aedis
architects

Date June 5, 2026

Subject: **Ledesma ES Modernization**
Oak Grove School District
2025014

DSA File No. 43-41
DSA Application No. 01-122831

ADDENDUM NO. 3

(Total # of Pages Faxed / Emailed Including Attachments: 404)

CHANGES AND/OR CLARIFICATION'S OF THE DRAWINGS AND SPECIFICATIONS AS FOLLOWS:

GENERAL INFORMATION

ITEM NO. 3.1: **BID DATE AND TIME**
Revise: **Bid due date has changed-**
Sealed proposals are due no later than June 10, 2026, at 1:00 pm, at
Oak Grove School District
Main Building Reception Desk
6578 Santa Teresa Boulevard
San Jose, CA 95119-1204
Planned announcement of best value: June 15, 2026.

ITEM NO. 3.2: HAZMAT REPORT
Add: Report *LIMITED LEAD-BASED INSPECTION VIA XRF AND/OR FAA FOR COMMERCIAL PROPERTY, PROPERTY ADDRESS: LEDESMA ELEMENTARY, 1001 SCHOOLHOUSE ROAD, SAN JOSE, CA 95138*, dated June 4, 2026
Add: Report *LIMITED ASBESTOS BULK MATERIALS SURVEY REPORT, PROPERTY ADDRESS: LEDESMA ELEMENTARY 1001 SCHOOLHOUSE ROAD SAN JOSE, CA 95138,* dated June 4, 2026

ITEM NO. 3.3: DSA 103-22 LIST OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS
Replace: Page 1 of the form as clouded.

SPECIFICATIONS

ITEM NO. 3.4: SECTION 00 01 10 - Table of Contents
Add: Three sections as clouded.

ITEM NO. 3.5: SECTION 02 41 19 – Selective Demolition
Add: Article 1.1, paragraph B as clouded.

ITEM NO. 3.6: SECTION 08 11 13 – Hollow Metal Doors and Frames
Add: The specification in its entirety.

ITEM NO. 3.7: SECTION 08 71 00 – Door Hardware
Add: The specification in its entirety.

ITEM NO. 3.8: SECTION 10 14 00 – Signage
Revise: Part 2, Article 2.7, paragraph B, subparagraph 1, as clouded.
Add: Part 3, Article 3.5, paragraph C, as clouded.

ITEM NO. 3.9: SECTION 10 21 13.15 – Solid Color Reinforced Composite (SCRC) Substrate Toilet Compartments
Revise: Part 1, article 1.5, paragraph D as clouded.

ITEM NO. 3.10: SECTION 22 00 50 – Basic Plumbing Materials and Methods
Revise: Part 3, article 3.9, paragraph H, subparagraph 5d as clouded.

ITEM NO. 3.11: SECTION 23 09 23 – Direct Digital Controls System for HVAC
Replace: Specification in its entirety per AD2-230923 - Direct Digital Controls System for HVAC.

ITEM NO. 3.12: SECTION 23 80 00 – Heating, Ventilating and Air Conditioning
Add: Specification in its entirety per AD3-238000 - Heating, Ventilating and Air Conditioning.

DRAWINGS

ITEM NO. 3.13: DRAWINGS – SHEET: T1 – TITLE SHEET
Revise: Scope of work as clouded per AD3-T1.
Revise: Project Alternate to include room numbers as clouded per AD3-T1.
Revise: Drawing Index to add sheet M6.03 and remove sheet A6.02 as clouded per AD3-T1.
Revise: Note 12 under General Notes as clouded per AD3-T1.
Revise: Note 1 of Applicable per AD3-T1.

CIVIL
DRAWINGS

ITEM NO. 3.14: DRAWINGS – SHEET: C1.1 – DEMOLITION PLAN
Revise: Keynote 1 description in Demolition Legend as clouded per AD3-C1.1.
Revise: Keynote 9 description in Demolition Legend as clouded per AD3-C1.1.
Add: Demolition extents and associated tags and hatches at gates southwest of Administration in plan as clouded per AD3-C1.1.
Revise: Keynote 9 tag in plan at parking signage as clouded per AD3-C1.1.
Add: Demolition extents and associated tags and hatches at gates northeast of Administration 100 in plan as clouded per AD3-C1.1.
Remove: Keynote 9 tags at fences and gates in between classroom buildings 300 – 600 in plan as clouded AD3-C1.1.
Add: Keynote 12 description in Demolition Legend and associated tags in plan as clouded per AD3-C1.1.

ITEM NO. 3.15: DRAWINGS – SHEET: C2.1 – GRADING AND DRAINAGE PLAN
Revise: Keynote 5 description in Grading Plan Notes as clouded per AD3-C2.2
Add: Gate and concrete replacement graphics in plan as clouded per AD3-C2.2.
Add: Concrete grade slopes in plan as clouded per AD3-C2.1.

ITEM NO. 3.16: DRAWINGS – SHEET: C3.1 – HORIZONTAL CONTROL PLAN
Add: Gate and concrete replacement graphics in plan as clouded per AD3-C3.1.
Add: Dimension in plan as clouded per AD3-C3.1.

ITEM NO. 3.17: DRAWINGS – SHEET: C4.1 - DETAILS
Add: Parking space dimensions as clouded in detail 5 per AD3-C4.1.

ITEM NO. 3.18: DRAWINGS – SHEET: C5.1 – MATERIAL & DETAIL REFERENCE PLAN
Add: Gate and concrete replacement graphics and tags in plan per AD3-C5.1.
Revise: Extents of railing and add tag as clouded per AD3-C5.1.

ITEM NO. 3.19: DRAWINGS – SHEET: C6.1 – CONSTRUCTION DETAILS
Revise: Detail 1 references as clouded per AD3-C6.1.
Revise: References in detail 6 and add alignment reference and note 5 as clouded per AD3-C6.1.
Add: Note 7 in detail 8 references as clouded per AD3-C6.1.
Add: Detail 9 for concrete reinforcement bending as clouded per AD3-C6.1.

ARCHITECTURAL
DRAWINGS

ITEM NO. 3.20: DRAWINGS – SHEET: A0.01 – EXIT ANALYSIS-SITE
Revise: Occupant load tags and egress gate calculations as clouded per AD3-A0.01.

ITEM NO. 3.21: DRAWINGS – SHEET: A1.01 – DEMOLITION SITE PLAN
Revise: Keynotes 02.106 – 02.332 to clarify (E) to remain as clouded per AD3-A1.01.
Revise: Keynote 02.515 to clarify extents of demolition and salvage as clouded per AD3-A1.01.
Add: Keynotes 02.537 in keynote list and add associated tags in plan at all classroom buildings as clouded per AD3-A1.01.
Add: Keynote 02.539 in keynote list and add associated tags adjacent to lunch tables as clouded per AD3-A1.01.
Add: Keynote 02.549 in keynote list and add associated tag in plan adjacent to CMU planter as clouded per AD3-A1.01.
Add: Keynote 02.548, and 02.550 in keynote list and add associated tags and trenching extents in plan view 3 as clouded per AD3-A1.01.
Revise: In Graphic Key revise lineweight and add restroom user group references as clouded per AD3-A1.01.
Revise: Title of detail 2 as clouded per AD3-A1.01.
Revise: View 1 Demolition Site Plan to include user groups identification at restrooms, DSA number under which photovoltaic panels were approved, user groups at both parking lots and keynote 02.537 tag to indicate demolition of light fixtures as clouded per AD3-A1.01.

Revise: General sheet note A to list requirements for the accessible path of travel as clouded per AD3-A1.01.

ITEM NO. 3.22: DRAWINGS – SHEET: A1.02 – NEW SITE PLAN & CODE ANALYSIS

Add: Stories and sprinkler condition for each building in Campus Code Analysis as clouded per AD3-A1.02.
Add: User group and required number of D.A. parking spaces in Parking Count table as clouded per AD3-A1.02.
Revise: General sheet note A to list requirements for the accessible path of travel. As clouded per AD3-A1.02
Revise: Keynotes 02.113 – 02.149, 02.151, 02.330, and 02.332 to clarify (E) to remain as clouded per AD3-A1.02.
Revise: Keynote 02.149 to include DSA application number as clouded per AD3-A1.02.
Add: Keynotes 02.540, 02.541, 02.542, 02.543, 02.544, 05.531, 32.109, 32.110, 32.209, and 32.210 in keynote list and add associated tags in plan adjacent to restrooms, planter, ramp and sloped walk north of the accessible parking as clouded per AD3-A1.02.
Revise: In Graphic Key revise lineweight and add restroom user group references and add site lighting as clouded per AD3-A1.02.
Add: Site lighting graphics in view 1 and Graphic Key as clouded per AD3-A1.02.
Add: Accessible Path of Travel linework and tags in view 1 as clouded per AD3-A1.02.
Revise: Site signage, dimensions, and striping in view 2 as clouded per AD3-A1.02.
Add: Striping, site lighting, dimensions, landing graphics, and keynote tags 32.109, 32.110, 32.209, 32.210 in view 3 as clouded per AD3-A1.02.
Revise: Keynote 02.403 to indicate detail for site signage as clouded per AD3-A1.02.
Revise: Configuration of gates to the south and east of Administration Bldg 100 in View 2 as clouded per AD3-A1.02.

ITEM NO. 3.23: DRAWINGS – SHEET: A1.05 – SITE DETAILS

Revise: Verbiage of details 2 and 10 as clouded per AD3-A1.05.
Revise: Detail 5 references regarding striping, curbs, and signage as clouded per AD3-A1.05.
Replace: Details 4, 8, 11, and 12 in their entirety as clouded per AD3-A1.05.
Add: Detail 17 in its entirety as clouded per AD3-A1.05.
Add: Detail 18 in its entirety as clouded per AD3-A1.05.

ITEM NO. 3.24: DRAWINGS – SHEET: A1.06 – SITE DETAILS

Remove: Detail 12 in its entirety as clouded per AD3-A1.06.0
Revise: Detail 4 to move view at upper decorative infill panel to new detail 12 as clouded per AD3-A1.06.
Revise: Detail 13 in its entirety as clouded per AD3-A1.06.
Revise: Footing, post sizing, and dimensions in detail 5 per AD3-A1.06.
Revise: Wildlife protection mesh references in detail 6 as clouded per AD3-A1.06.
Add: Details 8, 14, 15, 16, 20 in their entirety as clouded per AD3-A1.06.
Revise: Detail 11 to include note for panic hardware compliance with California reference standard as clouded per AD3-A1.06.

ITEM NO. 3.25: DRAWINGS – SHEET: A2.01 – DEMOLITION PLANS, ENLARGED PLANS & RCPS - BLDGS 300 & 400

Revise: Project Alternates to include room numbers as clouded per AD3-A2.01.

Revise: Demolition Floor Plan Keynote 02.321 description as clouded per AD3-A2.01.
Add: Fire sprinklers and associated tags in the corners of the classrooms in View 1 and 2 Demolition Floor Plans as clouded per AD3-A2.01.
Add: Smoke/heat detectors and associated tags in the center of the rooms in Views 4 and 6 Demolition Enlarged Restroom Plans as clouded per AD3-A2.01.
Add: Demolition Floor Plan Keynote 02.504 in keynote list and add associated tag adjacent to the lavatory in view 3 as clouded per AD3-A2.01.
Add: Demolition Floor Plan Keynote 02.547 in keynote list as clouded per AD3-A2.01.
Revise: Smoke/heat detectors near the center of classrooms and associated tags in View 1 and 2 Demolition Floor Plans as clouded per AD3-A2.01.
Add: Demolition Floor Plan Keynote 02.551 in keynote list and associated tag at All Gender restroom door in view 3 as clouded per AD3-A2.01.
Add: Door removal scope in views 3 and 5 as clouded per AD3-A2.01.

ITEM NO. 3.26: DRAWINGS – SHEET: A2.02 – DEMOLITION FLOOR PLANS-BLDGS 100, 200, 500 ,600 & 700

Revise: Keynote 02.534 as clouded per AD3-A2.02.
Add: Keynote 02.538 in keynote list and associated tags in view 1 as clouded per AD3-A2.02.

ITEM NO. 3.27: DRAWINGS – SHEET: A3.01 – NEW FLOOR PLANS, ENLARGED PLANS & RCPS-BLDGS 300 & 400

Revise: Project Alternates to include room numbers as clouded per AD3-A3.01.
Revise: Keynotes 02.321, 02.534, 10.227, and 23.108 in keynote list as clouded per AD3-A3.01.
Add: Fire sprinkler heads and associated tag 02.321 in views 1 and 2 as clouded per AD3-A3.01.
Add: Tag for thermostat at the back wall of the classrooms in views 1 and 2 as clouded per AD3-A3.01.
Add: Smoke/heat detector graphics in views 1 and 2 as clouded per AD3-A2.01
Add: Keynote 23.108 tags in views 1 and 2 and description in keynote list as clouded per AD3-A3.01.
Revise: Dimensions, dashed line graphics, wall type tag 1 placement, and blank keynotes in View 5 as clouded per AD3-A3.01.
Revise: Placement of wall type tag 1, dimensions, sinks, and accessories in view 3 as clouded per AD3-A3.01.
Add: Wall type marker 5 and door replacement in views 3 and 5 as clouded per AD3-A3.01.
Add: Keynote 08.102 in keynote list and tag at All Gender restroom door in view 5 as clouded per AD3-A3.01.
Revise: View 3 and 5 to show new door and required clearances at All Gender restrooms as clouded per AD3-A3.01.
Add: Keynote tags 10.252 and 10.253 in view 5 as clouded per AD3-A3.01.
Replace: Keynote 02.524 with 02.504 in keynote list and also associated tag from view 5 as clouded per AD3-A3.01.

ITEM NO. 3.28: DRAWINGS – SHEET: A3.02 – NEW FLOOR PLANS-BLDGS 100, 200, 500, 600 & 700

Revise: Keynote 23.108 description in keynote list as clouded per AD3-A3.02.
Add: Keynotes 26.106 and 26.107 in keynote list and add associated tags in view 2 as clouded per AD3-A3.02.
Add: Electrical conduit routing graphic in view 2 as clouded per AD3-A3.02.

ITEM NO. 3.29: DRAWINGS – SHEET: A5.05 – NEW ROOF PLAN-BLDGS 100, 200 & 700
Add: Keynote 07.511 in keynote list and associated tag in view 3 as clouded per AD3-A5.05.
Add: Dimensions as clouded per AD3-A5.05.

ITEM NO. 3.30: DRAWINGS – SHEET: A6.01 – EXTERIOR ELEVATIONS
Add: Keynote 02.254 in keynote list and associated tags in views 3 and 7 as clouded per AD3-A6.01.
Add: Keynote 09.308 in keynote list and associated tag in views 3 and 7 as clouded per AD3-A6.01.
Add: Reference to detail 2/ A8.10 in views 3 and 7 as clouded per AD3-A6.01.
Revise: Existing door to be replaced with new in views 3 and 7 as clouded per AD3-A6.01.

ITEM NO. 3.31: DRAWINGS – SHEET: A6.02 – EXTERIOR ELEVATIONS
Remove: Sheet in its entirety.

ITEM NO. 3.32: DRAWINGS – SHEET: A8.10 – EXTERIOR DETAILS
Add: Details 2, 6, and 16as clouded per AD3-A8.10.
Revise: Detail 12 including anchorages, dimensions, detail cross reference, depth of alcove rails, clear floor place orientation, plan view orientation as clouded per AD3-A8.10.
Add: Detail 16 Fall Protection Anchor as clouded per AD3-A8.10.

ITEM NO. 3.33: DRAWINGS – SHEET: A9.01 – WALL TYPES
Add: Wall type 5 as clouded per AD3-A9.01.

ITEM NO. 3.34: DRAWINGS – SHEET: A9.10 – INTERIOR DEATILS
Revise: Mounting heights table and add note 5 at detail 1 as clouded per AD3-A9.10.
Revise: Anchorage information and stall elevation not in detail 2 as clouded per AD3-A9.10.
Revise: Anchorage and framing in detail 3 as clouded per AD3-A9.10.
Remove: Dimension in detail 4 as clouded per AD3-A9.10.
Revise: Anchorage within detail 7 as clouded per AD3-A9.10.
Add: Detail 11 as clouded per AD3-A9.10.

ITEM NO. 3.35: DRAWINGS – SHEET: A11.01 – OPENING SCHEDULE, FINISH SCHEUDLE, LEGEND & DETAILS
Revise: Information in door schedule for doors 305 and 405 as clouded per AD3-A11.01.
Revise: Door Schedule General Notes 3 and 4 as clouded per AD3-A11.01.
Add: Door Schedule General Note #9 as clouded per AD3-A11.01.
Revise: Sign types in detail as clouded per AD3-A11.01.
Revise: Detail 12 code references, remove optional plan, and remove sign conditions not applicable to project scope as clouded per AD3-A11.01.
Add: Details 19 and 20 as clouded per AD3-A11.01.
Revise: Finish Schedule information for CT-3, P-1, and P-2, and add N-1

ITEM NO. 3.36: DRAWINGS – SHEET: A12.01 – INTERIOR ELEVATIONS
Replace: Keynote 02.524 with 02.504 in keynote list and in views as clouded per AD3-12.01
Revise: Keynote 10.227 as clouded per AD3-A12.01.

Revise: Dimensions and graphics of wall finish hatch and water closet in views 5, 9, 18, and 22 as clouded per AD3-A12.01.
Revise: Door to new in view 1 as clouded per AD3-A12.01.
Add: CT-3 tag at view 22 as clouded per AD3-A12.01.

STRUCTURAL
DRAWINGS

ITEM NO. 3.37: DRAWINGS – SHEET: S1.00 – GENERAL NOTES
Revise: Note B under section II Existing Construction as clouded per AD3-S1.00.
Revise: Item 4 under section III Basis of Design, Item E Wind Design Data as clouded per AD3-S1.00.
Revise: Note 10 under section III Basis of Design, Item F Seismic Design Data as clouded per AD3-S1.00.
Revise: Embedment depth under section VII Post Installed Anchors, Item H, note 4 as clouded per AD3-S1.00 in the table for Kwik Bolt TZ2 in Normal Weight Concrete.
Revise: Embedment depth under section VII Post Installed Anchors, Item H, note 4 as clouded per AD3-S1.00 in the table for ¾" diameter Strong Bolt 2 in Normal Weight Concrete.
Revise: Note 5 under section VII Post Installed Anchors, Item J as clouded per AD3-S1.00.

ITEM NO. 3.38: DRAWINGS – SHEET: S2.01 – BLDGS 100, 200 & 700 ROOF FRAMING PLANS
Revise: Framing members for all rooftop units as clouded per AD3-S2.01.

ITEM NO. 3.39: DRAWINGS – SHEET: S2.02 – BLDGS 300 & 400 ROOF FRAMING PLANS
Revise: Framing members for all rooftop units as clouded per AD3-S2.02.

ITEM NO. 3.40: DRAWINGS – SHEET: S2.03 – BLDGS 500 & 600 ROOF FRAMING PLANS
Revise: Framing members for all rooftop units as clouded per AD3-S2.03.

ITEM NO. 3.41: DRAWINGS – SHEET: S9.01 – METAL STUD FRAMING DETAILS
Revise: Detail 1 as clouded per AD3-S9.01
Revise: Title of detail 8 as clouded per AD3-S9.01.
Revise: Detail 12 as clouded per AD3-S9.01.
Add: Detail 9 as clouded per AD3-S9.01.
Add: Detail number 5 as clouded per AD3-S9.01.

MECHANICAL
DRAWINGS

ITEM NO. 3.42: DRAWINGS – SHEET: M0.02 – MECHANICAL SCHEDULES
Revise: Title of fixture schedule to include "OFCI" as clouded per AD3-M0.02.
Revise: Control diagram reference for all AC units as clouded per AD3-M0.02.
Add: Keynote 8 for AC units 33 through 36 in the fixture schedule as clouded per AD3-M0.02.
Revise: Schedule note 2 to clarify that contractor is responsible for the installation of 2" MERV-13 filters as clouded per AD3-M0.02.
Revise: Schedule note 4 to clarify that contractor is responsible for attachment of units to existing curbs as clouded per AD3-M0.02.

Revise: Schedule note 8 to clarify that duct smoke detectors are existing to remain and shall be reconnected to units for shutoff as clouded per AD3-M0.02.
Remove: Schedule note 9 as clouded per AD3-M0.02.

ITEM NO. 3.43: DRAWINGS – SHEET: M2.01 – MECHANICAL DEMOLITION FLOOR PLAN – BLDG 100, 200 & 700
Add: Demolition note 4 description in keynote list for location of the existing BMS control panel as clouded per AD3-M2.01.
Add: Demolition note 4 tag in plan view 1, as clouded per AD3-M2.01.

ITEM NO. 3.44: DRAWINGS – SHEET: M2.04 – MECHANICAL FLOOR PLAN-BLDG 100, 200 & 700
Revise: Floor Plan Keynote 3 as clouded per AD3-M2.04.
Add: Floor Plan Keynote 4 description in keynote list as clouded per AD3-M2.04.
Add: Floor Plan Keynote 4 tag in plan view 1 as clouded per AD3-M2.04.

ITEM NO. 3.45: DRAWINGS – SHEET: M2.05 – MECHANICAL FLOOR PLAN – BLDG 300 & 400
Revise: Floor Plan Keynote 3 description in keynote list as clouded per AD3-M2.05.

ITEM NO. 3.46: DRAWINGS – SHEET: M2.06 – MECHANICAL FLOOR PLAN -BLDG 500 & 600
Revise: Floor Plan Keynote 3 description in keynote list as clouded per AD3-M2.06.

ITEM NO. 3.47: DRAWINGS – SHEET: M6.01 – MECHANICAL DETAILS AND CONTROLS
Revise: Detail 1 note to specify location of hold downs as clouded per AD3-M6.01.
Remove: Control Diagrams as clouded per AD3-M6.01.
Add: OGSD – Ledesma ES (Metasys) BMS Architecture as clouded per AD3-6.01.

ITEM NO. 3.48: DRAWINGS – SHEET: M6.02 – MECHANICAL DETAILS AND CONTROLS
Replace: Remove and replace in its entirety sheet M6.02 per AD3-M6.02.

ITEM NO. 3.49: DRAWINGS – SHEET: M6.03 – MECHANICAL DETAILS AND CONTROLS
Add: Sheet in its entirety as clouded per M6.03.

PLUMBING
DRAWINGS

ITEM NO. 3.50: DRAWINGS – SHEET: P0.02 – PLUMBING FIXTURE SCHEDULE
Revise: "ADA" to "Accessible" at upper left corner of schedule as clouded per AD3-P0.02.
Revise: Faucet description for WC-2 as clouded per AD3-P0.02.

ITEM NO. 3.51: DRAWINGS – SHEET: P3.02 – PLUMBING ENLARGED PLANS
Add: Keynote 7 to keynote list and associated tags in views 1 and 2 for new building gas shutoff valve signage if there is none currently existing as clouded per AD3-P3.02.

ITEM NO. 3.52: DRAWINGS – SHEET: P5.01 – PLUMBING DEMOLITION ROO FPLANS – BLDG 100, 200 & 700
Revise: Existing units AC-33 and AC-34 to rotate to match existing condition in view 1 as clouded per AD3-P5.01.

ITEM NO. 3.53: DRAWINGS – SHEET: P5.04 – PLUMBING ROOF PLANS – BLDG 100, 200 & 700

Add: Keynote 2 to keynote list and associated tags in views 1, 2, and 3 for new building gas shutoff valve signage if there is none currently existing as clouded per AD3-5.04.
Revise: Existing units AC-33 and AC-34 to rotate to match existing condition in view 3 as clouded per AD3-P5.04.

ITEM NO. 3.54: DRAWINGS – SHEET: P5.05 – PLUMBING ROOF PLANS - BLDG 300-400
Add: Reference to floor plan for pipe drop continuation in views 1 and 2 as clouded per AD3-P5.05.

ITEM NO. 3.55: DRAWINGS – SHEET: P5.06 – PLUMBING ROOF PLANS - BLDG 500 - 600
Add: Keynote 2 to keynote list and associated tags in views 1 and 2 for new building gas shutoff valve signage if there is none currently existing as clouded per AD3-P5.06.

ITEM NO. 3.56: DRAWINGS – SHEET: P6.01 – PLUMBING DETAILS
Revise: Detail 2 to indicate maximum mounting height of piping on roof support as clouded per AD3-P6.01.

ELECTRICAL
DRAWINGS

ITEM NO. 3.57: DRAWINGS – SHEET: E0.2 – FIXTURE SCHEDULE
Revise: Fixture Schedule as clouded per AD3-E0.02.
Add: Lighting Control Panel Riser Diagram view 1 as clouded per AD3-E0.02.

ITEM NO. 3.58: DRAWINGS – SHEET: E1.1 – OVERVIEW ELECTRICAL SITE PLAN
Remove: Sheet note 3 from sheet note list as clouded per AD3-E1.1.
Revise: Sheet note 3 tags in view 1 to become sheet note 2 as clouded per AD3-E1.1.

ITEM NO. 3.59: DRAWINGS – SHEET: E1.2 – SITE LIGHTING EGRESS PLAN
Add: General Note 7 for electrical connection from site lighting to electrical panel as clouded per AD3-E1.2.
Add: Sheet notes 8, 9, 10, and 11 to sheet note list and add associated tags in view 1 as clouded per AD3-E2.1.
Add: Routing path and information to electrical panel in view 1 as clouded per AD3-E2.1.
Add: Routing path information in view 1 as clouded per AD3-E2.1.
Add: Sheet note #10 tag in view 1 as clouded per AD3-E2.1
Revise: Light pole layout and counts in view 1 as clouded per AD3-E2.1.
Revise: Fixture tags and sheet note tags in plan view 1 as clouded per AD3-E1.2.
Revise: Sheet notes 5, 6, and 7 in sheet note list as clouded per AD3-E1.2.
Remove: Fixtures in plan view 1 as clouded per AD3-E1.2.

ITEM NO. 3.60: DRAWINGS – SHEET: E2.0 – BLDG 300 & 400 RR ELECTRICAL PLANS - DEMO
Revise: Demolition sheet note 5 to include installation requirements for light switches as clouded per AD3-E2.0.

ITEM NO. 3.61: DRAWINGS – SHEET: E2.1 – BLDG 300 & 400 RR PLANS - NEW
Revise: General Note 3 as clouded per AD3-E2.1.
Remove: Prior General Note 4 as clouded per AD3-E2.1.

Revise: General Notes numbering and alignment as clouded per AD3-E2.1
Revise: Sheet note #5 to include installation requirements for light switches as clouded per AD3-E2.1.
Add: Sheet note #2 tags in All Gender room in view 1 and view 2 as clouded per AD3-E2.1.

ITEM NO. 3.62: DRAWINGS – SHEET: E3.1 – ROOF PLAN – BLDG 100, 200 & 700

Add: Sheet note 6 to sheet note list to include requirements for duct smoke detector disconnect and reconnect as clouded per AD3-E3.1.
Add: Sheete note #6 tags in view 1 as clouded per AD3-E3.1
Add: AC 31 tag in view 1 as clouded per AD3-E3.1
Revise: prior AC35 tag to AC32 in view 1 as clouded per AD3-E3.1

ITEM NO. 3.63: DRAWINGS – SHEET: E4.1 – ELECTRICAL DETAILS

Add: Details 9 and 10 as clouded per AD3-E4.1.
Add: Note 2 in Detail 5 to locate utility lines outside the line of influence of structural footings as clouded per AD3-E4.1.
Revise: Detail 7 to provide 24" long anchor bolts as clouded per AD3-E4.1
Revise: Detail 8 name as clouded per AD3-E4.1

Aedis Architects

Structural Engineer
BASE Design

Mechanical Engineer
Capital Engineering

Electrical Engineer
ACEE

Division of the State Architect

Attachments:

LIMITED LEAD-BASED INSOECTION VIA XRF AND/OR FAA FOR COMMERCIAL PROPERTY, PROPERTY ADDRESS: LEDESMA ELEMENTARY, 1001 SCHOOLHOUSE ROAD, SAN JOSE, CA 95138 (107 pages)
LIMITED ASBESTOS BULK MATERIALS SURVEY REPORT, PROPERTY ADDRESS: LEDESMA ELEMENTARY 1001 SCHOOLHOUSE ROAD SAN JOSE, CA 95138 (115 pages)
AD3-103 – List of Structural Tests and Special Inspections, page 1 (1 page)

Specifications:

AD3-00 01 10 – Table of Contents (3 pages)
AD3-02 41 19 – Selective Demolition (8 pages)
AD3-08 11 13 – Hollow Metal Doors and Frames (9 pages)
AD3-08 71 00 – Door Hardware (11 pages)
AD3-10 14 00 – Signage (10 pages)
AD3-10 21 13.15 – Solid Color Reinforced Composite (SCRC) Substrate Toilet Compartments (7 pages)
AD3-22 00 50 – Basic Plumbing Materials and Methods (27 pages)
AD3-23 09 23 - Direct Digital Controls System for HVAC (16 pages)
AD3-23 80 00 - Heating, Ventilating and Air Conditioning (28 pages)

Drawings:

AD3-T1
AD3-C1.1
AD3-C2.1
AD3-C3.1
AD3-C4.1
AD3-C5.1
AD3-C6.1
AD3-A0.01
AD3-A1.01
AD3-A1.02
AD3-A1.05
AD3-A1.06
AD3-A2.01
AD3-A2.02
AD3-A3.01
AD3-A3.02
AD3-A5.05
AD3-A6.01
AD3-A8.10
AD3-A9.01
AD3-A9.10
AD3-A11.01
AD3-A12.01
AD3-S1.00
AD3-S2.01
AD3-S2.02
AD3-S2.03
AD3-S9.01
AD3-M0.02
AD3-M2.01
AD3-M2.04
AD3-M2.05
AD3-M2.06
AD3-M6.01
AD3-M6.02
M6.03
AD3-P0.02
AD3-P3.02
AD3-P5.01
AD3-P5.04
AD3-P5.05
AD3-P5.06
AD3-P6.01
AD3-E0.2
AD3-E1.1
AD3-E1.2
AD3-E2.0
AD3-E2.1
AD3-E3.1
AD3-E4.1

LIMITED LEAD-BASED INSPECTION VIA XRF AND/OR FAA FOR COMMERCIAL PROPERTY

PROPERTY ADDRESS:

LEDESMA ELEMENTARY
1001 SCHOOLHOUSE ROAD
SAN JOSE, CA 95138

PREPARED FOR:

OAK GROVE SCHOOL DISTRICT
ATTN: CRAIG KANAYA
6578 SANTA TERESA BLVD
SAN JOSE, CA 95119
CKANAYA@OGSD.NET
530-304-1581

JUNE 4, 2026

PREPARED BY:

JOB# 15723

CAL INC CONSULTING
A DIVISION OF CALINC TRAINING, LLC.

2040 PEABODY ROAD, SUITE 400
VACAVILLE, CA 95687
707.446.7996
WWW.CAL-INC.COM

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TABLE OF CONTENTS

1.0 SUMMARY……4

2.0 VISUAL INSPECTION……4

3.0 SAMPLE COLLECTION ……5

4.0 SAMPLE ANALYSIS ……5

5.0 CONCLUSIONS……5

6.0 LIMITATIONS……6

APPENDICES

APPENDIX A - CERTIFICATIONS

APPENDIX B – CHAIN OF CUSTODY / XRF RESULTS

APPENDIX C – SITE DIAGRAM

APPENDIX D - PHOTOS

Proprietary Note:
This report contains CONFIDENTIAL INFORMATION and cannot be duplicated or copied under any circumstances without the express permission of CALINC Training, LLC. The purpose of the report is to allow the CLIENT(s) listed above to evaluate the potential environmental liabilities at the subject property. Any unauthorized reuse of CALINC Training, LLC.'s reports or data will be at the unauthorized user's sole risk and liability.

Corporate Office:
CALINC
2040 Peabody Road
Vacaville, CA 95687
(707) 446-7996
(800) 359-4467
(707) 446-9072 fax

Established 1979

June 4, 2026

Craig Kalani Kanaya
Oak Grove School District
6578 Santa Teresa Blvd
San Jose, CA 95119

Email: ckanaya@ogsd.net
Phone: 530-304-1581

RE: Limited Lead -Based Paint Inspection Via XRF and/or FAA –Lead-Based Paint Detected
Project Name: Ledesma Elementary
Address: 1001 Schoolhouse Road, San Jose, 95138
Cal Inc job Number: 15723

To Whom This May Concern,

CALINC Training, LLC. is pleased to provide this report documenting the Limited Lead-Based Inspection Via XRF and/or FAA Survey Report at the above referenced location. This work was performed in general accordance with applicable government and industry standards.

We appreciate the opportunity to provide environmental services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact our office at (707) 446-7996.

Sincerely,

Olivia Kilpatrick
OLIVIA KILPATRICK
DIRECTOR | BUSINESS DEVELOPMENT

Report prepared by and signed off by:

Kenneth Rodriguez-Praeger, Lead Inspector/Assessor
CDPH I/A LRC-00011115

Proprietary Note:
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1.0 Summary

CALINC Training, LLC performed a Limited Lead-Based Paint Inspection within the referenced property. The scope of work included a visual inspection, sample collection and analysis of various suspect lead-based paint or coatings via XRF (X-ray fluorescence) and/or FAA (Flame Atomic Absorption) method(s) to support our findings and conclusions attached. The technical findings and methods of this inspection are enclosed in the provided appendices. Sampling was conducted by Catherine Kukulka & Jake Marshall, representatives of CALINC Training, LLC and California Department of Public Health (CDPH) Lead Sampling Technicians (LRC-00010945 & LRC-00011968).

Upon review of the analytical data and the inspector's assessment, CALINC Training, LLC has concluded that the following XRF readings and/or paint chip sample(s) collected within the referenced property are positive for lead-based paint and the material will be considered hazardous during a disturbance:

- XRF-27 Yellow Concrete Line Building 200 Play Area – XRF – 1.4 mg/cm²

A lead dust wipe clearance must be conducted following the abatement/disturbance of any lead containing/lead-based paint to ensure that surface(s) within the work area(s) have returned to a normal level established by CDPH & HUD Guidelines. Samples containing above 1.0 mg/cm² or 5,000 ppm/0.5% by weight and are considered lead-based paint (LBP) and the surfaces will trigger HUD, OSHA and CDPH requirements. All work activities disturbing painted surfaces below 1.0 mg/cm² or 5,000 ppm are regulated under Cal/OSHA Title 8 CCR 1532.1 Lead in Construction Standard regardless of the lead content therefore lead safe work practices will be required on all painted surfaces.

CALINC Training, LLC is committed to providing industry leading customer service. If you have any questions or need assistance regarding this report, please contact us at 707-446-7996 or environmental@cal-inc.com and we will gladly assist. Thank you again for your patronage!

2.0 Visual Inspection

The visual inspection consisted of a review of the suspect lead-based and lead containing surfaces within affected areas noted by the client. Suspect surfaces are assessed to determine its substrate, component and condition. A substrate is a surface upon which paint or varnish has been or may be applied. Examples of substrates are included but not limited to wood, plaster, metal, ceramic tile, drywall, steel, plastic etc. Components are parts within a building in which a substrate can be applied to such as a wall, ceiling, floor, door, window, baseboard etc. The condition of suspect lead-based and lead containing materials are classified according to its current state of condition. The current state of condition is broken up into three categories:

In-Tact: Little or no visible damage such as peeling/delamination etc.
Fair: Some peeling/delamination etc. and/or physical damage to substrate
Poor: Significant peeling/delamination etc. and/or major physical damage to substrate

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3.0 Sample Collection & Analysis

Three hundred and thirty-two (332) surfaces were sampled on-site via XRF (X-ray fluorescence).
When paint chip samples are obtained, CALINC Training, LLC collects homogeneous lead paint samples from affected materials depending on the specifications from the client. Homogeneous Area is defined as a suspect material of similar age, appearance, function and texture. The samples taken are accompanied by a Chain of Custody that contains the sample number, locations, approximate quantities and condition then are submitted to an accredited laboratory for analysis using FAA or analyzed on-site via XRF.

Samples analyzed via XRF (X-ray florescence) were collected using a SciAps X-550 On-Site Lead Analyzer. Paint chip samples are analyzed using the Flame Atomic Absorption method SW846-7000B/7420 (EPA Flame Atomic Absorption Spectrophotometry) method for the determination of lead concentrations in paint on building substrates. The HUD Guidelines and the California Department of Public Health regulations define LBP as paint or other surface coating with lead content equal to or greater than 1.0 mg/cm² of surface area by XRF or 5,000 ppm equivalent to 0.5% by weight or greater by paint chip analysis. Cal/OSHA uses 600 ppm or 0.06% by weight in lead containing paints as a threshold of exposure concern as these surfaces are disturbed. Paints containing 600 ppm or greater will require lead safe work practices in accordance with Cal/OSHA lead in construction standard.

4.0 Sample Results

The samples collected from the referenced property were submitted to an accredited laboratory and analyzed by Flame Atomic Absorption Method SW846-7000B/7420 or analyzed on-site via XRF using the SciAps X-550.

Figure 1: Lead Paint Chip Sample Results & Observations
See attached laboratory report and chain of custody – Table/Chart is created in conjunction with the chain of custody.

5.0 Conclusions

Upon review of the analytical data and the inspector's assessment, CALINC Training, LLC has concluded that the following XRF readings and/or paint chip sample(s) collected within the referenced property are positive for lead-based paint and the material will be considered hazardous during a disturbance:

- XRF-27 Yellow Concrete Line Building 200 Play Area – XRF – 1.4 mg/cm²

A lead dust wipe clearance must be conducted following the abatement/disturbance of any lead containing paint to ensure that surface(s) within the work area(s) have returned to a normal level established by CDPH & HUD Guidelines. Samples containing above 1.0 mg/cm² or 5,000 ppm/0.5% by weight and are considered lead-based paint (LBP) and the surfaces will trigger HUD, OSHA and CDPH requirements. All work activities disturbing painted surfaces below 1.0 mg/cm² or 5,000 ppm are regulated under Cal/OSHA Title 8 CCR 1532.1

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Lead in Construction Standard regardless of the lead content therefore lead safe work practices will be required on all painted surfaces.

6.0 Limitations

The scope of work included a visual inspection, sample collection and/or laboratory analysis to support our findings. This report has been developed to provide the client with information regarding apparent conditions related to limited accessible building materials and/or airspace/containment at the referenced property requested by the client and CALINC Training, LLC. does not guarantee that all suspect materials, airspace or household/industrial hazards have been identified, sampled or included in this survey. Due to the nature of the work, there is a possibility that conditions exist that could not be identified within the scope of the assessment or which were not apparent at the time of our site assessment. The inspection is only to identify hazards regarding the reference test type selected by the client. Although CALINC Training, LLC. attempts to identify all possible hazards within the contained areas and/or work areas, we are not responsible for unidentified, unrelated hazards within such areas (suspect microbial damage, lead contamination, water damage and termite damage etc.) CALINC Training, LLC. bears no responsibility for the actual condition of the structure or safety of a site pertaining to all hazards regardless of any actions taken by the client. To collect the analytical data, random bulk samples and/or area air samples were collected from the subject property at the direction of the client in reference to the damage and/or affected area. The samples taken are accompanied by a Chain of Custody and transported to a laboratory. Any samples collected have been submitted and analyzed by an industry recognized and/or accredited laboratory using the specified method referenced on the attached chain of custody, laboratory findings etc. CALINC Training, LLC. is not responsible nor takes any responsibility for analysis performed by the contracted laboratory. In addition, this report is not intended to provide any certificate of clearance, passage, or designation of an area to be safe. The inspector's samples are used as a tool to provide data regarding the current condition of the premises at the direction of the client. Although CALINC Training, LLC. believes that the findings and conclusions provided in this report are reasonable, the survey/assessment is limited to the conditions observed, sample results and to the information available at the time of the inspection. CALINC Training, LLC. is not responsible for any damage caused by our sampling methods.

