. WOMENS RR & MENS RR ALL WALLS TO BE MOISTURE RESISTANT GYPSUM BOARD. REFER SCHEDULE FOR APPLIED FINISHES.
5. REFER TO SHEET A1.41 FOR FLOOR PATTERN PLAN.
6. REFER TO SHEET A1.42 FOR WALL ACCENT PAINT PLANS.
7. REFER TO SHEET A4.12 FOR RESTROOM WALL TILE PATTERNS.
8. ALL EXPOSED STEEL STRUCTURE TO BE PRIMED AND PAINTED WITH 1-HR INTUMESCENT PAINT AND TOP-COATED IN PRO-INDUSTRAL WATERBASED ACROLON.
9. ALL CONCEALED STRUCTURE TO HAVE 1-HR SPRAY-APPLIED FIREPROOFING.

3

12 30 00 CASEWOR□

PL-1 (VERTICAL)
MANUFACTURER: FORMICA
LINE: PLASTIC
COLOR: CITADEL 1097-MC
FINISH: MICRODOT

PL-2 (VERTICAL)
MANUFACTURER: FORMICA
LINE: PLASTIC
COLOR: BRITE WHITE 459-90
FINISH: GLOSS

PL-3 (REVEALS)
MANUFACTURER: FORMICA
LINE: PLASTIC
COLOR: BLACK 909-58
FINISH: MATTE

PL-4 (VERTICAL)
MANUFACTURER: FORMICA
LINE: PLASTIC
COLOR: SATURN GREY 2770-58
FINISH: MATTE

PL-5 (HORIZONTAL)
MANUFACTURER: FORMICA
LINE: PLASTIC
COLOR: WHITE DROPS 8824-58
FINISH: MATTE

SS-1
MANUFACTURER: LG HAUSYS
LINE: HI-MACS
COLOR: ARCTIC WHITE G034

03 35 00 CONCRETE FINISHING

CONC-1
SEALED

CONC-2
EXPOSED

09 20 00 PLASTER □ GYPSUM BOARD

GYP-1
STANDARD

GYP-2
MOISTURE RESISTANT

MG(MAGNESIACORE)
RE: SPECIFICATIONS

09 30 00 TILING

CT-1
MANUFACTURER: DALTILE
LINE/BRAND: WALL TILE
COLOR: 0190 ARCTIC WHITE
FINISH: SEMI-GLOSS
SIZE: 4"X8"

CT-2
MANUFACTURER: DALTILE
LINE/BRAND: WALL TILE
COLOR: K176 ICE GREY
FINISH: SEMI-GLOSS
SIZE: 4"X8"

CT-3
MANUFACTURER: DALTILE
LINE/BRAND: WALL TILE
COLOR: Q174 SEA BREEZE
FINISH: SEMI-GLOSS
SIZE: 4"X8"

GRT-1
MANUFACTURER: MAPEI
COLOR: 38 AVALANCHE

3

GRT-2
MANUFACTURER: MAPEI
COLOR: 93 WARM GRAY

09 50 00 CEILINGS

ACG-1
REFER SPECIFICATIONS
SECTION 09 51 00

ACT-1
REFER SPECIFICATIONS
SECTION 09 51 13

MCP-1
MANUFACTURER: ARMSTRONG CEILING
LINE/BRAND: SERPENTINA
COLOR: WHITE
SIZE: 24X72
PATTERN: HILL AND VALLEY

ACT-2
REFER SPECIFICATIONS
SECTION 09 51 13

09 60 00 FLOORING

PT-1
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D037- PEPPER WHITE
SIZE: 2"X2" WITH BUILD-UP BASE

PT-2
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D200 DESERT GRAY SPECKLE
SIZE: 2"X2" WITH BUILD-UP BASE

PT-3
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D159- OCEAN BLUE
SIZE: 2"X2" WITH BUILD-UP BASE

PT-4
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D617- ARCTIC WHITE
SIZE: 2"X2"

PT-5
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D159- OCEAN BLUE
SIZE: 2"X2"

PT-6
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D621- NAUTICAL BLUE
SIZE: 2"X2"

PT-7
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D189- NAVY
SIZE: 2"X2"

PT-8
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D620- SUNSHINE
SIZE: 2"X2"

PT-9
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D090- PUMPKIN SPICE
SIZE: 2"X2"

PT-10
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D017- RED
SIZE: 2"X2"

PT-11
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D622- CLEMENTINE
SIZE: 2"X2"

PT-12
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D139- CRISP LINEN
SIZE: 2"X2"

PT-13
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 4
COLOR: D091- MOON BEAM
SIZE: 2"X2"

PT-14
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 4
COLOR: D181- MUSTARD
SIZE: 2"X2"

PT-15
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 3
COLOR: D007- CINNAMON RANGE
SIZE: 2"X2"

PT-16
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 3
COLOR: D171- CITYLINE KOHL
SIZE: 2"X2"

PT-17
MANUFACTURER: DALTILE
LINE/BRAND: KEYSTONE GROUP 1
COLOR: D037- PEPPER WHITE
SIZE: 1"X1" WITH BUILD-UP BASE

CPT-1
MANUFACTURER: MANNINGTON
LINE/BRAND: RIDGELINE
COLOR: 15906 NATIVE
SIZE: 12"X48" PLANK

RB-1
MANUFACTURER: ROPPE
COLOR: 175 SLATE
SIZE: 4" COVE BASE

ST-1
MANUFACTURER: STONHARD
LINE/BRAND: 441 STONCHEM
COLOR: TO BE SELECTED BY ARCHITECT

VCT-1
MANUFACTURER: ARMSTRONG
COLOR: 51904 STERLING
SIZE: 12X12

3

09 90 00 PAINTING AND COATING

PNT-1A
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7757 HIGH REFLECTIVE WHITE
FINISH: EPOXY

PNT-1B
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7757 HIGH REFLECTIVE WHITE
FINISH: EGGSHELL

PNT-1C
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7757 HIGH REFLECTIVE WHITE
FINISH: FLAT

PNT-2A
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6803 DANUBE
FINISH: EPOXY

PNT-2B
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6803 DANUBE
FINISH: EGGSHELL

PNT-2C
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6803 DANUBE
FINISH: FLAT

PNT-3A
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW9061 REST ASSURED
FINISH: EPOXY

PNT-3B
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW9061 REST ASSURED
FINISH: EGGSHELL

PNT-3C
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW9061 REST ASSURED
FINISH: FLAT

PNT-4A
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6253 OLYMPUS WHITE
FINISH: EPOXY

PNT-4B
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6253 OLYMPUS WHITE
FINISH: EGGSHELL

PNT-4C
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6253 OLYMPUS WHITE
FINISH: FLAT

PNT-4D
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6253 OLYMPUS WHITE
FINISH: ELASTOMERIC

PNT-5A
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7072 ONLINE
FINISH: EPOXY

PNT-5B
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7072 ONLINE
FINISH: EGGSHELL

PNT-5C
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7072 ONLINE
FINISH: ELASTOMERIC

PNT-6
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW6966 BLUEBLOOD
FINISH: ELASTOMERIC

PNT-7A
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW9162 AFRICAN GRAY
FINISH: ELASTOMERIC

PNT-7B
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW9162 AFRICAN GRAY
FINISH: ENAMEL

PNT-8
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7074 SOFTWARE
FINISH: ELASTOMERIC

PNT-9
MANUFACTURER: SHERWIN WILLIAMS
COLOR: SW7076 CYBERSPACE
FINISH: ELASTOMERIC

PNT-10
MANUFACTURER: SHERWIN WILLIAMS
FIRETEX FX5090
COLOR: WHITE INTUMESCENT COATING
FINISH: FLAT

3

10 20 00 INTERIOR SPECIALTIES

FEC-1
5 LBS. LOADED STREAM FIRE EXTINGUISHER WITH RECESSED CABINET

TP-1
MANUFACTURER: SCRANTON PRODUCTS
LINE: HINY HIDERS
COLOR: BLUEBERRY
ORANGE PEEL

THE WARREN GROUP ARCHITECTS, INC.
1801 SOUTH SECOND ST.
SUITE 330
McALLEN, TX 78503
9 5 6 . 9 9 4 . 1 9 0 0
t w g a r c h . c o m

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REVISION	DATE	APPROVED BY	DESCRIPTION
A001	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
A002	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
A003	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

SEAL

REGISTERED ARCHITECT
18378
STATE OF TEXAS
EXP. 10-31-19

PROPOSED

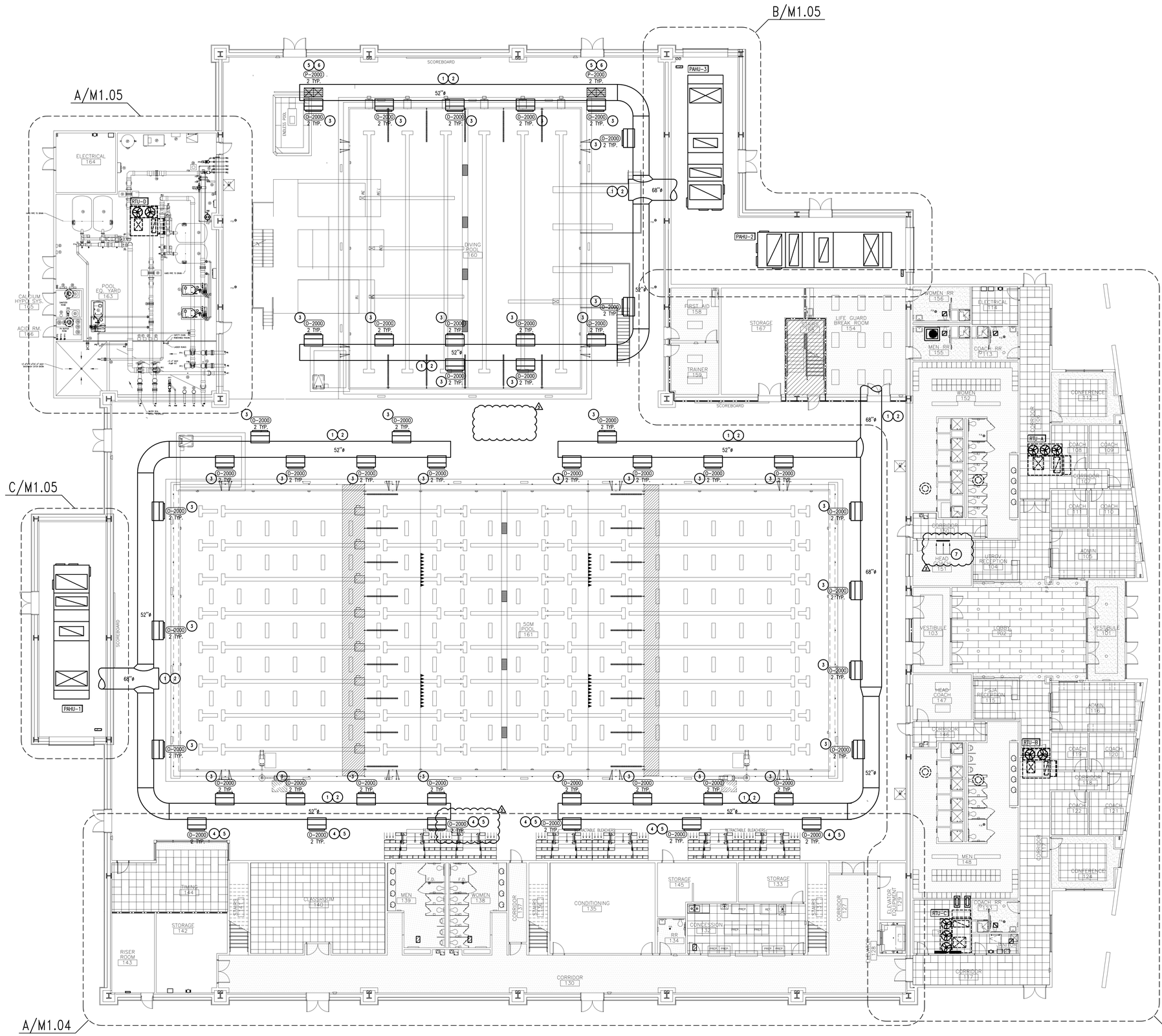
CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

A6.11 ADD3

ROOM FINISH SCHEDULE



GENERAL NOTES:

A. REFER TO SCHEDULE SHEET FOR ADDITIONAL GENERAL MECHANICAL NOTES.

B. CONTRACTOR SHALL PROVIDE ALL NECESSARY TRANSITIONS FROM MECHANICAL EQUIPMENT TO DUCTS. VERIFY EQUIPMENT OUTLET/INLET SIZE WITH SCHEDULE.

C. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO MAINTAIN ACCESS CLEARANCES FOR ALL MECHANICAL EQUIPMENT.

D. ALL DUCTWORK SERVING POOL DEHUMIDIFICATION UNITS SHALL BE ALUMINUM CONSTRUCTION.

E. ALL EXPOSED DUCTWORK LOCATED WITHIN THE AQUATIC AREAS AND POOL EQUIPMENT ROOM SHALL BE DOUBLE WALL OF ALUMINUM CONSTRUCTION.

F. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL MECHANICAL EQUIPMENT LOCATED ABOVE INACCESSIBLE CEILINGS.

G. CONTRACTOR SHALL PROVIDE STRUCTURAL SUPPORTS FOR ALL MECHANICAL EQUIPMENT SUSPENDED FROM STRUCTURE.

H. CONTRACTOR SHALL COORDINATE ALL ROOF PENETRATIONS AND ROOFING WORK WITH ROOFING CONTRACTOR AS REQUIRED TO MAINTAIN ROOF WARRANTY.

I. LOCATE EXHAUST HOODS/FANS MINIMUM 10-FEET FROM ANY OUTSIDE AIR INTAKE.

J. ALL HANGERS AND SUPPORTS LOCATED WITHIN THE AQUATIC AREAS, MECHANICAL ROOMS, AND POOL EQUIPMENT ROOMS SHALL BE CORROSION RESISTANT HOT DIPPED GALVANIZED SYSTEMS.

KEY NOTES:

1. EXPOSED DUCT SHALL BE 2-INCH DOUBLE WALL SPIRAL PIPE OF ALUMINUM CONSTRUCTION. ROUTE DUCTWORK BETWEEN/THRU STRUCTURAL WEBBING. REFER TO ARCHITECTURAL ELEVATIONS.
2. OFFSET DUCTWORK AS REQUIRED TO AVOID STRUCTURAL SYSTEMS. COORDINATE PATHWAY WITH STRUCTURAL TRADE.
3. PROVIDE AND INSTALL 60" X 30" TAP-OFF WITH 45° TURN DOWN TO ALLOW FOR INSTALLATION OF TWO 50" X 10" AIR DEVICES WHICH SHALL BE MOUNTED ONE ABOVE ANOTHER. REFER TO DETAIL.
4. PROVIDE AND INSTALL 60" X 30" TAP-OFF WITH 30° TURN DOWN TO ALLOW FOR INSTALLATION OF TWO 50" X 10" AIR DEVICES WHICH SHALL BE MOUNTED ONE ABOVE ANOTHER. REFER TO DETAIL.
5. AIR DEVICES SHALL BE ADJUSTED SUCH THAT THEY DISCHARGE AIR ONTO EXTERIOR GLASS.
6. PROVIDE AND INSTALL 70" X 36" TAP-OFF (VERTICAL) TO ALLOW FOR INSTALLATION OF TWO 36" X 36" AIR DEVICES, WHICH SHALL BE MOUNTED SIDE BY SIDE.
7. POOL DEHUMIDIFICATION REMOTE TOUCHSCREEN CONTROL PANEL SHALL BE LOCATED IN COACH'S OFFICE. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALLATION.

A MECHANICAL FLOOR PLAN
SCALE: 3/32" = 1'-0" 1ST FLOOR

NORTH

THE WARREN GROUP
ARCHITECTS, INC.
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STATE OF TEXAS
LUIS JAVIER PEÑA
97260
LICENSED PROFESSIONAL ENGINEER
06.26.2019

PROPOSED

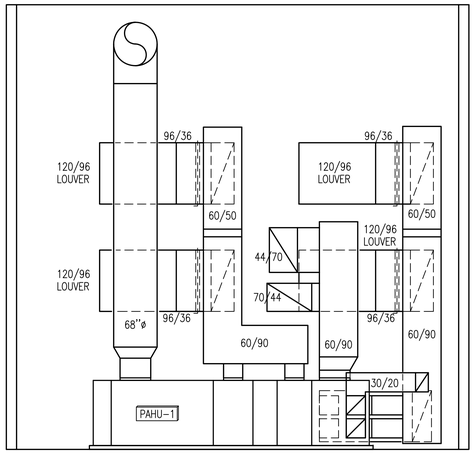
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PHARR, TEXAS 78577

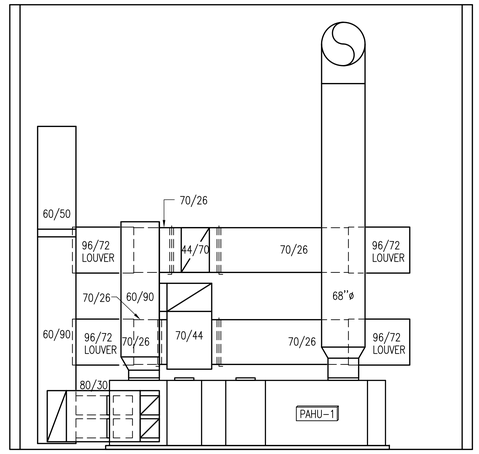
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600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX 78501 (956) 664-2727
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PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

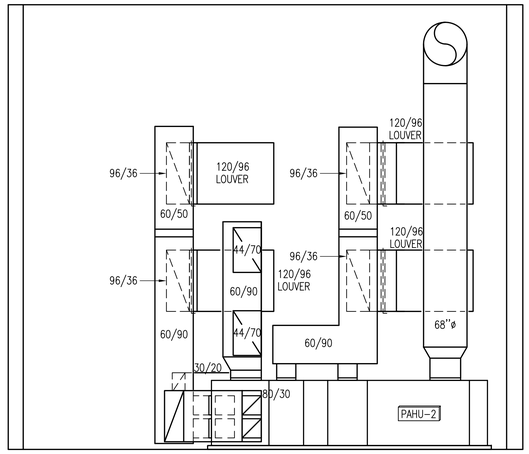
M1.01
MECHANICAL FLOOR PLAN



A INTERIOR ELEVATION @ MECHANICAL ROOM
SCALE: 1/8" = 1'-0"



B INTERIOR ELEVATION @ MECHANICAL ROOM
SCALE: 1/8" = 1'-0"



C INTERIOR ELEVATION @ MECHANICAL ROOM
SCALE: 1/8" = 1'-0"

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K. PROVIDE FLEXIBLE CONNECTION FROM UNIT ONTO DUCTWORK.

L. PROVIDE NEOPRENE VIBRATION ISOLATOR BETWEEN UNIT AND CONCRETE PAD. LOCATE MINIMUM 3-FEET ON CENTER.

M. PROVIDE FULL SIZE DUCT FROM UNIT OPENINGS AND CONNECT TO DISTRIBUTION DUCTS SHOWN.

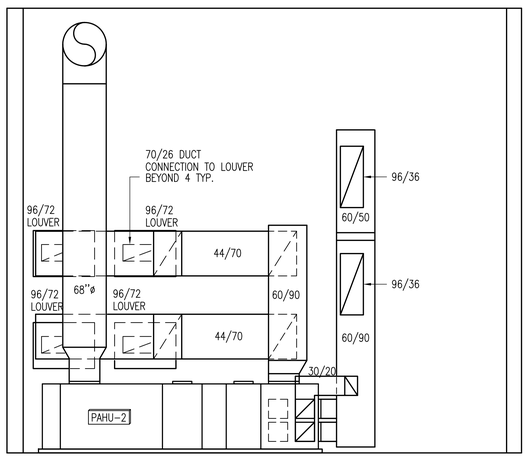
N. ALL DUCTWORK INSIDE OF MECHANICAL ROOMS AND/OR CONCEALED FROM VIEW SHALL BE SINGLE WALL ALUMINUM CONSTRUCTION WITH 2-INCH FIBERGLASS DUCTBOARD INSULATION WITH FSK FOIL FACE.

O. NOT ALL PORTIONS OF DUCTWORK ARE SHOWN ON ELEVATION VIEWS TO ALLOW FOR CLARITY. COORDINATE WITH PLAN VIEW DRAWINGS.

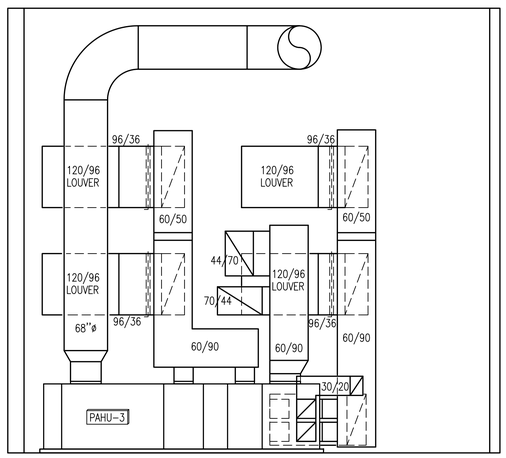
P. EACH BRANCH DUCT SERVING EACH INDIVIDUAL LOUVER SHALL BE FURNISHED WITH A MANUAL BALANCING DAMPER.

