ADDENDUM NO. 6 **DATE: 08/21/2023**

DARDEN PROJECT NO. 2180
DSA Application Number 02-120251

PROJECT:
Mission Oak HS Aquatic Complex
3442 E Bardsley Ave, Tulare, CA 93274
Bid No 2301

OWNER:
Tulare Joint Union High School District
426 N Blackstone St,
Tulare, CA 93274

ARCHITECT:
DARDEN ARCHITECTS, INC.
Attention: Fred Messias
6790 N. West Avenue
Fresno, California 93711
T. (559) 448-8051
F. (559) 446-1765

CONSTRUCTION MANAGER
CM Construction Services
Attention: Chris Hale
P.O. BOX 6237
Visalia, CA 93290
T. (559) 735-9556
M. (669) 804-6685

BID QUESTIONS

Chris Hale
chris@cmconstructionservices.com

NON-MANDATORY JOB WALK	08/08/2023	3:30 PM
BID QUESTIONS, Submit By	08/22/2023	2:00 PM
BID OPENING DATE	08/31/2023	Before 2:00 PM

It will be the responsibility of the General Contractor to submit the information contained in this addendum to all its subcontractors and suppliers. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

The following additions, deletions, and revisions to the SHEETS and Project Manual are hereby made and do become a part of these Contract Documents.

GENERAL NOTE: ADDENDA NOS. 1 THRU 4 HAVE BEEN REMOVED FROM THIS PROJECT.

INDEX OF ADDENDA TRANSMITTED HEREWITH

ATTACHMENTS:

DOCUMENTS OR SPECIFICATIONS:

Full Size Drawings ..... 1 sheets

PROJECT MANUAL:

BIDDING AND CONTRACT REQUIREMENTS:

CHANGES TO PROCUREMENT REQUIREMENTS:

AD6-CPR01 Refer to the NOTICE TO CONTRACTORS:

1. Revise the DVBE declaration date to be on the same date as the bid. It shall read as follows.

   The *DVBE Declaration of Good Faith Efforts* to Use Disabled Veteran Business Enterprises must be signed and filed in the Business Office of the Owner before 2:00 p.m. on **August 31,** 2023, at which time the bids (including the Declaration of Good Faith Efforts to Use Disabled Veteran Business Enterprises) will be opened in public.

SPECIFICATIONS:

CHANGES TO SPECIFICATIONS:

AD6-SP01 Omit and replace the following specification sections.

000110	TABLE OF CONTENTS
012300	ALTERNATES
042200	CONCRETE MASONRY UNITS
230923	DIRECT DIGITAL CONTROL AND ENERGY MANAGEMENT SYSTEM – *New Section*

CHANGES TO DRAWINGS:

AD6-A01 Refer to the Bid Set of Drawings.

1. The Bid Set of Drawing (Revision 1) is not DSA approved.
2. When DSA approves the revision drawings, they will be issued to the contractor (after the bid opening date).

AD6-A02 Refer to the Bid Set of Drawings.

1. The Bid Set of Drawings is based on a revised scope of work for re-bidding this project. (The 1st Bid was in March 2023 and not awarded).
2. The Bid Set of Drawings includes the current bid scope reductions (revisions).
3. The Division of the State Architects Office (DSA) was provided with a Revision Set of Drawings, and they have commented on the Revision Set of Drawings. The A/E team has updated the drawings to satisfy the DSA comments.
4. These drawings are being re-issued, as they contain the most up-to-date information.
5. A few new drawings have been created, noted as "*New Sheet*"
6. Omit and replace the following drawings.

GENERAL INFORMATION

G000	COVER SHEET
G001	COVER SHEET
G101	REGULATORY SITE PLAN
G102	REGULATORY FLOOR PLAN

CIVIL

SITE DEVELOPMENT

SD/C2.1	SITE DEMOLITION PLAN
SD/C3.1	GRADING AND DRAINAGE PLAN
SD/C3.1.1	ALTERNATE BID- GRADING AND DRAINAGE PLAN – *New Sheet*
SD/C3.2	ENLARGED GRADING PLANS
SD/C4.1	WET PIPING PLAN
SD/C4.1.1	ALTERNATE BID - WET PIPING PLAN – *New Sheet*
SD/C4.2	WET PIPING PLAN
SD/C4.2.1	ALTERNATE BID - WET PIPING PLAN – *New Sheet*
SD/C5.1	PAVING PLAN
SD/C7.1	CIVIL DETAILS

OFFSITE IMPROVEMENTS

SD/C6.1	BARDSLEY AVE OFFSITES

ARCHITECTURAL

SITE DEVELOPMENT

SD/A010	OVERALL SITE DEMOLITION PLAN
SD/A011	SITE DEMOLITION PLAN & EARTHWORK
SD/A100	OVERALL SITE PLAN
SD/A101	PARTIAL SITE PLAN
SD/A201	PARTIAL SITE DIMENSION PLAN
SD/A301	ENLARGED SITE PLANS
SD/A303	DETAILS - ACCESSIBLE ELEMENTS
SD/A401	SITE OPENING SCHEDULE
SD/A404	DETAILS - ORNAMENTAL METAL ACCESSIBLE GATES
SD/A407	DETAILS - ENCLOSURE DETAILS
SD/A701	SIGNAGE PLAN AND SCHEDULE
SD/L101	LANDSCAPING PLAN

TYPICAL INFORMATION

X/A201	INTERIOR & EXTERIOR FINISH SCHEDULE
X/A401	OPENING SCHEDULES, FRAME ELEVATIONS
X/A502	EXTERIOR DETAILS
X/A601	INTERIOR & SIGNAGE DETAILS
X/A602	INTERIOR DETAILS

BUILDING P

P/A101	FLOOR PLANS
P/A101.1	ALTERNATE BID - BUILDING P2 - SNACK BAR BUILDING
P/A103	ENLARGED FLOOR PLANS
P/A201	REFLECTED CEILING PLANS
P/A301	ROOF PLANS
P/A401	EXTERIOR ELEVATIONS - P2 & P3
P/A402	EXTERIOR ELEVATIONS - P3 - P4
P/A501	BUILDING SECTIONS - P2 & P3
P/A504	BUILDING P4 - POOL STORAGE DETAILS
P/A601	INTERIOR ELEVATIONS - ROOMS P201 - P205
P/A602	INTERIOR ELEVATIONS - ROOMS P301 - P302
P/A603	INTERIOR ELEVATIONS - ROOMS P303 - P306
P/A604	INTERIOR ELEVATIONS - ROOMS P401 - P403
P/A605	INTERIOR ELEVATIONS - ROOMS P404a - P404d
P/A606	INTERIOR ELEVATIONS - ROOMS P404e, P410 & P420
P/A701	SIGNAGE PLANS AND SCHEDULE
P/A801	INTERIOR DESIGN PLANS

STRUCTURAL

BUILDING P

P/S201	FOUNDATION PLANS
P/S201.1	ALTERNATE BID -BUILDING P2 – *New Sheet*
P/S301	ROOF FRAMING PLANS
P/S401	WALL ELEVATIONS
P/S401.1	ALTERNATE BID -WALL ELEVATIONS – *New Sheet*
P/S403	WALL ELEVATIONS
P/S405	BUILDING SECTIONS
P/S601	FRAMING DETAILS
P/S602	FRAMING DETAILS

PLUMBING

SITE DEVELOPMENT

SD/P102	PARTIAL PLUMBING SITE PLAN

TYPICAL INFORMATION

X/P101	PLUMBING SCHEDULE, LEGENDS, AND NOTES
X/P102	PLUMBING DETAILS

BUILDING P

P/P101	PLUMBING PLANS
P/P102	ENLARGED PLUMBING PLANS
P/P301	PLUMBING ROOF PLANS

MECHANICAL

SITE DEVELOPMENT

SD/M102	PARTIAL MECHANICAL SITE PLAN

TYPICAL INFORMATION

X/M101	MECHANICAL SCHEDULES, LEGENDS, AND NOTES
X/M102	MECHANICAL DETAILS
X/M103	TITLE 24 DOCUMENTATION
X/M104	TITLE 24 DOCUMENTATION

BUILDING P

P/M101	MECHANICAL FLOOR PLANS
P/M301	MECHANICAL ROOF PLANS

FIRE PROTECTION

TYPICAL INFORMATION

FP001 PROJECT INFORMATION

SITE DEVELOPMENT

FP002 SITE PLAN

BUILDING P

FP100 PIPING PLANS
FP200 REFLECTED CEILING PLANS
FP400 BLDG. P2 & P3 SECTION VIEWS
FP401 BLDG. P4 SECTION VIEWS
FP500 FIRE PROTECTION DETAILS

ELECTRICAL

SITE DEVELOPMENT

SD/E101 SITE DEVELOPMENT - ELECTRICAL OVERALL SITE PLAN
SD/E102 SITE DEVELOPMENT - ENLARGED ELECTRICAL SITE PLAN

TYPICAL INFORMATION

X/E101 TYPICAL INFORMATION - ELECTRICAL SYSTEMS - SYMBOLS, NOTES, AND DETAILS
X/E102 TYPICAL INFORMATION - LIGHTING SYSTEMS - FIXTURE SCHEDULE AND DETAILS
X/E103 POWER SYSTEMS - SINGLE LINE DIAGRAM AND DETAILS – V2 Sheet
X/E104 TYPICAL INFORMATION - POWER SYSTEMS - PANEL SCHEDULES
X/E105 ELECTRONICS SYSTEMS - LINE DIAGRAM AND DETAILS – V2 Sheet
X/E107 TYPICAL INFORMATION - POWER AND LOW VOLTAGE SYSTEMS - DETAILS
X/E201 TYPICAL INFORMATION - FIRE ALARM SYSTEM - SYMBOLS, NOTES, AND DETAILS
X/E202 TYPICAL INFORMATION - FIRE ALARM SYSTEM - SINGLE LINE DIAGRAM
X/E203 TYPICAL INFORMATION - FIRE ALARM SYSTEM - CALCULATIONS

BUILDING P

P/E101 BUILDINGS P2, P3, P4 - LIGHTING PLANS
P/E102 BUILDINGS P2, P3, P4 - POWER & DATACOMM PLANS
P/E103 BUILDINGS P2, P3, P4 - PA & INTRUSION SYSTEMS PLANS
P/E104 BUILDINGS P2, P3, P4 - FIRE ALARM PLANS
P/E105 ENLARGED ELECTRICAL PLANS
P/E106 BUILDINGS P2 - ALTERNATE BID - LIGHTING, POWER & DATACOMM, PA & INTRUSION SYSTEMS, AND FIRE ALARM PLANS *– New Sheet*

AQUATICS

DP-1 POOL AREA DECK PLAN
CP-3 COMPETITION AND LEARNING POOL PLUMBING PLAN
CP-3.1 DECK HOSE BIBB PLAN
CP-4 UNDERWATER LIGHTING AND TIMING PLAN
CP-12 DETAILS
MT1 NOTES, FOUNDATION DETAILS

STRUCTURAL DRAWINGS

AD6-S01 Refer to the attached Structural Drawing P/S301

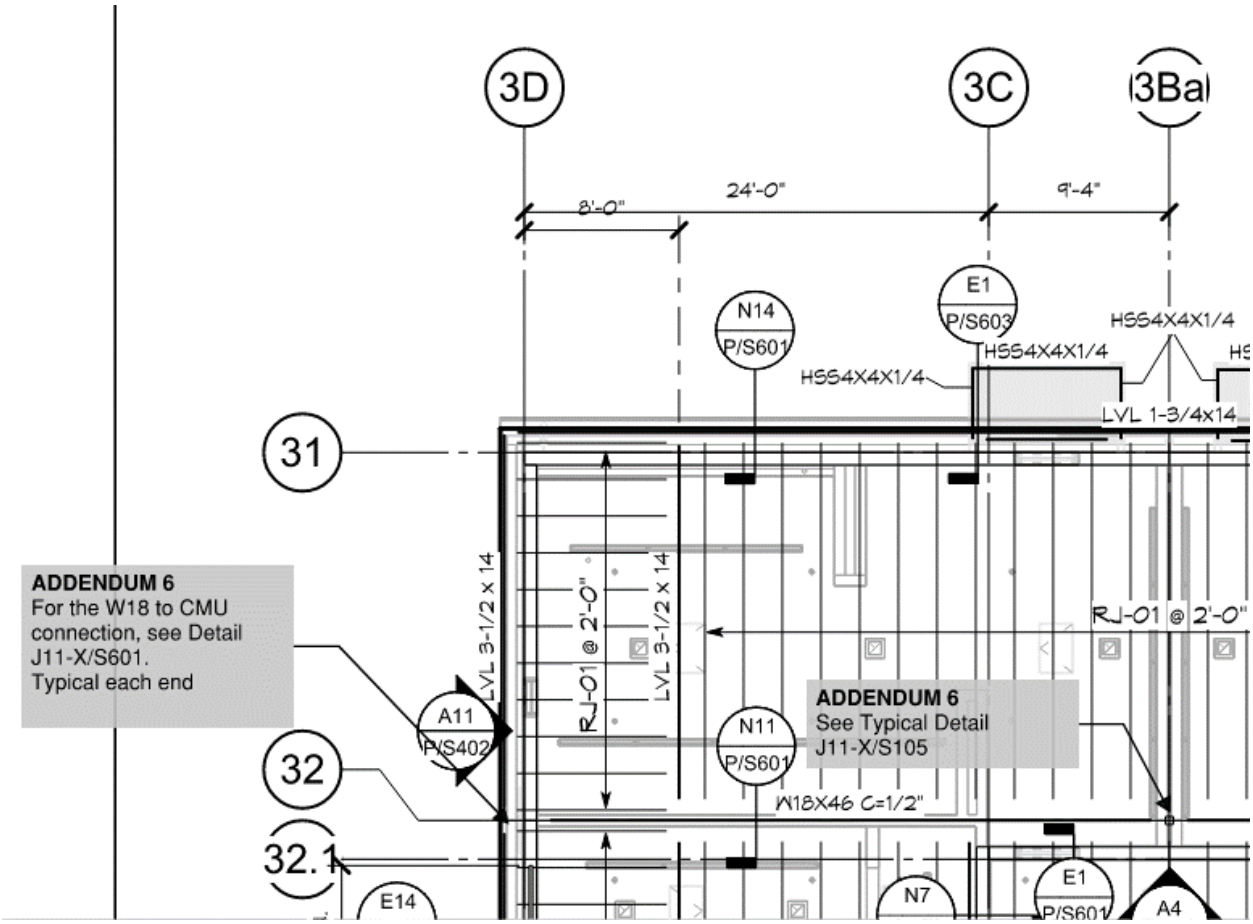
1. Refer to Detail A7, Roof Framing Plan.
2. Refer to the Column to CMU at Grid Line 32 and add the following note.

   For the W18 to CMU connection, see Detail J11-X/S601. Typical each end.

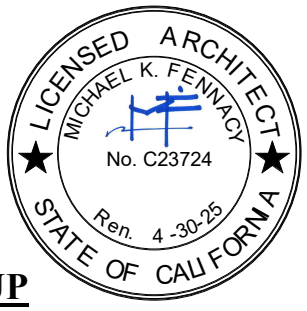
3. Refer to the Column to Beam at Grids 32 and 3Ba and add the following note.

   See Typical Detail J11-X/S105

EXAMPLE



END OF ADDENDUM NO. 6



Michael K Fennacy
08/21/2023

PROJECT MANUAL
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PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

INTRODUCTORY INFORMATION

PROCUREMENT REQUIREMENTS

Provided by Owner

CONTRACT REQUIREMENTS

Provided by Owner

SPECIFICATIONS GROUP

GENERAL REQUIREMENTS SUBGROUP

DIVISION 01 – GENERAL REQUIREMENTS

FACILITY CONSTRUCTION SUBGROUP

DIVISION 02 – EXISTING CONDITIONS

END OF SECTION

SECTION 012300 – ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install or remove all materials, accessories and other related items necessary to add or delete from the Project as indicated by the alternates in the Contract Documents.
      a. Any services such as utilities that are meant to pass thru the Alternate areas that serve other areas not involved shall be maintained as part of the Base Bid whether indicated or not.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. ALL SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
   4. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   5. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the BID FORM for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the work. No other adjustments are made to the Contract Sum.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Quality Assurance/Control Submittals:
      a. Notification Letter:
         1) Submit three (3) copies of Notification Letter to all concerned on the status of all ALTERNATES.

1.4 QUALITY ASSURANCE

A. Procedures:
   1. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into the Project.

a. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
a. Provide Lump Sum Price (and all itemized prices) for construction of the Base Bid and each Alternate Bid on the BID FORM.

2. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
3. Execute accepted alternate under the same conditions as other work of the Contract.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. General: All Alternate descriptions are general in nature. Refer to the contract drawings for specific scope of work.

B. ADDITIVE ALTERNATE – SNACK BAR BUILDING P2

1. Base Bid:
   a. BUILDING: Add Electrical Building P2, (as defined in the Architectural Sheets).
   b. UTILITIES: Add all associated work defined by the Plumbing, Fire Sprinklers, and Mechanical and Electrical and Civil Storm Drain connections.
2. Alternate Bid:
   a. BUILDING: Add Snack Bar Building P2, (as defined in the Architectural Sheets)
   b. UTILITIES: Add all associated work defined by the Plumbing, Fire Sprinklers, and Mechanical and Electrical and Civil Storm Drain connections.

END OF SECTION

SECTION 042200 – CONCRETE MASONRY UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Provide all material, labor, equipment and services necessary to completely install all Concrete Masonry Unit (CMU) materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
      a. Section includes liquid water-repellent admixture added to the concrete masonry units at the time of manufacture.

B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
   1. ALL DIVISION 00 SPECIFICATION SECTIONS.
   2. ALL DIVISION 01 SPECIFICATION SECTIONS.
   3. 03 11 01 CONCRETE FORMWORK
   4. 03 15 14 DRILLED ANCHORS
   5. 03 20 00 REINFORCEMENT
   6. 03 30 00 CAST-IN-PLACE CONCRETE
   7. 05 12 00 STEEL AND FABRICATIONS
   8. 05 30 00 METAL DECK
   9. 06 10 00 ROUGH CARPENTRY
   10. 06 41 23 MODULAR CASEWORK
   11. 07 14 16 FLUID-APPLIED WATERPROOFING
   12. 07 21 00 INSULATION
   13. 07 60 00 SHEET METAL
   14. 07 92 00 SEALANTS
   15. 08 16 13.01 FIBERGLASS DOORS AND FRAMES
   16. 08 33 00 COILING DOORS
   17. 09 22 16 METAL FRAMING
   18. 09 24 00 CEMENT PLASTER
   19. 09 29 00 GYPSUM BOARD
   20. 09 65 10 RESILIENT BASE AND ACCESSORIES
   21. 09 91 00 PAINTING
   22. 10 14 00 IDENTIFYING DEVICES
   23. 10 21 13 TOILET PARTITIONS
   24. 10 28 13 TOILET ACCESSORIES
   25. 10 44 00 FIRE PROTECTION SPECIALTIES
   26. 31 20 00 EARTHWORK
   27. 32 31 13 CHAIN LINK
   28. ALL SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
   29. ALL SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

A. Standards:
   1. In accordance with the following standards:
      a. ACI American Concrete Institute

b. ASTM American Society of Testing Materials
c. CMACN Concrete Masonry Association of California and Nevada
d. NCMA National Concrete Masonry Association
   1) TEK Bulletins
e. TMS The Masonry Society

1.3 DEFINITIONS

A. The following definitions occur within the CMU Industry:
   1. Grout: The filler within the Cells of the Concrete Masonry Units.
   2. Mortar: The joint material between the Concrete Masonry Units, both Top and Bottom and on the Ends.

1.4 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
   1. Product Data: For each type of product specified.
      a. Manufacturer's standard color range for selection by the Architect.
      b. All data regarding Concrete Masonry Unit, type, and aggregate to be provided.
      c. All data regarding mortar and grout materials, and mix designs to be provided.
      d. All data regarding accessories to be provided.
   2. Shop Drawings: For the following.
      a. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
      b. Reinforcing Steel: Detail bending and placement of concrete masonry unit reinforcing bars.
   3. Samples. For each type, texture and color selected.
      a. Provide 4" x 4" x 1" nominal size Concrete Masonry samples for texture, color, finish and dimension provided on this project as examples of the major CMU Units for the project.
         1) Provide other chips for all others.
      b. Pigmented Mortar: Make samples using the same sand and mortar ingredients to be used on this project.
         1) Label samples to indicate types and amount of pigments used.
   4. Quality Assurance/Control Submittals:
      a. Test Reports:
         1) Concrete Masonry Units: Lineal Shrinkage and Compressive Strength per ASTM C 140 "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units• and ASTM C 426 "Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units."
         2) Mortar and Grout: Grout Compressive Strength and Mortar Properties per ASTM C 270 "Specification for Mortar for Unit Masonry."
         3) Masonry Core test shall be in accordance with CBC Section 2105A.4.
      b. Certificates:
         1) Concrete Masonry Unit Manufacturers Certification per ASTM C 90 "Specification for Loadbearing Concrete Masonry Units."
         2) Concrete Masonry Unit Accessory Material Suppliers Certification.
         3) CMU producer shall be certified by the manufacturer of integral CMU water repellent admixture.
         4) Installer Certification.
         5) Contractors Certification.
   5. Project Closeout Submittals:
      a. Warranty.

b. Project Record Documents: In accordance with Specification Section – PROJECT CLOSEOUT.

1.5 QUALITY ASSURANCE

A. Qualifications:
1. Material:
   a. Manufacturers certification that Concrete Masonry Units furnished meet or exceed the requirements of this Specification Section per ASTM C 90 "Specification for Loadbearing Concrete Masonry Units".
2. Suppliers certification for all grout and mortar materials (including aggregate, cement and admixtures) that items furnished meet or exceed the requirements of this Specification Section and per ASTM C 270 "Specification for Mortar for Unit Masonry" • and ASTM C 476 "Specification for Grout for Masonry."
   a. Water Permeance of Masonry: ASTM E 514, "Standard Test Method for Water Penetration and Leakage through Masonry."
   b. Compressive Strength of Masonry Prisms: ASTM C 1314, "Standard Test Method for Constructing and Testing Masonry Prisms Used to Determine Compliance with Specified Compressive Strength of Masonry."
   c. Drying Shrinkage of CMU: ASTM C 426, "Standard Test Method for Drying Shrinkage of Concrete Masonry Units."
3. Installer:
   a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
4. Manufacturer/Supplier:
   a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the work.
   b. Manufacturer belonging to the CMACN.

B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
   a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.

C. Certificates:
1. Installer's certification that Concrete Masonry Units installation meets or exceeds the requirements of this Specification Section.
2. Contractor's certification that Concrete Masonry Unit materials and installation meets or exceeds the requirements of this Specification Section.

D. Mockups:
1. Provide a four (4) foot by six (6) foot mock-up wall showing all Concrete Masonry Unit finishes in conjunction with one another, and the mortar joints and tooling required for this Project. Mock-up, once approved, will be the basis for verifying the aesthetic and structural quality of the work for this Project. Protect during construction.

E. Meetings:
1. Pre-Installation: Schedule prior to the start of work.
   a. Coordinate the work with other work being performed.

b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
c. Include discussions on the integral water-repellent CMU admixture and water-repellent mortars.

2. Progress: Scheduled by the Contractor during the performance of the work.
   a. Review for proper installation of work progress and properly tooled joints.
   b. Identify any installation problems and acceptable corrective measures.
   c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
   a. Inspect and identify any problems, which may impede issuance of warranties or guaranties.
   b. Maintaining installed work until the Notice of Substantial Completion has been executed.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Packing, Shipping, Handling, and Unloading:
1. Products shall be handled in such a manner as to assure that they are free from spalls, breakage and other damage.

B. Acceptance at Site:
1. Products must be in manufacturer's original wrapped pallets with labels indicating brand name, model, and grade.
2. Damaged products will not be accepted.

C. Storage and Protection:
1. Products shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation under stacked units.
   a. Cover materials with protective waterproof covering providing for adequate air circulation and ventilation to prevent wetting prior to use.

1.7 PROJECT CONDITIONS

A. Environmental Requirements:
1. Rain: Work under this section shall not be started or maintained under threat of rain unless the work is protected from the rain.
2. Temperature: Ambient temperature to install products shall be forty (40) degrees Fahrenheit and rising.

B. Existing Conditions:
1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Conduct work so as not to interfere unnecessarily with adjacent roads, streets, drives and walks.

1.8 WARRANTY

A. Contractor's General Warranty:
1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:
   1. In accordance with manufacturer's written standard warranty:
      a. Warranty Period One (1) Year.

C. Installer's Warranty:
   1. In accordance with the terms of the Specification Section - WARRANTIES
      a. Warranty Period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
   1. Specified Concrete Masonry Unit product manufacturer:
      a. BASALITE.
   2. Specified Integral Water Repellent Admixture for CMU Production:
      a. "Rheopel" as manufactured by BASF, or
      b. "RainBloc" as manufactured by ACM CHEMISTRIES, or
      c. "Dry-Bloc II" as manufactured by W. R. GRACE and CO.
   3. Specified Pre-Blended Water Repellent Admixture for Mortar:
      a. "Rheopel Plus" as manufactured by BASF, or
      b. "RainBlock" as manufactured by ACM CHEMISTRIES, or
      c. "Dry-Bloc Integral Water Repellent" as manufactured by W. R. GRACE and CO.
   4. Specified Grout Admixture product manufacturer:
      a. "Grout Aid" by SIKA.
   5. Specified Joint Reinforcement, Ties and Anchors product manufacturer:
      a. HOHMANN AND BARNARD, INC.

B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

A. Block:
   1. Hollow Load Bearing Units in accordance with CBC Section 2103A.1, and ASTM C 90 "Standard Specification for Loadbearing Concrete Masonry Units," (126 pcf of concrete or greater):
      a. Primary Aggregate Lightweight Expanded Shale aggregate.
         1) The aggregate used for all Precision Faced Units not visible on the exterior or the interior, can be Pumice aggregate.
      b. All exposed Concrete Masonry Units shall have integral color from manufacturer per material standard ASTM C 979 "Specification for Pigments for Integrally Colored Concrete."
         1) Including all colors to maximum dye content of 6 percent.

c. Maximum lineal shrinkage from saturated to over dry condition of not more than 0.065 percent.
d. Twenty-eight day compressive strength of 2,000 psi on net area.
e. Integral CMU Water-Repellent:
1) Integral liquid admixture mixed with concrete during production of CMUs.
2) Water Permeance of Masonry: Capable of achieving a Class E Rating when evaluated using ASTM E 514 "Test Method for Water Penetration and Leakage Through Masonry."
f. Compressive Strength of Masonry Prisms: No statistically lower compressive strength of prisms shall occur as a result of adding integral water-repellent CMU and mortar admixtures when compared to a control (containing no admixtures) CMU and mortar when tested according to ASTM C 1314 "Test Method for Compressive Strength of Masonry Prisms."
g. Drying Shrinkage of CMU: No statistically higher drying shrinkage of the CMU shall occur as a result of adding integral water-repellent CMU admixture when compared to a control (containing no admixtures) CMU when tested according to ASTM C 426 "Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units."

2. Nominal Face Dimensions and Finishes: See drawings for locations of Concrete Masonry Unit types and sizes.
3. CMU Color and Finish:
a. Interior Building Faces S-93(R) Precision Face, Light Weight.
b. Exterior Building Faces S-93(R) Ground Face, Light Weight.
c. Site Wall Faces S-93(R) Ground Face, Light Weight.

B. Joint Reinforcement, Ties and Anchors:
1. General: Comply with requirements below for basic materials, as well as requirements for each form of joint reinforcement, tie, and anchor for size and other characteristics.
2. Hot-Dip Galvanized Steel Wire: Uncoated wire in accordance with ASTM A 82 "Specification for Steel Wire, Plain, for Concrete Reinforcement," with zinc coating applied after prefabrication into units in accordance with ASTM A 123 "Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products," 1.5 oz. per sq. ft, of wire surface.
3. Joint Reinforcement: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet, with prefabricated corner and tee units.
a. Width: Approximately 2 inches less than nominal width of walls and partitions, providing mortar cover of not less than 5/8 inch on joint faces exposed to exterior and 1/2 inch elsewhere.
b. Wire Size, Side Rods: 0 gage, 0.15 inches.
c. Wire Size, Cross Rods: 9 gage, 0.15 inches.
d. Wire Size, Two-Piece Adjustable: 9 gage diameter in exterior walls.
e. Single-Wythe Configuration: Truss design, continuous diagonal cross rods spaced not more than 16 inches on center.
f. Truss type units with side rods spaced for embedment within each face shell of back-up wythe, ties extended to within 1 inch of exterior face of facing wythe.
g. Flexible Anchors: Masonry to Structural Framework: Two-piece anchors permitting vertical or horizontal differential movement between wall and framework parallel to, but resisting tension and compression forces perpendicular to, plane of wall.
1) Anchorage to Steel Framework: Manufacturer's standard anchors with crimped 1/4 inch diameter wire anchor section for welding to steel 3/16", triangular-shaped wire tie section sized to extend within 1 inch of exterior face of facing wythe.

h. Unit Type Masonry Inserts in Concrete: Cast iron or malleable iron inserts of type and size indicated.
i. Dovetail Slots: Dovetail slots with filler strips, of slot size as required; 22 gage sheet metal.
j. Anchor Bolts: Steel bolts with hex nuts and flat washers, complying with ASTM A 307 "Specification for Carbon Steel Bolts and Standards, 60,000 PSI Tensile Strength," Grade A, hot dip galvanized complying with ASTM A 153 "Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware• ," Class C; sizes and configurations indicated.
k. Reinforcing Bars: In accordance with Specification Section - REINFORCEMENT, deformed steel, per ASTM A 615 "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement," Grade 60 for bars No. 3 to No. 18.

4. Miscellaneous Masonry Accessories:
a. Non-Metallic Expansion Joint Strips: Premolded, flexible cellular neoprene rubber filler strips, complying with ASTM D 1056 "Specification for Flexible Cellular Materials – Sponge or Expanded Rubber," Grade RE41E1, capable of compression up to 35 percent; width and thickness as required.
b. Weepholes: Pre-manufactured weeps.

C. Mortar and Grout:
1. In accordance with the following:
a. Cement: In accordance with ASTM C 150 "Standard Specification for Portland Cement," Type II.
b. Hydrated Lime: In accordance with ASTM C 207 "Standard Specification for Hydrated Lime for Masonry Purposes," Type S, unless otherwise noted.
c. Quicklime: In accordance with ASTM C 5 "Standard Specification for Quicklime for Structural Purposes."
d. Lime Putty: Made from hydrated lime or quicklime.
1) If made from quicklime, other than processed pulverized quicklime, slake lime and then screen through a No. 16 mesh sieve. Before using, store and protect slaked and screened lime putty for not less than 10 days.
2) Processed pulverized quicklime shall be slaked for not less than 48 hours, and shall be cool when used.
3) Lime putty prepared from hydrated lime may be used immediately after mixing.
4) Lime putty prepared from quicklime or pulverized quicklime shall have a plasticity figure, after slaking and screening, or not less than 200, and shall weigh not less than 83 lbs. per cubic foot. Lime putty prepared from hydrated lime shall conform to ASTM C 207 "Standard Specification for Hydrated Lime for Masonry Purposes," Type S.
e. Mortar Sand: In accordance with ASTM C 144 "Standard Specification for Aggregate for Masonry Mortar."
f. Modified Mortar Sand:
1) In accordance with ASTM C 144 "Standard Specification for Aggregate for Masonry Mortar" modified to not less than 3 percent shall pass the No. 100 sieve.
g. Grout Aggregate: 3/8 inch maximum size and in accordance with ASTM C 404 "Standard Specification for Aggregates for Masonry Grout."
h. Grout Admixture: SIKA "Grout Aid," Type II.
i. Water: Clean and free of harmful amounts of acid, salts, alkali's, or organic materials.

2.3 MIXES

A. Mortar:
1. In accordance with CBC Section 2103A.2 and ASTM C 270 "Specification for Mortar for Unit Masonry".
2. Pre-Blended Mortar Mix:
   a. In accordance with ASTM C 270 "Specification for Mortar for Unit Masonry," Type S.
3. Compressive Strength:
   a. See General Structural Drawings from the Structural Engineer.
   b. 1,800 psi at 28 days minimum.

B. Grout:
1. In accordance with CBC Section 2103A.3 and ASTM C 476 "Specification for Grout for Masonry."
2. Pre-Blended Bag Grout:
   a. In accordance with ASTM C 476 "Specification for Grout for Masonry."
3. Coarse Grout Mix unless otherwise noted.
4. Compressive Strength:
   a. See General Structural Drawings from the Structural Engineer.
   b. 2,000 psi at 28 days minimum.

2.4 SOURCE QUALITY CONTROL

A. Fabrication Tolerances:
1. All materials, equipment and placing operations shall be subject to inspection, tests and approval at all times. Agent shall have access to all places where Concrete Masonry Unit materials are proportioned, mixed, cured and stored.

B. Tests and Inspection:
1. All tests will be performed by the Owner's Testing laboratory Agency in accordance with the Specification Section – TESTING LABORATORY SERVICES.
2. Concrete Masonry Units shall be tested per ASTM C 140 "Test Methods for Sampling and Testing Concrete Masonry Units and Related Units• " and CBC Section 1705A.4.
   a. Lineal Shrinkage: In accordance with ASTM C 426 – "Standard Test method for Drying Shrinkage of Concrete Block."
   b. Compressive Strength: In accordance with ASTM C 140 – "Sampling and Testing of Concrete Masonry Units."
   c. Test three (3) samples of each type of the Concrete Masonry Unit prior to construction.
3. Mortar Tests: At the beginning of Masonry Work, at least 1 test sample each of mortar and grout shall be taken on 3 successive working days, then once per week with at least one sample taken for each 5,000 square feet of wall area, or fraction thereof.
   a. Test specimens for mortar shall be made in accordance with ASTM C 780 "Test method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry." Test specimens shall be continuously stored in moist air until tested.
   b. Mortar shall show a compressive strength of not less than 1,800 psi at 28 days.
4. Grout Tests: At the beginning of Masonry Work, at least 1 test sample each of grout shall be taken on 3 successive working days, then once per week with at least one sample taken for each 5000 square feet of wall area, or fraction thereof.

a. Test specimens for grout shall be made in accordance with ASTM C 476 "Specification for Grout for Masonry" • and CBC Section 1705A.4 Test specimens shall be continuously stored in moist air until tested.
b. Grout shall show a compressive strength of not less than 2,000 psi at 28 days.

C. Verification of Performance:
1. A special inspector shall be employed during the placement of all units, placement of all reinforcing steel, during all grouting operations and during taking of all test specimens.
2. Reports:
a. Special Inspector shall submit to Architect and to DSA two copies of each report showing results of tests and inspections.
b. Report shall state that tests and inspections were made in accordance with specifications.
c. Report shall state whether materials were in conformance with specifications.
3. Cost of testing and inspection will be paid by the Owner, unless otherwise specified. Contractor shall pay all costs of re-inspection and/or re-tests due to non-compliance with specifications as a reimbursement directly to the Owner.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site verification of conditions:
1. Prior to the execution of the work under this specification section, inspect the installed work executed under other sections of this Project Manual which, affect the execution of work under this specification section.
2. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
3. Execution of work under this specification section shall constitute acceptance of existing conditions.

3.2 PREPARATION

A. Coordination:
1. Coordinate work under this specification section with work specified under other sections to ensure proper and adequate interface of work.
a. Installation of bolts, reinforcing, inserts, etc. as required.
b. Check and be responsible for accuracy of dowel locations in concrete where dowels project into Concrete Masonry Unit work.
2. Control Joints:
a. See drawings for type and location of control joints.
3. Bond Beams:
a. Bond beams shall be located where shown and detailed on the drawings, and shall be reinforced as indicated and as here after specified.
4. Built-in Work:
a. Miscellaneous Embedded Items: All items indicated to be embedded in masonry shall be carefully located and anchored to prevent movement during grouting operations. Avoid cutting and patching.
1) Install all anchor bolts and anchors furnished under other sections.
5. Cutting or Patching:

a. Obtain approval prior to cutting or fitting any area not indicated or where appearance or strength of masonry work may be impaired.

B. Protection:
1. Protect all adjacent surfaces from drips, spray, air pollution of the surrounding environment, and other damage from work under this specification section.
2. Protect and cover the top of all Concrete Masonry Unit walls at the end of each day's work to minimize water intrusion, regardless of the time of year.
   a. Continue to temporarily cover the top of the walls until the final parapet cap is installed, and the sealer coats are applied.

C. Surface Preparation:
1. Prepare surface in accordance with manufacturer's written instructions and recommendations.
2. Clean substrates of substances (oil, grease, rolling compounds, incompatible primers, loose mill scale, etc.) which could impair bond of materials specified within this section.
3. Top surfaces of foundation or slab to receive Concrete Masonry Units shall be clean, rough, and free of laitance, as specified in Specification Section - CAST-IN-PLACE CONCRETE, PART 3. Roughness amplitude shall be a minimum of one-fourth inch.

3.3 INSTALLATION

A. General:
1. In accordance with Regulatory Requirements and TMS 602.
2. Set plumb, level, and square.
3. Provide temporary bracing during erection of masonry work. Maintain in place until masonry has set to provide permanent bracing.

B. Layout:
1. Lines shall be straight, true and built accurately to dimension.
2. Masonry lines and levels shall be placed to the following tolerances:
   a. Variation from unit to adjacent unit: 1/8 inch maximum.
   b. Variation from plane of wall: 1/4 inch in 10 feet.

C. Reinforcement Bar installation:
1. Installation of Vertical Reinforcement Bars:
   a. Where possible, bars shall be one length and centered in open end of Concrete Masonry Units unless noted otherwise on drawings.
   b. Bar may be doweled at top of footing.
   c. Bars shall be accurately and positively held in place before setting Concrete Masonry Units by wiring to a 2 x 6 properly braced near top of bars and not over 8 feet above foundation or at last Grout pour.
   d. For Low Lift Grout, corner bars and other bars in closed cell units shall be lapped a minimum of 48 bar diameters, unless indicated otherwise.
   e. All vertical reinforcing steel shall be braced throughout its height in a manner that will retain the steel in proper position and provide the proper clearance at spacing not to exceed 192 bar diameters.
2. Installation of Horizontal Reinforcing Bars:
   a. Bars shall be laid in bond beam units directly on top of the cross walls of block webs.
   b. Lap splice bars a minimum of 48 bar diameters, unless indicated otherwise.
   c. Reinforcing steel shall be secured to all foundation dowels and held in place at spacing not to exceed 192 bar diameters.

3. Wire horizontal and vertical bars together.
4. Reinforcing steel shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the plans shall not be used. Heating of bars for bending will not be permitted.
5. Bars shall conform accurately to the sizes, shapes, lines and dimensions shown on drawings and with hooks and beds made as detailed. Bars shall be placed as indicated on the drawings and centered on grout space.
6. At the time grout is placed around it, reinforcing steel shall be clean of mill scale or other coatings that will destroy or reduce bond.

D. Setting of Concrete Masonry Units - In accordance with the following:
1. Bonds: Use Running Bond, or as shown on details.
   a. Place masonry to lines and levels indicated to the following tolerances:
      1) Variation from Unit to Adjacent Unit: 1/8-inch max.
      2) Variation from Plane of Wall: 1/4-inch in 10 feet.
   b. Bond: Unless noted otherwise, lay concrete masonry units in bond pattern indicated with vertical joints located over score of unit in course below (and vice versa).
   c. Maintain masonry courses to uniform width. Make vertical and horizontal joints equal and of uniform thickness.
   d. Preserve the vertical continuity of cells in concrete unit masonry. The minimum clear horizontal dimensions of vertical cores shall be 3" x 3" for 8-inch wide block.
2. Align vertical cells to maintain vertical continuity of cells to be filled. Open end or notched units may be used to facilitate installation around cells that contain vertical reinforcement. Minimum unobstructed vertical flue 3" x 3". Remove overhanging mortar or other obstructions or debris from inside of cells.
3. Provide bond beam units at cells containing horizontal reinforcement.
4. Integral Water-Repellent CMU:
   a. Installer shall use only mortar containing compatible integral liquid water-repellent mortar admixture at the manufacturer's recommended addition rate and mixed according to manufacturer's recommended instructions for construction of water repellent masonry exterior walls.
   b. Cover top of unfinished masonry work to protect it from the weather and to prevent accumulation of water in the cells of the CMU.
   c. Cleaning:
      1) Remove "primary" efflorescent from masonry walls exposed in the finished work in accordance with the manufacturer's recommendations and the NCMA TEK Bulletin #8-3A.
      2) Remove dirt or stains from masonry walls exposed in the finished work in accordance with the manufacturer's recommendations and the NCMA TEK Bulletin #8-2A.
      3) Promptly remove excess wet mortar and grout containing integral water-repellent mortar admixture from the face of the masonry as work progresses. Do not use strong acids, over-aggressive sandblasting or high-pressure cleaning methods.
      4) Comply with applicable environmental laws and restrictions.
5. Joints:
   a. Set Concrete Masonry Units in full shoveled bed of Mortar.
   b. Width of joint: 3/8 inch.
      1) Depth of joint: Equal to Face Shell Wall Thickness.
   c. Head joints shall be solidly filled.
   d. Mortar Joint Finish Method:

1) All mortar joints shall be compressed and shaped by a specific designated tool throughout the project. Provide identical tools when more than one worker is scheduled to finish joints.
2) At exposed and concealed surfaces:
   a) Vertical Joints: Compressed, Raked and Tooled joints.
   b) Horizontal Joints: Compressed, Raked and Tooled joints.
3) Provide compressed Flush Joints when other material is to be applied directly onto and over Concrete Masonry Units being covered (including areas covered by rubber base).

6. Vertical Control Joints:
   a. Space joints at 25'-4" o.c. maximum, unless specifically noted otherwise. Joints shall be spaced symmetrically and uniformly and shall be subject to the Architect's approval.
   b. All joints shall be through wall separations with horizontal reinforcing discontinuous.
   c. All joints shall be sealed with backer rods and urethane sealant on both faces. Refer to Specification Section - SEALANTS for sealant requirements.
7. Prior to grouting, the grout space shall be clean so that all spaces to be filled with grout do not contain mortar projections greater than 1/4 inch, mortar droppings and other foreign material, per CBC Section 2104A.1.3.
8. Do not install cracked, broken, chipped or stained masonry units.
9. Lay only dry concrete masonry units.
10. Lay masonry in full bed of mortar, properly jointed with other work. Deep or excessive furrowing of mortar joints is not permitted.
    a. Block Cap: Lay with full mortar coverage on horizontal and vertical joints.
    b. Install grout cap where and as indicated.
11. Fully bond intersections and external and internal corners.
12. Do not shift or tap masonry units after mortar has taken initial set. Where adjustments must be made, remove mortar and replace.
13. Remove excess mortar.
14. Perform job-site cutting with proper tools to provide straight unchipped edges. Take care to prevent breaking masonry unit corners or edges.
15. Step back unfinished work for joining with new work. Do not use toothing.
16. Provide cleanouts as indicated in "installation of grout."

E. Installation of Grout:
1. General:
   a. All cells shall be grouted solid.
   b. Use low lift or high lift grouting at Contractor's option.
   c. Use grout pump, hopper or bucket to place grout.
   d. Place grout in final position within 1-1/2 hours after introduction of mixing water.
   e. Place grout and rod with a 3/4 inch flexible cable vibrator sufficiently to case it to flow into all voids between the cells and around the reinforcing steel. Slushing with mortar will not be permitted.
   f. Stop grout approximately 1-1/2 inches below top of last course, except at top course bring grout to top of wall.
2. Low Lift Grouting Procedure: In accordance with CBC Section 2104A.1.3.1.2.2, and to be used only if approved by the Architect.
   a. Set all vertical bars.
   b. Concrete Masonry Unit walls shall be built up 16 inches high uniformly around one complete building unit. No vertical construction joints will be allowed unless noted and detailed on the drawings.
   c. Lay Concrete Masonry Units no higher than 24" and clean cells of mortar.
   d. Lay Concrete Masonry Units a maximum of 48" before grouting.

e. Set horizontal bars on bond beam unit crosswalls next to verticals.
f. If course at top of lift contains horizontal reinforcement, grout all cells to a level 3/4" below the top of the Concrete Masonry Units. This will provide about 1-1/4" grout cover over the horizontal bar. Puddle grout in place using a No. 4 bar or a 1 x 2 stick, and repeat puddling in 30 to 60 minutes.
g. Consolidate each lift twice. Once while placing grout and once more after initial absorption of water but before set.
h. Repeat steps "c.", "d.", "e." and "f." above until the wall is completed.

3. High Lift Grouting Procedure (only upon prior approval of the Architect , Structural Engineer and DSA) shall be in accordance with CBC Section 2104A.1.3.1.2.3.:
   a. Clean-outs must be provided at the bottom of each pour for each cell.
      1) Construct clean out courses with inverted open-bottom bond beam units involved to permit cleaning of all cells by flushing. Cleanouts shall not be less than 3x4 inch openings cut from one full shell. Do not plug cleanout holes until masonry work, reinforcement and final cleaning of the grout spaces have been completed and inspected.
   b. The Contractor is cautioned that with the high lift method, the walls have very little lateral stability against winds or earthquake before grout has set and it shall be this Contractor's responsibility to adequately brace the walls until the roof sheathing is installed.
   c. "Dur-O-Wall" reinforcing shall be provided in mortar joints at all wall corners, ends, jambs of openings and wall intersections.
   d. Lay up walls subject to maximum height limitations of CBC Section 2104A.1.3.1.2.2 or 2104A.1.3.1.2.3.
   e. Construction procedure shall be as follows:
      1) Set all full length vertical bars on center line of wall, centered in cells, and braced as noted above under typical reinforcing.
      2) Lay Concrete Masonry Units full height of walls, or 12 feet maximum including wiring horizontal bars to verticals, for one complete building unit. No vertical construction joints will be allowed unless noted and detailed on the drawings.
      3) Construct clean out courses with open-bottom bond beam units inverted to permit cleaning of all cells by flushing. Cleanouts shall not be less than 3 x 4 inch openings cut from one full shell. Do not plug cleanout holes until masonry work, reinforcement and final cleaning of the grout spaces have been completed and inspected.
      4) Clean all cells and top of foundation wall of mortar by hosing cells with suitable nozzle jet or sandblasting as soon as mortar has partially set. Final cleaning shall be inspected through clean-outs at each cell in base of wall. Remove all mortar fine protruding more than 1/2 inch into the grout space by dislodging the projections with a rod as the work progress or by washing the grout space at least twice a day during erection using a high pressure stream of water.
      5) Set vertical bars in closed cells where required; i.e., at wall corners, sides of openings, etc. Wire to horizontals at top and bottom. Use metal spacers at 48" o.c. maximum to hold bars in line.
      6) No grout shall be placed until mortar has set a minimum of 3 days in hot weather or 5 days in cold weather, and the top of foundation wall has been thoroughly cleaned and grout plugs have cured a minimum of 48 hours.

7) Place grout in lifts not to exceed 4 feet in height, with a waiting period between lifts, dependent on weather and absorption rate of the masonry, in order to place the succeeding lift after the preceding lift becomes plastic but prior to initial set. The first lift shall be consolidated using mechanical vibrators. After the required waiting period, place the second lift and consolidate with the vibrator, reconsolidating the lift below to a depth of 12 to 18 inches. Repeat the waiting, placing and consolidating process until the top of the grout pour is reached. Reconsolidate the top lift after the required waiting period. The high-lift grouting of any section of wall between lateral flow barriers shall be completed to the top of a pour in one working day unless a new series of clean out holes is established and the resulting horizontal construction joint cleaned.
8) Repeat items 1 - 7 until all cells are filled. The wall must be grouted to its full height during one working day. No horizontal construction joints will be allowed.
9) Above 12 feet level low lift grouting procedures shall be used.

F. Curing:
1. While Concrete Masonry Units are being laid and after, dampen both faces for a period of 3 days using a spray regulated to keep surface damp. After grouting, dampen for a period of 24 hours.

3.4 REPAIR / RESTORATION

A. General:
1. Materials or Workmanship not conforming to appearance or strength specified will be deemed defective and shall be removed and replaced with no change to the contract in time or cost.
2. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units.
3. Pointing: During the tooling of joints, enlarge any voids or holes and completely fill with mortar.
4. Dry brush masonry surface after mortar has set, at the end of each day's work and after final pointing.
5. Leave work and surrounding surface clean and free of mortar sports and droppings.
6. Cleaning: Upon completion of masonry installation, repair all holes. Defective joints shall be cut out and rejointed. Exposed masonry surfaces shall be cleaned free of mortar, or grout stain and efflorescence.

B. Defective Mortar Or Grout:
1. Should the strength of mortar or grout fall below that specified, remainder of Work shall be adjusted to reach required strength. Work in place representing inferior grout and mortar and indicating a strength less than the minimum specified shall be tested by taking and testing core samples. Number and location of cores shall be determined by Structural Engineer.
2. Should compression tests of cores fail to meet required strength, masonry shall be deemed to be defective and shall be removed and replaced at no cost to Owner.
3. Costs relative to taking and testing of core samples shall be paid by the Owner and will be deducted from Contract Amount. Cost of patching core holes shall be borne by the Contractor.

3.5 FIELD QUALITY CONTROL

A. Site Tests:
1. Tests will be performed by the Owner's Testing Laboratory Agency in accordance with the Specification Section – TESTING LABORATORY SERVICES.
2. Mortar and Grout shall be tested per CBC Section 2105A.
   a. Samples shall be continuously stored in moist air until tested.
   b. Grout Compressive Strength: For each mix provided, in accordance with ASTM C 1019 "Standard Test Method for Sampling and Testing Grout".
   c. Mortar Property Specification: For each mix provided in accordance with ASTM C 780 "Standard Test method for Pre-construction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry."
3. Masonry Core test shall be in accordance with CBC Section 2105A.4.
4. One set of tests for each 5,000 square feet of wall area or portion thereof.

B. Inspection:
1. Inspections will be performed by the Owner's Project Inspector in accordance with Specification Section – TESTING AND INSPECTION SERVICES.
   a. Special Project Inspector shall be employed during the placement of all units, placement of all reinforcing steel, during all grouting operations and during taking of all test specimens.
      1) Per CBC Section 1701A.4 for DSA/SSS.
2. Schedule inspections and notify the Architect, Project Inspector, Testing Agency and any other regulatory agencies of the time at least 48 hours prior to the inspection.
3. No work shall be without the required inspections.

3.6 CLEANING

A. Clean in accordance with Specification Section - PROJECT CLOSEOUT.
1. At the conclusion of the Concrete Masonry Unit work, the Contractor shall clean down all walls, remove all scaffolding and equipment, clean up all debris, refuse, any surplus materials and remove them from the premises.
2. Concrete Masonry Unit walls shall be brushed daily with a mason's soft hair brush to remove surplus mortar and splattering at scaffolding lines. This must be done immediately after initial, but before final set.
3. Grout or mortar spillage shall be removed by use of clean, plain water before it has a chance to set.
4. In areas not cleaned in accordance with the above, the Architect shall have the right to require sandblasting of the entire wall between concrete columns or piers, between control joints or entire wall unit that includes the affected areas.

B. Removal of Stains and Efflorescence:
1. Removal of Stains: In accordance with NCMA TEK Bulletin #8-2A "Removal of Stains from Concrete Masonry."
2. Removal of Efflorescence: In accordance with NCMA TEK Bulletin #8-3A "Control and Removal of Efflorescence."

3.7 PROTECTION

A. Protection from Weather:
1. Protect newly installed work from temperatures in accordance with CBC 2104A.

a. Cold Weather: When ambient air temperature falls below 40 degrees F.
b. Hot Weather: When ambient air temperature rises above 100 degrees F.

2. During installation, cover the top of unfinished masonry work to protect it from the weather and to prevent accumulation of water in the cores of the masonry units.

END OF SECTION

SECTION 23 09 23 – BUILDING MANAGEMENT SYSTEM

PART 1 - GENERAL

1.1 GENERAL MECHANICAL PROVISIONS:

A. The General Mechanical Provisions of Section 23 00 00 shall form a part of this Section with the same force and effect as though repeated here.

1.2 SCOPE:

A. General: The direct digital control and energy management system (DDC/EMS) includes control panels, control devices, valves, actuators, all line and low voltage control and interlock wiring (including wiring to controllers, switches, timers, relays, etc.) and conduit and related equipment, as required for proper operation of all equipment. Provide all equipment, programming, labor, materials and services necessary for a complete, lawful and operating DDC/EMS as shown or noted on the drawings and as specified herein. All control wiring, line and low voltage shall be installed in conduit. Power wiring, power to DDC/EMS control panels and disconnect switches are included in the Electrical Specifications, except that power wiring for control devices such as controllers, valves, etc., is included in the control system. Electrical work shall be in accordance with Electrical Specifications. The system shall be direct digital control/electric. **The control system shall be direct digital. Johnson Metasys, without substitution, to match existing campus standards. The system shall be Niagara 4 (or later to tie into and match existing campus version), HTML5 based, with open license supervisory controller.** The system shall communicate over the District's Ethernet LAN/WAN, and shall include the latest upgrading (software and firmware) during the warranty period. The data wiring shall have an Ethernet connection at the DDC/EMS panel. A Graphical User Interface (GUI) shall be provided. Coordinate with Section 23 00 01, Heating, Ventilating and Air Conditioning and with Division 26. Comply with ASHRAE 55 and Title 24.
   1. All work described in this section shall be installed, wired, circuit tested and calibrated by factory certified technicians qualified for this work.
   2. Coordinate and cooperate with commission agent as required by Section 01 91 13.

B. Contractor Qualifications: All controls shall be furnished and installed by a Contractor who is licensed, certified and approved by the controls manufacturer for design, installation, start-up and service of their product. The Contractor must have sufficient personnel to respond to a trouble call at the site within four hours. The Contractor's local manager shall have a minimum of five years' experience in the design, installation, start-up and service of similar systems. The Contractor shall submit a list of at least five projects which are similar in size, scope and contract value to this project. This list shall include the Owner's contact person, phone number and controls contract value.

C. Submittals: Within 60 days of contract award, submit eight (8) copies of shop drawings showing the following aspects of the DDC/EMS system (CAD file with DXF format if required of floor and site plans can be secured from the Architect).

1. All termination points, terminal cabinets, and cabling.
2. Schedule of input and output points.
3. Locations of all visible DDC/EMS system components (i.e. interior and exterior sensors, terminal strips, panels, trench and pull boxes, etc.), identifying specifically any exposed conduit.
4. Descriptive literature for all material and equipment items shall include manufacturer's name and catalog numbers, dimensions, capacities, and all other characteristics and accessories as listed in the specifications or on the drawings.
5. Submit copies of forms to be used for testing and verification showing all data which is to be recorded. Three copies of complete report shall be submitted for review.
6. Complete written sequence of operation for all controlled equipment.

D. Installation and Operation Manuals: Furnish Installation and Operating Manuals for all components. These manuals shall contain full documentation which shall include, without being limited to, the following:
1. General description and specifications.
2. Installation and initial checkout procedures.
3. Complete alignment and calibration procedures for all components.
4. Detailed schematics and assembly drawings and communication trunk diagram with control unit addresses.
5. BACNet architecture diagrams
6. Sequence of Operations.
7. Controller points lists.

1.3 SYSTEM ARCHITECTURE

A. DDC/EMS Equipment: The main controller shall contain the network communications and information management programs providing integrated global control, trend logging, local and remote alarming and fully menu driven user interface. The local network controller must be an intelligent, stand-alone microprocessor based controller which can have a variety of configurations based on their application.

B. Campus-Wide Data Transfer System: The DDC/EMS shop drawings shall indicate where all equipment items are to be located for input and output to complete the system. The conduit/cabling system shall inter-tie these points as required to complete one system to meet the design criteria herein. Conduit shall be used for all EMS wiring whenever access is limited (hard-lid, walls, etc). When EMS wiring is installed in/above accessible areas (such as T-bar ceilings), free-air with J-hooks and wire-ties is acceptable. However, EMS wiring cannot be intermixed or bundled with any other cabling/wiring (Fire Alarm, internet, etc). System high speed communication shall be hardwired using a Belden shielded cable as recommended by DDC manufacturer.

C. User Interface Communication: The user may communicate with the DDC/EMS system with a workstation located at the District Office over the WAN, with a remote workstation, with an On-Campus Operator Workstation, or with a Lap-Top computer (Service Tool).

D. Standard Network Support: All Master Controllers, Workstation(s) and File Server shall be capable of residing directly on the owner’s Ethernet TCP/IP LAN/WAN. Furthermore,

the Master Controllers, Workstation(s) and File Server shall be capable of using standard, commercially available, off-the-shelf Ethernet infrastructure components such as routers, switches and hubs. With this design the owner may utilize the investment of an existing or new enterprise network or structured cabling system. This also allows the option of the maintenance of the LAN/WAN to be performed by the owner's Information Technology Department as all devices utilize standard TCP/IP components. If the DDC/EMS contractor needs an additional data port that is not already provided, its installation must be coordinated with the District's IT department (and IT infrastructure contractor if applicable) and shall be installed at the DDC/EMS contractor's expense. As a result, the DDC/EMS contractor shall ensure any additional data port locations are clearly indicated and that the existing EMS data ports they intend to utilize are addressed/identified prior to construction so they are not damaged or removed. This coordination shall occur between the District's Construction Office, IT department, DDC/EMS operator, IT infrastructure contractor (if applicable), and the project's general construction contractor manager.

PART 2 - PRODUCTS

2.1 GENERAL:

A. General Requirements: The Electronic Microprocessor Based Direct Digital Control and Energy Management System (DDC/EMS) shall monitor the data environment and perform control functions in relation to a programmed strategy and the status of the data environment. The system shall use solid state computer based digital and analog technology. The system shall be standard with the manufacturer to insure on going parts availability and trained technical support. The DDC/EMS shall be of the user programmable type requiring no special computer education for operation. All necessary instruction manuals and user orientation training shall be supplied by the manufacturer or agent thereof. The DDC/EMS shall be UL listed as a Direct Digital Control and Energy Management System. The programmable control requirements of the DDC/EMS shall include, but not be limited to:

OPTIMUM START/STOP (BASED ON HISTORICAL DATA)
TIME OF DAY ROUTINES
SCHEDULED OCCUPANCY ROUTINES INCLUDING HOLIDAYS
CUSTOM TAILORED REPORTING
ACCUMULATING RUN TIME
CRITICAL CONDITION ALARMING
FLUID FLOW SWITCH AND CONTROL ALARMING
PID CONTROL ON ANALOG OUTPUTS
HOT WATER RESET
DAY/NIGHT SETBACK
ECONOMIZER/PURGE
CUSTOM TAILORED REPORTING
ACCUMULATING RUN TIME
POINT OVERRIDE ABILITY FOR EVERY DIGITAL AND ANALOG OUTPUT
SEPARATE MODES AS REQUIRED BY CONTROL SEQUENCE
ALL EXTERIOR LIGHTING CIRCUITS CONTROLLED BY SYSTEM

B. Environment: The DDC/EMS shall operate in an environment of 40 120 degrees F and 10 95% relative humidity. Sensors and control elements shall operate under the temperature, pressure, humidity, and vibration conditions normally encountered in the installed location. The DDC/EMS shall maintain accuracy as follows:
1. +/ 0.5 F for the space temperatures in the 0 F 130 F range.
2. +/ 0.5 F for duct temperatures in the 40 F 130 F range.
3. +/ 1.0 F for outside air temperatures in the 30 230 F range.
4. +/ 1.0 F for water temperature in the 30 230 F range.
5. KWH and KW monitoring within 1.0%.

C. Battery Backup: The system shall be tolerant of power failure and hold memory for a minimum of 12 hours. On power restoration, the system shall automatically and without operator intervention of execution of manual restart procedures:
1. Come On Line.
2. Update all monitored functions.
3. Resume operation based on current time and status.
4. Implement special building start up strategies as required.
5. Log time of power outages and start ups.

D. Program Storage: All JACE 8000 hardware licenses and certificates shall be stored on local MicroSD memory card employing encrypted “safe boot” technology.

E. Protocol: Protocol shall be BACNet. The Main Controller shall be enabled to support and shall be licensed with the following Open protocol drivers (client and server) by default.
1. BACNet
2. Lon
3. Modbus
4. SNMP
5. KNX

F. The Main Controller shall provide the following hardware features as a minimum:
1. Two 10/100 Mbps Ethernet ports.
2. Two Isolated RS-485 ports with biasing switches.
3. 1 GB RAM
4. 4 GB Flash Total Storage / 2 GB User Storage
5. Wi-Fi (Client or WAP)
6. USB Flash Drive
7. High Speed Field Bus Expansion
8. -20-60°C Ambient Operating Temperature
9. Integrated 24 VAC/DC Global Power Supply
10. MicroSD Memory Card Employing Encrypted Safe Boot Technology

G. The Main Controller shall be provided with a 5 Year (SMA) Software Maintenance Agreement. Labor to implement not included.

2.2 SYSTEMS DESCRIPTION:

A. Modular Design/Expandability: The DDC/EMS shall be of a modular design providing distributed processing capability, and allowing future expansion of both input/output

points and processing/control functions. The modular DDC/EMS shall be configured on the main/local concept. The main controller shall have the capability of adding local controllers and the local controllers shall be capable of adding I/O modules.

B. Existing Main (Master) Description: The master functions as the overall system coordinator, accept control programs, perform automated energy management functions, control peripheral devices and perform all necessary mathematical calculations.

C. Local Controller Units: The local units function as a stand-alone controller and as an Input/Output interface of the DDC/EMS and the Data Environment.
   1. HVAC units must be fully controlled by a controller connected to the DDC/EMS that can be fully programmed by the DDC/EMS contractor.
   2. Monitoring: Local units shall be used to connect the data environment to the system and contain all necessary Input/Output functions to read field sensors and operate controlled equipment based on internal instructions or instructions from the Master. The units shall be fully supervised to detect failures. The units shall report the status of all points in its data environment at the rate of at least once every second. Local units shall connect directly to the Master with a twisted pair shielded RS-485 interface.al unit failure.
   3. Unit Failure: Upon failure of the unit (including transmission failure), the unit shall automatically fail off or to a predetermined state for three-way valves. All local units must run independently in the event of a central unit failure (including transmission failure) in bypass mode via the thermostat.
   4. Power: The unit shall operate from 120 VAC, +/-20%, 60 Hz, 220 VAC, +/-20%, 50 Hz or 24 VAC +/- 20%, 50/60 Hz power. For voltages below the operating threshold the unit shall totally shutdown and de energize its outputs.
   5. LAN and/or Field Bus: Each unit shall communicate with any unit through the RS-485 interface LAN and/or field bus.
   6. Auxiliary Port: Each unit shall be equipped with an auxiliary port to allow local interrogation of input and output values, and keyboard override of outputs through laptop.

2.3 INPUT/OUTPUT CAPABILITY:

A. Inputs: The DDC/EMS shall accept information in the form of a temperature, voltage, digital signal (on off) or pulse counter.
   1. Analog Inputs: The Analog Input (AI) function shall monitor each analog input, perform A/D conversion, and hold the digital value in a buffer for interrogation. The A/D conversion shall have a minimum resolution of 10 bits. Input ranges shall be within the range of 0-10 VDC.
   2. Digital Inputs: The Digital Input (DI) function shall accept dry contact closures and voltage level or resistance level (5VDC reference voltage) transitions. A voltage level below 1 volt or a resistance below 500 ohms shall be read as ON (closed), a voltage level above 3 volts or a resistance above 1400 ohms shall be read as OFF (open).
   3. Pulse Accumulator Inputs: The pulse accumulator function shall have the same characteristics as the DI, except that, in addition, a buffer shall be included to totalize pulses between interrogations. Each input shall accept pulses at a minimum of 2 per second.
   4. Temperature Inputs: Temperature inputs originating from a thermistor, shall be monitored and buffered as an AI, except that, automatic conversion to degrees F shall occur without any additional signal conditioning.
   5. Input Wiring: All analog inputs shall be two wire devices, with shielded wire for accurate operation.

B. Outputs:

1. Master and local controllers - Form C relay outputs rated at 5 amp, 24 VAC/DC or 2 amp, 30 VAC for on/off or Pulse Width Modulation for maintained operation of field devices. Output pulse width shall be selectable between 0.1 and 3200 seconds with a minimum resolution of 0.1 seconds. Isolation and protection against voltage surges shall be provided. Central plant controllers shall be equipped with an ON/OFF/AUTO switch to manually obtain either output state. Manual overrides shall be reported to the master at each update. An LED shall be provided to indicate the state of each digital output.
2. All digital and analog output points on every controller must have an override (highest priority) input point in the controller's point list in the JACE. This override point must be clearly labeled and identifiable. For example, "DO1ovrd" would be the point to override Digital Output 1.

2.4 SOFTWARE:

A. User Software: HTML5 based. Provide software (required upgrades) for Laptop Computer (Service Tool) and District office workstation, as required.

B. Software Features:

1. Mathematical Requirements: The DDC/EMS shall have a math package capable of addition, subtraction, multiplication, division, square root, greater than and less than functions, minimum and maximum selection functions, and up to five levels of parenthesis for computation of variables. Control commands may be executed based on these calculated variables which are available to the program on a global basis. Math expressions may be used in action and exit commands of control program. The mathematical software shall be capable of mixed mode arithmetic, utilizing Boolean logic statements in combination with basic arithmetic to provide conditional mathematical computations.
2. Passwords: The DDC/EMS shall have multiple levels of user programmable passwords in addition to a master password, for programming security. Separate passwords may be user programmed. Level of password will define user's access level and ability to change system.
3. Trend Logging: The DDC/EMS shall trend log variables. Any system variable (inputs, outputs, numerals, can be trend logged.
4. Messages: The DDC/EMS shall provide alarming, preventative maintenance and status reporting messages.
5. Documentation Format: The programming language of the DDC/EMS shall be plain English based such that a printout of the control program shall serve as the primary documentation for the system.
6. Micro Processor Integrity Checking: Each DDC/EMS microprocessor shall continuously monitor and check itself and produce error messages in the event of a malfunction.
7. Data Plotting: The DDC/EMS shall provide plots of values of system variables on a graph. Graphs may consist of combinations of up to 3 system variables at a time from the history logs.

C. Color Graphics Requirements Provide HTML5 based color graphics which allow user to access and change (based on user access level) all schedules and setpoints (including damper or control valve positions) directly through the user graphics. Real time data shall continuously be updated. Navigation between the screens (forward and backwards) shall be accomplished with the use of a mouse. The minimum graphic screens shall include the following:

1. Site lay-out locations of all equipment being controlled, control component locations, and spaces served. Provide multiple screens-minimum of 1 screen per

building plus site and others as needed for clarity. By "clicking" mouse on the desired equipment area a flow diagram will be displayed for the related equipment (as described below - Item 2). By "clicking" the mouse on a conditioned space, a graphic display of the zone conditions (as described below - Item 3) will be displayed.

2. Each building must have a graphical summary page of all the zones in that building that displays zone temperature, set point, discharge air temperature, and fan command.
3. Zone & HVAC Equipment Description on GUI: Each item of HVAC equipment must be clearly identified by what area it serves and its unit number. For example, if HC-2A serves Classroom 4, the GUI should list it as “Classroom 4, HC-2A.” It should NOT be listed as only “HC-2A” or “Classroom 4.”
4. Flow diagrams shall be provided for each HVAC system, such as air-handling system, chilled water system, hot water system, condenser water system, package unit system, brine system with all inputs and outputs dynamically displayed.
5. Each temperature control zone shall have a screen providing set points, temperatures, and related HVAC system status data.
6. Scheduling screens allowing On/Off times to be set.

D. Software Manual: The software manual shall describe programming and testing, starting with a system overview and proceeding to a detailed description of each software feature. The manual shall instruct the user on programming or reprogramming any portion of the system. This shall include all control programs, variables, set points, time periods, messages, passwords and other information necessary to load, alter, test and execute the system. The manual shall include commands, editing and writing control programs, printouts and logs, mathematical calculations, and instructions on modifying any control point, verifying error status, changing passwords, and initiating or disabling control programs.

E. Software Licenses: The owner shall be named the license holder of all software associated with any and all incremental work on the project(s). All Niagara 4 software licenses shall have the “accept.station.in=*”; “accept.station.out=*”; “accept.wb.in=*”; and “accept.we.out=*” section of the software licenses. The intent is to insure that the installed Niagara 4 products may be completely open for integrations. Owner shall be free to direct the modification of the software license, regardless of supplier. In addition, the Owner shall receive ownership of all job-specific software configuration documentation, data files, and application-level software developed for this project. This shall include all custom, job-specific software code and documentation for all configuration and programming that is generated for a given project and/or configured for use within Niagara Framework (Niagara 4) based controllers and/or servers and any related LAN/WAN/Intranet and Internet connected routers and devices. Any and all required IDs and passwords for access to any component or software program shall be provided to the Owner.

2.5 USER INTERFACE:

A. LAN Connections: If an additional LAN connection is needed, the conduit and cable from LAN rack is to be installed by electrical contractor. The planned location of all LAN connections (new and existing) to EMS equipment must be coordinated with the District’s networking staff and EMS staff as early as possible. Final connections shall be made by DDC/EMS Contractor.

B. Direct Computer Communication: The DDC/EMS shall have a computer compatible communication mode for communication with other intelligent devices, which performs data integrity checking, with automatic retransmission of data when errors are detected.

C. JACE software must include all applications to make all folders viewable and accessible in the JACE.

2.6 SYSTEM COMPONENTS:

A. Control Components:

1. Wall Switches: Plates for all wall switches and timers shall match those specified in Division 26.
2. Labels: All labels, signs, etc. shall be engraved, laminated plastic, white on black background, 1/8" high lettering, minimum.
3. Temperature Sensors:
   a. Sensor Type: All temperature sensors shall be made of a highly stable, precision thermistor material accurate to within ±0.36 Degrees F. Identify each temperature sensor with a "Lamicoid" label keyed to the control system as-built drawings.
   b. Room Sensor: Room temperature sensor shall have Executive Decorator housing with programmable visible temperature indication. Housing shall include an occupancy override, temperature setpoint adjustment and a service tool jack.
   c. Vandal Resistant Room Sensor: Where noted, shall be a blank stainless steel wall plate with the sensing element bonded to the back side. The plate back shall be insulated to reduce wall temperature influence.
   d. Duct Sensor: Duct temperature sensor shall be a probe type element with 9 inch insertion length. Element shall be installed where air mixture provides a true temperature indication. Where adequate mixing is not practical, the duct temperature sensor shall have an averaging type thermistor element, installed across the entire cross section of the duct.
   e. Outdoor Air Sensor: Outdoor air temperature sensor shall be a probe type element mounted in a ventilated, treated white PVC sun shield to minimize radiant energy effects. The sensor and sun shield shall be mounted on a weatherproof outlet box for outdoor installation.
   f. Low Differential Air Pressure Applications (0" to 5" W.C.): The differential pressure transmitter shall be of industrial quality and transmit a linear, 4 to 20 mA output in response to variation of differential pressure or air pressure sensing points. Non-interactive zero and span adjustments, adjustable from the outside cover. (0.00 - 1.00" to 5.00") W.C. input differential pressure ranges. 4-20 mA output. Maintain accuracy up to 20 to 1 ratio turndown. Reference Accuracy: +0.2% of full span.
   g. CO2 Sensor: The sensor shall have a five year recommended calibration interval. In addition, the sensor shall be provided with a five-year calibration guarantee, providing for free factory replacement if the sensor is found to be out of calibration within five years of the purchase date. The sensor shall have accuracy of ±50 ppm and repeatability of ±20 ppm. All adjustments to the sensor including output scaling, elevation adjustment, relay set point, relay dead-band, linear or exponential output, and single point calibration shall be made via on-board push buttons and LCD display. The LCD display must be covered by a solid door and only viewable when the door is opened for adjustments.
4. Temperature Control Panels: Each panel and each control device or readout on the front of the panel shall be identified with a laminated plastic label with 1/4" high engraved lettering, white on black background. Pilot lights shall be the push to test type.
5. Smoke Detectors: Furnished and installed by Division 26. Power and fire alarm wiring by Division 28. Control wiring by Division 23. Coordinate with Division

26.

6. Status Sensor: Current sensing status sensor (with sensitivity adjustment for belt loss detection).

B. Conduit: Conduit to be a minimum 1" diameter, and to have at least 25% spare capacity, except drops to room sensors may be run in ½" conduit. Conduit shall be run in electrical or mechanical trenches wherever possible. Site conduit (building to building) will be installed (and terminated inside the building) by Division 26.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION:

A. General: All electrical work shall be in accordance with the California Electrical Code and the Electrical Specification Sections. All electric/electronic systems shall be hardwired in conduit, except as specifically allowed by 1.3, B. Wiring shall be concealed in walls, above the ceilings, or below grade unless otherwise noted. Exposed wiring shall run parallel to room surfaces; location shall be approved by the Architect. No structural member shall be weakened by cutting, notching, boring or otherwise. Provide a 120 volt circuit for each device requiring external power. Dedicated circuits shall be provided where required. Any devices or wiring exposed to the weather shall be protected in weatherproof enclosures such as NEMA 3R and weatherproof conduit.

B. Labeling of System: DDC/EMS Contractor shall provide complete labeling of all terminals at all panels or equipment terminal strips and wiring. Equal to Brady marking on wires and number on terminals in sequence corresponding to control diagram.

C. Programming:

1. The Direct Digital Control and Energy Management System (DDC/EMS) operational program shall be provided by the DDC/EMS Contractor. The DDC/EMS Contractor shall be responsible for programming the system and shall coordinate the scheduling (on/off times) with the Owner. Prior to start-up, the DDC/EMS Contractor shall provide any testing program he feels necessary to fully test the operation of the various components.
2. The DDC/EMS Contractor shall load the operational program into the DDC/EMS controller from his office via the District's network (via VPN) or at the job site via a direct connect cable. Prior to starting up the system, the DDC/EMS Contractor shall:
    a. Confirm that the control system has been connected to the District's LAN/WAN and that the LAN/Wan is working.
    b. Confirm the functionality of the DDC/EMS controllers and all input points by reading the input values, and comparing them with a measured temperature, pressure, voltage, current, or resistance as appropriate. Calibrate all transducers as required.
    c. Confirm the functionality of all digital output points by manual operational of the relay contacts. Use proper discretion in starting and stopping equipment.
    d. Confirm the functionality of all analog output points by manually imposing an adjustable voltage on the appropriate circuit to check proper operation of the controlled device. Calibrate all transducers as required.
    e. The DDC/EMS Contractor shall notify the General Contractor (one week in advance of) when the system will be ready for loading and testing the operational program. The DDC/EMS Contractor's start-up technician shall be present while the program is being loaded and shall communicate with the programmer prior and after program loading to

confirm proper operation.

D. Training: Prior to final acceptance, the DDC/EMS Contractor shall provide operational training to the Owner's personnel. The training sessions shall include a complete demonstration of the system. Dates and times of the training sessions shall be coordinated through the Owner not less than one week prior to session. A total of 40 hours of instruction shall be provided. The DDC/EMS Contractor shall maintain a log of training sessions including dates, times and names/titles of those attending. The DDC/EMS Contractor shall submit a copy of this log on request. Contractor shall provide 1 week factory certified training schedule and class at owners' discretion.

E. Testing and Acceptance: The DDC/EMS Contractor shall furnish a complete and operating system. The DDC/EMS Contractor shall also verify, in the presence of the Owner, the system accuracy and proper function of each controlled device and sensor. The following items shall be successfully demonstrated prior to acceptance by the Owner:

1. All system outputs including controllers, relays, and other control devices shall be addressed and start/stop functions demonstrated.
2. All inputs shall be displayed and all event-initiated functions shall be demonstrated.
3. Demonstrate program integrity and power restore sequence during and after a power failure and restoration.
4. Deliver all Record Drawings, wiring diagrams, equipment specifications, installation and Operation Manuals and other documentation as required to describe the system.
5. Complete operator training in the use, programming, and operation of the system.

F. Start-up of the System:

1. The start-up period starts when the following conditions are met:
   a. The DDC/EMS system and all involved HVAC equipment have been installed, connected to the DDC/EMS system and are ready to operate.
   b. A start-up meeting has been conducted with representative of the General Contractor, Architect/Engineer, maintenance staff, and the DDC/EMS Contractor.
   c. Consensus is reached, by the representatives at the above referenced meeting that it is appropriate for the start-up process to start.
2. The alarm pagers called by the control system during the start-up period shall be the pagers carried by the Mechanical Contractor and/or DDC/EMS Contractor as appropriate. The Mechanical Contractor and DDC/EMS Contractor shall respond to all pages from the control system and work cooperatively to insure that the building environmental standards are maintained.
3. The start-up process shall be completed and the warranty period shall start when the following conditions are met.
   a. All training to be provided as part of the project has been completed.
   b. No "alarm" or "condition reports" are being generated by the DDC/EMS system for seven (7) calendar days (168 hours) due to incomplete or inaccurate installation or programming.
   c. All adjustments and "fine tuning" of the system have been completed.

G. Verification: A written testing and start-up report must be submitted for approval before acceptance. In addition to the DDC/EMS Contractor's testing and start-up report, the Owner may independently verify the test results. The report on test results shall include setpoints and operating ranges of all components.

3.2 SEQUENCE OF OPERATION: The below sequences of operation are to be used as a primary guideline for DDC/EMS control logic sequence development. Any/all variations from the below

operation sequences must be approved by the District's DDC/EMS operator prior to implementation. All fans providing ventilation to meet minimum outside air requirements shall run continuously during occupied hours. Airside equipment (air handlers, etc.) shall start by normally open relay and signal from DDC/EMS.

A. Provide graphics meeting District standards using the existing control sequences.

B. System Operation Schedule: The equipment shall operate at the schedule set by the District.

C. Split-System Heat Pump (IDU/ODU): Shall be activated by BAS. Unit shall be controlled by integral controls. Provide temperature sensor for the area being controlled and status sensors for indoor and outdoor units.

D. Exhaust Fans: Exhaust fans serving restroom and snack bar (EF-1, EF-2) chall operate continuously during occupied hours. Exhaust fans serving hazardous areas (EF-3, EF-4, EF-5) shall have continuous operation.

E. Fly Fan: Shall start/stop by wall switch at window. Current sensor shall report Fly Fan status to BAS.

F. Domestic Hot Water Circulating Pump: Shall start/stop by BAS signal. Current sensor shall report pump status to BAS.

G. Fire/Smoke Damper: Close the fire/smoke damper on alarm and shut down the air moving equipment serving the damper and signal fire alarm system.

H. Lighting: BAS shall energize exterior lighting. Provide relay with an override switch.

I. Provide monitoring points for the following plumbing equipment:
WH-1 Water Heater: Run Time, Alarm
P-1 Domestic Water Booster Pump: Alarm

END OF SECTION

GENERAL INFORMATION

G000	COVER SHEET
G001	COVER SHEET
G101	REGULATORY SITE PLAN
G102	REGULATORY FLOOR PLAN

CIVIL

SITE DEVELOPMENT

SD/C0.1	CIVIL COVER SHEET
SD/C1.1	PARTIAL TOPOGRAPHIC SURVEY
SD/C1.2	PARTIAL TOPOGRAPHIC SURVEY
SD/C1.3	PARTIAL TOPOGRAPHIC SURVEY
SD/C2.1	SITE DEMOLITION PLAN
SD/C3.1	GRADING AND DRAINAGE PLAN
SD/C3.1.1	ALTERNATE BID - GRADING AND DRAINAGE PLAN
SD/C3.2	ENLARGED GRADING PLANS
SD/C4.1	WET PIPING PLAN
SD/C4.2	WET PIPING PLAN
SD/C4.1.1	ALTERNATE BID - WET PIPING PLAN
SD/C4.2.1	ALTERNATE BID - WET PIPING PLAN
SD/C5.1	PAVING PLAN
SD/C7.1	CIVIL DETAILS

OFFSITE IMPROVEMENTS

SD/C0.2	OFFSITE COVER SHEET & NOTES
SD/C6.1	BARDSLEY AVE. OFFSITES
SD/C8.1	CIVIL DETAILS

ARCHITECTURAL

SITE DEVELOPMENT

SD/A010	OVERALL SITE DEMOLITION PLAN
SD/A011	SITE DEMOLITION PLAN & EARTHWORK
SD/A012	SITE DEMOLITION PLAN & EARTHWORK
SD/A100	OVERALL SITE PLAN
SD/A101	PARTIAL SITE PLAN
SD/A105	SITE LIGHTING
SD/A201	PARTIAL SITE DIMENSION PLAN
SD/A301	ENLARGED SITE PLANS
SD/A303	DETAILS - ACCESSIBLE ELEMENTS
SD/A304	DETAILS - PARKING LOTS & WALKS
SD/A306	DETAILS - STANDARD SITE ELEMENTS
SD/A401	SITE OPENING SCHEDULE
SD/A402	DETAILS - CHAINLINK FENCE & GATES
SD/A403	DETAILS - ORNAMENTAL METAL FENCE DETAILS
SD/A404	DETAILS - ORNAMENTAL METAL ACCESSIBLE GATES
SD/A407	DETAILS - ENCLOSURE DETAILS
SD/A701	SIGNAGE PLAN AND SCHEDULE
SD/L101	LANDSCAPING PLAN

TYPICAL INFORMATION

X/A101	WALL ASSEMBLIES
X/A201	INTERIOR & EXTERIOR FINISH SCHEDULE
X/A301	MODULAR CASEWORK SCHEDULE & DETAILS
X/A401	OPENING SCHEDULES, FRAME ELEVATIONS
X/A402	FIBERGLASS DOORS AND FRAMES DETAILS
X/A501	EXTERIOR DETAILS
X/A502	EXTERIOR DETAILS
X/A601	INTERIOR & SIGNAGE DETAILS
X/A602	INTERIOR DETAILS

BUILDING P

P/A101	FLOOR PLANS
P/A101.1	ALTERNATE BID - BUILDING P2 - SNACK BAR BUILDING
P/A103	ENLARGED FLOOR PLANS
P/A201	REFLECTED CEILING PLANS
P/A301	ROOF PLANS
P/A401	EXTERIOR ELEVATIONS - P2 & P3
P/A402	EXTERIOR ELEVATIONS - P3 - P4
P/A501	BUILDING SECTIONS - P2 & P3
P/A502	BUILDING SECTIONS P4
P/A503	ROOF AND WALL DETAILS
P/A504	BUILDING P4 - POOL STORAGE DETAILS
P/A505	BUILDING P4 - SCOREBOARD DETAILS
P/A601	INTERIOR ELEVATIONS - ROOMS P201 - P205
P/A602	INTERIOR ELEVATIONS - ROOMS P301 - P302
P/A603	INTERIOR ELEVATIONS - ROOMS P303 - P306
P/A604	INTERIOR ELEVATIONS - ROOMS P401 - P403
P/A605	INTERIOR ELEVATIONS - ROOMS P404a - P404d
P/A606	INTERIOR ELEVATIONS - ROOMS P404e, P410 & P420
P/A701	SIGNAGE PLANS AND SCHEDULE
P/A801	INTERIOR DESIGN PLANS

STRUCTURAL

TYPICAL INFORMATION

X/S101	TYPICAL PROJECT NOTES
X/S102	TYPICAL CONCRETE NOTES & DETAILS
X/S103	TYPICAL CONCRETE DETAILS
X/S104	TYPICAL CMU NOTES & DETAILS
X/S105	TYPICAL STEEL NOTES & DETAILS
X/S106	TYPICAL WOOD NOTES & DETAILS
X/S107	TYPICAL LIGHT GAUGE NOTES AND DETAILS

BUILDING P

P/S201	FOUNDATION PLANS
P/S201.1	ALTERNATE BID - BUILDING P2
P/S202	PIT FOUNDATION & DETAILS
P/S301	ROOF FRAMING PLANS
P/S401	WALL ELEVATIONS
P/S401.1	ALTERNATE BID - WALL ELEVATIONS
P/S402	WALL ELEVATIONS
P/S403	WALL ELEVATIONS
P/S404	WALL ELEVATIONS
P/S405	BUILDING SECTIONS
P/S406	BUILDING SECTIONS
P/S501	FOUNDATION DETAILS
P/S601	FRAMING DETAILS
P/S602	FRAMING DETAILS
P/S603	FRAMING DETAILS

PLUMBING

SITE DEVELOPMENT

SD/P102	PARTIAL PLUMBING SITE PLAN

TYPICAL INFORMATION

X/P101	PLUMBING SCHEDULE, LEGENDS, AND NOTES
X/P102	PLUMBING DETAILS

BUILDING P

P/P101	PLUMBING PLANS
P/P102	ENLARGED PLUMBING PLANS
P/P301	PLUMBING ROOF PLANS

MECHANICAL

SITE DEVELOPMENT

SD/M102	PARTIAL MECHANICAL SITE PLAN

TYPICAL INFORMATION

X/M101	MECHANICAL SCHEDULES, LEGENDS, AND NOTES
X/M102	MECHANICAL DETAILS
X/M103	TITLE 24 DOCUMENTATION
X/M104	TITLE 24 DOCUMENTATION

BUILDING P

P/M101	MECHANICAL FLOOR PLANS
P/M301	MECHANICAL ROOF PLANS

FIRE PROTECTION

TYPICAL INFORMATION

FP001	PROJECT INFORMATION

SITE DEVELOPMENT

FP002	SITE PLAN

BUILDING P

FP100	PIPING PLANS
FP200	REFLECTED CEILING PLANS
FP400	BLDG. P2 & P3 SECTION VIEWS
FP401	BLDG. P4 SECTION VIEWS
FP500	DETAILS

ELECTRICAL

SITE DEVELOPMENT

SD/E101	ELECTRICAL OVERALL SITE PLAN
SD/E102	ENLARGED ELECTRICAL SITE PLAN

TYPICAL INFORMATION

X/E101	ELECTRICAL SYSTEMS - SYMBOLS, NOTES, AND DETAILS
X/E102	LIGHTING SYSTEMS - FIXTURE SCHEDULE AND DETAILS
X/E103	POWER SYSTEMS - SINGLE LINE DIAGRAM AND DETAILS
X/E104	POWER SYSTEMS - PANEL SCHEDULES
X/E105	ELECTRONICS SYSTEMS - LINE DIAGRAM AND DETAILS
X/E106	ELECTRICAL SYSTEMS - DETAILS
X/E107	POWER AND LOW VOLTAGE SYSTEMS - DETAILS
X/E201	FIRE ALARM SYSTEM - SYMBOLS, NOTES, AND DETAILS
X/E202	FIRE ALARM SYSTEM - SINGLE LINE DIAGRAM
X/E203	FIRE ALARM SYSTEM - CALCULATIONS
X/E301	TITLE 24 COMPLIANCE FORMS - ELECTRICAL POWER DISTRIBUTION
X/E302	TITLE 24 COMPLIANCE FORMS - ELECTRICAL POWER DISTRIBUTION
X/E303	TITLE 24 COMPLIANCE FORMS - INDOOR LIGHTING
X/E304	TITLE 24 COMPLIANCE FORMS - INDOOR LIGHTING
X/E305	TITLE 24 COMPLIANCE FORMS - OUTDOOR LIGHTING
X/E306	TITLE 24 COMPLIANCE FORMS - OUTDOOR LIGHTING

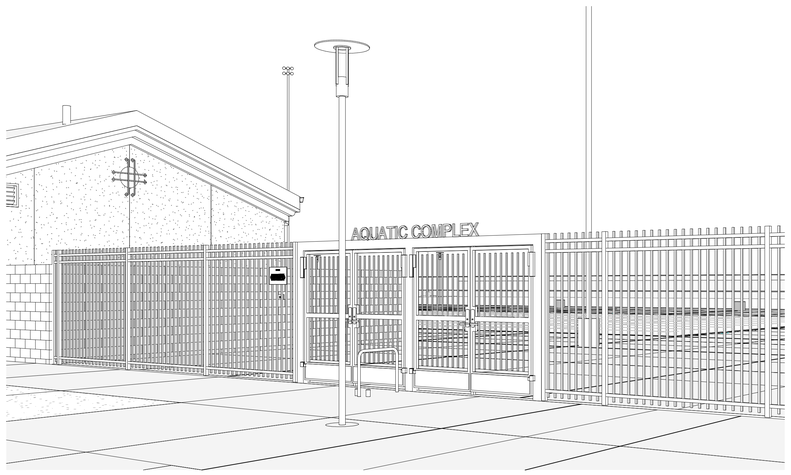
BUILDING P

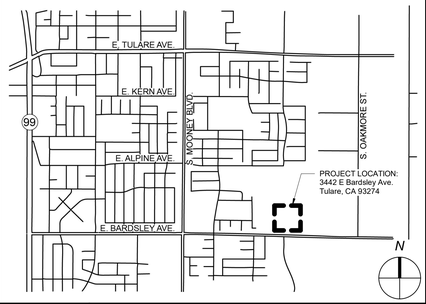
P/E101	BUILDINGS P2, P3, P4 - LIGHTING PLANS
P/E102	BUILDINGS P2, P3, P4 - POWER & DATACOM PLANS
P/E103	BUILDINGS P2, P3, P4 - PA & INTRUSION SYSTEMS PLANS
P/E104	BUILDINGS P2, P3, P4 - FIRE ALARM PLANS
P/E105	BUILDINGS P2, P3, P4 - ENLARGED ELECTRICAL PLANS
P/E106	BUILDING P2 - ALTERNATE BID - LIGHTING, POWER & DATACOMM, PA & INTRUSION SYSTEMS, AND FIRE ALARM PLANS

AQUATICS

DP-1	POOL AREA DECK PLAN
LP-1	LEARNING POOL PLAN
LP-1.1	LEARNING POOL SLAB PLAN
LP-2	LEARNING POOL SECTIONS
CP-1	COMPETITION POOL PLAN
CP-1.1	COMPETITION POOL SLAB PLAN
CP-2	COMPETITION POOL WATERPOLO PLAN
CP-3	COMPETITION AND LEARNING POOL PLUMBING PLAN
CP-3.1	DECK HOSE BIBB PLAN
CP-4	UNDERWATER LIGHTING AND TIMING PLAN
CP-5	COMPETITION POOL SECTIONS
CP-6	DETAILS
CP-7	DETAILS
CP-8	DETAILS
CP-9	DETAILS
CP-10	DETAILS
CP-11	DETAILS
CP-12	DETAILS
CP-13	DETAILS
CP-14	DETAILS
MR-1	MECHANICAL ROOM PLAN
MR-2	MECHANICAL ROOM SECTION
MR-3	DETAILS
MR-4	DETAILS
MR-5	DETAILS
MR-6	DETAILS
MR-7	DETAILS
MR-8	DETAILS
MR-9	DETAILS

SHEET COUNT: 168





N14 Vicinity Map

All work shall be performed in accordance with current applicable codes and standards including, but not limited to, the following:

California Code of Regulations (CCR)
CCR-T5: Title 5-Education
CCR-T8: Title 8-Industrial Safety
CCR-T19: Title 19-Public Safety
CCR-Title 24:

Building Codes and Standards:

2022 California Building Standards Administrative Code (Part 1, Title 24, CCR)

2019 California Building Code, Volumes 1 and 2 (Part 2, Title 24, CCR)

2019 California Electrical Code (Part 3, Title 24, CCR)

2019 California Mechanical Code (Part 4, Title 24, CCR)

2019 California Plumbing Code (Part 5, Title 24, CCR)

2019 California Energy Code (Part 6, Title 24, CCR)

2019 California Elevator Safety Construction Code (Part 7, Title 24, CCR)

2019 California Fire Code, Part 9, Title 24, CCR)

2019 California Referenced Standards Code (Part 12, Title 24, CCR)

2019 California Green Building Standards Code

NFPA 13, 2016 Edition, The Installation of Automatic Sprinkler Systems

NFPA 14, 2016 Edition, Installation of Standpipe

NFPA 24, 2016 Edition, Installation of Private Fire Service Mains and their Appurtenances

NFPA 72, 2016 Edition, National Fire Alarm Code

Division of the State Architect (DSA):
SSS: Structural Safety Section
ACS: Access Compliance Section
FLS: Fire Life Safety
Interpretation of Regulation Manual

J14 Applicable Codes

Notes:
1. The Contractor Shall Be Responsible For The Preparation and Submittal Of The Deferred Approval Items To The Division Of The State Architect (DSA) For Review and Approval Prior To The Installation. The Submittal Shall Comply With The Requirements Of Specification Section 013300: Submittals.
2. Fabrication and Installation of Deferred Approval items shall not be started until Contractor's drawing, specifications, and engineering calculations for the actual system(s) to be installed have been reviewed by the Architect and/or the Structural Engineer, and approved by the DSA.

Description of Deferred Item
None
-
-

G14 Deferred Approval

This project consists of two (2) pools, on-site development work, off-site development work and the following three (3) buildings.

P2 - Electrical and Storage
P3 - Toilet/Shower Rooms
P4 - Pool Mechanical Building and Pool Storage

ADDITIVE ALTERNATE
P2 - Snack Bar and Staff Restroom

OWNER FURNISHED ITEMS:
The District has procured certain items that have been purchased and will be delivered to the site. Refer to Specification Section 016400 – OWNER-FURNISHED ITEMS for additional information. The following items are included in 016400 – OWNER-FURNISHED ITEMS.
1) Mrytha Pool Vessel
2) Sports Lighting - (4) 70ft Poles
3) Scoreboard

The materials will be delivered to the site, FOB.
The contractor shall off-load the materials and place them in an area approved by the District.
The Contractor shall fence and protect the materials.
The Contractor will provide all labor to install these items, unless noted otherwise.

A14 Project Description

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

AQUATICS
Aquatic Design Group
2226 Faraday Ave.
Carlsbad, CA 92008
(800) 508-5542

ELECTRICAL
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356 Pollasky Ave. Suite 200
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T (559) 323-4925
F (559) 323-4928

MECHANICAL
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T (559) 449-8444
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CIVIL
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(559) 688-2253

ARCHITECTURAL
Darden Architects, Inc.
6790 N. West Avenue
Fresno, CA 93711
T (559) 448-8051
F (559) 446-1765

Mission Oak HS Aquatic Complex

Tulare Joint Union High School District

Tulare, CA 93274

Darden Project Number: *2180*

Date: *03/28/2023*

Tulare Joint Union High School District

Project Information

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT MICHAEL K. FERRARO No. C23753 REN. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

G000

darden architects, inc.
ARCHITECTURE ▪ PLANNING ▪ INTERIORS

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SPORTS LIGHTING

MT1	NOTES, FOUDATION DETAIL
MS1	POLE DETAIL
MD1	ATTACHMENT DETAILS
MD2	ATTACHMENT DETAILS
MD3	ATTACHMENT DETAILS

ALL WORK SHALL CONFORM TO 2019 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

Substitutions affecting DSA-regulated items shall be considered as construction documents (CCD's) and shall be approved prior to fabrication and installation per DSA IR A-6 and Section 338(c) Part 1, Title 24 CCR.

A "DSA CERTIFIED" PROJECT INSPECTOR (CLASS 1) EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.

A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR).

GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

Statement of General Conformance

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO, SHOP DRAWINGS PREPARED BY OTHER LICENSED DESIGN PROFESSIONAL AND/OR CONSULTANTS

Application No. 02-119662 **File No. 10-H14**

The drawings or sheets listed on the cover or index sheet

This drawing, page of specifications/calculations

Have/has been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:

1) design intent, and appears to meet the appropriate requirements of Title 24, California Code of Regulations, and the project specification prepared by me, and

2) coordination with my plans and specifications, and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code, and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1 (Title 24, Part 1, Section 4-317 (b)).

I find that:

[X] All drawings or sheets listed on the cover or index sheet

[ ] This Drawing or Page

[X] is/are in general conformance with the project design intent, and	[ ] is/are in general conformance with the project design intent, and
[X] has/have been coordinated with the project plans and specifications	[ ] has/have been coordinated with the project plans and specifications
Signature:	Signature:
Date: 08/18/2023	Date:
Architect or Engineer designated to be in general responsible charge	Architect or Engineer delegated responsibility for this portion of the work
Michael K. Fennacy	
Print Name	Print Name
C23753	License Number:
License Number	Expiration:
Expiration: 04/30/23	

B14
12" = 1'-0"

Statement of General Conformance

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

AQUATICS
Aquatic Design Group
2226 Faraday Ave.
Carlsbad, CA 92008
(800) 908-0542

ELECTRICAL
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F (559) 323-4928

MECHANICAL
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F (559) 446-1765

Mission Oak HS Aquatic Complex

Tulare Joint Union High School District

Tulare, CA 93274

Darden Project Number: *2180*

Date: *03/28/2023*

Tulare Joint Union High School District

Project Information

darden architects
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PLANNING
INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT MICHAEL K. FENNACY No. C23753 Exp. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

G001

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NOTES

Mandatory Measures for infrastructure: Pathway and pullboxes shall be installed from main service or subpanel, and terminated at an enclosure or pull box. Refer to the electrical drawings. This work is In Contract.

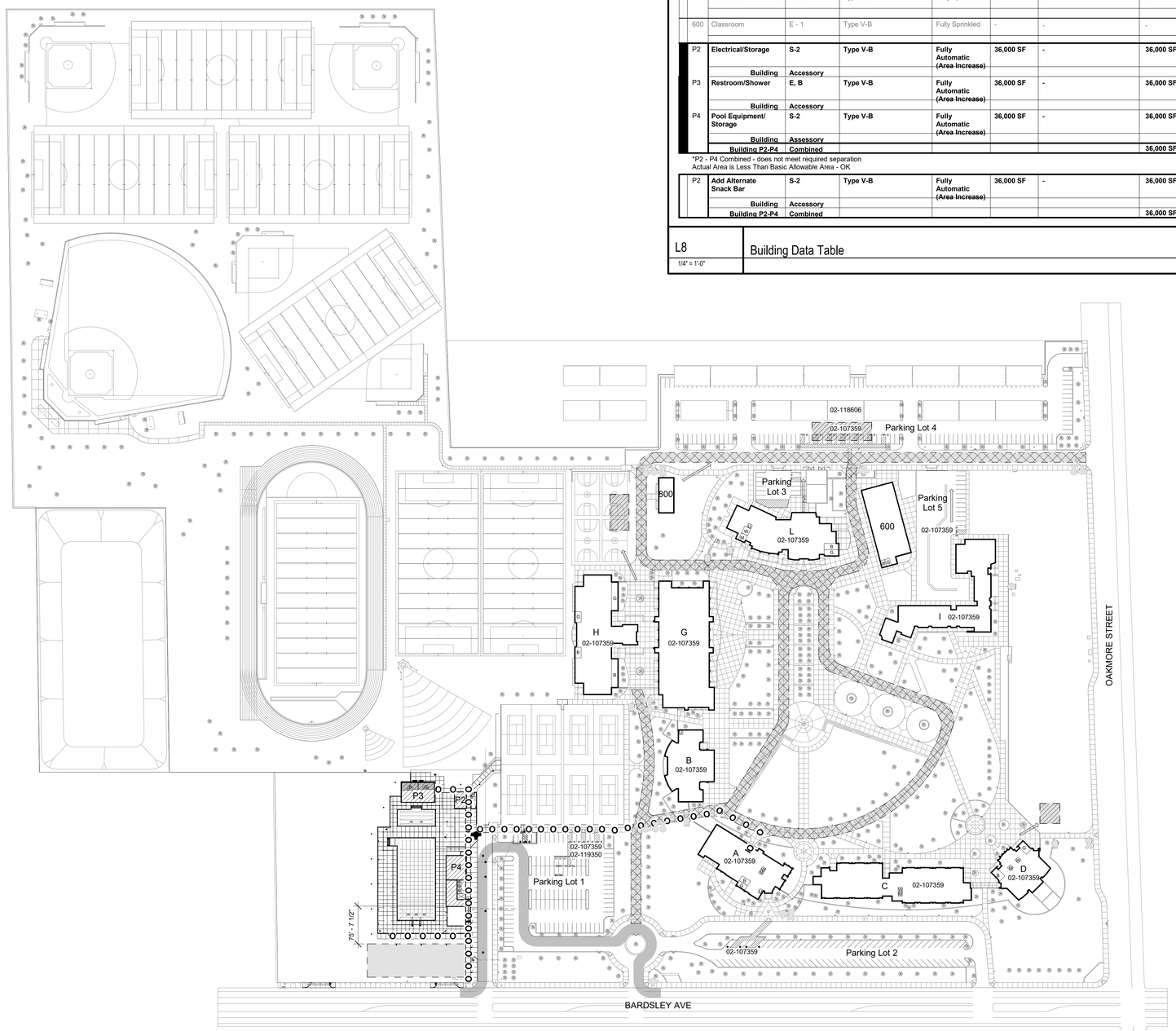
No charging equipment, surface ID markings (EV CHARGING ONLY) and signage for the EVCS spaces will be installed. Until such time as the EVCS spaces are constructed for use. When installed the operable parts on all new and altered EV chargers shall comply with the requirements of CBC 11B-309.4. This work is indicated as Future (F)

ABBREVIATIONS

EV-A Ambulatory
EV-S Standard Accessible
EV-V Van Accessible
EV Electric Vehicle Charging Station
(F) Future

	Accessible Parking Spaces CBC Table 11B-208.2				Electric Charging Spaces Table 11B-228.3.2.1			
Parking Lot	Total Spaces	Required Accessible	Van Accessible	Standard Accessible	Total EV	EV-V	EV-S	V-A
Lot 1	122	6	1	5	6	6	1	1
Lot 2	77	4	1	3	0	0	0	0
Lot 3	10	1	1	1	0	0	0	0
Lot 4	310	13	2	11	0	0	0	0
Lot 5	13	1	1	1	0	0	0	0

P1 — Parking Lot Table
3/32" = 1'-0"



BLDG. NO.	BUILDING PER ASSUMED PROPERTY LINE	OCCUPANCY GROUP	CONSTRUCTION TYPE	FIRE SPRINKLER SYSTEM	BASIC ALLOWABLE AREA	ALLOWABLE AREA INCREASE	INCREASED ALLOWABLE AREA	ACTUAL BUILDING & FIRE AREA SYSTEM	FIRE FLOW AND DURATION	DSA APPLICATION NUMBER	DSA APPROVAL DATES	APPLICABLE BUILDING CODE	REMARKS
A	Administration	B, E - 1	Type V-N	None	-	-	-	-	-	02-107359	2006	-	-
B	Media Center	E - 1	Type V-N	None	-	-	-	-	-	02-107359	2006	-	-
C	Classroom	E - 1	Type II (1Hr)	None	-	-	-	-	-	02-107359	2006	-	-
D	Classroom	E - 1	Type V-N	None	-	-	-	-	-	02-107359	2006	-	-
G	Gym/Wrestling	A-2.1	Type II (1Hr)	None	-	-	-	-	-	02-107359	2006	-	-
H	Locker/Shower	E - 1	Type V-N	None	-	-	-	-	-	02-107359	2006	-	-
I	Music/Business	E - 1	Type V-N	None	-	-	-	-	-	02-107359	2006	-	-
L	Multi-Purpose	A-3	Type II (1Hr)	None	-	-	-	-	-	02-107359	2006	-	-
800	Classroom	E - 1	Type V-B	Fully Sprinkled	-	-	-	-	-	02-110051	2013	-	-
600	Classroom	E - 1	Type V-B	Fully Sprinkled	-	-	-	-	-	02-112950	2006	-	-
P2	**Electrical/Storage**	**S-2**	**Type V-B**	**Fully Automatic (Area increase)**	**36,000 SF**	**-**	**36,000 SF**	**409 SF**	**1,500 GPM @ 20 PSI 2 HR. Duration**	**02-120251**	.	**2019 Ca. Building Code CCR Title 24**	**F.S. System Reduction of 75% 2,750 x .75 = 2,062.5 2,750 - 2,0625.5 = 17,875.5 = 1,500 GPM**
	Building	**Accessory**											
P3	**Restroom/Shower**	**E, B**	**Type V-B**	**Fully Automatic (Area increase)**	**36,000 SF**	**-**	**36,000 SF**	**1,618 SF**	**1,500 GPM @ 20 PSI 2 HR. Duration**	**02-120251**	.	**2019 Ca. Building Code CCR Title 24**	**F.S. System Reduction of 75% 2,750 x .75 = 2,062.5 2,750 - 2,0625.5 = 17,875.5 = 1,500 GPM**
	Building	**Accessory**											
P4	**Pool Equipment/ Storage**	**S-2**	**Type V-B**	**Fully Automatic (Area increase)**	**36,000 SF**	**-**	**36,000 SF**	**1,635 SF**	**1,500 GPM @ 20 PSI 2 HR. Duration**	**02-120251**	.	**2019 Ca. Building Code CCR Title 24**	**F.S. System Reduction of 75% 2,750 x .75 = 2,062.5 2,750 - 2,0625.5 = 17,875.5 = 1,500 GPM**
	Building	**Assessory**											
	Building P2-P4	**Combined**					**36,000 SF**	**> 3,662 SF Total OK**					

*P2 - P4 Combined - does not meet required separation
Actual Area is Less Than Basic Allowable Area - OK

P2	**Add Alternate Snack Bar**	**S-2**	**Type V-B**	**Fully Automatic (Area increase)**	**36,000 SF**	**-**	**36,000 SF**	**1,063 SF**	**1,500 GPM @ 20 PSI 2 HR. Duration**	**02-120251**	.	**2019 Ca. Building Code CCR Title 24**	**F.S. System Reduction of 75% 2,750 x .75 = 2,062.5 2,750 - 2,0625.5 = 17,875.5 = 1,500 GPM**
	Building	**Accessory**											
	Building P2-P4	**Combined**					**36,000 SF**	**> 4,316 SF Total OK**					

L8 — Building Data Table
1/4" = 1'-0"

DSA **810**

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PL 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner:	Tulare Joint Union High School District
Project Name/School:	Mission Oak HS Aquatic Complex
Project Address:	3442 E Bardsley Ave, Tulare, CA 93274

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☑		No ☐
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☐		No ☑
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? *(If yes, indicate FHSZ classification below.)*	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: http://egis.fire.ca.gov/FHSZ/	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐

DSA 810
FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.			✓	
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.				
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.				
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.	✓			
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.			✓	
6a.	**Acceptable Alternate:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.				
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.			✓	
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.				

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: Vivian Hamilton Title: Chief Business Officer

Signature: Vivian Hamilton Date: 1/13/2023

LOCAL FIRE AUTHORITY (LFA) INFORMATION	
LFA Agency Name:	City of Tulare Fire
LFA Review Official:	Ryan Leonardo
Title:	Fire Marshal
Work Phone:	(559) 684-4365
Work Email:	rleonardo@tulare.ca.gov

LFA Reviewer's Signature: Date: 01/11/23

N

DSA File No.: *54-H11*

DSA Application No.: *02-120251*

Agency Approval

SYMBOLS

- 1 Hr Fire Barrier
- Assumed Property Line
- Building Overhang
- Chain Link Fence
- Accessible Path of Travel
- Fire Truck Access Lane
- Existing Fire Truck Access Lane
- Aquatic Complex Safe Dispersal Area 3,183 Occupants x 5 SF per Occupant = 15,915 SF
- Main Campus Safe Dispersal Area 1,613 Enrolled Occupants x 5 SF per Occupant = 8,065 SF
- FH Fire Hydrant (FH)
- FDC Fire Department Connection (FDC/Siamese)
- PIV Post Indicator Valve (PIV)
- B G Accessible Restroom: B = Boys, G = Girls, M = Men, W = Women, U = Unisex, S = Staff
- Existing Building not included in this project
- New Addition and Existing Building included in this project

ABBREVIATIONS

DF ACCESSIBLE DRINKING FOUNTAIN LOCATION
(-HA = High Adult)
(-LA = Low Adult)

NOTES

1. Site Gates, Site Ramps, and Site Stair locations in the "Path of Travel" are indicated on Drawing REGULATORY COMPLIANCE SITE PLAN and FLOOR PLAN
2. The Path of Travel slopes shall not exceed a running slope of 1:20 (5%) The Path of Travel slopes shall not exceed a Cross Slope of 1:50 (2%). The Path of Travel shall not have overhead obstructions within 80" above the walking surface or obstructions protruding more than 4" between 27" and 80" above the walking surface.
3. The "Path of Travel" as shown on the REGULATORY COMPLIANCE SITE PLAN, shall not have any unprotected vertical drop exceeding 4 inches at the time of the preparation of the contract documents and DSA approval. Contractor shall verify and bring any non-complying items to the attention of the Architect.
4. All new concrete surface within the "Path of Travel" shall have a non-slip medium broom finish as called for in Specification Section CAST-IN-PLACE CONCRETE. A heavy broom finish shall be used on all slopes greater than 6%.

G18 — Regulatory Compliance Site Plan Legend

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

GENERAL INFORMATION
REGULATORY SITE PLAN
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT MICHAEL K. FENNELL No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

G101

A1 — Regulatory Compliance Site Plan
1" = 100'-0"

8/18/2023 4:26:36 PM
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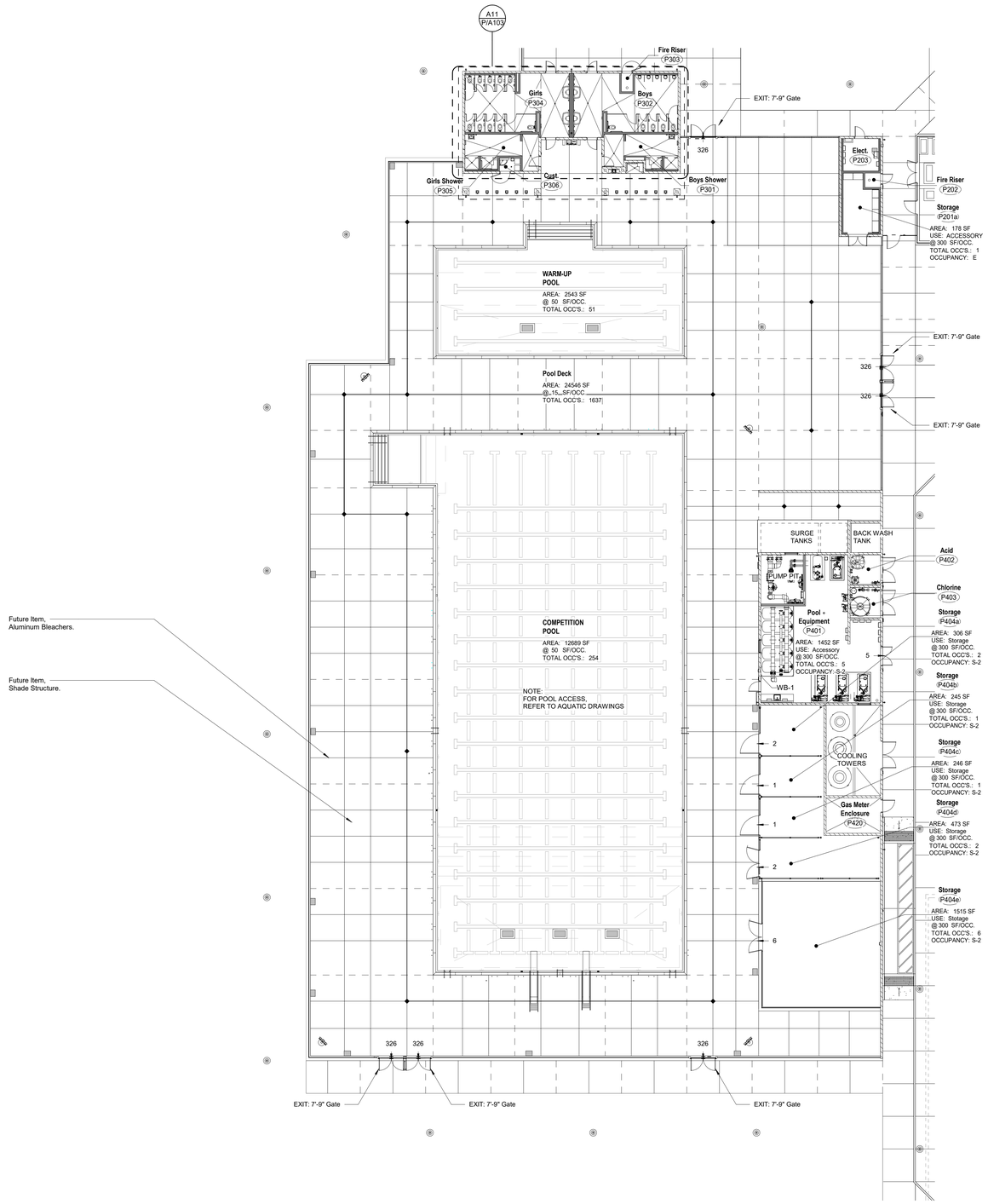
P2 Occupancy = 1
P3 Occupancy = 0
P4 Occupancy = 12
Competition Pool Occupancy = 254
Warm Up Pool Occupancy = 51
Pool Deck Occupancy = 1637

Total Occupancy = 1955



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DSA File No.:
54-H11

DSA Application No.:
02-120251

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DOORWAYS

SINGLE 3'-0" DOORWAY	=	32.75" / 0.2	=	163 OCCUPANTS
SINGLE 4'-0" DOORWAY	=	46.75" / 0.2	=	233 OCCUPANTS
1 PAIR 3'-0" DOORWAY	=	68.75" / 0.2	=	343 OCCUPANTS
1 PAIR 4'-0" DOORWAY	=	92.75" / 0.2	=	463 OCCUPANTS
1-1/2 PAIR 3'-0" DOORWAY	=	104.25" / 0.2	=	521 OCCUPANTS
1-1/2 PAIR 4'-0" DOORWAY	=	136.50" / 0.2	=	682 OCCUPANTS
2 PAIR 3'-0" DOORWAY	=	137.50" / 0.2	=	687 OCCUPANTS
2 PAIR 4'-0" DOORWAY	=	185.50" / 0.2	=	927 OCCUPANTS

M18 — Exit Width Schedule
No Scale

SYMBOLS

- Indicates Point of Exit or Exit Discharge Direction
- CPET — Indicates Common Path of Exit Travel
- Exit Access #-# — Indicates Exit Access See EGRESS DATA Schedule for total Travel Distance
- A — Indicates Required Accessible Clearance Space
- 1 Hr. Horizontal Assembly
- Accessible Restroom Location: B = Boys, G = Girls, M = Men, W = Women, U = Unisex

ABBREVIATIONS

DF	ACCESSIBLE DRINKING FOUNTAIN LOCATION (-HA = High Adult) (-LA = Low Adult)
FEC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet. Provide Fire Rated Cabinet at Rated Walls.
FEBC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher, Blanket and Cabinet, Provide Fire Rated Cabinet at Rated Walls.
WB-1	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Bracket.

G18 — Regulatory Compliance Floor Plan Legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

GENERAL INFORMATION
REGULATORY FLOOR PLAN
Drawing

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LICENSED ARCHITECT MICHAEL K. FERRO No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF
Scale: As indicated
Project Number: 2180
Date: 03/28/2023

G102

A1 — Regulatory Compliance Floor Plan
1/16" = 1'-0"

8/18/2023 4:26:40 PM
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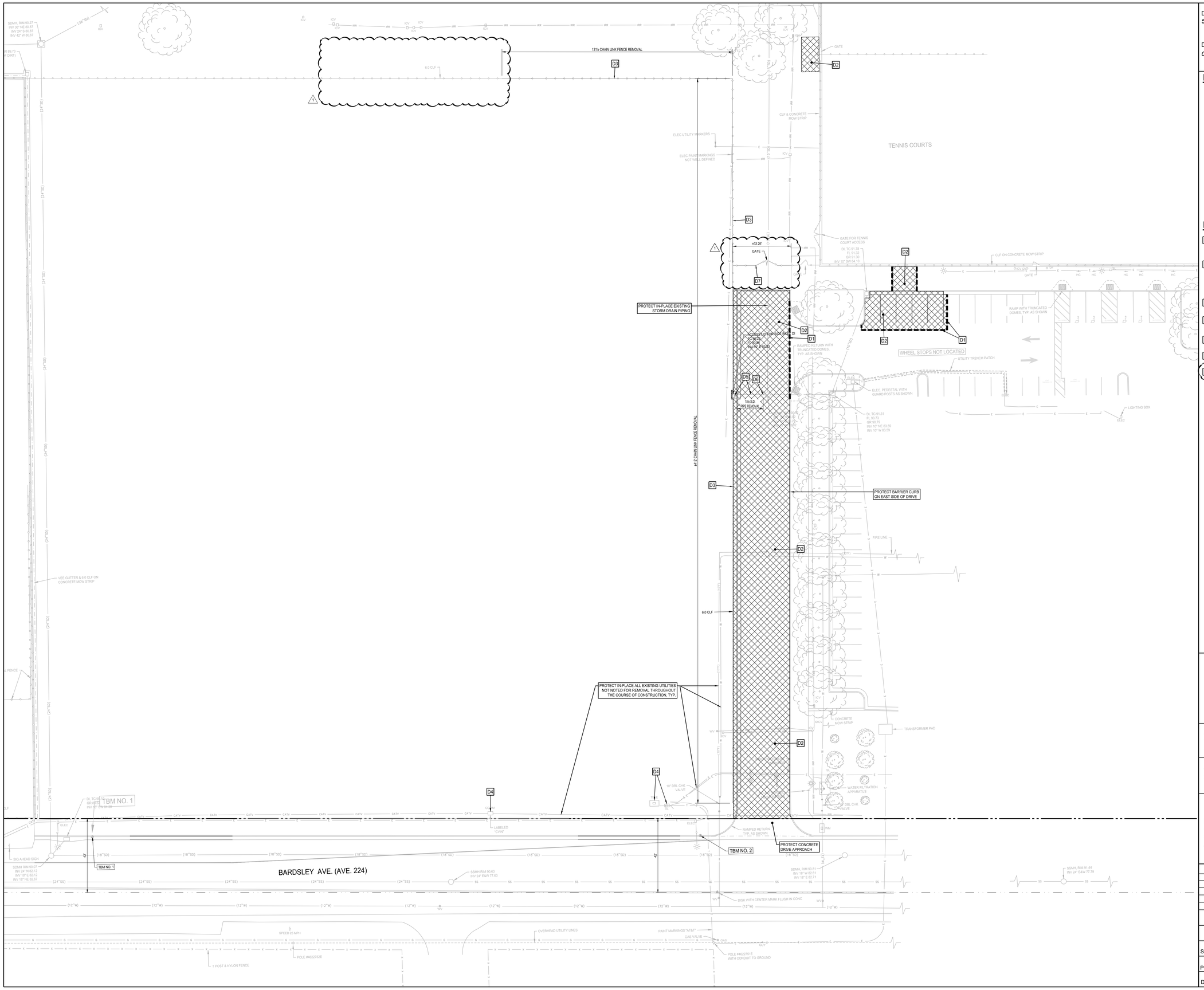

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DEMOLITION NOTES (THIS SHEET ONLY)

1. REFER TO SHEET SD/C0.1 FOR BENCHMARKS, GENERAL NOTES AND INFORMATION.
2. EXISTING IMPROVEMENTS ON THE TOPOGRAPHIC SURVEY ARE SHOWN FADED ON THIS DRAWING.
3. ALL INFRASTRUCTURE NOT NOTED FOR SALVAGE, REMOVAL, OR RELOCATION SHALL BE PROTECTED IN PLACE.
4. ALL ITEMS NOTED TO BE SALVAGED SHALL BE REMOVED WITHOUT DAMAGING AND STORED ON THE OWNER'S PROPERTY IN A LOCATION DESIGNATED BY THE OWNER UNTIL THEY ARE RE-INSTALLED AS SHOWN ON THE PLANS.
5. ALL HOLES AND TRENCHES CREATED FROM INFRASTRUCTURE REMOVAL SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS NOTED ON THESE PLANS.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ITEMS NOTED FOR REMOVAL WITH THE OWNER AND THE CITY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY DIMENSIONS FOR DEMOLITION SHOWN ON THIS PLAN WITH THE PROPERTY OWNER AND THE CITY.
7. ANY EXISTING SURFACE STRUCTURES OR IMPROVEMENTS (E.G. UTILITY BOXES, TRASH BINS, BENCHES, SIGNS, STREET LIGHTS, ETC.) THAT ARE DAMAGED OR TEMPORARILY REMOVED DURING DEMOLITION SHALL BE REPLACED IN KIND U.N.O.
8. ANY EXISTING REGULATORY OR WARNING SIGNS REMOVED FOR CONSTRUCTION SHALL BE REPLACED WITH TEMPORARY SIGNS AS NECESSARY TO SAFELY DIRECT TRAFFIC UNTIL THE NEW PERMANENT SIGNS ARE INSTALLED IN THEIR PERMANENT LOCATIONS PER THESE OR ACCOMPANYING PLANS.

DEMOLITION KEYNOTES (THIS SHEET ONLY)

D1 SAWCUT PAVEMENT OR CONCRETE TO A CLEAN, VERTICAL EDGE
INDICATED THUS: ▬ ▬ ▬ ▬ ▬

D2 REMOVE CURB & GUTTER, CONCRETE/ASPHALT PAVEMENT, AND/OR SIDEWALK, PAVEMENT STRIPING AND TRUNCATED DOMES.
INDICATED THUS: ▨

D3 REMOVE CHAIN LINK FENCE, GATES, FENCE POSTS, FOOTINGS AND CONC. MOW STRIP AS REQ'D. BACKFILL EXCAVATION FROM FOOTINGS PER DETAIL 11 SHEET SD/C7.1.

D4 UTILITY BOX - PROTECT IN PLACE, ADJUST TO FINISH GRADE - SEE GRADING PLAN FOR ADD'L. INFO.

D5 REMOVE DRAIN INLET & STORM DRAIN PIPING AS SHOWN. BACKFILL VOID FROM DRAIN INLET AND STORM DRAIN PIPING REMOVAL PER DETAIL 11 SHEET SD/C7.1.

D6 PLUG 10" S.D. LINE WITH CONCRETE AT 1' AWAY FROM MANHOLE.

D7 REMOVE CHAIN LINK FENCE/GATE INCLUDING POSTS & FOOTINGS FOR NEW CONCRETE IMPROVEMENTS. SEE ARCHITECTURAL DRAWINGS FOR FENCE RE-INSTALLATION. ⚠1

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FT.

NORTH

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REGISTERED PROFESSIONAL ENGINEER WA YANG C.E. 77745 08/11/2023 CIVIL STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA
Project

SITE DEVELOPMENT
SITE DEMOLITION PLAN
Drawing

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LICENSED ARCHITECT WESLEY K. FENWICK No. C23724 REG. 4-30-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed By: WV	Copyright 2022 Darden Architects
Scale: 1" = 20"	Drawn By: WV	
Project Number: 2180	Checked By: AO	SD/ C2.1
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1

DSA File No.:
54-H11

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2. UNLESS SHOWN OR NOTED OTHERWISE, WHERE FINISH GRADE ABUTS NEW CONCRETE WALKS, MOW STRIP, CONCRETE PAVEMENT, BACK OF CURBS, FINISH GRADE ELEVATION SHALL BE 1 INCH LOWER THAN ADJACENT CONCRETE ELEVATION IN SHRUB AREAS AND ½ INCH LOWER IN TURF AREAS.
3. FINISHED PAVEMENT ELEVATION IS 0.5' BELOW TOP OF BARRIER/LANDSCAPE CURB IN THE PARKING LOT AND DRIVE AREAS UNLESS SHOWN OR NOTED OTHERWISE ON THE DRAWINGS.
4. CROSS SLOPE AT ALL PEDESTRIAN WALKS AND SIDEWALKS SHALL BE 1% MIN., BUT SHALL NOT EXCEED 2.0%.
5. FINISHED PAVEMENT SLOPES AT ALL ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0% IN ANY DIRECTION.
6. EXTERIOR CONCRETE SHALL BE ½" BELOW FINISHED FLOOR AT ALL EXTERIOR DOORS TYP., U.N.O.
7. FIELD VERIFY ALL ELEVATIONS SHOWN WHERE PROPOSED IMPROVEMENTS ABUT EXISTING IMPROVEMENTS. IMMEDIATELY NOTIFY PROJECT ARCHITECT OF ANY DISCREPANCIES.
8. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL SITE INFORMATION AND DETAILS.
9. REFER TO SHEETS SD/C4.1 - SD/C4.2 FOR STORM DRAIN PIPING AND DRAIN INLET INFORMATION.
10. ALL EXISTING VALVE BOXES AND MANHOLES TO REMAIN SHALL BE ADJUSTED AS REQUIRED SO THAT THE TOP OF COVERS ARE FLUSH WITH FINISH GRADES.
11. SEE PLANS PREPARED BY "AQUATICS DESIGN GROUP" AND ARCHITECTURAL DRAWINGS FOR IMPROVEMENTS INSIDE POOL COMPLEX INCLUDING GRADING AND DRAINAGE.

LEGEND

- NEW CONCRETE SIDEWALK/FLATWORK
- NEW ASPHALT CONCRETE PAVEMENT
- NEW CONCRETE PAVEMENT SURFACE
- PROPERTY LINE/RIGHT OF WAY

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FT.

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REGISTERED PROFESSIONAL ENGINEER
HA VANG
No. 75746
08/11/2023
CIVIL
STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA
Project

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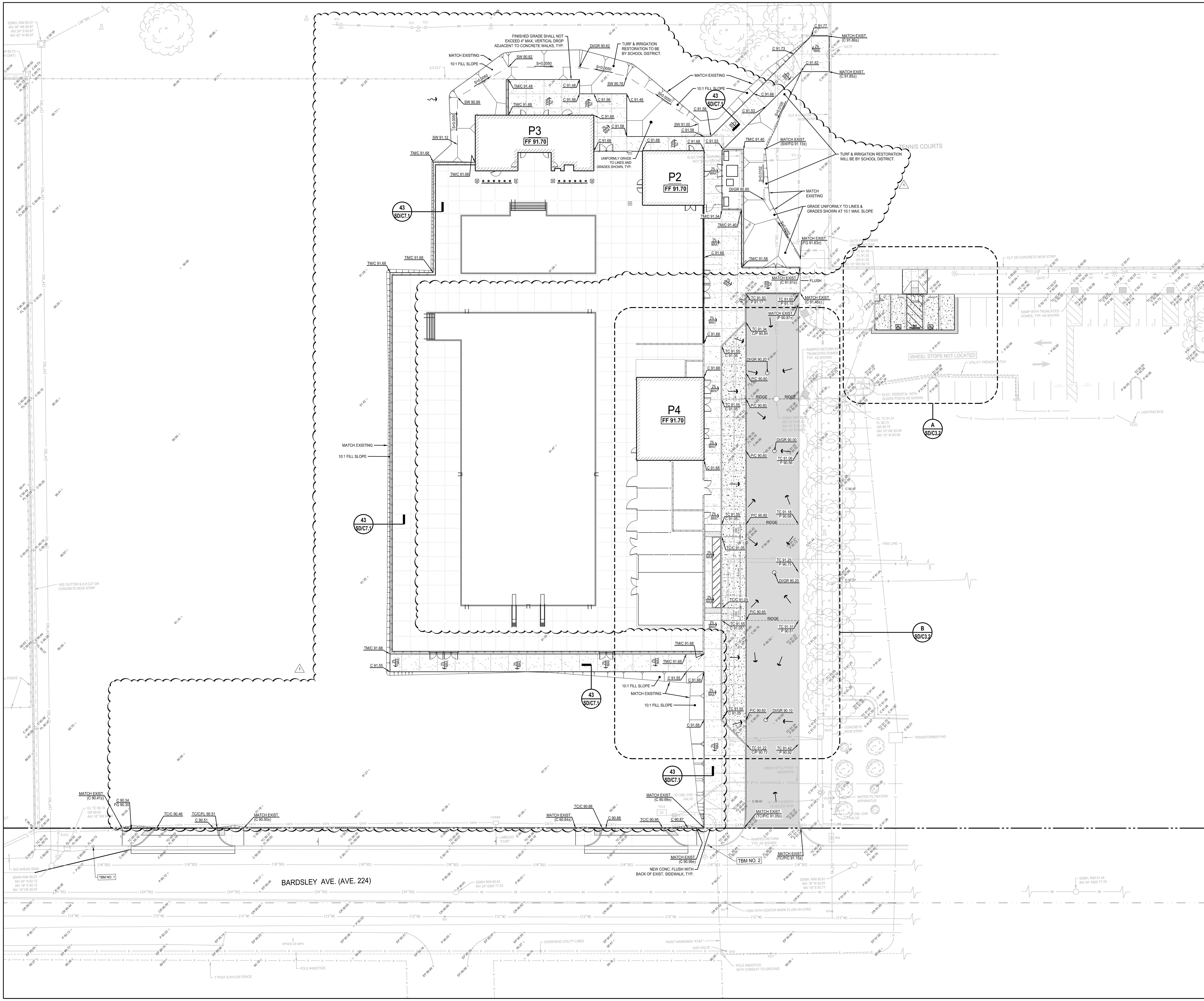
LICENSED ARCHITECT
MICHAEL K. FERRARO
No. C23724
REN. 4-30-25
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

	Designed By: WV	Copyright 2022 Darden Architects
Scale: 1" = 20"	Drawn By: WV	
Project Number: 2180	Checked By: AO	*SD/ C3.1*
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1



DSA File No.:
54-H11

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LEGEND

- NEW CONCRETE SIDEWALK/FLATWORK
- NEW ASPHALT CONCRETE PAVEMENT
- NEW CONCRETE PAVEMENT SURFACE
- PROPERTY LINE/RIGHT OF WAY

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FT.