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APPENDIX A – CERTIFICATIONS

KENNETH RODRIGUEZ-PRAEGER
CDPH LEAD INSPECTOR/ASSESSOR
LRC-00011115



California Department of PublicHealth

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
Kenneth Rodriguez-Praeger	Lead Inspector/Assessor	LRC-00011115	4/22/2026

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD

CATHRINE KUKULKA
CDPH LEAD SAMPLING TECHNICAN
LRC-00010945



California Department of PublicHealth

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
Catherine Kukulka	Lead Sampling Technician	LRC-00010945	7/28/2026

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD

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JACOB MARSHALL
CDPH LEAD SAMPLING TECHNICAN
LRC-00011968

CDPH
California Department of Public Health

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
 Jacob Marshall	Lead Sampling Technician	LRC-00011968	12/16/2026

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD

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APPENDIX B- CHAIN OF CUSTODY/ XRF RESULTS

SEE ATTACHED PAGES FOR CHAIN OF CUSTODY/ANALYTICAL RESULTS

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CAL INC CONSULTING
A DIVISION OF CALINC TRAINING, LLC.

Date: 05/28/2026	**Sampled By:** Kukulka & Marshall
Project Number: 26-0632	**License Type & #:**
Project Name: Ledesma Elementary School	
Project Address: 1001 Schoolhouse Road, San Jose, CA 95138	
Primary Areas Assessed: Throughout, Excluding Portable Buildings	

Elite Branch: Northern California	
Address: 301 Georgia Street, Suite #390, Vallejo, CA 94590	
Phone: 707-654-9001	**Results To:** results@elite-enviro.net

Laboratory:	**TAT:** On Site
Analysis Type: ☐- Chips, SW846-7420 or AOAC 5.009 (974.02) ☐- Other: SciAps X-550	

Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
Cal 1					Calibration	1.02 mg/cm²
Cal 2					Calibration	1.05 mg/cm²
Cal 3					Calibration	1.10 mg/cm²
Cal 4					Calibration	1.08 mg/cm²
Cal 5					Calibration	1.01 mg/cm²
Cal 6					Calibration	1.02 mg/cm²
XRF-01	Burgundy	Metal	Exterior Door	In Tact	Building 100 Exterior	0.00 mg/cm²
XRF-02	Burgundy	Metal	Interior Door	In Tact	Admin Office 100	0.00 mg/cm²
XRF-03	White	Metal	Exterior Door Frame	In Tact	Building 100 Exterior	0.00 mg/cm²
XRF-04	White	Metal	Interior Door Frame	In Tact	Staff Room 110	0.00 mg/cm²
XRF-05	White	Metal	Exterior Window Frame	In Tact	Building 100 Exterior	0.00 mg/cm²
XRF-06	White	Wood	Interior Window Frame	In Tact	Admin Office 100	0.00 mg/cm²
XRF-07	Tan	Wood	Interior Window Frame	In Tact	Workroom 102	0.00 mg/cm²
XRF-08	Tan	Drywall	Wall	In Tact	Admin Office 100	0.00 mg/cm²
XRF-09	Tan	Fiberboard	Wall	In Tact	Conference Room 115	0.00 mg/cm²
XRF-10	Gray	Metal	Ladder	In Tact	Electrical Room 109	0.00 mg/cm²
XRF-11	Tan	Stucco	Wall	In Tact	Building 100 Exterior	0.00 mg/cm²
XRF-12	Burgundy	Metal	Pole	In Tact	Building 100 Exterior	0.00 mg/cm²
XRF-13	White	Drywall	Wall	In Tact	Work Room 102	0.00 mg/cm²
XRF-14	Gray	Metal	HVAC Unit	In Tact	Building 100 Roof	0.00 mg/cm²
XRF-15	White Paint On	Metal	HVAC Unit	In Tact	Building 100 Roof	0.00 mg/cm²
XRF-16	Burgundy	Metal	Pole	In Tact	Building 200 Exterior	0.00 mg/cm²
XRF-17	Burgundy	Metal	Downspout	In Tact	Building 200 Exterior	0.00 mg/cm²
XRF-18	White	Metal	Exterior Door	In Tact	Room S-207	0.00 mg/cm²
XRF-19	White	Metal	Exterior Door Frame	Poor	Room S-207	0.00 mg/cm²
XRF-20	Tan	Metal	Interior Door	In Tact	Classroom 201	0.00 mg/cm²

Relinquished By:	Received by Lab:
Print: Jake Marshall	Print:
Date: 05/28/2026	Date:

Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-21	White	Metal	Interior Door Frame	In Tact	Classroom 201	0.00 mg/cm²
XRF-22	Gray	Metal	Ladder	In Tact	Room S-207	0.00 mg/cm²
XRF-23	Red	Concrete	Line	In Tact	Building 200 Play Area	0.00 mg/cm²
XRF-24	Green	Concrete	Line	In Tact	Building 200 Play Area	0.00 mg/cm²
XRF-25	Blue	Concrete	Line	In Tact	Building 200 Play Area	0.00 mg/cm²
XRF-26	Lime	Concrete	Line	In Tact	Building 200 Play Area	0.00 mg/cm²
XRF-27	Yellow	Concrete	Line	In Tact	Building 200 Play Area	1.4 mg/cm²
XRF-28	White	Concrete	Line	In Tact	Building 200 Play Area	0.00 mg/cm²
XRF-29	White	Metal	Exterior Window Frame	In Tact	Classroom 201	0.00 mg/cm²
XRF-30	Tan	Fiberboard	Wall	In Tact	Classroom 201	0.00 mg/cm²
XRF-31	White	Metal	Interior Window Frame	In Tact	Classroom 201	0.00 mg/cm²
XRF-32	Shellac	Wood	Cabinet	In Tact	Classroom 201	0.00 mg/cm²
XRF-33	Blue	Wood/Laminate	Counter	In Tact	Classroom 201	0.00 mg/cm²
XRF-34	Tan	Stucco	Wall	In Tact	Building 200 Exterior	0.00 mg/cm²
XRF-35	Black	Metal	Gate	In Tact	Building 200 Exterior	0.00 mg/cm²
XRF-36	Yellow	Concrete	Line	In Tact	Classroom 201	0.00 mg/cm²
XRF-37	Blue	Metal	Exterior Door	In Tact	Classroom 201	0.00 mg/cm²
XRF-38	Tan	Fiberboard	Wall	In Tact	Classroom 202	0.00 mg/cm²
XRF-39	Blue	Metal	Exterior Door	In Tact	Classroom 202	0.00 mg/cm²
XRF-40	Tan	Metal	Interior Door	In Tact	Classroom 202	0.00 mg/cm²
XRF-41	White	Metal	Exterior Window Frame	In Tact	Classroom 202	0.00 mg/cm²
XRF-42	White	Metal	Interior Window Frame	In Tact	Classroom 202	0.00 mg/cm²
XRF-43	White	Metal	Exterior Door Frame	In Tact	Classroom 202	0.00 mg/cm²
XRF-44	Shellac	Wood	Cabinet	In Tact	Classroom 202	0.00 mg/cm²
XRF-45	Blue	Wood/Laminate	Counter	In Tact	Classroom 202	0.00 mg/cm²
XRF-46	Yellow	Concrete	Line	In Tact	Classroom 202	0.00 mg/cm²
XRF-47	Tan	Fiberboard	Wall	In Tact	Classroom 203	0.00 mg/cm²
XRF-48	Blue	Metal	Exterior Door	In Tact	Classroom 203	0.00 mg/cm²
XRF-49	Tan	Metal	Interior Door	In Tact	Classroom 203	0.00 mg/cm²
XRF-50	White	Metal	Exterior Window Frame	In Tact	Classroom 203	0.00 mg/cm²
XRF-51	White	Metal	Interior Window Frame	In Tact	Classroom 203	0.00 mg/cm²
XRF-52	White	Metal	Exterior Door Frame	In Tact	Classroom 203	0.00 mg/cm²
XRF-53	Shellac	Wood	Cabinet	In Tact	Classroom 203	0.00 mg/cm²
XRF-54	Blue	Wood/Laminate	Counter	In Tact	Classroom 203	0.00 mg/cm²

Relinquished By:	Received by Lab:
Print: Jake Marshall	Print:
Date: 05/28/2026	Date:

Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-55	Yellow	Concrete	Line	In Tact	Classroom 203	0.00 mg/cm²
XRF-56	Red	Ceramic	Wall Tile	In Tact	Building 200 Exterior	0.07 mg/cm²
XRF-57	Black	Metal	Rail	In Tact	Building 200 Exterior	0.29 mg/cm²
XRF-58	White	Porcelain	Drinking Fountain	In Tact	Building 200 Exterior	0.00 mg/cm²
XRF-59	Tan	Stucco	Wall	In Tact	Building 300 Exterior	0.00 mg/cm²
XRF-60	Burgundy	Metal	Pole	In Tact	Building 300 Exterior	0.00 mg/cm²
XRF-61	Burgundy	Metal	Downspout	In Tact	Building 300 Exterior	0.00 mg/cm²
XRF-62	Black	Metal	Gate	In Tact	Building 300 Exterior	0.00 mg/cm²
XRF-63	Gray	Metal	Ladder	In Tact	Building 300 Electrical Room	0.00 mg/cm²
XRF-64	Blue	Metal	Interior Door Frame	In Tact	Building 300 Electrical Room	0.00 mg/cm²
XRF-65	Tan	Fiberboard	Wall	In Tact	Classroom 301	0.00 mg/cm²
XRF-66	Blue	Metal	Exterior Door	In Tact	Classroom 301	0.00 mg/cm²
XRF-67	Blue	Metal	Interior Door	In Tact	Classroom 301	0.00 mg/cm²
XRF-68	White	Metal	Exterior Window Frame	In Tact	Classroom 301	0.00 mg/cm²
XRF-69	White	Metal	Interior Window Frame	In Tact	Classroom 301	0.00 mg/cm²
XRF-70	Shellac	Wood	Cabinet	In Tact	Classroom 301	0.00 mg/cm²
XRF-71	Blue	Wood/Laminate	Counter	In Tact	Classroom 301	0.00 mg/cm²
XRF-72	Yellow	Concrete	Line	In Tact	Classroom 301	0.00 mg/cm²
XRF-73	White	Metal	Interior Door Frame	In Tact	Classroom 301	0.00 mg/cm²
XRF-74	White	Metal	Exterior Door Frame	In Tact	Classroom 301	0.00 mg/cm²
XRF-75	Tan	Fiberboard	Wall	In Tact	Classroom 302	0.00 mg/cm²
XRF-76	Blue	Metal	Exterior Door	In Tact	Classroom 302	0.00 mg/cm²
XRF-77	Blue	Metal	Interior Door	In Tact	Classroom 302	0.00 mg/cm²
XRF-78	White	Metal	Exterior Door Frame	In Tact	Classroom 302	0.00 mg/cm²
XRF-79	White	Metal	Interior Door Frame	In Tact	Classroom 302	0.00 mg/cm²
XRF-80	White	Metal	Exterior Window Frame	In Tact	Classroom 302	0.00 mg/cm²
XRF-81	White	Metal	Interior Window Frame	In Tact	Classroom 302	0.00 mg/cm²
XRF-82	Shellac	Wood	Cabinet	In Tact	Classroom 302	0.00 mg/cm²
XRF-83	Blue	Wood/Laminate	Counter	In Tact	Classroom 302	0.00 mg/cm²
XRF-84	Tan	Fiberboard	Wall	In Tact	Classroom 303	0.00 mg/cm²
XRF-85	Blue	Metal	Exterior Door	In Tact	Classroom 303	0.00 mg/cm²
XRF-86	Blue	Metal	Interior Door	In Tact	Classroom 303	0.00 mg/cm²
XRF-87	White	Metal	Exterior Door Frame	In Tact	Classroom 303	0.00 mg/cm²
XRF-88	White	Metal	Interior Door Frame	In Tact	Classroom 303	0.00 mg/cm²

Relinquished By:	Received by Lab:
Print: Jake Marshall	Print:
Date: 05/28/2026	Date:

Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-89	White	Metal	Exterior Window Frame	In Tact	Classroom 303	0.00 mg/cm²
XRF-90	White	Metal	Interior Window Frame	In Tact	Classroom 303	0.00 mg/cm²
XRF-91	Shellac	Wood	Cabinet	In Tact	Classroom 303	0.00 mg/cm²
XRF-92	Blue	Wood/Laminate	Counter	In Tact	Classroom 303	0.00 mg/cm²
XRF-93	Yellow	Concrete	Line	In Tact	Classroom 303	0.00 mg/cm²
XRF-94	Blue	Metal	Exterior Door	In Tact	Classroom 304	0.00 mg/cm²
XRF-95	Blue	Metal	Interior Door	In Tact	Classroom 304	0.00 mg/cm²
XRF-96	White	Metal	Exterior Door Frame	In Tact	Classroom 304	0.00 mg/cm²
XRF-97	White	Metal	Interior Door Frame	In Tact	Classroom 304	0.00 mg/cm²
XRF-98	White	Metal	Exterior Window Frame	In Tact	Classroom 304	0.00 mg/cm²
XRF-99	White	Metal	Interior Window Frame	In Tact	Classroom 304	0.00 mg/cm²
XRF-100	Shellac	Wood	Cabinet	In Tact	Classroom 304	0.00 mg/cm²
XRF-101	Blue	Wood/Laminate	Counter	In Tact	Classroom 304	0.00 mg/cm²
XRF-102	Tan	Fiberboard	Wall	In Tact	Classroom 304	0.00 mg/cm²
XRF-103	Yellow	Concrete	Line	In Tact	Classroom 304	0.00 mg/cm²
XRF-104	Tan	Fiberboard	Wall	In Tact	Classroom 305	0.00 mg/cm²
XRF-105	Blue	Metal	Exterior Door	In Tact	Classroom 305	0.00 mg/cm²
XRF-106	Blue	Metal	Interior Door	In Tact	Classroom 305	0.00 mg/cm²
XRF-107	White	Metal	Exterior Door Frame	In Tact	Classroom 305	0.00 mg/cm²
XRF-108	White	Metal	Interior Door Frame	In Tact	Classroom 305	0.00 mg/cm²
XRF-109	White	Metal	Exterior Window Frame	In Tact	Classroom 305	0.00 mg/cm²
XRF-110	White	Metal	Interior Window Frame	In Tact	Classroom 305	0.00 mg/cm²
XRF-111	Shellac	Wood	Cabinet	In Tact	Classroom 305	0.00 mg/cm²
XRF-112	Blue	Wood/Laminate	Counter	In Tact	Classroom 305	0.00 mg/cm²
XRF-113	Yellow	Concrete	Line	In Tact	Classroom 305	0.00 mg/cm²
XRF-114	Tan	Fiberboard	Wall	In Tact	Classroom 306	0.00 mg/cm²
XRF-115	Blue	Metal	Exterior Door	In Tact	Classroom 306	0.00 mg/cm²
XRF-116	Blue	Metal	Interior Door	In Tact	Classroom 306	0.00 mg/cm²
XRF-117	White	Metal	Interior Door Frame	In Tact	Classroom 306	0.00 mg/cm²
XRF-118	White	Metal	Exterior Door Frame	In Tact	Classroom 306	0.00 mg/cm²
XRF-119	White	Metal	Exterior Window Frame	In Tact	Classroom 306	0.00 mg/cm²
XRF-120	White	Metal	Interior Window Frame	In Tact	Classroom 306	0.00 mg/cm²
XRF-121	Shellac	Wood	Cabinet	In Tact	Classroom 306	0.00 mg/cm²
XRF-122	Blue	Wood/Laminate	Counter	In Tact	Classroom 306	0.00 mg/cm²

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Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-123	Yellow	Concrete	Line	In Tact	Classroom 306	0.00 mg/cm²
XRF-124	White	Drywall	Ceiling	In Tact	Building 300 Bathrooms	0.00 mg/cm²
XRF-125	Burgundy	Metal	Pole	In Tact	Building 400 Exterior	0.00 mg/cm²
XRF-126	Burgundy	Metal	Downspout	In Tact	Building 400 Exterior	0.2 mg/cm²
XRF-127	Black	Metal	Gate	In Tact	Building 400 Exterior	0.00 mg/cm²
XRF-128	Tan	Stucco	Wall	In Tact	Building 400 Exterior	0.00 mg/cm²
XRF-129	Blue	Metal	Exterior Door	In Tact	Classroom 401	0.00 mg/cm²
XRF-130	Blue	Metal	Interior Door	In Tact	Classroom 401	0.00 mg/cm²
XRF-131	White	Metal	Exterior Door Frame	In Tact	Classroom 401	0.00 mg/cm²
XRF-132	White	Metal	Interior Door Frame	In Tact	Classroom 401	0.00 mg/cm²
XRF-133	White	Metal	Exterior Window Frame	In Tact	Classroom 401	0.00 mg/cm²
XRF-134	White	Metal	Interior Window Frame	In Tact	Classroom 401	0.00 mg/cm²
XRF-135	Shellac	Wood	Cabinet	In Tact	Classroom 401	0.00 mg/cm²
XRF-136	Blue	Wood/Laminate	Counter	In Tact	Classroom 401	0.00 mg/cm²
XRF-137	Yellow	Concrete	Line	In Tact	Classroom 401	0.00 mg/cm²
XRF-138	Tan	Fiberboard	Wall	In Tact	Classroom 402	0.00 mg/cm²
XRF-139	Blue	Metal	Exterior Door	In Tact	Classroom 402	0.00 mg/cm²
XRF-140	Blue	Metal	Interior Door	In Tact	Classroom 402	0.00 mg/cm²
XRF-141	White	Metal	Exterior Door Frame	In Tact	Classroom 402	0.00 mg/cm²
XRF-142	White	Metal	Interior Door Frame	In Tact	Classroom 402	0.00 mg/cm²
XRF-143	White	Metal	Exterior Window Frame	In Tact	Classroom 402	0.00 mg/cm²
XRF-144	White	Metal	Interior Window Frame	In Tact	Classroom 402	0.00 mg/cm²
XRF-145	Shellac	Wood	Cabinet	In Tact	Classroom 402	0.00 mg/cm²
XRF-146	Blue	Wood/Laminate	Counter	In Tact	Classroom 402	0.00 mg/cm²
XRF-147	Yellow	Concrete	Line	In Tact	Classroom 402	0.00 mg/cm²
XRF-148	Tan	Fiberboard	Wall	In Tact	Classroom 403	0.00 mg/cm²
XRF-149	Blue	Metal	Exterior Door	In Tact	Classroom 403	0.00 mg/cm²
XRF-150	Blue	Metal	Interior Door	In Tact	Classroom 403	0.00 mg/cm²
XRF-151	White	Metal	Exterior Door Frame	In Tact	Classroom 403	0.00 mg/cm²
XRF-152	White	Metal	Interior Door Frame	In Tact	Classroom 403	0.00 mg/cm²
XRF-153	White	Metal	Exterior Window Frame	In Tact	Classroom 403	0.00 mg/cm²
XRF-154	White	Metal	Interior Window Frame	In Tact	Classroom 403	0.00 mg/cm²
XRF-155	Shellac	Wood	Cabinet	In Tact	Classroom 403	0.00 mg/cm²
XRF-156	Blue	Wood/Laminate	Counter	In Tact	Classroom 403	0.00 mg/cm²

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Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-157	Yellow	Concrete	Line	In Tact	Classroom 403	0.00 mg/cm²
XRF-158	Tan	Fiberboard	Wall	In Tact	Classroom 404	0.00 mg/cm²
XRF-159	Blue	Metal	Exterior Door	In Tact	Classroom 404	0.00 mg/cm²
XRF-160	Blue	Metal	Interior Door	In Tact	Classroom 404	0.00 mg/cm²
XRF-161	White	Metal	Exterior Door Frame	In Tact	Classroom 404	0.00 mg/cm²
XRF-162	White	Metal	Interior Door Frame	In Tact	Classroom 404	0.00 mg/cm²
XRF-163	White	Metal	Exterior Window Frame	In Tact	Classroom 404	0.00 mg/cm²
XRF-164	White	Metal	Interior Window Frame	In Tact	Classroom 404	0.00 mg/cm²
XRF-165	Shellac	Wood	Cabinet	In Tact	Classroom 404	0.00 mg/cm²
XRF-166	Blue	Wood/Laminate	Counter	In Tact	Classroom 404	0.00 mg/cm²
XRF-167	Yellow	Concrete	Line	In Tact	Classroom 404	0.00 mg/cm²
XRF-168	Tan	Fiberboard	Wall	In Tact	Classroom 405	0.00 mg/cm²
XRF-169	Blue	Metal	Exterior Door	In Tact	Classroom 405	0.00 mg/cm²
XRF-170	Blue	Metal	Interior Door	In Tact	Classroom 405	0.00 mg/cm²
XRF-171	White	Metal	Exterior Door Frame	In Tact	Classroom 405	0.00 mg/cm²
XRF-172	White	Metal	Interior Door Frame	In Tact	Classroom 405	0.00 mg/cm²
XRF-173	White	Metal	Exterior Window Frame	In Tact	Classroom 405	0.00 mg/cm²
XRF-174	White	Metal	Interior Window Frame	In Tact	Classroom 405	0.00 mg/cm²
XRF-175	Shellac	Wood	Cabinet	In Tact	Classroom 405	0.00 mg/cm²
XRF-176	Blue	Wood/Laminate	Counter	In Tact	Classroom 405	0.00 mg/cm²
XRF-177	Yellow	Concrete	Line	In Tact	Classroom 405	0.00 mg/cm²
XRF-178	Tan	Fiberboard	Wall	In Tact	Classroom 406	0.00 mg/cm²
XRF-179	Blue	Metal	Exterior Door	In Tact	Classroom 406	0.00 mg/cm²
XRF-180	Blue	Metal	Interior Door	In Tact	Classroom 406	0.00 mg/cm²
XRF-181	White	Metal	Exterior Door Frame	In Tact	Classroom 406	0.00 mg/cm²
XRF-182	White	Metal	Interior Door Frame	In Tact	Classroom 406	0.00 mg/cm²
XRF-183	White	Metal	Exterior Window Frame	In Tact	Classroom 406	0.00 mg/cm²
XRF-184	White	Metal	Interior Window Frame	In Tact	Classroom 406	0.00 mg/cm²
XRF-185	Shellac	Wood	Cabinet	In Tact	Classroom 406	0.00 mg/cm²
XRF-186	Blue	Wood/Laminate	Counter	In Tact	Classroom 406	0.00 mg/cm²
XRF-187	Yellow	Concrete	Line	In Tact	Classroom 406	0.00 mg/cm²
XRF-188	White	Drywall	Ceiling	In Tact	Building 400 Restrooms	0.00 mg/cm²
XRF-189	Gray	Metal	Ladder	In Tact	Building 400 Electrical Room	0.00 mg/cm²
XRF-190	White	Metal	Interior Door Frame	In Tact	Building 400 Electrical Room	0.00 mg/cm²

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Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-191	Burgundy	Metal	Pole	In Tact	Building 500 Exterior	0.00 mg/cm²
XRF-192	Burgundy	Metal	Downspout	In Tact	Building 500 Exterior	0.1 mg/cm²
XRF-193	Black	Metal	Gate	In Tact	Building 500 Exterior	0.00 mg/cm²
XRF-194	Tan	Stucco	Wall	In Tact	Building 500 Exterior	0.00 mg/cm²
XRF-195	Tan	Fiberboard	Wall	In Tact	Classroom 501	0.00 mg/cm²
XRF-196	Blue	Metal	Exterior Door	In Tact	Classroom 501	0.00 mg/cm²
XRF-197	Blue	Metal	Interior Door	In Tact	Classroom 501	0.00 mg/cm²
XRF-198	White	Metal	Exterior Door Frame	In Tact	Classroom 501	0.00 mg/cm²
XRF-199	White	Metal	Interior Door Frame	In Tact	Classroom 501	0.00 mg/cm²
XRF-200	White	Metal	Exterior Window Frame	In Tact	Classroom 501	0.00 mg/cm²
XRF-201	White	Metal	Interior Window Frame	In Tact	Classroom 501	0.00 mg/cm²
XRF-202	Shellac	Wood	Cabinet	In Tact	Classroom 501	0.00 mg/cm²
XRF-203	Blue	Wood/Laminate	Counter	In Tact	Classroom 501	0.00 mg/cm²
XRF-204	Yellow	Concrete	Line	In Tact	Classroom 501	0.00 mg/cm²
XRF-205	Tan	Fiberboard	Wall	In Tact	Classroom 502	0.00 mg/cm²
XRF-206	Blue	Metal	Exterior Door	In Tact	Classroom 502	0.00 mg/cm²
XRF-207	Blue	Metal	Interior Door	In Tact	Classroom 502	0.00 mg/cm²
XRF-208	White	Metal	Exterior Door Frame	In Tact	Classroom 502	0.00 mg/cm²
XRF-209	White	Metal	Interior Door Frame	In Tact	Classroom 502	0.00 mg/cm²
XRF-210	White	Metal	Exterior Window Frame	In Tact	Classroom 502	0.00 mg/cm²
XRF-211	White	Metal	Interior Window Frame	In Tact	Classroom 502	0.00 mg/cm²
XRF-212	Shellac	Wood	Cabinet	In Tact	Classroom 502	0.00 mg/cm²
XRF-213	Blue	Wood/Laminate	Counter	In Tact	Classroom 502	0.00 mg/cm²
XRF-214	Yellow	Concrete	Line	In Tact	Classroom 502	0.00 mg/cm²
XRF-215	Tan	Fiberboard	Wall	In Tact	Classroom 503	0.00 mg/cm²
XRF-216	Blue	Metal	Exterior Door	In Tact	Classroom 503	0.00 mg/cm²
XRF-217	Blue	Metal	Interior Door	In Tact	Classroom 503	0.00 mg/cm²
XRF-218	White	Metal	Exterior Door Frame	In Tact	Classroom 503	0.00 mg/cm²
XRF-219	White	Metal	Interior Door Frame	In Tact	Classroom 503	0.00 mg/cm²
XRF-220	White	Metal	Exterior Window Frame	In Tact	Classroom 503	0.00 mg/cm²
XRF-221	White	Metal	Interior Window Frame	In Tact	Classroom 503	0.00 mg/cm²
XRF-222	Shellac	Wood	Cabinet	In Tact	Classroom 503	0.00 mg/cm²
XRF-223	Blue	Wood/Laminate	Counter	In Tact	Classroom 503	0.00 mg/cm²
XRF-224	Yellow	Concrete	Line	In Tact	Classroom 503	0.00 mg/cm²

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Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-225	Tan	Fiberboard	Wall	In Tact	Classroom 504	0.00 mg/cm²
XRF-226	Blue	Metal	Exterior Door	In Tact	Classroom 504	0.00 mg/cm²
XRF-227	Blue	Metal	Interior Door	In Tact	Classroom 504	0.00 mg/cm²
XRF-228	White	Metal	Exterior Door Frame	In Tact	Classroom 504	0.00 mg/cm²
XRF-229	White	Metal	Interior Door Frame	In Tact	Classroom 504	0.00 mg/cm²
XRF-230	White	Metal	Exterior Window Frame	In Tact	Classroom 504	0.00 mg/cm²
XRF-231	White	Metal	Interior Window Frame	In Tact	Classroom 504	0.00 mg/cm²
XRF-232	Shellac	Wood	Cabinet	In Tact	Classroom 504	0.00 mg/cm²
XRF-233	Blue	Wood/Laminate	Counter	In Tact	Classroom 504	0.00 mg/cm²
XRF-234	Yellow	Concrete	Line	In Tact	Classroom 504	0.00 mg/cm²
XRF-235	Tan	Fiberboard	Wall	In Tact	Classroom 505	0.00 mg/cm²
XRF-236	Blue	Metal	Exterior Door	In Tact	Classroom 505	0.00 mg/cm²
XRF-237	Blue	Metal	Interior Door	In Tact	Classroom 505	0.00 mg/cm²
XRF-238	White	Metal	Exterior Door Frame	In Tact	Classroom 505	0.00 mg/cm²
XRF-239	White	Metal	Interior Door Frame	In Tact	Classroom 505	0.00 mg/cm²
XRF-240	White	Metal	Exterior Window Frame	In Tact	Classroom 505	0.00 mg/cm²
XRF-241	White	Metal	Interior Window Frame	In Tact	Classroom 505	0.00 mg/cm²
XRF-242	Shellac	Wood	Cabinet	In Tact	Classroom 505	0.00 mg/cm²
XRF-243	Blue	Wood/Laminate	Counter	In Tact	Classroom 505	0.00 mg/cm²
XRF-244	Yellow	Concrete	Line	In Tact	Classroom 505	0.00 mg/cm²
XRF-245	Tan	Fiberboard	Wall	In Tact	Classroom 506	0.00 mg/cm²
XRF-246	Blue	Metal	Exterior Door	In Tact	Classroom 506	0.00 mg/cm²
XRF-247	Blue	Metal	Interior Door	In Tact	Classroom 506	0.00 mg/cm²
XRF-248	White	Metal	Exterior Door Frame	In Tact	Classroom 506	0.00 mg/cm²
XRF-249	White	Metal	Interior Door Frame	In Tact	Classroom 506	0.00 mg/cm²
XRF-250	White	Metal	Exterior Window Frame	In Tact	Classroom 506	0.00 mg/cm²
XRF-251	White	Metal	Interior Window Frame	In Tact	Classroom 506	0.00 mg/cm²
XRF-252	Shellac	Wood	Cabinet	In Tact	Classroom 506	0.00 mg/cm²
XRF-253	Blue	Wood/Laminate	Counter	In Tact	Classroom 506	0.00 mg/cm²
XRF-254	Yellow	Concrete	Line	In Tact	Classroom 506	0.00 mg/cm²
XRF-255	White	Drywall	Ceiling	In Tact	Building 500 Restrooms	0.00 mg/cm²
XRF-256	Gray	Metal	Ladder	In Tact	Building 500 Electrical Room	0.00 mg/cm²
XRF-257	Tan	Stucco	Wall	In Tact	Building 600 Exterior	0.00 mg/cm²
XRF-258	Burgundy	Metal	Pole	In Tact	Building 600 Exterior	0.00 mg/cm²

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Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-259	Burgundy	Metal	Downspout	In Tact	Building 600 Exterior	0.00 mg/cm²
XRF-260	Black	Metal	Gate	In Tact	Building 600 Exterior	0.00 mg/cm²
XRF-261	Tan	Fiberboard	Wall	In Tact	Classroom 601	0.00 mg/cm²
XRF-262	Blue	Metal	Exterior Door	In Tact	Classroom 601	0.00 mg/cm²
XRF-263	Blue	Metal	Interior Door	In Tact	Classroom 601	0.00 mg/cm²
XRF-264	White	Metal	Exterior Door Frame	In Tact	Classroom 601	0.00 mg/cm²
XRF-265	White	Metal	Interior Door Frame	In Tact	Classroom 601	0.00 mg/cm²
XRF-266	White	Metal	Exterior Window Frame	In Tact	Classroom 601	0.00 mg/cm²
XRF-267	White	Metal	Interior Window Frame	In Tact	Classroom 601	0.00 mg/cm²
XRF-268	Shellac	Wood	Cabinet	In Tact	Classroom 601	0.00 mg/cm²
XRF-269	Blue	Wood/Laminate	Counter	In Tact	Classroom 601	0.00 mg/cm²
XRF-270	Yellow	Concrete	Line	In Tact	Classroom 601	0.00 mg/cm²
XRF-271	Tan	Fiberboard	Wall	In Tact	Classroom 602	0.00 mg/cm²
XRF-272	Blue	Metal	Exterior Door	In Tact	Classroom 602	0.00 mg/cm²
XRF-273	Blue	Metal	Interior Door	In Tact	Classroom 602	0.00 mg/cm²
XRF-274	White	Metal	Exterior Door Frame	In Tact	Classroom 602	0.00 mg/cm²
XRF-275	White	Metal	Interior Door Frame	In Tact	Classroom 602	0.00 mg/cm²
XRF-276	White	Metal	Exterior Window Frame	In Tact	Classroom 602	0.00 mg/cm²
XRF-277	White	Metal	Interior Window Frame	In Tact	Classroom 602	0.00 mg/cm²
XRF-278	Shellac	Wood	Cabinet	In Tact	Classroom 602	0.00 mg/cm²
XRF-279	Blue	Wood/Laminate	Counter	In Tact	Classroom 602	0.00 mg/cm²
XRF-280	Yellow	Concrete	Line	In Tact	Classroom 602	0.00 mg/cm²
XRF-281	Tan	Fiberboard	Wall	In Tact	Classroom 603	0.00 mg/cm²
XRF-282	Blue	Metal	Exterior Door	In Tact	Classroom 603	0.00 mg/cm²
XRF-283	Blue	Metal	Interior Door	In Tact	Classroom 603	0.00 mg/cm²
XRF-284	White	Metal	Exterior Door Frame	In Tact	Classroom 603	0.00 mg/cm²
XRF-285	White	Metal	Interior Door Frame	In Tact	Classroom 603	0.00 mg/cm²
XRF-286	White	Metal	Exterior Window Frame	In Tact	Classroom 603	0.00 mg/cm²
XRF-287	White	Metal	Interior Window Frame	In Tact	Classroom 603	0.00 mg/cm²
XRF-288	Shellac	Wood	Cabinet	In Tact	Classroom 603	0.00 mg/cm²
XRF-289	Blue	Wood/Laminate	Counter	In Tact	Classroom 603	0.00 mg/cm²
XRF-290	Yellow	Concrete	Line	In Tact	Classroom 603	0.00 mg/cm²
XRF-291	Tan	Fiberboard	Wall	In Tact	Classroom 604	0.00 mg/cm²
XRF-292	Blue	Metal	Exterior Door	In Tact	Classroom 604	0.00 mg/cm²

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Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-293	Blue	Metal	Interior Door	In Tact	Classroom 604	0.00 mg/cm²
XRF-294	White	Metal	Exterior Door Frame	In Tact	Classroom 604	0.00 mg/cm²
XRF-295	White	Metal	Interior Door Frame	In Tact	Classroom 604	0.00 mg/cm²
XRF-296	White	Metal	Exterior Window Frame	In Tact	Classroom 604	0.00 mg/cm²
XRF-297	White	Metal	Interior Window Frame	In Tact	Classroom 604	0.00 mg/cm²
XRF-298	Shellac	Wood	Cabinet	In Tact	Classroom 604	0.00 mg/cm²
XRF-299	Blue	Wood/Laminate	Counter	In Tact	Classroom 604	0.00 mg/cm²
XRF-300	Yellow	Concrete	Line	In Tact	Classroom 604	0.00 mg/cm²
XRF-301	Gray	Metal	Ladder	In Tact	Building 600 Electrical Room	0.00 mg/cm²
XRF-302	White	Drywall	Ceiling	In Tact	Building 600 Restrooms	0.00 mg/cm²
XRF-303	Red	Metal	Exterior Door	In Tact	Room 709	0.00 mg/cm²
XRF-304	Red	Metal	Interior Door	In Tact	Room 709	0.00 mg/cm²
XRF-305	Burgundy	Metal	Exterior Door	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-306	Burgundy	Metal	Interior Door	In Tact	Library	0.00 mg/cm²
XRF-307	White	Metal	Interior Door Frame	In Tact	Library	0.00 mg/cm²
XRF-308	White	Metal	Exterior Door Frame	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-309	White	Metal	Exterior Window Frame	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-310	White	Metal	Interior Window Frame	In Tact	Library	0.00 mg/cm²
XRF-311	Tan	Stucco	Wall	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-312	Tan	Metal	Brace	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-313	Burgundy	Metal	Pole	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-314	Burgundy	Metal	Downspout	In Tact	Building 700 Exterior	0.00 mg/cm²
XRF-315	Tan	Fiberboard	Wall	In Tact	Library	0.00 mg/cm²
XRF-316	Blue	Wood/Laminate	Counter	In Tact	Library	0.00 mg/cm²
XRF-317	Shellac	Wood	Cabinet	In Tact	Library	0.00 mg/cm²
XRF-318	Bugundy	Wood	Interior Door	In Tact	Psychologist 701	0.00 mg/cm²
XRF-319	White	Wood	Interior Window Frame	In Tact	Audio/Visual 703	0.00 mg/cm²
XRF-320	Gray	Metal	Ladder	In Tact	Audio/Visual 703	0.00 mg/cm²
XRF-321	Tan	Drywall	Wall	In Tact	Multipurpose Room	0.00 mg/cm²
XRF-322	White	Drywall	Wall	In Tact	Multipurpose Room	0.00 mg/cm²
XRF-323	Purple	Drywall	Wall	In Tact	Multipurpose Room	0.00 mg/cm²
XRF-324	Yellow	Drywall	Wall	In Tact	Multipurpose Room	0.00 mg/cm²
XRF-325	Gray	Drywall	Wall	In Tact	Multipurpose Room	0.00 mg/cm²
XRF-326	Burgundy	Wood	Interior Door	In Tact	Multipurpose Room	0.00 mg/cm²

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Project Number: 26-0632 **Page:** 11 **of** 11

Sample #	Color	Substrate	Component	Condition	Sample Location	Lead Content Result
XRF-327	Tan	Metal	Interior Door Frame	In Tact	Multipurpose Room	0.00 mg/cm²
XRF-328	Red	Ceramic	Floor Tile	In Tact	Kitchen	0.00 mg/cm²
XRF-329	White	Ceramic	Tile	In Tact	Throughout Custodian Closets	0.00 mg/cm²
XRF-330	Gray	Metal	HVAC Unit	In Tact	Throughout Roofs	0.00 mg/cm²
XRF-331	White Paint On	Metal	HVAC Unit	In Tact	Throughout Roofs	0.00 mg/cm²
XRF-332	Green	Metal	Roof	In Tact	Throughout Roofs	0.00 mg/cm²

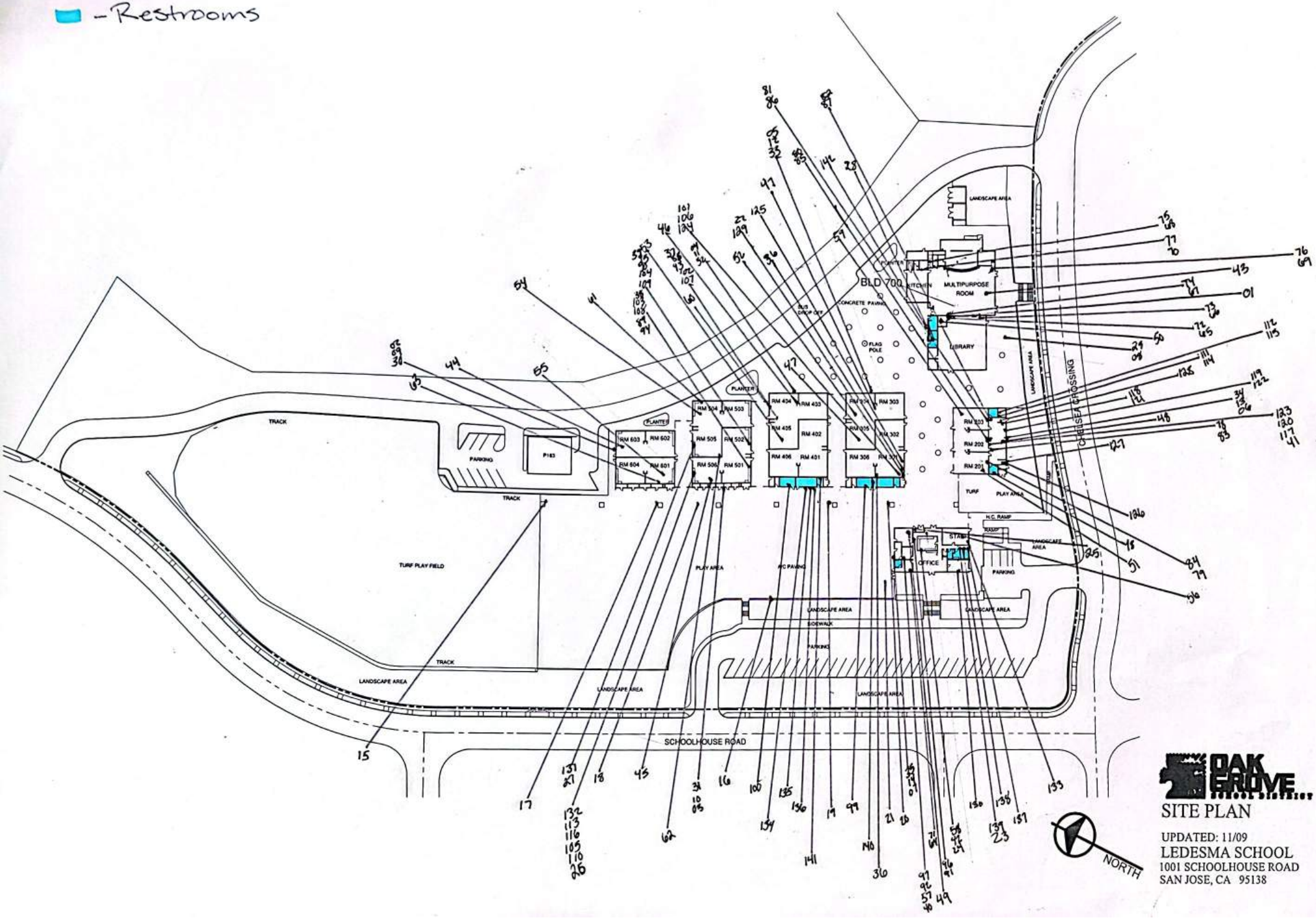
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APPENDIX C- SITE DIAGRAM

SEE ATTACHED PAGES FOR SITE DIAGRAM

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- Restrooms



OAK GROVE SCHOOL DISTRICT

SITE PLAN

UPDATED: 11/09

LEDESMA SCHOOL
1001 SCHOOLHOUSE ROAD
SAN JOSE, CA 95138

APPENDIX D- PHOTOS

SEE ATTACHED PAGES FOR PHOTOS

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APPENDIX D- PHOTOS

SEE ATTACHED PAGES FOR PHOTOS

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EXIT
COMIDAS GRATIS
FREE MEALS
GET YOUR GOALS HIGH & DON'T STOP UNTIL YOU GET THERE
AED
103
106


EXIT


TOLERANCE
appreciating and respecting others' differences
EMPATHY
understanding and supporting others' feelings
UNITY
everyone living in peace and harmony
PEACE
ACCEPTANCE
including everyone in play and conversation
showing concern and helping others
GENEROSITY
giving without expecting anything in return
I can REACH my GOALS.
I can KEEP GOING when THINGS are TOUGH.