Q. ALL LOUVER LOCATIONS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO ROUGH-IN.

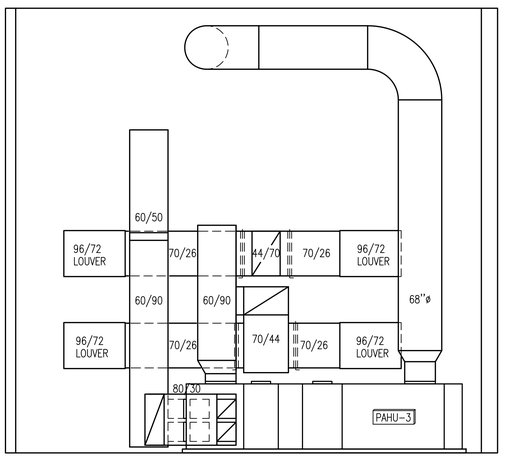
3



D INTERIOR ELEVATION @ MECHANICAL ROOM
SCALE: 1/8" = 1'-0"



E INTERIOR ELEVATION @ MECHANICAL ROOM
SCALE: 1/8" = 1'-0"



F INTERIOR ELEVATION @ MECHANICAL ROOM
SCALE: 1/8" = 1'-0"

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STATE OF TEXAS
LUIS JAVIER PENA
97260
LICENSED
PROFESSIONAL ENGINEER
06.26.2019

PROPOSED

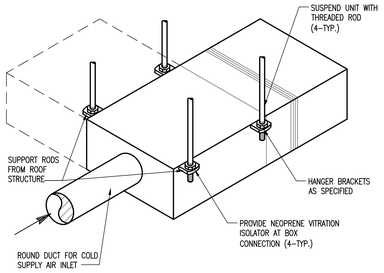
CITY OF PHARR/PSJA
AQUATIC FACILITY

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PHARR, TEXAS 78577

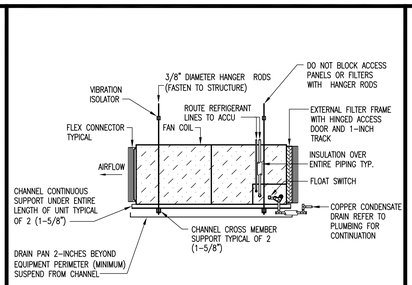
PROJECT	971605
DATE	06/07/2019
REVISED	06/26/2019

M1.06

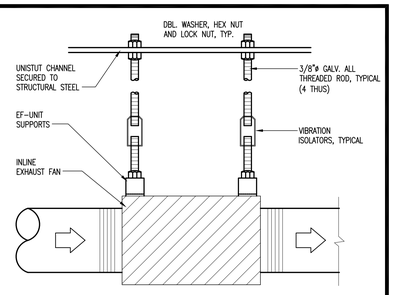
MECHANICAL ROOM
INTERIOR ELEVATIONS



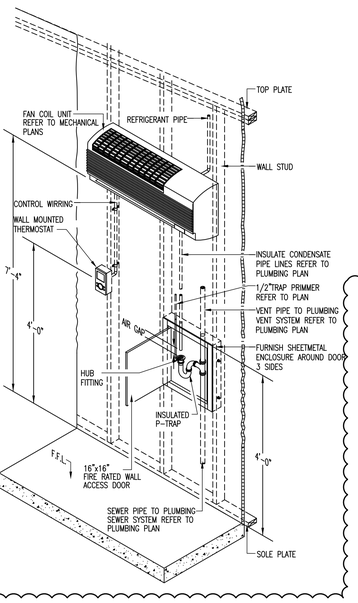
A TYP. VAV TERMINAL UNIT
SCALE: NTS



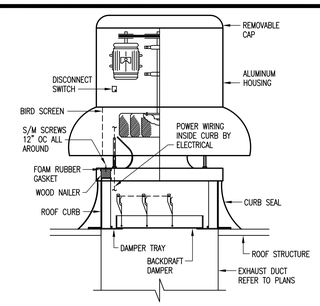
B AIR HANDLING UNIT DETAIL
SCALE: N.T.S. HORIZONTAL/SUSPENDED



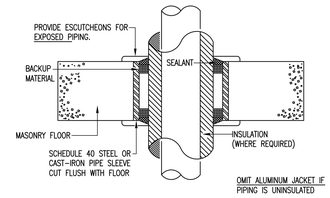
C INLINE EXHAUST FAN DETAIL
SCALE: NTS



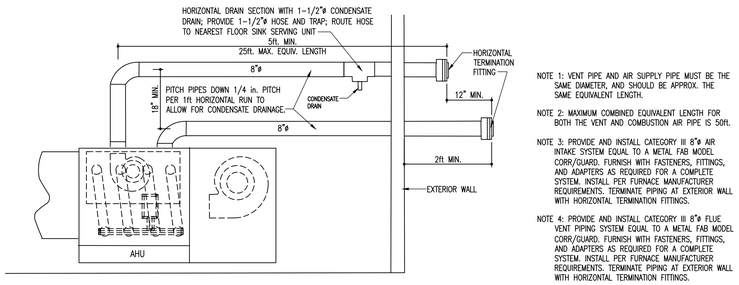
F FAN COIL INSTALLATION DETAIL
SCALE: N.T.S.



D ROOF MOUNTED EXHAUST FAN
SCALE: NTS



E PIPE PENETRATION DETAIL
SCALE: NTS



NOTE 1: VENT PIPE AND AIR SUPPLY PIPE MUST BE THE SAME DIAMETER, AND SHOULD BE APPROX. THE SAME EQUIVALENT LENGTH.

NOTE 2: MAXIMUM COMBINED EQUIVALENT LENGTH FOR BOTH THE VENT AND COMBUSTION AIR PIPE IS 50ft.

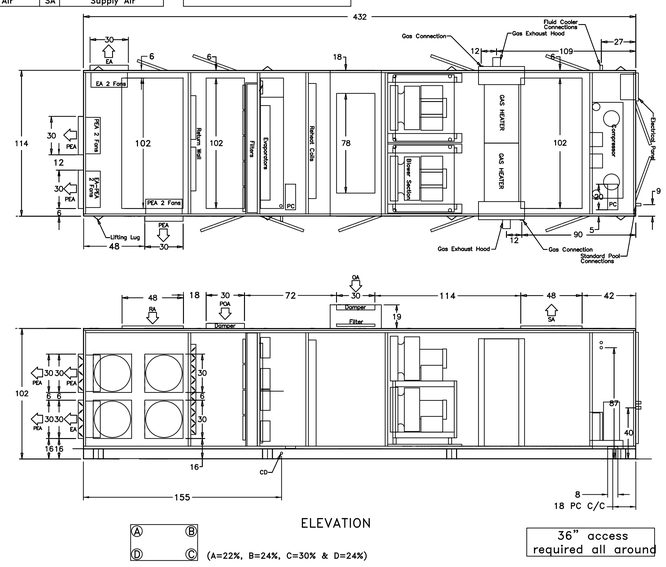
NOTE 3: PROVIDE AND INSTALL CATEGORY III 8"ø AIR INTAKE SYSTEM EQUAL TO A METAL FAB MODEL CORR/GUARD. FURNISH WITH FASTENERS, FITTINGS, AND ADAPTERS AS REQUIRED FOR A COMPLETE SYSTEM. INSTALL PER FURNACE MANUFACTURER REQUIREMENTS. TERMINATE PIPING AT EXTERIOR WALL WITH HORIZONTAL TERMINATION FITTINGS.

NOTE 4: PROVIDE AND INSTALL CATEGORY III 8"ø FLUE VENT PIPING SYSTEM EQUAL TO A METAL FAB MODEL CORR/GUARD. FURNISH WITH FASTENERS, FITTINGS, AND ADAPTERS AS REQUIRED FOR A COMPLETE SYSTEM. INSTALL PER FURNACE MANUFACTURER REQUIREMENTS. TERMINATE PIPING AT EXTERIOR WALL WITH HORIZONTAL TERMINATION FITTINGS.

G POOL AHU FURNACE DIRECT VENT DETAIL
SCALE: N.T.S.

LEGEND			
AP	Access Panel	PEA	Purge Exhaust Air
CD	Condensate Drain	PC	Pipe Chase
EA	Exhaust Air	POA	Purge Outside Air
HR	Heat Recovery	RA	Return Air
OA	Outside Air	SA	Supply Air

SELECT OPTIONS
Side Condensate Drain



H POOL UNIT CONFIGURATION DETAIL
SCALE: NTS

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PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

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PHARR, TEXAS 78577

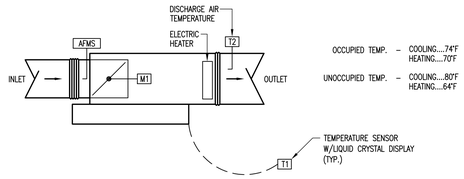
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PROJECT	971605
DATE	06/07/2019
REVISED	06/26/2019

M3.02
MECHANICAL DETAILS

CONTROL DRAWING SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFMS	AIRFLOW MONITORING STATION	M	MOTORIZED 3-WAY VALVE
CO2	CARBON DIOXIDE SENSOR	RH	RELATIVE HUMIDITY SENSOR
CSR	CURRENT SENSING RELAY	SD	SMOKE DETECTOR
DSPS	DUCT STATIC PRESSURE SENSOR	T1 .. TX	TEMPERATURE SENSOR
M1 .. MX	MOTORIZED ACTUATOR	VFD	VARIABLE FREQUENCY DRIVE
M	MOTORIZED 2-WAY VALVE		AIRFLOW DIRECTION



OCCUPIED TEMP. – COOLING....74°F
HEATING....70°F

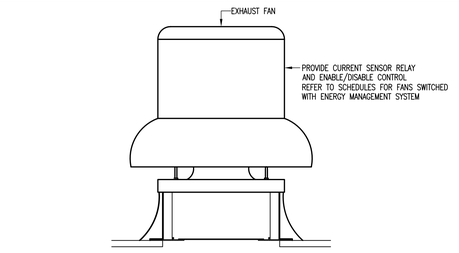
UNOCCUPIED TEMP. – COOLING....80°F
HEATING....64°F

A SINGLE DUCT BOX CONTROL DIAGRAM

SCALE: N.T.S. TYPICAL OF ALL SINGLE DUCT BOXES

START/STOP CONTROL – THE EMS (ENERGY MANAGEMENT SYSTEM) SHALL INITIATE START/STOP CONTROL OF THE SYSTEM BY PROGRAMMED SCHEDULE, TIMED OVERRIDE, OR OPERATOR OVERRIDE.

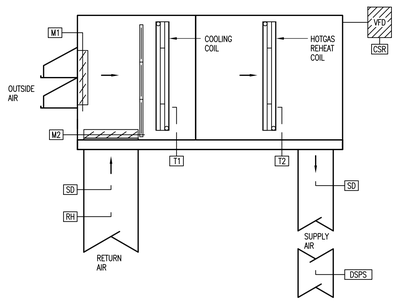
TEMPERATURE CONTROL – THE SPACE TEMPERATURE SENSOR "T1" SHALL CONTROL ROOM TEMPERATURE AND SHALL BE LOCALLY ADJUSTABLE FOR (+/–) 2°F FROM PROGRAMMED SETPOINT. TEMPERATURE SENSOR SHALL HAVE AFTER HOURS OVERRIDE TO ENABLE COOLING/HEATING SYSTEM. THE SPACE TEMPERATURE SENSOR "T1" SHALL MONITOR ROOM AIR TEMPERATURE TO DETERMINE REQUIRED CONDITIONING OF AIR. WHEN HEATING IS REQUIRED, THE ELECTRIC HEATER SHALL BE ENABLED TO MAINTAIN PROGRAMMED TEMPERATURE. WHEN COOLING IS REQUIRED, THE TERMINAL UNIT DAMPER "M1" SHALL MODULATE TO MAINTAIN THE REQUIRED SPACE TEMPERATURE. DURING HUMIDITY CONTROL, TERMINAL UNIT DAMPER "M1" SHALL MODULATE TO SCHEDULED CFM AND ELECTRIC HEATER SHALL BE ENABLED TO MAINTAIN PROGRAMMED TEMPERATURE.



START/STOP CONTROL – THE EMS (ENERGY MANAGEMENT SYSTEM) SHALL INITIATE START/STOP CONTROL OF THE SYSTEM BY PROGRAMMED SCHEDULE, TIMED OVERRIDE, OR OPERATOR OVERRIDE.

C EXHAUST FAN CONTROL DIAGRAM

SCALE: N.T.S.



B AIR HANDLING UNIT CONTROL DIAGRAM

SCALE: NTS TYPICAL OF: RTU'S W/ VAV

START/STOP CONTROL – THE EMS (ENERGY MANAGEMENT SYSTEM) SHALL INITIATE START/STOP CONTROL OF THE SYSTEM BY PROGRAMMED SCHEDULE, TIMED OVERRIDE, OR OPERATOR OVERRIDE.

FAN CONTROL – THE EMS SHALL MONITOR THE FAN STATUS VIA A BACNET INTERFACE PROVIDED WITH THE RTU. ONCE THE EMS RECIEVES THE ON STATUS FOR THE SUPPLY FAN, THE DUCT STATIC PRESSURE SENSOR SHALL SIGNAL THE VFD TO INCREASE OR DECREASE FAN SPEED AS REQUIRED TO MAINTAIN PREDETERMINED STATIC PRESSURE SET POINT. VFD SHALL STARTUP AT 50% DESIGN AIR FLOW (MINIMUM FAN SPEED SETPOINT).

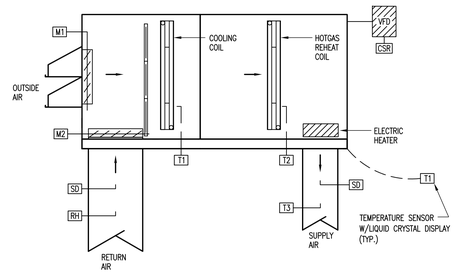
TEMPERATURE CONTROL – THE COOLING COIL TEMPERATURE SENSOR "T1" SHALL STAGE THE COMPRESSORS AS REQUIRED TO MAINTAIN 55°F LEAVING AIR TEMPERATURE. THE EMS SHALL POLL THE AVERAGE OUTPUT (%) OF BOXES BEING SERVED AND INCREASE/DECREASE THE HOTGAS REHEAT TEMPERATURE "T2" AS REQUIRED TO MAINTAIN 65%–75% AVERAGE OUTPUT.

HUMIDITY CONTROL – HUMIDITY CONTROL SHALL COMMENCE UPON DETECTION OF 60% RETURN AIR RELATIVE HUMIDITY. THE HUMIDITY CONTROL SEQUENCE SHALL OVERRIDE SUPPLY AIR TEMPERATURE SETPOINT TO 52°F. UNDER THESE CONDITIONS, THE HOTGAS REHEAT COIL SHALL BE USED TO MAINTAIN AVERAGE SPACE TEMPERATURE SETPOINT. HUMIDITY CONTROL SHALL CONTINUE UNTIL RETURN AIR RELATIVE HUMIDITY IS 50%.

ECONOMIZER MODE – ECONOMIZER MODE SHALL START/STOP UPON DETECTION OF 55°F (ADJ.) OUTSIDE AIR TEMPERATURE OR LOWER, AND DIFFERENTIAL ENTHALPY SENSOR VALIDATION.

UNOCCUPIED CONTROL – DURING UNOCCUPIED PERIOD, OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION AND RETURN AIR DAMPER SHALL BE FULLY OPEN. THE EMS SHALL POLL THE AVERAGE TEMPERATURE/HUMIDITY OF ALL SENSORS AND CYCLE UNIT ON/OFF AS REQUIRED TO MAINTAIN SETPOINT.

THE CONTROLS CONTRACTOR SHALL MAKE AVAILABLE ALL VARIABLES/PARAMETERS INVOLVED IN THE CONTROL SEQUENCE(S) THRU THE FRONT END GRAPHICS. READ/WRITE CAPABILITIES SHALL BE AS ALLOWED BY THE UNITS CONTROLLER. THESE ARE TO INCLUDE (BUT NOT LIMITED TO): UNIT APPLICATION MENU, COOLING CAPACITY (%), SUPPLY FAN CAPACITY (%), COOLING COIL SUPPLY AIR TEMP. (°F), HGRG COIL SUPPLY AIR TEMP. (°F), RETURN AIR TEMP. (°F), OUTDOOR AIR TEMP. (°F), RELATIVE HUMIDITY (%), AND REHEAT CAPACITY (%).



D AIR HANDLING UNIT CONTROL DIAGRAM

SCALE: NTS TYPICAL OF: RTU–D

START/STOP CONTROL – THE EMS (ENERGY MANAGEMENT SYSTEM) SHALL INITIATE START/STOP CONTROL OF THE SYSTEM BY PROGRAMMED SCHEDULE, TIMED OVERRIDE, OR OPERATOR OVERRIDE.

FAN CONTROL – THE EMS SHALL MONITOR THE FAN STATUS VIA A BACNET INTERFACE PROVIDED WITH THE RTU. ONCE THE EMS RECIEVES THE ON STATUS FOR THE SUPPLY FAN, THE SPACE TEMPERATURE SENSOR SHALL SIGNAL THE VFD TO INCREASE OR DECREASE FAN SPEED AS REQUIRED TO MAINTAIN PREDETERMINED STATIC PRESSURE SET POINT. VFD SHALL STARTUP AT 50% DESIGN AIR FLOW (MINIMUM FAN SPEED SETPOINT).

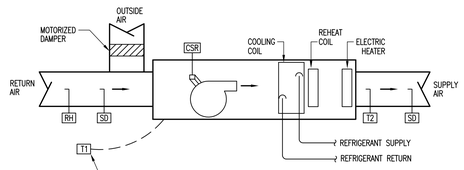
TEMPERATURE CONTROL – THE COOLING COIL TEMPERATURE SENSOR "T1" SHALL STAGE THE COMPRESSORS AS REQUIRED TO MAINTAIN 55°F LEAVING AIR TEMPERATURE. THE EMS SHALL MONITOR SPACE TEMPERATURE AND INCREASE/DECREASE THE HOTGAS REHEAT TEMPERATURE "T2" AS REQUIRED TO MAINTAIN TEMPERATURE. WHEN HEATING IS REQUIRED, THE ELECTRIC HEATER SHALL STAGE ON AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.

HUMIDITY CONTROL – HUMIDITY CONTROL SHALL COMMENCE UPON DETECTION OF 60% RETURN AIR RELATIVE HUMIDITY. THE HUMIDITY CONTROL SEQUENCE SHALL OVERRIDE SUPPLY AIR TEMPERATURE SETPOINT TO 52°F. UNDER THESE CONDITIONS, THE HOTGAS REHEAT COIL SHALL BE USED TO MAINTAIN SPACE TEMPERATURE SETPOINT. HUMIDITY CONTROL SHALL CONTINUE UNTIL RETURN AIR RELATIVE HUMIDITY IS 50%.

ECONOMIZER MODE – ECONOMIZER MODE SHALL START/STOP UPON DETECTION OF 55°F (ADJ.) OUTSIDE AIR TEMPERATURE OR LOWER, AND DIFFERENTIAL ENTHALPY SENSOR VALIDATION.

UNOCCUPIED CONTROL – DURING UNOCCUPIED PERIOD, OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION AND RETURN AIR DAMPER SHALL BE FULLY OPEN. THE EMS SHALL MONITOR SPACE TEMPERATURE/HUMIDITY AND CYCLE UNIT ON/OFF AS REQUIRED TO MAINTAIN SETPOINT.

THE CONTROLS CONTRACTOR SHALL MAKE AVAILABLE ALL VARIABLES/PARAMETERS INVOLVED IN THE CONTROL SEQUENCE(S) THRU THE FRONT END GRAPHICS. READ/WRITE CAPABILITIES SHALL BE AS ALLOWED BY THE UNITS CONTROLLER. THESE ARE TO INCLUDE (BUT NOT LIMITED TO): UNIT APPLICATION MENU, COOLING CAPACITY (%), SUPPLY FAN CAPACITY (%), COOLING COIL SUPPLY AIR TEMP. (°F), HGRG COIL SUPPLY AIR TEMP. (°F), RETURN AIR TEMP. (°F), OUTDOOR AIR TEMP. (°F), RELATIVE HUMIDITY (%), AND REHEAT CAPACITY (%).



E FAN COIL UNIT CONTROL DIAGRAM

SCALE: NTS TYPICAL OF: AHU–1

START/STOP CONTROL – THE EMS (ENERGY MANAGEMENT SYSTEM) SHALL INITIATE START/STOP CONTROL OF THE SYSTEM BY PROGRAMMED SCHEDULE OR OPERATOR OVERRIDE.

FAN CONTROL – THE EMS SHALL MONITOR THE FAN STATUS VIA A BACNET INTERFACE PROVIDED WITH THE AHU.

TEMPERATURE CONTROL – THE SPACE AIR TEMPERATURE SENSOR "T1" SHALL MONITOR ROOM AIR TEMPERATURE TO DETERMINE REQUIRED CONDITIONING OF AIR. WHEN HEATING IS REQUIRED, THE ELECTRIC HEATER SHALL BE ENABLED TO MAINTAIN PROGRAMMED TEMPERATURE. WHEN COOLING IS REQUIRED, THE ASSOCIATED COMPRESSOR(S) SHALL ENERGIZE AS REQUIRED TO MAINTAIN THE REQUIRED SUPPLY AIR TEMPERATURE. INITIAL SETPOINT FOR "T2" UPON STARTUP SHALL BE 54°F. THE MODULATING HOTGAS REHEAT COIL SHALL BE ENABLED TO LIMIT OVER–COOLING.

SHUTDOWN CONTROL – AHU MOTOR SHALL BE SHUT–OFF UPON DETECTION OF SMOKE BY ANY DUCT MOUNTED SMOKE DETECTOR.

HUMIDITY CONTROL – HUMIDITY CONTROL SHALL COMMENCE UPON DETECTION OF 60% RETURN AIR RELATIVE HUMIDITY. THE HUMIDITY CONTROL SEQUENCE SHALL OVERRIDE SUPPLY AIR TEMPERATURE SETPOINT TO 52°F. UNDER THESE CONDITIONS, THE HOTGAS REHEAT COIL SHALL BE USED TO MAINTAIN SPACE TEMPERATURE SETPOINT. HUMIDITY CONTROL SHALL CONTINUE UNTIL RETURN AIR RELATIVE HUMIDITY IS 50%.

UNOCCUPIED CONTROL – DURING UNOCCUPIED PERIOD, OUTSIDE AIR DAMPER SHALL BE IN CLOSED POSITION. THE EMS SHALL MONITOR SPACE TEMPERATURE/HUMIDITY AND CYCLE UNIT ON/OFF AS REQUIRED TO MAINTAIN SETPOINT.

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ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

STATE OF TEXAS
LUIS JAVIER PEÑA
97260
LICENSED PROFESSIONAL ENGINEER
06.26.2019

PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

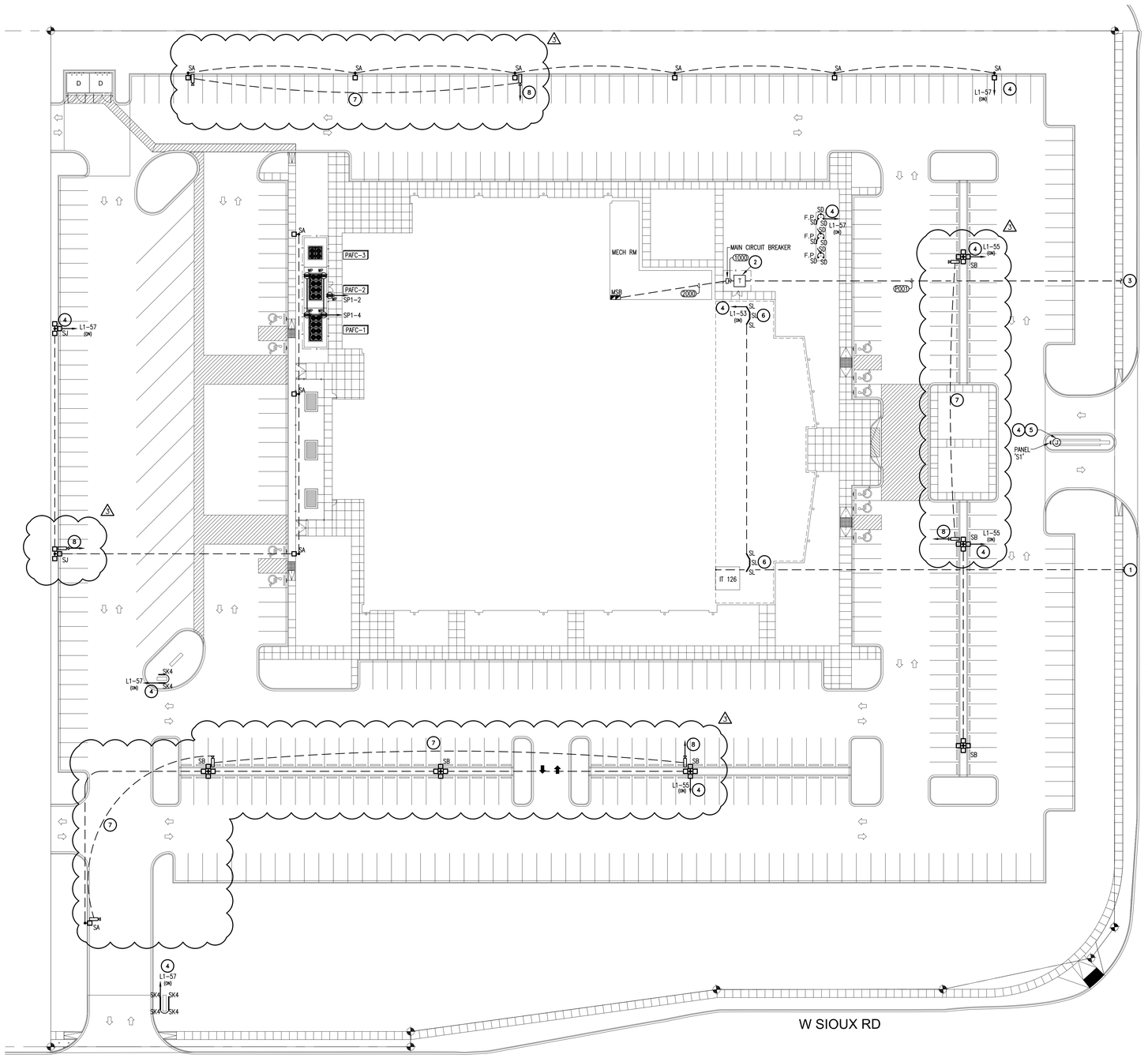
3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

M3.03

MECHANICAL
CONTROLS DETAILS

MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
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TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748



A ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

GENERAL NOTES: ( )

(A) INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPTANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ENGINEER.