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REGISTERED PROFESSIONAL ENGINEER WA VANG R.C.E. 73146 08/11/2023 CIVIL STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA

Project

SITE DEVELOPMENT
ALTERNATE BID- GRADING AND DRAINAGE PLAN

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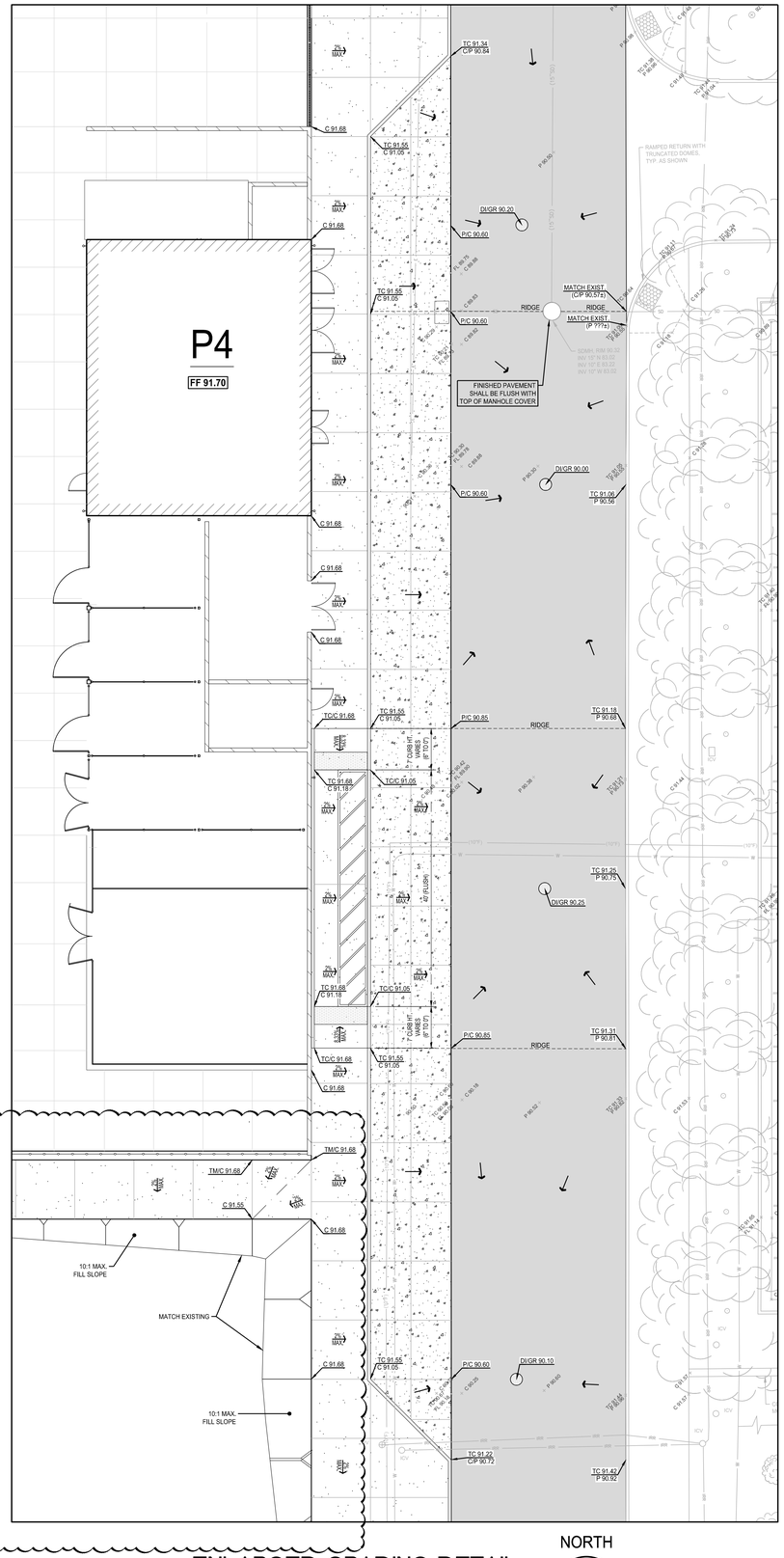
LICENSED ARCHITECT MICHAEL K. FENNACY No. C23724 Ren. 4-30-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

Revision

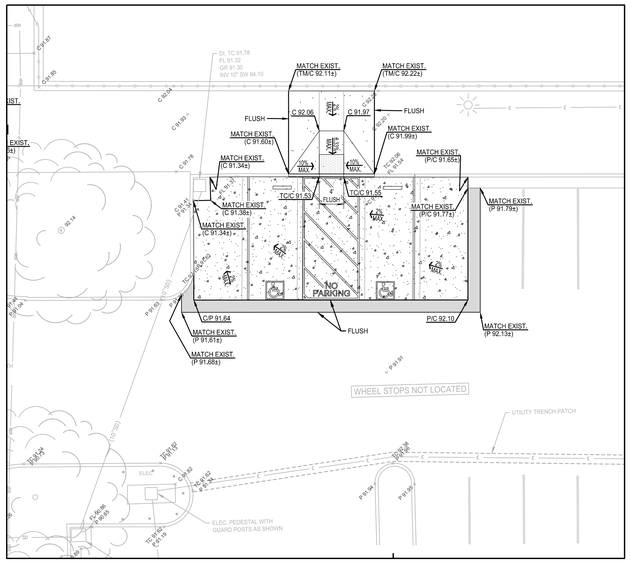
	Designed By: WV	Copyright 2022 Darden Architects
Scale: 1" = 20"	Drawn By: WV	SD/C3.1.1
Project Number: 2180	Checked By: AO	
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1



B ENLARGED GRADING DETAIL

SCALE: 1"=10'

NORTH



A ENLARGED GRADING DETAIL

SCALE: 1"=10'

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DSA File No.:
54-H11

DSA Application No.:
02-120251

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8. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL SITE INFORMATION AND DETAILS.
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10. ALL EXISTING VALVE BOXES AND MANHOLES TO REMAIN SHALL BE ADJUSTED AS REQUIRED SO THAT THE TOP OF COVERS ARE FLUSH WITH FINISH GRADES.
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LEGEND

- NEW CONCRETE SIDEWALK/FLATWORK
- NEW ASPHALT CONCRETE PAVEMENT
- NEW CONCRETE PAVEMENT SURFACE
- PROPERTY LINE/RIGHT OF WAY

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Consultant

REGISTERED PROFESSIONAL ENGINEER — WA VANG — R.C.E. 75748 — 08/11/2023 — CIVIL — STATE OF CALIFORNIA

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA

Project

SITE DEVELOPMENT
ENLARGED GRADING PLANS

Drawing

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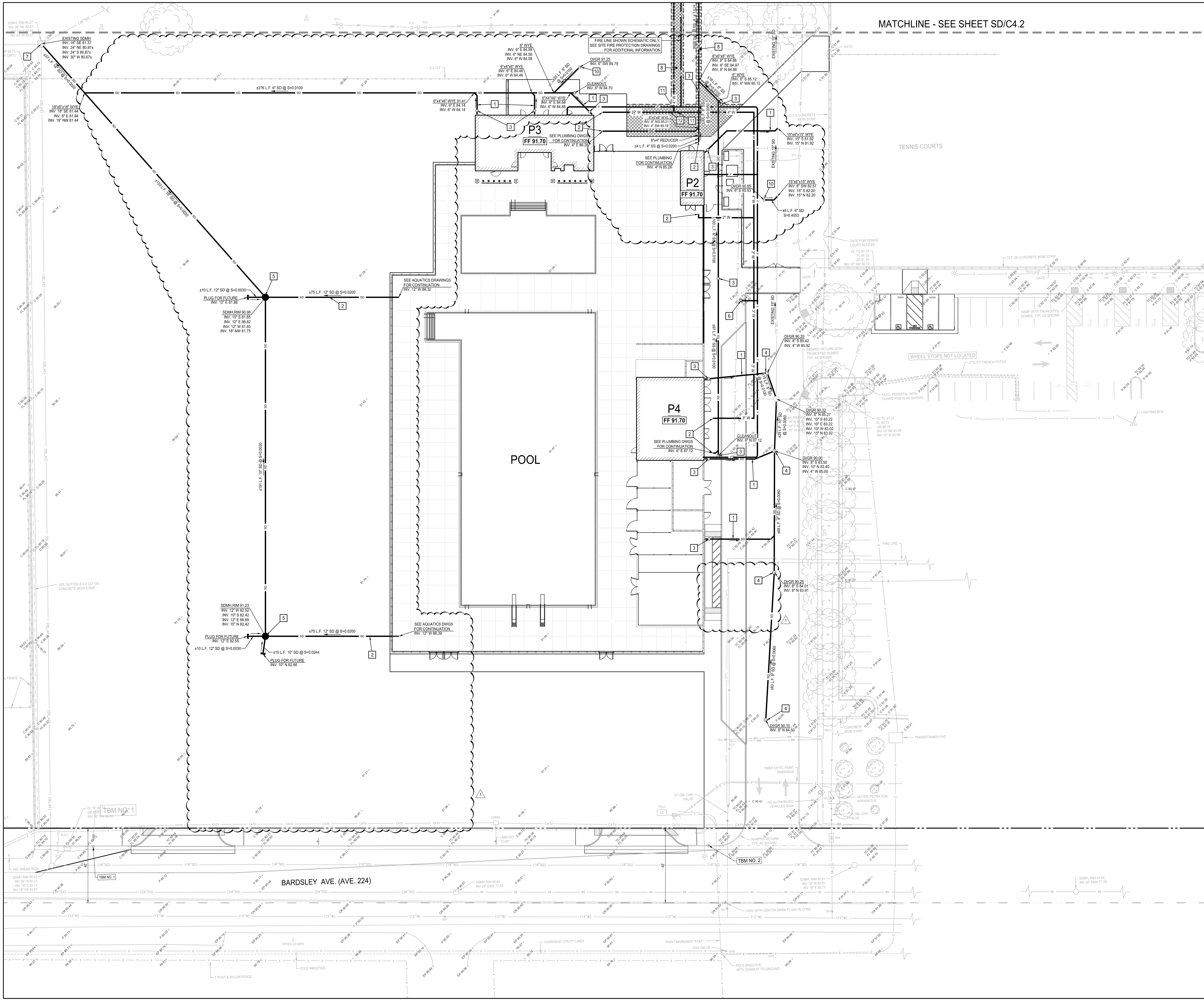
Architect

LICENSED ARCHITECT — MICHAEL K. PENNY — No. C23724 — Exp. 4-30-25 — STATE OF CALIFORNIA

No.	Revision/Submission	Date

Revision

	Designed By: WV	Copyright 2022 Darden Architects
Scale: AS INDICATED	Drawn By: WV	
Project Number: 2180	Checked By: AO	*SD/ C3.2*
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1



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NOTES

1. REFER TO SHEETS SD/C0.1 FOR BENCHMARKS, GENERAL NOTES & INFORMATION.
2. SEE ARCHITECTURAL DWGS. FOR ADDITIONAL SITE INFORMATION AND DETAILS. SEE PLUMBING DRAWINGS FOR ADDITIONAL WET UTILITY PIPING.
3. ALL STORM DRAIN PIPING AND LATERALS SHALL HAVE A MINIMUM OF 3' OF COVER.
4. ALL TRENCHES ON-SITE SHALL BE BACKFILLED IN ACCORDANCE WITH DETAIL 11 SHEET SD/C7.1. PROVIDE NEW TURF SURFACE WHERE EXISTING HAS BEEN REMOVED DUE TO NEW PIPE TRENCHING. SEE LANDSCAPING SPECIFICATIONS FOR TURF REQUIREMENTS.
5. ANY EXISTING IRRIGATION SYSTEMS THAT ARE DAMAGED OR REMOVED DUE TO NEW UTILITY PIPE INSTALLATION SHALL BE REPAIRED AS REQUIRED.
6. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, PIPE SLOPES, FITTINGS, ETC., WHICH MAY BE REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THESE DRAWINGS AND FURNISH ALL FITTINGS, ETC. NECESSARY TO COMPLETE A FULLY FUNCTIONAL PIPING SYSTEM AND AVOID ANY CONFLICTS WITH OTHER UTILITIES.

LEGEND

Symbol	Description
—— - - ——	RIGHT OF WAY/PROPERTY LINE
—— SD ——	NEW STORM DRAIN PIPING
—— SS ——	NEW SANITARY SEWER PIPING
—— W ——	NEW WATER PIPING
—— F ——	NEW FIRE PIPING (SEE FIRE PROTECTION DRAWINGS)

CONSTRUCTION KEYNOTES (SHEETS C4.1 & C4.2)

1. 4"Ø STORM DRAIN LATERAL TO ROOF DOWNSPOUTS. ALL LATERALS SHALL HAVE A MIN. SLOPE OF 2.0% U.N.O. SEE ARCHITECTURAL DRAWINGS FOR STORM DRAIN TO ROOF DOWNSPOUT CONNECTIONS. CONTRACTOR SHALL VERIFY LOCATION OF ROOF DOWNSPOUTS WITH ARCHITECTURAL DRAWINGS.
2. POC - SEE PLUMBING/AQUATICS DRAWINGS FOR CONNECTION/CONTINUATION.
3. CONSTRUCT SURFACE CLEAN OUT (COTG) - SEE DETAIL 21 SHEET SD/C7.1.
4. CONSTRUCT AREA DRAIN - SEE DETAIL 32 SHEET SD/C7.1.
5. CONSTRUCT STORM DRAIN MANHOLE WITH SOLID LID COVER - SEE DETAILS 13, 22 & 24 SHEET SD/C7.1.
6. NEW FIRE HYDRANT. SEE SITE FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION. (1)
7. CONNECT TO EXISTING. CONTRACTOR TO VERIFY LOCATION AND DEPTHS OF EXISTING UTILITIES AT POINT OF CONNECTION PRIOR TO NEW INSTALLATION, TYP. NOTIFY ARCHITECT OF RECORD OF ANY DISCREPANCIES.
8. TRENCH BACKFILL & REPAIR LANDSCAPING ALONG NEW PIPE. RESTORE TURF WITH NEW TURF TIFFYWAY SOD, AND BLEND INTO THE EXISTING TURF FOR A SEAMLESS TRANSITION.
   APPROX. REPAIR AREA SHOWN THUS:
9. TRENCH BACKFILL & REPAIR CONCRETE WALK ALONG NEW PIPE
   APPROX. REPAIR AREA SHOWN THUS:
10. CONSTRUCT DRAIN INLET WITH CAST IRON GRATE - SEE DETAIL 14 SHEET SD/C7.1.
11. FURNISH & INSTALL 4" DOMESTIC WATER GATE VALVE.
12. FURNISH & INSTALL 2½" DOMESTIC WATER GATE VALVE. (1)

GRAPHIC SCALE

20 0 10 20 40

1 INCH = 20 FT.

NORTH

LANE ENGINEERS INC.
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WA VANG
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08/11/2023
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LICENSED ARCHITECT
MICHAEL K. FENNACY
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Ren. 4-30-25
STATE OF CALIFORNIA

Architect

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Revision

	Designed By: WV	
Scale: 1" = 20"	Drawn By: WV	SD/ C4.1
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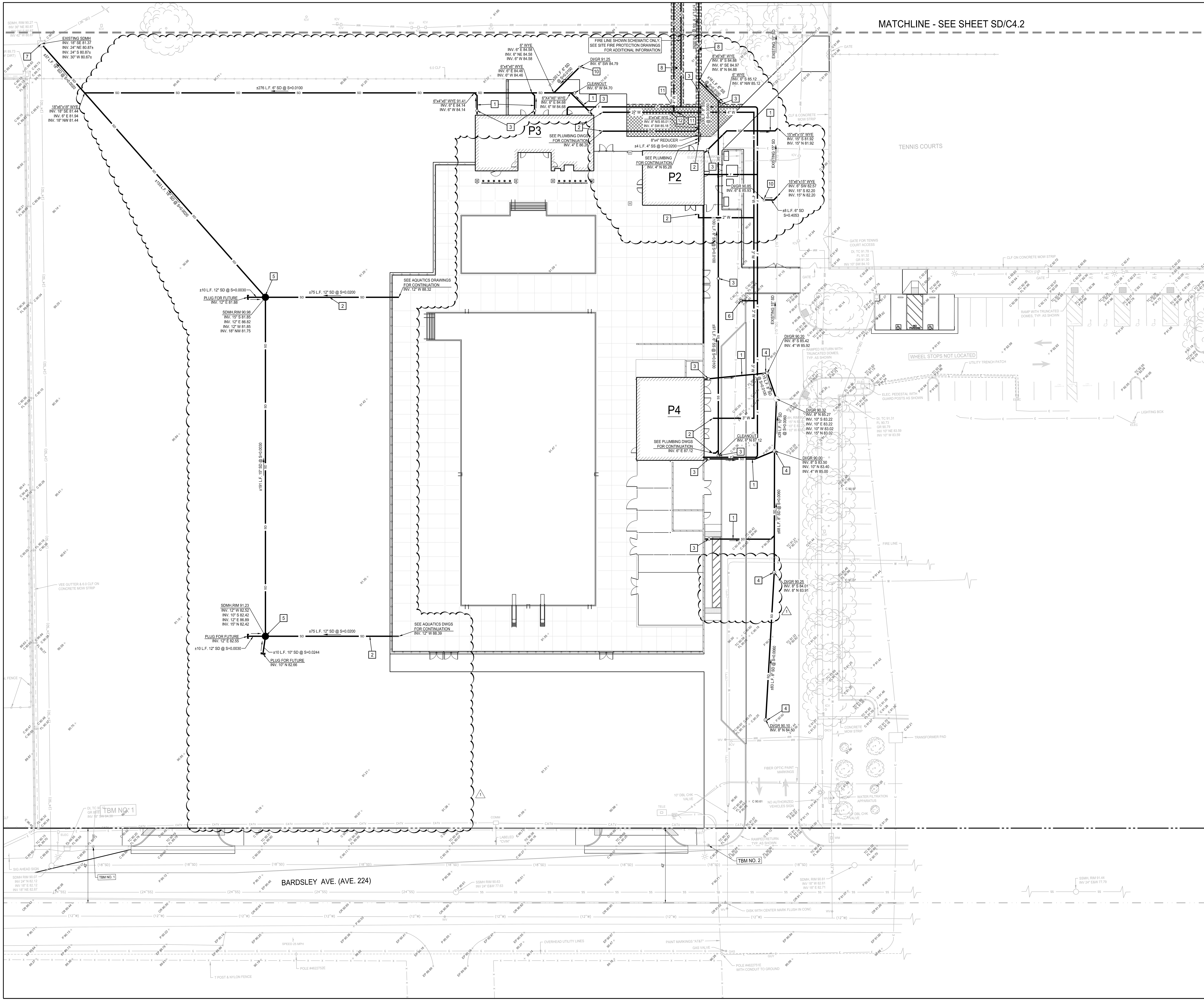

DSA File No.:
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NOTES

1. REFER TO SHEETS SD/C0.1 FOR BENCHMARKS, GENERAL NOTES & INFORMATION.
2. SEE ARCHITECTURAL DWGS. FOR ADDITIONAL SITE INFORMATION AND DETAILS. SEE PLUMBING DRAWINGS FOR ADDITIONAL WET UTILITY PIPING.
3. ALL STORM DRAIN PIPING AND LATERALS SHALL HAVE A MINIMUM OF 3' OF COVER.
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5. ANY EXISTING IRRIGATION SYSTEMS THAT ARE DAMAGED OR REMOVED DUE TO NEW UTILITY PIPE INSTALLATION SHALL BE REPAIRED AS REQUIRED.
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LEGEND

Symbol	Description
— - - —	RIGHT OF WAY/PROPERTY LINE
— SD —	NEW STORM DRAIN PIPING
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— W —	NEW WATER PIPING
— F —	NEW FIRE PIPING (SEE FIRE PROTECTION DRAWINGS)

CONSTRUCTION KEYNOTES (SHEETS C4.1 & C4.2)

1. 4"Ø STORM DRAIN LATERAL TO ROOF DOWNSPOUTS. ALL LATERALS SHALL HAVE A MIN. SLOPE OF 2.0% U.N.O. SEE ARCHITECTURAL DRAWINGS FOR STORM DRAIN TO ROOF DOWNSPOUT CONNECTIONS. CONTRACTOR SHALL VERIFY LOCATION OF ROOF DOWNSPOUTS WITH ARCHITECTURAL DRAWINGS.
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5. CONSTRUCT STORM DRAIN MANHOLE WITH SOLID LID COVER - SEE DETAILS 13, 22 & 24 SHEET SD/C7.1.
6. NEW FIRE HYDRANT. SEE SITE FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION. (1)
7. CONNECT TO EXISTING. CONTRACTOR TO VERIFY LOCATION AND DEPTHS OF EXISTING UTILITIES AT POINT OF CONNECTION PRIOR TO NEW INSTALLATION, TYP. NOTIFY ARCHITECT OF RECORD OF ANY DISCREPANCIES.
8. TRENCH BACKFILL & REPAIR LANDSCAPING ALONG NEW PIPE. RESTORE TURF WITH NEW TURF TIFFYWAY SOD, AND BLEND INTO THE EXISTING TURF FOR A SEAMLESS TRANSITION.
   APPROX. REPAIR AREA SHOWN THUS:
9. TRENCH BACKFILL & REPAIR CONCRETE WALK ALONG NEW PIPE
   APPROX. REPAIR AREA SHOWN THUS:
10. CONSTRUCT DRAIN INLET WITH CAST IRON GRATE - SEE DETAIL 14 SHEET SD/C7.1.
11. FURNISH & INSTALL 4" DOMESTIC WATER GATE VALVE.
12. FURNISH & INSTALL 2½" DOMESTIC WATER GATE VALVE. (1)

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TULARE, CALIFORNIA 93274
(559) 688-5263

REGISTERED PROFESSIONAL ENGINEER WA VANG R.C.E. 73146 08/11/2023 CIVIL STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA

Project

SITE DEVELOPMENT
ALTERNATE BID - WET PIPING PLAN

Drawing

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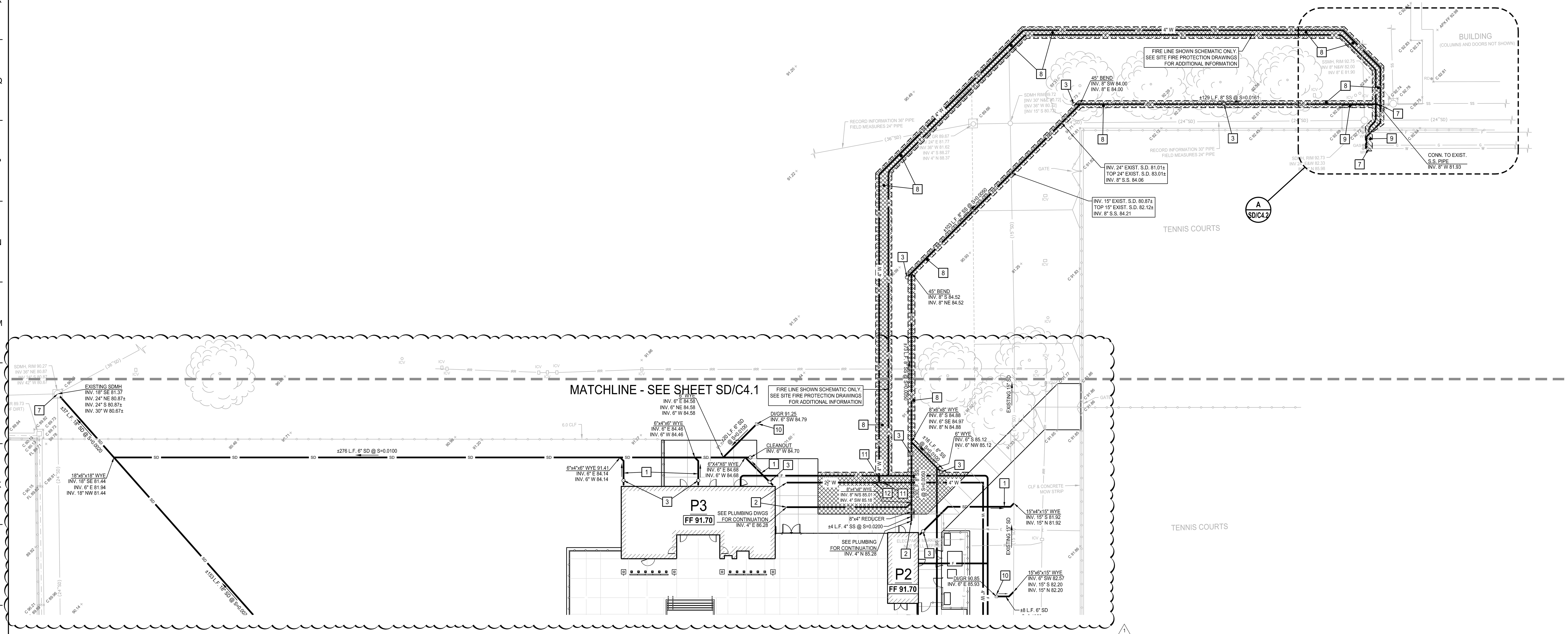
LICENSED ARCHITECT MICHAEL K. FENNACY No. C23724 Ren. 4-30-25 STATE OF CALIFORNIA

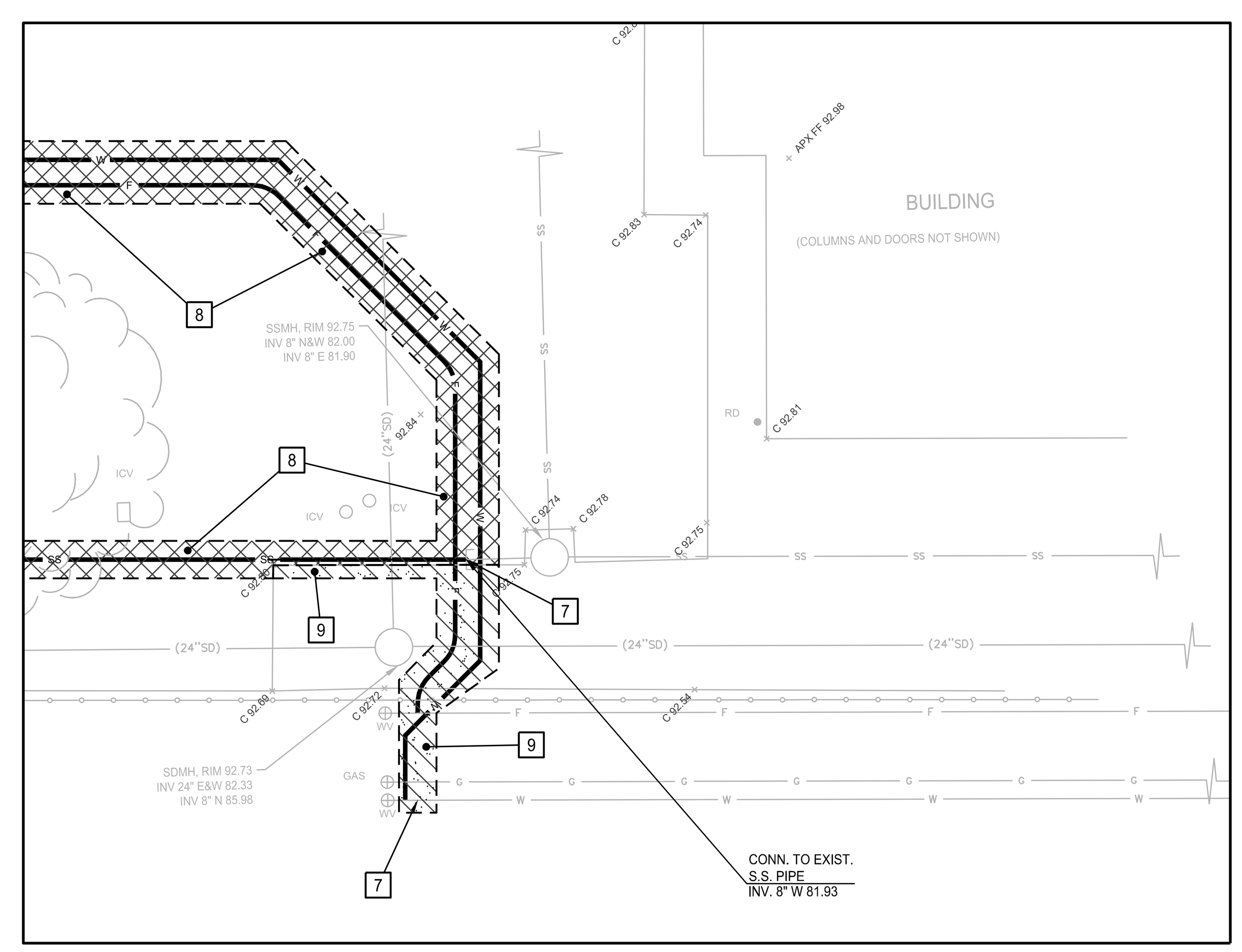
Architect

No.	Revision/Submission	Date

Revision

	Designed By: WV	
Scale: 1" = 20"	Drawn By: WV	SD/C4.1.1
Project Number: 2180	Checked By: AO	
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1





(A) ENLARGED WET PIPNG DETAIL

SCALE: 1"=10'

NORTH

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

NOTES

1. REFER TO SHEETS SD/C0.1 FOR BENCHMARKS, GENERAL NOTES & INFORMATION.
2. SEE ARCHITECTURAL DWGS. FOR ADDITIONAL SITE INFORMATION AND DETAILS. SEE PLUMBING DRAWINGS FOR ADDITIONAL WET UTILITY PIPING.
3. ALL STORM DRAIN PIPING AND LATERALS SHALL HAVE A MINIMUM OF 3' OF COVER.
4. ALL TRENCHES ON-SITE SHALL BE BACKFILLED IN ACCORDANCE WITH DETAIL 11 SHEET SD/C7.1. PROVIDE NEW TURF SURFACE WHERE EXISTING HAS BEEN REMOVED DUE TO NEW PIPE TRENCHING. SEE LANDSCAPING SPECIFICATIONS FOR TURF REQUIREMENTS.
5. ANY EXISTING IRRIGATION SYSTEMS THAT ARE DAMAGED OR REMOVED DUE TO NEW UTILITY PIPE INSTALLATION SHALL BE REPAIRED AS REQUIRED.
6. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, PIPE SLOPES, FITTINGS, ETC., WHICH MAY BE REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THESE DRAWINGS AND FURNISH ALL FITTINGS, ETC. NECESSARY TO COMPLETE A FULLY FUNCTIONAL PIPING SYSTEM AND AVOID ANY CONFLICTS WITH OTHER UTILITIES.

LEGEND

Symbol	Description
— - - —	RIGHT OF WAY/PROPERTY LINE
— SD —	NEW STORM DRAIN PIPING
— SS —	NEW SANITARY SEWER PIPING
— W —	NEW WATER PIPING
— F —	NEW FIRE PIPING (SEE FIRE PROTECTION DRAWINGS)

CONSTRUCTION KEYNOTES (SHEETS C4.1 & C4.2)

1. 4"Ø STORM DRAIN LATERAL TO ROOF DOWNSPOUTS. ALL LATERALS SHALL HAVE A MIN. SLOPE OF 2.0% U.N.O. SEE ARCHITECTURAL DRAWINGS FOR STORM DRAIN TO ROOF DOWNSPOUT CONNECTIONS. CONTRACTOR SHALL VERIFY LOCATION OF ROOF DOWNSPOUTS WITH ARCHITECTURAL DRAWINGS.
2. POC - SEE PLUMBING/AQUATICS DRAWINGS FOR CONNECTION/CONTINUATION.
3. CONSTRUCT SURFACE CLEAN OUT (COTG) - SEE DETAIL 21 SHEET SD/C7.1.
4. CONSTRUCT AREA DRAIN - SEE DETAIL 32 SHEET SD/C7.1.
5. CONSTRUCT STORM DRAIN MANHOLE WITH SOLID LID COVER - SEE DETAILS 13, 22 & 24 SHEET SD/C7.1.
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11. FURNISH & INSTALL 4" DOMESTIC WATER GATE VALVE.
12. FURNISH & INSTALL 2½" DOMESTIC WATER GATE VALVE. (1)

GRAPHIC SCALE

20 0 10 20 40

1 INCH = 20 FT.

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REGISTERED PROFESSIONAL ENGINEER — WA VANG — R.C.E. 73146 — 08/11/2023 — CIVIL — STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
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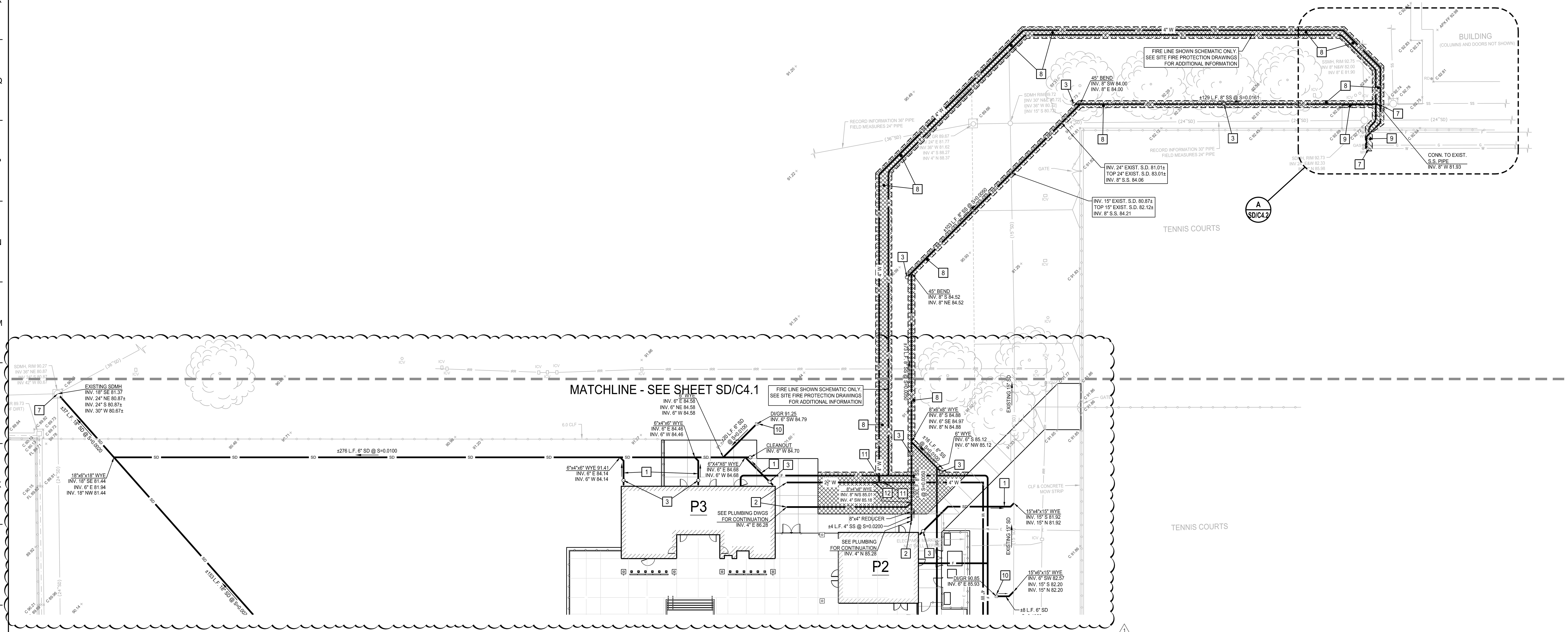
LICENSED ARCHITECT — MICHAEL K. FENNACY — No. C23724 — Ren. 4-30-25 — STATE OF CALIFORNIA

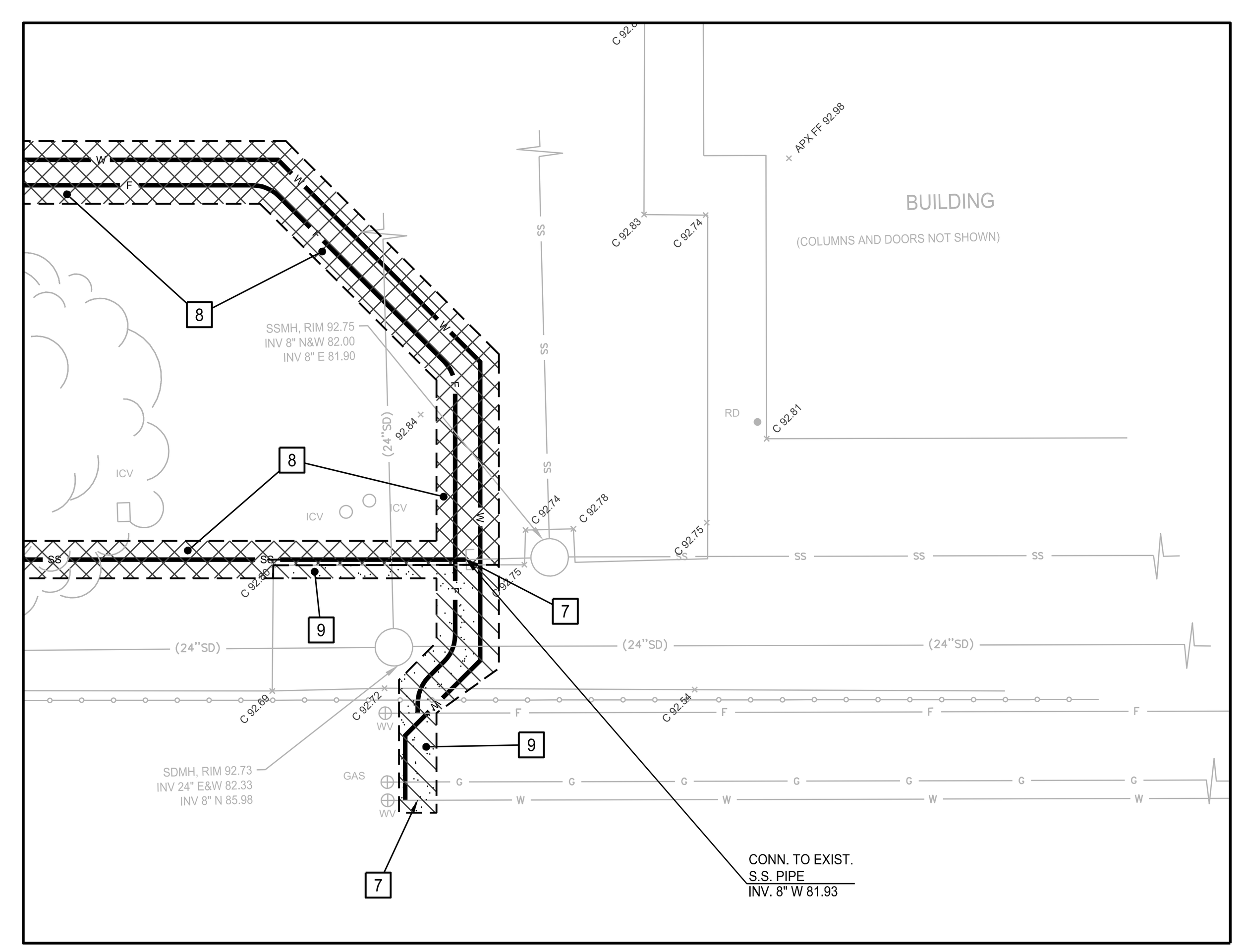
Architect

No.	Revision/Submission	Date

Revision

	Designed By: WV	
Scale: AS INDICATED	Drawn By: WV	SD/ C4.2
Project Number: 2180	Checked By: AO	
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1





A ENLARGED WET PIPNG DETAIL

SCALE: 1"=10'

NORTH

DSA File No.:
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DSA Application No.:
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Agency Approval

NOTES

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LEGEND

——— - - ———	RIGHT OF WAY/PROPERTY LINE
——— SD ———	NEW STORM DRAIN PIPING
——— SS ———	NEW SANITARY SEWER PIPING
——— W ———	NEW WATER PIPING
——— F ———	NEW FIRE PIPING (SEE FIRE PROTECTION DRAWINGS)

CONSTRUCTION KEYNOTES (SHEETS C4.1 & C4.2)

1. 4"Ø STORM DRAIN LATERAL TO ROOF DOWNSPOUTS. ALL LATERALS SHALL HAVE A MIN. SLOPE OF 2.0% U.N.O. SEE ARCHITECTURAL DRAWINGS FOR STORM DRAIN TO ROOF DOWNSPOUT CONNECTIONS. CONTRACTOR SHALL VERIFY LOCATION OF ROOF DOWNSPOUTS WITH ARCHITECTURAL DRAWINGS.
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11. FURNISH & INSTALL 4" DOMESTIC WATER GATE VALVE.
12. FURNISH & INSTALL $2\frac{1}{2}$" DOMESTIC WATER GATE VALVE. (1)

GRAPHIC SCALE

1 INCH = 20 FT.

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08/11/2023

Consultant

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Tulare Joint Union High School District
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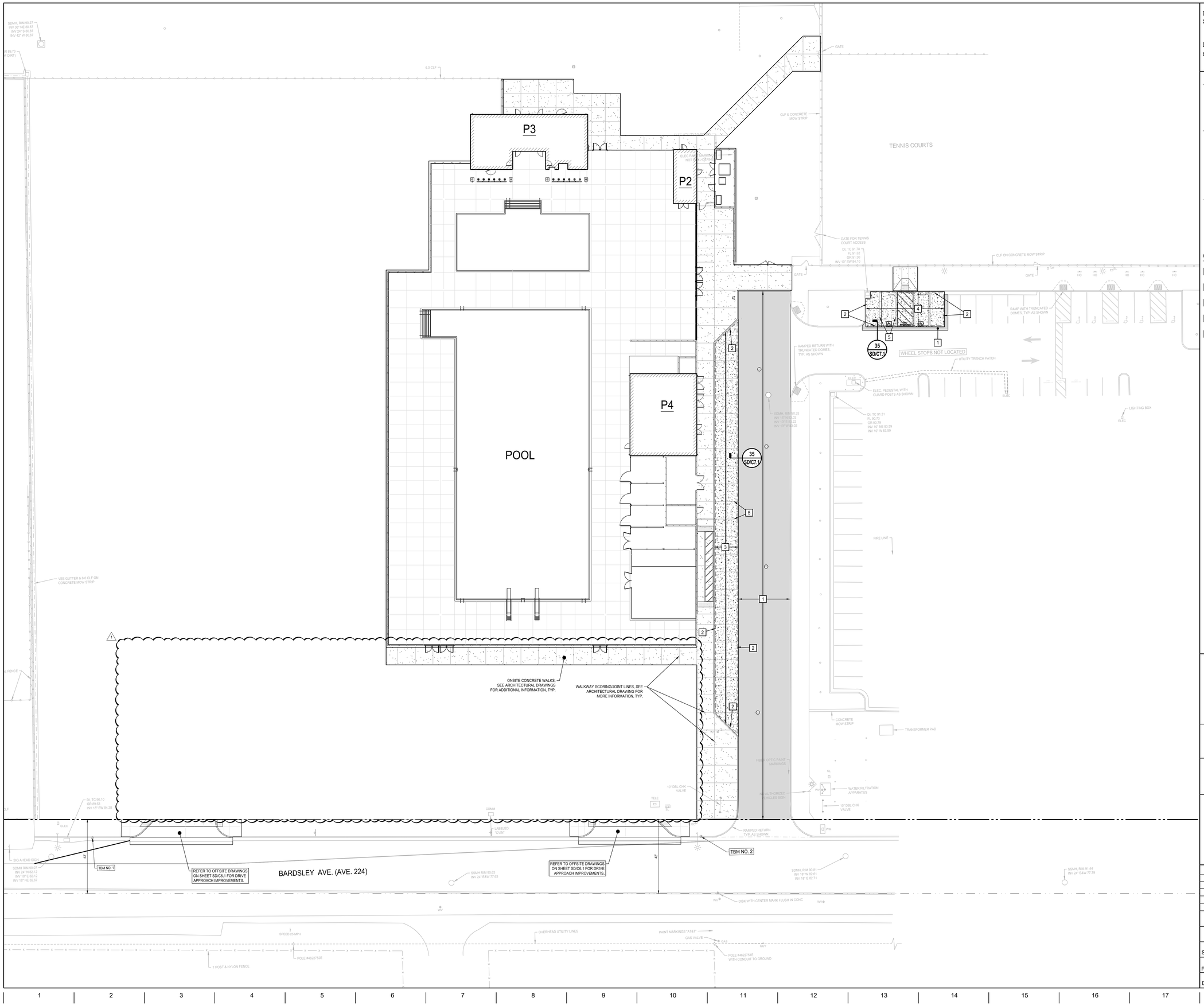
Architect

No.	Revision/Submission	Date

Revision

	Designed By: WV	
Scale: AS INDICATED	Drawn By: WV	*SD/C4.2.1*
Project Number: 2180	Checked By: AO	
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1



DSA File No.:
54-H11

DSA Application No.:
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Agency Approval

NOTES

1. REFER TO SHEETS SD/C0.1 FOR BENCHMARKS, GENERAL NOTES & INFORMATION.
2. REFER TO ARCHITECTURAL DRAWINGS, FOR ADDITIONAL SITE INFORMATION AND DETAILS.

LEGEND

- NEW CONCRETE SIDEWALK/FLATWORK
- NEW ASPHALT CONCRETE PAVEMENT
- NEW REINFORCED CONCRETE PAVEMENT
- PROPERTY LINE/RIGHT OF WAY

CONSTRUCTION KEYNOTES (THIS SHEET ONLY)

1. ASPHALT PAVING (MAIN DRIVE): 3" A.C. OVER 12.5" CLASS 2 A.B. OVER 12" COMPACTED SUBGRADE. SEE DETAIL 33 SHEET SD/C7.1
2. THICKENED EDGE AT CONCRETE PAVEMENT. SEE DETAIL 35 ON SHEET SD/C7.1.
3. REINFORCED CONCRETE PAVEMENT: 6" CONCRETE PAVEMENT WITH #5 @ 24" O.C. OVER 6" CLASS 2 A.B. OVER 12" COMPACTED SUBGRADE. SEE DETAIL 34 SHEET SD/C7.1.
4. NON-REINFORCED CONCRETE PAVEMENT: 4" CONCRETE PAVEMENT OVER 4" CLASS 2 A.B. OVER 12" COMPACTED SUBGRADE. SEE DETAIL 44 SHEET SD/C7.1.
5. CRACK CONTROL/CONSTRUCTION JOINT LINES. SEE DETAILS 41 & 42 SHEET SD/C7.1. SPACING OF CONSTRUCTION CONTROL JOINTS SHALL NOT EXCEED 12' SQUARE GRID.

GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FT.

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REGISTERED PROFESSIONAL ENGINEER — TIM VAN C.E. 71145 — 08/11/2023 — CIVIL — STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
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LICENSED ARCHITECT — REGINALD K. T. DARDEN — No. C23724 — Exp. 4-30-24 — STATE OF CALIFORNIA

Architect

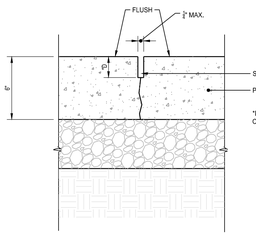
No.	Revision/Submission	Date

Revision

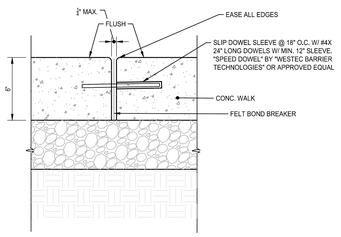
	Designed By: WV	
Scale: 1" = 20"	Drawn By: WV	
Project Number: 2180	Checked By: AO	**SD/ C5.1**
Date: 08-02-22	Reviewed By: AO	Sheet: 1 of: 1

NOT USED

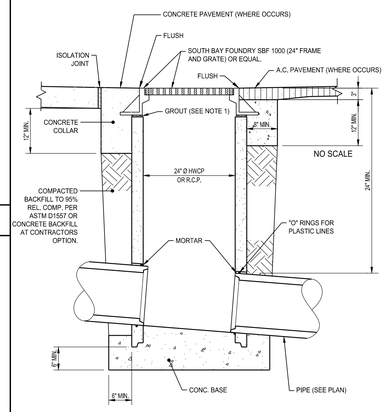
52



CRACK CONTROL JOINT (C.C.J.) NO SCALE 41

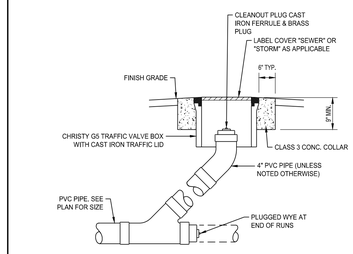


CONSTRUCTION JOINT (C.J.) NO SCALE 42

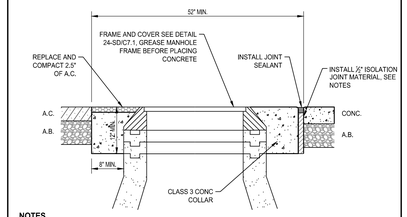


NOTES
1. GROUT SHALL BE A HIGH STRENGTH, SHRINKAGE COMPENSATING NON-METALLIC GROUT, "MASTERFLOW" 713 OR EQUAL.
2. CONCRETE SHALL BE 2500 PSI MIN. AT 28 DAYS.

DRAIN INLET NO SCALE 32

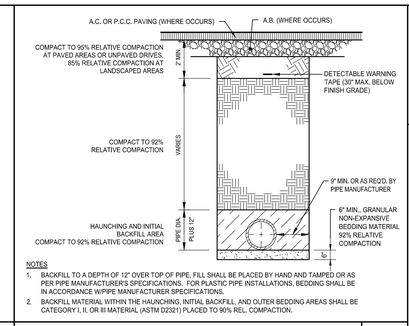


SURFACE CLEANOUT (COTG) NO SCALE 21



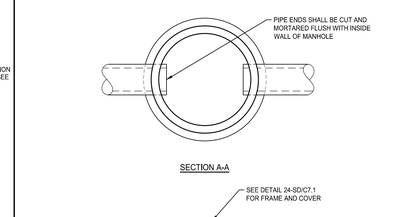
NOTES
1. FRAME AND COVER SHALL MATCH CROSS SLOPE OF FINISHED GRADE/FINISHED PAVEMENT SURFACE.
2. ISOLATION JOINT FILLER SHALL MEET THE REQUIREMENTS OF ASTM D 1751, ASPHALT-SATURATED CELLULOSIC FIBER IN PRE-FORMED STRIPS. EXTEND JOINT FILLERS FULL WIDTH AND DEPTH OF JOINT. TERMINATE JOINT FILLER NOT LESS THAN 1/2 INCH OR MORE THAN 1 INCH BELOW FINISHED SURFACE IF JOINT SEALANT IS INDICATED. PLACE TOP OF JOINT FILLER FLUSH WITH FINISHED CONCRETE SURFACE IF JOINT SEALANT IS NOT INDICATED.

MANHOLE COVER INSTALLATION NO SCALE 22

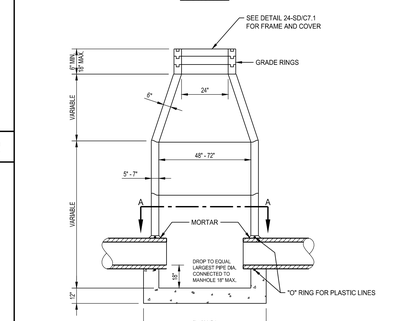


NOTES
1. BACKFILL TO A DEPTH OF 12" OVER TOP OF PIPE, FILL SHALL BE PLACED BY HAND AND TAMPED OR AS PER PIPE MANUFACTURER'S SPECIFICATIONS. FOR PLASTIC PIPE INSTALLATIONS, BEDDING SHALL BE IN ACCORDANCE W/PIPE MANUFACTURER SPECIFICATIONS.
2. BACKFILL MATERIAL WITHIN THE HAUNCHING, INITIAL BACKFILL, AND OUTER BEDDING AREAS SHALL BE CATEGORY I, II, OR III MATERIAL (ASTM D2321) PLACED TO 90% REL. COMPACTION.

TYP. TRENCH BACKFILL AND PAVING NO SCALE 11



SECTION A-A

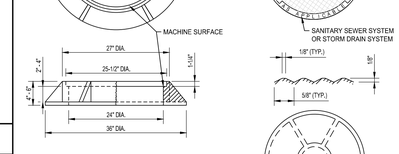


NOTES
1. ALL CONCRETE SHALL BE 2500 PSI MIN.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C-478.
3. MORTAR AND BAND ALL PIPE JOINTS. MORTAR MIXTURE SHALL BE ONE PART CEMENT PER TWO PARTS SAND.
4. MASTIC (KENT SEAL NO. 2 OR EQUAL) MAY BE SUBSTITUTED AT JOINTS. MASTIC SHALL COVER A MIN. OF ONE-HALF THE COMPRESSED SURFACE. INSIDE OF MANHOLE JOINT SHALL BE MORTARED TO A SMOOTH SURFACE.
5. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
6. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS.
7. 48" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 12" TO 24". 60" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 27" TO 36", 72" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES 39" AND LARGER.

STORMDRAIN MANHOLE NO SCALE 13

FILL SLOPE NO SCALE 43

ASPHALT PAVEMENT SECTION NO SCALE 33



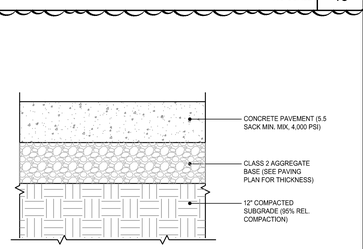
NOTES
1. MATERIAL SHALL BE CAST IRON. FRAME AND COVER TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM DESIGNATION A48, CLASS 25 AND SHALL MEET H20 WHEEL LOAD REQUIREMENTS.
2. FRAME AND COVER SHALL MATCH CROSS SLOPE OF FINISHED GRADE/FINISHED PAVEMENT SURFACE.

MANHOLE FRAME AND COVER NO SCALE 24

AREA DRAIN NO SCALE 14

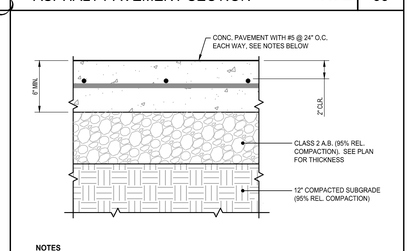
NOT USED

54



NOTES
1. CONCRETE SHALL BE 5.5 SACK MIX HAVING A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. WEAKENED PLANE CONTRACTION JOINTS SHALL BE CONSTRUCTED AS SHOWN ON DETAIL 41/-, JOINTS SPACING SHALL BE AS NOTED ON SHEET ON THE PAVING PLAN.

CONCRETE PAVING SECTION NO SCALE 44



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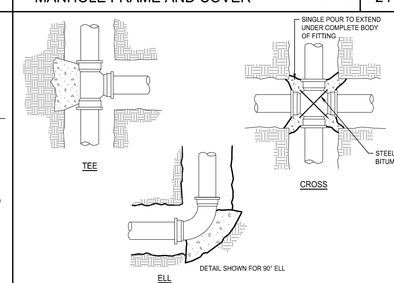
2. WEAKENED PLANE CONTRACTION JOINTS SHALL BE CONSTRUCTED AS SHOWN ON DETAIL 41/-, JOINTS SPACING SHALL BE AS NOTED ON SHEET ON THE PAVING PLAN.
3. REINFORCING STEEL SHALL BE DEFORMED STEEL AND SHALL BE GRADE 60.

REINF. CONCRETE PAVING SECTION NO SCALE 34



THRUST BLOCK REQUIRED BEARING AREA - TOTAL SQUARE FEET						
TYPE OF FITTING		ELL			TEE & CAPS	CROSS
		22-1/2°	45°	90°		
SIZE OF PIPE	4"	1	2	3	2	3
	6"	2	3	6	4	6
	8"	3	6	11	8	11
	10"	5	9	17	12	17

THRUST BLOCK NOTES:
1. THRUST BLOCKS TO BE CONSTRUCTED OF CONCRETE WITH MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
2. AREAS GIVEN ARE FOR THICKNESS CLASS 50 DUCTILE IRON PIPE AT PRESSURE OF 150 P.S.I. IN SOIL WITH 1,500 P.S.F. BEARING CAPACITY.
3. BLOCKS TO BE POURED AGAINST UNDISTURBED NATIVE SOIL.
4. JOINTS TO BE KEPT CLEAR OF CONCRETE.
5. MINIMUM THICKNESS OF THRUST BLOCKS TO BE 6 INCHES.

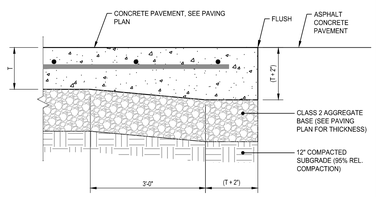
CONCRETE THRUST BLOCK NO SCALE 15

NOT USED

NO SCALE 55

NOT USED

NO SCALE 45



NO SCALE

THICKENED EDGE AT CONC. PAVEMENT 35

DSA File No.:
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REGISTERED PROFESSIONAL ENGINEER — HA VAND — R.C.E. 73146 — 08/11/2023 — CIVIL — STATE OF CALIFORNIA

Consultant

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Tulare, CA

Project

SITE DEVELOPMENT
CIVIL DETAILS

Drawing

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LICENSED ARCHITECT — HERBERT K. FRY — No. C23724 — Exp. 4-30-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date

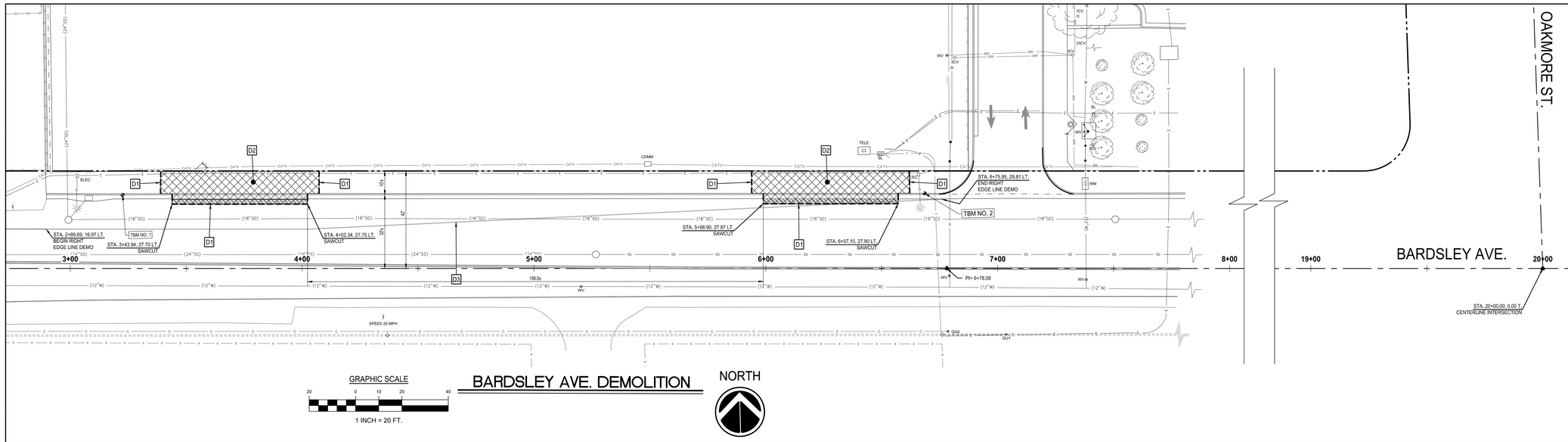
Revision

Designed By: WV
Drawn By: WV
Checked By: AO
Reviewed By: AO

Scale: AS INDICATED
Project Number: 2180
Date: 08-02-22

SD/ C7.1

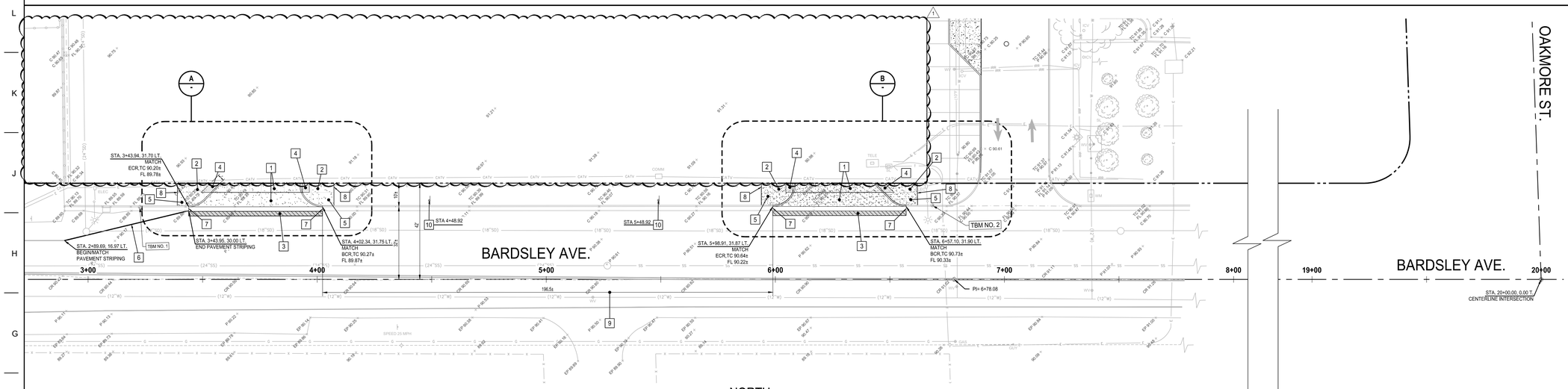
Sheet: 1 of: 1



GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FT.

BARDSLEY AVE. DEMOLITION

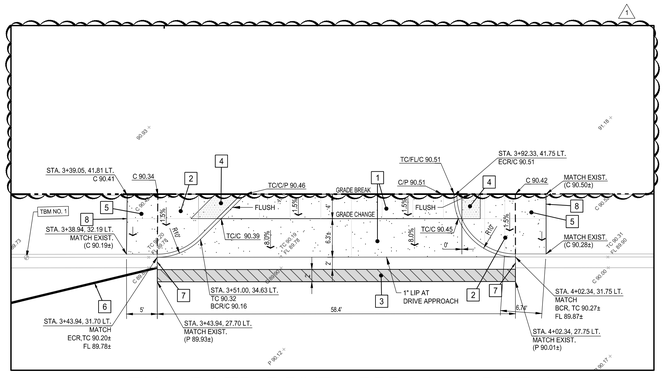
NORTH



GRAPHIC SCALE
20 0 10 20 40
1 INCH = 20 FT.

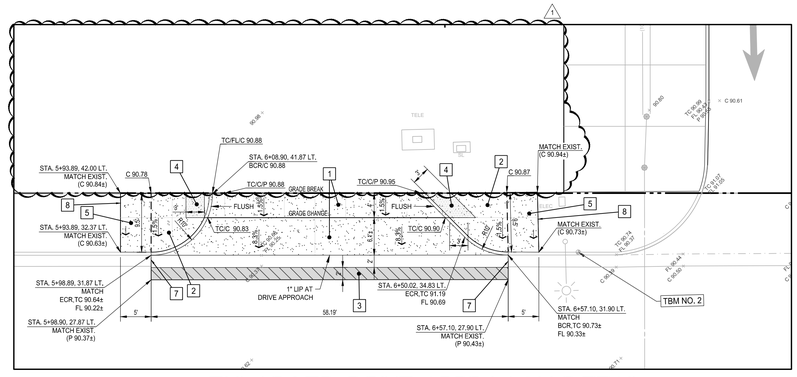
BARDSLEY AVE. IMPROVEMENTS

NORTH



A ENLARGED DRIVE APPROACH DETAIL

SCALE: 1"=10'



B ENLARGED DRIVE APPROACH DETAIL

SCALE: 1"=10'

(NOT FOR DSA APPROVAL)

DEMOLITION NOTES (THIS SHEET ONLY)

1. REFER TO SHEET C0.2 FOR BENCHMARKS, GENERAL NOTES & INFORMATION.
2. INFRASTRUCTURE NOT NOTED FOR SALVAGE, REMOVAL, OR RELOCATION SHALL BE PROTECTED IN PLACE.
3. ITEMS NOTED TO BE SALVAGED SHALL BE REMOVED WITHOUT DAMAGING AND STORED UNTIL THEY ARE RE-INSTALLED AS SHOWN ON THE PLANS.
4. STRIPING & PAVEMENT MARKINGS NOTED TO BE REMOVED COMPLETELY BY LIGHTLY GRINDING.
5. ALL HOLES AND TRENCHES CREATED FROM INFRASTRUCTURE REMOVAL SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH PROJECT EARTHWORK AND TRENCHING REQUIREMENTS.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ITEMS NOTED FOR REMOVAL WITH THE OWNER. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY DIMENSIONS FOR DEMOLITION SHOWN ON THIS PLAN WITH THE PROPERTY OWNER.
7. EXISTING STRUCTURES OR IMPROVEMENTS (I.E. UTILITY BOXES, VALVE BOXES, SIGNS, LIGHTS, ETC.) THAT ARE DAMAGED OR TEMPORARILY REMOVED DURING DEMOLITION SHALL BE REPLACED IN KIND, U.N.O.
8. CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN AND OBTAIN APPROVAL FROM THE CITY ENGINEER PRIOR TO COMMENCING CONSTRUCTION.

LEGEND

RIGHT OF WAY

STREET CENTERLINE

DEMOLITION KEYNOTES (THIS SHEET ONLY)

D1 SAWCUT EDGE CONCRETE/ASPHALT TO A NEAT VERTICAL EDGE FOR CONCRETE REMOVAL.
SAWCUT LINE SHOWN THUS:

D2 UNLESS NOTED OTHERWISE, DEMOLISH AND REMOVE ALL EXISTING SURFACE SITE IMPROVEMENTS (CONCRETE, ASPHALT PAVEMENT, CURBS, GUTTERS ETC.,) WITHIN DEMOLITION LIMITS.
SHOWN THUS:

D3 REMOVE 4" EDGE LINE STRIPING. SEE DEMO PLAN FOR LIMITS OF STRIPING REMOVAL.

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. REFER TO SHEET C0.2 FOR BENCHMARKS, GENERAL NOTES & INFORMATION.
2. PRIOR TO DOING ANY WORK WITHIN CITY RIGHT OF WAY, CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM THE CITY OF TULARE.
3. ALL WORK WITHIN CITY OF TULARE RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF TULARE PUBLIC IMPROVEMENT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
4. FIELD VERIFY ALL ELEVATIONS SHOWN WHERE EXISTING IMPROVEMENTS ABUT PROPOSED IMPROVEMENTS. IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. ALL DIMENSIONS SHOWN TO CURB ARE TO FACE OF CURB UNLESS OTHERWISE SHOWN OR NOTED.
6. FLOW LINE ELEVATION IS 0.5' BELOW TOP OF CURB UNLESS OTHERWISE SHOWN OR NOTED.
7. CROSS-SLOPES AT SIDEWALKS SHALL BE 1.5% UNLESS OTHERWISE SHOWN OR NOTED. IN NO CASE SHALL THE CROSS SLOPE EXCEED 2%.
8. GUTTER PAN AT BOTTOM OF ACCESSIBLE RAMPS SHALL BE WARPED TO HAVE A SLOPE NOT EXCEEDING 5.0% IN THE DIRECTION OF TRAVEL.
9. ADJUST ALL EXISTING MANHOLES, GATE VALVES, UTILITY BOXES, AND WATER METERS TO BE FLUSH WITH FINISH GRADES.

LEGEND

BARDSLEY AVE. PAVEMENT REPAIR AT DRIVE APPROACH

RIGHT OF WAY

STREET CENTERLINE

CONSTRUCTION KEYNOTES (THIS SHEET ONLY)

1. CONSTRUCT DRIVE APPROACH WITH 4' WIDE SIDEWALK. SEE DETAIL 12 AND CITY STANDARD DRAWING 2114 ON SHEET SD/C8.1.
2. CONSTRUCT 9.5' WIDE CITY STANDARD SIDEWALK, PUBLIC IMPROVEMENT STANDARD 4420 - SEE DETAIL 25 SHEET SD/C8.1.
3. CONSTRUCT A.C. PAVING REPAIR AT DRIVE APPROACH. SEE DETAIL 12, 14 & CITY STANDARD 602D ON SHEET SD/C8.1.
4. FURNISH & INSTALL CITY STANDARD TRUNCATED DOME PANEL, PUBLIC IMPROVEMENT STANDARD 4170 - SEE DETAIL 25 SHEET SD/C8.1.
5. CONSTRUCT SIDEWALK TRANSITION PANEL. SEE DETAIL 13 ON SHEET SD/C8.1.
6. INSTALL 4" WIDE "RIGHT EDGE LINE", 2018 CALTRANS REVISED STD., PLAN RSP A20B, DETAIL 27B - SEE DETAIL 32 ON SHEET SD/C8.1.
7. PROVIDE DOWELS AT NEW GUTTER TO EXISTING SIMILAR TO CITY STANDARD DETAIL 4911. SEE DETAIL 25 ON SHEET SD/C8.1.
8. PROVIDE DOWELS AT NEW SIDEWALK TO EXISTING PER CITY STANDARD DETAIL 4910 ON SHEET SD/C8.1.
9. PAINT CURB RED AND LABEL "NO PARKING" WITH WHITE LETTERING. PAINT MATERIALS TO COMPLY WITH SECTION 84-2.02 OF THE CALTRANS STANDARD SPECIFICATIONS, LATEST EDITION.
10. FURNISH & INSTALL R28A(CA) "**NO PARKING ANY TIME**" SIGN (MUTCD FIG. 2B-24). PROVIDE POST & FOOTING PER CITY STANDARD DETAIL 7225 ON SHEET SD/C8.1. INSTALL POST & SIGN IN ACCORDANCE WITH MUTCD FIG. 2A-2, 2014 EDITION. CORE THROUGH SIDEWALK AS REQUIRED.

LANE ENGINEERS INC.
CIVIL• STRUCTURAL• SURVEYING
979 N. BLACKSTONE
TULARE, CALIFORNIA 93274
(559) 688-5263

REGISTERED PROFESSIONAL ENGINEER — WA VANG — RCE 87146 — 06/01/2023 — CIVIL — STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA

Project

OFFSITE IMPROVEMENTS
BARDSLEY AVE. OFFSITES

Drawing

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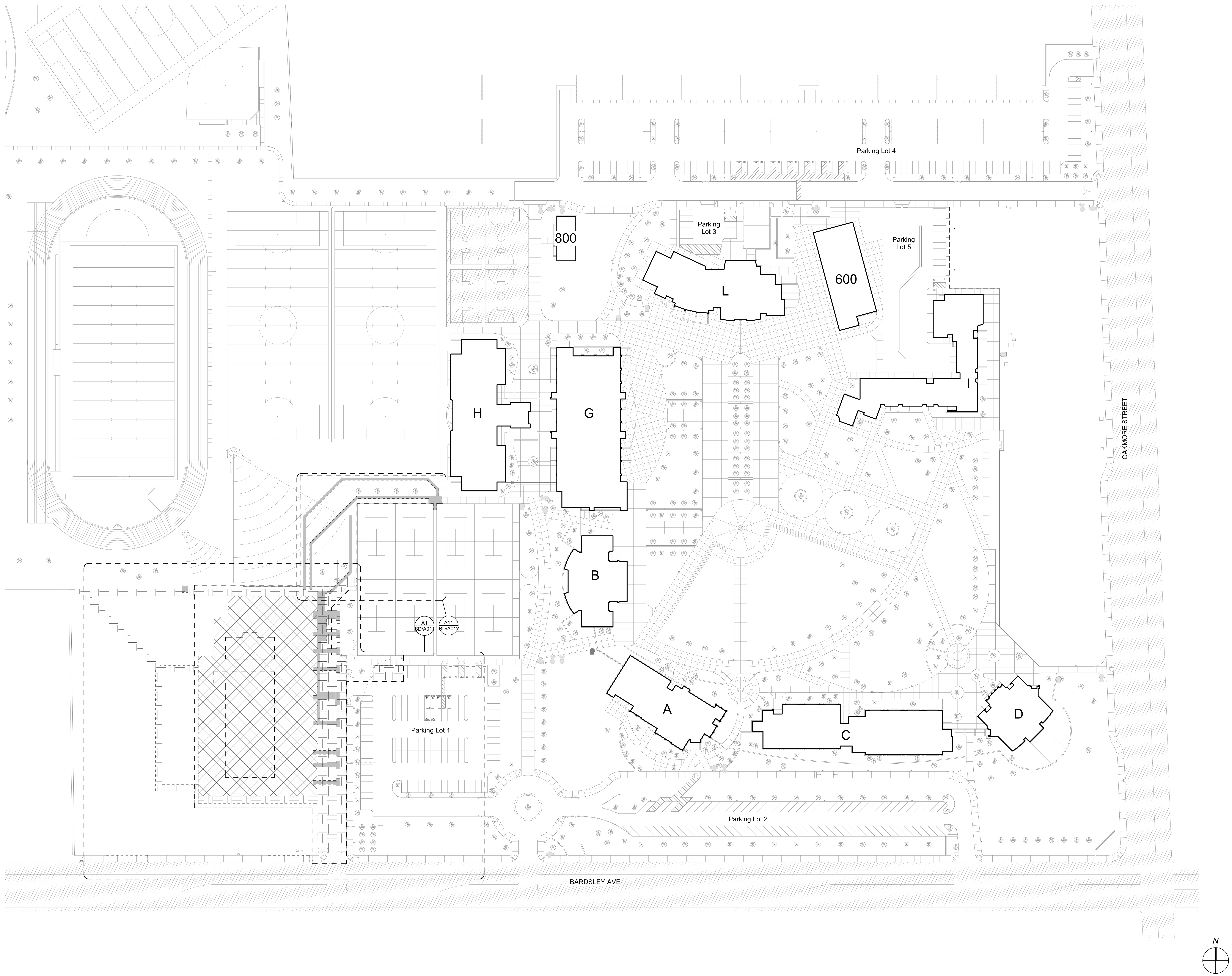
LICENSED ARCHITECT — MATTHEW K. PETERS — No. C23724 — REN. 4-30-2025 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	5/31/23

Revision

	Designed By: WV	Copyright 2022 Darden Architects
Scale: VARIES (SEE PLAN)	Drawn By: WV	
Project Number: 2180	Checked By: AO	SD/C6.1
Date: 10-24-22	Reviewed By: AO	Sheet: 1 of: 1



A1

1" = 60'-0"

Overall Site Demolition Plan

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

Symbol	Description
	SELECTIVE DEMOLITION, Existing Item and / or Area to be Removed and / or Relocated. (See Demolition Notes)
Se	EARTHWORK, 5'-0" Over Excavation, Scarification and Compaction. The site has hydrocomacted soil. The pools, concrete pool deck and the pool buildings can not be supported on the hydrocomacted soil. Remove the upper five feet of the hydrocomacted soil and processed for use as engineered fill. See EARTHWORK Spec for additional requirements
	EARTHWORK, 4" Stripping, scarification and compaction. See Civil Drawings for additional requirements. Provide fine grading for new improvements.
	Existing Chain Link Fence
	SELECTIVE DEMOLITION, Areas of expected existing underground utilities that require careful trenching for new Utility Trenches. Excavate and expose (daylighting) buried infrastructure. Coordinate limits, depths and widths with trade contractors. The areas indicated on this plan represents the approximate zones that might be required. The Contractor shall retain the services of a underground utility location service to both locate and map the existing underground utilites; and submit a as-built shop drawing. Any damaged utility shall be repaired by the contractor.
	Existing Tree
	CLEARING AND DEMOLITION, Clearing and Grubbing Remove Existing Tree. Remove Tree, stump and rootball down to a minimum depth of -3'-0" and all roots 1/4" and larger.
S11 1	Demolition Note Symbol
L	Building Designation
	Existing Building

GENERAL NOTES

1. Refer to Topographic and Site Utility Surveys for Additional Information
2. Demolition to be in Compliance with the California Fire Code, Chapter 14 - Fire Safety During Construction and Demolition
3. Refer to Civil, Plumbing, Mechanical and Electrical Drawings to verify the extent of the Demolition Required in Preparing for the Site development Scope of Work
4. All earthwork should extend a minimum of 5 feet beyond the perimeter of proposed improvements. Refer to the EARTHWORK Specification.
5. The geotechnical exploration and laboratory testing identified that hydrocompactive characteristics (Hard Pan) exist within the upper 5 feet of near surface soils. All areas within the limits of the Pool Fence and to the extents indicated in the plan shall be over excavated to a minimum of five (5) feet below the stripped soil. and 18" below the bottom of the pool slab and foundations.
6. Provide an underground utility location service to verify the locations of existing utilities indicated and on the Civil Drawings. All costs for utility location shall be paid for by the Contractor.

G18 — Earthwork & Site Demolition Plan Legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

SITE DEVELOPMENT
OVERALL SITE DEMOLITION PLAN

Drawing

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LICENSED ARCHITECT — MICHAEL K. FENNACY — No. C23724 — Ren. 4-30-23 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: MF	
Scale: As indicated	Drawn By: FM	SD/A010 (1)
Project Number: 2180	Checked By: -	
Date: 03/28/2023	Reviewed By: MF	

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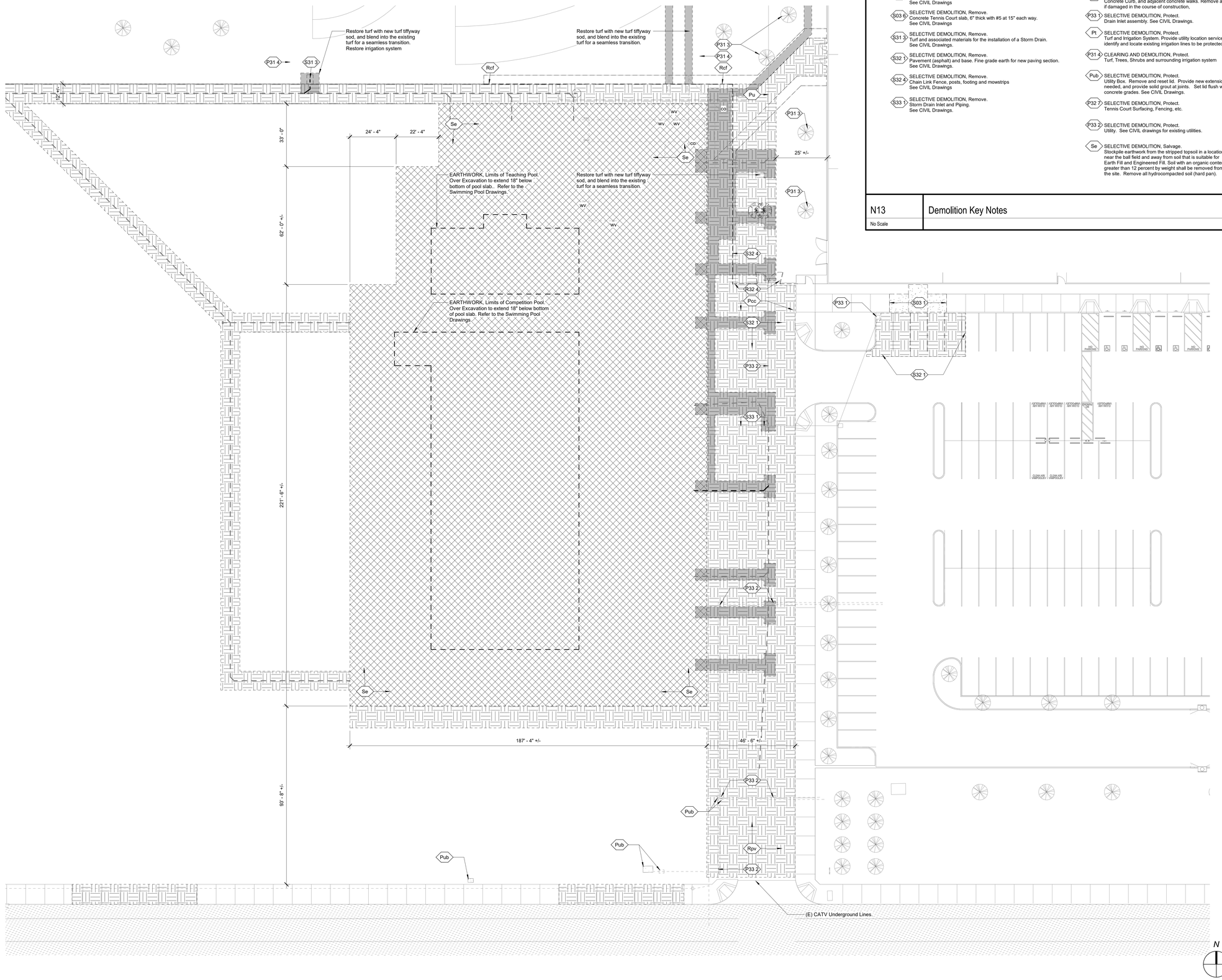

DEMOLITION NOTES

S03 1 SELECTIVE DEMOLITION, Remove. Concrete Walk. See CIVIL Drawings

S03 6 SELECTIVE DEMOLITION, Remove. Concrete Tennis Court slab, 6" thick with #5 at 15" each way. See CIVIL Drawings

S31 3 SELECTIVE DEMOLITION, Remove. Turf and associated materials for the installation of a Storm Drain. See CIVIL Drawings.

S32 1 SELECTIVE DEMOLITION, Remove. Pavement (asphalt) and base. Fine grade earth for new paving section. See CIVIL Drawings.

S32 4 SELECTIVE DEMOLITION, Remove. Chain Link Fence, posts, footing and mowstrips See CIVIL Drawings

S33 1 SELECTIVE DEMOLITION, Remove. Storm Drain Inlet and Piping. See CIVIL Drawings.

P32 4 SELECTIVE DEMOLITION, Protect. Chain Link Fence

Pcc SELECTIVE DEMOLITION, Protect. Concrete Curb, and adjacent concrete walks. Remove and replace if damaged in the course of construction,

P33 1 SELECTIVE DEMOLITION, Protect. Drain Inlet assembly. See CIVIL Drawings.

Pt SELECTIVE DEMOLITION, Protect. Turf and Irrigation System. Provide utility location services to identify and locate existing irrigation lines to be protected.

P31 4 CLEARING AND DEMOLITION, Protect. Turf, Trees, Shrubs and surrounding irrigation system

Pub SELECTIVE DEMOLITION, Protect. Utility Box. Remove and reset lid. Provide new extension rings as needed, and provide solid grout at joints. Set lid flush with new concrete grades. See CIVIL Drawings.

P32 7 SELECTIVE DEMOLITION, Protect. Tennis Court Surfacing, Fencing, etc.

P33 2 SELECTIVE DEMOLITION, Protect. Utility. See CIVIL drawings for existing utilities.

Se SELECTIVE DEMOLITION, Salvage. Stockpile earthwork from the stripped topsoil in a location near the ball field and away from soil that is suitable for Earth Fill and Engineered Fill. Soil with an organic content greater than 12 percent by weight shall be removed from the site. Remove all hydrocompacted soil (hard pan).

N13	Demolition Key Notes
No Scale	

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

SELECTIVE DEMOLITION, Existing Item and / or Area to be Removed and / or Relocated. (See Demolition Notes)

Se — EARTHWORK, 5'-0" Over Excavation, Scarification and Compaction. The site has hydrocomacted soil. The pools, concrete pool deck and the pool buildings can not be supported on the hydrocomacted soil. Remove the upper five feet of the hydrocomacted soil and processed for use as engineered fill. See EARTHWORK Spec for additional requirements

EARTHWORK, 4" Stripping, scarification and compaction. See Civil Drawings for additional requirements. Provide fine grading for new improvements.

Existing Chain Link Fence

SELECTIVE DEMOLITION, Areas of expected existing underground utilities that require careful trenching for new Utility Trenches. Excavate and expose (daylighting) buried infrastructure. Coordinate limits, depths and widths with trade contractors. The areas indicated on this plan represents the approximate zones that might be required.
The Contractor shall retain the services of a underground utility location service to both locate and map the existing underground utilities; and submit a as-built shop drawing. Any damaged utility shall be repaired by the contractor.

Existing Tree

CLEARING AND DEMOLITION, Clearing and Grubbing
Remove Existing Tree. Remove Tree, stump and rootball down to a minimum depth of -3'-0" and all roots 1/4" and larger.

S11 1 — Demolition Note Symbol

L — Building Designation

Existing Building

GENERAL NOTES

1. Refer to Topographic and Site Utility Surveys for Additional Information
2. Demolition to be in Compliance with the California Fire Code, Chapter 14 - Fire Safety During Construction and Demolition
3. Refer to Civil, Plumbing, Mechanical and Electrical Drawings to verify the extent of the Demolition Required in Preparing for the Site development Scope of Work
4. All earthwork should extend a minimum of 5 feet beyond the perimeter of proposed improvements. Refer to the EARTHWORK Specification.
5. The geotechnical exploration and laboratory testing identified that hydrocompactive characteristics (Hard Pan) exist within the upper 5 feet of near surface soils. All areas within the limits of the Pool Fence and to the extents indicated in the plan shall be over excavated to a minimum of five (5) feet below the stripped soil. and 18" below the bottom of the pool slab and foundations.
6. Provide an underground utility location service to verify the locations of existing utilities indicated and on the Civil Drawings. All costs for utility location shall be paid for by the Contractor.

G18	Earthwork & Site Demolition Plan Legend
No Scale	

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
SITE DEMOLITION PLAN & EARTHWORK
Drawing

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LICENSED ARCHITECT MICHAEL K. FERRO No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: 1" = 20'-0"
Project Number: 2180
Date: 03/28/2023

SD/A011

A1	Partial Site Demolition Plan
1" = 20'-0"	

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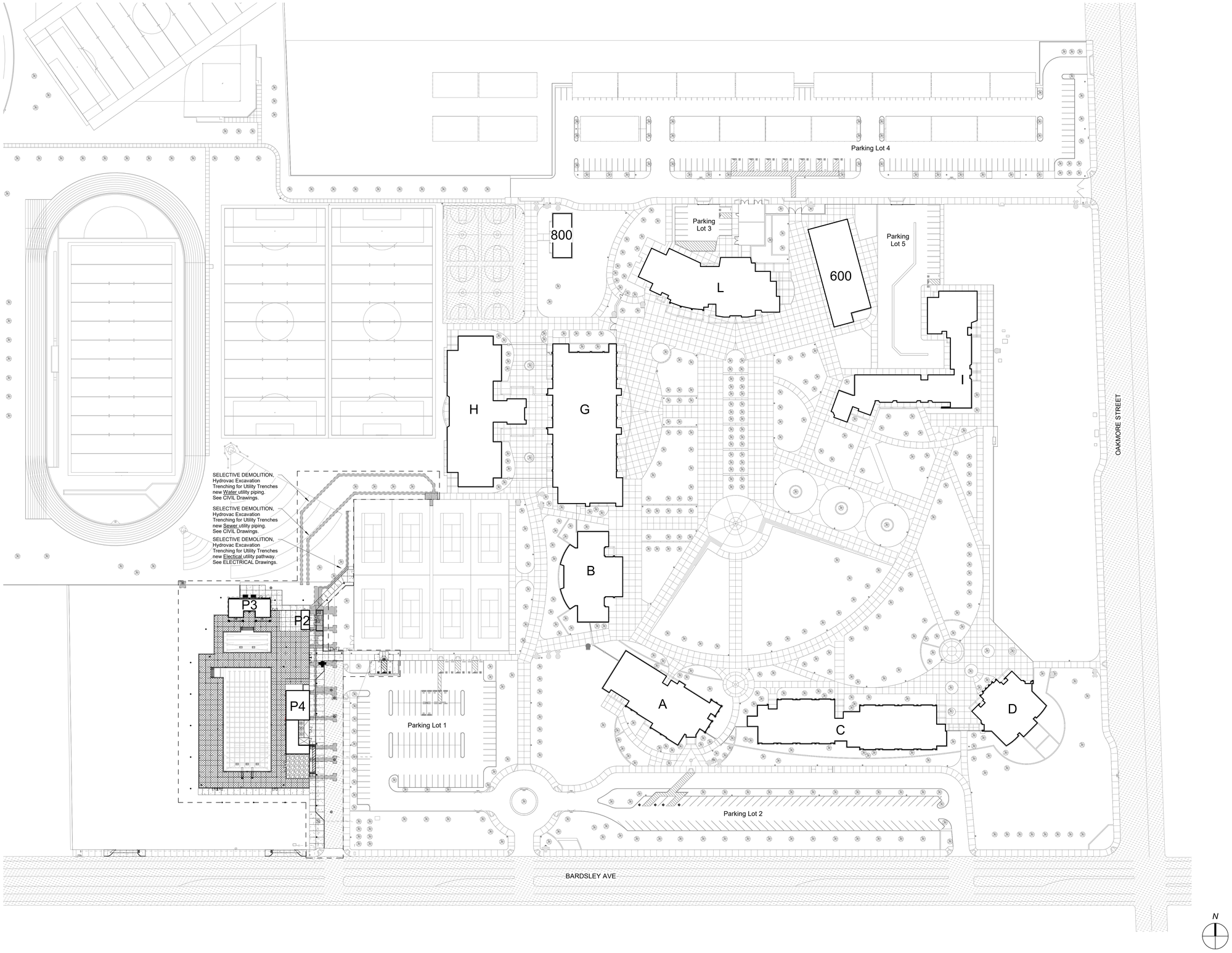

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- PAVEMENT, Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- PAVEMENT, Heavy Duty Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- CAST-IN-PLACE CONCRETE, 4" Concrete Walk over 6" 90% Compacted Fill. See Civil Drawings for Grades. (D14 SD/A304)
- CAST-IN-PLACE CONCRETE, Pool Deck Concrete Walk. See Pool Drawings for details and grading. See Pool Concrete Specification for mix design and waterproofing admixture
- SELECTIVE DEMOLITION. Areas of sensitive trenching for Utility Trenches and areas of congestion and existing underground utilities, that require trenching. Provide utility location service and shop drawings. The areas indicated on this plan represents the approximate zones that might be required. Actual site conditions will define other areas required.
- PAVEMENT, Crushed Stone Surfacing. Sub-grade preparation, with Geotextile Fabric, Stabilized DG 4 inches and compacted with a roller to a smooth surface. Soil Binder by Stabilizer Solutions Inc.
- PAINTING, Paint Concrete Curb vertical face and horizontal top with Red Paint, and with White Letters. Letters to be 4" tall and spaced 25-feet apart stating "NO PARKING - FIRE LANE".
- PAINTING, Paint Concrete Curb vertical face and horizontal top with White Paint, and with Black Letters. Letters to be 4" tall and spaced 25-feet apart stating "BUS LOADING AND PARKING".
- PAINTING, Paint Concrete Curb vertical face and horizontal top with White Paint, and with Black Letters. Letters to be 4" tall and spaced 25-feet apart stating "5-MINUTE DROP OFF ZONE".

- Building Outline
- Property Line
- STORM DRAINAGE See CIVIL Drawings
- Pipe/Utility
- Covered Area
- Grade Break
- Existing
- Drainage Swale
- Slope (DN) — General Direction of Slope
- ELECTRICAL, Existing Light Pole
- Site, Tombstone
- ELECTRICAL, Sports Lighting, See Electrical
- 101 a — Opening Group No. Refer to Site Opening Schedule
- 388 — Finish Grade Contour
- CB — STORM DRAINAGE, Catch Basin or Drain Box
- DB — STORM DRAINAGE, Drain Box
- DI — STORM DRAINAGE, Drain Inlet
- TD — STORM DRAINAGE, Trench Drain
- FH — PLUMBING, Fire Hydrant
- FDC — PLUMBING, Fire Department Connection (Siamese)
- PIV — PLUMBING, Post Indicator Valve
- CO — PLUMBING, Clean Out,
- CO — CIVIL, Sewer Clean Out,
- SOV — PLUMBING, Shut Off Valve,
- ELECTRICAL, Pole Light Fixture,

ABBREVIATIONS

(E)	Existing	FF	Finish Floor	SD	Storm Drain
AC	Air Conditioning System	FG	Finish Grade	SL	Site Lighting
AD	Area Drain, (See Plumbing)	FL	Flow Line	StL	Street Lighting
BW	Back of Walk	FMFCD	Fresno Metropolitan Flood Control District	S	Signal
C	Concrete	FS	Floor Sink	SS	Sanitary Sewer
CB	Catch Basin	G	Gas	TC	Top of Curb
CJ	Control Joint	GT	Gutter	TD	Trench Drain
CM	Communications	GB	Grade Break	TELE	Telephone
COB	Clean Out Box	RG	Rough Grade	TG	Top of Grate
COMM	Communications	HPG	High Pressure Gas	TF	Top of Fence
CW	Cold Water	HL	Hydronics Line	TL	Top of Lid
DB	Drain Box	ICV	Irrigation Control Valve	TLB	Top of Light
DI	Drain Inlet	MH	Manhole	B	Base
DS	Drainage Swale	MS	Mow Strip	TW	Top of Wall
EMS	Energy Management System	OC	On Center	Typ.	Typical
E	Electrical Power	P	Pavement	UNO	Unless Noted Otherwise
EJ	Expansion Joint, 1/2"	P1-P4	Electrical Utility Box	VG	Valley Gutter
F	Fire Protection	PIV	Post Indicator Valve	W	Waste
FD	Floor Drain	PL	Planter	WV	Water Valve
FDC	Fire Dept Connection	R	Radius		
		RWL	Rain Water Leader		

NOTES

1) CAST-IN-PLACE CONCRETE, all concrete walk joints shall be expansion joints unless otherwise noted. Provide expansion joints where walk abuts other site elements.
2) For PLUMBING, See Plumbing Drawings; ELECTRICAL, See Electrical Drawings.
3) For Vertical Controls of new utilities, See Detail (J14 SD/A308)
4) IDENTIFYING DEVICES, For Site Signage refer (A1 SD/A701) to and Specifications
5) CAST-IN-PLACE CONCRETE, Concrete Apron. Provide concrete aprons at all utility boxes See Detail (L6 SD/A308)

E18 — Site Plan Legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
OVERALL SITE PLAN
Drawing

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LICENSED ARCHITECT MICHAEL K. FENNELL No. C23724 REG. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

SD/A100 (1)

A1 — Overall Site Plan
1" = 60'-0"

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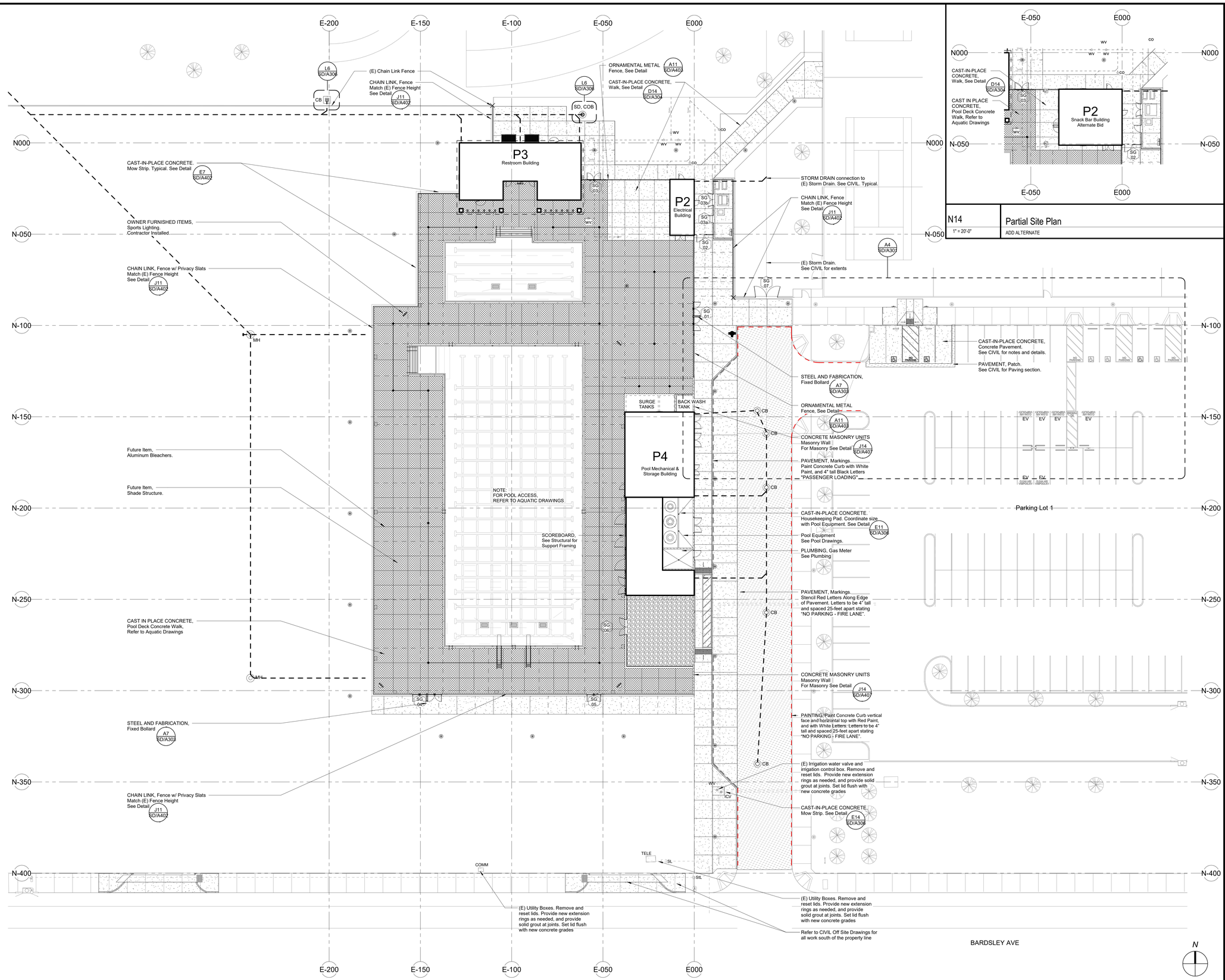

N14 — Partial Site Plan
1" = 20'-0"
ADD ALTERNATE

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- PAVEMENT, Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- PAVEMENT, Heavy Duty Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- CAST-IN-PLACE CONCRETE, 4" Concrete Walk over 6" 90% Compacted Fill. See Civil Drawings for Grades. (D14 SD/A304)
- CAST-IN-PLACE CONCRETE, Pool Deck Concrete Walk. See Pool Drawings for details and grading. See Pool Concrete Specification for mix design and waterproofing admixture
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- PAINTING, Paint Concrete Curb vertical face and horizontal top with Red Paint, and with White Letters. Letters to be 4" tall and spaced 25-feet apart stating "NO PARKING - FIRE LANE".
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- Building Outline
- Property Line
- STORM DRAINAGE See CIVIL Drawings
- Pipe/Utility
- Covered Area
- Grade Break
- Existing
- Drainage Swale
- Slope (DN) — General Direction of Slope
- ELECTRICAL, Existing Light Pole
- Site, Tombstone
- ELECTRICAL, Sports Lighting, See Electrical
- 101 a — Opening Group No. Refer to Site Opening Schedule
- 3a6 — Finish Grade Contour
- CB — STORM DRAINAGE, Catch Basin or Drain Box
- DB — STORM DRAINAGE, Drain Box
- DI — STORM DRAINAGE, Drain Inlet
- TD — STORM DRAINAGE, Trench Drain
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ABBREVIATIONS

(E)	Existing	FF	Finish Floor	SD	Storm Drain
AC	Air Conditioning System	FG	Finish Grade	SL	Site Lighting
AD	Area Drain, (See Plumbing)	FL	Flow Line	StL	Street Lighting
BW	Back of Walk	FMFCD	Fresno Metropolitan Flood Control District	S	Signal
C	Concrete	FS	Floor Sink	SS	Sanitary Sewer
CB	Catch Basin	G	Gas	TB	Top of Bench
CJ	Control Joint	GT	Gutter	TC	Top of Curb
CM	Communications	GB	Grade Break	TD	Trench Drain
COB	Clean Out Box	RG	Rough Grade	TELE	Telephone
COMM	Communications	HPG	High Pressure Gas	TG	Top of Grate
CW	Cold Water	HL	Hydronics Line	TF	Top of Fence
DB	Drain Box	ICV	Irrigation Control Valve	TL	Top of Lid
DI	Drain Inlet	MH	Manhole	TLB	Top of Light
DS	Drainage Swale	MS	Mow Strip		Base
EMS	Energy Management System	OC	On Center	TW	Top of Wall
E	Electrical Power	P	Pavement	Typ.	Typical
EJ	Expansion Joint, 1/2"	P1-P4	Electrical Utility Box	UNO	Unless Noted Otherwise
F	Fire Protection	PIV	Post Indicator Valve	VG	Valley Gutter
FD	Floor Drain	PL	Planter	W	Waste
FDC	Fire Dept Connection	R	Radius	WV	Water Valve
		RWL	Rain Water Leader		

NOTES

1) CAST-IN-PLACE CONCRETE, all concrete walk joints shall be expansion joints unless otherwise noted. Provide expansion joints where walk abuts other site elements.
2) For PLUMBING, See Plumbing Drawings; ELECTRICAL, See Electrical Drawings.
3) For Vertical Controls of new utilities, See Detail J14 SD/A308
4) IDENTIFYING DEVICES, For Site Signage refer A1 SD/A701 to and Specifications
5) CAST-IN-PLACE CONCRETE, Concrete Apron. Provide concrete aprons at all utility boxes. See Detail L6 SD/A308

E18 — Site Plan Legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
PARTIAL SITE PLAN
Drawing

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LICENSED ARCHITECT MICHAEL K. FERRARO No. C23724 Ren. 4-30-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: 1" = 20'-0"
Project Number: 2180
Date: 03/28/2023

SD/A101 (1)

A1 — Partial Site Plan
1" = 20'-0"

8/18/2023 4:28:59 PM
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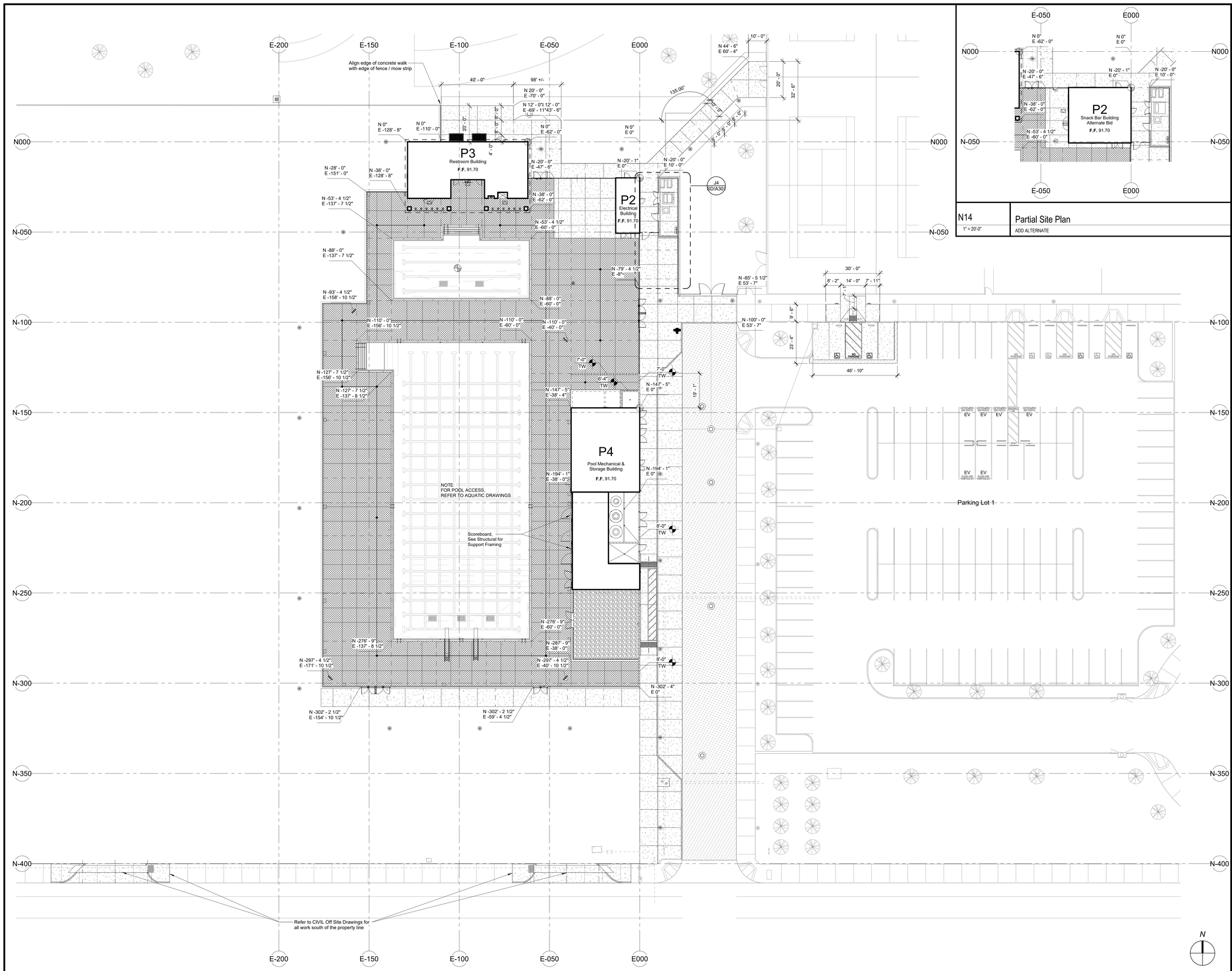

N14
1" = 20'-0"

Partial Site Plan
ADD ALTERNATE

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- PAVEMENT, Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- PAVEMENT, Heavy Duty Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- CAST-IN-PLACE CONCRETE, 4" Concrete Walk over 6" 90% Compacted Fill. See Civil Drawings for Grades. (D14 SD/A304)
- CAST-IN-PLACE CONCRETE, Pool Deck Concrete Walk. See Pool Drawings for details and grading. See Pool Concrete Specification for mix design and waterproofing admixture
- SELECTIVE DEMOLITION, Areas of sensitive trenching for Utility Trenches and areas of congestion and existing underground utilities, that require trenching. Provide utility location service and shop drawings. The areas indicated on this plan represents the approximate zones that might be required. Actual site conditions will define other areas required.
- PAVEMENT, Crushed Stone Surfacing. Sub-grade preparation, with Geotextile Fabric, Stabilized DG 4 inches and compacted with a roller to a smooth surface. Soil Binder by Stabilizer Solutions Inc.
- PAINTING, Paint Concrete Curb vertical face and horizontal top with Red Paint, and with White Letters. Letters to be 4" tall and spaced 25-feet apart stating "NO PARKING - FIRE LANE".
- PAINTING, Paint Concrete Curb vertical face and horizontal top with White Paint, and with Black Letters. Letters to be 4" tall and spaced 25-feet apart stating "BUS LOADING AND PARKING".
- PAINTING, Paint Concrete Curb vertical face and horizontal top with White Paint, and with Black Letters. Letters to be 4" tall and spaced 25-feet apart stating "5-MINUTE DROP OFF ZONE".

- Building Outline
- Property Line
- STORM DRAINAGE See CIVIL Drawings
- Pipe/Utility
- Covered Area
- Grade Break
- Existing
- Drainage Swale
- Slope (DN)
- ELECTRICAL, Existing Light Pole
- Site, Tombstone
- ELECTRICAL, Sports Lighting, See Electrical
- Opening Group No. Refer to Site Opening Schedule
- Finish Grade Contour
- CB — STORM DRAINAGE, Catch Basin or Drain Box
- DB — STORM DRAINAGE, Drain Box
- DI — STORM DRAINAGE, Drain Inlet
- TD — STORM DRAINAGE, Trench Drain
- FH — PLUMBING, Fire Hydrant
- FDC — PLUMBING, Fire Department Connection (Siamese)
- PIV — PLUMBING, Post Indicator Valve
- CO — PLUMBING, Clean Out,
- CO — CIVIL, Sewer Clean Out,
- SOV — PLUMBING, Shut Off Valve,
- ELECTRICAL, Pole Light Fixture,

ABBREVIATIONS

(E)	Existing	FF	Finish Floor	SD	Storm Drain
AC	Air Conditioning System	FG	Finish Grade	SL	Site Lighting
AD	Area Drain, (See Plumbing)	FL	Flow Line	StL	Street Lighting
BW	Back of Walk	FMFCD	Fresno Metropolitan Flood Control District	S	Signal
C	Concrete			SS	Sanitary Sewer
CB	Catch Basin	FS	Floor Sink	TB	Top of Bench
CJ	Control Joint	G	Gas	TC	Top of Curb
CM	Communications	GT	Gutter	TD	Trench Drain
COB	Clean Out Box	GB	Grade Break	TELE	Telephone
COMM	Communications	RG	Rough Grade	TG	Top of Grate
CW	Cold Water	HPG	High Pressure Gas	TF	Top of Fence
DB	Drain Box	HL	Hydronics Line	TL	Top of Lid
DI	Drain Inlet	ICV	Irrigation Control Valve	TLB	Top of Light
DS	Drainage Swale	MH	Manhole		Base
EMS	Energy Management System	MS	Mow Strip	TW	Top of Wall
E	Electrical Power	OC	On Center	Typ.	Typical
EJ	Expansion Joint, 1/2"	P	Pavement	UNO	Unless Noted Otherwise
F	Fire Protection	P1-P4	Electrical Utility Box		
FD	Floor Drain	PIV	Post Indicator Valve	VG	Valley Gutter
FDC	Fire Dept Connection	PL	Planter	W	Waste
		R	Radius	WV	Water Valve
		RWL	Rain Water Leader		

NOTES

1) CAST-IN-PLACE CONCRETE, all concrete walk joints shall be expansion joints unless otherwise noted. Provide expansion joints where walk abuts other site elements.
2) For PLUMBING, See Plumbing Drawings; ELECTRICAL, See Electrical Drawings.
3) For Vertical Controls of new utilities, See Detail J14 SD/A308
4) IDENTIFYING DEVICES, For Site Signage refer A1 SD/A701 to and Specifications
5) CAST-IN-PLACE CONCRETE, Concrete Apron. Provide concrete aprons at all utility boxes. See Detail L8 SD/A308

E18 — Site Plan Legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
PARTIAL SITE DIMENSION PLAN
Drawing

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LICENSED ARCHITECT MICHAEL K. FERNANDES No. C23724 REN. 4-30-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF
Scale: 1" = 20'-0"
Project Number: 2180
Date: 03/28/2023

SD/A201 (1)

A1 — Partial Site Plan
1" = 20'-0"

8/18/2023 4:29:06 PM
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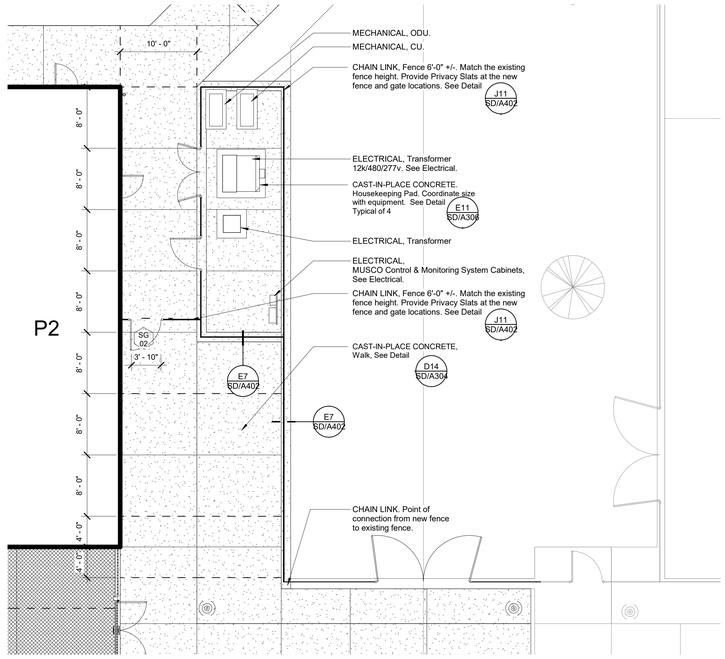
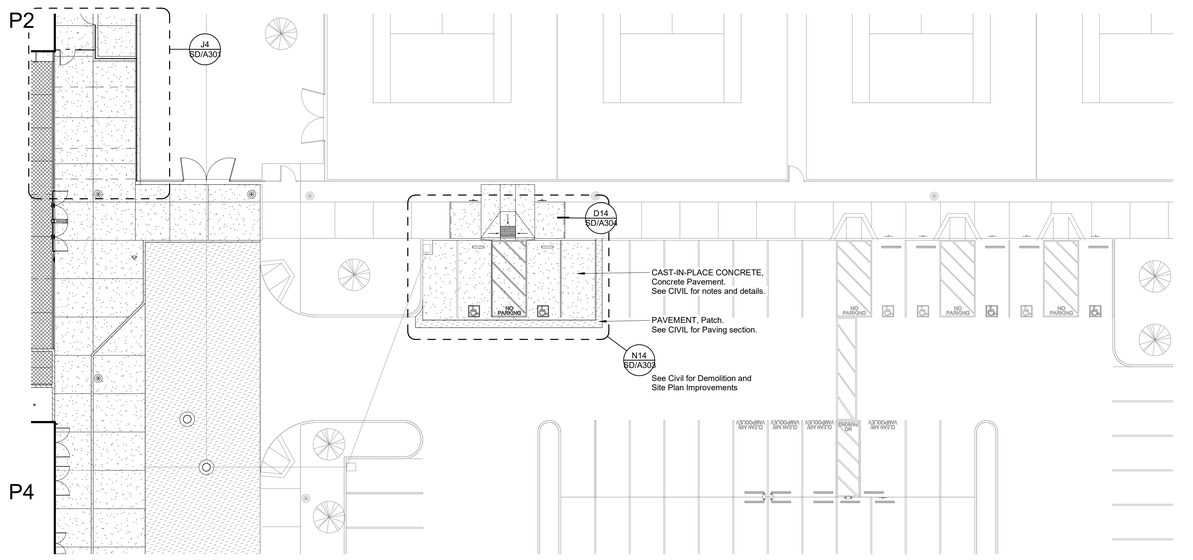


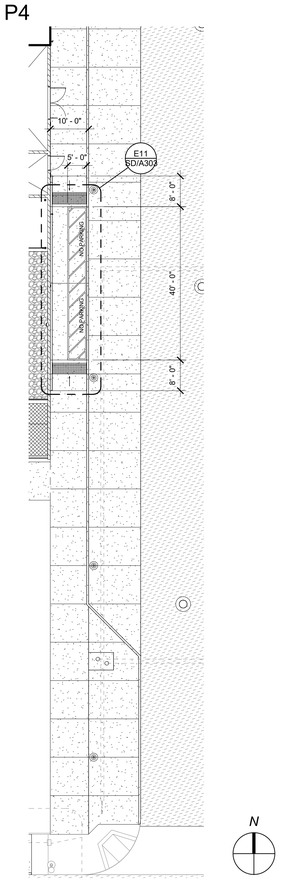
J4
1/8" = 1'-0"

Partial Site Plan, Chain Link Enclosure



A4
1/16" = 1'-0"

Enlarges Site Plan, Accessible Parking



A14
1/16" = 1'-0"

Enlarged Site Plan, Bus Drop Off Lane

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- PAVEMENT, Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- PAVEMENT, Heavy Duty Asphalt Paving and Aggregate Base. See Civil Plans for Paving Section and compacted subgrade requirements.
- CAST-IN-PLACE CONCRETE, 4" Concrete Walk over 6" 90% Compacted Fill. See Civil Drawings for Grades. (D14 SD/A304)
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- Building Outline
- Property Line
- STORM DRAINAGE See CIVIL Drawings
- Pipe/Utility
- Covered Area
- Grade Break
- Existing
- Drainage Swale
- Slope (DN) — General Direction of Slope
- ELECTRICAL, Existing Light Pole
- Site, Tombstone
- ELECTRICAL, Sports Lighting, See Electrical
- 101 a — Opening Group No. Refer to Site Opening Schedule
- 388 — Finish Grade Contour
- CB — STORM DRAINAGE, Catch Basin or Drain Box
- DB — STORM DRAINAGE, Drain Box
- DI — STORM DRAINAGE, Drain Inlet
- TD — STORM DRAINAGE, Trench Drain
- FH — PLUMBING, Fire Hydrant
- FDC — PLUMBING, Fire Department Connection (Siamese)
- PIV — PLUMBING, Post Indicator Valve
- CO — PLUMBING, Clean Out,
- CO — CIVIL, Sewer Clean Out,
- SOV — PLUMBING, Shut Off Valve,
- ELECTRICAL, Pole Light Fixture,

ABBREVIATIONS

(E)	Existing	FF	Finish Floor	SD	Storm Drain
AC	Air Conditioning System	FG	Finish Grade	SL	Site Lighting
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EJ	Expansion Joint, 1/2"	P	Pavement	UNO	Unless Noted Otherwise
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		R	Radius	WV	Water Valve
		RWL	Rain Water Leader		

NOTES

1) CAST-IN-PLACE CONCRETE, all concrete walk joints shall be expansion joints unless otherwise noted. Provide expansion joints where walk abuts other site elements.
2) For PLUMBING, See Plumbing Drawings; ELECTRICAL, See Electrical Drawings.
3) For Vertical Controls of new utilities, See Detail (J14 SD/A306)
4) IDENTIFYING DEVICES, For Site Signage refer (A1 SD/A701) to and Specifications
5) CAST-IN-PLACE CONCRETE, Concrete Apron. Provide concrete aprons at all utility boxes. See Detail (L6 SD/A308)

E18
No Scale

Site Plan Legend

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
ENLARGED SITE PLANS
Drawing

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LICENSED ARCHITECT MICHAEL K. FENNELL No. C23724 REG. 4-30-23 STATE OF CALIFORNIA
Architect

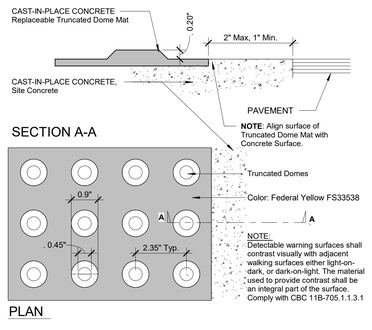
No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

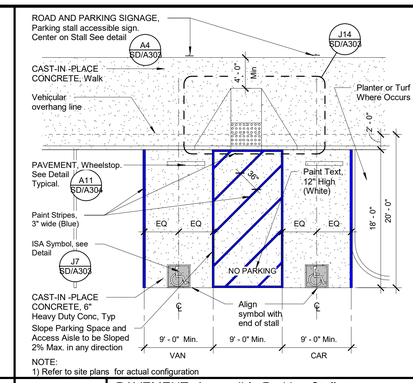
SD/A301 (1)



N11

6" = 1'-0"

CAST-IN-PLACE CONCRETE, Truncated Domes



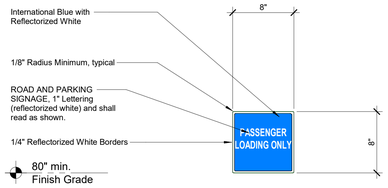
NOTE:
1) Refer to site plans for actual configuration

N14

1/8" = 1'-0"

PAVEMENT, Accessible Parking Stall at Perpendicular Curb Ramp

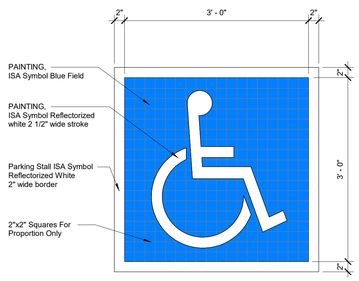
NOT USED



J4

1 1/2" = 1'-0"

ROAD AND PARKING SIGNAGE, Passenger Loading Only

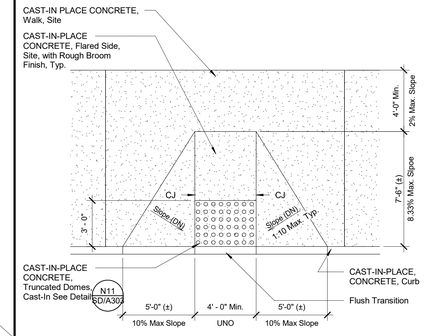


J7

1" = 1'-0"

PAVMENT, ISA Symbol @ Parking Stall

NOT USED

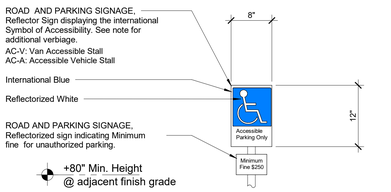


J14

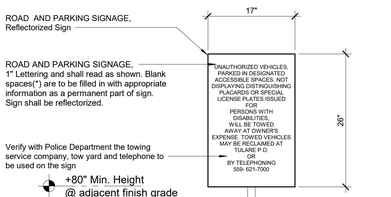
1/4" = 1'-0"

CAST-IN-PLACE CONCRETE, Accessible Ramp @ Curb

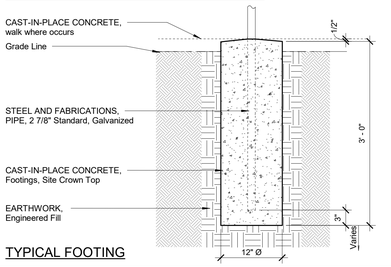
NOT USED



PARKING STALL ACCESSIBLE SIGN



PARKING ENTRANCE ACCESSIBLE SIGN

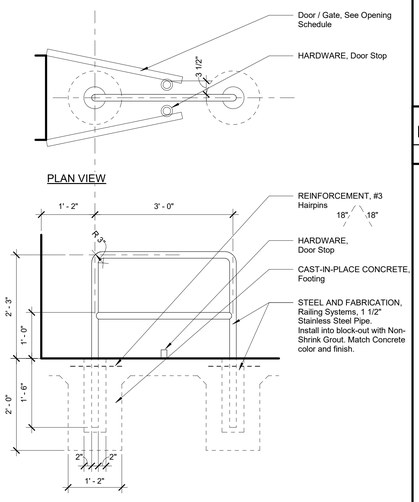


TYPICAL FOOTING

A4

1" = 1'-0"

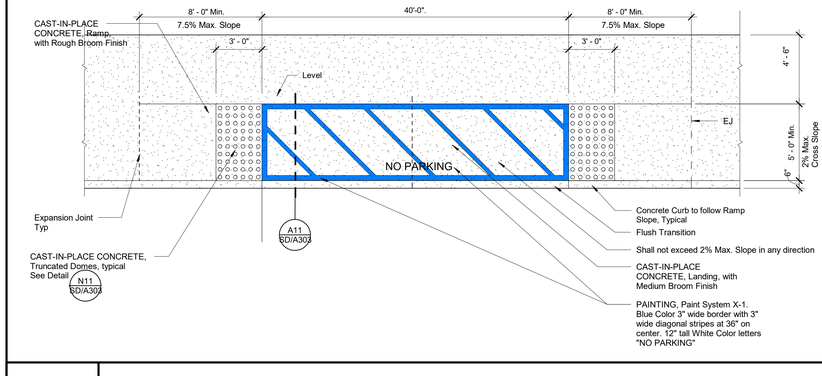
ROAD AND PARKING SIGNAGE, Accessible Parking & Entrance Sign



A7

3/4" = 1'-0"

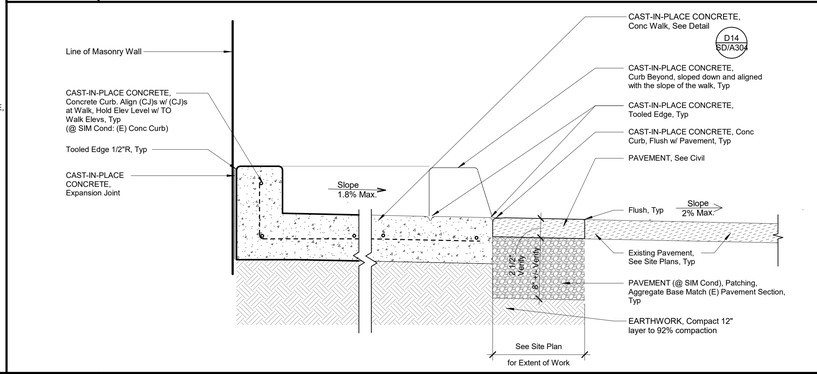
STEEL AND FABRICATIONS Doorstop Bollard



E11

1/4" = 1'-0"

CAST-IN-PLACE CONCRETE, Drop Off Lane



A11

1 1/2" = 1'-0"

SD-A404 Accessible Drop Off Section

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

SITE DEVELOPMENT
DETAILS - ACCESSIBLE ELEMENTS

Drawing

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LICENSED ARCHITECT MICHAEL K. FONG No. C23724 Exp. 4-30-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF

Scale: As indicated
Drawn By: FM
Project Number: 2180
Checked By: -
Date: 03/28/2023
Reviewed By: MF

SD/A303

Sheet: _____ of: _____

8/18/2023 4:29:11 PM
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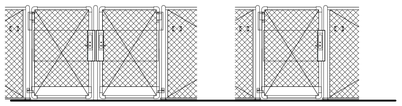
Opening Schedule - Site

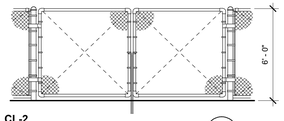
Door No.	Frame Type	Size			Door Material	Hardware					Comments
		Width	Height	Thickness		Head	Jamb	Threshold	Group	Keying Room No	
SG 01	OM-1	15' - 6"	8' - 0"	2"	ORNAMENTAL METAL	-	A10-SD/A404	E1-SD/A404	982OM	-	2
SG 02	ACL-1	4' - 0"	6' - 0"	1 3/4"	CHAIN LINK	-	J11-SD/A402	A4-SD/A402	98G		3
SG 03	OM-2	7' - 9"	8' - 0"	2"	ORNAMENTAL METAL	-	A4-SD/A404	E1-SD/A404	982OM	-	1
SG 03a	CL-1	4' - 0"	6' - 0"	1 3/4"	CHAIN LINK	-	J11-SD/A402	A4-SD/A402	-		4
SG 03b	CL-2	6' - 0"	6' - 0"	1 3/4"	CHAIN LINK	-	J11-SD/A402	A4-SD/A402	-		5
SG 04	OM-1	15' - 6"	8' - 0"	2"	ORNAMENTAL METAL	-	A10-SD/A404	E1-SD/A404	982OM	-	2
SG 05	OM-2	7' - 9"	8' - 0"	2"	ORNAMENTAL METAL	-	A4-SD/A404	E1-SD/A404	982OM	-	1
SG 06	CL-2	8' - 0"	8' - 0"	1 3/4"	CL	-	J11-SD/A402	A4-SD/A402	998G	-	
SG 07	CL-2	12' - 0"	8' - 0"	1 3/4"	Chainlink	-	J11-SD/A402	A4-SD/A402	998G	-	

J7 | Opening Schedule Site Gates

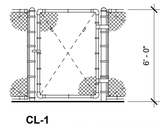


ACL-2
CHAIN LINK, Pair of Accessible Gates (J11 / SD/A402)

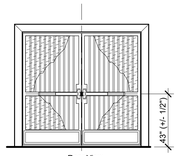
ACL-1
CHAIN LINK, Accessible Gate (J11 / SD/A402)



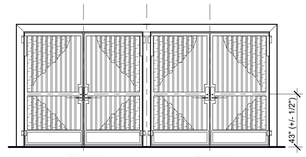
CL-2
CHAIN-LINK: PAIR OF SERVICE GATES (J11 / SD/A402)



CL-1
CHAIN-LINK: SINGLE SERVICE GATE (J11 / SD/A402)



OM-2
ORNAMENTAL METAL: PAIR OF ACCESSIBLE POOL GATES
W/ REMOVABLE MULLION (A4 / SD/A404)



OM-1
ORNAMENTAL METAL: DOUBLE PAIR OF ACCESSIBLE GATES
W/ REMOVABLE MULLION (A10 / SD/A404)

A7 | SITE GATE OPENING TYPES
1/4" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

ABBREVIATIONS:

SG	- Steel Gate	SS	- Stainless Steel
STL	- Steel	CL	- Chain Link
HM	- Hollow Metal	GALV	- Galvanized Finish
SG	- Site Gate	S&F	- Steel and Fabrications
SPF	- Steel Post Fence	OM	- Ornamental Metal

GENERAL NOTES:

1. This schedule is provided for the convenience of the General Contractor. Dimensions indicated are nominal dimensions.
2. The General Contractor is responsible for all coordination and review of drawings and verifying all field conditions and dimensions prior to fabrication. Not all detail references are included in the schedule.
3. All details, materials and finishes shall be considered typical for all similar conditions unless noted otherwise.
4. Gate Types are shown on This Sheet.
5. Frame Types are shown on This Sheets.
6. Exit Doors shall be operable from inside without the use of a key or any special knowledge or effort.
7. Method of EMERGENCY SERVICES ACCESS: By Means of the Master Key locked in a MISCELLANEOUS SPECIALTIES, Knox Box located at the Main Entrance of the ADMINISTRATION BUILDING G.

OPENING SCHEDULE COMMENTS:

1. ORNAMENTAL METAL. Pair of accessible pool gates, with a set of door bumpers. See Details. (N1 / SD/A404)
2. ORNAMENTAL METAL. Two (2) pair of accessible pool gates, with a set of door bumpers and a fixed bollard / railing. See Details. (N1 / SD/A404) (A7 / SD/A303)
3. CHAIN LINK. Accessible Gate with Privacy Slats, and Door Stop / Holder. See (J7 / SD/A402)
4. CHAIN LINK. Maintenance gate with butterfly latch, padlock and Privacy Slats
5. CHAIN LINK. Pair of maintenance gates with drop rod, butterfly latch, padlock and privacy slats
6. ORNAMENTAL METAL. Pair of maintenance pool gates
7. STEEL AND FABRICATIONS, Bus lane gates.

DSA REVIEW:

1. "Open Mesh Fences", "Ornamental Metal Fencing", and "Solid Clad Fences" per California Administrative Code Sec. 4-314 are exempt from DSA review and not part of the DSA Structural Safety approval.
2. DSA IR A-22, Item 12 "Open Mesh Fences", requires only DSA Access review and approval for gates and access.