EXIT
WELCOME
HELLO KITTY
Cinnamoroll
HELLO KITTY
BE SAFE
BE RESPECTFUL
BE RESPONSIBLE
FACIAL TISSUES


evogen
WASH YOUR HANDS!
Scott


WELCOME
PRINCIPAL
107


1:21 26
Fri, May 29
WARRIORS
LEDESMA
ELEMENTARY SCHOOL


THE LEDESMA TEAM ROCKS!


K→1ST
1ST→2ND
2ND→3RD
3"→4"
4TH→5TH
5"→6"
REPAIRED
FOR PICKUP


111
STAFF
TELEPHONE
ROOM
114




EXIT


66) What do you get when your birthday is on the last day of school?
- The best day ever!
67) What's a teacher's favorite nation?
- Vacation
68) What's the difference between homework and the summer?
- About 70 days of pure happiness.
69) What's the school cafeteria's favorite summer activity?
- Serving nothing!
70) What's a 6th grader's favorite exercise?
- Running out of school on the last day!
Kinder Practice Performance
Picnic @ the park
HSC
OGEA
Library Sign-up
WE CAN'T WAIT!
1 22
Fri, May 29




Scott


PLEASE TAKE CARE
OF THE CABLE
DO NOT DAMAGE
THANKS
LEDESMA
qube
NITRILE
Rubbermaid
OAK GROVE SCHOOL DISTRICT


César Chávez Día de Servicio y Aprendizaje
Marzo 31
California Volunteers
YouthService California
STAFF
Please be sure to use spray bottle and towel to wipe down copy machines before use. Let's help to stay safe and clean!
Spray onto towel and then wipe down.


Welcome Back
STUDENTS
AND STAFF
ONLY
BEYOND
THIS POINT
RITA LEDESMA
ELEMENTARY SCHOOL


OFFICE AREA REMINDERS
NO PLAYING ALLOWED
BE SAFE
BE RESPECTFUL
BE RESPONSIBLE
Welcome Back
RITA LEDESMA ELEMENTARY SCHOOL
BUILDING 300








Good Beginnings
Once upon a time
One day
A long time ago
Today
One sunny day
One night
Period to end my sentence.
Use a beginning, middle and end.
Use descriptive words in my sentences.
ALPHABET
Alphabet Express
School Bus Floor Puzzle
Extra Large Floor Puzzle
Start Fire Truck
Happy Birthday
Write Time
1
2
Penelope Galleons
Harper Hummel


GBC
CENTERS #2
PLAN-A-PATH ROAD BUILDER
October


Kindergarten Kids!
School
BOYS


WASH
YOUR HANDS


Wednesday
red
blue
brown


Watercolors
Paints
MARKERS




2nd grade
3rd grade
We love art vista
tree of colors
After Homework
Draw your future


Elementary School
HOME OF THE LYNX
ART VISTA!
Scan the QR codes below to quickly access program resources
Digital Booking Calendar
All Grades Lessons
Supplies Request Form
Program Information
Please keep our Art Vista Room clean at all times! Please do your part in cleaning all spills made as soon as done, disposing trash and wiping down tables. Thank you.
Please do not forget to reserve the room for your art vista sessions (teacher's name, date and time). Please honor the dates reserved in the Art Vista calendar. Thank you for your cooperation
KINDNESS STARTS HERE
FOURTH GRADE
Realism And
Primitivism
Impressionism
EXPressionism
Abstrac Art
FIFTH GRADE
AMERICAN ART
Art Of The First Americans
Revolutionary Art
American Art
Postmodern
2nd grade
3rd grade




Nonfiction
Space
PSYCHOLOGIST 701
I SYCH
Dive into a Good Book!
ANCIENT CIVILIZATIONS
EARTH
SCIENCE
NORVELT


FEEL
GREAT!


EXIT


S-712


CALENDAR
WELCOME!
Reliable
Just go away.
BLOODBORNE PATHOGEN CLEAN-UP KIT












ELECTRICAL ROOM 407
















Choice
Voice
Name


MRS SEO
Thank You!
Mrs. Seo
OUR SOLAR SYSTEM


EXIT
Cover Coughs and Sneezes
If you think that someone can use a friend be one
voice level
0 1 2 3
Welcome to Mrs. Seo's 3rd Grade Class!


BUILDING
600
S-606
SPRINKLER
FIRE ALARM
WHEN BELL RINGS
DIAL 911




WELCOME




A
RAIN BIRD












GBC
EZload



LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation May 26th - May 29th, 2026

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
1001 Schoolhouse Road	San Jose	Santa Clara	95138

Construction date (year) of structure	Type of structure	Children living in structure?
1999	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other_____	☐ Yes ☐ No ☑ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number

Address [number, street, apartment (if applicable)]	City	State	Zip Code

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected ☑ Intact lead-based paint detected ☐ Deteriorated lead-based paint detected

☐ No lead hazards detected ☐ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other_____

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Kenneth Rodriguez-Praeger	(707)654-9001

Address [number, street, apartment (if applicable)]	City	State	Zip Code
301 Georgia St. #390	Vallejo	CA	94590

CDPH certification number	Signature	Date
LRC-00011115		6/2/2026

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Catherine Kukulka LRC-00010945 & Jake Marshall LRC-00011968

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

LIMITED ASBESTOS BULK MATERIALS SURVEY REPORT

PROPERTY ADDRESS:

LEDESMA ELEMENTARY
1001 SCHOOLHOUSE ROAD
SAN JOSE, CA 95138

PREPARED FOR:

OAK GROVE SCHOOL DISTRICT
ATTN: CRAIG KANAYA
6578 SANTA TERESA BLVD
SAN JOSE, CA 95119
CKANAYA@OGSD.NET
530-304-1581

JUNE 4, 2026

PREPARED BY:

JOB# 15723

CAL INC CONSULTING
A DIVISION OF CALINC TRAINING, LLC.

2040 PEABODY ROAD, SUITE 400
VACAVILLE, CA 95687
707.446.7996
WWW.CAL-INC.COM

© CALINC Training, LLC. 2026

TABLE OF CONTENTS

1.0 SUMMARY……4

2.0 VISUAL INSPECTION……4

3.0 SAMPLE COLLECTION ……5

4.0 SAMPLE ANALYSIS ……5

5.0 SAMPLE RESULTS……6

6.0 CONCLUSION……6

7.0 LIMITATIONS……6

APPENDICES

APPENDIX A - CERTIFICATIONS

APPENDIX B -ANALYTICAL RESULTS

APPENDIX C –CHAIN OF CUSTODY

APPENDIX D – SITE DIAGRAM

APPENDIX E - PHOTOS

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Corporate Office:
CALINC
2040 Peabody Road

Corporate Office:
CALINC
2040 Peabody Road
Vacaville, CA 95687
(707) 446-7996
(800) 359-4467
(707) 446-9072 fax

Established 1979

June 4, 2026

Craig Kalani Kanaya
Oak Grove School District
6578 Santa Teresa Blvd
San Jose, CA 95119

Email: ckanaya@ogsd.net
Phone: 530-304-1581

RE: **Limited Asbestos Bulk Materials Survey – ASBESTOS DETECTED & PRESENT**
Project Name: Ledesma Elementary
Address: 1001 Schoolhouse Road, San Jose, 95138
Cal Inc job Number: 15723

To Whom This May Concern,

CALINC Training, LLC. is pleased to provide this report documenting the Asbestos Materials Survey Report at the above referenced location. This work was performed in general accordance with applicable government and industry standards.

We appreciate the opportunity to provide environmental services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact our office at (707) 446-7996.

Sincerely,

Olivia Kilpatrick
OLIVIA KILPATRICK
DIRECTOR | BUSINESS DEVELOPMENT

Report signed off by:



Kenneth Rodriguez-Praeger, Certified Asbestos Consultant
DOSH CAC 19-66603

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1.0 Summary

CALINC Training, LLC performed a limited asbestos bulk material survey within the referenced property. The scope of work included a visual inspection, sample collection and laboratory analysis of the bulk samples collected within the work area(s) to gather data to support our conclusions attached. The technical findings and methods of this survey are enclosed in the provided chain of custody, laboratory analytics and appendices. Sampling was conducted by Catherine Kukulka & Jake Marshall, representatives of CALINC Training, LLC and California Division of Occupational Safety and Health (DOSH) Certified Site Surveillance Technicians (C.S.S.T No. 24-7730 & 26-8118).

Upon review of the analytical data and the inspector's assessment, CALINC Training, LLC has concluded that the following material(s) within the referenced property are positive for asbestos content:

- HVAC Penetration Mastic (5% Chrysotile)

If the referenced materials above are to be disturbed, at a minimum a CSLB Licensed Contractor with a C-22 asbestos abatement endorsement and DOSH (Division of Occupational Safety & Health) registration, can conduct the removal and/or abatement method. CALINC Training, LLC recommends additional analysis of any sample analyzed to contain <1% (For an additional Fee). Further analysis could determine the material as non-hazardous waste if successful (potentially lower disposal
cost).

CALINC Training, LLC is committed to providing industry leading customer service. If you have any questions or need assistance regarding this report, please contact us at 707-446-7996 or environmental@cal-inc.com and we will gladly assist. Thank you again for your patronage!

2.0 Visual Inspection

The visual inspection consisted of a review of the client's selected suspect asbestos containing materials (ACM) within referenced property above. Materials that were determined to be suspect ACM and may be disturbed were quantified in square foot (SF) or linear feet (LF), given a classification of good, damaged or significantly damaged and assessed for friability.

Materials are also broken into classification, Surfacing, Thermal Systems Insulation (TSI) and Miscellaneous. Surfacing material is material that is sprayed, troweled-on or otherwise applied to surfaces such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and/or decorative purposes. TSI means material applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

The condition of asbestos containing materials is classified according to its friability, the current state of condition and its potential for disturbance. The current state of condition is broken up into three categories:

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Significantly Damaged: Over 10% evenly distributed damage or over 25% of the localized damage.
Damaged: Less than 10% evenly distributed damage or less than 25% of the localized damage.
Good: No visible damage or very little damage.

The EPA classifies materials as friable or non-friable forms of ACM. A friable material is any material that can be crumbled, pulverized or reduced to powder by hand pressure. Non-friable materials cannot be crumbled, pulverized or reduced to powder by hand pressure. Any suspect material can become friable if enabled and will fall under various local, state and federal regulations.

The EPA (Environmental Protection Agency) breaks non-friable materials into two categories:

- Category I Non-Friable Material - Asbestos packing's, Gaskets, Resilient Floor Covering and Asphalt Roofing Products.
- Category II Non-Friable Material - Any non-friable ACM that is not included in Category I

Regulated Asbestos-Containing Material" (RACM) is (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

3.0 Sample Collection

One hundred and forty-two (142) bulk samples (188 including all layers) were collected from the subject property. To collect the analytical data, CALINC Training, LLC collects homogeneous PLM bulk asbestos samples from affected materials. Sampling is conducted by separating building materials into sampling designations called homogeneous areas. A Homogeneous Area is defined as a suspect material of similar age, appearance, function and texture. The samples taken are accompanied by a Chain of Custody that contains the sample number, locations, approximate quantities and condition then are submitted to an accredited laboratory for analysis using PLM.

4.0 Sample Analysis

The samples are analyzed by an accredited laboratory using the PLM (Polarized Light Microscopy) method EPA 600/R-93/116 (EPA Contracts 68024550, 68D10009, RTI No. 91U-5960-181, June 1993) Method for the Determination of Asbestos in Bulk Building Materials. Results are identified and reported into the coinciding sample. If any sample in a homogeneous material group is found to be positive, that entire material group is considered to be positive, regardless of a negative reading on another sample within the same group.

The EPA defines ACM under NESHAP regulations as materials containing >1% as analyzed using PLM. If a material is found to be <1% asbestos the sample can be analyzed by Point Count Method. If the point count is successful with readings of >0.1% but <1%, the material can be disposed of as regular construction debris and considered ACCM (Asbestos Containing Construction Material) however the material is still regulated by

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Cal/OSHA in 8 CCR 1529. If any homogeneous material is found to contain asbestos as defined by the EPA and OHSA and will be disturbed, abatement procedures will be required by a DOSH registered licensed asbestos abatement contractor.

5.0 Sample Results

The samples collected from the referenced property were submitted to MicroTest Laboratories in Rancho Cordova, CA and analyzed by PLM method EPA 600/R-93/116. The figure below summarizes the analytical results for the homogeneous materials collected:

Figure 1: PLM Bulk Sample Results & Observations
See attached laboratory report and chain of custody – Table/Chart is created in conjunction with the chain of custody.

6.0 Conclusions

Based on the PLM analytical results of the samples collected, materials within the referenced property are positive asbestos containing material (ACM). If the referenced materials above are to be disturbed, at a minimum a CSLB Licensed Contractor with a C-22 asbestos abatement endorsement and DOSH (Division of Occupational Safety & Health) registration, can conduct the removal and/or abatement method. CALINC Training, LLC recommends additional analysis of any sample analyzed to contain <1% (For an additional Fee). Further analysis could determine the material as non-hazardous waste if successful (potentially lower disposal cost).

7.0 Limitations

The scope of work included a visual inspection, sample collection and/or laboratory analysis to support our findings. This report has been developed to provide the client with information regarding apparent conditions related to limited accessible building materials and/or airspace/containment at the referenced property requested by the client and CALINC Training, LLC. does not guarantee that all suspect materials, airspace or household/industrial hazards have been identified, sampled or included in this survey. Due to the nature of the work, there is a possibility that conditions exist that could not be identified within the scope of the assessment or which were not apparent at the time of our site assessment. The inspection is only to identify hazards regarding the reference test type selected by the client. Although CALINC Training, LLC. attempts to identify all possible hazards within the contained areas and/or work areas, we are not responsible for unidentified, unrelated hazards within such areas (suspect microbial damage, lead contamination, water damage and termite damage etc.) CALINC Training, LLC. bears no responsibility for the actual condition of the structure or safety of a site pertaining to all hazards regardless of any actions taken by the client. To collect the analytical data, random bulk samples and/or area air samples were collected from the subject property at the direction of the client in reference to the damage and/or affected area. The samples taken are accompanied by a Chain of Custody and transported to a laboratory. Any samples collected have been submitted and analyzed by an industry recognized and/or accredited laboratory using the specified method

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referenced on the attached chain of custody, laboratory findings etc. CALINC Training, LLC. is not responsible nor takes any responsibility for analysis performed by the contracted laboratory. In addition, this report is not intended to provide any certificate of clearance, passage, or designation of an area to be safe. The inspector's samples are used as a tool to provide data regarding the current condition of the premises at the direction of the client. Although CALINC Training, LLC. believes that the findings and conclusions provided in this report are reasonable, the survey/assessment is limited to the conditions observed, sample results and to the information available at the time of the inspection. CALINC Training, LLC. is not responsible for any damage caused by our sampling methods.

CALINC Training, LLC. is committed to providing industry leading customer service. If you have any questions or concerning the information within this letter report, please feel free to contact the undersigned at 707-446-7996. On behalf of CALINC Training, LLC., we greatly appreciate the opportunity to assist with your assessment needs.

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APPENDIX A – CERTIFICATIONS

KENNETH RODRIGUEZ-PRAEGER
CERTIFIED ASBESTOS CONSULTANT
DOSH CAC# 19-66603


State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant
Kenneth R Rodriguez-Praeger
Name
Certification No. 19-6603
Expires on 10/16/2026
This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq of the Business and Professions Code.

CATHERINE KUKULKA
CERTIFIED SITE SURVEILLANCE TECHNICIAN
DOSH CAC# 24-7730


State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician
Catherine J Kukulka
Name
Certification No. 24-7730
Expires on 09/20/2026
This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq of the Business and Professions Code.

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JACOB MARSHALL
CERTIFIED SITE SURVEILLANCE TECHNICIAN
DOSH CAC# 26-8118


State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician
Jacob Marshall
Name
Certification No. 26-8118
Expires on 04/17/2027
This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq of the Business and Professions Code.

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APPENDIX B- ANALYTICAL RESULTS

SEE ATTACHED PAGES FOR ANALYTICAL RESULTS

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MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012693421

CLIENT INFORMATION

Company Elite Environmental Consulting Services - Norcal
Name Kenneth
Address 301 Georgia Street #375 Vallejo, CA 94590
Phone (707) 654 - 9001
Email info@elite-enviro.net

SAMPLE

Date Friday, May 29, 2026
Time

MicroTest Laboratories
Test Report

JOB SITE INFORMATION

Sampler Kukulka & Marshall
Project Ledesma Elementary School
Site Throughout, Excluding Portable Buildings
Address 1001 Schoolhouse Road San Jose, CA 95138
Job # 26-0632

POLARIZED LIGHT MICROSCOPY (PLM)
EPA METHOD 600 / R-93 / 116 & EPA – 40 CFR Appendix E to Subpart E of Part 763

Client Sample ID	Laboratory Sample ID	Client Description	Laboratory Description	Non Fibrous / Fibrous Materials	Asbestiform Minerals %
HA-01-01	93421-1	N. End, Bldg 700 Roof	Tan Stucco Non-Fibrous Heterogenous	100% Binder	None Detected
HA-01-02	93421-2	N. End, Bldg 600	Tan Stucco Fibrous Heterogenous	10% Fiberglass 90% Binder	None Detected
HA-01-03	93421-3	W. End, Bldg 600	Tan Stucco Fibrous Heterogenous	5% Fiberglass 95% Binder	None Detected
HA-01-04	93421-4	E. End, Bldg 400	Tan Stucco Fibrous Heterogenous	5% Cellulose 95% Binder	None Detected
HA-01-05	93421-5	E. End, Bldg 300	Tan Stucco Fibrous Heterogenous	5% Cellulose 95% Binder	None Detected
HA-01-06	93421-6	S. End, Bldg 200	Tan Stucco Non-Fibrous Heterogenous	100% Binder	None Detected
HA-01-07	93421-7	N. End, Bldg 100	Tan Stucco Non-Fibrous Heterogenous	100% Binder	None Detected
HA-02-08	93421-8	S. End, Bldg 700	Gray Stucco Non-Fibrous Heterogenous	100% Binder	None Detected
HA-02-09	93421-9	N. End, Bldg 600	Gray Stucco Non-Fibrous Heterogenous	100% Binder	None Detected

Date Received: Monday, June 01, 2026
Date Analyzed: Tuesday, June 02, 2026
Date Reported: Tuesday, June 02, 2026

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012693421

HA-02-10	93421-10	W. End, Bldg 500	Gray Stucco Non-Fibrous Heterogenous	100% Binder	None Detected
HA-02-11	93421-11	E. End, Bldg 400	Gray Concrete Non-Fibrous Heterogenous	100% Binder	None Detected
HA-02-12	93421-12	E. End, Bldg 300	Gray Concrete Non-Fibrous Heterogenous	100% Binder	None Detected
HA-02-13	93421-13	S. End, Bldg 200	Gray Concrete Non-Fibrous Heterogenous	100% Binder	None Detected
HA-02-14	93421-14	N. End, Bldg 100	Gray Concrete Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-15	93421-15	E. End, Playground	Gray Concrete Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-16	93421-16	W. End, Playground	Black Asphalt Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-17	93421-17	W. End, Bldg 600	Black Asphalt Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-18	93421-18	N.W. End, Bldg 500	Black Asphalt Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-19	93421-19	S.W. End, Bldg 400	Black Asphalt Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-20	93421-20	N.W. End, Bldg 300	Black Asphalt Non-Fibrous Heterogenous	100% Binder	None Detected
HA-03-21	93421-21	N.W. End, Bldg 100	Black Asphalt Non-Fibrous Heterogenous	100% Binder	None Detected
HA-04-22	93421-22A	S.W. End, Classroom 301	White Texture Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-22	93421-22B	S.W. End, Classroom 301	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected

Date Received:	Monday, June 01, 2026
Date Analyzed:	Tuesday, June 02, 2026
Date Reported:	Tuesday, June 02, 2026

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

MicroTest Laboratories Inc. NVLAP Code: 200999-0
3110 Gold Canal Dr. Ste. A. Rancho Cordova, CA 95670
PH 916.567.9808 | FX 916.404.0302
www.microtestlabsinc.com | service@microtestlabsinc.com

Project ID

MT012693421

HA-04-22	93421-22C	S.W. End, Classroom 301	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-04-23	93421-23A	W. End, Conference Room	White Texture Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-23	93421-23B	W. End, Conference Room	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-23	93421-23C	W. End, Conference Room	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-04-24	93421-24A	N.E. End, Rm 107 Hallway	White Texture Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-24	93421-24B	N.E. End, Rm 107 Hallway	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-24	93421-24C	N.E. End, Rm 107 Hallway	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-04-25	93421-25A	S. End, Bldg 100 Fire Riser Rm	White Texture Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-25	93421-25B	S. End, Bldg 100 Fire Riser Rm	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-25	93421-25C	S. End, Bldg 100 Fire Riser Rm	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-04-26	93421-26A	N. End, Rm 506	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-26	93421-26B	N. End, Rm 506	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-04-27	93421-27A	N. End, Rm 505	White Texture Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-27	93421-27B	N. End, Rm 505	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected

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MT012693421

HA-04-27	93421-27C	N. End, Rm 505	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-04-28	93421-28A	N. End, Bldg 700 Girls RR	White Texture Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-28	93421-28B	N. End, Bldg 700 Girls RR	White Joint Compound Non-Fibrous Homogenous	90% Carbonate 10% Binder	None Detected
HA-04-28	93421-28C	N. End, Bldg 700 Girls RR	White Drywall Fibrous Heterogenous	10% Cellulose 80% Gypsum 10% Binder	None Detected
HA-05-29	93421-29	S. End, Bldg 700	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-05-30	93421-30	N. End, Bldg 600	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-05-31	93421-31	W. End, Bldg 500	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-05-32	93421-32	E. End, Bldg 400	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-05-33	93421-33	E. End, Bldg 300	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-05-34	93421-34	S. End, Bldg 200	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-05-35	93421-35	N. End, Bldg 100	Gray Caulking Non-Fibrous Homogenous	100% Binder	None Detected
HA-06-36	93421-36	N.W. End, Classroom 301	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected
HA-06-37	93421-37	N. End, Classroom 404	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected
HA-06-38	93421-38	S. End, Classroom 501	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected

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HA-06-39	93421-39	S. End, Classroom 502	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected
HA-06-40	93421-40	N.W. Corner, Rm 106	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected
HA-06-41	93421-41	N. End, Kinder Work Room	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected
HA-06-42	93421-42	N.W. End, Rm 102	Brown Wallboard Fibrous Heterogenous	90% Cellulose 10% Binder	None Detected
HA-07-43	93421-43A	S. End, Bldg 700	Black Mastic Non-Fibrous Homogenous	95% Binder	5% Chrysotile
HA-07-43	93421-43B	S. End, Bldg 700	White/Gray Mastic Non-Fibrous Heterogenous	100% Binder	None Detected
HA-07-44	93421-44A	N.E. End, Bldg 600	Black Mastic Non-Fibrous Homogenous	95% Binder	5% Chrysotile
HA-07-44	93421-44B	N.E. End, Bldg 600	White/Gray Mastic Fibrous Heterogenous	10% Synthetic 90% Binder	None Detected
HA-07-45	93421-45A	N.W. End, Bldg 500	Black Mastic Non-Fibrous Homogenous	95% Binder	5% Chrysotile
HA-07-45	93421-45B	N.W. End, Bldg 500	White/Gray Mastic Fibrous Heterogenous	10% Synthetic 90% Binder	None Detected
HA-07-46	93421-46A	N.E. End, Bldg 400	Black Mastic Non-Fibrous Homogenous	95% Binder	5% Chrysotile
HA-07-46	93421-46B	N.E. End, Bldg 400	White/Gray Mastic Fibrous Heterogenous	10% Synthetic 90% Binder	None Detected
HA-07-47	93421-47A	N. End, Bldg 300	Black Mastic Non-Fibrous Homogenous	98% Binder	2% Chrysotile
HA-07-47	93421-47B	N. End, Bldg 300	White/Gray Mastic Fibrous Heterogenous	10% Synthetic 90% Binder	None Detected

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HA-07-48	93421-48	S. End, Bldg 200	White/Gray Mastic Fibrous Heterogenous	10% Synthetic 90% Binder	None Detected
HA-07-49	93421-49A	N.E. End, Bldg 100	Black Mastic Non-Fibrous Homogenous	95% Binder	5% Chrysotile
HA-07-49	93421-49B	N.E. End, Bldg 100	White/Gray Mastic Fibrous Heterogenous	10% Synthetic 90% Binder	None Detected
HA-08-50	93421-50	N.E. End, Audio/Visual Room	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-08-51	93421-51	S. End, Rm 201	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-08-52	93421-52	W. End, Rm 304	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-08-53	93421-53	N. End, Rm 405	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-08-54	93421-54	N. End, Rm 504	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-08-55	93421-55	S. End, Rm 601	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-08-56	93421-56	S. End, Staff Lounge	Gray Ceiling Tile Fibrous Heterogenous	50% Cellulose 50% Binder	None Detected
HA-09-57	93421-57	N.W. Corner, Rm 106	Green Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-09-58	93421-58A	N.W. End, Rm 102	Green Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-09-58	93421-58B	N.W. End, Rm 102	Blue Carpet Fibrous Heterogenous	100% Synthetic	None Detected
HA-09-59	93421-59A	N. End, Rm 203	Green Mastic Non-Fibrous Homogenous	100% Binder	None Detected

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HA-09-59	93421-59B	N. End, Rm 203	Blue Carpet Fibrous Heterogenous	100% Synthetic	None Detected
HA-09-60	93421-60A	N. End, Rm 404	Green/Yellow Mastic Non-Fibrous Heterogenous	100% Binder	None Detected
HA-09-60	93421-60B	N. End, Rm 404	Blue Carpet Fibrous Heterogenous	90% Synthetic 10% Binder	None Detected
HA-09-61	93421-61A	E. End, Rm 504	Green/Yellow Mastic Non-Fibrous Heterogenous	100% Binder	None Detected
HA-09-61	93421-61B	E. End, Rm 504	Blue Carpet Fibrous Heterogenous	90% Synthetic 10% Binder	None Detected
HA-09-62	93421-62A	S.W. End, Rm 505	Green/Yellow Mastic Non-Fibrous Heterogenous	100% Binder	None Detected
HA-09-62	93421-62B	S.W. End, Rm 505	Blue Carpet Fibrous Heterogenous	100% Synthetic	None Detected
HA-09-63	93421-63A	W. End, Rm 601	Green/Yellow Mastic Non-Fibrous Heterogenous	100% Binder	None Detected
HA-09-63	93421-63B	W. End, Rm 601	Blue Carpet Fibrous Heterogenous	90% Synthetic 10% Binder	None Detected
HA-10-64	93421-64A	S.W. Corner, Room 103	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-64	93421-64B	S.W. Corner, Room 103	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-65	93421-65A	N.E. End, Library	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-65	93421-65B	N.E. End, Library	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-66	93421-66A	S.E. End, Library	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected

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HA-10-66	93421-66B	S.E. End, Library	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-67	93421-67A	N.W. End, Cafeteria	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-67	93421-67B	N.W. End, Cafeteria	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-68	93421-68A	N.E. End, Cafeteria	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-68	93421-68B	N.E. End, Cafeteria	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-69	93421-69A	S.E. End, Cafeteria	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-69	93421-69B	S.E. End, Cafeteria	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-70	93421-70A	W. End, Custodian's Office	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-10-70	93421-70B	W. End, Custodian's Office	Blue Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-11-71	93421-71	S.W. Corner, Room 103	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-11-72	93421-72	N.E. End, Library	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-11-73	93421-73	S.E. End, Library	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-11-74	93421-74	N.W. End, Cafeteria	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-11-75	93421-75	N.E. End, Cafeteria	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected

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HA-11-76	93421-76	S.E. End, Cafeteria	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-11-77	93421-77	W. End, Custodian's Office	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-12-78	93421-78	N. End, Kinder Work Room	Gray Sheet Vinyl Flooring Non-Fibrous Homogenous	100% Binder	None Detected
HA-12-79	93421-79	S.E. End, Rm 201	Gray Sheet Vinyl Flooring Non-Fibrous Homogenous	100% Binder	None Detected
HA-12-80	93421-80	S.W. End, Rm 202	Gray Sheet Vinyl Flooring Non-Fibrous Homogenous	100% Binder	None Detected
HA-12-81	93421-81	S. End, Rm 203	Gray Sheet Vinyl Flooring Non-Fibrous Homogenous	100% Binder	None Detected
HA-12-82	93421-82	N.E. End, Kinder Work Room	Gray Sheet Vinyl Flooring Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-83	93421-83	N. End, Kinder Work Room	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-84	93421-84	S.E. End, Rm 201	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-85	93421-85A	S.W. End, Rm 202	Blue Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-85	93421-85B	S.W. End, Rm 202	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-86	93421-86A	S. End, Rm 203	Blue Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-86	93421-86B	S. End, Rm 203	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-13-87	93421-87A	N.E. End, Kinder Work Room	Blue Mastic Non-Fibrous Homogenous	100% Binder	None Detected

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HA-13-87	93421-87B	N.E. End, Kinder Work Room	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-14-88	93421-88	N. End, Classroom 404	Blue Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-14-89	93421-89	S. End, Classroom 501	Blue Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-14-90	93421-90	S. End, Classroom 502	Blue Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-14-91	93421-91	N.E. End, Rm 107 Hallway	Blue Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-14-92	93421-92	N.W. Corner, Rm 106	Blue Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-15-93	93421-93	N. End, Classroom 404	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-15-94	93421-94	S. End, Classroom 501	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-15-95	93421-95	S. End, Classroom 502	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-15-96	93421-96	N.E. End, Rm 107 Hallway	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-15-97	93421-97	N.W. Corner, Rm 106	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-16-98	93421-98	W. End, Kinder Boys RR	Multi Colored Material Non-Fibrous Heterogenous	100% Binder	None Detected
HA-16-99	93421-99	W. End, Bldg 300 Boys RR	Multi Colored Material Non-Fibrous Heterogenous	100% Binder	None Detected
HA-16-100	93421-100	S.W. End, Bldg 500 Boys RR	Multi Colored Material Non-Fibrous Heterogenous	100% Binder	None Detected

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HA-17-101	93421-101A	S.W. End, Classroom 301	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-101	93421-101B	S.W. End, Classroom 301	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-102	93421-102A	N. End, Classroom 404	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-102	93421-102B	N. End, Classroom 404	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-103	93421-103A	S. End, Classroom 501	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-103	93421-103B	S. End, Classroom 501	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-104	93421-104A	S. End, Classroom 502	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-104	93421-104B	S. End, Classroom 502	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-105	93421-105A	N. End, Rm 506	Tan Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-17-105	93421-105B	N. End, Rm 506	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-18-106	93421-106	S.W. End, Classroom 301	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-18-107	93421-107	N. End, Classroom 404	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-18-108	93421-108	S. End, Classroom 501	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-18-109	93421-109	S. End, Classroom 502	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected

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HA-18-110	93421-110	N. End, Rm 506	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-19-111	93421-111	N.W. Corner, Kinder Storage	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-19-112	93421-112	N.W. End, Kinder Storage	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-19-113	93421-113	N. End, Rm 506	Brown Floor Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-20-114	93421-114	N.W. Corner, Kinder Storage	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-20-115	93421-115	N.W. End, Kinder Storage	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-20-116	93421-116	N. End, Rm 506	Black Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-21-117	93421-117	N. End, Kinder Work Room	Gray Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-21-118	93421-118	S.E. End, Kinder Work Room	Gray Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-21-119	93421-119	S. End, Kinder Work Room	Gray Cove Base Non-Fibrous Homogenous	100% Binder	None Detected
HA-22-120	93421-120	N. End, Kinder Work Room	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-22-121	93421-121	S.E. End, Kinder Work Room	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-22-122	93421-122	S. End, Kinder Work Room	Tan Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-23-123	93421-123	N. End, Kinder Work Room	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected

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HA-23-124	93421-124	S.W. End, Rm 301	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-23-125	93421-125	S.E. End, Rm 301	Gray Leveling Compound Non-Fibrous Homogenous	100% Binder	None Detected
HA-24-126	93421-126	S.W. Corner, Kinder Work Room	Colorless Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-24-127	93421-127	S.W. End, Kinder Work Room	Colorless Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-24-128	93421-128	S.E. End, Kinder Work Room	Colorless Mastic Non-Fibrous Homogenous	100% Binder	None Detected
HA-25-129	93421-129	S.W. End, Classroom 301	Tan Wallpaper Fibrous Heterogenous	40% Synthetic 60% Binder	None Detected
HA-25-130	93421-130	W. End, Conference Room	Tan Wallpaper Fibrous Heterogenous	40% Synthetic 60% Binder	None Detected
HA-25-131	93421-131	N. End, Rm 505	Tan Wallpaper Fibrous Heterogenous	40% Synthetic 60% Binder	None Detected
HA-25-132	93421-132	N. End, Rm 506	Tan Wallpaper Fibrous Heterogenous	40% Synthetic 60% Binder	None Detected
HA-25-133	93421-133	S. End, Staff Lounge	Tan Wallpaper Fibrous Heterogenous	40% Synthetic 60% Binder	None Detected
HA-26-134	93421-134A	N.W. End, Bldg 400	Red Ceramic Tile Non-Fibrous Homogenous	100% Binder	None Detected
HA-26-134	93421-134B	N.W. End, Bldg 400	White Grout Non-Fibrous Homogenous	100% Binder	None Detected
HA-26-134	93421-134C	N.W. End, Bldg 400	Tan Mortar Non-Fibrous Heterogenous	100% Binder	None Detected
HA-26-135	93421-135A	W. End, Bldg 400	Red Ceramic Tile Non-Fibrous Homogenous	100% Binder	None Detected

Date Received:	Monday, June 01, 2026
Date Analyzed:	Tuesday, June 02, 2026
Date Reported:	Tuesday, June 02, 2026

Analyst: Nolan Starbuck

Authorized Signatory:

Kelly Favero - Lab Manager

Addendum #3

TABLE OF CONTENTS

DIVISION 00 — PROCUREMENT AND CONTRACTING REQUIREMENTS
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012300 - Alternates
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05 40 00 - Cold-Formed Metal Framing
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061000 - Rough Carpentry

DIVISION 07 — THERMAL AND MOISTURE PROTECTION
079200 - Joint Sealants

DIVISION 08 — OPENINGS
081113 - Hollow Metal Doors and Frames
083113 - Access Doors and Frames
087100 - Door Hardware

DIVISION 09 — FINISHES
090561.13 – Moisture Vapor Emission Control
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093013 - Ceramic Tiling
099124 - Interior Painting

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102113.15 - Solid Color Reinforced Composite (SCRC) Substrate Toilet Compartments
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NOT USED

DIVISION 14 — CONVEYING EQUIPMENT
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23 05 93 Testing, Adjusting, and Balancing for HVAC
23 09 23 Direct Digital Control System for HVAC
23 80 00 Heating, Ventilating and Air Conditioning

DIVISION 25 — INTEGRATED AUTOMATION
NOT USED

DIVISION 26 — ELECTRICAL
26 05 10 General Electrical Requirements
26 05 19 Low Voltage Wire and Cable
26 05 26 Grounding
26 05 33 Conduits
26 05 34 J-Boxes
26 05 44 In Grade Pull Boxes
26 09 26 Lighting Control System
26 27 26 Devices
26 28 16 Circuit Breakers
26 50 00 Lighting

DIVISION 27 — COMMUNICATIONS
NOT USED

DIVISION 28 — ELECTRONIC SAFETY AND SECURITY
NOT USED

DIVISION 31 — EARTHWORK
31 05 13 Soils for Earthwork
31 10 00 Site Clearing

Addendum #3

31 22 13 Rough Grading
31 23 00 Excavation and Fill
31 23 23.13 Backfill
31 23 23.14 Controlled Low Strength Material

DIVISION 32 — EXTERIOR IMPROVEMENTS

32 11 23 Aggregate Base Course
32 12 16 Asphalt Pavement
32 13 13 Concrete Paving
32 17 00 Pavement Specialties
32 31 19 Decorative Metal Fences and Gates
32 32 19 Unit Masonry Retaining Walls
32 84 00 Planting Irrigation
32 90 00 Planting

CAL INC CONSULTING
A DIVISION OF CALINC TRAINING, LLC.