(B) FOR ELECTRICAL FEEDER/BRANCH SCHEDULE, REFER TO SHEET E2.01

(C) ALL EXTERIOR CAMERAS SHALL BE MOUNTED AT 18' AFF, UNO.

KEYED NOTES:⬡

1. FURNISH AND INSTALL 2-4"C FOR ROUTING OF TELEPHONE/CABLE. ROUTE AS DIRECTED BY TELEPHONE/CABLE COMPANY.
2. TRANSFORMER PAD FOR UTILITY COMPANY TRANSFORMER.
3. ROUTE AS DIRECTED BY UTILITY COMPANY.
4. LIGHTING CIRCUIT SHALL BE CONTROLLED VIA THE LIGHTING CONTROLLER WITH A 7-DAY, 24 HOUR, PROGRAMMABLE, ASTRONOMICAL TIME CLOCK AND BY-PASS PHOTOCELL. PHOTOCELL MOUNTED ON BUILDING EXTERIOR ON NORTH WALL FACING EXPOSURE. ROUTE 2#10, #100, 3/4".
5. FURNISH AND INSTALL WEATHERPROOF J-BOX FOR CONNECTION OF SIGN. ROUTE TO MECHANICAL ROOM ADJACENT TO PANEL L1.
6. FIXTURES SHALL BE MOUNTED ON ROOF, AIMED TO BUILDING SIGNAGE
7. ROUTE 2" CONDUIT FROM POLE MOUNTED CAMERA TO POLE MOUNTED CAMERA.
8. ROUTE 2" CONDUIT FROM POLE MOUNTED CAMERA TO IT 126.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FEILD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECCESSARY FOR FEILD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

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STATE OF TEXAS
ABRAM L. DOMINGUEZ
97393
LICENSED
PROFESSIONAL ENGINEER
06.26.2019

PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
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E1.00
ELECTRICAL SITE PLAN

MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX. 78501 (956) 664-2727
TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748

GENERAL NOTES:

A. LIGHT FIXTURES SHALL BE CIRCUITED TO CIRCUIT INDICATED IN SPACE.

B. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN (RCP) FOR EXACT LOCATION OF LIGHT FIXTURES. FURNISH FIXTURES WITH TRIM COMPATIBLE WITH THE TYPE OF CEILING AS INDICATED ON THE RCP.

C. EXIT LIGHTS ARE TYPE X, UNO. CONNECT EXIT LIGHT FIXTURES TO UN-SWITCHED CIRCUIT SERVING SPACE IN WHICH FIXTURE IS INSTALLED. INSTALL WALL MOUNTED FIXTURES 8'-0" AFF, UNO.

D. COORDINATE PLACEMENT OF FIXTURES WITH ACTUAL INSTALLATION OF MECHANICAL EQUIPMENT AND DUCTWORK.

E. CIRCUIT EMERGENCY FIXTURES IN ROOMS TO PERMIT ALL THE LAMPS TO BE SWITCHED OFF, LEAVING THE BATTERY IN STAND BY CONDITION, SO THE EMERGENCY BATTERY UNIT WILL OPERATE ONE LAMP WHEN THE NORMAL POWER IS INTERRUPTED. REQUEST THE REQUIRED WIRING DIAGRAM FROM EQUIPMENT MANUFACTURER. ALL EMERGENCY LIGHTING FIXTURES SHALL BE CIRCUITED TO THE NON-SWITCHED PHASE WIRE IN ADDITION TO THE SWITCHED LEG. ALL EXIT SIGNS SHALL BE CIRCUITED TO THE NON-SWITCHED PHASE WIRE ONLY.

F. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

G. FIXTURES SHALL BE CIRCUITED TO CIRCUIT INDICATED IN SPACE.

H. FOR MECHANICAL EQUIPMENT CONNECTION SCHEDULE. REFER TO DETAIL D/SHEET E2.01.

KEY NOTES:

1. EXHAUST FAN SHALL BE SWITCHED WITH LIGHTS, REFER TO SHEET E1.04 FOR LOCATION.
2. LIGHTING CIRCUIT SHALL BE CONTROLLED VIA THE LIGHTING CONTROLLER WITH A 7-DAY, 24 HOUR, PROGRAMMABLE, ASTRONOMICAL TIME CLOCK AND BY-PASS PHOTOCELL. PHOTOCELL MOUNTED ON BUILDING EXTERIOR ON NORTH WALL FACING EXPOSURE.
3. FURNISH AND INSTALL WEATHERPROOF J-BOX MOUNTED AT 18' AFF FOR CONNECTION OF SIGN. STUB IN 3/4"C FROM J-BOX INTO ATTIC SPACE. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
4. ROUTE TO LUTRON QSN ENERGI SAVR NODE.
5. FOR FAN NETWORK CONTROL. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
6. POOL LIGHTING, COORDINATE LOCATION WITH POOL CONSULTANT DRAWINGS.

FIELD VERIFY ALL CONDITIONS

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LEGEND(LUTRON)

QSN	QSN-4T16-S
MS	MS-B102-WH
MS-OPS	MS-OPS6M20V-WH
MS-Z	MS-Z101-WH
PX-2B	PX-2B-GWH-I01 (CW-1-WH)
PX-2BRL	PX-2BRL-GWH-I01 (CW-1-WH)
TC	QSGR-TC-3S-WH-CPN5825
QSWS2	QSWS2-2BRLI-WH
QSWS2	QSWS2-5BRLIR-WH
LOS	LOS-CDT-2000-WH
QSE	QSE-CI-AP-D
KIT	C-ESN-SETUP

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STATE OF TEXAS
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97393
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06.26.2019

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CITY OF PHARR/PSJA
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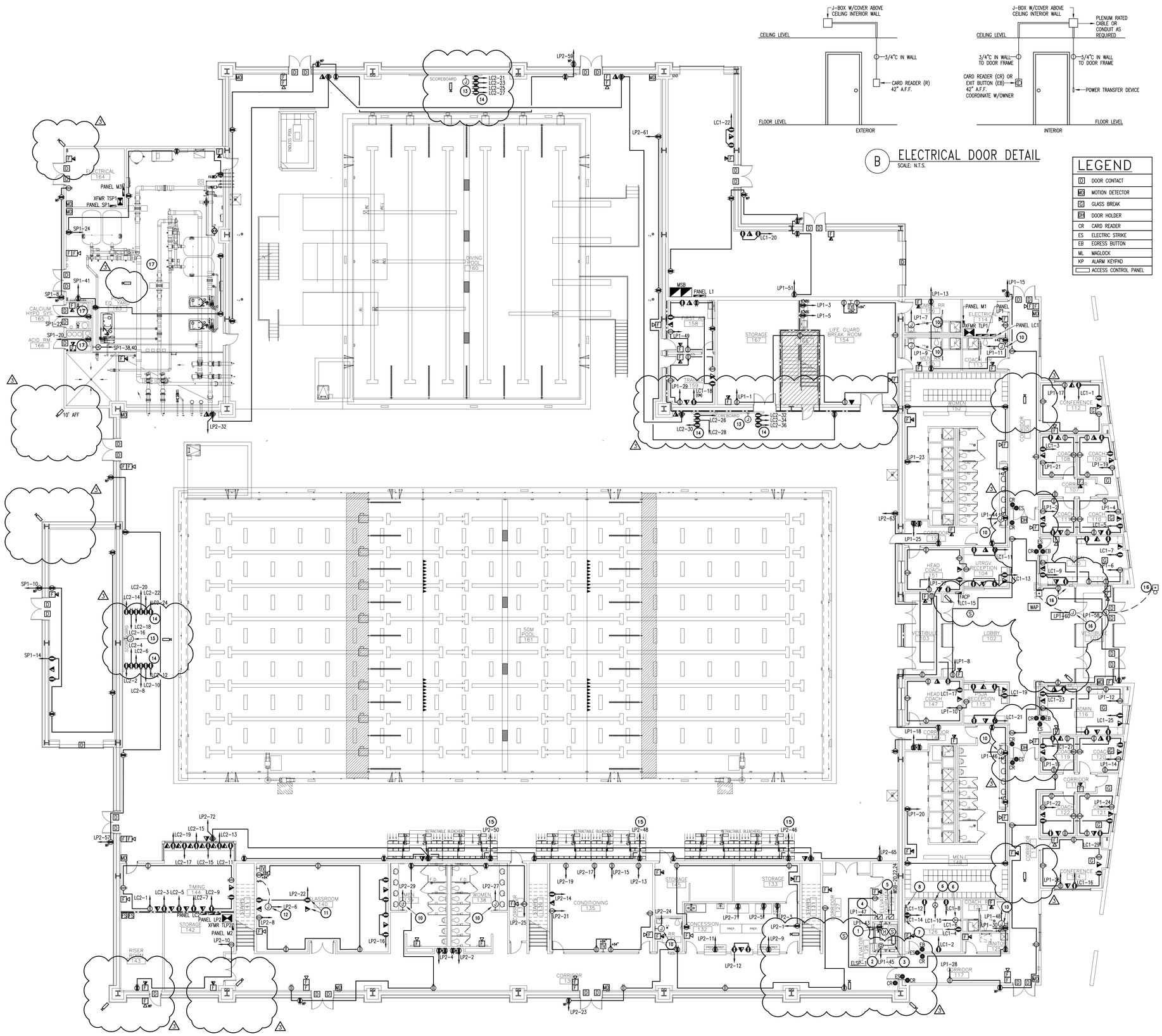
PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

E1.01

ELECTRICAL LIGHTING FLOOR PLAN

A ELECTRICAL LIGHTING FLOOR PLAN
SCALE: 3/32" = 1'-0"

MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
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TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748



B ELECTRICAL DOOR DETAIL

SCALE: N.T.S.

A ELECTRICAL POWER FLOOR PLAN

SCALE: 3/32" = 1'-0"

LEGEND

D	DOOR CONTACT
MD	MOTION DETECTOR
G	GLASS BREAK
DH	DOOR HOLDER
CR	CARD READER
ES	ELECTRIC STRIKE
EB	EGRESS BUTTON
ML	MAGLOCK
KP	ALARM KEYPAD
	ACCESS CONTROL PANEL

GENERAL NOTES:

A. COORDINATE ROUGH-IN LOCATION OF ALL DEVICES WITH ARCHITECTURAL ELEVATIONS, DETAILS, AND PLANS.

B. ALL DEVICES SHALL SHARE COMMON FACEPLATE WHERE APPLICABLE.

C. ALL ELECTRICAL COMPONENTS OF POOL TO BE BONDED PER NEC 680.

D. COORDINATE RECEPTACLES HEIGHT AND LOCATION WITH OWNER PRIOR TO ROUGH-IN.

E. ALL CIRCUITS SHALL BE LABEL PER NEC.

F. ALL EXTERIOR CAMERAS SHALL BE MOUNTED AT 18' AFF, UNO.

KEY NOTES:

1. TO LIGHTING PLAN. SEE DETAIL ELEVATOR PIT HIGH WATER ALARM ELECTRICAL SCHEMATIC SHEET E5.01.
2. FOR SUMP PUMP. SEE DETAIL ELEVATOR PIT HIGH WATER ALARM ELECTRICAL SCHEMATIC SHEET E5.01.
3. HIGH WATER LEVEL ALARM. SEE DETAIL ELEVATOR PIT HIGH WATER ALARM ELECTRICAL SCHEMATIC SHEET E5.01.
4. 30A, 2-POLE SWITCH WITH ONE 20A FUSE FOR ELEVATOR AUXILIARIES. COORDINATE EXACT LOCATION WITH ELEVATOR SUPPLIER PRIOR TO ROUGH-IN. SEE DETAIL ELEVATOR PIT HIGH WATER ALARM ELECTRICAL SCHEMATIC SHEET E5.01.
5. BUSSMAN #PSZT48R1AF1 POWER MODULE SWITCH WITH 150A FUSES FOR CONNECTION TO ELEVATOR CONTROLLER WITH 3#3/0, #6G, 2"C. COORDINATE EXACT LOCATION WITH ELEVATOR SUPPLIER PRIOR TO ROUGH-IN. BUSSMAN POWER MODULE SHALL BE FUSED AT ELEVATOR NAME PLATE RATING. SEE DETAIL ELEVATOR PIT HIGH WATER ALARM ELECTRICAL SCHEMATIC SHEET E5.01.
6. FURNISH AND INSTALL L5-30R RECEPTACLE. ROUTE 2#10, #10G, 1/2"C.
7. PROVIDE AND INSTALL 4' X 8' X 3/4" PLYWOOD BACKBOARD FOR MOUNTING OF COMMUNICATIONS EQUIPMENT. PROVIDE A FLOOR MOUNTED 3/4" X 4' GROUND BAR FOR TELEPHONE SERVICE. EXTEND #6 AWG FROM GROUND BAR TO MAIN GROUND BUS OF PANEL MSB.
8. FURNISH AND INSTALL 2-4"C FOR ROUTING OF TELEPHONE/CABLE.
9. FURNISH AND INSTALL J-BOX FOR CONNECTION OF OVERHEAD DOOR. ROUTE 2#12, 1/2"C.
10. FURNISH AND INSTALL J-BOX FOR CONNECTION OF HAND DRYER. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. ROUTE 2#10, #10G, 1/2"C.
11. FURNISH AND INSTALL RECEPTACLE AND SINGLE GANG BOX FOR CABLING. AT CEILING LOCATION FOR CONNECTION OF PROJECTOR. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
12. FOR MOTORIZED PROJECTION SCREEN. COORDINATE EXACT LOCATION OF DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN. ROUTE 3 WIRE CONTROL TO SWITCH FURNISHED WITH PROJECTION SCREEN. INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
13. FOR SCOREBOARD, ROUTE 1"C TO TIMING ROOM 144. ROUTE TO ABOVE ACCESSIBLE CEILING.
14. FURNISH AND INSTALL RECEPTACLES FOR SCOREBOARD, COORDINATE EXACT LOCATION WITH EQUIPMENT INSTALLER.
15. FURNISH AND INSTALL RECEPTACLES FOR RETRACTABLE BLEACHERS. COORDINATE EXACT LOCATION WITH EQUIPMENT INSTALLER.
16. FURNISH AND INSTALL J-BOX FOR CONNECTION OF POWERED DOORS. STUB IN 3/4"C FROM J-BOX INTO ATTIC SPACE. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUITS IS SPACE SHALL BE OF PVC TYPE.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECCESSARY FOR FEILD MODIFICATIONS DUE TO EXISTING CONDITIONS.

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STATE OF TEXAS
ABRAM L. DOMINGUEZ
97393
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06.26.2019

PROPOSED

CITY OF PHARR/PSJA AQUATIC FACILITY

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PROJECT	971805
DATE	06/07/2019
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E1.02

ELECTRICAL POWER FLOOR PLAN

MEP SOLUTIONS ENGINEERING
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TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748

POOL EQUIPMENT SCHEDULES

Item No	Equipment Category	Qty	Volts	Phase	Circuit Designation	Wire Size	NOTE
	COMPETITION POOL						
PP1	RECIRCULATION PUMP	1	480	3	M3-7,9,11	3#3, 8G, 1-1/4"C	1
PP2	RECIRCULATION PUMP	1	480	3	M3-13,15,17	3#3, 8G, 1-1/4"C	1
1A	FILTER SYSTEM	1	120	1	SP1-5	2#12, 12G, 1/2"C	
1B	CHEMICAL CONTROLLER REFER:	1	120	1	SP1-7	2#12, 12G, 1/2"C	
1C	CHLORINATION SYSTEM REFER:	1	120	1	SP1-9	2#12, 12G, 1/2"C	2
1E	WATER LEVEL CONTROLLER REFER:	1	120	1	SP1-11	2#12, 12G, 1/2"C	
1K	UV TREATMENT SYSTEM & CONTROLLER REFER:	1	480	3	M3-44,46,48	2#12, 12G, 1/2"C	
1L	HEATER TEES REFER:	1	120	1	SP1-13	2#12, 12G, 1/2"C	
	DIVE POOL						
PP3	RECIRCULATION PUMP	1	480	3	M3-19,21,23	3#3, 8G, 1-1/4"C	1
PP4	RECIRCULATION PUMP	1	480	3	M3-25,27,29	3#3, 8G, 1-1/4"C	1
PP5	AGITATOR PUMP	1	240	1	SP1-1,3	2#10, 10G, 3/4"C	
2A	FILTER SYSTEM	1	120	1	SP1-15	2#12, 12G, 1/2"C	
2B	CHEMICAL CONTROLLER REFER:	1	120	1	SP1-17	2#12, 12G, 1/2"C	
2C	CHLORINATION SYSTEM REFER:	1	120	1	SP1-19	2#12, 12G, 1/2"C	2
2E	WATER LEVEL CONTROLLER REFER:	1	120	1	SP1-21	2#12, 12G, 1/2"C	
2K	UV TREATMENT SYSTEM & CONTROLLER REFER:	1	480	3	M3-50,52,54	2#12, 12G, 1/2"C	
2L	HEATER TEES REFER:	1	120	1	SP1-23	2#12, 12G, 1/2"C	
	ENDLESS POOL						
PP6	ENDLESS PUMP	1	240	1	SP1-33,35	2#10, 10G, 3/4"C	1
PP7	HYDROTHERAPY PUMP	1	240	1	SP1-37,39	2#10, 10G, 3/4"C	1
	FILTER SYSTEM	1	120	1	SP1-25	2#12, 12G, 1/2"C	
	CHEMICAL CONTROLLER REFER:	1	120	1	SP1-27	2#12, 12G, 1/2"C	2
	CHLORINATION SYSTEM REFER:	1	120	1	SP1-29	2#12, 12G, 1/2"C	
	WATER LEVEL CONTROLLER REFER:	1	120	1	SP1-31	2#12, 12G, 1/2"C	
	UV TREATMENT SYSTEM & CONTROLLER REFER:	1	240	1	SP1-30,32	2#12, 12G, 1/2"C	
	HEATER TEES REFER:	1	240	1	SP1-26,28	2#10, 10G, 3/4"C	
	SWIM CURRENT POWER UNIT	1	240	1	SP1-34,36	2#8, 10G, 3/4"C	

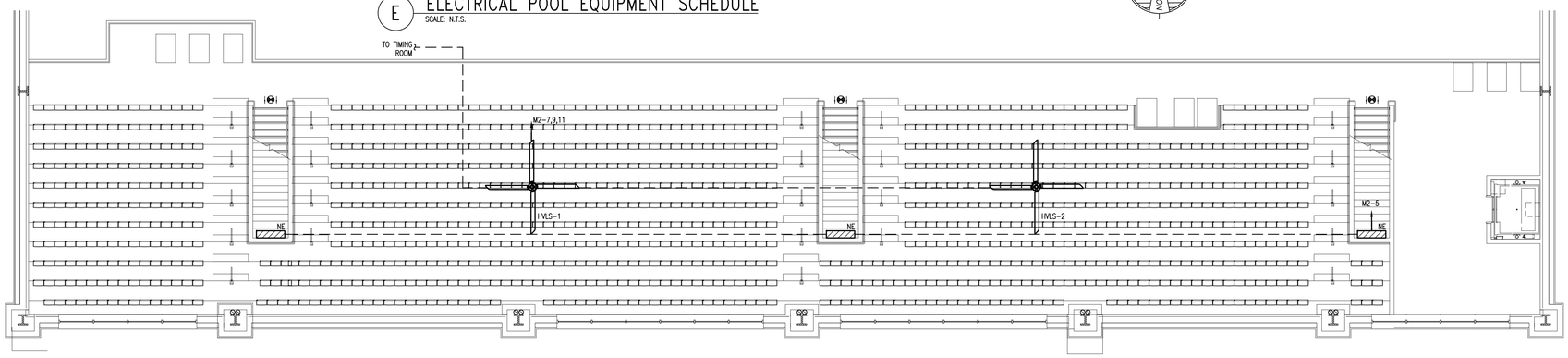
GEN NOTES:

1. COORDINATE LOCATION AND CONNECTION TYPE WITH EQUIPMENT INSTALLER.
2. INSTALL AUXILIARY IN RESPECTED PUMP VFD FOR REMOTE START STOP STATION.

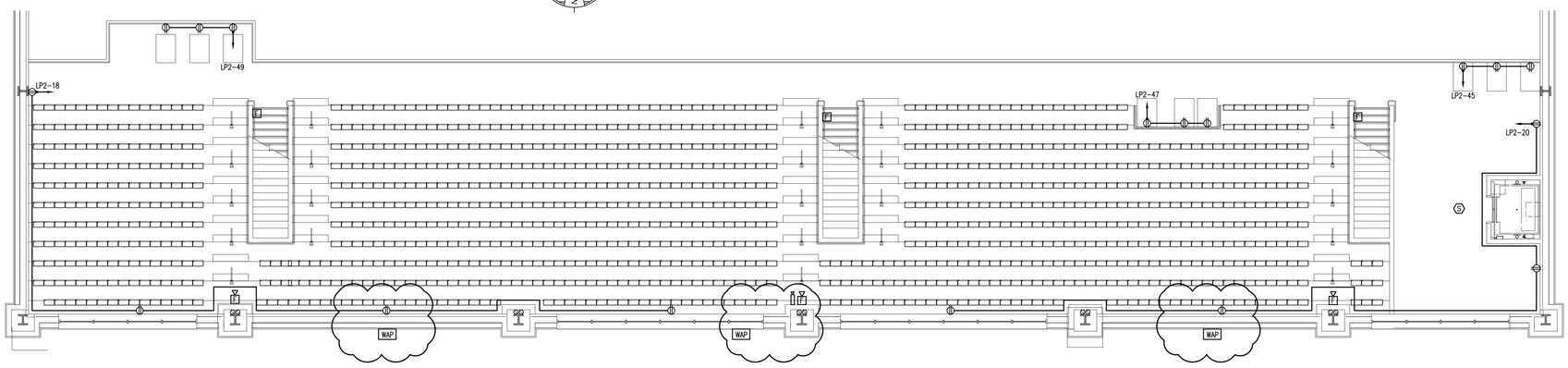
NOTES:

1. VFD FURNISHED BY SWIMMING POOL CONSULTANT AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO POOL CONSULTANT DRAWINGS.
2. FURNISH AND INSTALL DATA CONNECTION. REFER TO POOL CONSULTANT DRAWINGS.