J18 | Opening Schedule Legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
SITE OPENING SCHEDULE
Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF
Scale: 1/4" = 1'-0"
Project Number: 2180
Date: 03/28/2023

SD/A401

8/18/2023 4:29:15 PM
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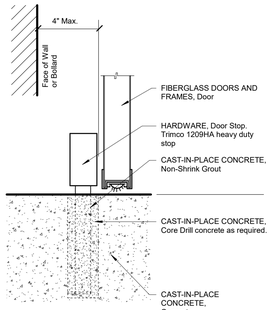
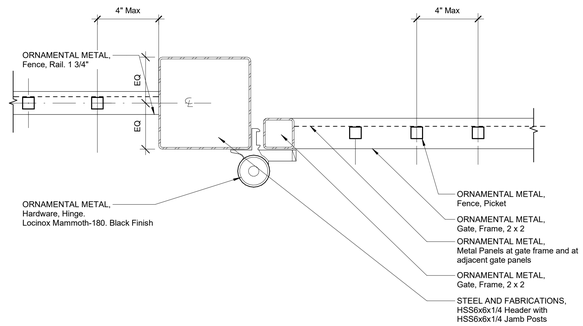


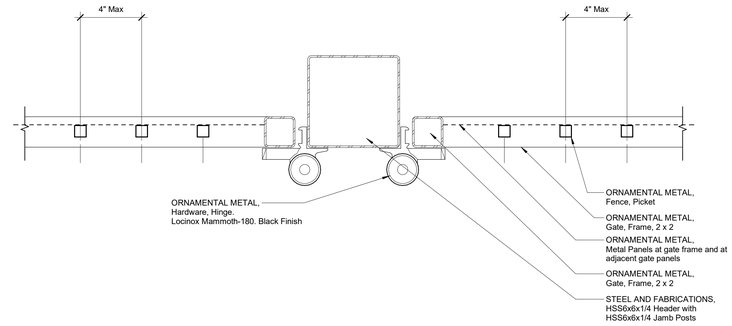
N1 — HARDWARE, Door Stop Bumper

3" = 1'-0"



N4 — ORNAMENTAL METAL, Hinge Detail

3" = 1'-0"



N11 — ORNAMENTAL METAL, Hinge Detail

3" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

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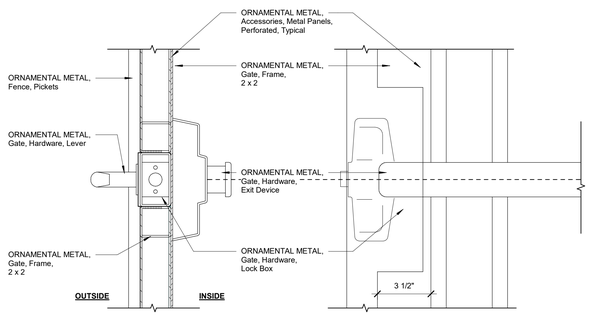
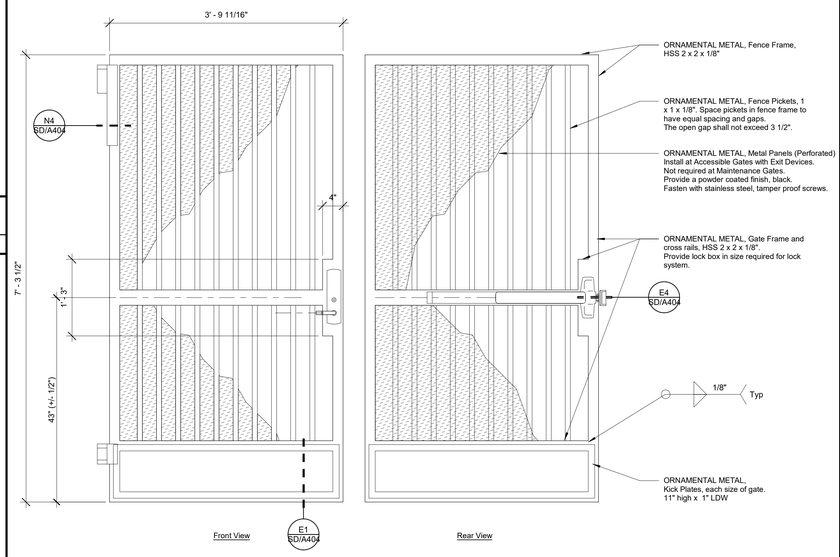


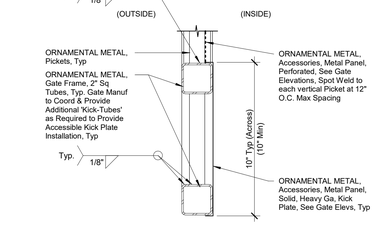
J4 — ORNAMENTAL METAL, Gate Latch Enclosure Section

3" = 1'-0"



E11 — ORNAMENTAL METAL, Accessible Gate Enlarged

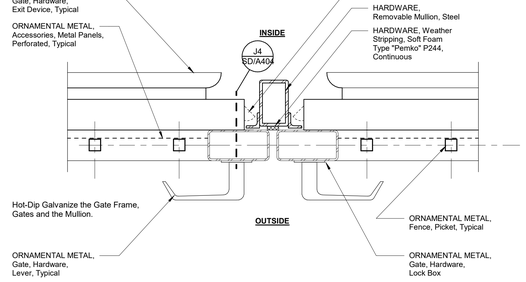
1" = 1'-0"



Note: All welds to be 1/8" Fillet Minimum, Unless Noted Otherwise

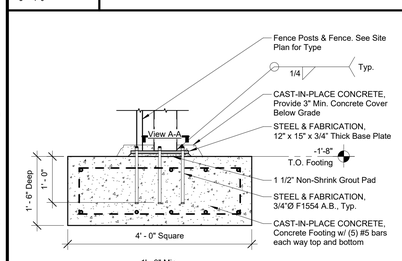
E1 — ORNAMENTAL METAL, Sill Section Accessible

3" = 1'-0"



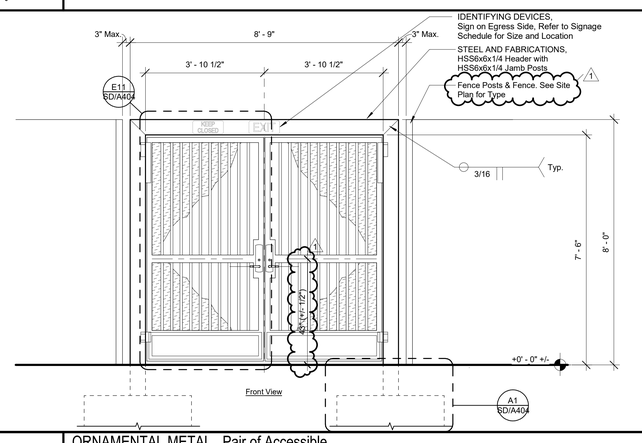
E4 — ORNAMENTAL METAL, Accessible Gate Strike at Double Gate

3" = 1'-0"



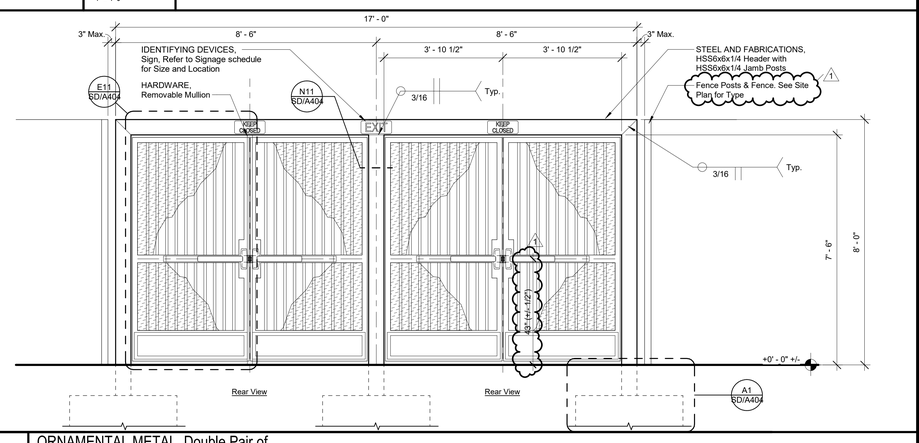
A1 — STEEL & FABRICATION, Gate Foundation and Base Plate

3/4" = 1'-0"



A4 — ORNAMENTAL METAL, Pair of Accessible Pool Gates

1/2" = 1'-0"



A10 — ORNAMENTAL METAL, Double Pair of Accessible Pool Gates

1/2" = 1'-0"

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
DETAILS - ORNAMENTAL METAL ACCESSIBLE GATES
Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

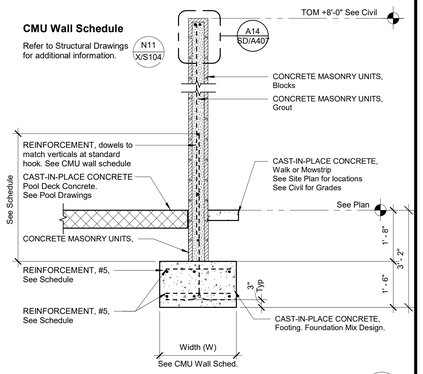
Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

SD/A404

CMU Wall Schedule

Refer to Structural Drawings for additional information. N11 X/S104

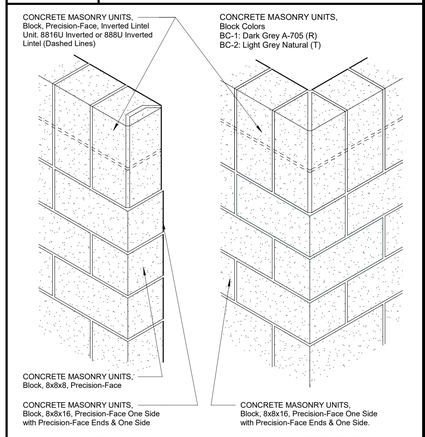


Typical Masonry Wall Detail

Refer to Structural Drawings for additional information. N11 X/S104

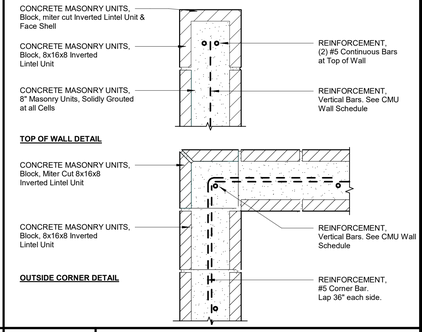
J14 — CONCRETE MASONRY UNITS, Wall & Footing Details

1/2" = 1'-0"



CMU WALL @ END OF WALL

CMU WALL @ OUTSIDE CORNER



TOP OF WALL DETAIL

OUTSIDE CORNER DETAIL

A14 — CONCRETE MASONRY UNITS, CMU Details

1 1/2" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

SITE DEVELOPMENT
DETAILS - ENCLOSURE DETAILS

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Architect

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Revision

Designed By: MF
Drawn By: FM
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Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

SD/A407 (1)

Sheet: of

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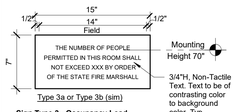
Signage Schedule Site

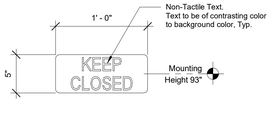
Building	Sign Mark	Sign Type	Sign Material	Sign Copy Line 1	Sign Copy Line 2	Sign Copy Line 3	Sign Copy Line 4	Sign Copy Line 5	Mtg Height	Mtg Cond	Remarks
SITE	SG01c	3b	EM	THE NUMBER OF PEOPLE	PERMITTED ON THE POOL DECK	SHALL NOT EXCEED	2814 BY ORDER OF THE	STATE FIRE MARSHALL	6' - 0"	3	See Exterior Elevation A1-P/A402
SITE	SG01e	3b	EM	THE NUMBER OF PEOPLE	PERMITTED IN THE COMPETITION POOL	SHALL NOT EXCEED	256 BY ORDER OF THE	STATE FIRE MARSHALL	5' - 4"	3	See Exterior Elevation A1-P/A402
SITE	SG01f	3b	EM	THE NUMBER OF PEOPLE	PERMITTED IN THE WARM UP POOL	SHALL NOT EXCEED	51 BY ORDER OF THE	STATE FIRE MARSHALL	4' - 8"	3	See Exterior Elevation A1-P/A402
SITE	SG01b	6a	EM	EXIT	N/A	N/A	-	-	5' - 0"	6	-
SITE	SG02b	6a	EM	EXIT	N/A	N/A	-	-	5' - 0"	6	-
SITE	SG04b	6a	EM	EXIT	N/A	N/A	-	-	5' - 0"	6	-
SITE	SG05b	6a	EM	EXIT	N/A	N/A	-	-	5' - 0"	6	-
SITE	SG06b	6a	EM	EXIT	N/A	N/A	-	-	5' - 0"	6	-
SITE	SG01a	21	EM	NOTICE	N/A	-	-	-	6' - 0"	6	-
SITE	SG04a	21	EM	NOTICE	N/A	-	-	-	6' - 0"	6	-
SITE	SG05a	21	EM	NOTICE	N/A	-	-	-	6' - 0"	6	-
SITE	SG06a	21	EM	NOTICE	N/A	-	-	-	6' - 0"	6	-
SITE	SG01c	22a	EM	EXIT	N/A	N/A	N/A	-	7' - 9"	6	-
SITE	SG02a	22a	EM	EXIT	N/A	N/A	N/A	-	7' - 9"	6	-
SITE	SG04c	22a	EM	EXIT	N/A	N/A	N/A	-	7' - 9"	6	-
SITE	SG04d	22a	EM	KEEP	CLOSED	N/A	N/A	-	7' - 9"	6	-
SITE	SG05c	22a	EM	EXIT	N/A	N/A	N/A	-	7' - 9"	6	-
SITE	SG06c	22a	EM	EXIT	N/A	N/A	N/A	-	7' - 9"	6	-
SITE	SG01d	23a	EM	KEEP	CLOSED	N/A	N/A	-	7' - 9"	6	-
SITE	SG01e	23a	EM	KEEP	CLOSED	N/A	N/A	-	7' - 9"	6	-
SITE	SG05d	23a	EM	KEEP	CLOSED	N/A	N/A	-	7' - 9"	6	-
SITE	SG05e	23a	EM	KEEP	CLOSED	N/A	N/A	-	7' - 9"	6	-
SITE	SG06d	23a	EM	KEEP	CLOSED	N/A	N/A	-	7' - 9"	6	-

L1 — Signage Schedule

No Scale — Refer to L18 for Schedule Legend

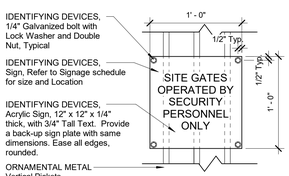


Sign Type 3 - Occupancy Load



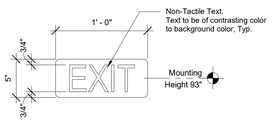
ELEVATION

Sign Type 23 - Site Gate Sign



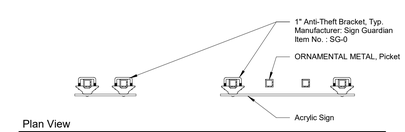
ELEVATION

Sign Type 20 - Site Gate Sign

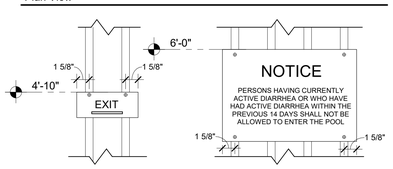


ELEVATION

Sign Type 22 - Site Gate Sign



Plan View



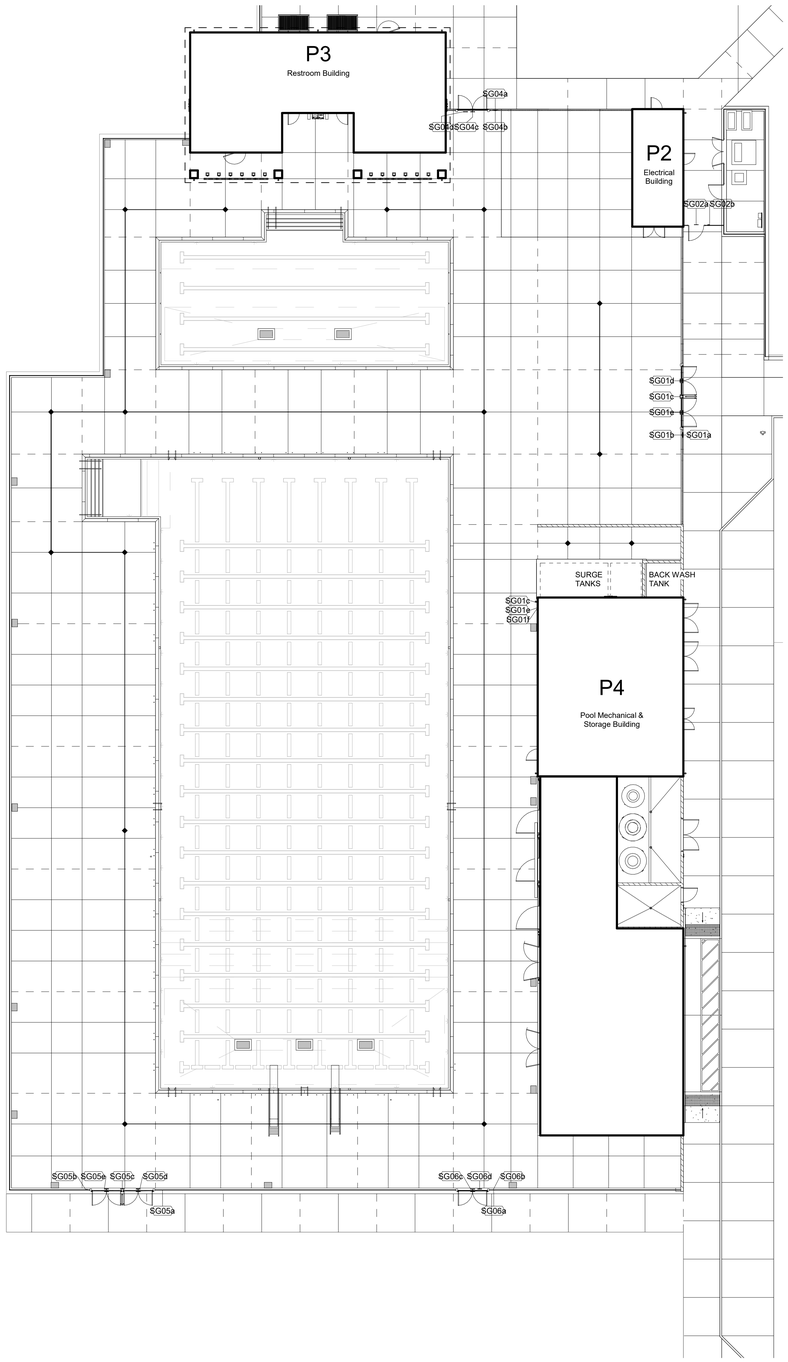
ELEVATION

Sign Type 21 - Pool Notice Sign

NOTES:
1. Mounting Locations and Heights are typical, UON.
2. Mount Signs such that the baseline of the highest raised character is 59" Max above finish floor, verify the baseline of the lowest line of braille is a Min of 48" above finish floor.
3. Refer Specification Section IDENTIFYING DEVICES and Signage Schedule for the Sign Copy

A1 — IDENTIFYING DEVICES, Signage Locations and Dimensions

1 1/2" = 1'-0"



A7 — Signage Site Plan

1/16" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

MOUNTING CONDITION

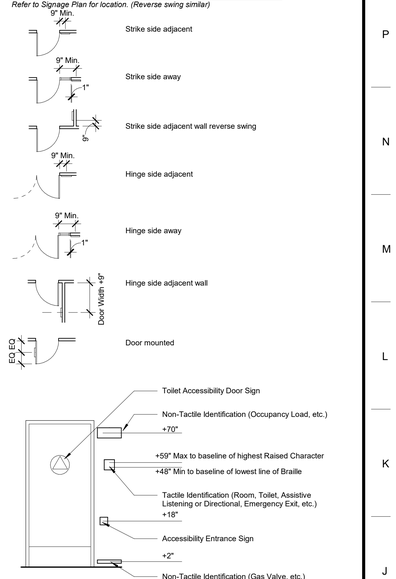
1. Metal Stud Framed Wall
2. Wood Stud Framed Wall
3. Concrete and Concrete Masonry
4. Glass
5. Door
6. See Plan

SIGN MATERIAL

A	=	Acrylic
EM	=	Exterior Metal.
IM	=	Interior Metal.
EP	=	Exterior Plastic.
IP	=	Interior Plastic.
D	=	Decal.

MOUNTING LOCATION

Refer to Signage Plan for location. (Reverse swing similar)



Typical Mounting Heights

Scale: N.T.S.

NOTES

1. Refer to Specification Section IDENTIFYING DEVICES.
2. Refer to Plan for Mounting Location.
3. Verify Sign Copy with Owner prior to fabrication, "-" indicates a blank space
4. For IDENTIFYING DEVICES, Signage Dimensions, refer to detail A1 SD/A701

G18 — Signage Schedule Legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
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SITE DEVELOPMENT
SIGNAGE PLAN AND SCHEDULE
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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
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Scale: As indicated
Project Number: 2180
Date: 03/28/2023

SD/A701

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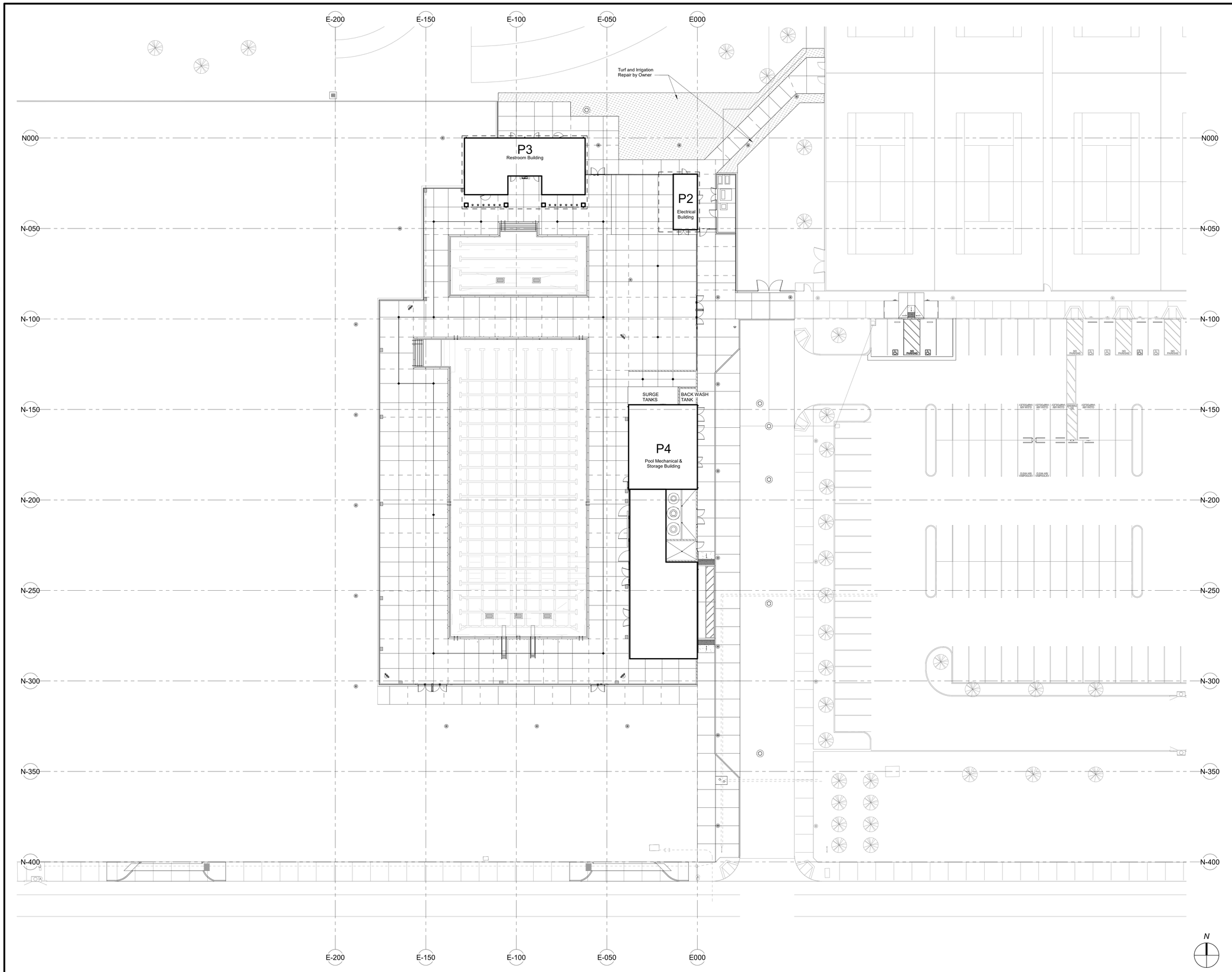

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

NOTES

No Turf & Irrigation work in the scope of project.
Level and grade earth according to civil drawings in preparation for turf in area to the north.
All landscaping repair work performed by the School District.

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
LANDSCAPING PLAN
Drawing

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LICENSED ARCHITECT JEFFREY K. FERRIOLI No. C23724 Exp. 4-30-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

		Designed By: MF	
Scale:	1" = 20'-0"	Drawn By: FM	
Project Number:	2180	Checked By: -	
Date:	03/28/2023	Reviewed By: MF	

SD/L101

A1
1" = 20'-0"

Partial Site Plan

8/18/2023 4:29:29 PM
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Interior Finish Schedule

Building P	Room Number	Room Name	Floor Finishes: CAST-IN-PLACE CONCRETE, Concrete Slab,	Floor Finishes: PAINT, Specialty Paint	Floor Finishes: POLISHED CONCRETE FINISHING, Polished Concrete	Floor Finishes: PAINT, Interior Concrete	Base Finishes: CAST-IN-PLACE CONCRETE, Concrete Curb, 6"	Base Finishes: CONCRETE MASONRY UNITS, Block	Base Finishes: RESILIENT BASE AND ACCESSORIES, Rubber Wall Base, 6"	Base Finishes: PAINT, Specialty Paint	Wall Finishes: CONCRETE MASONRY UNITS, Block,	Wall Finishes: GYPSUM BOARD, Water Resistant, (Texture GB-2)	Wall Finishes: WALL COVERINGS, Vinyl Covered Tackboard over Gypsum Board (GB-3)	Wall Finishes: FRP Panels over Gypsum Board, Water Resistant (GB-3)	Wall Finishes: WALLCOVERINGS, Solid Surface	Ceiling Finishes: ACOUSTICAL CEILINGS, Suspension System,	Ceiling Finishes: CEMENT PLASTER, System	Ceiling Finishes: GYPSUM BOARD, Wallboard (Texture GB-2),	Ceiling Finishes: METAL DECK, Metal Deck and Steel Beams,	Miscellanous Finishes: METAL DOORS AND FRAMES, Doors, Panels and Frames	Miscellanous Finishes: FIBERGLASS DOORS AND FRAMES, Doors, Frames, and Louvers	Miscellanous Finishes: CAST IN PLACE CONCRETE, Bench	Remarks
P2	P201a	Storage	-	-	GL3-GGLII	-	-	FF	FF	-	FF	DW-2	-	-	-	-	-	DW-5	M-2	-	-	-	-
P2	P203	Elect.	CFS	-	-	-	-	FF	-	-	FF	DW-2	-	-	-	-	-	DW-5	M-2	-	-	-	-
P2	P202	Fire Riser	CFS	-	-	-	CFS	-	-	-	-	DW-2	-	-	-	-	-	DW-5	-	M-2	-	-	-
P3	P301	Boys Shower	-	X-21	-	-	-	FF	-	X-21	FF	DW-2	-	FF	FF	-	-	DW-5	M-2	-	FF	X-21	1
P3	P302	Boys	-	X-21	-	-	-	FF	-	X-21	FF	DW-2	-	FF	-	-	-	DW-5	M-2	-	FF	X-21	1
P3	P304	Girls	-	X-21	-	-	-	FF	-	X-21	FF	DW-2	-	FF	-	-	-	DW-5	M-2	-	FF	X-21	1
P3	P305	Girls Shower	-	X-21	-	-	-	FF	-	X-21	FF	DW-2	-	FF	FF	-	-	DW-5	M-2	-	FF	X-21	1
P3	P306	Cust.	CFS	-	-	-	CFS	FF	-	-	-	DW-2	-	FF	-	-	-	-	M-2	-	FF	-	-
P3	P303	Fire Riser	CFS	-	-	-	CFS	-	-	-	-	DW-2	-	-	-	-	-	DW-5	-	M-2	-	-	-
P4	P401	Pool Equipment	-	-	-	CB-1	CB-1	FF	-	-	FF	DW-2	-	FF	-	-	-	DW-5	-	-	FF	-	-
P4	P402	Acid	-	X-20	-	-	-	FF	-	X-20	FF	DW-2	-	-	-	-	P-1	-	-	-	FF	-	1
P4	P403	Chlorine	-	X-20	-	-	-	FF	-	X-20	FF	DW-2	-	-	-	-	P-1	-	-	-	FF	-	1
P4	P404a	Storage	-	-	-	CB-1	CB-1	FF	-	-	FF	DW-2	-	-	-	-	-	-	M-2	-	-	-	-
P4	P404b	Storage	-	-	-	CB-1	CB-1	FF	-	-	FF	DW-2	-	-	-	-	-	-	M-2	-	-	-	-
P4	P404c	Storage	-	-	-	CB-1	CB-1	FF	-	-	FF	DW-2	-	-	-	-	-	-	M-2	-	-	-	-
P4	P404d	Storage	-	-	-	CB-1	CB-1	FF	-	-	FF	DW-2	-	-	-	-	-	-	M-2	-	-	-	-
P4	P404e	Storage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Interior Finish Schedule Alternate

P2	P205	Staff	-	X-21	-	-	-	FF	-	X-21	FF	DW-2	-	FF	-	-	-	DW-5	M-2	-	FF	-	1
P2	P204	Snack Bar	-	X-21	-	-	-	FF	-	X-21	FF	DW-2	-	FF	-	-	-	DW-5	M-2	M-2	FF	-	1
P2	P201a	Storage	-	-	GL3-GGLII	-	-	FF	FF	-	FF	DW-2	-	-	-	-	-	DW-5	M-2	-	-	-	-
P2	P205a	Cust.	CFS	-	-	-	CFS	-	-	-	-	DW-2	-	FF	-	-	-	DW-5	M-2	M-2	FF	-	-
P2	P203	Elect.	CFS	-	-	-	-	FF	-	-	FF	DW-2	-	-	-	-	-	DW-5	M-2	-	-	-	-
P2	P202	Fire Riser	CFS	-	-	-	CFS	-	-	-	-	DW-2	-	-	-	-	-	DW-5	-	M-2	-	-	-

1

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

ABBREVIATIONS

CFS	=	Clear Floor Sealer
FF	=	Factory Finish
GL	=	Gloss Level
GGL	=	Grind Grade Level
*	=	Refer To Remarks

Interior Paint Finishes:

Refer To Specification Section - PAINTING

CB#	=	Concrete or Concrete Masonry Units
P#	=	Cement Plaster, Veneer Plaster or Gypsum Plaster Finish
M#	=	Metal Finish
X#	=	Special Finishes

NOTES

1. Refer to appropriate Specification Sections for Materials, Systems and Types.
2. All Details, Materials and Finishes shall be considered "Typical" for all similar conditions, Unless Otherwise Noted.
3. Do not paint Fire Rated Door and Frame Rating Plates.
4. Refer to Interior Elevations for additional information.
5. This Schedule is provided for the convenience of the Contractor. Field verify all conditions and dimensions prior to fabrication, installation or application.
6. See Interior Color Schedule for Finish / Material Colors.
7. VAPOR-ALKALINITY CONTROL: Apply Vapor-Alkalinity Control Membrane System at all concrete slab areas scheduled to receive applied floor covering that are sensitive to and have requirements for limits of vapor transmission and pH levels."

J1 — Interior Finish Schedule
No Scale — Refer to J18 for Notes

J18 — Interior Finish Schedule Legend
No Scale

SITE DEVELOPMENT

MATERIAL	FINISH	REMARKS
PAVEMENT		
Asphalt Concrete	See Civil Drawings	
Striping and Markings	See Civil Drawings	
Wheelstops	See Civil Drawings	
CHAIN LINK		
Fences, Gates, Posts, Rails, Pickets, Gates and all Accessories	Galvanized	
CAST-IN-PLACE CONCRETE		
Curbs, Curb and Gutters, Mowstrips, Aprons, Valley Gutter, Housekeeping Pads, Site Light Pole Bases	Natural Cast Concrete	
Walks, Platforms, Steps, Ramps	Broom Finish	
Pool Deck Concrete	Medium Broom Finish	Broom strokes parallel with slope
Precast Benches	Natural Cast Concrete	
Concrete Seat Walls and Fence Walls	Sack and Patch	Tammspatch II
Fire Lane Concrete Curbs	Paint System X-1	Red Paint with 4" White Letters "FIRE LANE"
CONCRETE MASONRY UNITS		
Block, Block Veneer and Mortar	F.F. Ground Face Block	Integral Water-Repellent
STEEL AND FABRICATION		
Steel Gates and Frame, Rails Fencing and Gates, Supports Posts	EM-2 White	Hot Dipped Galvanized after Fabrication
Pipe Guard Rails	Brushed Stainless Steel	
Cane Rail at Bleachers	Hot Dipped Galvanized after Fabrication	
Display Wall Header Assembly (Alt Bid)	Powder Coated	
Display Wall Structure and Trellis (Alt Bid)	EM-2	
FIBERGLASS DOORS AND FRAMES		
Doors, Panels, Frames and Accessories	F.F. Color	
SHEET METAL		
Miscellaneous Flashings, Fence Parapet Caps	EM-2	
HARDWARE		
Steel Gates, Hinges, Hasps, Cane Bolts, etc.	EM-2	
Chain Link Gates, Hinges, Hasps, Cane Bolts, etc.	Galvanize	
Ornamental Gates, Hinges, Hasps, Cane Bolts, etc.	EM-2	
ORNAMENTAL METAL		
Fence, Gates, Accessories	EM-5	
SPORTS LIGHTING (MUSCO)		
Light Poles and Fixtures	F.F. Galvanized	
Pre-Cast Concrete Light Pole Bases	Sack and Patch	Tammspatch II
ALUMINUM BLEACHERS (aka Exterior Grandstands)		
Seats and Risers	F.F.	
SHADE STRUCTURES		
Fabric	F.F.	
Structure	F.F. Powder Coated Color	
TILE		
Ceramic Tile	CT-4	Exterior tile pattern. Refer to exterior elevations.

BUILDINGS

MATERIAL	FINISH	REMARKS
CAST-IN-PLACE CONCRETE		
Columns, Walls	Sack and Patch	Tammspatch II
CONCRETE MASONRY UNITS		
Block, Block Veneer and Mortar	F.F. Ground Face Block (Exterior Face)	Integral Water-Repellent
Block at Building Grille	ECB-2	
STEEL AND FABRICATION		
Columns, Beams, Lintels, Building Canopies, Sunshades	EM-2	Hot Dipped Galvanized after fabrication
Building Grilles	Powder Coated	Hot Dipped Galvanized after fabrication
Downspouts	EM-2	Hot Dipped Galvanized after fabrication
METAL DECK		
Metal Deck at Pool Storage, exposed to view surfaces.	EM-2	
METAL SHINGLES		
Exterior Roof, Accessories, Gutters, Trim, Flashing, All Misc. Profile Closure + Filler Shapes	F.F.	
SHEET METAL		
Architectural	EM-2	Exposed to all Viewing Angles
Utility	Galvanized	
Snack Bar Counter	Stainless Steel	
GLASS		
Insulated Glazing Panels	F.F.	
FIBERGLASS DOORS AND FRAMES		
Doors, Panels, Frames and Louvers	F.F., Custom Color	
ACCESS DOORS AND FRAMES		
Access Doors, Stainless Steel	F.F.	
CEMENT PLASTER		
Cement Plaster	EP-2	See Remark #2
Metal Accessories	EP-2	
MISCELLANEOUS SPECIALTIES		
Glassfiber Reinforced Cement Facia	EP-2	
PLUMBING		
Drinking Fountains	F.F. Stainless Steel	
MECHANICAL		
Exhaust Fans, Vent Stacks, Mechanical Units, & Misc.... Equipment	EM-2	See Remark 1
ELECTRICAL		
Exposed to View Conduits	EM-2	
Switchgear, Transformer, Light Fixtures, Fire Alarm Devices, Speakers.	F.F.	

ABBREVIATIONS:

F.F. = Factory Finish

Exterior Paint Finishes:
Refer to Specification Section - PAINTING

ECB-x	=	Concrete or Concrete Masonry Units
X-x	=	Specialty Finish
EM-x	=	Exterior Metal Finish
EW-x	=	Exterior Wood Finish
EP-x	=	Cement Plaster

NOTES:

1. Refer to Appropriate Specification Sections for Materials and Systems.
2. All Details. Material and Finishes Shall be Considered "Typical" for all Similar Conditions Unless Noted Otherwise.
3. Refer to Exterior Elevations for extent of materials and finishes, Includes Backs of Parapets, Typical.

REMARKS

1 Do not paint Mechanical Units Condensing Coils and Name Plates.

2 The CEMENT PLASTER system includes a Fiber Reinforced Cement Plaster with Embedded Mesh Reinforcing Coat, and Acrylic-Enhanced Cementitious Finish System. Provide mockup panel, and include product manufacture representatives for pre-construction and installation recommendations.

A1 — Exterior Finish Schedule
No Scale — Refer to A14 for Notes

A14 — Ext. Fin. Schedule Legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
INTERIOR & EXTERIOR FINISH SCHEDULE
Drawing

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LICENSED ARCHITECT MICHAEL K. FERRO No. C23724 Ren. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: PV/KT
Checked By:
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

X/A201

Opening Schedule Window

Building	Mark	Frame Type	Size		Material	Head	Jamb	Sill	Glazing Type	Comments
			Width	Height						
P3	P304 c	FG-14	2' - 0"	2' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver, 4
P4	P401 c	FG-11	4' - 0"	4' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver
P4	P401 d	FG-14	2' - 0"	2' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver, 4
P4	P401 e	FG-15	2' - 0"	2' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver, 4
P4	P401 f	FG-10	4' - 0"	6' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver
P4	P401 g	FG-11	4' - 0"	4' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver
P4	P401 h	FG-14	2' - 0"	2' - 0"	FG	J11-X/A402	E11-X/A402	A11-X/A402	-	Louver, 4

J1 — Window Schedule

No Scale

Opening Schedule Door

Building	Door No.	Frame Type	Size			Door Material	Door Type	Louver Type	Head	Jamb	Threshold	Hardware		Comments
			Width	Height	Thickness							Group	Keying Room No	
P2	P201a a	FG-3	5' - 8"	6' - 10"	1 3/4"	FG	PF	-	J7-X/A402	E7-X/A402	-	802	P201	3
P2	P202 a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F		E14-X/A402	A14-X/A402	E4-X/A402	80E	Exterior	3
P2	P203 a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F	-	E14-X/A402	A14-X/A402	E4-X/A402	80E	Exterior	3
P3	P301 a	FG-6	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	75E	Exterior	2
P3	P302 a	FG-6	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	99E	Exterior	3
P3	P302 b	FG-6	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	99E	Exterior	3
P3	P303 a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F		E14-X/A402	A14-X/A402	E4-X/A402	80E	Exterior	3
P3	P304 a	FG-6	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	99E	Exterior	3
P3	P304 b	FG-6	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	99E	Exterior	3
P3	P305 a	FG-6	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	75E	Exterior	2
P3	P306 a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F	-	E14-X/A402	A14-X/A402	E4-X/A402	80E	Exterior	3
P4	P401 a	FG-3	5' - 8"	6' - 10"	1 3/4"	FG	PF	-	E14-X/A402	A14-X/A402	E4-X/A402	802E	Exterior	3
P4	P401 b	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F	-	E14-X/A402	A14-X/A402	E4-X/A402	75E	Exterior	2
P4	P402 a	FG-5	7' - 8"	6' - 10"	1 3/4"	FG	PL	12" x 12"	E14-X/A402	A14-X/A402	E4-X/A402	802E	Exterior	3. Less door bottom and threshold, allowing water to drain under the door and outside.
P4	P403 a	FG-5	7' - 8"	6' - 10"	1 3/4"	FG	PL	12" x 12"	E14-X/A402	A14-X/A402	E4-X/A402	802E	Exterior	3. Less door bottom and threshold, allowing water to drain under the door and outside.
P4	P404b a	CL-1	6' - 0"	8' - 0"	1 3/4"	CL	CL		J11-SD/A402	J11-SD/A402	-	-	Site	6. Service Gate with Butterfly Latch and Padlock.
P4	P404c a	CL-1	6' - 0"	8' - 0"	1 3/4"	CL	CL		J11-SD/A402	J11-SD/A402	-	-	Site	6. Service Gate with Butterfly Latch and Padlock.
P4	P404d a	CL-1	6' - 0"	8' - 0"	1 3/4"	CL	CL		J11-SD/A402	J11-SD/A402	-	-	Site	6. Service Gate with Butterfly Latch and Padlock.
P4	P404e a	CL-2	8' - 0"	8' - 0"	1 3/4"	CL	CL		J11-SD/A402	J11-SD/A402	-	-	Site	6. Service Gate with Butterfly Latch and Padlock.
P4	P410 a	CL	8' - 0"	7' - 0"	1 3/4"	CL	CL	-	-	J4-SD/A402	J4-SD/A402	-	Site	6. Maintenance Gate with Butterfly Latch and Padlock. Privacy Slats
P4	P420 a	FG-2	3' - 8"	6' - 10"	1 3/4"	FG	F	-	E14-X/A402	A14-X/A402	E4-X/A402	75E	Exterior	2

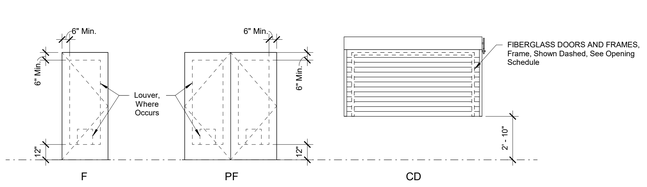
Opening Schedule Door Add Alternate

Building	Door No.	Frame Type	Size			Door Material	Door Type	Louver Type	Head	Jamb	Threshold	Hardware		Comments
			Width	Height	Thickness							Group	Keying Room No	
P2	P201a a	FG-4	6' - 0"	6' - 10"	1 3/4"	FG	PF	-	J7-X/A402	E7-X/A402	-	802	P201	3
P2	P202 a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F		E14-X/A402	A14-X/A402	E4-X/A402	80E	Exterior	3
P2	P203 a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F	-	E14-X/A402	A14-X/A402	E4-X/A402	80E	Exterior	3
P2	P204 a	FG-7	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	75E	Exterior	2
P2	P204 b	FG-8	8' - 0"	4' - 2"	2"	FG	CD	-	N4-X/A402	J4-X/A402	*	01	Exterior	*Refer to SHEET METAL, Snack Bar Counter detail
P2	P204 c	FG-8	8' - 0"	4' - 2"	2"	FG	CD	-	N4-X/A402	J4-X/A402	*	01	Exterior	*Refer to SHEET METAL, Snack Bar Counter detail
P2	P205 a	FG-7	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J11-X/A402	A14-X/A402 & E11-X/A402	E4-X/A402	85E	Exterior	2
P2	P205a a	FG-1	3' - 0"	6' - 10"	1 3/4"	FG	F	-	J7-X/A402	A7-X/A402	E4-X/A402	80	P205	3

1

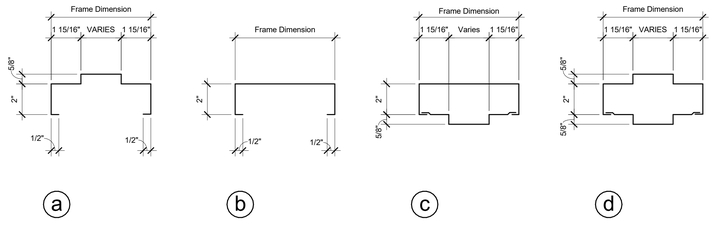
J7 — Door Schedule

No Scale



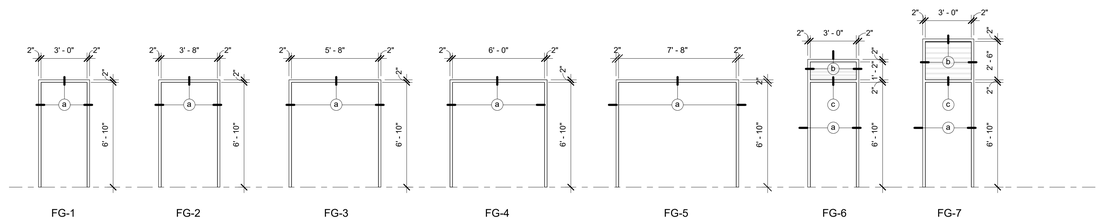
E1 — Door Types

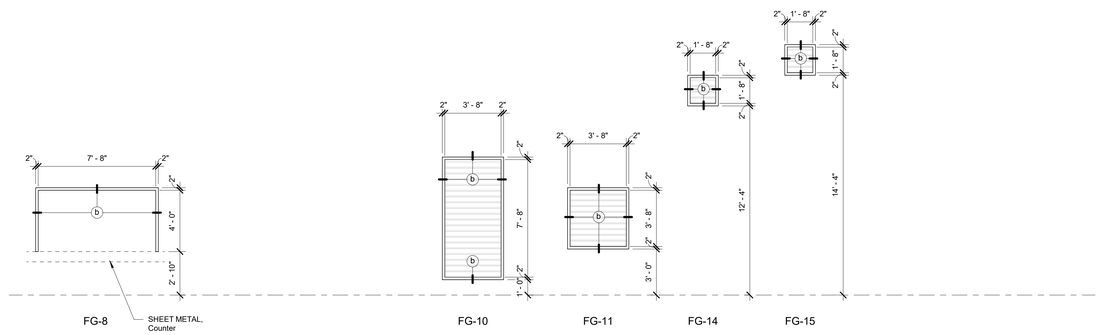
No Scale



A1 — Fiberglass Frame Details

3" = 1'-0"





A7 — Frame Types

No Scale

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

ABBREVIATIONS

FG	-	Fiberglass
SG	-	Site Gate
SPF	-	Steel Post Fence
CL	-	Chain Link
RO	-	Rough Opening
T	-	Tempered Glass

GENERAL NOTES

1. This schedule is provided for the convenience of the General Contractor. Dimensions indicated are nominal dimensions.
2. The General Contractor is responsible for all coordination and review of drawings and verifying all field conditions and dimensions prior to fabrication. Not all detail references are included in the schedule.
3. Provide metal closure plates for FG Frames at concrete curbs, Typical, Refer to Detail A4 / X/A402
4. All details, materials and finishes shall be considered typical for all similar conditions unless noted otherwise.
5. Door Types are shown on sheet X/A401.
6. Frame Types are shown on sheets X/A401.
7. Exit Doors shall be openable from inside without the use of a key or any special knowledge or effort.
8. For opening Head, Jamb, and Sill framing conditions, see Structural Drawings.

OPENING SCHEDULE COMMENTS

1 HARDWARE, Exit/Panic Devices, section HARDWARE, where occurs.

2 HARDWARE, Floor Stop, See detail A1 / X/A402

3 Floor Stop and Holder - See detail E1 / X/A402

4 Relief Air Louver. Coordinate mechanical drawings.

6 CHAIN LINK, Gate - See sheet SD/A402

F18 — Opening Schedule Legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
OPENING SCHEDULES, FRAME ELEVATIONS
Drawing

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LICENSED ARCHITECT — REGINALD K. FONG — No. C23724 — Exp. 4-30-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

X/A401

8/18/2023 4:29:41 PM
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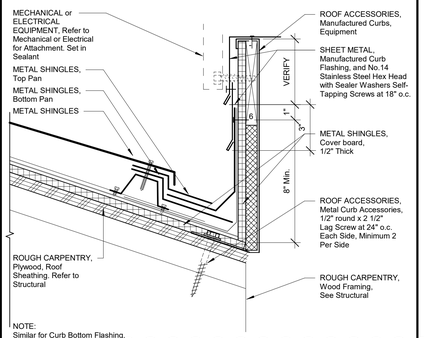
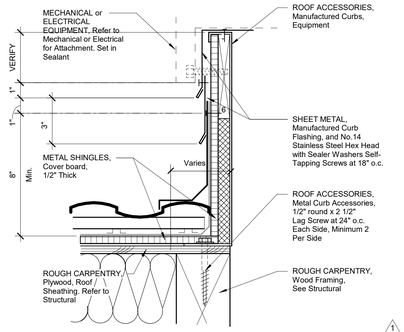
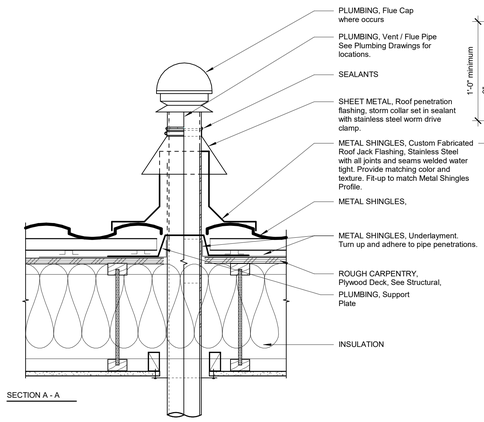
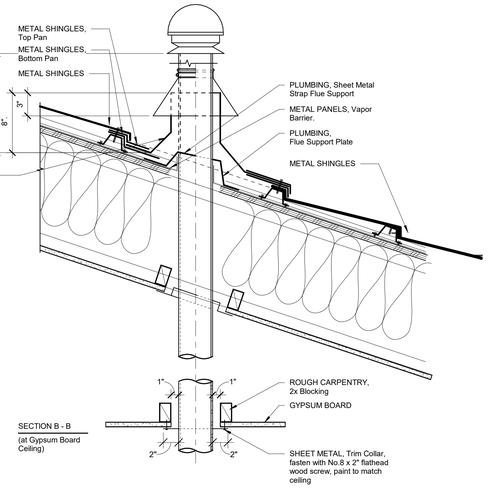




J1	ROOF ACCESSORIES, Equipment Curb Top	J4	ROOF ACCESSORIES, Equipment Curb Side
3" = 1'-0"		3" = 1'-0"	



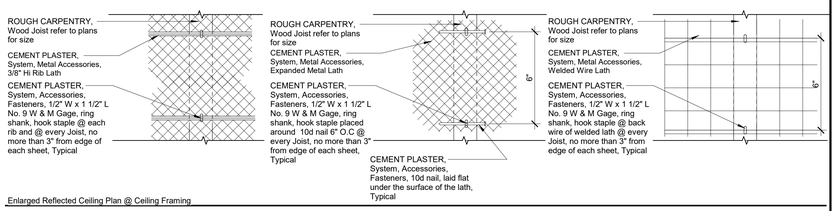


J7	METAL SHINGLES, Roof Penetration Flashing, Flue
1 1/2" = 1'-0"	

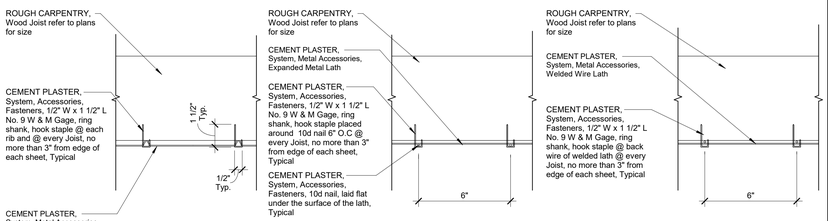
DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval



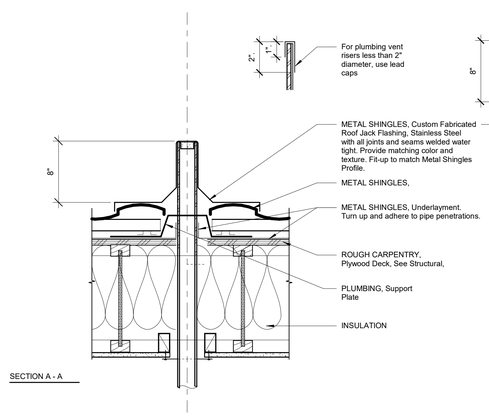
Enlarged Reflected Ceiling Plan @ Ceiling Framing

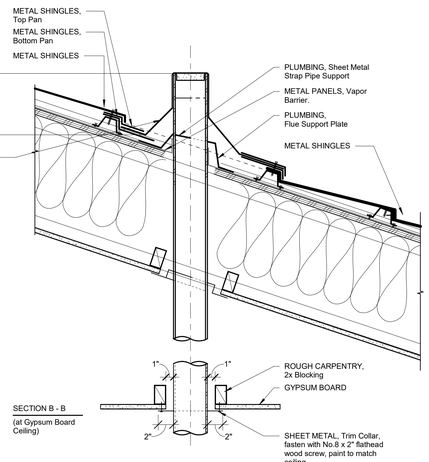


Sections

Notes:
1. This installation method is in addition to the methods of attachment set forth in CBC Table No. 2507.2 per CBC Section 2507.3
2. Cement Plaster System not shown for clarity

A1	CEMENT PLASTER , Metal Accessories @ Horizontal Wood Framing
3" = 1'-0"	





A7	METAL SHINGLES,Roof Penetration Plumbing Vent Riser
1 1/2" = 1'-0"	

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
EXTERIOR DETAILS
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LICENSED ARCHITECT JEFFREY K. FERGUSON No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

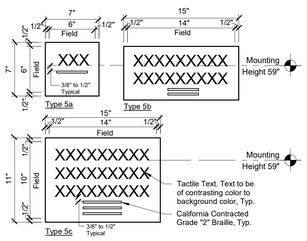
No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

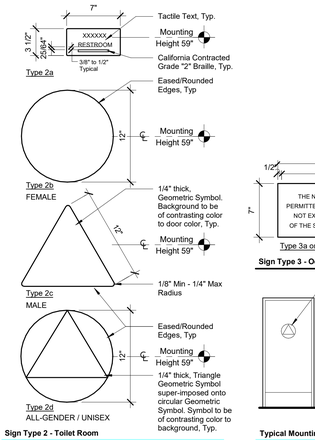
Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

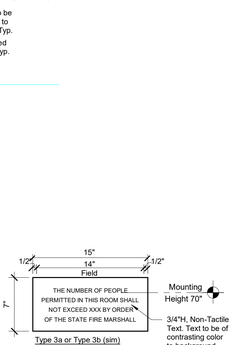
X/A502



Sign Type 5 - Room Identification



Sign Type 2 - Toilet Room



Sign Type 3 - Occupancy Load

Sign Type 6 - Tactile Identification

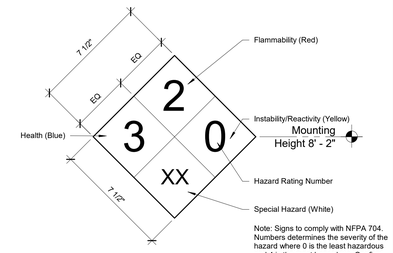
Sign Type 7 - Non-Tactile Identification

Typical Mounting Heights Scale: 1/4"= 1'-0"

NOTES:

1. Mounting Locations and Heights are typical, UON.
2. Mount Signs such that the baseline of the highest raised character is 59" Max above finish floor, verify the baseline of the lowest line of braille is a Min of 48" above finish floor.
3. Refer Specification Section IDENTIFYING DEVICES and Signage Schedule for the Sign Copy.
4. Refer to N14 X/A601 for Backing requirements
5. Refer to N4 X/A601 for Hazardous Material Sign

		N4	IDENTIFYING DEVICES, Hazardous Material Signage
		3" = 1'-0"	



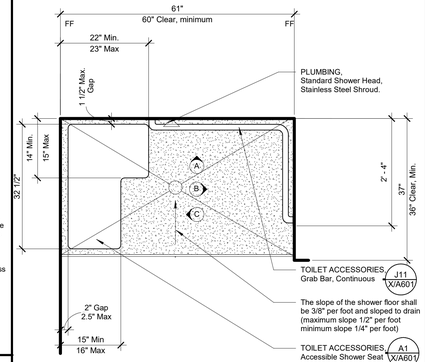
Note: Signs to comply with NFPA 704. Numbers determines the severity of the hazard where 0 is the least hazardous and 4 is the most hazardous. Confirm hazard severity prior to installation

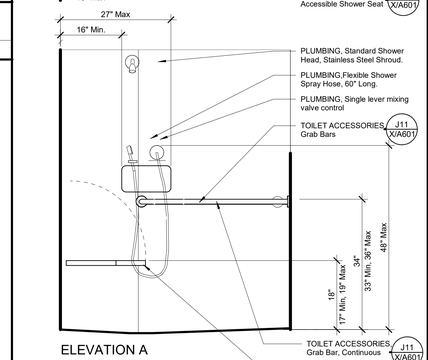
Special Hazards will be left blank unless noted otherwise.

NFPA 704 MATERIAL HAZARD RATING:

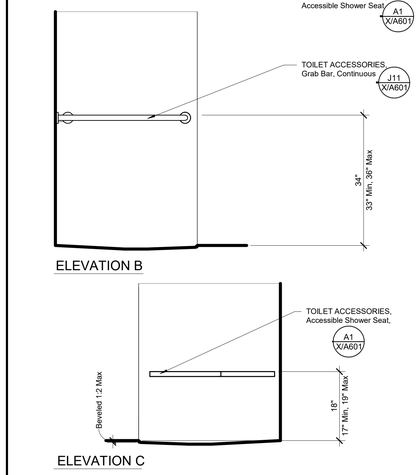
Type 11a

Carbon Dioxide		Argon		Argon/Oxygen	
- Health	2	- Health	0	- Health	1
- Flammability	0	- Flammability	0	- Flammability	0
- Instability/Reactivity	0	- Instability/Reactivity	0	- Instability/Reactivity	0
- Special Hazard	SA	- Special Hazard	SA	- Special Hazard	





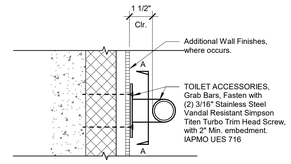
ELEVATION A



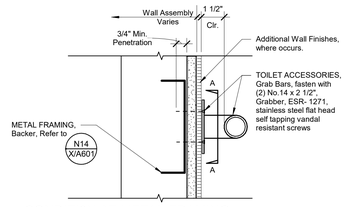
ELEVATION B

ELEVATION C

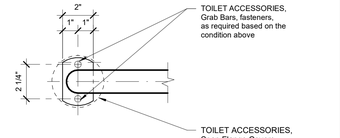
		E7	TOILET ACCESSORIES, Accessible Shower
		3/4" = 1'-0"	



CONDITION AT CONCRETE MASONRY UNIT

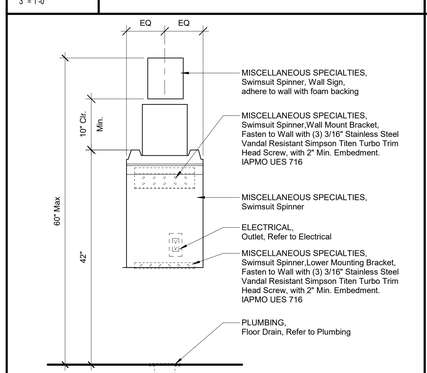


CONDITI0N AT METAL FRAMING

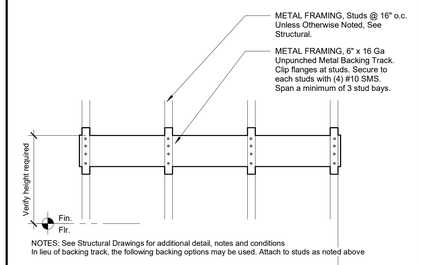


SECTION A-A

		J11	TOILET ACCESSORIES, Grab Bars
		3" = 1'-0"	



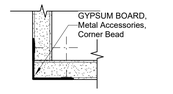
		E11	MISCELLANELOUS SPECIALTIES, Swimsuit Spinner
		1" = 1'-0"	

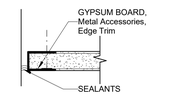


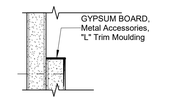
NOTES: See Structural Drawings for additional detail, notes and conditions
In lieu of backing track, the following backing options may be used. Attach to studs as noted above

1. 6" x 16 ga flat strap for maximum loads of 20 lbs/ft w/ a maximum concentrated load of 50 lbs. Strap shall be continuous over 3 studs minimum
2. 6" x 16 ga (600ns050-54) notched stud backing
3. 6" x 16" ga flat strap can be used at ACOUSTICAL CEILINGS, CEMENT PLASTER, joints, IDENTIFYING DEVICES, Signs.

		N14	METAL FRAMING, Backing Detail
		1" = 1'-0"	

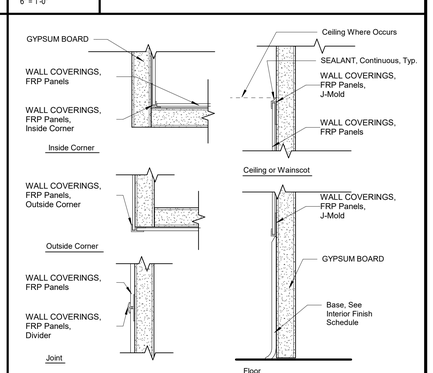






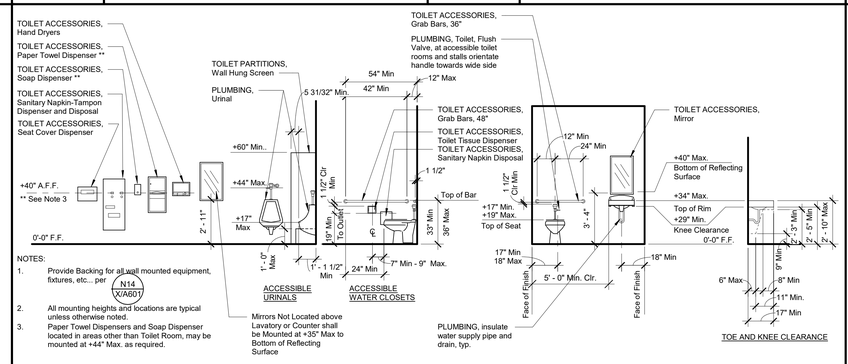
NOTE:
1. Details Shall apply at Similar GYPSUM BOARD Accessories and Trim not specifically shown.
2. Reveals and Moldings shall be provided with Factory Fabricated Intersections, Inside Corners, Outside Corners and End Caps

		J14	GYPSUM BOARD, Metal Accessories
		6" = 1'-0"	



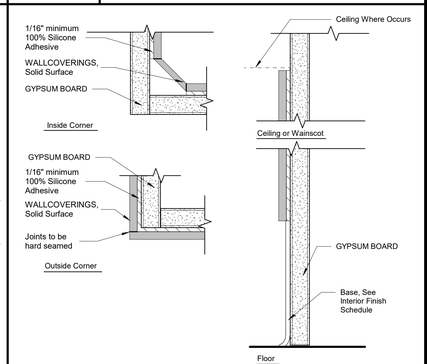
		E14	WALL COVERINGS, FRP Panels
		6" = 1'-0"	

		A1	TOILET ACCESSORIES, L-Shaped Accessible Shower Seat
		3" = 1'-0"	



NOTES:
1. Provide Backing for all wall mounted equipment, fixtures, etc... per N14 X/A601
2. All mounting heights and locations are typical unless otherwise noted.
3. Paper Towel Dispensers and Soap Dispenser located in areas other than Toilet Room, may be mounted at +44" Max. as required.

		A7	TOILET ACCESSORIES AND PLUMBING FIXTURES,
		1/4" = 1'-0"	



		A14	WALL COVERINGS, Solid Surface
		6" = 1'-0"	

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

NOTES

1. GYPSUM BOARD, Metal Accessories, Refer to Detail J14 X/A601
2. CEMENT PLASTER, ACCESSORIES, Refer to Detail A14 X/A601
3. WALL COVERINGS, FRP Panels, Aluminum Trim, Refer to Detail E14 X/A601
4. METAL FRAMING, Backing, Refer to Detail N14 X/A601

M18	Interior Detail Notes
No Scale	

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
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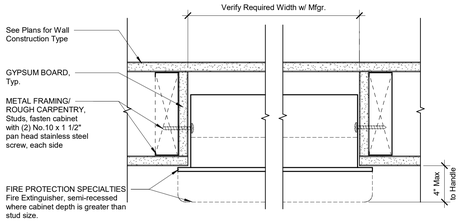
LICENSED ARCHITECT MICHAEL K. FENNELL No. C23724 Exp. 4-30-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

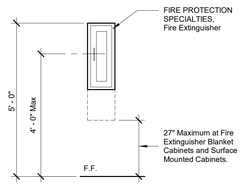
Revision

	Designed By: MF	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: KT	
Project Number: 2180	Checked By: -	X/A601
Date: 03/28/2023	Reviewed By: MF	



NON-RATED WALL

NOTE: Where stud Depth is Less than 6" Fire Extinguisher Blanket Cabinets Shall be Surface Mounted.

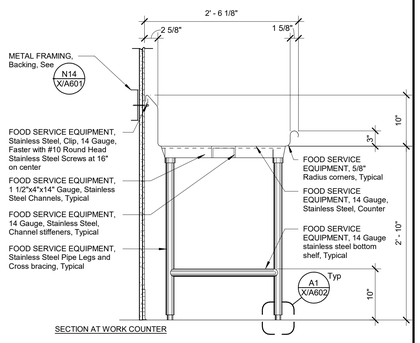


ELEVATION

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

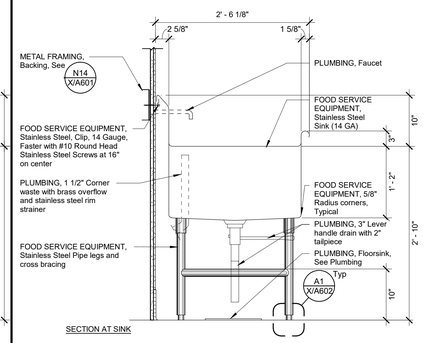
NOTE: Provide Surface mount cabinets at Concrete and Concrete Masonry Walls

N1	FIRE PROTECTION SPECIALITIES, Fire Extinguisher Cabinets
3" = 1'-0"	ADD ALTERNATE



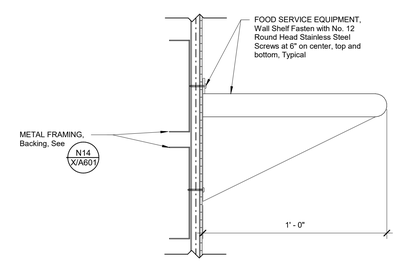
SECTION AT WORK COUNTER

N7	FOOD SERVICE EQUIPMENT, Work Counter and Single Sink
1" = 1'-0"	ADD ALTERNATE



SECTION AT SINK

N11	FOOD SERVICE EQUIPMENT, Single Sink
1" = 1'-0"	ADD ALTERNATE

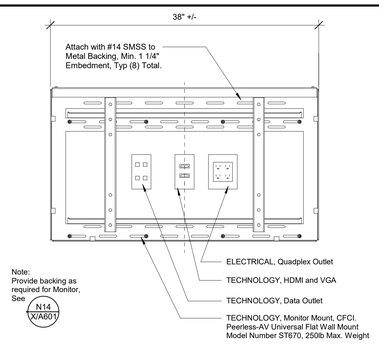


N14	FOOD SERVICE EQUIPMENT, Wall Shelf
3" = 1'-0"	ADD ALTERNATE

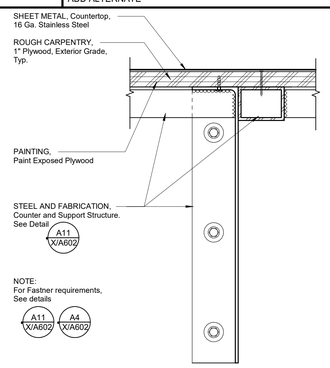
DSA File No.:
54-H11

DSA Application No.:
02-120251

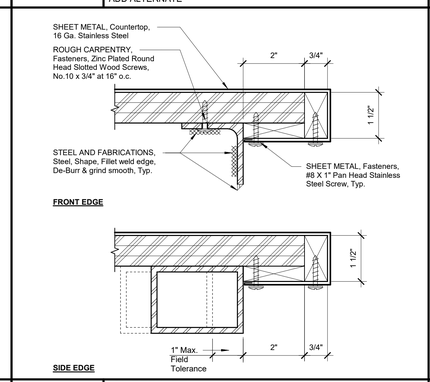
Agency Approval



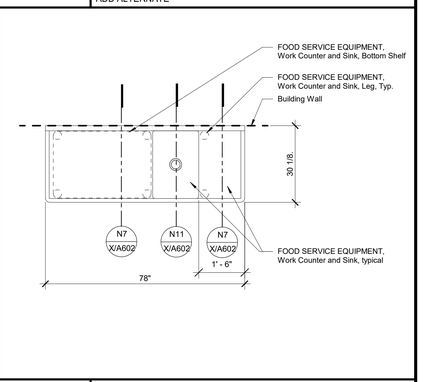
J4	ELECTRICAL, Monitor Mounting Detail
1 1/2" = 1'-0"	ADD ALTERNATE



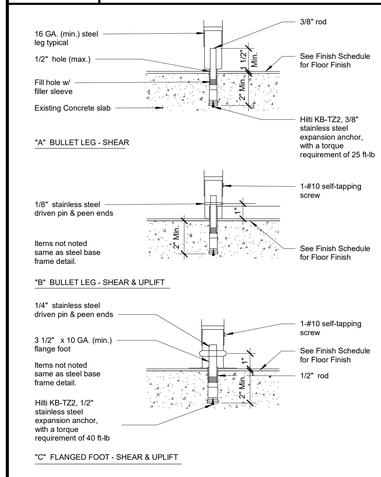
J7	SHEET METAL, Countertop Profile View
3" = 1'-0"	ADD ALTERNATE



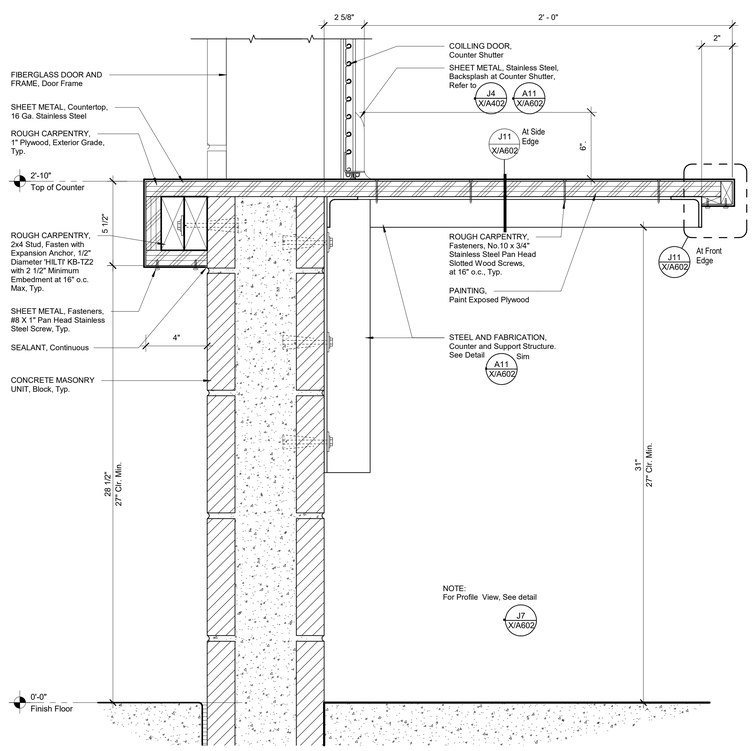
J11	SHEET METAL, Countertop at Edge Condition
6" = 1'-0"	ADD ALTERNATE



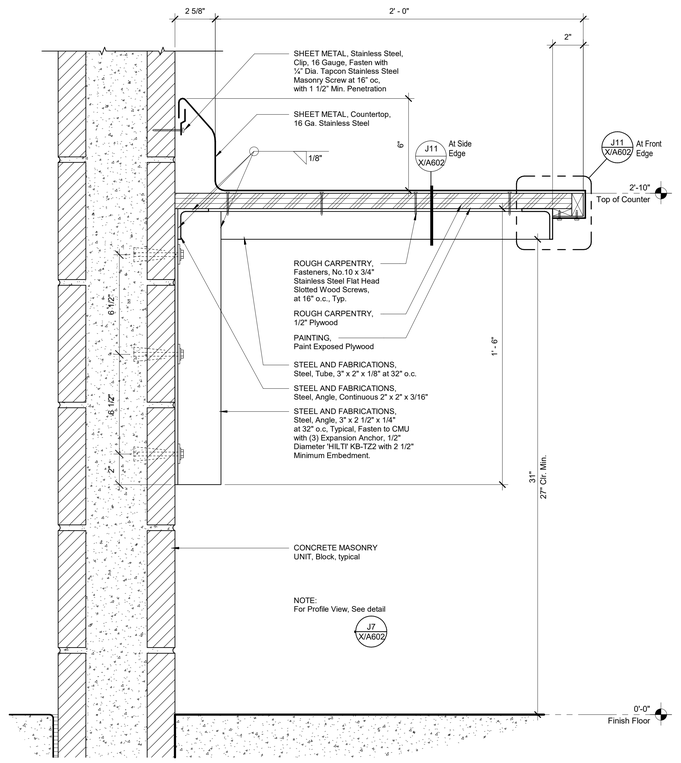
J14	FOOD SERVICE EQUIPMENT, Work Counter and Sink
1/2" = 1'-0"	ADD ALTERNATE



A1	FOOD SERVICE EQUIPMENT, Guidelines for Seismic Restraint
3" = 1'-0"	ADD ALTERNATE



A4	SHEET METAL, Snack Bar Counter at COILING DOOR
3" = 1'-0"	ADD ALTERNATE



A11	SHEET METAL, Snack Bar Counter
3" = 1'-0"	ADD ALTERNATE

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
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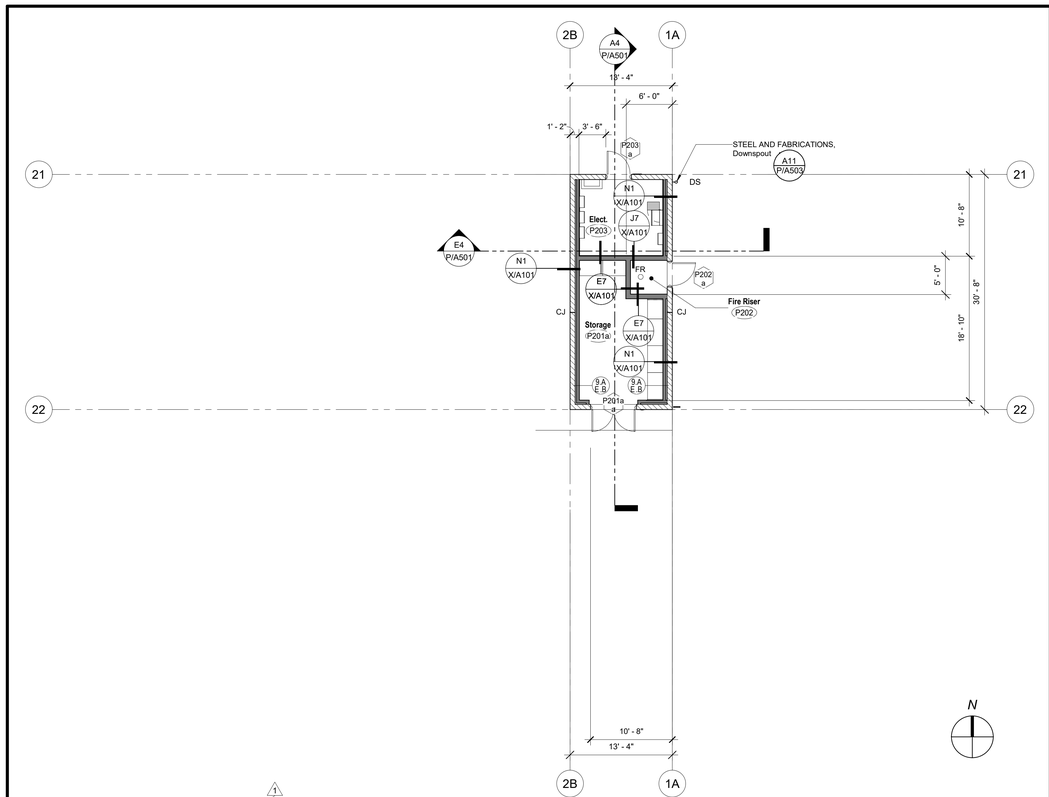
LICENSED ARCHITECT MICHAEL K. FONG No. C23724 Ren. 4-30-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

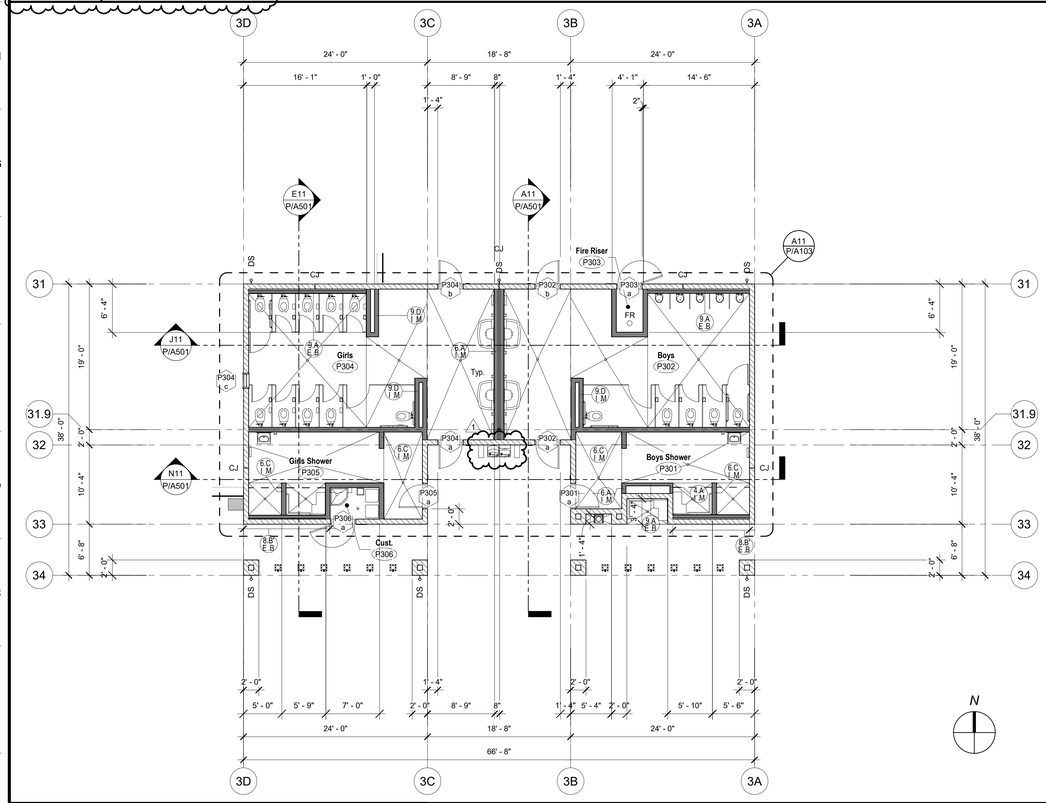
Revision

		Designed Designer	
Scale:	As indicated	Drawn By: Author	1
Project Number:	2180	Checked IChecker	X/A602
Date:	03/28/2023	Reviewed Approver	



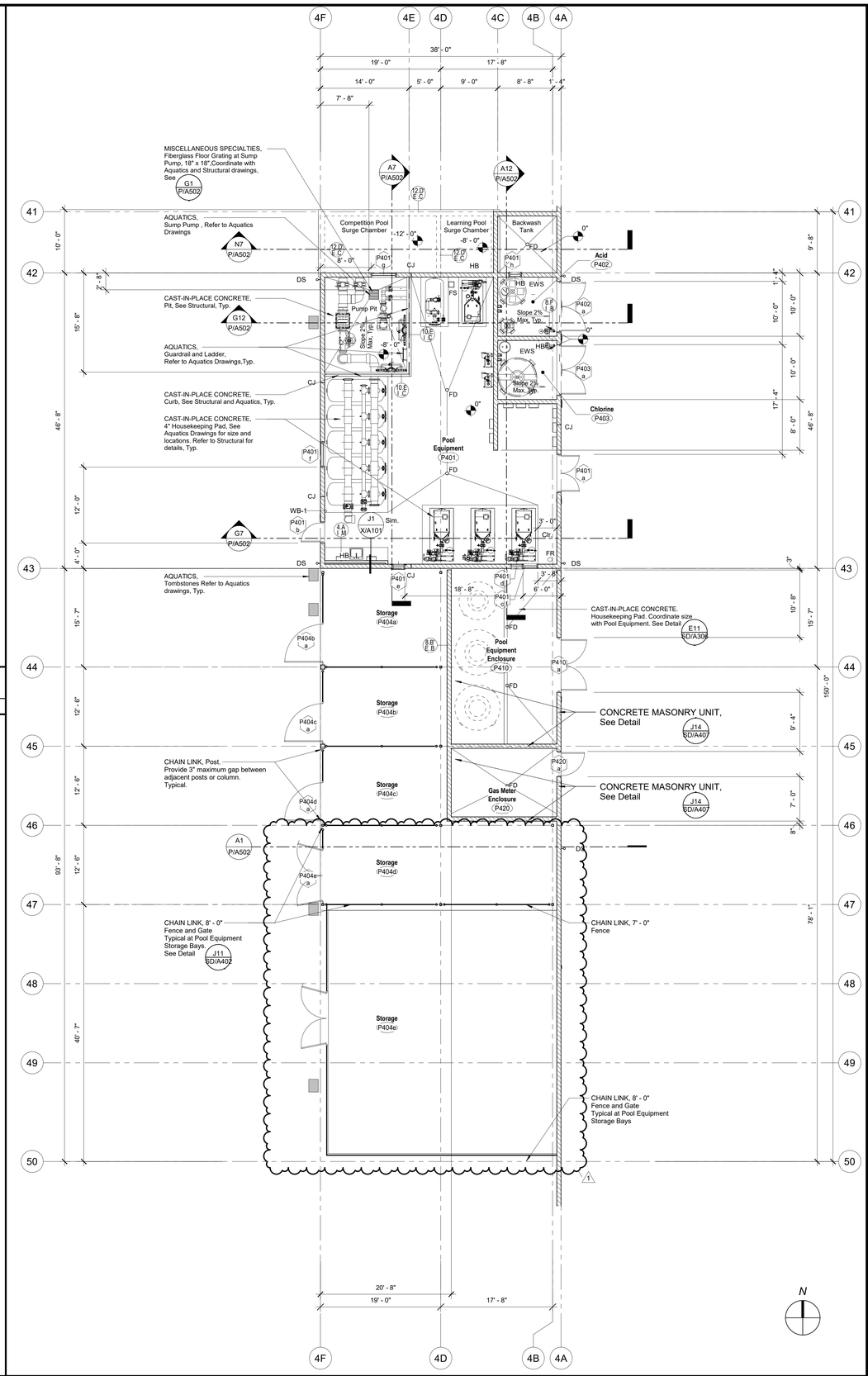
J1 — Floor Plan - Building P2

1/8" = 1'-0"



A1 — Floor Plan - Building P3

1/8" = 1'-0"



A9 — Floor Plan - Building P4

1/8" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- Concrete Masonry Unit Wall. 8" wide unless otherwise noted.
- Concrete Wall, or Column. Size as indicated.
- Stud Wall, Studs and Interior Wall materials continuous from floor to underside of floor or roof deck. Studs at 16" o.c. unless otherwise noted. Interior Wall material shall include Batt Insulation, Sound Deadening Board, Plywood Sheathing, Gypsum Board, and Cement Plaster/ Ceramic Tile setting bed where occurs.
- 0 — Reference Grid
- 101 / a — Opening Group No. Refer to Door or Window Opening Schedules
- Eq Mark — Equipment Item No. Refer to Equipment Schedule
- Room name / 101 — Room Designation
- ## / # — Wall Assembly Symbols. Refer to Sheet X/A101
- Pool Equipment Building Floor Finish Elevation. See Pool Drawings and Structural Drawings.
- A — Indicates Required Accessible Clearance Space
- 5'-0" Dia. — Indicates Required Accessible Clearance Space

ABBREVIATIONS

DS	STEEL AND FABRICATIONS, Rain Water Downspout. See Detail A11 P/A503
FE	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
FF	Face of Finish
FOC	Face of Concrete
FD	Floor Drain
FOM	Face of Masonry
FOS	Face of Stud
FR	FIRE PROTECTION, Fire Riser, See Fire Protection Drawings
HB	Hose Bib
MO	Masonry Opening
UNO	Unless Noted Otherwise
RO	Rough Opening
Typ.	Typical
Sim.	Similar
OH	Opposite Hand

NOTES

1. All Exterior Walls shall be Wall Assembly Type 8 A / E B Unless Noted Otherwise.
2. All Interior Walls shall be Wall Assembly Type 6 D / I M Unless Noted Otherwise.
3. All Exterior Soffit Walls and Arches shall be Wall Assembly Type 4 D / E M Unless Noted Otherwise.
4. All Dimensions are to Face of Stud (FOS) or Center Line, Unless Noted Otherwise.
5. All Elevation Dimensions are Above Finish Floor at Each Floor Level, Unless Noted Otherwise.
6. Dimensions Noted as "+/-" are Nominal.
7. Floor Drains (FD) and Floor Sinks (FS) Shall be Set -3/4" and a Min. of 3'-0" From Nearest wall, 1:48 Max Slope in Any Direction, Unless Noted Otherwise.
8. IDENTIFYING DEVICES, For Room Signage Refer to E1 X/A601 and Specifications
9. Integral Cove Base to be PAINT, Specialty Paint.

F18 — Floor Plan Legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P2, P3 & P4
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LICENSED ARCHITECT — ROBERT K. FERGUS — No. C23724 — Exp. 4-30-25 — STATE OF CALIFORNIA
Architect

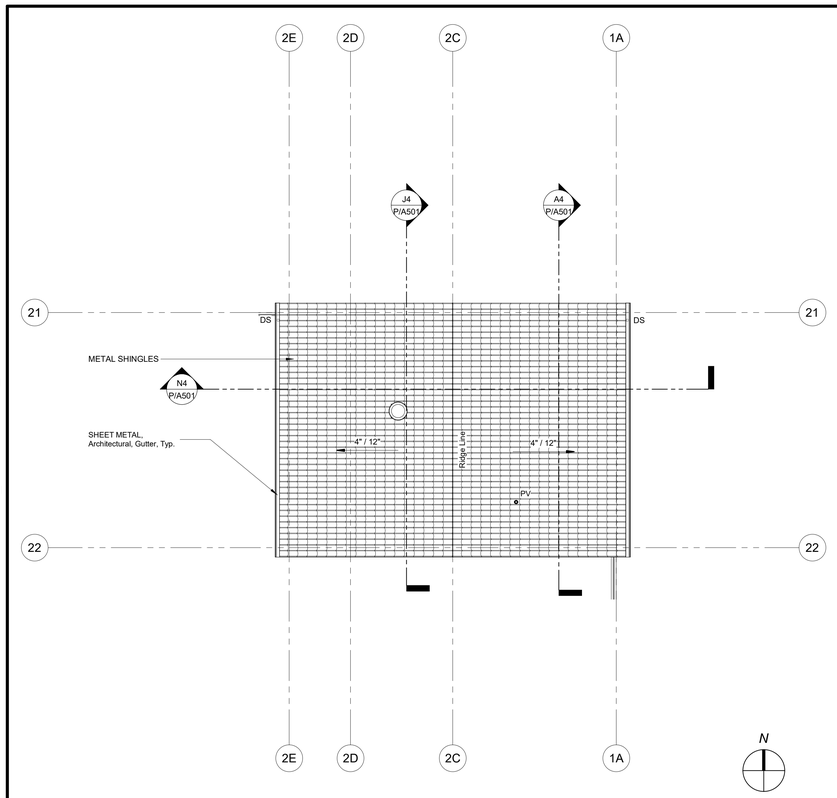
No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF

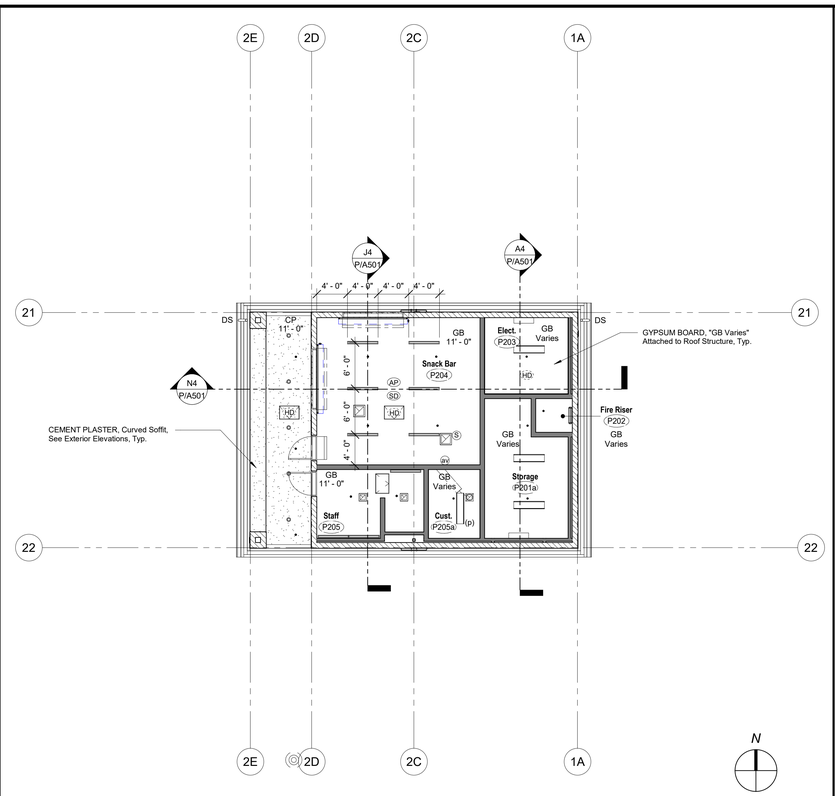
Scale: 1/8" = 1'-0"
Project Number: 2180
Date: 03/28/2023

P/A101



J1
1/8" = 1'-0"

Roof Plan - Building P2



J7
1/8" = 1'-0"

Reflected Ceiling Plan - Buidling P2

SYMBOLS

- ACOUSTICAL CEILINGS, Suspended Ceiling Compression Strut/ Splay Wire location
- OD — PLUMBING, Overflow Drain
- FIRE PROTECTION, Fire Sprinkler Head
- MECHANICAL, Air Supply Grill
- MECHANICAL, Air Return Grill
- MECHANICAL, Strip Grill
- MECHANICAL, Exhaust Fan
- ELECTRICAL, Light Fixture, Surface Mounted. Unless Noted Otherwise.
- HD — ELECTRICAL, Fire Alarm Device, Heat Detector
- SD — ELECTRICAL, Fire Alarm Device, Smoke Detector
- AV — ELECTRICAL, Fire Alarm Audio Visual Speaker
- S — ELECTRICAL, Public Address System Speaker
- AP — ELECTRICAL, Wireless Access Point
- CEMENT PLASTER, Cement Plaster System See Structural for Framing Color to be PC-1. Refer to Exterior Color Schedule.
- CEMENT PLASTER, Cement Plaster System See Structural for Framing Color to be PC-2. Refer to Exterior Color Schedule.
- METAL DECK, See Structural Drawings.
- ACCESS DOORS AND FRAMES, Access Doors, Ceiling (20" X 30"), UNO
- Reference Point

ABBREVIATIONS

DS	STEEL AND FABRICATIONS, Rain Water Downspout.
CLG	Ceiling
CP	CEMENT PLASTER, System
GB	GYPSUM BOARD
GLB	GLUE-LAMINATED CONSTRUCTION, Beam
HT	Height
MD	METAL DECK
TYP	Typical
SIM	Similar
OH	Opposite hand
DS	Downspout
OD	Overflow Drain
UNO	Unless Noted Otherwise

NOTES

1. See Structural for Framing of Soffits and Ceilings
2. Single Lights or Single Rows of Lights at Soffits/ Ceilings Shall be Centered, UNO.
3. Refer to Interior Color Schedule for color.
4. Ceiling Color to Match to Adjacent Surface, Unless Otherwise Noted. Refer to Interior Elevation and Interior Design Plan for Color Location.

J14
No Scale

Reflected Ceiling Legend

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- Concrete Masonry Unit Wall. 8" wide unless otherwise noted.
- Concrete Wall, or Column. Size as indicated.
- Stud Wall, Studs and Interior Wall materials continuous from floor to underside of floor or roof deck. Studs at 16" o.c. unless otherwise noted. Interior Wall material shall include Batt Insulation, Sound Deadening Board, Plywood Sheathing, Gypsum Board, and Cement Plaster/ Ceramic Tile setting bed where occurs.
- Stud Wall. Studs and finish material continuous from floor to minimum 6" above ceiling. Studs to be braced to underside of roof framing or deck if not required to be continuous to roof framing or deck. Studs at 16"o.c. Unless Otherwise Noted. See Structural for bracing and extent of Structural Sheathing.
- 0 — Reference Grid
- 101 / a — Opening Group No. Refer to Door or Window Opening Schedules
- Eq Mark — Equipment Item No. Refer to Equipment Schedule
- Room name / 101 — Room Designation
- # # / # — Wall Assembly Symbols. Refer to Sheet X/A101
- Pool Equipment Building Floor Finish Elevation. See Pool Drawings and Structural Drawings.
- A — Indicates Required Accessible Clearance Space
- 5'-0" Dia — Indicates Required Accessible Clearance Space

ABBREVIATIONS

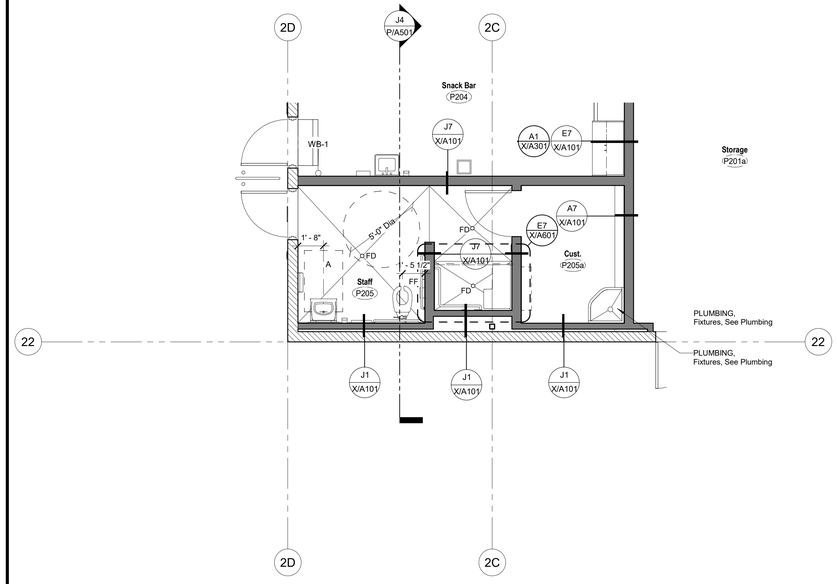
DS	STEEL AND FABRICATIONS, Rain Water Downspout. See Detail A11 / P/A503
FE	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
FF	Face of Finish
FOC	Face of Concrete
FD	Floor Drain
FOM	Face of Masonry
FOS	Face of Stud
HB	Hose Bib
MO	Masonry Opening
UNO	Unless Noted Otherwise
RO	Rough Opening
Typ.	Typical
Sim.	Similar
OH	Opposite Hand

NOTES

1. All Exterior Walls shall be Wall Assembly Type 6A / E.B Unless Noted Otherwise.
2. All Exterior Soffit Walls and Arches shall be Wall Assembly Type 4D / E.M Unless Noted Otherwise.
3. All Dimensions are to Face of Stud (FOS) or Center Line, Unless Noted Otherwise.
4. All Elevation Dimensions are above Finish Floor at each floor level, Unless Noted Otherwise.
5. Dimensions noted as "+/-" are nominal.
6. Floor Drains (FD) and Floor Sinks (FS) shall be set -3/4" and a min. of 3'-0" from nearest wall, Unless Noted Otherwise.
7. IDENTIFYING DEVICES, For Room Signage refer E1 / X/A601 to and Specifications
8. Integral cove base to be PAINT, Specialty Paint.

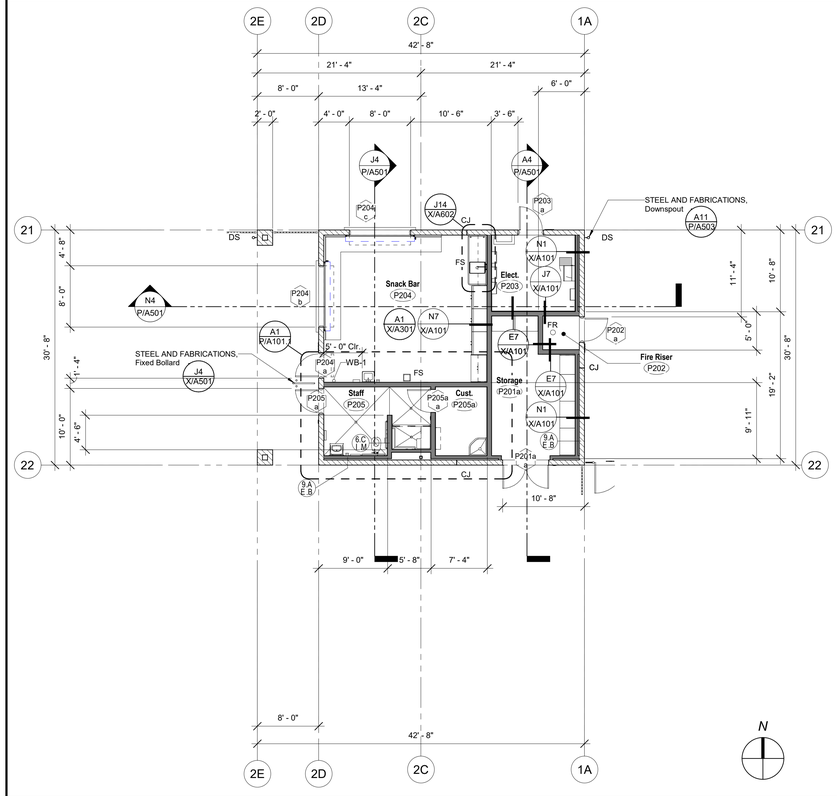
F18
No Scale

Floor Plan Legend



A1
1/4" = 1'-0"

ENLARGED FLOOR PLAN



A7
1/8" = 1'-0"

Floor Plan - Building P2

SYMBOLS

- PV — PLUMBING, Vent with METAL SHINGLES Roofing Jack. Powder Coated finish to match the color of the Metal Shingle Room System. Coordinate the locations and sizes between the trades. A7 / X/A502
- PF — PLUMBING, Flue with METAL SHINGLES Roofing Jack. Powder Coated finish to match the color of the Metal Shingle Room System. Coordinate the locations and sizes between the trades. J7 / X/A502
- +00'-0" TOP — Elevation above finish floor
- Slope (DN) — Direction of slope
- Line of Wall below
- Reference Point

ABBREVIATIONS

DS	STEEL AND FABRICATIONS, Rain Water Downspout.
SEJ	SHEET METAL, Architectural Gutters, Expansion Joint
FO Frmg.	Face of Framing
OD	PLUMBING, Overflow Drain
TOF	Top of Framing
RD	PLUMBING, Roof Drain
TOM	Top of Masonry
OH	Opposite Hand
FOS	Face of Stud
Sim.	Similar
Typ.	Typical

NOTES

1. Refer to Plumbing, Mechanical, and Electrical for all roof penetrations and roof mounted equipment. Coordinate the type of roof penetration with the METAL SHINGLES trade contractor and manufacturer for the flashing and installation of the penetration. Provide shop drawings for locations and shop drawings.

A14
No Scale

Roof Plan Legend

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P1
ALTERNATE BID - BUILDING P2 - SNACK BAR BUILDING
Drawing

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LICENSED ARCHITECT
MICHAEL K. FENNELL
No. C23724
REG. 4-30-23
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

P/A101.1 (1)

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DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- Concrete Masonry Unit Wall. 8" wide unless otherwise noted.
- Concrete Wall, or Column. Size as indicated.
- Stud Wall, Studs and Interior Wall materials continuous from floor to underside of floor or roof deck. Studs at 16" o.c. unless otherwise noted. Interior Wall material shall include Batt Insulation, Sound Deadening Board, Plywood Sheathing, Gypsum Board, and Cement Plaster/ Ceramic Tile setting bed where occurs.
- 0 — Reference Grid
- 101 / a — Opening Group No. Refer to Door or Window Opening Schedules
- Eq Mark — Equipment Item No. Refer to Equipment Schedule
- Room name / 101 — Room Designation
- ## / S — Wall Assembly Symbols. Refer to Sheet X/A101
- Pool Equipment Building Floor Finish Elevation. See Pool Drawings and Structural Drawings.
- A — Indicates Required Accessible Clearance Space
- 5'-0" Dia. — Indicates Required Accessible Clearance Space

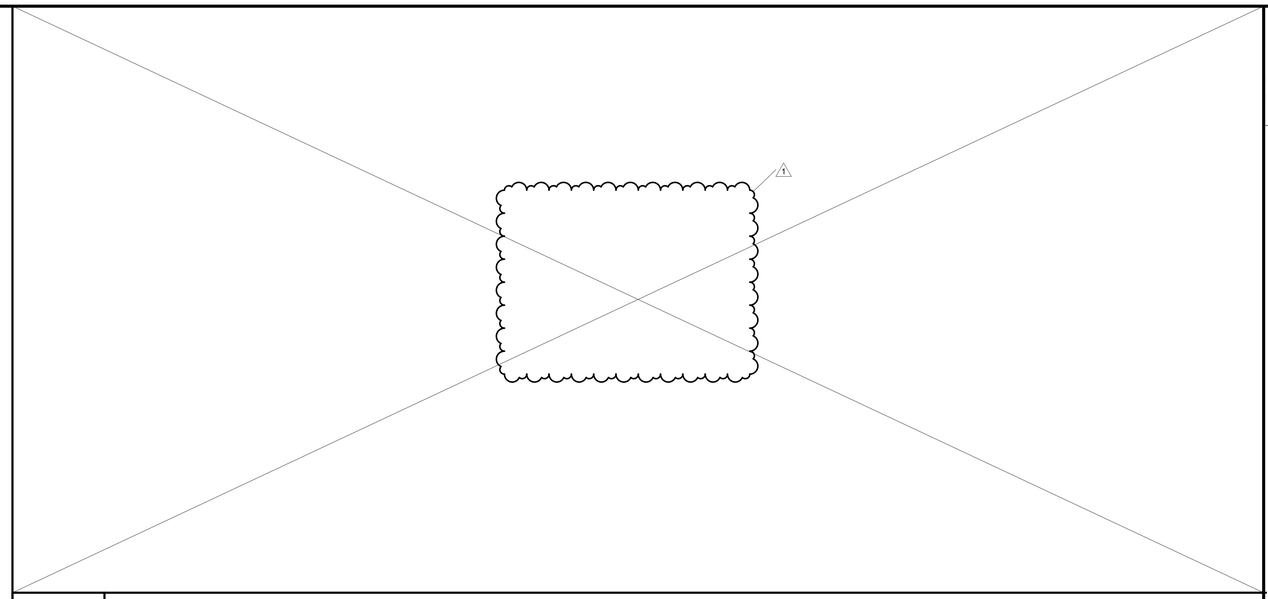
ABBREVIATIONS

DS	STEEL AND FABRICATIONS, Rain Water Downspout. See Detail A11 P/A503
FE	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
FF	Face of Finish
FOC	Face of Concrete
FD	Floor Drain
FOM	Face of Masonry
FOS	Face of Stud
FR	FIRE PROTECTION, Fire Riser, See Fire Protection Drawings
HB	Hose Bib
MO	Masonry Opening
UNO	Unless Noted Otherwise
RO	Rough Opening
Typ.	Typical
Sim	Similar
OH	Opposite Hand

NOTES

1. All Exterior Walls shall be Wall Assembly Type 8.A' / E.B Unless Noted Otherwise.
2. All Interior Walls shall be Wall Assembly Type 6.D' / I.M Unless Noted Otherwise.
3. All Exterior Soffit Walls and Arches shall be Wall Assembly Type 4.D' / E.M Unless Noted Otherwise.
4. All Dimensions are to Face of Stud (FOS) or Center Line, Unless Noted Otherwise.
5. All Elevation Dimensions are Above Finish Floor at Each Floor Level, Unless Noted Otherwise.
6. Dimensions Noted as "+/-" are Nominal.
7. Floor Drains (FD) and Floor Sinks (FS) Shall be Set -3/4" and a Min. of 3'-0" From Nearest wall, 1:48 Max Slope in Any Direction, Unless Noted Otherwise.
8. IDENTIFYING DEVICES, For Room Signage Refer to E1 / X/A601 and Specifications
9. Integral Cove Base to be PAINT, Specialty Paint.

F18 — Floor Plan Legend
No Scale



Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P
ENLARGED FLOOR PLANS
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LICENSED ARCHITECT MICHAEL K. FENOCCHIO No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF
Scale: As indicated
Project Number: 2180
Date: 03/28/2023

P/A103

A11
1/4" = 1'-0"

ENLARGED FLOOR PLAN
Refer to F18-P/A103 for Symbols, Abreviations, and Notes

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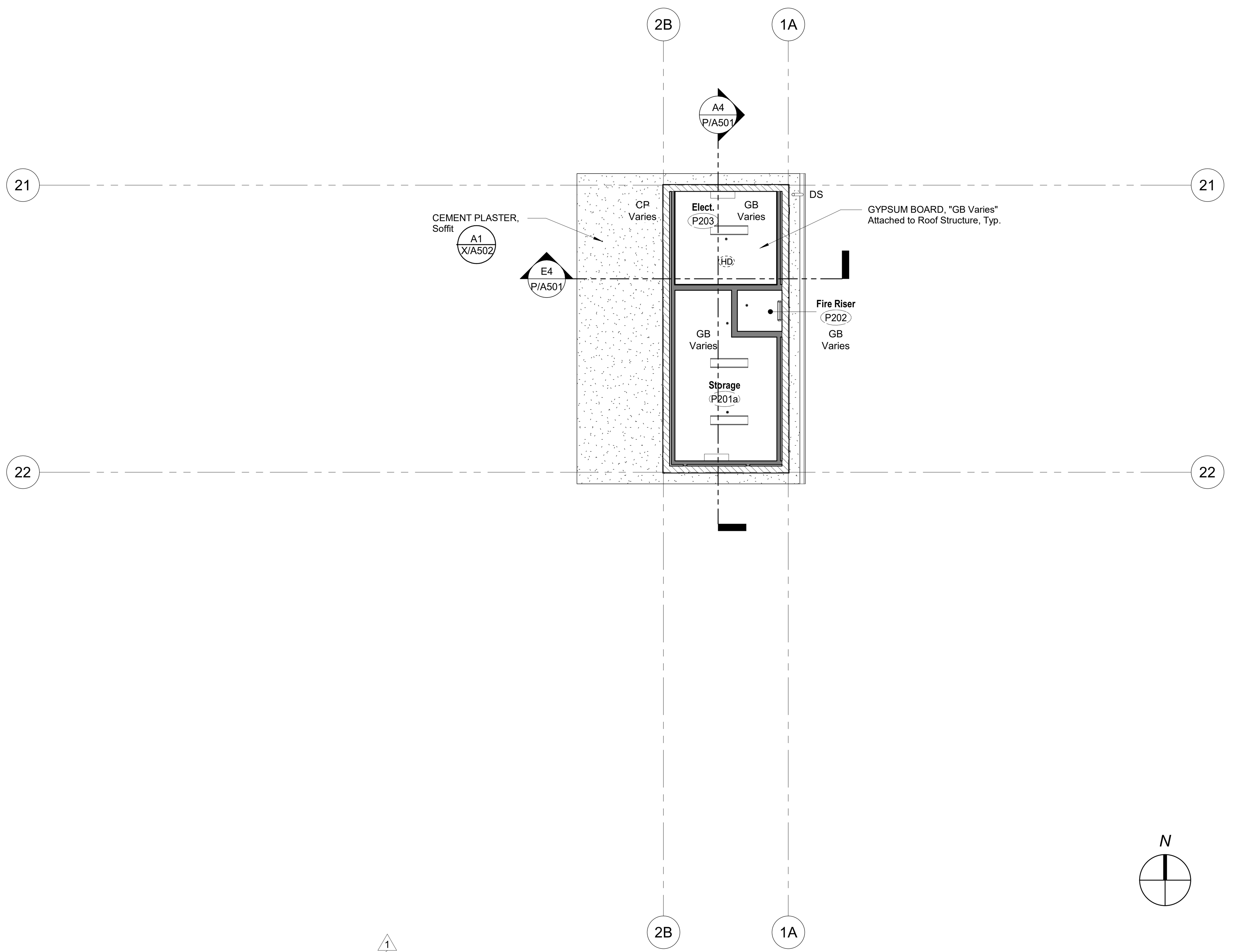
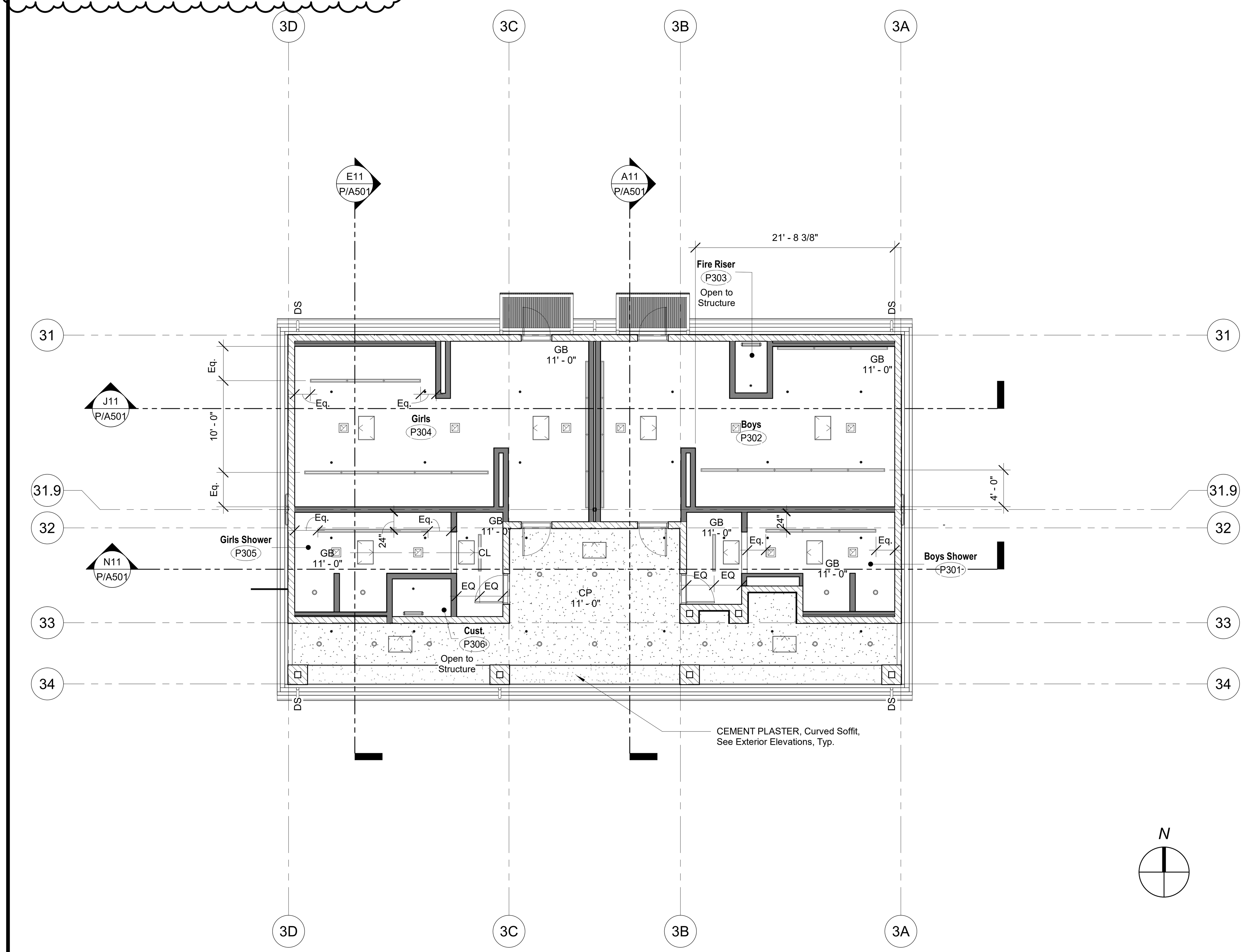
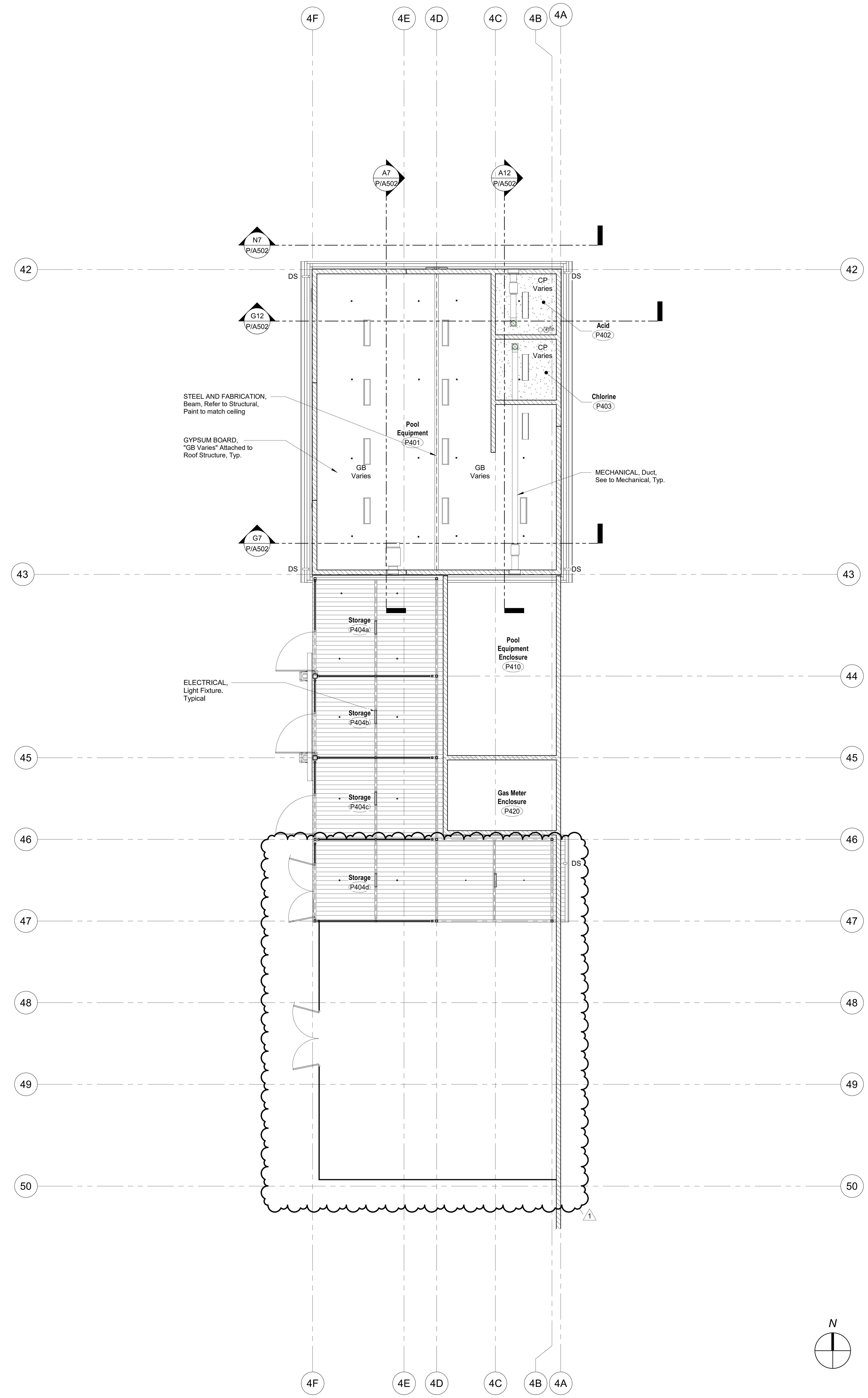


J1 Reflected Ceiling Plan - Building P2
1/8" = 1'-0"



A1 Reflected Ceiling Plan - Building P3
1/8" = 1'-0"



A9 Reflected Ceiling Plan - Building P4
1/8" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- ACOUSTICAL CEILINGS, Suspended Ceiling Compression Strut/ Splay Wire location
- OD — PLUMBING, Overflow Drain
- FIRE PROTECTION, Fire Sprinkler Head
- MECHANICAL, Air Supply Grill
- MECHANICAL, Air Return Grill
- MECHANICAL, Strip Grill
- MECHANICAL, Exhaust Fan
- ELECTRICAL, Light Fixture, Surface Mounted. Unless Noted Otherwise.
- HD — ELECTRICAL, Fire Alarm Device, Heat Detector
- SD — ELECTRICAL, Fire Alarm Device, Smoke Detector
- AV — ELECTRICAL, Fire Alarm Audio Visual Speaker
- S — ELECTRICAL, Public Address System Speaker
- AP — ELECTRICAL, Wireless Access Point
- CEMENT PLASTER, Cement Plaster System See Structural for Framing Color to be PC-1. Refer to Exterior Color Schedule.
- CEMENT PLASTER, Cement Plaster System See Structural for Framing Color to be PC-2. Refer to Exterior Color Schedule.
- METAL DECK, See Structural Drawings.
- ACCESS DOORS AND FRAMES, Access Doors, Ceiling (20" X 30"), UNO
- Reference Point

ABBREVIATIONS

DS	STEEL AND FABRICATIONS, Rain Water Downspout.
CLG	Ceiling
CP	CEMENT PLASTER, System
GB	GYPSUM BOARD
GLB	GLUE-LAMINATED CONSTRUCTION, Beam
HT	Height
MD	METAL DECK
TYP	Typical
SIM	Similar
OH	Opposite hand
DS	Downspout
OD	Overflow Drain
UNO	Unless Noted Otherwise

NOTES

1. See Structural for Framing of Soffits and Ceilings
2. Single Lights or Single Rows of Lights at Soffits/ Ceilings Shall be Centered, UNO.
3. Refer to Interior Color Schedule for color.
4. Ceiling Color to Match to Adjacent Surface, Unless Otherwise Noted. Refer to Interior Elevation and Interior Design Plan for Color Location.

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

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LICENSED ARCHITECT MICHAEL K. FENNER No. C23724 Ren. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: MF	Copyright 2022 Darden Architects	
Scale: 1/8" = 1'-0"	Drawn By: KT		P/A201
Project Number: 2180	Checked By: -		
Date: 03/28/2023	Reviewed By: MF		

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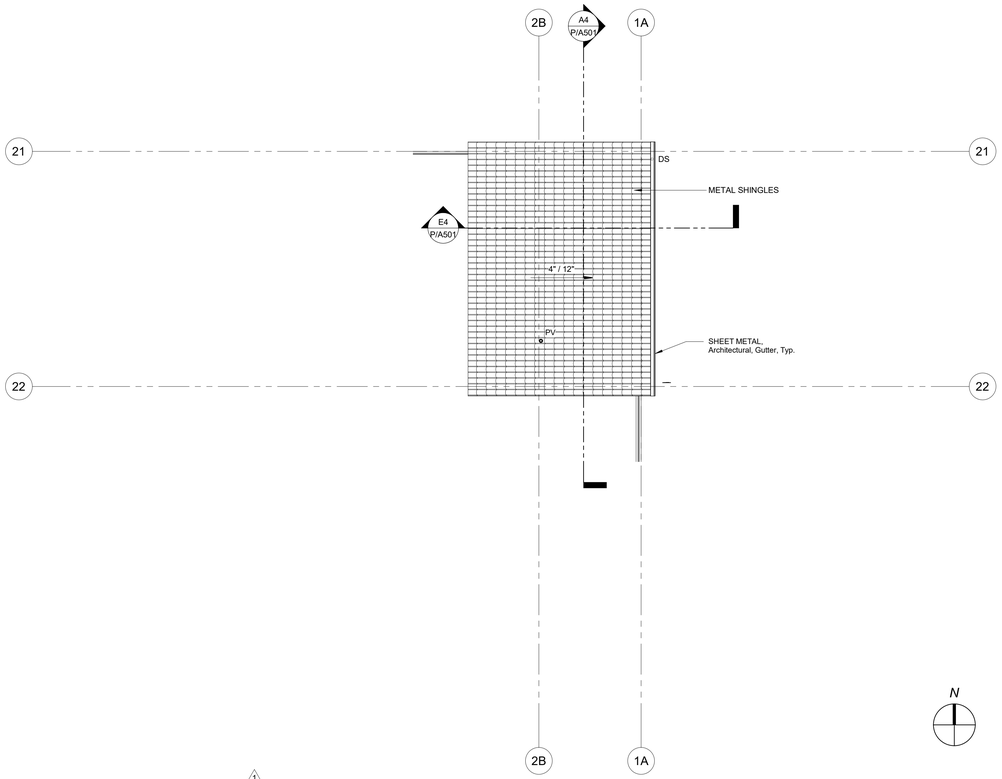
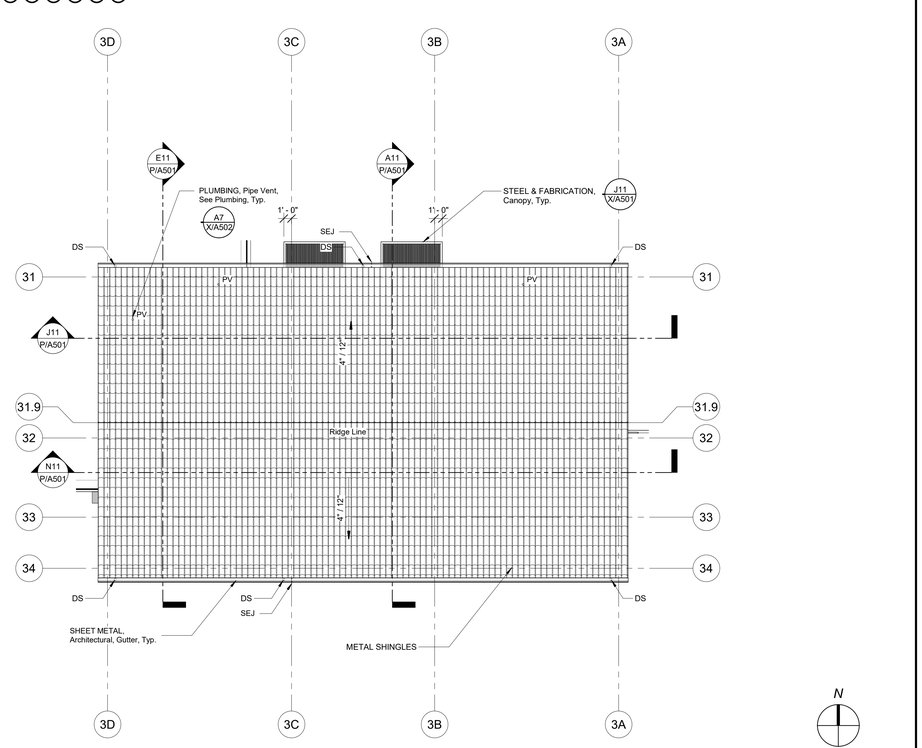


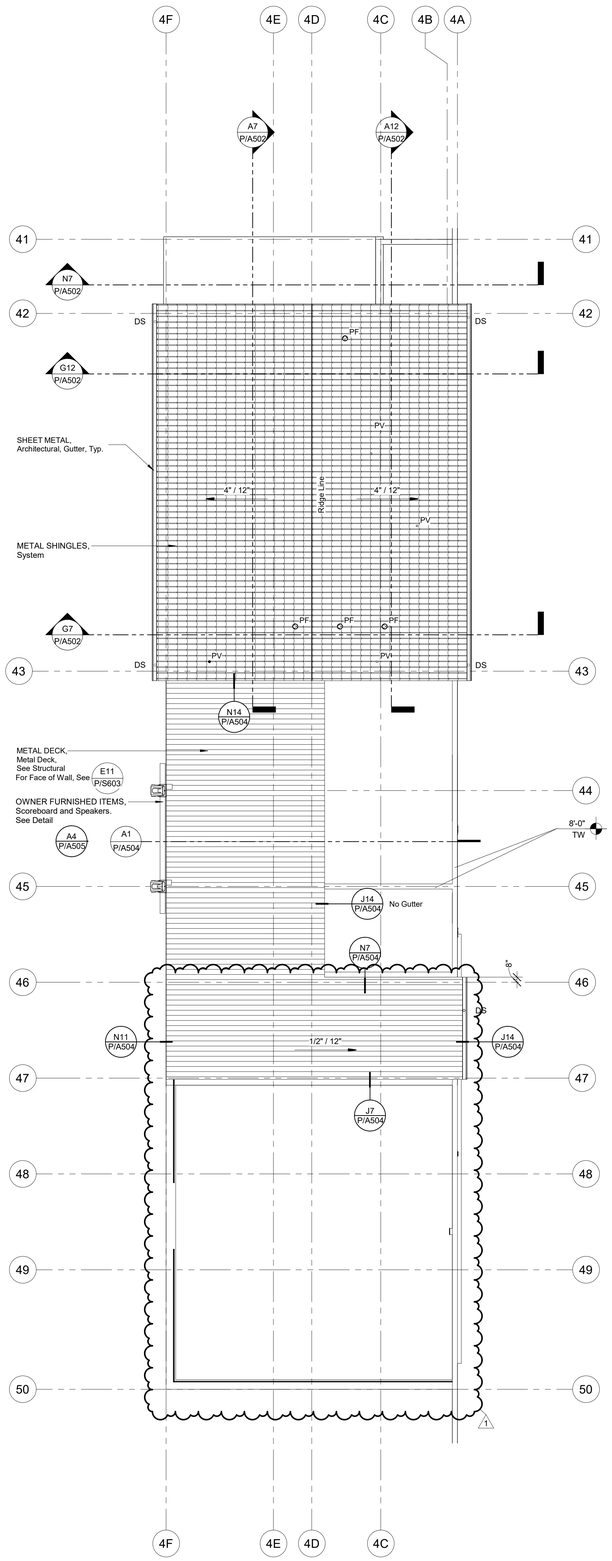
J1 — Roof Plan - Building P2

1/8" = 1'-0"



A1 — Roof Plan - Building P3

1/8" = 1'-0"



A13 — Roof Plan - Building P4

1/8" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

PV	PLUMBING, Vent with METAL SHINGLES Roofing Jack. Powder Coated finish to match the color of the Metal Shingle Room System. Coordinate the locations and sizes between the trades. (A7 X/A502)
PF	PLUMBING, Flue with METAL SHINGLES Roofing Jack. Powder Coated finish to match the color of the Metal Shingle Room System. Coordinate the locations and sizes between the trades. (J7 X/A502)
+00'-0" TOP	Elevation above finish floor
Slope (DN)	Direction of slope
	Line of Wall below
	Reference Point

ABBREVIATIONS

DS	STEEL AND FABRICATIONS, Rain Water Downspout.
SEJ	SHEET METAL, Architectural Gutters, Expansion Joint
FO Frmg.	Face of Framing
OD	PLUMBING, Overflow Drain
TOF	Top of Framing
RD	PLUMBING, Roof Drain
TOM	Top of Masonry
OH	Opposite Hand
FOS	Face of Stud
TOS	Top of Steel
Sim.	Similar
Typ.	Typical

NOTES

1. Refer to Plumbing, Mechanical, and Electrical for all roof penetrations and roof mounted equipment. Coordinate the type of roof penetration with the METAL SHINGLES trade contractor and manufacturer for the flashing and installation of the penetration. Provide shop drawings for locations and shop drawings.

K18 — Roof Plan Legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

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LICENSED ARCHITECT MICHAEL K. FERNANDEZ No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Scale: 1/8" = 1'-0"
Project Number: 2180
Date: 03/28/2023
Reviewed By: MF

P/A301

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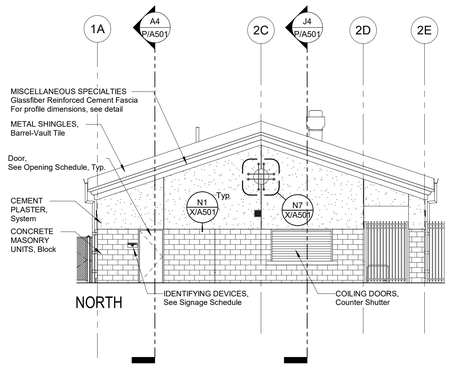

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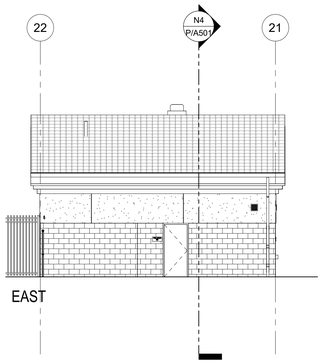

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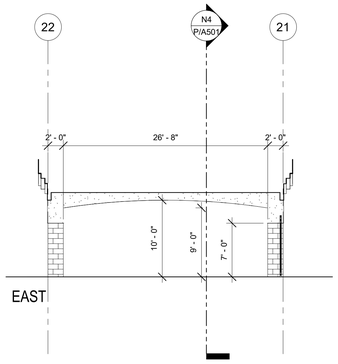

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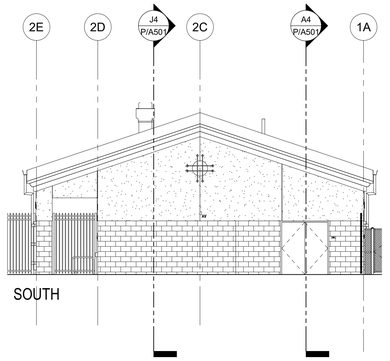

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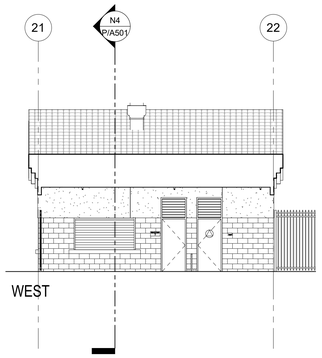

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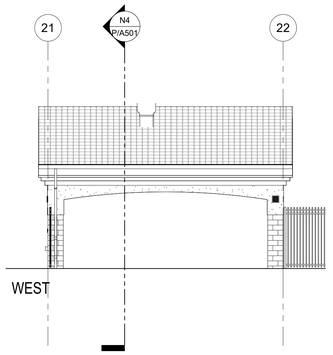
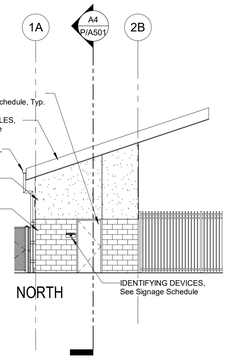


WEST

H1	ADD ALTERNATE Exterior Elevations - Building P2	
1/8" = 1'-0"	Refer to E18 for Legend Symbols, Abbreviations and Notes	



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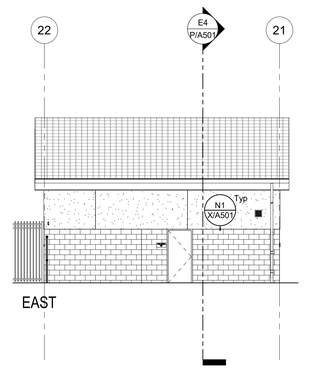

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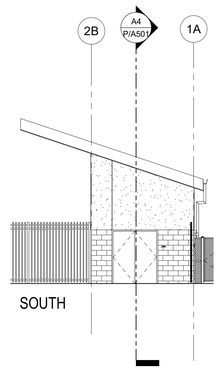

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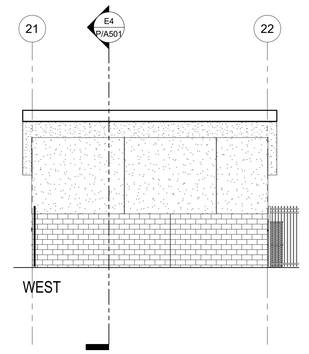


WEST

H1	Exterior Elevations - Building P2	
1/8" = 1'-0"	Refer to E18 for Legend Symbols, Abbreviations and Notes	

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

EXTERIOR COLOR LEGEND

Plaster Colors

PC-1 — White, Unless Noted Otherwise

Plaster walls perpendicular to elevation, not shown elsewhere, shall be the same color as face plane, Unless Noted Otherwise.

Block Colors

BC-1 — Natural, Unless Noted Otherwise

All Ground Block to be BC-1, UNO.

Metal Colors

MC-1 — White, Unless Noted Otherwise

All Hollow Metal Frames to be match adjacent wall.
All Steel and Fabrications to match adjacent wall, UNO.
All METAL DECKING to be MC-1, UNO.

Door Colors

All Doors to match adjacent Frame & Wall, UNO.

Tile Colors

CT-4

Color 1 - White, Unless Noted Otherwise

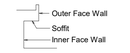
Color 2 - Grey

Color 3 - Gold

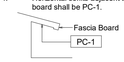
Color 4 - Orange Red

Color Notes

1. XX-X Color Designation.
2. Parapet caps to match color of wall below, UNO.
3. Soffits to match color of outer face wall, UNO.



4. Horizontal soffits adjacent to fascia board shall be PC-1.



SYMBOLS

- H — ELECTRICAL, Horn
- S — ELECTRICAL, Speaker
- ELECTRICAL, Outlet
- ELECTRICAL, Light Fixture, +10'-0" B.O. Fixture UNO
- Glass
- ELECTRICAL, PA Speaker

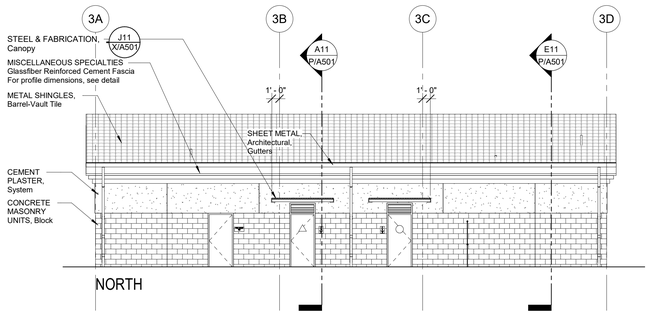
ABBREVIATIONS

AFF	Above Finished Floor
BO	Bottom of
CJ	Control Joint
DS	Downspout
EJ	Expansion Joint
HB	PLUMBING, Hose Bibb.
OH	Opposite Hand
Sim.	Similar
TO	Top of
TOM	Top of Masonry
TOP	Top of Parapet Framing
TOF	Top of Framing
TOR	Top of Roof
TOS	Top of Steel
TPL	Top of Plate
Typ.	Typical
UNO	Unless Noted Otherwise

NOTES

1. CEMENT PLASTER, Cement Plaster System, Accessories, Refer to Detail A14 X/A501
2. STEEL & FABRICATION, Downspout, Refer to A1 X/A501 Typ. See Plumbing Drawings for Location.
3. Refer to Specifications Section Appendix "C" Exterior Color Schedule.
4. Refer to Exterior Finish Schedule on A1 / X/A201
5. Refer to Structural for Curved Soffit Framing

E18	Exterior Elevations Legend
No Scale	



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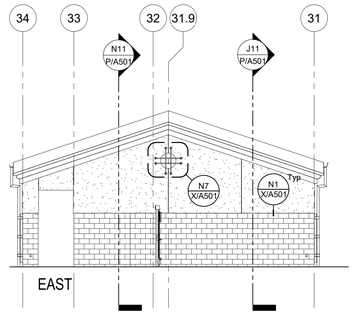

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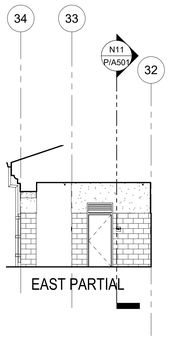

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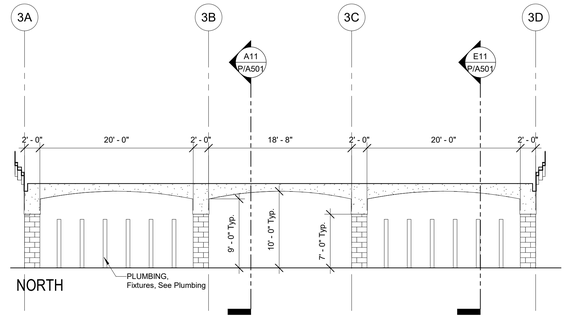

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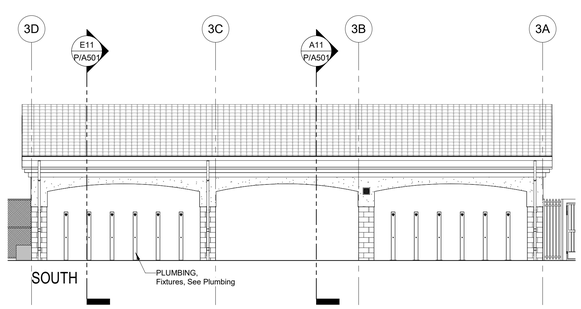

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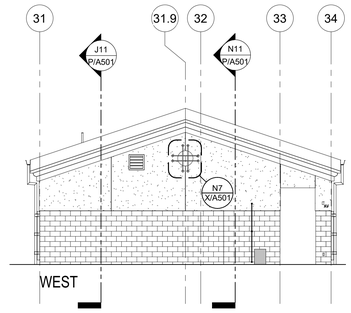

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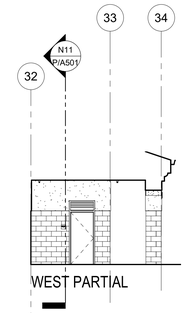

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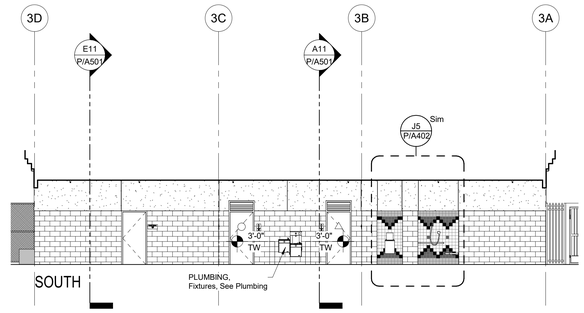

SOUTH

A1	Exterior Elevations - Building P3	
1/8" = 1'-0"	Refer to E18 for Legend Symbols, Abbreviations and Notes	

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P1, P2, P3
EXTERIOR ELEVATIONS - P2 & P3

Drawing

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LICENSED ARCHITECT
MICHAEL K. FONG
No. C23724
Exp. 4-30-24
STATE OF CALIFORNIA

Architect

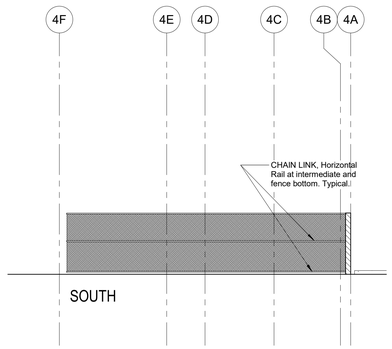
No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

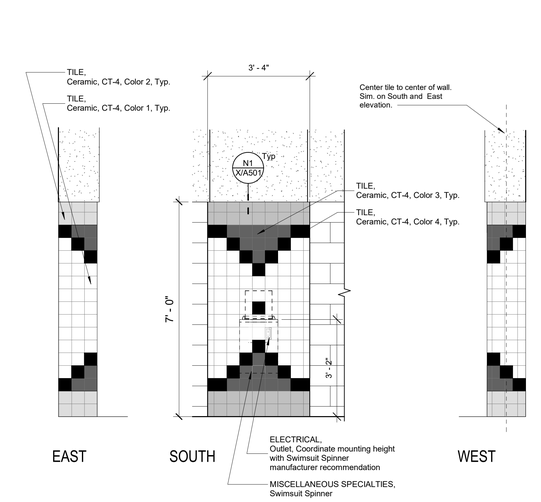
Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

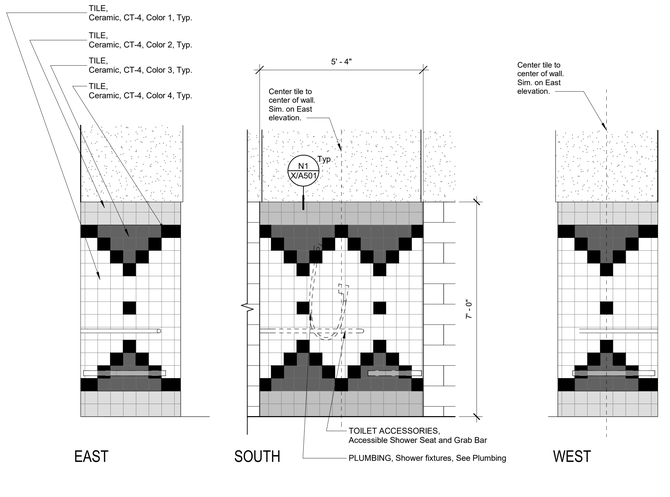
P/A401





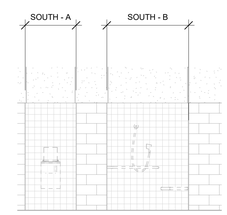
SOUTH - A

Refer to Elevation Key



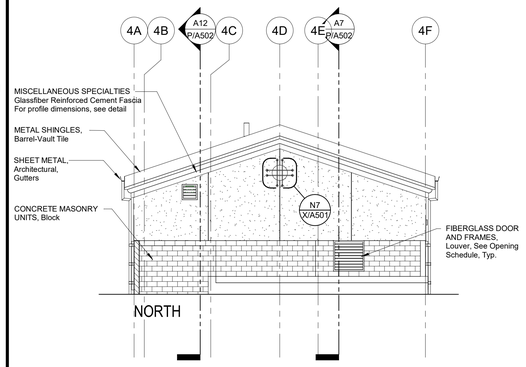
SOUTH - B

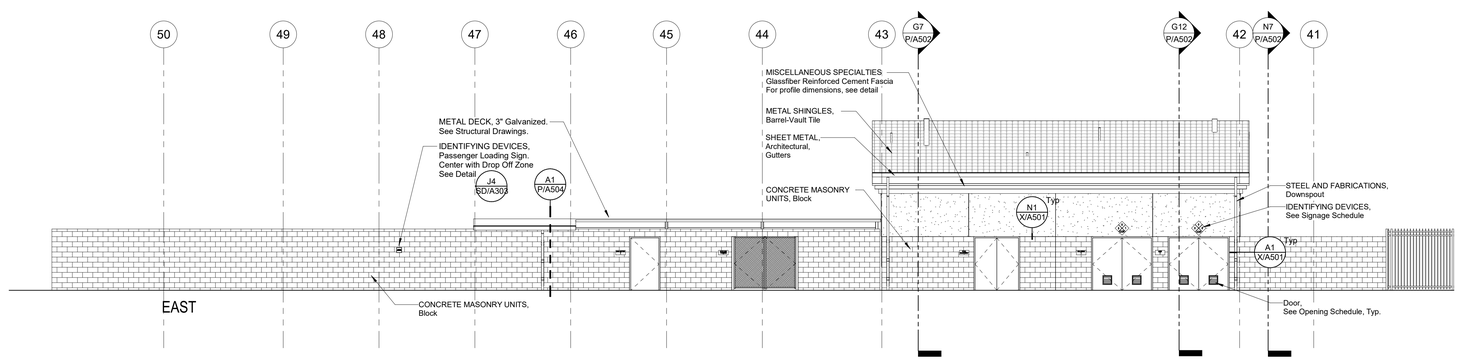
Refer to Elevation Key

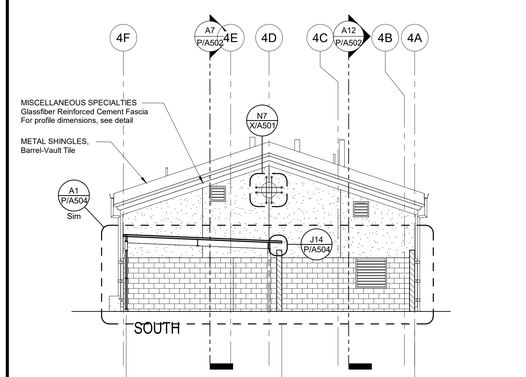


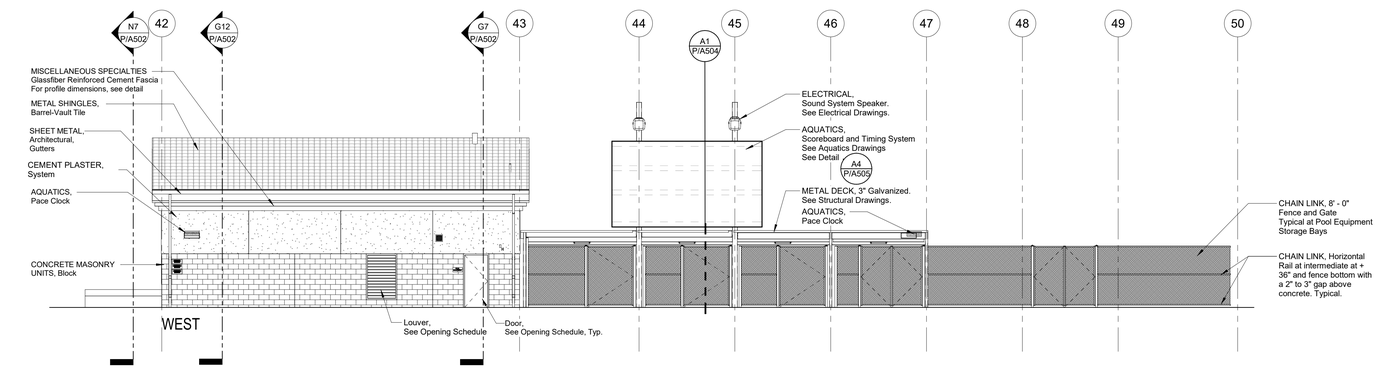
ELEVATION KEY

J5	Exterior Elevations - Building P3
1/2" = 1'-0"	Refer to F18 for Legend Symbols, Abbreviations and Notes









A1	Exterior Elevations
1/8" = 1'-0"	Refer to E18 for Legend Symbols, Abbreviations and Notes

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

EXTERIOR COLOR LEGEND

Plaster Colors

PC-1 — White, Unless Noted Otherwise

Plaster walls perpendicular to elevation, not shown elsewhere, shall be the same color as face plane, Unless Noted Otherwise.