Date: 05/29/2026	**Sampled By:** Kukulka & Marshall
Project Number: 26-0632	**License Type & #:** CSST 24-7730 & 26-8118
Project Name: Ledesma Elementary School	
Project Address: 1001 Schoolhouse Road, San Jose, CA 95138	
Primary Areas Assessed: Throughout, Excluding Portable Buildings	

Elite Branch: Northern California	
Address: 301 Georgia Street, Suite #390, Vallejo, CA 94590	
Phone: 707-654-9001	**Results To:** results@elite-enviro.net

Laboratory: MicroTest	**TAT:** 24HR
Analysis Type: ■- Asbestos PLM Bulk - (EPA 600/R-93/116)	
☐- Other: _____	

Sample #	Description	Condition	Class	Quantity	Sample Locations	EPA Category	Laboratory Results
HA-01-01 02 03 04 05 06 07	Stucco	Good	S.	~ 26,500 SF	N. End, Bldg 700 Roof N. End, Bldg 600 W. End, Bldg 500 E. End, Bldg 400 E. End, Bldg 300 S. End, Bldg 200 N. End, Bldg 100	N/A	None Detected
HA-02-08 09 10 11 12 13 14	Concrete	Good	Misc.	~ 46,000 SF	S. End, Bldg 700 N. End, Bldg 600 W. End, Bldg 500 E. End, Bldg 400 E. End, Bldg 300 S. End, Bldg 200 N. End, Bldg 100	N/A	None Detected
HA-03-15 16 17 18 19 20 21	Asphalt	Good	Misc.	~ 40,000 SF	E. End, Playground W. End, Playground W. End, Bldg 600 N.W. End, Bldg 500 S.W. End, Bldg 400 N.W. End, Bldg 300 N.W. End, Bldg 100	N/A	None Detected
HA-04-22 23 24 25 26 27 28	Drywall & Joint Compound w/ Skim Coat	Good	Misc./ S.	~ 28,000 SF	S.W. End, Classroom 301 W. End, Conference Room N.E. End, Rm 107 Hallway S. End, Bldg 100 Fire Riser Rm N. End, Rm 506 N. End, Rm 505 N. End, Bldg 700 Girls RR	N/A	None Detected
HA-05-29 30 31 32 33 34 35	Expansion Joint Caulking	Good	Misc.	~ 10,000 LF	S. End, Bldg 700 N. End, Bldg 600 W. End, Bldg 500 E. End, Bldg 400 E. End, Bldg 300 S. End, Bldg 200 N. End, Bldg 100	N/A	None Detected
HA-06-36 37 38 39 40 41 42	Wallboard	Good	Misc.	~ 25,200 SF	N.W. End, Classroom 301 N. End, Classroom 404 S. End, Classroom 501 S. End, Classroom 502 N.W. Corner, Rm 106 N. End, Kinder Work Room N.W. End, Rm 102	N/A	None Detected
HA-07-43 44 45 46 47 48 49	HVAC Penetration Mastic	Good	Misc.	~ 2,000 SF	S. End, Bldg 700 N.E. End, Bldg 600 N.W. End, Bldg 500 N.E. End, Bldg 400 N. End, Bldg 300 S. End, Bldg 200 N.E. End, Bldg 100	CAT I	5% Chrysotile

Project ID: 93421
Client: Elite
Received Date: 6/1/26
Count: 142 **TAT**: 1 Day

Relinquished By:	Received by Lab: MTO
Print: Catherine Kukulka	Print: Melissa Allgeier MATP
Date: 06/01/2026 12:40pm	Date: 6/1/26 @ 12:45

Project Number: 26-0632

Sample #	Description	Condition	Class	Quantity	Sample Locations	EPA Category	Laboratory Results
HA-08-50 51 52 53 54 55 56	4'x2' Acoustic Ceiling Tile	Good	Misc.	~ 30,700 SF	N.E. End, Audio/Visual Room S. End, Rm 201 W. End, Rm 304 N. End, Rm 405 N. End, Rm 504 S. End, Rm 601 S. End, Staff Lounge	N/A	None Detected
HA-09-57 58 59 60 61 62 63	Blue Carpet Mastic	Good	Misc.	~ 25,500 SF	N.W. Corner, Rm 106 N.W. End, Rm 102 N. End, Rm 203 N. End, Rm 404 E. End, Rm 504 S. W. End, Rm 505 W. End, Rm 601	N/A	None Detected
HA-10-64 65 66 67 68 69 70	Tan/Blue 12" VFT	Good	Misc.	~ 5,300 SF	S.W. Corner, Room 103 N.E. End, Library S.E. End, Library N.W. End, Cafeteria N.E. End, Cafeteria S.E. End, Cafeteria W. End, Custodian's Office	N/A	None Detected
HA-11-71 72 73 74 75 76 77	Tan/Blue 12" VFT Mastic	Good	Misc.	~ 5,300 SF	S.W. Corner, Room 103 N.E. End, Library S.E. End, Library N.W. End, Cafeteria N.E. End, Cafeteria S.E. End, Cafeteria W. End, Custodian's Office	N/A	None Detected
HA-12-78 79 80 81 82	Grey Rolled Vinyl Flooring	Good	Misc.	~ 2,000 SF	N. End, Kinder Work Room S.E. End, Rm 201 S.W. End, Rm 202 S. End, Rm 203 N.E. End, Kinder Work Room	N/A	None Detected
HA-13-83 84 85 86 87	Grey Rolled Vinyl Flooring Mastic	Good	Misc.	~ 2,000 SF	N. End, Kinder Work Room S.E. End, Rm 201 S.W. End, Rm 202 S. End, Rm 203 N.E. End, Kinder Work Room	N/A	None Detected
HA-14-88 89 90 91 92	4" Teal Vinyl Base Cove	Good	Misc.	~ 1,400 SF	N. End, Classroom 404 S. End, Classroom 501 S. End, Classroom 502 N.E. End, Rm 107 Hallway N.W. Corner, Rm 106	N/A	None Detected
HA-15-93 94 95 96 97	4" Teal Vinyl Base Cove Mastic	Good	Misc.	~ 1,400 SF	N. End, Classroom 404 S. End, Classroom 501 S. End, Classroom 502 N.E. End, Rm 107 Hallway N.W. Corner, Rm 106	N/A	None Detected
HA-16-98 99 100	Tan/Black Terrazzo	Good	Misc.	~ 2,400 SF	W. End, Kinder Boys RR W. End, Bldg 300 Boys RR S.W. End, Bldg 500 Boys RR	N/A	None Detected

Project ID: 93421
Client: Elite
Received Date: 6/1/26
Count: 142 **TAT**: 1 Day

Relinquished By:	Received by Lab: MTOI
Print: Catherine Kukulka	Print: Melissa Allgeier MAM
Date: 6/1/26 12:40pm	Date: 6/1/26 @ 12:45

Project Number: 26-0632

Sample #	Description	Condition	Class	Quantity	Sample Locations	EPA Category	Laboratory Results
HA-17-101 102 103 104 105	Tan/Brown 12" VFT	Good	Misc.	~ 3,800 SF	S.W. End, Classroom 301 N. End, Classroom 404 S. End, Classroom 501 S. End, Classroom 502 N. End, Rm 506	N/A	None Detected
HA-18-106 107 108 109 110	Tan/Brown 12" VFT Mastic	Good	Misc.	~ 3,800 SF	S.W. End, Classroom 301 N. End, Classroom 404 S. End, Classroom 501 S. End, Classroom 502 N. End, Rm 506	N/A	None Detected
HA-19-111 112 113	Brown 12" VFT	Good	Misc.	~ 150 SF	N.W. Corner, Kinder Storage N.W. End, Kinder Storage N. End, Rm 506	N/A	None Detected
HA-20-114 115 116	Brown 12" VFT Mastic	Good	Misc.	~ 150 SF	N.W. Corner, Kinder Storage N.W. End, Kinder Storage N. End, Rm 506	N/A	None Detected
HA-21-117 118 119	4" Grey Vinyl Base Cove	Good	Misc.	~ 200 SF	N. End, Kinder Work Room S.E. End, Kinder Work Room S. End, Kinder Work Room	N/A	None Detected
HA-22-120 121 122	4" Grey Vinyl Base Cove Mastic	Good	Misc.	~ 200 SF	N. End, Kinder Work Room S.E. End, Kinder Work Room S. End, Kinder Work Room	N/A	None Detected
HA-23-123 124 125	Leveling Compound	Good	Misc.	~ 3,800 SF	N. End, Kinder Work Room S.W. End, Rm 301 S.E. End, Rm 301	N/A	None Detected
HA-24-126 127 128	Black Carpet Mastic	Good	Misc.	~ 300 SF	S.W. Corner, Kinder Work Room S.W. End, Kinder Work Room S.E. End, Kinder Work Room	N/A	None Detected
HA-25-129 130 131 132 133	Wallpaper	Good	Misc.	~ 4,500 SF	S.W. End, Classroom 301 W. End, Conference Room N. End, Rm 505 N. End, Rm 506 S. End, Staff Lounge	N/A	None Detected

Project ID: 93421
Client: Elite
Received Date: 6/1/26
Count: 142 **TAT**: 1 Day

Relinquished By:	Received by Lab: MTOI
Print: Catherine Kukulka	Print: Melissa Allgeier MAM
Date: 6/1/26 12:40pm	Date: 6/1/26 @ 12:45

Project Number: 26-0632

Sample #	Description	Condition	Class	Quantity	Sample Locations	EPA Category	Laboratory Results
HA-26-134 135 136	Red Ceramic Tile Bed & Grout	Good	Misc.	~ 850 SF	N.W. End, Bldg 400 W. End, Bldg 400 S.W. End, Bldg 400	N/A	None Detected
HA-27-137 138 139	White Ceramic Tile Bed & Grout	Good	Misc.	~ 500 SF	S.W. Corner, Bldg 100 Janitor S.W. End, Bldg 100 Janitor W. End, Bldg 100 Janitor	N/A	None Detected
HA-28-140 141 142	White Caulking	Good	Misc.	~ 900 LF	S. End, Bldg 300 Girls RR E. End, Bldg 400 Staff RR N. End, Bldg 700	N/A	None Detected

Project ID: 93421
Client: Elite
Received Date: 6/1/26
Count: 142 **TAT**: 1 Day

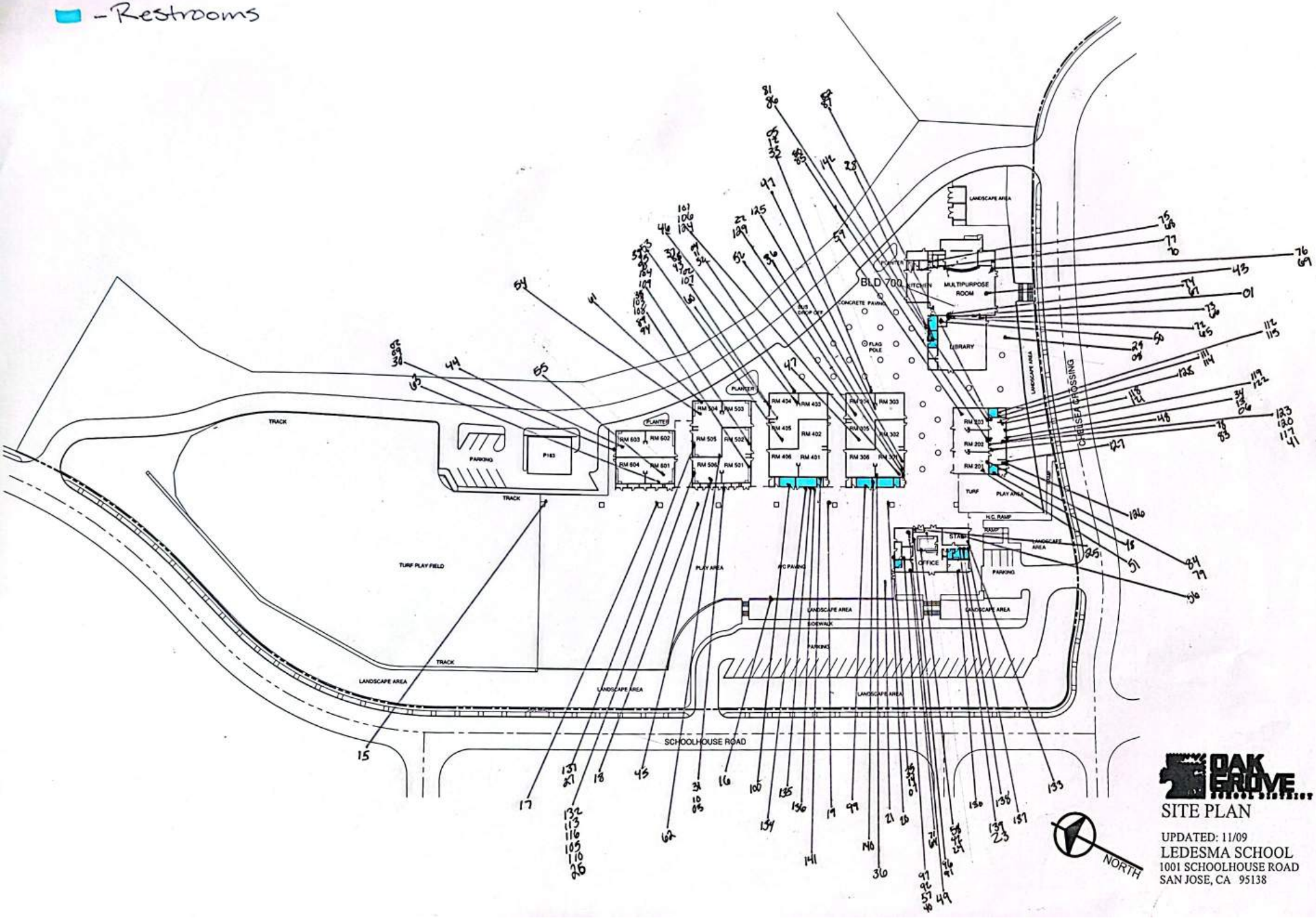
Relinquished By:	Received by Lab: MTOI
Print: Catherine Kukulka	Print: Melissa Angeles MAng
Date: 6/1/26 12:40pm	Date: 6/1/26 @ 12:45

APPENDIX D- SITE DIAGRAM

SEE ATTACHED PAGES SITE DIAGRAM

Proprietary Note:
This report contains CONFIDENTIAL INFORMATION and cannot be duplicated or copied under any circumstances without the express permission of CALINC Training, LLC. The purpose of the report is to allow the CLIENT(s) listed above to evaluate the potential environmental liabilities at the subject property. Any unauthorized reuse of CALINC Training, LLC.'s reports or data will be at the unauthorized user's sole risk and liability.

- Restrooms



OAK GROVE SCHOOL DISTRICT

SITE PLAN

UPDATED: 11/09

LEDESMA SCHOOL
1001 SCHOOLHOUSE ROAD
SAN JOSE, CA 95138

APPENDIX E - PHOTOS

SEE ATTACHED PAGES FOR PHOTOS

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EXIT
COMIDAS GRATIS
FREE MEALS
GET YOUR GOALS HIGH & DON'T STOP UNTIL YOU GET THERE
AED
103
106


EXIT


TOLERANCE
appreciating and respecting others' differences
EMPATHY
understanding and supporting others' feelings
UNITY
everyone living in peace and harmony
PEACE
ACCEPTANCE
including everyone in play and conversation
showing concern and helping others
GENEROSITY
giving without expecting anything in return
I can REACH my GOALS.
I can KEEP GOING when THINGS are TOUGH.


EXIT
WELCOME
HELLO KITTY
Cinnamoroll
HELLO KITTY
BE SAFE
BE RESPECTFUL
BE RESPONSIBLE
FACIAL TISSUES


evogen
WASH YOUR HANDS!
Scott


WELCOME
PRINCIPAL
107


1:21 26
Fri, May 29
WARRIORS
LEDESMA
ELEMENTARY SCHOOL


THE LEDESMA TEAM ROCKS!


K→1ST
1ST→2ND
2ND→3RD
3"→4"
4TH→5TH
5"→6"
REPAIRED
FOR PICKUP


111
STAFF
TELEPHONE
ROOM
114




EXIT


66) What do you get when your birthday is on the last day of school?
- The best day ever!
67) What's a teacher's favorite nation?
- Vacation
68) What's the difference between homework and the summer?
- About 70 days of pure happiness.
69) What's the school cafeteria's favorite summer activity?
- Serving nothing!
70) What's a 6th grader's favorite exercise?
- Running out of school on the last day!
Kinder Practice Performance
Picnic @ the park
HSC
OGEA
Library Sign-up
WE CAN'T WAIT!
1 22
Fri, May 29




Scott


PLEASE TAKE CARE
OF THE CABLE
DO NOT DAMAGE
THANKS
LEDESMA
qube
NITRILE
Rubbermaid
OAK GROVE SCHOOL DISTRICT


César Chávez Día de Servicio y Aprendizaje
Marzo 31
California Volunteers
YouthService California
STAFF
Please be sure to use spray bottle and towel to wipe down copy machines before use. Let's help to stay safe and clean!
Spray onto towel and then wipe down.


Welcome Back
STUDENTS
AND STAFF
ONLY
BEYOND
THIS POINT
RITA LEDESMA
ELEMENTARY SCHOOL


OFFICE AREA REMINDERS
NO PLAYING ALLOWED
BE SAFE
BE RESPECTFUL
BE RESPONSIBLE
Welcome Back
RITA LEDESMA ELEMENTARY SCHOOL
BUILDING 300








Good Beginnings
Once upon a time
One day
A long time ago
Today
One sunny day
One night
Period to end my sentence.
Use a beginning, middle and end.
Use descriptive words in my sentences.
ALPHABET
Alphabet Express
School Bus Floor Puzzle
Extra Large Floor Puzzle
Start Fire Truck
Happy Birthday
Write Time
1
2
Penelope Galleons
Harper Hummel


GBC
CENTERS #2
PLAN-A-PATH ROAD BUILDER
October


Kindergarten Kids!
School
BOYS


WASH
YOUR HANDS


Wednesday
red
blue
brown


Watercolors
Paints
MARKERS




2nd grade
3rd grade
We love art vista
tree of colors
After Homework
Draw your future


Elementary School
HOME OF THE LYNX
ART VISTA!
Scan the QR codes below to quickly access program resources
Digital Booking Calendar
All Grades Lessons
Supplies Request Form
Program Information
Please keep our Art Vista Room clean at all times! Please do your part in cleaning all spills made as soon as done, disposing trash and wiping down tables. Thank you.
Please do not forget to reserve the room for your art vista sessions (teacher's name, date and time). Please honor the dates reserved in the Art Vista calendar. Thank you for your cooperation
KINDNESS STARTS HERE
FOURTH GRADE
Realism And
Primitivism
Impressionism
EXPressionism
Abstrac Art
FIFTH GRADE
AMERICAN ART
Art Of The First Americans
Revolutionary Art
American Art
Postmodern
2nd grade
3rd grade




Nonfiction
Space
PSYCHOLOGIST 701
I SYCH
Dive into a Good Book!
ANCIENT CIVILIZATIONS
EARTH
SCIENCE
NORVELT


FEEL
GREAT!


EXIT


S-712


CALENDAR
WELCOME!
Reliable
Just go away.
BLOODBORNE PATHOGEN CLEAN-UP KIT












ELECTRICAL ROOM 407
















Choice
Voice
Name


MRS SEO
Thank You!
Mrs. Seo
OUR SOLAR SYSTEM


EXIT
Cover Coughs and Sneezes
If you think that someone can use a friend be one
voice level
0 1 2 3
Welcome to Mrs. Seo's 3rd Grade Class!


BUILDING
600
S-606
SPRINKLER
FIRE ALARM
WHEN BELL RINGS
DIAL 911




WELCOME




A
RAIN BIRD












GBC
EZload



DSA 103-22

LIST OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS

C

☐ Project has a geotechnical report or construction documents require special inspection by a geotechnical engineer.
☑ Project does NOT have and does NOT require a geotechnical report.

	TYPE	BY
S1 | SOILS - GENERAL		
☐ S1a: Site Preparation	See Notes	PI
S2 | COMPACTION AND FILL		
☐ S2a: Fill Materials	Test	LOR*
☐ S2b: Fill Placement	Continuous	LOR*
☐ S2c: Compaction	Test	LOR*
S3 | DRIVEN DEEP FOUNDATIONS (PILES)		
☐ S3a: Materials and Members	Continuous	GE*
☐ S3b: Pile Capacity	Test	LOR*
☐ S3c: Driving Operations	Continuous	GE*
☐ S3d: Pile Installation	Continuous	GE*
☐ S3e: Specialty Piles	*	*
S4 | CAST-IN-PLACE DEEP FOUNDATIONS (PIERS)		
☐ S4a: Drilling Operations	Continuous	PI
☐ S4b: Pier Construction	Continuous	PI
☐ S4c: Bearing Strata	Continuous	GE*
S5 | RETAINING WALLS		
☐ S5a: Backfill Placement	Continuous	GE*
☐ S5b: Soil Reinf. and Drainage	Continuous	GE*
☐ S5c: Segmental Retaining Walls	Continuous	GE*
S6 | OTHER SOILS		
☐ S6a: Soil Improvement Test	Test	GE*
☐ S6b: Soil Improvement Inspection	Continuous	GE*
☐ S6c: Not used.	N/A	N/A
☐ S6d: Not used.	N/A	N/A
☐ S6e: Not used.	N/A	N/A
☐ S6f: Not used.	N/A	N/A
☐ S6g: Not used.	N/A	N/A
☐ S6h: Not used.	N/A	N/A
☐ S6i: Not used.	N/A	N/A
☐ S6j: Not used.	N/A	N/A
☐ S6k: Not used.	N/A	N/A
☐ S6l: Not used.	N/A	N/A
☐ S6m: Not used.	N/A	N/A
☐ S6n: Not used.	N/A	N/A

* See Appendix for additional information.

	TYPE	BY
C1 | CAST-IN-PLACE CONCRETE		
☐ C1a: Mix Design	Continuous	SI
☐ C1b: Reinforcing Steel	Test	LOR
☐ C1c: Concrete Material	Test	LOR
☐ C1d: Strength Test	Test	LOR
☐ C1e: Batch Plant Inspection		SI
C2 | PRESTRESSED CONCRETE		
☐ C2a: Tendons and Anchorage	Test	LOR
☐ C2b: Tendon Placement	Periodic	SI
☐ C2c: Concrete Strength	Periodic	SI
☐ C2d: Stressing Operations	Continuous	SI
C3 | PRECAST CONCRETE		
☐ C3a: General Fabrication	Continuous	SI
☐ C3b: General Erection	Periodic	SI*
☐ C3c: Diaphragm Connections	Continuous	SI
☐ C3d: Diaphragm Tolerances	Periodic	SI
C4 | SHOTCRETE		
☐ C4a: Placement	Continuous	SI
☐ C4b: Shotcrete Material	Test	LOR
C5 | POST-INSTALLED ANCHORS		
☑ C5a: Inspection	See notes	SI*
☑ C5b: Test	Test	LOR
C6 | OTHER CONCRETE		
☐ C6a: Not used.	N/A	N/A
☐ C6b: Not used.	N/A	N/A
☐ C6c: Not used.	N/A	N/A
☐ C6d: Not used.	N/A	N/A
☐ C6e: Not used.	N/A	N/A
☐ C6f: Not used.	N/A	N/A
☐ C6g: Not used.	N/A	N/A
☐ C6h: Not used.	N/A	N/A
☐ C6i: Not used.	N/A	N/A
☐ C6k: Not used.	N/A	N/A
☐ C6l: Not used.		
Not used.		

* See Appendix for additional information.

Project Name: **Ledesma Elementary School** Application No.: **01-122831** Increment:
School District: **Oak Grove School District** File No.: **43-41**

Addendum #3

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DIVISION 25 — INTEGRATED AUTOMATION
NOT USED

DIVISION 26 — ELECTRICAL
26 05 10 General Electrical Requirements
26 05 19 Low Voltage Wire and Cable
26 05 26 Grounding
26 05 33 Conduits
26 05 34 J-Boxes
26 05 44 In Grade Pull Boxes
26 09 26 Lighting Control System
26 27 26 Devices
26 28 16 Circuit Breakers
26 50 00 Lighting

DIVISION 27 — COMMUNICATIONS
NOT USED

DIVISION 28 — ELECTRONIC SAFETY AND SECURITY
NOT USED

DIVISION 31 — EARTHWORK
31 05 13 Soils for Earthwork
31 10 00 Site Clearing

Addendum #3

31 22 13 Rough Grading
31 23 00 Excavation and Fill
31 23 23.13 Backfill
31 23 23.14 Controlled Low Strength Material

DIVISION 32 — EXTERIOR IMPROVEMENTS

32 11 23 Aggregate Base Course
32 12 16 Asphalt Pavement
32 13 13 Concrete Paving
32 17 00 Pavement Specialties
32 31 19 Decorative Metal Fences and Gates
32 32 19 Unit Masonry Retaining Walls
32 84 00 Planting Irrigation
32 90 00 Planting

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

C

B. Should any existing conditions such as deterioration or noncomplying construction be discovered that is not covered by the DSA approved documents wherein the finished work will not comply with Title 24, California Code of Regulations, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work.

1.2 SUMMARY

A. Extent of selective demolition work is indicated on drawings.

B. Section Includes:

1. Demolition and removal of selected portions of exterior or interior of building or structure and site elements.
2. Removal and salvage of existing items for delivery to Owner and removal of existing items for reinstallation.

C. Removal Work Specified Elsewhere:

1. Cutting non-structural floors and walls for piping, ducts, and conduit is included with the work of the respective mechanical and electrical Divisions 21 through 27 specification sections.

D. Related Requirements:
1. Section 017416 “Cutting and Patching”.
2. Section 017419 “Construction Waste Management and Disposal”.

1.3 DEFINITIONS

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

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner as indicated.

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

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

1.4 MATERIALS OWNERSHIP

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

1.5 COORDINATION

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

1.6 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.
6. Review and finalize protection requirements.
7. Review procedures for noise control and dust control.
8. Review storage, protection, and accounting for items to be removed for salvage or reinstallation.

1.7 INFORMATIONAL SUBMITTALS

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

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

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

5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.

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

1.8 CLOSEOUT SUBMITTALS

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

1.9 FIELD CONDITIONS

A. Owner will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities which will severely impact Owner's normal operations.

B. Owner assumes no responsibility for actual condition of items of structures to be demolished.

1. Owner will remove and salvage selected elements from the area of work prior to start of demolition or during progress of work. Elements so affected will be clearly marked/identified and are to be excluded from work.
2. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical. However, variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.

C. Partial Demolition and Removal: Items indicated to be removed but of salvable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.

1. Storage or sale of removed items on site will not be permitted.

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

E. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

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

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

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.

B. Permits: Where applicable, Contractors shall give all notices to governmental agencies, obtain all required permits, arrange for agency inspections and pay all associated fees related to legally mandated environmental protection regulations.

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

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

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

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

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

1. Arrange to shut off utilities with utility companies.
2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of

services/systems to other parts of building. Provide minimum of 72 hours advance notice to Owner if shut- down of service is necessary during change-over.

3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

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

3.3 PROTECTION

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

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

B. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.

C. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.

D. Provide weatherproof closures for exterior openings resulting from demolition work.

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

3.4 SELECTIVE DEMOLITION, GENERAL

A. Perform all selective demolition work necessary for installation of new work, including but not limited to, removal of walls, foundations, openings, electrical, mechanical, plumbing, roofing and finishes.

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

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain fire watch during and for at least 1 hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
10. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
11. For renovation work remove existing door hardware indicated to be replaced by new hardware as shown in the door and hardware schedules.
12. Remove existing door hardware for new door hardware designated on opening and hardware schedules.
13. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Representative in written, accurate detail. Pending receipt of directive from Owner's Representative rearrange selective demolition schedule as necessary to continue overall job progress without delay.
14. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

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

D. Removed and Salvaged Items:

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

E. Removed and Reinstalled Items:

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

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

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

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

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and recycle or dispose of them according to Section 017419 "Construction Waste Management and Disposal."

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

3.7 CLEAN UP AND REPAIR

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

B. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.

C. Repair all surfaces to match existing surfaces of doors and frames at removed hardware conditions left evident after new hardware installations.

D. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work. All grass and lawn areas altered or destroyed due to construction work shall be replaced with sod of similar grass type as existing adjacent grasses. Contractor shall ensure lawn is level and returned to its original condition to the satisfaction of the architect.

E. Repair all surfaces to match existing adjacent surfaces where existing system has been removed and left evident after new system installation, i.e. ducts, louvers, conduits, etc.

END OF SECTION 024119

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes:
   1. Exterior custom hollow-metal doors and frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or ANSI/SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

   1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.

B. Sustainable Design Submittals:

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.

C. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of glazing frames and stops showing glazing
7. Indicate coordination of glazing frames and stops with glass and glazing requirements
8. Details of anchorages, joints, field splices, and connections.
9. Details of accessories.
10. Details of moldings, removable stops, and glazing.

D. Coordination Drawings: Drawings of each opening, including door and frame, drawn to scale and coordinating door hardware. Show elevations of each door design type, showing dimensions, locations of door hardware.

E. Samples for Initial Selection: For hollow-metal doors and frames with factory-applied color finishes.

F. Samples for Verification:

1. Finishes: For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches (75 by 127 mm).

G. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. Submit copy of DHI Fire and Egress Door Assembly Inspector (FDAI) certificate.

B. Field quality control reports.

1.8 QUALITY ASSURANCE

A. Provide doors and frames complying with Hollow Metal Manufacturer's Association "Guide Specifications for Commercial Hollow Metal Doors and Frames" HMMA 861-00 and as herein specified.

B. Installer Qualifications: An employer of workers trained and approved by manufacturer.

C. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated, as documented according to ASTM E 548.

D. Source Limitations: Obtain custom steel doors and frames through one source from a single manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

1. If wrappers on doors become wet, remove cartons immediately. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.10 PROJECT CONDITIONS

A. Field Measurements: Verify openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.11 COORDINATION

A. Coordinate installation of anchorages for custom steel frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Curries; a brand of ASSA ABLOY.
2. Steelcraft; an Allegion brand.

3. Stiles Custom Metal, Inc.
4. Titan Metal Products.

2.2 CUSTOM HOLLOW-METAL DOORS AND FRAMES

A. Commercial Doors and Frames: NAAMM-HMMA 861; ANSI/SDI A250.4, Physical Performance Level A. At locations indicated in the Door and Frame Schedule.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches (44.5 mm).
c. Exterior Door Face Sheet: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.30 mm), with minimum G60 or A60 (ZF180) coating.
d. Interior Door Face Sheet: Fabricated from minimum 0.042-inch thick, cold-rolled steel sheet, unless otherwise indicated to comply with exterior door face sheet requirements.
e. Edge Construction: Continuously welded with no visible seam.
f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets with steel channel spot weld, not more than 6 inches o.c. to face sheets. Seal joints against water penetration.

1) Tops and bottoms of doors reinforced with inverted horizontal channels, continuous across full width of door, of same material as face sheets so flanges of channels are even with bottom and top edges of face sheets.
2) Top and bottom edges of doors closed with closing channels of same material and thickness as face sheets; welded so webs of channels are flush with door edges.

g. Bottom Edges: Close bottom edges of doors with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
h. Core: Fabricate doors with core indicated. Provide thermal-resistance-rated cores for exterior doors where indicated.
1) Manufacturer's Standard.
2) .

i. Hardware Reinforcement: Fabricate reinforcement plates from same material as door face sheets to comply with the following minimum sizes:

1) Hinges and Pivots: Minimum 0.194 inch thick by 1-1/2 inches wide by 6 inches longer than hinge, secured by not less than 6 spot welds.
2) Lock Face, Flush Bolts, and Concealed Holders: Minimum 0.093 inch thick.
3) Closers: Minimum 0.104 inch thick.
4) All Other Surface-Mounted Hardware: Minimum 0.067 inch thick.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), except 0.067 inch (1.7 mm) for openings exceeding 4 feet (1219 mm) wide; with minimum G60 or A60 (ZF180) coating.
b. Construction: Full profile welded
c. Hardware Reinforcement: Fabricate reinforcement plates from same material as frames to comply with the following minimum sizes:

1) Hinges and Pivots: Minimum 0.194 inch thick by 1-1/4 inches wide by 10 inches long, secured by not less than 6 spot welds.
2) Strikes , Flush Bolts: Minimum 0.093 inch thick.
3) Closers and Hold-Open Arms: Minimum 0.104 inch thick.
4) Surface-Mounted Hardware: Minimum 0.093 inch thick.

d. Head Reinforcement: Minimum 0.093-inch- thick, steel channel or angle stiffener.

3. Exposed Finish: Prime.

2.3 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.

a. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.

2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches (610 mm) of frame height above 7 feet (2.1 m).
3. Postinstalled Expansion Anchor: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

2.4 DOOR LOUVERS

A. Provide sight-proof vandal proof stationary louvers for doors where indicated, constructed of inverted V-shaped or Y-shaped blades formed of 0.035 inch thick cold rolled steel sheet set into 0.035 inch thick steel frame. Verify locations with mechanical drawings.

B. Provide high security sight-proof grill with louvers for doors where indicated, constructed of 12 gauge cold rolled steel grill with inverted V-shaped blades. Through-bolt attachments for frame to door. Verify locations with mechanical drawings.

2.5 MATERIALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

C. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

D. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

E. Supports and Anchors: Fabricated from not less than 18 gage galvanized sheet steel.

F. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M class C or D as applicable.

G. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E136 for combustion characteristics.

H. Glazing: Comply with requirements in Section 088000 "Glazing."

I. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

J. Primer: Rust inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

2.6 FABRICATION

A. General: Fabricate custom steel doors and frames to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

1. Single-Acting Doors: Bevel both vertical edges 1/8 inch in 2 inches.

B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

2. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
3. Jamb Anchors: Provide number and spacing of anchors as follows:

a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

1) Three anchors per jamb up to 60 inches in height.
2) Four anchors per jamb from 60 to 90 inches in height.
3) Five anchors per jamb from 90 to 96 inches in height.
4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof more than 96 inches in height.
5) Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.

4. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to ANSI/SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.
2. Refer to section 099114 “Exterior Painting” and 099124 “Interior Painting” for paint.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of custom steel doors and frames.

1. Examine roughing-in for embedded and built-in anchors to verify actual locations of custom steel frame connections before frame installation.
2. For the record, prepare written report to Architect, endorsed by Installer, listing conditions detrimental to performance of work.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Prior to installation and with installation spreaders in place, adjust and securely brace custom steel door frames for squareness, alignment, twist, and plumb to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.

B. Hollow-Metal Frames: Comply with NAAMM-HMMA 840.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
b. Install frames with removable stops located on secure side of opening.

2. Floor Anchors: Secure with postinstalled expansion anchors.
3. Solidly pack mineral-fiber insulation inside frames.
4. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with NAAMM-HMMA 841 and NAAMM-HMMA guide specification indicated.

3.4 FIELD QUALITY CONTROL

A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.5 REPAIR

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

END OF SECTION 081113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes items known commercially as door or finish hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same sections as the doors and door frames on which they are installed.

B. Related Sections: The following sections are noted as containing requirements that relate to this Section, but may not be limited to this listing.

1. Division 08: Section - Hollow Metal Doors and Frames.

1.3 REFERENCES

A. 2022 California Building Code, CCR Title 24, Part 2

B. BHMA - Builders' Hardware Manufacturers Association

C. DHI - Door and Hardware Institute

D. UL - Underwriters Laboratories.

1. UL 305 - Panic Hardware

E. WHI - Warnock Hersey Incorporated

F. SDI - Steel Door Institute

1.4 SUBMITTALS & SUBSTITUTIONS

A. General: Submit in accordance with Conditions of the Contract and Division 01 Specification sections.

B. Submit product data (catalog cuts) including manufacturers' technical product information for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

C. Submit electronic PDF copies of schedule organized vertically into “Hardware Sets” with index of doors and headings, indicating complete designations of every item required for each door or opening. Include following information:

1. Include a Cover Sheet with:
   a. Job Name, location, telephone number.
   b. Architects name, location and telephone number.
   c. Contractors name, location, telephone number and job number.
   d. Suppliers name, location, telephone number and job number.
   e. Hardware consultant's name, location and telephone number.

2. Job Index information included:
   a. Numerical door number index including; door number, hardware heading number and page number.
   b. Complete keying information (referred to DHI hand-book "Keying Systems and Nomenclature"). Provision should be made in the schedule to provide keying information when available; if it is not available at the time the preliminary schedule is submitted.
   c. Manufacturers' names and abbreviations for all materials.
   d. Explanation of abbreviations, symbols, and codes used in the schedule.
   e. Mounting locations for hardware.
   f. Clarification statements or questions.
   g. Catalog cuts and manufacturer’s technical data and instructions.

3. Vertical schedule format sample:

Heading Number 1 (Hardware group or set number - HW Group #1)				
(a) 1 Single - Door #101 - Corridor 101 to Exterior			(b) 90°	(c) RH
(d) 3'-0" x 7'-0" x 1-3/4" - Wood Door x Hollow Metal Frame - 20 Minute				
(e) 1.	(f) 3 ea	(g) Hinges - (h) 5BB1 4.5 x 4.5 NRP (i) 1/2 TMS	(j) 630	(k) IVE
2.	1 ea	Lockset - ND80P6D x RHO x RH x 10-025 x JTMS	626	SCH
3.	1 ea	Closer - 4040XP x EDA x TBSRT	689	LCN

(a) Single or pair of doors with opening number and location.
(b) Degree of opening.
(c) Hand of door(s).
(d) Door/frame dimensions and material; Label requirements, if any.
(e) Hardware item line # (Optional).

(f) Quantity.
(g) Product description.
(h) Product part number.
(i) Fastenings and other pertinent information.
(j) Hardware finish codes per ANSI/BHMA A156.18.
(k) Manufacturer abbreviation.

D. Make substitution requests in accordance with Division 01. Substitution requests must be made prior to bid date. Include product data and indicate benefit to the project. Furnish samples of any proposed substitution.

E. Keying Schedule: Submit separate detailed schedule indicating clearly how the District's final instructions on keying of locks has been fulfilled.

F. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

G. Furnish as-built/as-installed schedule with close-out documents, including keying schedule and transcript, wiring/riser diagrams, manufacturers' installation and adjustment and maintenance information.

1.5 QUALITY ASSURANCE

A. Obtain each type of hardware (latch and lock sets, hinges, closers, exit devices, etc.) from a single manufacturer.

B. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this project and that employs an experienced architectural hardware consultant (AHC) who is available to District, Architect, and Contractor, at reasonable times during the course of the Work, for consultation.

1. Responsible for detailing, scheduling and ordering of finish hardware.
2. Meet with District to finalize keying requirements and to obtain final instructions in writing.
3. Stock parts for products supplied and are capable of repairing and replacing hardware items found defective within warranty periods.

C. Hardware Installer: Company specializing in the installation of commercial door hardware with five years documented experience.

D. Exit Doors: Operable from inside with single motion without the use of a key or special knowledge or effort.

E. Product packaging to be labelled in compliance with CA Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986.

1.6 DELIVERY, STORAGE AND HANDLING

A. Coordinate delivery of packaged hardware items to the appropriate locations (shop or field) for installation.

B. Hardware items shall be individually packaged in manufacturers' original containers, complete with proper fasteners. Clearly mark packages on outside to indicate contents and locations in hardware schedule and in work.

C. Provide locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, etc.

D. Contractor to inventory door hardware jointly with representatives of hardware supplier and hardware installer until each all are satisfied that count is correct.

1.7 WARRANTY

A. Provide warranties of respective manufacturers' regular terms of sale from day of final acceptance as follows:

1. Locksets: Ten (10) years.
2. Exit devices: Ten (10) years.
3. Closers: Thirty (30) years.
4. All other hardware: Two (2) years.

1.8 MAINTENANCE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for District's continued adjustment, maintenance, and removal and replacement of door hardware.

1.9 PRE-INSTALLATION CONFERENCE

A. Convene a pre-installation conference at least one week prior to beginning work of this section.

B. Attendance: Architect, Construction Manager, Contractor, Security Contractor, Hardware Supplier, Installer, Key District's Personnel, and Project Inspector.

C. Agenda: Review hardware schedule, products, installation procedures and coordination required with related work. Review District's keying standards.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Item	Manufacturer	Acceptable Substitutes
Hinges	Ives	Hager, Stanley, McKinney
Locks, Latches & Cylinders	Schlage	None – District Standard
Exit Devices	Von Duprin	None – District Standard
Closers	LCN	None – District Standard
Protection Plates	Trimco	Ives

2.2 MATERIALS

A. Hinges:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Hinges shall be sized in accordance with the following:
   a. Height:
      1) Doors up to 42" wide: 4-1/2 inches.
      2) Doors 43" to 48" wide: 5 inches.
   b. Width: Sufficient to clear frame and trim when door swings 180 degrees.
   c. Number of Hinges: Provide 3 hinges per leaf to 7'-5" in height. Add one for each additional 2 feet in height.
3. Exterior out-swinging hinges shall be non-ferrous material and shall have stainless steel hinge pins. All doors to have non-rising pins.
4. Furnish non-removable pins (NRP) at all exterior out-swing doors and interior key lock doors with reverse bevels.

B. Heavy Duty Cylindrical Locks and Latches: Schlage "ND" Series as scheduled with "Sparta" lever design.

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
2. Provide cylindrical locksets exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security, and durability in the categories below:
   a. Abusive locked lever torque – minimum 3,100 inch-pounds without gaining access.
   b. Offset lever pull – minimum 1,600 foot pounds without gaining access.
   c. Vertical lever impact – minimum 100 impacts without gaining access.
   d. Cycle Test – tested to minimum 16 million cycles with no visible lever sag; without the use of performance aids such as set screws or spacers.

3. Cylinders: Refer to “KEYING” article, herein.
4. Provide locks with standard 2-3/4” backset, unless noted otherwise, with 1/2” latch throw. Provide proper latch throw for UL listing at pairs.
5. Provide locksets with separate solid steel anti-rotation thru-bolts, and no exposed screws.
6. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
7. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
9. Provide levers with vandal resistant technology as scheduled for use at abusive applications.