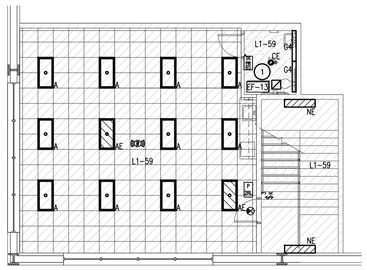
E ELECTRICAL POOL EQUIPMENT SCHEDULE
SCALE: N.T.S.



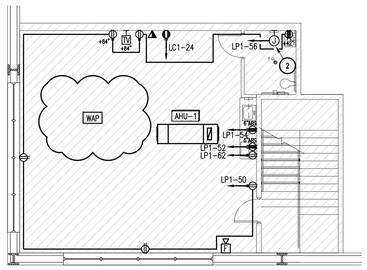
B ELECTRICAL LIGHTING FLOOR PLAN
SCALE: 1/8" = 1'-0"



A ELECTRICAL POWER FLOOR PLAN
SCALE: 1/8" = 1'-0"



D ELECTRICAL LIGHTING FLOOR PLAN
SCALE: 1/8" = 1'-0" (ALT #1)



C ELECTRICAL POWER FLOOR PLAN
SCALE: 1/8" = 1'-0" (ALT #1)

GENERAL NOTES:

A. COORDINATE ROUGH-IN LOCATION OF ALL DEVICES WITH ARCHITECTURAL ELEVATIONS, DETAILS, AND PLANS.

B. ALL DEVICES SHALL SHARE COMMON FACEPLATE WHERE APPLICABLE.

C. FOR MECHANICAL EQUIPMENT CONNECTION SCHEDULE. REFER TO DETAIL D/SHEET E2.01.

D. COORDINATE RECEPTACLES HIEGHT WITH OWNER PRIOR TO ROUGH-IN.

E. ALL CIRCUITS SHALL BE LABEL PER NEC.

F. LIGHT FIXTURES SHALL BE CIRCUITED TO CIRCUIT INDICATED IN SPACE.

G. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN (RCP) FOR EXACT LOCATION OF LIGHT FIXTURES. FURNISH FIXTURES WITH TRIM COMPATIBLE WITH THE TYPE OF CEILING AS INDICATED ON THE RCP.

H. EXIT LIGHTS ARE TYPE X, UNO. CONNECT EXIT LIGHT FIXTURES TO UN-SWITCHED CIRCUIT SERVING SPACE IN WHICH FIXTURE IS INSTALLED. INSTALL WALL MOUNTED FIXTURES 8'-0" AFF, UNO.

I. COORDINATE PLACEMENT OF FIXTURES WITH ACTUAL INSTALLATION OF MECHANICAL EQUIPMENT AND DUCTWORK.

J. SWITCH LEGS ARE NOT SHOWN WHERE SWITCHING SCHEME IS OBVIOUS.

K. FIXTURES SHALL BE CIRCUITED TO CIRCUIT INDICATED IN SPACE.

L. CIRCUIT EMERGENCY FIXTURES IN ROOMS TO PERMIT ALL THE LAMPS TO BE SWITCHED OFF, LEAVING THE BATTERY IN STAND BY CONDITION, SO THE EMERGENCY BATTERY UNIT WILL OPERATE ONE LAMP WHEN THE NORMAL POWER IS INTERRUPTED. REQUEST THE REQUIRED WIRING DIAGRAM FROM EQUIPMENT MANUFACTURER. ALL EMERGENCY LIGHTING FIXTURES SHALL BE CIRCUITED TO THE NON-SWITCHED PHASE WIRE IN ADDITION TO THE SWITCHED LEG. ALL EXIT SIGNS SHALL BE CIRCUITED TO THE NON-SWITCHED PHASE WIRE ONLY.

KEY NOTES:

1. EXHAUST FAN SHALL BE SWITCHED WITH LIGHTS.
2. FURNISH AND INSTALL J-BOX FOR CONNECTION OF HAND DRYER. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS. ROUTE 2#10, #10G, 1/2"C.

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FEILD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECCESSARY FOR FEILD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

LEGEND(LUTRON)

MS	MS-OPS6M2DV-WH
MS	MS-Z101-WH
PJ2	PJ2-2B-GWH-L01 (CW-1-WH)
PJ2 3BRL	PJ2-3BRL-GWH-L01 (CW-1-WH)
W	WLCU301
GRX	GRX-CESO-120PKG
LRF2	LRF2-OCR2B-P
HJS	HJS-2-FM
RMJS	RMJS-16R-DV-B
RMJS	RMJS-8T-DV-B

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REVISION	DATE	APPROVED BY	DESCRIPTION
ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED



06.26.2019

PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

E1.03

ELECTRICAL POWER FLOOR PLAN

MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX. 78501 (956) 664-2727
TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & MODEL #	LAMPS/TEMP/VA	VOLTAGE
A	2X4 EDGE LIT FLAT PANEL FIXTURE	LITHONIA #EPANL 2X4 4800LM 40K MIN1 ZT MVOLT LEDALUX #ECOPNL-2X4-70-U-4K METALUX #24FP4740C SIGNIFY #2FXP48L840-4-DS-UNV-DIM	LED 4000K 47	120/277
AE	2X4 EDGE LIT FLAT PANEL FIXTURE EMERGENCY BATTERY PACK	LITHONIA #EPANL 2X4 4800LM 40K MIN1 ZT MVOLT E10WCP LEDALUX #ECOPNL-2X4-70-U-4K-BU METALUX #24FP4740C-EL14W SIGNIFY #2FXP48L840-4-DS-UNV-DIM-EMLED	LED 4000K 47	120/277
B	2X4 EDGE LIT FLAT PANEL FIXTURE	LITHONIA #EPANL 2X4 3000LM 40K MIN1 ZT MVOLT LEDALUX #ECOPNL-2X4-50-U-4 METALUX #24FP3140C SIGNIFY #2FXP38L840-4-DS-UNV-DIM	LED 4000K 39	120/277
BE	2X4 EDGE LIT FLAT PANEL FIXTURE EMERGENCY BATTERY PACK	LITHONIA #EPANL 2X4 3000LM 40K MIN1 ZT MVOLT E10WCP LEDALUX #ECOPNL-2X4-50-U-4K-BU METALUX #24FP3140C-EL14W SIGNIFY #2FXP38L840-4-DS-UNV-DIM-EMLED	LED 4000K 39	120/277
C	6" RECESSED DOWNLIGHT	LITHONIA #LDN6 40/10 L06 AR MVOLT CONTECH LIGHTING #R6NC-1-40K-12-D / C6322M-CLR HALO COMMERCIAL #PD610ED010-PDM6A840-61VC SIGNIFY #6RN / P6RDL10840CLZ10U	LED 4000K 13	120/277
CE	6" RECESSED DOWNLIGHT EMERGENCY BATTERY PACK	LITHONIA #LDN6 40/10 L06 AR MVOLT EM CONTECH LIGHTING #R6NC-1-40K-12-D-ER / C6322M-CLR HALO COMMERCIAL #PD610ED010EM-PDM6A840-61VC SIGNIFY #6RNEM / P6RDL10840CLZ10U	LED 4000K 13	120/277
D	6" RECESSED DOWNLIGHT	LITHONIA #LDN6 40/20 L06 AR MVOLT CONTECH LIGHTING #R6NC-3-40K-12-D / C6322M-CLR HALO COMMERCIAL #PD620ED010-PDM6A840-61VC SIGNIFY #6RN / P6RDL20840CLZ10U	LED 4000K 23	120/277
DE	6" RECESSED DOWNLIGHT EMERGENCY BATTERY PACK	LITHONIA #LDN6 40/20 L06 AR MVOLT EM CONTECH LIGHTING #R6NC-3-40K-12-D-ER / C6322M-CLR HALO COMMERCIAL #PD620ED010EM-PDM6A840-61VC SIGNIFY #6RNEM / P6RDL20840CLZ10U	LED 4000K 23	120/277
F	4' STRIPLIGHT	LITHONIA #2L1N L48 3000LM FST MVOLT 40K WH METALUX #SNLED-33SL-LW-UNV-L840-CD1 LSI S-4-LED-SS-NW-UE SIGNIFY #FSS430L840-UNV-DIM	LED 4000K 33	120/277
FE	4' LED STRIPLIGHT EMERGENCY BATTERY PACK	LITHONIA #2L1N L48 3000LM FST MVOLT 40K 80CRI E7W WH METALUX #SNLED-33SL-LW-UNV-EL7W-L840-CD1 LSI S-4-LED-SS-NW-UE-EM SIGNIFY #FSS430L840-UNV-DIM-EMLED	LED 4000K 33	120/277
G2	2' RECESSED PERIMETER LIGHTING	MARK ARCHITECTURAL #SPRILED LOP 2FT RLP FL 80CRI 40K 400LMF MVOLT CORONET #FLAWLESS LED 2 40 LTG1 UNV	LED 4000K 7	120/277
G3	3' RECESSED PERIMETER LIGHTING	MARK ARCHITECTURAL #SPRILED LOP 3FT RLP FL 80CRI 40K 400LMF MVOLT CORONET #FLAWLESS LED 3 40 LTG1 UNV	LED 4000K 10	120/277
G4	4' RECESSED PERIMETER LIGHTING	MARK ARCHITECTURAL #SPRILED LOP 4FT RLP FL 80CRI 40K 400LMF MVOLT CORONET #FLAWLESS LED 4 40 LTG1 UNV	LED 4000K 14	120/277
H3	3' LED SYSTEM STANDARD OUTPUT 120 DEGREE SYMMETRIC	CORONET #RUSH REC LED 3' 40 LTG1 UNV MARK ARCHITECTURAL #SL2L-LOP-3FT-FLP-TG-80CRI-40K-600LMF-MIN10-277-ZT	LED 4000K 21	120/277
H4	4' LED SYSTEM STANDARD OUTPUT 120 DEGREE SYMMETRIC	CORONET #RUSH REC LED 4' 40 LTG1 UNV MARK ARCHITECTURAL #SL2L-LOP-4FT-FLP-TG-80CRI-40K-600LMF-MIN10-277-ZT	LED 4000K 28	120/277
H4E	4' LED SYSTEM STANDARD OUTPUT 120 DEGREE SYMMETRIC EMERGENCY BATTERY PACK	CORONET #RUSH REC LED 4' 40 LTG1 UNV EM MARK ARCHITECTURAL #SL2L-LOP-4FT-FLP-TG-80CRI-40K-600LMF-MIN10-277-E10WLCP-ZT	LED 4000K 28	120/277
K	4' LED HIGH BAY INDOOR DIRECT/INDIRECT LUMINAIRE CLEAR ACRYLIC	LUX DYNAMICS #LUX-WAVE-8-D-H02-850-4'-U10-CA4' SPECGRADE #AFL-800-5000K-90X90-110/277-WT-NAT-CTAX1 AMETRIX #ASYX-QP-S-6-NT-U-L40-1-UNV-W-C-XX-STD	LED 5000K 724	120/277
KE	4' LED HIGH BAY INDOOR DIRECT/INDIRECT LUMINAIRE CLEAR ACRYLIC EMERGENCY BATTERY PACK	LUX DYNAMICS #LUX-WAVE-8-D-H02-850-4'-U10-CA4' EM SPECGRADE #AFL-800-5000K-90X90-110/277-WT-NAT-CTAX1 EM AMETRIX #ASYX-QP-S-6-NT-U-L40-1-UNV-W-C-XX-STD EM	LED 5000K 724	120/277

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & MODEL #	LAMPS/TEMP/VA	VOLTAGE
M	THE MARINER 4' VAPOR TIGHT LINEAR EMERGENCY BATTERY PACK	SOLAS RAY LIGHTING #LQ-H4-112-50-X-XX	LED 4000K 127	120/277
ME	THE MARINER 4' VAPOR TIGHT LINEAR EMERGENCY BATTERY PACK	SOLAS RAY LIGHTING #LQ-H4-112-50-X-XX-BB	LED 4000K 127	120/277
NE	4' STRAND FIXTURE EMERGENCY BATTERY PACK DIMS TO 10% UNOCCUPIED	LITHONIA #WL4 SQL DM40 DCSP DMG EL14W METALUX #4SWLED-LD4-32SL-LW-UNV-EL14W-L840-CD1-SVPD2 ILP CVL4-30WLED-UNV-40-USBD/HL SIGNIFY #SF4C33A40UDZT-US-EMLED	LED 4000K 30	120/277
P	2'X4' EDGE LIT FLAT PANEL FIXTURE DRYWALL GRID ADAPTER	LITHONIA #EPANL 2X4 4800LM 40K MIN1 ZT MVOLT DGA24 LEDALUX #ECOPNL-2X4-70-U-4K-FLK24 METALUX #24FP4740C-DF-4W-U SIGNIFY #2FXP48L840-4-DS-UNV-DIM-FMA24	LED 4000K 47	120/277
Q	2'X4' EDGE LIT FLAT PANEL FIXTURE DRYWALL GRID ADAPTER	LITHONIA #EPANL 2X4 3000LM 40K MIN1 ZT MVOLT DGA24 LEDALUX #ECOPNL-2X4-50-U-4K-FLK24 METALUX #24FP3140C-DF-4W-U SIGNIFY #2FXP38L840-4-DS-UNV-DIM-FMA24	LED 4000K 39	120/277
QE	2'X4' EDGE LIT FLAT PANEL FIXTURE EMERGENCY BATTERY PACK DRYWALL GRID ADAPTER	LITHONIA #EPANL 2X4 3000LM 40K MIN1 ZT MVOLT E10WCP DGA24 LEDALUX #ECOPNL-2X4-50-U-4K-FLK24-BU METALUX #24FP3140C-EL14W-DF-4W-U SIGNIFY #2FXP38L840-4-DS-UNV-DIM-EMLED-FMA24	LED 4000K 39	120/277
SA	SINGLE HEAD ARM MOUNTED AREA LIGHT TYPE R3 DISTRIBUTION 30' POLE, 24" PEDESTAL	LITHONIA #RSX2 LED P2 40K R3	LED 4000K 114	120/277
SB	FOUR HEAD ARM MOUNTED AREA LIGHT TYPE R5 DISTRIBUTION 30' POLE, 24" PEDESTAL	LITHONIA #RSX2 LED P2 40K R5	LED 4000K 456	120/277
SC	ARCHITECTURAL WALL SCONCE TYPE FORWARD THROW DISTRIBUTION FINISH AS SELECTED BY ARCHITECT	LITHONIA #WST LED P3 40K 80CRI VF MVOLT RAYON #T630LED 40 UNI12 40 T3 BZ McGRAW-EDISON #IST-AF-1000-LED-E1-T4FT-XX SIGNIFY #101L-32L-700-NW-G1-4-UNV-XX	LED 4000K 50	120/277
SD	TESIS IN-GROUND LUMINAIRE RECESSED HOUSING POLYMER	ERCO #33640.000 HYDREL #M9710C-SS-P1-30K-MVOLT-NSP-FLC20-34S-BL	LED 4000K 20	120/277
SF	M9700C IN-GRADE LUMINAIRE	HYDREL #M9700C LED P2 40K WWD	LED 4000K 35	120/277
SH	16" SHE IN-GROUND LUMINAIRE GRAZING LIGHT WALLWASHER	ERCO #32840.021 TARGETTI #JE-R-10-WG-24-30K-L	LED 3000K 24	120/277
SJ	THREE HEAD ARM MOUNTED AREA LIGHT TYPE R3 DISTRIBUTION 30' POLE, 24" PEDESTAL	LITHONIA #RSX2 LED P2 40K R3	LED 4000K 342	120/277
SK4	4' RHYTHM LINEAR LED FLOOD WALL WASH DISTRIBUTION, ADJUSTABLE SURFACE MOUNT 18" EXTENDED ARM WITH STRUT, HALF VISOR	HYDREL #RHY4 SSBR WHT41K MVOLT WWD ASM EASRM18 HVSR CSL20 ETE DBL	LED 4100K 57	120/277
SL	4' LINEAR LED FLOOD LIGHT	HYDREL #4750L 4FT 2000LMF 40K VNSP	LED 4000K 64	120/277
V	UNIVERSAL EXIT LIGHT WITH BATTERY PACK	LITHONIA #LQMSWHR1/2/3/27TLEN MULE #MX-B-R-U SURE-LITES #LPX7 EELP #XE2RW-EM	LED'S FURNISHED	120/277

A ELECTRICAL LIGHTING FIXTURE SCHEDULE
SCALE: N.T.S.

HVLS FAN SCHEDULE

UNIT	HVLS-1, HVLS-2
SPACE SERVED	SPECTATOR AREA
AIRFLOW AT 100% SPEED (CFM)	86,400
AIRFLOW AT 80% SPEED (CFM)	69,000
AIRFLOW AT 60% SPEED (CFM)	50,500
AIRFLOW AT 40% SPEED (CFM)	34,300
AIRFLOW AT 20% SPEED (CFM)	18,800
FAN TYPE	DIRECT DRIVE
FAN MOTOR HP	3/4
MAX RATED CURRENT (A)	1.0
VOLTAGE	460/3/60
MAX DIAMETER (FT)	14
NUMBER OF FAN BLADES	5
MAX OP WEIGHT (LB)	168
NOTES	ALL

NOTES:
1. FAN CFM AIRFLOW SHALL BE RATED PER AMCA 230-15.
2. PROVIDE NEMA 4X VFD REMOTE MOUNTED MOTOR CONTROLLER. FAN MOUNTED MOTOR CONTROLLERS ARE NOT ACCEPTABLE.
3. PROVIDE REMOTE MOUNTED TOUCHSCREEN NETWORK INTERFACE WITH BACNET CAPABILITY FOR BAS INTERFACE.
4. PROVIDE DIRECT DRIVE MOTOR. GEAR DRIVEN SYSTEMS ARE NOT ALLOWED.
5. SEE SPECIFICATION FOR CONSTRUCTION AND OTHER REQUIREMENTS.

B ELECTRICAL HVLS FAN SCHEDULE
SCALE: N.T.S.

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REVISION	DATE	APPROVED BY	DESCRIPTION
1 ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
2 ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
3 ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED



06.26.2019

PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

E3.01
ELECTRICAL LIGHTING FIXTURE SCHEDULE

MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX 78501 (956) 664-2727
TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748

PLUMBING CONTRACTOR SHALL COORDINATE DOMESTIC WATER AND SANITARY SEWER LINE DIRECTION OF FLOW, SIZE, INVERT, AND POINT OF CONNECTION WITH EXISTING CONDITIONS PRIOR TO INSTALLATION OF ROUGH-IN TO AVOID CONFLICT. ANY DISCREPANCIES FOUND BY THE PLUMBING CONTRACTOR SHALL BE REPORTED TO THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSTALLATION. FAILURE TO COMPLY SHALL MAKE ALL CORRECTIONS AND/OR MODIFICATIONS THE FULL RESPONSIBILITY OF THE CONTRACTOR.

KITCHEN EQUIPMENT WILL BE PROVIDED BY OTHERS. IT IS THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT.

GENERAL NOTES: ( )

(A) INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ENGINEER.

(B) PLUMBING CONTRACTOR SHALL ADHERE TO ALL CITY CODES, STATE CODES AND LOCAL CODES THAT HAVE AUTHORITY OVER THIS PROJECT.

(C) PLUMBING CONTRACTOR SHALL TERMINATE ALL WATER ROUGH-IN WITH SHUT-OFF VALVES BEFORE CONNECTING TO EQUIPMENT AND RELATED FIXTURES.

(D) PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY INSTALLATION OF PIPING AND DUCTWORK PRIOR TO BEGINNING OF CONSTRUCTION

(E) INSULATE "P" TRAPS AND SUPPLIES AT HANDICAP LAVATORIES WITH INSULATION KIT.

(F) PROVIDE VACUUM BREAKER TO ALL FIXTURES WITH HOSE CONNECTION AND APPLIANCES WITH DIRECT CONNECTIONS TO DOMESTIC WATER.

(G) REFER TO ARCHITECTS DRAWINGS FOR MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES

(H) PROVIDE CEILING ACCESS PANEL FOR WATER ISOLATION VALVES, IN OTHERWISE INACCESSIBLE AREAS. PROVIDE LOCKABLE HINGED ACCESS PANELS IN PUBLIC AREAS. PAINT PANELS TO MATCH SURROUNDING SURFACE.

(I) SAW CUT EXISTING SLAB AS REQUIRED TO ACCOMODATE NEW PLUMBING FIXTURE ROUGH-IN.

(J) ALL VENTS THROUGH ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE ROOF. ALL VENTS SHALL BE MINIMUM OF 10' AWAY FROM ANY OUTSIDE AIR INTAKE.

KEY NOTES: ○

1. PROVIDE TRAP PRIMER CONNECTION FROM NEAREST FLUSH VALVE TRAP PRIMER, REFER TO DETAIL.
2. REFER TO HM/CW FLOOR PLAN FOR CONTINUATION OF PRIMER LINE AND TRAP PRIMER LOCATION ABOVE CEILING.
3. RISE CONDENSATE DRAIN LINE UP ALONG WALL CAVITIES TO HIGHER LEVEL.
4. RISE SEWER LINE UP ALONG WALL CAVITIES TO HIGHER LEVEL SHALL BE PART OF ALTERNATE #1. REFER TO ARCHITECTURAL DRAWINGS.
5. RISE VENT LINE UP ALONG WALL CAVITIES TO HIGHER LEVEL.
6. RISE STORM SEWER UP TO HIGHER LEVEL.
7. COORDINATE HUB DRAIN LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR FOR FINAL EQUIPMENT LOCATIONS PRIOR TO COMMENCEMENT OF WORK TO AVOID CONFLICT.
8. PROVIDE AND INSTALL FIRE RATED ACCESS DOOR EQUAL TO A ELM MODEL "FR-16x16"; DOOR SHALL SERVICE HUB DRAIN, REFER TO DETAIL.
9. PROVIDE AND INSTALL ¾" COPPER CONDENSATE DRAIN LINE FROM UNIT TO HUB DRAIN. REFER TO DETAIL.