Block Colors

BC-1 — Natural, Unless Noted Otherwise

All Ground Block to be BC-1, UNO.

Metal Colors

MC-1 — White, Unless Noted Otherwise

All Hollow Metal Frames to be match adjacent wall.
All Steel and Fabrications to match adjacent wall, UNO.
All METAL DECKING to be MC-1, UNO.

Door Colors

All Doors to match adjacent Frame & Wall, UNO.

Tile Colors

CT-4

Color 1 - White, Unless Noted Otherwise
Color 2 - Grey
Color 3 - Gold
Color 4 - Orange Red

Color Notes

1. XX-X Color Designation.
2. Parapet caps to match color of wall below, UNO.
3. Soffits to match color of outer face wall, UNO.

Outer Face Wall
Soffit
Inner Face Wall

4. Horizontal soffits adjacent to fascia board shall be PC-1.

Fascia Board
PC-1

SYMBOLS

- ELECTRICAL, Horn
- ELECTRICAL, Speaker
- ELECTRICAL, Outlet
- ELECTRICAL, Light Fixture, +10'-0" B.O. Fixture UNO
- Glass
- ELECTRICAL, PA Speaker

ABBREVIATIONS

AFF	Above Finished Floor
BO	Bottom of
CJ	Control Joint
DS	Downspout
EJ	Expansion Joint
HB	PLUMBING, Hose Bibb.
OH	Opposite Hand
Sim.	Similar
TO	Top of
TOM	Top of Masonry
TOP	Top of Parapet Framing
TOF	Top of Framing
TOR	Top of Roof
TOS	Top of Steel
TPL	Top of Plate
Typ.	Typical
UNO	Unless Noted Otherwise

NOTES

1. CEMENT PLASTER, Cement Plaster System, Accessories, Refer to Detail A14 X/A501
2. STEEL & FABRICATION, Downspout, Refer to A1 X/A501 Typ. See Plumbing Drawings for Location.
3. Refer to Specifications Section Appendix "C" Exterior Color Schedule.
4. Refer to Exterior Finish Schedule on A1 / X/A201
5. Refer to Structural for Curved Soffit Framing

E18	Exterior Elevations Legend
No Scale	

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P3, P4
EXTERIOR ELEVATIONS - P3 - P4
Drawing

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LICENSED ARCHITECT — MICHAEL K. FENNELL — No. C23724 — Exp. 4-30-23 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: FM
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

P/A402

8/18/2023 4:27:16 PM
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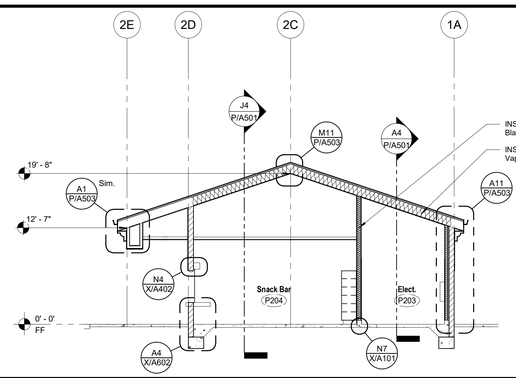
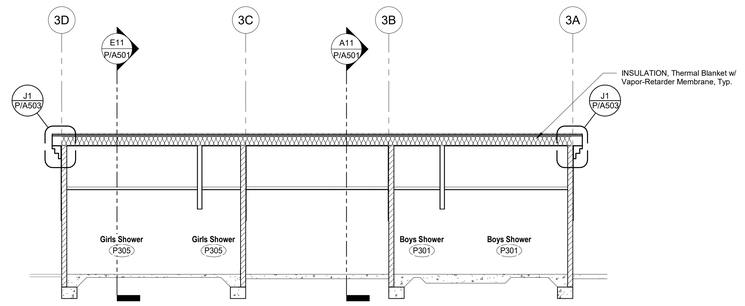


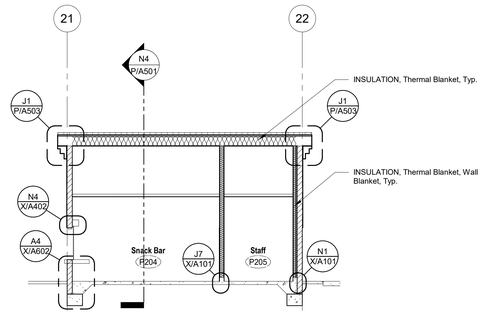
N4
1/8" = 1'-0"

ADD ALTERNATE
Building Section - P2



N11
1/8" = 1'-0"

Building Section - P3



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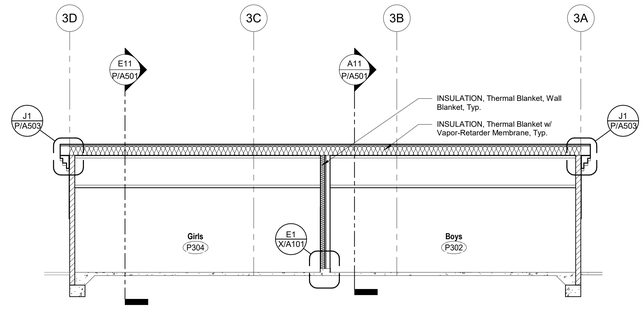
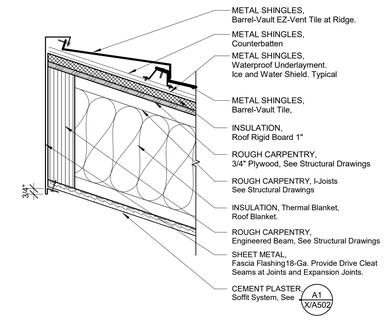
1/8" = 1'-0"

ADD ALTERNATE
Building Section - P2



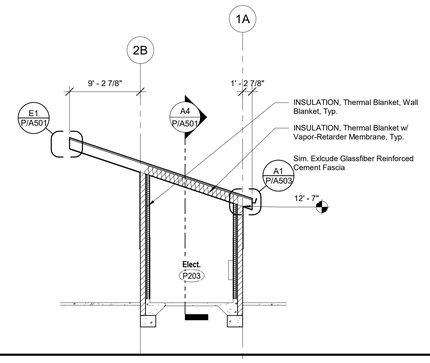
J11
1/8" = 1'-0"

Building Section - P3



E1
1 1/2" = 1'-0"

METAL SHINGLES, Ridge Detail



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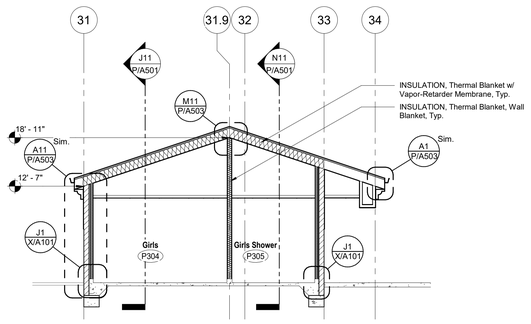
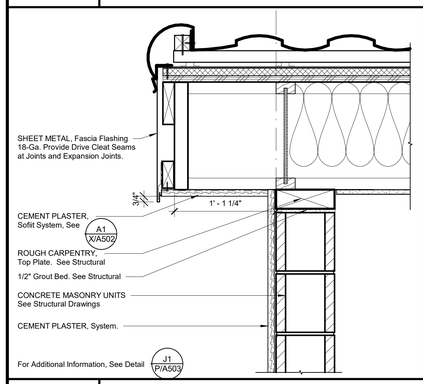
1/8" = 1'-0"

Building Section - P2



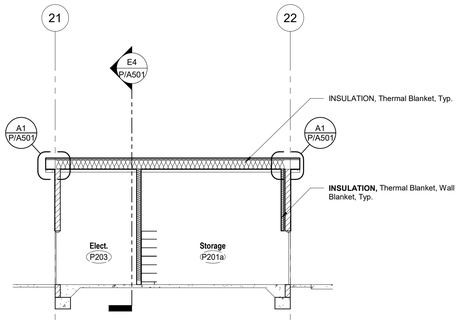
E11
1/8" = 1'-0"

Building Section - P3



A1
1 1/2" = 1'-0"

METAL SHINGLES Rake Detail



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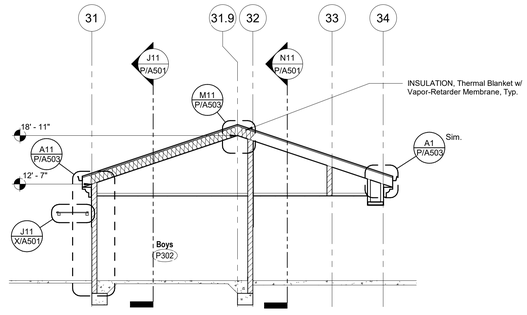
Building Section - P2



A11
1/8" = 1'-0"

Building Section - P3

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2, P3
BUILDING SECTIONS - P2 & P3

Drawing

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LICENSED ARCHITECT MICHAEL K. FAZIO No. C23724 Exp. 4-30-25 STATE OF CALIFORNIA

Architect

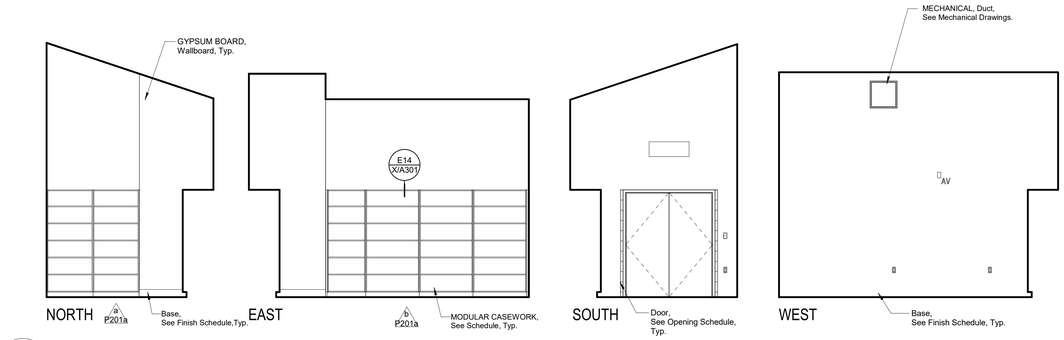
No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF

Scale: As indicated
Project Number: 2180
Date: 03/28/2023

P/A501



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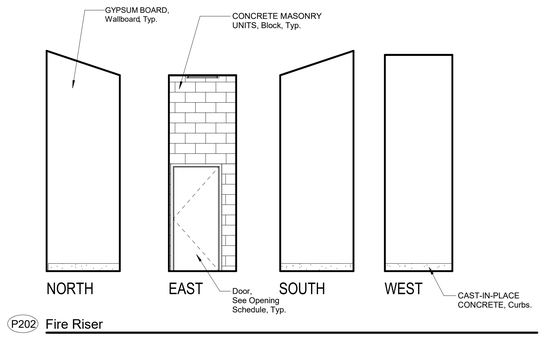

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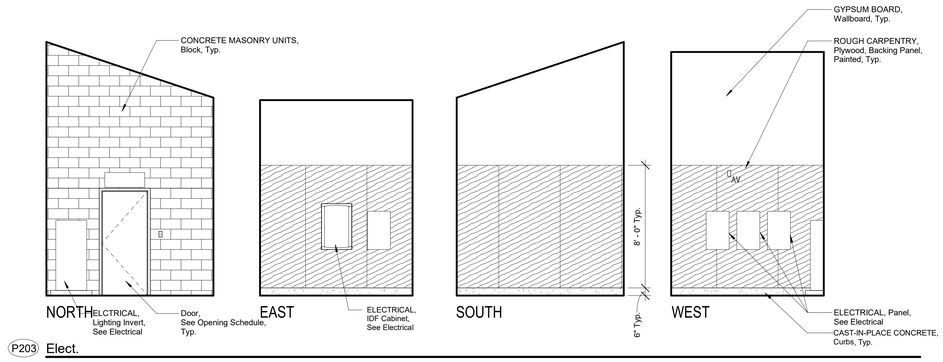

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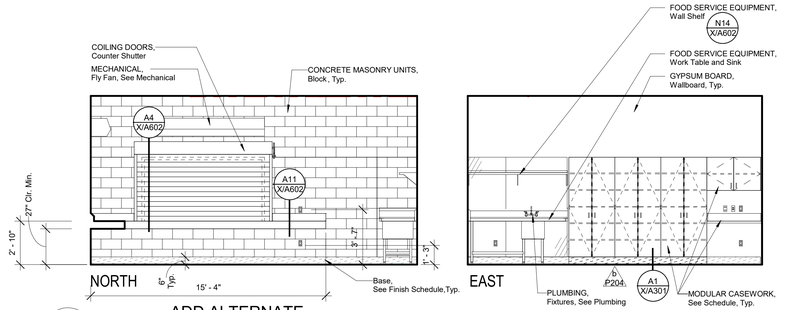

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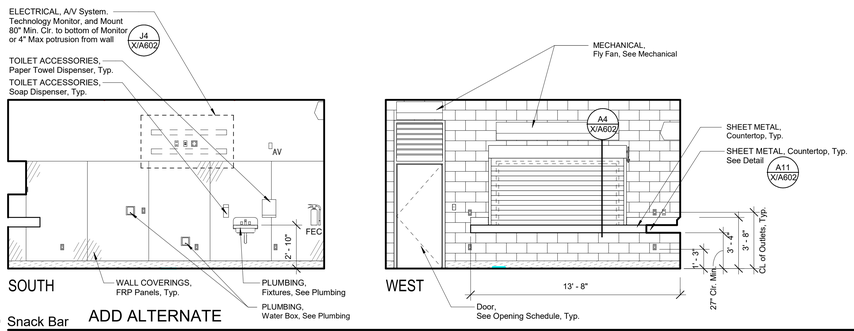

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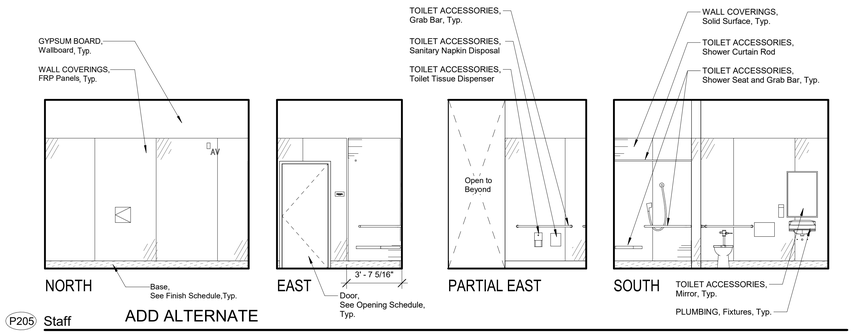

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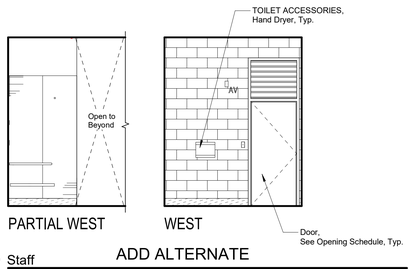

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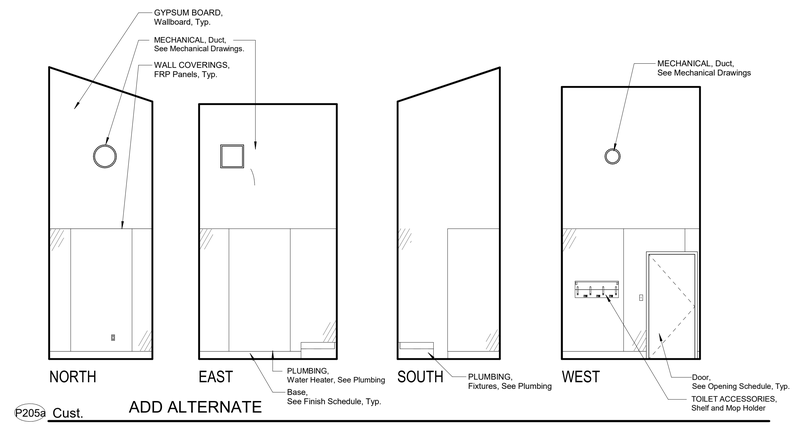

P205a Cust. ADD ALTERNATE

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- a #### — Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
- FEC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls. See Detail N1 X/A602
- WALL COVERINGS, FRP Panels — E14 X/A601
- WALL COVERINGS, Solid Surfacing — A14 X/A601
- ROUGH CARPENTRY, Plywood Sheathing, AC
- PLUMBING, Access Door, See Plumbing Drawings
- ELECTRICAL, AV/Speaker @ +7'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Clock/Speaker @ +8'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Outlet
- ELECTRICAL, Data Outlet
- ELECTRICAL, Light Switch
- M ELECTRICAL, Microphone Outlet
- FA ELECTRICAL, Fire Alarm Device
- IS ELECTRICAL, Intrusion Sensor
- V ELECTRICAL, Volume Control
- MS ELECTRICAL, Motion Sensor
- TV ELECTRICAL, Television Outlet
- ELECTRICAL, Telephone Outlet
- T MECHANICAL, Thermostat
- ELECTRICAL, HDMI
- HB PLUMBING, Hose Bib

ABBREVIATIONS

FEC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
Gl.	Glass
KS	Knee Space
OH	Opposite Hand
Typ.	Typical
Sim.	Similar
Dia.	Diameter
UNO	Unless Noted Otherwise

NOTES

1. All Details, Materials and Finishes Shall be Considered Typical for All Similar Conditions, Unless Noted Otherwise.
2. Refer to Plumbing, Mechanical, Telecommunications, Food Service, and Electrical for All Wall Mounted Devices and Coordinate Location and Heights with Architectural (ie. Casework, Equipment, etc.)
3. Locate and Mount TOILET ACCESSORIES and PLUMBING per Detail A7 X/A601 Unless Noted Otherwise.
4. Provide backing at all TOILET ACCESSORIES, TOILET PARTITIONS, and IDENTIFYING DEVICES per Detail N14 X/A601 Unless Noted Otherwise.
5. Provide Backing for TOILET ACCESSORIES, Grab Bars per Detail J11 X/A601
6. Locate and mount IDENTIFYING DEVICES per Detail E1 X/A601 Unless Noted Otherwise.
7. Provide backing at all MODULAR CASEWORK per Detail N14 X/A601
8. WALL COVERINGS, FRP Panels, See Detail E14 X/A601
9. GYPSUM BOARD, Metal Accessories, See Detail J14 X/A601

F18 — Interior Elevation legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P
INTERIOR ELEVATIONS - ROOMS P201 - P205
Drawing

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LICENSED ARCHITECT MICHAEL K. FERRO No. C23724 REN. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed Designer | Copyright 2022 Darden Architects
Scale: 1/4" = 1'-0" | Drawn By: Author
Project Number: 2180 | Checked Checker
Date: 03/28/2023 | Reviewed Approver

P/A601

A1 — Interior Elevations
1/4" = 1'-0" — Refer to F18 for Legend Symbols, Abbreviations and Notes

8/18/2023 4:27:33 PM
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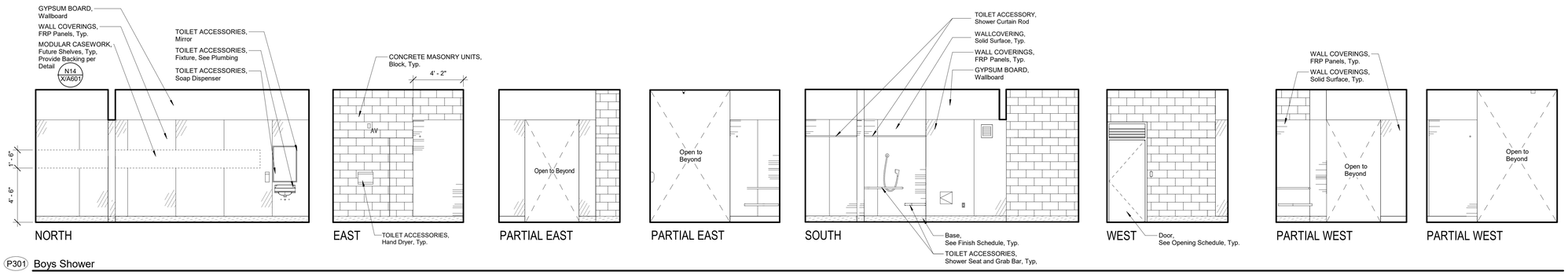
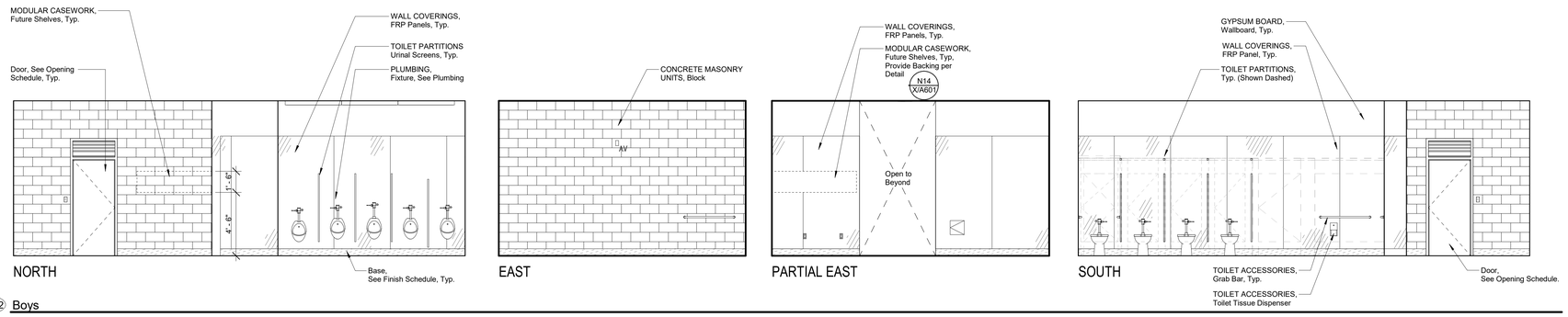
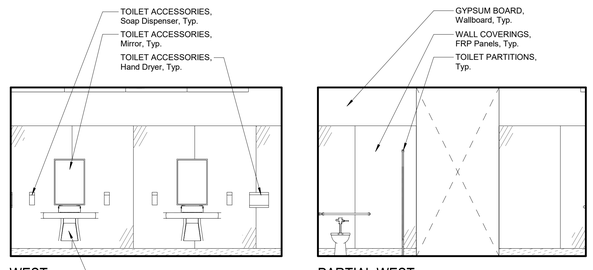


P301 Boys Shower



P302 Boys



P302 Boys
(Continued)

SYMBOLS

- Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
- FEC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls. See Detail N1 X/A602
- WALL COVERINGS, FRP Panels E14 X/A601
- WALL COVERINGS, Solid Surfacing A14 X/A601
- ROUGH CARPENTRY, Plywood Sheathing, AC
- PLUMBING, Access Door, See Plumbing Drawings
- ELECTRICAL, AV/Speaker @ +7'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Clock/Speaker @ +8'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Outlet
- ELECTRICAL, Data Outlet
- ELECTRICAL, Light Switch
- ELECTRICAL, Microphone Outlet
- FA — ELECTRICAL, Fire Alarm Device
- IS — ELECTRICAL, Intrusion Sensor
- V — ELECTRICAL, Volume Control
- MS — ELECTRICAL, Motion Sensor
- TV — ELECTRICAL, Television Outlet
- ELECTRICAL, Telephone Outlet
- T — MECHANICAL, Thermostat
- ELECTRICAL, HDMI
- HB — PLUMBING, Hose Bib

ABBREVIATIONS

FEC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
Gl.	Glass
KS	Knee Space
OH	Opposite Hand
Typ.	Typical
Sim.	Similar
Dia.	Diameter
UNO	Unless Noted Otherwise

NOTES

1. All Details, Materials and Finishes Shall be Considered Typical for All Similar Conditions, Unless Noted Otherwise.
2. Refer to Plumbing, Mechanical, Telecommunications, Food Service, and Electrical for All Wall Mounted Devices and Coordinate Location and Heights with Architectural (ie. Casework, Equipment, etc.)
3. Locate and Mount TOILET ACCESSORIES and PLUMBING per Detail A7 X/A601 Unless Noted Otherwise.
4. Provide backing at all TOILET ACCESSORIES, TOILET PARTITIONS, and IDENTIFYING DEVICES per Detail N14 X/A601 Unless Noted Otherwise.
5. Provide Backing for TOILET ACCESSORIES, Grab Bars per Detail J11 X/A601
6. Locate and mount IDENTIFYING DEVICES per Detail E1 X/A601 Unless Noted Otherwise.
7. Provide backing at all MODULAR CASEWORK per Detail N14 X/A601
8. WALL COVERINGS, FRP Panels, See Detail E14 X/A601
9. GYPSUM BOARD, Metal Accessories, See Detail J14 X/A601

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

F18 — Interior Elevation legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P2
INTERIOR ELEVATIONS - ROOMS P301 - P302
Drawing

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LICENSED ARCHITECT MICHAEL K. FERNANDES No. C23724 REN. 4-30-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF
Scale: 1/4" = 1'-0"
Project Number: 2180
Date: 03/28/2023

P/A602

A1 — Interior Elevations
1/4" = 1'-0"
Refer to F18 for Legend Symbols, Abbreviations and Notes

8/18/2023 4:27:41 PM
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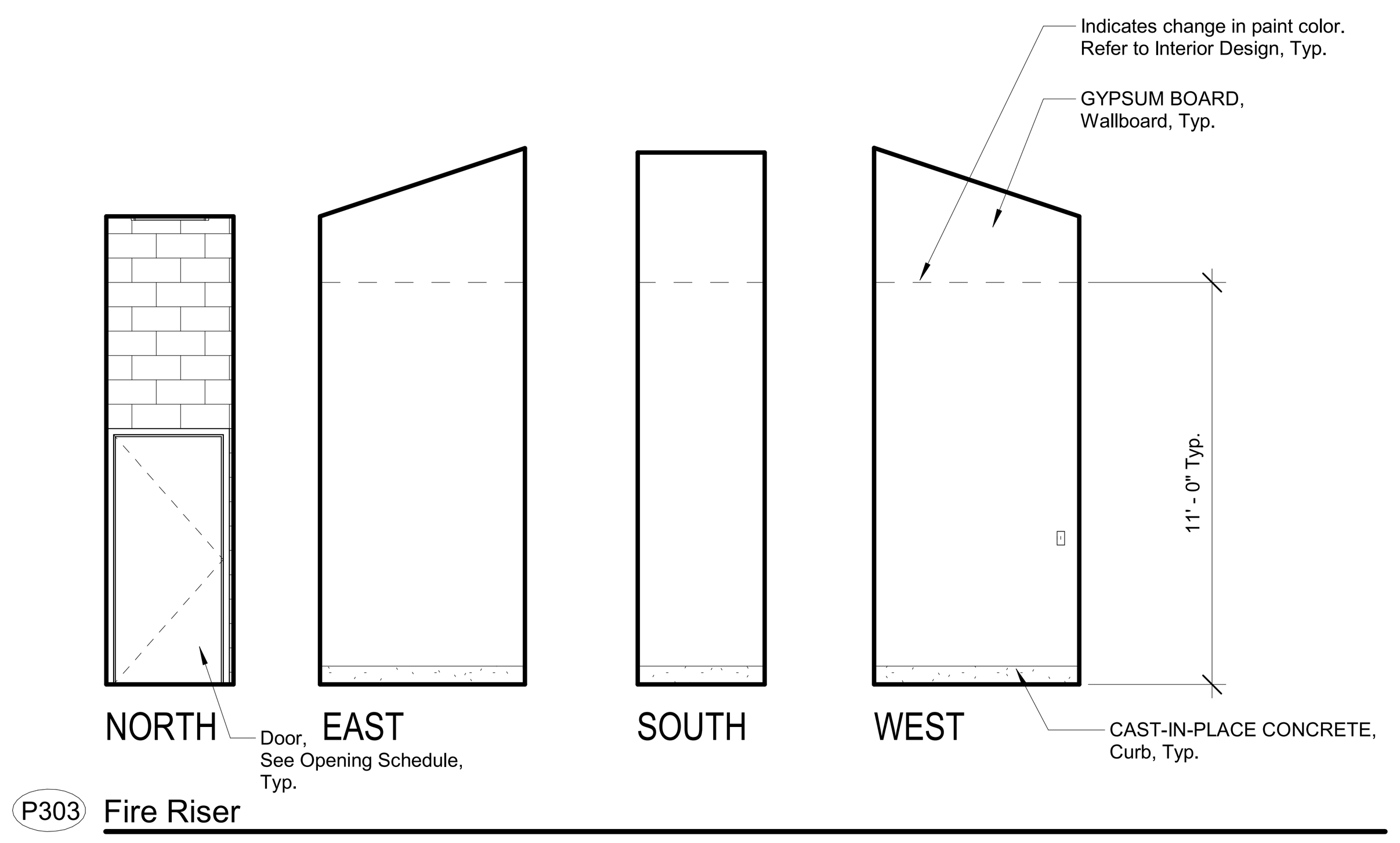
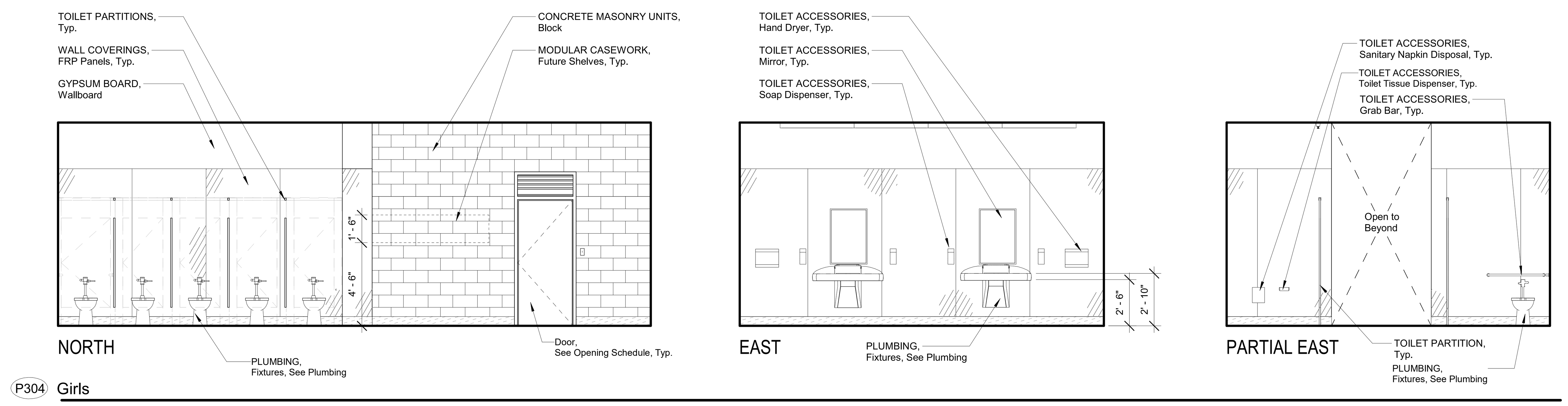
DSA File No.:
54-H11

DSA Application No.:
02-120251

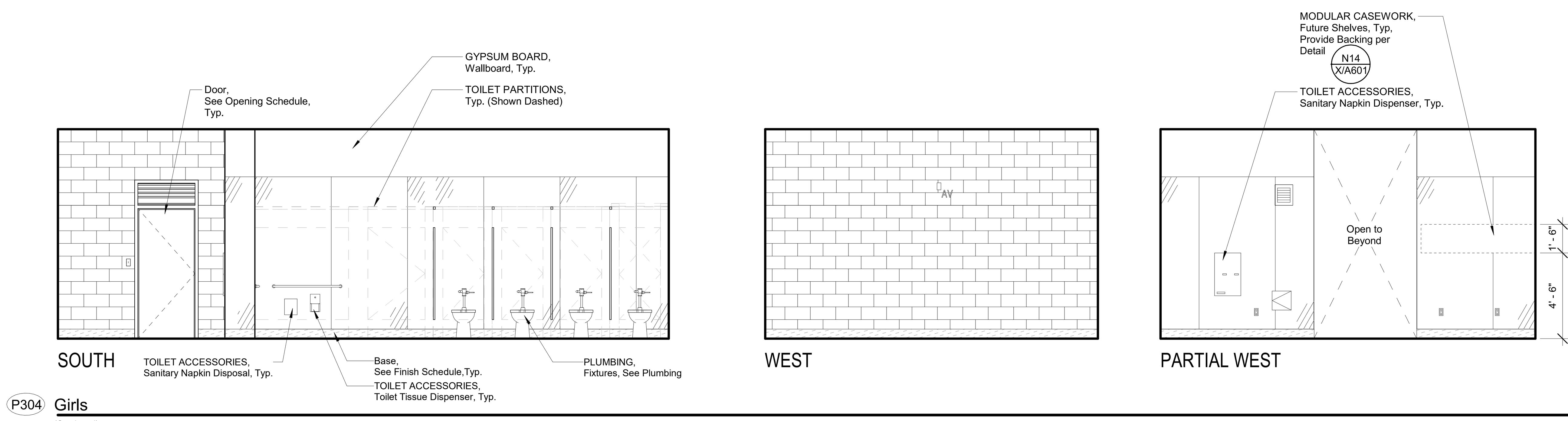
Agency Approval



P303 Fire Riser



P304 Girls



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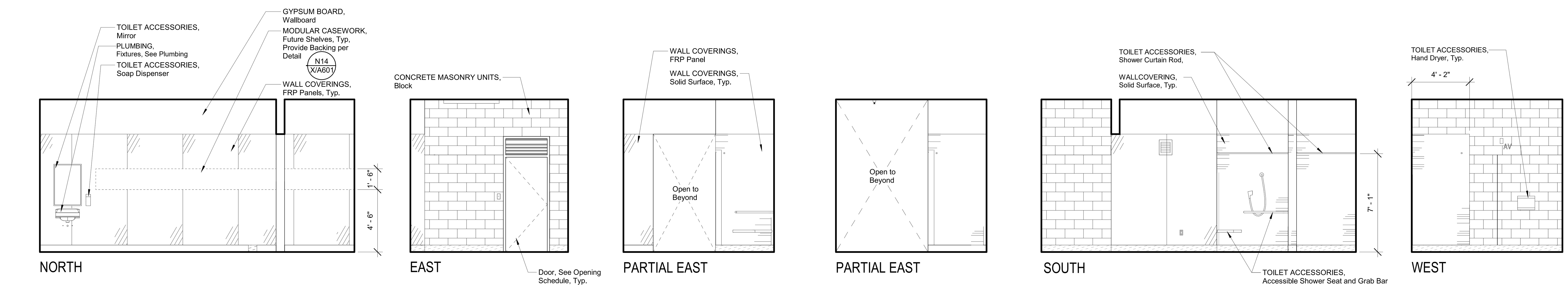

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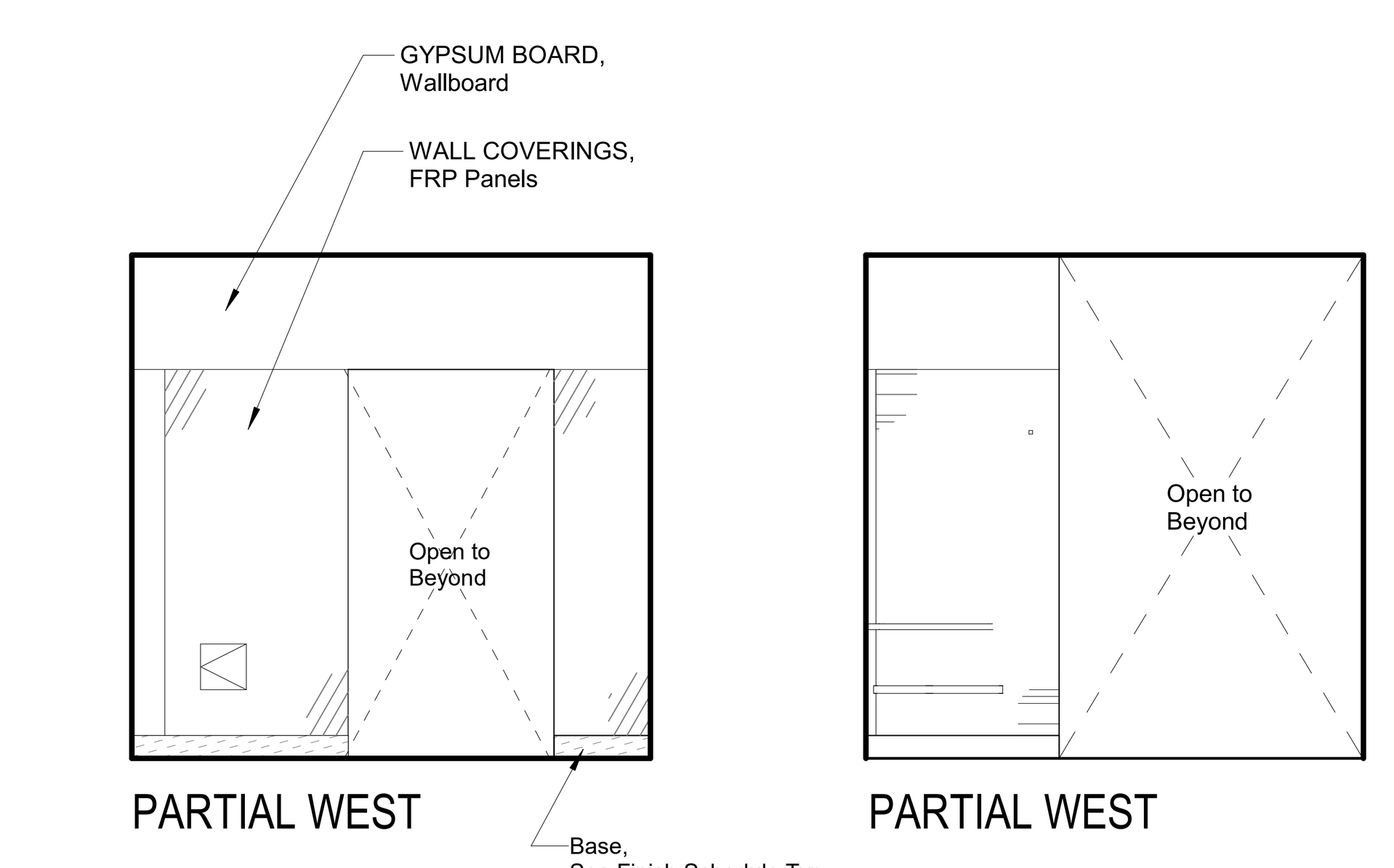

P305 Girls Shower
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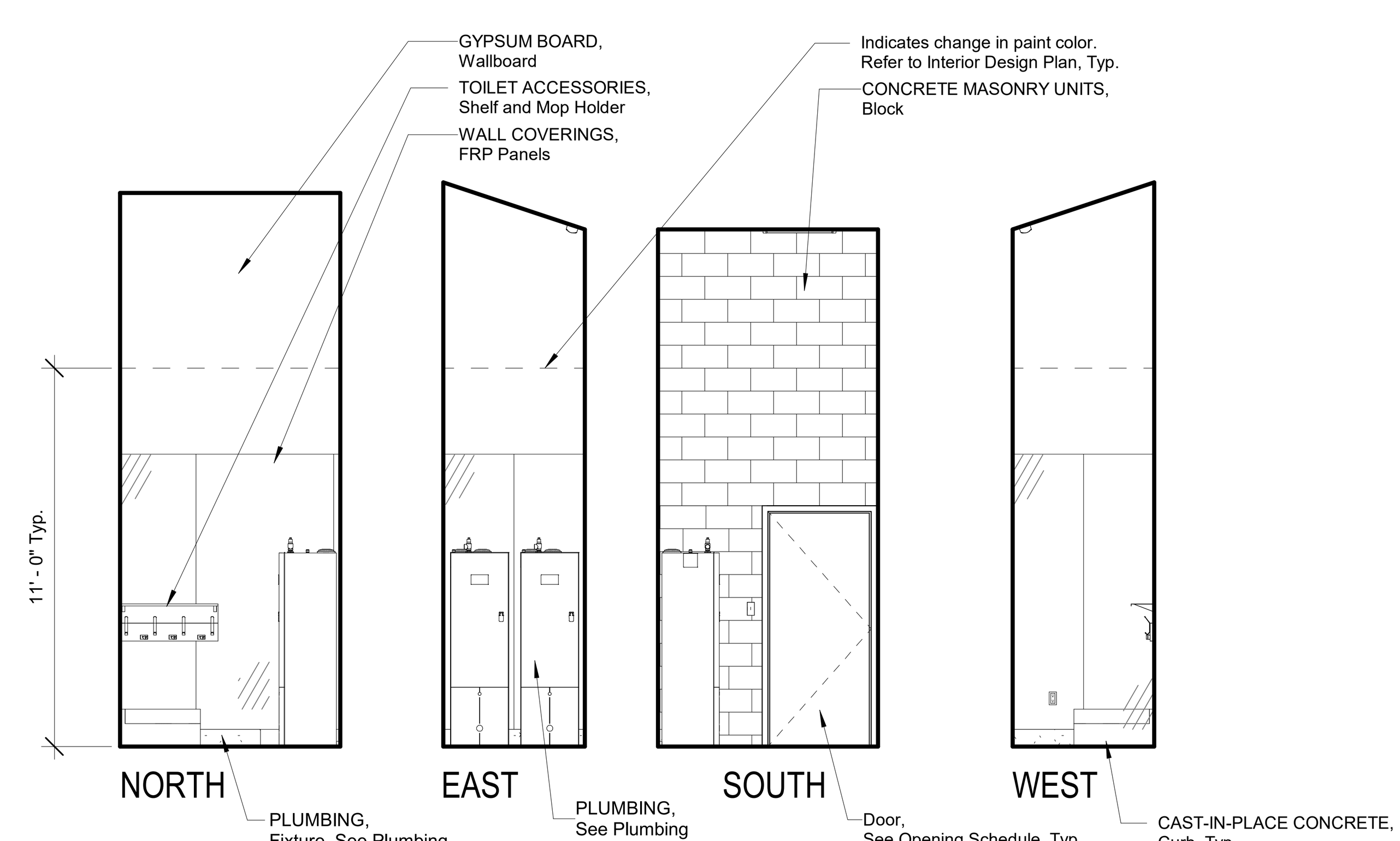

P306 Cust.

SYMBOLS

- Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
- FEC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls. See Detail N1 X/A602
- WALL COVERINGS, FRP Panels, See Detail E14 X/A601
- WALL COVERINGS, Solid Surfacing A14 X/A601
- ROUGH CARPENTRY, Plywood Sheathing, AC
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- ELECTRICAL, Motion Sensor
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ABBREVIATIONS

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Typ.	Typical
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Dia.	Diameter
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6. Locate and mount IDENTIFYING DEVICES per Detail E1 X/A601 Unless Noted Otherwise.
7. Provide backing at all MODULAR CASEWORK per Detail H14 X/A601
8. WALL COVERINGS, FRP Panels, See Detail E14 X/A601
9. GYPSUM BOARD, Metal Accessories, See Detail J14 X/A601

F18 Interior Elevation legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P3
INTERIOR ELEVATIONS - ROOMS P303 - P306
Drawing

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LICENSED ARCHITECT — MICHAEL K. FENNEY — No. C23724 — Ren. 4-30-25 — STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: MF	Copyright 2022 Darden Architects
Scale: 1/4" = 1'-0"	Drawn By: KT	
Project Number: 2180	Checked By: -	P/A603
Date: 03/28/2023	Reviewed By: MF	

A1 INTERIOR ELEVATIONS
1/4" = 1'-0"
Refer to F18 for Legend Symbols, Abbreviations and Notes

8/18/2023 4:27:52 PM
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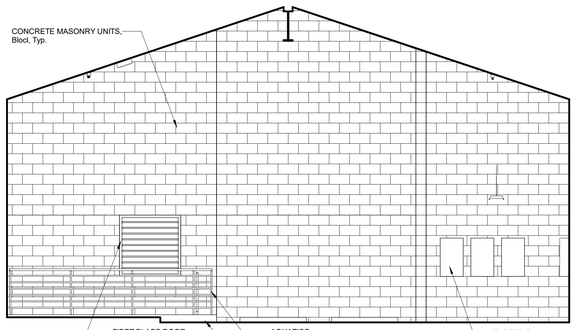
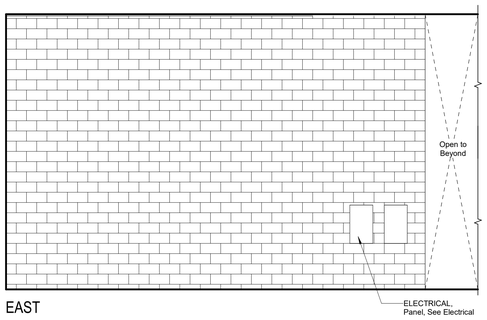


NORTH



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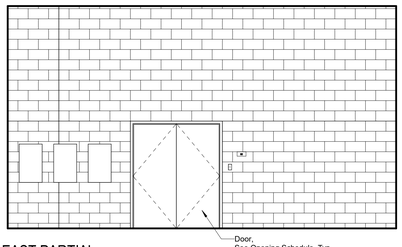
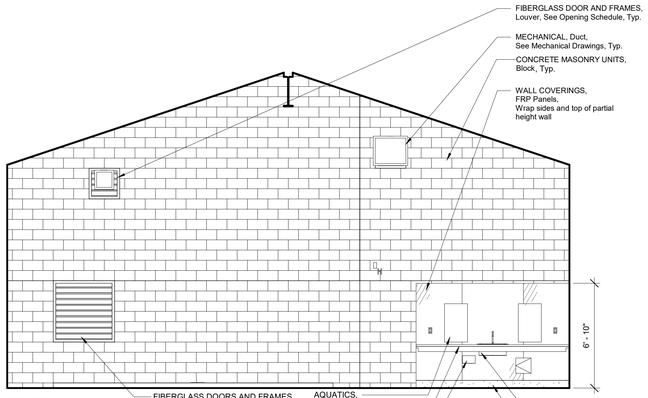


EAST PARTIAL

P401 Pool Equipment



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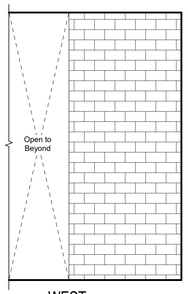

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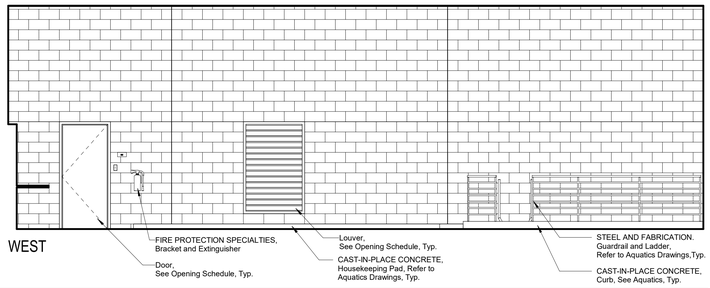

WEST

P401 Pool Equipment
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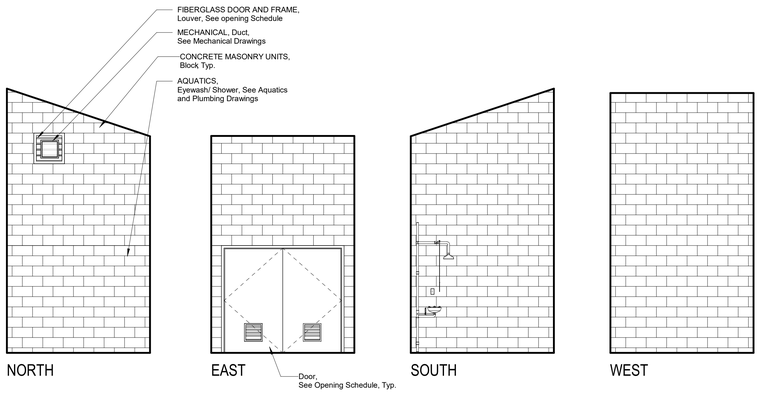
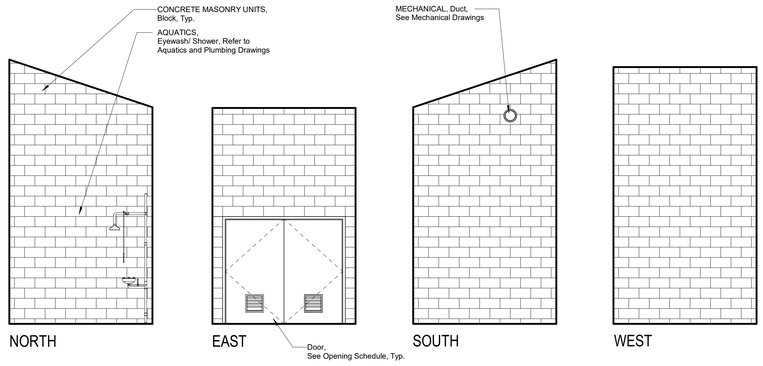


NORTH EAST SOUTH WEST

P402 Acid



NORTH EAST SOUTH WEST

P403 Chlorine

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
- FEC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls. See Detail N1 X/A602
- WALL COVERINGS, FRP Panels E14 X/A601
- WALL COVERINGS, Solid Surfacing A14 X/A601
- ROUGH CARPENTRY, Plywood Sheathing, AC
- PLUMBING, Access Door, See Plumbing Drawings
- ELECTRICAL, AV/Speaker @ +7'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Clock/Speaker @ +8'-6" to center of device, Unless Noted Otherwise.
- ELECTRICAL, Outlet
- ELECTRICAL, Data Outlet
- ELECTRICAL, Light Switch
- ELECTRICAL, Microphone Outlet
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- IS — ELECTRICAL, Intrusion Sensor
- V — ELECTRICAL, Volume Control
- MS — ELECTRICAL, Motion Sensor
- TV — ELECTRICAL, Television Outlet
- ELECTRICAL, Telephone Outlet
- T — MECHANICAL, Thermostat
- H — ELECTRICAL, HDMI
- HB — PLUMBING, Hose Bib

ABBREVIATIONS

FEC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
Gl.	Glass
KS	Knee Space
OH	Opposite Hand
Typ.	Typical
Sim.	Similar
Dia.	Diameter
UNO	Unless Noted Otherwise

NOTES

1. All Details, Materials and Finishes Shall be Considered Typical for All Similar Conditions, Unless Noted Otherwise.
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4. Provide backing at all TOILET ACCESSORIES, TOILET PARTITIONS, and IDENTIFYING DEVICES per Detail N14 X/A601 Unless Noted Otherwise.
5. Provide Backing for TOILET ACCESSORIES, Grab Bars per Detail J11 X/A601
6. Locate and mount IDENTIFYING DEVICES per Detail E1 X/A601 Unless Noted Otherwise.
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8. WALL COVERINGS, FRP Panels, See Detail E14 X/A601
9. GYPSUM BOARD, Metal Accessories, See Detail J14 X/A601

F18 | Interior Elevation legend

No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P4
INTERIOR ELEVATIONS - ROOMS P401 - P403
Drawing

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LICENSED ARCHITECT REGISTERED PROFESSIONAL No. C23724 STATE OF CALIFORNIA Exp. 4-30-25
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF

Scale: 1/4" = 1'-0"
Project Number: 2180
Date: 03/28/2023

P/A604

A1 | Interior Elevations

1/4" = 1'-0"

Refer to F18 for Legend Symbols, Abbreviations and Notes

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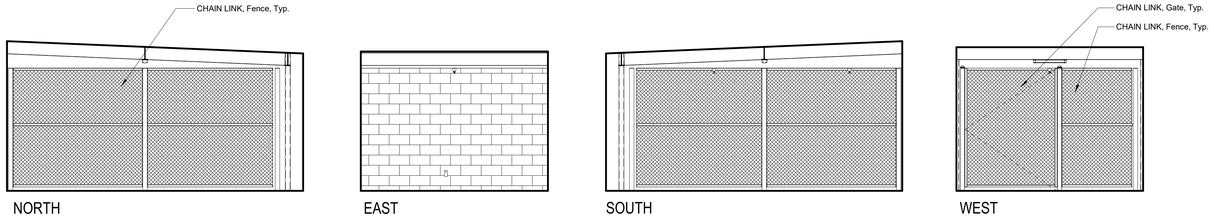
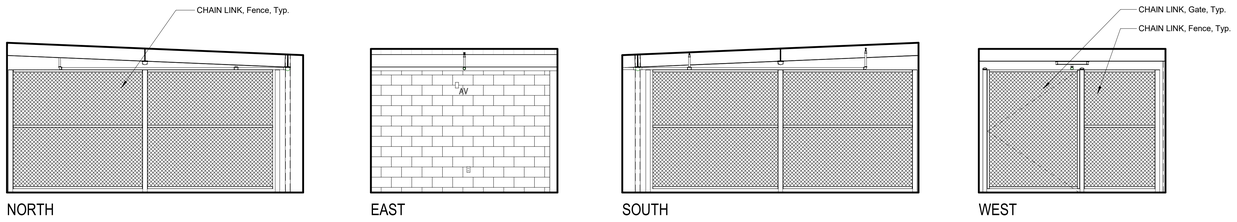


P404b Storage



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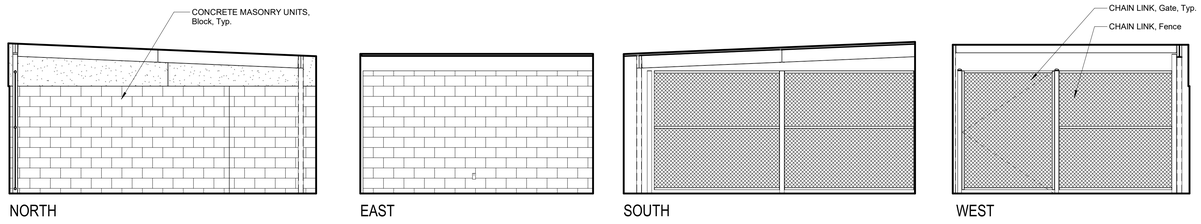

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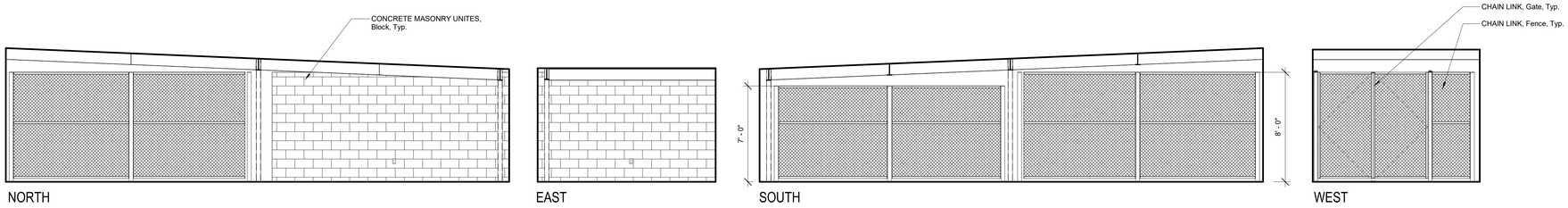

P404d Storage

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

SYMBOLS

- Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
- FEC — FIRE PROTECTION SPECIALTIES, Fire Extinguisher Cabinet, Top of Cabinet @ +5'-0", Unless Noted Otherwise. Provide Fire Rated Cabinet at Rated Walls. See Detail N1 X/A602
- WALL COVERINGS, FRP Panels — E14 X/A601
- WALL COVERINGS, Solid Surfacing — A14 X/A601
- ROUGH CARPENTRY, Plywood Sheathing, AC
- PLUMBING, Access Door, See Plumbing Drawings
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- ELECTRICAL, Outlet
- ELECTRICAL, Data Outlet
- ELECTRICAL, Light Switch
- ELECTRICAL, Microphone Outlet
- $_{FA}$ ELECTRICAL, Fire Alarm Device
- $_{IS}$ ELECTRICAL, Intrusion Sensor
- $_{V}$ ELECTRICAL, Volume Control
- $_{MS}$ ELECTRICAL, Motion Sensor
- $_{TV}$ ELECTRICAL, Television Outlet
- ELECTRICAL, Telephone Outlet
- $_{T}$ MECHANICAL, Thermostat
- ELECTRICAL, HDMI
- $_{HB}$ PLUMBING, Hose Bib

ABBREVIATIONS

FEC	FIRE PROTECTION SPECIALTIES, Fire Extinguisher and Cabinet, Type FEC-1, Unless Noted Otherwise.
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OH	Opposite Hand
Typ.	Typical
Sim.	Similar
Dia.	Diameter
UNO	Unless Noted Otherwise

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8. WALL COVERINGS, FRP Panels, See Detail E14 X/A601
9. GYPSUM BOARD, Metal Accessories, See Detail J14 X/A601

F18 — Interior Elevation legend

No Scale

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P
INTERIOR ELEVATIONS - ROOMS P404a - P404d
Drawing

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LICENSED ARCHITECT — MICHAEL K. FERRO — No. C23724 — REN. 4-30-25 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: KT
Checked By: -
Reviewed By: MF

Scale: 1/4" = 1'-0"
Project Number: 2180
Date: 03/28/2023

P/A605

Sheet of

A1 — INTERIOR ELEVATIONS

1/4" = 1'-0"

Refer to F18 for Legend Symbols, Abbreviations and Notes

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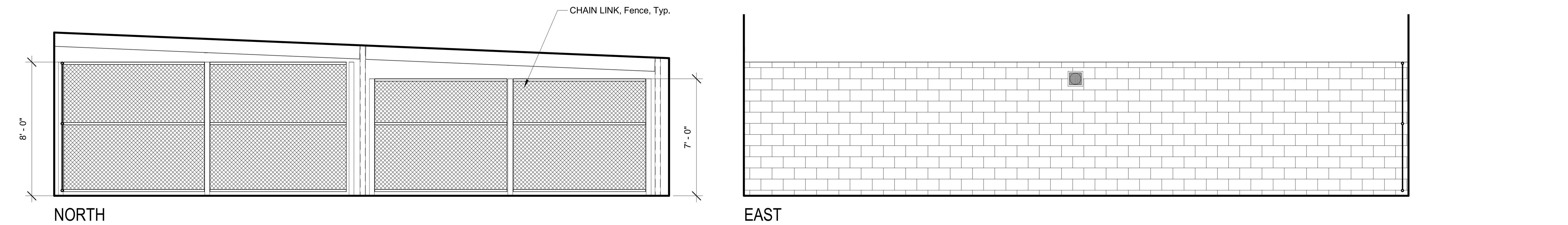
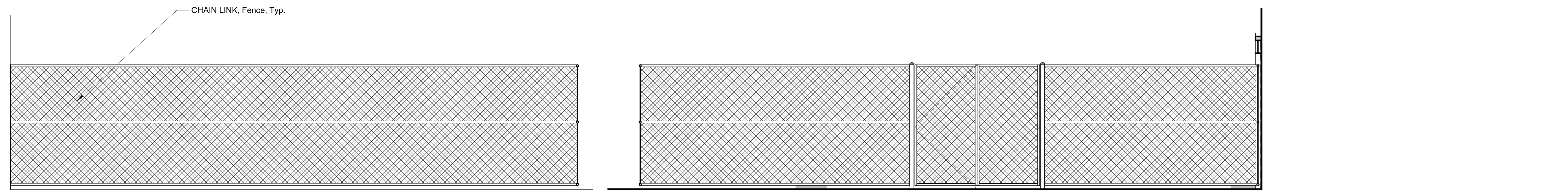


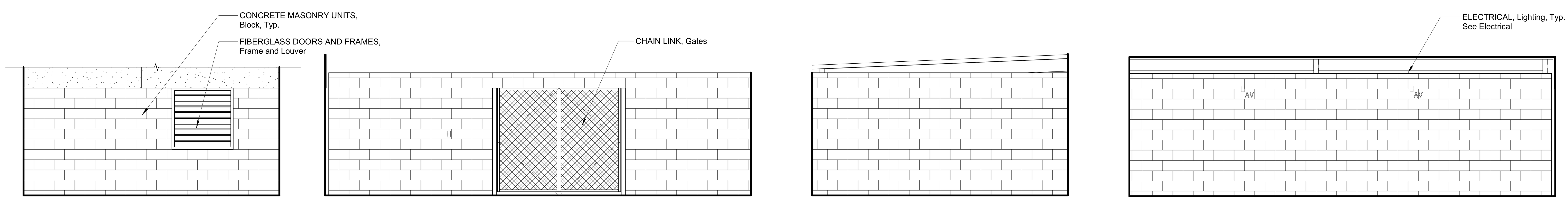
NORTH EAST

P404e Storage



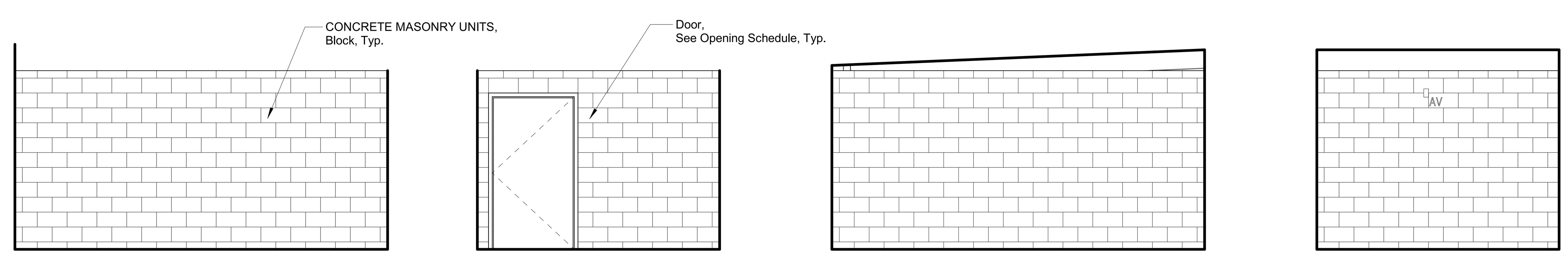
SOUTH WEST

P404e Storage
(Continued)



NORTH EAST SOUTH WEST

P410 Pool Equipment Enclosure



NORTH EAST SOUTH WEST

P420 Gas Meter Enclosure

DSA File No.: 54-H11

DSA Application No.: 02-120251

Agency Approval

SYMBOLS

- Cabinet Group No. Refer to Modular Casework Schedule and Lab Casework Schedule.
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8. WALL COVERINGS, FRP Panels, See Detail E14 X/A601
9. GYPSUM BOARD, Metal Accessories, See Detail J14 X/A601

F18 Interior Elevation legend
No Scale

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P
INTERIOR ELEVATIONS - ROOMS P404e, P410 & P420
Drawing

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LICENSED ARCHITECT MICHAEL K. FENNACY No. C23724 Ren. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: MF	
Scale: 1/4" = 1'-0"	Drawn By: KT	
Project Number: 2180	Checked By: -	
Date: 03/28/2023	Reviewed By: MF	

P/A606

A1 INTERIOR ELEVATIONS
1/4" = 1'-0"
Refer to F18 for Legend Symbols, Abbreviations and Notes

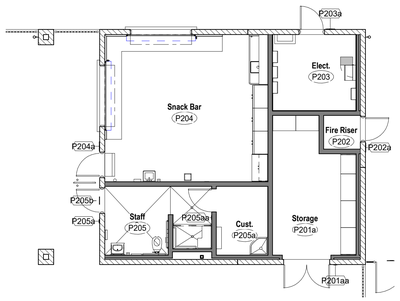
Signage Schedule

Building	Sign Mark	Sign Type	Sign Material	Sign Copy Line 1	Sign Copy Line 2	Sign Copy Line 3	Mtg Height	Mtg Cond	Remarks
P2	P203a	5b	EM	ELECTRICAL	N/A	N/A	4' - 11"	3	-
P2	P202a	5b	EM	FIRE RISER	N/A	N/A	4' - 11"	3	-
P2	P201aa	6a	EM	STORAGE	-	N/A	5' - 0"	3	-
P3	P302b	2a	EM	BOYS	N/A	-	4' - 11"	3	-
P3	P304a	2a	EM	GIRLS	N/A	-	4' - 11"	3	-
P3	P304d	2a	EM	GIRLS	N/A	-	4' - 11"	3	-
P3	P302c	2a	EM	BOYS	N/A	-	4' - 11"	3	-
P3	P304b	2b	EM	GIRLS	N/A	-	4' - 11"	5	-
P3	P304c	2b	EM	GIRLS	N/A	-	4' - 11"	5	-
P3	P302a	2c	EM	BOYS	N/A	-	4' - 11"	5	-
P3	P302d	2c	EM	BOYS	N/A	-	4' - 11"	5	-
P3	P301a	5a	EM	BOYS	SHOWER	N/A	4' - 11"	3	-
P3	P305a	5a	EM	GIRLS	SHOWER	N/A	4' - 11"	3	-
P3	P306a	5b	EM	CUSTODIAL	N/A	N/A	4' - 11"	3	-
P3	P303a	5b	EM	FIRE RISER	N/A	N/A	4' - 11"	3	-
P4	P402b	5b	EM	ACID	-	-	4' - 11"	3	-
P4	P403b	5b	EM	CHLORINE	-	-	4' - 11"	3	-
P4	P401a	5b	EM	POOL	EQUIPMENT	-	4' - 11"	3	-
P4	P410a	5b	EM	COOLING	TOWERS	-	4' - 11"	3	-
P4	P420a	5b	EM	GAS METER	-	-	4' - 11"	3	-
P4	P401c	5b	EM	POOL	EQUIPMENT	-	4' - 11"	3	-
P4	P401b	6a	EM	EXIT	N/A	N/A	5' - 0"	3	-
P4	P401d	6a	EM	EXIT	N/A	N/A	5' - 0"	3	-
P4	P403a	11a	A	0	COR	3	8' - 2"	3	See A1-X/A602
P4	P402a	11a	A	1	COR	-	8' - 2"	3	See A1-X/A602
P4	P404a	12	A	PASSENGER	LOADING ONLY	N/A	4' - 11"	3	See J4-SD/A303

Signage Schedule Add Alternate

Building	Sign Mark	Sign Type	Sign Material	Sign Copy Line 1	Sign Copy Line 2	Sign Copy Line 3	Mtg Height	Mtg Cond	Remarks
P2	P205a	2a	EM	RESTROOM	SHOWER	-	4' - 11"	3	-
P2	P205b	2d	EM	UNISEX SYM.	-	-	4' - 11"	5	-
P2	P203a	5b	EM	ELECTRICAL	N/A	N/A	4' - 11"	3	-
P2	P202a	5b	EM	FIRE RISER	N/A	N/A	4' - 11"	3	-
P2	P204a	5b	EM	SNACK BAR	-	-	4' - 11"	3	-
P2	P205aa	6a	EM	CUSTODIAL	-	N/A	5' - 0"	3	-
P2	P201aa	6a	EM	STORAGE	-	N/A	5' - 0"	3	-

1



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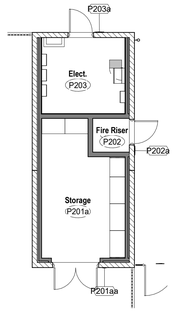

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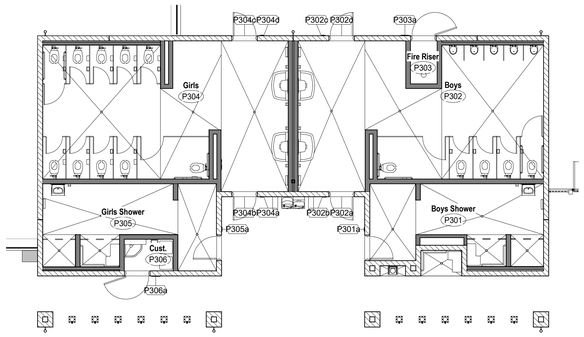

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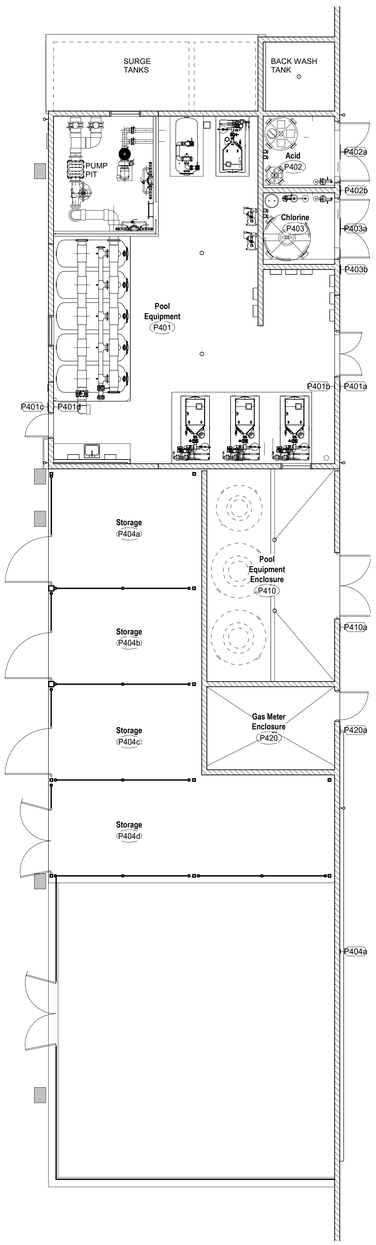


N

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

MOUNTING CONDITION

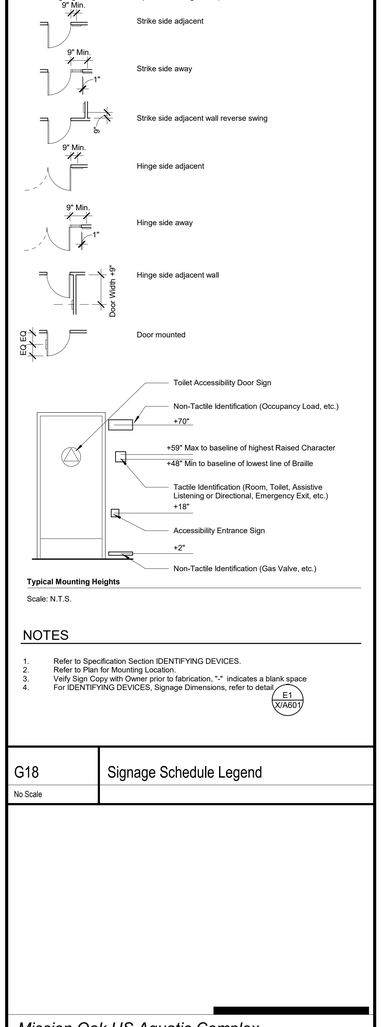
1. Metal Stud Framed Wall
2. Wood Stud Framed Wall
3. Concrete and Concrete Masonry
4. Glass
5. Door
6. See Plan

SIGN MATERIAL

A	=	Acrylic
EM	=	Exterior Metal.
IM	=	Interior Metal.
EP	=	Exterior Plastic.
IP	=	Interior Plastic.
D	=	Decal.

MOUNTING LOCATION

Refer to Signage Plan for location. (Reverse swing similar)



Typical Mounting Heights

Scale: N.T.S.

NOTES

1. Refer to Specification Section IDENTIFYING DEVICES.
2. Refer to Plan for Mounting Location.
3. Velfy Sign Copy with Owner prior to fabrication, "-" indicates a blank space
4. For IDENTIFYING DEVICES, Signage Dimensions, refer to detail E1 X/A601

G18	Signage Schedule Legend
No Scale	

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDING P2, P3 & P4
SIGNAGE PLANS AND SCHEDULE
Drawing

darden architects
ARCHITECTURE
PLANNING
INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051
LICENSED ARCHITECT MICHAEL K. FENWICK No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: MF	Copyright 2022 Darden Architects
Scale: 1/8" = 1'-0"	Drawn By: FM	P/A701
Project Number: 2180	Checked By: -	
Date: 03/28/2023	Reviewed By: MF	

A1	Signage Floor Plan - Building P2	A4	Signage Floor Plan - Building P2	A7	Signage Floor Plan - Building P2	A13	Signage Floor Plan - Building P4	J7	Signage Schedule
1/8" = 1'-0"	ADD ALTERNATE	1/8" = 1'-0"		1/8" = 1'-0"		1/8" = 1'-0"		No Scale	Refer to G18 for Schedule Legend

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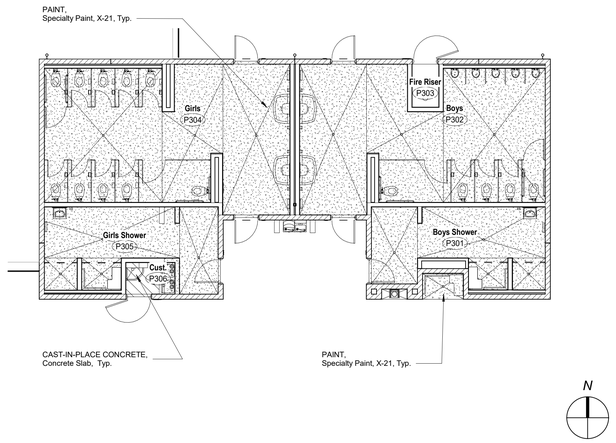
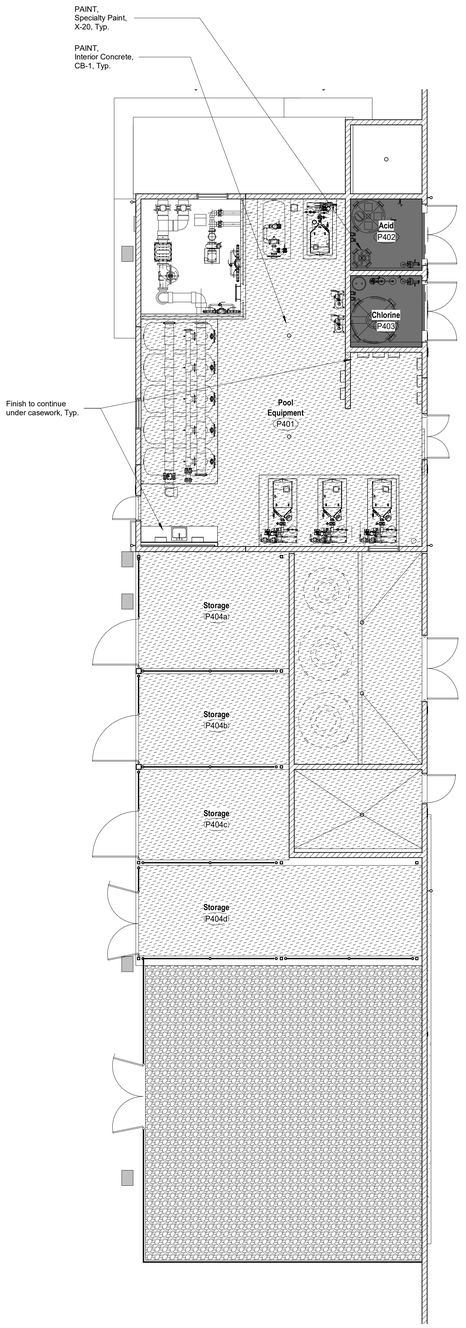


K7

1/8" = 1'-0"

Floor Finish Plan - Building P3



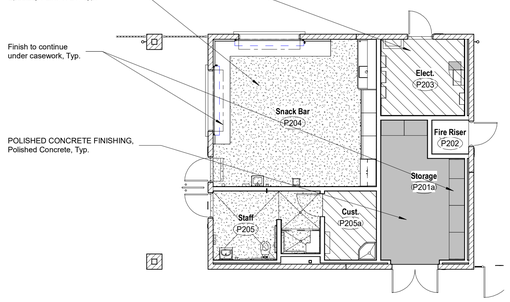
K18

Floor Finish Legend

LEGEND

- PAINT, Specialty Paint, X-20
- PAINT, Specialty Paint, X-21
- PAINT, Interior Concrete, CB-1
- PAINT, Gypsum Board, P-3
- POLISHED CONCRETE FINISHING, Polished Concrete
- CAST-IN-PLACE CONCRETE, Concrete Slab

Note:
1. Refer to Appendix B - Interior Color Schedule in Specifications for color.
2. Refer to Interior Finish Schedule for designated system.
3. Refer to specification for product information.
4. Provide integral cove base for PAINT, Specialty Paint, X-20 and X-21, unless otherwise noted.

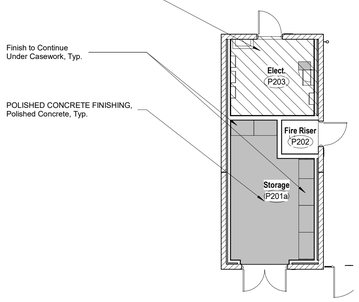


A1

1/8" = 1'-0"

Floor Finish Plan - Building P2

ADD ALTERNATE



A7

1/8" = 1'-0"

Floor Finish Plan - Building P2

A13

1/8" = 1'-0"

Floor Finish Plan - Building P4

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2, P3 & P4
INTERIOR DESIGN PLANS

Drawing

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ARCHITECTURE
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6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: MF
Drawn By: PV
Checked By: -
Reviewed By: MF

Scale: 1/8" = 1'-0"
Project Number: 2180
Date: 03/28/2023

P/A801

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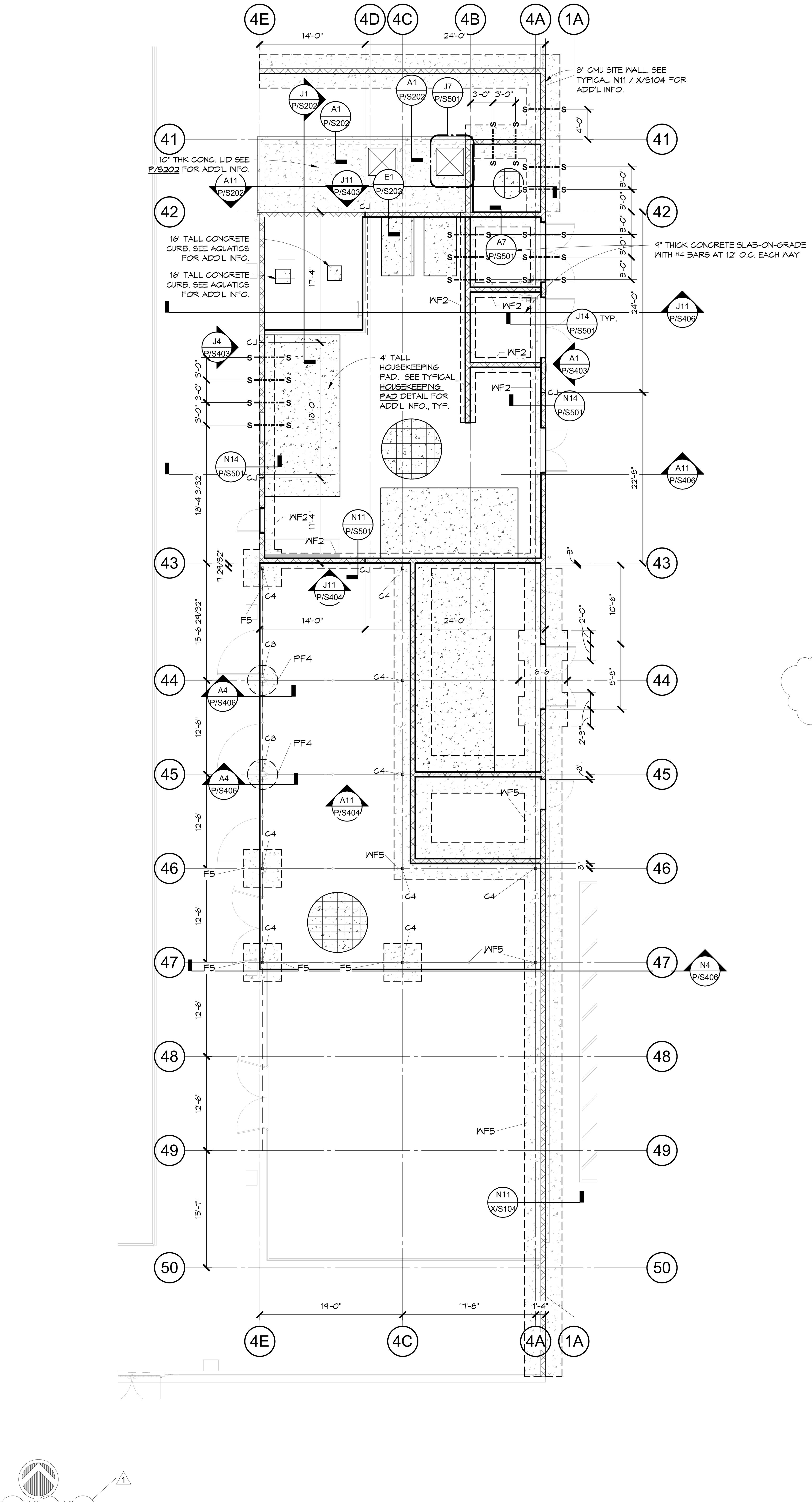
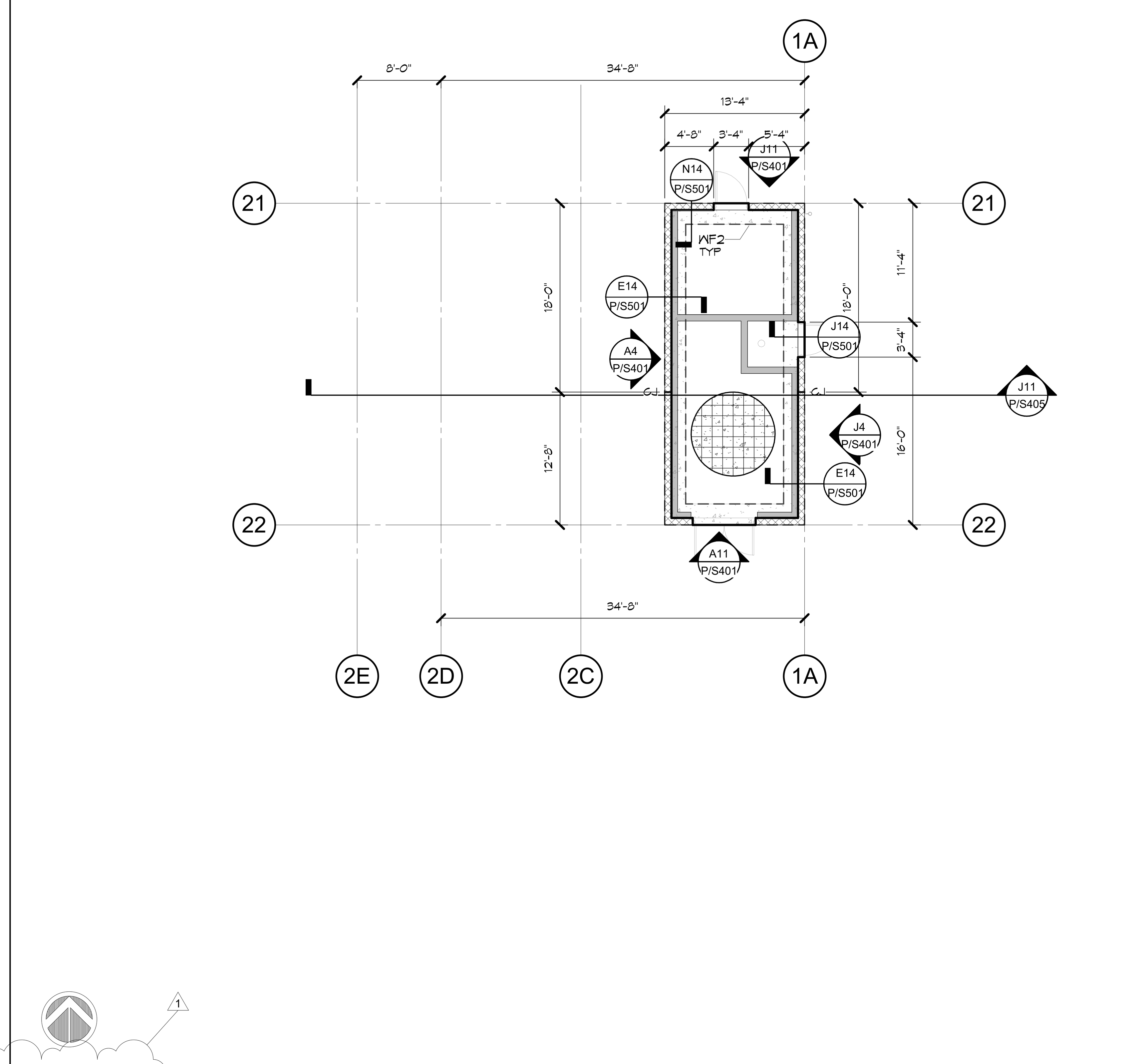


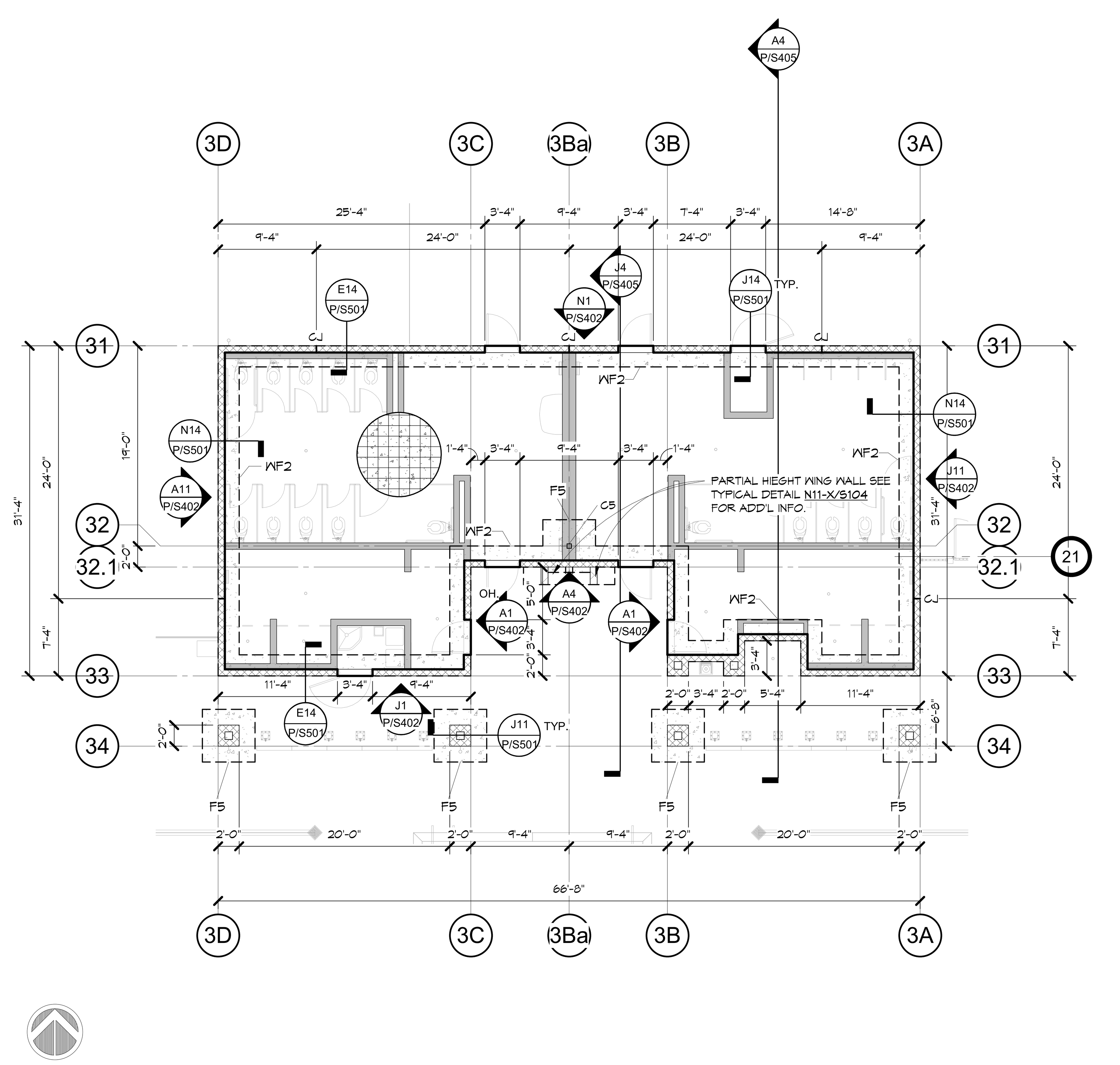
A1 FOUNDATION PLAN - BUILDING P4

P/S202 | P/S201 | 1/8" = 1'-0"



J7 FOUNDATION PLAN - BUILDING P2

P/S202 | P/S201 | 1/8" = 1'-0"



A7 FOUNDATION PLAN - BUILDING P3

P/S202 | P/S201 | 1/8" = 1'-0"

1. SEE TYPICAL SHEETS FOR ALL GENERAL AND MATERIAL NOTES, AND ALL TYPICAL SCHEDULES AND DETAILS. THE INFORMATION ON THE TYPICAL SHEETS APPLY TO THE PROJECT AND ARE NOT SPECIFICALLY REFERENCED ON PLAN WORK, UNLESS NOTED OTHERWISE. IF TYPICAL DETAILS ARE SPECIFIED ON PLANS OR NOTES, THEY WILL BE REFERENCED WITH THE WORD "TYPICAL" FOLLOWED BY **BOLD AND UNDERLINED** TEXT STATING THE TITLE OF THE TYPICAL DETAIL OR NOTE.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF EXTERIOR WALLS, CENTER OF COLUMN OR CENTER OF INTERIOR WALLS UNLESS NOTED OTHERWISE. EDGE OF SLAB AT PERIMETER OF BUILDING SHALL BE INDICATED IN SPECIFIC DETAILS AND ARCHITECTURAL. VERIFY ALL BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS WITH THE DIMENSIONS SHOWN.
3. ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
4. ALL PAD AND CONTINUOUS FOOTINGS ARE TO BE CENTERED ON WALLS AND COLUMNS ABOVE UNLESS NOTED OTHERWISE.
5. SEE CIVIL AND/OR ARCHITECTURAL SITE PLAN FOR LOCATION AND DIMENSIONS OF SIDEWALKS, MOW STRIPS, PLANTERS AND OTHER LANDSCAPING FEATURES.
6. SEE ARCHITECTURAL AND PLUMBING PLANS FOR LOCATION OF ALL PIPING AND DRAINS. SEE TYPICAL DETAILS FOR STRUCTURAL REQUIREMENTS AT LOCATIONS WHERE PIPES INTERSECT OR ALIGN NEXT TO FOOTINGS AND SLABS.
7. ALL EMBEDDED ITEMS SHALL BE IN PLACE AND SECURED PRIOR TO POURING OF CONCRETE.
8. ALL SILL PLATE ANCHOR BOLTS SHALL BE SIZED, SPACED, PLACED, AND HAVE THE WASHER AND MATERIAL FINISH AS SPECIFIED IN THE **LIGHT GAUGE STEEL NOTES**.
9. CONTRACTOR SHALL SUBMIT CONTROL JOINT PLAN FOR APPROVAL PRIOR TO POURING SLAB. SEE TYPICAL **CONTROL JOINT** DETAIL FOR ADDITIONAL INFORMATION.
10. SEE TYPICAL **CMU WALL CONTROL JOINT LAYOUT REQUIREMENTS** DETAIL AND ARCHITECTURAL PLANS FOR LOCATION OF CONTROL JOINTS. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS WITH THE CONTROL JOINT LAYOUT.
11. ALL TOP OF FOOTINGS SHALL BE 1'-8" BELOW FINISH SLAB, UNLESS NOTED OTHERWISE.

N14 FOUNDATION NOTES

P/S201 | NOT TO SCALE

CONCRETE CURB. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

8" CMU WALL WITH #5 BARS AT 24" O.C. VERT. AND HORIZ.; U.N.O. SEE TYPICAL **CONCRETE MASONRY UNIT WALL CONSTRUCTION** DETAIL.

CJ — CONTROL JOINT. SEE TYPICAL **CMU WALL CONTROL JOINT REQUIREMENTS** DETAIL FOR ADDITIONAL INFORMATION.

18GA. STEEL STUDS (S162 MIN. FLANGE) AT 16" O.C. AT INTERIOR WALL LOCATIONS, SEE ARCHITECTURAL AND TYPICAL **WALL FRAMING AT OPENINGS FOR LIGHT GAUGE STEEL** DETAIL.

— "XX" AS INDICATED ON PLAN. SEE TYPICAL **SCHEDULES** AS FOLLOWS:
- C# - COLUMN SCHEDULE
- P# - PILASTER SCHEDULE
- W# - WALL SCHEDULE
- F# - FOUNDATION SCHEDULE

T.O.F. -X'-X" — TOP OF FOOTING (T.O.F.) OR BOTTOM OF FOOTING (B.O.F.). +X'-X" IS THE DISTANCE FROM FINISHED FIRST FLOOR, UNLESS NOTED OTHERWISE.

S——S — STEPPED FOOTING. SEE TYPICAL **STEPPED FOOTING** DETAIL.

DEPRESSED SLAB. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

CONCRETE SLAB. PROVIDE 5" THICK MINIMUM SLAB WITH #4 AT 18" O.C. EACH WAY, U.N.O. SLAB SHALL BE PLACE OVER 1" TO 2" OF SATURATED SURFACE DRY (SSD) SAND OVER 10 MIL VAPOR RETARDING MEMBRANE. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

J14 FOUNDATION LEGEND

P/S201 | NOT TO SCALE

STRUCTURAL FOUNDATION SCHEDULE

MARK	TYPE	REINFORCEMENT
F5	5'-0" SQ. x 1'-6" DEEP	(7) #5 BARS EACH WAY TOP AND BOTTOM
F7.5	7'-6" SQ. x 2'-0" DEEP	(13) #5 BARS EACH WAY TOP & BOTTOM
PF4	4'-0" Φ x 7'-0" DEEP	(24) #8 VERTICAL BARS W/ #4 TIES AT 6" O.C.
WF2	2'-0" WIDE x 1'-6" DEEP CONT.	(3) #5 BARS TOP & BOTTOM
WF5	5'-0" WIDE x 1'-6" DEEP CONT.	SEE TYPICAL N11/X/S104

STRUCTURAL COLUMN SCHEDULE

MARK	TYPE	COMMENTS
C4	HSS4X4X1/4	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C5	HSS5X5X1/4	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C8	HSS8X8X3/8	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C10	HSS10X10X5/8	SEE DETAIL A11/P/S501 FOR ADD'L INFO.
P4	HSS4X4X1/4	SEE DETAIL J4/P/S601 FOR ADD'L INFO.

E14 SCHEDULES

NOT TO SCALE

DSA File No.:

DSA Application No.:
02-120251

Agency Approval

BrooksRansom ASSOCIATES 22106

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

Building P
FOUNDATION PLANS

Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

		Designed By: ESB	Copyright Darden Architects
Scale:	As indicated	Drawn By: ESB	
Project Number:	2180	Checked By: ESB	P/S201
Date:	11/16/2022	Reviewed By: ESB	Sheet: ______ of: ______

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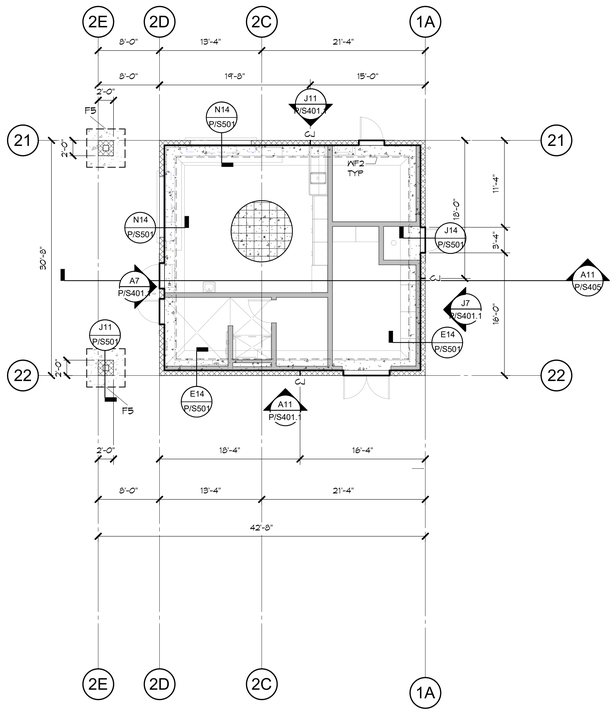
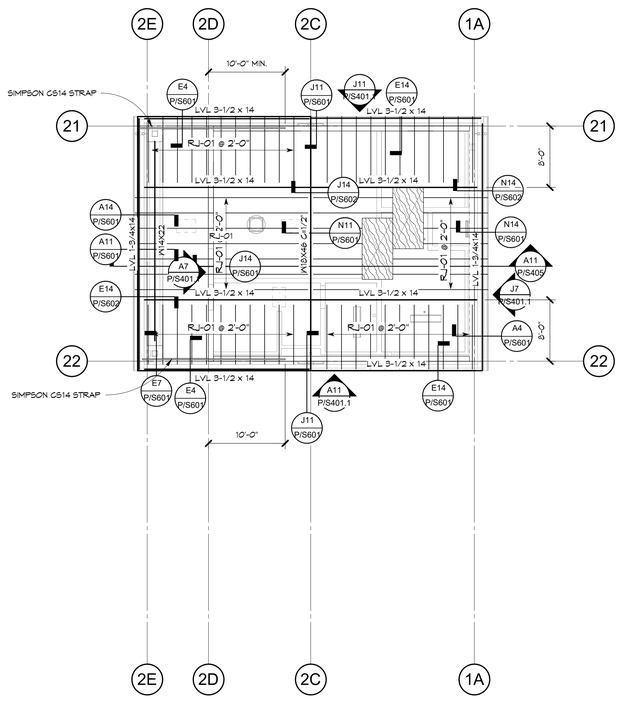


J7 FOUNDATION PLAN - BUILDING P2 ALT BID

P/S202 | P/S201.1 | 1/8" = 1'-0"



A7 ROOF FRAMING PLAN - BUILDING P2 ALT BID

P/S403 | P/S201.1 | 1/8" = 1'-0"

1. SEE TYPICAL SHEETS FOR ALL GENERAL AND MATERIAL NOTES, AND ALL TYPICAL SCHEDULES AND DETAILS. THE INFORMATION ON THE TYPICAL SHEETS APPLY TO THE PROJECT AND ARE NOT SPECIFICALLY REFERENCED ON PLAN WORK, UNLESS NOTED OTHERWISE. IF TYPICAL DETAILS ARE SPECIFIED ON PLANS OR NOTES, THEY WILL BE REFERENCED WITH THE WORD "TYPICAL" FOLLOWED BY **BOLD AND UNDERLINED** TEXT STATING THE TITLE OF THE TYPICAL DETAIL OR NOTE.
2. ALL DIMENSIONS SHOWN ARE TO FACE OF EXTERIOR WALLS, CENTER OF COLUMN OR CENTER OF INTERIOR WALLS UNLESS NOTED OTHERWISE. EDGE OF SLAB AT PERIMETER OF BUILDING SHALL BE INDICATED IN SPECIFIC DETAILS AND ARCHITECTURAL. VERIFY ALL BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS WITH THE DIMENSIONS SHOWN.
3. ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
4. ALL PAD AND CONTINUOUS FOOTINGS ARE TO BE CENTERED ON WALLS AND COLUMNS ABOVE UNLESS NOTED OTHERWISE.
5. SEE CIVIL AND/OR ARCHITECTURAL SITE PLAN FOR LOCATION AND DIMENSIONS OF SIDEWALKS, MOW STRIPS, PLANTERS AND OTHER LANDSCAPING FEATURES.
6. SEE ARCHITECTURAL AND PLUMBING PLANS FOR LOCATION OF ALL PIPING AND DRAINS. SEE TYPICAL DETAILS FOR STRUCTURAL REQUIREMENTS AT LOCATIONS WHERE PIPES INTERSECT OR ALIGN NEXT TO FOOTINGS AND SLABS.
7. ALL EMBEDDED ITEMS SHALL BE IN PLACE AND SECURED PRIOR TO POURING OF CONCRETE.
8. ALL SILL PLATE ANCHOR BOLTS SHALL BE SIZED, SPACED, PLACED, AND HAVE THE WASHER AND MATERIAL FINISH AS SPECIFIED IN THE **LIGHT GAUGE STEEL NOTES**.
9. CONTRACTOR SHALL SUBMIT CONTROL JOINT PLAN FOR APPROVAL PRIOR TO POURING SLAB. SEE TYPICAL **CONTROL JOINT** DETAIL FOR ADDITIONAL INFORMATION.
10. SEE TYPICAL **CMU WALL CONTROL JOINT LAYOUT REQUIREMENTS** DETAIL AND ARCHITECTURAL PLANS FOR LOCATION OF CONTROL JOINTS. NOTIFY THE ARCHITECT IMMEDIATELY IF THERE ARE ANY CONFLICTS WITH THE CONTROL JOINT LAYOUT.
11. ALL TOP OF FOOTINGS SHALL BE 1'-0" BELOW FINISH SLAB, UNLESS NOTED OTHERWISE.
12. ALL TOP OF FRAMING ABOVE FINISH SLAB VARIES, SEE PLAN FOR INFORMATION.
13. VERIFY ROOF SLOPE(S) WITH ARCHITECTURAL PLANS.
14. ALL FRAMING SHALL BE D.F. NO. 1 OR BETTER, UNLESS OTHERWISE NOTED. SEE TYPICAL **WOOD NOTES** ADDITIONAL INFORMATION.
15. COORDINATE WITH ARCHITECTURAL IF ADDITIONAL FRAMING BLOCKING IS REQUIRED FOR SUSPENDED CEILING, SOFFITS AND FINISHES.
16. DIAPHRAGM SHEATHING SHALL BE BOUNDARY NAILED TO ALL BLOCKING, BEAM AND RAFTERS THAT ARE IN LINE WITH SHEAR WALLS.
17. WHERE HEADERS ARE NOT SPECIFICALLY NOTED ON PLAN, SEE TYPICAL **WALL FRAMING AT OPENINGS** DETAIL FOR HEADER INFORMATION.
18. ALL ITEMS ARE NEW UNLESS NOTED OTHERWISE.

L14 PLAN NOTES

P/S201.1 | NOT TO SCALE

CONCRETE CURB. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

8" CMU WALL WITH #5 BARS AT 24" O.C. VERT. AND HORIZ.; U.N.O. SEE TYPICAL **CONCRETE MASONRY UNIT WALL CONSTRUCTION** DETAIL.

CJ — CONTROL JOINT. SEE TYPICAL **CMU WALL CONTROL JOINT REQUIREMENTS** DETAIL FOR ADDITIONAL INFORMATION.

18GA. STEEL STUDS (S162 MIN. FLANGE) AT 16" O.C. AT INTERIOR WALL LOCATIONS, SEE ARCHITECTURAL AND TYPICAL **WALL FRAMING AT OPENINGS FOR LIGHT GAUGE STEEL** DETAIL.

"XX" AS INDICATED ON PLAN. SEE TYPICAL **SCHEDULES** AS FOLLOWS:
C# - COLUMN SCHEDULE
P# - PLASTER SCHEDULE
W# - WALL SCHEDULE
F# - FOUNDATION SCHEDULE

T.O.F. -X'-X" — TOP OF FOOTING (T.O.F.) OR BOTTOM OF FOOTING (B.O.F.). +X'-X" IS THE DISTANCE FROM FINISHED FIRST FLOOR, UNLESS NOTED OTHERWISE.

5——5 — STEPPED FOOTING. SEE TYPICAL **STEPPED FOOTING** DETAIL.

DEPRESSED SLAB. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

CONCRETE SLAB. PROVIDE 5" THICK MINIMUM SLAB WITH #4 AT 18" O.C. EACH WAY, U.N.O. SLAB SHALL BE PLACE OVER 1" TO 2" OF SATURATED SURFACE DRY (SSD) SAND OVER 10 MIL VAPOR RETARDING MEMBRANE. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

WALL BELOW. SEE FRAMING PLAN AT LEVEL BELOW.

"XX" AS INDICATED ON PLAN. SEE TYPICAL **SCHEDULES** AS FOLLOWS:
C# - COLUMN SCHEDULE
P# - PLASTER SCHEDULE
W# - WALL SCHEDULE
F# - FOUNDATION SCHEDULE

T.O.S. +X'-X" — TOP OF STEEL (T.O.S.) OR BOTTOM OF STEEL (B.O.S.). +X'-X" IS THE DISTANCE FROM FINISHED FIRST FLOOR, UNLESS NOTED OTHERWISE.

SIZE (STUDS) / CAMBER — STEEL BEAM.

ROOF SHEATHING, BLOCKED. PROVIDE 5/8" THICK SHEATHING WITH 10d NAILS @ 6-6-12, U.N.O. SEE TYPICAL **ROOF SHEATHING** DETAIL.
- FIELD
- PANEL EDGE
- CONTINUOUS PANEL EDGE & BOUNDARY

E14 PLAN LEGEND

P/S201.1 | NOT TO SCALE

STRUCTURAL FOUNDATION SCHEDULE

MARK	TYPE	REINFORCEMENT
F5	5'-0" SQ. x 1'-6" DEEP	(7) #5 BARS EACH WAY TOP AND BOTTOM
F7.5	7'-6" SQ. x 2'-0" DEEP	(13) #5 BARS EACH WAY TOP & BOTTOM
PF4	4'-0" Ø x 7'-0" DEEP	(24) #5 VERTICAL BARS W/ #4 TIES AT 6" O.C.
WF2	2'-0" WIDE x 1'-6" DEEP CONT.	(3) #5 BARS TOP & BOTTOM
WF5	5'-0" WIDE x 1'-6" DEEP CONT.	SEE TYPICAL N11/X/S104

STRUCTURAL COLUMN SCHEDULE

MARK	TYPE	COMMENTS
C4	HSS4X4X1/4	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C5	HSS5X5X1/4	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C8	HSS8X8X3/8	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C10	HSS10X10X5/8	SEE DETAIL A11/P/S501 FOR ADD'L INFO.
P4	HSS4X4X1/4	SEE DETAIL J4/P/S601 FOR ADD'L INFO.

A14 SCHEDULES

NOT TO SCALE

DSA File No.:

DSA Application No.:
02-120251

Agency Approval

BrooksRansom ASSOCIATES
1405 N PALM AVE, STE 103 | FRESNO, CA 93775
(559) 449-8444 OFFICE | (559) 449-8404 FAX
22106

REGISTERED PROFESSIONAL ENGINEER — GAYLORD R. RANSOM — No. 52386 — EXPIRES 6-30-24 — CIVIL — STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

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ALTERNATE BID - BUILDING P2
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LICENSED ARCHITECT — REGINALD K. FENG — No. C23724 — Exp. 4-30-23 — STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

Designed Designer
Drawn By: Author
Checked Checker
Reviewed Approver

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Scale: As indicated
Project Number: 2180
Date: 11/16/2022

P/S201.1

Sheet: of:

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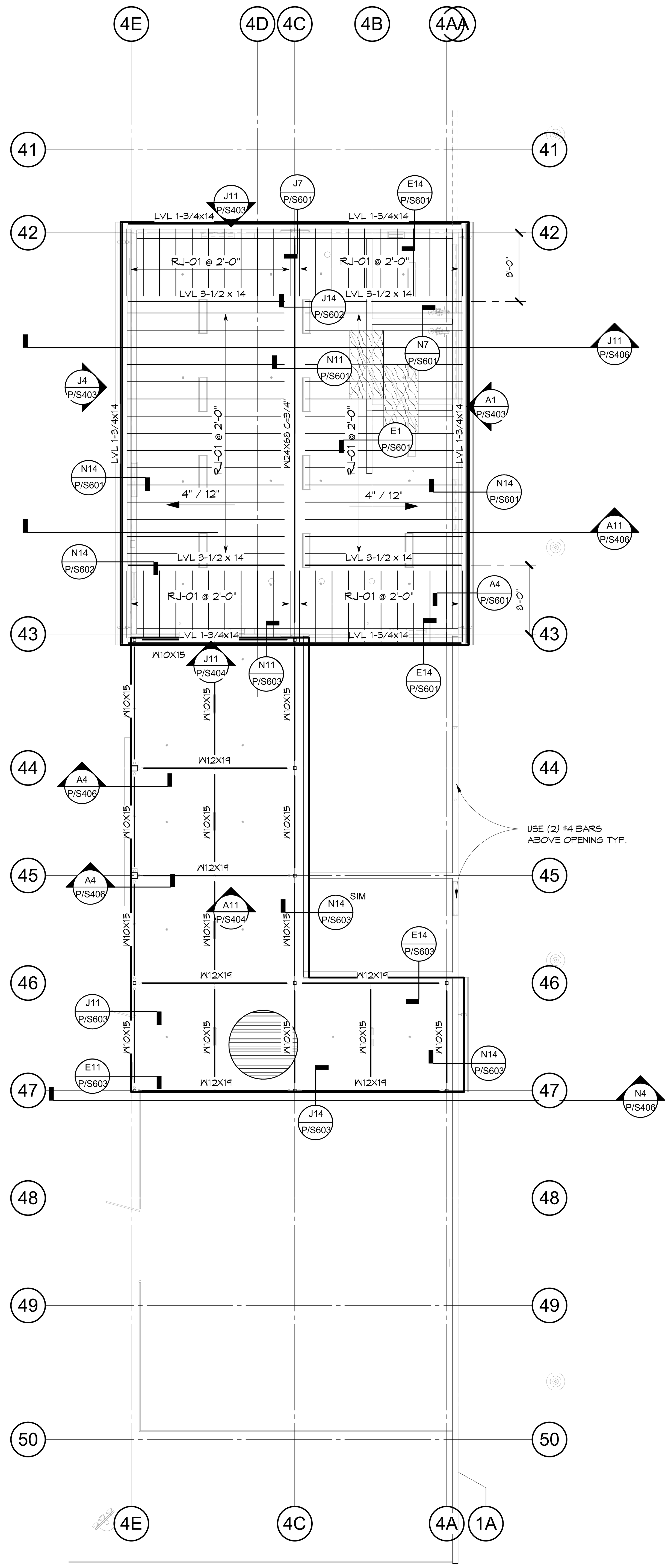
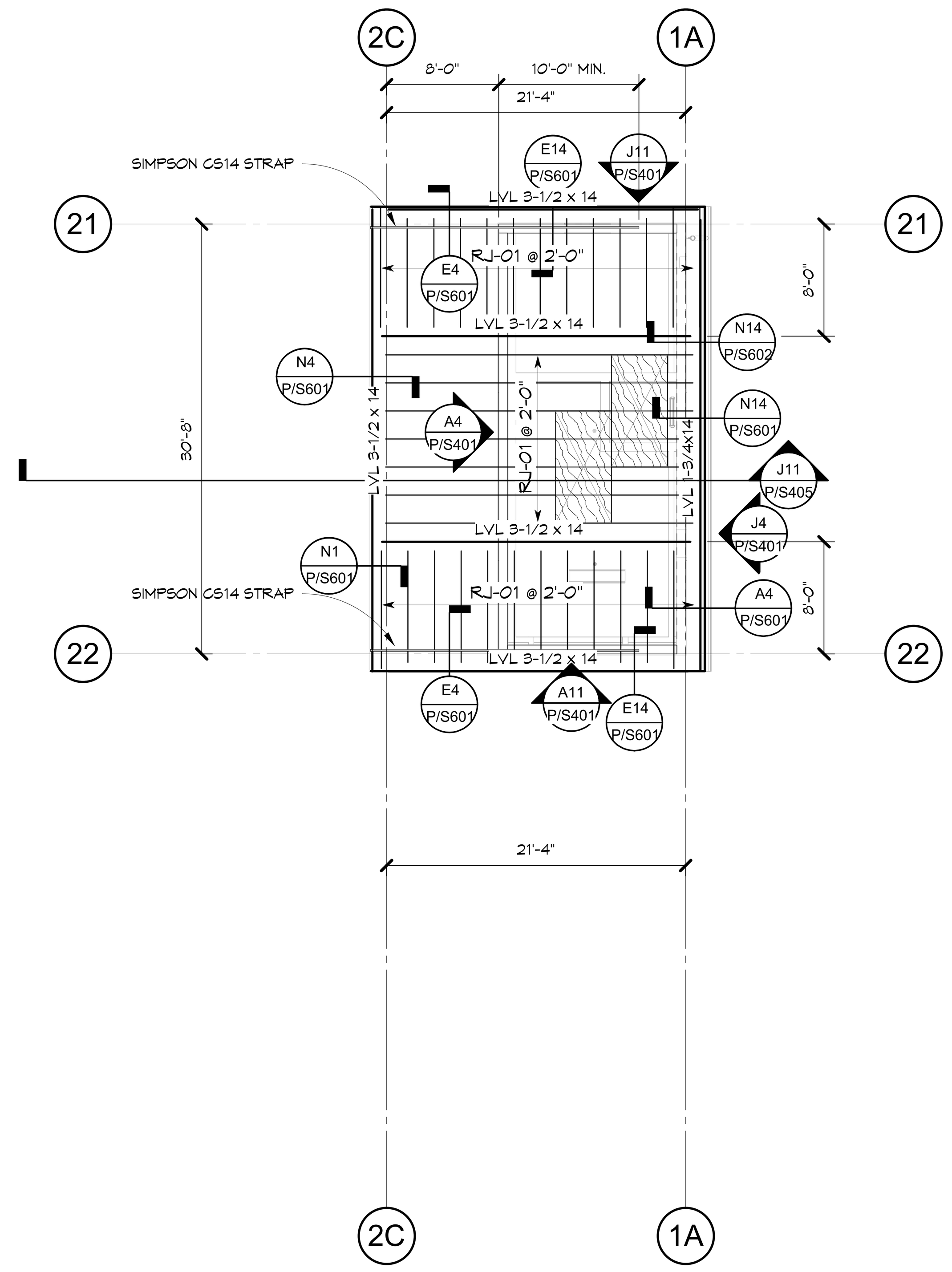


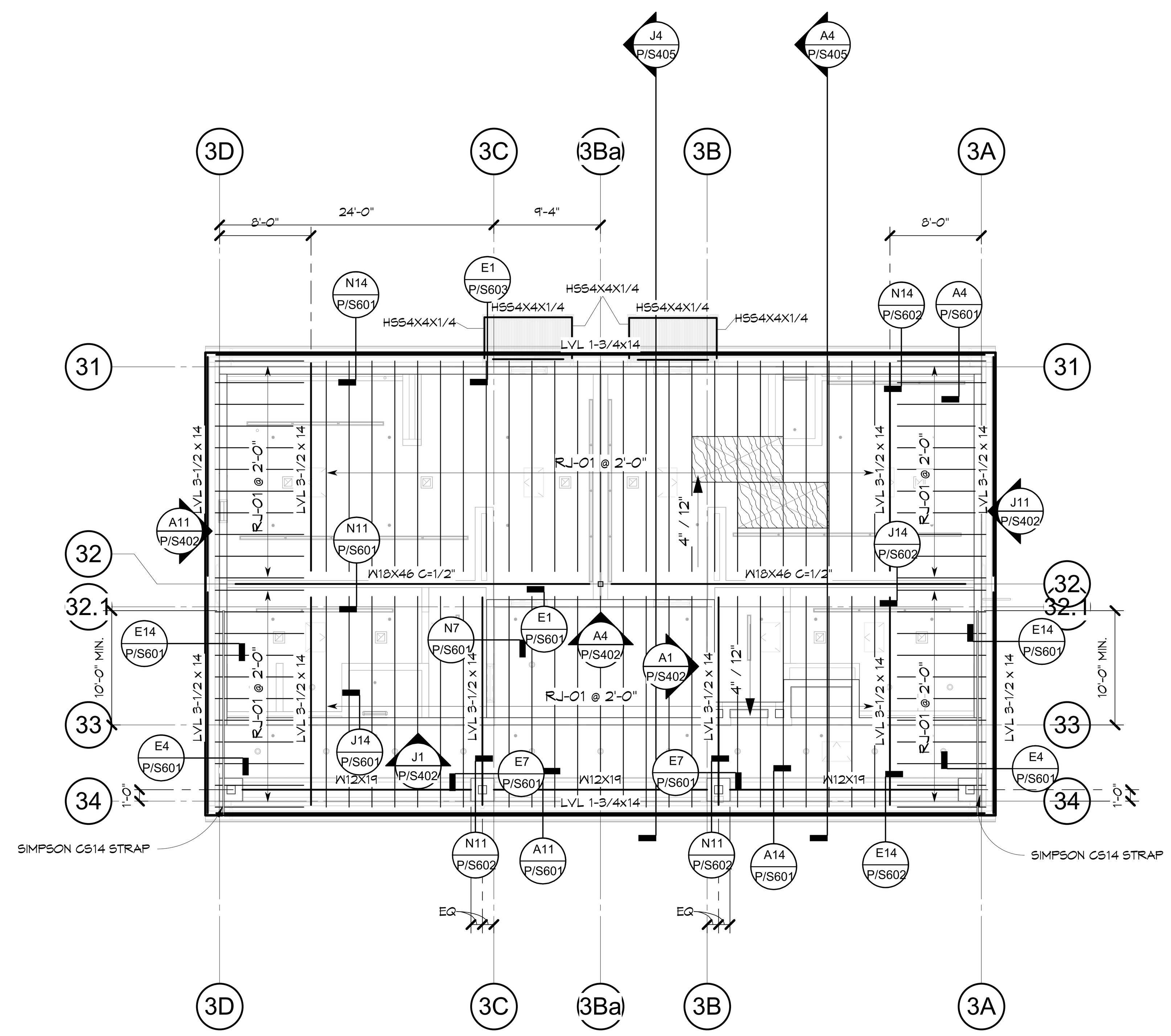
A1 ROOF FRAMING PLAN - BUILDING P4

P/S403 | P/S301 | 1/8" = 1'-0"



J7 ROOF FRAMING PLAN - BUILDING P2

P/S403 | P/S301 | 1/8" = 1'-0"



A7 ROOF FRAMING PLAN - BUILDING P3

P/S403 | P/S301 | 1/8" = 1'-0"

1. SEE TYPICAL SHEETS FOR ALL GENERAL AND MATERIAL NOTES, AND ALL TYPICAL SCHEDULES AND DETAILS. THE INFORMATION ON THE TYPICAL SHEETS APPLY TO THE PROJECT AND ARE NOT SPECIFICALLY REFERENCED ON PLAN WORK, UNLESS NOTED OTHERWISE. IF TYPICAL DETAILS ARE SPECIFIED ON PLANS OR NOTES, THEY WILL BE REFERENCED WITH THE WORD "TYPICAL" FOLLOWED BY **BOLD AND UNDERLINED** TEXT STATING THE TITLE OF THE TYPICAL DETAIL OR NOTE.
2. ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
3. ALL TOP OF FRAMING ABOVE FINISH SLAB VARIES, SEE PLAN FOR INFORMATION.
4. VERIFY ROOF SLOPE(S) WITH ARCHITECTURAL PLANS.
5. ALL FRAMING SHALL BE D.F. NO. 1 OR BETTER, UNLESS OTHERWISE NOTED. SEE TYPICAL **WOOD NOTES** ADDITIONAL INFORMATION.
6. COORDINATE WITH ARCHITECTURAL IF ADDITIONAL FRAMING BLOCKING IS REQUIRED FOR SUSPENDED CEILING, SOFFITS AND FINISHES.
7. DAPHRAGM SHEATHING SHALL BE BOUNDARY NAILED TO ALL BLOCKING, BEAM AND RAFTERS THAT ARE IN LINE WITH SHEAR WALLS.
8. WHERE HEADERS ARE NOT SPECIFICALLY NOTED ON PLAN, SEE TYPICAL **WALL FRAMING AT OPENINGS** DETAIL FOR HEADER INFORMATION.
9. ALL ITEMS ARE NEW UNLESS NOTED OTHERWISE.

N14 FRAMING NOTES

P/S301 | NOT TO SCALE

8" CMU WALL WITH #5 BARS AT 24" O.C. VERT. AND HORIZ.; U.N.O. SEE TYPICAL **CONCRETE MASONRY UNIT WALL CONSTRUCTION** DETAIL.

WALL BELOW. SEE FRAMING PLAN AT LEVEL BELOW.

"XX" AS INDICATED ON PLAN. SEE TYPICAL **SCHEDULES** AS FOLLOWS:
- C# - COLUMN SCHEDULE
- P# - PILASTER SCHEDULE
- W# - WALL SCHEDULE
- F# - FOUNDATION SCHEDULE

T.O.S. +X'-X" — TOP OF STEEL (T.O.S.) OR BOTTOM OF STEEL (B.O.S.). +X'-X" IS THE DISTANCE FROM FINISHED FIRST FLOOR, UNLESS NOTED OTHERWISE.

SIZE (STUDS) / CAMBER — STEEL BEAM.

ROOF SHEATHING,. BLOCKED. PROVIDE 5/8" THICK SHEATHING WITH 10d NAILS @ 6:6:12, U.N.O. SEE TYPICAL **ROOF SHEATHING** DETAIL.
- FIELD
- PANEL EDGE
- CONTINUOUS PANEL EDGE & BOUNDARY

METAL DECK. INDICATES DIRECTION OF DECKING. SEE TPYICAL **METAL ROOF DECK NOTES** AND TYPICAL **DECK ATTACHMENT LAYOUT** DETAILS FOR ADDITIONAL INFORMATION.

J14 FRAMING LEGEND

P/S301 | NOT TO SCALE

STRUCTURAL COLUMN SCHEDULE

MARK	TYPE	COMMENTS
C4	HSS4X4X1/4	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C5	HSS5X5X1/4	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C8	HSS8X8X3/8	SEE TYPICAL A14/X/S105 FOR ADD'L INFO.
C10	HSS10X10X5/8	SEE DETAIL A11/P/S501 FOR ADD'L INFO.
P4	HSS4X4X1/4	SEE DETAIL J4/P/S601 FOR ADD'L INFO.