C. Heavy Duty Mortise Locks and Latches: Schlage “L” Series as scheduled with “17” style lever and “A” style rose.

1. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
2. Provide lock case that is multi-function and field reversible for handing without opening case.
3. Provide locks with standard 2-3/4” backset with full 3/4” throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1” throw, constructed of stainless steel.
4. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
5. Cylinders: Refer to “KEYING” article, herein.
6. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
7. Provide levers with vandal resistant technology as scheduled for use at abusive applications.

D. Exit devices: Von Duprin as scheduled.

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Provide certificate by independent testing laboratory that device has completed over 1,000,000 cycles and can still meet ANSI/BHMA A156.3 standards.
3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Provide exit devices cut to door width and height. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
6. Provide flush end caps for exit devices.
7. Exit devices shall comply with CBC Section 11B-404.2.7 and shall be mounted between 34" and 44" above the finished floor surface.
8. Provide exit devices UL certified to meet 5 lbs. maximum unlatching force requirements according to the CBC Section 11B-309.4.
9. Cylinders: Refer to “KEYING” article, herein.

10. Provide cylinder or hex-key dogging as specified at non fire-rated openings. Provide cylinder dogging indicators (CDSI) for visible indication of dogging status as specified.
11. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
12. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
13. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
14. Provide exit devices with manufacturer's approved strikes.

E. Protection Plates:

1. Provide kick, mop, and/or armor plates minimum of 0.050" thick, with four beveled edges. Furnish with sheet metal or wood screws, finished to match plates.
2. Kick plates shall be sized 10" high and 2" less door width (LDW) at single doors and 10" high and 1" LDW at pairs or doors.
3. Provide mop and armor plates with sizes as scheduled in hardware sets.

2.3 KEYING

A. Furnish a Proprietary Schlage Classic Primus 3G masterkey system as directed by the District. District shall preform all keying. Verify keyway with District Maintenance department. Furnish construction keying for doors requiring locking during construction.

B. Cylinders shall be provided directly to District locksmith prior to installation for keying and labelling. Cylinders shall be returned to the Contractor for installation.

C. Furnish all cylinders in the Schlage Full Size Interchangeable Core (FSIC) style. Pack change keys independently (PKI).

D. Furnish all key blanks as Schlage 35-053 standard bow (unembossed) with Primus logo on back side only.

E. Furnish all keys with visual key control.

1. Stamp key "Do Not Duplicate".
2. Stamp (BHMA) key symbol on key.
3. Stamp unique owner identifier from the key bow.

F. Furnish minimum 2 keys for each cylinder and 2 control keys per order.

2.4 FINISHES

A. Generally to be satin chrome US26D (626 on bronze and 652 on steel) unless otherwise noted.

B. Furnish push plates, pull plates and kick or armor plates in satin stainless steel US32D (630) unless otherwise noted.

C. Door closers shall be powder-coated to match other hardware, unless otherwise noted.

D. Aluminum items to be finished anodized aluminum except thresholds which can be furnished as standard mill finish.

2.5 FASTENERS

A. Screws for strikes, face plates and similar items shall be flat head, countersunk type, provide machine screws for metal and standard wood screws for wood.

B. Screws for butt hinges shall be flathead, countersunk, full-thread type.

C. Fastening of closer bases or closer shoes to doors shall be by means of sex bolts and spray painted to match closer finish.

D. Provide expansion anchors for attaching hardware items to concrete or masonry.

E. All exposed fasteners shall have a phillips head.

F. Finish of exposed screws to match surface finish of hardware or other adjacent work.

G. All Exit Devices and Lock Protectors shall be fastened to the door by the means of sex bolts or through bolts.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify that doors and frames are square and plumb and ready to receive work and dimensions are as instructed by the manufacturer.

B. Beginning of installation means acceptance of existing conditions.

3.2 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and requirements of DHI.

B. Use the templates provided by hardware item manufacturer.

C. Mounting heights for hardware shall be as recommended by DHI. Operating hardware shall be located between 34" and 44" above finish floor to comply with CBC Section 11B-404.2.7.

D. Door Closers:

1. Place door closers inside building, stairs, rooms, etc. Closers shall be installed to permit doors to swing 180 degrees or maximum allowable by conditions.
2. Maximum effort to operate closers shall not exceed 5 lbs., such pull or push effort being applied at right angles to hinged doors.
3. When fire doors are required, the maximum effort to operate the closer may be increased but shall not exceed 15 lbs. when specifically approved by fire marshal.
4. All closers shall be adjusted to operate with the minimum amount of opening force and still close and latch the door. These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.
5. Compensating devices or automatic door operators may be utilized to meet the above standards.
6. Per CBC Section 11B-404.2.8.1, doors shall take minimum of 5 seconds to move from an open position of 90 degrees to 12 degrees to the latch jamb.

E. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

G. If hand of door is changed during construction, make necessary changes in hardware at no additional cost.

3.3 ADJUST AND CLEAN

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.

B. Clean adjacent surface soiled by hardware installation.

C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy, return to that work area and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

D. Instruct District's Personnel in proper adjustment and maintenance of hardware finishes, during the final adjustment of hardware.

E. Continued Maintenance Service: Approximately six months after the completion of the project, the Contractor accompanied by the Architectural Hardware Consultant, shall return to the project and re-adjust every item of hardware to restore proper functions of doors and hardware. Consult with and instruct District's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

3.4 HARDWARE LOCATIONS

A. Conform to CCR, Title 24, Part 2; and ADA Standards; and the drawings for access-compliant positioning requirements for the disabled.

3.5 FIELD QUALITY CONTROL

A. Contractor is responsible for providing the services of an Architectural Hardware Consultant (AHC) or a proprietary product technician to inspect installation and certify that hardware and its installation have been furnished and installed in accordance with manufacturers' instructions and as specified herein.

3.6 HARDWARE SCHEDULE

A. The items listed in the following schedule shall conform to the requirements of the foregoing specifications.

B. While the hardware schedule is intended to cover all doors, and other movable parts of the building, and establish type and standard of quality, the contractor is responsible for examining the Plans and Specifications and furnishing proper hardware for all openings whether listed or not. If there are any omissions in hardware groups in regard to regular doors they shall be called to the attention of the Architect prior to bid opening for instruction; otherwise, list will be considered Complete. No extras will be allowed for omissions.

C. The Door Schedule on the Drawings indicates which hardware set is used with each door.

MANUFACTURERS ABBREVIATIONS

GLY	=	Glynn-Johnson	Overhead Stops
IVE	=	Ives	Hinges
LCN	=	LCN	Door Closers
SCH	=	Schlage Lock	Locks, Latches & Cylinders
TRM	=	Trimco	Door Stops & Kick Plates
VON	=	Von Duprin	Exit Devices
ZER	=	Zero International	Gasketing, Seals & Thresholds

HW GROUP: GATE - SINGLE, TUBE STEEL, PANIC

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE AND CLOSER	SURECLOSE PIVOT (2) 57/108 AT 90W (1) SM AT 90W		D&D TECHNOLOGIES
1	EA	EXIT DEVICE	CD 99-AX-L X 360L	626	VON
1	EA	RIM CYLINDER	20-002	626	SCH
1	EA	KICK PLATE	8400 10” X 2” LDW	630	IVE

END OF SECTION 087100

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes:

1. Exterior parking signage.
2. Room and door identification signage.
3. Toilet room signage.
4. Miscellaneous signage.

1.3 UNIT PRICES

A. The bid quantity for each Sign Type shall be based on the Sign Schedule shown in the Drawings. The Contract shall establish unit costs based on these quantities, and the bid shall consist of extensions of these unit costs. The contract shall be adjusted as necessary, using these unit costs, for additions or deletions within ten percent of the base bid quantity for each Sign Type.

1.4 SUBMITTALS

A. Allowance for Submittals: Allow for thorough and complete preparation of all submittal items, for delivery and/or shipping of same, and for resubmittal(s) as required until approval has been obtained for all items.

B. Product Data: Submit manufacturers' catalog sheets, brochures, diagrams, schedules, charts, illustrations, test results and/or other standard descriptive data.

1. Mark up each copy to identify pertinent materials, products or models.
2. Show dimensions and clearances required, performance characteristics and capacities, and wiring diagrams and/or controls as apply.

C. Submit manufacturer's installation instructions for each type of specialty sign. Include only pages which are pertinent, or manufacturer's standard drawings modified to delete non-applicable data.

D. Shop Drawings:

1. General:

   a. All shop drawings shall be neat, well organized, and clearly legible.
   b. All shop drawings shall be drawn to scale and not subsequently reduced to fit a drawing format.

2. For room and door identification signs.

   a. Include fabrication and installation details and attachments to other work.
   b. Show sign mounting heights and locations.
   c. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

E. Schedule:

1. For signage prepared by or under the supervision of a supplier use same reference numbers for details and types as those on the Drawings.
2. Text shown in the Drawing details is for layout purposes only; all final text, quantities and references for all signs are shown in the Sign Schedule unless otherwise noted.
3. Final text, numbers and graphics shall be approved by Architect and Owner prior to fabrication.

   a. The Contractor shall clarify any perceived irregularities in the Sign Schedule with the Architect prior to fabrication.

F. Samples

1. Color and Finish: Submit 3 each, 6 inch x 6 inch samples of all paint colors, screen colors, vinyl colors and material finishes. All paint and screen colors are to be applied to the appropriate substrate.

   a. Contractor to submit verification of paint manufacturer used for submittal.
   b. Prior to submittal, Contractor shall verify that all colors submitted as samples match accurately the samples or specifications provided by Architect.
2. Exposed Accessories: Full-size Sample of each accessory type.
3. Typeface(s): Submit complete typeface font(s), including upper and lower case letters, numbers and punctuation, for all typeface(s) specified. Also submit samples of letter and word spacing for each cap height specified.
4. Full-size complete prototype of the following sign types:

   a. Exterior grade tactile sign using typical door sign.
   b. Interior grade tactile sign using typical door sign.
   c. Interior grade toilet room sign showing restroom door symbol including frame condition.

5. Samples and prototype shall not be permanently installed, but shall be retained by the Architect for record and quality control, unless otherwise noted by the Architect.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with a minimum of three years of documented experience.

B. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA); CAC, Title 24, 2022 CBC Chapters 10 & 11B and with code provisions as adopted by authorities having jurisdiction. Code-governed signs shall be field inspected per CBC 11B-703.1.1.2.

C. Do not scale drawings for dimensions. Use only the written dimensions indicated on the Drawings, unless such be found in error. Contractor shall verify and be responsible for all dimensions and conditions shown by the Drawings and shall visit the site to inspect and verify field conditions prior to fabrication and installation. The Architect shall be notified, in writing, of all discrepancies on Drawings, in field dimensions or conditions, and of changes required in construction details.

1.6 DELIVERY, STORAGE AND HANDLING

A. Package signs as required to prevent damage before installation.

B. Package room and door signs in sequential order of installation, labeled by floor or building.

C. Store tape adhesive at room temperature.

1.7 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Provide each type of sign as a complete unit produced by a single manufacturer, including all required mounting accessories, fittings and fastenings.

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and Americans with Disabilities Act (ADA); CAC, Title 24, 2022 CBC Chapters 10 & 11B.

1. Provide non-glare finish with characters contrasting with background per 11B-703.5.1.

B. Interior Code Signage: Provide signage as required by accessibility regulations and requirements of authorities having jurisdiction. These include, but are not limited to, the following:

1. All signs identifying permanent rooms and spaces shall be located in compliance with CBC 11B-703.4:

a. Top of sign to be 5'0" above finish floor.
b. Sign to be located at latch side of door, or, if there is insufficient wall space, on the nearest wall, preferably to the right.

2. Symbol signs on restroom doors shall be located in compliance with CBC 11B-703.4:

a. Centerline of sign to be 5'0" above finish floor.
b. Sign to be centered left to right on door.

3. Room Capacity.

2.3 EXTERIOR PARKING SIGNAGE

A. Accessible Parking Signs:

1. Material: 0.080-inch aluminum or other noncorrosive material.
2. Size: Minimum of 70 square inches in area.
3. Background Color: Blue.
4. Text Material: White silk-screen, with reflective white border.
5. Spaces complying with CBC 11B-502.6 shall have an additional sign stating "Van Accessible" mounted below the symbol of accessibility.
6. Signs to be reflectorized.

B. Unauthorized Vehicles:

1. Material: 0.080-inch aluminum or other noncorrosive material.
2. Size: 18 inches by 24 inches.
3. Background: White.
4. Text Material: Black.
5. Text: As shown on the Drawings.
6. Signs to be reflectorized.

C. Mounting: Pole mounted as shown in drawings.

2.4 ROOM AND DOOR IDENTIFICATION SIGNAGE

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Arne Signs
b. Or approved Equal

B. Signs with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles.

1. Material: Modified acrylic substrate
2. Copy: Tactile and braille

3. Character Style: As indicated on Drawings
4. Text: As indicated on Drawings.
5. Colors: High contrast, selected by Architect from manufacturer's full range.

2.5 TOILET ROOM SIGNAGE

A. Signs with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles.

1. Material: Cast-acrylic sheet, 1/4 inch thick.
2. Copy: Tactile and braille
3. Character Style: As indicated on Drawings
4. Text: As indicated on Drawings.
5. Colors: High contrast, selected by Architect from manufacturer's full range.

2.6 MISCELLANEOUS INTERIOR SIGNAGE

A. Symbols of Accessibility

1. Material: Cast-acrylic, 1/4 inch reverse silk screen international symbol of accessibility in white on blue background.
2. Size: 6 inch by 6 inch.
3. Provide aluminum frame.

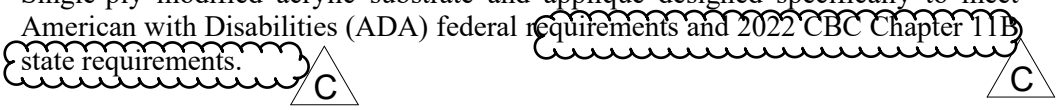
2.7 MATERIALS

A. Aluminum

1. Aluminum Castings: ASTM B26/B26M, alloy and temper recommended by sign manufacturer for casting process used and for type of use and finish indicated.
2. Extruded Shapes: ASTM B221 alloy 6063; size as required, or as specified by Engineer.
3. Sheet and Plate: ASTM B209 alloy 3003; mill finish as specified, for all Work which will receive a painted finish.

B. Modified Acrylic

1. Single-ply modified acrylic substrate and applique designed specifically to meet American with Disabilities (ADA) federal requirements and 2022 CBC Chapter 11B state requirements.



   a. Manufacturer: Rowmark “ADA Alternative Applique” or approved equal.

2. Properties:

   a. Rockwell Hardness: M45 per ASTM D-785.
   b. Deflection Temperature: 175F per ASTM D-648.

3. Finish: Matte non-glare
4. Thickness: 1/8 inch

C. Cast Acrylic Sheet

1. Microsurface cell cast acrylic (not extruded or continuous cast) for reverse engraving.

   a. Manufacturer: Rowmark “ColorCast” or approved equal.

2. Properties:

   a. Rockwell Hardness: M-100 per ASTM D-785.
   b. Deflection Temperature: 205F per ASTM D-648.

3. Carefully follow manufacturer's recommended fabrication procedures regarding expansion/contraction, fastening and restraining of acrylic plastic.
4. Thickness: 1/4 inch thick.
5. Finish: Matte, non-glare.

D. Laminated Impact Acrylic Sheet with contrasting ply:

1. Manufacturer: Rowmark “Ultramattes Reverse”
2. Finish: Matte non-glare
3. Engraving Depth: 0.012” / 0.30mm

E. Laminated Acrylic Sheet

1. Microsurfaced impact acrylic laminated with a durable UV stable polymer cap in contrasting color.

   a. Manufacturer: Rowmark “UltraGrave Matte” or approved equal.

2. Properties:

   a. Rockwell Hardness: M45 per ASTM D-785.
   b. Deflection Temperature: 175F per ASTM D-648.

3. Thickness: 1/16 inch thick.

4. Finish: Matte, non-glare.

2.8 ACCESSORIES

A. Fasteners, Hardware and Devices: Stock proprietary fastening devices of approved standard manufacture such as cadmium plated vandal resistant screws, bolts and washers, and stainless steel hinges.

1. Conceal all fasteners except where noted or shown otherwise.
2. Finish on all exposed devices to match overall sign finish, unless otherwise noted.
3. Provide vandal-resistant fasteners at all exposed locations unless otherwise noted.
4. Use fasteners fabricated from metals that are noncorrosive to either the sign material(s) or the mounting surface.

B. High Bond Double-sided Tape

1. Closed cell acrylic with foam carrier with VHB adhesive, very high solvent resistance and very high shear and peel adhesion.

    a. Manufacturer: 3M Scotch or approved equal.

2. Clear: 0.020" (#4905)
3. White: 0.045" (#4950)

C. Acrylic Polyurethane Paint

1. Acrylic polyurethane with ultraviolet inhibitors and lightfast, weather, abrasion, and graffiti resistant additives.

    a. Manufacturer: Matthews Paint Company or approved equal.

2. Prime and finish coats shall be mixed and applied in accordance with manufacturer's specifications. Paint finish shall be smooth, free of scratches, gouges, drops, bubbles, thickness variations, foreign matter or other imperfections.
3. Provide a California Title 24-compliant, matte, non-glare finish.
4. Contractor shall provide verification of paint manufacturer used for all paint work.

D. Vinyl Film

1. Opaque reflective or non-reflective vinyl film as indicated with pressure sensitive permanent adhesive backing.

    a. Manufacturer: 3M Scotchcal or approved equal.

2. All colors shall be integral and not surface applied except where custom color(s) are specified in the Drawings.
3. All custom colors shall be flood coated on white vinyl.
4. Thickness: 0.0355" minimum thickness.

2.9 TEXT, BRAILLE AND GRAPHICS

A. All text, arrows and symbols shall be provided in the sizes, colors, typefaces and spacing specified in the Drawings. All text shall be a true, clean, digitally or photomechanically accurate reproduction of the typeface(s) specified, with letter spacing, height, and directional arrows as shown in the Drawings.

B. Colors of sign graphics (text, arrows and/or symbols) shall have a minimum of 70% contrast with sign background behind graphics. Finish shall be nonglare on all sign backgrounds behind graphics on identifications and directional signs.

C. Lettering

1. Custom Typography: As shown in the Drawings**.**

D. Arrows and Symbols

1. Use digital files provided by Architect in Adobe Illustrator

E. Braille

1. All Braille shall be produced in accordance with California Title 24 requirements:

a. Dots shall be 1/10 inch (2.54 mm) on centers in each cell with 2/10 inch (5.08 mm) space between cells. Dots shall be raised a minimum of 1/40 inch (0.635 mm) above the background.

2. Contractor shall be responsible for the accurate translation of all applicable tactile text to Contracted Grade 2 Braille.

2.10 FABRICATION

A. General

1. All finished work shall be of the highest quality in order to pass eye-level examination and scrutiny by Architect.
2. Provide colors and/or finish textures as specified or indicated in the Drawings or, where not specified or indicated, as selected by Architect.

PART 3 - EXECUTION

3.1 INSPECTION

A. Architect reserves the right to inspect the Work in the Contractor's shop before it is shipped to the job site for installation.

B. Contractor shall inspect all installation locations for conditions which will adversely affect the execution, permanence and/or quality of the Work, and notify Architect in writing of any and all unsatisfactory conditions. Contractor shall not proceed with installation until said unsatisfactory conditions have been corrected. Commencement of installation indicates acceptance of site conditions and guarantees delivery of an acceptable product.

3.2 INSTALLATION OF ROOM AND DOOR IDENTIFICATION SIGNAGE

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Accessibility: Install signs in locations on walls as indicated on Drawings and according to the accessibility standard.

C. Mounting Methods:

1. Secure to substrate with vandal resistant fasteners and silicone

3.3 SITE CLEANUP

A. Final cleanup:

1. Clean and/or repair all evidence of installation work or damage to site work or other adjacent surfaces prior to completion of work.
2. Clean up work area after all installation has been completed. Restore all disturbed ground cover.
3. Remove all protective materials and dispose of properly off site.

3.4 CLEANING AND PROTECTION

A. At completion of installation, clean all sign surfaces in accordance with manufacturer's instructions.

B. Protect all signs from damage until acceptance by Architect; repair or replace damaged units as required.

C. Clean and/or repair all evidence of installation work or damage to adjacent surfaces prior to completion of work.

D. Remove all protective materials and dispose of properly off site.

3.5 CONTRACT CLOSE-OUT ITEMS

A. Provide Owner with one quart of paint for each paint color specified.

B. Provide Owner with written instructions for proper cleaning of the signs. Note any solvents that should not be used.

C. Prior to the issuance of a final certificate of occupancy, all signs and identification devices shall be field inspected after installation and approved by the enforcing agency to ensure proper size and spacing of braille dots, and proportion and type of raised characters are in conformance.

C

END OF SECTION 101400

SECTION 102113.15 – SOLID COLOR REINFORCED COMPOSITE (SCRC) SUBSTRATE TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Solid color reinforced composite (SCRC) substrate toilet compartments configured as toilet enclosures entrance screens and urinal screens.

B. Related Requirements:
1. Section 102800 "Toilet and Bath Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

B. Shop Drawings: For toilet compartments.

1. Include plans, elevations, sections, details, and attachment details.
2. Show locations of cutouts for compartment-mounted toilet accessories.
3. Show locations of centerlines of toilet fixtures.
4. Show locations of floor drains.
5. Show ceiling grid, ceiling-mounted items, and overhead support or bracing locations.

C. Samples for Initial Selection: For each type of toilet compartment material indicated.

1. Include Samples of hardware and accessories involving material and color selection.

D. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

1. Each type of material, color, and finish required for toilet compartments, prepared on 6-inch- square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

E. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

F. USA Certificate of Origin: Manufacturer shall supply with first submittal, an example of their Certificate of Origin declaring toilet compartments are wholly manufactured and assembled specifically in the United States, including city and state locations. A notarized Certificate of Origin shall be provided with closeout documents.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of toilet compartment.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 10 year experience manufacturing similar products.

B. Installer Qualifications: Minimum 2 year experience installing similar products.

C. Single Source Requirements: To the greatest extent possible provide products from a single manufacturer.

D. Accessibility Requirements: Comply with requirements applicable in the jurisdiction of the project, including but not limited to ADA, 2022 CBC Chapter 11B and ICC/ANSI A117.1 requirements as applicable.

C

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

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

1. Door Hinges: One hinge(s) with associated fasteners.
2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: One door bumper(s) with associated fasteners.
4. Door Pull: One door pull(s) with associated fasteners.
5. Door Pull: At accessible compartment doors, provide one on each side of the door.
6. Fasteners: Ten fasteners of each size and type.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

1.9 WARRANTY

A. Manufacturer's Warranty: Manufacturer's standard 25 year limited warranty for panels, doors, and stiles against breakage, corrosion, delamination, and defects in factory workmanship. Manufacturer's standard 1 year guarantee against defects in material and workmanship for stainless steel door hardware and mounting brackets.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Graffiti Resistance (ASTM D 6578): Passed cleanability test; 5 staining agents.

B. Scratch Resistance (ASTM D 2197): Maximum load value exceeds 10 kilograms.

C. Impact Resistance (ASTM D 2794): Maximum impact force exceeds 30 inch-pounds.

D. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 75 or less.
2. Smoke-Developed Index: 450 or less.

E. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA); CAC, Title 24, 2022 CBC Chapters 10 & 11B and with code provisions as adopted by authorities having jurisdiction.

2.2 SOLID COLOR REINFORCED COMPOSITE (SCRC) SUBSTRATE TOILET COMPARMENTS

A. Products: Subject to compliance with requirements, provide the following:

1. Bobrick Washroom Equipment, Inc; Sierra Series SCRC 2096G.67P
2. Or approved equal

B. Materials: Solid color reinforced composite (SCRC) material for stiles, panels, doors, and screens with anti-graffiti coating, thermoset and integrally fused into homogenous piece; high density polyethylene (HDPE), high density polypropylene not acceptable.

1. Composition: Dyes, organic fibrous material, and polycarbonate/phenolic resins.

2. Surface Treatment: Non-ghosting, graffiti resistant surface integrally bonded to core through a manufacturing steps requiring thermal and mechanical pressure.
3. Edges: Same color as the surface.
4. Color: As selected by Architect from manufacturer's full range of colors

C. Toilet-Enclosure Style: Floor-to-ceiling with satin finish, extruded anodized aluminum headrails, 0.065 inch (1.65 mm) thick with anti-grip profile.

1. Doors and dividing panel height. Mount doors and dividing panels based on height of specified system.
   a. Door and Panel Height: as indicated on Drawings.

D. Urinal-Screen Style, 1095: Wall hung.

1. Screen Height: 81 inches x 12 inches.

E. Door, Panel, Screen, and Pilaster Construction: Solid SCRC-core panel material. Provide minimum 3/4-inch- thick doors and pilasters and minimum 1/2-inch- thick panels.

F. Privacy Style Partitions: No sightlines with gap-free interlocking doors and stiles routed 0.300 inches (7.6 mm) from the edge to allow for 0.175 inch (4.4 mm) overlap to prevent line-of-sight into the toilet compartment. Privacy strips fastened or adhered onto the partition material are not acceptable.

G. Pilaster Shoes and Sleeves (Caps): Formed from stainless steel sheet, not less than 0.031-inch nominal thickness and 3 inches high, finished to match hardware.

H. Stiles: Floor-anchored stiles furnished with expansion shields and threaded rods.

1. Leveling Devices: 7 gauge, 3/16 inches (5 mm) thick, corrosion-resistant, chromate-treated, double zinc-plated steel angle leveling bar bolted to stile; furnished with 3/8 inch (10 mm) diameter threaded rods, hex nuts, lock washers, flat washers, spacer sleeves, expansion anchors, and shoe retainers.
2. Stile Shoes: One-piece, 22 gauge (0.8 mm), 18-8, Type 304 stainless steel, 4 inch (102 mm) height; tops with 90 degree return to stile. One-piece shoe capable of adapting to 3/4 inch (19 mm) or 1 inch (25 mm) stile thickness and capable of being fastened (by clip) to stiles starting at wall line.

I. Wall Posts: Pre-drilled for door hardware, 18-8, Type 304, 16 gauge (1.6 mm) stainless steel with satin finish; 1 inch (25 mm) x 1-1/2 inches (38 mm) x 58 inches high (1473 mm).

J. Anchors: Expansion shields and threaded rods at floor connections as applicable. Threaded rods secured to supports above ceiling as applicable. Supports above ceiling furnished and installed as Work of Section 055000 - Metal Fabrications.

2.3 HARDWARE AND ACCESSORIES

A. Hardware and Accessories: Manufacturer's heavy-duty operating industrial hardware and accessories. Chrome-plated “Zamak” aluminum. Extruded plastic hardware not acceptable.

1. Compliance: Operating force of less than 5 lb (2.25 kg).
2. Emergency Access: Hinges, door latch allow door to be lifted over keeper from outside compartment on inswing doors.
3. Materials: 18-8, Type 304, heavy-gauge stainless steel with satin finish.
4. Doorstops: Prevents inswinging doors from swinging out beyond stile; on outswing doors, doorstop prevents door from swinging in beyond stile.
5. Fastening: Hardware secured to door and stile by through-bolted, theft-resistant, pin-in-head Torx stainless steel machine screws into factory-installed, threaded brass inserts. Fasteners secured directly into core not acceptable.

    a. Threaded Brass Inserts: Factory-installed; withstand direct pull force exceeding 1500 lb (680 kg) per insert.

6. Clothes Hooks: Projecting no more than 1-1/8 inch (29 mm) from face of door.
7. Door Latch: Track of door latch prevents inswing doors from swinging out beyond stile; on outswing doors, door keeper prevents door from swinging in beyond stile; 16 gauge (1.6 mm) sliding door latch, 14 gauge (2 mm) keeper.
8. Door Pull: At accessible compartment doors, provide one on each side of the door.
9. Locking: Door locked from inside by sliding door latch into keeper.
10. Hinge Type:

    a. Full-Height Institutional Hinge.

        1) Hinges: 16 gauge (1.6 mm) stainless steel, self-closing, 3 section continuous hinges.

11. Mounting Brackets:

    a. Full-Height Continuous.

        1) Mounting Brackets: 18 gauge (1.2 mm) stainless steel and extend full height of panel.
        2) U-Channels: Secure panels to stiles.
        3) Angle Brackets: Secure stiles-to-walls and panels to walls.

B. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

A. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304, stretcher-leveled standard of flatness.

B. Stainless Steel Castings: ASTM A743/A743M.

C. Zamac: ASTM B86, commercial zinc-alloy die castings.

2.5 FABRICATION

A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Floor-to-ceiling Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

C. Door Size and Swings: Unless otherwise indicated, provide 24-inch- wide in-swinging doors for standard toilet compartments and 36-inch- wide out-swinging doors with a minimum 32-inch- wide clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.

1. Confirm location and adequacy of blocking and supports required for installation.

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

3.2 INSTALLATION

A. General: Comply with manufacturer's written installation instructions.

1. Verify blocking and supports in walls and ceilings has been installed properly at points of attachment.
2. Verify location does not interfere with door swings or use of fixtures.
3. Use fasteners and anchors suitable for substrate and project conditions
4. Install units rigid, straight, plumb, and level.

5. Conceal evidence of drilling, cutting, and fitting to room finish.
6. Test for proper operation.

B. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels: 1/2 inch.
b. Panels and Walls: 1 inch.

2. Full-Height Continuous Brackets: Secure panels to walls and to pilasters with full-height brackets.

a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
b. Align brackets at pilasters with brackets at walls.

C. Floor-to-ceiling Units: Set pilasters with anchors penetrating not less than 2 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.

D. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING, CLEANING AND PROTECTION

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

B. Touch-up, repair or replace damaged products.

C. Clean exposed surfaces of compartments, hardware, and fittings.

END OF SECTION 102113.17

SECTION 22 00 50 - BASIC PLUMBING MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Valve boxes.
2. Access Doors.
3. Expansion loops.
4. Insulation.

1.2 RELATED REQUIREMENTS

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

B. This Section is a part of each Division 22 Section.

1.3 ADDITIONAL REQUIREMENTS

A. Furnish and install any incidental work not shown or specified which is necessary to provide a complete and workable system.

B. Make all temporary connections required to maintain services during the course of this Contract without additional cost to the Owner. Notify the Owner seven days in advance before disturbing any service.

C. Plumbing work done under this contract shall not adversely affect the operation of the existing plumbing systems.

1.4 REFERENCES AND STANDARDS

A. Where material or equipment is specified to conform to referenced standards, it shall be assumed that the most recent edition of the standard in effect at the time of bid shall be used.

1. CSA – Canadian Standards Association International.
2. ANSI - American National Standards Institute.
3. ASTM - American Society for Testing and Materials.
4. CCR - California Code of Regulations.

a. Title 8 - Division of Industrial Safety, Subchapter 7; General Industry Safety Orders, Articles 31 through 36.

5. NCPWB - National Certified Pipe Welding Bureau.
6. CEC - California Electrical Code.
7. NEMA - National Electrical Manufacturers' Association.
8. NFPA - National Fire Protection Association.
9. OSHA - Occupational Safety and Health Act.

10. UL - Underwriters' Laboratories, Inc.

B. Requirements of Regulatory Agencies:

1. The publications listed below form part of this specification; comply with provisions of these publications except as otherwise shown or specified.
   a. California Building Code, 2022.
   b. California Electrical Code, 2022.
   c. California Energy Code, 2022.
   d. California Fire Code, 2022.
   e. California Green Building Standards Code, 2022.
   f. California Mechanical Code, 2022.
   g. California Plumbing Code, 2022.
   h. California Code of Regulations, Title 24.
   i. California Health and Safety Code.
   j. CAL-OSHA.
   k. California State Fire Marshal, Title 19 CCR.
   l. National Fire Protection Association.
   m. Occupational Safety and Health Administration.
   n. Other applicable state laws.

2. Nothing in Drawings or specifications shall be construed to permit work not conforming to these codes, or to requirements of authorities having jurisdiction. It is not the intent of Drawings or specifications to repeat requirements of codes except where necessary for clarity.

1.5 DRAWINGS

A. Examine Contract Documents prior to bidding of work and report discrepancies in writing to Architect.

B. Drawings showing location of equipment and materials are diagrammatic and job conditions will not always permit installation in location shown. The Plumbing Drawings show general arrangement of equipment and materials, etc., and shall be followed as closely as existing conditions, actual building construction, and work of other trades permit.

1. Architectural and Structural Drawings shall be considered part of the Work. These Drawings furnish Contractor with information relating to design and construction of the Project. Architectural Drawings take precedence over Plumbing Drawings.
2. Because of the small scale of Plumbing Drawings, not all offsets, fittings, and accessories required are shown. Investigate structural and finish conditions affecting the Work and arrange Work accordingly. Provide offsets, fittings, and accessories required to meet conditions. Inform Architect immediately when job conditions do not permit installation of equipment and materials in the locations shown. Obtain the Architects approval prior to relocation of equipment and materials.
3. Relocate equipment and materials installed without prior approval of the Architect. Remove and relocate equipment and materials at Contactors' expense upon Architects' direction.

4. Minor changes in locations of equipment, piping, etc., from locations shown shall be made when directed by the Architect at no additional cost to the Owner providing such change is ordered before such items of work, or work directly connected to same are installed and providing no additional material is required.

C. Execute work mentioned in Specifications and not shown on Drawings, or vice versa, the same as if specifically mentioned or shown in both.

1.6 FEES AND PERMITS

A. Obtain and pay for all permits and service required in installation of this work; arrange for required inspections and secure approvals from authorities having jurisdiction. Comply with requirements of Division 01.

B. Arrange for utility connections and pay charges incurred, including excess service charges.

1. Bear the cost of construction related to utility services, from point of connection to utility services shown on Contract Documents. This includes piping, excavation, backfill, meters, boxes, check valves, backflow prevention devices, general service valves, concrete work, and the like, whether or not Work is performed by Contractor, local water/sanitation district, public utility, other governmental agencies or agencies' assigns.

C. Coordination:

1. General:

a. Coordinate plumbing Work with trades covered in other Specifications Sections to provide a complete, operable and sanitary installation of the highest quality workmanship.

2. Electrical Coordination:

a. Refer to the Electrical Drawings and Specifications, Division 26, for service voltage and power feed wiring for equipment specified under this section. Contractor has full responsibility for the following items of work:

1) Review the Electrical Drawings and Division 26 Specifications to verify that electrical services provided are adequate and compatible with equipment requirements.
2) If additional electrical services are required above that indicated on Electrical Drawings and in Division 26, such as more control interlock conductors, larger feeder, or separate 120 volt control power source, include cost to furnish and install additional electrical services as part of the bid.
3) Prior to proceeding with installation of additional electrical work, submit detailed drawings indicating exact scope of additional electrical work.

3. Mechanical Coordination:

a. Arrange for pipe spaces, chases, slots and openings in building structure during progress of construction, to accommodate mechanical system installation.
b. Coordinate installation of supporting devices. Set sleeves in poured-in-place concrete and other structural components during progress of construction.
c. Coordinate requirements for access panels and doors for mechanical items requiring access where concealed behind finished surfaces. Access panels and doors are specified in Division 08 Section “Access Doors and Frames.”
d. Coordinate with other trades equipment locations, pipe, duct and conduit runs, electrical outlets and fixtures, air inlets and outlets, and structural and architectural features. Provide information on location of piping and seismic bracing to other trades as required for a completely coordinated project.

1.7 SUBMITTALS - GENERAL

A. Refer to Division 01 Submittals Section(s) for additional requirements.

B. Submittal packages may be submitted via email as PDF electronic files, or as printed packages. PDFs shall be legible at actual size (100 percent). Provide seven copies of printed submittal packages.

C. Provide submittal of materials proposed for use as part of this Project. Product names in Specifications and on Drawings are used as standards of quality. Furnish standard items on specified equipment at no extra cost to the Contract regardless of disposition of submittal data. Other materials or methods shall not be used unless approved in writing by Architect. Architect's review will be required even though "or equal" or synonymous terms are used.

1. Partial or incomplete submittals will not be considered.
2. Quantities are Contractor's responsibility and will not be reviewed.
3. Provide materials of the same brand or manufacturer for each class of equipment or material.
4. Identify each item by manufacturer, brand, trade name, number, size, rating, or other data necessary to properly identify and review materials and equipment. Words "as specified" are not sufficient identification.
5. Identify each submittal item by reference to items’ Specification Section number and paragraph, by Drawing and detail number, and by unit tag number.
6. Organize submittals in same sequence as in Specification Sections.
7. Show physical arrangement, construction details, finishes, materials used in fabrications, provisions for piping entrance, access requirements for installation and maintenance, physical size, mechanical characteristics, foundation and support details, and weight.

a. Submit Shop Drawings, performance curves, and other pertinent data, showing size and capacity of proposed materials.
b. Specifically indicate, by drawn detail or note, that equipment complies with each specifically stated requirement of Contract Documents.
c. Drawings shall be drawn to scale and dimensioned (except schematic diagrams). Drawings may be prepared by vendor but must be submitted as instruments of Contractor, thoroughly checked and signed by Contractor before submission to Architect for review.

d. Catalog cuts and published material may be included with supplemental scaled drawings.

D. Review of submittals will be only for general conformance with design concept and general compliance with information given in Contract Documents. Review will not include quantities, dimensions, weights or gauges, fabrication processes, construction methods, coordination with work of other trades, or construction safety precautions, which are sole responsibility of Contractor. Review of a component of an assembly does not indicate acceptance of an assembly. Deviations from Contract Documents not clearly identified by Contractor are Contractor's responsibility and will not be reviewed by Architect.

E. Within reasonable time after award of contract and in ample time to avoid delay of construction, submit to Architect Shop Drawings or submittals on all items of equipment and materials provided. Provide submittal in at least seven copies and in complete package.

1. Shop Drawings and submittals shall include Specification Section, Paragraph number, and Drawing unit symbol or detail number for reference. Organize submittals into booklets for each Specification section and submit in loose-leaf binders with index. Deviations from the Contract Documents shall be prominently displayed in the front of the submittal package and referenced to the applicable Contract requirement.

F. Furnish to the Project Inspector complete installation instructions on material and equipment before starting installation.

1.8 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's technical product data and installation instructions for plumbing systems materials and products.

B. Shop Drawings.

C. Pipe, pipe or plumbing fittings, fixtures, solder and flux installed in a system providing water for human consumption shall comply with lead free requirements of the California Health and Safety Code Section 116875. Provide submittal information for products third-party certified by an approved laboratory as complying with California Health and Safety Code Section 116875.

D. Delegated-Design Submittals: For seismic supports, anchorages, restraints, and vibration isolators indicated to comply with performance requirements and design criteria.

1. Calculations performed for use in selection of seismic supports, anchorages, and restraints shall utilize criteria indicated in Structural Contract Documents.
2. Include design calculations and details for selecting vibration isolators and vibration isolation bases complying with performance requirements, design criteria, and analysis data signed and sealed by the California registered structural engineer responsible for their preparation.
3. Supports, anchorages and restraints for piping, ductwork, and equipment shall be an OSHPD pre-approved system such as TOLCO, ISAT, Mason, or equal. Pipes, ducts and equipment shall be seismically restrained in accordance with requirements of

current edition of California Building Code. System shall have current OPM number and shall meet additional requirements of authority having jurisdiction. Provide supporting documentation required by the reviewing authority and the Architect and Engineer. Provide layout drawings showing piping, ductwork and restraint locations.

a. Bracing of Piping and Equipment: Specifically state how bracing attachment to structure is accomplished. Provide shop drawings indicating seismic restraints, including details of anchorage to building. In-line equipment must be braced independently of piping, and in conformance with applicable building codes. Provide calculations to show that pre-approval numbers have been correctly applied in accordance with general information notes of pre-approval documentation. Gas pipe bracing shall be designed in accordance with California Building Code Section 1615A.1.22 and ASCE 7-10 Section 13.6. Coefficient I_p = 1.5 shall be used for gas piping bracing calculations.
b. In lieu of the above or for non-standard installations not covered in the above pre-approved systems, Contractor shall provide layout drawings showing piping, ductwork, and restraint locations, and detail supports, attachments and restraints, and furnish supporting calculations and legible details sealed by a California registered structural engineer, in accordance with California Building Code

4. Additional Requirements: In addition to the above, conform to all state and local requirements.

1.9 INFORMATIONAL SUBMITTALS

A. Provide layouts for plumbing systems, for inclusion in coordinated layout specified in Section 23 80 00. Comply with requirements for layouts specified in Section 23 80 00.