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REVISION	DATE	APPROVED BY	DESCRIPTION
ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

STATE OF TEXAS
LUIS JAVIER PEÑA
97260
LICENSED PROFESSIONAL ENGINEER
06.26.2019

PROPOSED

CITY OF PHARR/PSJA
AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

P1.01

PLUMBING SEWER
FLOOR PLAN

NORTH

A PLUMBING SEWER FLOOR PLAN
SCALE: 3/32" = 1'-0"

MEP SOLUTIONS ENGINEERING
MECHANICAL, ELECTRICAL, PLUMBING ENGINEERS
600 E. BEAUMONT AVE. SUITE 2 McALLEN, TX 78501 (956) 664-2727
TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748

PLUMBING CONTRACTOR SHALL COORDINATE DOMESTIC WATER AND SANITARY SEWER LINE DIRECTION OF FLOW, SIZE, INVERT, AND POINT OF CONNECTION WITH EXISTING CONDITIONS PRIOR TO INSTALLATION OF ROUGH-IN TO AVOID CONFLICT. ANY DISCREPANCIES FOUND BY THE PLUMBING CONTRACTOR SHALL BE REPORTED TO THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSTALLATION. FAILURE TO COMPLY SHALL MAKE ALL CORRECTIONS AND/OR MODIFICATIONS THE FULL RESPONSIBILITY OF THE CONTRACTOR.

KITCHEN EQUIPMENT WILL BE PROVIDED BY OTHERS. IT IS THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT.

GENERAL NOTES: ( )

(A) INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ENGINEER.

(B) PLUMBING CONTRACTOR SHALL ADHERE TO ALL CITY CODES, STATE CODES AND LOCAL CODES THAT HAVE AUTHORITY OVER THIS PROJECT.

(C) PLUMBING CONTRACTOR SHALL TERMINATE ALL WATER ROUGH-IN WITH SHUT-OFF VALVES BEFORE CONNECTING TO EQUIPMENT AND RELATED FIXTURES.

(D) PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY INSTALLATION OF PIPING AND DUCTWORK PRIOR TO BEGINNING OF CONSTRUCTION

(E) INSULATE "P" TRAPS AND SUPPLIES AT HANDICAP LAVATORIES WITH INSULATION KIT.

(F) PROVIDE VACUUM BREAKER TO ALL FIXTURES WITH HOSE CONNECTION AND APPLIANCES WITH DIRECT CONNECTIONS TO DOMESTIC WATER.

(G) REFER TO ARCHITECTS DRAWINGS FOR MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES

(H) PROVIDE CEILING ACCESS PANEL FOR WATER ISOLATION VALVES, IN OTHERWISE INACCESSIBLE AREAS. PROVIDE LOCKABLE HINGED ACCESS PANELS IN PUBLIC AREAS. PAINT PANELS TO MATCH SURROUNDING SURFACE.

(I) SAW CUT EXISTING SLAB AS REQUIRED TO ACCOMODATE NEW PLUMBING FIXTURE ROUGH-IN.

(J) ALL VENTS THROUGH ROOF SHALL BE FLASHED A MINIMUM OF 12" ABOVE ROOF. ALL VENTS SHALL BE MINIMUM OF 10' AWAY FROM ANY OUTSIDE AIR INTAKE.

(K) PROVIDE AND INSTALL 1-FOOT OF GAS LINE DRIP LEG PRIOR TO CONNECTION OF FUEL BURNING EQUIPMENT.

(L) ALL EXPOSED GAS PIPING SYSTEMS SHALL BE PAINTED BRIGHT YELLOW.

KEY NOTES: ○

1. FIXTURE SHALL BE PROVIDED WITH THERMOSTATIC MIXING VALVE LOCATED UNDER PLUMBING FIXTURE EQUAL TO A LEONARD MODEL 170 WITH COLD WATER BY-PASS AND MOUNTING BRACKET. REFER TO DETAIL.
2. TRAP PRIMER WITH 1/2" LINE LOCATED ABOVE CEILING. REFER TO DETAIL.
3. WATER LINE FOR POOL. PLUMBING CONTRACTOR SHALL COORDINATE FINAL LOCATION OF WATER LINE WITH POOL CONTRACTOR PRIOR TO COMMENCEMENT OF WORK TO AVOID CONFLICT.
4. PLUMBING CONTRACTOR SHALL COORDINATE DOMESTIC WATER LINE SIZE, AND POINT OF CONNECTION WITH CIVIL PLANS PRIOR TO BID TO AVOID CONFLICTS. ANY DISCREPANCIES FOUND BY THE PLUMBING CONTRACTOR SHALL BE REPORTED TO THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSTALLATION. FAILURE TO COMPLY SHALL MAKE ALL CORRECTIONS AND/OR MODIFICATIONS THE FULL RESPONSIBILITY OF THE CONTRACTOR.
5. DROP LINE INTO POOL FILL FUNNEL. REFER TO POOL CONSULTANT DRAWINGS. FURNISH SOLENOID VALVE(S) PER CONSULTANT RECOMMENDATIONS.
6. FIRE SPRINKLER RISER WITH BACKFLOW PREVENTER TO BE LOCATED INSIDE RISER ROOM. ROUTE FIRE DEPARTMENT CONNECTION LINE FROM RISER ROOM TO PROPOSED FREE-STANDING STORZ CONNECTION. REFER TO CIVIL PLANS.
7. PROPOSED FIRE SPRINKLER SUPPLY LINE, FIRE DEPARTMENT CONNECTION AND PIPE SHALL BE SIZED BY A LICENSED FIRE SPRINKLER DESIGNER. DESIGNER SHALL COORDINATE WITH ALL OTHER TRADES FOR WATER SUPPLY LINE REQUIREMENTS AND FIRE DEPARTMENT CONNECTION TO MEET CITY INSTALLATION REQUIREMENTS.
8. RISE CW LINE UP ALONG WALL CAVITIES TO HIGHER LEVEL SHALL BE PART OF ALTERNATE #1. REFER TO ARCHITECTURAL DRAWINGS.
9. RISE HWR LINE UP ALONG WALL CAVITIES TO HIGHER LEVEL SHALL BE PART OF ALTERNATE #1. REFER TO ARCHITECTURAL DRAWINGS.
10. RISE HW LINE UP ALONG WALL CAVITIES TO HIGHER LEVEL SHALL BE PART OF ALTERNATE #1. REFER TO ARCHITECTURAL DRAWINGS.
11. RISE GAS DISTRIBUTION PIPING UP ABOVE ROOF SHALL BE ROUTED THRU GAS PIPE SCUPPER. REFER TO PLUMBING ROOF PLAN FOR CONTINUATION.
12. TANKLESS WATER HEATER SYSTEM SHALL BE INSTALLED AS PER MANUFACTURER RECOMMENDATIONS.
13. EACH GAS REGULATOR SHALL BE FURNISHED WITH A SHUT-OFF VALVE UP-STREAM OF REGULATOR.
14. CONNECT TO PROPOSED METERED GAS SERVICE PROVIDED BY GAS COMPANY. COORDINATE ROUTING AND POINT OF CONNECTION WITH GAS COMPANY PRIOR TO COMMENCEMENT OF WORK TO AVOID CONFLICT. LINE SHALL SIZED FOR A GAS LOAD OF 9344 CFH.
15. RISE GAS DISTRIBUTION PIPING UP TO ROOF. REFER TO PLUMBING ROOF PLAN FOR CONTINUATION.
16. PROVIDE AND INSTALL 3" BRONZE TURBINE METER EQUAL TO ZENNER MODEL "ZTMB03".

A PLUMBING HW/CW FLOOR PLAN
SCALE: 3/32" = 1'-0"

TWG
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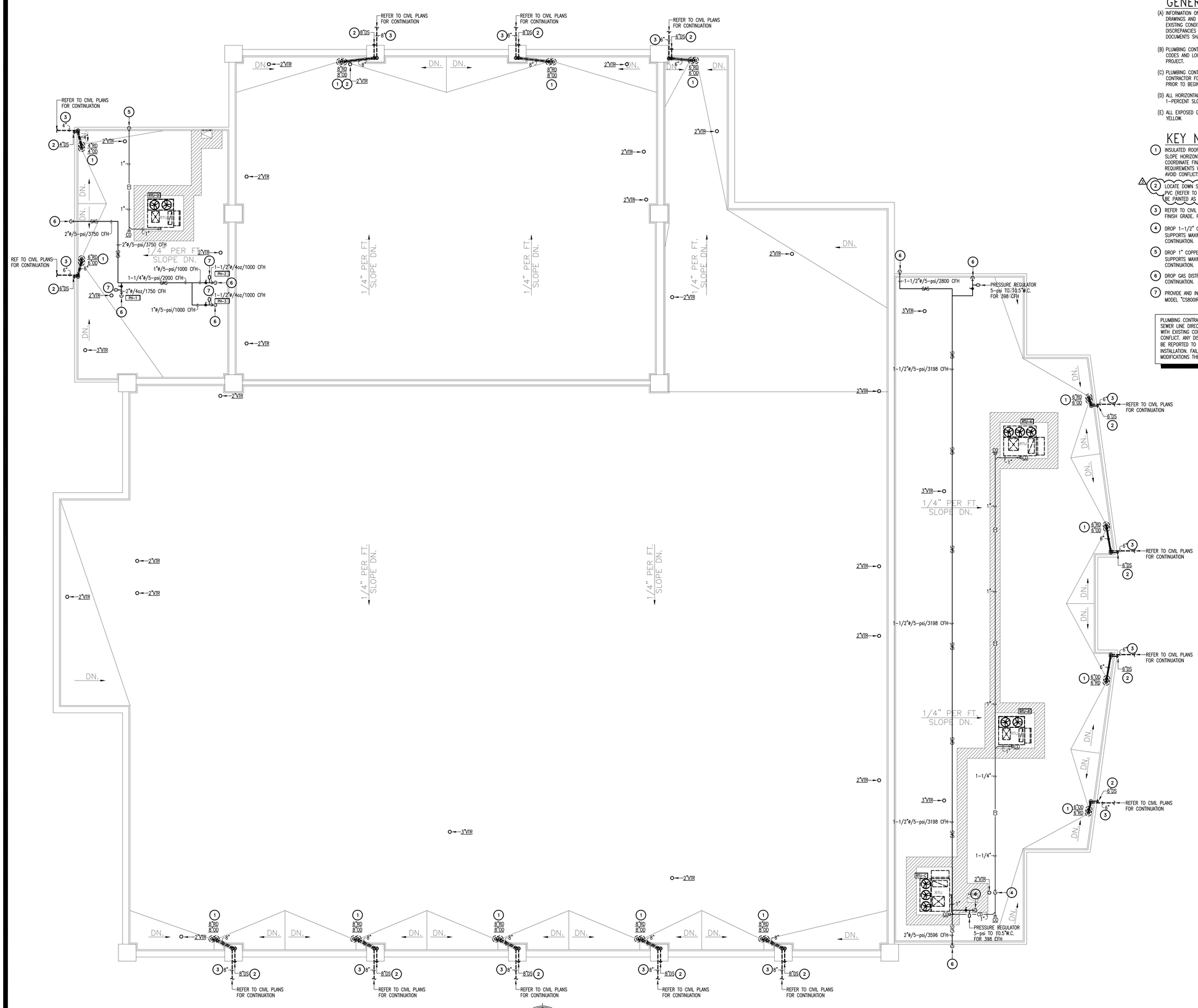
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PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

P1.02

PLUMBING HW/CW
FLOOR PLAN

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TEXAS BOARD OF PROFESSIONAL ENGINEERS REGISTRATION # F-9748



A PLUMBING ROOF PLAN

SCALE: 3/32" = 1'-0"

GENERAL NOTES:

(A) INFORMATION ON THIS PLAN HAS BEEN OBTAINED FROM EXISTING DRAWINGS AND SITE SURVEY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ENGINEER.

(B) PLUMBING CONTRACTOR SHALL ADHERE TO ALL CITY CODES, STATE CODES AND LOCAL CODES THAT HAVE AUTHORITY OVER THIS PROJECT.

(C) PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ANY INSTALLATION OF PIPING AND DUCTWORK PRIOR TO BEGINNING OF CONSTRUCTION

(D) ALL HORIZONTAL ROOF DRAIN LEADERS SHALL BE ROUTED AT 1-PERCENT SLOPE UNLESS OTHERWISE SPECIFIED.

(E) ALL EXPOSED GAS PIPING SYSTEMS SHALL BE PAINTED BRIGHT YELLOW.

KEY NOTES:

1. INSULATED ROOF DRAIN AND OVERFLOW ROOF DRAIN LEADERS IN FURR OUT. SLOPE HORIZONTAL LEADERS 1/8" PER FOOT. PLUMBING CONTRACTOR SHALL COORDINATE FINAL LOCATION OF ROOF DRAIN LEADER AND FURR OUT REQUIREMENTS WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK TO AVOID CONFLICTS. REFER TO ROOF PLAN FOR ROOF DRAIN LEADER SIZES.
2. LOCATE DOWN SPOUT 18" ABOVE FINISH GROUND LEVEL. LEADERS SHALL BE PVC (REFER TO SPECIFICATION). DRAIN LEADERS WHICH ARE EXPOSED SHALL BE PAINTED AS PER ARCHITECTURAL RECOMMENDATIONS.
3. REFER TO CIVIL PLANS FOR CONTINUATION OF ROOF DRAIN LEADER BELOW FINISH GRADE. REFER TO PLUMBING DETAIL FOR CLEAN OUT REQUIREMENT.
4. DROP 1-1/2" COPPER CONDENSATE DRAIN LINE AND PROVIDE PIPE HANGER SUPPORTS MAXIMUM 5'-0" O.C. SPACING. REFER TO PLUMBING PLAN FOR CONTINUATION.
5. DROP 1" COPPER CONDENSATE DRAIN LINE AND PROVIDE PIPE HANGER SUPPORTS MAXIMUM 5'-0" O.C. SPACING. REFER TO PLUMBING PLAN FOR CONTINUATION.
6. DROP GAS DISTRIBUTION PIPING DOWN. REFER TO PLUMBING PLANS FOR CONTINUATION.
7. PROVIDE AND INSTALL GAS PRESSURE REGULATOR EQUAL TO "FISHER" MODEL "CS800R". INSTALLATION SHALL MEET CITY REQUIREMENTS.

PLUMBING CONTRACTOR SHALL COORDINATE DOMESTIC WATER AND SANITARY SEWER LINE DIRECTION OF FLOW, SIZE, INVERT, AND POINT OF CONNECTION WITH EXISTING CONDITIONS PRIOR TO INSTALLATION OF ROUGH-IN TO AVOID CONFLICT. ANY DISCREPANCIES FOUND BY THE PLUMBING CONTRACTOR SHALL BE REPORTED TO THE ENGINEER/ARCHITECT IMMEDIATELY AND PRIOR TO ANY INSTALLATION. FAILURE TO COMPLY SHALL MAKE ALL CORRECTIONS AND/OR MODIFICATIONS THE FULL RESPONSIBILITY OF THE CONTRACTOR.

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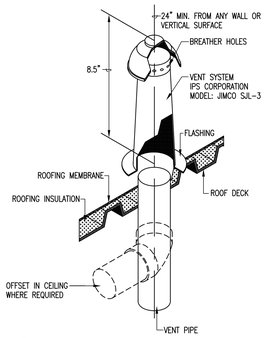
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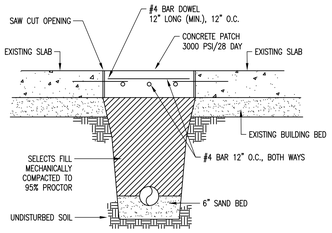
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PLUMBING
ROOF PLAN

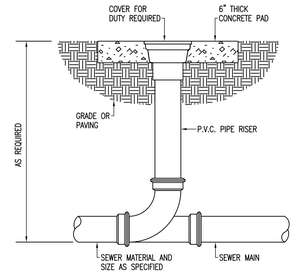
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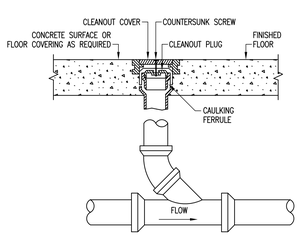
A VENT THROUGH ROOF DETAIL
SCALE: N.T.S.



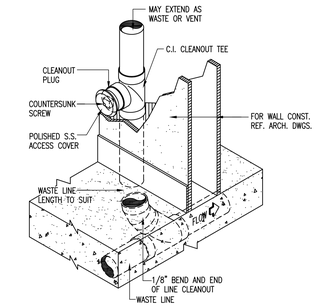
B SAW CUT DETAIL
SCALE: NTS



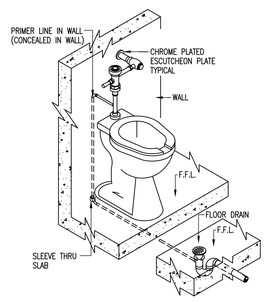
C EXTERIOR CLEANOUT DETAIL
SCALE: N.T.S.



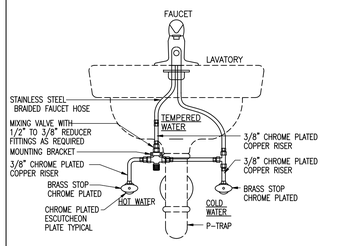
D FLOOR CLEANOUT DETAIL
SCALE: N.T.S.



E WALL CLEANOUT DETAIL
SCALE: N.T.S.

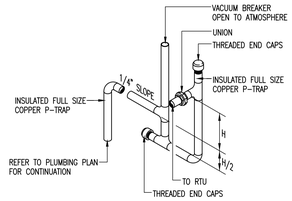


F FLUSH VALVE TRAP PRIMER DETAIL
SCALE: N.T.S.



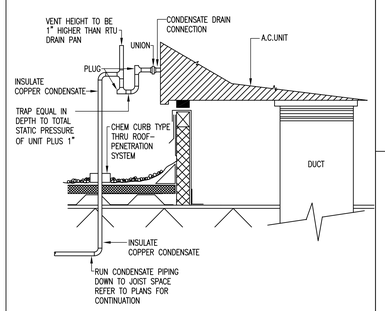
NOTE:
1. MIXING VALVE AND WATER LINES SHALL BE INSTALLED BETWEEN WALL AND P-TRAP TAILPIECE
2. PROVIDE AND INSTALL COVER KIT FOR P-TRAP AND STOPS.
3. FIELD INSULATE MIXING VALVE AND PIPING FROM MIXING VALVE TO FAUCET CONNECTION. JACKET INSULATION TO MATCH TRAP COVER KIT.
4. PROVIDE AND INSTALL REQUIRED 1/2" TO 3/8" REDUCERS AND CONNECTION FITTINGS.

G MIXING VALVE UNDER LAV DETAIL
SCALE: N.T.S.

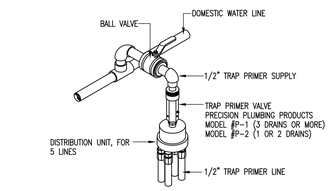


NOTE:
(1) H= FAN INLET PRESSURE (IN. W.C.) + 1-IN.
(2) CONDENSATE LINE SHALL BE INSULATED AND FURNISHED WITH ALUMINUM JACKET, (REFER TO SPECS.).

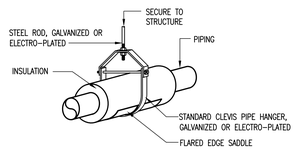
H RTU CONDENSATE P-TRAP DETAIL
SCALE: N.T.S.



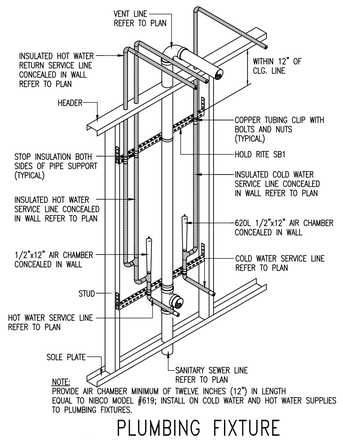
I ROOF TOP UNIT CONDENSATE CONNECTION DETAIL
SCALE: N.T.S.



J TRAP SEAL PRIMER DETAIL
SCALE: N.T.S.

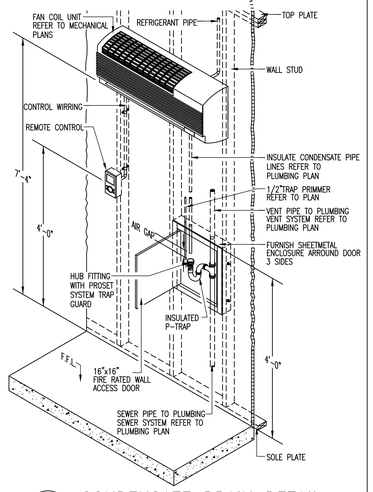


K PIPE HANGER SADDLE DETAIL
SCALE: NTS



NOTE:
PROVIDE AIR CHAMBER MINIMUM OF TWELVE INCHES (12") IN LENGTH EQUAL TO NIBCO MODEL #619; INSTALL ON COLD WATER AND HOT WATER SUPPLIES TO PLUMBING FIXTURES.

L PLUMBING FIXTURE INSTALLATION DETAIL
SCALE: N.T.S.



M CONDENSATE DRAIN DETAIL
SCALE: N.T.S.