E14 SCHEDULE

NOT TO SCALE

DSA File No.:

DSA Application No.:
02-120251

Agency Approval

BrooksRansom Associates
7415 N. PALM AVE. STE 100 | FRESNO, CA 93711
(559) 449-8444 OFFICE | (559) 449-8404 FAX
22106

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

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ROOF FRAMING PLANS

Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

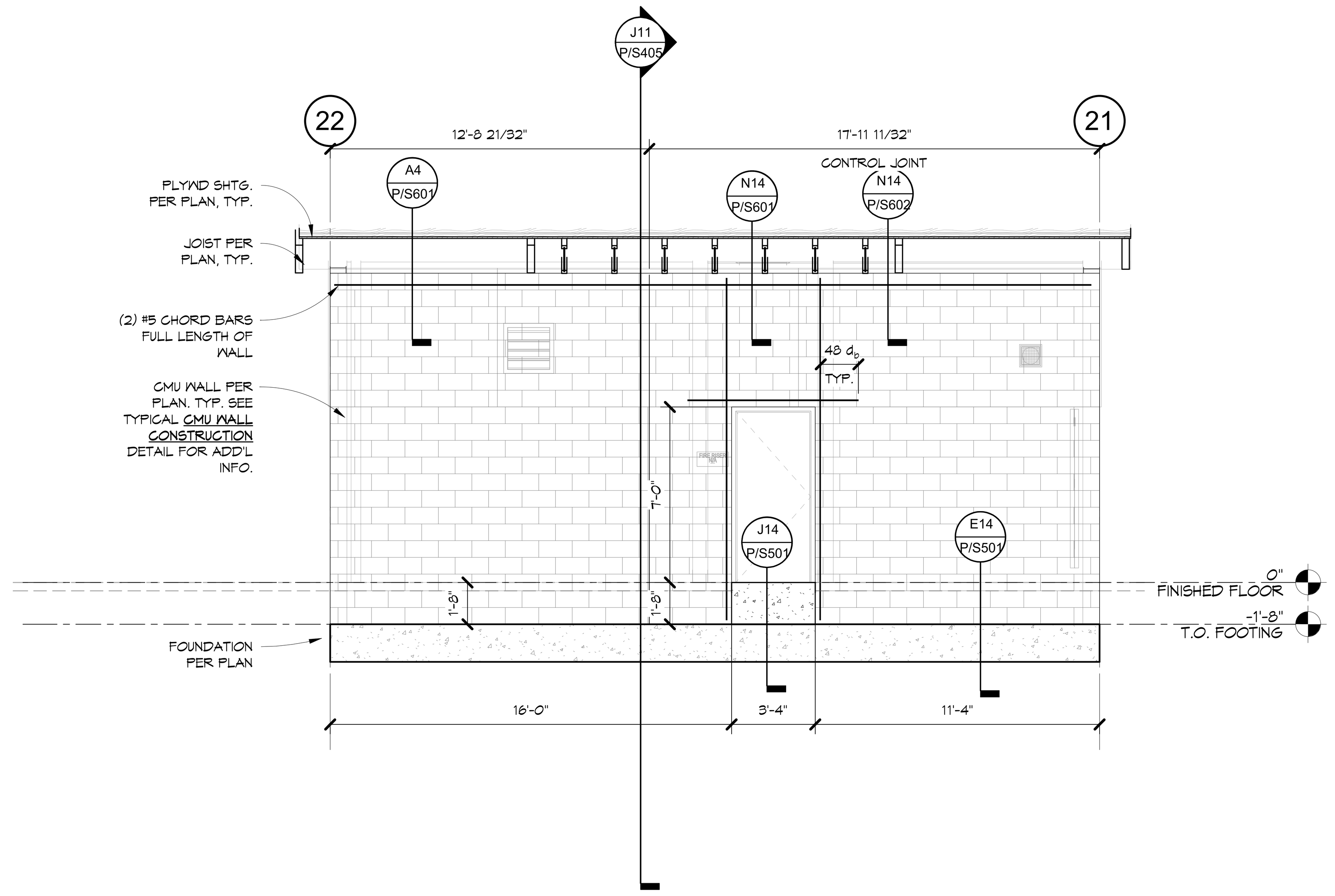
Revision

	Designed By: ESB	Copyright Darden Architects
Scale: As indicated	Drawn By: ESB	P/S301
Project Number: 2180	Checked By: ESB	
Date: 11/16/2022	Reviewed By:ESB	Sheet: ______ of: ______

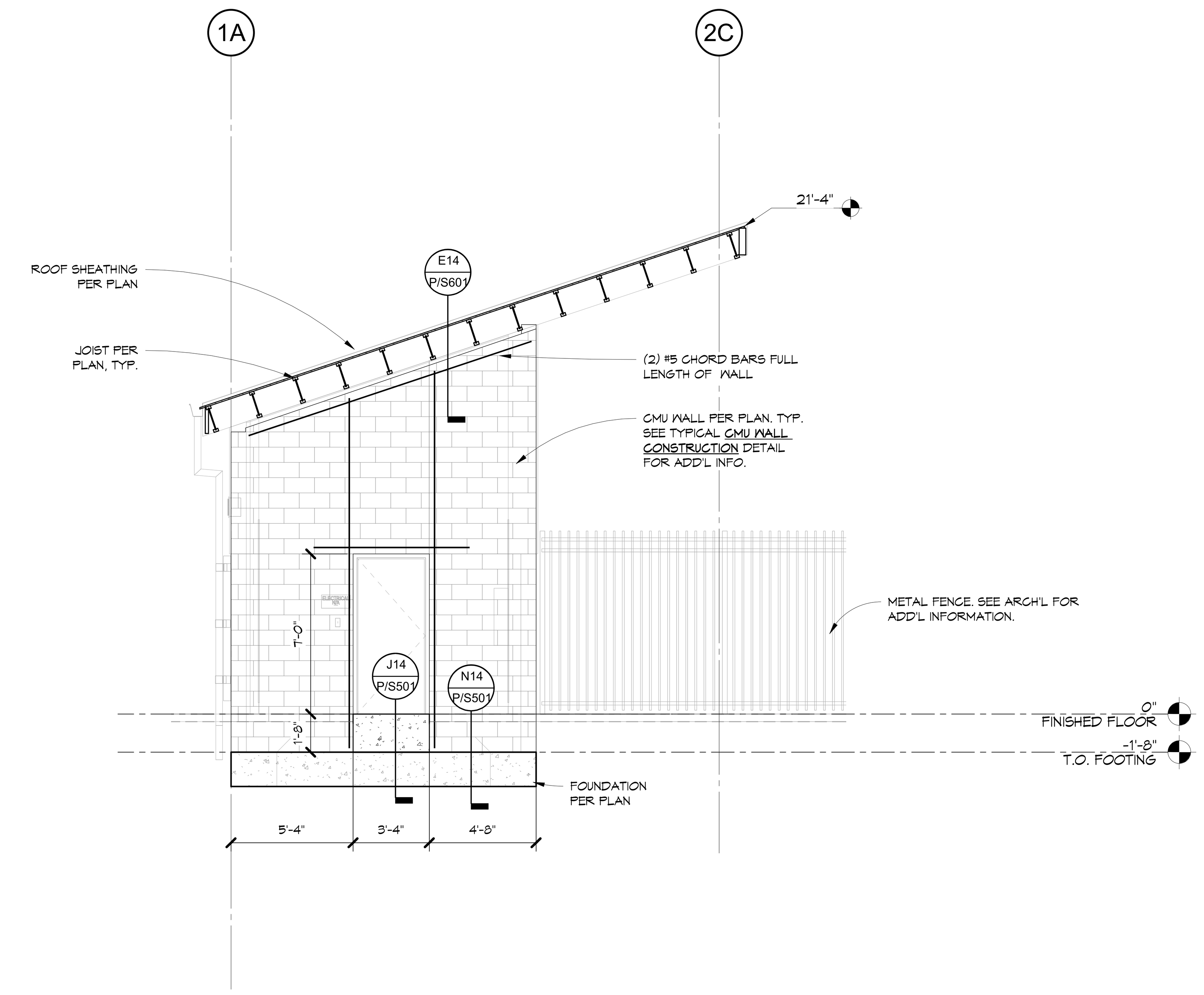
DSA File No.:

DSA Application No.:
02-120251

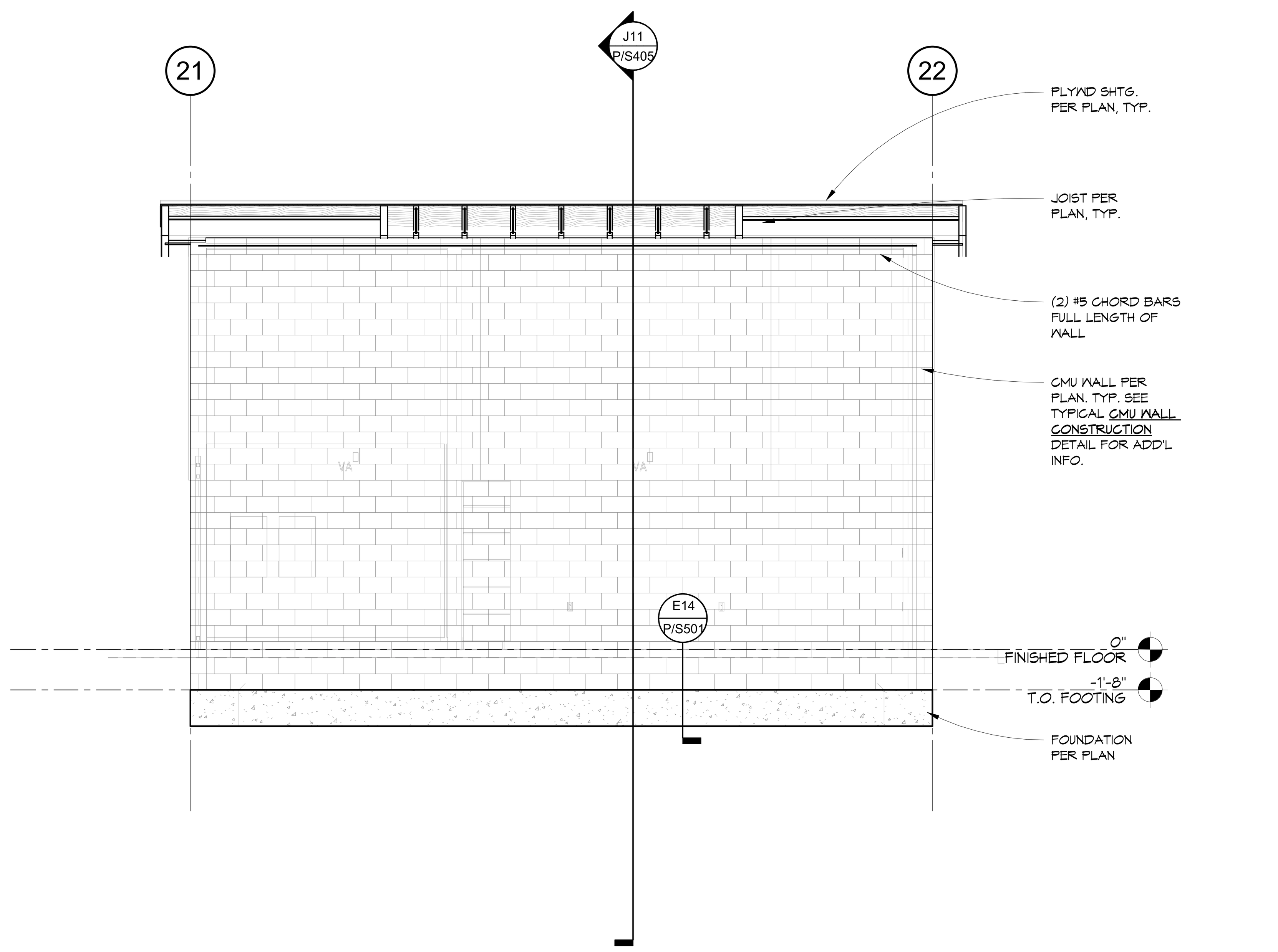
Agency Approval



J4 WALL ELEVATION AT GL '1A' - P2
P/S201 P/S401 1/4" = 1'-0"



J11 WALL ELEVATION AT GL '21' - P2
P/S201 P/S401 1/4" = 1'-0"



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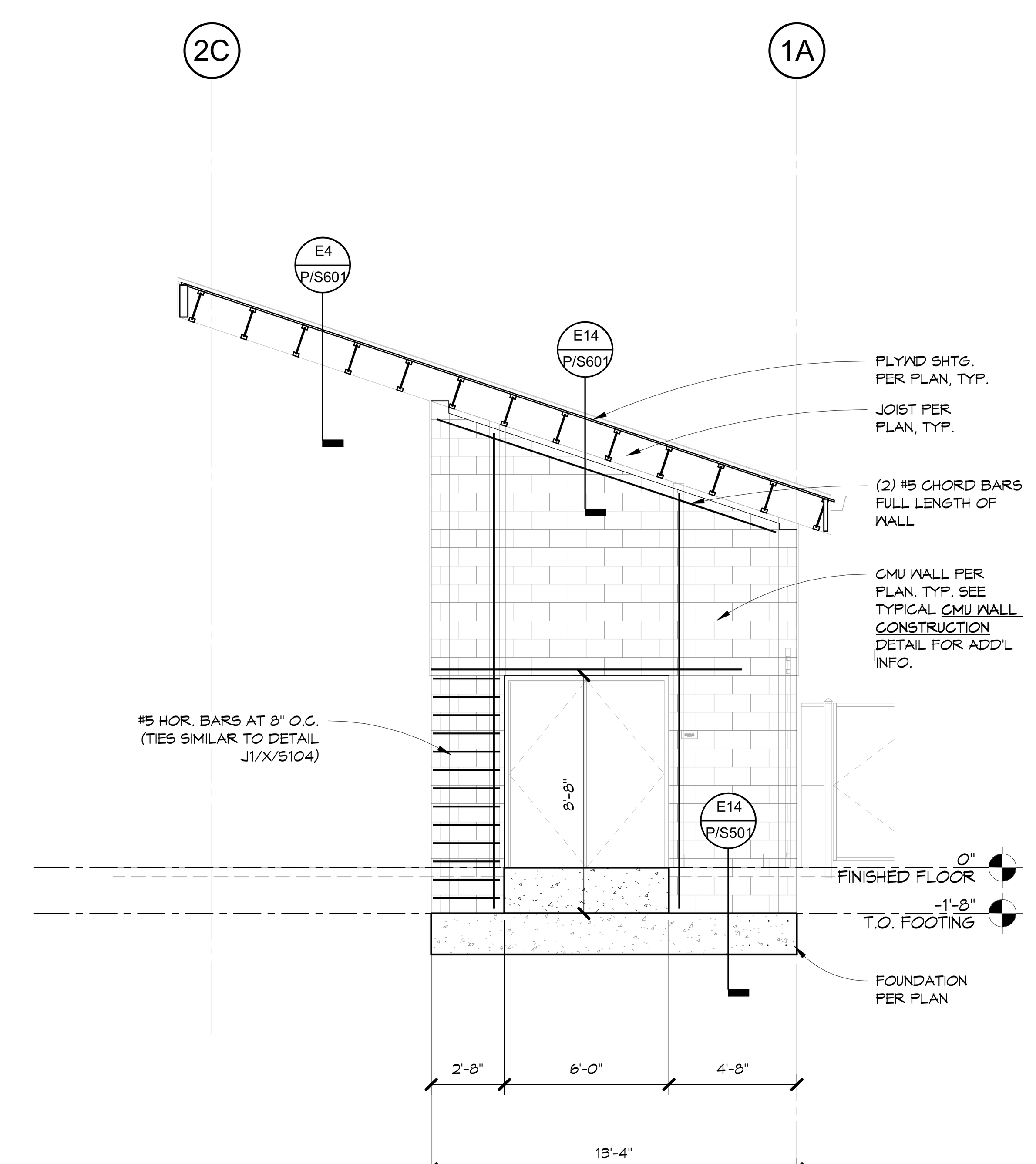

A11 WALL ELEVATION AT GL '22' - P2
P/S201 P/S401 1/4" = 1'-0"

BrooksRansom ASSOCIATES
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Consultant

Mission Oak HS Aquatic Complex
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Tulare, CA 93274

Project

Building P
WALL ELEVATIONS

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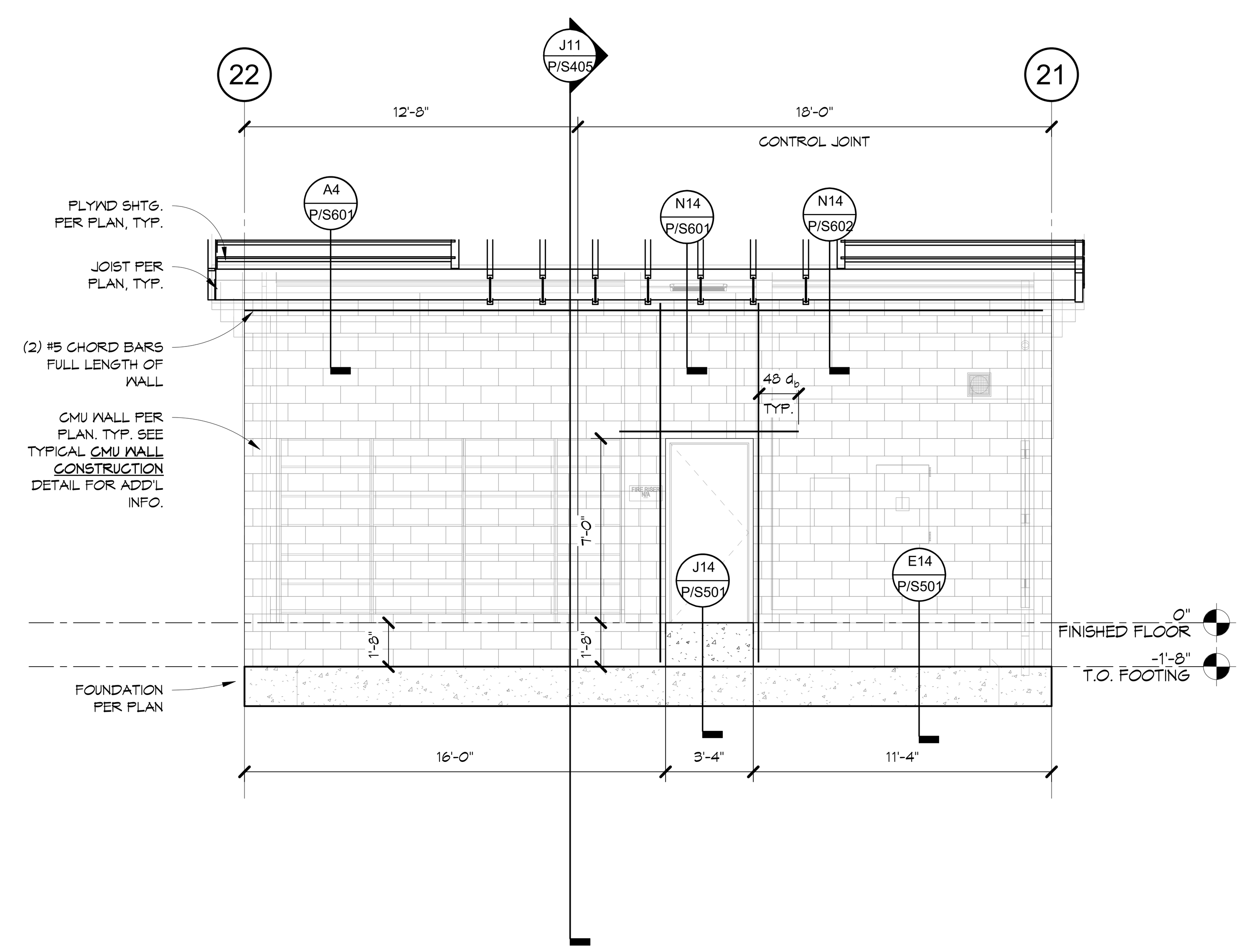
Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

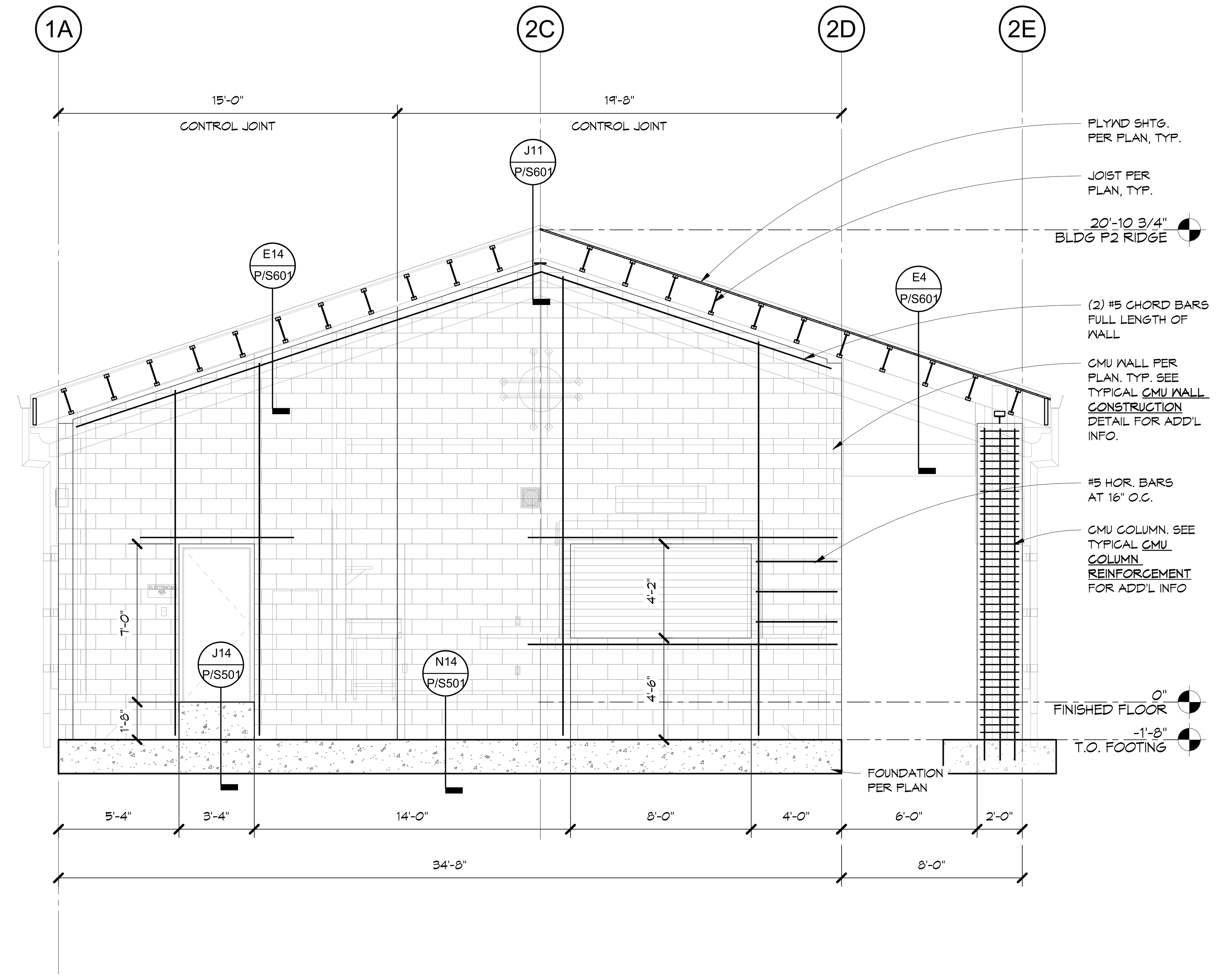
Revision

	Designed Designer	Copyright Darden Architects
Scale: 1/4" = 1'-0"	Drawn By: Author	P/S401
Project Number: 2180	Checked I Checker	
Date: 11/16/2022	Reviewe Approver	Sheet: of:



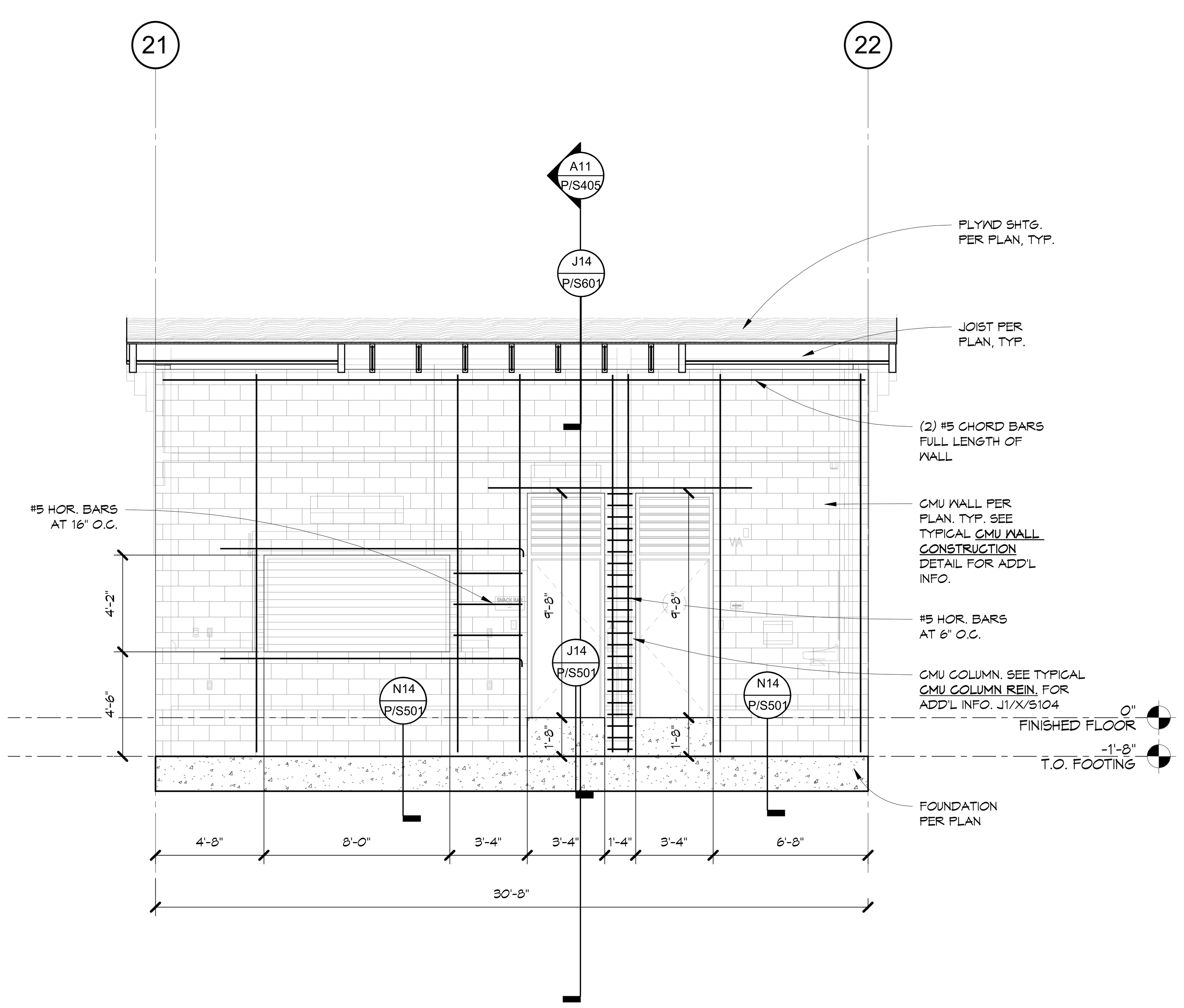
J7 WALL ELEVATION AT GL '1A' - P2 ALT BID

P/S201 | P/S401.1 | 1/4" = 1'-0"



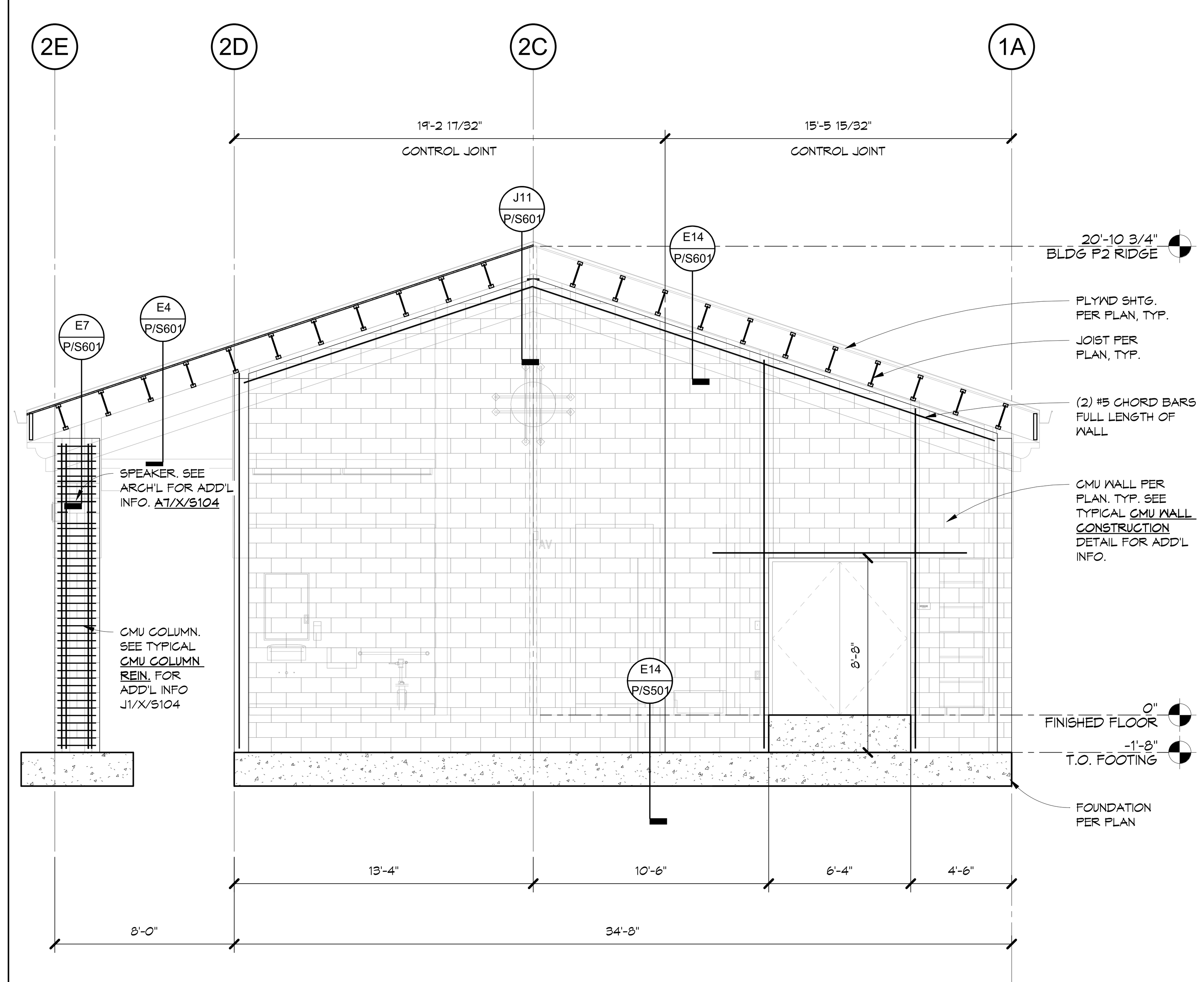
J11 WALL ELEVATION AT GL '21' - P2 ALT BID

P/S201.1 | P/S401.1 | 1/4" = 1'-0"



A7 WALL ELEVATION AT GL '2D' - P2 ALT BID

P/S201.1 | P/S401.1 | 1/4" = 1'-0"



A11 WALL ELEVATION AT GL '22' - P2 ALT BID

P/S201.1 | P/S401.1 | 1/4" = 1'-0"

DSA File No.:

DSA Application No.:
02-120251

Agency Approval

BrooksRansom Associates 22106

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

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Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

Scale: 1/4" = 1'-0"	Designed By: ESB	Copyright Darden Architects
Project Number: 2180	Drawn By: ESB	
Date: 11/16/2022	Checked By: ESB	
	Reviewed By: ESB	

P/S401.1

Sheet: of:

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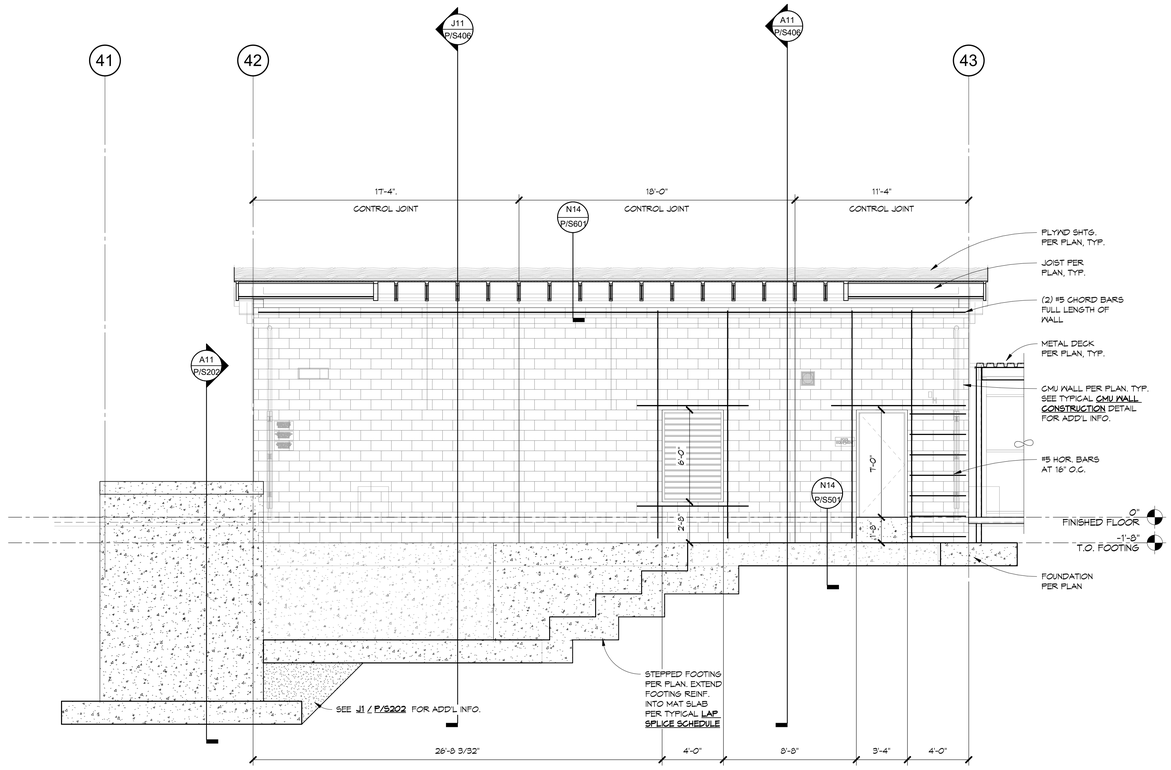
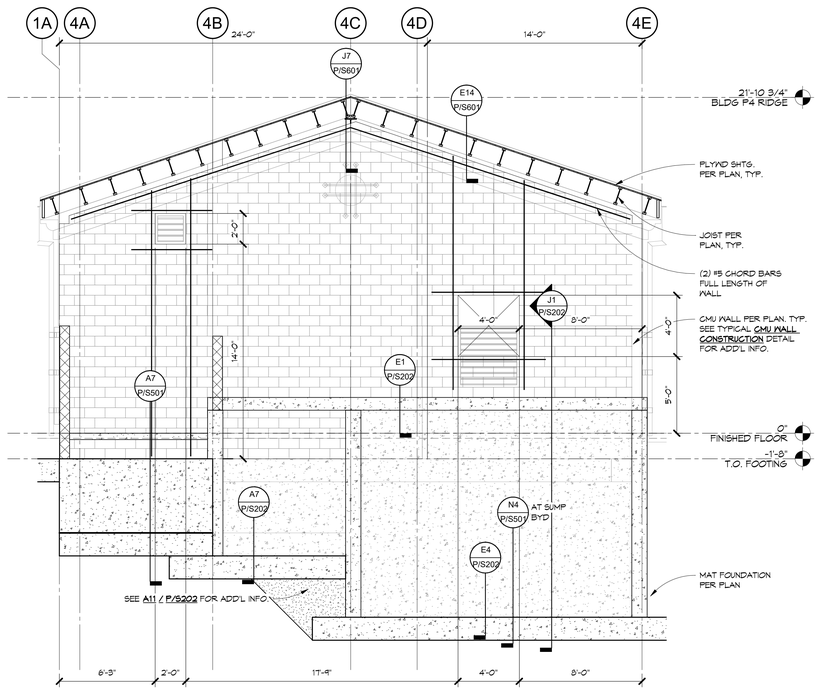


J4 | WALL ELEVATION AT GL '4E' - P4

P/S201 | P/S403 | 1/4" = 1'-0"



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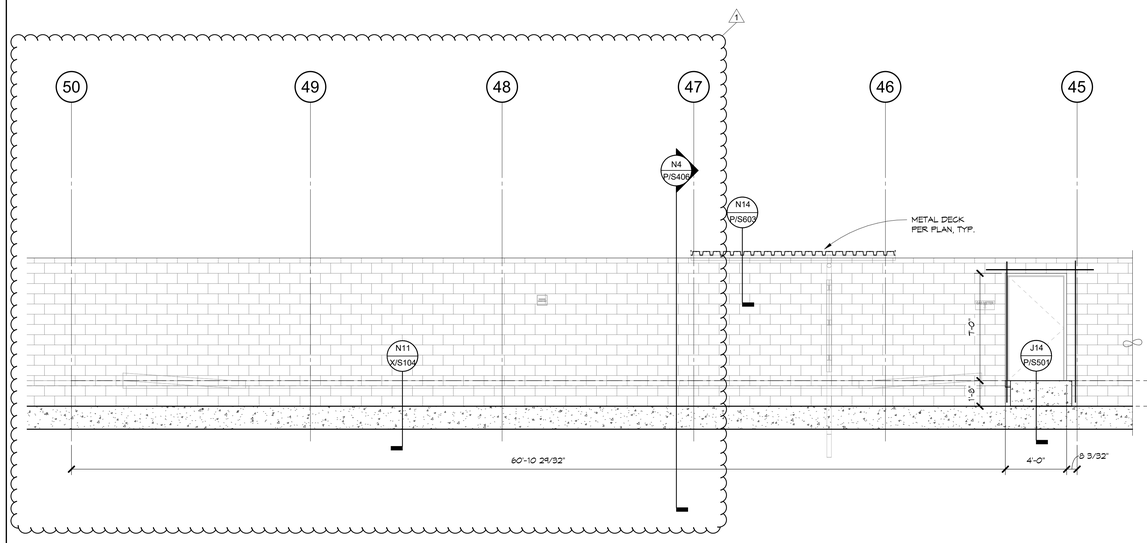
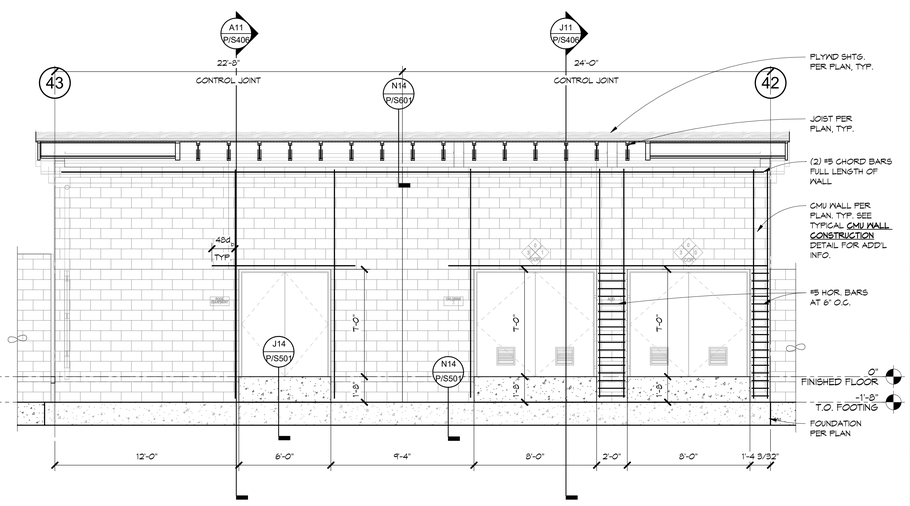
P/S201 | P/S403 | 1/4" = 1'-0"





A1 | WALL ELEVATION AT GL '1A' - P4

P/S201 | P/S403 | 1/4" = 1'-0"

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DSA File No.:

DSA Application No.:
02-120251

Agency Approval

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565 N PARK AVE STE 601 FRESNO, CA 93701
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22106

REGISTERED PROFESSIONAL ENGINEER
GAYLORD R. RANSOM
No. 52386
EXPIRES 3-31-24
CIVIL
STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

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LICENSED ARCHITECT
MICHAEL K. FONG
No. C23724
Exp. 4-30-24
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

Designed By: ESB
Drawn By: ESB
Checked By: ESB
Reviewed By: ESB

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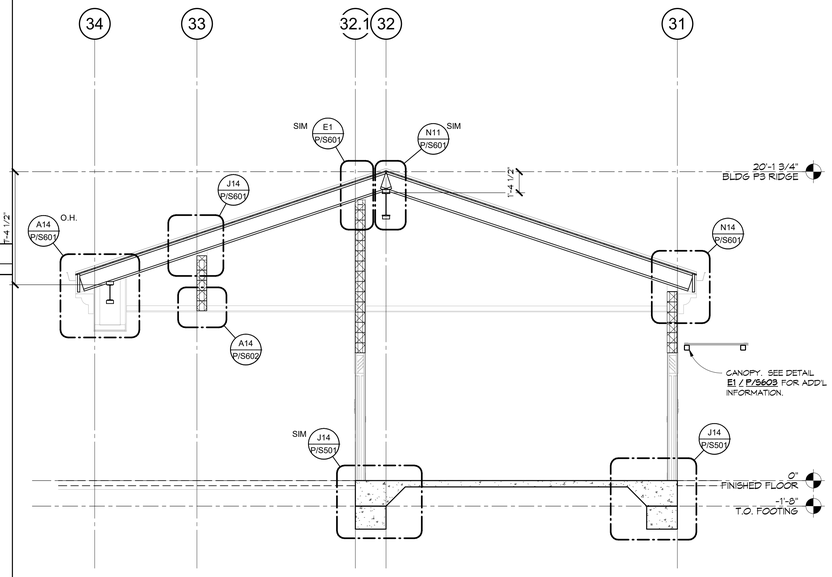
Scale: 1/4" = 1'-0"
Project Number: 2180
Date: 11/16/2022

P/S403

Sheet: _____ of: _____



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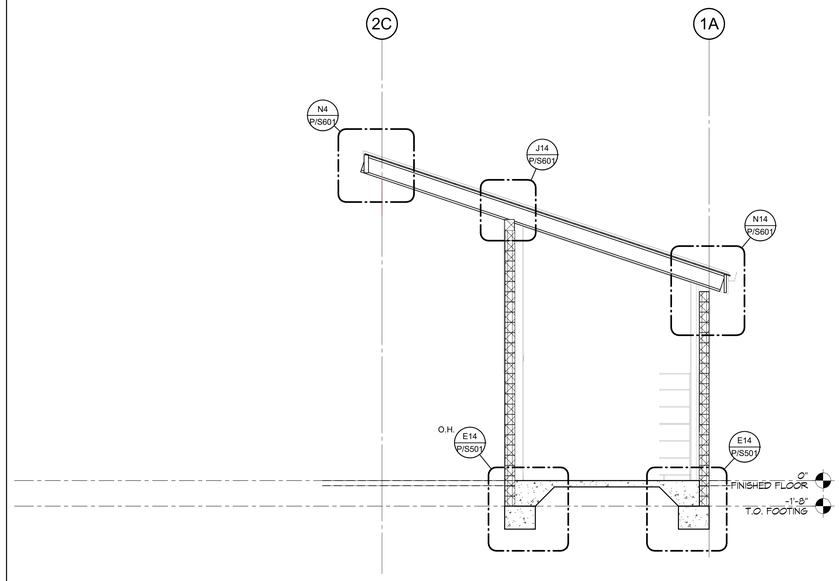
P/S201 | P/S405 | 1/4" = 1'-0"



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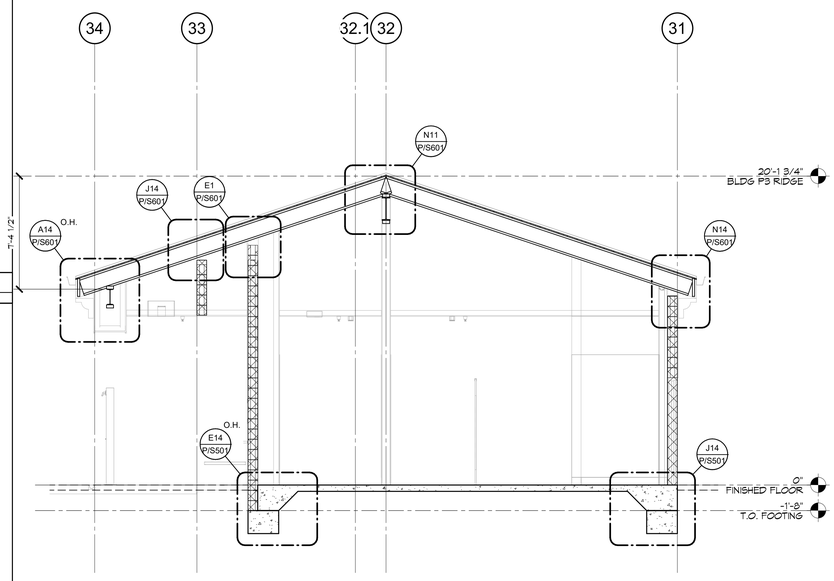

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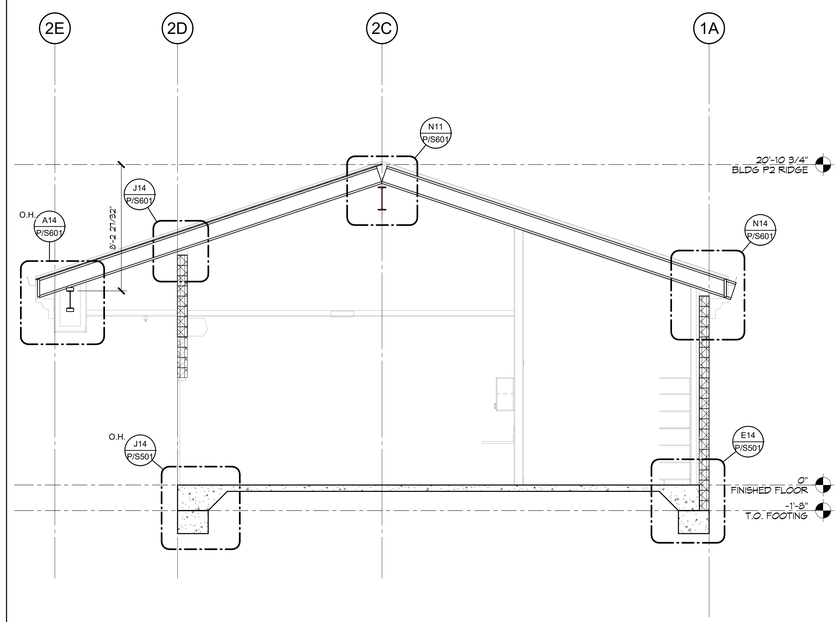

A11 | BUILDING SECTION - P2 ALT BID

P/S201 | P/S405 | 1/4" = 1'-0"

DSA File No.:

DSA Application No.:
02-120251

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7485 N. Palm Ave, STE 103 | FRESNO, CA 93711
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REGISTERED PROFESSIONAL ENGINEER GAYLORD R. RANSOM No.52386 EXPIRES 3-31-24 CIVIL CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
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Tulare, CA 93274

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LICENSED ARCHITECT BRENT K. FERRELL No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

Designed By: ESB
Drawn By: ESB
Checked By: ESB
Reviewed By: ESB

Scale: 1/4" = 1'-0"
Project Number: 2180
Date: 11/16/2022

P/S405

Sheet: _____ of: _____

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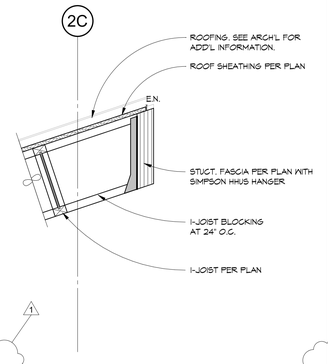
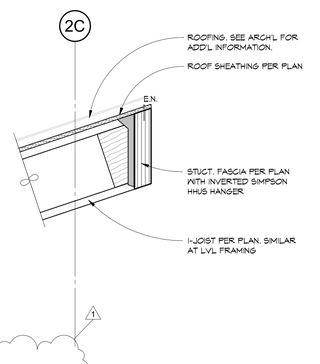


N1 DETAIL
P/S301 | P/S601 1" = 1'-0"



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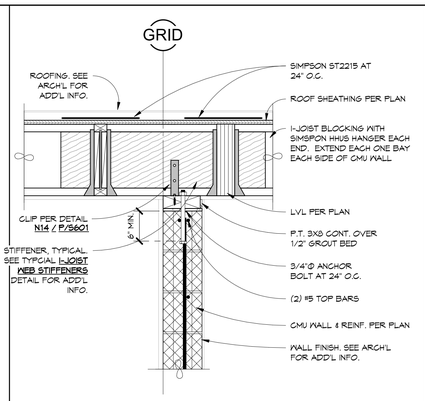

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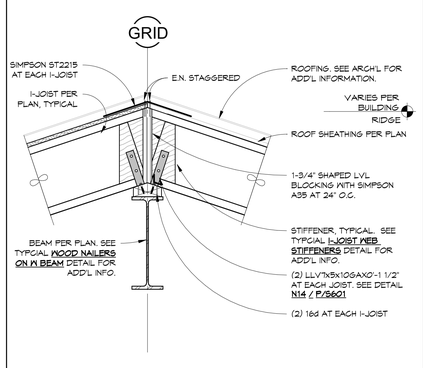
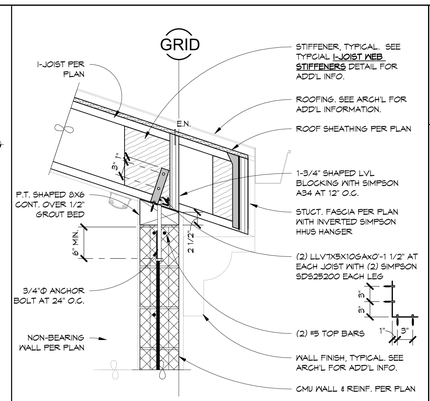


N11 DETAIL
P/S201.1 | P/S601 1" = 1'-0"



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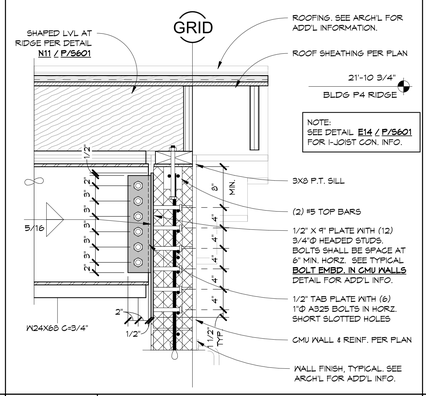

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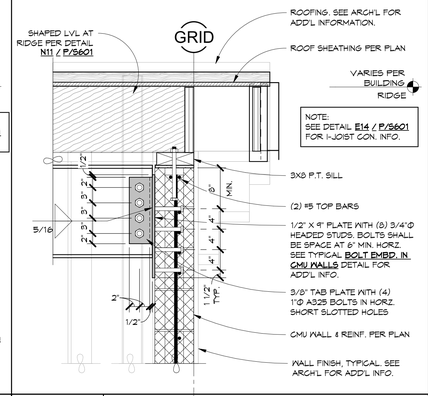

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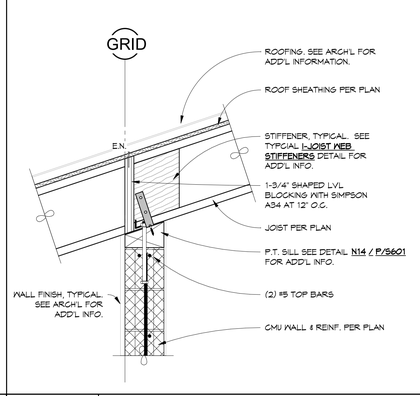

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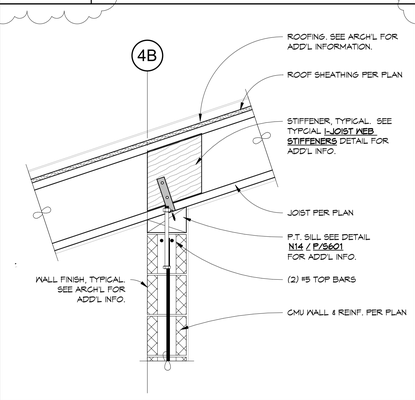
R/S201.1 | P/S601 1" = 1'-0"



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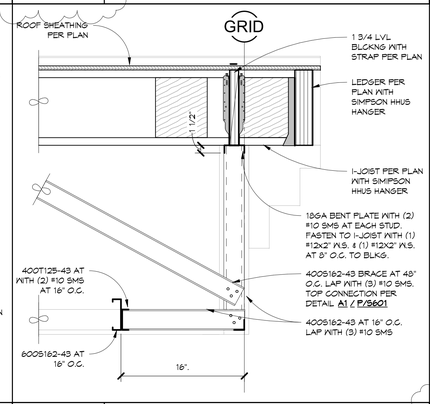

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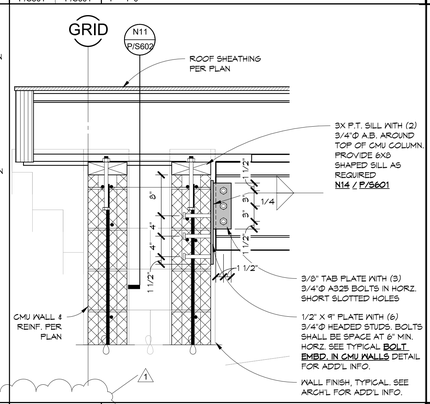
P/S201.1 | P/S601 1" = 1'-0"



E7 DETAIL
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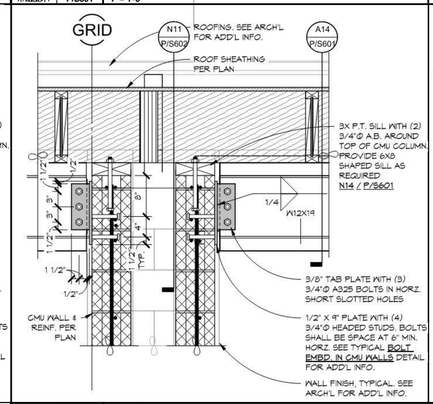

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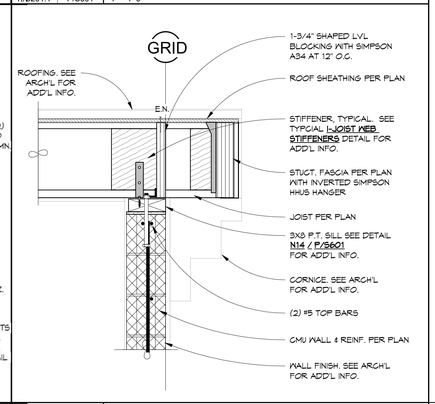

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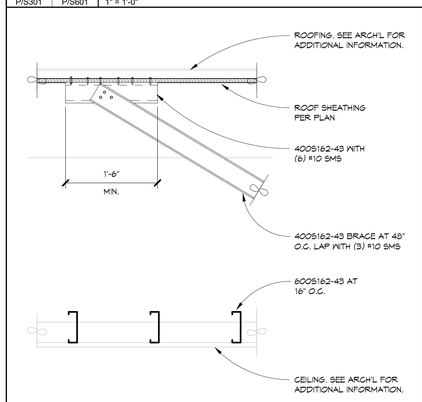

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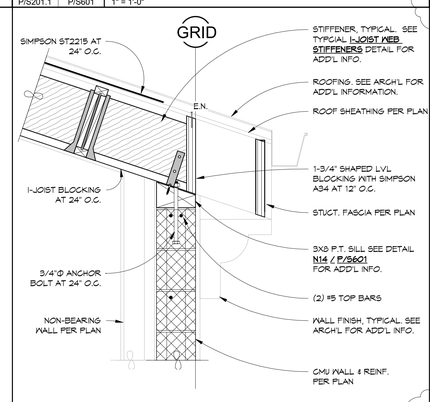

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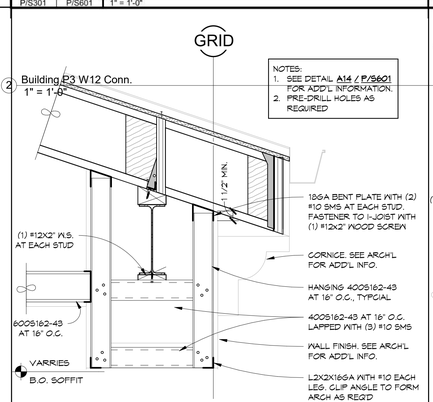

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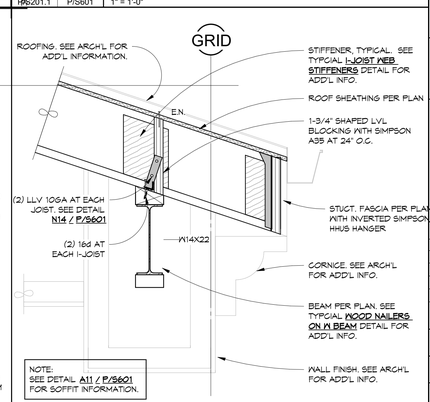

A14 DETAIL
R/S201.1 | P/S601 1" = 1'-0"

DSA File No.:

DSA Application No.:
02-120251

Agency Approval

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EXPIRES 9-30-24
CIVIL
STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

Building P
FRAMING DETAILS
Drawing

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LICENSED ARCHITECT
MICHAEL K. FENNING
No. C23724
REG. 4-30-23
STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

	Designed By: ESB	Copyright	Darden Architects
Scale: 1" = 1'-0"	Drawn By: ESB		
Project Number: 2180	Checked By: ESB		*P/S601*
Date: 11/16/2022	Reviewed By:ESB	Sheet: ____ of: ____	

8/18/2023 10:51:16 AM
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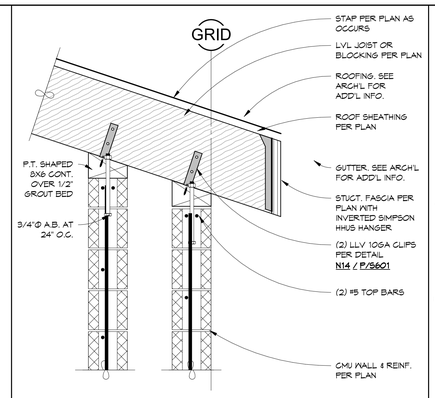
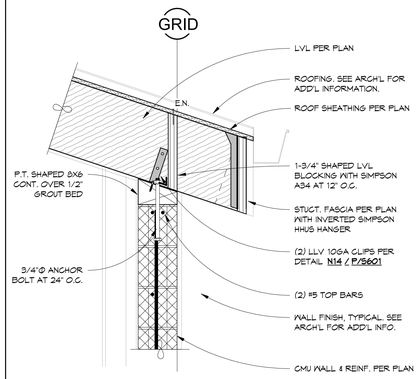


N11 DETAIL
P/S301 | P/S602 | 1" = 1'-0"



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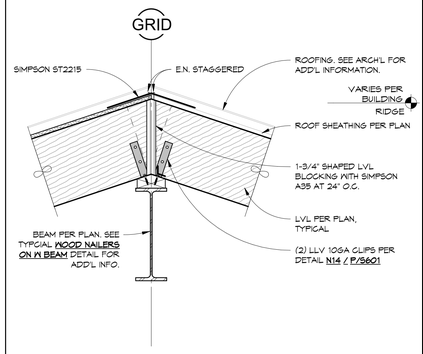

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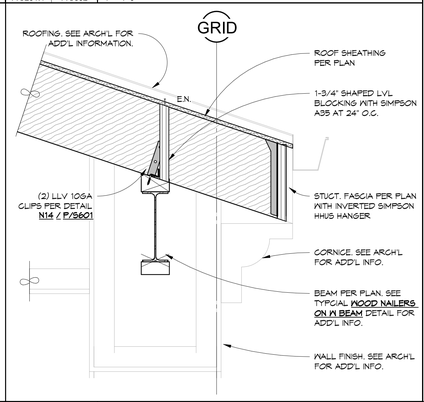
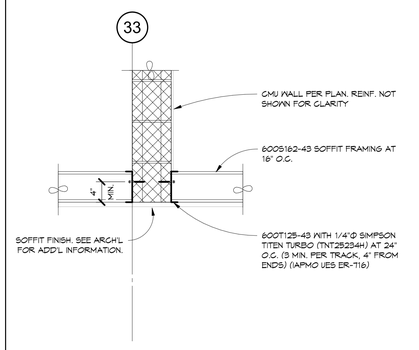


E14 DETAIL
P/S201.1 | P/S602 | 1" = 1'-0"



A14 DETAIL
P/S405 | P/S602 | 1" = 1'-0"

DSA File No.:

DSA Application No.:
02-120251

Agency Approval

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Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

Building P
FRAMING DETAILS
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LICENSED ARCHITECT MICHAEL K. FENN No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_1	05/31/2023

Revision

	Designed Designer	Copyright Darden Architects
Scale: 1" = 1'-0"	Drawn By: Author	*P/S602*
Project Number: 2180	Checked fChecker	
Date: 11/16/2022	ReviewedApprover	Sheet: _____ of: _____

8/18/2023 10:51:18 AM
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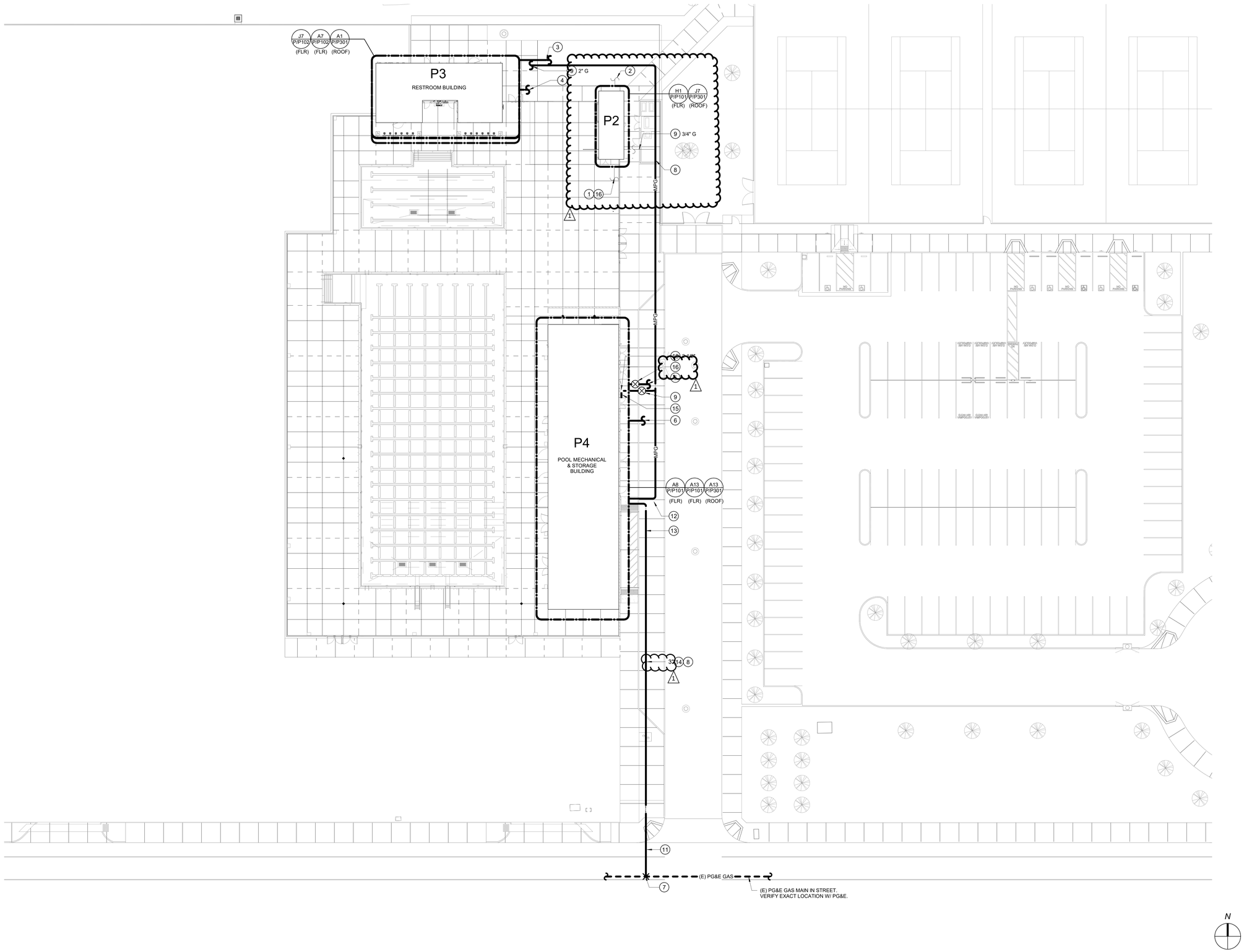

DSA File No.:
DSA File

DSA Application No.:
DSA App

Agency Approval

KEYNOTES (#)

1. 2" CW TO BUILDING P2. REFER TO CIVIL PLANS FOR CONTINUATION.
2. 4" S FROM BUILDING P2. REFER TO CIVIL PLANS FOR CONTINUATION.
3. 2-1/2" CW TO BUILDING P3. SEE CIVIL PLANS FOR CONTINUATION.
4. 4" S FROM BUILDING P3. REFER TO CIVIL PLANS FOR CONTINUATION.
5. 3" CW TO BUILDING P4. REFER TO CIVIL PLANS FOR CONTINUATION.
6. 6" S FROM BUILDING P4. REFER TO CIVIL PLANS FOR CONTINUATION.
7. POC, (N) PG&E GAS SERVICE LINE TO (E) GAS MAIN IN STREET. INSTALLATION OF (N) PG&E GAS SERVICE SHALL BE DONE BY A PG&E CERTIFIED SITE CONTRACTOR. PROVIDE SOVV PER PG&E.
8. (N) MEDIUM PRESSURE GAS BELOW GRADE IN UTILITY TRENCH PER DETAIL E4 ON SHEET X/P102.
9. MPG TO BUILDING WITH BUILDING GAS SOV IN BOX. SEE DETAILS A14 ON SHEET X/P102.
10. 2-1/2" MPG TO BUILDING P4 WITH BUILDING GAS SOV IN BOX & GAS PRESSURE REGULATOR ABOVE GRADE IN LOCKABLE CAGE. SEE DETAILS J4 ON SHEET X/ P102.
11. GAS SERVICE ROUTING TO GAS METER INSTALLATION OF (N) PG&E SERVICE SHALL BE DONE BY A PG&E CERTIFIED SITE CONTRACTOR.
12. CUSTOMER SIDE GAS ROUTED INTO GAS METER ENCLOSURE.
13. UTILITY SIDE GAS ROUTED INTO GAS METER ENCLOSURE.
14. MEDIUM PRESSURE GAS PIPING BELOW GRADE TO BUILDINGS. COORDINATE EXACT LOCATION WITH SITE UTILITIES.
15. GAS SHUT-OFF VALVE SIGN MOUNTED ON WALL. SEE DETAIL A8 ON SHEET X/P102.
16. CW TO BUILDING WITH BUILDING SOV IN BOX. SEE DETAIL A14 ON SHEET X/P102.

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

SITE DEVELOPMENT
PARTIAL PLUMBING SITE PLAN

Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: JCS
Drawn By: AV
Checked By: HB
Reviewed By: JCS

Scale: As indicated
Project Number: 2180
Date: 07/13/2022

SD/P102

A1
1" = 20'-0"
PARTIAL PLUMBING SITE PLAN

8/15/2023 5:45:16 PM

PLUMBING SCHEDULE

PLUMBING FIXTURE SCHEDULE						
MARK	FIXTURE	S OR W	V	CW	HW	DESCRIPTION
WC-1	WATER CLOSET ADA	4"	2"	1"	-	KOHLER "HIGHCLIFF ULTRA" MODEL K-96057-0, FLOOR-MOUNT, ELONGATED BOWL, HIGH EFFICIENCY, ANTI-MICROBIAL GLAZE, ZURN ZER6000PL-HET-CPM SENSOR OPERATED, BATTERY POWERED, 1.28 GPF AUTOMATIC FLUSH VALVE WITH MANUAL OVERRIDE, CHURCH 295SSCT SOLID PLASTIC OPEN FRONT SEAT WITH CHECK STAINLESS STEEL HINGE POSTS, SELF-SUSTAINING HINGES, AND STAT-TITE FASTENING SYSTEM. COLOR: WHITE.
WC-2	WATER CLOSET	4"	2"	1"	-	KOHLER "HIGHCLIFF ULTRA" MODEL K-96057-0, FLOOR-MOUNT, ELONGATED BOWL, HIGH EFFICIENCY, ANTI-MICROBIAL GLAZE, ZURN ZER6000PL-HET-CPM SENSOR OPERATED, BATTERY POWERED, 1.28 GPF AUTOMATIC FLUSH VALVE WITH MANUAL OVERRIDE, CHURCH 295SSCT SOLID PLASTIC OPEN FRONT SEAT WITH CHECK STAINLESS STEEL HINGE POSTS, SELF-SUSTAINING HINGES, AND STAT-TITE FASTENING SYSTEM. COLOR: WHITE.
U-1	URINAL ADA	2"	1-1/2"	3/4"	-	KOHLER K-5452-ET-0 "DEXTER" 0.125 GPF, WALL-HUNG, WASHOUT URINAL WITH STRAINER, ZURN ZER6003AV-ULF-CPM AQUA ADVANTAGE WITH TRIPLE FILTERED DIAPHRAGM, SENSOR OPERATED, BATTERY POWERED, 0.125 GPF AUTOMATIC FLUSH VALVE WITH MANUAL OVERRIDE, AND JAY R. SMITH 637 FLOOR-MOUNTED SUPPORT CARRIER WITH BOTTOM BEARING PLATE. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS. COLOR: WHITE.
L-1	LAVATORY ADA	2"	1-1/2"	3/4"	3/4"	BRADLEY MODEL MF2949-AST4-NSD WALL-HUNG, QUADRA-FOUNT WASHFOUNTAIN, 46"x26", SOLID SURFACE "TERREON", TYPE 304 STAINLESS STEEL PEDESTAL FRAME AND ACCESS PANEL, AND (4) MANUAL AIR PUSHBUTTONS. PROVIDE BATTERY-POWERED, INFRARED SENSOR-OPERATED METERING (-BIR3) SET FOR 10 SECOND MINIMUM / 30 SECOND MAXIMUM CYCLE TIME WITH 0.5 GPM FLOW. PROVIDE MCQUIRE 155WC OFFSET GRID DRAIN. PROVIDE NAVIGATOR THERMOSTATIC MIXING ASSEMBLY (-TMA). SEE ARCHITECTURAL PLANS FOR ACCESSIBLE MOUNTING HEIGHTS. COORDINATE COLOR SELECTION WITH ARCHITECT.
L-2	LAVATORY ADA	2"	1-1/2"	3/4"	3/4"	KOHLER "KINGSTON" MODEL K-2005-0 WALL-HUNG, 20"x18" VITREOUS CHINA WITH BACKSPLASH, WALL BRACKET AND 4" CENTER FAUCET HOLES. CHICAGO FAUCET MODEL 3300-ABCP MANUAL METERING FAUCET WITH 0.5 GPM SPRAY OUTLET, SET FAUCET FOR 10 SECOND MINIMUM/30 SECOND MAXIMUM CYCLE TIME. LEONARD 170-LF THERMOSTATIC MIXING VALVE SET AT 100°F, ASSE 1070-2015. MCGUIRE 155WC OFFSET GRID DRAIN AND JAY R. SMITH 700 SERIES SUPPORT CARRIER WITH CONCEALED ARMS. SEE ARCHITECTURAL DRAWINGS FOR ACCESSIBLE MOUNTING HEIGHTS. COLOR: WHITE.
SH-1	SHOWER ADA	-	-	3/4"	3/4"	BRADLEY CORPORATION MODEL HN200-TTPA-S15-ST-RSS-GB-VS, RECESSED MOUNTED CALIFORNIA ADA (CBC T24) COMPLIANT, 14 GAUGE STAINLESS STEEL PRE-ASSEMBLED SHOWER SYSTEM WITH (1) FIXED SHOWERHEAD AND (1) HAND-HELD SHOWERHEAD, PRESSURE BALANCING SHOWER VALVE WITH LEVER HANDLE W/ THERMOSTATIC MIXING VALVE SET FOR 120°F MAXIMUM ASSE 1016-2017, DIVERTER VALVE WITH LEVER HANDLE, RECESSED SOAP DISH, INTEGRAL STOPS, REVERSIBLE PHENOLIC SHOWER SEAT, L-SHAPED 2-WALL GRAB BAR, AND VANDAL RESISTANT SCREWS W/ 1.5 GPM. SEE DRAWINGS FOR SHOWER LAYOUT.
SH-2	SHOWER VALVE FITTINGS	-	-	3/4"	3/4"	ZURN Z7500-i2-LS-14 "AQUA-PANEL" SHOWER UNIT, PRE-FABRICATED STAINLESS STEEL SHOWER UNIT W/ TEMP-GARD BALANCING SHOWER VALVE WITH SINGLE BRONZE STEM W/ THERMOSTATIC MIXING VALVE SET FOR 120°F MAXIMUM ASSE 1016-2017, STAINLESS STEEL BALANCING PISTON AND BOTTOM ACCESS INTEGRAL SERVICE STOPS. 14 GAGE STAINLESS STEEL SHROUD, CHROME-PLATED BRASS SHOWER HEAD WITH FLOW CONTROL ON INSTITUTIONAL BRACKET, METAL STEM HANDLE AND VANDAL-PROOF SECURING SCREWS. MAXIMUM FLOW RATE 2.5 GPM AT 80 PSI.
SH-3	FREE-STANDING OUTDOOR SHOWER	-	-	3/4"	3/4"	ACORN "SHOWER-WARE" MODEL 901-6-LVR-P, 14 GAUGE, TYPE 304 STAINLESS STEEL PYLON SHOWER WITH SATIN FINISH, STEEL PLATE BASE WITH RUST-PREVENTATIVE COATING. SINGLE SHOWER HEAD WITH DISCHARGE HEIGHT OF 5'-6", PRE-PIPED AND HYDROSTATICALLY TESTED TO 150 PSI. SUPPLIED WITH TEMPERED WATER FROM SINGLE THERMOSTATIC MIXING VALVE: MV-2, LEVER HANDLE, AND PENAL SHOWER HEAD.
FD-1	FLOOR DRAIN (ACID RESISTANT)	2"	1-1/2"	TP	-	"SPEARS" #LW1600-04096, 5" DIAMETER SS GRATE, CPVC FLOOR DRAIN w/ ROUND GRATE, NO HUB OUTLET AND TRAP PRIMER CONNECTION.
TD-1	TRENCH DRAIN	3"	1-1/2"	TP	-	ZURN Z886 PERMA-TRENCH 6" DRAIN SYSTEM WITH 4" THROAT, LENGTH PER PLAN WITH 0.75% SLOPE BUILT-IN, HDPE TRENCH DRAIN SYSTEM WITH POLYPROPYLENE HEEL-PROOF ADA COMPLIANT 20" LONG SLOTTED GRATE, CLOSED END CAP, AND 4" NO-HUB BOTTOM
FS-1	FLOOR SINK	2"	1-1/2"	TP	-	JAY R. SMITH 3140Y-12-C, 12"x12"x6" DEEP COATED CAST IRON WITH NICKEL BRONZE RIM WITH HALF GRATE, DOME BOTTOM STRAINER, DOUBLE DRAINAGE FLANGE, NO HUB OUTLET, AND TRAP PRIMER CONNECTION FITTING WHER APPLICABLE.
FS-2	FLOOR SINK (ACID RESISTANT)	3"	2"	TP	-	JAY R. SMITH 3160Y-12-C, 12"x12"x10" ACID RESISTANT COATED FLOOR SINK, DOME BOTTOM STRAINER, DOUBLE DRAINAGE FLANGE, NO HUB OUTLET, AND TRAP PRIMER CONNECTION FITTING WHER APPLICABLE.
FS-3	FLOOR SINK (ACID RESISTANT)	6"	3"	TP	-	JAY R. SMITH 3251Y-12, 24"x12"x17" ACID RESISTANT COATED FLOOR SINK, DOME BOTTOM STRAINER, DOUBLE DRAINAGE FLANGE, NO HUB OUTLET, AND TRAP PRIMER CONNECTION FITTING WHER APPLICABLE.
TP-1	TRAP PRIMER	-	-	3/4"	-	PRECISION PLUMBING PRODUCTS MODEL P1-500 PRESSURE DROP ACTIVATED, BRASS CONSTRUCTION, WITH #DU-U DISTRIBUTION UNIT FOR UP TO (4) FLOOR DRAINS. PROVIDE 12"x12" STAINLESS STEEL ACCESS DOOR WITH CYLINDER LOCK. PROVIDE SOV UPSTREAM OF TRAP PRIMER.
MS-1	MOP SINK	3"	2"	3/4"	3/4"	KOHLER "WHITBY" K-6710 CORNER-STYLE FLOOR-MOUNTED, 28"x28"x12" DEEP ENAMELED CAST IRON WITH #K-8940 RIM GUARD, #K-9146 DRAIN STRAINER, FISHER MODEL #19798 WALL-MOUNT POLISHED CHROME FAUCET WITH HOSE THREAD OUTLET, VACUUM BREAKER, INTEGRAL STOPS, INTEGRAL CHECK VALVES, AND WALL BRACE. FLORESTONE #MR-370 HOSE WITH HOOK AND #MR-372 MOP HANGER.
S-1	HAND WASH SINK	2"	1-1/2"	3/4"	3/4"	JUST MFG. A-33338 WALL-HUNG, 16"x18", 18 GAUGE, TYPE 304 STAINLESS STEEL WITH BACKSPLASH AND WALL BRACKET, 4" CENTER FAUCET HOLES, STAINLESS STEEL GRID DRAIN, AND CHICAGO 895-317RGD1ABCP DECK-MOUNTED 2.2 GPM GOOSENECK FAUCET WITH WRISTBLADE HANDLES. PROVIDE WILKINS ZW3870XLT-4P POINT OF USE THERMOSTATIC MIXING VALVE BELOW SINK. PROVIDE A STEEL SUPPORT PLATE FOR MOUNTING FIXTURE PER DETAIL X ON SHEET X/P102. SEE ARCHITECTURAL DRAWINGS FOR ACCESSIBLE MOUNTING HEIGHT.
DF-1	DRINKING FOUNTAIN ADA	2"	1-1/2"	3/4"	-	ELKAY EZH20 BOTTLE FILLING STATION WITH MODEL VRCTL8WSK INTEGRAL HI-LO BARRIER-FREE REFRIGERATED FOUNTAIN, WALL-MOUNTED STAINLESS STEEL WITH DUAL FOUNTAINS, POLISHED CHROME PLATED BRASS BUBBLER HEADS, PUSH BUTTON VALVES, MOUNTING FRAME. CHILLER TO PROVIDE 8.0 GPH FOR 50°F REFRIGERATED WATER. PROVIDE OPTIONAL WATER FILTER KIT FOR BOTTLE FILLER (MODEL EWF3000). ELECTRICAL REQUIRED FOR CHILLER: 120V, 370 WATTS. ELECTRICAL REQUIRED FOR BOTTLE FILLER: 120V. OPERATING WEIGHT = 118 LBS.
WH-1	WATER HEATER (BUILDING P3)	-	-	1-1/2"	1-1/2"	INTELLIHOT MODEL iN401, MULTIPLE STAINLESS HEAT EXCHANGER, TURNDOWN RATIO OF 13.3:1 PER UNIT, INDOOR FLOOR MOUNTED, ON DEMAND WATER HEATER WEIGHT: 345, LBS 120V / 60 HZ, MAX 9.5 AMPS, 16 W ON STANDBY
WH-2	WATER HEATER (BUILDING P4)	-	-	3/8"	3/8"	CHRONOMITE MODEL M-40/208 INSTANT FLOW STANDARD STANDARD FLOW INSTANANEOUS ELECTRIC WATER HEATER WITH FIELD ADJUSTABLE TEMPERATURE MICROPROCESSER SET TO DELIVER 120 DEGREE F. HOT WATER OUTLET TEMPERATURE AT 1.0 GPM GLOW RATE. 8,320 WATTS, 40 AMPS, 208V/1 PHASE.
WH-3	WATER HEATER (BUILDING P2 ALT BID)	-	-	1-1/2"	1"	NAVIEN MODEL NPE-180A2, TANKLESS WATER HEATER, ANSI Z21.10.3 -CSA 4.3 LATEST STANDARDS, BUILT IN ADVACNED MULTI-LINES CONTROL PANEL WIT TEMPERATURE OPTIONS AND READY-LINK CASCADE COMPATABILITY, FLOW RATE OF 8.4 GPM. WEIGHT: 73 LBS, 120V AC, 60 HZ.
TET-1	THERMAL EXPANSION TANK	-	-	1/2"	-	WILKINS XT-35, 9 GALLON CAPACITY ASME RATED EXPANSION TANK WITH IN-LINE CONNECTIONS, LEAD-FREE, AND FDA-APPROVED BLADDER FOR POTABLE WATER USE. WEIGHT = 15.5 LBS.
CP-1	CIRCULATING PUMP	-	-	-	3/4"	GRUNDFOS MODEL UPS15-55SFC STAINLESS STEEL DOMESTIC HOT WATER IN-LINE CIRCULATING PUMP, WITH FLANGED CONNECTIONS, 3-SPEED MOTOR, INTEGRAL CHECK VALVE, 5 GPM AT 13 FT. TDH., 1/12 HP, 120V / 1 PH. CONTROL THRU "HONEYWELL" AQUASTAT AND DIGITAL 365-DAY TIME CLOCK OR EMS CONTACTS. WEIGHT = 5 LBS.
MV-1	MIXING VALVE	-	-	2" IN	1-1/4" IN 1-1/2" OUT	LEONARD PROTON ELECTRONIC VALVE MODEL PNV-150-LF-2PS, 2" INLETS, 3" OUTLET, LEAD-FREE THERMOSTATIC MIXING VALVE WITH INLET CHECK STOPS AND STRAINERS, OUTLET BALL VALVE AND PROGRAMMABLE SET POINT RANGE WITH DIGITAL THERMOMETER. 0.5 GPM MINIMUM FLOW, 50 GPM FLOW AT 20 PSI DROP. LOCKING TEMPERATURE REGULATING HANGLE SET FOR 120°F. ASSE 1017-2009.
SA-1	SHOCK ABSORBER	-	-	1"	-	SIOUX CHIEF HYDRA-RESTER MODEL 654-CS SEAMLESS COPPER CHAMBER APPROVED FOR CONCEALED INSTALLATION. PDI SYMBOL "C". INSTALL IN UPWARD POSITION.
HB-1	HOSE BIBB	-	-	3/4"	-	WOODFORD MODEL 24P, 3/4" INLET SIZE, BRASS WALL HOSE FAUCET WITH ROUGH BRASS FINISH, WALL FLANGE, NON-REMOVABLE VACUUM BREAKER, AND OPTIONAL LOOSE TEE KEY HANDLE. PROVIDE POLISHED CHROME FINISH FOR INDOORS, ROUGH BRASS FINISH FOR OUTDOORS.
GPR-1	GAS PRESSURE REGULATOR (BUILDING P4)	-	-	-	-	"ELSTER AMERICAN" SERIES 3000 DIECAST ALUMINUM REGULATOR WITH CAST IRON PIPE SECTION, FULL CAPACITY RELIEF VALVE, 1-1/4" FLANGED INLET AND OUTLET, PROVIDE OPTIONAL INLET AND OUTLET 1/8" PRESSURE TAPS, SPRING NO. 70157P035, 5,600 MAXIMUM CAPACITY AT 2PSIG INLET AND 12" W.C. OUTLET GAS PRESSURE.
GPR-2	GAS PRESSURE REGULATOR (BUILDING P3 & P2(ALT BID))	-	-	-	-	"ELSTER AMERICAN" SERIES 1813C DIECAST ALUMINUM REGULATOR WITH CAST IRON PIPE SECTION, FULL CAPACITY RELIEF VALVE, 3/4" SCREWED INLET AND OUTLET, 3/16" ORIFICE SIZE, SPRING NO. 70017P123, 2000 CFH MAXIMUM CAPACITY AT 2PSIG INLET AND 12" W.C. OUTLET GAS PRESSURE.
BF-1	BACKFLOW PREVENTOR			SEE PLAN		WILKINS 975XL-U-1250-AG, REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY, BRONZE BODY, WITH UNION BALL VALVES, SHOCK ARRESTOR, AND AIR GAP DRAIN PAN. CONNECT A 1" GALVANIZED SCHED. 40 STEEL PIPE TO AIR GAP DRAIN OUTLET AND DISCHARGE INTO FLOOR SINK.
HD-1	HUB DRAIN	4"	2"	TP	-	HUB DRAIN WITH 6" TOP FUNNEL, NO HUB OUTLET, AND TRAP PRIMER CONNECTION FITTING WHERE APPLICABLE.
IM-1	ICE MAKER BOX	-	-	3/4"	-	SIOUX CHIEF 696 SERIES SUPPLY OXBOX WITH 1/4-TURN VALVE, FRAME, AND ARRESTER, SECURE DIRECTLY TO VERTICAL STUD OR BETWEEN STUDS USING MANUFACTURER'S GALVANIZED BRACKET.
WF-1	WATER FILTER (ICE MACHINE)	-	-	3/8"	-	EVERPURE "INSURICE SINGLE i2000" MODEL #EV9324-01 ICE MACHINE WATER FILTER SYSTEM WITH #EV9612-22 0.5 MICRON CARTRIDGE, 1.67 GPM MAXIMUM FLOW RATE, 9,000 GALLONS RATED CAPACITY, WALL MOUNTING BRACKET. PROVIDE (2) ADDITIONAL REPLACEMENT CARTRIDGES, MODEL #EV9612-22. OVERALL DIMENSIONS: 29.64" HIGH x 8.04" WIDE x 5.25" DEEP. WEIGHT = 9 LBS.
KSF-1	KITCHEN SINK FAUCET	-	-	3/4"	3/4"	(1) ZURN Z843G1-XL-19F WALL MOUNT FAUCET WITH 1.5 GPM 8" SWING SPOUT, AND 8" CENTER FAUCET HOLES.

1

ANCHORAGE & BRACING NOTES

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISCPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MD ☐ MP ☐ PP ☐ E ☐ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MD ☐ MP ☐ PP ☒ E ☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # 0043-13.

1

GAS METER DEMAND CALC'S			
BUILDING P2 (ALT BID)			
EQUIPMENT	EQUIPMENT DEMAND (MBH)	UNIT #	TOTAL DEMAND (MBH)
WATER HEATER	150	1	150.0
GPR-2, SHEET P/P101	BUILDING TOTAL		150.0
BUILDING P3			
EQUIPMENT	EQUIPMENT DEMAND (MBH)	UNIT #	TOTAL DEMAND (MBH)
WATER HEATER	399.9	2	799.8
GPR-2, SHEET P/P102	BUILDING TOTAL		799.8
BUILDING P4			
EQUIPMENT	EQUIPMENT DEMAND (MBH)	UNIT #	TOTAL DEMAND (MBH)
WARM UP POOL BOILER	1000	1	1000
LAP POOL BOILER	1500	3	4500
GPR-1, SHEET P/P101	BUILDING TOTAL		5500
AQUATIC COMPLEX TOTAL			6449.8
@ 550 FEET, 3" MPG (2 PSI) TO START PER CPC 2019, TABLE 1215.2(4)			

1

PLUMBING LEGEND

SYMBOL	ITEM	ABBR.
	ABOVE	ABV
	ABOVE CEILING	ABV CLG
	ABOVE FINISHED FLOOR	AFF
	ALTERNATE	ALT
&	AND	
	ARCHITECT / ARCHITECTURAL	ARCH
@	AT	
	BELOW FLOOR	BEL FLR
	BELOW GRADE	BEL GR
	CALIFORNIA MECHANICAL CODE	CMC
	CALIFORNIA PLUMBING CODE	CPC
	CEILING	CLG
℄	CENTER LINE	
	CONTINUATION	CONT
	CUBIC FEET PER HOUR	CFH
∅	DIAMETER	DIA
	DOWN	DN
	DRAWING	DWG
	ELBOW	ELL
	ELECTRICAL	ELEC
	EXISTING	(E)
	FEET	FT
	FLOOR	FLR
	FLOW LINE	FL
	GALLON	GAL
	GALLONS PER HOUR	GPH
	GALLONS PER MINUTE	GPM
	GAUGE	GA
	INSIDE DIAMETER	ID
	INVERT ELEVATION	I.E.
	MAXIMUM	MAX
	MINIMUM	MIN
	NEW	(N)
	NOT IN CONTRACT	NIC
	NOT TO SCALE	NTS
#	NUMBER	NO.
	OUTSIDE DIAMETER	OD
	POUNDS	LBS
	POUNDS PER SQUARE INCH	PSI
	POUNDS PER SQUARE INCH ABSOLUTE	PSIA
	POUNDS PER SQUARE INCH GAUGE	PSIG
	POLYVINYL CHLORIDE	PVC
	ROOM	RM
	SPECIFICATION	SPEC
	SQUARE FEET	SQ FT
	STAINLESS STEEL	SS
	TEMPERATURE	TEMP
	THROUGH	THRU
	TYPICAL	(TYP)
	UNDER GROUND	U/G
	WATER COLUMN	WC
	WITH	W/
	WITHOUT	W/O
A	COMPRESSED AIR	A
AV	ACID VENT	AV
AW	ACID WASTE	AW
	ACID VENT RISER	AVR
	ACID VENT THRU ROOF	AVTR
CD	CONDENSATE DRAIN	CD
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HOT WATER RETURN	HWR
G	LOW PRESSURE NATURAL GAS	G
HPG	HIGH PRESSURE GAS	HPG
ICW	INDUSTRIAL COLD WATER	ICW
LPG	LIQUIFIED PETROLEUM GAS	LPG
F	FIRE PROTECTION LINE	
RWL	RAIN WATER LEADER	RWL
OD	OVERFLOW DRAIN	OD
SD	STORM DRAIN	SD
	SOIL or WASTE	S or W
TW	TEMPERED WATER	TW
	VENT	V
	VENT RISER	VR
	VENT THRU ROOF	VTR
	CLEANOUT TO GRADE	COTG
	DEMOLITION	DEMO
	EXISTING PIPING	
	FLOOR CLEANOUT	FCO
	HOSE BIBB	
	PIPING TURN UP	
	PIPING TURN DOWN	
	PIPING CAP	
	POINT OF CONNECTION TO EXISTING	POC
	ANGLE VALVE	
	BALANCE VALVE	
	BALL VALVE	
	CHECK VALVE	

SYMBOL	ITEM	ABBR.
	CONCENTRIC REDUCER	
	TWO-WAY CONTROL VALVE	
	PLUG VALVE	
	PRESSURE REDUCING VALVE	
	SHUT-OFF VALVE IN BOX	SOV
	SHUT-OFF VALVE	SOV
	THERMOSTATIC MIXING VALVE	
	TEMPERATURE / PRESSURE RELIEF VALVE	PRV
	UNION	
	WALL CLEANOUT	WCO
	"Y" TYPE STRAINER	
P	PRESSURE GAUGE	
T	TEMPERATURE GAUGE	
1	KEYNOTE	
2 / P202	DETAIL REFERENCE EXAMPLE: DETAIL 2, SHEET P202	
3 / P400	SECTION REFERENCE EXAMPLE: SECTION 3, SHEET P400	

GENERAL NOTES

1. COORDINATION OF WORK: LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY.
2. THE ACTUAL LOCATION OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCES WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL OR OTHER ELEMENTS.
3. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO THE INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.
4. ALL DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR THE OWNER REPRESENTATIVE.
5. MINIMUM SLOPE FOR SEWER IS 1/4" PER FT, UNLESS OTHERWISE NOTED.
6. ALL ROOF PENETRATIONS SHALL BE COMPATIBLE WITH ROOF SYSTEM WITH AS FEW PENETRATIONS AS POSSIBLE.
7. MINIMUM DOMESTIC WATER PIPE SIZE TO BE 3/4" UNLESS OTHERWISE NOTED. USE A REDUCING ELL AT FIXTURE, IF NECESSARY.
8. ALL PLUMBING FIXTURES, VALVES, FAUCETS, FIXTURE STOPS, ETC. WHICH PROVIDE WATER FOR HUMAN CONSUMPTION MUST MEET THE "LEAD FREE" REQUIREMENT FOR THE STATE OF CALIFORNIA.
9. MAXIMUM ALLOWABLE DISTANCE FOR HOT WATER LATERALS TO FIXTURES OFF OF THE CIRCULATING MAIN SHALL BE 10'-0" FOR HAND WASH SINKS AND LAVS, AND 15'-0" FOR OTHER SINKS.
10. LEAN CONCRETE SHALL BE USED AS BACK FILL WHERE UTILITY TRENCHES EXTEND FROM THE EXTERIOR TO THE INTERIOR LIMITS OF THE BUILDING. LEAN CONCRETE SHALL EXTEND A MINIMUM DISTANCE OF TWO (2) FEET LATERALLY ON EACH SIDE OF THE EXTERIOR BUILDING LINE AND A MINIMUM OF SIX (6) INCHES ABOVE FOOTING PENETRATION.

DSA File No.:
DSA File

DSA Application No.:
DSA App

Agency Approval

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

REGISTERED PROFESSIONAL ENGINEER, M35955, Exp. 06-30-25, MECHANICAL, STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
PLUMBING SCHEDULE, LEGENDS, AND NOTES

Drawing

darden architects — ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT, MICHAEL K. FENNACY, No. C23724, Ren. 4-30-23, STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: JCS	
Scale: 12" = 1'-0"	Drawn By: AV	X/P101
Project Number: 2180	Checked By: HB	
Date: 07/13/2022	Reviewed By: JCS	

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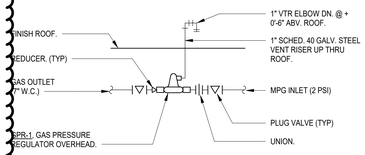
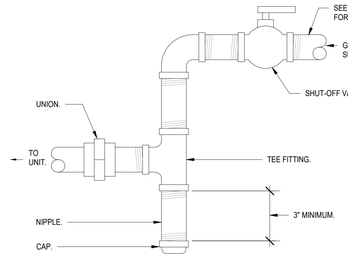


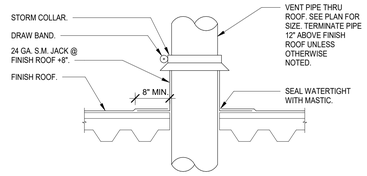
N4 — GAS PRESSURE REGULATOR OVERHEAD

N.T.S.



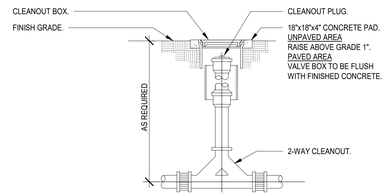
N8 — GAS DIRT LEG

N.T.S.



N11 — VENT THRU ROOF

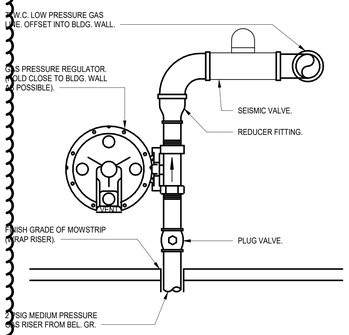
N.T.S.



NOTE:ALL CLEANOUT BOXES WITHIN 10' OF EACH OTHER SHALL BE LINED UP WITH EACH OTHER AND PARALLEL TO SIDEWALK OR BUILDING WALL.

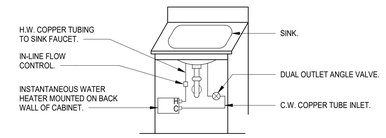
N14 — 2-WAY CLEANOUT TO GRADE

N.T.S.



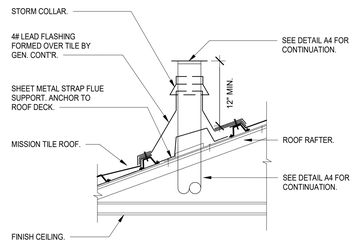
J4 — GAS PRESSURE REGULATOR

N.T.S.



J8 — WATER HEATER, WH-2

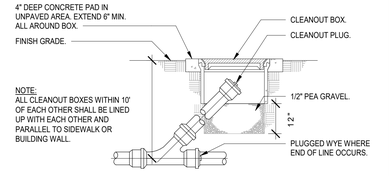
N.T.S.



NOTE:
FOR ROOF SYSTEM SEE ARCCHITECTURAL DETAIL J7/X/A52

J11 — FLUE THRU SLOPED ROOF

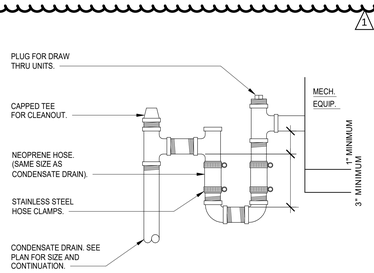
N.T.S.



NOTE:
ALL CLEANOUT BOXES WITHIN 10' OF EACH OTHER SHALL BE LINED UP WITH EACH OTHER AND PARALLEL TO SIDEWALK OR BUILDING WALL.

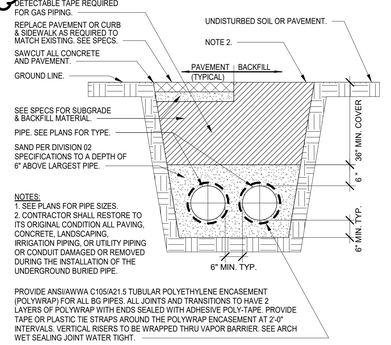
J14 — CLEANOUT TO GRADE

N.T.S.



E1 — CONDENSATE DRAIN CONNECTION

N.T.S.

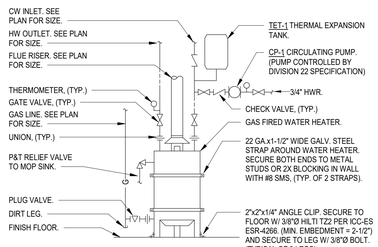


NOTES:
1. SEE PLANS FOR PIPE SIZES.
2. CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION ALL PAVING, CONCRETE, LANDSCAPING, IRRIGATION PIPING, OR UTILITY PIPING OR CONDUIT DAMAGED OR REMOVED DURING THE INSTALLATION OF THE UNDERGROUND BURIED PIPE.

PROVIDE ANSI/AWWA C105/A21.5 TUBULAR POLYETHYLENE ENCASEMENT (POLYWRAP) FOR ALL BG PIPES. ALL JOINTS AND TRANSITIONS TO HAVE 2 LAYERS OF POLYWRAP WITH ENDS SEALED WITH ADHESIVE POLY-TAPE. PROVIDE TAPE OR PLASTIC TIE STRAPS AROUND THE POLYWRAP ENCASEMENT AT 2'-0" INTERVALS. VERTICAL RISERS TO BE WRAPPED THRU VAPOR BARRIER. SEE ARCH WET SEALING JOINT WATER TIGHT.

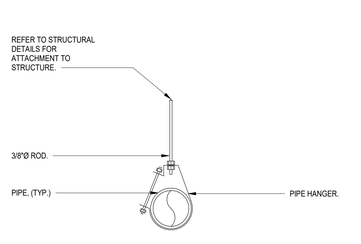
E4 — TYPICAL UTILITY TRENCH

N.T.S.



E8 — WATER HEATER, WH-1 & WH-3

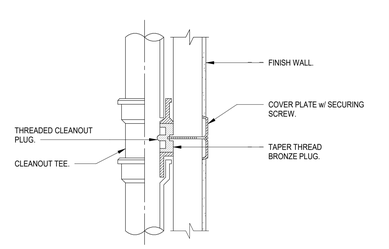
N.T.S.



NOTE:
ANCHORS, RODS, SCRES, PIPE HANGERS SHALL BE STAINLESS STEEL OR PVC.

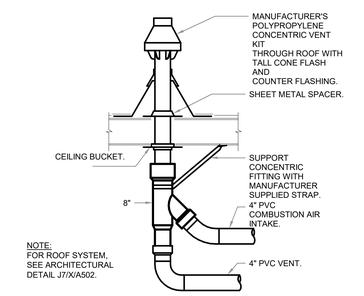
E11 — PIPE SUPPORT HANGER

N.T.S.



E14 — WALL CLEANOUT

N.T.S.

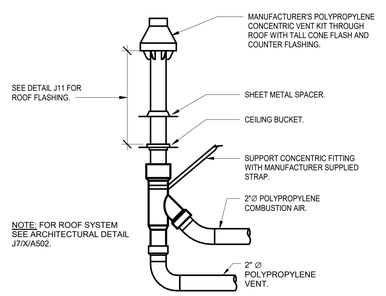


NOTE:
FOR ROOF SYSTEM, SEE ARCHITECTURAL DETAIL J7/X/A502.

NTS

A1 — CONCENTRIC VENT DETAIL

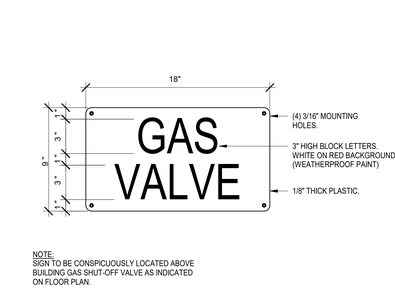
N.T.S.



NOTE: FOR ROOF SYSTEM SEE ARCHITECTURAL DETAIL J7/X/A502.

A4 — VERTICAL CONCENTRIC VENT

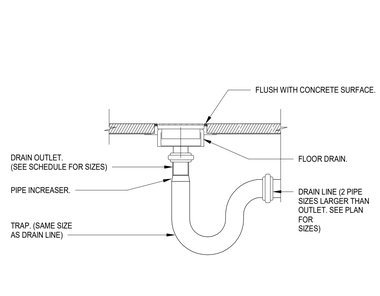
N.T.S.



NOTE:
SIGN TO BE CONSPICUOUSLY LOCATED ABOVE BUILDING GAS SHUT-OFF VALVE AS INDICATED ON FLOOR PLAN.

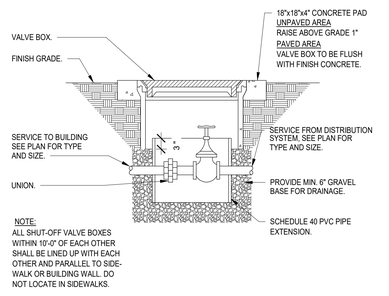
A8 — GAS VALVE SHUT-OFF SIGN

N.T.S.



A11 — FLOOR SINK/DRAIN CONN.

N.T.S.



NOTE:
ALL SHUT-OFF VALVE BOXES WITHIN 10'-0" OF EACH OTHER SHALL BE LINED UP WITH EACH OTHER AND PARALLEL TO SIDE-WALK OR BUILDING WALL. DO NOT LOCATE IN SIDEWALKS.

A14 — SOV IN VALVE BOX

N.T.S.

DSA File No.:
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General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
PLUMBING DETAILS

Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: JCS	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: AV	
Project Number: 2180	Checked By: HB	
Date: 07/13/2022	Reviewed By: JCS	

X/P102

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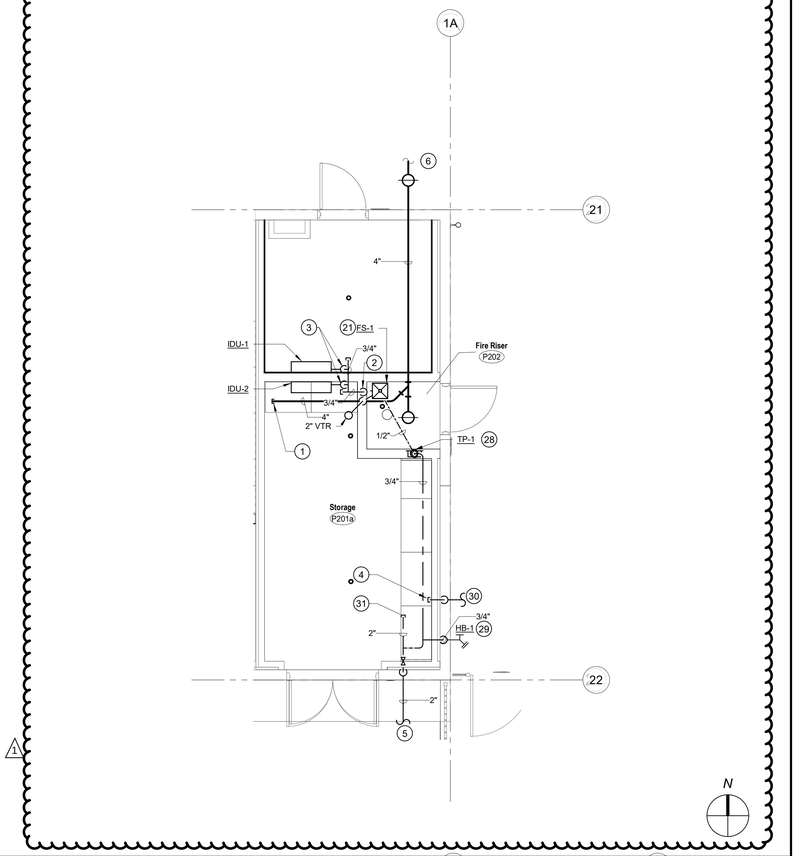
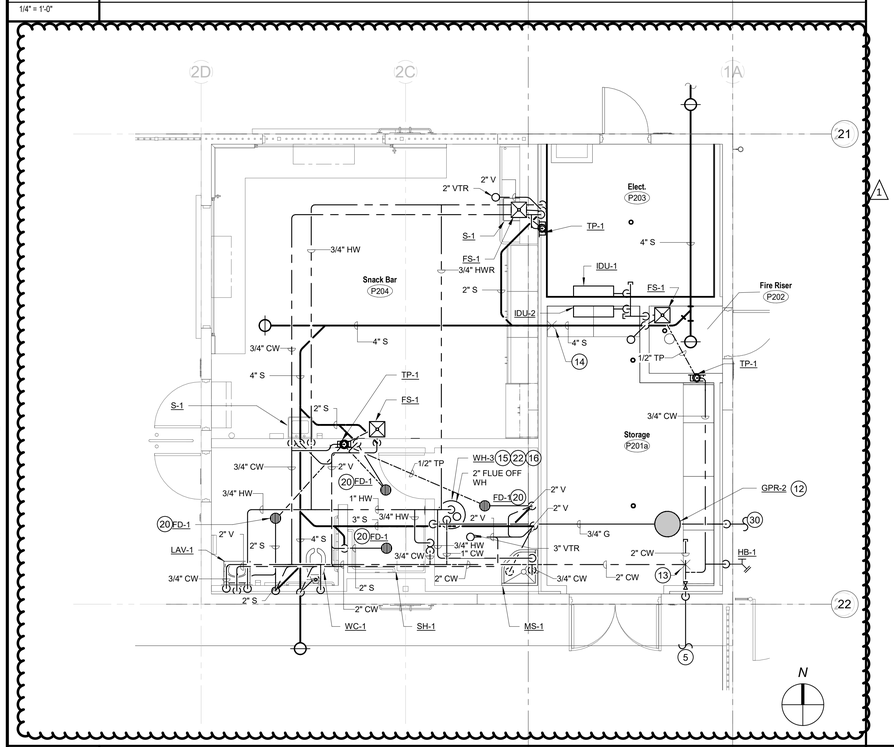


H1

1/4" = 1'-0"

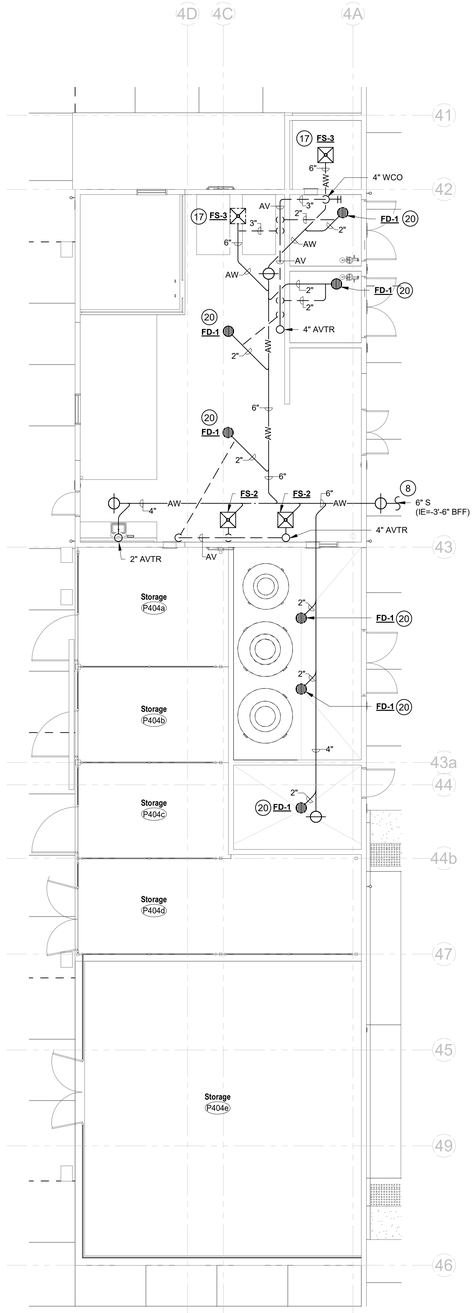
PLUMBING PLAN - BASE BID - BUILDING 2



A1

1/4" = 1'-0"

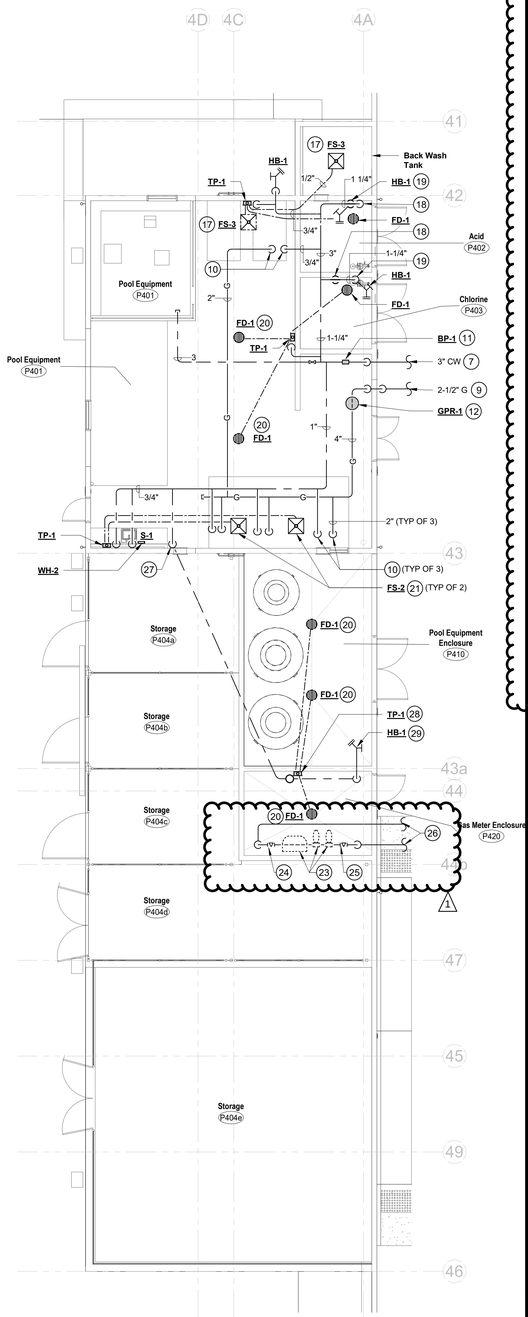
PLUMBING PLAN - ALT BID BUILDING P2



A8

1/8" = 1'-0"

PLUMBING PLAN - BUILDING P4 - S & V



A13

1/8" = 1'-0"

PLUMBING PLAN - BUILDING P4 - CW & G

DSA File No.:
DSA File

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KEYNOTES (#)

1. 4"S, CAP FOR FUTURE INVERT 2'-8" BELOW FF.
2. CONDENSATE DRIAN DN IN WALL. TERMINATE IN FLOOR SINK.
3. 3/4" CD CONNECTION TO INDOOR UNIT W/ TRAP PER DETAIL E1 ON SHEET X/P102.
4. 3/4" G ABOVE GRADE, CAP FOR FUTURE CONNECTION TO STAFF / SNACK BAR.
5. 2" CW TO BUILDING P2. SEE CIVIL PLANS FOR CONTINUATION.
6. 4" S FROM BUILDING P2. SEE CIVIL PLANS FOR CONTINUATION.
7. 3" CW TO BUILDING P4. SEE CIVIL PLANS FOR CONTINUATION.
8. 6" S FROM POOL EQUIPMENT BUILDING P4. SEE CIVIL PLANS FOR CONTINUATION.
9. 2-1/2" MPG TO BUILDING P4. SEE SHEET SD/P102 FOR CONTINUATION.
10. 3/4" CW AND 2" GAS DROP DN TO POOL BOILER.
11. BP-1 BACKFLOW PREVENTER OVERHEAD. PROVIDE 1" SCHEDULE 40 GALVANIZED STEEL DRAIN PIPE FROM BP-1 SLOPED AT 1/4" TO NEAREST FLOOR SINK.
12. 2" VENT PIPE FROM GAS PRESSURE REGULATOR ROUTED UP THRU ROOF PER DETAIL N4 ON X/P102.
13. 2"CW POC FROM BASE BID 2" CW.
14. 4"S POC FROM BASE BID 4"S.
15. 3/4" G DN TO WATER HEATER W/ GAS DIRT LEG. REFER TO DETAIL N8 ON SHEET X/P102.
16. WATER HEATER MOUNTED TO WALL AND FLOOR PER DETAIL E8 ON SHEET X/P102.
17. 6" S w/ TRAP, 3" V & 1/2" TRAP PRIMER CONNECTION FOR FLOOR SINK.
18. 1-1/4" CW DN FOR EMERGENCY SHOWER AND EYE WASH STATION (FIXTURE BY OTHERS).
19. 3/4" CW DN TO HOSE BIBB.
20. 2" S w/ TRAP, 1-1/2" V & 1/2" TRAP PRIMER CONNECTION FOR FLOOR DRAIN.
21. 3" S w/ TRAP, 2" V & 1/2" TRAP PRIMER CONNECTION FOR FLOOR DRAIN/SINK.
22. GPR MOUNTED ABOVE GRADE WITH VENT ROUTED ABOVE ROOF LINE PER DETAIL N4 ON SHEET X/P102.
23. GAS METER LOCATION WITHIN ENCLOSURE. GAS METER ASSEMBLY BY PG&E WITH 2 PSI OUTLET PRESSURE. SITE GAS PIPE SIZING DOWNSTREAM OF METER BASED ON 2019 CPC TABLE 1215.2(4) USING 400 FT ROW AND MAXIMUM LOAD OF 5,800 MBH. CONTRACTOR SHALL COORDINATE WITH PG&E.
24. CONNECT 2-1/2" MPG (2 PSIG) TO CUSTOMER SIDE OF GAS METER ASSEMBLY WITH PLUG VALVE.
25. 3" MPG STUBBED INTO GAS METER ENCLOSURE WITH PLUG VAVLE.
26. 3" MPG FROM SITE. REFER TO SHEET SD/P102 FOR CONTINUATION.
27. 3/4" CW DN TO BELOW FLOOR, TO BE ROUTED TO FIXTURES IN GAS METER ENCLOSURE.
28. 1/2" CW UP TO TRAP PRIMER.
29. 3/4" CW UP TO HOSE BIBB.
30. 3/4" MPG TO BUILDING P3. SEE SHEET SD/P102 FOR CONTINUATION.
31. 2"CW CAP FOR FUTURE.

GENERAL NOTES

1. ALL SUPPORTS WITHIN BUILDING P4 SHALL BE STAINLESS STEEL OR FRP OF EQUIVALENT STRENGTH. REFER TO MASON WEST OPM 0043-13 FOR STRENGTH AND SPACING REQUIREMENTS.

General Notes

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Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2 & P4
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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

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Reviewed By: JCS

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P/P101

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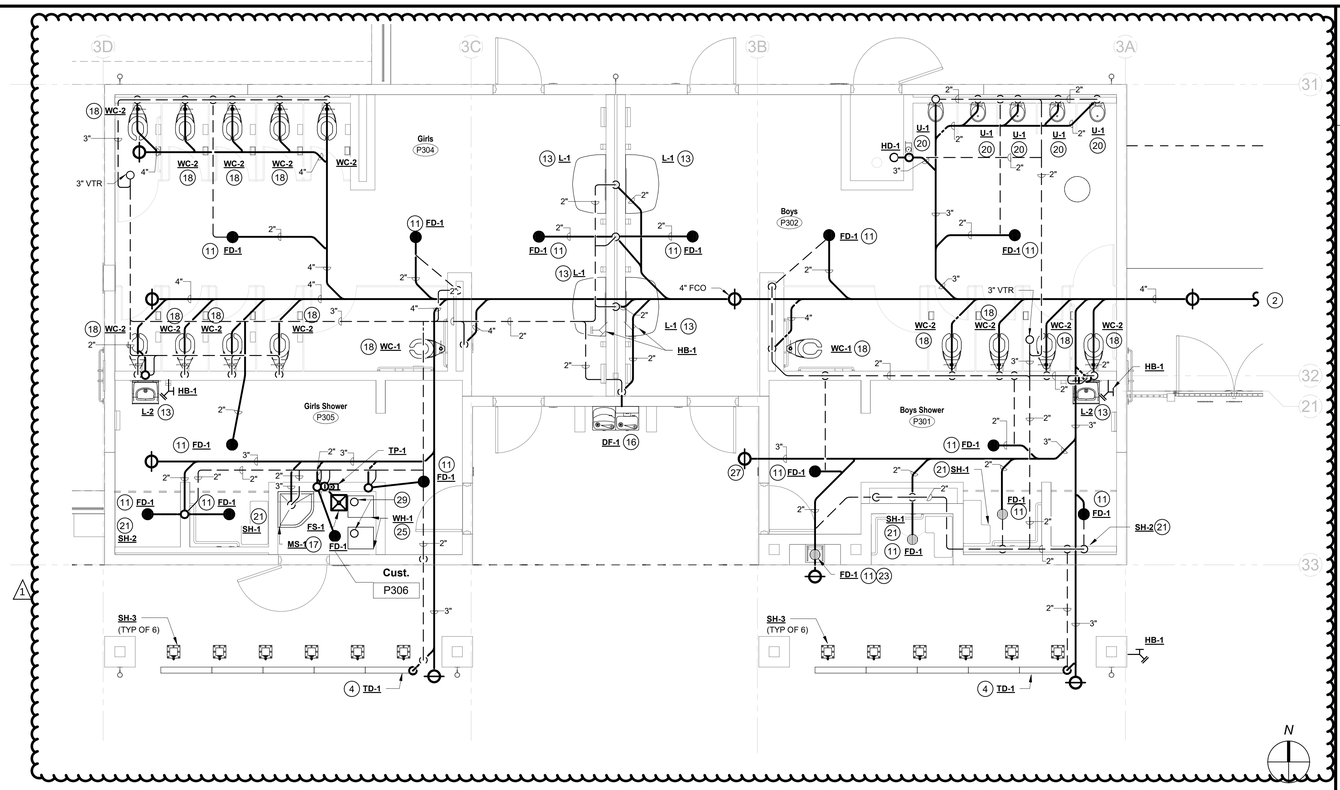
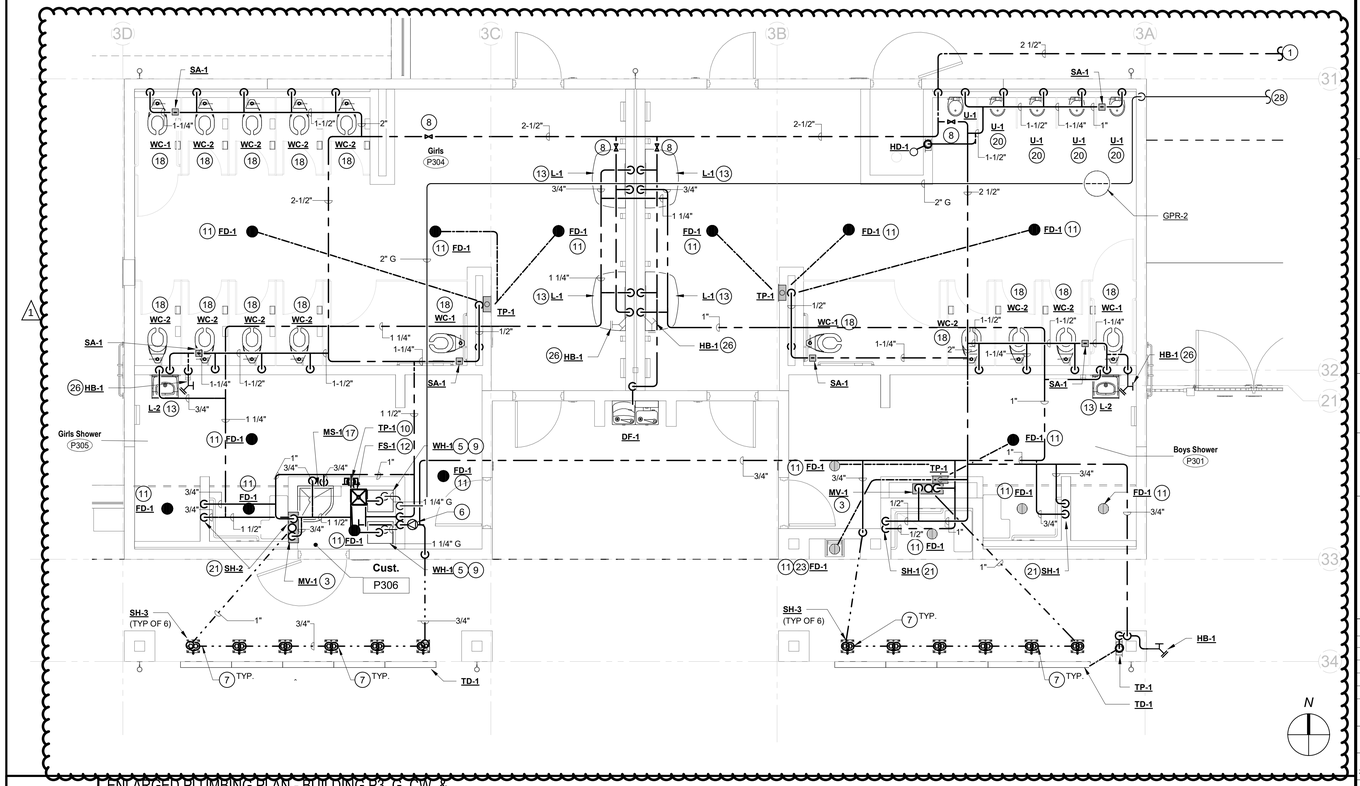


J7 — ENLARGED PLUMBING PLAN - BUILDING P3, S & V

1/4" = 1'-0"



A7 — ENLARGED PLUMBING PLAN - BUILDING P3, G, CW, & HW

1/4" = 1'-0"

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DSA File

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KEYNOTES (#)

1. 2-1/2" CW FOR RESTROOM BUILDING. SEE CIVIL PLANS FOR CONTINUATION.
2. 4" S FOR RESTROOM BUILDING. SEE CIVIL PLANS FOR CONTINUATION.
3. MIXING VALVE ON WALL. CONNECT 3/4" CW & 3/4" HW TO INLET CONNECTIONS AND PROVIDE 1" TEMPERED WATER (TW) CONNECTION AT OUTLET.
4. 3" S. FOR TRENCH DRAINS WITH CW FROM TRAP PRIMER.
5. VERTICAL WATER HEATER TO BE FLOOR MOUNTED PER DETAIL E8/X/P102 WITH 1/2" HILTI TZ2 PER ICC-ES ESR-4266 (TYP OF 4).
6. HOT WATER RETURN CIRCULATING PUMP CP-1 MOUNTED OVER WATER HEATERS. SHOWN OFF SET FOR CLARITY.
7. NO PIPE JOINTS BELOW GRADE.
8. CW ISOLATION VALVE. FIELD VERIFY AND COORDINATE LOCATION WITH NEW CEILING ACCESS PANEL.
9. 4" CONCENTRIC VENT ASSEMBLY. REFER TO DETAILS A4 AND J11 ON SHEET X/P102.
10. 1/2" CW DN TO TRAP PRIMER IN WALL WITH ACCESS PANEL.
11. 2" S w/ TRAP, 1-1/2" V & 1/2" TRAP PRIMER CONNECTION FOR FLOOR DRAIN/FLOOR SINK. FIELDCOORDINATED FS TO BE EXPOSED AND ACCESSIBLE FOR HEALTH DEPT INSPECTION.
12. 3" S w/ TRAP, 1-1/2" V & 1/2" TRAP PRIMER CONNECTION FOR FLOOR SINK. FIELD COORDINATED FS TO BE EXPOSED AND ACCESSIBLE FOR HEALTH DEPT INSPECTION.
13. 2" S, 1-1/2" V, 3/4" CW/HW, DN TO HANDSINK/LAV.
14. NOT USED.
15. NOT USED.
16. 2" S, 1-1/2" V & 3/4" CW DN FOR DRINKING FOUNTAIN.
17. 3" S w/ TRAP, 1-1/2" V, 3/4" CW/HW DN FOR MOP SINK.
18. 4" S, 2" V & 1" CW DN TO WATER CLOSET.
19. 3/4" CW/HW TO KITCHEN SINK FAUCET.
20. 2" S, 1-1/2" V, 3/4" CW FOR URINALS.
21. 3/4" CW/ HW DN FOR SHOWERS.
22. NOT USED.
23. FLOOR DRAIN FOR SPIN DRYER DISCHARGE.
24. NOT USED.
25. WATER HEATER MOUNTED TO WALL AND FLOOR PER DETAIL E8 ON SHEET X/P102.
26. 3/4" CW DOWN TO HOSE BIBB. TYP.
27. 4" FCO. REFER TO DETAIL J14 ON SHEET. X/P102.
28. 2" MPG TO BUILDING P3. SEE SHEET SD/P102 FOR CONTINUATION.
29. 4" AIR INTAKE & 4"VENT, 8" CONCENTRIC RISER THRU ROOF PER DETAIL A1/X/P102, SEE SHEET P/301 FOR CONTINUATION.

General Notes

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LICENSED PROFESSIONAL ENGINEER JASON C. SMITH M35955 Exp. 06-30-25 MECHANICAL STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2 & P3
ENLARGED PLUMBING PLANS

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LICENSED ARCHITECT MICHAEL K. FERNANDEZ No. C23724 REN. 4-30-25 STATE OF CALIFORNIA

Architect

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Revision

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P/P102

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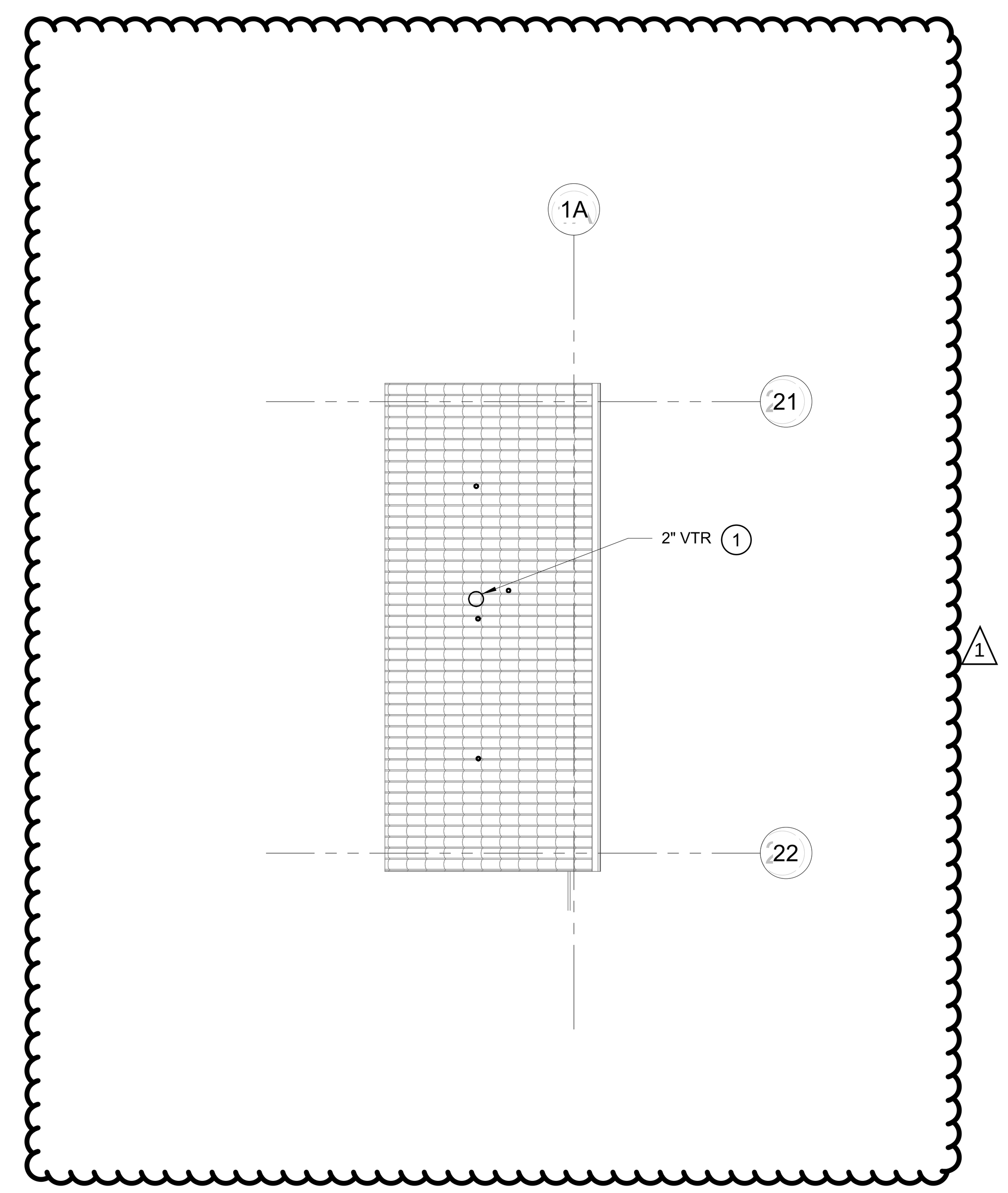

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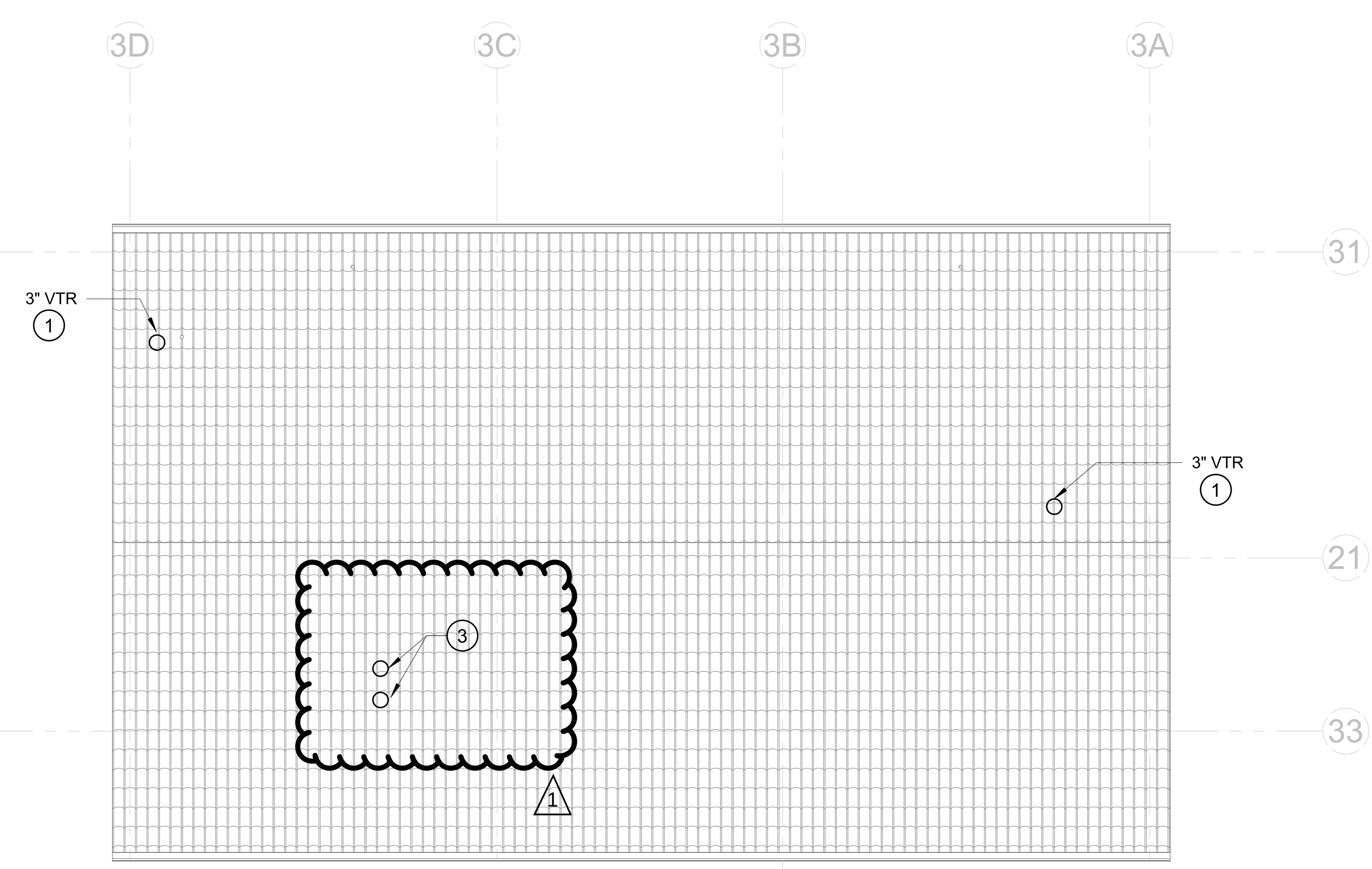
J7 PLUMBING ROOF PLAN - BASE BID -BUILDING P2

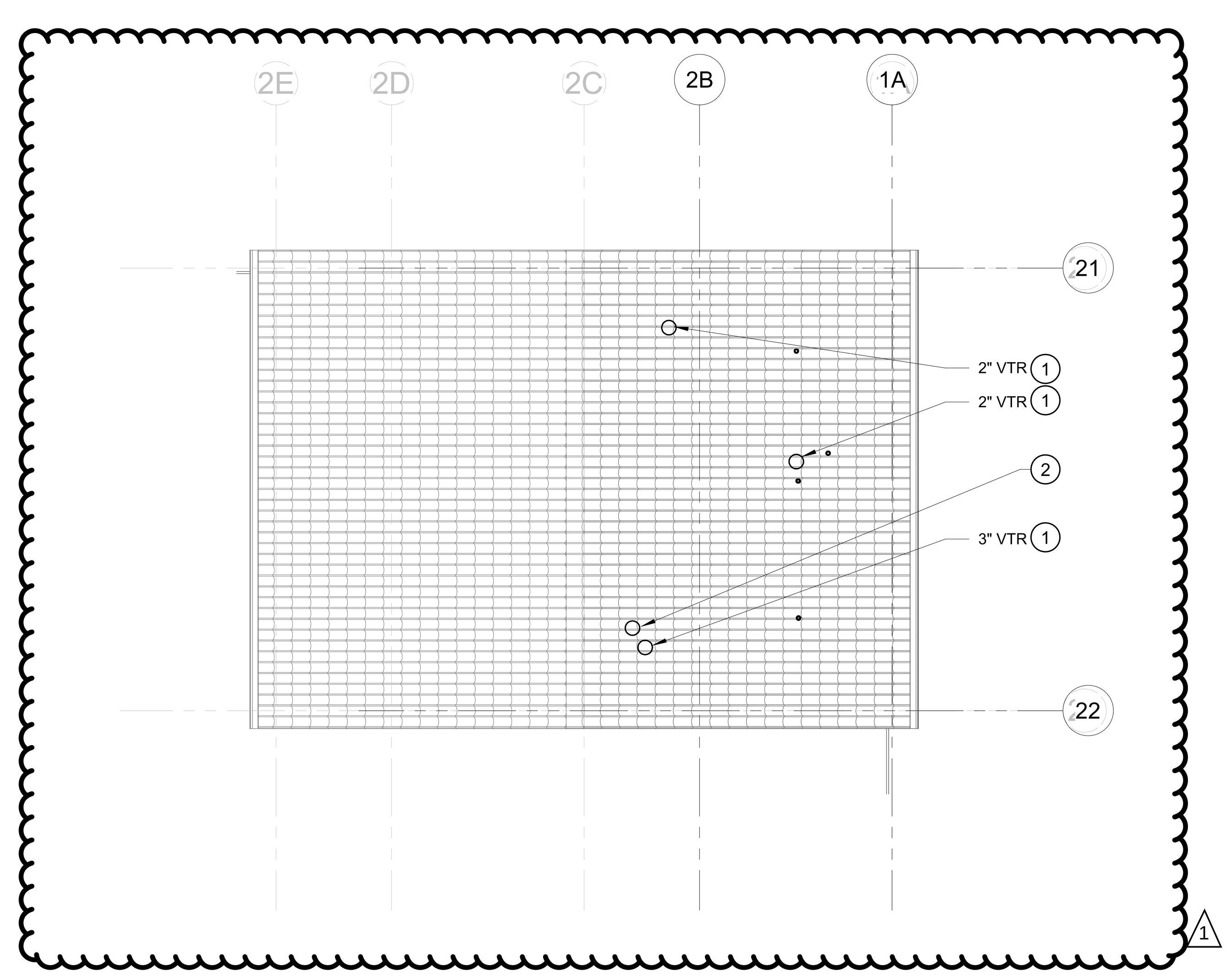
1/8" = 1'-0"



N

A1 PLUMBING ROOF PLAN - BUILDING P3

1/8" = 1'-0"



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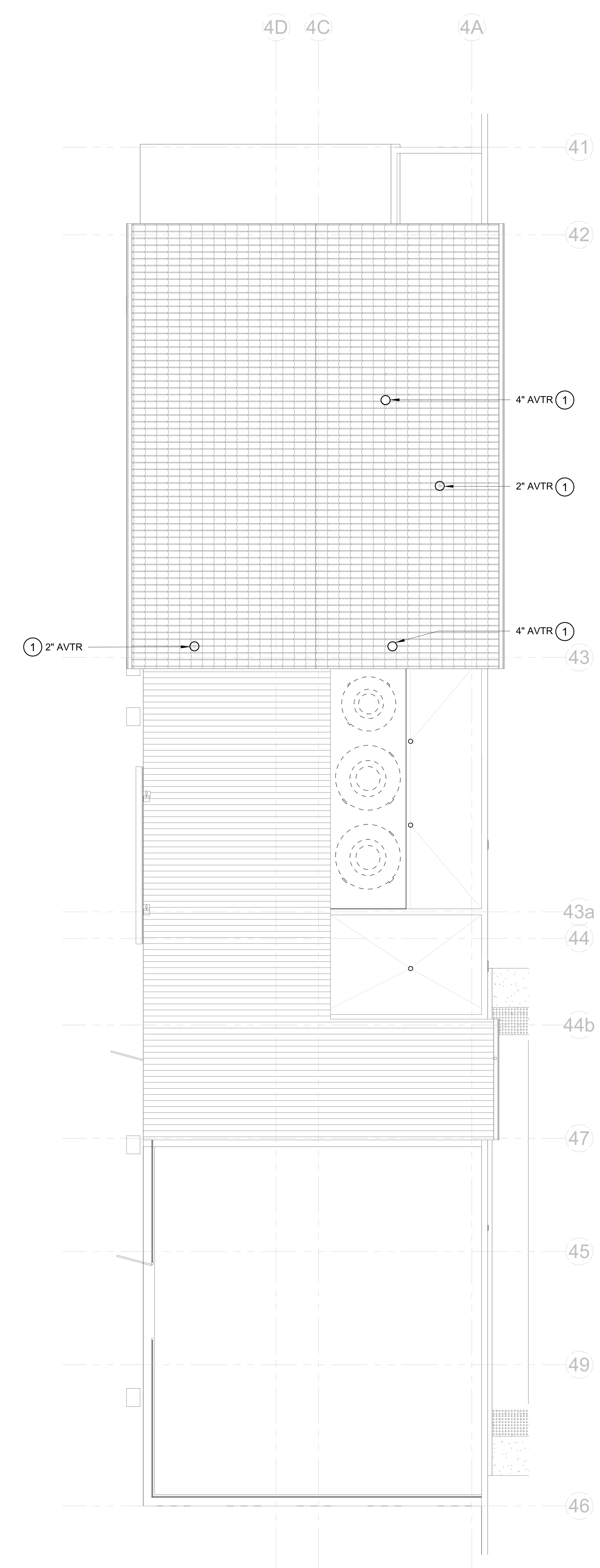
A7 PLUMBING ROOF PLAN - ALT BID BUILDING P2

1/8" = 1'-0"



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A13 PLUMBING ROOF PLAN - BUILDING P4

1/8" = 1'-0"

DSA File No.:
DSA File

DSA Application No.:
DSA App

Agency Approval

KEYNOTES (#)

1 VENT THRU ROOF. SEE ARCHITECTURAL DETAIL J7/X/A502 & DRAWINGS FOR ROOF PENETRATION AND FLASHING DETAILS.

2 2" FLUE OFF OF WH-3 PER DETAIL J11/X/P102.