1.10 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:

1. Refer to Division 01 for complete instructions.
2. Furnish three complete sets of Operation and Maintenance Manual bound in hardboard binder, and one compact disc containing complete Operation and Maintenance Manual in searchable PDF format. Provide Table of Contents. Provide index tabs for each piece of equipment in binder and disc. Begin compiling data upon approval of submittals.

a. Sets shall incorporate the following:

1) Product Data.
2) Shop Drawings.
3) Record Drawings.
4) Service telephone number, address and contact person for each category of equipment or system.
5) Complete operating and maintenance instructions for each item of plumbing equipment and systems.
6) Copies of guarantees/warrantees for each item of equipment and systems.
7) Test data and system balancing reports.

8) Typewritten maintenance instructions for each item of equipment listing lubricants to be used, frequency of lubrication, inspections required, adjustment, etc.
9) Manufacturers' bulletins with parts numbers, instructions, etc., for each item of equipment.
10) Control diagrams and literature.
11) A complete list or schedule of all scheduled valves giving the number of the valve, location and the rooms or area controlled by the valve. Identify each valve with a permanently attached metal tag stamped with number to match schedule. Post list in frame under plastic on wall in mechanical room or where directed by Architect.
12) Check test and start reports for each piece of plumbing equipment provided as part of the Work.
13) Commissioning and Preliminary Operation Tests required as part of the Work.

b. Post service telephone numbers and/or addresses in an appropriate place as designated by the Architect.

B. Record Drawings:

1. Refer to Division 01, Record Documents, for requirements governing Work specified herein.
2. Upon completion of the work, deliver to Architect the following:

a. Originals of drawings showing the Work exactly as installed.
b. One complete set of reproducible drawings showing the Work exactly as installed.
c. One compact disc with complete set of drawings in PDF format showing the Work exactly as installed.
d. Provide Contractor’s signature, verifying accuracy of record drawings.
e. Obtain the signature of the Project Inspector for all record drawings.

1.11 SUBSTITUTIONS

A. Refer to Division 01 for complete instructions. Requirements given below are in addition to or are intended to amplify Division 01 requirements. In the case of conflict between requirements given herein and those of Division 01, Division 01 requirements shall apply.

B. It is the responsibility of Contractor to assume costs incurred because of additional work and or changes required to incorporate proposed substitute into the Project. Refer to Division 01 for complete instructions.

C. Substitutions will be interpreted to be all manufacturers other than those specifically listed in the Contract Documents by brand name, model or catalog number.

D. Only one request for substitution will be considered for each item of equipment or material.

E. Substitution requests shall include the following:

1. Reason for substitution request.
2. Complete submittal information as described herein; see “Submittals.”
3. Coordinated scale layout drawings depicting position of substituted equipment in relation to other work, with required clearances for operation, maintenance and replacement.
4. List optional features required for substituted equipment to meet functional requirements of the system as indicated in Contract Documents.
5. Explanation of impact on connected utilities.
6. Explanation of impact on structural supports.

F. Installation of reviewed substitution is the Contractors’ responsibility. Any mechanical, electrical, structural, or other changes required for installation of reviewed substituted equipment or material must be made by the Contractor without additional cost to the Owner. Review by the Architect of the substituted equipment or material, including dimensioned Drawings will not waive these requirements.

G. Contractor may be required to compensate the Architect for costs related to substituted equipment or material.

1.12 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of plumbing systems products, of types, materials, and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Contractor's Qualifications: Firm with at least 5 years of successful installation experience on projects with plumbing systems work similar to that required for this Project.

C. California Health and Safety Code Compliance: For products covered under the scope of HSC 116875 for potable water service. Products for potable water service shall be third-party certified by an approved laboratory as complying with California Health and Safety Code Section 116875.

D. Comply with applicable portions of California Plumbing Code pertaining to selection and installation of plumbing materials and products.

E. All materials and products shall be new and shall match existing.

1.13 DELIVERY, STORAGE, AND HANDLING

A. Protect equipment and piping delivered to Project site from weather, humidity and temperature variations, dirt, dust and other contaminants.

1.14 FIELD CONDITIONS

A. Contractor shall visit Project site and examine existing conditions in order to become familiar with Project scope. Verify dimensions shown on Drawings at Project site. Bring discrepancies

to the attention of Architect. Failure to examine Project site shall not constitute basis for claims for additional work because of lack of knowledge or location of hidden conditions that affect Project scope.

B. Information on Drawings relative to existing conditions is approximate. Deviations from Drawings necessary during progress of construction to conform to actual conditions shall be approved by the Architect and shall be made without additional cost to the Owner. The Contractor shall be held responsible for damage caused to existing services. Promptly notify the Architect if services are found which are not shown on Drawings.

1.15 WARRANTY

A. Refer to Division 01 for warranty requirements, and duration and effective date of Contractor's Standard Guarantee.

B. Repair or replace defective work, material, or part that appears within the warranty period, including damage caused by leaks.

C. On failure to comply with the warranty requirements within a reasonable length of time after notification is given, the Architect/Owner shall have the repairs made at the Contractor's expense.

PART 2 - PRODUCTS

2.1 GENERAL

A. Materials or equipment of the same type shall be of the same brand wherever possible. All materials shall be new and in first class condition.

B. All sizes, capacities, and efficiency ratings shown are minimum, except that gas capacity is maximum available.

C. Refer to Sections 22 10 00 and 23 80 00 for specific system piping materials.

2.2 MATERIALS AND PRODUCTS

A. No material installed as part of this Work shall contain asbestos.

B. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).

2.3 VALVE BOXES

A. General:

1. Where several valves or other equipment are grouped together, provide larger boxes of rectangular “vault” type adequately sized for condition and similar in construction to those specified above.
2. Provide valve box extensions as required to set bottom of valve box tight up to top of piping in which valve is installed.
3. Provide a tee handle wrench for each size, Alhambra Foundry Co. #A-3008, or equal.

B. Valve Boxes in Traffic Areas: Provide Christy No. G5 traffic valve box, Brooks, or equal, 10-3/8 inches inside diameter with extensions to suit conditions, with cast iron or steel locking cover. Provide Owner with set of special wrenches or tools as required for operation of valves.

C. Valve Boxes in Non-Traffic Areas: Provide Christy No. F22, Brooks, or equal, 8 inches inside diameter by 30 inches long, with cast iron or steel locking cover. Provide Owner with set of special wrenches or tools as required for operation of valves. Cut bottom of plastic body for operation of valves.

D. Valve Box (Rectangular Vault Type): Precast concrete or cast iron with cast iron or steel locking type covers lettered to suit service – Brooks No. 3-TL, Christy No. B3, Fraser No. 3, Alhambra A-3004 or A-3005, Alhambra E-2202, or E-2702, or equal, with extension to suit conditions.

2.4 ACCESS DOORS

A. Where floors, walls, or ceilings must be penetrated for access to mechanical equipment, provide access doors, 14 inch by 14 inch minimum size in usable opening. Where entrance of a serviceman may be required, provide 20 inch by 30 inch minimum usable opening. Locate access doors/panels for non-obstructed and easy reach.

1. All access doors less than 7'-0" above floors and exposed to public access shall have keyed locks.

B. Access doors shall match those supplied in Division 08 in all respects, except as noted herein.

C. Provide stainless steel access doors for use in toilet rooms, shower rooms, kitchens and other damp areas. Provide steel access doors with prime coat of baked-on paint for all other areas.

D. Do not locate access doors in highly visible public areas such as lobbies, waiting areas, and primary entrance areas. Coordinate with the Architect when access is required in these areas.

E. Where specific information or details relating to access panels different from the above is shown or given on the Drawings or other Divisions of work, then that information shall supersede this specification.

F. Manufacturers: Subject to compliance with requirements, available manufacturers offering products which may be incorporated into the Work include Milcor, Karp, Nystrom, or Cesco, equal to the following:

1. Milcor

a. Style K (plaster).
b. Style DW (gypsum board).
c. Style M (Masonry).
d. Style "Fire Rated" where required.

2.5 THERMAL AND SEISMIC EXPANSION LOOPS

A. Manufactured assembly consisting of inlet and outlet elbow fittings, two sections of flexible metal hose and braid, and 180-degree return bend. Return bend section shall have support lug and plugged FPT drain. Flexible hose shall consist of corrugated metal inner hose and braided metal outer sheath. Assemblies shall be constructed from materials compatible with the fluid or gas being conveyed and shall be suitable for the system operating pressure and temperature. Provide assembly selected for 4 inches of movement.

B. Provide CSA certified expansion loops for use in natural or propane gas piping systems.

C. Basis-of-Design Product: Subject to compliance with requirements, provide Metraflex Inc., Metraloop series, or comparable product by one of the following, or equal:

1. Flexicraft Industries.

2.6 PIPE IDENTIFICATION

A. Identify each piping system and indicate the direction of flow by means of Seton, Inc., Marking Services Inc., Reef Industries, Inc., or equal, pre-tensioned, coiled semi-rigid plastic pipe labels formed to circumference of pipe, requiring no fasteners or adhesive for attachment to pipe.

B. The legends and flow arrows shall conform to ASME A13.1.

2.7 INSULATION WORK

A. General:

1. For insulating domestic hot water pumps, refer to Section 225000, Plumbing Equipment,
2. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).
3. Adhesives and sealants shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.
4. The term "piping" used herein includes pipe, valves, strainers and fittings.
5. Apply insulating cement to fittings, valves and strainers and trowel smooth to the thickness of adjacent covering. Cover with jacket to match piping. Extend covering on valves up to the bonnet. Leave strainer cleanout plugs accessible.
6. Provide pre-formed PVC valve and fitting covers.
7. Provide Calcium Silicate rigid insulation and sheet metal sleeve, 18 inch minimum length at each pipe hanger. Seal ends of insulation to make vapor tight with jacket.

8. Test insulation, jackets and lap-seal adhesives as a composite product and confirm flame spread of not more than 25 and a smoke developed rating of not more than 50 when tested in accordance with UL723 or ASTM E84.
9. Clean thoroughly, test and have approved, all piping and equipment before installing insulation and/or covering.
10. Repair all damage to existing pipe and equipment insulation whether or not caused during the work of this contract, to match existing adjacent insulation for thickness and finish, but conforming to flame spread and smoke ratings specified above.

B. Insulation of Piping:

1. Insulate domestic hot and tempered water with minimum 3-1/2 pounds per cubic foot density fiberglass with ASJ-SSL jacket. Insulation thickness shall be the following:

    a. Pipe 3/4 inches and smaller: 1 inch thick.
    b. Pipe 1 inch through 1-1/2 inches: 1-1/2 inches thick.
    c. Pipe 2 inches and larger: 2 inches thick.

2. Insulate domestic hot water piping under slab on grade with Owens Corning Foamglas, preformed pipe insulation, or equal. Inorganic, incombustible, foamed or cellulated glass with annealed, rigid, hermetically sealed cells. Cover pipe and fittings with insulation manufacturer’s recommended jacketing. Insulation thickness shall be the following:

    a. Pipe 3/4 inches and smaller: 2 inches thick.
    b. Pipe 1 inch and larger: 3 inches thick.

3. Insulate domestic cold water piping located within building, outside of insulation envelope in outside walls, vented attic spaces, and unheated spaces, including equipment rooms and below raised floor with 1 inch thick molded fiberglass, minimum 3-1/2 pound per cubic foot density, with ASJ-SSL jacket.
4. Insulate domestic cold water piping located outside building exposed to weather with minimum 3-1/2 pounds per cubic foot density fiberglass with ASJ-SSL jacket. Insulation thickness for all pipe sizes: 2 inches.
5. Insulate roof drain and overflow drain bodies, horizontal sections of rainwater leader piping and overflow piping, and condensate drains within the building envelope with 1 inch thick fiberglass, minimum 3-1/2 pound per cubic foot density, with ASJ-SSL jacket.
6.
7. Exposed insulated piping within the building shall have a Zeston 2000 25/50, Proto Lo-Smoke, or equal, PVC jacket and fitting cover installed over the insulation, applied per manufacturer's instructions. Insulation shall be vapor tight before applying PVC jacket and fitting covers. Verify suitability with manufacturer of insulation. Insulation with pre-applied polymer jacket may be substituted at Contractor’s option.
8. Where insulated piping is exposed to the weather apply aluminum jacket secured with 1/2 inch stainless-steel bands on 12 inch centers. Insulation shall be vapor tight before applying metal jacket, and aluminum fitting covers. Install jacketing with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation

manufacturer. Cover fittings with glass cloth, two coats of Foster Sealfas 30-36, and factory-fabricated aluminum fitting covers, of same material, finish, and thickness as jacket. Insulation shall be vapor tight before applying metal jacket and fitting covers.

a. Fitting covers:

1) Preformed 2-piece or gore, 45- and 90-degree, short- and long-radius elbows.
2) Tee covers.
3) Flange and union covers.
4) End caps.
5) Beveled collars.
6) Valve covers.
7) Field fabricate fitting covers only if factory-fabricated fitting covers are not available.

b. Jacket thickness:

1) Pipes 10 inches diameter and smaller: Minimum .016 inch thick jacket with smooth finish.
2) Pipes 12 inches diameter and larger: Minimum .020 inch thick jacket with smooth finish.

PART 3 - EXECUTION

3.1 EXISTING MATERIALS

A. Remove existing equipment, piping, wiring, construction, etc., which interferes with Work of this Contract. Promptly return to service upon completion of work in the area. Replace items damaged by Contractor with new material to match existing.

B. Removed materials which will not be re-installed and which are not claimed by Owner shall become property of Contractor and shall be removed from Project site. Consult Owner before removing any material from Project site. Carefully remove materials claimed by Owner to prevent damage and deliver to Owner-designated storage location.

C. Existing piping and wiring not reused and are concealed in building construction may be abandoned in place and all ends shall be capped or plugged. Remove unused piping and wiring exposed in Equipment Rooms or occupied spaces. Material shall be removed from Project premises. Disconnect power, water, gas, pump or any other active energy source from piping or electrical service prior to abandoning in place.

D. Existing piping, ductwork, and equipment modified or altered as part of this Work shall comply with the most recent applicable code requirements.

3.2 FRAMING, CUTTING AND PATCHING

A. Special framing, recesses, chases and backing for Work of this Section, unless otherwise specified, are covered under other Specification Sections.

B. Contractor is responsible for placement of pipe sleeves, hangers, inserts, supports, and location of openings for the Work.

C. Cutting, patching, and repairing of existing construction to permit installation of equipment, and materials is the responsibility of Contractor. Repair or replace damage to existing work with skilled mechanics for each trade.

D. Cut existing concrete construction with a concrete saw. Do not utilize pneumatic devices.

E. Core openings through existing construction for passage of new piping and conduits. Cut holes of minimum diameter to suit size of pipe and associated insulation installed. Coordinate with building structure, and obtain Structural Engineer's approval prior to coring through existing construction.

3.3 PLUMBING DEMOLITION

A. Refer to Division 01 Sections “Cutting and Patching” and “Selective Demolition” for general demolition requirements and procedures.

B. Disconnect, dismantle and remove mechanical systems, equipment, and components indicated to be removed. Coordinate with all other trades.

1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping to remain with same or compatible piping material. Refrigerant system must be evacuated per EPA requirements.
3. Equipment to Be Removed: Drain down and cap remaining services and remove equipment.
4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.4 ELECTRICAL REQUIREMENTS

A. Provide adequate working space around electrical equipment in compliance with the California Electrical Code. Coordinate the Mechanical Work with the Electrical Work to comply.

B. Furnish necessary control diagrams and instructions for the controls. Before permitting operation of any equipment which is furnished, installed, or modified under this Section, review all associated electrical work, including overload protection devices, and assume complete responsibility for the correctness of the electrical connections and protective devices. Motors and control equipment shall conform to the Standards of the National Electrical Manufacturers' Association. All equipment and connections exposed to the weather shall be NEMA IIIR with factory-wired strip heaters in each starter enclosure and temperature control panel where required to inhibit condensation.

C. All line voltage and low voltage wiring and conduit associated with the Temperature Control System are included in this Section. Wiring and conduit shall comply with Division 26.

3.5 PIPING SYSTEM REQUIREMENTS

A. Drawing plans, schematic and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

3.6 PRIMING AND PAINTING

A. Perform priming and painting on the equipment and materials as specified herein.

B. See Division 09 Painting Section(s) for detailed requirements.

C. Priming and Painting:

1. Exposed ferrous metals, including piping, which are not galvanized or factory-finished shall be primed and painted.

    a. Black Steel Piping:

        1) Primer: One coat gray Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, comparable products by Rust-Oleum, Kelly Moore, or equal.
        2) Topcoat: Two coats gray Sherwin-Williams Pro Industrial Waterbased Alkyd Urethane Enamel, comparable products by Rust-Oleum, Kelly Moore, or equal.

2. Metal surfaces of items to be jacketed or insulated except piping shall be given two coats of primer unless furnished with equivalent factory finish. Items to be primed shall be properly cleaned by effective means free of rust, dirt, scale, grease and other deleterious matter and then primed with the best available grade of zinc rich primer. After erection or installation, all primed surfaces shall be properly cleaned of any foreign or deleterious matter that might impair proper bonding of subsequent paint coatings. Any abrasion or other damage to the shop or field prime coat shall be properly repaired and touched up with the same material used for the original priming.
3. Where equipment is provided with nameplate data, the nameplate shall be masked off prior to painting. When painting is completed, remove masking material.

3.7 EXCAVATING

A. Perform all excavating required for work of this Section. Provide the services of a pipe/cable locating service prior to excavating activities to determine location of existing utilities.

B. Unless shown otherwise, provide a minimum of 2'-6" cover above top of pipe to finished grade for all service piping, unless otherwise noted. Trim trench bottom by hand or provide a 4 inch deep minimum bed of sand to provide a uniform grade and firm support throughout entire length of pipe. For all PVC pipe and for PE gas pipe, bed the pipe in 4 inch sand bed. Pipe bedding materials should be clean crushed rock, gravel or sand of which 100 percent will pass a 1 inch sieve. For pipes that are larger than 10 inches in diameter, at least 95 percent should pass a 3/4 inch sieve, and for pipes 10 inches in diameter or smaller, 100 percent should pass a 1/2 inch sieve. All other materials should have a minimum sand equivalent of 50. Only a small proportion of the native soils will meet these requirements without extensive processing; therefore, importation of pipe bedding materials should be anticipated. Pipe bedding materials shall be compacted in lifts not exceeding 6 inches in compacted thickness. Each lift shall be compacted to not less than 90 percent relative compaction at or above the optimum moisture content, in accordance with ASTM Specification D2940, except that bedding materials graded such that 100 percent of the material will pass a No. 200 sieve shall be compacted in 6 inch lifts using a single pass of a flat-plate, vibratory compactor or vibratory drum. Pipe bedding materials should extend at least to the spring line.

C. Maintain all warning signs, barricades, flares, and red lanterns as required.

D. For all trenches 5 feet or more in depth, submit copy of permit detailed drawings showing shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trenches. Obtain a permit from the Division of Industrial Safety prior to beginning excavations. A copy of the permit shall be available at the site at all times.

3.8 BACKFILLING

A. Backfill shall comply with applicable provisions of Division 31 of these Specifications.

B. Except under existing or proposed paved areas, walks, roads, or similar surfaces, backfill for other types of pipe shall be made using suitable excavated material or other approved material. Place backfill in 8 inch layers, measured before compaction, and compact with impact hammer to at least 90 percent relative compaction per ASTM D2940.

1. Backfill plastic pipe and insulated pipe with sand for a minimum distance of 12 inches above the top of the pipe. Compact using mechanical tamping equipment.

C. Entire backfill for excavations under existing or proposed pavements, walks, roads, or similar surfaces, under new slabs on grade, shall be made with clean sand compacted with mechanical tamping equipment vibrator to at least 90 percent relative compaction per ASTM D2940. Remove excess earth. Increase the minimum compaction within the uppermost two feet of backfill to 95 percent.

D. Replace or repair to its original condition all sod, concrete, asphalt paving, or other materials disturbed by the trenching operation. Repair within the guarantee period as required.

3.9 PIPING SYSTEMS INSTALLATION

A. At time of final connection, and prior to opening valve to allow pressurization of water and gas piping from existing systems, on site or off site, perform a pressure test to indicate static pressure of existing systems. If pressure on water piping is greater than 80 psi, or gas pressure is not as indicated on Contract Documents, inform Architect immediately. Do not allow piping systems to be pressurized without written consent of the Architect.

B. General:

1. All piping shall be concealed unless shown or otherwise directed. Allow sufficient space for ceiling panel removal.
2. Installation of piping shall be made with appropriate fittings. Bending of piping will not be accepted.
3. Install piping to permit application of insulation and to allow valve servicing.
4. Where piping or conduit is left exposed within a room, the same shall be run true to plumb, horizontal, or intended planes. Where possible, uniform margins are to be maintained between parallel lines and/or adjacent wall, floor, or ceiling surfaces.
5. Horizontal runs of pipes and/or electrical conduit suspended from ceilings shall provide for a maximum headroom clearance. The clearance shall not be less than 6'-6" without written approval from the Architect.
6. Close ends of pipe immediately after installation. Leave closure in place until removal is necessary for completion of installation.
7. Each piping system shall be thoroughly flushed and proved clean before connection to equipment.
8. Install exposed polished or enameled connections with special care showing no tool marks or threads at fittings.
9. Install horizontal valves with valve stem above horizontal.
10. Use reducing fittings; bushings shall not be allowed. Use eccentric reducing fittings wherever necessary to provide free drainage of lines and passage of air.
11. Verify final equipment locations for roughing-in.
12. Service Markers: Mark the location of each plugged or capped pipe with a 4 inch round by 30 inch long concrete marker, set flush with finish grade. Provide 2-1/2 inch diameter engraved brass plate as part of monument marker.
13. Furnish and install anchors or thrust blocks on PVC water lines in the ground, at all changes in direction of piping, and at all connections or branches from mains 1-1/2 inch and larger. Form anchors or thrust blocks by pouring concrete between pipe and trench wall. Thrust blocks shall be of adequate size and so placed as to take thrusts created by maximum internal water pressure. Sizing and placement shall be per manufacturer's recommendations, CPC, and IAPMO installation standards. Anchor piping to building construction.
14. Sanitary Sewer and Storm Drain: Grade piping inside building uniformly 1/4 inch per foot if possible but not less than 1/8 inch per foot. Run piping as straight as possible. Make piping connections between building piping and outside service pipe with cast iron reducers or increasers. Slope sewers uniformly between given elevations where invert elevations are shown.

15. Where piping is installed in walls within one inch of the face of stud, provide a 16 gauge sheet metal shield plate on the face of the stud. The shield plate shall extend a minimum of 1-1/2 inches beyond the outside diameter of the pipe.

C. Expansion Loops:

1. Install expansion loops where piping crosses building expansion or seismic joints, between buildings, between buildings and canopies, and as indicated on Drawings.
2. Install expansion loops of sizes matching sizes of connected piping.
3. Install grooved-joint expansion joints to grooved-end steel piping.
4. Materials of construction and end fitting type shall be consistent with pipe material and type of gas or liquid conveyed by the piping system in which expansion loop is installed.

D. Sleeves:

1. Install Adjus-to-Crete, Pipeline Seal and Insulator, or equal, pipe sleeves of sufficient size to allow for free motion of pipe, 24 gauge galvanized steel. The space between pipe and sleeves through floor slabs on ground, through outside walls above or below grade, through roof, and other locations as directed shall be caulked with oakum and mastic and made watertight. The space between pipe and sleeve and between sleeve and slab or wall shall be sealed watertight.
2. At Contractor's option, Link-Seal, Metraflex Metraseal, or equal, casing seals may be used in lieu of caulking. Wrap pipes through slabs on grade with 1 inch thick fiberglass insulation to completely isolate the pipe from the concrete.

E. Floor, Wall, and Ceiling Plates:

1. Fit all pipes with or without insulation passing through walls, floors, or ceilings, and all hanger rods penetrating finished ceilings with chrome-plated or stainless escutcheon plates.

F. Firestopping:

1. Pack the annular space between the pipe sleeves and the pipe through all floors and walls with UL listed fire stop, and sealed at the ends. All pipe penetrations shall be UL listed, Hilti, 3M Pro-Set, or equal.

    a. Install fire caulking behind mechanical services installed within fire rated walls, to maintain continuous rating of wall construction.

2. Provide SpecSeal Systems UL fire rated sleeve/coupling penetrators for each pipe penetration or fixture opening passing through floors, walls, partitions or floor/ceiling assemblies. All Penetrators shall comply with UL Fire Resistance Directory (Latest Edition), and in accordance with Chapter 7, CBC requirements.
3. Sleeve penetrators shall have a built in anchor ring for waterproofing and anchoring into concrete pours or use the special fit cored hole penetrator for cored holes.
4. Copper and steel piping shall have SpecSeal plugs on both sides of the penetrator to reduce noise and to provide waterproofing.
5. All above Systems to be installed in strict accordance with manufacturer's instructions.

6. Alternate firestopping systems are acceptable if approved equal. However, any deviation from the above specification requires the Contractor to be responsible for determining the suitability of the proposed products and their intended use, and the Contractor shall assume all risks and liabilities whatsoever in connection therewith.

G. Flashing:

1. Flashing for penetrations of metal or membrane roof for mechanical items such as flues and pipes shall be coordinated with the roofing manufacturer and roofing installer for the specific roofing type. The work of this section shall include furnishing, layout, sizing, and coordination of penetrations required for the mechanical work.

    a. Furnish and install flashing and counterflashing in strict conformance with the requirements of the roofing manufacturer. Submit shop drawing details for review prior to installation.
    b. Furnish and install counterflashing above each flashing required. Provide Stoneman, or equal, vandalproof top and flashing combination. Provide vandalproof top for each plumbing vent through roof. Elmdor/Stoneman Model 1540, 1550, 1570, or equal.

2. For all other types of roofing system, furnish and install around each pipe, where it passes through roof, a flashing and counterflashing. All flashing shall be made of four pound seamless sheet lead with 6 inch minimum skirt and steel reinforced boot. Counterflashing shall be cast iron. For vents, provide vandalproof top and flashing combination. Elmdor/Stoneman Model 1100-4, 1100-5, 1100-7, or equal.

H. Hangers and Supports:

1. General: Support equipment and piping so that it is firmly held in place by approved iron hangers and supports and special hangers. Hanger and support components shall support weight of equipment and pipe, fluid, and pipe insulation based on spacing between supports with minimum factor of safety of five based on ultimate strength of material used. Do not exceed manufacturer's load rating. Pipe attachments or hangers, of same size as pipe or tubing on which used, or nearest available. Rigidly fasten hose faucets, fixture stops, compressed air outlets, and similar items to the building construction. The Architect shall approve hanger material before installation. Do not support piping with plumbers' tape, wire rope, wood, or other makeshift devices. Where building structural members do not match piping support spacing, provide “bridging” support members firmly attached to building structural members in a fashion approved by the structural engineer.

    a. Materials, design, and type numbers per Manufacturers' Standardization Society (MSS), Standard Practice (SP)-58.

        1) Provide copper-plated or felt-lined hangers for use on copper tubing.

2. Hanger components shall be provided by one manufacturer: B-Line, Grinnell, Unistrut, Badger, or equal.
3. Riser clamps: B-line model B3373, or equal.
4. Pipe Hanger and Support Placement and Spacing:

a. Vertical piping support spacing: Provide riser clamps for piping, above each floor, in contact with the floor. Provide support at joints, branches, and horizontal offsets. Provide additional support for vertical piping, spaced at or within the following maximum limits:

Pipe Diameter	Steel Threaded or Welded (Note 3)	Steel Gas	Copper Brazed or Soldered (Note 3)	CPVC & PVC (Note 2)
1/2 - 1”	12 ft.	6 ft.	Each Floor, Not to Exceed 10 ft.	Base and Each Floor (Note 1)
1-1/4 - 2”	12 ft.	Each Floor, Not to Exceed 10 ft.	Each Floor, Not to Exceed 10 ft..	Base and Each Floor (Note 1)
2-1/2 - 3”	12 ft.	Each Floor, Not to Exceed 10 ft.	Each Floor, Not to Exceed 10 ft.	Base and Each Floor (Note 1)
Over 4”	12 ft.	Each Floor, Not to Exceed 10 ft.	Each Floor, Not to Exceed 10 ft.	Base and Each Floor (Note 1)

1) Note 1: Provide mid-story guides.
2) Note 2: For PVC piping, provide for expansion every 30 feet per IAPMO installation standard. For CPVC piping, provide for expansion per IAPMO installation standard.
3) Note 3: Spacing of hangers and supports for piping assembled with mechanical joints shall be in accordance with standards acceptable to authorities having jurisdiction.

b. Vertical cast iron piping support spacing: Base and each floor not to exceed 15 feet.

c. Horizontal piping, hanger and support spacing: Locate hangers and supports at each change of direction, within one foot of elbow, and spaced at or within following maximum limits:

Pipe Diameter	Steel Threaded or Welded (Note 2)	Steel Gas	Copper Brazed or Soldered (Notes 2, 3)	CPVC & PVC (Note 1)
1/2 - 1"	6 ft.	6 ft.	5 ft.	3 ft.

1-1/4 - 2"	7 ft.	10 ft.	6 ft.	4 ft.
2-1/2 - 3"	10 ft.	10 ft.	10 ft.	4 ft.
Over 4"	10 ft.	10 ft.	10 ft.	4 ft.

1) Note 1: For PVC piping, provide for expansion every 30 feet per IAPMO installation standard. For CPVC piping, provide for expansion per IAPMO installation standard.
2) Note 2: Spacing of hangers and supports for piping assembled with mechanical joints shall be in accordance with standards acceptable to authorities having jurisdiction.
3) Note 3: Includes all refrigerant piping, including vapor and hot gas pipes.

d. Horizontal cast iron piping support spacing:

1) Support piping at every other joint for piping length of less than 4 feet.
2) For piping longer than 4 feet, provide support on each side of the coupling, within 18 inches of each joint.
3) Hanger shall not be installed on the coupling.
4) Provide support at each horizontal branch connection.
5) Provide sway brace at 40 foot maximum spacing for suspended pipe with no-hub joints, except where a lesser spacing is required by the seismic design criteria. Refer to Article, Submittals. C
6) Provide a brace on each side of a change in direction of 90 degrees or more.

5. Suspended Piping:

a. Individually suspended piping: B-Line B3690 J-Hanger or B3100 Clevis, complete with threaded rod, or equal. All hangers on supply and return piping handling heating hot water or steam shall have a swing connector at point of support.

Pipe Size	Rod Size Diameter
2" and Smaller	3/8"
2-1/2" to 3-1/2"	1/2"
4" to 5"	5/8"
6"	3/4"

b. Trapeze Suspension: B-Line 1-5/8 inch width channel in accordance with manufacturer's published load ratings. No deflection to exceed 1/180 of a span.
c. Trapeze Supporting Rods: Shall have a safety factor of five; securely anchor to building structure.

d. Pipe Clamps and Straps: B-Line B2000, B2400; isolate copper pipe with two thicknesses of 2 inches wide 10-mil polyvinyl tape. Where used for seismic support systems, provide B-Line B2400 series pipe straps.

6. Support to Structure:

a. Wood Structure: Provide and install wood blocking as required to suit structure. Provide lag screws or through bolts with length to suit requirements, and with size (diameter) to match the size of hanger rods required.

1) Do not install Lag screws in tension without written review and acceptance by Structural Engineer.

Side Beam Angle Clip	B-Line B3062---MSS Type 34
Side Beam Angle Clip	B-Line B3060
Ceiling Flange	B-Line B3199

2) Blocking for support of piping shall be not less than 2 inch thick for piping up to 2 inch size. Provide 3 inch blocking for piping up through 5 inch size, and 4 inch blocking for larger piping. Provide support for blocking in accordance with Structural Engineers requirements.
3) Where lag screws are used, length of screw shall be 1/2 inch less than the wood blocking. Pre-drill starter holes for each lag screw.

7. Rubber Neoprene Pipe Isolators:

a. Pipe isolators shall comprise an internal rubber or neoprene material that isolates pipe from hanger and structure. Install at all piping located in acoustical walls. Refer to Architectural Drawings for location of acoustical walls.
b. Isolation material shall be either a rubber or neoprene material that prevents contact between the pipe and the structure. The rubber shall have between a 45 to 55 durometer rating and a minimum thickness of 1/2 inch.
c. Acceptable Suppliers:

1) Vertical runs: Acousto-Plumb or equal.
2) Horizontal runs: B-Line, Vibraclamp; Acousto-Plumb or equal.

8. Provide support for piping through roof, arranged to anchor piping solidly in place at the roof penetration.
9. Provide rigid insulation and a 12 inch long, 18 gauge galvanized sheet iron shield between the covering and the hanger whenever hangers are installed on the outside of the pipe covering.
10. Insulate copper tubing from ferrous materials and hangers with two thicknesses of 3 inch wide, 10 mil polyvinyl tape wrapped around pipe.
11. Provide a support or hanger close to each change of direction of pipe either horizontal or vertical and as near as possible to concentrated loads.

12. Suspend rods from concrete inserts with removable nuts where suspended from concrete decks. Power actuated inserts will not be allowed.

3.10 UNION AND FLANGE INSTALLATION

A. Install Watts, Epco, Nibco, or equal, dielectric unions or flanges at points of connection between copper or brass piping or material and steel or cast iron pipe or material except in drain, waste, vent, or rainwater piping. Bushings or couplings shall not be used. Dielectric unions installed in potable water systems shall conform to the lead-free requirements of the California Health and Safety Code Section 116875.

B. Install unions in piping NPS 2” and smaller, and flanges in piping NPS 2-1/2” and larger whether shown or not at each connection to all equipment and tanks, and at all connections to all automatic valves, such as temperature control valves. Unions installed in potable water systems shall conform to the lead-free requirements of the California Health and Safety Code Section 116875.

C. Locate the unions for easy removal of the equipment, tank, or valve.

3.11 ACCESS DOOR INSTALLATION

A. Furnish and install access doors wherever required whether shown or not for easy maintenance of mechanical systems; for example, at concealed valves, strainers, traps, cleanouts, dampers, motors, controls, operating equipment, etc. Access doors shall provide for complete removal and replacement of equipment.

3.12 PIPE PROTECTION

A. Wrap bare galvanized and black steel pipe buried in the ground and to 6" above grade, including piping in conduit, with one of the following, or equal:

1. Polyethylene Coating: Pressure sensitive polyethylene coating, "X-Tru-Coat" as manufactured by Pipe Line Service Corporation or "Green Line" wrap as manufactured by Roystron Products, or equal.

a. Field Joints and Fittings: Protecto Wrap #1170 tape as manufactured by Pipe Line Service Corporation, or Primer #200 tape by Roystron Products, or equal. Installation shall be as per manufacturer's recommendation and instructions.

2. Tape Wrap: Pressure-sensitive polyvinyl chloride tape, "Transtex #V-l0 or V-20", "Scotchwrap 50", Slipknot l00, PASCO Specialty & Mfg., Inc., or equal, with continuous identification. Tape shall be a minimum of 20 mils thick for fittings and irregular surfaces, two wraps, 50 percent overlap, 40 mils total thickness. Tape shall be laminated with a suitable adhesive; widths as recommended by the manufacturer for the pipe size. Wrap straight lengths of piping with an approved wrapping machine.

B. Field Joints: Valves and Fittings: double wrap polyvinyl chloride tape as above. Provide at least two thicknesses of tape over the joint and extend a minimum of 4 inches over adjacent pipe covering. Build up with primer to match adjacent covering thickness. Width of tape of

fittings shall not exceed 3 inches. Tape shall adhere tightly to all surfaces of the fittings without air pockets.

C. Testing: Test completed wrap of piping, including all epoxy painted piping with Tinker and Rasor Co. test machine (San Gabriel, CA - 818-287-5259), Pipeline Inspection Company (Houston, TX - 713-681-5837), or equal.

D. Cleaning: Clean all piping thoroughly before wrapping.

1. Inspection: Damaged or defective wraps shall be repaired as directed. No wrapped pipe shall be covered until approved by Architect.

E. Sleeve copper piping/tubing installed below slab with “Polywrap-C” polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 6 mils thick, colored blue for domestic water piping and orange for other piping. Install sleeve per manufacturer’s recommendations and instructions.

F. Sleeve copper piping/tubing installed outside building below grade with “Polywrap-C” polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 6 mils thick, colored blue for domestic water piping. Install sleeve per manufacturer’s recommendations and instructions.

G. Sleeve cast iron and ductile iron pipe below grade and below slab with “Polywrap” polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 8 mils thick, colored natural. Install sleeve per manufacturer’s recommendations and instructions.

H. Covering: No rocks or sharp edges shall be backfilled against the wrap or sleeve. When backfilling with other than sand, protect wrap with an outer wrapping of Kraft paper; leave in place during backfill.

3.13 PIPE IDENTIFICATION

A. Provide temporary identification of each pipe installed, at the time of installation. Temporary identification shall be removed and replaced with permanent identification as part of the work.

B. Apply the legend and flow arrow at all valve locations; at all points where the piping enters or leaves a wall, partition, cluster of piping or similar obstruction, at each change of direction and at approximately 20'-0" intervals on pipe runs. Variations or changes in locations and spacing may be made with the approval of the Architect. There shall be at least one marking in each room. Markings shall be located for maximum visibility from expected personnel approach.

C. Wherever two or more pipes run parallel, the markings shall be supplied in the same relative location on each.

D. Apply markings after painting and cleaning of piping and insulation is completed.

3.14 EXPANSION ANCHORS IN HARDENED CONCRETE

A. Refer to Structural Drawings.

3.15 PIPING SYSTEM PRESSURE TESTING

A. General:

1. Perform operational tests under simulated or actual service conditions, including one test of complete plumbing installation with fixtures and other appliances connected.
2. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.

B. Piping Systems: Test piping systems in accordance with the following requirements and applicable codes:

1. Authority having jurisdiction shall witness tests of piping systems.
2. Notify Architect at least seven days in advance of testing.
3. All piping shall be tested at completion of roughing-in, or at other times as directed by Architect.
4. Furnish necessary materials, test pumps, gases, instruments and labor required for testing.
5. Isolate from system equipment that may be damaged by test pressure.
6. Make connections to existing systems with flanged connection. During testing of new work, provide a slip-in plate to restrict test pressure to new systems. Remove plate and make final connection to existing system at completion of testing.

    a. Authority having jurisdiction shall witness final connection to system.

C. Test Schedule: No loss in pressure or visible leaks shall show after four hours at the pressures indicated.

D. Testing of Sanitary Sewer, Drain, Vent, and Storm Drain may be done in segments in order to limit pressure to within manufacturer's recommendations. Test to 10 feet above highest point in the system.

System Tested	Test Pressure PSI	Test With
Sanitary Sewer, Drain, Vent	10 Ft. Hd.	Water
Storm Drain, Condensate Drains	10 Ft. Hd.	Water
Domestic Water	125	Water
Natural Gas (PE)	60	Air & Non-corrosive Leak Test Fluid
Natural Gas (Steel)	100	Air & Non-corrosive Leak Test Fluid

Compressed Air	200 lb.	Air & Non-corrosive Leak Test Fluid
Deionized Water	50	Water

1. Flush deionized water lines with deionized water after test and approval.
2. Non-corrosive leak test fluid shall be suitable for use with piping material specified, and with the type of gas conveyed by the piping system.

3.16 OPERATION OF SYSTEMS

A. Do not operate any plumbing equipment for any purpose, temporary or permanent, until all of the following has been completed:

1. Complete all requirements listed under "Check, Test and Start Requirements."
2. Piping has been properly cleaned. Piping systems shall be flushed and treated prior to operation.
3. Filters, strainers etc. are in place.
4. Bearings have been lubricated, and alignment of rotating equipment has been checked.
5. Equipment has been run under observation, and is operating in a satisfactory manner.