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE TYPE	CONNECTION SIZE SEWER	VENT	CW	HW	DESCRIPTION
P1	WATER CLOSET (HANDICAP)	4"	2"	1"	–	VITREOUS CHINA, ELONGATED RIM, FLOOR MOUNTED WATER CLOSET WITH 1-1/2" TOP SPUD. ZURN "ECOVANTAGE" MODEL "Z5665-BWL". 16-3/4" RIM HEIGHT, 1.6 GPF, 10" ROUGH-IN, SIPHON JET ACTION WITH SLOAN "ROYAL" FLUSH MODEL "111-1P" WITH TRAP PRIMER CONNNECTION WHERE SHOWN ON PLANS, BENEKE MODEL "533" OPEN FRONT SEAT LESS COVER.
P2	WATER CLOSET	4"	2"	1"	–	VITREOUS CHINA, ELONGATED RIM, FLOOR MOUNTED WATER CLOSET WITH 1-1/2" TOP SPUD. ZURN "ECOVANTAGE" MODEL "Z5655-BWL". 15" RIM HEIGHT, 1.6 GPF, 10" ROUGH-IN, SIPHON JET ACTION WITH SLOAN "ROYAL" FLUSH MODEL "111-1P" WITH TRAP PRIMER CONNNECTION WHERE SHOWN ON PLANS, BENEKE MODEL "533" OPEN FRONT SEAT LESS COVER.
P3	URINAL (HANDICAP)	2"	2"	3/4"	–	VITREOUS CHINA, WALL HUNG, SIPHON JET ACTION WITH 3/4" TOP SPUD AND WALL HANGERS. MINIMUM 14" RIM TO WALL DISTANCE. EQUAL TO ZURN MODEL "Z5730" WITH SLOAN ROYAL "186-1" FLUSH VALVE AND APPROVED CARRIER SYSTEM.
P4	LAVATORY WALL HUNG (HANDICAP)	2"	2"	1/2"	1/2"	VITREOUS CHINA, WALL HUNG LAVATORY WITH HOLES ON 4" CENTERS EQUAL TO ZURN MODEL "Z5340". COMPLETE WITH LAVATORY FAUCET MOEN MODEL "8413F15". CHROME FINISH, SINGLE LEVER HANDLE, 1.5 GPM FLOW, ADA APPROVED, WITH CARRIER AND PROTECTIVE COVER ON P-TRAP.
P5	LAVATORY COUNTERTOP (HANDICAP)	2"	2"	1/2"	1/2"	VITREOUS CHINA, SELF RIMMING, OVAL (20"X17") LAVATORY WITH FAUCET HOLES ON 4" CENTERS EQUAL TO ZURN MODEL "Z5114". COMPLETE WITH LAVATORY FAUCET MOEN MODEL "8413F15". CHROME FINISH, SINGLE LEVER HANDLE, 1.5 GPM FLOW, ADA APPROVED AND PROTECTIVE COVER ON P-TRAP.
P6	STAINLESS STEEL COUNTERTOP SINK (HANDICAP)	2"	2"	1/2"	1/2"	SINGLE COMPARTMENT STAINLESS STEEL SINK EQUAL TO ELKAY MODEL "LRAD-2521-60-3". SELF RIMMING, 25"X21"X6", 3 HOLES ON 4" CENTERS, 18 GAUGE, UNDERCOATED. COMPLETE WITH MOEN MODEL "8289" SWING GOOSENECK SPOUT, CHROMED METAL WRIST BLADE HANDLES, DECK MOUNT FAUCET AND "LK-35" STRAINER WITH BASKET.
P7	SHOWER (HANDICAP)	–	–	–	1/2" TEMPERED WATER	PRESSURE BALANCING VALVE WITH CHECK STOPS ON INLETS, STAINLESS STEEL BALANCING PISTON EQUAL TO BRADLEY MODEL " S59-1000". SHOWER STALL SHALL BE EQUAL TO BRADLEY MODEL "HN300" COMPLETE WITH HAND HELD SHOWER, 60" METAL CLAD HOSE, BARRIER FREE SEAT AND ADA COMPLIANT GRAB BAR. SHOWER HEAD SHALL BE ADJUSTABLE PATTERN WITH CHROME PLATED BRASS ARM EQUAL TO BRADLEY MODEL "1C-S".
P8	SHOWER	–	–	–	1/2" TEMPERED WATER	BUILT IN SHOWER WITH PRESSURE BALANCING VALVE, STANDARD INSTITUTIONAL SHOWER HEAD AND WALL MOUNTED SOAP DISH, EQUAL TO BRADLEY "1C-EF-S1-ST-SD".
P9	SHOWER (HANDICAP)	–	–	1/2"	1/2"	PRESSURE BALANCING SHOWER WITH INTEGRAL CHECK STOPS, AND ADJUSTABLE TEMPERATURE LIMIT STOPS EQUAL TO MOEN "POSI-TEMP" MODEL "8342". COMPLETE WITH HAND HELD SHOWER, 69" SHOWER HOSE, 30" SLIDE BAR, 1/2" CC CONNECTIONS, ADA COMPLIANT. POLISHED CHROME FINISH.
P10	BI-LEVEL ELECTRIC WATER COOLER (HANDICAP)	2"	2"	1/2"	–	BI-LEVEL, SELF-CONTAINED, WALL HUNG REFRIGERATED WATER COOLER EQUAL TO ELKAY "EZSTL-8". SELF CLOSING CONTROLS ON FRONT AND SIDE, STAINLESS STEEL BASIN. FLEX-GUARD BUBBLER CAPABLE OF DELIVERING 8.0 GPH OF 50°F WATER WITH 80°F INLET WATER AND 90°F ROOM TEMPERATURE. FURNISH WITH CARRIER AND APRON.
P11	EMERGENCY EYEWASH (HANDICAP)	–	–	1/2	1/2"	PVC WALL MOUNTED EYE WASH EQUAL TO GUARDIAN EQUIPMENT MODEL "G1782", COMPLETE WITH GUARDIAN MODEL "G3600" EMERGENCY THERMOSTATIC MIXING VALVE, WALL MOUNTING BRACKET, P-TRAP AND TAILPIECE.
MS	MOP SINK FLOOR MOUNTED	2"	2"	3/4"	3/4"	TERRAZO, SQUARE MOP SINK EQUAL TO FIAT "TSBC-3010" 24"X24"X12" WITH 6" DROP FRONT, STAINLESS STEEL RIM GUARD AND "MSG-2424" WALL GUARD. COMPLETE WITH MOEN MODEL "8124 CHROME" SERVICE SINK FAUCET WITH 8" CENTERS, PAIL HOOK, AND VACUUM BREAKER SPOUT. COMPLETE WITH "832-AA" HOSE AND BRACKET, "889-CC" STAINLESS STEEL MOP BRACKET AND GRID STRAINER.
WH-1	WATER HEATER	–	–	–	–	TANKLESS WATER HEATER RATED AT 199,000 BTUH EQUAL TO A NAVIEN MODEL "NPE-240S". FURNISH WITH CONCENTRIC VENT KIT (FOR SIDE WALL MOUNTING), EXPANSION TANK. INSTALL SYSTEM PER MANUFACTURER RECOMMENDATIONS.
WH-2 WH-3	WATER HEATER	–	–	–	–	TANKLESS WATER HEATERS IN MANIFOLD CONFIGURATION WITH EACH RATED AT 199,000 BTUH EQUAL TO A NAVIEN MODEL "NPE-240S". FURNISH WITH CONCENTRIC VENT KIT (FOR SIDE WALL MOUNTING), EXPANSION TANK. INSTALL SYSTEM PER MANUFACTURER RECOMMENDATIONS.
WH-4 WH-5	WATER HEATER	–	–	–	–	TANKLESS WATER HEATERS IN MANIFOLD CONFIGURATION WITH EACH RATED AT 199,000 BTUH EQUAL TO A NAVIEN MODEL "NPE-240S". FURNISH WITH CONCENTRIC VENT KIT (FOR SIDE WALL MOUNTING), EXPANSION TANK. INSTALL SYSTEM PER MANUFACTURER RECOMMENDATIONS.
WH-6	WATER HEATER	–	–	–	–	TANKLESS WATER HEATER RATED AT 199,000 BTUH EQUAL TO A NAVIEN MODEL "NPE-240S". FURNISH WITH CONCENTRIC VENT KIT (FOR SIDE WALL MOUNTING), EXPANSION TANK. INSTALL SYSTEM PER MANUFACTURER RECOMMENDATIONS.
3"FD	GENERAL DUTY FLOOR DRAIN	3"	2"	–	–	ZURN MODEL "Z-415-B" LACQUERED CAST IRON FLOOR DRAIN. FURNISH COMPLETE WITH "TYPE B" NICKEL BRONZE STRAINER AND 1/2" TRAP PRIMER CONNECTION.
3"FD-1	GENERAL DUTY FLOOR DRAIN	3"	2"	–	–	ZURN MODEL "FD1-PV3-SS-P-VP" ADJUSTABLE PVC FLOOR DRAIN. FURNISH COMPLETE WITH STAINLESS STEEL STRAINER AND 1/2" TRAP PRIMER CONNECTION.
2"FD	SHOWER FLOOR DRAIN	2"	2"	–	–	ZURN MODEL "Z-415-B" LACQUERED CAST IRON FLOOR DRAIN. FURNISH COMPLETE WITH "TYPE B" NICKEL BRONZE STRAINER.
2"FD-1	SHOWER FLOOR DRAIN	2"	2"	–	–	ZURN MODEL "FD1-PV2-SS-VP" ADJUSTABLE PVC FLOOR DRAIN. FURNISH COMPLETE WITH STAINLESS STEEL STRAINER.
3"FS	FLOOR SINK	3"	2"	–	–	ZURN MODEL "Z-1900-P-2" PORCELAIN-ENAMELED CAST IRON FLOOR SINK. 12"X12"X6" WITH ANTI-SPLASH INTERIOR BOTTOM DOME STRAINER, PORCELAIN-ENAMELED CAST IRON 1/2" GRATE AND 1/2" TRAP PRIMER CONNECTION.
RICB	REFRIGERATOR ICE CONNECTION BOX	–	–	1/2"	–	GUY GRAY MODEL "BIM-875" ICE CONNECTION BOX.
WHB	WALL HYDRANT	–	–	3/4"	–	ZURN ELECTROL WALL HYDRANT MODEL "Z-1300" ENCASED, NON-FREEZE, ANTI-SIPHON, AUTOMATIC DRAINING HYDRANT FOR FLUSH WALL INSTALLATION COMPLETE WITH BACKFLOW PREVENTER, CLOSURE VALVE, NICKEL BRONZE BOX, HINGED COVER, KEY LOCK, AND "WATER" CAST ON COVER.
FCO-1	FLOOR CLEANOUT	4"	–	–	–	ZURN MODEL "ZN1400" LEVEL-TROL ADJUSTABLE FLOOR CLEANOUT WITH DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT ABS TAPERED THREADED PLUG, AND ROUND SCORIATED POLISHED NICKEL BRONZE TOP ADJUSTABLE TO FINISHED FLOOR.
FCO-2	FLOOR CLEANOUT	4"	–	–	–	ZURN MODEL "CZC-PV4-R6-SS" ADJUSTABLE FLOOR CLEANOUT WITH PVC SOLVENT WELD BODY, GAS AND WATERTIGHT ABS TAPERED THREADED PLUG, AND ROUND SCORIATED STAINLESS STEEL TOP ADJUSTABLE TO FINISHED FLOOR.
YCO	YARD CLEANOUT	4"	–	–	–	ZURN MODEL "Z1400-HD" LEVEL-TROL ADJUSTABLE FLOOR CLEANOUT WITH DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT ABS TAPERED THREADED PLUG, AND ROUND SCORIATED HEAVY-DUTY CAST IRON TOP ADJUSTABLE TO FINISHED FLOOR.
WCO	WALL CLEANOUT	4"	–	–	–	ZURN MODEL "Z1441" WALL CLEANOUT WITH DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT ABS TAPERED THREADED PLUG, AND ROUND SMOOTH STAINLESS STEEL ACCESS COVER WITH SECURING SCREW.
HWCP-1	HOT WATER CIRCULATION PUMP	–	–	3/4"	3/4"	HOT WATER CIRCULATION PUMP SHALL BE EQUAL TO ARMSTRONG MODEL 20B050S-TA ASTRO SERIES, 1/25 HP, 115V/1PH/60Hz. PROVIDE WITH AUTOMATIC TIMER KIT.
WHA1	WATER HAMMER ARRESTOR	–	–	–	–	WATER HAMMER ARRESTOR FOR SINGLE RESTROOM SHALL BE EQUAL TO WADE PISTON-TYPE SHOKSTOPS MODEL # -P, COPPER FINNISH.
WHA2	WATER HAMMER ARRESTOR	–	–	–	–	WATER HAMMER ARRESTOR FOR GANG RESTROOMS SHALL BE EQUAL TO ZURN SHOKTROL MODEL # Z1700 SERIES, STAINLESS STEEL.
RD	PRIMARY ROOF DRAIN	–	–	–	–	ZURN MODEL "ZC-100-AC-GD" DURA-COATED GALVANIZED CAST IRON ROOF DRAIN WITH COMBINATION MEMBRANE FLASHING CLAMP/GRAVEL GUARD AND LOW SILHOUETTE CAST IRON DOME. COMPLETE WITH ANGULAR UNDER DECK CLAMP.
OD	OVERFLOW ROOF DRAIN	–	–	–	–	ZURN MODEL "ZC-100-AC-W2-GD" DURA-COATED GALVANIZED CAST IRON ROOF DRAIN WITH LOW SILHOUETTE CAST IRON DOME, MEMBRANE FLASHING CLAMP AND GRAVEL GUARD, AND INTERNAL 2" WATER DAM COMPLETE WITH ANGULAR UNDER DECK CLAMP.
DS	DOWN SPOUT NOZZLE	–	–	–	–	ZURN MODEL "ZANB-199" NICKEL BRONZE DOWN SPOUT NOZZLE WITH THREADED INLET AND WALL FLANGE.
SP-1	SUMP PUMP	–	–	–	–	STAINLESS STEEL SUMP PUMP SHALL BE EQUAL TO BELL & GOSSET MODEL "2WS0712", ½ HP, 230V/1PH/60HZ. PROVIDE SWITCH FOR MANUAL OPERATION.
ELSP-1	ELEVATOR SUMP PUMP PACKAGE SYSTEM	–	–	–	–	SUMP PUMP PACKAGE SYSTEM SHALL BE EQUAL TO PARK EQUIPMENT SYSTEM ELEVADER MODEL "ES100-HP-PS0" CAPABLE OF AUTOMATICALLY REMOVING 500PM PER ELEVATOR CAR. SYSTEM SHALL INCLUDE ELIATORSUMP PUMP, SAMPLE WELL, OIL-WATER INTERCEPTOR TANK, PUMP CONTROL PANLE WITH HIGH LEVEL ALARM.
TRENCH DRAIN	TRENCH DRAIN	4"	–	–	–	ZURN MODEL "Z884-HPP" CHANNELS SHALL BE 40 INCHES LONG, 4-¾" WIDE. MODULAR SECTIONS SHALL BE MADE OF POLYPROPYLENE, HAVE INTERLOCKING ENDS, AND RADIUSED BOTTOM. COMPLETE WITH ADA COMPLIANT HEEL PROOF POLYETHYLENE GRATE WITH MECHANICAL LOCKDOWN DEVICES. TRENCH DRAIN SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
HB	HOSE BIBB	–	–	–	3/4"	RECESSED ANODIZED ALUMINUM BOX AND DOOR BACKFLOW PROTECTED WALL FAUCET EQUAL TO A WOODFORD MODEL "B26-P" WITH STANDARD CHROME FINISH, 3/4" INLET, CLEAR WHEEL HANDLE AND LOOSE TEE KEY.
MV-1 MV-2	THERMOSTATIC MIXING VALVE	–	–	3/4"	3/4"	DURA-TROL, ECO-MIX THERMOSTATIC WATER MIXING VALVE EQUAL TO LEONARD MODEL "TM-26".

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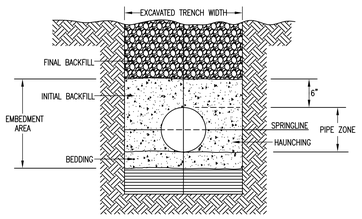
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PROJECT	971605
DATE	06/07/2019
REVISED	06/26/2019

P2.00

PLUMBING SCHEDULES

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A UNDERGROUND INSTALLATION DETAIL OF PLASTIC PIPING SYSTEMS

SCALE: N.T.S.

UNDERGROUND INSTALLATION OF PLASTIC PIPE

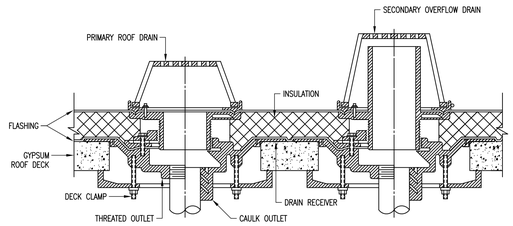
PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.

ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING

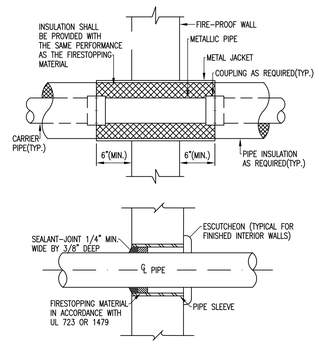
RECOMMENDATIONS FOR UNDERGROUND INSTALLATION OF PLASTIC DRAINAGE PIPE:

1. THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SNAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
2. PROVIDE A MINIMUM OF 4 INCHES OF FIRM, STABE AND UNIFORM BEDDING MATERIAL IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 6 INCHES OF BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
3. THE PIPE SHOULD BE SURROUNDED WITH AN AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING SHOULD BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
4. A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN FINE-GRAINS, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTING SHOULD BE DONE BY HAND.
5. THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OR VOIDS. LARGE ROCKS, STONES, FROZEN CLODS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1-1/2" SIEVE. ROCK SIZE SHOULD BE ABOUT ONE-TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
6. TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.



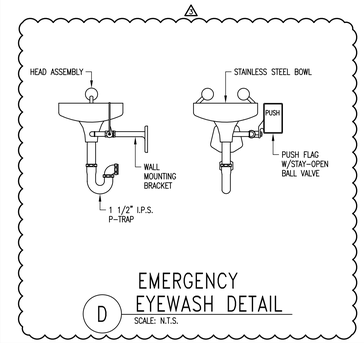
B ROOF AND OVERFLOW DRAIN DETAIL

SCALE: N.T.S.



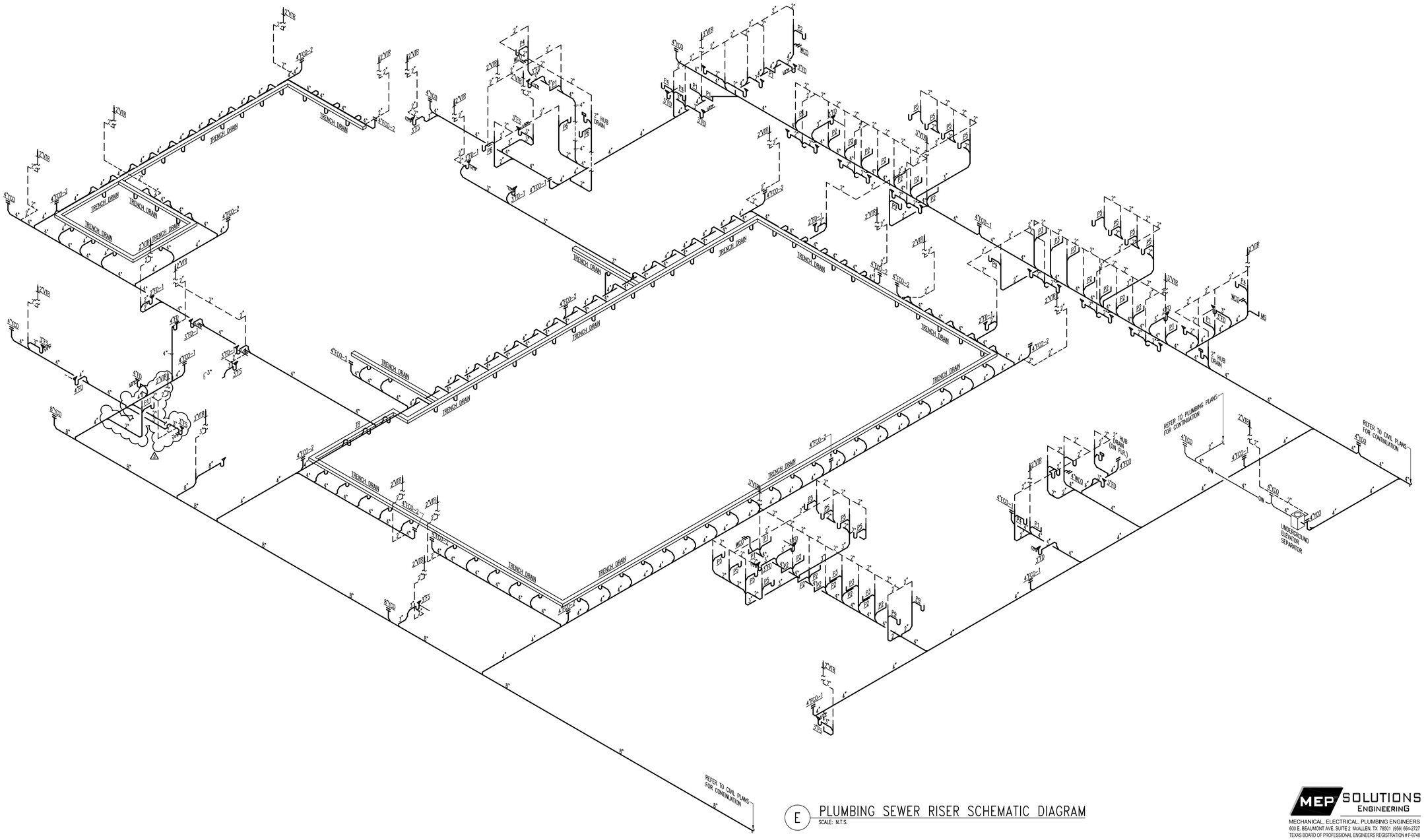
C TYPICAL FIRE PROOF & WALL PENETRATION

SCALE: N.T.S.



D EMERGENCY EYEWASH DETAIL

SCALE: N.T.S.



E PLUMBING SEWER RISER SCHEMATIC DIAGRAM

SCALE: N.T.S.

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LICENSED PROFESSIONAL ENGINEER
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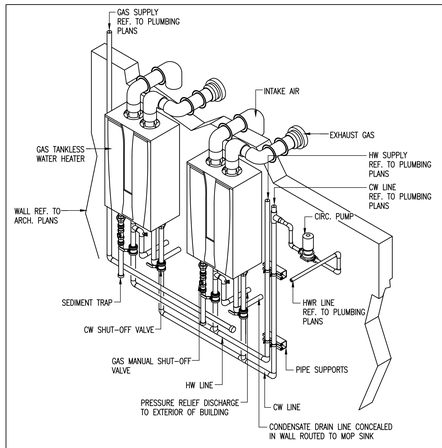
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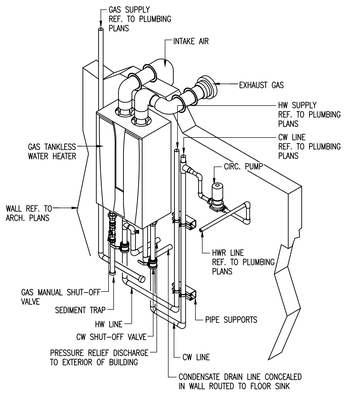
PROJECT	971805
DATE	06/07/2019
REVISED	06/26/2019

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PLUMBING SEWER RISER DIAGRAM



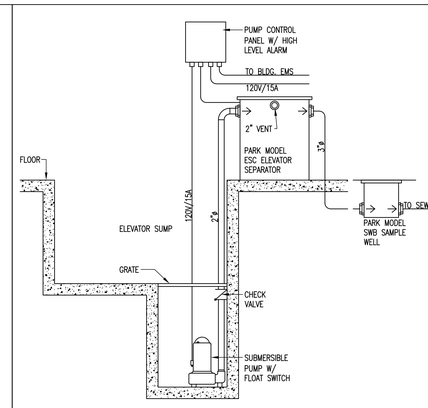
A WATER HEATER DETAIL
SCALE: N.T.S.



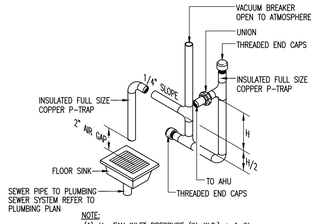
B WATER HEATER DETAIL
SCALE: N.T.S.

C UNDERGROUND GAS PIPE TRENCH SECTION DETAIL
SCALE: N.T.S.

D PIT PUMP DETAIL
SCALE: N.T.S.

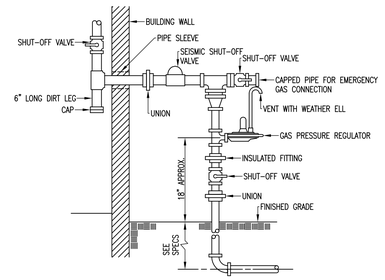


E ELEVATOR SUMP PUMP DIAGRAM
SCALE: N.T.S.