3 8" WATER HEATER CONCENTRIC AIR INTAKE AND VENT PER DETAIL A1/X/P102.

General Notes

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project no. 1101

Consultant

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Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2, P3 & P4
PLUMBING ROOF PLANS

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LICENSED ARCHITECT MICHAEL K. FENNACY No. C23724 Ren. 4-30-25 STATE OF CALIFORNIA

Architect

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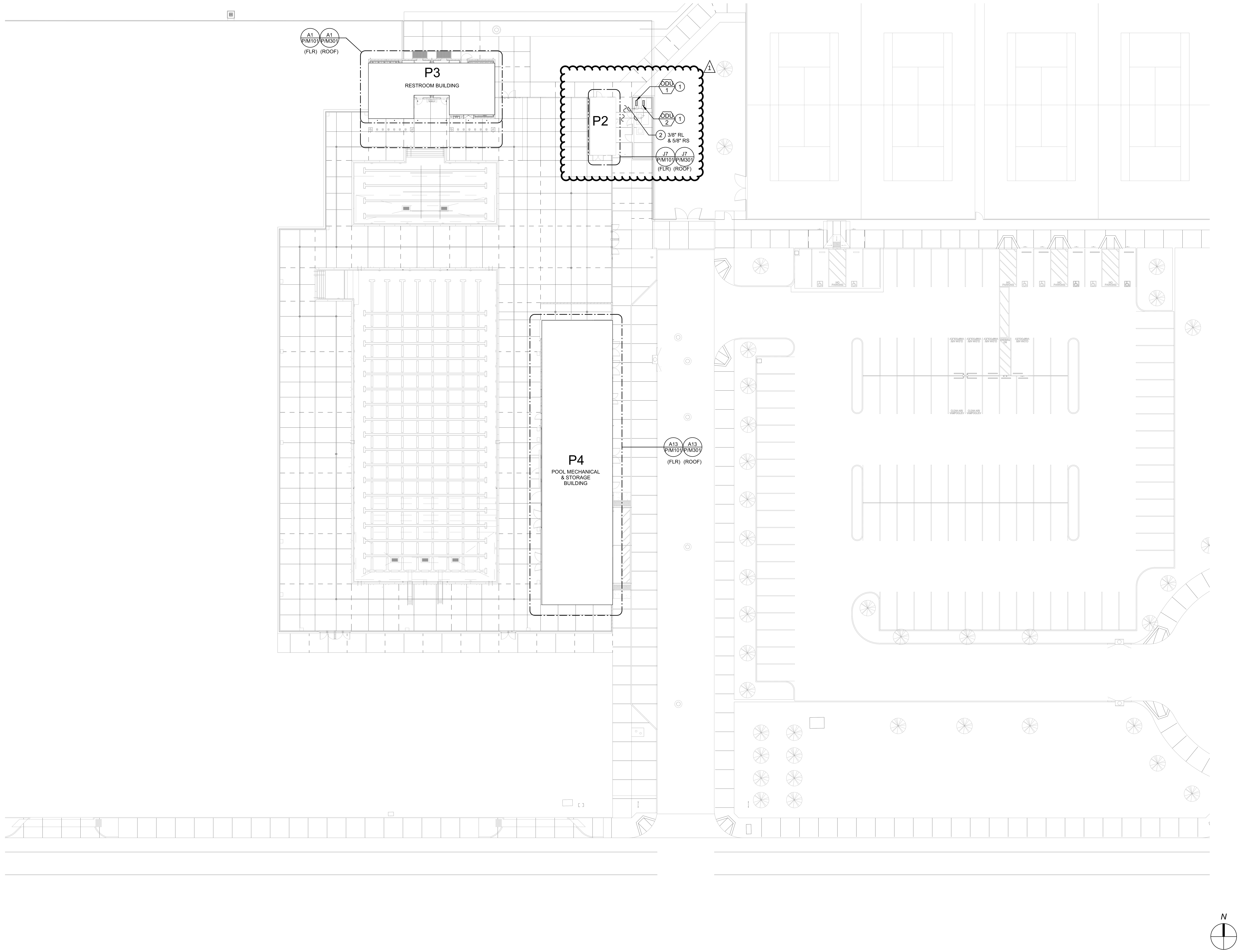
KEYNOTES

1. OUTDOOR UNIT ON CONCRETE HOUSEKEEPING PAD PER DETAIL J11 ON X/M102.
2. PRE-INSULATED REFRIGERANT PIPES ROUTED BELOW GRADE WITHIN 4"Ø PVC SLEEVE. (TWO PIPES SHOWN SINGLE LINE FOR CLARITY)

GENERAL NOTES

A. REFRIGERANT PIPING SHOWN AS SINGLE LINE CLARITY. SINGLE LINE REPRESENETS RS & RL PIPING.
B. SEE DETAIL A7 ON X/M102 FOR TYPICAL UTILITY TRENCH DETAIL.
C. LEAN CONCRETE SHALL BE USED AS BACKFILL WHERE UTILITY TRENCHES EXTEND FROM THE EXTERIOR TO THE INTERIOR LIMITS OF THE BUILDING. LEAN CONCRETE SHALL EXTEND A MINIMUM DISTANCE OF TWO (2) FEET LATERALLY ON EACH SIDE OF THE EXTERIOR BUILDING LINE AND A MINIMUM OF SIX (6) INCHES ABOVE FOOTING PENETRATION.

General Notes



A1 PARTIAL MECHANICAL SITE PLAN
1" = 20'-0"

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Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

SITE DEVELOPMENT
PARTIAL MECHANICAL SITE PLAN

Drawing

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MECHANICAL SCHEDULES

EXHAUST FAN SCHEDULE

DESIGNATION	EF-1	EF-2	EF-3	EF-4	EF-5
CFM	5,020	1,285	175	175	3,000
EXT. SP (IN. WC)	0.61	0.50	0.52	0.52	0.50
HP / BHP	1-1/2 / 1.31	1/4 / 0.25	1/12 / 0.05	1/12 / 0.05	1 / 0.89
VOLTS / PHASE	115 / 1	115 / 1	115 / 1	115 / 1	115 / 1
RPM	1,750	1024	1,550	1,550	714
TIP SPEED / SONES	- / 19.1	- / 8.8	- / 7.3	- / 7.3	- / 11.2
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	BELT
MOUNTING	INLINE	ROOFTOOP	INLINE	INLINE	INLINE
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
TYPE	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
MODEL NUMBER	SQ-16-M2	CUBE-140	SQ-80	SQ-80	BDF-120
CONTROL	NOTE 2	NOTE 3	NOTE 4	NOTE 4	NOTE 4
SERVICE	BUILDING P3, RESTROOMS & SHOWERS	BUILDING P2, RESTROOM	BUILDING P4, ACID ROOM	BUILDING P4, CHLORINE ROOM	BUILDING P4, POOL EQUIPMENT
OPER. WT. (LBS)	112	29	49	49	141
ACCESSORIES	1,2	1,3,8	1,4,5,6,7	1,4,5,6,7	1,4,5,7

1. PROVIDE WITH HANGERS AND ACCESS PER DETAIL 7 ON SHEET X/M102.
2. INTERLOCK OPERATION WITH EMS SCHEDULE.
3. INTERLOCK OPERATION WITH LIGHTSWITCH IN RESTROOM/SHOWER.
4. CONTINUOUS OPERATION.
5. STAINLESS STEEL HOUSING AND FAN COMPONENTS.
6. MAINTAIN MINIMUM 10'-0" CLEARANCE BETWEEN EXHAUST FANS, EF-3 & EF-4.
7. PROVIDE MANUFACTURER'S INDUSTRIAL EPOXY COATING FOR CHEMICAL RESISTANCE AND CORROSION PROTECTION.
8. ALTERNATE BID EQUIPMENT.

GRILLE SCHEDULE

MARK	DUTY	DESCRIPTION
A	SURFACE MOUNTED DIFFUSER (SUPPLY)	TITUS MODEL PMC (TYPE 1) PERFORATED MODULAR CORE STEEL LOUVER DIFFUSER FOR SURFACE MOUNTING, SQUARE NECK, FLAT BLACK INTERIOR, AND NO. 26 WHITE FINISH.
B	SURFACE MOUNTED DIFFUSER (RETURN / EXHAUST)	TITUS MODEL 25RL (TYPE 1) STEEL GRILLE FOR SURFACE MOUNTING, 30° FIXED DEFLECTION, 1/2" BLADE SPACING, AND NO. 26 WHITE FINISH.
C	LINEAR DIFFUSER (SUPPLY)	TITUS MODEL FL-15 LINEAR SLOT DIFFUSER WITH 1-1/2" SLOT SPACING, 1-SLOT CONFIGURATION, BORDER TYPE 11 FOR LAY-IN CEILING, HIGH-THROW PATTERN CONTROLLER, FLAT BLACK INTERIOR AND NO. 26 WHITE FINISH. PROVIDE FBP-15 SUPPLY PLENUM.
D	LINEAR DIFFUSER (BLANK-OFF)	TITUS MODEL FL-15 LINEAR SLOT DIFFUSER WITH 1-1/2" SLOT SPACING, 1-SLOT CONFIGURATION, BORDER TYPE 11 FOR LAY-IN CEILING, FLAT BLACK INTERIOR AND FBBO-15 BLANK-OFF PANEL.

FLY FAN SCHEDULE

DESIGNATION	FF-1	FF-2
CFM	1,379	1,442
FPM (AT NOZZLE)	2,200	2,200
HP	1/2	1/2
VOLTS / PHASE	115 / 1	115 / 1
FLA	5.1	5.1
DRIVE	DIRECT	DIRECT
MOUNTING	WALL	WALL
MANUFACTURER	MARS	MARS
TYPE	CENTRIFUGAL	CENTRIFUGAL
MODEL NUMBER	STD236-1UA-OB	STD248-1UA-OB
CONTROL	DOOR SWITCH	DOOR SWITCH
SERVICE	BUILDING P2, MAN DOOR	BUILDING P2, CONCESSION WINDOW
OPER. WT. (LBS)	60	70
ACCESSORIES	1	1

1. PROVIDE UNIT MOUNTED VARIABLE SPEED SWITCH AND DOOR SWITCH.

INDOOR UNIT SCHEDULE

	DESIGNATION	IDU-1	IDU-2
BLOWER	SUPPLY AIR (CFM)	335	335
	EXT. SP (IN. WC)	0	0
	MIN. O.S.A. (CFM)	-	-
	VOLTS / PHASE	208-230 / 1	208-230 / 1
	MCA / MOCP	NOTE 3	NOTE 3
	DRIVE	DIRECT	DIRECT
COOLING	SENSIBLE (MBH)	9.6	9.7
	TOTAL (MBH)	14.4	13.5
	EADB / EAWB (°F)	80 / 67	80 / 67
	REFRIGERANT TYPE	R-410A	R-410A
FILTERS	QUANTITY / SIZE	1 / -	1 / -
	TYPE	FACTORY	FACTORY
	MANUFACTURER	CARRIER	CARRIER
	TYPE	HIGH WALL	HIGH WALL
	MODEL NUMBER	40MAHBQ12XA3	40MAHBQ09XA3
	LOCATION	BUILDING P2, ELECTRICAL	BUILDING P2, STORAGE
	OPER. WT (LBS)	22.93	22.71
	ACCESSORIES	1,2,3	1,2,3

1. WIRED WALL MOUNTED THERMOSTAT.
2. REFRIGERANT LINE SET COVERS FOR EXPOSED PIPING IN ROOM. (AC COVER GUARD)
3. POWERED THRU THE OUTDOOR UNIT.

OUTDOOR UNIT SCHEDULE

DESIGNATION	ODU-1	ODU-2
VOLTS / PHASE	208-230 / 1	208-230 / 1
MCA / MOCP	15 / 15	15 / 15
EER2 / SEER2	14 / 25.5	16.2 / 28.1
COOLING CAP. (MBH)	12.0	9.0
REFRIGERANT TYPE	R-410A	R-410A
AMBIENT (°F)	105	105
MANUFACTURER	CARRIER	CARRIER
TYPE	COOLING ONLY	HEAT PUMP
MODEL NUMBER	38MARBQ12AA3	38MARBQ09AA3
LOCATION	YARD	YARD
OPER. WT. (LBS)	73.6	74.1
ACCESSORIES	-	-

1

GENERAL NOTES

1. COORDINATION OF WORK: LAYOUT OF MATERIALS, EQUIPMENT AND SYSTEMS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. SOME WORK MAY BE SHOWN OFFSET FOR CLARITY.
2. THE ACTUAL LOCATION OF ALL MATERIALS, PIPING, DUCTWORK, FIXTURES, EQUIPMENT, SUPPORTS, ETC. SHALL BE CAREFULLY PLANNED, PRIOR TO INSTALLATION OF ANY WORK TO AVOID ALL INTERFERENCES WITH EACH OTHER, OR WITH STRUCTURAL, ELECTRICAL, ARCHITECTURAL OR OTHER ELEMENTS.
3. VERIFY THE PROPER VOLTAGE AND PHASE OF ALL EQUIPMENT WITH THE ELECTRICAL PLANS. ALL CONFLICTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER PRIOR TO THE INSTALLATION OF ANY WORK OR THE ORDERING OF ANY EQUIPMENT.
4. PROVIDE ALL DUCT TRANSITION PIECES AND FITTINGS REQUIRED TO ACCOMMODATE MECHANICAL EQUIPMENT CONNECTIONS, STRUCTURE, ARCHITECTURAL ELEMENTS, AND CHANGES IN DUCT SIZES.
5. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH THE STANDARDS ADOPTED BY SMACNA AND CHAPTER 6 OF THE 2019 CMC.
6. ALL DUCTWORK AND PIPING SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF 2019 CMC. INSULATION MATERIALS SHALL MEET THE CALIFORNIA QUALITY STANDARD PER SECTION 110.8, 120.3, AND 120.4 OF THE 2019 CALIFORNIA ENERGY CODE.
7. ALL DUCT SIZES SHOWN ARE NET INSIDE DIMENSIONS.
8. DUCTWORK SHALL BE SHEET METAL CONSTRUCTED IN COMPLETE CONFORMANCE WITH CMC LATEST EDITION, CHAPTER 6 AND THE LATEST SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
9. ALL DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR THE OWNER REPRESENTATIVE.
10. PROVIDE VOLUME DAMPERS IN ALL BRANCH DUCTS (SUPPLY, RETURN, O.S.A. AND EXHAUST) FOR SYSTEM BALANCING.
11. HANDLE, STORE AND INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS AND AS DIRECTED IN THE PROJECT MANUAL.
12. ALL AIR SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED TO MEET THE REQUIRED FLOW. TAB METHODOLOGY SHALL BE SUBMITTED TO OWNER REPRESENTATIVE PRIOR TO IMPLEMENTATION AND IN ACCORDANCE WITH PROJECT SEQUENCING.

ANCHORAGE & BRACING NOTES

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISCPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MD	MP	PP	E	
☐	☐	☐	☐	- OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
☒	☒	☐	☐	- OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # 0043-13.

LEGEND

SYMBOL	ITEM	ABBR.
	ABOVE	ABV
	ABOVE CEILING	ABV CLG
	ABOVE FINISHED FLOOR	AFF
	ALTERNATE	ALT
	AIR CONDITIONING	AC
	AIR FLOW STATION	AFS
	AIR HANDLER UNIT	AHU
	ANALOG INPUT	AI
	ANALOG OUTPUT	AO
&	AND	
	ARCHITECT / ARCHITECTURAL	ARCH
@	AT	
	BACKDRAFT DAMPER	BDD
	BELOW FINISH CEILING	BFC
	BELOW FLOOR	BEL FLR
	BELOW GRADE	BEL GR
	BLIND FLANGE	BLF
	BRITISH THERMAL UNIT	BTU
	BRITISH THERMAL UNIT PER HOUR	BTUH
	CALIFORNIA MECHANICAL CODE	CMC
	CALIFORNIA PLUMBING CODE	CPC
	CEILING	CLG
℄	CENTER LINE	
	CONTINUATION	CONT
	CUBIC FEET OF AIR PER MINUTE	CFM
	CURRENT SENSOR	CS
Φ	DIAMETER	DIA
	DIFFERENTIAL PRESSURE SWITCH	DPS
	DIGITAL INPUT	DI
	DIGITAL OUTPUT	DO
	DOWN	DN
	DRAWING	DWG
	ELECTRICAL	ELEC
	ELBOW	ELL
	EXHAUST	EXH
	EXHAUST AIR	EA
	EXHAUST FAN	EF
	EXISTING	(E)
	FEET	FT
	FLOOR	FLR
	FLOW LINE	FL
	FLOW SWITCH	FS
	GAUGE	GA
	GALLON	GAL
	GALLONS PER HOUR	GPH
	GALLONS PER MINUTE	GPM
	INSIDE DIAMETER	ID
	MAKE-UP AIR UNIT	MAU
	MAXIMUM	MAX
	MINIMUM	MIN
	NEW	(N)
	NOT IN CONTRACT	NIC
	NOT TO SCALE	NTS
#	NUMBER	NO.
	OUTSIDE AIR	OSA
	OUTSIDE DIAMETER	OD
	POUNDS	LBS
	POUNDS PER SQUARE INCH	PSI
	POUNDS PER SQUARE INCH ABSOLUTE	PSIA
	POUNDS PER SQUARE INCH GAUGE	PSIG
	POLYVINYL CHLORIDE	PVC
	PRESSURE STATION	PS
	RETURN AIR	RA
	ROOM	RM
	SUPPLY AIR	SA
	SPECIFICATION	SPEC
	SQUARE FEET	SQ FT
	STAINLESS STEEL	SS
	TEMPERATURE	TEMP
	TEMPERATURE SENSOR	TS
	THROUGH	THRU
	TYPICAL	(TYP)
	UNDER GROUND	U/G
	VARIABLE AIR VOLUME UNIT	VAV
	WITH	W/
	WITHOUT	W/O
—BD—	BOILER BLOWDOWN	
—BF—	BOILER FEED	
—CF—	CHEMICAL FEED	
—A—	COMPRESSED AIR	A
—CHWS—	CHILLED WATER SUPPLY	CHWS
—CHWR—	CHILLED WATER RETURN	CHWR
—CWS—	CONDENSER WATER SUPPLY	CWS
—CWR—	CONDENSER WATER RETURN	CWR
—CW—	DOMESTIC COLD WATER	
—HWS—	HEATING HOT WATER SUPPLY	HWS
—HWR—	HEATING HOT WATER RETURN	HWR
—RD—	REFRIGERANT DISCHARGE	RD
—RL—	REFRIGERANT LIQUID	RL
—RS—	REFRIGERANT SUCTION	RS
—SCW—	SOFT COLD WATER	
—S—	STEAM SUPPLY	S

SYMBOL	ITEM	ABBR.
—CR—	STEAM CONDENSATE RETURN	CR
—SBD—	SURFACE BLOWDOWN	
—D—	DRAIN	D
	PIPING CAP	
	EXISTING (DESIGNATED)	(E)
	REMOVE / DEMO EXISTING (DESIGNATED)	
	DIRECTION OF FLOW	
	SUPPLY AIR	SA
	RETURN AIR	RA
	EXHAUST AIR	EA
	PIPE/DUCT TURN DOWN	
	PIPE/DUCT TURN UP	
	ROUND DUCT (SMALLER THAN 10Φ)	
	ROUND FLEXIBLE DUCT	
	RECTANGULAR OR ROUND DUCT (10Φ AND LARGER)	
	EXISTING DUCT (DESIGNATED)	
	REMOVE/ DEMO EXISTING DUCT (DESIGNATED)	
	DUCT WITH ACOUSTIC LINING	
	SUPPLY AIR DUCT DROP	
	SUPPLY AIR DUCT RISE	
	RETURN AIR DUCT DROP	
	RETURN AIR DUCT RISE	
	EXHAUST AIR DUCT DROP	
	EXHAUST AIR DUCT RISE	
	OUTSIDE AIR DUCT DROP	
	OUTSIDE AIR DUCT RISE	
	TURNING VANES	TV
	EXTRACTOR	
CO	CO_2 SENSOR	
DD	DUCT DETECTOR	DD
HD	HEAT DETECTOR	HD
SD	SMOKE DETECTOR	SD
M	MOTORIZED DAMPER	
◆	FIRE DAMPER W/MOTORIZED RESET AND ACCESS DOOR	
	FIRE DAMPER WITH ACCESS PANEL OR SECURITY BARS	
-OR-▲	FIRE DAMPER WITH ACCESS PANEL	FD
-OR-■	FIRE/SMOKE DAMPER WITH ACCESS PANEL	F/SD
	VOLUME CONTROL DAMPER WITH LOCKING QUADRANT	VCD
T	REMOTE T'STAT WITH SENSOR IN DUCT	
T AC-1	THERMOSTAT; THERMOSTAT LABEL MOUNT @ +48" AFF TO TOP OF BOX EXAMPLE : THERMOSTAT FORAC-1	T'STAT
	POINT OF CONNECTION TO EXISTING	POC
	BYPASS TIMER	BPT
	THERMOMETER	
	PRESSURE GAGE	
⬢	SECURITY BARS	
	PETE'S PLUG	
	BALANCING COCK	
	BALL VALVE	
	BUTTERFLY VALVE	
	CHECK VALVE	
	CONCENTRIC REDUCER	
	TWO-WAY CONTROL VALVE	
	FLOW SWITCH	FS
	FLEXIBLE CONNECTION	FLEX
	GATE VALVE	
	GLOBE VALVE	
	INSTRUMENT WELL	
	PLUG VALVE	
	PRESSURE RELIEF VALVE	PRV
	"Y" TYPE STRAINER	
	UNION	
1	KEYNOTE	
A	GRILLE TAG	
EF 8	NEW EQUIPMENT TAG EXAMPLE: DESCRIPTION EF, MARK NUMBER 8	
2 M202	DETAIL REFERENCE EXAMPLE: DETAIL 2, SHEET M202	
3 M400	SECTION REFERENCE EXAMPLE: SECTION 3, SHEET M400	

DSA File No.:
DSA File

DSA Application No.:
02-120251

Agency Approval

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

REGISTERED PROFESSIONAL ENGINEER
JONATHAN C. SCHLINDT
M35955
Exp. 06-30-25
MECHANICAL
STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
MECHANICAL SCHEDULES, LEGENDS, AND NOTES

Drawing

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LICENSED ARCHITECT
MICHAEL K. FENNACY
No. C23724
Ren. 4-30-23
STATE OF CALIFORNIA

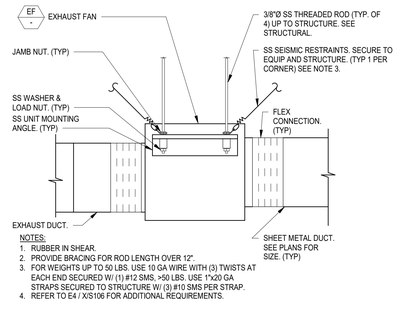
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: JCS	
Scale: 12" = 1'-0"	Drawn By: HB	X/M101
Project Number: 2180	Checked By: JCS	
Date: 07/13/2022	Reviewed By: JCS	

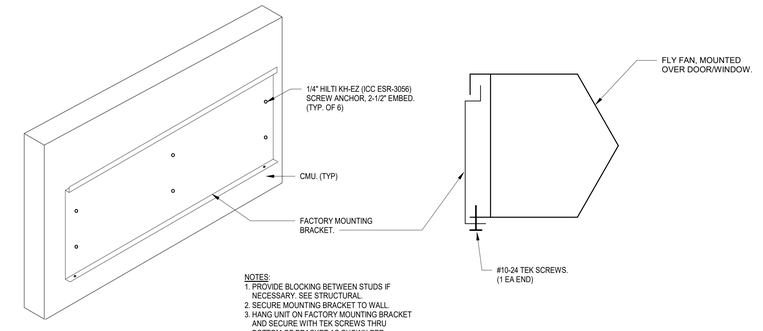
8/15/2023 5:39:39 PM



NOTES:
1. RUBBER IN SHEAR.
2. PROVIDE BRACING FOR ROD LENGTH OVER 12".
3. FOR WEIGHTS UP TO 50 LBS. USE 10 GA WIRE WITH (3) TWISTS AT EACH END SECURED W/ (1) #12 SMS, >50 LBS. USE 1"x20 GA STRAPS SECURED TO STRUCTURE W/ (3) #10 SMS PER STRAP.
4. REFER TO E4 / X/S106 FOR ADDITIONAL REQUIREMENTS.

N7 — INLINE EXHAUST FAN

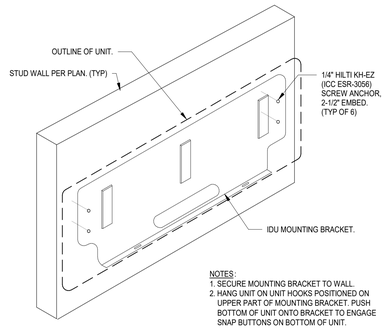
N.T.S.



NOTES:
1. PROVIDE BLOCKING BETWEEN STUDS IF NECESSARY. SEE STRUCTURAL.
2. SECURE MOUNTING BRACKET TO WALL.
3. HANG UNIT ON FACTORY MOUNTING BRACKET AND SECURE WITH TEK SCREWS THRU BOTTOM OF BRACKET AS SHOWN PER MANUFACTURER'S INSTRUCTIONS.

N11 — FLY FAN MOUNTING

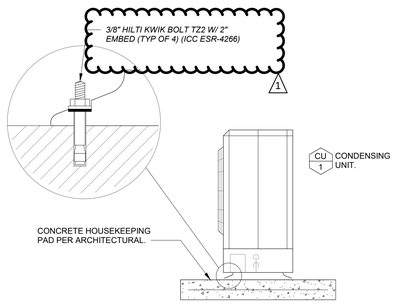
N.T.S.



NOTES:
1. SECURE MOUNTING BRACKET TO WALL.
2. HANG UNIT ON UNIT HOOKS POSITIONED ON UPPER PART OF MOUNTING BRACKET. PUSH BOTTOM OF UNIT ONTO BRACKET TO ENGAGE SNAP BUTTONS ON BOTTOM OF UNIT.

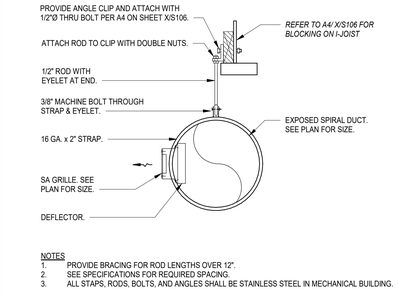
J7 — HIGH WALL UNIT ON CMU WALL

N.T.S.



J11 — CONDENSING UNIT ON CONCRETE PAD

N.T.S.

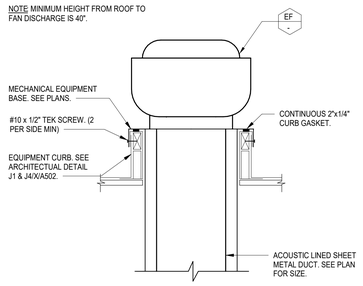


NOTES
1. PROVIDE BRACING FOR ROD LENGTHS OVER 12".
2. SEE SPECIFICATIONS FOR REQUIRED SPACING.
3. ALL STAPS, RODS, BOLTS, AND ANGLES SHALL BE STAINLESS STEEL IN MECHANICAL BUILDING.

J14 — DUCT-MOUNTED GRILLE

N.T.S.

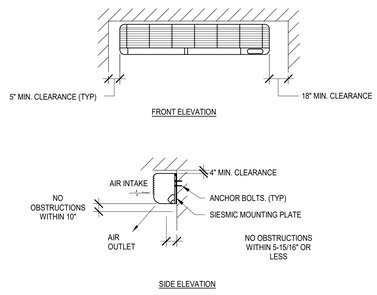
NOTE MINIMUM HEIGHT FROM ROOF TO FAN DISCHARGE IS 40".



E4 — ROOF TOP EXHAUST FAN

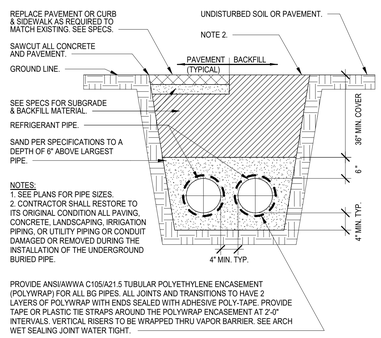
N.T.S.

1



E7 — HIGH WALL CLEARANCES

N.T.S.

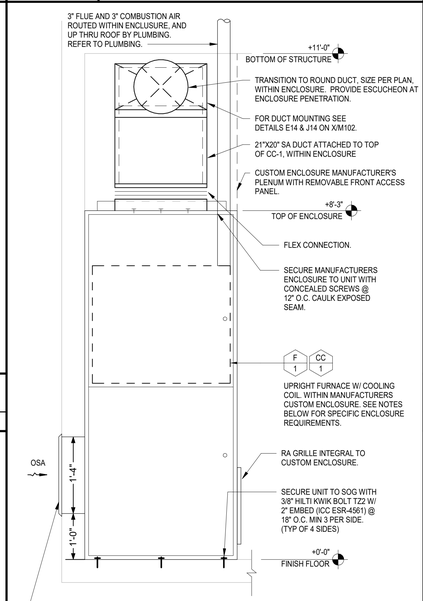


NOTES:
1. SEE PLANS FOR PIPE SIZES.
2. CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION ALL PAVING, CONCRETE, LANDSCAPING, IRRIGATION PIPING, OR UTILITY PIPING OR CONDUIT DAMAGED OR REMOVED DURING THE INSTALLATION OF THE UNDERGROUND BURIED PIPE.

PROVIDE ANSI/AWWA C105/A21.5 TUBULAR POLYETHYLENE ENCASEMENT (POLYWRAP) FOR ALL BG PIPES. ALL JOINTS AND TRANSITIONS TO HAVE 2 LAYERS OF POLYWRAP WITH ENDS SEALED WITH ADHESIVE POLY-TAPE. PROVIDE TAPE OR PLASTIC TIE STRAPS AROUND THE POLYWRAP ENCASEMENT AT 2'-0" INTERVALS. VERTICAL RISERS TO BE WRAPPED THRU VAPOR BARRIER. SEE ARCH WET SEALING JOINT WATER TIGHT.

A7 — TYPICAL UTILITY TRENCH

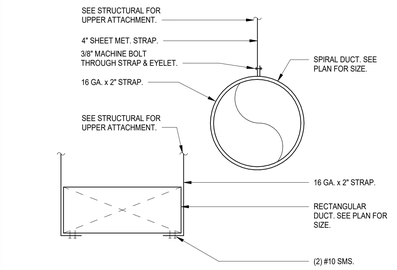
N.T.S.



ENCLOSURE NOTES AND FEATURES:
A. CABINET TO BE 22GA STEEL, POWDER COATED.
B. ALL PANELS W/ 1-1/2" MATTE FACED INSULATION ON INTERIOR (1" AT FURNACE ACCESS DOOR).
C. PROVIDE 14GA STEEL BASE FLOOR UNDER FURNACE.
D. PROVIDE INTEGRAL DOUBLE DEFLECTION 22"X26" RETURN REGISTER.
E. PROVIDE SOUND TRAP BEHIND RETURN AIR GRILLE.
F. PIPE CHASE TO ACCOMODATE GAS AND REFRIGERANT PIPING, ELECTRICAL, FLUE, AND COMBUSTION AIR.
G. LOCKING ACCESS DOOR, SIZED FULL DIMENSIONS OF FURNACE.
F. FRAME FOR REMOVABLE 2" PLEATED FILTER.
H. MOTORIZED 22"X6" OUTSIDE AIR DAMPER.

A11 — CLASSROOM UNIT IN CUSTOM ENCLOSURE

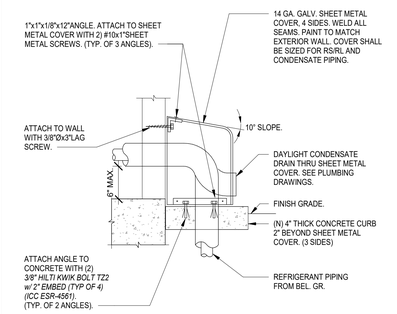
N.T.S.



NOTES:
1. SEE SPECIFICATIONS FOR REQUIRED SPACING.
2. ALL STRAPS, RODS, BOLTS AND ANGLES SHALL BE STAINLESS STEEL IN MECHANICAL BUILDING.

E14 — DUCT SUPPORT

N.T.S.



A14 — PIPE PENETRATION COVER

N.T.S.

DSA File No.:
DSA File

DSA Application No.:
02-120251

Agency Approval

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
MECHANICAL DETAILS

Drawing

darden architects
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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: JCS
Drawn By: HB
Checked By: JCS
Reviewed By: JCS

Scale: As indicated
Project Number: 2180
Date: 07/13/2022

X/M102

8/15/2023 5:39:40 PM

DSA File No.:
DSA File

DSA Application No.:
02-120251

Agency Approval

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations.			
Project Name:	Mission Oak HS Aquatic Complex	**Report Page:**	**(Page 1 of 14)**
Project Address:		**Date Prepared:**	2023-05-25T16:20:59-04:00

A. GENERAL INFORMATION					
01	Project Location (city)	Tulare	04	Total Conditioned Floor Area	5799.9
02	Climate Zone	13	05	Total Unconditioned Floor Area	3559.22
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	0
• School or Classroom					

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☐ Heating Air System	☐ Water Economizer	☐ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☐ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☐ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Mission Oak HS Aquatic Complex	**Report Page:**	**(Page 2 of 14)**
		Date Prepared:	2023-05-25T16:20:59-04:00

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND		AND		COMPLIES with Exceptional Conditions
Mandatory Measures Compliance (See Table Q for Details)										COMPLIES					

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

The permit applicant has indicated on Table J that natural ventilation is being utilized to meet ventilation requirements. Additional documentation may be requested by the Authority Having Jurisdiction demonstrating compliance for natural ventilation design.

Transfer air is being used in at least one zone to meet minimum ventilation requirements. See Table J for details. Transfer air must be designed per §120.1(g) for air classification and recirculation limitations and be documented within construction documents.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Mission Oak HS Aquatic Complex	**Report Page:**	**(Page 3 of 14)**
		Date Prepared:	2023-05-25T16:20:59-04:00

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
IDU/ODU-1	1	Single zone	New/ Addition	All Other Occupancies	☐
IDU/ODU-2	1	Single zone	New/ Addition	All Other Occupancies	☐

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
IDU/ODU-1	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	0	0	0	14,442.8	14.4	0	4,991
IDU/ODU-2	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	14,469.69	14,469.69	14,469.69	9,777.9	13,531.8	8609	13,531.8

[1]FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(a) and 170.2(c)1. Healthcare facilities are excepted.
[2]It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Mission Oak HS Aquatic Complex	**Report Page:**	**(Page 4 of 14)**
		Date Prepared:	2023-05-25T16:20:59-04:00

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
IDU/ODU-1	<65,000					SEER	14	25.5
IDU/ODU-2	<65,000		HSPF	8.19	11.5	SEER	14	28.1

G. PUMPS

This section does not apply to this project.

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Mission Oak HS Aquatic Complex	**Report Page:**	**(Page 5 of 14)**
		Date Prepared:	2023-05-25T16:20:59-04:00

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	EF-1	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	5,020	Site Elevation	200	Economizer	NA: <=33 kBtu/h cooling

01	02	03	04	05	06	07	08	09	10	11
						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
EF-1	Exhaust	1	None used			0	0	Manufacturer provided		0.74
				Fan System Allowance (kW)[3]		0.92		Fan System Electrical Output (kW)		0.74

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	EF-2	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,285	Site Elevation	200	Economizer	NA: <=33 kBtu/h cooling

01	02	03	04	05	06	07	08	09	10	11
						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
EF-2	Exhaust	1	None used			0	0	Manufacturer provided		0.18
				Fan System Allowance (kW)[3]		0.24		Fan System Electrical Output (kW)		0.18

System Name	EF-3,EF-4	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	350	Site Elevation	200	Economizer	NA: <=33 kBtu/h cooling

01	02	03	04	05	06	07	08	09	10	11
						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
EF-3,4	Exhaust	1	Fully ducted, or Systems that maintain pressure differential between rooms	100		0.11	0.116	Manufacturer provided		0.08
				Fan System Allowance (kW)[3]		0.11		Fan System Electrical Output (kW)		0.08

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	EF-5	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	3,000	Site Elevation	200	Economizer	NA: <=33 kBtu/h cooling

01	02	03	04	05	06	07	08	09	10	11
						Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component	Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
EF-5	Exhaust	1	Fully ducted, or Systems that maintain pressure differential between rooms	100		0.11	0.116	Manufacturer provided		0.66
				Fan System Allowance (kW)[3]		0.91		Fan System Electrical Output (kW)		0.66

[1] FOOTNOTES: Fans serving spaces with design background noise goals below NC35
[2] Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.
[3] Fan system allowance includes fan system base allowance.
[4] Filter pressure loss can only be counted once per fan system.
[5] Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.
[6] Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document..

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O										
01	02	03	04	05	06	07	08	09	10	11

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H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass
EF-1			5,020	5,020	1	NA: Serving space not cooled and heated to <60 F				
EF-2			1,285	1,285	1	NA: Serving space not cooled and heated to <60 F				
EF-3,EF-4			350	350	1	NA: Serving space not cooled and heated to <60 F				
EF-5			3,000	3,000	1	NA: Serving space not cooled and heated to <60 F				

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI
EF-1	Embedded Fan <5HP or <4.1kW	
EF-2	Embedded Fan <5HP or <4.1kW	
EF-34	Embedded Fan <5HP or <4.1kW	
EF-5	Embedded Fan <5HP or <4.1kW	

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I. SYSTEM CONTROLS

This section does not apply to this project.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:t24refnolink/]160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☒	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

04		05			06			07	
System Name	EF-1	System Design OA CFM Airflow[1]		5020	System Design Transfer Air CFM		5020	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]: NA: Not system type specified in footnote 2	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
Space Name or Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
P304 and P302	Toilet, public	1698.41	19		254.76	1330	5020	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				254.76	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	EF-2	System Design OA CFM Airflow[1]		1285	System Design Transfer Air CFM		1285	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]: NA: Not system type specified in footnote 2	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
Space Name or Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
P421	Kitchen (cooking)	684.48			102.67	479.13	1285	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				102.67	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	EF-3	System Design OA CFM Airflow[1]		175	System Design Transfer Air CFM		175	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]: NA: Not system type specified in footnote 2	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
Space Name or Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
P402	Occupiable storage rooms for liquids/ gels	100			15	150	175	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				15	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

04		05			06			07	
System Name	EF-4	System Design OA CFM Airflow[1]		175	System Design Transfer Air CFM		175	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]: NA: Not system type specified in footnote 2	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
Space Name or Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
EF-4	Occupiable storage rooms for liquids/ gels	103.5			15.52	155.25	175	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				15.52	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	EF-5	System Design OA CFM Airflow[1]		3000	System Design Transfer Air CFM		3000	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]: NA: Not system type specified in footnote 2	

08	09	10	11	12	13	14	15	16	
	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
Space Name or Item Tag	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
EF-5	Janitor closet	1538.99			230.84	1538.99	3000	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				230.84	18	Ventilation for this System Complies?		Yes

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J. VENTILATION AND INDOOR AIR QUALITY

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system
[2] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.
[4] See Standards Tables 120.1-A and 120.1-B.
[5] For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
[6] 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This section does not apply to this project.

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

1

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

REGISTERED PROFESSIONAL ENGINEER · JONATHAN C. SCHLINDT · M35955 · Exp. 06-30-25 · MECHANICAL · STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
TITLE 24 DOCUMENTATION

Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT · MICHAEL K. FENNACY · No. C23724 · Ren. 4-30-23 · STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: JCS	Copyright 2022 Darden Architects
Scale:	Drawn By: HB	X/M103
Project Number: 2180	Checked By: JCS	
Date: 07/13/2022	Reviewed By: JCS	

8/15/2023 5:39:41 PM

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O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units, Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	EF-1; EF-2; EF-3; EF-4; EF-5
NRCA-MCH-18-A Energy Management Control Systems	IDU/ODU-1; IDU/ODU-2

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	No	Plan sheet or construction document location

03	04
Mandatory Measure	**Plan sheet or construction document location**
Heating Equipment Efficiency per 110.1	N/A
Cooling Equipment Efficiency per 110.1	M900
Furnace Standby Loss Control per 110.2(d)	N/A
Heat Pump with Supplemental electric Resistance Heater Controls per 110.2(b)	N/A
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2	N/A

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Breahna Shahan	Documentation Author Signature:
Company: Net Positive Consulting Engineering	Signature Date: 2023-06-01
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Jonathan Schlundt	Responsible Designer Signature:
Company: Net Positive Consulting Engineers	Date Signed: 2023-06-01
Address: 1446 Tollhouse Rd.	License: A059565
City/State/Zip: Clovis, 93611	Phone: 559.940.7293

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

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This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Tulare	02	Climate Zone	13
03	Occupancy Types Within Project (select all that apply):				

★ School or Classroom

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03	
My project consists of (check all that apply):	System Type[1,2]	System Components	
☒ New system (DHW system being installed for the first time)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution ☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution ☐ Controls

[1]FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.
[2] Dwelling units refers to hotel/motel guest rooms and units in a multifamily-residential occupancy
[3] DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

STATE OF CALIFORNIA
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E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03	04			05		06	
System Name	WH-1	Exception to 140.5(c)/ 170.2(d)3	Exceptions Do Not Apply	☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %	

07	08	09	10		11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
WH-1	Commercial Gas Instantaneous Water Heater	1	300,000		0.95	0.8	TE		

03	04			05		06	
System Name	WH-2	Exception to 140.5(c)/ 170.2(d)3	Exceptions Do Not Apply	☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %	

07	08	09	10		11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
WH-2	Consumer Rated Electric Instantaneous (<=12kW)	<=2	28,371.2	0 <= GPM <1.7	0.99	0.91	UEF		

[1]FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.

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Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

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F. DOMESTIC HOT WATER EQUIPMENT

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft[2] and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Mission Oak HS Aquatic Complex	**Report Page:**	(Page 5 of 8)
	Date Prepared:	2023-05-25T18:22:05-04:00

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☐	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☒	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft[2] per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Mission Oak HS Aquatic Complex	**Report Page:**	(Page 6 of 8)
	Date Prepared:	2023-05-25T18:22:05-04:00

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☒	☐	☐	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per 110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3),on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity (d gita)[SMMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations =< 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Mission Oak HS Aquatic Complex	**Report Page:**	(Page 7 of 8)
	Date Prepared:	2023-05-25T18:22:05-04:00

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-PLB-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

STATE OF CALIFORNIA
Domestic Water Heating System CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Mission Oak HS Aquatic Complex	**Report Page:**	(Page 8 of 8)
Project Address:	**Date Prepared:**	2023-05-25T18:22:05-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Breahna Shahan	Documentation Author Signature:
Company: Net Positive Consulting Engineering	Signature Date: 2023-06-01
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Jonathan Schlundt	Responsible Designer Signature:
Company: Net Positive Consulting Engineers	Date Signed: 2023-06-01
Address: 1446 Tollhouse Rd.	License: A059565
City/State/Zip: Clovis, 93611	Phone: 559.940.7293

1

DSA File No.:
DSA File

DSA Application No.:
02-120251

Agency Approval

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

REGISTERED PROFESSIONAL ENGINEER Jonathan C. Schlundt No. M35935 Exp. 06-30-25 MECHANICAL STATE OF CALIFORNIA

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
TITLE 24 DOCUMENTATION

Drawing

darden architects
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www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT MICHAEL K. PENNOYER No. C23724 Exp. 4-30-25 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: JCS
Drawn By: HB
Checked By: JCS
Reviewed By: JCS

Scale:
Project Number: 2180
Date: 07/13/2022

X/M104

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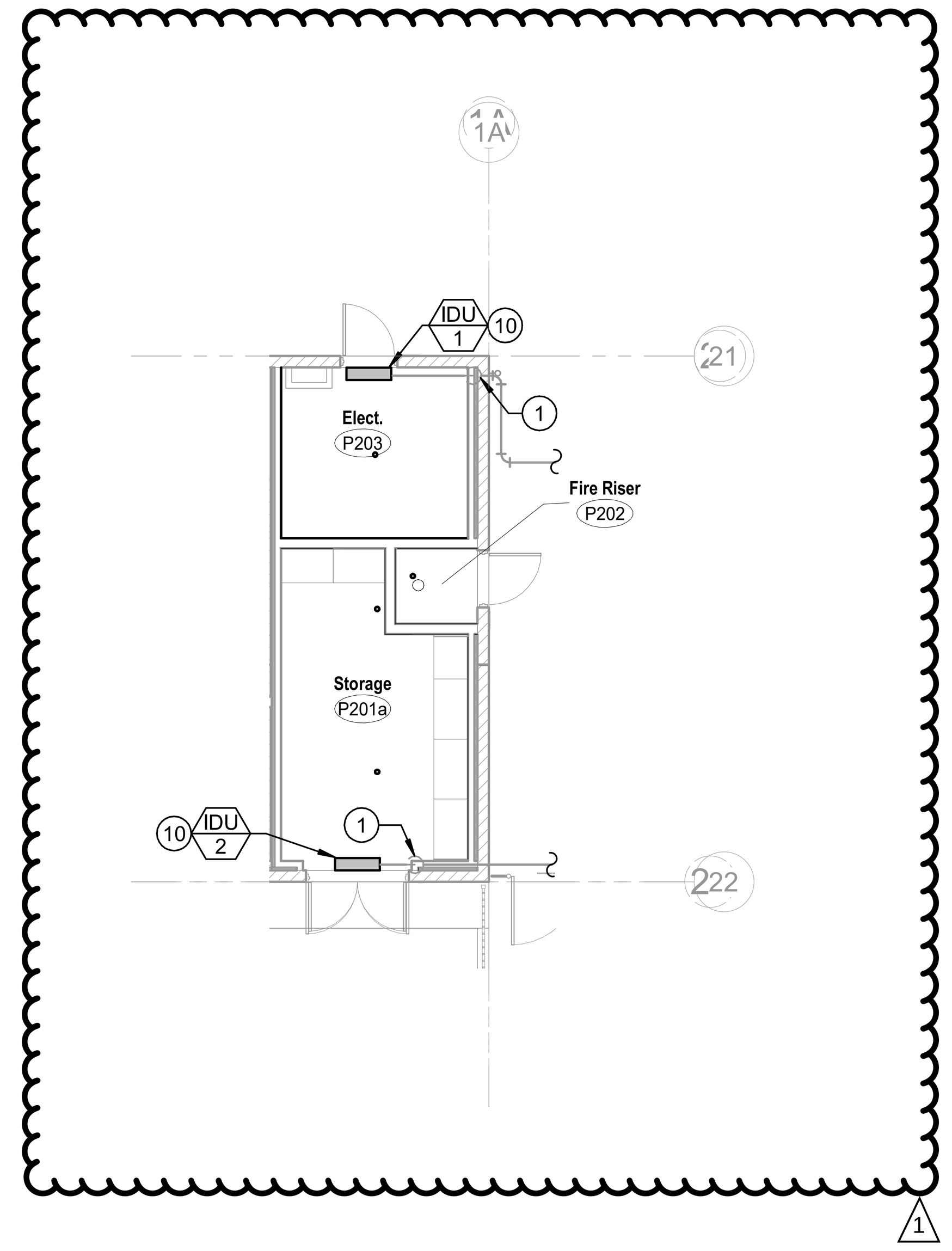
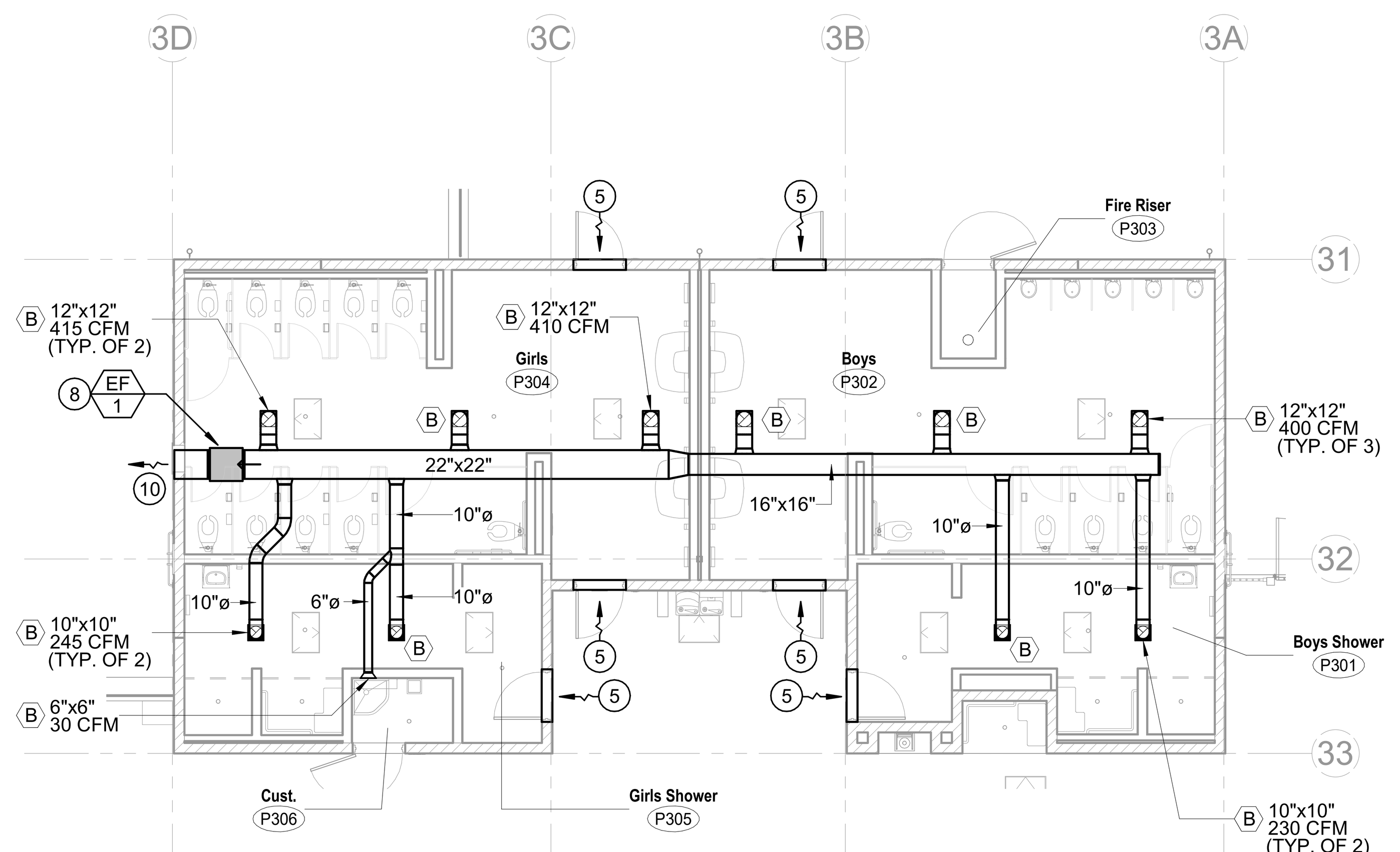


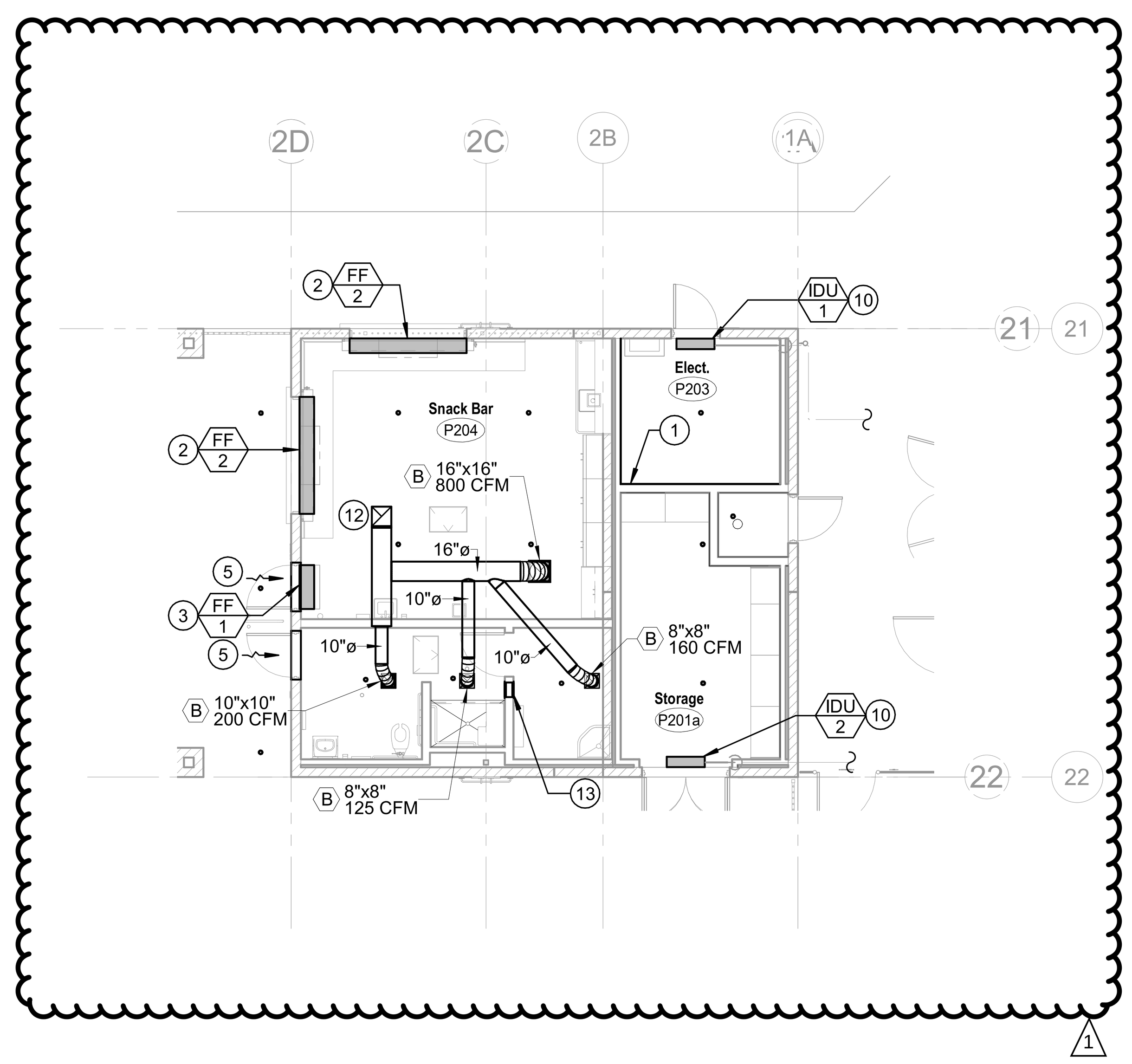
J7 — MECHANICAL PLAN - BASE BID - BUILDING 2

1/8" = 1'-0"



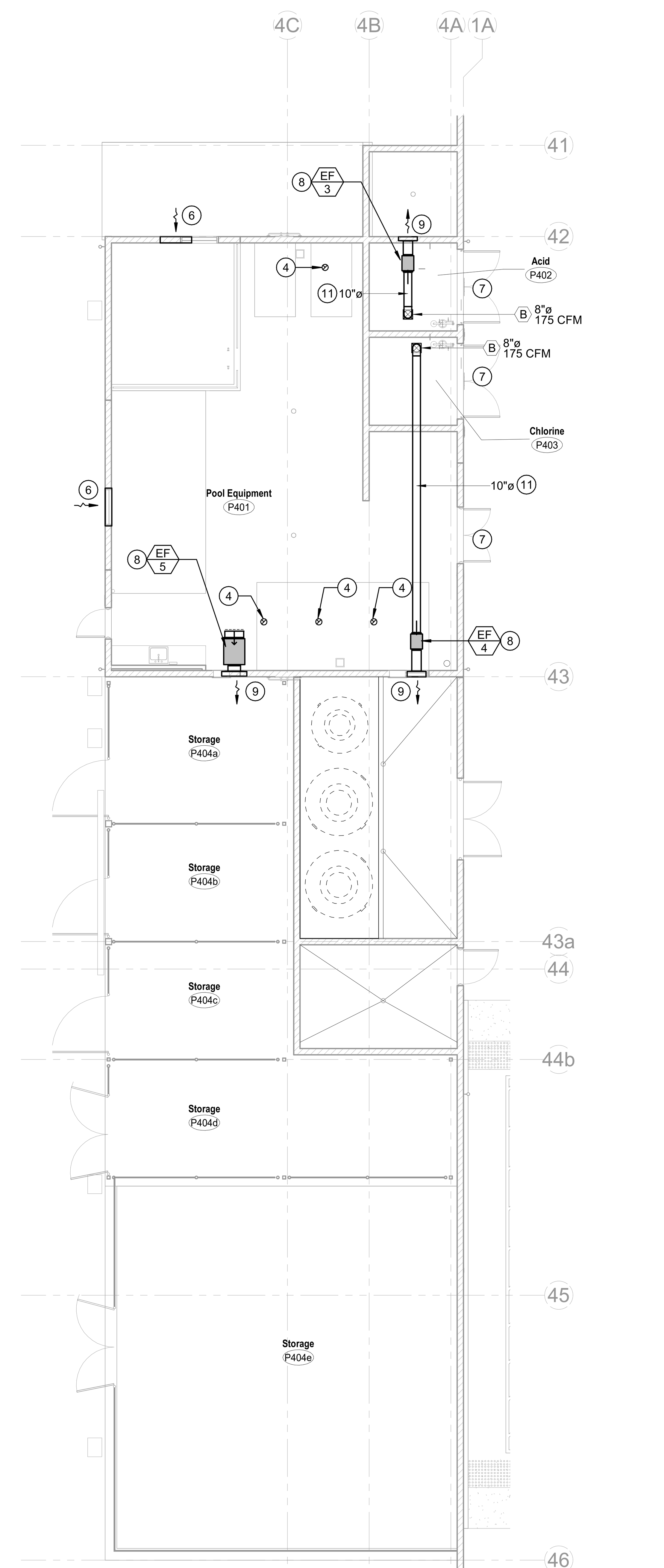
A1 — MECHANICAL FLOOR PLAN - BUILDING P3

1/8" = 1'-0"



A7 — MECHANICAL FLOOR PLAN - ALT BID - BUILDING P2

1/8" = 1'-0"



A13 — MECHANICAL FLOOR PLAN - BUILDING P4

1/8" = 1'-0"

DSA File No.:
DSA File

DSA Application No.:
02-120251

Agency Approval

KEYNOTES (#)

1. REFRIGERANT PIPING ROUTED UP THRU WALL TO UNIT.
2. WALL-MOUNTED FLY FAN OVER CONCESSIONS WINDOW PER DETAIL N11 ON X/M102.
3. WALL-MOUNTED FLY FAN OVE ARCHITECTURAL LOUVER PER DETAIL N11 ON X/M102.
4. 8"Ø FLUE WITH CONCENTRIC INTAKE. SEE ARCHITECTURAL FOR FLASHING DETAILS.
5. 36"x82" INTAKE LOUVER OVER DOOR, BY OTHERS. SEE ARCHITECTURAL.
6. 48"x48" INTAKE LOUVER IN WALL, BY OTHERS. SEE ARCHITECTURAL.
7. 92"x82" INTAKE LOUVER AT DOOR, BY OTHERS. SEE ARCHITECTURAL.
8. INLINE EXHAUST FAN SUSPENDED ABOVE CEILING. SEE DETAIL N7 ON X/M102 FOR MOUNTING.
9. 24"x24" EXHAUST LOUVER IN WALL, BY OTHERS. SEE ARCHITECTURAL.
10. HIGH WALL INDOOR UNIT. SEE DETAILS E7 & J7 ON X/M102 FOR MOUNTING.
11. PROVIDE ALL STAINLESS STEEL DUCT WITHIN BUILDING P4.
12. 16"x18" EA DUCT UP THRU ROOF TO EXHAUST FAN. LINE UP DROP WITH JOIST FOR INSTALLATION.
13. 12"x6" AIR TRANSFER DUCTING.
14. 48"x48" EXHAUST LOUVER IN WALL, BY OTHERS. SEE ARCHITECTURAL.

GENERAL NOTES

A. ALL SUPPORTS WITHIN BUILDING P4 SHALL BE STAINLESS STEEL OR FRP OF EQUIVALENT STRENGTH. REFER TO MASON WEST OPM 0043-13 FOR STRENGTH AND SPACING REQUIREMENTS.

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2, P3, & P4
MECHANICAL FLOOR PLANS

Drawing

darden architects — ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

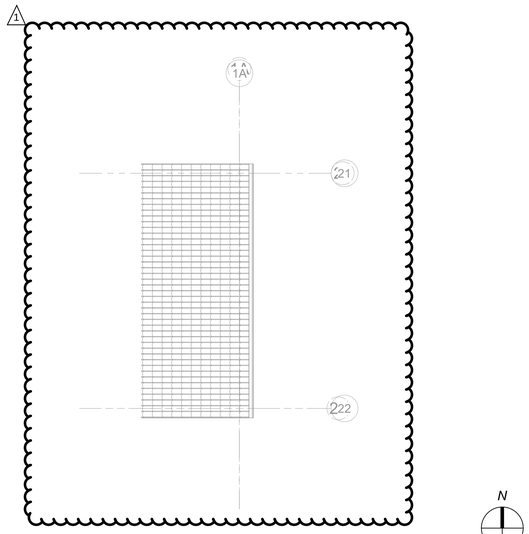
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

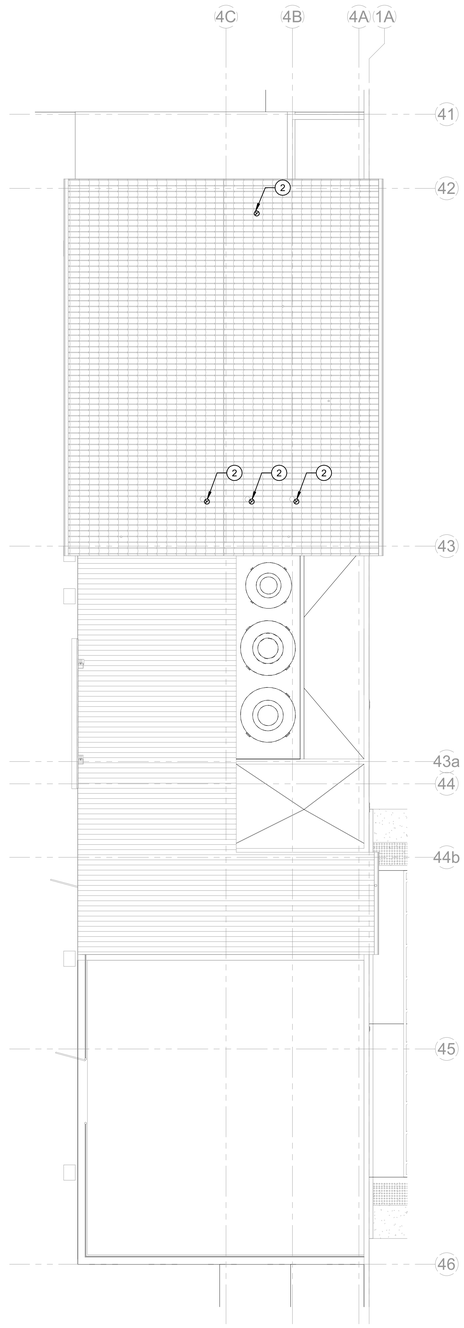
	Designed By: JCS	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: HB	P/M101
Project Number: 2180	Checked By: JCS	
Date: 07/13/2022	Reviewed By: JCS	

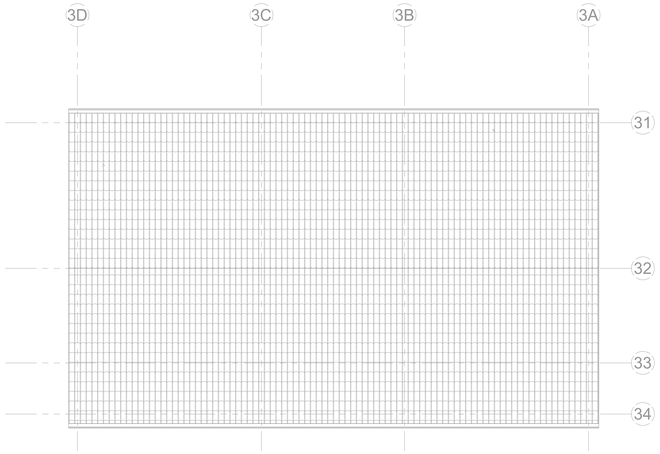
8/15/2023 5:39:32 PM



J7
N.T.S.

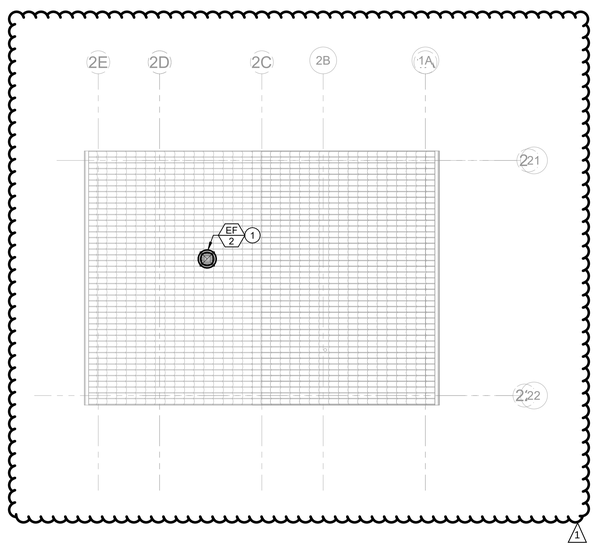
MECHANICAL ROOF PLAN - BASE BID - BUILDING 2





A1
1/8" = 1'-0"

MECHANICAL ROOF PLAN - BUILDING P3



A7
1/8" = 1'-0"

MECHANICAL ROOF PLAN - ALT BID - BUILDING P2

A13
1/8" = 1'-0"

MECHANICAL ROOF PLAN - BUILDING P4

DSA File No.:
DSA File

DSA Application No.:
02-120251

Agency Approval

KEYNOTES (#)

1 ROOF MOUNTED EXHAUST FAN MOUNTED ON CURB PER DETAILS E4/X/M102, J1/X/A502, & J4/X/A502.
2 8"Ø FLUE WITH CONCENTRIC INTAKE.

General Notes

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P2, P3, & P4
MECHANICAL ROOF PLANS

Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: JCS
Drawn By: HB
Checked By: JCS
Reviewed By: JCS

Scale: As indicated
Project Number: 2180
Date: 07/13/2022

P/M301

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FIRE PROTECTION SHEET INDEX	
SHEET NUMBER	SHEET NAME

PIPING SYSTEM SCHEDULE

PRODUCT	MANUFACTURER	SCHEDULE	MATERIAL TYPE
MAINS	WHEATLAND OR EQUAL	SCH 10	STEEL
BRANCHLINES > 1"	WHEATLAND OR EQUAL	SCH 10	STEEL
BRANCHLINES 1" & LESS	WHEATLAND OR EQUAL	SCH 40	STEEL
GROOVED FITTINGS	VICTAULIC OR EQUAL	175 PSI	DUCTILE IRON
THREADED FITTINGS	ANVIL OR EQUAL	175 PSI	DUCTILE IRON

FIRE PROTECTION ABBREVIATIONS

A.D.	ACCESS DOOR
A.F.F.	ABOVE FINISHED FLOOR
ALP.	ALARM PANEL
A.P.	ACCESS PANEL
B.F.F.	BELOW FINISHED FLOOR
B.F.P.	BACKFLOW PREVENTOR
C.P.	CONTROL PANEL
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
ELEV	ELEVATION
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHC	FIRE HOSE VALVE CONNECTION (2-1/2")
FHV	FIRE HOSE VALVE
FLR	FLOOR
FS	FLOW SWITCH NORMALLY CLOSED N.C.
N.I.C	NOT TO SCALE
N.T.S.	NOT IN CONTRACT
OS&Y	OUTSIDE STEM AND YOKE GATE VALVE
PSIG	POUNDS PER SQUARE INCH GAUGE
TS	TAMPER SWITCH
TYP.	TYPICAL THROUGHOUT
PIV	POST INDICATOR VALVE

PROJECT TOTAL SPRINKLER SCHEDULE

Sprinkler Symbol	Count	Manufacturer	Model	Orifice Size	K-Factor	Temperature Rating	Sprinkler Orientation	Finish
⊙	71	VICTAULIC Inc.	V2704	1/2"	5.6	200 °F	Upright	Brass
●	30	VICTAULIC Inc.	V3802	1/2"	5.6	155 °F	Pendent	White

1

HYDRAULIC CALCULATION CRITERIA

1. ALL SPRINKLER SYSTEMS THROUGHOUT THE BUILDING SHALL BE HYDRAULICALLY CALCULATED BASED ON COORDINATED SHOP DRAWINGS.
2. SPRINKLER SYSTEM LAYOUT AND CALCULATIONS SHALL COMPLY WITH THE CALIFORNIA BUILDING CODE, NFPA 13, OWNER'S INSURANCE COMPANY REQUIREMENTS AND GOOD ENGINEERING PRACTICE.
3. OCCUPANCY CLASSIFICATION:
   A. LIGHT HAZARD OCCUPANCY: CLASSROOMS, CORRIDORS, COMMON AREAS.
   B. ORDINARY HAZARD GROUP-1 OCCUPANCY: STORAGE, MECHANICAL, ELECTRICAL ROOMS
   C. ORDINARY HAZARD GROUP-2 OCCUPANCY: POOL STORAGE
4. SPRINKLERS PROTECTING LIGHT HAZARD OCCUPANCY SHALL PROVIDE A MINIMUM DENSITY DISCHARGE OF .10 GPM/SQ.FT. OVER MOST HYDRAULICALLY REMOTE 1,500 SQ.FT., MAXIMUM COVERAGE PER SPRINKLER HEAD- 225 SQ.FT.
5. SPRINKLERS PROTECTING ORDINARY HAZARD GROUP-1 OCCUPANCY SHALL PROVIDE A MINIMUM DENSITY DISCHARGE OF .15 GPM/SQ.FT. OVER MOST HYDRAULICALLY REMOTE 1,500 SQ.FT., MAXIMUM COVERAGE PER SPRINKLER HEAD- 130 SQ.FT.
6. SPRINKLERS PROTECTING ORDINARY HAZARD GROUP-2 OCCUPANCY SHALL PROVIDE A MINIMUM DENSITY DISCHARGE OF .20 GPM/SQ.FT. OVER MOST HYDRAULICALLY REMOTE 1,500 SQ.FT., MAXIMUM COVERAGE PER SPRINKLER HEAD- 130 SQ.FT.
7. MINIMUM PRESSURE AT ANY SPRINKLER HEAD SHALL BE AS REQUIRED BY HYDRAULIC CALCULATIONS BUT IN NO CASE LESS THEN 7-PSI.

GENERAL NOTES

1. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS FOR THE CONTRACTOR TO FURNISH AND INSTALL A COMPLETE NEW WET FIRE SPRINKLER PROTECTION SYSTEM FOR THE BUILDING IN FULL COMPLIANCE WITH THE STATE OF CALIFORNIA AND BUILDING CODES INCLUDING: VALVES, RISERS, AND ALARMS AS REQUIRED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL INSTALLATION ASPECT OF THE FIRE PROTECTION SYSTEM IN ACCORDANCE WITH APPLICABLE CODES.

2. THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO, STATE BUILDING AND FIRE CODES AND ALL APPENDICES, THE NATIONAL FIRE PROTECTION ASSOCIATION STANDARD NO. 13, 14 & 20 AS ADOPTED BY THE STATE OF CALIFORNIA, AND THE OWNER'S INSURANCE UNDERWRITERS.

3. IF THERE ARE ANY QUESTIONS CONCERNING WHAT THE INSURANCE UNDERWRITER WILL REQUIRE IN ORDER TO APPROVE THE COMPLETED INSTALLATION (PIPING SIZING, LOCATION OF RISERS, TEST STATIONS, HYDRANTS, ALARMS, ETC.) THE BIDDER SHALL CONSULT WITH THE INSURANCE UNDERWRITER BEFORE SUBMITTING HIS BID. FAILURE TO CONSULT WITH THE INSURANCE UNDERWRITER DOES NOT RELIEVE THIS CONTRACTOR FROM HIS RESPONSIBILITY BY THE COMPLETION OF ANY AND ALL WORK REQUIRED WITH NO EXTRA CHARGES TO THE OWNER.

4. FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND SUPERVISION REQUIRED FOR THE INSTALLATION OF COMPLETE SYSTEMS AND ALL NECESSARY PIPING, SPRINKLER HEADS, TEST CONNECTIONS, VALVES, DRAINS AND SPRINKLER ALARMS, FLOW SWITCHES, HORNS OR GONGS, DETECTOR CHECK VALVES, SIAMESE FIRE DEPARTMENT CONNECTIONS, PRESSURE GAUGES, AND OTHER REQUIRED COMPONENTS.

5. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. CONTRACTOR SHALL PROVIDE PROOF OF COMPLIANCE WITH THIS REQUIREMENT UPON REQUEST.

6. ALL SPRINKLER PIPING SHALL BE CONCEALED IN ALL FINISHED AREAS, AVOIDING INTERFERENCE WITH LIGHTS, DUCTS, PIPES, ETC. BALANCE MAY BE RUN EXPOSED. ANY CONFLICTS DURING INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

7. SPRINKLER HEADS SHALL NOT INTERFERE WITH LIGHTING FIXTURES, SPEAKERS, AIR CONDITIONING DIFFUSERS AND GRILLES, ETC. COORDINATE WITH ARCHITECT'S REFLECTED CEILING PRIOR TO SUBMITTING SHOP DRAWING.

8. EXACT LOCATION OF SPRINKLER HEADS AND PIPING SHALL BE COORDINATED WITH OTHER TRADES AND THE ARCHITECT'S REFLECTED CEILING PLAN BEFORE INSTALLATION.

9. CUTTING AND NOTCHING OF JOISTS IS NOT ACCEPTABLE AND WILL NOT BE PERMITTED. ANY DAMAGE CAUSED TO THE BUILDING STRUCTURE DURING INSTALLATION SHALL BE REPAIRED AT THIS CONTRACTORS EXPENSE.

10. ALL ELECTRICAL REQUIREMENTS FOR FIRE PROTECTION AND SPRINKLER SYSTEM ARE TO BE INCLUDED AS PART OF THIS CONTRACTOR'S RESPONSIBILITY. THIS CONTRACTOR SHALL SUB-CONTRACT FOR ALL WIRING AND RELATED COMPONENT REQUIREMENTS WITH SEPARATE ELECTRICAL CONTRACTOR. ALARM WIRING REQUIREMENTS FOR THE FIRE PROTECTION AND ALARM SYSTEM ARE TO BE INCLUDED IN THIS WORK.

11. WHEN COMPLETED, THE ENTIRE SPRINKLER SYSTEM SHALL BE TESTED IN ACCORDANCE WITH CHAPTER 25 OF NFPA 13 AND AS REQUIRED BY THE RULES AND REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION. ALL SYSTEMS MUST BE FREE OF LEAKS AND ANY OTHER DEFECTS.

12. ALL EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR AFTER ACCEPTANCE BY THE OWNER AND ARCHITECT, AGAINST DEFECTIVE MATERIALS AND LABOR AND IMPROPER DESIGN.

13. CONTRACTOR SHALL MAKE AN ALLOWANCE FOR A MINIMUM OF 5% ADDITIONAL SPRINKLER HEADS TO BE INSTALLED AS TO PROVIDE ADEQUATE COVERAGE DUE TO ANY OBSTRUCTIONS, DUCTWORK, PIPING, ETC. INSTALLED DURING CONSTRUCTION WHICH MAY ALTER THE ORIGINAL SPRINKLER DESIGN.

14. FURNISH SPRINKLER CABINETS OF FINISHED STEEL AND HINGED COVER SIMILAR TO POTTER-ROEMER FIG. 6162 WITH SPACE FOR A MINIMUM OF 6 SPARE SPRINKLER HEADS PLUS SPRINKLER WRENCH FOR EACH TYPE, SUITABLE FOR WALL MOUNTING. FURNISH SIX (6) EXTRA SPRINKLER HEADS, WITH A MINIMUM OF (2) OF EACH TYPE. THIS SHALL ALSO INCLUDE ESCUTCHEONS.

15. INSTALL SPRINKLER PIPING TO PROVIDE FOR SYSTEM DRAINAGE IN ACCORDANCE WITH NFPA 13.

16. INSTALL SPRINKLER PIPING ACCORDING TO NFPA 13 VIBRATION ISOLATION AND SEISMIC RESTRAINTS.

17. CONTRACTOR TO PAY FOR AND SUPPLY ALL DUMPSTERS FOR DEBRIS REMOVAL. COORDINATE AND OBTAIN APPROVAL FOR DUMPSTER LOCATIONS ON SITE AND DEBRIS REMOVAL ROUTES WITH THE CONSTRUCTION MANAGER.

18. INSTALL NON-COMBUSTIBLE HOODS OR SHIELDS ABOVE IMPORTANT ELECTRICAL EQUIPMENT FOR PROTECTION FROM SPRINKLER DISCHARGE PER NFPA 13, 8.14.10.2.

19. WHERE WORK BETWEEN THESE DRAWINGS AND ARCHITECTURAL PLANS ARE IN CONFLICT, ADVISE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION OF SPRINKLER WORK.

20. ALL SPRINKLER DRAINS SHALL RUN TO SAFE LOCATIONS TO PREVENT OVERFLOW OF DRAINS.

21. PORTABLE FIRE EXTINGUISHERS, IF REQUIRED (OF REQUIRED CLASS AND CAPACITY) ARE NOT PART OF THIS CONTRACT.

22. ALL PIPING SYSTEMS SHOWN ON THESE DRAWINGS ARE DIAGRAMMATIC AND EVERY ATTEMPT HAS BEEN MADE TO INDICATE OFFSETS AND PIPING ARRANGEMENTS TO SUIT ACTUAL INSTALLATION REQUIREMENTS. HOWEVER, SPRINKLER CONTRACTOR SHALL COORDINATE WITH THE G.C. AND ALL OTHER TRADES WHEN LAYING OUT HIS WORK TO ENSURE CONFLICT AVOIDANCE.

23. AS THE ACTUAL LIFE SPAN OF THE SPRINKLER SYSTEM IS DEPENDENT ON MANY VARIABLES, INCLUDING BUT NOT LIMITED TO WATER QUALITY AND ATMOSPHERIC CONDITIONS, THE ENGINEER ASSUMES NO LIABILITY OR RESPONSIBILITY OF THE LIFE SPAN OF THE SPRINKLER SYSTEM DUE TO MICRO-BIOLOGICALLY INFLUENCED CORROSION (MIC). THE SPRINKLER CONTRACTOR AND/OR THE GENERAL CONTRACTOR SHALL HAVE THE SPRINKLER SYSTEM TESTED AND TREATED (IF NECESSARY) FOR PROTECTION AGAINST MICRO-BIOLOGICALLY INFLUENCED CORROSION (MIC).

24. INSTALLATION OF THE SPRINKLER SYSTEM SHALL NOT BE STARTED UNTIL DRAWINGS, SPECIFICATIONS, CALCULATIONS, ETC. HAVE BEEN APPROVED BY DSA.

25. STORAGE AREAS CONTAINING CORROSSIVE CHEMICALS SHALL HAVE CORROSSION RESTISTANT SPRINKLERS OF THE SAME ORIENTATION, TEMPERATURE, AND K-FACTOR INSTALLED.

26. THE INSTALLATING CONTRACT SHALL SUBMIT SHOP DRAWINGS, CALCULATIONS, AND TECHINCAL SUBMITALS FOR REVIEW PRIOR TO INSTALLATION.

NOTES:

1. ALARM CHECK VALVE VICTAULIC MODEL 751 OR APPROVED EQUAL.
2. BACKFLOW PREVENTER LF757DCDA SERIES WATTS - 6" DCDA OR APPROVED EQUAL.
3. THE BACKFLOW PREVENTER VALVES SHALL BE ELECTRICALLY SUPERVISED BY A TAMPER SWITCH INSTALLED IN ACCORDANCE WITH NFPA 72 AND SEPERATED ANNUNCIATED.
4. ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEMS, PUMPS, WATER FLOW SWITCHES ON ALL SPRINKLER SYSTEMS SHALL BE ELCTRICALLY SUPERVISED BY THE FIRE ALARM SYSTEM.
5. 4" DOUBLE DETECTOR CHECK ASSEMBLY (DCDA). DEVICE MUST BE INSTALLED AS PER AHJ APPROVED DOCUMENTS INCLUDING BUT NOT LIMITED TO THE STATE OF CALIFORNIA DSA.

DSA File No.:

DSA Application No.:

Agency Approval

General Notes

NET POSITIVE consulting engineers
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project no. 1101

Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

FIRE PROTECTION - PROJECT INFORMATION

Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed Designer	Copyright 2022 Darden Architects
Scale:	Drawn By: Author	
Project Number: 2180	Checked By Checker	FP001
Date: 01/20/2023	Reviewed Approver	

Hydrant Flow Test

Printed: 04/01/2022

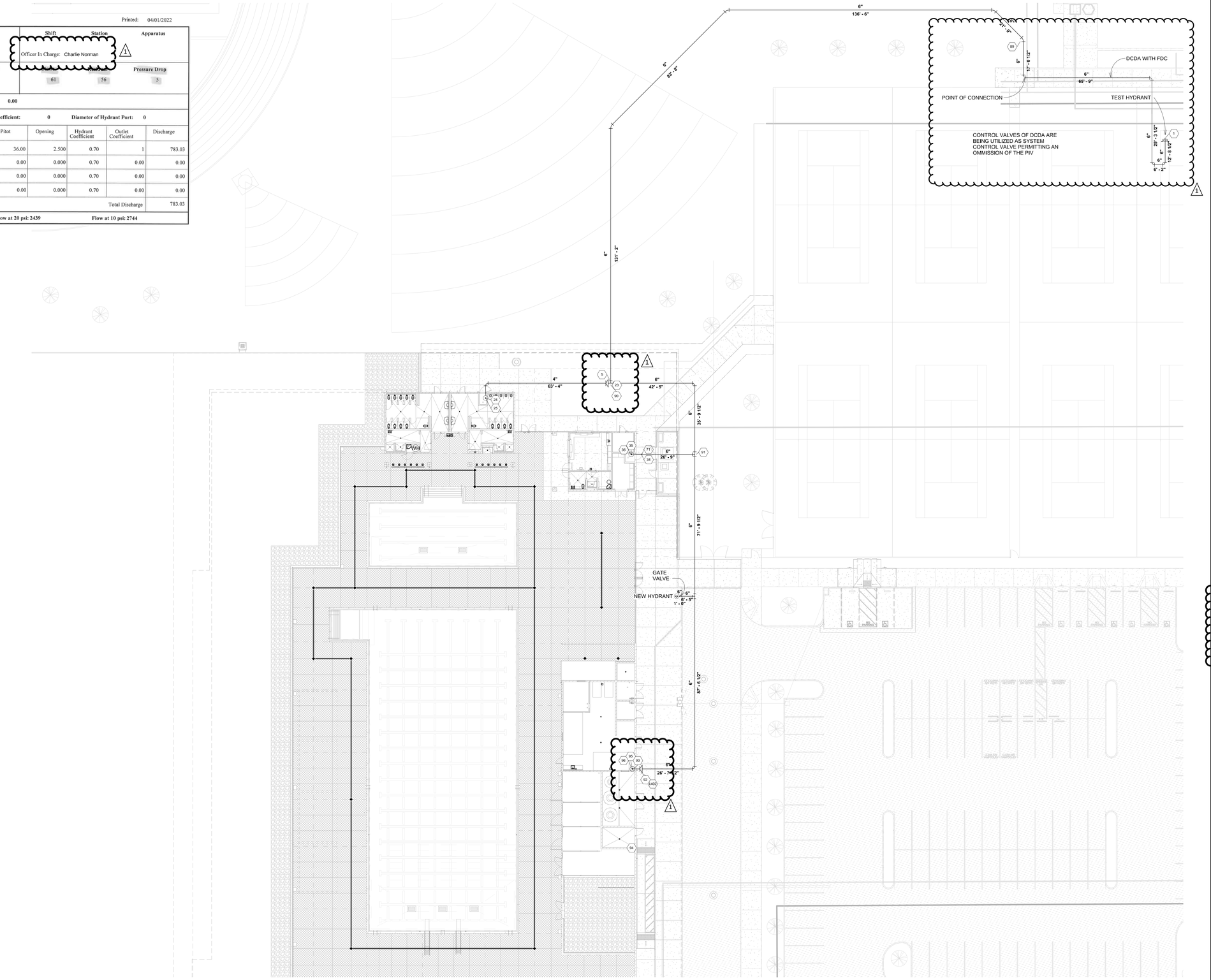
		Shift	Station	Apparatus
Test Date:	04/01/2022			
Duration:	0.00	Officer In Charge: Charlie Norman		
Primary Hydrant Tested:	43D-001			
Test Method:	Pitot	Residual	Pitot/Gauge	Pressure Drop
Results in GPM/LPM:	G	61	56	5

Flow Meter Method 0.00

Base Cap Method **Hydrant Coefficient:** 0 **Diameter of Hydrant Port:** 0

Pitot Method	Hydrant	Pitot	Opening	Hydrant Coefficient	Outlet Coefficient	Discharge
	43D-001	36.00	2.500	0.70	1	783.03
		0.00	0.000	0.70	0.00	0.00
		0.00	0.000	0.70	0.00	0.00
		0.00	0.000	0.70	0.00	0.00
					Total Discharge	783.03

Total Flow: 783 **Flow at 20 psi: 2439** **Flow at 10 psi: 2744**



DSA File No.:

DSA Application No.:

Agency Approval

GENERAL NOTES

1. All Unistruts shall have the Unistrut Defender Finish.
2. All Rods, Nuts and Screws shall be stainless steel

General Notes

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project no. 1101

Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

FIRE PROTECTION - SITE PLAN

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

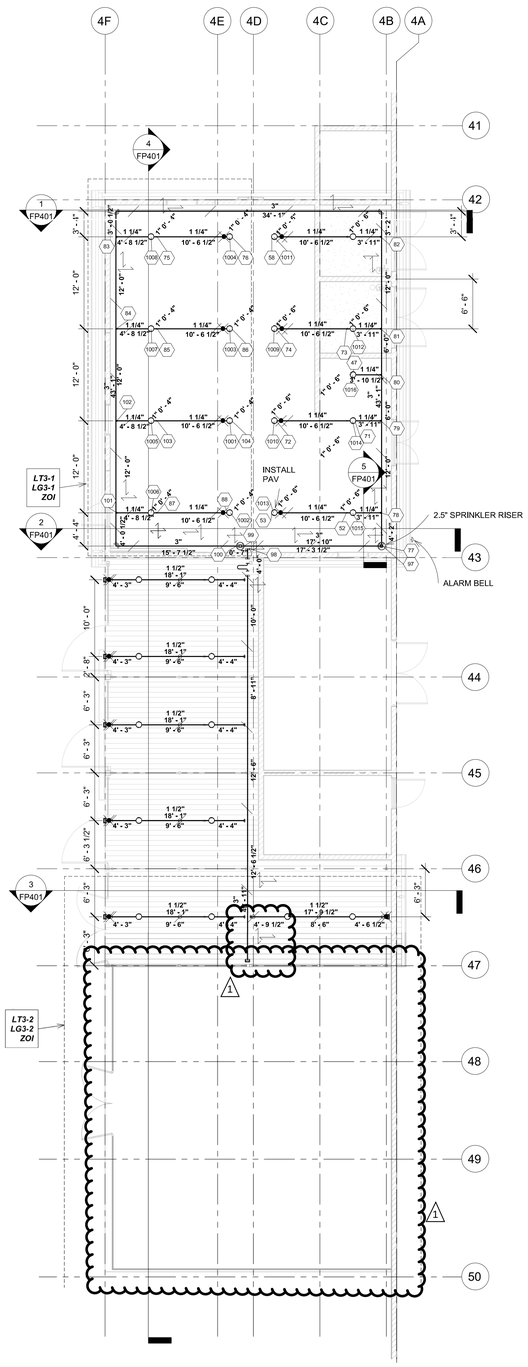
	Designed Designer	
Scale: 1" = 20'-0"	Drawn By: Author	
Project Number: 2180	Checked IChecker	FP002
Date: 01/20/2023	ReviewedApprover	

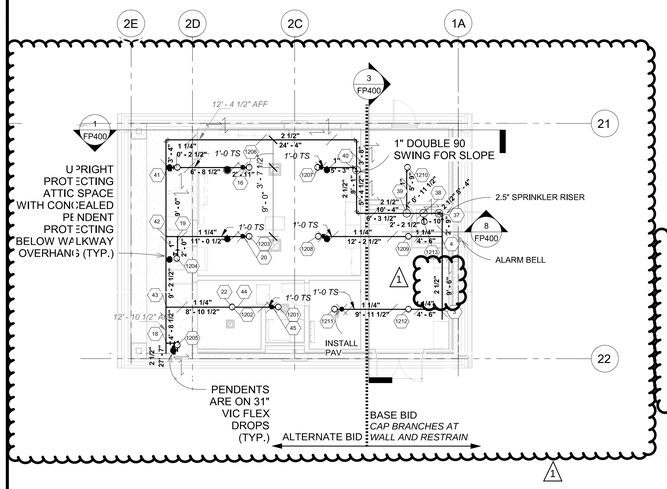
1 FIRE PROTECTION - SITE PLAN
1" = 20'-0"

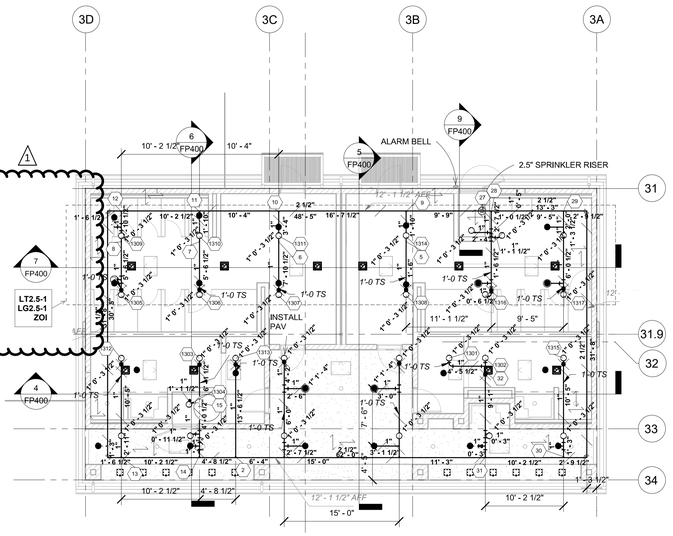
SYMBOLS LEGEND

- PIPE DIAMETER, CUT LENGTH, AND SECTION LENGTHS
- PIPE DIAMETER AND CUT LENGTH
- PIPE HANGER
- PIPE CHANGE IN ELEVATION
- LATERAL SWAY BRACE
- LONGITUDINAL SWAY BRACE
- 4-WAY SWAY BRACE
- FLEX DROP
- HYDRAULIC NODE
- ALARM BELL
- BRANCHLINE RESTRAINT
- BUILDING SEISMIC SEPARATION
- PIPE HANGER - STEEL

• SPRINKLERS IN POOL EQUIPMENT, CHLORINE, AND ACID SPACES SHALL ALL BE CORROSSION RESISTANT







DSA File No.:

DSA Application No.:

Agency Approval

GENERAL NOTES

1. All Unistruts shall have the Unistrut Defender Finish.
2. All Rods, Nuts and Screws shall be stainless steel

General Notes

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Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

FIRE PROTECTION - PIPING PLANS

Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: WC
Drawn By: CC
Checked fChecker
Reviewed By:DSA

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Scale: 1/8" = 1'-0"
Project Number: 2180
Date: 01/20/2023

FP100

1 FIRE PROTECTION - BLDG P2 PIPING PLAN 1/8" = 1'-0"

2 FIRE PROTECTION - BLDG P3 PIPING PLAN 1/8" = 1'-0"

3 FIRE PROTECTION - BLDG P4 PIPING PLAN 1/8" = 1'-0"

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Mission Oaks Aquatic Center\2_Submittals\Drawings\22-014 - Mission Oaks Aquatic Center

SYMBOLS LEGEND

- PIPE DIAMETER, CUT LENGTH, AND SECTION LENGTHS
- PIPE DIAMETER AND CUT LENGTH
- PIPE HANGER
- PIPE CHANGE IN ELEVATION
- LATERAL SWAY BRACE
- LONGITUDINAL SWAY BRACE
- 4-WAY SWAY BRACE
- FLEX DROP
- HYDRAULIC NODE
- ALARM BELL
- BRANCHLINE RESTRAINT
- BUILDING SEISMIC SEPARATION
- PIPE HANGER - STEEL

SPRINKLER SCHEDULE

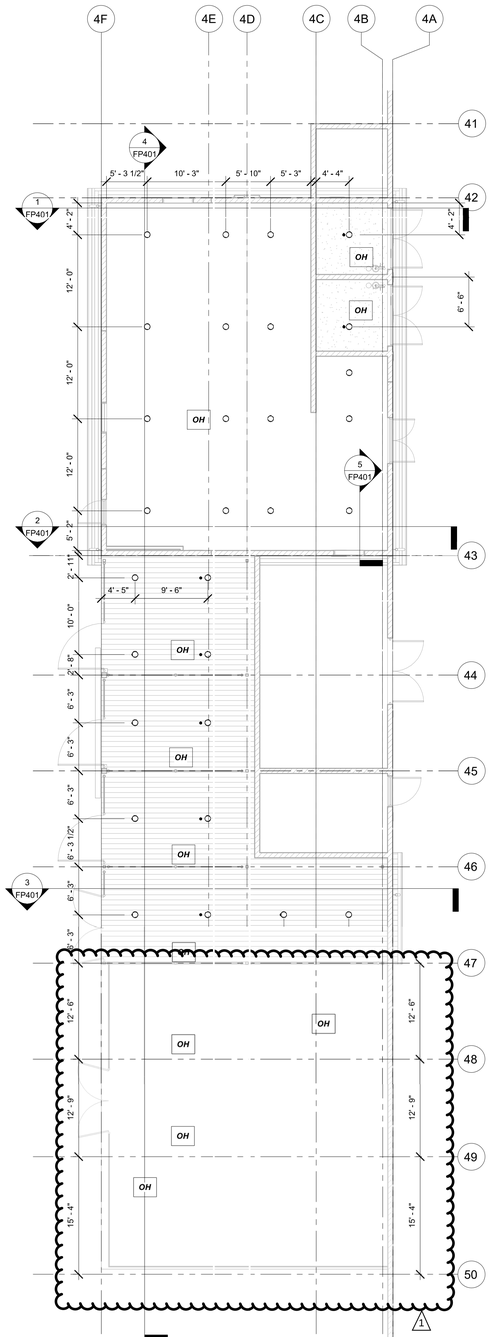
Sprinkler Symbol	Count	Manufacturer	Model	Orifice Size	K-Factor	Temperature Rating	Sprinkler Orientation	Finish
○	14	VICTAULIC Inc.	V2704	1/2"	5.6	200 °F	Upright	Brass
●	7	VICTAULIC Inc.	V3802	1/2"	5.6	155 °F	Pendent	White

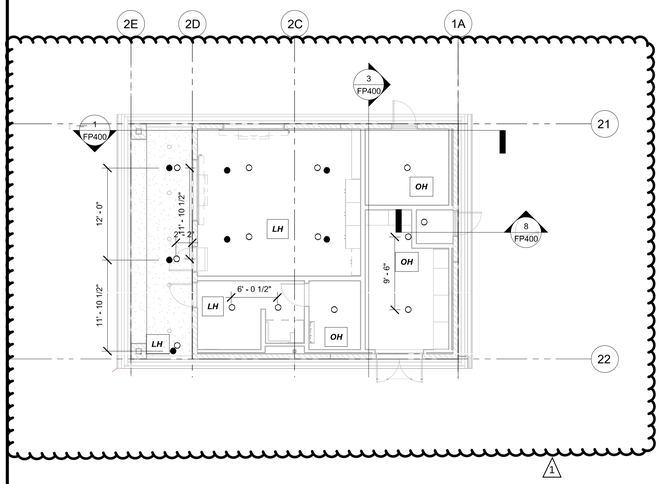
SPRINKLER SCHEDULE

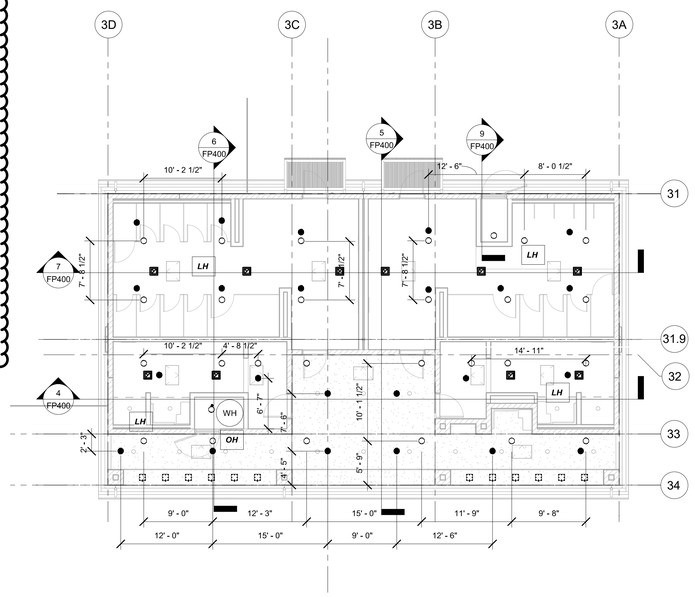
Sprinkler Symbol	Count	Manufacturer	Model	Orifice Size	K-Factor	Temperature Rating	Sprinkler Orientation	Finish
○	28	VICTAULIC Inc.	V2704	1/2"	5.6	200 °F	Upright	Brass
●	23	VICTAULIC Inc.	V3802	1/2"	5.6	155 °F	Pendent	White

SPRINKLER SCHEDULE

Sprinkler Symbol	Count	Manufacturer	Model	Orifice Size	K-Factor	Temperature Rating	Sprinkler Orientation	Finish
○	29	VICTAULIC Inc.	V2704	1/2"	5.6	200 °F	Upright	Brass







GENERAL NOTES

1. All Unistruts shall have the Unistrut Defender Finish.
2. All Rods, Nuts and Screws shall be stainless steel

General Notes

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project no. 1101

Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

FIRE PROTECTION - REFLECTED CEILING PLANS

Drawing

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Architect

No.	Revision/Submission	Date
	REVISION_01	05/31/2023

Revision

Designed By: WC
Drawn By: CC
Checked By: NP
Reviewed By:DSA

Scale: 1/8" = 1'-0"
Project Number: 2180
Date: 01/20/2023

FP200

1 FIRE PROTECTION - BLDG P2 RCP
1/8" = 1'-0"

2 FIRE PROTECTION - BLDG P3 RCP
1/8" = 1'-0"

3 FIRE PROTECTION - BLDG P4 RCP
1/8" = 1'-0"

DSA File No.:

DSA Application No.:

Agency Approval

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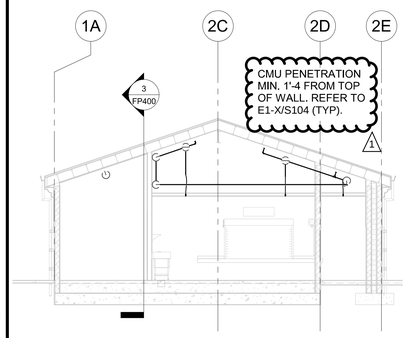
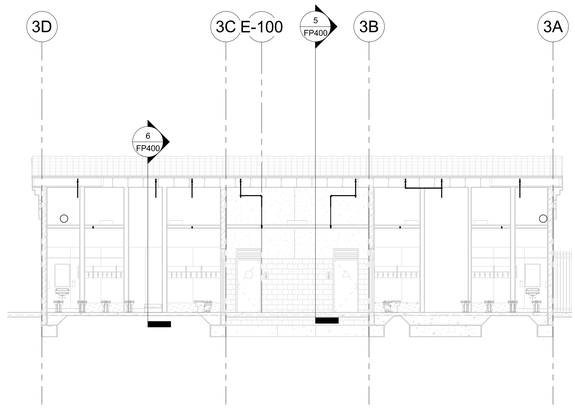
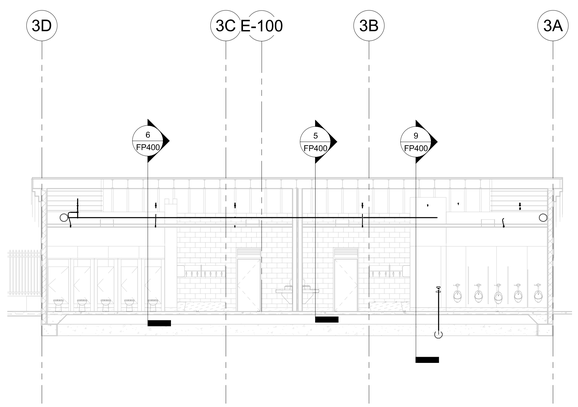


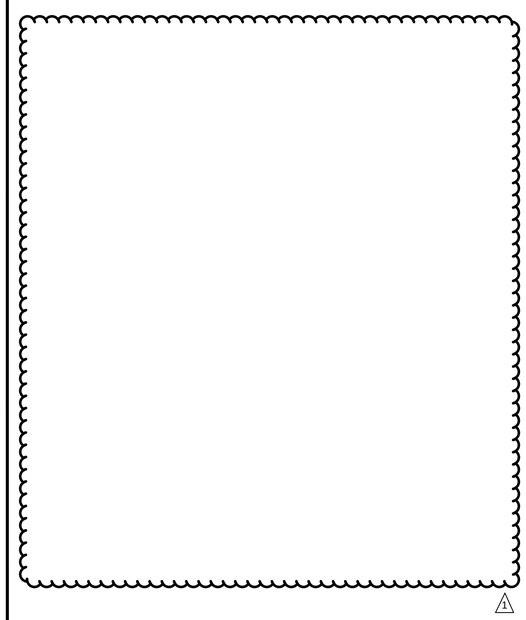
1 BUILDING P2 NORTH SNACK BAR
1/8" = 1'-0"



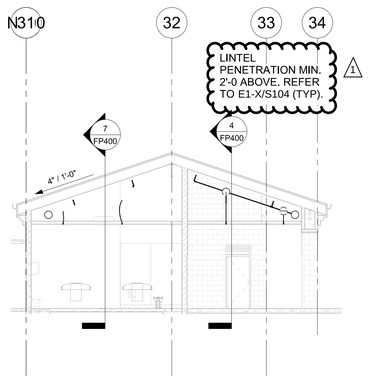
4 BUILDING P3 SOUTH SHOWERS
1/8" = 1'-0"



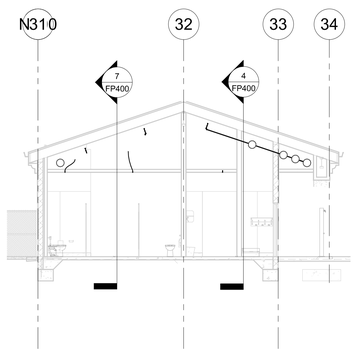
7 BUILDING P3 SOUTH RESTROOMS
1/8" = 1'-0"



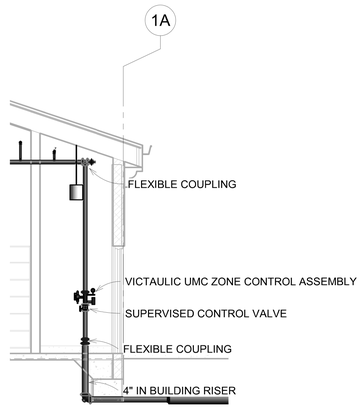
3 BUILDING P2 WEST STORAGE
1/8" = 1'-0"



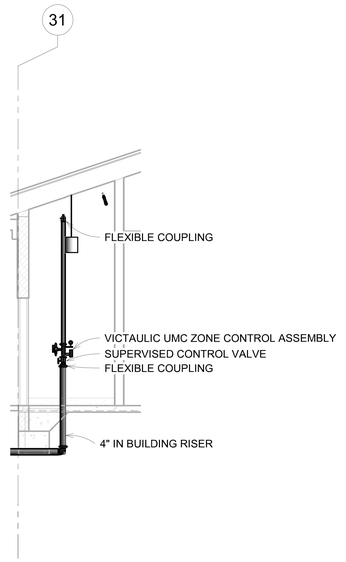
5 BUILDING P3 WEST BOYS
1/8" = 1'-0"



6 BUILDING P3 WEST GIRLS
1/8" = 1'-0"



8 BUILDING P2 RISER
1/4" = 1'-0"



9 BUILDING P3 RISER
1/4" = 1'-0"

DSA File No.:

DSA Application No.:

Agency Approval

GENERAL NOTES

1. All Unistruts shall have the Unistrut Defender Finish.
2. All Rods, Nuts and Screws shall be stainless steel

General Notes

1

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project no. 1101

Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDING P
FIRE PROTECTION - BLDG. P2 & P3 SECTION VIEWS

Drawing

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Architect

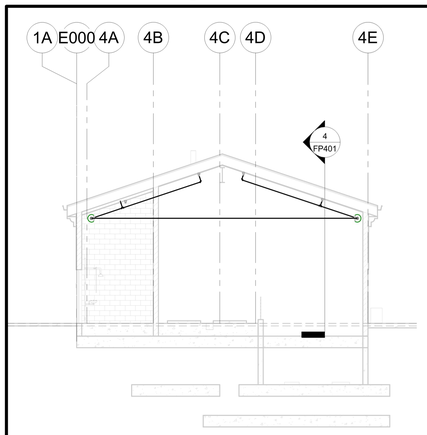
No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

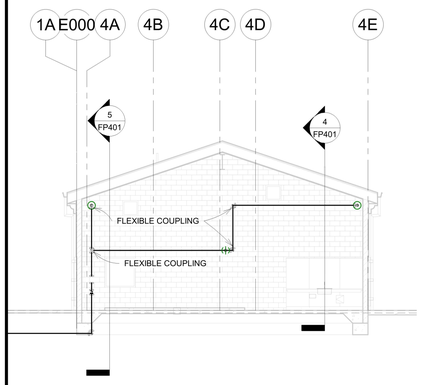
Designed By: WC
Drawn By: CC
Checked By: NP
Reviewed By:DSA

Scale: As indicated
Project Number: 2180
Date: 01/20/2023

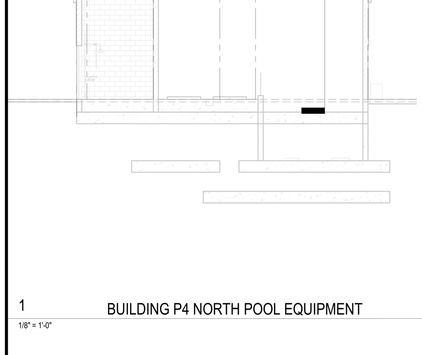
FP400



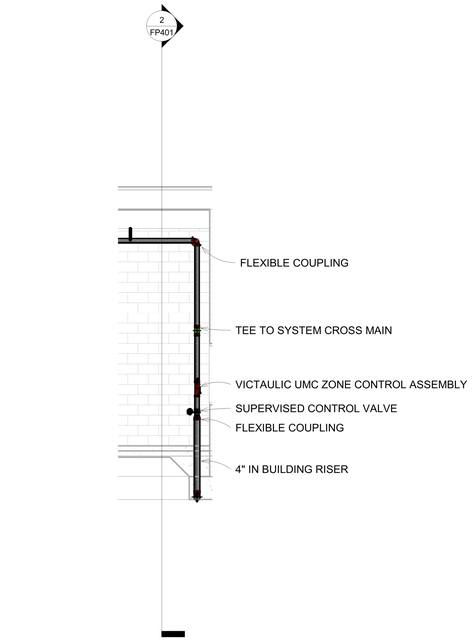
1 BUILDING P4 NORTH POOL EQUIPMENT
1/8" = 1'-0"



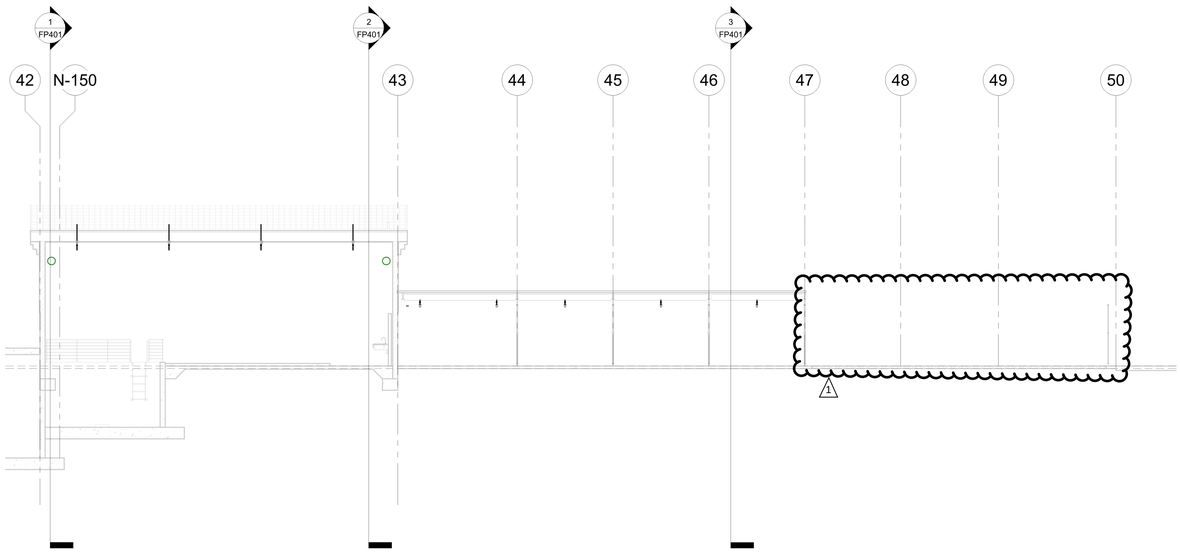
2 BUILDING P4 POOL EQUIP TO STORAGE
1/8" = 1'-0"



3 BUILDING P4 STORAGE
1/8" = 1'-0"



5 BUILDING P4 RISER
1/4" = 1'-0"



4 BUILDING P4 WEST STORAGE
1/8" = 1'-0"

DSA File No.:

DSA Application No.:

Agency Approval

GENERAL NOTES

1. All Unistruts shall have the Unistrut Defender Finish.
2. All Rods, Nuts and Screws shall be stainless steel

General Notes

1

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project no. 1101

Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

FIRE PROTECTION - BLDG. P4 SECTION VIEWS

Drawing

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Architect

No.	Revision/Submission	Date

Revision

Designed By:	WC
Drawn By:	CC
Checked By:	NP
Reviewed By:	DSA
Scale:	As indicated
Project Number:	2180
Date:	01/20/2023

FP401

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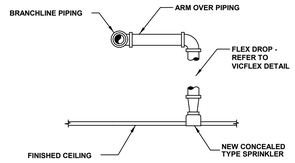
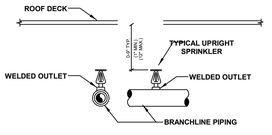
C:\Users\YasserAhmad\Net Positive\NPCEDocumentLibrary - Documents\1 - Projects\1100\1101 - Darden - Mission Oaks High School Aquatics Center\07 - INBOX\2023-06-02 - Fire Sprinkler Rev#22-01\4 - Mission Oaks Aquatic Ctr - FP - R1.rvt



ALL PENDENT AND CONCEALED PENDENTS ON PROJECT SHALL BE INSTALLED USING 31" VIC FLEX FLEXIBLE SPRINKLER DROPS.

TYPICAL PENDANT SPRINKLER HEAD INSTALLATION DETAIL

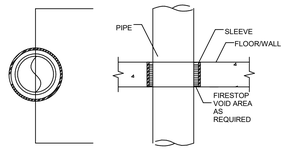
N.T.S.



NOTE:
NFPA 13 2016 EDITION 8.6.4.2
8.6.4.2.1 UNLESS THE REQUIREMENTS OF 8.6.4.2.2 OR 8.6.4.2.3 ARE MET, DEFLECTORS OF SPRINKLERS SHALL BE ALIGNED PARALLEL TO CEILINGS, ROOFS, HIPS, OR THE INCLINE OF STAIRS.
8.6.4.2.2 WHERE SPRINKLERS ARE INSTALLED IN THE PEAK BELOW ASLOPED CEILING OR ROOF SURFACE, THE SPRINKLER SHALL BE INSTALLEDWITH THE DEFLECTOR HORIZONTAL.
8.6.4.2.3 ROOFS HAVING A PITCH NOT EXCEEDING 2 IN 12(16.7 PERCENT) ARE CONSIDERED HORIZONTAL IN THE APPLICATION OF 8.6.4.2, AND SPRINKLERS SHALL BE PERMITTED TO BE INSTALLED WITHDEFLECTORS HORIZONTAL.

UPRIGHT SPRINKLER ON BRANCHLINE DETAIL

N.T.S.



SLEEVE REQUIREMENTS PER NFPA 13 2016ed

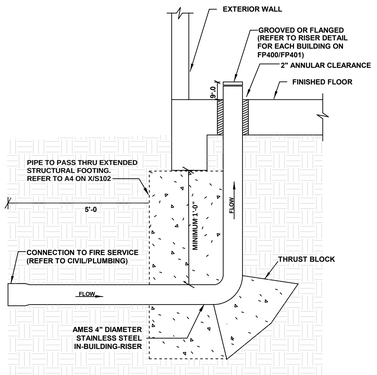
9.3.4.3 WHERE CLEARANCE IS PROVIDED BY A PIPE SLEEVE, A NOMINAL DIAMETER 2 IN. (50 MM) LARGER THAN THE NOMINAL DIAMETER OF THE PIPE SHALL BE ACCEPTABLE FOR PIPE
SIZES 1 IN. (25 MM) THROUGH 31⁄2 IN. (90 MM), AND THE CLEARANCE PROVIDED BY A PIPE SLEEVE OF NOMINAL DIAMETER 4 IN. (100 MM) LARGER THAN THE NOMINAL DIAMETER OF THE PIPE SHALL BE ACCEPTABLE FOR PIPE SIZES 4 IN. (100 MM) AND LARGER.
9.3.4.5 NO CLEARANCE SHALL BE REQUIRED IF FLEXIBLE COUPLINGS ARE LOCATED WITHIN
1 FT (300 MM) OF EACH SIDE OF A WALL OR IF THE REQUIREMENTS OF 9.3.2.3.1(2) ARE MET.

TYPICAL SLEEVE PENETRATION INSTALLATION DETAIL AND REQUIREMENTS

N.T.S.

- **WET SYSTEM RISER SHALL BE A VICTAULIC UMC RISER CONTROL ASSEMBLY WITH 705W SUPERVISED CONTROL VALVE.**
- **FDC IS A REMOTE FREE STANDING FDC CONNECTED TO UNDERGROUND FIRE SERVICE. FDC SHALL BE LOCATED IMMEDIATELY AFTER DCDA.**
- **SUPERVISED CONTROL VALVES AND VANE STYLE WATERFLOW SWITCH SHALL ALL BE SUPERVISED BY THE BASE BUILDING FIRE ALARM SYSTEM**
- **A 24V ALARM BELL SHALL BE INSTALLED ON THE EXTERIOR WALL OF THE RISER LOCATION**
- **SYSTEM INSPECTOR'S TEST AND DRAIN IS ATTACHED TO THE RISER AND SHALL BE PIPED TO THE EXTERIOR OF THE BUILDING VIA A MAIN DRAIN. THIS SHALL TERMINATE OVER A SPLASH BLOCK WITH A 1/2" OUTLET COMPLETED WITH A 1/2" SMOOTH OUTLET (BROKEN SPRINKLER).**

RISER NOTES



Install a ball valve in line with the PAV to assist in servicing the strainer without disabling the sprinkler system.

1. Read and understand the instructions provided before you proceed with installation. The PAV shall be installed in accordance with local ordinances and the applicable NFPA13, NFPA13D, or NFPA13R standard.

2. The Engineer of Record should select the Model PAV, Potter Air Vent installation location. Usually at a point in the system that will vent the most air. Refer to piping plans for location.

3. The location of the PAV must not interfere with the spray pattern of any sprinkler head. The connection point must be off the top of the pipe. (See Fig. 1)

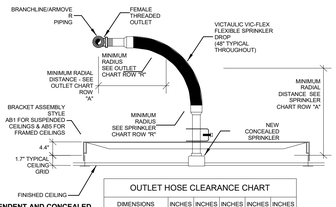
4. The piping must be level or pitch back toward the fire sprinkler system piping and arranged in such a manner that water will not become trapped. The outlet of the PAV contains a 1/2" male NPT threaded connection allowing the device to be piped to a drain or other suitable location if there are concerns about inadvertent water discharge.

5. Immediately after installation and filling of the fire sprinkler system, the PAV should be inspected for leaks and proper operation. The unit should be inspected periodically. Thereafter the manufacturer recommends quarterly or more frequently.

6. Inspection should include removal and cleaning of the strainer screen. Remove the screen and flush with clean water. Use a wire brush if necessary to remove any particles trapped in the screen.

PAV and Shutoff Valve Replacement

The vent used in the PAV is not field replaceable. If the vent should fail, the entire unit must be replaced.



ALL PENDENT AND CONCEALED PENDENTS ON PROJECT SHALL BE INSTALLED USING 31" VIC FLEX FLEXIBLE SPRINKLER DROPS.
MAX BENDS - 3
EQUIVALENT LENGTH = 52'-0

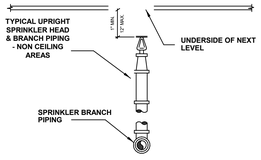
PROVIDE A LABEL ON THE ANCHORING COMPONENT LIMITING RELOCATION OF THE SPRINKLER

OUTLET HOSE CLEARANCE CHART							
DIMENSIONS		INCHES	INCHES	INCHES	INCHES	INCHES	INCHES
R	MINIMUM BEND RADIUS	3	4	5	6	7	
A	MINIMUM	9.4	10.4	11.4	12.4	13.4	

SPRINKLER HOSE CLEARANCE CHART							
DIMENSIONS		INCHES	INCHES	INCHES	INCHES	INCHES	INCHES
R	MINIMUM BEND RADIUS	2	3	4	5	6	7
A	MINIMUM	10.1	11.1	12.1	13.1	14.1	15.1

VIC-FLEX FLEX HEAD DETAIL

N.T.S.

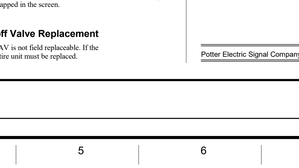


NOTE:
NFPA 13 2016 EDITION 8.6.4.2
8.6.4.2.1 UNLESS THE REQUIREMENTS OF 8.6.4.2.2 OR 8.6.4.2.3 ARE MET, DEFLECTORS OF SPRINKLERS SHALL BE ALIGNED PARALLEL TO CEILINGS, ROOFS, HIPS, OR THE INCLINE OF STAIRS.
8.6.4.2.2 WHERE SPRINKLERS ARE INSTALLED IN THE PEAK BELOW ASLOPED CEILING OR ROOF SURFACE, THE SPRINKLER SHALL BE INSTALLEDWITH THE DEFLECTOR HORIZONTAL.
8.6.4.2.3 ROOFS HAVING A PITCH NOT EXCEEDING 2 IN 12(16.7 PERCENT) ARE CONSIDERED HORIZONTAL IN THE APPLICATION OF 8.6.4.2, AND SPRINKLERS SHALL BE PERMITTED TO BE INSTALLED WITHDEFLECTORS HORIZONTAL.

TYPICAL UPRIGHT SPRINKLER INSTALLATION DETAIL

N.T.S.

**** WHERE HANGERS OR BRACING ANCHORS/CLAMPS ARE INSTALLED ON THE BOTTOM FLANGE OF A BEAM, BOTTOM FLANGE BRACING ON ONE SIDE OF THE CLAMP MUST BE INSTALLED. ****



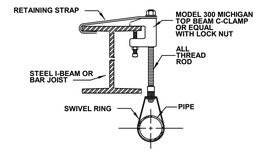
TOLCO FIG 200 HAS THE LOWEST MAX LOAD IN LBS. OF ALL HANGER COMPONENTS. THE TABLE BELOW REFLECTS THE MAXIMUM WEIGHT IN LBS. FOR THESE HANGERS.

1"	400
1-1/2"	400
2"	400
4"	1000

REVERSIBLE BEAM C-CLAMP WITH RETAINING STRAP (BEAM)

SYMBOL ON PLANS

N.T.S.



TOLCO FIG 200 HAS THE LOWEST MAX LOAD IN LBS. OF ALL HANGER COMPONENTS. THE TABLE BELOW REFLECTS THE MAXIMUM WEIGHT IN LBS. FOR THESE HANGERS.

1"	400
1-1/2"	400
2"	400
4"	1000

TOP BEAM C-CLAMP WITH RETAINING STRAP (BEAM)

SYMBOL ON PLANS

N.T.S.

DO NOT REMOVE THIS LABEL

CAUTION

RELOCATION OF THIS DEVICE SHOULD ONLY BE PERFORMED BY QUALIFIED AND /OR LICENSED INDIVIDUALS THAT ARE AWARE OF THE ORIGINAL SYSTEM DESIGN CRITERIA, HYDRAULIC CRITERIA, SPRINKLER HEAD LISTING PARAMETERS, AND KNOWLEDGE OF THE STATE AND LOCAL CODES INCLUDING NFPA 13 INSTALLATION STANDARDS. RELOCATION OF THE DEVICE WITHOUT THIS KNOWLEDGE COULD ADVERSELY AFFECT THE PERFORMANCE OF THE FIRE PROTECTION AND LIFE SAFETY SYSTEM

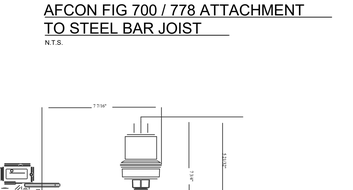
TO BE INSTALLED ON ALL FLEX DROP ANCHORS.

SIMILIAR VERBIAGE FROM MANUFACTURER, NFPA, OR OTHER SOURCE IS ACCEPTABLE.

STICKER MUST BE LARGE ENOUGH TO BE LEGIBLE WHILE STILL FITTING ON BRACKET STANCHIONS

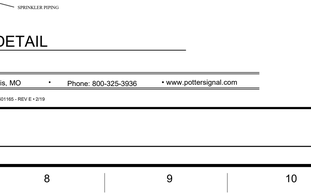
VIC-FLEX LABEL DETAIL

N.T.S.



CADDY BRANCHLINE RESTRAINT SYSTEM TO STEEL DETAIL

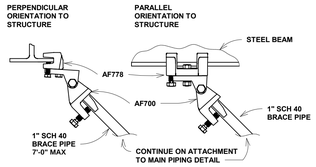
N.T.S.



BUILDING SEISMIC SEPARATION

SYMBOL ON PLANS

N.T.S

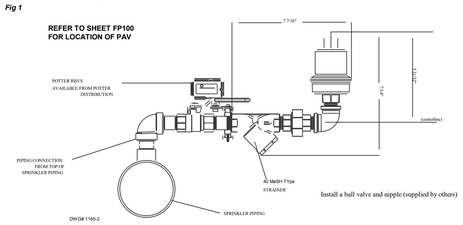


AFCON FIG 700 / 778 ATTACHMENT TO STEEL BAR JOIST

N.T.S.

PAV Outline Drawing

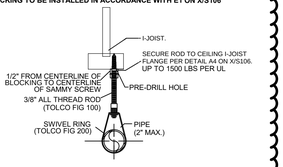
Fig 1



AIR VENT DETAIL

N.T.S.

BLOCKING TO BE INSTALLED IN ACCORDANCE WITH E1 ON X/S106



FOR BRANCHLINES ONLY - NOT TO BE USED FOR HANGING MAINS

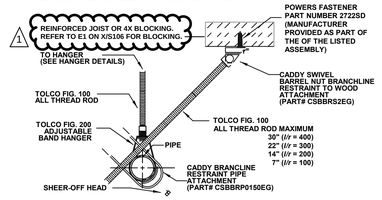
NOTE: MINIMUM 2" EMBEDMENT INTO BASE MATERIAL FOR NFPA 13 COMPLIANCE

SAMMY SCREW AND ROD

N.T.S.

1

BLOCKING TO BE INSTALLED IN ACCORDANCE WITH E1 ON X/S106

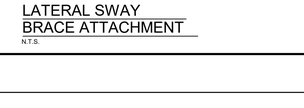


CADDY BRANCHLINE RESTRAINT SYSTEM TO WOOD STRUCTURE DETAIL

SYMBOL ON PLANS

N.T.S.

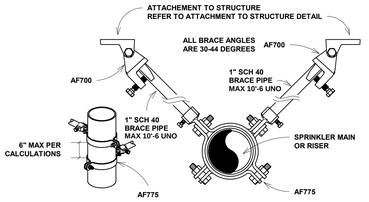
BLOCKING TO BE INSTALLED IN ACCORDANCE WITH A1 ON X/S106 and E1 ON X/S105.



ATTACHMENT TO STRUCTURE VIA THROUGH BOLTS
REFER TO SWAY BRACE CALCULATION REPORTS

SWAY BRACE ATTACHMENT TO STRUCTURE

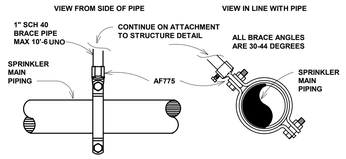
N.T.S.



AFCON FIG 700 / 775 4-WAY SWAY BRACE ATTACHMENT

SYMBOL ON PLANS

N.T.S.

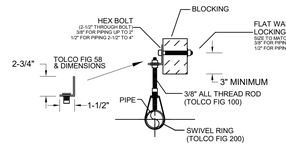


LATERAL SWAY BRACE ATTACHMENT

SYMBOL ON PLANS

N.T.S.

BLOCKING TO BE INSTALLED IN ACCORDANCE WITH E1 and A4 ON X/S106



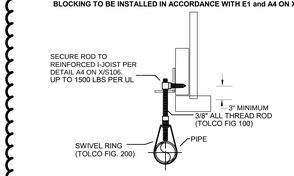
NOTE: ROD SHALL BE RUN DOWN TO TOP OF PIPE
MAY BE UTILIZED FOR HANGING MAINS

TOLCO FIG 58 THREADED SIDE BEAM BRACKET

N.T.S.

1

BLOCKING TO BE INSTALLED IN ACCORDANCE WITH E1 and A4 ON X/S106



NOTE: ROD SHALL BE RUN DOWN TO TOP OF PIPE
MAY BE USED FOR UP TO AND INCLUDING 3" PIPING

SIDE SAMMY SCREW

N.T.S.

TABLE 9.2.2.1(a) MAXIMUM DISTANCE BETWEEN HANGERS (FT-IN.)									
NOMINAL PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
STEEL PIPE	N/A	12-0	12-0	15-0	15-0	15-0	9-0	9-0	9-0	9-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	9-0	N/A	N/A	N/A
COPPER TUBE	8-0	8-0	10-0	12-0	12-0	12-0	9-0	N/A	N/A	N/A
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	N/A	N/A	N/A	N/A

FIGURE A.9.2.3.2.2 DISTANCE FROM SPRINKLER TO HANGER

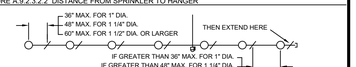


TABLE 9.1.2.1 HANGER ROD SIZE			
PIPE SIZE	DIAMETER OF ROD	PIPE SIZE	DIAMETER OF ROD
UP TO AND INCLUDING 4"	3/8"	6" AND 8"	1/2"

PROJECT HANGER SPACING TABLE (EXCEEDING NFPA)

N.T.S

LONGITUDINAL SWAY BRACE ATTACHMENT

SYMBOL ON PLANS

N.T.S.

DSA File No.:

DSA Application No.:

Agency Approval

GENERAL NOTES

1. All Unistruts shall have the Unistrut Defender Finish.
2. All Rods, Nuts and Screws shall be stainless steel

General Notes

1

NET POSITIVE consulting engineers
www.NPCeng.com
project no. 1101

Consultant

Mission Oaks HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

FIRE PROTECTION - DETAILS

Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

Architect

No.	Revision/Submission	Date

Revision

	Designed By: WC	Copyright 2022 Darden Architects
Scale:	Drawn By: KS	
Project Number: 2180	Checked By: CC	*FP500*
Date: 01/20/2023	Reviewed By: CC	

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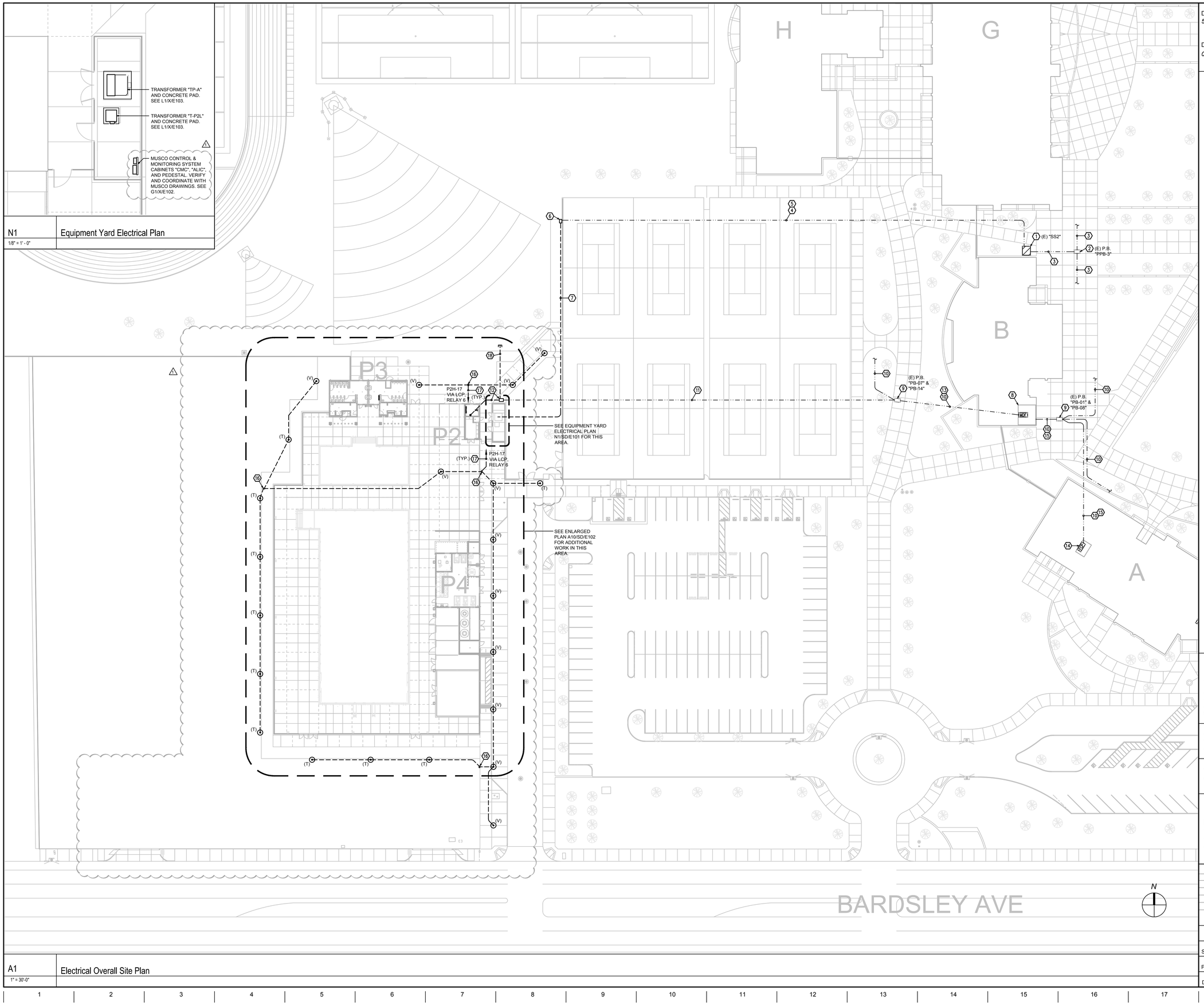

A1
Electrical Overall Site Plan
1" = 30'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. EXISTING PAD MOUNTED MEDIUM VOLTAGE SECTIONALIZING SWITCH, 600A 15KV.
2. EXISTING POWER PULL BOX.
3. EXISTING POWER FEEDERS.
4. EXISTING SPARE 4" POWER CONDUIT STUB WITH PULL ROPE.
5. PROVIDE MV CONDUCTORS PER POWER SINGLE LINE DIAGRAM L1/X/E103.
6. 3 FT. x 5 FT. VAULT WITH SPRING-ASSIST BOLT-DOWN STEEL LIDS WITH "HIGH VOLTAGE" MARKING. SEE DETAIL M10/X/E106.
7. POWER MV FEEDER AND SPARE 4"C. PER POWER SINGLE LINE DIAGRAM L1/X/E103.
8. EXISTING DATA MDF AND LOW VOLTAGE SYSTEMS HEAD END EQUIPMENT AT EXISTING BUILDING DATA/ ELECTRICAL ROOM. CONNECT DATA AND LOW VOLTAGE SYSTEMS. SEE LOW VOLTAGE SINGLE LINE DIAGRAM A11/X/E105.
9. EXISTING LOW VOLTAGE SYSTEMS PULL BOX(ES).
10. EXISTING LOW VOLTAGE SYSTEMS CONDUITS AND CABLING.
11. EXISTING (2) 4" SPARE CONDUITS STUB FROM EXISTING PULL BOX "PB-07". EXISTING (3) 2" & (1) 1 1/2" SPARE CONDUITS STUB FROM EXISTING PULL BOX "PB-14".
12. INTERCEPT EXISTING CONDUITS AND RISE INTO B3042 VAULT. RUN (1) 4"C., (2) 2"C., AND (1) 1 1/2"C. TO NEW BUILDING "P2" ELECTRICAL ROOM. PULL NEW FIBER OPTIC AND COMM/SIGNAL CABLES PER LOW VOLTAGE SINGLE LINE DIAGRAM A11/X/E105.
13. PULL NEW FIBER OPTIC AND COMM/SIGNAL CABLES THROUGH EXISTING CONDUITS. CABLING PER LOW VOLTAGE SINGLE LINE DIAGRAM A11/X/E105.
14. EXISTING FIRE ALARM CONTROL PANEL AT EXISTING BUILDING DATA/ ELECTRICAL ROOM. CONNECT FIRE ALARM. SEE FIRE ALARM PLANS.
15. PULL FIRE ALARM CABLES THROUGH EXISTING CONDUIT.
16. B1017 H-20 RATED PULL BOX WITH BOLT-DOWN STEEL LID LABELLED "LIGHTING" PER DETAIL M14/X/E106.
17. 1"C. 2#8, 1#10G.
18. STUB (1) 4"C., (2) 2"C., (1) 1 1/2"C. AS SHOWN.