B. Provide test and balance agency with one set of Contract Drawings, Specifications, Addenda, Change orders issued, applicable shop drawings and submittals and temperature control drawings.

3.17 CERTIFICATES OF INSTALLATION

A. Contractor shall complete applicable "Certificates of Installation" forms contained in the California Building Energy Efficiency Standards and submit to the authorities having jurisdiction for approval and issuance of final occupancy permit, as described in the California Energy Code.

3.18 DEMONSTRATION AND TRAINING

A. An authorized representative of the equipment manufacturer shall train Owner-designated personnel in maintenance and adjustment of equipment. The representative may be an employee of the equipment manufacturer, or a manufacturer-certified contractor. Submit written certification from the manufacturer stating that the representative is qualified to perform the Owner training for the equipment installed.

1. As part of the submittal process, provide a training agenda outlining major topics and time allowed for each topic.
2. Some items of specified equipment require that training must be performed by the manufacturer, using manufacturer's employees. See specific equipment Articles in these Specifications for this requirement.
3. Contractor shall provide three copies of certification by Contractor that training has been completed, signed by Owner's representative, for inclusion in Operation and Maintenance Manual. Certificates shall include:

a. Listing of Owner-designated personnel completing training, by name and title.
b. Name and title of training instructor.
c. Date(s) of training.
d. List of topics covered in training sessions.

4. Refer to specific equipment Articles for minimum training period duration for each piece of equipment.

END OF SECTION 22 00 50

SECTION 23 09 23 – DIRECT DIGITAL CONTROL SYSTEM FOR HVAC

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

A. DDC system shall be Owner Furnished, Owner Installed.

B. Refer to Basic Mechanical Requirements Section, for general mechanical requirements.

C. Refer to Mechanical Division for installation of instrument wells, valve bodies, dampers, etc. in mechanical systems.

D. Provide the following electrical work as work of this Section, complying with requirements of Electrical Division, and as outlined below:

1. All control wiring between field-installed controls, indicating devices, and unit control panels.
2. Interlock wiring between electrically interlocked devices, sensors, and between a hand or auto position of motor starters as indicated.
3. Wiring associated with indicating and alarm panels (remote alarm panels) and connections to their associated field devices.
4. Contractor shall provide and extend low voltage power source wiring required for operation of control devices provided.
5. Wiring for fully complete and functional controls system and as specified.

1.2 SUBMITTALS: IN ACCORDANCE WITH DIVISION 1

A. Product Data: Submit manufacturer's specifications for each control device furnished, including installation instructions and start-up instructions. Submit integrated wiring and electrical diagram to show complete system operation.

B. All submittals must be received and approved by the Owner prior to the ordering and installation of any equipment by the Contractor.

1. Provide the Owner with a Building Controls submittal with the following:
   a. System Hardware
   b. System Architecture
   c. Complete System Wiring Schematic

C. Submit shop drawings showing construction and mounting details for review prior to construction. In addition, submit the following for review prior to panel and/or system fabrication and installation:

1. Field wiring diagrams showing wiring external to panel.
2. Panel internal wiring diagrams also showing panel terminal connections for external wiring, properly coordinated and keyed to external wiring diagram.

3. Designation of all switches, pilot lights, etc. and layout of instruments, switches, and nameplates of panel.

1.3 COORDINATION:

A. Automatic temperature control systems work shall be accomplished as outlined below:

1. Control Valves furnished under this section shall be installed as specified in Mechanical Division.
2. Control Dampers are provided under the applicable Mechanical Division air distribution or air handling equipment section.
3. Water Pressure Taps, Thermal Wells, Flow Switches, Flow Meters, that will have wet surfaces furnished under this Section, shall be installed as specified in Mechanical Division.
4. Controlled Equipment Power Wiring shall be furnished and installed under Electrical Division. Where control involves 120V control devices controlling 120V equipment, the Division 16 Electrical Contractor shall extend power wiring to the equipment and shall extend it from the equipment to the control device.

1.4 INSTALLING CONTRACTOR QUALIFICATIONS:

A. The Building Automation System Control System contractor must have been in business, and licensed as a contractor by the State of California, installing HVAC and building automation controls, and fire/life safety systems, for a minimum of ten (10) years preceding the bid opening.

B. The Building Automation Control System contractor must have completed no less than one (1) control system installation, within twenty-four (24) months preceding the bid opening, pursuant to a single written contract, valued at no less than three hundred thousand ($300,000) dollars.

C. The Building Automation Control System contractor must demonstrate that, from the local office that will service the Owner with a four (4) hour emergency response requirement can logistically be provided.

D. Controls contractor must have direct access to factory certified instructors to provide training upon request of the district.

E. Controls contractor must have explicit district approval to interface with district wide server for integration of new controls system.

F. The Building Automation Control System contractor must have been, for five (5) years preceding the bid opening, a factory branch office, or a factory authorized dealer for the product manufacturer type identified in subsection 2.01, A., under PART 2 – PRODUCTS, of this section. Factory authorized dealer means:

1. Installing Contractor has a contract directly with the factory. A contract with a distributor is not acceptable.
2. Installing Contractor has direct access to factory technical support and training.

PART 2 - PRODUCTS

2.1 GENERAL:

A. Manufacturer: The Building Automation Control System shall be provided by the following:

1. Controls are to be provided by Johnson Controls, Inc., branch office in Folsom, CA to match campus standard. Please Contact Cameron Ross @ 279-782-1252
2. No other contractors are acceptable or will be considered
3. The Building Automation Controls contractor must have been, for ten (10) years preceding the bid opening, a factory branch office. A contract with a distributer is not acceptable.

B. All new controls material must be fully integrated and graphically represented on existing district building automation controls system on the districts servers. Only district authorized personnel may access this server for controls integration.

C. All components used shall be serviceable, repairable, and replaceable by qualified temperature control technicians using non-proprietary parts, tools, and instruments.

2.2 SUPERVISORY CONTROLLER

A. NETWORK AUTOMATION ENGINE (NAE)

1. The NAE shall perform the function of monitoring all system variables, both from real hardware points, software variables, and controller parameters such as set points.
2. NAE's shall be entirely solid state devices. No rigid disk drives will be permitted in the equipment rooms.
3. The NAE's shall manage and direct all information traffic on the Tier 1 network, between the Tier 1 and Tier2 networks, and to servers.
4. Any NAE on the Tier 1 network shall be equipped with all software necessary to drive the complete user interface including graphics on a browser connected to the NAE via the network or directly via a local port on the node.
5. The operating system of the NAE shall support multi-user access. At minimum four users shall be able to access the same NAE simultaneously.
6. Communication between NAE's shall be per-to-peer via 10/100 Ethernet using the BACnet protocol.
7. The NAE shall be capable of direct connection to multiple field busses using different protocols simultaneously as indicated below. Should the controller not support multiple field busses, install two supervisory controllers side by side.
    a. An RS-485 serial field bus such as BACnet MSTP or the manufacturer's proprietary field bus – JCI N2.
    b. A LON field bus for supervision and control of LON based controllers that conform to the Lon Talk standard.
8. The NAE will integrate data from both field busses into a common object structure. Data from both field busses will appear in common displays throughout the user

interface in exactly the same format. It shall not be possible to determine which field buss the data originated on without reviewing the system configuration data.

9. The NAE shall be programmable and governed by the requirements of their applicable codes, approvals and regulations.
10. The NAE shall be designed, packaged, installed, programmed and commissioned in consideration of their specific service and prevailing operating conditions. They shall be proven standard product of their original manufacturer and not a custom product for this Project.
11. A failure at an NAE shall not cause failures or non-normal operation at any other system NAE other than the possible loss of active real-time information from the failed NAE.
12. Ancillary NAE equipment, including interfaces and power supplies, shall not be operated at more than 80% of their rated service capacity.
13. The NAE shall comply with FCC Part 15 subpart J class A emission requirements.
14. Each NAE shall be equipped with the necessary un-interruptible power such that it will not cease operation during minor power outages, including those that occur upon transfer to emergency generator or other local power source not provided by the utility.

2.3 NETWORKING/COMMUNICATIONS:

A. The design of the Building Automation Control System shall network operator workstations and Standalone DDC Panels as shown on the attached system configuration drawing. Inherent in the system's design shall be the ability to expand or modify the network(s) either via the local area network, or auto-dial telephone line modem connections, or via a combination of the two networking schemes.

1. Local Area Network

a. Workstation/DDC Panel Support: Operator workstations and DDC panels shall directly reside on a local area network such that communications may be executed directly between controllers, directly between workstations, and between controllers and workstations on a peer-to-peer basis.

b. Dynamic Data Access: All operator devices, either network resident or connected via dial-up modems, shall have the ability to access all point status and application report data, or execute control functions for any and all other devices via the local area network. Access to data shall be based upon logical identification of building equipment. Access to system data shall not be restricted by the hardware configuration of the Building Automation Control System. The hardware configuration of the Building Automation Control System network shall be totally transparent to the user when accessing data or developing control programs.

c. General Network Design: Network design shall include the following provisions:

1) High-speed data transfer rates for alarm reporting, quick report generation from multiple controllers and upload/download efficiency between network devices. The minimum baud rate shall be one (1) Megabaud.

2) Support of any combination of controllers and operator workstations directly connected to the local area network. A minimum of fifty (50) devices shall be supported on a single local area network.

3) Detection and accommodation of single or multiple failures of either workstations, DDC panels or the network media. The network shall include provisions for automatically reconfiguring itself to allow all operational equipment to perform their designated functions as effectively as possible in the event of single or multiple failures.

4) Message and alarm buffering to prevent information from being lost.

5) Error detection, correction, and retransmission to guarantee data integrity.

6) Default device definition to prevent loss of alarms or data, and ensure alarms are reported as quickly as possible in the event an operator device does not respond.

7) Commonly available, multiple sourced, networking components and protocols shall be used to allow the Building Automation Control System to coexist with other networking applications such as office automation. MAP, ETHERNET, IBM Token Ring and ARCNET are acceptable technologies.

8) Use of an industry standard IEEE 802.x protocol. Communications must be of a deterministic nature to assure calculable performance under worst-case network loading.

9) Synchronization of the real-time clocks in all DDC panels shall be provided.

2.4 APPLICATION SPECIFIC CONTROLLERS - HVAC APPLICATIONS:

A. Each Standalone DDC Controller shall be able to extend its performance and capacity through the use of remote Application Specific Controllers (ASCs).

B. Each ASC shall operate as a standalone controller capable of performing its specified control responsibilities independently of other controllers in the network. Each ASC shall be a microprocessor-based, multi-tasking, real-time digital control processor.

C. Each ASC shall have sufficient memory to support its own operating system and data base including:

1. Control Processes
2. Energy Management Applications
3. Operator I/O (Portable Service Terminal)

D. The operator interface to any ASC point data or programs shall be through any network-resident PC workstation, or any PC or portable operator's terminal connected to any DDC panel in the network.

E. Application Specific Controllers shall directly support the temporary use of a portable service terminal. The capabilities of the portable service terminal shall include but not be limited to the following:

1. Display temperatures
2. Display status
3. Display setpoints
4. Display control parameters

5. Override binary output control
6. Override analog setpoints
7. Modification of gain and offset constants

F. Powerfail Protection: All system setpoints, proportional bands, control algorithms, and any other programmable parameters shall be stored such that a power failure of any duration does not necessitate reprogramming the controller.

G. Application Description:
   1. Field Equipment Controller (FEC) – BY JCI
      a. When indoors - the FEC shall operate as a standard from 32 to 122 degrees Fahrenheit ambient air temperature and 10 to 90% relative humidity.
      b. When outdoors mounted either in unit cabinet or mounted in a steel enclosure – the FEC shall operate from -40 to 158 degrees Fahrenheit ambient air temperature and 10 to 90% relative humidity.
      c. The Field Equipment Controller (FEC) shall be a fully user-programmable, digital controller that communicates via BACnet MS/TP protocol.
      d. The FEC shall employ a finite state control engine to eliminate unnecessary conflicts between control functions at crossover points in their operational sequences. Suppliers using non-state based DDC shall provide separate control strategy diagrams for all controlled functions in their submittals.
      e. Controllers shall be factory programmed with a continuous adaptive tuning algorithm that senses changes in the physical environment and continually adjusts loop tuning parameters appropriately. Controllers that require manual tuning of loops or perform automatic tuning on command only shall not be acceptable.
      f. The FEC shall be assembled in a plenum-rated plastic housing with flammability rated to UL94-5VB.
      g. The FEC shall include a removable base to allow pre-wiring without the controller.
      h. The FEC shall include troubleshooting LED indicators to identify the following conditions:
         1) Power On
         2) Power Off
         3) Download or Startup in progress, not ready for normal operation
         4) No Faults
         5) Device Fault
         6) Field Controller Bus - Normal Data Transmission
         7) Field Controller Bus - No Data Transmission
         8) Field Controller Bus - No Communication
         9) Sensor-Actuator Bus - Normal Data Transmission
         10) Sensor-Actuator Bus - No Data Transmission
         11) Sensor-Actuator Bus - No Communication

i. The FEC shall accommodate the direct wiring of analog and binary I/O field points.

j. The FEC shall support the following types of inputs and outputs:

1) Universal Inputs - shall be configured to monitor any of the following:

a) Analog Input, Voltage Mode

b) Analog Input, Current Mode

c) Analog Input, Resistive Mode

d) Binary Input, Dry Contact Maintained Mode

e) Binary Input, Pulse Counter Mode

2) Binary Inputs - shall be configured to monitor either of the following:

a) Dry Contact Maintained Mode

b) Pulse Counter Mode

3) Analog Outputs - shall be configured to output either of the following

a) Analog Output, Voltage Mode

b) Analog Output, current Mode

4) Binary Outputs - shall output the following:

a) 24 VAC Triac

5) Configurable Outputs - shall be capable of the following:

a) Analog Output, Voltage Mode

b) Binary Output Mode

k. The FEC shall have the ability to reside on a Field Controller Bus (FC Bus).

1) The FC Bus shall be a Master-Slave/Token-Passing (MS/TP) Bus supporting BACnet Standard protocol SSPC-135, Clause 9.

2) The FC Bus shall support communications between the FECs and the NAE.

3) The FC Bus shall also support Input/Output Module (IOM) communications with the FEC and with the NAE.

4) The FC Bus shall support a minimum of 100 IOMs and FEC in any combination.

5) The FC Bus shall operate at a maximum distance of 15,000 ft. between the FEC and the furthest connected device.

l. The FEC shall have the ability to monitor and control a network of sensors and actuators over a Sensor-Actuator Bus (SA Bus).

1) The SA Bus shall be a Master-Slave/Token-Passing (MS/TP) Bus supporting BACnet Standard protocol SSPC-135, Clause 9.

2) The SA Bus shall support a minimum of 10 devices per trunk.

3) The SA Bus shall operate at a maximum distance of 1,200 ft. between the FEC and the furthest connected device.

m. The FEC shall have the capability to execute complex control sequences involving direct wired I/O points as well as input and output devices communicating over the FC Bus or the SA Bus.

n. The FEC shall support, but not be limited to, the following:

1) Hot water, chilled water/central plant applications

2) Built-up air handling units for special applications

3) Terminal units

4) Special programs as required for systems control

H. Field Devices

1. Input/Output Module (IOM) – BY JCI

a. The IOM shall operate as a standard from 32 to 122 degrees Fahrenheit ambient air temperature and 10 to 90% relative humidity

b. The Input/Output Module (IOM) provides additional inputs and outputs for use in the FEC.

c. The IOM shall communicate with the FEC over either the FC Bus or the SA Bus using BACnet Standard protocol SSPC-135, Clause 9.

d. The IOM shall be assembled in a plenum-rated plastic housing with flammability rated to UL94-5VB.

e. The IOM shall have a minimum of 4 points to a maximum of 17 points.

f. The IOM shall support the following types of inputs and outputs:

1) Universal Inputs - shall be configured to monitor any of the following:

a) Analog Input, Voltage Mode

b) Analog Input, Current Mode

c) Analog Input, Resistive Mode

d) Binary Input, Dry Contact Maintained Mode

e) Binary Input, Pulse Counter Mode

2) Binary Inputs - shall be configured to monitor either of the following:

a) Dry Contact Maintained Mode

b) Pulse Counter Mode

3) Analog Outputs - shall be configured to output either of the following:

a) Analog Output, Voltage Mode

b) Analog Output, current Mode

4) Binary Outputs - shall output the following:

a) 24 VAC Triac

5) Configurable Outputs - shall be capable of the following:

a) Analog Output, Voltage Mode

b) Binary Output Mode

g. The IOM shall include troubleshooting LED indicators to identify the following conditions:

1) Power On
2) Power Off
3) Download or Startup in progress, not ready for normal operation
4) No Faults
5) Device Fault
6) Normal Data Transmission
7) No Data Transmission
8) No Communication

2. Network Sensors (NS)

a. The Network Sensors (NS) shall have the ability to monitor the following variables as required by the systems sequence of operations:

1) Zone Temperature
2) Zone humidity
3) Zone setpoint

b. The NS shall transmit the zone information back to the controller on the Sensor-Actuator Bus (SA Bus) using BACnet Standard protocol SSPC-135, Clause 9.

c. The Network Sensors shall include the following items:

1) A backlit Liquid Crystal Display (LCD) to indicate the Temperature, Humidity and Setpoint.
2) An LED to indicate the status of the Override feature.
3) A button to toggle the temperature display between Fahrenheit and Celsius.
4) A button to initiate a timed override command

d. The NS shall be available with either screw terminals or phone jack.

e. The NS shall be available in either surface mount or wall mount styles.

2.5 TEMPERATURE CONTROL MATERIAL:

A. PANEL DEVICES

PART #	DESCRIPTION	MFTR
DCP-1.5-W	1.5 AMP POWER SUPPLY	KELE
DPT2640-005D	PRESSURE SENS, DP, 0-5”WC	SETRA
RH2B-UAC24-L	DPDT, 10A, HC=24 VAC, W/LED	IDEC
SH2B-05	DPDT RELAY BASE FOR RH2B	IDEC
RH4B-UAC24V	4PDT, 10A, HC=24 VAC	IDEC
SH4B-05	4PDT RELAY BASE FOR RH4B	IDEC
PXPLX01S	DP TRANSDUCER, AIR, 0-1”	VERIS
1900-5MR	HIGH STATIC PRESS. SWITCH	DWYER
BAM2	TB END STOP	KELE
FEM6	TB END STOP SECTION	KELE
M4/6	TERMINAL BLOCK	KELE
RC610B	TB BLANK MARKING STRIPS	KELE
Y65A13-0	120VAC/24VAC, FOOT, 40VA	JCI
Y65A21-0	120VAC/24VAC, PLATE, 40VA	JCI

B. TRANSDUCERS

PART #	DESCRIPTION	MFTR
A-306	OUTDOOR AIR STATIC	KELE
DPT-2015-1	DIFF PRESS TRANSMITTER	JCI
DPT2090-250G	PRESS SENS, GAGE, 250 PSI, VDC	SETRA
DPT2640-0R1B	PRESS SENS, DP, -0.1-0.1”WC, VDC	SETRA
DPT2640-2R5D	PRESS SENS, DP, 0-2.5”WC, VDC	SETRA
FTG18A-600R	REMOTE MTD PROBE	JCI
PWLX03S	DIFF PRESS, WATER, 0-25PSI	VERIS

C. SENSORS

PART #	DESCRIPTION	MFTR
TE-6000-1	SENSOR, T-NI, 1.0%, STRAP-ON	JCI
TE-6001-3	KIT, MTG BOX FOR WZ-1000 WELL	JCI
TE-6313P-1	SENSOR, T-NI 0.1%, 3IN OAT	JCI
TE-6316P-1	SENSOR, T-NI, 0.1%, 17FT AVG	JCI
TE-6311V-2	DUCT PROBE TEMP. SEN. 1K	JCI
TE-67NP-0N00	SENSOR, RM, 1K, NI, PHONE JACK	JCI
TE-67NT-0N00	TEMP SENSOR 1K NICKEL	JCI
NS-BTP7002-0	ZONE TEMP SENSOR/SETPT	JCI
NS-BTP7003-0	ADDRESSABLE ZONE TEMP	JCI
NS-BCN7004-0	CO2 SENSOR	JCI
A/1KHT-2W-RP	REMOTE PROBE,-40-842, PT, 1K	ACI
A11A-1C	PLN, MLT, SP=35-45 F, STG=1	JCI
TEC-2601-4	1 HEAT/1 COOL BACnet STAT	JCI
LX-24	CEILING MOUNT OCC SENSOR	KELE
ST-S63-XH	S.S ZONE TEMP WITH OCC OVR	KELE

D. FIELD DEVICES

PART #	DESCRIPTION	MFTR
H922	CURENT SENSOR, SPLIT	VERIS
ST-S63-XM	STAINLESS STEEL ZONE TEMP	KELE
TS-400-24-W	DIGITAL TIME SWITCH	KELE
TS-470	END SWITCH, NO	KELE
WZ-1000-5	WELL, BRASS, 2-3/8 IN, ½ IN NPT	JCI
M9104-AGS-2N	ELEC, INCR, NSR, TQ=35	JCI
M9220-BGA-3	DAMPER ACTUATOR 20 NM SR	JCI
MS-FEC2611-0ET	OUTDOOR FEC	JCI
MS-FEC2611	INDOOR FEC	JCI
MS-NAE4510-2	MEDIUM CAPACITY NAE	JCI
MS-NAE5510-2	HIGH CAPACITY NAE	JCI

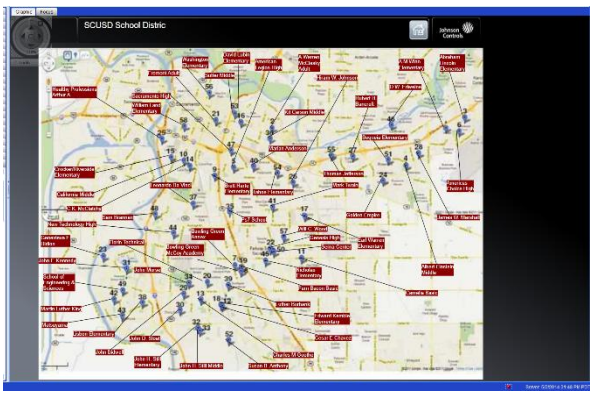
E. Motorized Control Dampers: Shall be parallel blade for two-position control and opposed blade for proportional control applications. Dampers shall have an enamel finish or be galvanized, with nylon bearings. Blade edge and tip seals shall be included for all dampers. Blade shall be double piece 22 gauge minimum and 8” wide maximum and frame shall be welded channel iron.

F. Temperature control panels (TCP): Shall be of NEMA code gauge steel with locking doors for mounting all devices as shown. They shall meet all applicable requirements of Title 24, California Code of Regulations. All controllers, relays, switches, etc. for equipment located in mechanical equipment rooms shall be mounted in a TCP as shown on the drawings. Temperature settings, adjustments and calibration shall be done at the TCP. Any required UCMC Campus Data networks connection for this panel shall be installed inside the panel. All electric devices within a control panel shall be factory pre-piped and wired. Provide engraved laminated plastic nameplates identifying all devices mounted on the face of the control panels. A complete set of related "as-builts" control drawings shall be furnished in each control panel.

2.6 GRAPHIC INTERFACE

A. The following are examples of the district wide standard for the graphical interface of the controls system. The new controls system must be graphically represented according to the following templates

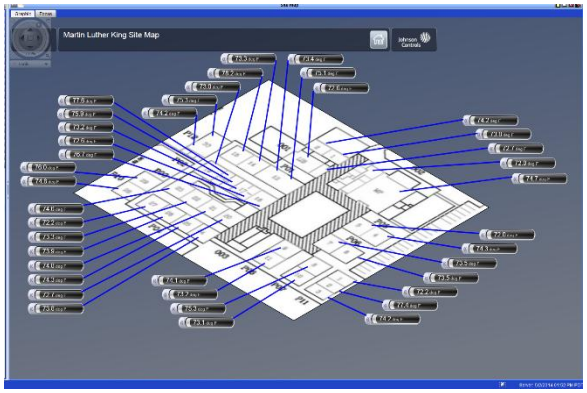
1. District Map View



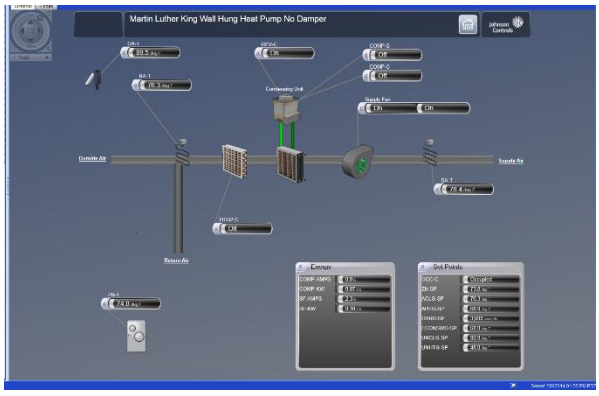
2. School Overview



3. Zone Overview



4. Equipment Overview



2.7 CONSULTATIVE SUPPORT

A. For this project, the manufacturer shall provide at a minimum 8 hours of consultative support services to review and provide recommendations and enhancements to the system, which may include:

1. Review of critical programming loops and adjustments as necessary

2. Adjustments to improve building system operation, reduce energy consumption and/or improve environmental control
3. Implementation or enhancement of functionality in the system

2.8 MISCELLANEOUS DEVICES

A. Moisture Sensors:

1. Moisture sensors shall be used to detect water in elevator sumps and chilled water fan coil unit overflow drain pans and where otherwise indicated on the Drawings using George Risk Industries Model GRI 2650, Veris MX Series, or equal.
2. The sensor shall be floor mounted operating at 24 VAC with SPDT relay for the output signal with automatic reset.

PART 3 - EXECUTION

3.1 GENERAL:

A. Furnish all labor, materials, equipment, and service necessary for a complete and operating Direct Digital Control Building Automation Control System, as shown on the drawings and described herein.

B. All labor, material, equipment, and software necessary to meet the functional intent of the Building Automation Control System as specified herein and as shown on the drawings shall be included.

C. Drawings are diagrammatic only. Equipment and labor not specifically referred to herein, or on the plans, that are required to meet the functional intent of the Building Automation Control System, shall be provided without additional cost to Sac City Unified School District.

D. Equipment furnished by Electrical and/or Mechanical Contractor that is normally wired before installation shall be furnished completely wired. Wiring normally performed in field shall be furnished and installed by the Building Automation Control System contractor.

E. Control equipment having electrical connections only, which are furnished under this work, shall be installed and connected by the Building Automation Control System contractor. Electrical devices requiring wet side piping connections shall be installed by the Mechanical Contractor.

F. Clearly identify and label equipment and controls, such as starters, switches, relays, as to function and position with permanently engraved plastic nameplates.

G. Wiring of control equipment in accordance with wiring diagrams and functional operation of the control system shall be the responsibility of the Building Automation Control System contractor.

H. Final Adjustment of Equipment: After completion of installation, adjust temperature sensors, control valves, actuators, motors, and similar equipment provided under the scope of work of this section. Cooperate with the air balance contractor as required.

I. Perform final adjustment by specially trained personnel in direct employ by the manufacturer of the primary Building Automation Control System.

J. Connect control valves with threaded connections with sufficient unions to permit valves to be readily removed from their installed locations for servicing, without disturbing adjacent piping. In no case shall this be less than three unions for three-way valves and one union for two-way valves.

K. Wiring and raceways included with the BACS scope of works includes but is not limited to the following:

1. Power wiring for all controllers, sensors, relays and other equipment shall be taken from the local HVAC controls panels except equipment provided with dedicated supplies provided by Division 16.
2. Controls wiring shall be routed from the local HVAC controls panels.
3. Conduit shall be used for the following:
    a. All exposed and concealed low voltage wiring in all areas below 8 feet above floor level.
    b. All mechanical and equipment rooms, exterior locations and any other areas where physical protection and/or access is required as defined elsewhere in the contract documents.
    c. All in-wall drops to equipment monitoring and/or control points including but not limited to medical equipment, kitchen service equipment, elevator sump and other moisture sensors, water flow meters, equipment mounted alarms, etc.
    d. All areas where specifically indicated on the Drawings.
4. J-Hooks and or designated LV raceway shall be used for the following:
    a. All low voltage wiring above 8 feet above floor level in open and accessible areas where conduit is not required, to cable trays or other conduits.
    b. All areas where specifically indicated on the Drawings.
5. Conduit and J-Hook materials and installation requirements shall comply with the applicable sections of Division 16 unless specifically indicated otherwise on the Drawings.

3.2 WARRANTY:

A. The Building Automation Control System contractor shall provide a one-year warranty covering the Building Automation Control System, and all associated components installed by the Building Automation Control System contractor. Any manufacturing or installation defects arising during this warranty period shall be corrected without cost to the Owner. The Building Automation Control System contractor shall respond to the job site within a four (4) hour period for any emergency relating to the control system and associated components installed by the Building Automation Control System contractor. Warranty period shall commence after all operator instruction is completed and the entire system has been accepted by the Owner.

3.3 CARE AND CLEANING:

A. Repair or replace broken, damaged, or otherwise defective parts, materials, and work. Leave entire work in condition satisfactory to Owner's Representative. At completion, carefully clean and adjust equipment, fixtures, and trim installed as part of this work. Leave systems and equipment in satisfactory operating condition.

3.4 OPERATION TEST/SYSTEM COMMISSIONING:

A. Each piece of equipment shall be tested by the Building Automation Control System contractor to show that it will operate in accordance with designed requirements, and provide written documentation of this test. Control system commissioning shall consist of a point per point conformation and system operational demonstration conducted jointly by the Building Automation Control System contractor and the University's Representative.

B. The mechanical contractor and BACS contractor/vendor will conduct two levels of Quality Assurance to verify that the required installation and performance of the Building Automation Control System as been met.

1. Static Commissioning:

a. A point to point examination and documentation of the successful installation of the BACS system and its components in its entirety.

b. The start up of all HVAC equipment and associated systems will not commence until this work has been completed and the documentation received by the Owner.

2. Dynamic Commissioning:

a. A point by point demonstration and documentation of the successful performance of the BACS system and its components in its entirety.

b. The verification demonstrations of all HVAC equipment and associated systems will not commence until this work has been completed and the documentation received by the Owner.

C. All new controller programming shall be backed up into the districts existing database.

D. As part of the operational test's the controls contractor shall demonstrate integration of new controls system into the existing server and BACS.

E. In General the Commissioning process will comprise the following:

1. Review of points list and documentation.
2. Installation compliance with project plans and specifications.
3. Point-to-point check.
4. Control devices calibration and operation.
5. System programming and documentation.
6. System endurance test.
7. Control loop trends.
8. Reports and alarms.
9. Analog input calibration.

10. Analog output check and spring ranges.
11. Digital input range set points.
12. Digital output in autolog.
13. Point by point performance verification.
14. O & M training and documentation.
15. Opposite season verification and documentation.
16. Review and document system architecture.

F. Prior to job closing, the controls contractor must provide and present drawings showing the physical location of the new Field Control bus routing around the campus. This will be reviewed by district HVAC personnel.

3.5 OPERATOR INSTRUCTION:

A. During system commissioning and at such time acceptable performance of the Building Automation Control System hardware and software has been established, the Control Contractor shall schedule with the Owner’s Representative and provide eight (8) hours of on site, or off site, operator instruction to the Owner's operating personnel. Operator instruction during normal working hours shall be performed by a competent representative familiar with the systems hardware, software, and accessories

END OF SECTION

SECTION 23 80 00 – HEATING, VENTILATING AND AIR CONDITIONING

PART 1 - GENERAL

SUMMARY

A. Section Includes:

1. Roof mounted air conditioning units (OFCI).
2. Air inlets and outlets.
3. Filters.
4. Ductwork.
5. Insulation.

1.2 RELATED REQUIREMENTS

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

B. Section 23 00 50, Basic HVAC Materials and Methods.

C. Section 23 05 93, Testing, Adjusting, and Balancing for HVAC.

D. Section 23 09 23, Direct Digital Control (DDC) System for HVAC.

1.3 ACTION SUBMITTALS

A. For additional requirements, refer to Section 23 00 50, Basic HVAC Materials and Methods.

B. Product Data: Submit manufacturer's technical product data, including rated capacities of selected model clearly indicated, dimensions, weight, corner or mounting point weights, furnished specialties and accessories; and installation and start-up instructions. Product data shall include applicable product listings and standards. Refer to Section 23 00 50, Basic HVAC Material and Methods for additional requirements.

C. Engineering Data: Submit fan curves and sound power level data for each fan unit. Data shall be at the scheduled capacity. Data shall include the name of the rating agency or independent laboratory.

1.4 INFORMATIONAL SUBMITTALS

A. For additional requirements, refer to Section 23 00 50, Basic HVAC Materials and Methods.

B. Economizer Fault Detection and Diagnostics (FDD) System Data: For all air-cooled unitary direct-expansion units equipped with an economizer, provide data for third-party supplied California Energy Commission certified FDD controller, documenting compliance with the requirements of California Building Energy Efficiency Standards. Provide evidence of certification.

C. Record of pre-installation meeting.

D. Coordinated Layouts: Submit coordinated layouts. For requirements refer to article, Coordinated Layouts, in this Section.

1.5 CLOSEOUT SUBMITTALS

A. For additional requirements, refer to Section 23 00 50, Basic HVAC Materials and Methods.

B. Maintenance Data: Submit maintenance data and parts list for each piece of equipment, control, and accessory; including "trouble-shooting guide," in Operation and Maintenance Manual.

C. Record Drawings: Submit Record Drawings of installed ductwork, duct accessories, and outlets and inlets in accordance with requirements of Division 01.

1.6 MAINTENANCE MATERIAL SUBMITTALS

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

1. Belts: One set(s) for each belt-driven unit.
2. Provide one complete set(s) of filters for each filter bank.

1.7 COORDINATED LAYOUT

A. Coordinated layouts are required to amplify, expand and coordinate the information contained in the Contract Documents.

B. Provide minimum 1/4 inch equals one foot scaled coordinated layout drawings showing plan and pertinent section or elevation views of piping, ductwork, equipment, accessories, and electrical systems. Drawings shall be reproducible and work of each trade represented shall be fully coordinated with structure, other disciplines, and finished surfaces. Drawings shall be presented on a single size sheet. Coordinated layout drawings shall have title block, key plan, north arrow and sufficient grid lines to provide cross-reference to design Drawings.

1. Provide a stamp or title block on each drawing with locations for signatures from all contractors involved, including but not limited to the General, HVAC, Plumbing, Fire Protection, and Electrical contractors. Include statement for signature that the contractor has reviewed the coordinated layout drawings in detail and has coordinated the work of his trade.

2. Show on drawings the intended elevation of all ductwork in accordance with the following example:

   B.O.D. = 9'-0"
   OFFSET UP 6"
   B.O.D. = 9'-6"

3. Highlight, encircle or otherwise indicate deviations from the Contract Documents on the coordinated layouts. Architect will not be responsible for identifying deviations from the original Contract Documents.

C. Since scale of contract drawings is small and all offsets and fittings are not shown, Contractor shall make allowances in bid for additional coordination time, detailing, fittings, offsets, hangers and the like to achieve a fully coordinated installation. If changes in duct size are required, equivalent area shall be maintained and the aspect ratio shall not be in excess of 2 to 1 unless approved by the engineer. Drawings shall be submitted for review prior to fabrication and installation. Drawings may be submitted in packages representing at least one quarter of the building ductwork.

D. Check routing on all ductwork before fabricating. Report any discrepancies to Architect. No extra cost will be allowed for failure to conform to above.

1.8 QUALITY ASSURANCE

A. Design Criteria:

1. All equipment and accessories to be the product of a manufacturer regularly engaged in its manufacture. All gas-fired equipment shall be UL, ETL or CSA listed.
2. Supply all equipment and accessories in accordance with requirements of applicable national, state and local codes.
3. All items of a given type shall be products of the same manufacturer.
4. Scheduled equipment performance is minimum capacity required.
5. Scheduled electrical capacity shall be considered as maximum available.
6. Scheduled gas BTU input shall be considered as maximum available.

1.9 FIELD CONDITIONS

A. Interruption of Existing Services: Do not interrupt services to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services according to requirements indicated:

1. Notify Construction Manager no fewer than two days in advance of proposed interruption of services.
2. Do not interrupt services without Construction Manager's written permission.

1.10 WARRANTY

1. Air Conditioning Unit, Roof-Mounted:

    a. Compressor shall have a five-year warranty.
    b. Low-NOx heat exchanger shall have a fifteen-year warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).

2.2 GAS FIRED EQUIPMENT

A. All gas-fired equipment shall be listed for use as a gas appliance.

B. All units shall comply with the emissions requirements of the Air Quality Management District (AQMD) in which they are to be installed.

2.3 AIR CONDITIONING UNIT, ROOF-MOUNTED (OFCI)

Provide factory assembled single packaged outdoor rooftop mounted, electrically controlled gas heating and electric cooling unit, rated in accordance with ARI Standards 210/240 or 340/360, and ETL or UL listed and labeled, classified in accordance with UL 1995. Provide refrigerant charge R-410A, all internal wiring, piping, controls, and special features required prior to field startup. Design unit to conform to the following:

1. California NOx emission requirements.
2. ASHRAE 15.
3. ASHRAE 90.1.
4. Insulation, adhesive, and all materials exposed to air stream shall meet NFPA 90A requirements for flame spread and smoke generation.
5. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

B. Unit shall be rated in accordance with ARI sound standards 270 or 370.

C. Unit shall be ETL or UL tested and certified in accordance with ANSI Z21.47 Standards as a total package.

D. Roof curb shall be designed to conform to NRCA Standards.

E. Unit shall be designed and manufactured in accordance with ISO 9001.

F. For unit sizes applicable to Energy Star program, units shall be Energy Star qualified.

G. Cabinet:

1. Provide galvanized steel unit cabinet, bonderized and coated with a baked enamel finish.
2. All airstream interior surfaces shall be insulated with a minimum 1/2 inch thick, 1.5 lb density cleanable insulation. Insulation shall be encapsulated with panel design or have sealed edges.
3. Cabinet panels shall be hinged with integrated non-corrosive hinges. Provide hinged access panels for the filter, compressors, evaporator fan, and control box/ heat section areas. Each panel shall have multiple latches and handles. Each external hinged access panel shall be permanently attached to the rooftop unit.
4. Return air filters shall be accessible through a dedicated hinged access panel.
5. Fork lift slots and rigging holes shall be provided in unit base rails. Base rails shall be minimum 16 gauge.
6. Unit shall have an integral sloped condensate drain pan, providing minimum 3/4 in.-14 NPT connections for horizontal drain configuration. Provide unit with alternate vertical thru-the-bottom drain connection when furnished as standard for units sizes scheduled on Drawings. See Drawings for drain configuration. Pan shall be removable for cleaning and maintenance. All drain pans shall conform to ASHRAE 62.1 self-draining provisions.
7. Unit shall have standard side and alternate field or factory installed thru-the-bottom power and control wiring connection capability. Thru-the-bottom electrical connections shall use manufacturer’s approved water-tight connection method.
8. Unit shall be field convertible to, or factory furnished with, horizontal air discharge, as applicable for unit sizes as scheduled on Drawings.

H. Fans:

1. Centrifugal supply air blower (evaporator fan) shall have sealed, permanently lubricated ball bearings, or rigid pillow block bearings, as supplied as standard equipment for unit sizes scheduled on Drawings. Units supplied with pillow block bearings shall be furnished with accessible lubricant fittings. Provide belt-driven double inlet fan wheel, centrifugal type with forward curved blades and adjustable sheaves. Multiple speed direct drive motors may be utilized when supplied as standard equipment for efficiency and electrical requirements as scheduled on the Drawings. Fan wheel shall be steel, with corrosion resistant finish, dynamically balanced.
2. Condenser fans shall be of the direct-driven propeller type, with corrosion-resistant aluminum blades. Fans shall be dynamically balanced and discharge air upwards. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved, centrifugal type, made from aluminized steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Induced draft fan shall be of the direct driven, single inlet, forward-curved centrifugal type. Fan wheel shall be steel, with corrosion resistant finish, dynamically balanced.

I. Motors:

1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.