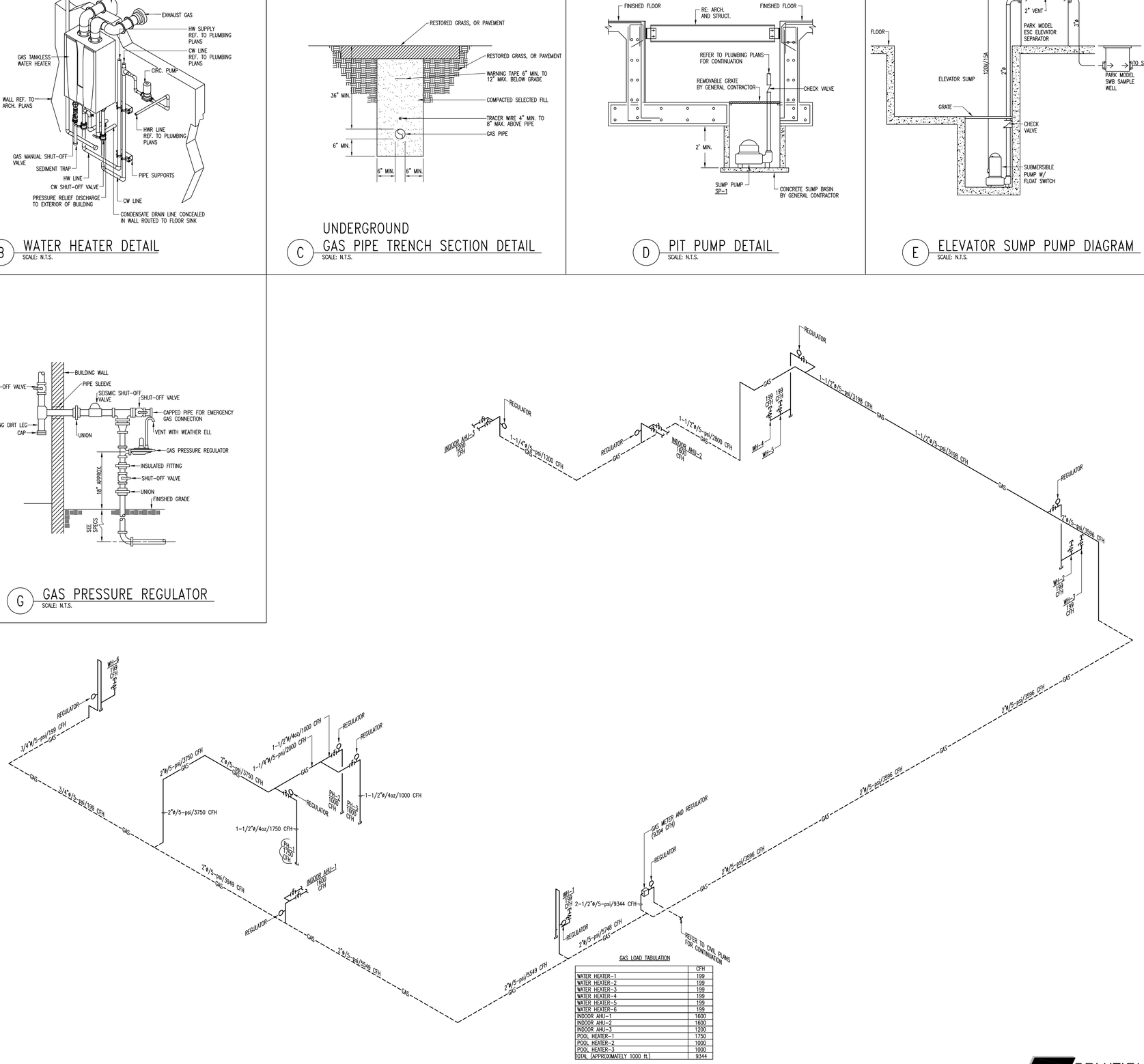
NOTE:
(1) H= FAN INLET PRESSURE (IN. W.C.) + 1-IN.
(2) CONDENSATE LINE SHALL BE INSULATED AND FURNISHEDD WITH PVC JACKET (LABELED CONDENSATE), (REFER TO SPECS.).

F AHU CONDENSATE P-TRAP DETAIL
SCALE: N.T.S.



G GAS PRESSURE REGULATOR
SCALE: N.T.S.

H TRENCH DRAIN DETAIL
SCALE: N.T.S.



GAS LOAD TABULATION

	CFH
WATER HEATER-1	199
WATER HEATER-2	199
WATER HEATER-3	199
WATER HEATER-4	199
WATER HEATER-5	199
WATER HEATER-6	199
INDOOR AHU-1	1600
INDOOR AHU-2	1600
INDOOR AHU-3	1200
POOL HEATER-1	1750
POOL HEATER-2	1000
POOL HEATER-3	1000
TOTAL (APPROXIMATELY 1000 ft.)	9344

I PLUMBING SEWER RISER SCHEMATIC DIAGRAM
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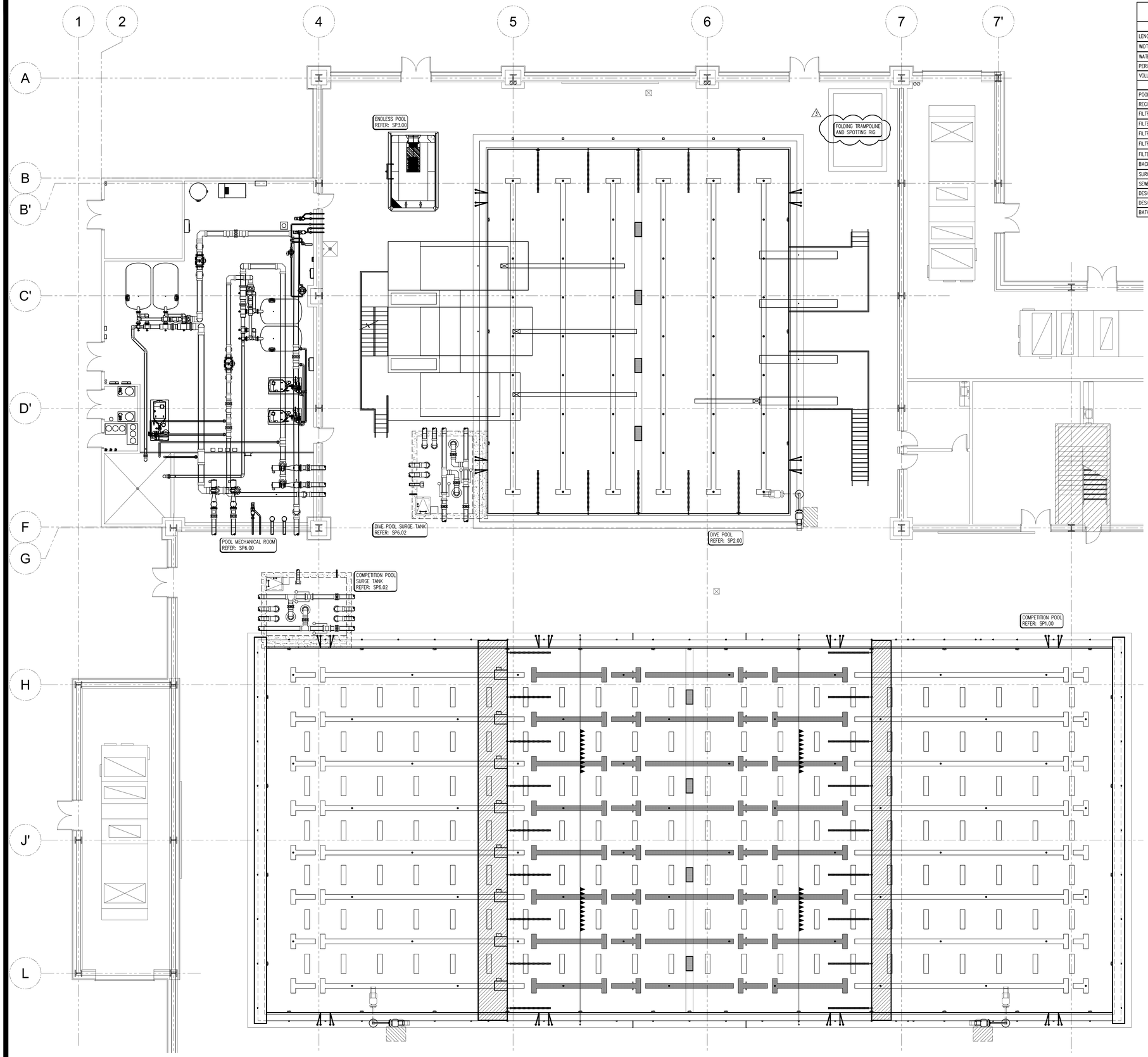
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PLUMBING GAS RISER DIAGRAM



1 SP0.00 **POOL REFERENCE PLAN**
1/8" = 1'-0"
NORTH

DESIGN DATA

	UNITS	COMPETITION POOL	DIVE POOL
LENGTH (NOMINAL)	FT.	175	75
WIDTH (NOMINAL)	FT.	75	62
WATER SURFACE AREA	SQ. FT.	13,083	4,655
PERIMETER	FT.	501	274
VOLUME	GALLON	709,702	596,346
CIRCULATION SYSTEM & FILTERS			
POOL TURNOVER RATE	HOUR	5.14	4.97
RECIRCULATION RATE	GPM	2,300	2,000
FILTRATION RATE (MAX. DESIGN)	GPM/SQ. FT.	13.0	13.0
FILTER AREA REQUIRED	SQ. FT.	176.9	153.8
FILTRATION RATE (ACTUAL)	GPM/SQ. FT.	12.6	12.3
FILTRATION AREA (ACTUAL)	SQ. FT.	183.2	163.2
FILTER BACKWASH RATE	GPM/SQ. FT.	15.0	15.0
BACKWASH FLOW RATE (PER FILTER)	GPM	687	612
SURGE CAPACITY	GALLON	13,195	7,330
SEWER CAPACITY	GPM	UNKNOWN	UNKNOWN
DESIGN FILL RATE	GPM	164	163
DESIGN FILL TIME	HOUR	72	61
BATHER LOAD	PERSON	523	138

GENERAL POOL NOTES

1. ⏚ DENOTES WATER DEPTH FROM WATER LEVEL.
2. POOL FINISH SHALL BE A PROPRIETARY AGGREGATE PLASTER WITH A 6" VERTICAL TILE BAND AND A 1'-5" FOR COMPETITION POOL AND 1'-4" FRO DIVE POOL PERIMETER TILE BAND WITH TILE DECK MARKINGS.
3. ALL STAIR TREADS SHALL HAVE A SLIP RESISTANT FINISH.
4. TYPICAL POOL DIMENSIONS SHOWN ARE FROM INSIDE FINISHED POOL WALL.
5. REFER TO POOL STRUCTURAL DRAWINGS FOR ALL DIMENSIONS RELATING TO THE THICKNESS OF THE POOL SHELL.
6. THE JUNCTION BETWEEN THE SWIMMING POOL WALL AND THE FLOOR SHALL BE COVED WITH A MAXIMUM 6" RADIUS.
7. DEPTH MARKERS AND WARNING SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS. DEPTH MARKERS AND WARNING SIGNS SHALL NOT EXCEED 25'-0" APART FROM EACH OTHER, AND SHALL BE PLACED AT EVEN FOOT INTERVALS PER LOCAL CODE.
8. ALL PROPRIETARY NAMES MENTIONED ARE TO DESIGNATE PERFORMANCE STANDARDS. EQUIVALENT PRODUCTS SHALL BE SUBMITTED FOR APPROVAL.
9. SLIP RESISTANT DECK FINISH REQUIRED. REFER TO ARCHITECT.
10. REFER TO PLUMBING FOR DECK DRAINS AND HOSE BIBBS.
11. ALL SURFACE WATER SHALL DRAIN AWAY FROM THE POOL.
12. REFER TO ELECTRICAL FOR GFI OUTLETS IN NATATORIUM.
13. ELECTRICAL INSPECTOR SHALL APPROVE INSTALLATION OF BONDING GRID FOR POOL REINFORCING AND ALL POOL EMBEDS PRIOR TO PLACEMENT OF CONCRETE.
14. NO GROUND WATER SHALL BE ALLOWED TO RISE ABOVE ANY PORTION OF THE POOL BOTTOM DURING CONSTRUCTION.
15. COMPETITION POOL HAS BEEN DESIGNED TO BE IN COMPLIANCE WITH THE RULES AND REGULATIONS OF USA SWIMMING (USA) AND THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (NFSHSA)
16. REFER TO SWIMMING POOL SPECIFICATIONS FOR COMPETITION RACE COURSE TOLERANCES.
17. BULKHEAD DIMENSION SHOWN ON COURSE LAYOUT(S) INCLUDE BULKHEAD TOLERANCE.
18. TIMING SYSTEM SHOWN FOR REFERENCE ONLY. REFER ARCHITECTURAL AND ELECTRICAL DRAWINGS.
19. ALL POOL REINFORCING STEEL, METAL FITTINGS, EQUIPMENT WITHIN 5'-0" OF POOL EDGE AND ANY METAL PARTS OF POOL EQUIPMENT IN CONTACT WITH POOL RECIRCULATION SYSTEM SHALL BE BONDED PER NEC 680. REFER: 11/SP6.04

DRAWING INDEX

SHEET	DESCRIPTION
SP0.00	POOL REFERENCE PLAN
SP1.00	COMPETITION POOL PLAN
SP1.01	COMPETITION POOL SECTIONS
SP1.02	COMPETITION POOL COURSE LAYOUTS
SP1.03	COMPETITION POOL COURSE LAYOUTS
SP1.04	COMPETITION POOL COURSE LAYOUTS
SP1.05	COMPETITION POOL COURSE LAYOUTS
SP1.06	COMPETITION POOL TIMING SYSTEM LAYOUT
SP1.07	COMPETITION POOL BULKHEAD LAYOUTS
SP1.08	COMPETITION POOL DETAILS
SP1.09	COMPETITION POOL DETAILS
SP1.10	COMPETITION POOL DETAILS
SP2.00	DIVE POOL PLAN & SECTIONS
SP2.01	DIVE POOL DETAILS
SP2.02	DIVE POOL DETAILS
SP2.03	DIVE POOL DETAILS
SP3.00	ENDLESS POOL PLAN & SECTIONS (ALTERNATE #2)
SP4.00	POOL LOCATION POINT PLAN
SP5.00	POOL SUCTION PIPING PLAN
SP5.01	POOL RETURN PIPING PLAN
SP6.00	POOL MECHANICAL ROOM PLAN
SP6.01	POOL MECHANICAL ROOM SECTIONS
SP6.02	POOL SURGE TANKS PLANS & SECTIONS
SP6.03	POOL MECHANICAL DETAILS
SP6.04	POOL MECHANICAL DETAILS
SP6.05	POOL MECHANICAL DETAILS
SP7.00	COMPETITION & DIVE POOL SYSTEMS SCHEMATICS
SP7.01	ENDLESS POOL SYSTEM SCHEMATICS (ALTERNATE #2)
SP8.00	COMPETITION POOL STRUCTURAL PLAN
SP8.01	DIVE POOL STRUCTURAL PLAN
SP8.02	DIVE TOWER STRUCTURAL PLAN
SP8.03	DIVE TOWER ELEVATIONS
SP8.04	POOL STRUCTURAL DETAILS
SP8.05	POOL STRUCTURAL SECTIONS
SP8.06	POOL STRUCTURAL SECTIONS

POOL ALTERNATES

ALTERNATE #2 – GENERAL CONTRACTOR TO PROVIDE COST FOR AN ENDLESS POOL LOCATED NORTH OF THE DIVING WELL, WHICH WILL SIT ON DECK AND IS USED FOR TRAINING.

THE WARREN GROUP ARCHITECTS, INC.
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REVISION	DATE	APPROVED BY	DESCRIPTION
ADD1	6/17/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD2	6/21/2019	TWG	ADDITIONAL INFORMATION PROVIDED
ADD3	6/26/2019	TWG	ADDITIONAL INFORMATION PROVIDED

CONSTRUCTION DOCUMENTS

PROPOSED

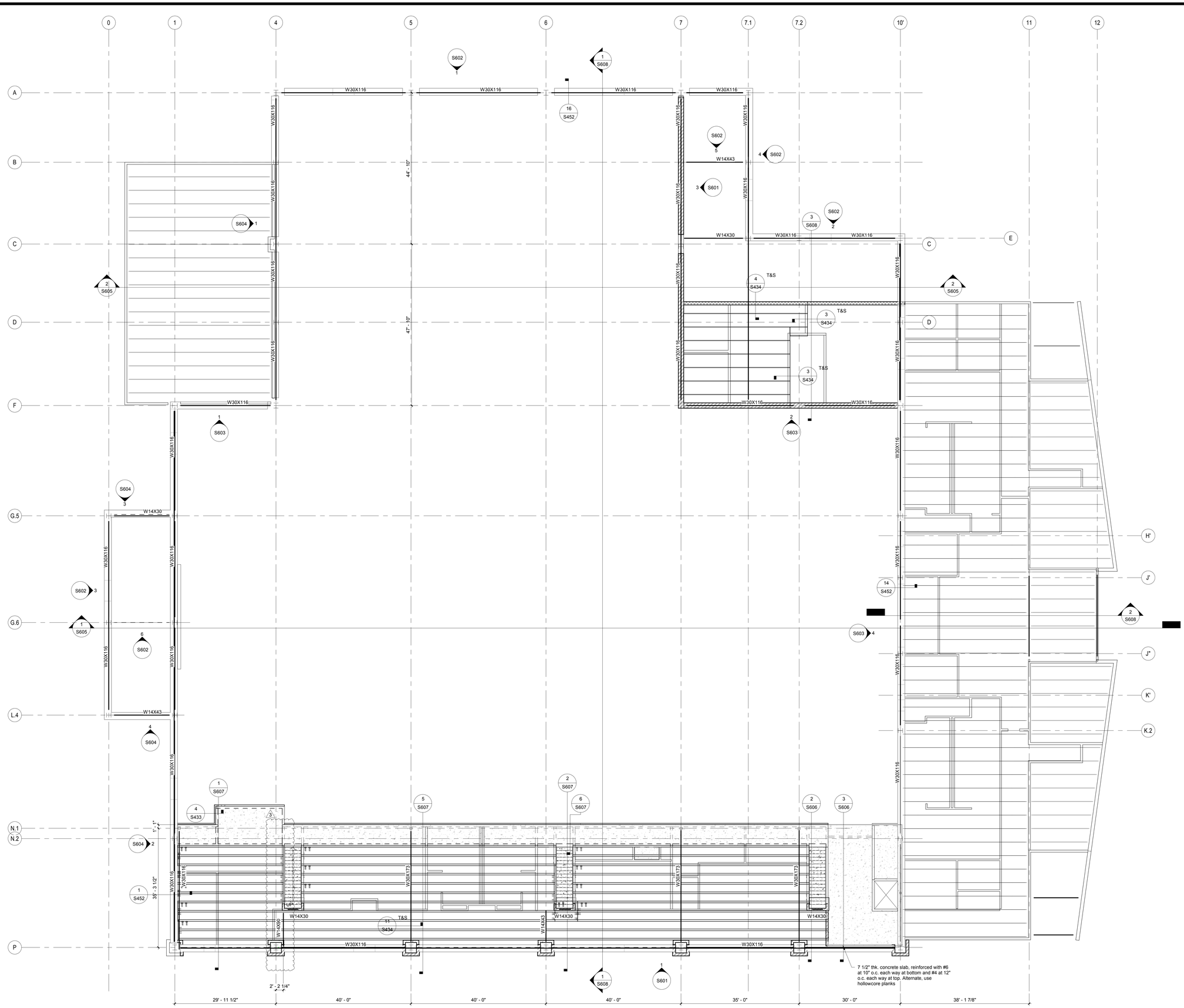
CITY OF PHARR/PSJA AQUATIC FACILITY

3001 N. CAGE BLVD
PHARR, TEXAS 78577

PROJECT 071805
DATE 06/07/2019
REVISED 06/26/2019

SP0.00
POOL REFERENCE PLAN

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Bleachers Framing Plan
3/32" = 1'-0"

2
S433 S301

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No.	Description	Issued by	Date
3	Addendum no. 3		6/6/2019

Beachers and Observation Framing Plans

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Construction Documents

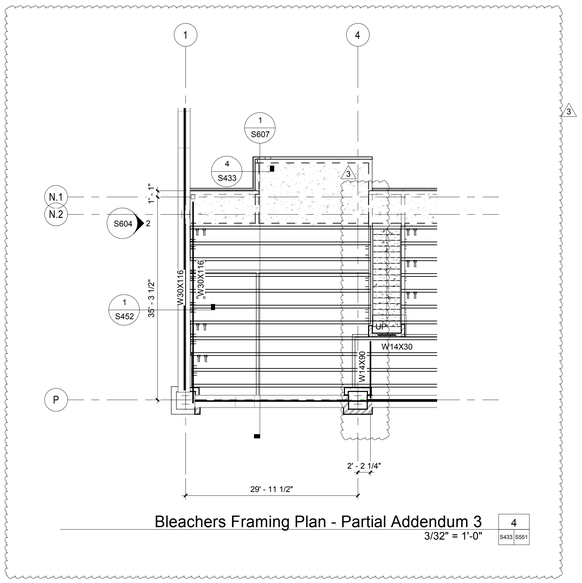
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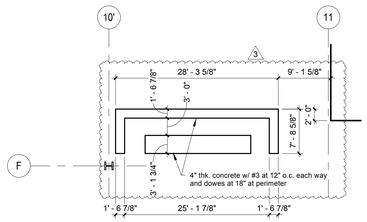
Project: 18323
Date: 6/7/2019

S301

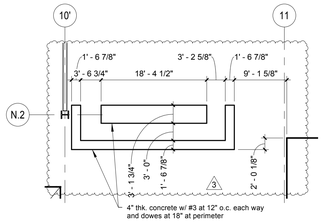
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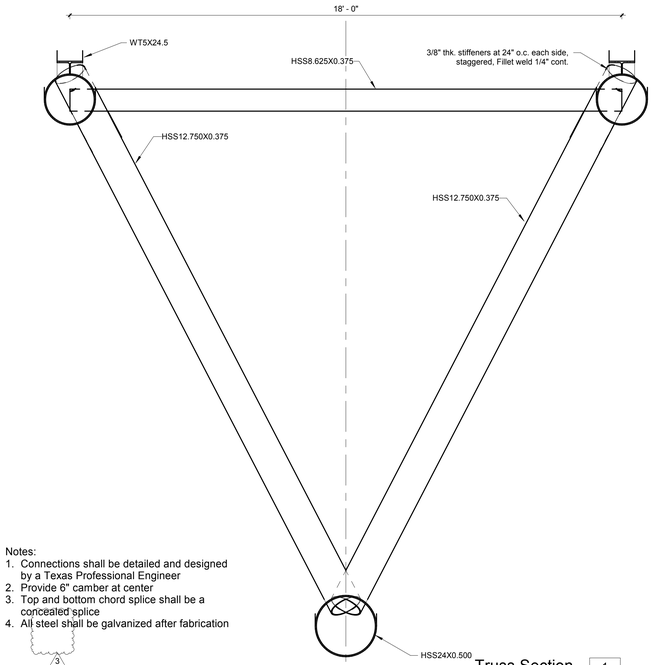
Bleachers Framing Plan - Partial Addendum 3
3/32" = 1'-0" | 4 | S433 | S551