POWER & SYSTEMS NOTES

1. ALL WORK AT THE POOLS AND RELATED POOL EQUIPMENT SHALL CONFORM WITH CEC ARTICLE 680. REFER TO AQUATIC DESIGN GROUP DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ELECTRICAL WORK (E.G., POOL LIGHTING, TIMING EQUIPMENT, GROUNDING, ETC.) AT THE POOLS AND RELATED EQUIPMENT ROOMS.
2. ALL RACEWAYS, COUPLINGS, STRAPS, ANCHORS, AND WIRING IN POOL EQUIPMENT ROOM, ACID, CHLORINE, AND POOL EQUIPMENT ENCLOSURE SHALL CONFORM TO CEC ARTICLE 680.14 AND SHALL BE UL LISTED AND ETL VERIFIED FOR SUCH USE. THE EXPOSED ELECTRICAL INSTALLATION SHALL BE FINISHED WITH PVC ANTI-CORROSIVE COATINGS. ALL UNISTRUTS SHALL HAVE A DEFENDER FINISH.
3. ALL CONDUIT PENETRATIONS THROUGH CMU WALLS SHALL BE PER DETAIL E1/X/S104.

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Consultant

REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
ELECTRICAL OVERALL SITE PLAN
Drawing

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LICENSED ARCHITECT REGISTERED K. T. FLYNN No. C23724 Exp. 4-30-25 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: SD	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: HDE	SD/E101
Project Number: 2180	Checked By: SD	
Date: 08/02/2022	Reviewed By: SD	Sheet: _____ of: _____

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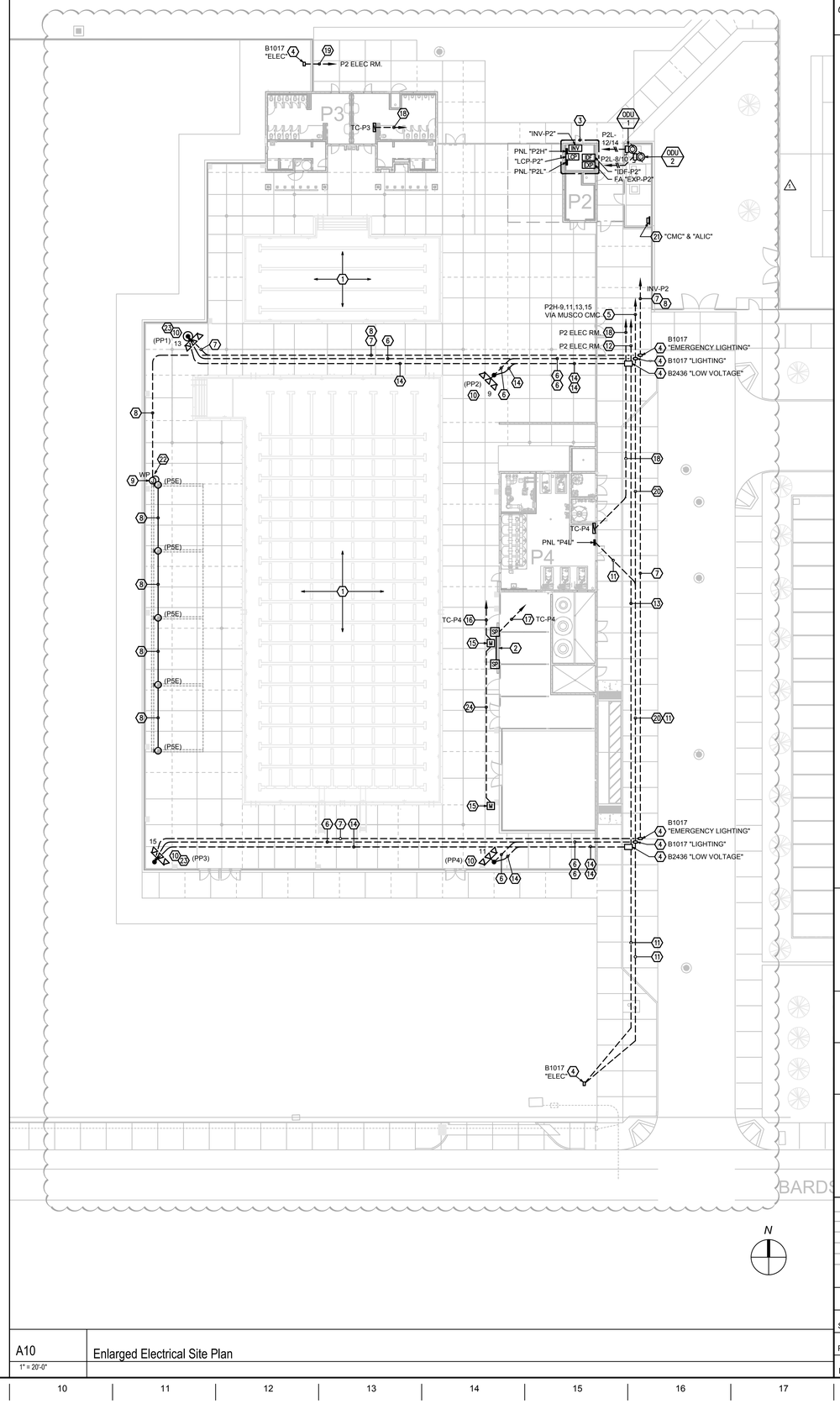

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. PROVIDE POOL GROUNDING, LIGHTING, AND TIMING SYSTEM INSTALLATION PER POOL DRAWINGS AND CEC 680.
2. SCOREBOARD: PROVIDE (2) AUDIO SYSTEM SPEAKERS ABOVE SCOREBOARD. SEE SHEET P/E102 FOR ADDITIONAL DEVICES. PROVIDE POWER AND TIMING SYSTEM INSTALLATION PER POOL DRAWINGS. SEE ALSO ARCHITECTURAL ELEVATIONS.
3. REFER TO ENLARGED ELECTRICAL ROOM ELECTRICAL PLAN M13/P/E105. REFER TO STRUCTURAL DETAILS A4/X/S102 FOR CONDUITS PASSING BELOW OR ADJACENT TO A FOOTING AND A1/X/S102 FOR CONDUITS PENETRATING FOOTINGS.
4. H-20 RATED PULL BOX WITH EXTENSION AND BOLT-DOWN STEEL LID PER DETAIL M14/X/E106. SIZE AND LABEL INDICATED ON PLANS.
5. 2"C. 12#10, 1#10G. TO MUSCO LIGHTING CONTROL & MONITORING CABINET "CMC" FOR DECK LIGHTING AND POOL LIGHTING CIRCUITS.
6. 1"C. 3#10, 1#10G. FROM MUSCO POLE LIGHTS TO MUSCO CMC.
7. 1"C. 2#10, 1#10G. TO EMERGENCY LIGHTING INVERTER "INV-P2" NORMALLY ON CIRCUIT BREAKER VIA MUSCO "CMC" AND "ALIC".
8. 1"C. 2#10, 2#14 (VIOLET/GRAY DIMMING), 1#10G. TO EMERGENCY LIGHTING INVERTER "INV-P2" NORMALLY ON CIRCUIT BREAKER VIA MUSCO "CMC" AND "ALC".
9. WEATHERPROOF J-BOX FOR SHADE STRUCTURE LIGHTING CONNECTION.
10. MUSCO LIGHT POLE PER MANUFACTURER DRAWINGS. PROVIDE ONE-REACH 4-PORT PoE EXTENDER AND CONNECT SIAMESE FIBER/COPPER CABLES. MOUNT EXTENDER INSIDE POLE AND ENSURE IT IS ACCESSIBLE VIA THE HANDHOLE. INSTALL CAMERA AND WAP AT POLE. DROP (2) CAT6 CABLES FROM WAP LOCATION AND (1) CAT6 CABLE FROM CAMERA LOCATION AND CONNECT TO EXTENDER.
11. 1-1/2"C. SPARE FOR FUTURE MARQUEE SIGN.
12. 2"C. TO ELEC ROOM W/ (4) ONEREACH SIAMESE FIBER/COPPER CABLES AT EACH MUSCO POLE FOR CAT6A PORT EXTENDERS. (2) 2"C. SPARE.
13. 2"C. W/ (2) SIAMESE FIBER/COPPER CABLES AT EACH MUSCO POLE FOR CAT6A PORT EXTENDERS; (2) 2"C. SPARE.
14. 1-1/2"C. TO MUSCO POLE W/ (1) 4-PORT CAT6A EXTENDER; 1-1/2"C. SPARE.
15. PROVIDE XLR MIC INPUT AND HYDREL BRASS BOX IN TOMBSTONE. REFER TO DETAIL AND POOL SPECIFICATIONS. POWER AND TIMING OUTLETS SHOWN IN POOL DRAWINGS.
16. 1-1/4"C. TO TC-P4. PULL (2) SHIELDED, OSP MIC CABLES HOME TO AUDIO CABINET IN STORGAE ROOM IN BUILDING P2.
17. 1-1/4"C. TO TC-P4. PULL (2) 10/2 SHIELD SPEAKER CABLES HOME TO AUDIO CABINET IN STORGAE ROOM IN BUILDING P2.
18. (2) 2"C. W/ LOW VOLTAGE CABLES PER A11/X/E105; 2"C. SPARE.
19. STUBS FOR FUTURE: 2"C. TO PANEL "P2H"; 2"C. TO PANEL "P2L"; 2"C. TO ELEC RM.
20. 2"C. 6#10, 1#10G. FROM MUSCO POLE LIGHTS TO MUSCO CMC; 2"C. SPARE.
21. PEDESTAL MOUNTED MUSCO CONTROLLER CABINET "CMC" AND MUSCO AUXILIARY LIGHTING INTERFACE CABINET "ALIC". MOUNT PER DETAIL G1/X/E102 & G18/X/E102. SEE CONNECTIONS DIAGRAM G6/X/E102.
22. RISE AT SHADE STRUCTURE COLUMN AND RUN SURFACE TO EACH LIGHT ALONG STRUCTURAL MEMBERS.
23. MUSCO POLE EQUIPPED WITH (2) 400W LED FLOOD LIGHTS ON EMERGENCY CIRCUIT.
24. 1-1/4"C. W/ SHIELDED, OSP MIC CABLE.

POOL ELECTRICAL NOTES

1. NOTE THAT NOT ALL ELECTRICAL WORK FOR THE POOL COMPLEX IS SHOWN ON THE E SHEETS. INCLUDE ALL ELECTRICAL SCOPE SHOWN IN THE POOL DESIGN DRAWINGS, INCLUDING DRAWINGS AND SPECIFICATIONS BY AQUATIC DESIGN GROUP IN BID.
2. REFER TO SWIMMING POOL SYSTEM SHEETS FOR ADDITIONAL ELECTRICAL WORK AT POOL AND DECK.
3. REFER TO SWIMMING POOL MECHANICAL ROOM SYSTEM SHEETS FOR ADDITIONAL ELECTRICAL WORK REQUIRED AT MECHANICAL ROOM.
4. VERIFY ALL POOL EQUIPMENT LOCATIONS WITH SWIMMING POOL SHEETS PRIOR TO ROUGH-IN.
5. ALL RACEWAYS, COUPLINGS, STRAPS, ANCHORS, AND WIRING IN POOL EQUIPMENT ROOM, ACID, CHLORINE, AND POOL EQUIPMENT ENCLOSURE SHALL CONFORM TO CEC ARTICLE 680.14 AND SHALL BE UL LISTED AND ETL VERIFIED FOR SUCH USE. THE EXPOSED ELECTRICAL INSTALLATION SHALL BE FINISHED WITH PVC ANTI-CORROSIVE COATINGS. ALL UNITRUTS SHALL HAVE A DEFENDER FINISH. ⚠1
6. ALL CONDUIT PENETRATION THROUGH CMU WALLS SHALL BE PER DETAIL E1/X/S104.

Hardin-Davidson Engineering
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REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

SITE DEVELOPMENT
ENLARGED ELECTRICAL SITE PLAN
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
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Architect

LICENSED ARCHITECT MICHAEL K. FERNANDES No. C23724 4-30-23 STATE OF CALIFORNIA

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

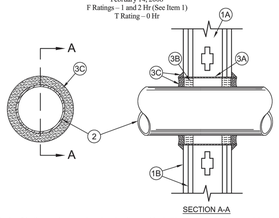
Revision

	Designed By: SD	
Scale: As indicated	Drawn By: HDE	SD/E102
Project Number: 2180	Checked By: SD	Sheet: ____ of: ____
Date: 08/02/2022	Reviewed By: SD	

A10
1" = 20'-0"
Enlarged Electrical Site Plan

System No. W-L-1003

February 14, 2008
F Ratings – 1 and 2 Hr (See Item 1)
T Rating – 0 Hr

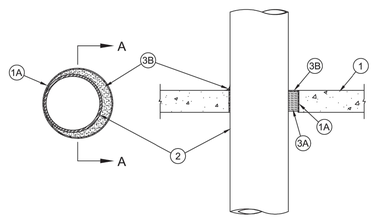


1. **Wall Assembly** – The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-1/2 in. (89 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** – Nom 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 15 in. (381 mm).
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Through Penetrant** – One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The space between pipes, conduits or tubing and the steel sleeve (Item 3A) shall be min of 0 in. (point contact) to max 2-3/8 in. (60 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** – Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 12 in. (305 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
   C. **Conduit** – Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.
   D. **Copper Tubing** – Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** – Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System** – Installed symmetrically on both sides of wall assembly. The details of the firestop system shall be as follows.
   A. **Steel Sleeve** – Cylindrical sleeve fabricated from min 0.019 in. thick (0.48 mm) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall plus 1 to 4 in. (25 to 102 mm) such that, when installed, the ends of the sleeve will project approx 1/2 to 2 in. (13 to 51 mm) beyond the surface of the wall on both sides of the wall assembly.
   Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers.
   B. **Packing Material** – Min 1 in. (25 mm) thickness of mineral wool batt insulation firmly packed into steel sleeve on both sides of the wall assembly as permanent forms. Packing material to be recessed min 1/2 in. (13 mm) from end of steel sleeve (flush with or recessed into gypsum board surface) on both sides of wall assembly.
   B1. **Packing Material** – (Not shown) – As an alternate to Item B, nom 1 in. (25 mm) thick polyethylene backer rod may be used. The backer rod is to be recessed within the steel sleeve a min of 1 in. (25 mm) from each surface of wall.
   C. **Fill, Void or Cavity Materials*** – **Caulk or Sealant** – When mineral wool batt insulation is used, caulk or sealant applied to fill the steel sleeve to a min depth of 1/2 in. (13 mm) on both sides of wall assembly. When backer rod is used, a min thickness of 1 in. (25 mm) of caulk or sealant is required flush with both sides of wall. A nom 1/4 in. (6 mm) diam continuous bead of caulk or sealant shall be applied around the circumference of the steel sleeve at its egress from the gypsum board layers on both sides of the wall assembly.
   3M COMPANY – CP 25WB+, IC 15WB+ or FB-3000 WT

*Bearing the UL Classification Mark

System No. C-AJ-1366

December 04, 2008
F Rating – 2 Hr
T Rating – 0 Hr
L Rating At Ambient – Less Than 1 CFM/sq ft
L Rating At 400 F – 2 CFM/sq ft

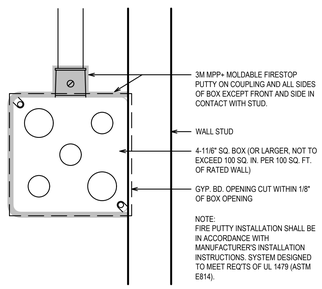


1. **Floor or Wall Assembly** – Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete floor or min 3 in. (76 mm) thick. reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete wall. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 10 in. (254 mm).
   See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.
1A. **Steel Sleeve** (Optional) – Nom 10 in. (254 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve cast into concrete floor or wall. Sleeve to be flush with top and bottom surfaces of floor or both surfaces of wall.
2. **Through Penetrants** – One metallic pipe, tubing or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between tube and periphery of opening shall be min 0 in. to max 7/8 in. (22 mm). Penetrants to be rigidly supported on both sides of floor assembly. The following types and sizes of metallic pipes, tubing or conduit may be used:
   A. **Steel Pipe** – Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** – Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
   D. **Conduit** – Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.
   E. **Copper Tubing** – Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.
   F. **Copper Pipe** – Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System** – The details of the firestop system shall be as follows:
   A. **Packing Material** – Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material.
   B. **Fill, Void or Cavity Materials*** – **Caulk** – Min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top surface of floor or both surfaces of wall. Min 1/2 in. (13 mm) diam bead of caulk applied to the penetrant/concrete interface at the point contact location on the top surface of floor or both surfaces of wall.
   3M COMPANY – FireDam 150+

*Bearing the UL Classification Mark

E1 Conduit Penetration Fire Stop Detail

No Scale



NOTE:
FIRE PUTTY INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. SYSTEM DESIGNED TO MEET REQ'TS OF UL 1479 (ASTM E814).

A1 Electrical Box in Fire Rated Wall Detail

No Scale

ELECTRICAL GENERAL NOTES:

1. ALL WORK SHALL MEET THE LATEST ADOPTED ADDITIONS OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24 AND ALL OTHER APPLICABLE REGULATIONS, WHICH INCLUDE:

CALIFORNIA BUILDING CODE	2019
CALIFORNIA ELECTRICAL CODE	2019
NON RESIDENTIAL CEC ENERGY STANDARDS	2019

2. NOTHING IN THE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
3. IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER EVERYTHING REQUIRED TO PROVIDE FOR COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR, MATERIAL, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED.
4. THE CONTRACTOR SHALL EXAMINE THE SITE AND EXISTING CONDITIONS AND MAKE ALLOWANCES IN THE BID FOR ANY CONDITIONS NOT SHOWN ON THE ELECTRICAL DOCUMENTS.
5. THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE USED AS CONSTRUCTION GUIDELINES AND ARE NOT THE TOTAL INSTRUMENT OF CONTRACT DOCUMENTS. IT IS NOT THE INTENTION OF ANY CONSTRUCTION PLANS TO DIVIDE WORK AMONG DIFFERENT TRADES. VERIFY THE SCOPE OF WORK WITH THE ARCHITECT AND THE GENERAL CONTRACTOR.
6. ELECTRICAL ROUTING IS DIAGRAMMATIC ONLY. ACTUAL ROUTING & PHYSICAL CONDITIONS MAY VARY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL ROUTING, CONNECTIONS, & PROVISION OF ALL APPURTENANCES NECESSARY FOR A COMPLETE & OPERATING SYSTEM.
7. ELECTRICAL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED (UL, CSA ETC.) PER CEC 110.2.
8. PROVIDE LABELING AND DIRECTORIES FOR ALL SWITCHBOARDS AND PANELBOARDS PER CEC 408.4.
9. ELECTRICAL EQUIPMENT SHALL HAVE A SHORT CIRCUIT CURRENT RATING CAPABLE OF WITHSTANDING THE AVAILABLE SHORT CIRCUIT CURRENT PER CEC 110.9.
10. PROVIDE MINIMUM 30" WIDE x 78" HIGH x 36" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 120/208V 3Ø 4W PER CEC 110.26.
11. PROVIDE MINIMUM 30" WIDE x 78" HIGH x 42" DEEP WORK CLEARANCES IN FRONT OF PANELS, SERVICE OR EQUIPMENT RATED AT 277/480V 3Ø 4W PER CEC 110.26.
12. ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUIT OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE MOUNTED BETWEEN 15" AFF AND 48" AFF AND SHALL COMPLY WITH CBC SECTION 11B-308. THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX. IF THE REACH IS OBSTRUCTED (E.G. BY CASEWORK, COUNTERS, ETC.), RECEPTACLES SHALL BE LOCATED WITHIN THE REACH RANGES SPECIFIED IN CBC 11B-308.2.2 AND 11B-308.3.2.
13. CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, OR COOLING, HEATING AND VENTILATING EQUIPMENT SHALL BE MOUNTED BETWEEN 15" AFF AND 48" AFF AND SHALL COMPLY WITH CBC SECTION 11B-308. THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX. IF THE REACH IS OBSTRUCTED (E.G. BY CASEWORK, COUNTERS, ETC.), SWITCHES AND CONTROLS SHALL BE LOCATED WITHIN THE REACH RANGES SPECIFIED IN CBC 11B-308.2.2 AND 11B-308.3.2.
14. ALL WALL AND SURFACE MOUNTED FIXTURES PROTRUDING IN THE PATH OF TRAVEL (POT) OR COMMON PEDESTRIAN WAYS SHALL COMPLY WITH CBC 11B-307.2, OR SHALL BE MOUNTED LESS THAN 27" AFF OR GREATER THAN 80" AFF, OR SHALL BE PROVIDED WITH A BARRIER CONFORMING TO CBC 11B-307.4.
15. EMERGENCY EGRESS LIGHTING SHALL PROVIDE A MINIMUM LUMINANCE OF 1 FOOTCANDLE AT THE WALKING SURFACE FOR A MINIMUM OF 90 MINUTES.
16. FIRE ALARM EQUIPMENT SHALL BE SERVED BY DEDICATED FIRE ALARM BRANCH CIRCUITS PER NFPA 72 10.6.5.1.2. THE CIRCUIT NUMBER SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM EQUIPMENT PER NFPA 10.6.5.2.1. THE CIRCUIT BREAKER SHALL BE EQUIPPED WITH RED HANDLE AND LOCK-ON DEVICE, AND PERMANENTLY IDENTIFIED AS "FIRE ALARM CIRCUIT" PER NFPA 72 10.6.5.2.2, 10.6.5.2.3, 10.6.5.2.4, AND 10.6.5.4.
17. WIRING FOR 120/208V AND 277/480V SYSTEMS SHALL BE MIN. #12 AWG THHN/THWN-2 COPPER.
18. FEEDERS SIZE #4 AND LARGER SHALL BE MEGGER TESTED. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.
19. COLORS/FINISHES/MATERIALS FOR ALL ELECTRICAL DEVICES, PLATES, LIGHT FIXTURES, ETC. SHALL BE CHOSEN BY THE ARCHITECT.
20. PROVIDE PERMANENT LOCK-OPEN DEVICES ON CIRCUIT BREAKERS SERVING ELECTRIC WATER HEATERS TO MEET THE REQUIREMENTS OF CEC 422.31.
21. CONTRACTOR SHALL EXTEND ALL SIGNAL AND FIRE ALARM SYSTEMS AS REQUIRED. MODIFY HEAD-IN EQUIPMENT TO ACCOMMODATE NEW DEVICES AS REQUIRED. VERIFY THE CONDITION AND EXPANDABILITY OF ALL HEAD-IN EQUIPMENT PRIOR TO BID AND MODIFY ACCORDINGLY.
22. CALL USA UNDERGROUND ALERT AND VERIFY WITH DISTRICT THE DESIRED ROUTING AND LOCATIONS OF UNDERGROUND CONDUITS AND STRUCTURES PRIOR TO TRENCHING.
23. EXISTING EQUIPMENT TO BE REMOVED AND/OR REPLACED SHALL BE DELIVERED TO THE DISTRICT MAINTENANCE DEPARTMENT OR DISPOSED OF, AT THE DISCRETION OF THE DISTRICT.
24. ALL CONDUITS UNDER CONCRETE OR ASPHALT WILL HAVE 24" MINIMUM COVER OF ROCK FREE NATIVE SOIL, METALLIC WARNING TAPE AT 12", AND NO ENCASEMENT REQUIRED. ALL CONDUITS THAT HAVE CONDUCTORS WITH A POTENTIAL OF 250 VOLT TO GROUND OR GREATER, THAT ARE NOT UNDER ASPHALT AND/OR CONCRETE SHALL REQUIRE 1,500 PSI CONCRETE ENCASEMENT, METALLIC WARNING TAPE AT 12", AND A MINIMUM COVER FROM TOP OF ENCASEMENT OF 24". ALL CONDUITS THAT HAVE CONDUCTORS WITH A POTENTIAL OF LESS THAN 250 VOLTS TO GROUND, THAT ARE NOT UNDER ASPHALT AND/OR CONCRETE WILL HAVE 30" MINIMUM COVER OF NATIVE SOIL, METALLIC WARNING TAPE AT 12" AND NO ENCASEMENT REQUIRED.
25. INSTALL GALVANIZED RIGID STEEL RISERS & ELBOWS WHERE THEY OCCUR. WRAP GALVANIZED RIGID STEEL BELOW GRADE. PVC SHALL NOT BE INSTALLED ABOVE GRADE.
26. CONDUIT INSTALLED ABOVE GRADE SHALL BE MIN. 3/4" TRADE SIZE. CONDUIT BELOW GRADE SHALL BE MIN. 1" TRADE SIZE.
27. PROVIDE (4) 1" CONDUIT STUBS FROM NEW ELECTRICAL PANEL TO ACCESSIBLE ATTIC SPACE FOR FUTURE USE.
28. CIRCUIT BREAKERS SERVING FIRE ALARM EQUIPMENT SHALL HAVE A RED HANDLE AND LOCK-ON DEVICE.
29. HOLES ARE NOT ALLOWED THROUGH TOP PLATES OF BEARING WALLS AND SHEAR WALLS.
30. INCLUDE FIRE STOP SYSTEMS REQUIRED FOR ALL WORK AFFECTED BY FIRE RATED ASSEMBLIES.
31. INCLUDE ALL WORK REQUIRED TO INVESTIGATE, DEMOLISH, & RECONNECT EXISTING ITEMS.
32. ALL LOW VOLTAGE EQUIPMENT SHALL BE DEENERGIZED PRIOR TO DEMO WORK. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO LIVE EQUIPMENT.
33. LEAN CONCRETE SHALL BE USED AS BACK FILL WHERE UTILITY TRENCHES EXTEND FROM THE EXTERIOR TO THE INTERIOR LIMITS OF THE BUILDING. LEAN CONCRETE SHALL EXTEND A MINIMUM DISTANCE OF 2 FEET LATERALLY ON EACH SIDE OF THE EXTERIOR BUILDING LINE AND A MINIMUM OF 6 INCHES ABOVE FOOTING PENETRATION.

LIGHTING GENERAL NOTES:

1. THE CONTRACTOR SHALL PROVIDE A COMPLETE SYSTEM OF LIGHT FIXTURES AND CONTROLS THAT COMPLY WITH THE REQUIREMENTS OF CALIFORNIA ENERGY COMMISSION TITLE 24.
2. PROVIDE A COMPLETE AND OPERATIONAL CONTROLS PACKAGE IN LIGHTING AREAS. PROVIDE WALL SWITCHES, SENSORS, POWER PACKS, MISCELLANEOUS APPURTENANCES, FACTORY CABLING, AND FACTORY COMMISSIONING.
3. AN EQUAL SUBSTITUTE PACKAGE BY ANOTHER MANUFACTURER MAY BE ACCEPTABLE. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL REQUIRED COMPONENTS, ADDITIONAL WIRING FOR DIMMING OPERATION OF LIGHT FIXTURES, AND ANYTHING ELSE NEEDED FOR A COMPLETE AND OPERATIONAL SYSTEM. SUBMIT SUBSTITUTE PACKAGE, INCLUDING SHOP DRAWINGS, TO ENGINEER FOR REVIEW AND APPROVAL. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN REJECTION OF SUBSTITUTE COMPONENTS.
4. THE PLANS GENERALLY SHOW THE LOCATION OF SWITCHES, SENSORS, CONTROL MODULES ETC. ACTUAL LOCATIONS AND INSTALLATION REQUIREMENTS SHALL BE DETERMINED BY THE MANUFACTURER. SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL.
5. PROVIDE FACTORY COMMISSIONING, TO INCLUDE COMPLETE CONTROL WIRING/ CALIBRATION/ PROGRAMMING OF LIGHTING CONTROL COMPONENTS.
6. LIGHTING SYSTEM ACCEPTANCE TESTING IS REQUIRED AS PER TITLE 24. THE CONTRACTOR SHALL INCLUDE ACCEPTANCE TESTING COSTS IN BID. THE CONTRACTOR IS RESPONSIBLE TO MAKE ANY ADJUSTMENTS NECESSARY TO ACHIEVE ACCEPTANCE.
7. LIGHTING FIXTURE COLORS, WHEN NOT SPECIFIED, SHALL BE SELECTED BY THE ARCHITECT'S OFFICE. DO NOT SUBMIT COLORS THAT HAVE NOT BEEN APPROVED BY THE ARCHITECT.

LOW VOLTAGE GENERAL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL CONTACT EACH ELECTRONICS SYSTEM VENDOR AND THOROUGHLY INVESTIGATE THE EXPANDABILITY OF ALL EXISTING SYSTEMS. THE CONTRACTOR'S BID SHALL INCLUDE ALL REQUIRED COMPONENTS, PROGRAMMING, CABLING, UPGRADES, AND RELATED LABOR AND MATERIALS TO INTEGRATE THE WORK SHOWN IN DIVISIONS 26, 27, 28 DRAWINGS AND SPECIFICATIONS AND PROVIDE FOR FULLY FUNCTIONAL LOW VOLTAGE SYSTEMS.
2. EXISTING PULL BOX LOCATIONS ARE DIAGRAMMATIC. FIELD VERIFY EXACT LOCATIONS. ADD CONDUITS TO EXISTING PULL BOXES WHERE INDICATED. REPAIR ANY DAMAGE INCURRED.
3. DISCONNECT, REMOVE, REPULL, AND RETERMINATE EXISTING CABLING AS REQUIRED TO INSTALL NEW CABLING IN EXISTING CONDUITS.
4. ELECTRONICS SYSTEMS CABLING SHALL BE RUN IN CONDUIT WHERE ATTIC SPACES ARE INACCESSIBLE AND WHERE OPEN CEILINGS OCCUR. CABLING INSTALLED IN ACCESSIBLE ATTIC SPACES SHALL BE RUN ON J-HOOKS.
5. TERMINAL CABINETS SHALL BE WEGMANN RHC SERIES, OR EQUAL, W/ MOUNTING PANELS / PLYWOOD BACK BOARD. INSTALL ALL REQUIRED TERMINAL STRIPS, PUNCH DOWN BLOCKS, ETC.
6. INSTALL NYLON PULL LINE WITH ALL CABLE RUNS IN UNDERGROUND CONDUITS.

ELECTRICAL SYMBOLS SCHEDULE:

	SYMBOL	DESCRIPTION	NOTES
LIGHTING	⊙	POLE WITH POST TOP AREA LUMINAIRE	
	▭-⊙	POLE WITH SINGLE AREA LUMINAIRE	
	▭-⊙-▭	POLE WITH DOUBLE AREA LUMINAIRES	
	▭	LAY-IN LIGHT FIXTURE	
	◯	SURFACE CEILING LIGHT	
	▣	RECESSED DOWN LIGHT	
	♀	WALL LIGHT	
	⊗	EXIT SIGN, CEILING	ARROWS INDICATE CHEVRON DIRECTIONS
	⊗	EXIT SIGN, WALL	ARROWS INDICATE CHEVRON DIRECTIONS
	⊗L	EXIT SIGN, WALL, LOW LEVEL PER CBC 1013.7	ARROWS INDICATE CHEVRON DIRECTIONS
	▭(A)	FIXTURE TYPE "A"	REFER TO FIXTURE SCHEDULE
	◩	FIXTURE ON EMERGENCY POWER	PROVIDE UNSWITCHED HOT CONDUCTOR
	INV	INVERTER	
	D	LOW VOLTAGE DRIVER	
	$	SWITCH AT +48" AFF TO TOP OF BOX	20A 277V QUIET TOGGLE
	Φ	WALL MOUNTED DUAL TECH OCCUPANCY SENSOR SWITCH, 0-10V DIMMING, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1G BOX PER SWITCH W/ RING, 1"C. TO ACCESSIBLE ATTIC SPACE
	ΦEF	WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR SWITCH, W/ SEPARATE EXHAUST FAN RELAY, AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1G BOX PER SWITCH W/ RING, 1"C. TO ACCESSIBLE ATTIC SPACE
	Ⓔ	UL924 EMERGENCY CONTROL RELAY, 20A, DIMMING OVERRIDE, FUNCTIONAL DEVICES INC #ESRN	MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS LOCATION, HIGH ON WALL, WHEN NO CEILING
	($)	DIGITAL ON/OFF SWITCH, AT +48" AFF TO TOP OF BOX	nLIGHT AIR SYSTEM
	(D)	DIGITAL DIMMER SWITCH, AT +48" AFF TO TOP OF BOX	nLIGHT AIR SYSTEM
	(D)OS	DIGITAL DIMMER SWITCH W/ INTEGRAL OCCUPANCY SENSOR AND PHOTOSENSOR AT +48" AFF TO TOP OF BOX	nLIGHT AIR SYSTEM
	(TS)	DIGITAL "FRESCO" GRAPHICAL TOUCHSCREEN DIMMING CONTROLLER AT +48" AFF TO TOP OF BOX	nLIGHT AIR SYSTEM, ROUGH IN WITH 1G BOX & RING, 1"C. TO ACCESSIBLE ATTIC. CONNECT TO LOCAL 120V POWER.
	(OS)	DIGITAL OCCUPANCY SENSOR W/ PHOTOSENSOR DUAL-TECHNOLOGY CEILING MOUNT	nLIGHT AIR SYSTEM #rCMS PDT 10
	H(OS)	DIGITAL OCCUPANCY SENSOR W/ PHOTOSENSOR DUAL-TECHNOLOGY WALL MOUNT	nLIGHT AIR SYSTEM, ROUGH IN WITH 1G BOX & RING, 1"C. TO ACCESSIBLE ATTIC
	(GW)	DIGITAL GATEWAY	nLIGHT AIR SYSTEM, PROVIDE (1) GATEWAY AT EACH BUILDING AND CONNECT TO LAN. PROVIDE BOX/OUTLET AT GATEWAY LOCATION FOR GATEWAY POWER SUPPLY.
	(BR)	DIGITAL BRIDGE	nLIGHT SYSTEM, PROVIDE (1) BRIDGE FOR EACH (6) nLIGHT ZONES. PROVIDE OUTLET IN CEILING FOR BRIDGE POWER SUPPLY.
	(PP)	DIMMING POWER PACK VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	nLIGHT AIR SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING
	(PP)E	DIMMING POWER PACK W/ EMERGENCY CONTROL RELAY. VERIFY 0-10V, 2- OR 3-WIRE, MLV, OR ELV BY FIXTURE	nLIGHT AIR SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING
	(XP)	DMX CONTROLLER PACK	nLIGHT SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING
	(RR)	RECEPTACLE RELAY CONTROLLED BY OCCUPANCY SENSOR	nLIGHT AIR SYSTEM, MOUNT IN ACCESSIBLE ATTIC OR INCONSPICUOUS, HIGH ON WALL, WHEN NO CEILING. (1) RELAY PER CIRCUIT IN EACH CONTROLLED AREA.
	— · —	PRIMARY DAYLIGHT ZONE BOUNDARY	
	— ·· —	SECONDARY DAYLIGHT ZONE BOUNDARY	
TEL/DATACOM	▭	TERMINAL CABINET	
	▽	DATA OUTLET (RJ-45 CAT6) WITH 2 JACKS AT +18" AFF, U.O.N. (2) DATA JACKS U.O.N.	4-11/16 SQ. BOX, 1G RING, MODULAR PLATE, & 1"C. TO ACCESSIBLE ATTIC. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	▽	(1) DATA JACKS (RJ-45 CAT6) FOR WIRELESS ACCESS POINT	
	▼	WALL MOUNT ANALOG TELEPHONE OUTLET AT +45" AFF, U.O.N. (1) TELEPHONE JACK (CAT6) U.O.N.	1G BOX, 1G RING, MODULAR PLATE, & 3/4"C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	▽	WALL MOUNT DATA/TELEPHONE OUTLET AT +18" AFF, U.O.N. (1) DATA JACK AND (1) TELEPHONE JACK U.O.N.	4-11/16 SQ. BOX, 1G RING, MODULAR PLATE, & 1 1/4"C. TO ACCESSIBLE ATTIC SPACE. PULL CABLING TO RESPECTIVE PATCH PANEL AND TERMINATE JACKS AT EACH END. REFER TO SPECIFICATIONS.
	MDF/MC	"MAIN DISTRIBUTION FRAME"/"MAIN CROSS-CONNECT"	
	IDF/HC	"INTERMEDIATE DISTRIBUTION FRAME"/ "HORIZONTAL CROSS-CONNECT"	
	TEL	"TEL. SYSTEM HEAD END"	
	TT	"TEL. SYSTEM TERMINAL BLOCK"	INSTALL AT BACK OF IDF CABINET
INTRUSION	⊘	INTRUSION DOOR/WINDOW CONTACT	PROVIDE 1/2"C TO ACCESSIBLE ATTIC SPACE ACCESSIBLE ATTIC SPACE
	Ⓜ	INTRUSION PIR MOTION SENSOR AT CEILING	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	Ⓜ↑	INTRUSION LONG RANGE MOTION SENSOR AT CEILING	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	Ⓐ	INTRUSION AUDIO DETECTOR AT WALL	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	Ⓖ	INTRUSION GLASS BREAK SENSOR AT CEILING	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	Ⓟ	INTRUSION STAFF PANIC BUTTON	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	Ⓚ	INTRUSION KEY PAD AT +48" AFF TO TOP OF BOX	ROUGH IN WITH 1G BOX & 1/2"C. TO ACCESSIBLE ATTIC SPACE
	Ⓩ	INTRUSION 4-ZONE ADDRESSABLE MODULE IN ACCESSIBLE ATTIC SPACE	
	◯	SURVEILLANCE (CCTV) CAMERA EXACT LOCATIONS DETERMINED IN FIELD PER OWNER	JUNCTION BOX WITH 1"C. TO ACCESSIBLE ATTIC SPACE. PROVIDE (2) CAT6 CABLES TO EACH CAMERA. VERIFY REQUIREMENTS AND LOCATIONS PRIOR TO ROUGH-IN.
	DVR	SURVEILLANCE (CCTV) DVR	REFER TO SPECIFICATIONS
	SEC	"INTRUSION SYSTEM MAIN PANEL"	
	INT	"INTRUSION SYSTEM TERMINAL BLOCK"	

	SYMBOL	DESCRIPTION	NOTES
POWER	▨	SWITCHBOARD	REFER TO POWER SINGLE LINE DIAGRAM.
	▬	POWER PANEL	REFER TO PANEL SCHEDULE AND E13/X/E103.
	Ⓙ	JUNCTION BOX	4-11/16" SQUARE BOX & COVER PLATE MIN.
		DISCONNECT SWITCH, FUSIBLE	DISCONNECT FUSING TO BE PER NAMEPLATE DATA.
	⊠	COMBINATION STARTER/DISCONNECT SWITCH	REFER TO MECH. PLANS & SPECS.
		MOTOR	REFER TO MECH. PLANS & SPECS.
		EXHAUST FAN, CEILING MOUNTED	REFER TO MECH. PLANS & SPECS.
	⏀	SINGLE CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT
	⏀	DUPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-W
	⊕	QUADPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-W
	◐	GFI DUPLEX OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #GFTR2-W
	●	WEATHERPROOF, GFI DUPLEX OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N. W/ WEATHERPROOF IN-USE, METAL, LOCKABLE TYPE COVER	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #GFTR2-W
		DUPLEX CONVENIENCE OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N. SPLIT-WIRED WITH UNSWITCHED AND SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-S1W CODE COMPLIANT MARKING REQUIRED
		QUADPLEX CONVENIENCE OUTLET, CONTROLLED AT +15" AFF TO BOTTOM OF BOX, U.O.N. ONE UNSWITCHED AND ONE SWITCHED BY OCCUPANCY SENSOR	20A SPEC. GRADE, NEMA GROUNDED TAMPER RESISTANT, LEVITON #TDR20-W AND LEVITON #TDR20-S2W CODE COMPLIANT MARKING REQUIRED
		SPECIAL EQUIPMENT OUTLET AT +15" AFF TO BOTTOM OF BOX, U.O.N.	VERIFY REQ'TS W/ EQUIPMENT VENDOR TAMPER RESISTANT
	⊠	POWER POLE, 2-COMPARTMENT	
	⊙	FLOOR BOX	4-GANG BOX WITH CAST ALUMINUM TRIM PLATES
	(CR) DO 120V/1ø	CORD REEL. DUPLEX OUTLET (DO), QUAD OUTLET (QO), DROP LIGHT (DL)	VERIFY LOCATION PRIOR TO ROUGH-IN. HUBBELL #HBLI25123 SERIES W/ 25 FT CORD RATED FOR 20A AT 120V 1Ø W/ NEMA 5-20R OUTLET. SEE ARCHITECTURAL FOR INSTALLATION.
	⏚	12" CU GROUND BUS BAR	WITH #6 GREEN GROUND WIRE TO G.E.C.
PA/CLK/AV	Ⓢ	PUBLIC ADDRESS SPEAKER, CEILING MOUNTED	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	Ⓢ	PUBLIC ADDRESS SPEAKER, WALL MOUNTED	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	ⓈWP	WP OUTDOOR PUBLIC ADDRESS SPEAKER	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
	S	PUBLIC ADDRESS SPEAKER & WIRLESS CLOCK COMBINATION, WALL MOUNTED	HOMERUN SPEAKER CABLE TO PA TERMINAL BLOCK
		WALL CLOCK	REFER TO SPECIFICATIONS △1
	IS	MENU BOARD INPUT STATION A/V OUTLET W/ (1) HDMI JACK, AND DATA OUTLET W/ (2) DATA JACKS.	VERIFY LOCATION PRIOR TO ROUGH-IN. PROVIDE 4 11/16" SQ DEEP BOX W/ 2-GANG RING. INSTALL 2" CONDUIT TO TV MENU BOARD LOCATION. HDMI CABLE ORIGINATES FROM TV MENU BOARD LOCCATION. PULL DATA TO IDF. (DETAIL A1/X/E107)
	TV M	TV MENU BOARD LOCATION A/V OUTLET W/ (1) HDMI JACK, AND DATA OUTLET W/ (2) DATA JACKS.	VERIFY LOCATION PRIOR TO ROUGH-IN. PROVIDE 4 11/16" SQ DEEP BOX W/ 2-GANG RING. INSTALL 2" CONDUIT TO ACCESSIBLE ATTIC SPACE. PULL HDMI CABLE TO MENU BOARD INPUT STATION. PULL DATA TO IDF. (DETAIL A1/X/E107)
	S	A/V SYSTEM WALL SPEAKER	VERIFY LOCATION PRIOR TO ROUGH-IN. REFER TO SPECIFICATIONS.
	M	(2) XLR MICROPHONE INPUTS AND 3.5mm TRS INPUT	
	SP	POOL AREA AUDIO SYSTEM SPEAKER	
	ALS	ASSISTIVE LISTENING SYSTEM ANTENNA	VERIFY LOCATION PRIOR TO ROUGH-IN. △1
	MIC	WIRELESS MICROPHONE ANTENNA	VERIFY LOCATION PRIOR TO ROUGH-IN.
	PA	"P.A. SYSTEM HEAD END"	
	PT	"P.A. SYSTEM TERMINAL BLOCK"	
MISC.		FIRE/SMOKE DAMPER	PROVIDE 120V F.A. CIRCUIT TO DAMPER VIA DEDICATED F.A. RELAY
	Ⓑ	SPRINKLER RISER BELL	PROVIDE 120V F.A. CIRCUIT
		WIREMOLD 5400 SURFACE WIREWAY	RISERS WHERE INDICATED ON DRAWINGS
	MP	MODULAR FURNITURE POWER FEED	ROUGH IN AT WALL PER MANUFACTURER REQUIREMENTS.
	MS	MODULAR FURNITURE DATACOM SIGNAL FEED	ROUGH IN AT WALL PER MANUFACTURER REQUIREMENTS.
	EMS	"ENERGY MANAGEMENT SYSTEM PUNCH BLOCK"	
	Ⓥ	VAPE SENSOR W/ CAT6 CABLE TO IDF	VERIFY LOCATION PRIOR TO ROUGH-IN. REFER TO EQUIPMENT VENDOR AND MANUFACTURER.
GENERAL		DEVICES TO BE REMOVED	
	- - - - -	EXISTING CONDUIT/WIRING TO BE DEMOLISHED	
		EXISTING DEVICES	
	— ·· —	EXISTING CONDUIT/WIRING	
	- - - -	WIRING IN CONDUIT, BELOW GRADE	3/4" CONDUIT MIN. SEE M6/X/E106
	——	WIRING IN CONDUIT, IN WALL OR CEILING	3/4" CONDUIT MIN.; EMT CONCEALED AND ABV. 96" EXPOSED; GRS BELOWS 96" EXPOSED.
	— LV —	LOW VOLTAGE WIRING IN ATTIC SPACE	TYPE PER EQUIPMENT MANUFACTURER
	——●	CONDUIT RISER	3/4" CONDUIT MIN.
		FLEXIBLE CONDUIT	3/4" CONDUIT MIN.
		CONDUIT STUB AND CAP	3/4" CONDUIT MIN.
		CROSS HATCHES INDICATE NUMBER OF #12 AWG. CONDUCTORS IN CONDUIT, WHEN MORE THAN TWO. WIRE SIZE INDICATED ON PLANS WHEN OTHER #12 AWG. PROVIDE GROUND PER CEC 250. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.	3/4" CONDUIT MIN.
		CURVED CROSS HATCHES INDICATE #14 AWG PURPLE & GRAY CONDUCTORS FOR DIMMING CONTROL.	3/4" CONDUIT MIN.
	→ A–15	HOME RUN (TO PANEL "A", CIRCUIT "15")	3/4" CONDUIT MIN.
	(E)	"EXISTING"	
	U.O.N.	"UNLESS OTHERWISE NOTED"	
	WP	"WEATHERPROOF" / NEMA 3R	
	GFI	"GROUND FAULT INTERRUPTER"	

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

ELECTRICAL COMPONENT ANCHORAGE NOTES:

ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16, CHAPTERS 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING ELECTRICAL UTILITY SERVICE. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL ELECTRICAL COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES:

THE ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16, SECTION 13.3 AS DEFINED IN ASCE 7-16, SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

THE ELECTRICAL DISTRIBUTION SYSTEM IS DETAILED ON THE APPROVED DRAWINGS WITH SPECIFIC NOTES AND DETAILS. WHEN A DETAIL IS NOT PROVIDED ON THE PLANS, THE ELECTRICAL DISTRIBUTION SYSTEM SHALL COMPLY WITH OSHPD PRE-APPROVAL #OPM-0052-13 (B-LINE).

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C. SCOTT DAVIDSON
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Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274

Project

TYPICAL INFORMATION
ELECTRICAL SYSTEMS - SYMBOLS, NOTES, AND DETAILS

Drawing

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MICHAEL K. FENNACY
No. C23724
Ren. 4-30-23

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: SD	
Scale: As indicated	Drawn By: HDE	X/E101
Project Number: 2180	Checked By: SD	
Date: 08/02/2022	Reviewed By: SD	Sheet: ______ of: ______

8/16/2023 4:24:06 PM
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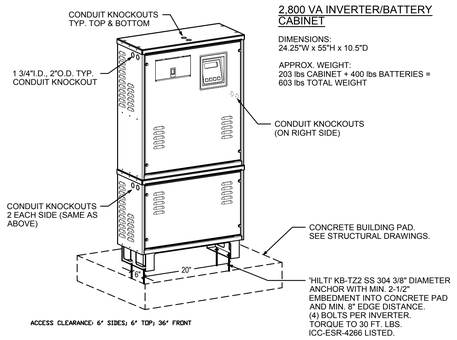


2,800 VA INVERTER/BATTERY CABINET

DIMENSIONS:
24.25"W x 55"H x 10.5"D

APPROX. WEIGHT:
203 lbs CABINET + 400 lbs BATTERIES =
603 lbs TOTAL WEIGHT

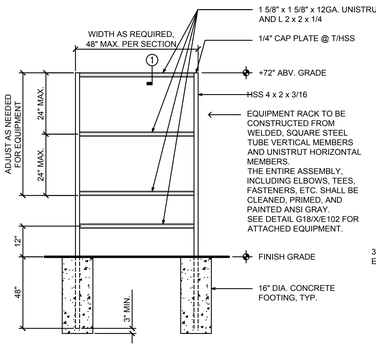
M1	Iota Emergency Lighting Inverter Floor Mounting Detail
No Scale	

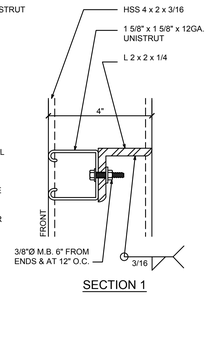
TYPE OF SPACE	MANUAL ON/OFF/OVERRIDE	DIMMING SWITCH	AUTOMATIC DAYLIGHT DIMMING WHEN AVAILABLE	OCCUPANCY SENSOR ON	OCCUPANCY SENSOR ON TO 70%	OCCUPANCY SENSOR REDUCE TO 50% AFTER 10 MIN	OCCUPANCY SENSOR OFF AFTER 20 MIN	GATEWAY OPERATING SCHEDULES SCHEDULE ON/OFF	GATEWAY OPERATING SCHEDULES SCHEDULE & OFF	GATEWAY SHADOWS SWITCHES DURING OPEN HOURS	COLOR TOUCHSCREEN WITH AT LEAST 4 SCENES	REMOTE ON/OFF CONTROL OR KEY SWITCH	CONTROLLED POWER RECEPTACLES	DEMAND RESPONSE SHED SIGNAL	ASTRONOMIC TIMECLOCK ON/OFF	ASTRONOMIC TIMECLOCK DIMMING	ASTRONOMIC TIMECLOCK 4-8 RELAYS
ENTRY / LOBBY	X	X	X	X		X		X	X	X	X		X				
CORRIDOR	X			X	X		X		X	X	X						
OFFICE	X	X	X		X		X						X				
CLASSROOM	X	X	X		X		X										
CONFERENCE ROOM	X	X	X		X		X						X				
MULTI-PURPOSE	X	X	X		X		X				X						
GYMNASIUM	X	X	X		X		X				X						
CAFETERIA	X	X	X		X		X				X						
KITCHEN	X	X	X		X		X										
KITCHENETTES IN OFFICES	X	X	X		X		X										
COPY ROOMS	X	X	X		X		X						X				
LARGE RESTROOM				X		X	X					X					
STAIRWELLS				X	X		X	X									
STORAGE <100 S.F.	X						X										
ELECTRICAL ROOM	X																
OTHER	X	X	X		X		X										
BUILDING >10,000 S.F.														X			
BUILDING EXTERIOR															X	X	
PEDESTRIAN WALKS															X		
PARKING LOT															X		X

L6	Lighting Control Matrix
No Scale	

TYPE	MANUFACTURER	CATALOG NO.	LAMPING	WATTS	VOLTS	MOUNTING	DETAIL	REMARK
A4	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 4' TMW SAL LP SC UNV X3 DM01	LED	31.2	120-277V	FLUSH	MFG'R	
A12	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 12' TMW SAL LP SC UNV X3 DM01	LED	93.6	120-277V	FLUSH	MFG'R	
A12E	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 12' TMW SAL LP SC UNV X3 DM01 EMC	LED	93.6	120-277V	FLUSH	MFG'R	SECTION SHOWN ON PLANS CONNECTED TO EM INVERTER
A20E	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 20' TMW SAL LP SC UNV X3 DM01 EMC	LED	156.0	120-277V	FLUSH	MFG'R	SECTION SHOWN ON PLANS CONNECTED TO EM INVERTER
AP4	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 4' TMW WWF LP SC UNV X3 DM01	LED	31.2	120-277V	FLUSH	MFG'R	
AP8	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 8' TMW WWF LP SC UNV X3 DM01	LED	62.4	120-277V	FLUSH	MFG'R	
AP12	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 12' TMW WWF LP SC UNV X3 DM01	LED	93.6	120-277V	FLUSH	MFG'R	
AP16E	PRUDENTIAL	BPRO3 REC FLSH LED35-90 SO 16' TMW WWF LP SC UNV X3 DM01 EMC	LED	125.6	120-277V	FLUSH	MFG'R	SECTION SHOWN ON PLANS CONNECTED TO EM INVERTER
C	LUMINAIRE	VPF84FT MIN10 50W 35K MVOLT OP WHT	LED	50.0	120-277V	SURFACE	E14/X/E102	
CE	LUMINAIRE	VPF84FT MIN10 50W 35K MVOLT OP WHT	LED	50.0	120-277V	SURFACE	E14/X/E102	SAME AS ABOVE BUT CONNECTED TO EM INVERTER
CEB	LUMINAIRE	VPF84FT MIN10 50W 35K MVOLT OP WHT EMB310	LED	50.0	120-277V	SURFACE	E14/X/E102	WITH 90 MINUTE EMERGENCY BATTERY PACK
CS	LUMINAIRE	VPF84FT MIN10 50W 35K MVOLT OP WHT OCC	LED	50.0	120-277V	SURFACE	E14/X/E102	INTEGRAL OCC SENSOR
C2	LUMINAIRE	VPF82FT MIN10 15W 35K MVOLT OP WHT	LED	15.0	120-277V	SURFACE	N/A	(15 LBS.)
D	GOTHAM	EVO6SH 35/25 DFRAMF SMO MVOLT EX10 90CRI	LED	24.7	120-277V	RECESSED	A14/X/E102	
P1	GOTHAM	EVO6VR 40/25 AR LSS MD PCL MVOLT EZ10 90CRI SNKL	LED	24.7	120-277V	RECESSED	A14/X/E102	
P1E	GOTHAM	EVO6VR 40/25 AR LSS MD PCL MVOLT EZ10 90CRI SNKL	LED	24.7	120-277V	RECESSED	A14/X/E102	SAME AS ABOVE BUT CONNECTED TO EM INVERTER
P2	LUMINAIRE	FFW1212 MIN10 25W 40K MVOLT OP [COLOR]	LED	25.0	120-277V	WALL	A10/X/E102	(12 LBS.)
P2E	LUMINAIRE	FFW1212 MIN10 25W 40K MVOLT OP [COLOR]	LED	25.0	120-277V	WALL	A10/X/E102	SAME AS ABOVE BUT CONNECTED TO EM INVERTER
P3	LUMINAIRE	VPF82FT MIN10 15W 35K MVOLT OP [COLOR]	LED	15.0	120-277V	SURFACE	N/A	(15 LBS.)
P4	LUMENPULSE	(2) LOG RO 277 48 27K WWLF UMP SI DIM CRC ETE & DRIVER	LED	68.0	277	SIGN	N/A	(14 LBS.) INSTALL (2) LUMINAIRES PER SIGN IN CHANNEL. INSTALL (1) DRIVER AT INTERIOR OF EACH SIGN BOX.
P5E	LUMINAIRE	SPC4 NB 12 MIN1 10W 40K MVOLT OP [COLOR]	LED	10.0	120-277V	COLUMN	N/A	(9 LBS.) CONNECTED TO EM INVERTER
T	LITHONIA	RADPT LED P5 40K PATH MVOLT PT4 PIR [COLOR] w/ 12 FT POLE	LED	123.0	120-277V	POLE	A1/X/E102	PEDESTRIAN POLE LIGHT
V	LITHONIA	RADPT LED P5 40K SYM MVOLT PT4 PIR [COLOR] w/ 12 FT POLE	LED	123.0	120-277V	POLE	A1/X/E102	

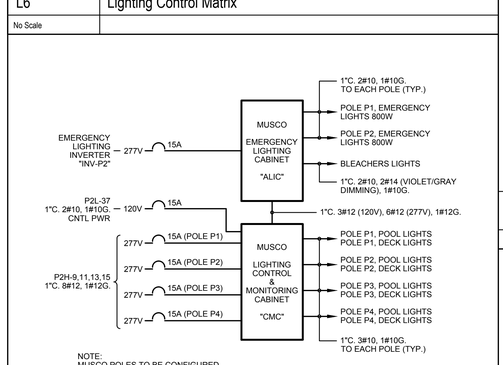
J10	Light Fixture Schedule
No Scale	





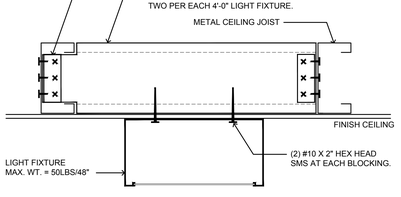
SECTION 1

G1	Free Standing Equipment Pedestal Detail
No Scale	

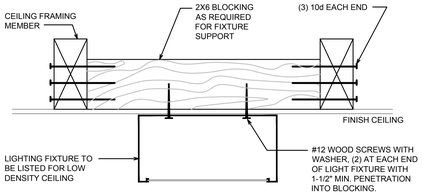


NOTE:
MUSCO POLES TO BE CONFIGURED
FOR 277 VOLTS.

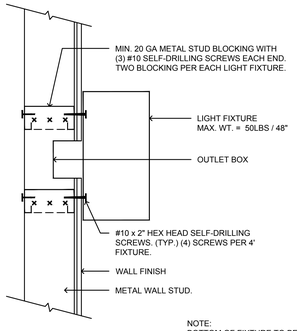
G6	MUSCO Control & Monitoring Cabinet Connections Diagram
No Scale	



E10	Surface Fixture Surface Mounting Detail
No Scale	

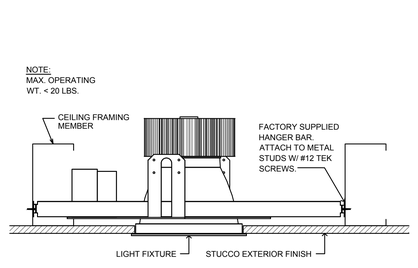


E14	Surface Fixture Surface Mounting Detail
No Scale	

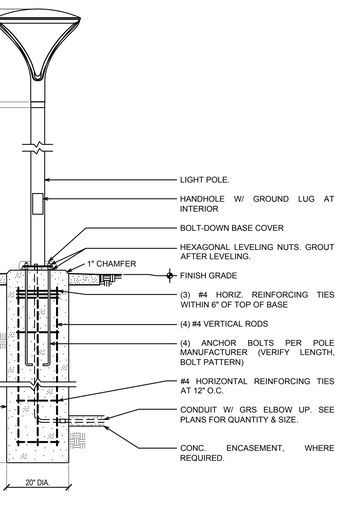


NOTE:
BOTTOM OF FIXTURE TO BE MIN. OF 80"
AFF IF PROTRUDE MORE THAN 4" FROM
FACE OF WALL (CBC 11B-307.2)

A10	Wall Fixture Surface Mounting Detail
No Scale	



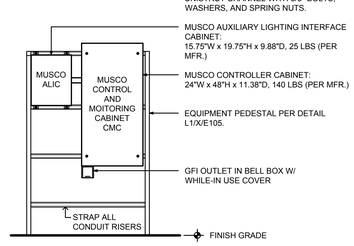
A14	Downlight Fixture Recessed Mounting Detail
No Scale	



A1	Pedestrian Area Pole Light Concrete Base Detail	(NOT PART OF THIS APPROVAL PER IR A-22 SECTION 2)
No Scale		

PEDESTAL LOADING:

EQUIPMENT = 165#
MISC. ELECTRICAL = 35#
MAX OPER WT = 200#



G18	Equipment Attachment Detail
No Scale	

DSA File No.:
54-H11

DSA Application No.:
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Agency Approval

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Project

TYPICAL INFORMATION
LIGHTING SYSTEMS - FIXTURE SCHEDULE AND DETAILS
Drawing

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LICENSED ARCHITECT ROBERT K. PAZ No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: SD
Drawn By: HDE
Checked By: SD
Reviewed By: SD

Scale: As indicated
Project Number: 2180
Date: 08/02/2022

X/E102
Sheet: _____ of: _____

8/16/2023 4:24:07 PM
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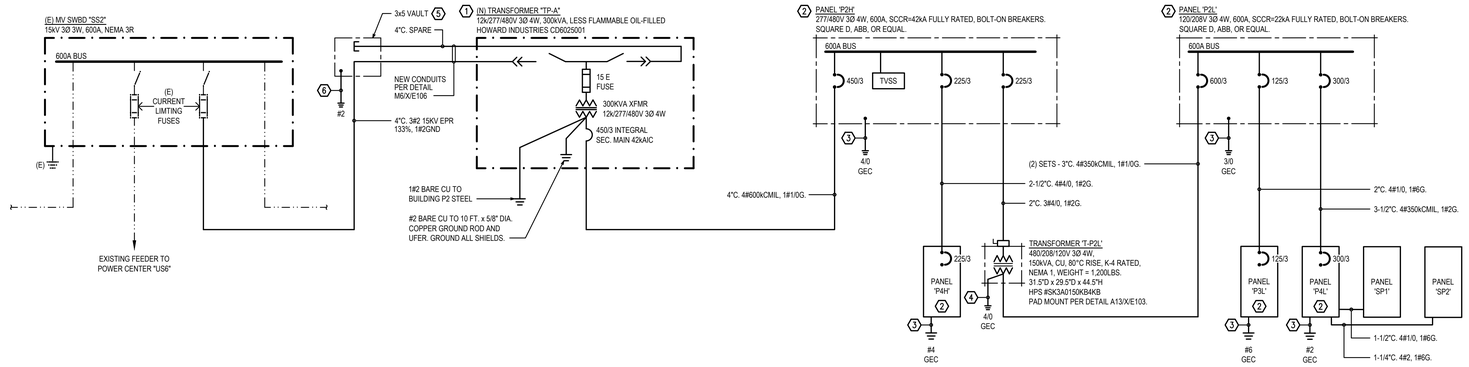
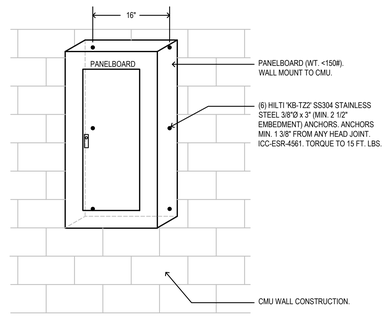


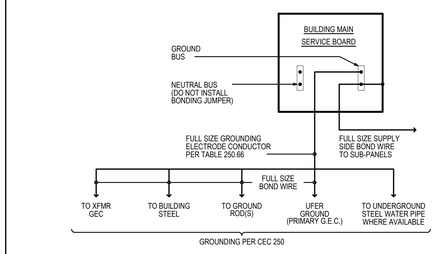
NOTE:

ALL PANELBOARDS SHALL BE FULLY RATED FOR THE SHORT CIRCUIT CURRENT RATING LISTED. SERIES RATINGS ARE NOT PERMITTED.

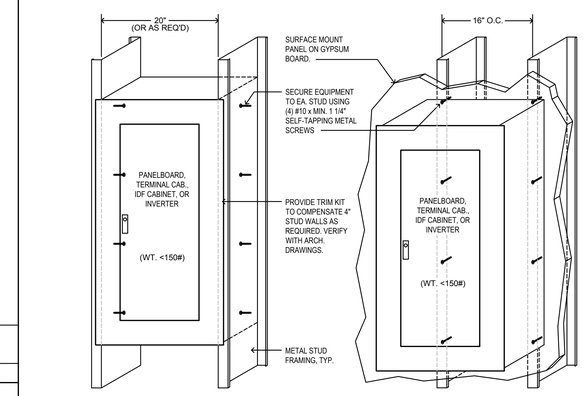
L1 — Power Single Line Diagram
No Scale



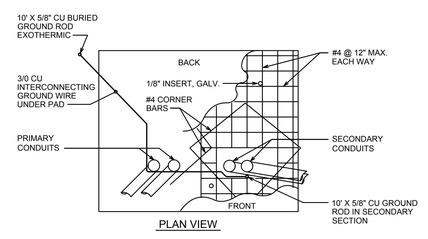
G5 — Panel Mounting Detail (CMU Wall)
No Scale



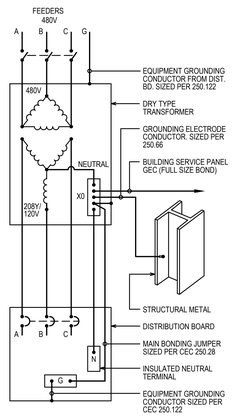
G9 — Building Service Grounding Detail
No Scale



E13 — Electrical Panel Mounting Detail
No Scale

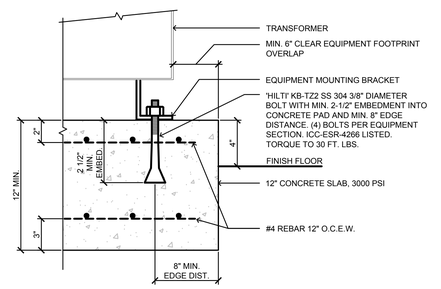


A5 — Oil Filled Transformer Pad Detail
No Scale



A GROUNDING ARRANGEMENT FOR A SEPARATELY DERIVED SYSTEM WHERE THE GROUNDING ELECTRODE CONDUCTOR CONNECTION IS MADE AT THE TRANSFORMER.

A9 — Transformer Grounding Detail
No Scale



A13 — Transformer Concrete Pad Mounting Detail
No Scale

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. MEDIUM VOLTAGE TRANSFORMER AND CONCRETE PAD PER A6/X/E103. 63.0"W x 67.0"D x 72.0"H; OPERATING WEIGHT = 5,174 LBS.
2. PANELBOARD. MOUNT PER DETAIL E13/X/E103 AT METAL FRAMED WALLS. MOUNT PER G5/X/E103 AT CMU WALLS.
3. GROUND PANELBOARD PER G9/X/E103. GEC SIZE NOTED ON PLANS.
4. GROUND TRANSFORMER PER A9/X/E103. GEC SIZE NOTED ON PLANS.
5. 3x5 CONCRETE VAULT WITH SPRING-ASSIST, BOLT-DOWN STEEL LIDS.
6. 5/8" x 10 FT. CU CLAD GROUND ROD. BOND ALL STEEL COMPONENTS AT VAULT, INCLUDING THE LIDS, WITH #2 CU.

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REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

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LICENSED ARCHITECT MONNIE K. FERGUSON No. C23724 REG. 4-30-23 STATE OF CALIFORNIA
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Designed By: SD
Drawn By: HDE
Checked By: SD
Reviewed By: SD

Scale: As indicated
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X/E103

Sheet: _____ of: _____

PANEL "P2H" SCHEDULE

277/480V 3Φ 4W 42kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	EM LIGHTING INVERTER AND EM LIGHTS	15	1	1913	A		15	3	SPARE	2
3	LIGHTS - INTERIOR	15	1	115	B		--	--	-----	4
5	LIGHTS - EXTERIOR (BLDG. P2 & P3)	15	1	571	C		--	--	-----	6
7	LIGHTS - EXTERIOR (BLDG. P4)	15	1	536	A		20	1	SPARE	8
9	LIGHTS - POOL POLE (NORTHEAST)	15	1	2670	B		20	1	SPARE	10
11	LIGHTS - POOL POLE (SOUTHEAST)	15	1	2670	C		20	1	SPARE	12
13	LIGHTS - POOL POLE (NORTHWEST)	15	1	2670	A				SPACE ONLY	14
15	LIGHTS - POOL POLE (SOUTHWEST)	15	1	2670	B				SPACE ONLY	16
17	LIGHTS - SITE AND PARKING LOT	15	1	2706	C				SPACE ONLY	18
19	SPACE ONLY				A				SPACE ONLY	20
21	SPACE ONLY				B				SPACE ONLY	22
23	SPACE ONLY				C				SPACE ONLY	24
25	SPACE ONLY				A				SPACE ONLY	26
27	SPACE ONLY				B				SPACE ONLY	28
29	SPACE ONLY				C				SPACE ONLY	30
31	SPACE ONLY				A				SPACE ONLY	32
33	SPACE ONLY				B				SPACE ONLY	34
35	SPACE ONLY				C				SPACE ONLY	36
37	TRANSFORMER "T-P2L"	175	3	33485	A	21652	250	3	PANEL "P4H"	38
39	-----	--	--	34511	B	21052	--	--	-----	40
41	-----	--	--	29228	C	21052	--	--	-----	42

LOAD SUMMARY: Φ A 60256 VA; Φ B 61018 VA; Φ C 56227 VA
CONNECTED LOAD: 177.5 kVA
MAX CURRENT: 220 A
BUSING: 600A
MAIN: 450A

PANEL "P3L" SCHEDULE

120/208V 3Φ 4W 22kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	OUTLETS - GIRLS & GIRLS SHOWER	20	1	540	A	564	20	1	LIGHTS - BOYS, BOYS SHOWER, FIRE RISER	2
3	OUTLETS - EXTERIOR	20	1	360	B	564	20	1	LIGHTS - GIRLES. GIRLS SHOWER, CUST.	4
5	HAND DRYER - GIRLS SHOWER	20	1	2000	C		20	1	SPARE	6
7	HAND DRYER - GIRLS	20	1	2000	A		20	1	SPARE	8
9	HAND DRYER - GIRLS	20	1	2000	B		20	1	SPARE	10
11	OUTLETS - BOYS & BOYS SHOWER	20	1	540	C		20	1	SPARE	12
13	OUTLETS - EXTERIOR	20	1	360	A				SPACE ONLY	14
15	HAND DRYER - BOYS SHOWER	20	1	2000	B				SPACE ONLY	16
17	HAND DRYER - BOYS	20	1	2000	C				SPACE ONLY	18
19	HAND DRYER - BOYS	20	1	2000	A				SPACE ONLY	20
21	SWIMSUIT SPINNER	20	1	500	B				SPACE ONLY	22
23	SPARE	20	1		C				SPACE ONLY	24
25	SPARE	20	1		A				SPACE ONLY	26
27	SPARE	20	1		B				SPACE ONLY	28
29	SPARE	20	1		C				SPACE ONLY	30
31	WATER HEATER & CIRC. PUMP	20	1	1217	A				SPACE ONLY	32
33	WATER HEATER & CIRC. PUMP	20	1	1217	B				SPACE ONLY	34
35	SPACE ONLY				C				SPACE ONLY	36
37	SPACE ONLY				A				SPACE ONLY	38
39	SPACE ONLY				B				SPACE ONLY	40
41	* FIRE SPRINKLER BELL	20	1	180	C	2400	40	1	EXHAUST FAN EF-1	42

LOAD SUMMARY: Φ A 6681 VA; Φ B 6641 VA; Φ C 7120 VA
CONNECTED LOAD: 20.4 kVA
MAX CURRENT: 59 A
BUSING: 125A
MAIN: 125A
* PROVIDE RED HANDLE C.B. W/ INTEGRAL LOCK-ON DEVICE

PANEL "P4H" SCHEDULE

277/480V 3Φ 4W 42kAIC — INDOOR / SURFACE / STAINLESS STEEL, NEMA 4X

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	LIGHTS - INTERIOR	15	1	600	A	18005	100	3	COMPETITION POOL CIRC.PUMP	2
3	SPARE	20	1		B	18005	--	--	-----	4
5	SPARE	20	1		C	18005	--	--	-----	6
7	SPACE ONLY				A	3047	20	3	LEARNING POOL CIRC.PUMP	8
9	SPACE ONLY				B	3047	--	--	-----	10
11	SPACE ONLY				C	3047	--	--	-----	12
13	SPACE ONLY				A				SPACE ONLY	14
15	SPACE ONLY				B				SPACE ONLY	16
17	SPACE ONLY				C				SPACE ONLY	18
19	SPACE ONLY				A				SPACE ONLY	20
21	SPACE ONLY				B				SPACE ONLY	22
23	SPACE ONLY				C				SPACE ONLY	24
25	SPACE ONLY				A				SPACE ONLY	26
27	SPACE ONLY				B				SPACE ONLY	28
29	SPACE ONLY				C				SPACE ONLY	30
31	SPACE ONLY				A				SPACE ONLY	32
33	SPACE ONLY				B				SPACE ONLY	34
35	SPACE ONLY				C				SPACE ONLY	36
37	SPACE ONLY				A				SPACE ONLY	38
39	SPACE ONLY				B				SPACE ONLY	40
41	SPACE ONLY				C				SPACE ONLY	42

LOAD SUMMARY: Φ A 21652 VA; Φ B 21052 VA; Φ C 21052 VA
CONNECTED LOAD: 63.8 kVA
MAX CURRENT: 78 A
BUSING: 225A
MAIN: 225A

PANEL "P2L" SCHEDULE

120/208V 3Φ 4W 22kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	SPARE	20	1		A		20	1	SPARE	2
3	SPARE	20	1		B		20	1	SPARE	4
5	SPARE	20	1		C		20	1	SPARE	6
7	SPARE	20	1		A	1098	15	2	IDU/ODU-2	8
9	SPARE	20	1		B	1098	--	--	-----	10
11	OUTLETS - STORAGE	20	1	720	C	798	15	2	IDU/ODU-1	12
13	SPARE	20	1		A	798	--	--	-----	14
15	SPARE	20	1		B		20	1	SPARE	16
17	SPARE	20	1		C		20	1	SPARE	18
19	SPARE	20	1		A	360	20	1	OUTLETS - EXTERIOR	20
21	SPARE	20	1		B	360	20	1	OUTLETS - ELECT.	22
23	SPARE	20	1		C	360	20	1	OUTLETS - ELECT.	24
25	SPARE	20	1		A	360	20	1	OUTLETS - ELECT.	26
27	SPARE	20	1		B	360	20	1	OUTLETS - ELECT.	28
29	SPARE	20	1		C	360	20	1	OUTLETS - ELECT.	30
31	SPARE	20	1		A	360	20	1	OUTLETS - ELECT.	32
33	SPARE	20	1		B	720	20	1	OUTLETS - ELECT.	34
35	SPARE	20	1		C	720	20	1	OUTLETS - ELECT.	36
37	MUSCO CAB. CONTROL POWER - ELEC YARD	15	1	250	A	360	20	1	IDF-P2	38
39	POOL AREA AUDIO SYSTEM CAB. - TEAM RM	20	1	500	B	500	20	2	IDF-P2 208V OUTLET	40
41	SPARE	20	1		C	500	--	--	-----	42
43	SPARE	20	1		A	6681	125	3	PANEL "P3L"	44
45	SPARE	20	1		B	6641	--	--	-----	46
47	SPARE	20	1		C	7120	--	--	-----	48
49	SPARE	20	1		A	23218	300	3	PANEL "P4L"	50
51	SPARE	20	1		B	24332	--	--	-----	52
53	* FIRE ALARM PANEL & SPRINKLER BELL	20	1	360	C	18290	--	--	-----	54

LOAD SUMMARY: Φ A 33485 VA; Φ B 34511 VA; Φ C 29228 VA
CONNECTED LOAD: 97.2 kVA
MAX CURRENT: 288 A
BUSING: 600A
MAIN: 600A
* PROVIDE RED HANDLE C.B. W/ INTEGRAL LOCK-ON DEVICE

PANEL "P4L" SCHEDULE

120/208V 3Φ 4W 22kAIC — INDOOR / SURFACE / STAINLESS STEEL, NEMA 4X

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	OUTLETS - STORAGES & EXTERIOR	20	1	540	A	76.8	20	1	EXHAUST FAN EF-4	2
3	OUTLETS - STORAGES	20	1	540	B	1920	30	1	EXHAUST FAN EF-5	4
5	OUTLETS - STORAGES	20	1	540	C	76.8	20	1	EXHAUST FAN EF-3	6
7	OUTLET - POOL EQUIPMENT	20	1	180	A	4160	40	2	WATER HEATER WH-2	8
9	OUTLET - POOL EQUIPMENT	20	1	180	B	4160	--	--	-----	10
11	OUTLETS - EXTERIOR	20	1	720	C		20	1	SPARE	12
13	SPARE	20	1		A		20	1	SPARE	14
15	SPARE	20	1		B		20	1	SPARE	16
17	SPARE	20	1		C		20	1	SPARE	18
19	SPARE	20	1		A				SPACE ONLY	20
21	SPARE	20	1		B				SPACE ONLY	22
23	SPARE	20	1		C				SPACE ONLY	24
25	SPACE ONLY				A				SPACE ONLY	26
27	SPACE ONLY				B				SPACE ONLY	28
29	SPACE ONLY				C				SPACE ONLY	30
31	SPACE ONLY				A	12633	150	3	PANEL "SP1"	32
33	SPACE ONLY				B	11904	--	--	-----	34
35	SPACE ONLY				C	11145	--	--	-----	36
37	SPARE (FUTURE MARQUEE SIGN)	20	2		A	5628	125	3	PANEL "SP2"	38
39	-----	--	--		B	5628	--	--	-----	40
41	* FIRE SPRINKLER BELL	20	1	180	C	5628	--	--	-----	42

LOAD SUMMARY: Φ A 23218 VA; Φ B 24332 VA; Φ C 18290 VA
CONNECTED LOAD: 65.8 kVA
MAX CURRENT: 203 A
BUSING: 400A
MAIN: 300A
* PROVIDE RED HANDLE C.B. W/ INTEGRAL LOCK-ON DEVICE

H1 — Panel Schedules
No Scale

PANEL "P2H" SCHEDULE

277/480V 3Φ 4W 42kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	EM LIGHTING INVERTER AND EM LIGHTS	15	1	1912	A		15	3	SPARE	2
3	LIGHTS - INTERIOR	15	1	446	B		--	--	-----	4
5	LIGHTS - EXTERIOR (BLDG. P2 & P3)	15	1	695	C		--	--	-----	6
7	LIGHTS - EXTERIOR (BLDG. P4)	15	1	536	A		20	1	SPARE	8
9	LIGHTS - POOL POLE (NORTHEAST)	15	1	2670	B		20	1	SPARE	10
11	LIGHTS - POOL POLE (SOUTHEAST)	15	1	2670	C		20	1	SPARE	12
13	LIGHTS - POOL POLE (NORTHWEST)	15	1	2670	A				SPACE ONLY	14
15	LIGHTS - POOL POLE (SOUTHWEST)	15	1	2670	B				SPACE ONLY	16
17	LIGHTS - SITE AND PARKING LOT	15	1	2706	C				SPACE ONLY	18
19	SPACE ONLY				A				SPACE ONLY	20
21	SPACE ONLY				B				SPACE ONLY	22
23	SPACE ONLY				C				SPACE ONLY	24
25	SPACE ONLY				A				SPACE ONLY	26
27	SPACE ONLY				B				SPACE ONLY	28
29	SPACE ONLY				C				SPACE ONLY	30
31	SPACE ONLY				A				SPACE ONLY	32
33	SPACE ONLY				B				SPACE ONLY	34
35	SPACE ONLY				C				SPACE ONLY	36
37	TRANSFORMER "T-P2L"	175	3	33485	A	21652	250	3	PANEL "P4H"	38
39	-----	--	--	34511	B	21052	--	--	-----	40
41	-----	--	--	29228	C	21052	--	--	-----	42

LOAD SUMMARY: Φ A 60255 VA; Φ B 61349 VA; Φ C 56350 VA
CONNECTED LOAD: 178.0 kVA
MAX CURRENT: 221 A
BUSING: 600A
MAIN: 450A

PANEL "P2L" SCHEDULE

120/208V 3Φ 4W 22kAIC — INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS	BREAKER POLE(S)	VA	Φ	VA	BREAKER AMPS	BREAKER POLE(S)	DESCRIPTION	CKT. NO.
1	SPARE	20	1		A		20	1	SPARE	2
3	SPARE	20	1		B	480	20	1	WATER HEATER WH-3	4
5	SPARE	20	1		C	696	20	1	EXHAUST FAN EF-2	6
7	SPARE	20	1		A	1098	15	2	IDU/ODU-2	8
9	SPARE	20	1		B	1098	--	--	-----	10
11	OUTLETS - STORAGE	20	1	720	C	798	15	2	IDU/ODU-1	12
13	OUTLETS - CUST. & STAFF	20	1	540	A	798	--	--	-----	14
15	HAND DRYER - STAFF	20	1	2000	B		20	1	SPARE	16
17	OUTLETS - SNACK BAR	20	1	540	C		20	1	SPARE	18
19	OUTLETS - SNACK BAR	20	1	540	A	360	20	1	OUTLETS - EXTERIOR	20
21	REFRIGERATOR - SNACK BAR	20	1	1000	B	360	20	1	OUTLETS - ELECT.	22
23	REFRIGERATOR - SNACK BAR	20	1	1000	C	360	20	1	OUTLETS - ELECT.	24
25	OUTLETS - SNACK BAR COUNTER	20	1	360	A	360	20	1	OUTLETS - ELECT.	26
27	OUTLETS - SNACK BAR COUNTER	20	1	360	B	360	20	1	OUTLETS - ELECT.	28
29	OUTLETS - SNACK BAR COUNTER	20	1	360	C	360	20	1	OUTLETS - ELECT.	30
31	FLY FAN FF-2 (NORTH) - SNACK BAR	20	1	612	A	360	20	1	OUTLETS - ELECT.	32
33	FLY FAN FF-2 (WEST) - SNACK BAR	20	1	612	B	720	20	1	OUTLETS - ELECT.	34
35	FLY FAN FF-1 (WEST) - SNACK BAR	20	1	612	C	720	20	1	OUTLETS - ELECT.	36
37	MUSCO CAB. CONTROL POWER - ELEC YARD	15	1	250	A	360	20	1	IDF-P2	38
39	POOL AREA AUDIO SYSTEM CAB. - TEAM RM	20	1	500	B	500	20	2	IDF-P2 208V OUTLET	40
41	SPARE	20	1		C	500	--	--	-----	42
43	SPARE	20	1		A	6681	125	3	PANEL "P3L"	44
45	SPARE	20	1		B	6641	--	--	-----	46
47	SPARE	20	1		C	7120	--	--	-----	48
49	SPARE	20	1		A	23218	300	3	PANEL "P4L"	50
51	SPARE	20	1		B	24332	--	--	-----	52
53	* FIRE ALARM PANEL & SPRINKLER BELL	20	1	360	C	18290	--	--	-----	54

LOAD SUMMARY: Φ A 35537 VA; Φ B 38963 VA; Φ C 32436 VA
CONNECTED LOAD: 106.9 kVA
MAX CURRENT: 325 A
BUSING: 600A
MAIN: 600A
* PROVIDE RED HANDLE C.B. W/ INTEGRAL LOCK-ON DEVICE

A1 — Panel Schedules - ALTERNATE BID
No Scale

DSA File No.: 54-H11
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Agency Approval

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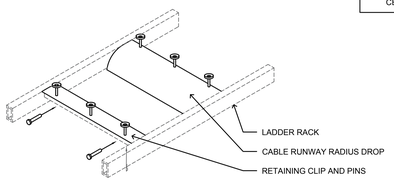
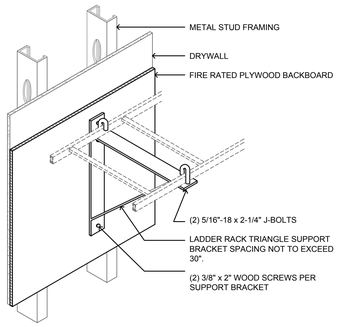
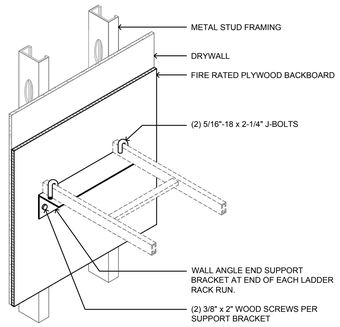
PLYWOOD INSTALLATION NOTES:	LADDER RACK NOTES:	GROUNDING NOTES:
1. INSTALL 3/4"D FIRE RESISTANT, PAINTED PLYWOOD BACKBOARD AT INTERIOR OF ROOM WHERE SHOWN. 2. SECURE PLYWOOD TO METAL WALL STUDS WITH FLUSH #10 x 3" FLAT HEAD WOOD SMS AT 8" CENTERS,	1. THE MAXIMUM CABLE WEIGHT FOR THIS SYSTEM SHALL NOT EXCEED 50 POUNDS PER LINEAR FOOT. 2. THE COMBINED WEIGHT OF THE CABLE AND LADDER RACK SYSTEM SHALL NOT EXCEED 75 POUNDS PER LINEAR FOOT.	1. BOND ALL LADDER RACK SECTIONS AND RACKS TOGETHER AND TO TMGB. SEE DETAILS L11/X/E105 & L14/X/E105. 2. REMOVE PAINT FROM COMPONENTS PRIOR TO ATTACHING GROUND LUGS.



LADDER RACK CABLE TRANSITION





LADDER RACK WALL SUPPORT

J1	Ladder Rack Installation Detail
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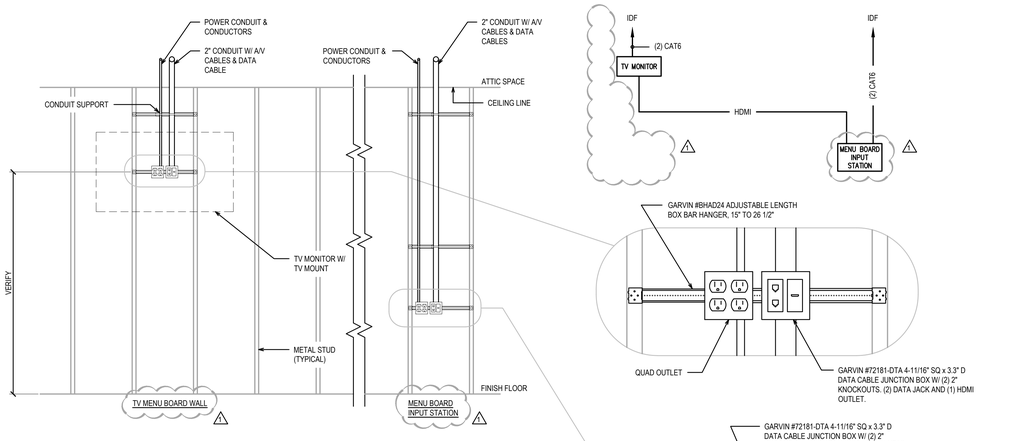

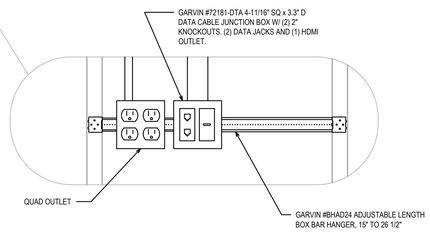

A1	TV Menu Board Detail - ALTERNATE BID ⚠
No Scale	

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54-H11

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Agency Approval

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Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
POWER AND LOW VOLTAGE SYSTEMS - DETAILS
Drawing

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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: SD	
Scale: As indicated	Drawn By: HDE	X/E107
Project Number: 2180	Checked By: SD	Sheet: _____ of: _____
Date: 08/02/2022	Reviewed By: SD	

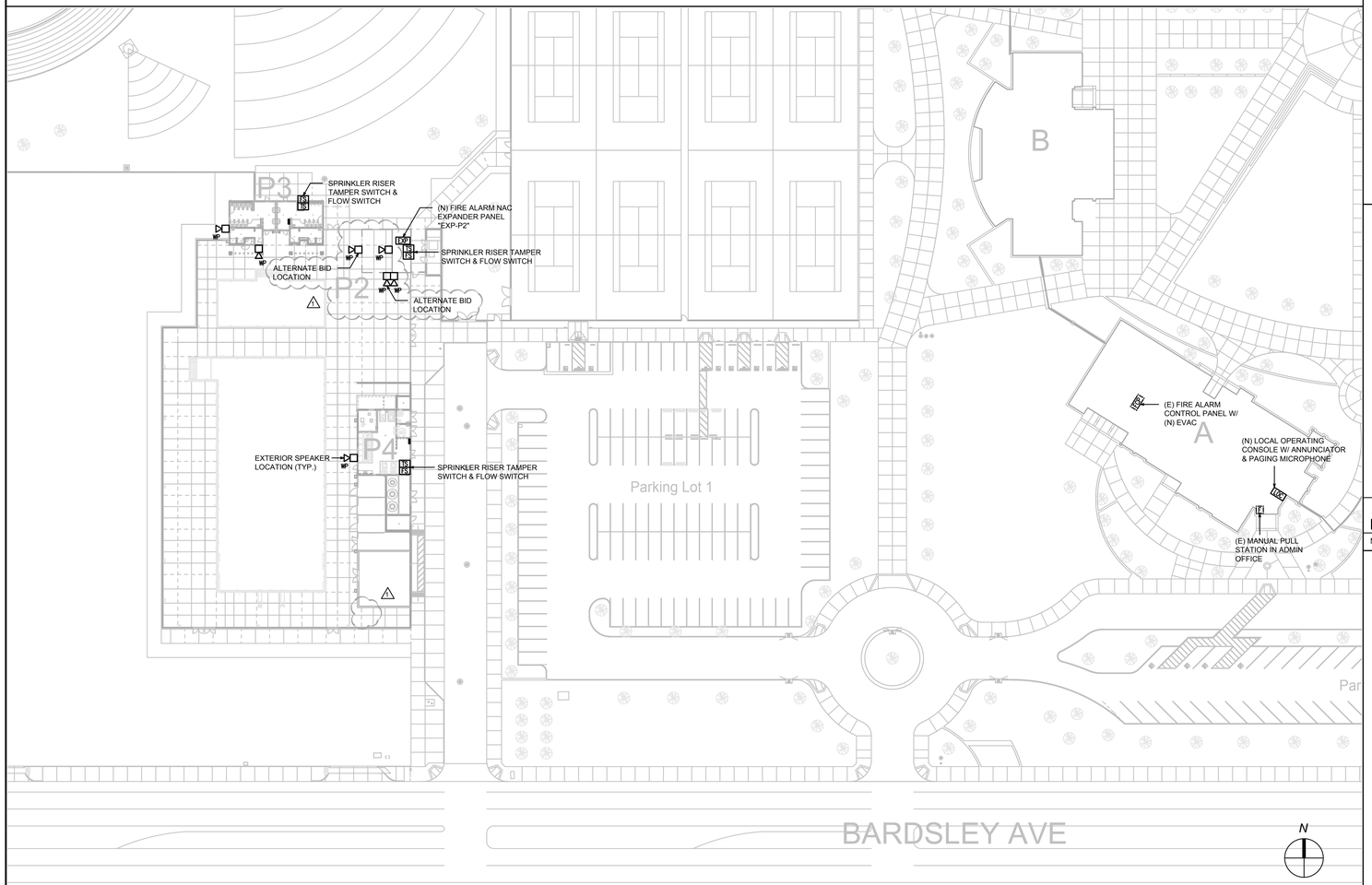
FIRE ALARM GENERAL NOTES:

1. FIRE ALARM SYSTEM: ADDRESSABLE, CLASS B, AUTOMATIC.
2. ALL WORK SHALL CONFORM TO THE 2016 EDITION OF NFPA 72, AND THE 2019 EDITION OF CBC, CEC, AND CFC.
3. INSTALLATION OF THE FIRE ALARM SYSTEM (FAS) SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
4. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR. (THE LOCAL FIRE AUTHORITY MAY WITNESS THE TEST).
5. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR THE INSTALLATION.
6. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
7. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
8. ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL, OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
9. MICROPHONE ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE, INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
10. WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR ENTIRE LENS WITHIN AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
11. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE.
12. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY SPACE WITHIN A BUILDING THAT MAY BE OCCUPIED AND BE INTELLIGIBLE.
13. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN, PRIOR TO "EVAC" ANNOUNCEMENT. THE CARBON MONOXIDE SIGNAL SHALL SOUND A FOUR-PULSE TEMPORAL PATTERN PER NFPA 72, 18.4.3.2.
14. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
15. VISUAL DEVICES SHALL NOT EXCEED 2 FLASHES PER SECOND AND SHALL NOT BE SLOWER THAN 1 FLASH PER SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
16. UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATERTIGHT FITTINGS AND WIRE APPROVED FOR WET LOCATIONS.
17. ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
18. PER CEC STANDARDS, ALL WIRING SHALL BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE WIRE. ANY CONNECTION SHALL BE BY LUG CONNECTION AT A DEVICE OR AT A FATC TERMINAL BLOCK ONLY. ALL BOXES TO BE SIZED PER CEC.
19. SMOKE DETECTORS SHALL NOT BE CLOSER THAN 12" FROM FIRE SPRINKLERS NOR 36" FROM SUPPLY AIR DIFFUSERS. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION, NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
20. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY, OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS, AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS. OWNER STANDARDS MAY BE MORE STRINGENT.
21. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS' SPECIFICATIONS. ANY SINGLE DEVICE SHALL NOT EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
22. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A LOCKING DEVICE WITH RED MARKING PER NFPA 72, SECTION 10.6.5.4 AND 10.6.5.2.3 TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT THE FIRE PANEL/EXTENDERS.
23. THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION IN COMPLIANCE WITH NFPA 72, SECTION 7.5.6.
24. CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48".
25. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC 901.6.2.
26. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTIONS WITH FINAL TEST. FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATIONS SHALL BE LISTED AS EITHER UUFX (CENTRAL STATION) OR UUJS (REMOTE AND PROPRIETARY) BY UNDERWRITERS LABORATORY (UL) OR SHALL COMPLY WITH THE REQUIREMENTS OF STANDARD FM 3011. A COPY OF ALL DEVICES REPORTED TO THE CENTRAL STATION SHALL BE PROVIDED TO THE OWNER'S ELECTRONICS DEPARTMENT.
27. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
28. ALL WIRING IS SHOWN DIAGRAMMATICALLY. SUBJECT TO DSA APPROVAL, CONTRACTOR MAY VARY SEQUENCE OF CIRCUITRY; HOWEVER, ALL CIRCUITS SHALL BE CONTINUOUS AND SUPERVISED.
29. ALL CONNECTIONS SHALL BE PROPERLY LABELED BY CONDUCTOR AND SHALL HAVE STA-KON LUG CONNECTORS. PANDUIT TAG (TIE WRAP) SEPARATELY.
30. FIRE ALARM TERMINAL CABINETS SHALL HAVE SUFFICIENT SPACE, TERMINAL BOARDS AND SCREW TERMINAL CONNECTORS TO ALLOW CONNECTION OF ALL CONDUCTORS SHOWN. PROVIDE BARRIER TO SEPARATE FIRE ALARM SYSTEM WHEN TERMINAL CABINET IS SHARED WITH NON-FIRE ALARM SYSTEMS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT WITH HIS OTHER SHOP DRAWINGS DETAILED DRAWINGS OF HIS PROPOSED CONNECTIONS AT EACH FIRE ALARM TERMINAL CABINET PRIOR TO COMMENCING ANY WORK.
31. ALL NAC CIRCUIT CONDUCTORS SHALL BE #12 AWG, STRANDED (19 STRANDS OR LESS) COPPER, UNLESS OTHERWISE NOTED.
32. SET END-OF-LINE RESISTORS IN DISTRIBUTION TERMINAL CABINETS.
33. BATTERIES SHALL BE STAMPED WITH DATE OF MANUFACTURE.
34. INSTALLATION OF FAS EQUIPMENT SHALL BE BY AN AUTHORIZED ENGINEERED SYSTEM DISTRIBUTOR FOR THE EQUIPMENT SPECIFIED BY THE MANUFACTURER FOR SALES, SERVICE, INSTALLATION AND MAINTENANCE. PROVIDE CERTIFICATIONS WITH EQUIPMENT SUBMITTALS. SUBMITTALS BY FIRMS NOT FULFILLING THIS REQUIREMENT WILL BE AUTOMATICALLY REJECTED.
35. THE FAS INSTALLER SHALL BE NICET LEVEL 2 CERTIFIED.
36. THE FAS INSTALLER SHALL PROVIDE ALL FACTORY WARRANTIES TO THE OWNER AT THE CLOSE UP OF THE PROJECT.
37. THE FAS INSTALLER SHALL PROVIDE WRITTEN CERTIFICATION USING NFPA 72 INSPECTION AND TESTING FORMS AND SHALL CERTIFY THAT THE INSTALLATION, TESTING, AND OPERATION CONFORM IN ALL RESPECTS TO THE REQUIREMENTS AS SET FORTH IN TITLE 19 OF THE CALIFORNIA CODE OF REGULATIONS AND PART 3, ARTICLE 760 OF TITLE 24 OF THE C.C.R. AND C.B.C. SECTION 907. THE CONTRACTOR SHALL SUBMIT THE COMPLETED FAS CERTIFICATION AND DESCRIPTION FORM TO DIVISION OF STATE ARCHITECT.
38. INCLUDE ALL DEMOLITION OF EXISTING FIRE ALARM SYSTEM WHETHER SPECIFICALLY SHOWN OR NOT. REMOVE ALL CABLING & UNUSED EXPOSED RACEWAY & OUTLETS. BLANK OFF ALL UNUSED WALL & HARD CEILING OUTLETS. REMOVE ALL UNUSED OUTLETS IN TEE-BAR CEILING & REPLACE ACOUSTIC TILES. RETURN ALL DEVICES, APPLIANCES, & CONTROL PANELS TO OWNER IF REQUESTED BY OWNER DURING CONSTRUCTION.
39. WHEN FIRE ALARM WORK WILL DISABLE PORTIONS OF THE EXISTING FAS, PROVIDE ALL REQUIRED OVERTIME AND FIRE WATCH IN SCOPE OF WORK.
40. WHERE FIRE ALARM DEVICES ARE BEING INSTALLED IN OTHERWISE INACCESSIBLE AREAS, PROVIDE AN ALLOWANCE FOR THE INSTALLATION OF ACCESS PANELS AND ALL WORK ASSOCIATED WITH THE INSTALLATION. THE CONTRACTOR SHALL CUT ALL THE OPENINGS. THE SIZE OF THE ACCESS PANEL SHALL BE DETERMINED BY THE MAN ACCESS REQUIREMENTS. PROVIDE PAINT GRADE ACCESS DOORS AND PAINT TO MATCH THE COLOR & SHEEN OF THE EXISTING CEILING.
41. FIRE ALARM SYSTEM INSPECTION, TESTING, AND MAINTENANCE SHALL COMPLY WITH NFPA 72, CHAPTER 14.
42. PROVIDE FIRE ALARM RECORD DOCUMENTS CABINET NFPA 72, 7.7.2

    - EVERY NEW FIRE ALARM SYSTEM SHALL PROVIDE A DOCUMENTATION CABINET, INSTALLED AT THE SYSTEM CONTROL PANEL OR OTHER APPROVED LOCATION.
    - THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED, "FIRE ALARM SYSTEM RECORD DOCUMENTS".
    - ALL RECORD AND TESTING DOCUMENTATION SHALL BE STORED IN THE CABINET.
    - CONTENTS SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY.
    - WHERE CABINET IS INSTALLED IN A LOCATION OTHER THAN THE SYSTEM CONTROL UNIT, ITS LOCATION SHALL BE IDENTIFIED AT THE SYSTEM CONTROL UNIT.

    PROVIDE SYSTEM DOCUMENTS AS APPLICABLE:

    - RECORD DRAWINGS/AS-BUILTS
    - EQUIPMENT CUT SHEETS & CA SFM LISTINGS
    - ALTERNATIVE MEANS AND METHODS
    - PERFORMANCE BASED DESIGN DOCUMENTATION (NFPA 72, 7.3.7)
    - SYSTEM RECORD OF COMPLETION & ANY SUPPLEMENTAL INSPECTION AND TESTING DOCUMENTATION (NFPA 72, 7.8.2)
    - EMERGENCY RESPONSE PLAN (NFPA 72, 7.3.8)
    - EVALUATION DOCUMENTATION (NFPA 72, 7.3.9)
    - RISK ANALYSIS DOCUMENTATION (NFPA 72, 7.3.6)
    - SOFTWARE & FIRMWARE CONTROL DOCUMENTATION (NFPA 72, 23.2.2)



A1 — Fire Alarm System Reference Site Plan

1" = 40' - 0"

FIRE ALARM SYMBOLS SCHEDULE:

SYMBOL	NAME	DESCRIPTION	CSFM LISTING
FACP	(E) FIRE ALARM CONTROL PANEL W/ (N) EMERGENCY VOICE/ALARM COMMUNICATION	EDWARDS/UTC #EST3 W/ (N) 3-ASU/4, 3-ZA40B	7165-1657:0186
LOC	(N) LOCAL OPERATING CONSOLE W/ ANNUNCIATOR & PAGING MICROPHONE	EDWARDS/UTC #3-6ANN W/ 3-ANNCPU3, 3-LCD, 3-REMICA, SIGA-CT1, 3-12SR	7120-1657:0193 7300-1657:0121
EXP	NAC EXPANDER PANEL	EDWARDS/UTC #BPS10A	7300-1657:0229
	SMOKE DETECTOR, PHOTOELECTRONIC DETECTOR BASE	EDWARDS/UTC #SIGA-PD EDWARDS/UTC #SIGA-SB	7272-1657:0331 7300-1657:0120
	CEILING HEAT DETECTOR, 135°F DETECTOR BASE	EDWARDS/UTC #SIGA-HFD EDWARDS/UTC #SIGA-SB	7270-1657:0333 7300-1657:0120
MM	MONITOR MODULE	EDWARDS/UTC #SIGA-MM1	7300-1657:0121
CR	RELAY MODULE	EDWARDS/UTC #SIGA-CR	7300-1657:0121
	VISIBLE NAC DEVICE, WALL MT'D (cd INDICATED ON PLANS)	EATON/WHEELOCK #ELSTR	7135-0785:0504
	SPEAKER/VISIBLE NAC DEVICE, WALL MT'D (WATTS & cd INDICATED ON PLANS)	EATON/WHEELOCK #ELSPSTR	7320-0785:0505
WP	EXTERIOR SPEAKER, W.P., WALL MT'D (WATTS INDICATED ON PLANS)	EATON/WHEELOCK #ET-1010-R	7320-0785:0105
PIV	SPRINKLER POST INDICATOR VALVE	SPECIFIED BY FIRE PROTECTION ENG.	
TS	SPRINKLER RISER TAMPER SWITCH	SPECIFIED BY FIRE PROTECTION ENG.	
FS	SPRINKLER RISER FLOW SWITCH	SPECIFIED BY FIRE PROTECTION ENG.	
	SPRINKLER RISER BELL	SPECIFIED BY FIRE PROTECTION ENG.	

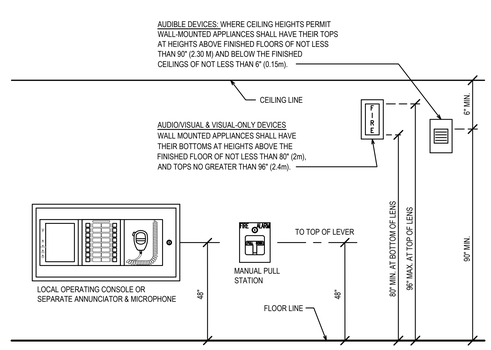
FIRE ALARM CABLE SCHEDULE:

SYMBOL	NAME	DESCRIPTION
A	SIGNALING LINE CIRCUIT (SLC) CABLE WEST PENN #D990	16/2 TWISTED PAIR, STRANDED, LOW CAPACITANCE FA POWER LIMITED, RISER CABLE (FPLR)
AW	SIGNALING LINE CIRCUIT (SLC) CABLE, OSP WEST PENN #AQC225	16/2 TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)
B	NOTIFICATION APPLIANCE CKT (NAC) CABLE WEST PENN #998S	12/2 TWISTED PAIR, STRANDED FA POWER LIMITED, RISER CABLE (FPLR)
C	EM. VOICE/ALARM COMM. (EV/AC) CABLE WEST PENN #HF995	14/2 SHIELDED TWISTED PAIR, STRANDED FA POWER LIMITED CABLE (FPL)
CW	EM. VOICE/ALARM COMM. (EV/AC) CABLE, OSP WEST PENN #AQC295	14/2 SHIELDED TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)
D	INITIATING DEVICE CIRCUIT (IDC) CABLE WEST PENN #994S	14/2 TWISTED PAIR, STRANDED FA POWER LIMITED, RISER CABLE (FPLR)
DW	INITIATING DEVICE CKT (IDC) CABLE, OSP WEST PENN #AQC226	14/2 TWISTED PAIR, STRANDED, AQUASEAL FA POWER LIMITED CABLE (FPL)
G	POWER CABLE WEST PENN #998S	12/2 TWISTED PAIR, STRANDED FA POWER LIMITED, RISER CABLE (FPLR)
M	MICROPHONE CABLE, POTTER FA SYSTEMS WEST PENN #3270	22/6 SHIELDED TWISTED PAIRS, STRANDED COMMUNICATIONS RISER CABLE (CMR)
MW	MICROPHONE CABLE, OSP, POTTER FA SYSTEMS WEST PENN #AQC3186	22/6 SHIELDED TWISTED PAIRS, STRANDED, AQUASEAL COMMUNICATIONS MULTI-PURPOSE CABLE (CM)

ACTION \ INITIATION CONDITON	FIRE SPRINKLER TAMPER SWITCH, POST INDICATOR VALVE	SMOKE, HEAT, OR DUCT DETECTOR, FIRE SPRINKER FLOW SWITCH	POWER LOSS, SHORT CIRCUIT, GROUND FAULT
ANNUNCIATE TROUBLE			●
ANNUNCIATE ALARM		●	
ANNUNCIATE SUPERVISORY	●	●	
INITIATE VISUAL NOTIFICATION APPLICANCES		●	
INITIATE EV/AC SPEAKER APPLICANCES		●	
TRANSMIT TO CENTRAL STATION	●	●	●
CLOSE FIRE/SMOKE DAMPER		●	
SHUTDOWN HVAC UNITS		●	
DOOR RELEASE		●	●
ACCESS CONTROL OVERRIDE		●	

E13 — Fire Alarm Sequence of Operations Matrix

No Scale



A13 — Fire Alarm Wall Mounted Devices Elevation

No Scale

DSA File No.:
54-H11

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02-120251

Agency Approval

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Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
FIRE ALARM SYSTEM - SYMBOLS, NOTES, AND DETAILS
Drawing

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LICENSED ARCHITECT WESNEL K. FENWICK No. C23724 4.30.23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Designed By: SD
Drawn By: HDE
Checked By: SD
Reviewed By: SD

Scale: As indicated
Project Number: 2180
Date: 08/02/2022

X/E201

Sheet: _____ of: _____

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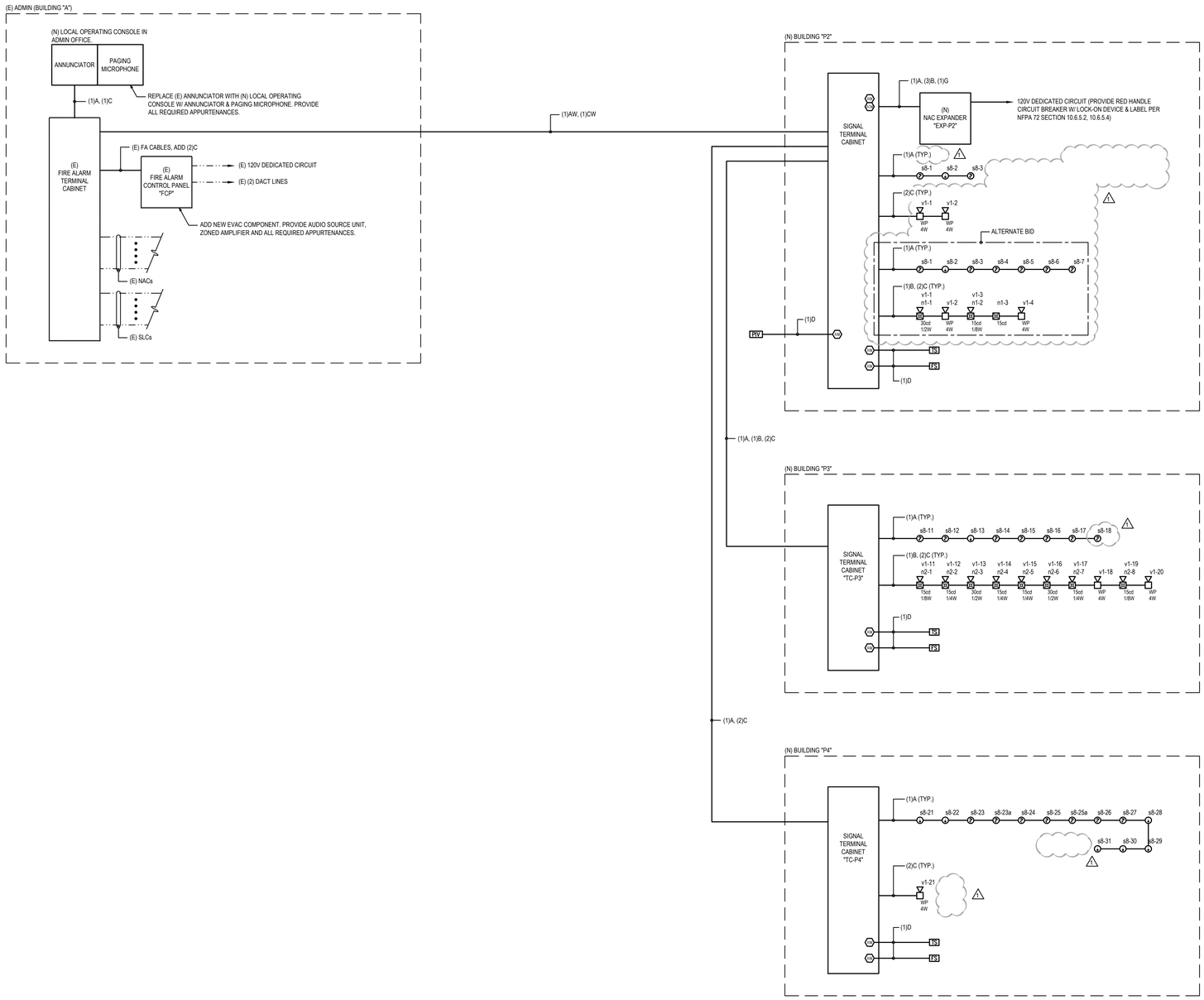

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Project

TYPICAL INFORMATION
FIRE ALARM SYSTEM - SINGLE LINE DIAGRAM
Drawing

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No.	Revision/Submission	Date
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Revision

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Scale: As indicated	Drawn By: HDE	
Project Number: 2180	Checked By: SD	*X/E202*
Date: 08/02/2022	Reviewed By: SD	Sheet: _____ of: _____

A1
No Scale
Fire Alarm System Single Line Diagram

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BATTERY CALCULATION

(E) F.A. Control Panel 'FCP'

POWER REQUIREMENTS

	CURRENT [A] SUPERVISORY	ALARM
(E) Panel overhead	0.8313	1.0398
(E) NAC Circuits	-	3.1480
3-ASU/4 (Audio Source Unit)	0.0800	0.0800
3-ZA40B (Audio Amplifier)	0.0620	1.1200
3-ANNCPU3 (Annunciator CPU)	0.1440	0.1440
3-LCD (Display Module)	0.0400	0.0420
3-REMICA (Remote Microphone)	0.0640	0.0640
SIGA-CT1 (Single Input Module)	0.0003	0.0004
AUDIO Circuit 1	-	0.3147
TOTALS	1.2216	5.9529

BATTERY CAPACITY

SUPERVISORY POWER (24 HOURS)	= 24 Hr * 1.22155A	=	29.317 AHr
ALARM POWER (15 MINUTES)	= 0.25 Hr * 5.9529100	=	1.488 AHr
	TOTAL POWER REQUIREMENT	=	30.805 AHr
	MINIMUM BATTERY CAPACITY (includes 25% safety factor)	=	39 AHr

VOICE EVACUATION SPEAKER VOLTAGE DROP

Volt Drop Common Parameters

Volts	70.7	Volts
Wire Size	14	AWG
Wire Resistance	3.26	ohm/Kft

	INDOOR					OUTDOOR				CIRCUIT LENGTH		
Type / Wattage Tap	1/8 W	1/4 W	1/2W	1W	2W	1W	2W	4W	8W	Total Watts	Max Length	Actual Length
v1	2	4	2					5		22.25	4083	2485

BATTERY CALCULATION

NAC Expander 'EXP-P2'

POWER REQUIREMENTS

	CURRENT [A] SUPERVISORY	ALARM
Panel Overhead	0.070	0.180
NAC Circuits	-	0.192
TOTALS	0.070	0.372

BATTERY CAPACITY

SUPERVISORY POWER (24 HOURS)	= 24 Hr * 0.07A	=	1.680 AHr
ALARM POWER (15 MINUTES)	= 0.25 Hr * 0.372A	=	0.093 AHr
	TOTAL POWER REQUIREMENT	=	1.773 AHr
	MINIMUM BATTERY CAPACITY (includes 25% safety factor)	=	7 AHr

VOLTAGE DROP CALCULATION

NAC Circuit 'n2'

VD = Voltage Drop [V]
I = Current [A] (0.192A)
K = 12.9 (Copper Constant)
L = Distance to Load [ft.] (385')
CM = Circular Mils (#12 AWG = 6530)
V = Voltage [V] (24VDC)

$$VD = \frac{K * I * 2L}{CM} = \frac{12.9 * 0.192 * 2 * 385}{6530} = 0.292\ V$$

$$VD\% = \frac{VD}{24} = 1.2\%$$

ALTERNATE BID

BATTERY CALCULATION

(E) F.A. Control Panel 'FCP'

POWER REQUIREMENTS

	CURRENT [A] SUPERVISORY	ALARM
(E) Panel overhead	0.8313	1.0398
(E) NAC Circuits	-	3.1480
3-ASU/4 (Audio Source Unit)	0.0800	0.0800
3-ZA40B (Audio Amplifier)	0.0620	1.1200
3-ANNCPU3 (Annunciator CPU)	0.1440	0.1440
3-LCD (Display Module)	0.0400	0.0420
3-REMICA (Remote Microphone)	0.0640	0.0640
SIGA-CT1 (Single Input Module)	0.0003	0.0004
AUDIO Circuit 1	-	3.7182
TOTALS	1.2216	9.3564

BATTERY CAPACITY

SUPERVISORY POWER (24 HOURS)	= 24 Hr * 1.22155A	=	29.317 AHr
ALARM POWER (15 MINUTES)	= 0.25 Hr * 9.3564A	=	2.339 AHr
	TOTAL POWER REQUIREMENT	=	31.656 AHr
	MINIMUM BATTERY CAPACITY (includes 25% safety factor)	=	40 AHr

VOICE EVACUATION SPEAKER VOLTAGE DROP

Volt Drop Common Parameters

Volts	70.7	Volts
Wire Size	14	AWG
Wire Resistance	3.26	ohm/Kft

	INDOOR					OUTDOOR				CIRCUIT LENGTH		
Type / Wattage Tap	1/8 W	1/4 W	1/2W	1W	2W	1W	2W	4W	8W	Total Watts	Max Length	Actual Length
v1	3	4	3					5		22.875	3971	2485

BATTERY CALCULATION

NAC Expander 'EXP-P2'

POWER REQUIREMENTS

	CURRENT [A] SUPERVISORY	ALARM
Panel Overhead	0.070	0.180
NAC Circuits	-	0.266
TOTALS	0.070	0.446

BATTERY CAPACITY

SUPERVISORY POWER (24 HOURS)	= 24 Hr * 0.07A	=	1.680 AHr
ALARM POWER (15 MINUTES)	= 0.25 Hr * 0.446A	=	0.112 AHr
	TOTAL POWER REQUIREMENT	=	1.792 AHr
	MINIMUM BATTERY CAPACITY (includes 25% safety factor)	=	7 AHr

VOLTAGE DROP CALCULATION

NAC Circuit 'n1'

VD = Voltage Drop [V]
I = Current [A] (0.074A)
K = 12.9 (Copper Constant)
L = Distance to Load [ft.] (115')
CM = Circular Mils (#12 AWG = 6530)
V = Voltage [V] (24VDC)

$$VD = \frac{K * I * 2L}{CM} = \frac{12.9 * 0.074 * 2 * 115}{6530} = 0.034\ V$$

$$VD\% = \frac{VD}{24} = 0.1\%$$

VOLTAGE DROP CALCULATION

NAC Circuit 'n2'

VD = Voltage Drop [V]
I = Current [A] (0.192A)
K = 12.9 (Copper Constant)
L = Distance to Load [ft.] (385')
CM = Circular Mils (#12 AWG = 6530)
V = Voltage [V] (24VDC)

$$VD = \frac{K * I * 2L}{CM} = \frac{12.9 * 0.192 * 2 * 385}{6530} = 0.292\ V$$

$$VD\% = \frac{VD}{24} = 1.2\%$$

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

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REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

TYPICAL INFORMATION
FIRE ALARM SYSTEM - CALCULATIONS
Drawing

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LICENSED ARCHITECT MICHAEL K. FERRO No. C23724 Ren. 4/30/23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

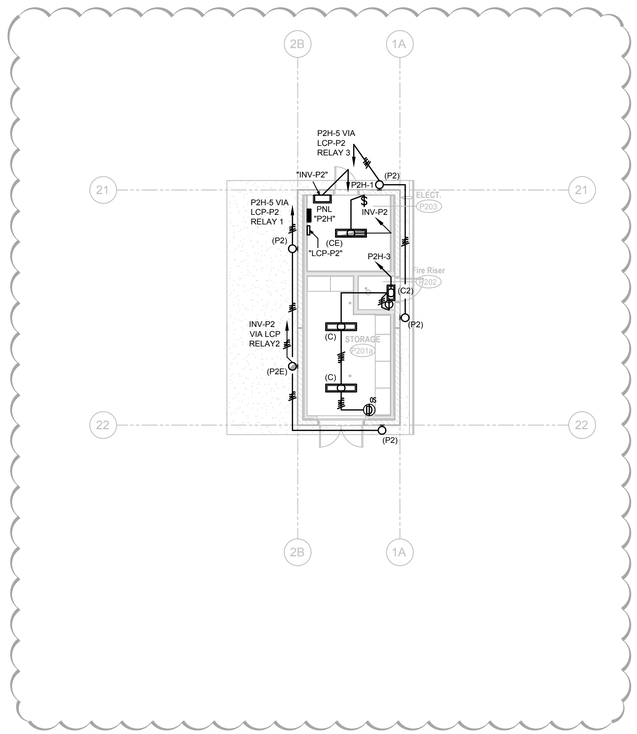
Designed By: SD
Drawn By: HDE
Checked By: SD
Reviewed By: SD

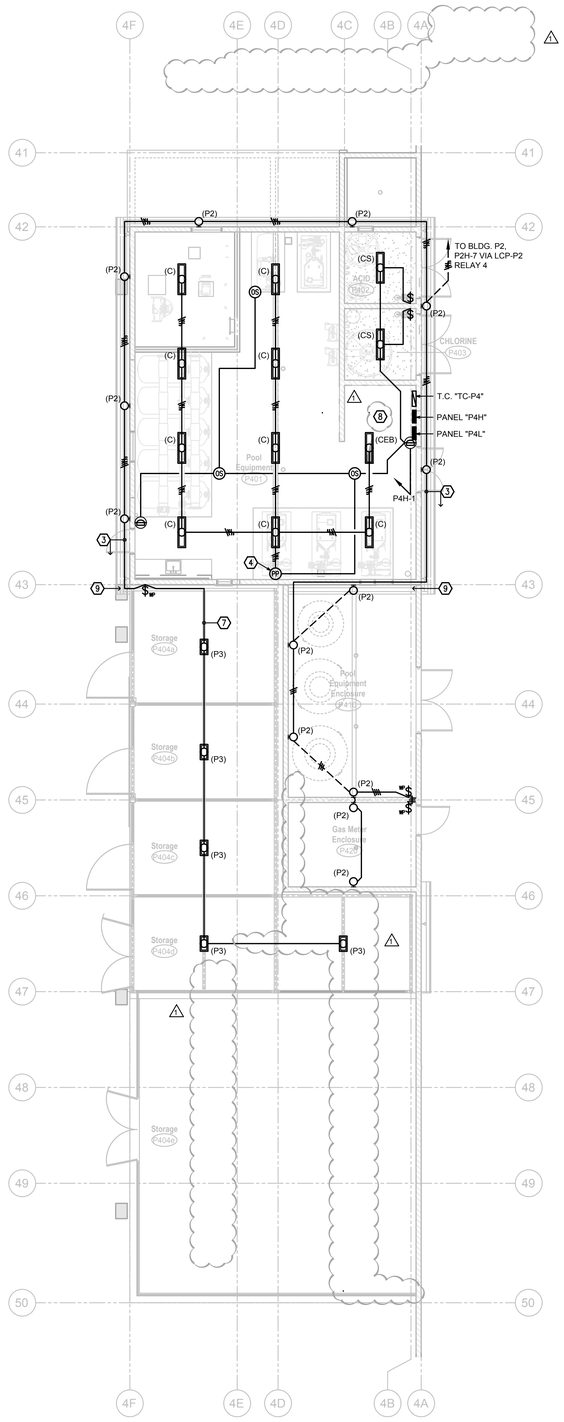
Scale: As indicated
Project Number: 2180
Date: 08/02/2022

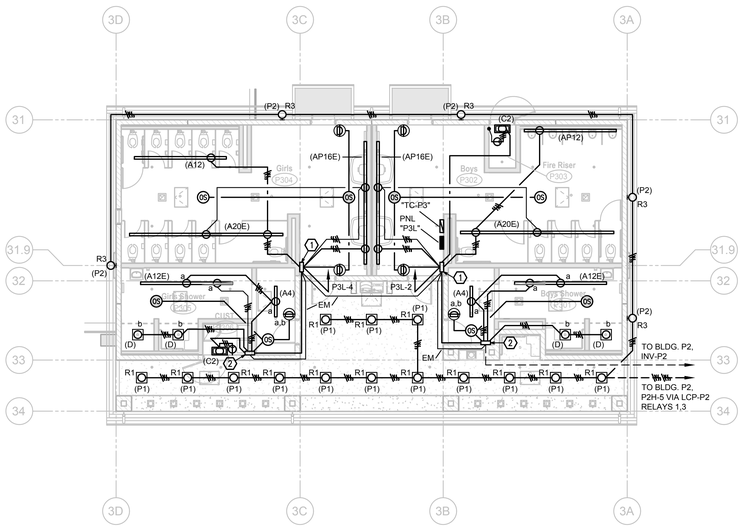
X/E203

Sheet: _____ of: _____

A1 Fire Alarm System Calculations
No Scale







J1 — Lighting Plan - Building P2
1/8" = 1' - 0"

A1 — Lighting Plan - Building P3
1/8" = 1' - 0"

A9 — Lighting Plan - Building P4
1/8" = 1' - 0"

DSA File No.:
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KEYNOTES

1. WALL MOUNTED HINGED CABINET MOUNTED HIGH ON WALL. PROVIDE (1) DIMMING POWER PACK AND (1) EM DIMMING POWER PACK. PROVIDE BARRIER FOR 277V EM CIRCUIT.
2. WALL MOUNTED HINGED CABINET MOUNTED HIGH ON WALL. PROVIDE (2) DIMMING POWER PACKS AND (1) EM DIMMING POWER PACK. PROVIDE BARRIER FOR 277V EM CIRCUIT.
3. CONTROLLED SWITCH LEG WITHOUT DIMMING CONDUCTORS FROM THIS POINT ON. LIGHTS IN STORAGE AND EQUIPMENT AREAS ONLY AVAILABLE WHEN THE EXTERIOR LIGHTING RELAY IS ON.
4. MOUNT POWER PACK IN PVC ENCLOSURE AT ±78" AFF.
5. NOT USED.
6. NOT USED.
7. RUN SURFACE TO EACH LIGHT ALONG STRUCTURAL BEAM.
8. ALL PANELS, TERMINAL CABINETS, AND OTHER ENCLOSURES IN THIS ROOM SHALL BE STAINLESS STEEL, NEMA 4X.
9. SEISMIC SEPARATION. PROVIDE LISTED SEISMIC DEFLECTION/ EXPANSION/ FITTINGS ON CONDUITS CROSSING THE SEPARATION.

LIGHTING NOTES

1. THE CONTRACTOR SHALL INSTALL A COMPLETE AND OPERATIONAL LIGHTING SYSTEM FULLY CONFORMING WITH THE CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS.
2. THE SPECIFIED LIGHTING COMPONENTS ARE PARTS OF A DIGITAL, WIRED, PROGRAMMABLE SYSTEM BASED ON THE LITHONIA nLIGHT PRODUCT LINE.
3. THE SYSTEM IS CONTROLLED AND PROGRAMMED THROUGH AN nLIGHT GATEWAY. THE GATEWAY REQUIRES A 120V OUTLET AT THE ELECTRONICS BACKBOARD. THE GATEWAY CONNECTS TO OWNERS LAN WITH A CAT 5e CABLE.
4. EACH ROOM/AREA SHALL BE CONNECTED TO nLIGHT BRIDGES WITH CAT 5e CABLES. EACH BRIDGE REQUIRES A 120V OR 277V CONNECTION TO THE NORMAL LIGHTING CIRCUIT IN THE ATTIC SPACE. WIRE THE OUTLET(S) TO A 120V CIRCUIT AT BUILDING PANEL. THE BRIDGES ARE THEN CONNECTED TOGETHER AND TO THE nLIGHT GATEWAY WITH CAT 5e CABLES TO COMPLETE THE NETWORK.
5. EACH FIXTURE REQUIRES LINE VOLTAGE, UNSWITCHED POWER, AND HAS A BUILT-IN, nLIGHT CONTROLLER.
6. SOME LOADS SUCH AS DOWNLIGHTS AND SIGNS ARE WIRED TO AND CONTROLLED BY AN nLIGHT POWER PACK WITH DIMMING CAPABILITY. POWER PACKS REQUIRE LINE VOLTAGE, UNSWITCHED POWER. VERIFY THE DIMMING PROTOCOL OF DIMMING FIXTURES.
7. LIGHTING AND DEVICE CONTROL IS ACCOMPLISHED BY CONNECTING COMPONENTS SUCH AS FIXTURES, POWER PACKS, SWITCHES, AND SENSORS IN EACH ROOM/AREA TOGETHER WITH FACTORY CAT 5e CABLES. INTERCONNECT CABLING IS NOT ALL DEPICTED ON THE PLAN IN ORDER TO KEEP THE DRAWING UNCLUTTERED.
8. THE CONTRACTOR SHALL FURNISH SYSTEM PROGRAMMING BY THE FACTORY'S AUTHORIZED PERSONNEL OR THE FACTORY'S APPROVED THIRD PARTY VENDOR TO ENSURE COMPLIANCE WITH TITLE 24. THE CONTRACTOR SHALL NOT ATTEMPT PROGRAMMING UNLESS AUTHORIZED BY THE FACTORY.
9. ANY PROPOSED SUBSTITUTE SYSTEM MUST MEET ALL THE REQUIREMENTS OF TITLE 24.
10. IN THE AREA OF GYPSUM BOARD CEILING, LOW VOLTAGE LIGHTING CONTROL WIRING SHALL BE INSTALLED CONCEALED IN CONDUIT.
11. CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS AFTER INSTALLATION AND BEFORE PROJECT COMPLETION.
12. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN ("ATT"). A LISTING OF CERTIFIED ATTs CAN BE FOUND AT HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ ACCEPTANCE. THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDING OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE LIGHTING SYSTEM CONFORMS AND PASSES THE REQUIRED ACCEPTANCE CRITERIA.
13. ALL RACEWAYS, COUPLINGS, STRAPS, ANCHORS, AND WIRING IN POOL EQUIPMENT ROOM, ACID, CHLORINE, AND POOL EQUIPMENT ENCLOSURE SHALL CONFORM TO CEC ARTICLE 680.14 AND SHALL BE UL LISTED AND ETL VERIFIED FOR SUCH USE. THE EXPOSED ELECTRICAL INSTALLATION SHALL BE FINISHED WITH PVC ANTI-CORROSIVE COATINGS. ALL UNISTRUTS SHALL HAVE A DEFENDER FINISH.
14. ALL CONDUIT PENETRATIONS THROUGH CMU WALLS SHALL BE PER DETAIL E1/XS104.

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Consultant

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

BUILDINGS P2, P3, P4
LIGHTING PLANS
Drawing

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LICENSED ARCHITECT MICHAEL K. FONG No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: SD	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: HDE	
Project Number: 2180	Checked By: SD	P/E101
Date: 08/02/2022	Reviewed By: SD	Sheet: _____ of: _____

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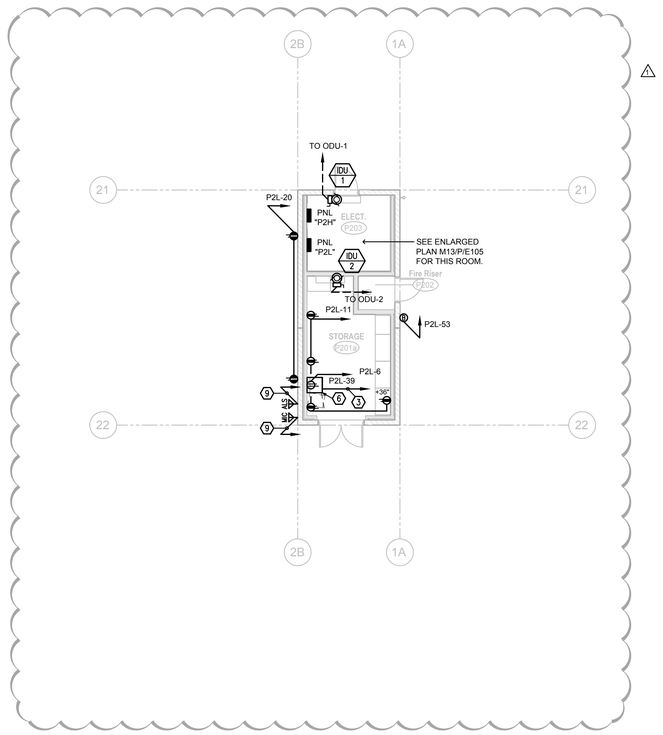

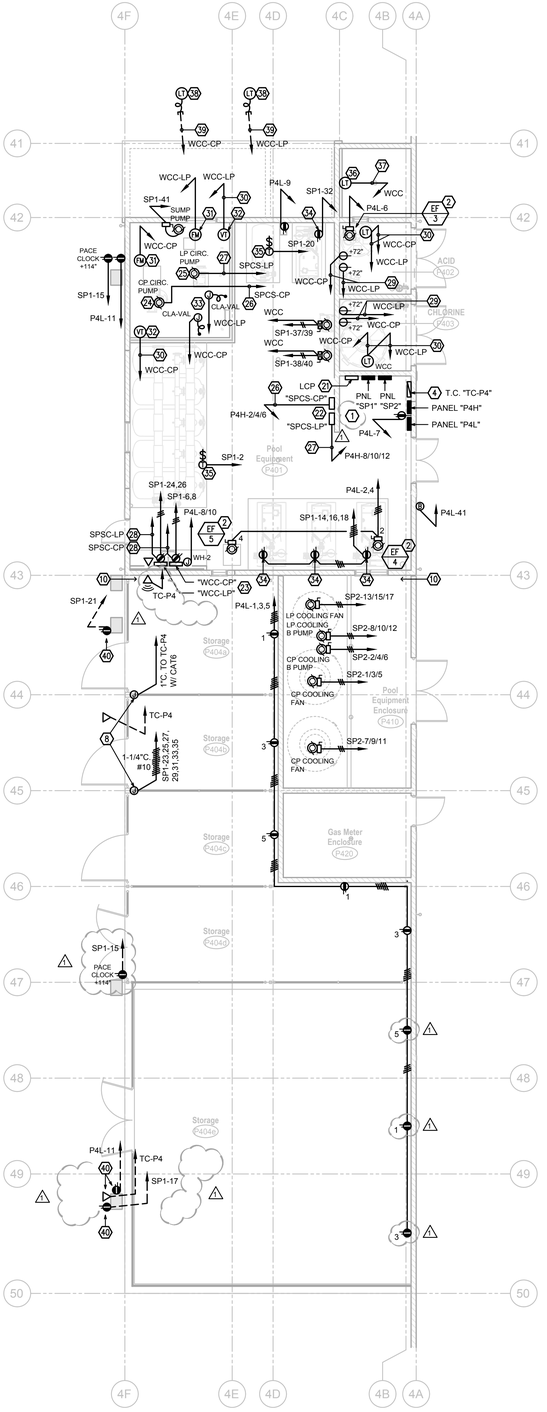

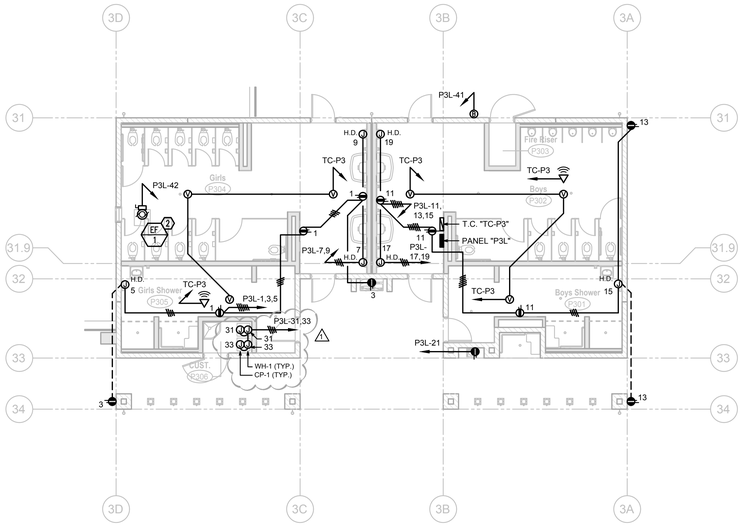

J1 — Power & Datacomm Plan - Building P2 — 1/8" = 1' - 0"

A1 — Power & Datacomm Plan - Building P3 — 1/8" = 1' - 0"

A9 — Power & Datacomm Plan - Building P4 — 1/8" = 1' - 0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. ALL PANELS, TERMINAL CABINETS, AND OTHER ENCLOSURES IN THIS ROOM SHALL BE STAINLESS STEEL, NEMA 4X.
2. CONNECT EXHAUST FAN AND INTERLOCK/ CONTROL AS PER MECHANICAL PLANS.
3. 2"C. TO ELECTRICAL ROOM.
4. 24"W x 24"H x 6"D HIGHED TERMINAL CABINET WITH LOCK HASP.
5. FURNISH AND INSTALL A COMPLETE AND OPERATING AUDIO VISUAL SYSTEM, INCLUDING: SAMSUNG UN60JU6400 OR CURRENT EQUIVALENT TV MONITOR, TV MONITOR MOUNT, EPSON ELPSP02 SPEAKERS, AND ALL CABLING, BALUNS, SETUP, CALIBRATION, AND REQUIRED APPURTENANCES. SEE DETAIL A9/X/E107.
6. PROVIDE A COMPLETE AND OPERATIONAL POOL AREA AUDIO SYSTEM CONSISTING OF THE FOLLOWING MINIMUM COMPONENTS:
   - CPI CUBE-IT RACK, 24"x24"x18", GLASS WINDOW, OPERATING WEIGHT W/ EQUIPMENT = 188 LBS. MOUNT CABINET PER L1/X/E105.
   - POWER DISTRIBUTION UNIT W/ INTEGRAL SURGE SUPPRESSOR
   - SHURE #SCM810 8-CHANNEL MIXER, RACK MOUNT KIT
   - DBX #231S DUAL CHANNEL 31 BAND 1/3 OCTAVE GRAPHIC EQUALIZER, RACK MOUNT KIT
   - ATLAS #CP700 700 WATT AMPLIFIER, RACK MOUNT KIT
   - SHURE #ULXS24/58 W/ (2) WIRELESS MICS & RECEIVER, RACK MOUNT KIT, REMOTE MOUNT ANTENNA AT SOUTHWEST CORNER OF ROOF
   - (3) SHURE #SM58 WIRED MICS W/ (4) 20 FT. CABLES
   - WILLIAMS AV #FM 558-24 PRO KIT ALS TRANSCEIVER WITH REMOTE ANTENNA AT SOUTHWEST CORNER OF ROOF. (1) PORTABLE TRANSMITTER, (24) PORTABLE RECEIVERS, (24) EAR BUDS, (6) NECK LOOPS, (2) 12-BAY CHARGERS, RACK MOUNT KIT
   - (2) ATLAS FS12T-66 SPEAKERS MOUNTED AT SCOREBOARD WITH CABLES TO AUDIO CABINET. SEE ARCHITECTURAL PLANS.
   - (2) TOMBSTONE INPUT STATIONS EACH WITH (2) XLR MIC INPUTS AND (1) 1/8" TRS INPUT. SEE SITE PLAN FOR LOCATIONS.
   - ALL REQUIRED CABLING AND INTERCONNECTS.
7. 1"C. W/ (2) SHIELDED MICROPHONE CABLES AND TRS AUDIO CABLE.
8. RISE CONDUITS AT BACK OF SCOREBOARD. CONNECT POWER AND DATA.
9. 1"C. TO AUDIO SYSTEM CABINET.
10. SEISMIC SEPARATION. PROVIDE LISTED SEISMIC DEFLECTION/ EXPANSION/ FITTINGS ON CONDUITS CROSSING THE SEPARATION.
21. POOL LIGHTS CONTACTOR PANEL. SEE SHEET MR-1.
22. SMART PUMP CONTROL VARIABLE SPEED DRIVE SYSTEM "SPCS-CP" AND "SPCS-LP".
23. WATER CHEMISTRY CONTROLLER "WCC-CP" AND "WCC-LP".
24. CONNECT CIRCULATION PUMP; 480V 3Ø, 50HP TO CIRCUIT P4H-2/4/6 WITH 1 1/4"C. 3#3, 1#8G.
25. CONNECT CIRCULATION PUMP; 480V 3Ø, 7.5HP TO CIRCUIT P4H-8/10/12 WITH 3/4"C. 3#10, 1#10G.
26. 1 1/4"C. 3#3, 1#8G.
27. 3/4"C. 3#10, 1#10G.
28. 3/4"C. 4#12, 1#12G.
29. 1/2"C. 2#12, 1#12G.
30. 1/2"C. 1#2 TSP.
31. CONNECT FLOW METER.
32. CONNECT VACUUM TRANSMITTER.
33. CONNECT CLA-VAL SOLENOID.
34. VERIFY OUTLET LOCATION FOR HEATER PRIOR TO ROUGH-IN.
35. 120V-24VAC TRANSFORMER PER FILTRATION CONTROLLER SPECS.
36. CONNECT BACKWASH PIT LEVEL SENSOR.
37. 1/2"C. 1#2.
38. STUB INTO SURGE CHAMBER NEAR STILLING PIPE AND CONNECT LEVEL.
39. 1"C. 1#2 TSP.
40. MOUNT DEVICE ON THE COLUMN.

POWER & SYSTEMS NOTES

1. ALL WORK AT THE POOLS AND RELATED POOL EQUIPMENT SHALL CONFORM WITH CEC ARTICLE 680. REFER TO AQUATIC DESIGN GROUP DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ELECTRICAL WORK (E.G., POOL LIGHTING, TIMING EQUIPMENT, GROUNDING, ETC.) AT THE POOLS AND RELATED EQUIPMENT ROOMS.
2. ALL RACEWAYS, COUPLINGS, STRAPS, ANCHORS, AND WIRING IN POOL EQUIPMENT ROOM, ACID, CHLORINE, AND POOL EQUIPMENT ENCLOSURE SHALL CONFORM TO CEC ARTICLE 680.14 AND SHALL BE UL LISTED AND ETL VERIFIED FOR SUCH USE. THE EXPOSED ELECTRICAL INSTALLATION SHALL BE FINISHED WITH PVC ANTI-CORROSIVE COATINGS. ALL UNISTRUTS SHALL HAVE A DEFENDER FINISH.
3. ALL CONDUIT PENETRATIONS THROUGH CMU WALLS SHALL BE PER DETAIL E1/XS104.

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REGISTERED PROFESSIONAL ENGINEER C. SCOTT DAVIDSON E17850 ELECTRICAL STATE OF CALIFORNIA

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BUILDINGS P2, P3, P4
POWER & DATACOMM PLANS
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LICENSED ARCHITECT MICHAEL K. FERRO No. C23724 Ren. 4/30/23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: SD	Copyright 2022 Darden Architects
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Project Number: 2180	Checked By: SD	Sheet: ____ of: ____
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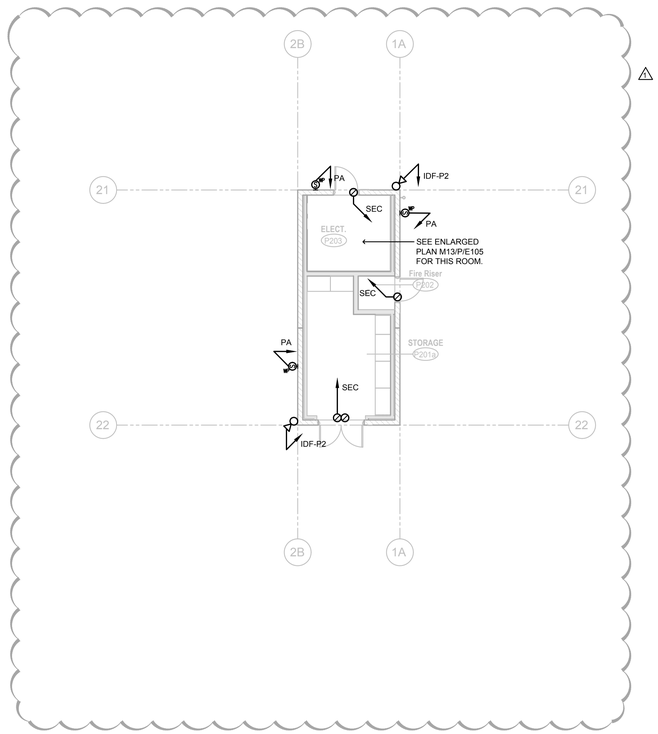

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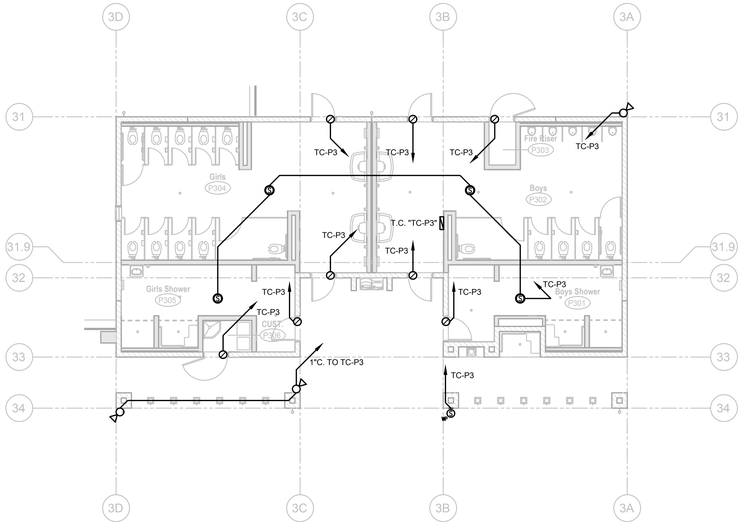
J1 — PA & Intrusion Systems Plan - Building P2

1/8" = 1' - 0"



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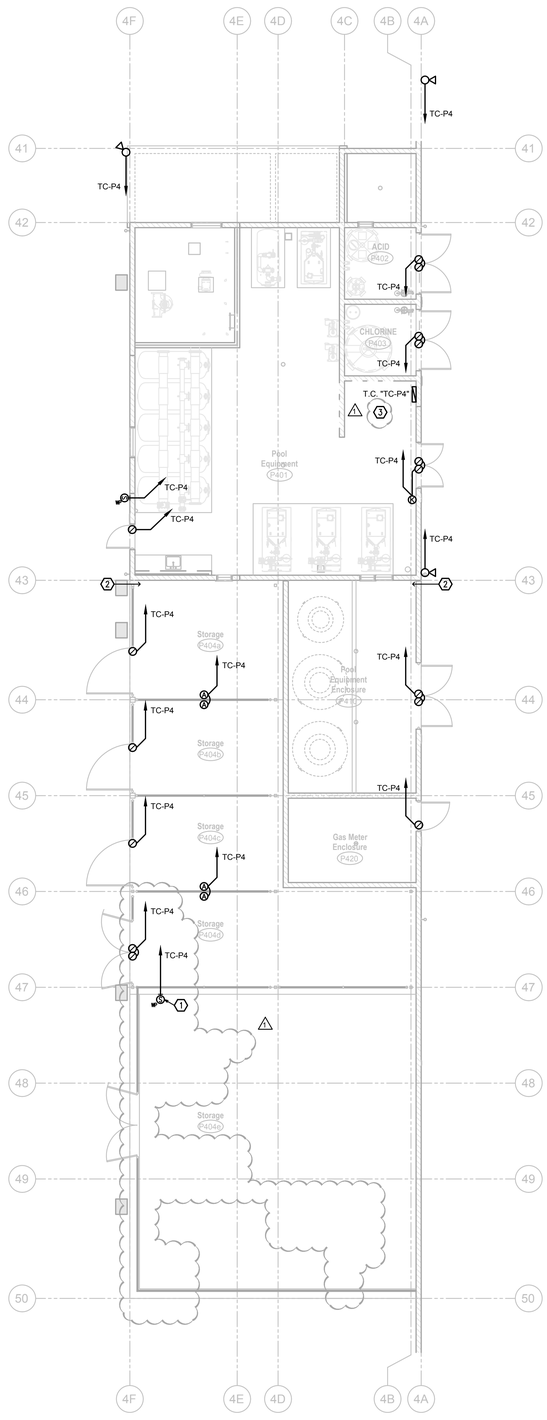
A1 — PA & Intrusion Syatems Plan - Building P3

1/8" = 1' - 0"



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A9 — PA & Intrusion Systems Plan - Building P4

1/8" = 1' - 0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. MOUNT DEVICE ON THE STEEL PLATE. SEE ARCHITECTURAL DETAIL N11/P/A504.
2. SEISMIC SEPARATION. PROVIDE LISTED SEISMIC DEFLECTION/ EXPANSION/ FITTINGS ON CONDUITS CROSSING THE SEPARATION.
3. ALL PANELS, TERMINAL CABINETS, AND OTHER ENCLOSURES IN THIS ROOM SHALL BE STAINLESS STEEL, NEMA 4X.

POWER & SYSTEMS NOTES

1. ALL WORK AT THE POOLS AND RELATED POOL EQUIPMENT SHALL CONFORM WITH CEC ARTICLE 680. REFER TO AQUATIC DESIGN GROUP DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ELECTRICAL WORK (E.G., POOL LIGHTING, TIMING EQUIPMENT, GROUNDING, ETC.) AT THE POOLS AND RELATED EQUIPMENT ROOMS.
2. ALL RACEWAYS, COUPLINGS, STRAPS, ANCHORS, AND WIRING IN POOL EQUIPMENT ROOM, ACID, CHLORINE, AND POOL EQUIPMENT ENCLOSURE SHALL CONFORM TO CEC ARTICLE 680.14 AND SHALL BE UL LISTED AND ETL VERIFIED FOR SUCH USE. THE EXPOSED ELECTRICAL INSTALLATION SHALL BE FINISHED WITH PVC ANTI-CORROSIVE COATINGS. ALL UNISTRUTS SHALL HAVE A DEFENDER FINISH.
3. ALL CONDUIT PENETRATIONS THROUGH CMU WALLS SHALL BE PER DETAIL E1/XS104.

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LICENSED ARCHITECT BRENT K. FERRIS No. C23724 Exp. 4-30-23 STATE OF CALIFORNIA
Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

	Designed By: SD	Copyright 2022 Darden Architects
Scale: As indicated	Drawn By: HDE	*P/E103*
Project Number: 2180	Checked By: SD	Sheet: _____ of: _____
Date: 08/02/2022	Reviewed By: SD	

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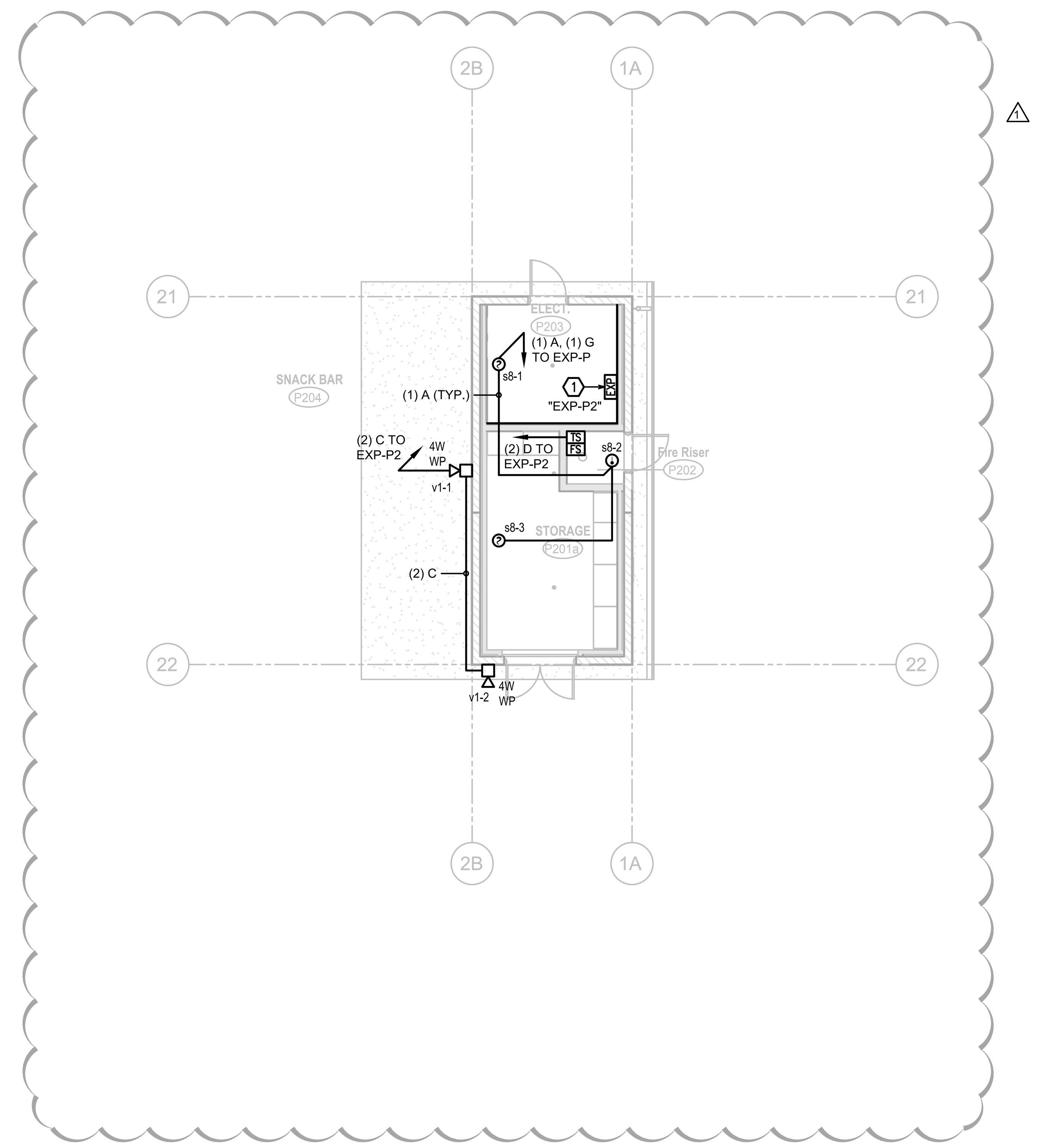
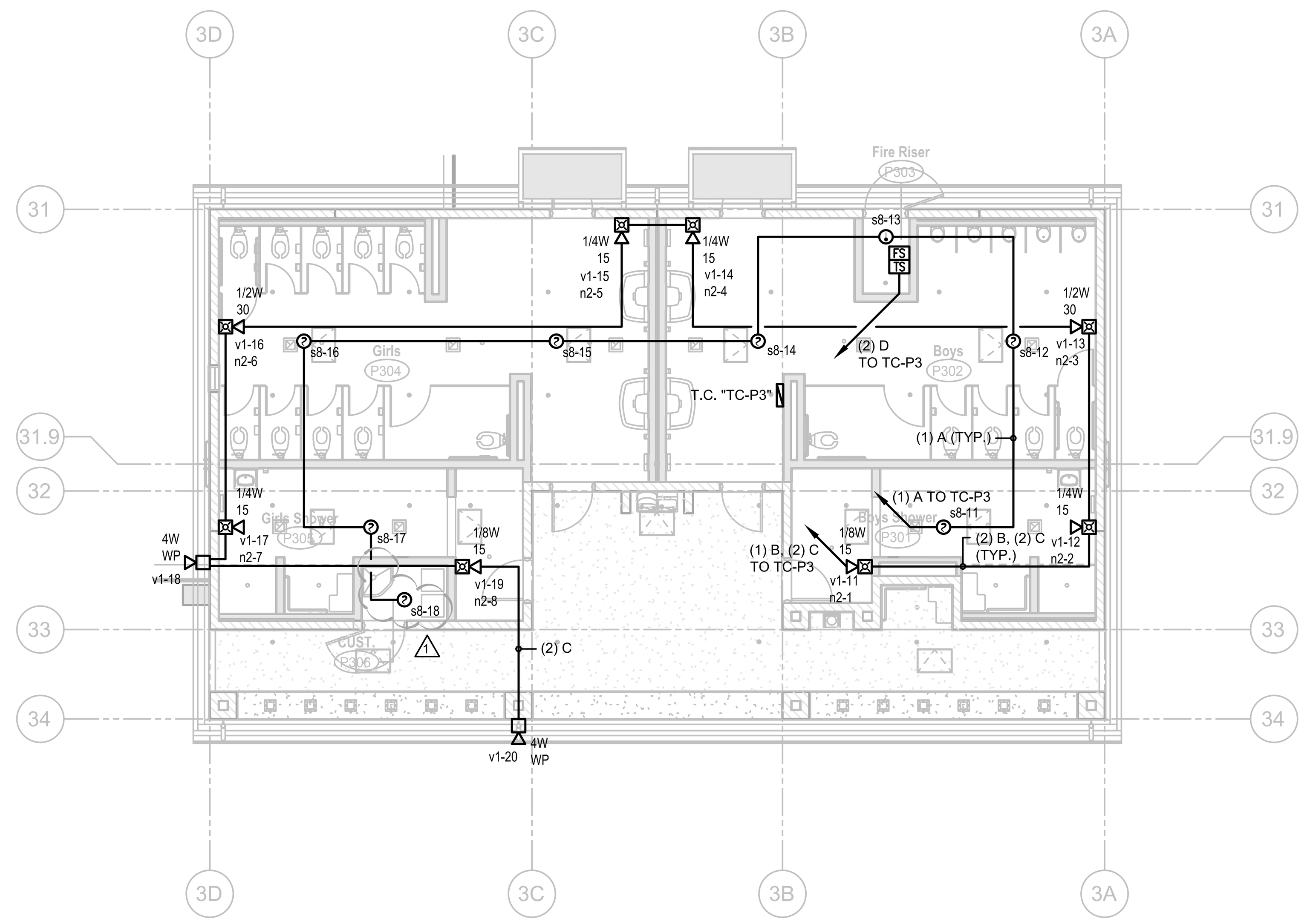
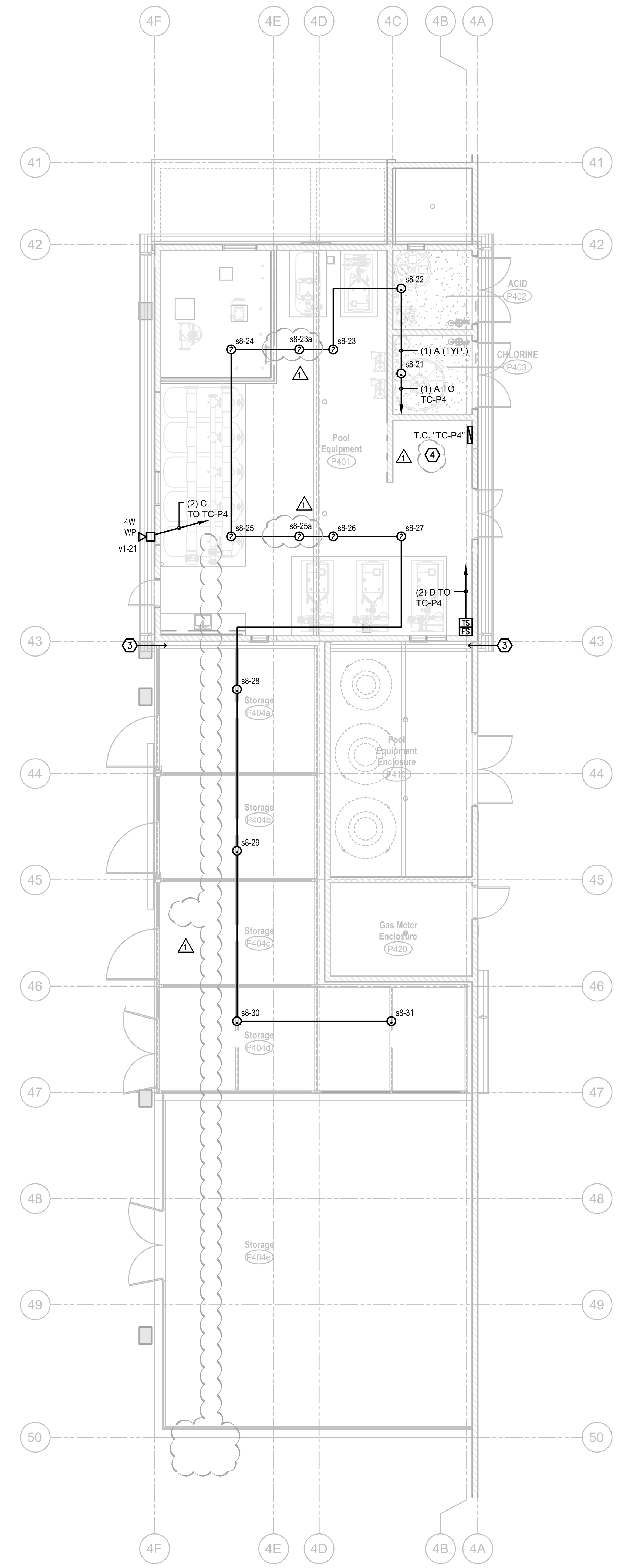


J1 Fire Alarm Plan - Building P2
1/8" = 1'-0"



A1 Fire Alarm Plan - Building P3
1/8" = 1'-0"



A9 Fire Alarm Plan - Building P4
1/8" = 1'-0"

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. INSTALL FIRE ALARM NAC EXPANDER PANEL. CONNECT TO DEDICATED 120V CIRCUIT. CONNECT FA PER FIRE ALARM SINGLE LINE DIAGRAM A1/X/E202.
2. NOT USED.
3. SEISMIC SEPARATION. PROVIDE LISTED SEISMIC DEFLECTION/ EXPANSION/ FITTINGS ON CONDUITS CROSSING THE SEPARATION.
4. ALL PANELS, TERMINAL CABINETS, AND OTHER ENCLOSURES IN THIS ROOM SHALL BE STAINLESS STEEL, NEMA 4X.

POWER & SYSTEMS NOTES

1. ALL WORK AT THE POOLS AND RELATED POOL EQUIPMENT SHALL CONFORM WITH CEC ARTICLE 680. REFER TO AQUATIC DESIGN GROUP DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ELECTRICAL WORK (E.G., POOL LIGHTING, TIMING EQUIPMENT, GROUNDING, ETC.) AT THE POOLS AND RELATED EQUIPMENT ROOMS.
2. ALL RACEWAYS, COUPLINGS, STRAPS, ANCHORS, AND WIRING IN POOL EQUIPMENT ROOM, ACID, CHLORINE, AND POOL EQUIPMENT ENCLOSURE SHALL CONFORM TO CEC ARTICLE 680.14 AND SHALL BE UL LISTED AND ETL VERIFIED FOR SUCH USE. THE EXPOSED ELECTRICAL INSTALLATION SHALL BE FINISHED WITH PVC ANTI-CORROSIVE COATINGS. ALL UNISTRUTS SHALL HAVE A DEFENDER FINISH.
3. ALL CONDUIT PENETRATIONS THROUGH CMU WALLS SHALL BE PER DETAIL E1/X/S104.

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Consultant

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Tulare Joint Union High School District
Tulare, CA 93274

Project

BUILDINGS P2, P3, P4
FIRE ALARM PLANS

Drawing

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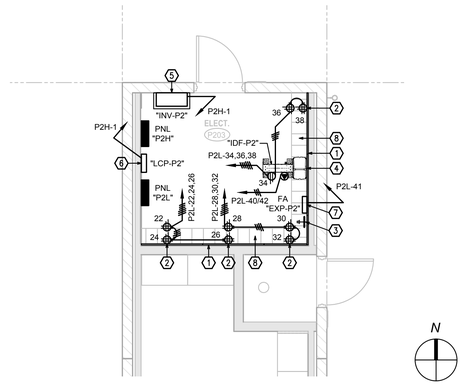

M13	Enlarged Electrical Room Electrical Plan - Building P2
1/4" = 1' - 0"	

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. 3/4" THICK x 8FT HIGH, FIRE-RESISTANT PLYWOOD BACKBOARD. PAINTED WITH FIRE RESISTANT PAINT. SECURE PLYWOOD TO METAL STUDS WITH #10 x MIN. 1 1/4" SELF-TAPPING METAL SCREWS AT 8" CENTERS.
2. MOUNT OUTLETS AT BACKBOARD AT +24" AFF. AND +72" AFF.
3. PROVIDE TELECOM GROUND BUS PER DETAIL L11/X/E105 AND L15/X/E105.
4. 2-POST RACK AND CABLE MANAGEMENT SECTION PER DETAIL L6/X/E105.
5. EMERGENCY LIGHTING INVERTER "INV-P2". 90 MINUTES RUNTIME. IOTA #ISC-2800-277IN-277OUT-BYPASS-OB4/1P277/10AMP/ON. SEE DETAIL M1/X/E102 FOR MOUNTING.
6. EXTERIOR LIGHTS LIGHTING CONTROL PANEL "LCP-P2". LITHONIA ARP-INTENC16-NLT-16FCR-MVOLT-ZVB-HLK-SM-DTC.
7. FIRE ALARM NAC EXPANDER PANEL. CONNECT TO DEDICATED 120V 20A CIRCUIT. CIRCUIT BREAKER TO BE EQUIPPED WITH RED HANDLE LOCK-ON DEVICE AND LABEL READING "FIRE ALARM CIRCUIT. DO NOT TURN OFF". CONNECT FA. SEE FIRE ALARM PLANS.
8. LADDER RACK SYSTEM PER DETAIL J1/X/E107.

POWER & SYSTEMS NOTES

1. ALL WORK AT THE POOLS AND RELATED POOL EQUIPMENT SHALL CONFORM WITH CEC ARTICLE 680. REFER TO AQUATIC DESIGN GROUP DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ELECTRICAL WORK (E.G., POOL LIGHTING, TIMING EQUIPMENT, GROUNDING, ETC.) AT THE POOLS AND RELATED EQUIPMENT ROOMS.
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3. ALL CONDUIT PENETRATIONS THROUGH CMU WALLS SHALL BE PER DETAIL E1/X/S104.

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BUILDINGS P2, P3, P4
ENLARGED ELECTRICAL PLANS

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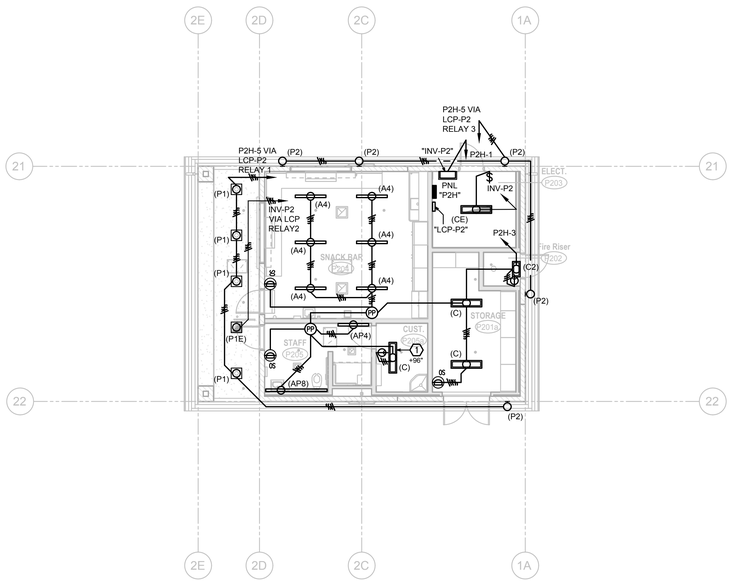

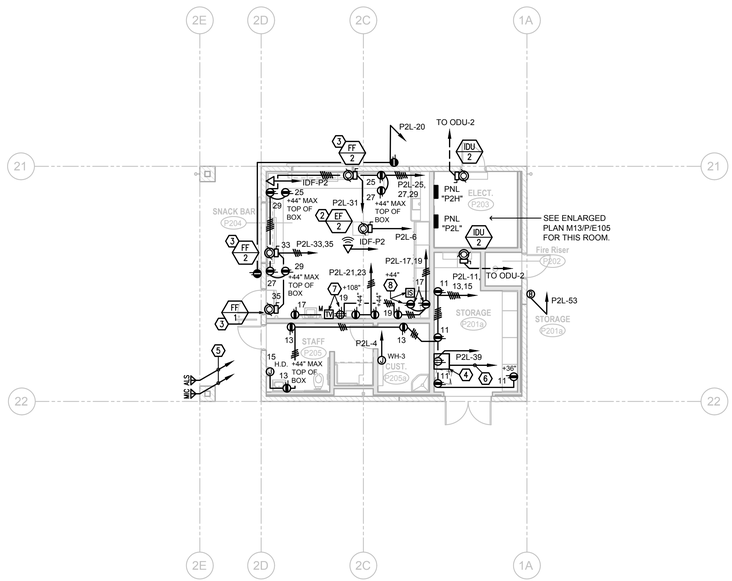

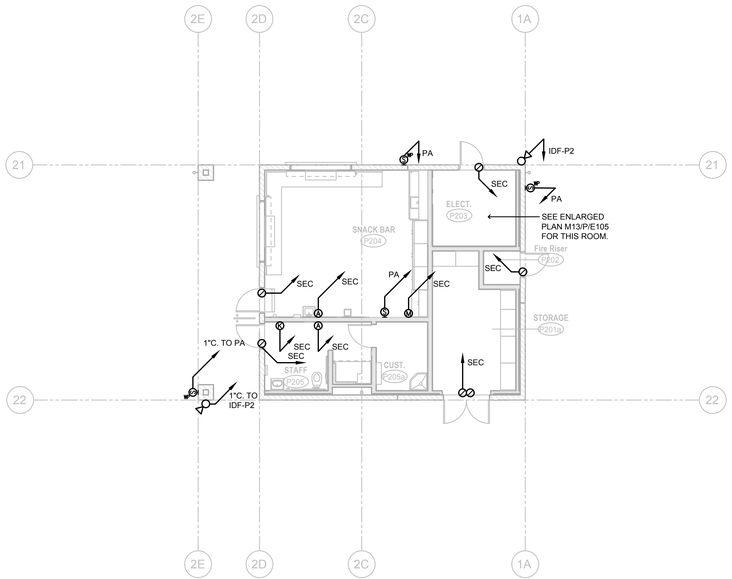

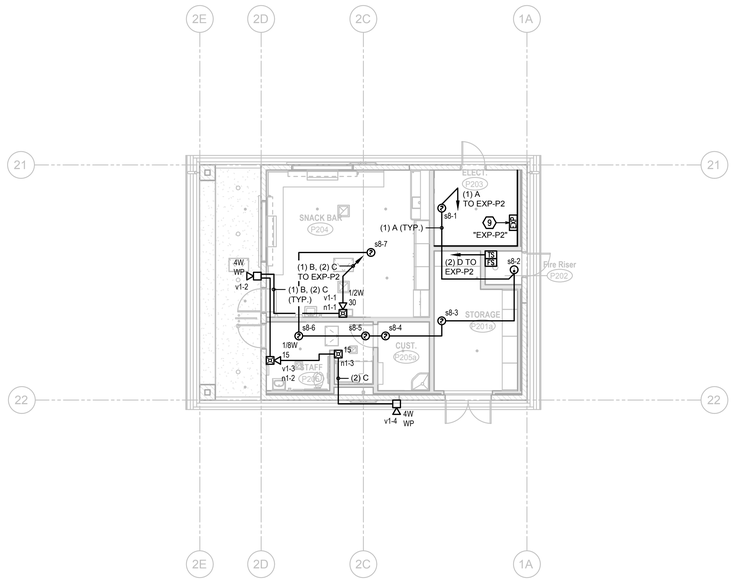

DSA File No.:
54-H11

DSA Application No.:
02-120251

Agency Approval

KEYNOTES

1. MOUNT LIGHT FIXTURE ON CENTER OF WALL AT +96" AFF. MOUNT PER DETAIL A10/XE102.
2. CONNECT ROOF EXHAUST FAN AND INTERLOCK/ CONTROL AS PER MECHANICAL PLANS.
3. CONNECT TO FLY FAN AND CONTROLS PER MANUFACTURER. VERIFY LOCATION AND HEIGHT WITH MANUFACTURER INFORMATION PRIOR TO ROUGH-IN. PROVIDE ALL REQUIREMENT PER MANUFACTURER.
4. PROVIDE A COMPLETE AND OPERATIONAL POOL AREA AUDIO SYSTEM CONSISTING OF THE FOLLOWING MINIMUM COMPONENTS:
   - CPI CUBE-IT RACK, 24"x24"x18", GLASS WINDOW, OPERATING WEIGHT W/ EQUIPMENT = 188 LBS. MOUNT CABINET PER L1/XE105.
   - POWER DISTRIBUTION UNIT W/ INTEGRAL SURGE SUPPRESSOR
   - SHURE #SCM810 8-CHANNEL MIXER, RACK MOUNT KIT
   - DBX #231S DUAL CHANNEL 31 BAND 1/3 OCTAVE GRAPHIC EQUALIZER, RACK MOUNT KIT
   - ATLAS #CP700 700 WATT AMPLIFIER, RACK MOUNT KIT
   - SHURE #ULXS245/8 W/ (2) WIRELESS MICS & RECEIVER, RACK MOUNT KIT, REMOTE MOUNT ANTENNA AT SOUTHWEST CORNER OF ROOF
   - (3) SHURE #SM58 WIRED MICS W/ (4) 20 FT. CABLES
   - WILLIAMS AV #FM 558-24 PRO KIT ALS TRANSCEIVER WITH REMOTE ANTENNA AT SOUTHWEST CORNER OF ROOF, (1) PORTABLE TRANSMITTER, (24) PORTABLE RECEIVERS, (24) EAR BUDS, (6) NECK LOOPS, (2) 12-BAY CHARGERS, RACK MOUNT KIT
   - (2) ATLAS FS12T-66 SPEAKERS MOUNTED AT SCOREBOARD WITH CABLES TO AUDIO CABINET. SEE ARCHITECTURAL PLANS.
   - (2) TOMBSTONE INPUT STATIONS EACH WITH (2) XLR MIC INPUTS AND (1) 1/8" TRS INPUT. SEE SITE PLAN FOR LOCATIONS.
   - ALL REQUIRED CABLING AND INTERCONNECTS.
5. 1"C. TO AUDIO SYSTEM CABINET.
6. 2"C. TO ELECTRICAL ROOM.
7. TV MONITOR MENU BOARD LOCATION PER DETAIL A1/XE107.
8. TV MONITOR MENU BOARD INPUT STATION PER DETAIL A1/XE107.
9. INSTALL FIRE ALARM NAC EXPANDER PANEL. CONNECT TO DEDICATED 120V CIRCUIT. CONNECT FA PER FIRE ALARM SINGLE LINE DIAGRAM A1/XE202.

J1 — Lighting Plan - Building P2
1/8" = 1' - 0"

J1 — Power & Datacomm Plan - Building P2
1/8" = 1' - 0"

A1 — PA & Intrusion Systems Plan - Building P2
1/8" = 1' - 0"

A9 — Fire Alarm Plan - Building P2
1/8" = 1' - 0"

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Project

BUILDINGS P2 - ALTERNATE BID
LIGHTING, POWER & DATACOMM, PA & INTRUSION SYSTEMS, AND FIRE ALARM PLANS
Drawing

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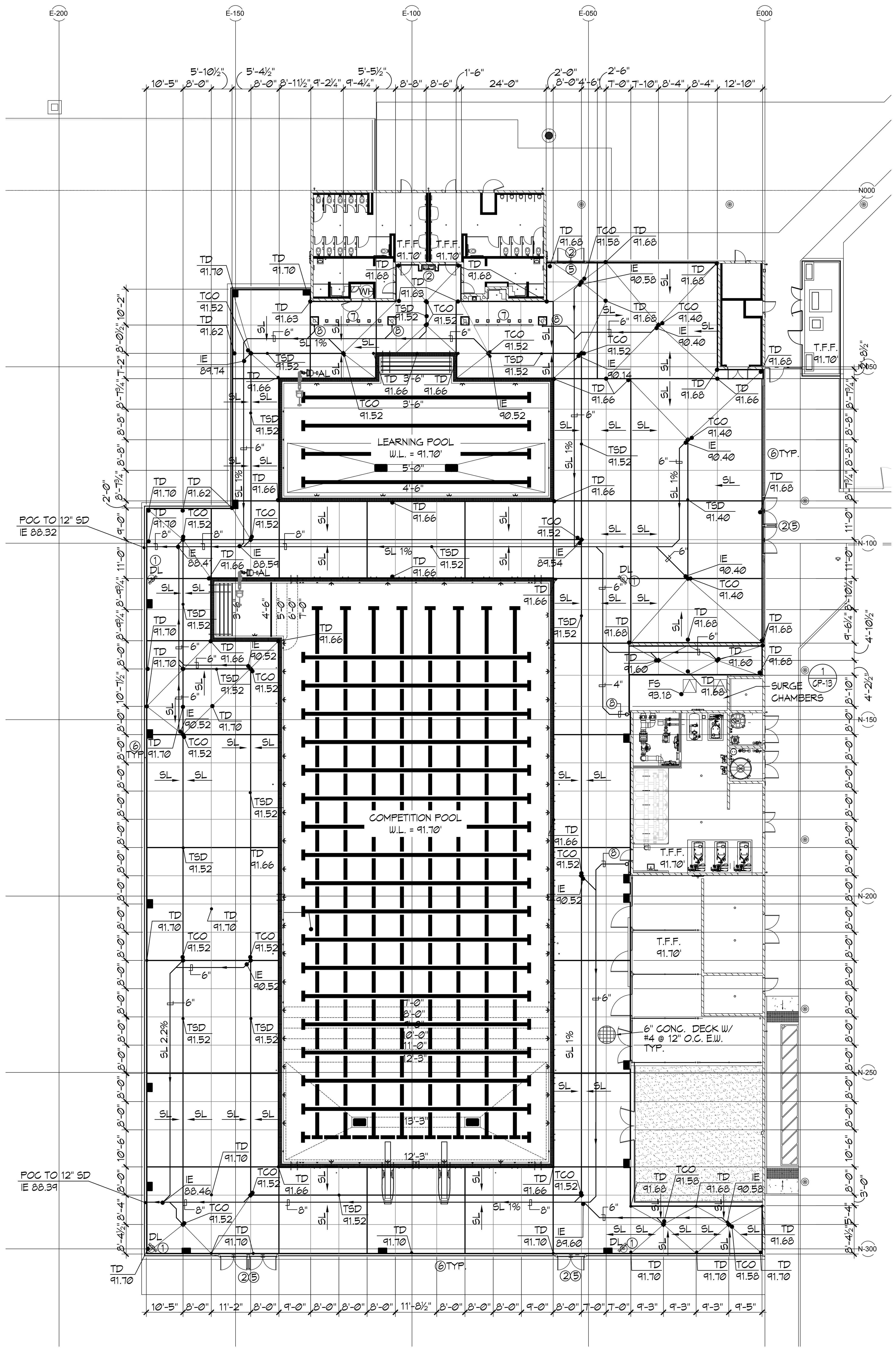

A POOL AREA DECK PLAN 1/16"=1'-0"

LEGEND

EJ	=	EXPANSION JOINT (2A, 2C / CP-13)
CJ	=	CONTROL JOINT (2B / CP-13)
TSD	=	TOP OF SLOT DRAIN (3 / CP-13)
TCO	=	TOP OF CLEAN-OUT
AL	=	ACCESSIBLE LIFT (1 / CP-10)
HB	=	HOSE BIBB
SCA	=	SURGE CHAMBER ACCESS (2 / MR-9)
CW	=	COLD WATER
SL	=	SLOPE DIRECTION
WL	=	WATERLEVEL
TD	=	TOP OF DECK
TFF	=	TOP OF FINISHED FLOOR
I.E.	=	INVERT ELEVATION
SD	=	STORM DRAIN
DL	=	DECK LIGHT

KEY NOTES

1. EXPANSION JOINTS SHALL WRAP AROUND CONCRETE BENCHES, COLUMNS LIGHT BASES OR ANY OTHER OBSTRUCTIONS. TYP.
2. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF EXITS DRINKING FOUNTAINS, AND SANITARY FIXTURES.
3. N/A
4. N/A
5. ALL ENTRY GATES SHALL BE SELF-CLOSING AND SELF-LATCHING. SEE ARCHITECTURAL PLANS FOR GATE DETAILS.
6. ALL FENCES SHALL EXCEED 5'-0" IN HEIGHT. SEE ARCHITECTURAL PLANS FOR DETAILS.
7. EXTERNAL SHOWERS, SEE PLUMBING AND ARCHITECTURAL PLANS FOR FIXTURES AND DRAINS. SHOWERS SHALL HAVE 2% MAX. CROSS SLOPE IN ALL DIRECTIONS.
8. 4" Φ STORM DRAIN LATERAL TO ROOF DRAIN DOWNSPOUTS. SEE ARCHITECTURAL PLANS FOR STORM DRAINS TO ROOF DOWNSPOUT CONNECTIONS. CONTRACTOR SHALL VERIFY LOCATIONS OF ROOF DOWNSPOUTS WITH ARCHITECTURAL DRAWINGS.

GENERAL NOTES

A. COORDINATE SIGNAGE PLACEMENT AND COLOR SCHEME WITH OWNER PRIOR TO INSTALLATION.
B. DECKS SHALL HAVE 1% MIN. SLOPE AND 2% MAX. SLOPE TO DRAINS.
C. ALL POOL DECKS INSIDE OF PERIMETER WALLS AND FENCE SHALL BE 6" THICK W/ #4 @ 12"O.C.E.W. DECKS TO BE NON-SLIP WITH MEDIUM BROOM FINISH.
D. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND QUANTITY OF REQUIRED EXITS, DRINKING FOUNTAINS, AND SANITARY FIXTURES.
E. THE POOL CANNOT BE WITHOUT AN APPROVED POOL ENCLOSURE AT ANY TIME, INCLUDING DURING CONSTRUCTION AND INSTALLATION OF THE NEW POOL ENCLOSURE.
F. DEPTH MARKERS SHALL BE 6" CLR OF ANY DECK JOINTS

1 SITE REVISION

NORTH

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POOL AREA DECK PLAN
Drawing

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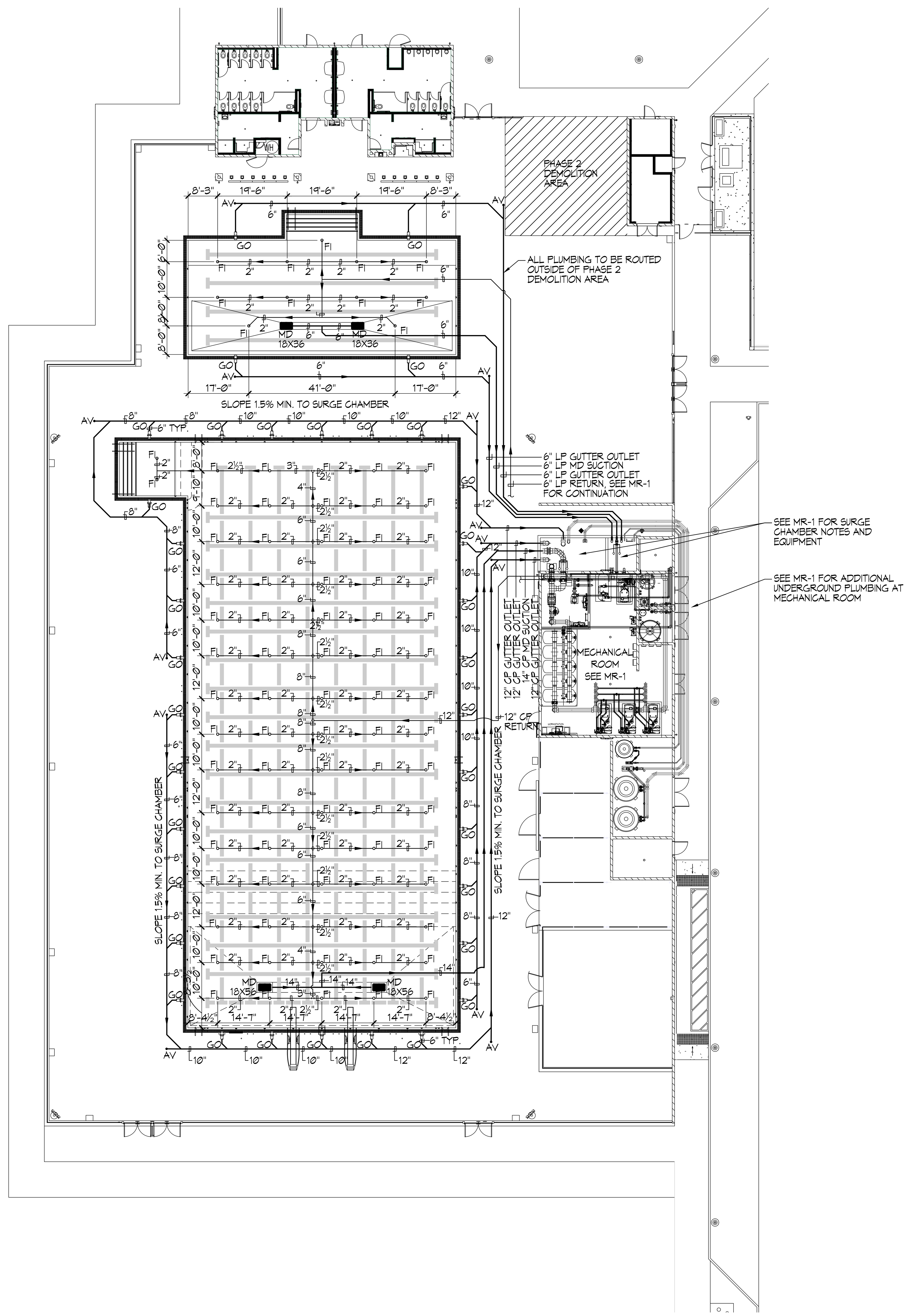

COMPETITION POOL DATA

SURFACE AREA	=	12,610 SQ. FT.
PERIMETER	=	517 FT.
DEPTH	=	3'-6" TO 13'-3"
VOLUME	=	771,582 GAL.
6 HR TURNOVER	=	2,144 GPM

COMPETITION POOL SURGE DATA

REQUIRED SURGE CAPACITY	=	12,610 GAL.
SURGE IN PERIMETER GUTTER	=	2,048 GAL.
9' x 17'-6" SURGE IN SURGE CHAMBER	=	10,704 GAL.
TOTAL SUPPLIED SURGE	=	13,314 GAL.

∴ 13,314 GAL. >12,610 GAL. OK

LEARNING POOL DATA

SURFACE AREA	=	2,543 SQ. FT.
PERIMETER	=	229 FT.
DEPTH	=	3'-6" TO 5'-0"
VOLUME	=	80,912 GAL.
6 HR TURNOVER	=	225 GPM

LEARNING POOL SURGE DATA

REQUIRED SURGE CAPACITY	=	2,543 GAL.
SURGE IN PERIMETER GUTTER	=	903 GAL.
9' x 8' SURGE IN SURGE CHAMBER	=	2,393 GAL.
TOTAL SUPPLIED SURGE	=	3,296 GAL.

∴ 3,296 GAL. > 2,543 GAL. OK

LEGEND

MD	=	MAIN DRAIN	6/CP-7
FI	=	FLOOR INLET	5/CP-7
GO	=	GUTTER OUTLET	2/CP-7
AV	=	AIR VENT	7/CP-13
SCA	=	SURGE CHAMBER ACCESS	2/MR-9
BFV	=	BUTTERFLY VALVE	

GENERAL NOTES

5/CP-12

1. PIPING ROUTES ARE SCHEMATIC IN NATURE AND SHOWN ON PLANS FOR CLARITY. CONTRACTOR SHALL ROUTE PIPING ACCORDINGLY TO MEET NOTED INVERT ELEVATIONS. REFER TO REFERENCED DETAIL FOR PIPE SPACING REQUIREMENTS.
2. ALL BELOW GRADE POOL PIPING SHALL BE SCHEDULE 40 PVC AND ALL ABOVE GRADE POOL PIPING SHALL BE SCHEDULE 80 PVC.
3. COORDINATE ALL PIPING WITH SITE AND BUILDING UTILITIES INCLUDING PIPING, CONDUITS / STRUCTURES AND THE LIKE. COORDINATE ROUTING OF PIPING THROUGH STRUCTURAL SLAB. ALL PIPING SHALL HAVE UNIFORM SLOPE IN ONE DIRECTION.
4. SURGE CHAMBER TEE SUCTION SHALL BE SET AT +6" A.F.F. MAINTAIN MAXIMUM SEPARATION BETWEEN SUCTION AND INFLUENT PIPING WITHIN THE SURGE CHAMBER.
5. EACH MAIN DRAIN SHALL BE EQUIPPED WITH HYDROSTATIC RELIEF VALVE PER RECOMMENDATIONS OF GEOTECHNICAL REPORT

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A COMPETITION AND LEARNING POOL PLUMBING PLAN 1/16"=1'-0"

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COMPETITION AND LEARNING POOL PLUMBING PLAN
Drawing

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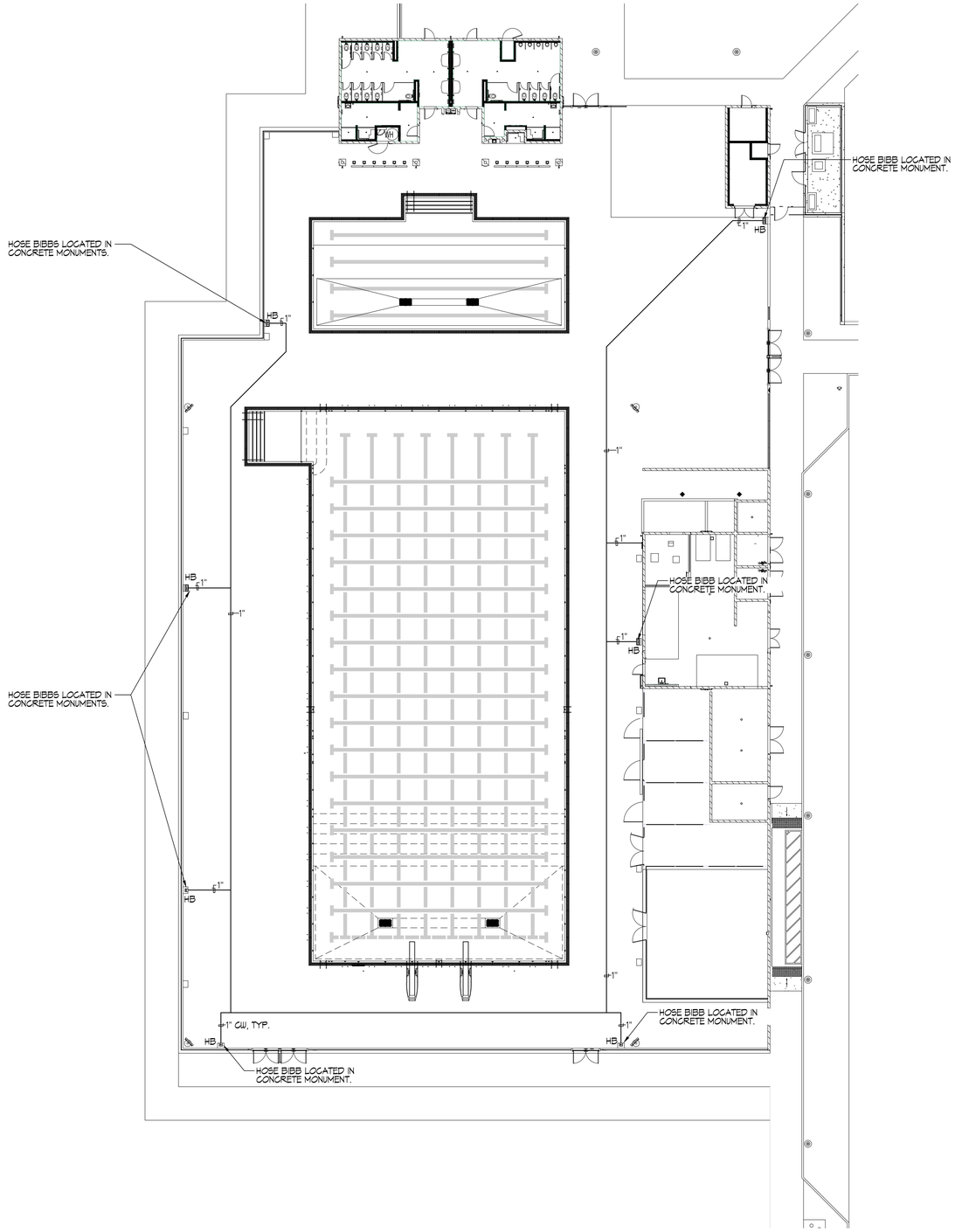
LEGEND

HB	=	HOSE BIBB — (5 / CP-1.3)
CW	=	COLD WATER



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DECK HOSE BIBB PLAN

1/16"=1'-0"

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DECK HOSE BIBB PLAN
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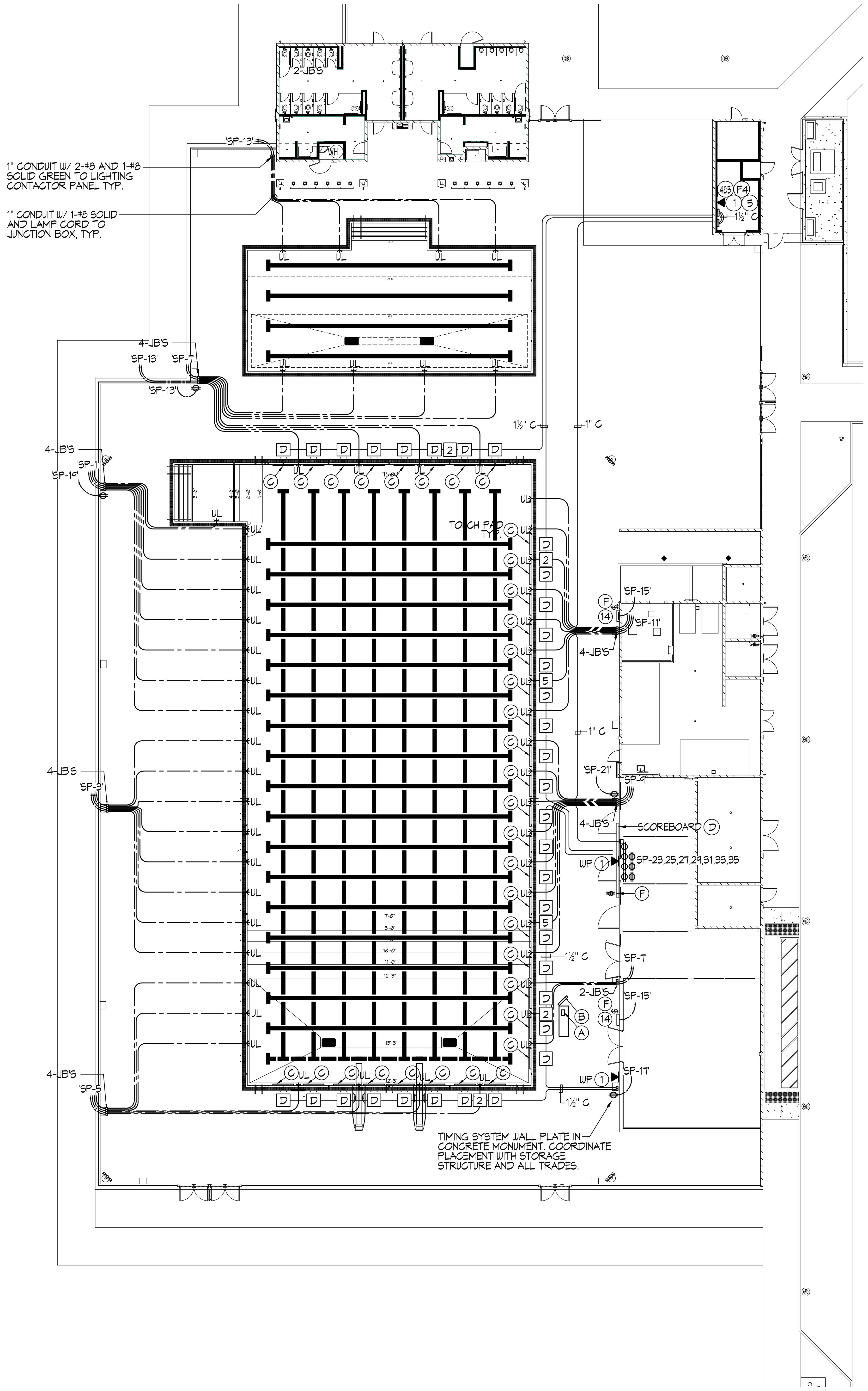


TIMING SYSTEM NOTES/EQUIPMENT

REVISION-01

NOTE: THE CONTRACTOR SHALL SUPPLY AND INSTALL DECK PLATE BOXES, WALL PLATE BOXES, WALL PLATE JUNCTION BOXES, CONDUIT, WIRING AND ALL TIMING EQUIPMENT AS SHOWN FOR THE 'COLORADO' TIME SYSTEM OR EQUAL. OWNER TO FURNISH SCOREBOARD, CONTRACTOR TO INSTALL PER PLANS AND MANUFACTURER INSTRUCTIONS.

TIMING SYSTEM

	QTY	MODEL	DESCRIPTION
(A)	1	GEN7-TMR	INTUITIVE SOFTWARE INTERFACE WITH MODERN WINDOWS USER INTERFACE AND TOUCHSCREEN FRIENDLY. FLEXIBLE USER INTERFACE OPTIONS WITH ETHERNET CONNECTIVITY TO THE TIMER. ADVANCED DIAGNOSTICS, INTELLIGENT BUS SYSTEM, ROBUST SAFEGUARDS. TIMER WILL CONTINUE TO RUN AND FINISH RACE WITHOUT USER INTERFACE. WET-PLUGGABLE TITANIUM CONNECTIONS. INTEGRATED 2.4 GHz WIRELESS TO SCOREBOARDS, FACILITY NETWORK CONNECTIVITY.
	1	R-600-302	GEN7 LAPTOP

START SYSTEM

	QTY	MODEL	DESCRIPTION
(B)	1	SS	CHAMPION SERIES START SYSTEM WITH WIRED MICROPHONE, VOLUME CONTROL ON EACH MICROPHONE INPUT, EXTERNAL CONNECTIONS FOR ADDITIONAL STROBE LIGHTS, LED BATTERY INDICATION LIGHT, AC/DC POWER CAPABILITIES AND AN EXTERNAL 360° STROBE. TRIPOD OR TABLE TOP OPTIONS.
	2	START-FPM-2	FLAG POLE MOUNTING KIT FOR STARTER
	16	SP-6/45	6 WATT INDIVIDUAL BLOCK SPEAKER

TOUCHPADS

	QTY	MODEL	DESCRIPTION
(C)	16	TP-78G	AQUAGRIP GUTTERHUNG TOUCHPADS (78" x 22") US PATENT 5,702,799
	2	CAD-TP96	TOUCHPAD CADDY FOR GUTTERHUNG TOUCHPADS. HOLDS UP TO TEN TOUCHPADS. SOME ASSEMBLY REQUIRED.
	16	4000-0040	SPECIAL SIZE TOUCHPAD BRACKETS

GEN7 TOUCHPAD SYSTEM

QTY	MODEL	DESCRIPTION
1	TP-GEN7-12	TWELVE-LANE TOUCHPAD SYSTEM FOR THE GEN 7
1	CHSP-1-12	TIMING SYSTEM (SERIAL) INCLUDES AN TWELVE-LANE CABLE HARNESS, ONE PUSHBUTTON PER LANE+ ONE SPARE, VACUUM PUMP AND TOUCHPAD METER.

GEN7 CABLE

QTY	MODEL	DESCRIPTION
1	R-015-707-8	SCOREBOARD CABLE, 8 METER
1	R-015-715-8	TIMER CABLE, 8 METER
2	R-015-706-8	STARTER CABLE, 8 METER
1	R-015-715-15	TIMER CABLE, 15 METER

GEN7 IN DECK

	QTY	MODEL	DESCRIPTION
[D]	34	TDPI-D	TITANIUM DOMED DECK PLATE-INTELLIGENT TITANIUM DECK PLATES REQUIRE A 4" SQUARE OR 4.125" DIAMETER CIRCULAR OPENING AT A MINIMUM. WRITTEN VERIFICATION AND SIGN OFF REQUIRED FROM CUSTOMER. NOTE: INCLUDES 5 YEAR WARRANTY. CTS IS THE ONLY MANUFACTURER OF TITANIUM DECK PLATE.
[2]	4	TDPI-S2	START DECK NODE
[5]	2	TDPI-SC5	SCOREBOARD DECK NODE
(1)	3	R-1004-0549	GEN7 WALL PLATE (15X15)
	1	TDPI-K1	KIT-SCOREBOARD BUS HEAD& TAIL NODE INSTALLATION
	1	TDPI-K1	KIT-TIMING BUS HEAD & TAIL NODE INSTALLATION
	1	WPI-F4	WP-YDS FIBER & LEGACY CONNECT

CONTROLLER

QTY	MODEL	DESCRIPTION
1	WTTC-2	WIRELESS TABLE TOP CONTROLLER
1	CASE-WTTC	CASE FOR THE WIRELESS TABLE TOP CONTROLLER
1	WHC-1	WIRELESS HANDHELD CONTROLLER

ADAPTER

QTY	MODEL	DESCRIPTION
1	WA-3	WIRELESS ADAPTER, 2.4 GHz

RELAY JUDGING PLATFORM

QTY	MODEL	DESCRIPTION
16	RJPL-24x32	CTS RELAY JUDGING PLATFORM 24"x32" W/ BUILT-IN LED LIGHT FOR START
2	CAD-RJPL-2	CADDY- 24" WIDTH RELAY JUDGING PLATFORMS (HOLDS 10)

FULL COLOR VIDEO DISPLAY (OFCI)

	QTY	MODEL	DESCRIPTION
(D)	1	SCOREBOARD (1/CP-11)	c UL us LISTED PROVIDE LED MATRIX DISPLAY SCOREBOARD INCLUDING ALL POWER REQUIREMENTS, BONDING AND STRUCTURAL SUPPORTS. THE SCOREBOARD SHALL HAVE FULL COLOR AND VIDEO CAPABILITIES. Y5C 10mm 320H x 576W SMD, FA, OD DISPLAY ACTIVE AREA: 125.98(H) x 226.77(W)

(E) PROVIDE SEVEN (7) DEDICATED 20 AMP CIRCUIT TO BE TERMINATED INTO SCOREBOARD LOAD CENTER

(F) MASTER ON/OFF SCOREBOARD SWITCH WITH PILOT LIGHT W/ LOCKABLE ENCLOSURE.

(G) SCOREBOARD DATA CONNECTION BOX CONNECT TO TIMING/WALL BOX LOCATION W/ 1" PVC CONDUIT.

GEN7 CABLE

QTY	MODEL	DESCRIPTION
1200'	R-015-737	TIMING BUS CABLE- 7 CONDUCTOR
1200'	R-015-726	SCOREBOARD BUS CABLE- 4 CONDUCTOR

PACE CLOCKS

	QTY	MODEL	DESCRIPTION
J8 N11/P/A504 (14)	2	SP-1400	PACE CLOCK - WALL MOUNTED SHOT CLOCK (19 lbs.) SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR ATTACHMENT TO SHADE STRUCTURE
	1	DC-1500	

SPECIFICATIONS:

- 4 DIGIT PACE CLOCK
- 10" RED DIGITS - VIEWABLE UP TO 400 FEET
- HIGH INTENSITY LED - INDOOR/OUTDOOR
- "SPLASH-PROOF" PROTECTIVE LENS
- INTERNAL RECHARGEABLE BATTERY
- INTERNAL HORN
- FEET AND HANDLE

FUNCTIONS:

- SIMPLE PACE CLOCK
- CUMULATIVE SPLIT DISPLAY
- LAP SPLIT DISPLAY
- LAP COUNTER
- LAP SPLIT DISPLAY WITH TURN SPEED
- RELAY EXCHANGES DISPLAY
- START REACTION DISPLAY
- HAND TURN SPEED
- BREAK OUT SPEED DISPLAY
- BREAK OUT SPEED DISPLAY WITH START REACTION
- TIME DISPLAY FOR REPETITIVE SETS
- SINGLE LANE TIMER
- MID-RACE TIMING DISPLAY
- WATERPOLO SHOT CLOCK
- WATERPOLO GAME CLOCK

NOTE: MOST FUNCTIONS REQUIRE ADDITIONAL INPUT DEVICES, i.e. TOUCHPAD, RELAY JUDGING PLATFORM, START SYSTEM, PUSHBUTTON

KEY NOTES

	DESCRIPTION	QUANTITY	UNIT
▼	ETHERNET DROP-BY OTHERS	3	COUNT
(F4)	WALL PLATE FIBER CONNECTION	1	COUNT
(485)	WALL PLATE RS-485 CONNECTION	1	COUNT
(14)	PACE CLOCK	2	COUNT
(1)	WALL PLATE TIMER NODE	3	COUNT
[D]	TIMING DECK NODE (4"x4"x6" PVC BOX)	34	COUNT
[2]	START DECK NODE (4"x4"x6" PVC BOX)	4	COUNT
[5]	SCOREBOARD DECK NODE (4"x4"x6" PVC BOX)	2	COUNT

LEGEND

JB	=	JUNCTION BOX	2/CP-12
WP	=	WALL PLATE	3/CP-12
RP	=	RACING PLATFORM	5/CP-10
SB	=	SCOREBOARD	1/CP-11
UL	=	UNDERWATER LIGHT	4/CP-12

1 SITE REVISION

NORTH

AQUATIC DESIGN GROUP
2226 Faraday Ave. Carlsbad, CA 92008
AquaticDesignGroup.com
760.438.8400

LICENSED ARCHITECT GREGORY S. FERRELL C-35802 REN. 07/31/23 STATE OF CALIFORNIA

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

UNDERWATER LIGHTING AND TIMING PLAN
Drawing

darden architects — ARCHITECTURE PLANNING INTERIORS
www.dardenarchitects.com
6790 N. West Ave. • Fresno, CA 93711 • T. 559.448.8051

LICENSED ARCHITECT ANTONIO J. AVILA No. C26235 Ren. 10-31-23 STATE OF CALIFORNIA

Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

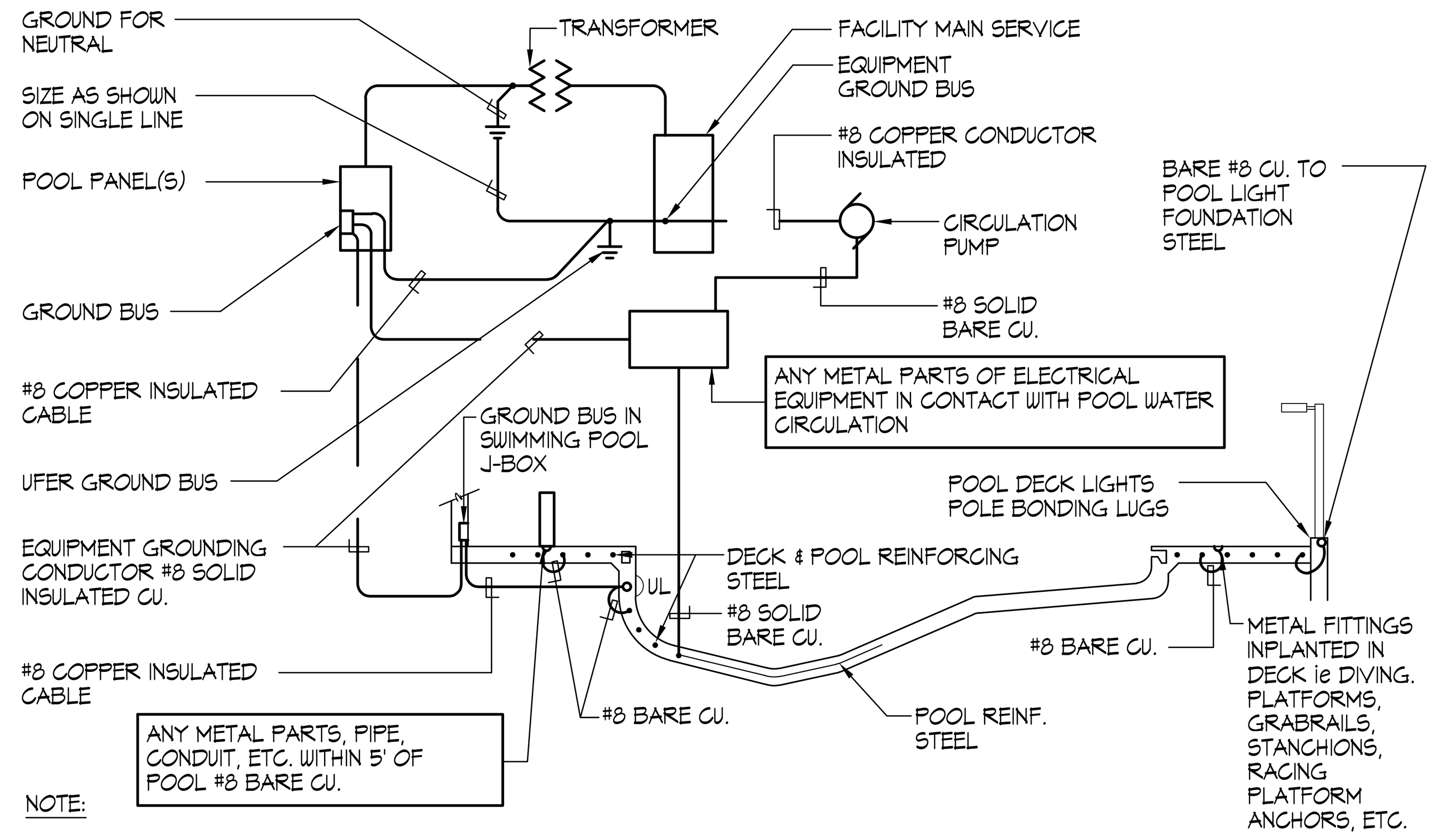
Revision

Designed By Designer

Scale: PER PLAN	Drawn By: AP
Project Number: 2180	Checked By: GF
Date: 7/28/2022	Reviewed By: -

CP-4

(A) UNDERWATER LIGHTING AND TIMING PLAN 1/16"=1'-0"

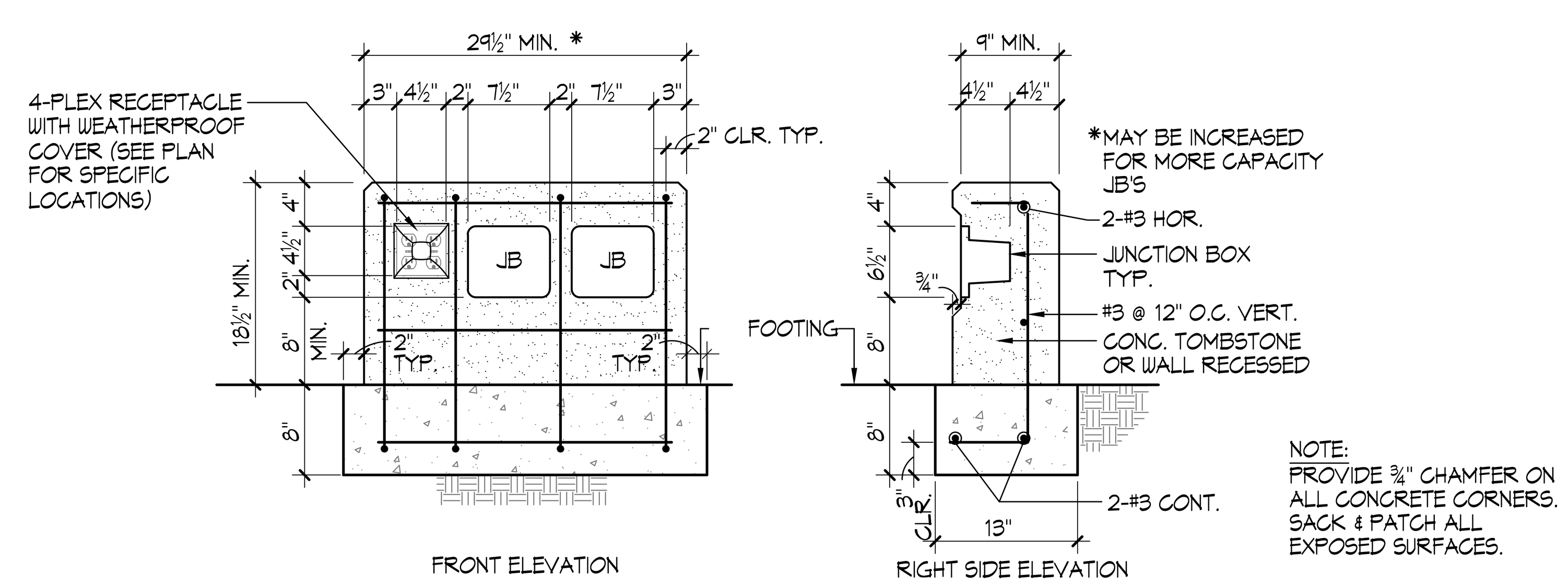


NOTE:

1. STRUCTURAL STEEL IN POOL DECK AND POOL SHALL BE BONDED TOGETHER (TIGHTLY MADE STEEL TIE-WIRES ARE APPROVED FOR BONDING STRUCTURAL ELEMENTS).
2. BONDING CONNECTOR TO COMMON GRID. (POOL STEEL MAY BE USED FOR THAT PURPOSE) SHALL BE MADE BY PRESSURE CONNECTORS OR CLAMPS OF BRASS, COPPER, OR COPPER ALLOY.
3. ALL GROUND BUSES SHALL BE SIZED FOR CONNECTION TO AWG SIZE 8 WIRE PROVIDING ONE SPARE TERMINAL.
4. GROUND AND BOND IN ACCORDANCE WITH ARTICLE 680 OF THE CALIFORNIA ELECTRICAL CODE. I.e. LADDERS, FENCING, POLE LIGHTS, DIVING & STARTING STANCHIONS, DISABLED LIFT ETC.
5. PROVIDE BONDING OF AUTOMATIC POOL COVER MOTORS REGARDLESS OF PROXIMITY TO POOL.

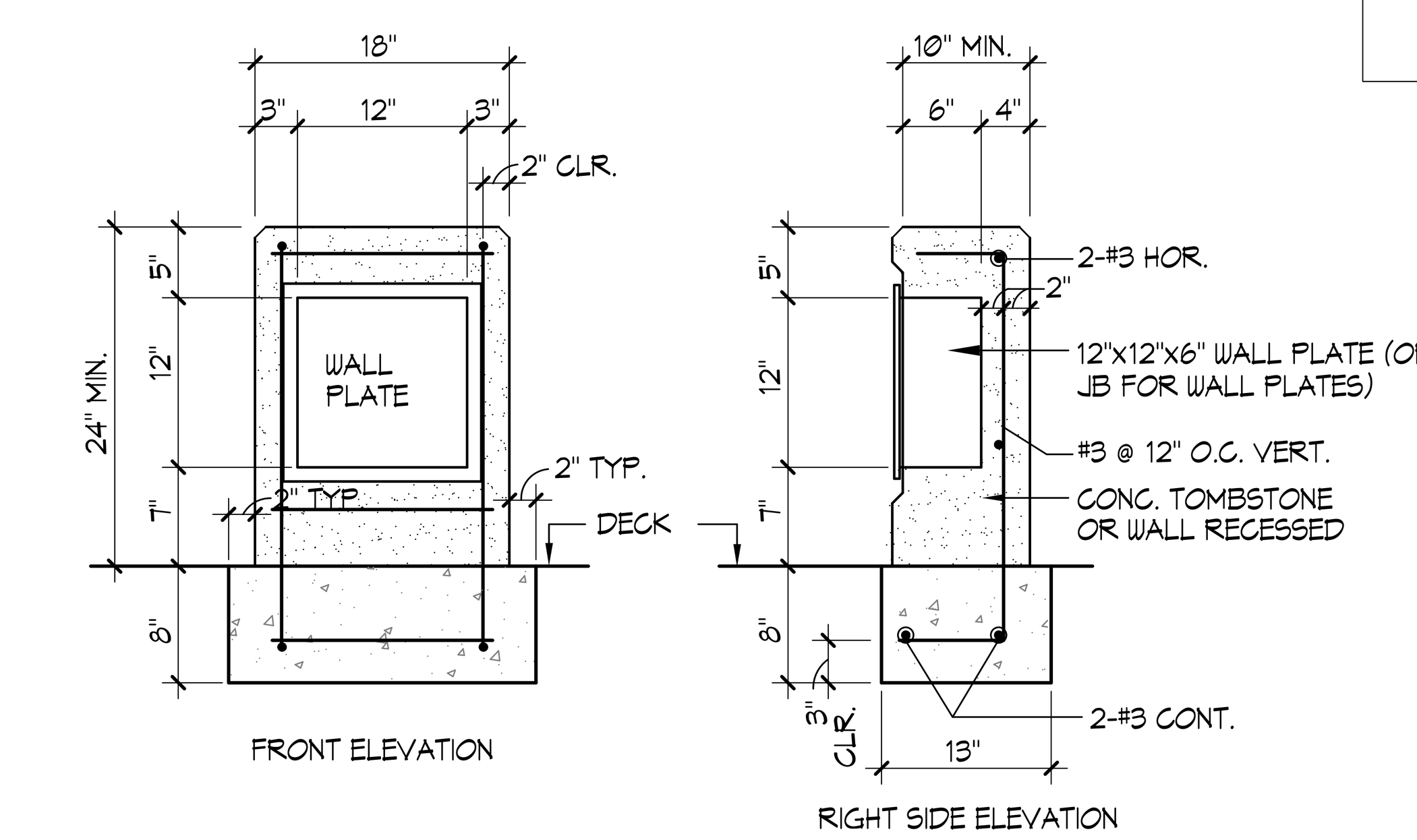
1 TYPICAL POOL BONDING AND GROUND DETAIL

NO SCALE



2 UNDERWATER LIGHT JUNCTION BOX SURROUND DETAIL

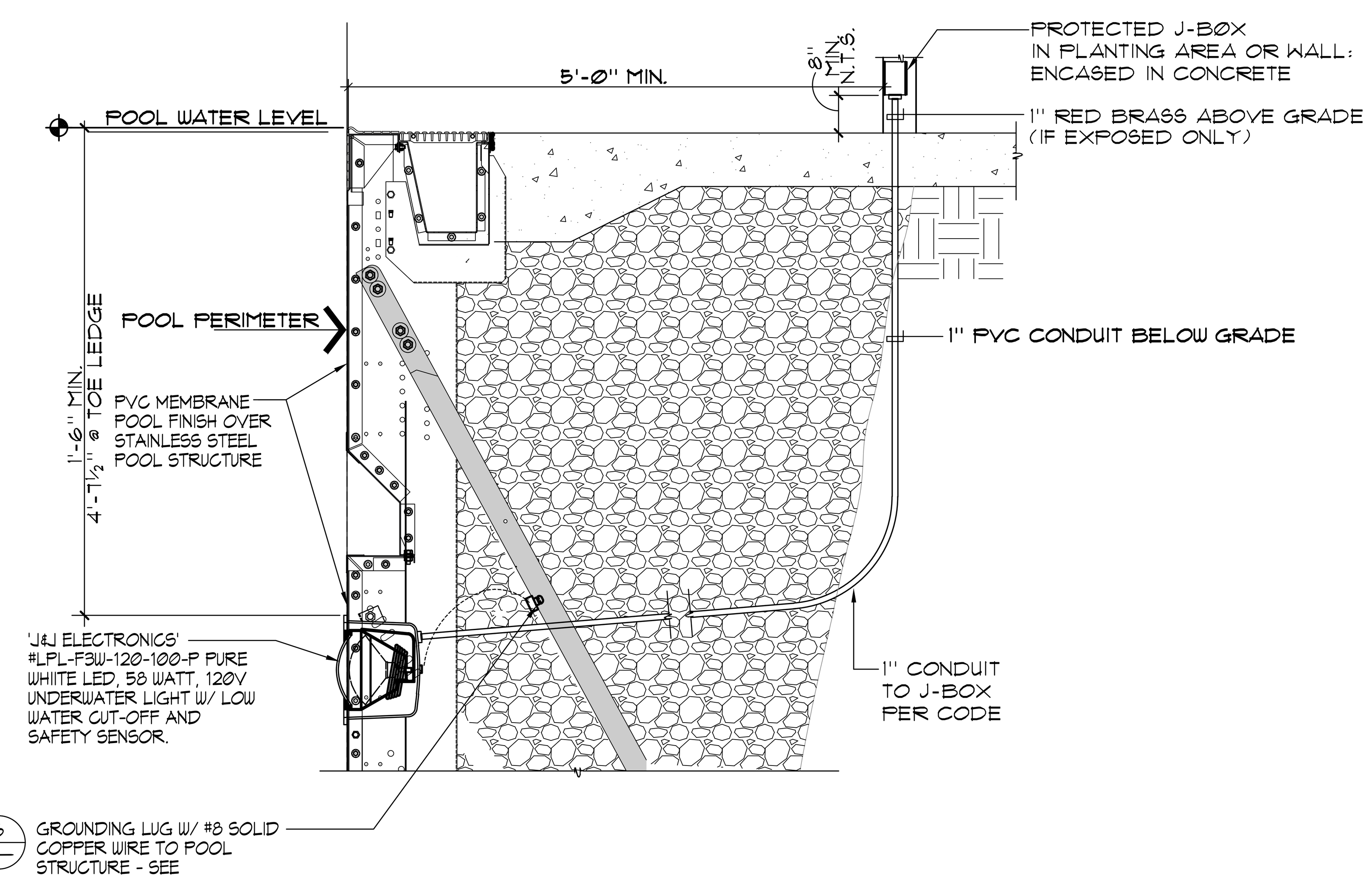
1"=1'-0"



NOTE:
PROVIDE ¾" CHAMFER ON ALL CONCRETE CORNERS. SACK & PATCH ALL EXPOSED SURFACES

3 TIMING SYSTEM WALL PLATE CONCRETE SURROUND DETAIL

1"=1'-0"



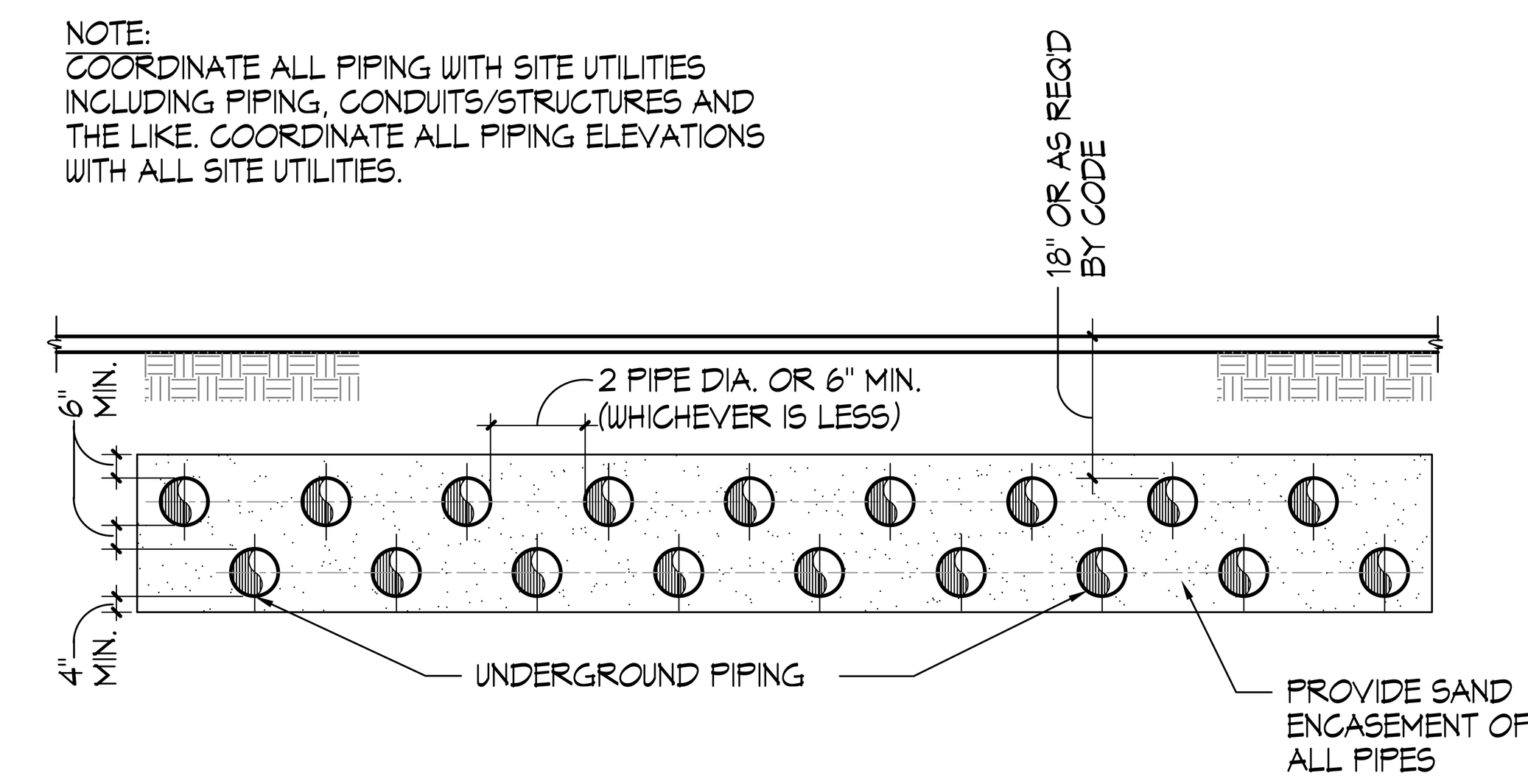
UNDERWATER LIGHT NOTES:

1. ALL CONDUITS IN POOL LIGHTING SYSTEM TO BE A MINIMUM OF 1"Ø.
2. CONDUCTORS TO POOL, J-BOXES SHALL BE MINIMUM 2-#8 & 1#8 (SEE UNDERWATER LIGHT PLAN) SOLID UNBROKEN TO MAIN PANEL ISOLATED GROUND BUSS. THIS BUSS IS TO BE CONNECTED WITH SOLID INSULATED #8 COPPER WIRE TO UFER & COLDWATER GROUNDING LUG ON GROUNDING BUSS. UPSIZE CONDUCTORS AS REQUIRED FOR HOMERUNS EXCEEDING 100'.
3. ALL BRASS POOL J-BOXES SHALL BE FLUSH MOUNTED IN WALLS. IF FLUSH MOUNTING IS NOT POSSIBLE THEN MOUNTING SHALL BE SURFACE MOUNTED AND CONCRETE ENCASED.
4. CONDUITS WHERE ALLOWED BY CODE SHALL BE P.V.C. (POLYVINYL CHLORIDE) FROM WET NICHES TO BRASS J-BOXES TO LIGHTING PANEL. ALL CONDUITS IN FREE AIR SPACE AND ALL RISERS SHALL BE RED BRASS TYPICAL. PVC CONDUITS SHALL BE SOLVENT WELDED WITH PURPLE PRIMER AND GRAY HEAVY BODIED GLUE.
5. LIGHTING CONTACTORS SHALL BE "ALLEN-BRADLEY" #500 L; OR EQUAL MOUNTED IN A NEMA 12 HINGED COVER - LOCKABLE ENCLOSURE. CONTACTORS TO BE SWITCHED BY MOMENTARY SWITCH EQUAL TO "HUBBELL" #1557 MOUNTED IN J-BOX IN MECHANICAL EQUIPMENT ROOM. REFER TO ELECTRICAL PLANS FOR LOCATION OF OWNER COORDINATED REMOTE UNDERWATER LIGHT SWITCH.
6. BRASS POOL J-BOXES SHALL BE "HYDREL" #1719 ; W/ 1" HUBS OR EQUAL. (NO DIE CAST BOXES).
7. STRINGS SHALL BE PULLED IN ALL CONDUITS PRIOR TO PLACEMENT OF CONCRETE.
8. LOCAL, COUNTY OR CITY CODES SHALL BE ADHERED TO, SPECIFICATIONS TO BE IN ACCORDANCE WITH SECTION 680 OF LATEST N.E.C. BOOK.
9. PROVIDE PULL BOXES AS MAY BE REQUIRED FOR RUNS EXCEEDING 150 FT. OR DUE TO CHANGES IN GRADE OR DIRECTION.
10. CONTRACTOR SHALL TEST UNDERWATER POOL LIGHT GFIC CIRCUITS AND PROVIDE LETTER TO OWNER/DSA UPON SUCCESSFUL TEST.
11. SEAL CONDUIT OPENING IN LIGHT NICHE WITH SILICON CAULKING AFTER LIGHT IS INSTALLED.
12. PRIOR TO LIGHT INSTALLATION, PROVIDE MINIMUM 10 PSI PRESSURE TEST ON ALL POOL LIGHT CONDUITS FOR FOUR (4) HOURS OBSERVED BY INSPECTOR OF RECORD. MAINTAIN PRESSURE UNTIL ALL DECKS ARE POURED.

4 UNDERWATER LIGHT

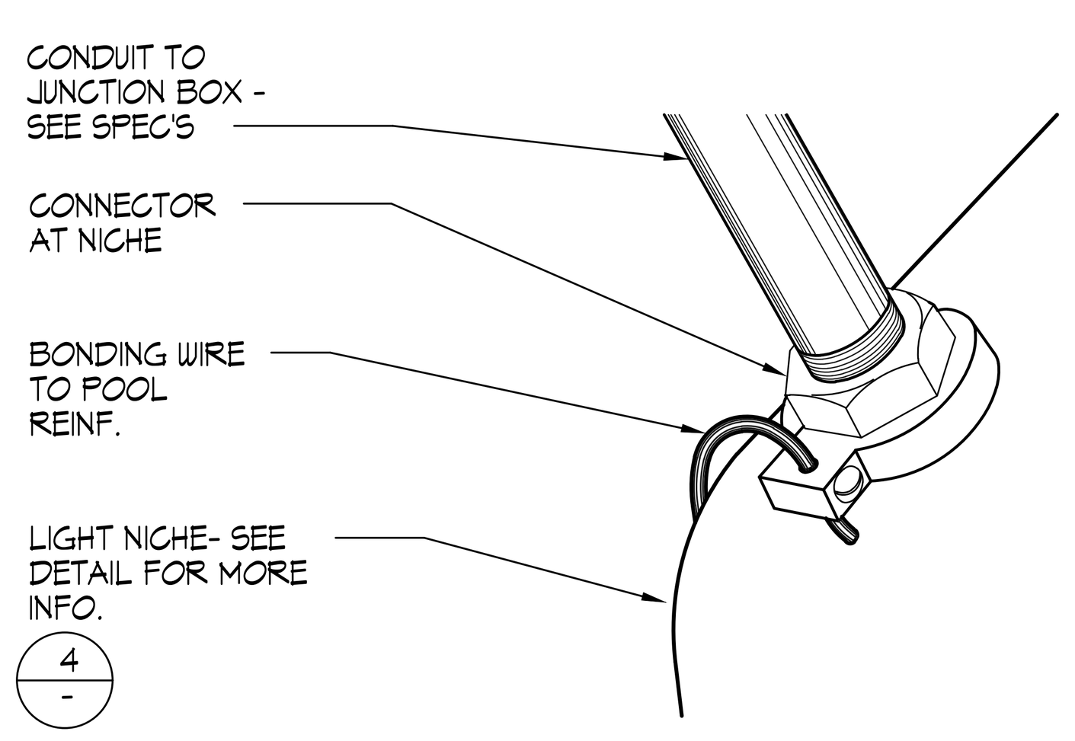
1"=1'-0"

NOTE:
COORDINATE ALL PIPING WITH SITE UTILITIES INCLUDING PIPING, CONDUITS/STRUCTURES AND THE LIKE. COORDINATE ALL PIPING ELEVATIONS WITH ALL SITE UTILITIES.



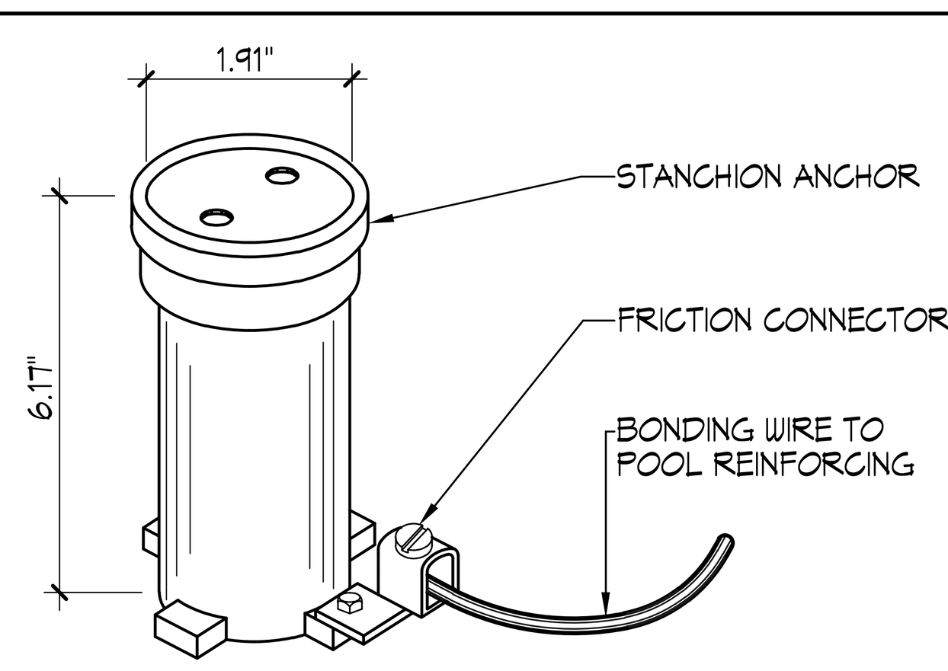
5 STACKED UNDERGROUND PIPING

NO SCALE



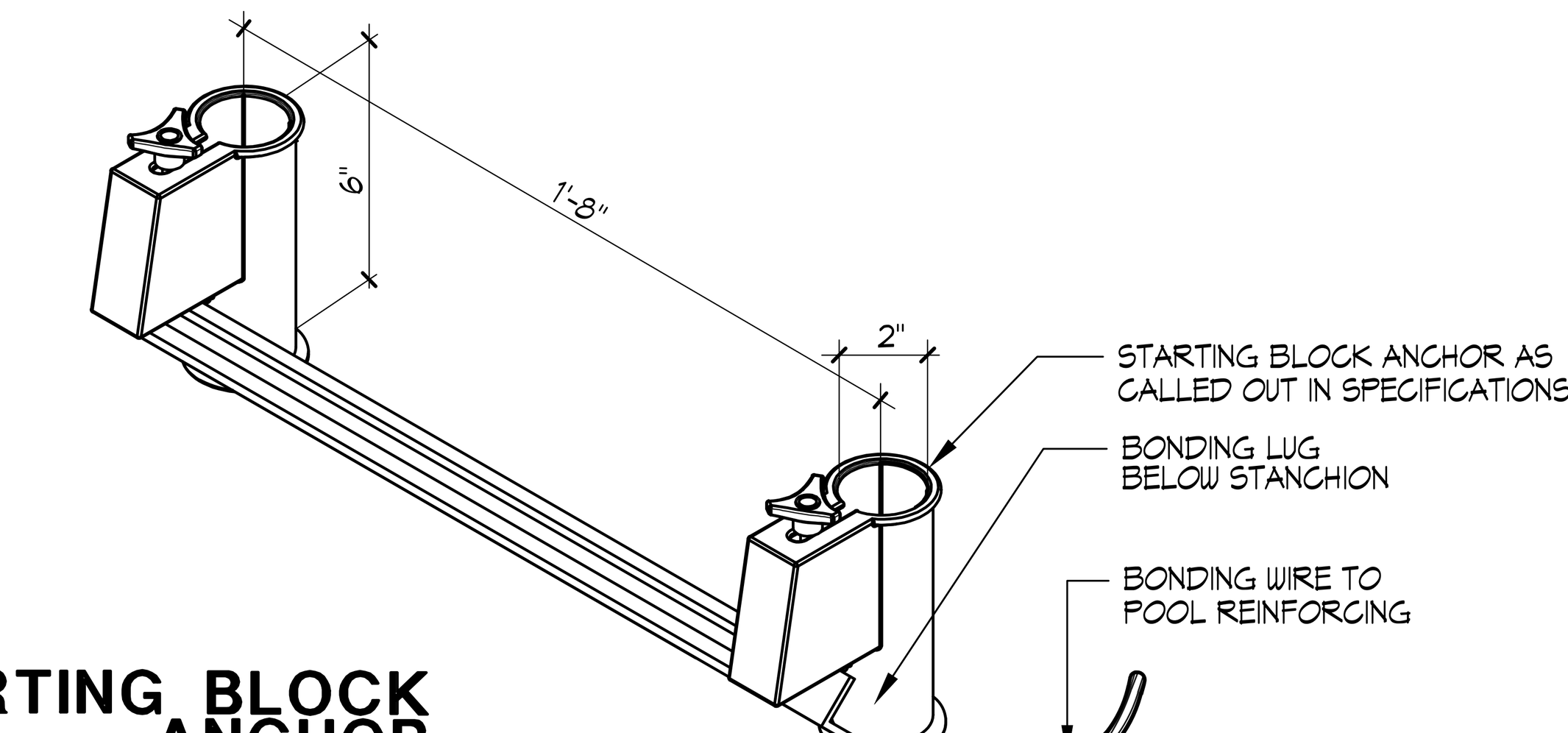
NICHE CONNECTOR

NO SCALE



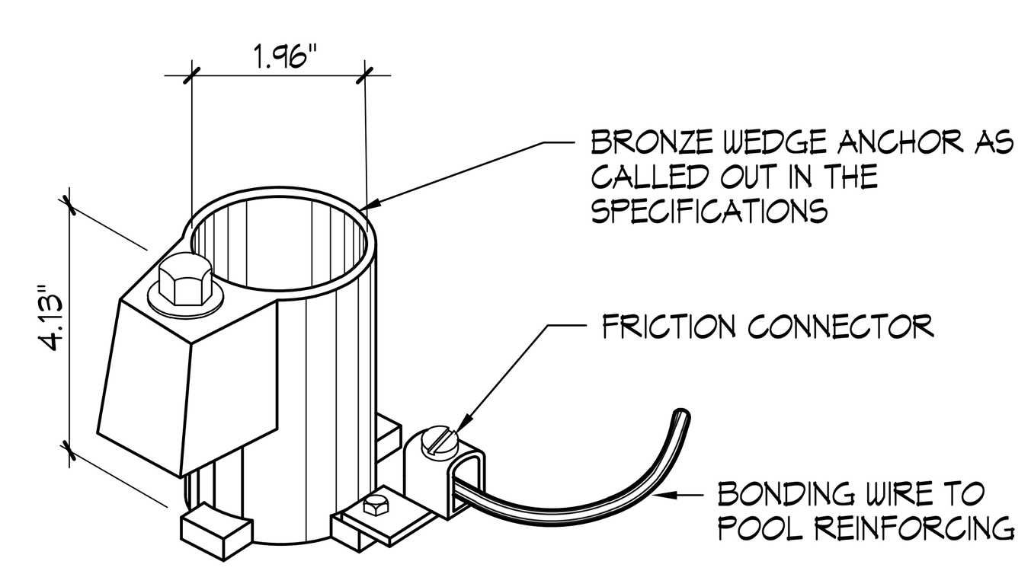
STANCHION ANCHOR

NO SCALE



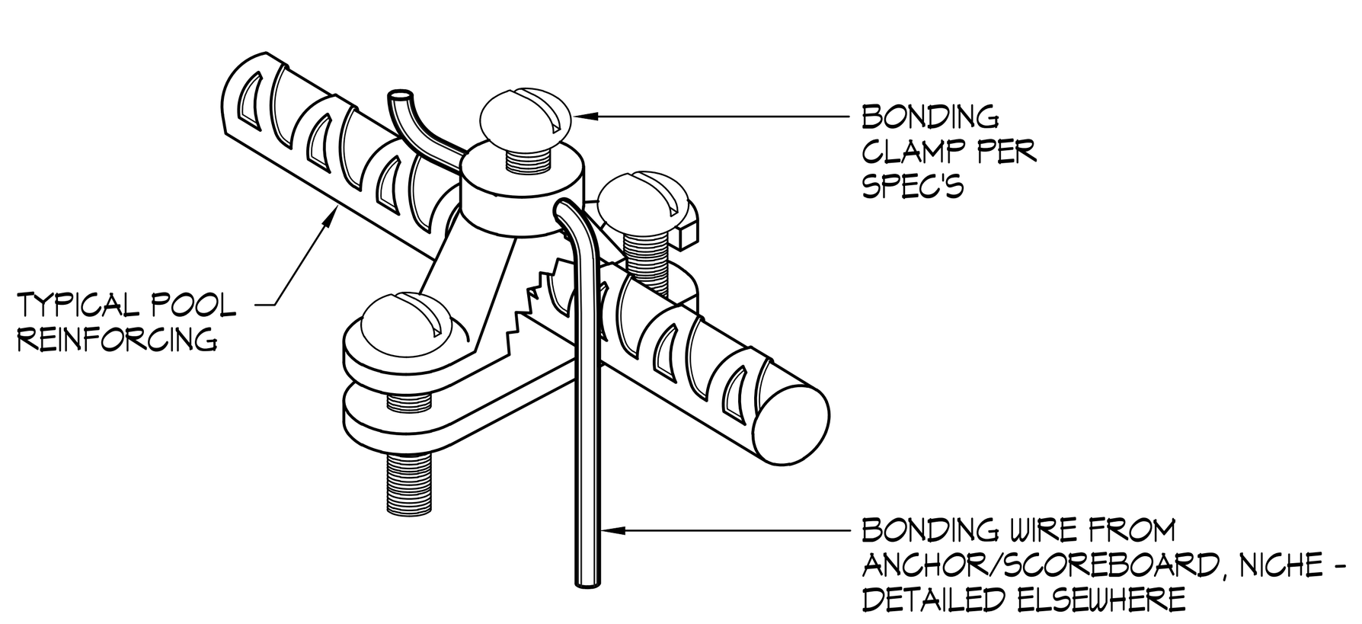
STARTING BLOCK ANCHOR

NO SCALE



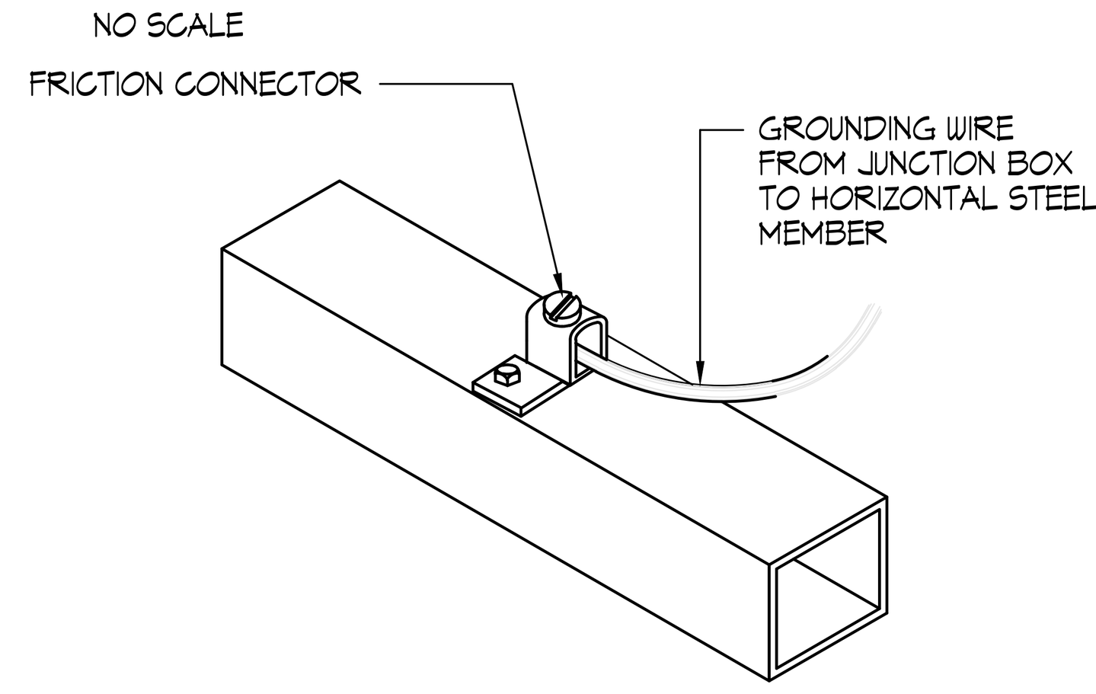
WEDGE ANCHOR

NO SCALE



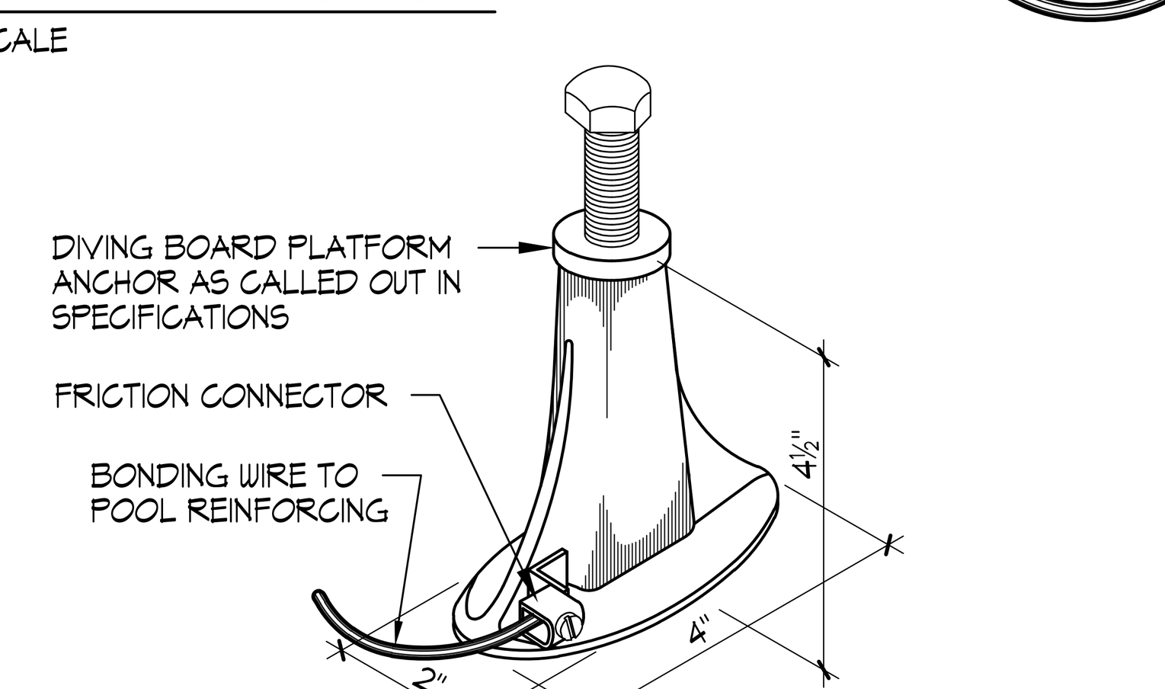
BONDING CLAMP

NO SCALE



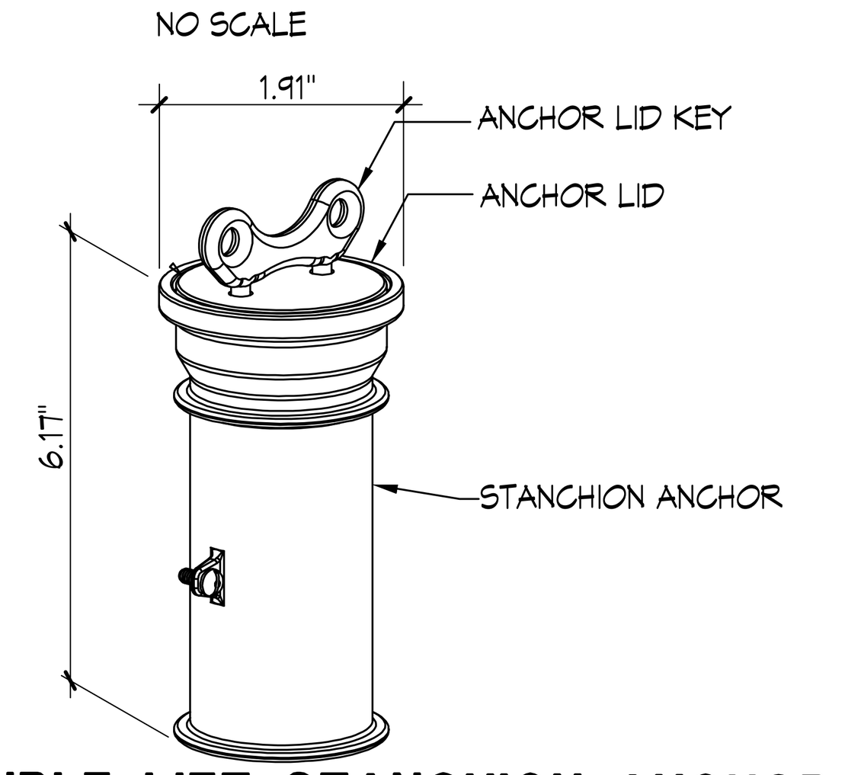
SCOREBOARD ELEC. GROUNDING

NO SCALE



DIVING BOARD PLATFORM ANCHOR

NO SCALE



ACCESSIBLE LIFT STANCHION ANCHOR

NO SCALE

6 BONDING DETAILS

NO SCALE

AQUATIC DESIGN GROUP

Mission Oak HS Aquatic Complex
Tulare Joint Union High School District
Tulare, CA 93274
Project

DETAILS
Drawing

darden architects
ARCHITECTURE PLANNING INTERIORS
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Architect

No.	Revision/Submission	Date
1	REVISION_01	05/31/2023

Revision

Scale: PER PLAN	Drawn By: AP	CP-12
Project Number: 2180	Checked By: GF	
Date: 7/28/2022	Reviewed By: -	

GENERAL NOTES:

APPLICABLE BUILDING CODE

All construction and workmanship shall conform to the 2019 California Building Code, California Code of Regulations – Title 24, Parts 1 & 2.

This pole and foundation standard has been designed for lateral loads on the completed structure as follows:

Wind Design Data:
- Vult = 94 MPH (Exposure C); Vasd = 73 MPH (Exposure C)
- Risk Category = II
- See Pole Foundation Schedule for maximum pole wind forces.

Seismic Design Data:
- I_e = 1.0
- Risk Category = II (Self Supporting Poles)
- S_s = 0.587
- S_1 = 0.229
- Site Class = D
- S_{DS} = 0.521
- S_{D1} = 0.327
- Seismic Design Category = D
- Basic Seismic–Force–Resisting System = Non–Building Structure, not similar to buildings
- Cs = 0.141 (STRENGTH LEVEL)
- R = 1.5
- Ω = 1.5
- Analysis Procedure = Equivalent Lateral Force Procedure
- See Pole Foundation Schedule for maximum pole seismic forces.

GENERAL CONSTRUCTION

These notes shall be used in conjunction with the plans and any discrepancies shall be brought to the attention of the Registered Design Professional (RDP) in Responsible Charge.

Contractor must check all dimensions, clearances and job conditions before starting work. The RDP in Responsible Charge shall be notified immediately of any discrepancies or possible deficiencies.

The drawings and specifications represent the finished structure. All bracing, temporary supports, shoring, etc., is the sole responsibility of the Contractor. Observation visits to the job site by the RDP in Responsible Charge do not include inspection of construction procedures. The Contractor is solely responsible for all construction methods and for safety conditions at the worksite. These visits by RDP in Responsible Charge shall not be construed as continuous and detailed inspections.

Design, material, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained from the School District, the RDP in Responsible Charge, and DSA.

All changes to the approved plans after a contract for construction has been awarded, affecting structural, access or life–safety portions of the project, shall be made by means of construction change documents (CCD) approved by DSA, as required by Section 4–338, Part 1, Title 24, CCR. All CCD shall be prepared and signed by the RDP in general Responsible Charge.

Substitutions shall be considered as a CCD and shall be approved by DSA prior to fabrication or use.

A Class 1 or Class 2 Project Inspector employed by the School District (Owner) and approved by DSA shall provide continuous inspection of the work, the duties of the Inspector are defined In Section 4–342, Part 1, Title 24, CCR.

All Tests And Inspections shall be performed by an Independent lab employed by the School District and approved by DSA.

Reference pole location on the Architectural, Structural, and/or Electrical drawings for actual pole placement and site location. Pole shall be located 5'–0" min. from adjacent structures below 50'–0" A.G.L., unless noted otherwise.

LIGHT POLE FOUNDATIONS

Reference geotechnical report prepared by Technicon Engineering Services, Inc., Dated May 17, 2022; Project no. 220239.001.

Allowable Vertical soil Capacity – $70DL^2$ (Skin Friction – D=pier diameter (FT), L=embedment length (FT)).

Allowable Lateral Bearing capacity: 175 PSF/FT to maximum 2,100 PSF (Values may be increased ⅓ for wind and seismic loading).

A representative of Technicon Engineering Services, Inc. should be available at the time of the foundation installation to verify the soil design parameters and to provide assistance if any problems arise in foundation installation.

The Contractor must familiarize himself with the complete geotechnical report, and borings and contact the above firm to understand the soil conditions and the possibility of ground water pumping and excavation stabilization or bracing during the foundation installation and placement of concrete.

Soil formations that will require special design considerations or excavation procedures may exist. Pole foundations may need to be reanalyzed according to the soil conditions that exist.

If any discrepancies or inconsistencies arise, notify the RDP in Responsible Charge of such discrepancies.

All piers and concrete must bear on and against firm undisturbed soil as determined by the Geotechnical Engineer.

Place plywood collar around perimeter at the top of foundation excavation to prevent soil from entering pier.

All excavations must be free of loose soil, and debris prior to foundation installation and placement of concrete. Casing or drilling slurry may be required if caving occurs. Review and approval of the Geotechnical Engineer and DSA is required.

All excavations must be free of water or concrete shall be placed by the Tremie Method in accordance with ACI standard 336. Concrete placed by the Tremie Method shall have a minimum ultimate strength of 1,000 PSI greater than required under "Concrete Cast–In–Place' and a maximum slump of 8".

CONCRETE (CAST–IN–PLACE)

Concrete pier foundations with steel reinforcement shall attain a minimum ultimate compressive strength at 28 day test of 3,000 psi. Batch plant inspection not required.

All concrete shall attain a minimum strength of 2,500 psi prior to steel pole erection.

Use Type II/V Portland cement or as directed by the Geotechnical Engineer.

Portland Cement ASTM C–150.

Aggregate ASTM C–33. 1" maximum aggregate size. ⅜" max agg. size acceptable where pump mixes are used at unreinforced concrete backfill. ⅜" max agg. size not permitted at reinforced piers.

Mix in conformance with ASTM C–94, ACI 318 SECTIONS 19.2 and 26.4.

Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer and the DSA Inspector. Under no circumstances shall piers be allowed to remain open for more than 12 hours without the approval of the Geotechnical Engineer. Excavations shall be covered and protected until filled with concrete.

Concrete shall be placed in one continuous operation (no construction joint) with special equipment to assure a maximum freefall of 5 ft and to prevent concrete from striking the sides of the excavation. Freefall of concrete is unacceptable through water or drilling slurry.

Vibrate concrete full depth, except for concrete with slump greater than 6", then vibrate only upper 10'–0". Concrete placed under water shall have a slump of 6"–8".

STEEL POLE

Steel pole sections conform to the California Code of Regulations T.24, Part 2, Chapter 22A.

All steel conforms to referenced ASTM specifications. (See Pole Data Table for each pole type).

All weldment conforms with AWS D1.1–15 specification for GMAW fillet utilizing E70S–X filler metal or SAW fillet utilizing F7XX–EXXX or F8XX–EXXX filler metal.
GMAW procedure conforms to AWS A5.18.
SAW procedure conforms to AWS A5.23.

Longitudinal seam welds for pole sections shall have 60% minimum penetration; Except longitudinal seam welds on the female section of telescopic field splices shall be full penetration groove welds for a length equal to the minimum splice length plus 6 inches. See drawing number MD1 for seam weld details.

Pole sections hot dipped galvanized to ASTM A123 latest standards.

All miscellaneous structural steel items conform to AISC 360–16.

Steel pole sections shall be assembled in the field by attaching two 1.5 ton "come alongs" to jacking ears, using full effort on each simultaneously, to ensure minimum overlaps as indicated on the "MS" sheet(s) and detail G/MD1.

PRECAST BASE

The precast concrete base conforms to California Code of Regulations, T.24, part 2, Chapter 19A and to Building Code Requirements for Reinforced Concrete, ACI 318–14.

See detail "A" on "MS" sheet(s) for material strengths and specifications.

TESTING AND INSPECTION

Testing and inspection in accordance with Title 24, Part 1 & Part 2 & project DSA 103 form.

EXCAVATIONS & FOUNDATIONS:
Inspection of cast–in–place deep foundations – 1705A.8 & Table 1705A.8

CONCRETE MATERIALS: 1903A.1
Portland cement – 1910A.1
Concrete aggregates – 1903A.5
Reinforcing bars – 1910A.2 & DSA IR 17–10
Prestressing steel and anchorages – 1910A.3

CONCRETE QUALITY:
Proportions of concrete – Reference ACI 318 Section 26.4.3.1 Through 26.4.4.1.
Strength tests of concrete – 1905A.1.15 and ACI 318 Section 26.12 & 26.5.3.2.

CONCRETE INSPECTION: 1705A.3 & Table 1705A.3
Job site – Reference ACI 318 Section 26.5.1,26.5.2.1(a) & (b),26.6.1.2(d), 26.11.1.1(a).
Batch Plant Inspection Not Required – 1705A.3.3.2
Prestressed concrete – 1704A.2.5, 1705A.3.4

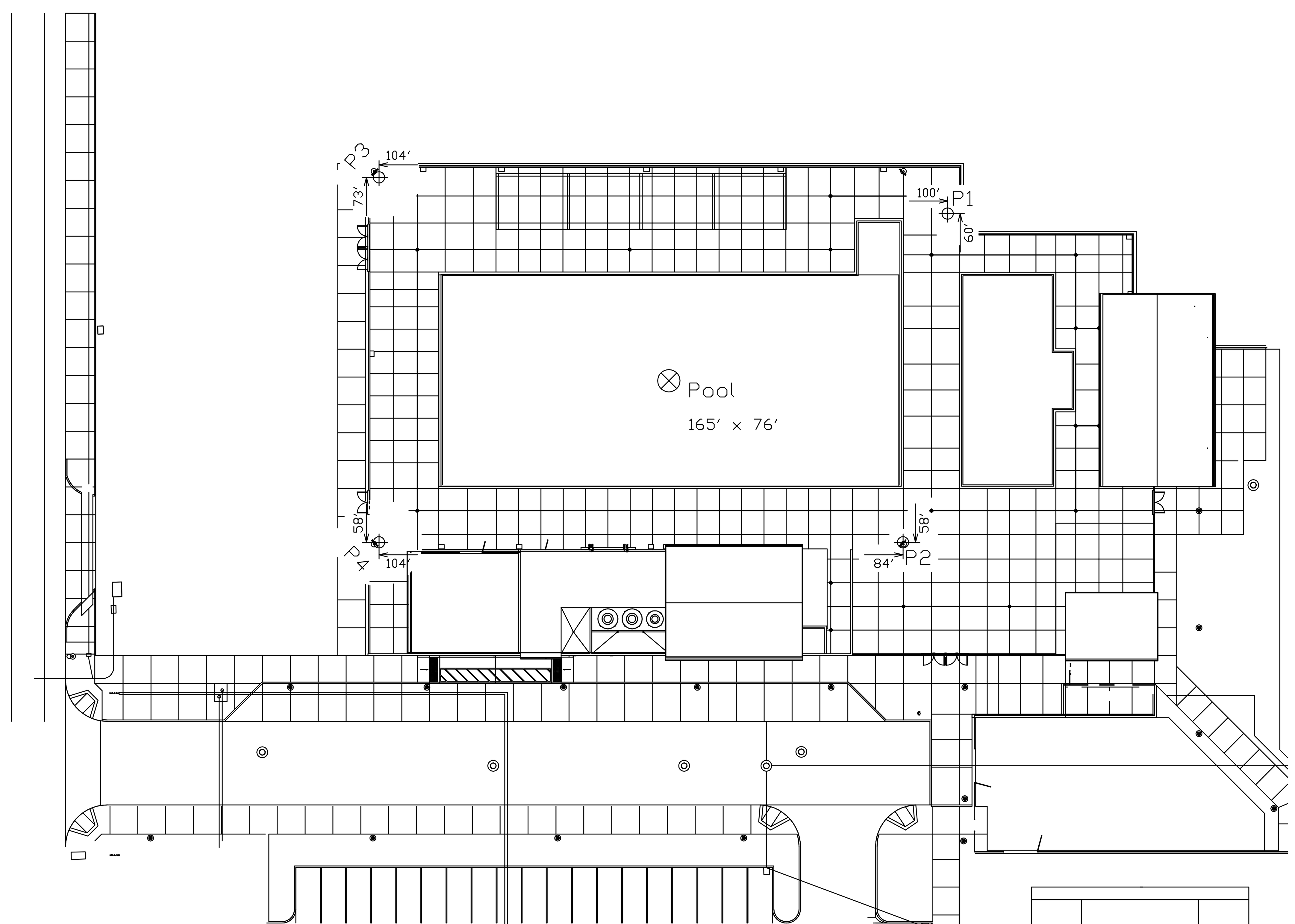
STEEL MATERIALS:
Structural steel – 2202A.1 & 2205A.1
Cold formed steel – 2210A.1
Identification – 2202A.1
High strength bolt identification – table 1705A.2.1 & DSA IR 17–9

STEEL QUALITY:
Tests of structural steel & cold formed steel – 2202A.1
Tests of high strength bolts, nuts, & washers – 2213A.1 & DSA IR 17–8

STRUCTURAL STEEL INSPECTIONS: Table 1705A.2.1
Shop fabrication inspection – 1704A2.5
Welding – 1705A.2.5, DSA IR 17–3 and AWS D1.1.
High strength bolt installation – Table 1705A.2.1 & DSA IR 17–9
(Including Skidmore–Wilhelm bolt tension pre–installation verification testing)
(NOTE: ALL WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN AWS CWI CERTIFIED INSPECTOR APPROVED BY DSA)

These plans are for construction approval. An application number and approval of these drawings by the Division of The State Architect of California must be secured to build from these plans.

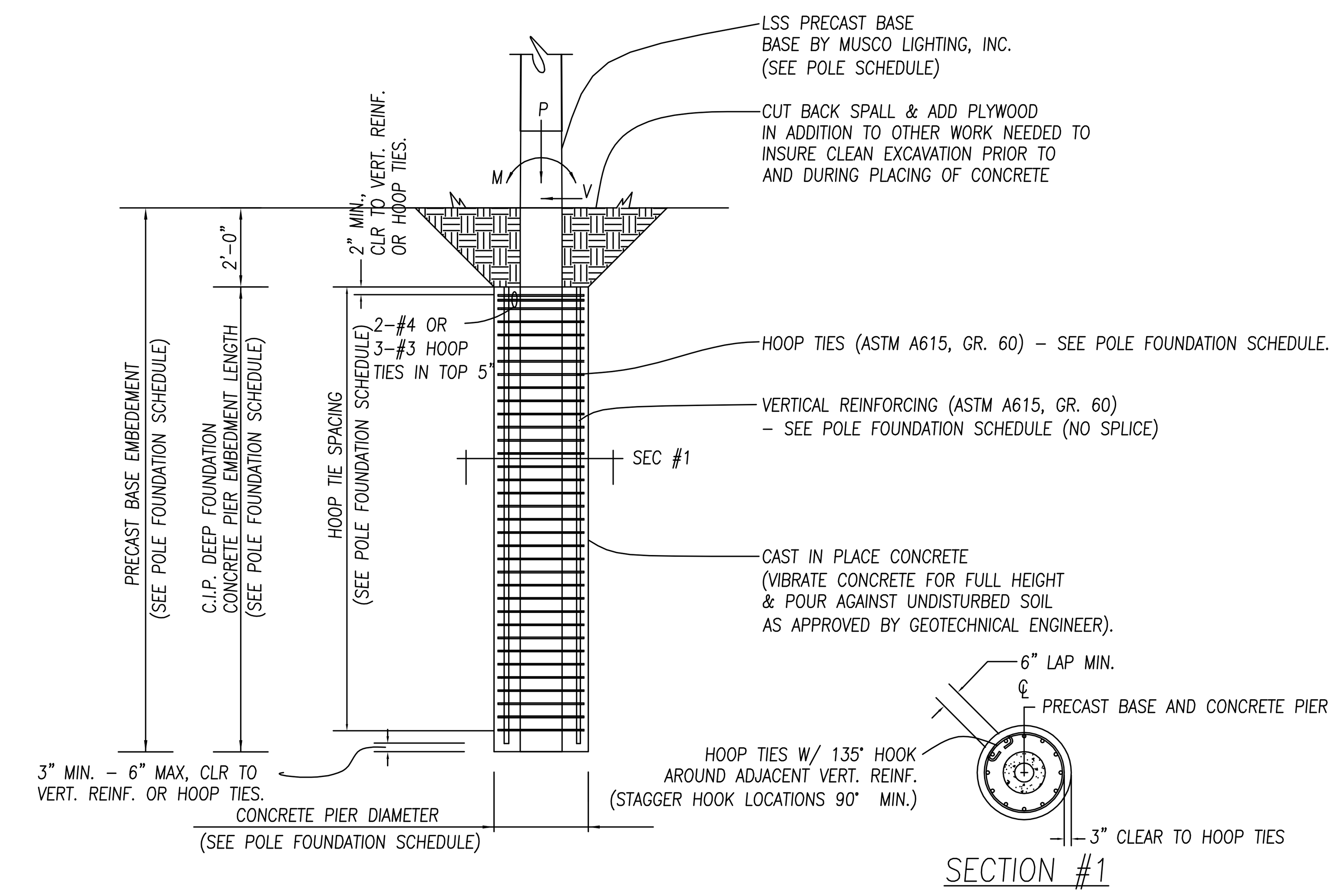
INDEX OF SHEETS



POLE ORIENTATION PLAN

N.T.S.

NOTE: THIS PLAN IS A PICTORAL REPRESENTATION OF THE SITE LAYOUT. REFERENCE APPROPRIATE ARCHITECTURAL SITE PLAN FOR ALL NECESSARY INFORMATION.



A REINFORCED FOUNDATION DETAIL

N.T.S. DSA–A2–CASFND_A

POLE FOUNDATION SCHEDULE

POLE TYPE–# OF FIXTURES (MAX) (LSS=LIGHT STRUCTURE)	MARK (SEE POLE ORIENTATION PLAN)	WIND OR SEISMIC (SEISMIC FORCE INCLUDES OVERSTRENGTH FACTOR=1.5)	ASD LEVEL FORCES (MAX)			C.I.P. DEEP FOUNDATION				PRECAST BASE
			MOMENT (M) FT–LBS*	SHEAR (V) LBS	VERTICAL (P) LBS**	DIAMETER INCHES	EMBEDMENT FEET (SEE NOTE BELOW)	VERTICAL REINFORCING (ASTM A615, GR 60)	HOOP TIE SIZE & SPACING (ASTM A615, GR 60)	EMBEDMENT FEET
LSS70A–5	P1–P4	SEISMIC	19,200	398	2,685	36"	10'–0"	8–#8	#4 @ 6" O.C.	12'–0"
		WIND	52,800	1,148	1,610					

*Moment (M) computed below grade at Shear (V) = 0.
**Vertical (P) load includes steel pole, light fixtures, and attachments. Vertical (P) load for wind is the dressed pole weight for erection purposes. Vertical (P) load for seismic also includes weight of precast base above groundline. Reference Detail "A" on MS Sheet(s) for precast base weight.
Note:
Final Embedment to be determined in the field by the Geotechnical Engineer of Record

Mission Oak H.S. Pool
FIELD LIGHTING
Tulare,CA

KNA STRUCTURAL ENGINEERS
CONSULTANT

CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825–6020

DRAWING TITLE: NOTES, FOUNDATION DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCE:
PROJECT NO. 219340
DATE: 06/27/2022
DRAWN BY: Bryce Miles
DRAWING NO. MT1
1 OF 5