Women's Locker Curg
3/32" = 1'-0" | 6 | S205 | S551

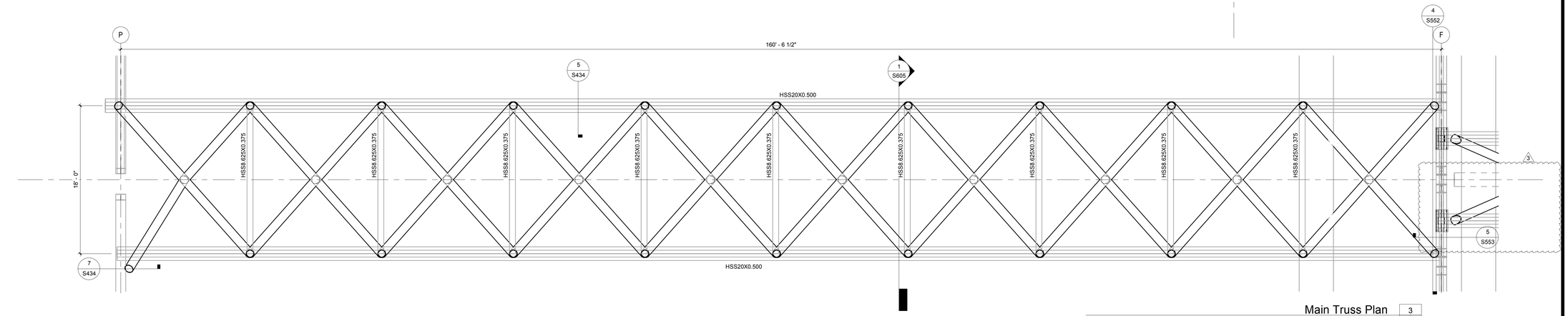


Men's Locker Curb
3/32" = 1'-0" | 5 | S205 | S551

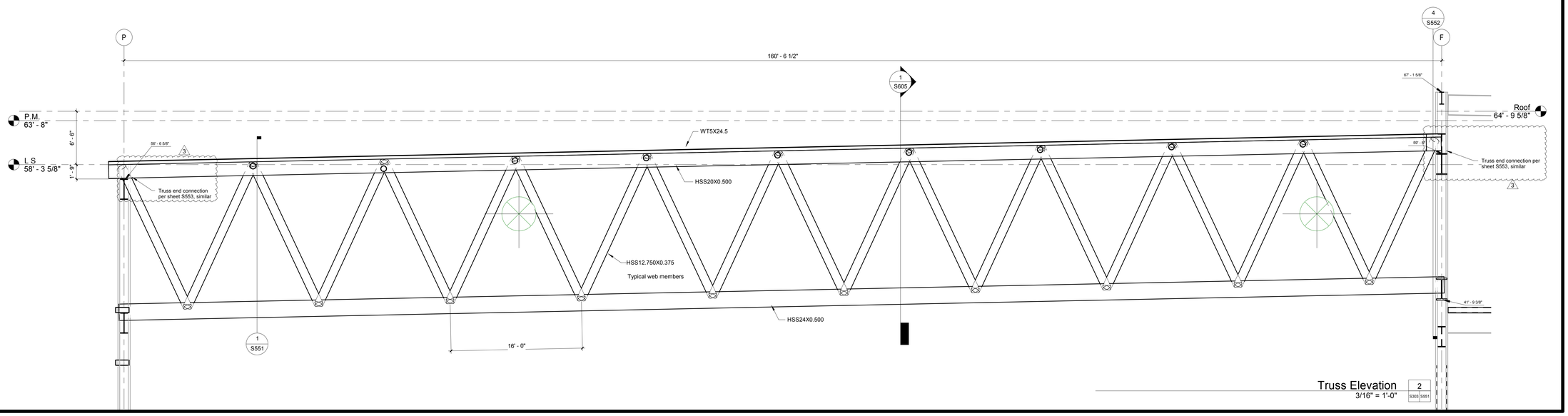


Notes:
1. Connections shall be detailed and designed by a Texas Professional Engineer
2. Provide 6" camber at center
3. Top and bottom chord splice shall be a concealed splice
4. All steel shall be galvanized after fabrication

Truss Section
1/2" = 1'-0" | 1 | S551 | S551



Main Truss Plan
3/16" = 1'-0" | 3 | mech layout | S551



Truss Elevation
3/16" = 1'-0" | 2 | S303 | S551

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3	Addendum no. 3	mech layout	6/26/2019

Truss Details

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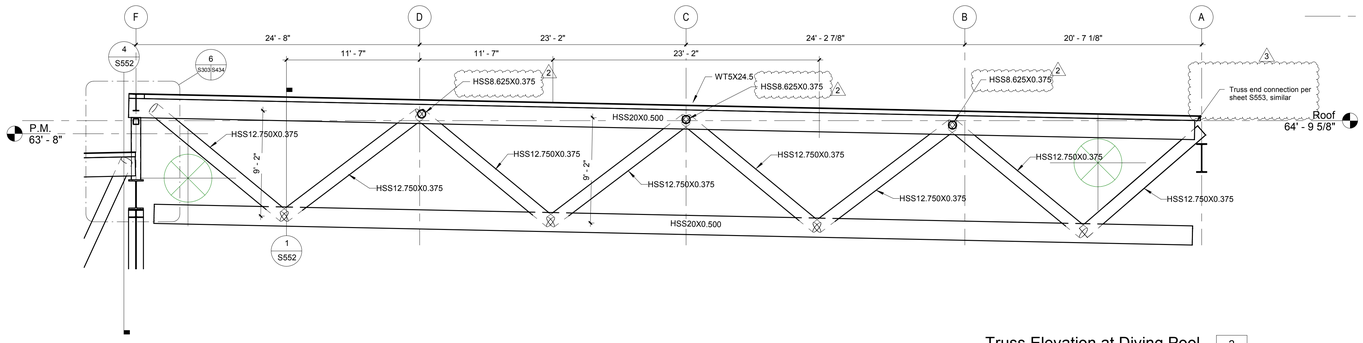
CITY OF PHARR
AQUATIC FACILITY

Project: 18323
Date: 6/7/2019

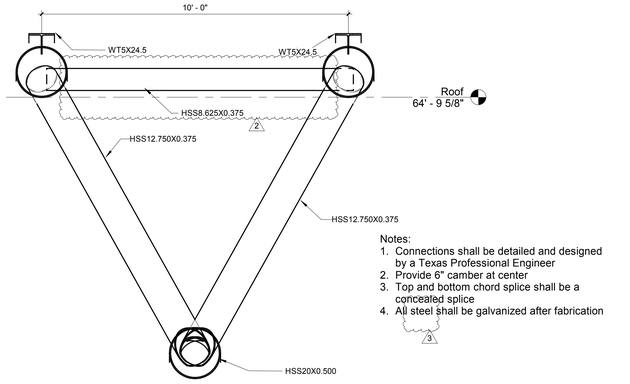
S551

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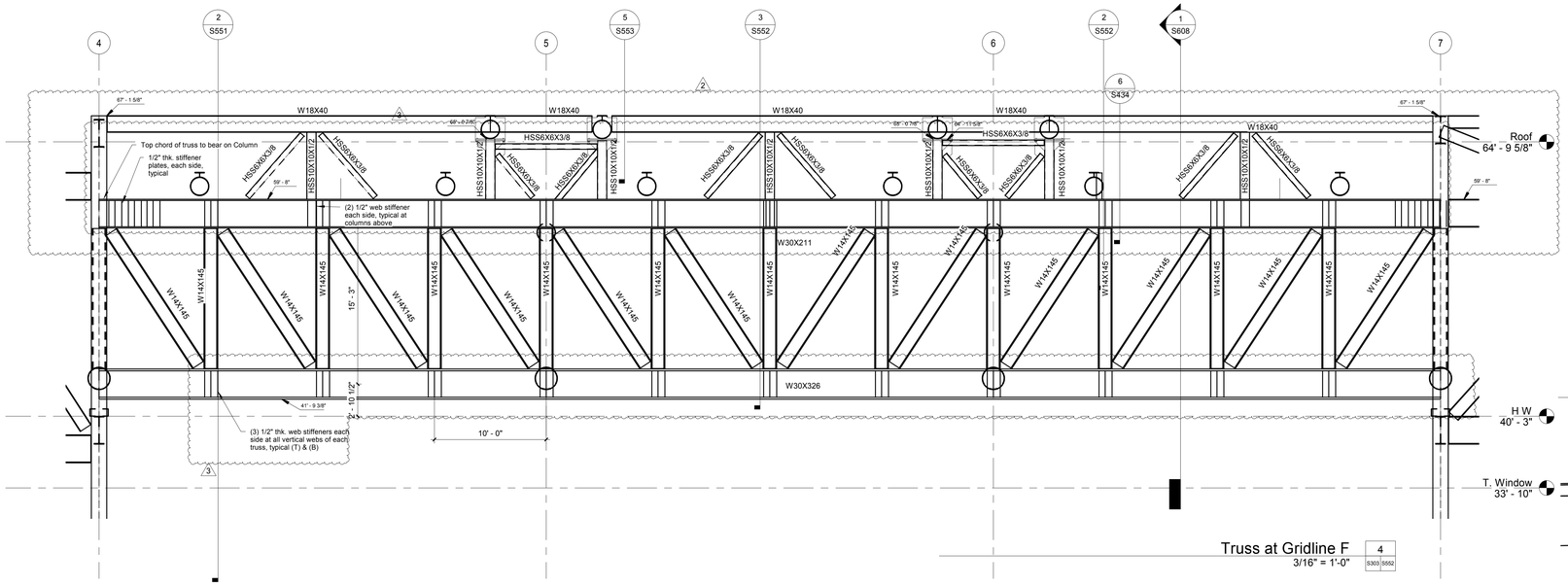


Truss Elevation at Diving Pool
3/16" = 1'-0"
2 | S303 S552



Notes:
1. Connections shall be detailed and designed by a Texas Professional Engineer
2. Provide 6" camber at center
3. Top and bottom chord splice shall be a concealed splice
4. All steel shall be galvanized after fabrication

Truss Section, Diving Pool
1/2" = 1'-0"
1 | S552 S552



Truss at Gridline F
3/16" = 1'-0"
4 | S303 S552

Truss Detail at Center Truss
1/2" = 1'-0"
3 | S303 S552

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Description	Date	Issued by
2 Addendum no. 2	6/21/2019	
3 Addendum no. 3	6/26/2019	

Truss Details

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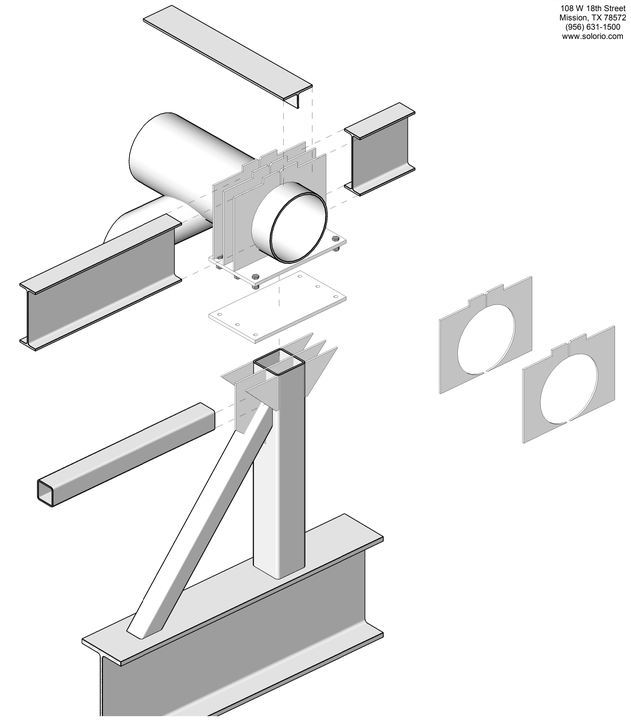
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Project: 18323
Date: 6/7/2019

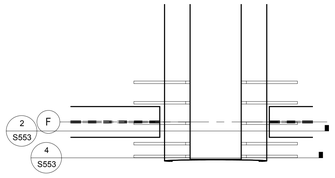
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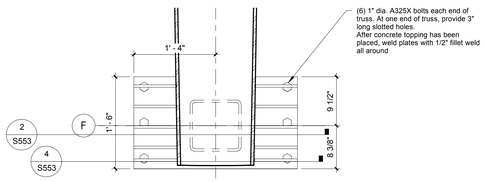
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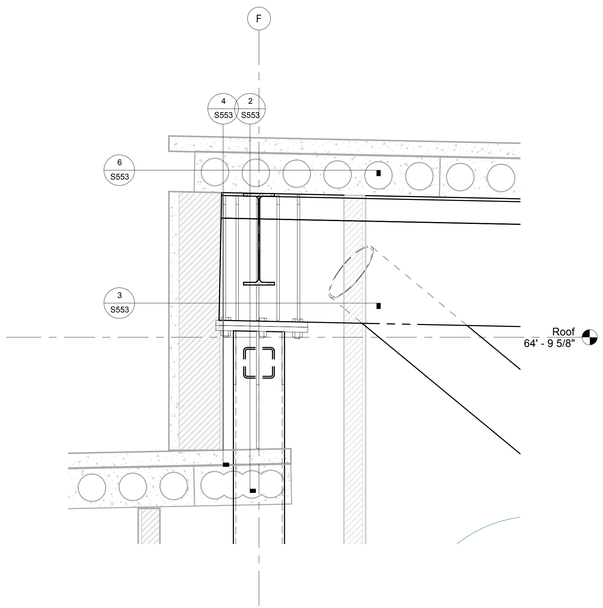


Truss Connection 1
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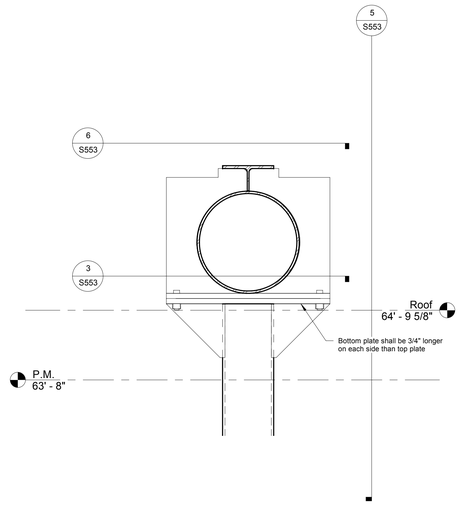


Truss Connection 2-5 6
1" = 1'-0"
S552 S553

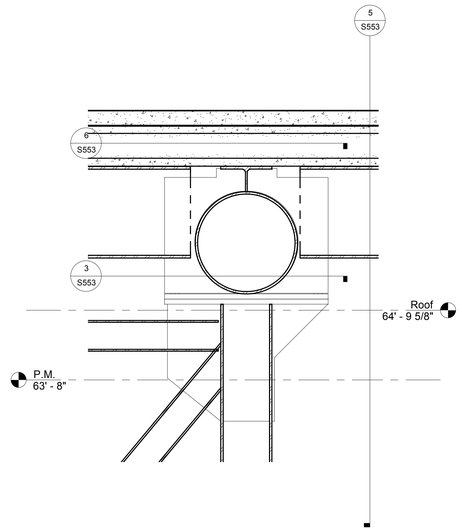




Truss Connection 2-4 5
1" = 1'-0"
S303 S553



Truss Connection 2-3 4
1" = 1'-0"
S553 S553



Truss Connection 2-1 2
1" = 1'-0"
S553 S553

Truss Connection 2-2 3
1" = 1'-0"
S552 S553

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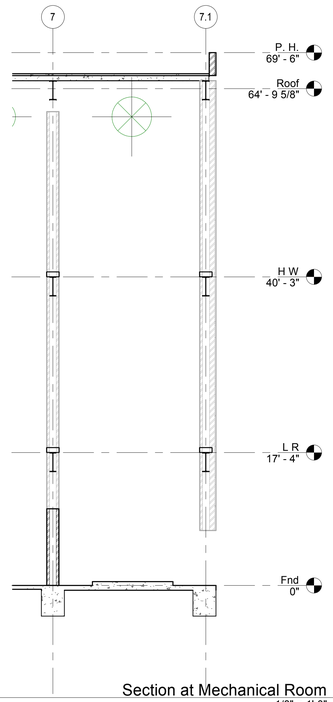
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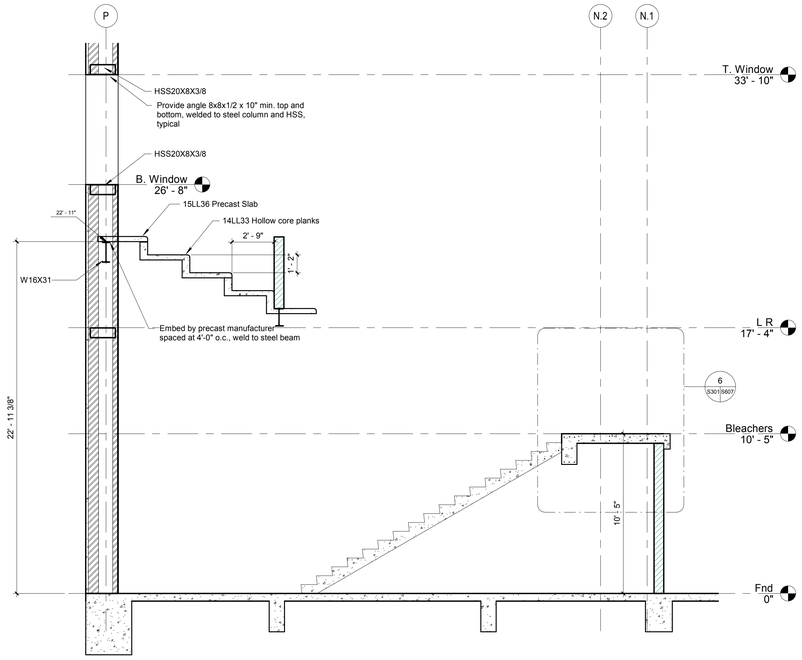
Project: 18323
Date: 6/7/2019

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S553

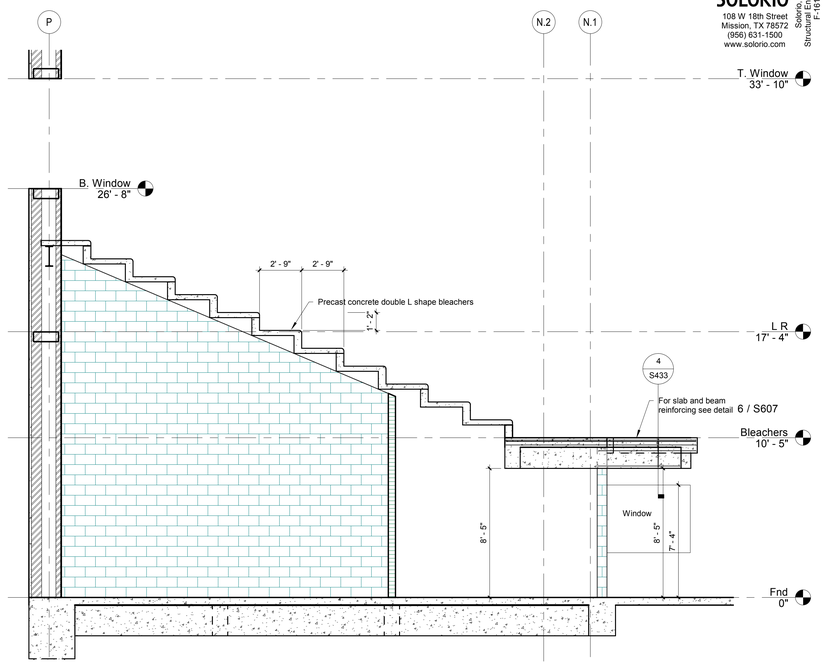
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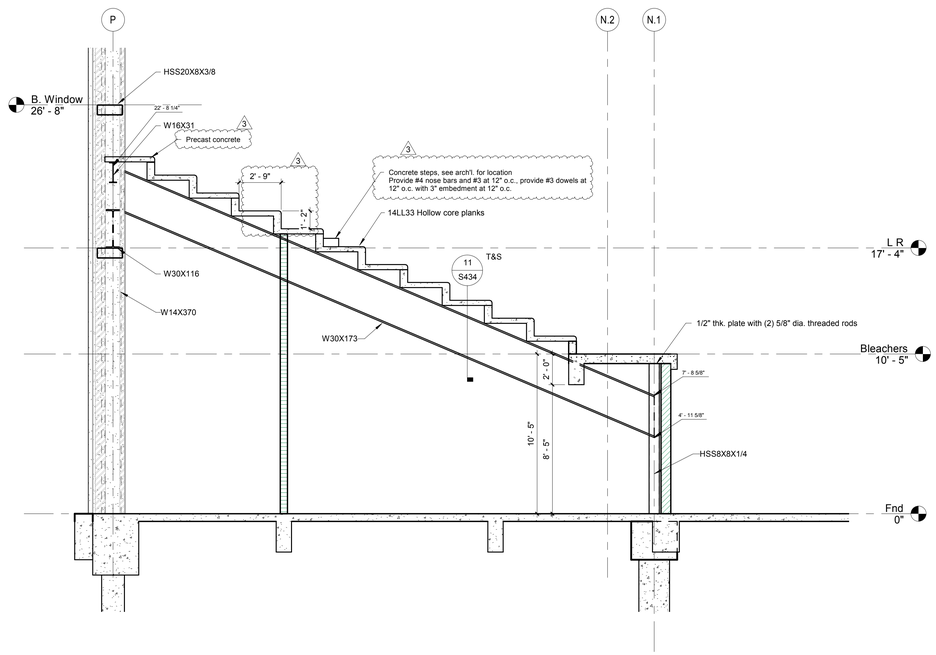
Section at Mechanical Room
1/8" = 1'-0"
4 | S601 | S607



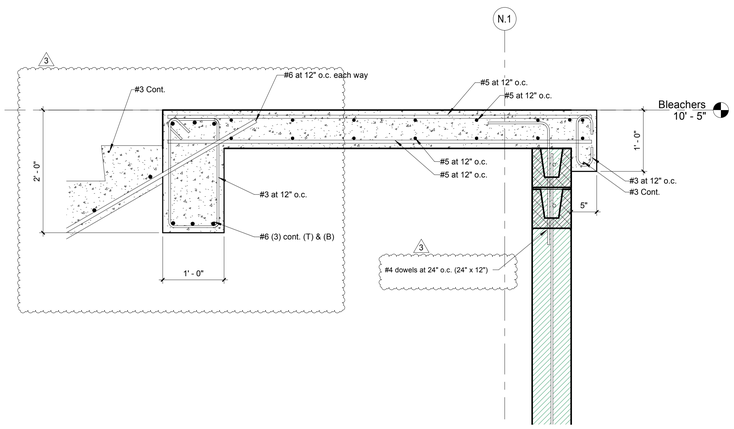
Section at Stairs
1/4" = 1'-0"
2 | S202 | S607



Section at Timing Room
1/4" = 1'-0"
1 | S202 | S607



Section at Bleachers
1/4" = 1'-0"
5 | S202 | S607



Slab at Landing
1" = 1'-0"
6 | S301 | S607

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3	6/29/2019		Addendum no. 3

Building Sections

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