2. Evaporator fan motor shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers.
3. Totally enclosed condenser-fan motor shall have permanently lubricated, sealed bearings, and inherent automatic-reset thermal overload protection.
4. Induced-draft motor shall have permanently lubricated sealed bearings and inherent automatic-reset thermal overload protection.
5. For single-phase fan motors sized larger than 1/12 hp and smaller than 1 hp, refer to Article, Electric Motors, in Section 23 00 50, Basic HVAC Materials and Methods.

J. Compressor:

1. Fully hermetic, scroll type with internal high-pressure and temperature protection.
2. Factory installed rubber shock mounted and internally spring mounted for vibration isolation.
   Compressor Anti-Recycle Timer: Compressor shall be prevented from restarting for a minimum of five minutes after shutdown, with manufacturers installed compressor cycle delay.

K. Coils:

1. Standard evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless internally finned copper tubes with all joints brazed.
2. Units shall have face-split type evaporator coils.
3. For units with single compressor, condenser coils shall be single slab, single pass design. For dual compressor units, condenser coils shall be single slab, 2 pass design.
4. Evaporator coils shall be leak tested at minimum 150 psig, and pressure tested at minimum 450 psig.
5. Condenser coils shall be leak tested at minimum 150 psig, and pressure tested at minimum 650 psig.

L. Heating Section:

1. Induced-draft combustion type with direct-spark ignition system and redundant main gas valve with 2-stage capability on all 3-phase units.
2. Heat Exchanger:

   a. Units 5 tons and below shall utilize the following: Optional low-NOx heat exchanger shall be of the tubular section type, with 20-gage, type 409 stainless steel primary tubes and vestibule plates. Other components shall be constructed of aluminized steel.

3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
4. All gas piping shall enter the unit at a single location. Gas entry shall be through side or bottom of unit. See Drawings for gas entry location. When bottom gas entry is utilized, unit shall be furnished with field installed conversion kit, arranged so that gas shut-off valve is accessible from the roof.
5. All factory-installed orifices are for operation up to 2,000 feet of altitude. For altitudes between 2,000 feet and 7,000 feet, a factory certified kit shall be furnished for field installation.

6. Units shall be suitable for use with natural gas or propane. Provide field-installed propane conversion kit as required, see schedule on Drawings.
7. The integrated gas controller board shall include gas heat operation fault notification using an LED (light-emitting diode).
8. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high-temperature limit switch. Fault indication shall be made using an LED.
9. The integrated gas controller board shall contain algorithms that modify evaporator-fan operation to prevent future cycling on high-temperature limit switch.
10. The LED shall be visible without removal of control box access panel.
11. Gas burner tray shall be removable for maintenance.
12. Heating section shall be insulated with foil-faced fiberglass insulation.

M. Refrigerant Components:

1. Each refrigerant circuit shall include:

   a. Balanced port thermostatic expansion valve (TXV) with removable power element.
   b. Solid core refrigerant filter driers with pressure ports.
   c. Refrigerant pressure gage ports and connections on suction, discharge, and liquid lines.

N. Filter Section:

Standard filter section shall accommodate 2 inch deep filters. Filters shall conform to the “Air Filters” Article in this Specification Section.

2. Filter section shall use standard size filters.

O. Controls:

1. Unit shall be complete with self-contained low voltage fuse protected control circuit. Refer to Section 25 50 00, if included, and equipment schedule, sequence of operation and control diagram on Drawings for additional requirements.
2. When third party direct digital controls with an Energy Management System will be utilized, provide electro-mechanical controls with 24V thermostat interface.
3. When stand-alone thermostat operation is utilized, provide electro-mechanical controls with 24V thermostat interface or provide microprocessor controls.
4. When stand-alone thermostat operation is utilized for single-zone VAV units, provide microprocessor controls. Units shall have factory mounted supply fan variable frequency drives.
5. When third party direct digital controls with an Energy Management System will be utilized for single zone VAV units, provide microprocessor controls with BACnet or LON interface. Units shall have factory mounted supply fan variable frequency drives.
6. Electro-mechanical controls shall include the following, as a minimum:

   a. Service run test capability.
   b. Provide compressor minimum run time (3 minutes) and minimum off time (5 minutes).
   c. Economizer control.

d. Unit shall have 35° F low ambient cooling operation.
e. Time delay relay.

7. Microprocessor controls shall include the following, as a minimum:

a. User diagnostic interface.
b. Unit control with standard suction pressure transducers and condensing temperature thermistors.
c. Shall provide a 5° F temperature difference between cooling and heating set points to meet ASHRAE 90.1 energy standard.
d. Service run test capability.
e. Shall accept input from a CO2 sensor (indoor).
f. Configurable alarm light shall be provided which activates when certain types of alarms occur.
g. Provide compressor minimum run time (3 minutes) and minimum off time (5 minutes).
h. Service diagnostic mode.
i. Economizer control.
j. Unit shall have 0° F low ambient cooling operation.
k. Time delay relay.

P. Safeties:

1. Unit shall incorporate a solid-state compressor lockout that provides optional reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:

a. Compressor lockout protection provided for either internal or external overload.
b. Low-pressure protection.
c. Freeze protection (evaporator coil).
d. High-pressure protection (high pressure switch or internal).
e. Compressor reverse rotation protection.
f. Loss of charge protection.
g. Start assist on singe-phase units.

2. Supply-air sensor shall be located in the unit and detect both heating and cooling operation.
3. Induced draft heating section shall be provided with the following minimum protections:

a. High-temperature limit switch.
b. Induced-draft motor speed sensor.
c. Flame rollout switch.
d. Flame proving controls.
e. Redundant gas valve.

4. Phase Protection: Provide unit-mounted “SymCom,” or equal, Motor Saver three phase voltage monitor, model 201A or equal, adjustable voltage range for each unit, install per manufacturer's recommendations, mount in NEMA 3R enclosure if exposed to the weather.

a. Units shall provide the following features:

1) Low voltage fault trip and reset.
2) Voltage unbalance/phasing fault trip and reset.
3) High voltage fault trip and reset.
4) Transient Protection (Internal).
5) Automatic restart.

b. Provide each unit with 600V socket, "SymCom" model OT08, or equal.

Q. Operating Characteristics:

1. Unit shall be capable of starting and running at 125° F ambient outdoor temperature per maximum load criteria of ARI Standards 210 or 360.
2. Unit will operate in cooling down to an outdoor ambient temperature of 35° F.
3. Unit shall be provided with fan time delay to prevent cold air delivery in heating mode.

Electrical Requirements:

1. All unit power wiring shall enter unit cabinet at a single location. Both unit side and bottom power entry provisions shall be provided. Refer to Drawings schedule for thru-the-bottom power wiring requirement.

S. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:
Carrier Corporation.

2. Trane Inc.
3. Johnson Controls, Inc.

T. Provide the following additional features and equipment:

1. Roof Curb: Formed galvanized steel with wood nailer strip capable of supporting entire unit weight. Provide 3 inch wide bottom flange.
2. Provide heavy-duty 18 gauge expanded metal coil guard grille to protect all surfaces of the condensing coil. Coil guard by Micrometl, Canfab, or equal.
3. Modulating Power Exhaust Economizer: Micrometl, Canfab, or equal. Integrated type capable of simultaneous economizer and compressor operation.

a. Provide self-contained outdoor rooftop system, mounted directly to the return air compartment of the HVAC packaged equipment. Provide differential dry bulb economizer control system and a factory programmed, fully programmable variable frequency drive package controlled by a differential pressure transmitter, mounted directly to the return air compartment of the HVAC packaged equipment. Design the system to continuously maintain space pressure, and provide capability of introducing up to 100 percent outdoor air.

1) Economizer control system shall be certified as meeting the requirements for Fault Detection and Diagnostics (FDD) in the California Building Energy and Efficiency Standards.

b. Provide outside differential pressure tubing termination with hex style pneumatic filter-muffler, minimum filtration 40 microns, 53 SCFM maximum at 100 psi, as manufactured by McMaster-Carr, or equal.
c. Provide hinged cabinet access doors and include latches to provide a tool-less entry for servicing.
d. Provide door lock on the power exhaust cabinet to meet ETL safety requirements.
e. Outdoor air intake dampers shall be low leak not to exceed 3 percent at 1 inch wg pressure differential and include stainless steel side seal and neoprene edge seal. Arrange dampers to close upon loss of power.
f. Provide belt driven exhaust blowers, double inlet, forward-curved centrifugal type. Provide gravity backdraft damper at fan outlet.
g. Provide fully programmable factory programmed variable frequency drive (VFD) package for each fan, driven by 4 to 20 mA signal from a differential pressure transmitter. Pressure transmitters shall measure 0 - 0.1 in wg. Install room sensor tubing with sensor tube termination installed within the room.

1) Where direct digital controls are utilized, provide Belimo, or equal, damper actuator, complete with spring return and all controls required to make the system fully operational.
2) Where stand-alone controls are utilized, provide Belimo, or equal, damper actuator, complete with spring return and all controls, including logic module, required to make the system fully operational.

4. Other features, accessories, and equipment scheduled on Drawings.

U. Replenish for a period of one year without cost to the Owner all refrigerant and oil required to maintain the proper levels.

V. Owner Training: Manufacturer shall provide two initial on-site 4-hour training sessions for Owners' maintenance personnel. Manufacturer shall provide one 4-hour follow-up training session to be scheduled by Owner within one year of the date of the final initial training session. Training session agenda shall be as follows:

1. First session: Equipment.
2. Second session: Controls.
3. Follow-up session: Agenda by Owner.

2.4 AIR INLETS AND OUTLETS

A. Except as otherwise indicated, provide manufacturer's standard inlets and outlets where shown; of size, shape, capacity and type indicated; constructed of materials and components as indicated, and as required for complete installation.

B. Ceiling, wall or floor Compatibility: Provide inlets and outlets with border styles that are compatible with adjacent ceiling, wall or floor systems, and that are specifically manufactured to fit into ceiling, wall or floor module with accurate fit and adequate support. Refer to general construction drawings and specifications for types of ceiling systems that will contain each type of air outlet and inlet.

C. Refer to Schedule on Mechanical Drawings for details of inlets and outlets to be used.

2.5 AIR FILTERS

A. Provide MERV 13 disposable pleated media type. Refer to specific equipment Articles for filter depth and for exceptions to this specification. Filters shall conform to the following:

1. Standards:

   a. ASHRAE Standard 52.2-2007.
   b. Underwriters Laboratories: U.L. 900, Class 2.

2. Construction:

   a. Media: Synthetic or cotton-synthetic blend with radial pleats.
   b. Media Frame: High wet-strength beverage board.
   c. Media Support: Welded wire or expanded metal grid bonded to air leaving side of the media.

3. Performance: 2” deep filter shall have a maximum initial air resistance of 0.31 inches w.g.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

1. Camfil Farr, Inc., model 30/30.
2. Flanders Corporation, model 40 LPD.

C. Temporary (Construction Period) Filters:

1. Install new temporary filters in all units that have filter systems installed. Temporary filters shall match the permanent filters that are specified for the units. Replace filters as needed, in accordance with manufacturer’s directions, in order to provide protection for the unit prior to occupancy by the Owner.
2. If air handling units are operated during construction of the project, install temporary filters directly over each return air inlet. Filters shall match the permanent filters that are specified for the units. Select size of filter to completely cover the frame of the return air inlet, and tape filters firmly in place to eliminate any construction debris from entering the duct system or unit. Remove the temporary filters upon completion of the work, and repair all damaged paintwork.

D. Spare Filters:

1. Furnish two new, complete sets of filter cartridges for each filter bank on completion and acceptance of the work. Install one set of filters in units (prior to final air balance). Provide units designed to accommodate washable, permanent filters with one washable, permanent filter.

2.6 DUCTWORK

A. Construct and install sheet metal ductwork in accordance with the California Mechanical Code for 2 inches static pressure for supply air, and 2 inches minimum for return and exhaust air unless otherwise noted on Drawings.

Where not in conflict with the California Mechanical Code, construct and install all sheet metal ductwork in accordance with SMACNA HVAC Duct Construction Standards (Metal and Flexible). Where applicable for HVAC work, construct and install sheet metal work in accordance with SMACNA Architectural Sheet Metal Manual.

2. Provide variations in duct size, and additional duct fittings as required to clear obstructions and maintain clearances as approved by the Architect at no extra cost to the Owner.
3. Gauges, joints and bracing shall be in accordance with the California Mechanical Code.
4. Provide beading or cross breaking for all ductwork inside building. Provide cross breaking for ductwork exposed to weather.
5. At the contractor's option, ductwork may be fabricated using the Ductmate, Nexus, Quickduct, Transverse Duct Connection (TDC), Pyramid-Loc duct connection systems, or equal. Fabricate in strict conformance with manufacturer's written installation instructions and in accordance with California Mechanical Code.

    a. Seal flanged ends with pressure sensitive high density, closed cell neoprene or polyethylene tape gasket, Thermo 440, or equal.
    b. Provide metal clips for duct connections, except at breakaway connections for fire dampers and fire smoke dampers. Provide corner clips at each corner of duct, through bolted, at all locations except at breakaway connections for fire dampers and fire smoke dampers. Where used on locations exposed to weather, provide continuous metal clip at top and sides of duct, with 1 inch overhang for top side.

B. Design and installation standards:

1. SMACNA Compliance: Comply with applicable portions of Sheet Metal and Air Conditioning Contractor's National Association (SMACNA) for all work in this section.
2. NFPA Compliance: Comply with ANSI/NFPA 90A, "Standard for the Installation of Air Conditioning and Ventilating Systems," and ANSI/NFPA 90B, "Standard for the Installation of Warm Air Heating and Air Conditioning Systems."
3. California Mechanical Code.

C. Duct sizes indicated are external sizes.

D. Galvanized Sheet Steel: Lock-forming quality, ASTM A924 and ASTM A653, Coating Designation G 90. Provide mill phosphatized finish for exposed surfaces of ducts exposed to view.

Provide mill certification for galvanized material at request of the Project Inspector.

E. Duct Sealants:

1. Sealant shall have a VOC content of 250 g/L or less.

Sealant shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.
Provide one part, non-sag, synthetic latex sealant, formulated with a minimum of 68 percent solids. Sealant shall comply with ASTM E84, Surface Burning Characteristics.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

1) Design Polymerics, model DP1010.
2) Polymer Adhesive Sealant Systems Inc, model Airseal #11.
3) McGill Airseal, LLC.

F. Duct Support Materials: Except as otherwise indicated, provide hot-dipped galvanized steel fasteners, anchors, straps, trim, and angles for support of ductwork.

G. Rectangular Duct Fabrication:

1. Shop fabricate ductwork of gauges and reinforcement complying with the more stringent of the following standards, except as noted herein.

a. SMACNA HVAC Duct Construction Standards
b. California Mechanical Code
Fabricate ducts for 2 inch pressure class with minimum duct gauges and reinforcement as follows, except as otherwise noted:

Table A

Duct Dimension	Minimum Gauge	Joint Reinforcement Per CMC
Through 12"	26	Not Required
13" through 18"	24	Not Required
19" through 30"	24	C/4
31" through 42"	22	E/4
43" through 54"	22	F/2
55" through 60"	20	G/4
61" through 84"	20	I/2
85" through 96"	20	J/2

Over 96"	18	K/2

3. Fabricate duct fittings to match adjoining ducts and to comply with duct requirements as applicable to fittings. Except as otherwise indicated, fabricate elbows with center-line radius equal to 1.5 times associated duct width. Fabricate to include single thickness turning vane in elbows where space does not permit the above radius or where square elbows are shown. Limit angular tapers to 30 degrees for contracting tapers and 20 degrees for expanding tapers. Turning vanes shall be E-Z Rail II, Durodyne, or equal.
4. Fabricate round supply connections at rectangular, plenum type fittings using spin-in type fittings, complete with extractor and volume control damper. Refer to Paragraph "DAMPERS" for damper requirements.
5. Provide drive slip or equivalent flat seams for ducts exposed in the conditioned space or where necessary due to space limitations. On ducts with flat seams, provide standard reinforcing on inside of duct. Duct connection to outlet on exposed duct shall be full size of outer perimeter of outlet flange.
6. Ducts exposed in the conditioned space shall be free of dents and blemishes and be mounted tight against adjacent surface with flat hangers. Remove all fabrication labels from ductwork.
7. Provide 20 gauge minimum for ductwork exposed within occupied spaces.

H. Rectangular Internally Insulated Duct Fabrication:

1. Provide internal duct lining where indicated on the Drawings, with a minimum of 10'-0" length in each direction from the fan, fan casing, or unit casing. Line all transfer ducts.

    a. Where ductwork is exposed to weather or outside the building insulation envelope, provide 2 inch thick, 1-1/2 pound density internal lining with matte facing, with an R-Value of 8.0 minimum.
    b. Where ductwork is within the building insulation envelope, lining shall be 1" thick, 1-1/2 pound density, with R-value of 4.2 minimum.
    c. Ducts exposed in the conditioned space shall be free of dents and blemishes and be mounted tight against adjacent surface with flat hangers. Remove all fabrication labels from ductwork.
    d. Where installed exposed in the conditioned space, duct shall be minimum 20 gauge with 1 inch insulation layer (minimum R-value – R-4.2).
    e. Cement duct liner in place with nonflammable, non-hardening duct adhesive. Seal all raw edges of insulation inside ductwork with adhesive, including longitudinal liner edges.
    f. Provide metal nosing at all locations where liner is preceded by unlined metal.
    g. Provide sheet metal weld pins and washers or clinch pins and washers on all ductwork on 12 inch intervals with the first row within 3 inches of the leading edge of each piece of insulation and within 4 inches of corners. No use of adhesive mounted pins will be considered.

        1) Install clinched pin fasteners with properly adjusted automatic fastening equipment. Manual installation will not be considered.

2) Install weld pins with properly adjusted automatic fastening equipment. Installation shall not damage the galvanized coating on the outside of the duct.

h. All ductwork, adhesives, lining, sealant, flex duct and the like shall have a flame spread of 25 or less and developed smoke rating of 50 or less when tested in accordance with one of the following test methods: NFPA 255, ASTM E84, or UL 723.

i. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

Manufacturer:	Product:
Johns Manville	Linacoustic RC
CertainTeed Corporation	ToughGard
Fosters Adhesive	85-62
Swifts Adhesive	7336

2. Duct Access Panels:

a. Provide duct access panel assembly of the same material and gauge used for the duct. Duct access panels shall conform to the following:

1) Fasteners: Black steel or stainless steel to match material used for the duct. Panel fasteners shall not penetrate duct wall.
2) Gasket: Comply with NFPA 96, grease-tight, high temperature ceramic fiber, rated for minimum 1500 °F.

I. Type 2 Clothes Dryer Exhaust Ducts:

1. Fabricate ducts and supports of 18 gauge minimum, Type 304, stainless steel. All duct seams and joints shall be welded. Finish exposed stainless steel with Number 4 finish.

J. Flexible Connectors:

1. Materials: Flame-retardant or noncombustible fabrics. Coatings and adhesives shall comply with UL 181, Class 1, with flame spread index of 25 or less, and smoke-developed index of 50 or less.

2. Metal-Edged Connectors: Factory fabricated with a fabric strip 3 inches wide attached to two strips of 3-inch-wide, 0.028-inch-thick, galvanized sheet steel or 0.032-inch-thick aluminum sheets. Provide metal compatible with connected ducts.
3. Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone.

    a. Minimum Weight: 26 oz./sq. yd.
    b. Tensile Strength: Minimum 475 lbf/inch in the warp and minimum 375 lbf/inch in the filling.
    c. Service Temperature: Minus 50 to plus 200 deg F.

4. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

    a. Ductmate Industries, Inc., model Proflex.
    b. Ventfabrics, Inc., model Ventlon.

2.7 INSULATION MATERIALS

A. General:

1. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).
2. Products shall not contain asbestos, lead, mercury, or mercury compounds.
3. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.
4. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.
5. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.
6. Test insulation, jackets and lap-seal adhesives as a composite product and confirm flame spread of not more than 25 and a smoke developed rating of not more than 50 when tested in accordance with UL723 or ASTM E84.
   Adhesives and sealants shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.

B. Insulation Materials:

1. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II and ASTM C 1290, Type III with factory-applied FSK jacket. Provide 2-inch wide stapling and taping flange.

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

        1) CertainTeed Corporation.

2) Johns Manville.
3) Knauf Insulation.
4) Owens Corning.

C. Vapor-Barrier Mastic: Water based; suitable for indoor use on below-ambient services.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

a. Design Polymerics.
b. Foster Brand; H. B. Fuller Construction Products.
c. Knauf Insulation.

2. Water-Vapor Permeance: Comply with ASTM E96/E96M or ASTM F1249.
3. Service Temperature Range: 0 to plus 180 deg F.
4. Color: White.

D. Vapor-Barrier Mastic: Solvent based; suitable for outdoor use on below-ambient services.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

a. Design Polymerics.
b. Childers Brand; H. B. Fuller Construction Products.
c. Foster Brand; H. B. Fuller Construction Products.

2. Water-Vapor Permeance: Comply with ASTM E96/E96M or ASTM F1249.
3. Service Temperature Range: Minus 50 to plus 220 deg F.
4. Color: White.

E. Breather Mastic: Water based; suitable for indoor and outdoor use on above-ambient services.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

a. Design Polymerics.
b. Childers Brand; H. B. Fuller Construction Products.
c. Foster Brand; H. B. Fuller Construction Products.
d. Knauf Insulation.

2. Water-Vapor Permeance: ASTM F 1249, 1.8 perms at 0.0625-inch dry film thickness.
3. Service Temperature Range: 0 to plus 180 deg F.
4. Color: White.

F. Field Applied Jackets:

1. PVC Jacket and Factory Fabricated Fitting Covers: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming.

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

        1) Johns Manville, model Zeston, with Zeston 2000 fitting covers.
        2) Proto Corporation, model LoSmoke.

2.8 TEMPERATURE CONTROL SYSTEM

A. Refer to Section 23 09 23, Direct Digital Control System for HVAC.

PART 3 - EXECUTION

3.1 ROOF MOUNTED EQUIPMENT INSTALLATION

A. Mount and anchor equipment in strict compliance with Drawings details. Alternate anchorage methods will not be considered for roof mounted equipment.

B. Examine rough-in for roof mounted equipment to verify actual locations of piping and duct connections prior to final equipment installation.

C. Verify that piping to be installed adjacent to roof mounted equipment allows service and maintenance.

D. Verify that gas piping will be installed with sufficient clearance for burner removal and service.

E. Install ducts to termination at top of roof curb and install heavy duty rubber gaskets on supply and return openings and on full perimeter of curb, or as required for an airtight installation, prior to setting unit on curb.

F. Cover roof inside each roof mounted air conditioning unit, heat pump unit, and heating and ventilating unit roof curb with 2 inch thick, 3 pound density fiberglass insulation board.

G. Connect supply and return air ducts to horizontal discharge roof mounted equipment with flexible duct connectors. Provide G 90 galvanized steel weather hood over flexible connections exposed to the weather. Weather hood minimum gauge shall be per PART 2 article, Ductwork, Table A.

H. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.

3.2 AIR INLETS AND OUTLETS INSTALLATION

A. Provide all air inlets and outlets with gaskets and install so that there will be no streaking of the walls or ceilings due to leakage. Duct connection to outlet on exposed duct shall be full size of outer perimeter of outlet flange.

B. Unless otherwise indicated on Drawings, provide rectangular galvanized steel plenum on top of each diffuser and ceiling return for connection to ductwork. Line plenum with internal insulation as indicated for lined ductwork. Size plenum to allow full opening into air terminal. Plenum sheet metal gauge shall be equal to gauge for rectangular equivalent of the branch duct serving the air inlet or outlet.

C. Ceiling-mounted air inlets, outlets, or other services installed in T-Bar type ceiling systems shall be positively attached to the ceiling suspension main runners or to cross runners with the same carrying capacity as the main runners.

1. Air inlets, outlets, or other services weighing not more than 56 pounds shall have two No. 12 gauge hangers connected from the terminal or service to the structure above. These wires may be slack.
2. Support air inlets, outlets, or other services weighing more than 56 pounds directly from the structure above by approved hangers. Provide 4 taut 12 gauge wires each, attached to the fixture and to the structure above. The 4 taut 12 gauge wires, including their attachment to the structure above must be capable of supporting 4 times the weight of the unit.
3. Secure air inlets and outlets to main runners of ceiling suspension system with two No. 8 sheet metal screws at opposing corners.

D. Furnish all air inlets and outlets with a baked prime coat unless otherwise noted. Provide off-white baked enamel finish on ceiling-mounted air inlets and outlets. Paint exposed mounting screws to match the material being secured.

E. Air inlets and outlets shall match all qualities of these specified including appearance, throw, noise level, adjustability, etc.

3.3 TEMPORARY FILTERS

A. Provide temporary filters for fans that are operated during construction; after construction dirt has been removed from the building install new filters at no additional cost to the Owner. In addition to temporary filters at filter location, provide temporary filters on all duct openings which will operate under a negative pressure.

1. Filters used for temporary operation shall be the same as permanent filters for the application. Filters used for duct openings may be 1 inch thick pleated media disposable type.

3.4 DUCTWORK INSTALLATION

A. General:

1. Assemble and install ductwork in accordance with recognized industry practices which will achieve air tight and noiseless (no objectionable noise) systems capable of

performing each indicated service. Install each run with minimum of joints. Align ductwork accurately at connections within 1/8 inch misalignment tolerance and with internal surfaces smooth. Support ducts rigidly with suitable ties, braces, hangers, and anchors of type which will hold ducts true to shape and to prevent buckling. Where possible, install ductwork to clear construction by 1/4 inch minimum, except at air inlets and outlets. Where ductwork will not clear construction, secure duct firmly to eliminate noise in the system.

2. Duct Joints: Install duct sealers, pop rivets or sheet metal screws at each fitting and joint. Duct sealers shall be fire retardant. Sheet metal screws for joints shall be minimum #10 size galvanized.
3. Where ductwork is left exposed within a room, the same shall be run true to plumb, horizontal, or intended planes. Where possible, uniform margins are to be maintained between parallel lines and/or adjacent wall, floor, or ceiling surfaces.
4. Horizontal runs of ductwork suspended from ceilings shall provide for a maximum headroom clearance. The clearance shall not be less than 6'-6" without written approval from the Architect.
5. Provide sheet metal angle frame at all duct penetrations to wall, floor, roof, or ceiling.
6. Paint inside of ducts, visible through grille, dull black.
7. Where ductwork is installed in finished areas of buildings that do not have ceilings, paint ductwork, support hangers, and air inlets and outlets to match adjacent architectural surfaces, or as directed by Architect.
8. At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal, or other methods acceptable to the enforcing agency.

B. Firestopping:

1. Pack the annular space between duct openings and ducts penetrating floors and walls with UL listed fire stop, and sealed at the ends. All pipe penetrations shall be UL listed, Hilti, 3M Pro-Set, or equal.

    a. Install fire caulking behind mechanical services installed within fire rated walls, to maintain continuous rating of wall construction.

2. Firestopping systems to be installed in strict accordance with manufacturer's instructions.
3. Alternate firestopping systems are acceptable if approved equal. However, any deviation from the above specification requires the Contractor to be responsible for determining the suitability of the proposed products and their intended use, and the Contractor shall assume all risks and liabilities whatsoever in connection therewith.

C. Flashing:

1. The work of this section shall include furnishing, layout, sizing, and coordination of penetrations required for the mechanical work.
2. Refer to Division 07 specifications and Drawings details as applicable.
3. Flashing for penetrations of roof for mechanical items such as flues and ducts shall be coordinated with the roofing manufacturer and roofing installer for the specific roofing

type. The work of this section shall include furnishing, layout, sizing, and coordination of penetrations required for the mechanical work.

a. Furnish and install flashing and counterflashing in strict conformance with the requirements of the roofing manufacturer. Submit shop drawing details for review prior to installation.
b. Flues and ducts shall have 24 gauge galvanized sheet metal storm collar securely clamped to the flue above the flashing.

Upper connection of support to wood structure shall be with wood screws or lag screws in shear fastened in the upper one half of the wood structural member. Fasteners shall conform to the following schedule:

For ducts with P/2=30"	#10 x 1-1/2" wood screw
For ducts with P/2=72"	1/4"x 1-1/2" lag screw
For ducts with P/2 over 73"	3/8"x 1-1/2" lag screw

E. Upper connection in tension to wood shall not be used unless absolutely necessary. Where deemed necessary the contractor shall submit calculations to show the size fastener and penetration required to support loads in tension from wood in accordance with the following schedule:

For ducts with P/2=30"	260 pounds per hanger
For ducts with P/2=72"	320 pounds per hanger
For ducts with P/2=96"	460 pounds per hanger
For duct with P/2 larger than 120"	NOT ALLOWED

F. Where ducts pass through interior partitions and exterior walls, conceal space between construction opening and duct or duct plus insulation with sheet metal flanges of same gauge as duct. Overlap opening on four sides by at least 1-1/2 inches.

G. Support ductwork in manner complying with SMACNA "HVAC Duct Construction Standards," hangers and supports sections. Where special hanging of ductwork is detailed or shown on Drawings, Drawings shall be followed. Angles shall be attached to overhead construction in a manner so as to allow a minimum of 2 inches of movement in all directions with no bending or sagging of the angle.

1. Except where modified in individual paragraphs of this Section, provide hanger support with minimum 18 gauge straps, 1 inch wide. Fold duct strap over at bottom of duct.
2. Install duct supports to rectangular ducts with sheet metal screws. Provide one screw at top of duct and one screw into strap at bottom of duct.

3.5 DUCTWORK SEALING AND LEAK TESTING

A. All ductwork shall receive a Class A seal.

B. Seal airtight all joints and seams, including standing seams and manufactured joints and seams, of all supply, return and exhaust ducts except those exposed in conditioned space.

C. Leakage Classes:

Pressure Class	Leakage Class	
	Round Duct	Rectangular Duct
2"W.G. or less	8	16
4"W.G. or greater	2	4

D. All duct systems (supply, return, outside air intake, and exhaust), except those identified on compliance forms on Drawings as requiring Acceptance Testing per the requirements of the California Energy Code, shall be tested in accordance with the requirements of SMACNA "HVAC Air Duct Leakage Test Manual." Test pressure shall be equal to the pressure class of the duct. For additional duct leak testing requirements, refer to Section 230050, "Basic HVAC Materials and Methods," Article, "Acceptance Requirements."

3.6 PIPING INSTALLATION

A. General:

1. All piping shall be concealed unless shown or otherwise directed. Allow sufficient space for ceiling panel removal.
2. Installation of piping shall be made with appropriate fittings. Bending of piping will not be accepted.
3. Install piping to permit application of insulation and to allow valve servicing.
4. Where piping or conduit is left exposed within a room, the same shall be run true to plumb, horizontal, or intended planes. Where possible, uniform margins are to be maintained between parallel lines and/or adjacent wall, floor, or ceiling surfaces.
5. Horizontal runs of pipes and conduits suspended from ceilings shall provide for a maximum headroom clearance. The clearance shall not be less than 6'-6" without written approval from the Architect.
6. Close ends of pipe immediately after installation. Leave closure in place until removal is necessary for completion of installation.
7. Use reducing fittings; bushings shall not be allowed. Use eccentric reducing fittings wherever necessary to provide free drainage of lines and passage of air.
8. Verify final equipment and fixture locations for roughing-in.
9. Where piping is installed in walls within one inch of the face of stud, provide a 16 gauge sheet metal shield plate on the face of the stud. The shield plate shall extend a minimum of 1-1/2 inches beyond the outside diameter of the pipe.
10. Each piping system shall be thoroughly flushed and proved clean before connection to equipment.
11. Install exposed polished or enameled connections with special care showing no tool marks or threads at fittings.

12. Service Markers: Mark the location of each plugged or capped pipe with a 4 inch round by 30 inch long concrete marker, set flush with finish grade. Provide 2-1/2 inch diameter engraved brass plate as part of monument marker.
13. Pipe the discharge of each relief valve, air vent, backflow preventer, and similar device to floor sink or drain.

B. Sleeves:

1. Install Adjus-to-Crete, Pipeline Seal and Insulator, or equal, pipe sleeves of sufficient size to allow for free motion of pipe, 24 gauge galvanized steel. The space between pipe and sleeves through floor slabs on ground, through outside walls above or below grade, through roof, and other locations as directed shall be caulked with oakum and mastic and made watertight. The space between pipe and sleeve and between sleeve and slab or wall shall be sealed watertight.
2. At Contractor's option, Link-Seal, Metraflex Metraseal, or equal, casing seals may be used in lieu of caulking. Wrap pipes through slabs on grade with 1 inch thick fiberglass insulation to completely isolate the pipe from the concrete.

C. Floor, Wall, and Ceiling Plates:

1. Fit all pipes with or without insulation passing through walls, floors, or ceilings, and all hanger rods penetrating finished ceilings with chrome-plated or stainless escutcheon plates.

D. Firestopping:

1. Pack the annular space between pipe sleeves and pipes penetrating floors and walls with UL listed fire stop, and sealed at the ends. All pipe penetrations shall be UL listed, Hilti, 3M Pro-Set, or equal.

    a. Install fire caulking behind mechanical services installed within fire rated walls, to maintain continuous rating of wall construction.

2. Provide SpecSeal Systems UL fire rated sleeve/coupling penetrators for each pipe penetration or fixture opening passing through floors, walls, partitions or floor/ceiling assemblies. All Penetrators shall comply with UL Fire Resistance Directory (Latest Edition), and in accordance with CBC requirements.
3. Sleeve penetrators shall have a built in anchor ring for waterproofing and anchoring into concrete pours or use the special fit cored hole penetrator for cored holes.
4. Copper and steel piping shall have SpecSeal, or equal, plugs on both sides of the penetrator to reduce noise and to provide waterproofing.
5. Firestopping systems to be installed in strict accordance with manufacturer's instructions.
6. Alternate firestopping systems are acceptable if approved equal. However, any deviation from the above specification requires the Contractor to be responsible for determining the suitability of the proposed products and their intended use, and the Contractor shall assume all risks and liabilities whatsoever in connection therewith.

3.7 HANGER AND SUPPORT INSTALLATION

A. General: Support ductwork, equipment and piping so that it is firmly held in place by approved iron hangers and supports, and special hangers. Hanger and support components shall support weight of ductwork, equipment and pipe, fluid, and pipe insulation based on spacing between supports with minimum factor of safety of five based on ultimate strength of material used. Do not exceed manufacturer's load rating. Pipe attachments or hangers, of same size as pipe or tubing on which used, or nearest available. Rigidly fasten hose faucets, fixture stops, compressed air outlets, and similar items to the building construction. The Architect shall approve hanger material before installation. Where building structural members do not match piping and ductwork support spacing, provide “bridging” support members firmly attached to building structural members in a fashion approved by the structural engineer.

1. Materials, design, and type numbers for support of piping per Manufacturers' Standardization Society (MSS), Standard Practice (SP)-58.

    a. Provide copper-plated or felt-lined hangers for use on uninsulated copper tubing.

2. Materials and design for ductwork support shall be per SMACNA “HVAC Duct Construction Standards, Metal and Flexible.”

B. Hanger components shall be provided by one manufacturer: B-Line, Grinnell, Unistrut, Badger, or equal.

C. Duct Hanger and Support Spacing: Conform to Requirements of CMC and SMACNA “HVAC Duct Construction Standards, Metal and Flexible.”

D. Duct Support to Structure:

1. Upper connection of support to wood structure shall be with wood screws or lag screws in shear fastened in the upper one half of the wood structural member. Fasteners shall conform to the following schedule:

For ducts with P/2=30"	#10 x 1-1/2" wood screw
For ducts with P/2=72"	1/4"x 1-1/2" lag screw
For ducts with P/2 over 73"	3/8"x 1-1/2" lag screw

2. Upper connection in tension to wood shall not be used unless absolutely necessary. Where deemed necessary the contractor shall submit calculations to show the size fastener and penetration required to support loads in tension from wood in accordance with the following schedule:

For ducts with P/2=30"	260 pounds per hanger
For ducts with P/2=72"	320 pounds per hanger
For ducts with P/2=96"	460 pounds per hanger
For duct with P/2 larger than 120"	NOT ALLOWED

3. Install concrete inserts for support of ductwork in coordination with formwork as required to avoid delays in work.
4. Upper connection to manufactured truss construction must comply with truss manufacturers published requirements and Structural Engineers requirements.

3.8 INSULATION AND FIELD-APPLIED JACKET INSTALLATION

A. General:

1. The term "piping" used herein includes pipe, air separators, valves, strainers and fittings.
2. Clean thoroughly, test and have approved, all piping and equipment before installing insulation and/or covering.
3. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping, ductwork, and equipment.
4. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of equipment as specified in insulation system schedules.
5. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
6. Install insulation with longitudinal seams at top and bottom of horizontal runs.
7. Install multiple layers of insulation with longitudinal and end seams staggered.
8. Keep insulation materials dry during application and finishing.
9. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
10. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
11. Install insulation in removable segments on equipment access doors, manholes, handholes, and other elements that require frequent removal for service and inspection. Bevel and seal insulation ends around manholes, handholes, ASME stamps, and nameplates.
12. For piping, ductwork, and equipment, with surface temperatures below ambient, apply mastic to open ends, joints, seams, breaks, and punctures in insulation.
    Repair all damage to existing pipe, duct and equipment insulation whether or not caused during the work of this contract, to match existing adjacent insulation for thickness and finish, but conforming to flame spread and smoke ratings specified above.
14. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

    a. Install insulation continuously through hangers and around anchor attachments.
    b. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
    c. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.

d. Cover inserts with jacket material matching adjacent insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

B. Duct Insulation Installation:

1. General:

a. Insulation applied to the exterior surface of ducts located in buildings shall have a flame spread of not more than 25 and a smoke-developed rating of not more than 50 when tested as a composite installation including insulation, facing materials, tapes and adhesives as normally applied. Material exposed within ducts or plenum shall have a flame-spread rating of not more than 25 and a smoke-developed rating of not more than 50.
b. Duct insulation applied to the exterior surface of ducts installed outside the building insulation envelope shall meet minimum R-value of R-8 at 3 inches thickness and 3/4 pound per cubic foot density.
c. Duct insulation applied to the exterior surface of ducts installed within the building insulation envelope shall meet minimum R-value of R-4.2 at 1-1/2 inches thickness and 3/4 pound per cubic foot density.

2. Mineral Fiber Blanket Installation:

a. Insulate all unlined concealed supply and return ducts with fiberglass duct wrap, manufactured as a blanket of glass fibers factory laminated to a reinforced foil/kraft vapor retarding facing. Provide 2 inch stapling and taping flange. Wrap insulation entirely around duct and secure with outward clinching staples on 6 inch centers. Provide mechanical fasteners at maximum 18 inch centers for all bottoms of duct which are greater than 24 inches. Lap all insulation joints 3" minimum. Insulate ducts installed tight against other work before hanging in place. Seal all seams, both longitudinal and transverse, and all staple and mechanical fastener penetrations of facing with scrim backed foil tape or recommended sealant, to provide a vapor tight installation.

3. PVC Jacket Installation:

a. Where PVC jackets are indicated, install with 1-inch overlap at longitudinal seams and end joints; for horizontal applications. Seal with manufacturer's recommended adhesive.

1) Apply two continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.

3.9 TEMPERATURE CONTROL SYSTEM INSTALLATION

Provide thermostats where indicated on drawings. All wiring shall be in conduit. Provide all relays, transformers and the like to render the control system complete and fully operable. All control conduit to be rigid steel type.

3.10 EQUIPMENT START-UP

Initial start-up of the systems and pumps shall be under the direct supervision of the Contractor.

B. Equipment start-up shall not be performed until the piping systems have been flushed and treated and the initial water flow balance has been completed.

C. It shall be the responsibility of the Contractor to assemble and supervise a start-up team consisting of controls contractor, start-up technician, and test and balance contractor; all to work in concert to assure that the systems are started, balanced, and operate in accordance with the design.

D. After start-up is complete, instruct the Owner's personnel in the operation and maintenance of the systems. Obtain from the Owner's representative a signed memo certifying that instruction has been received.

E. For additional requirements, refer to article, Check, Test and Start Requirements, in Section 23 00 50, Basic HVAC Materials and Methods.

3.11 TESTING AND BALANCING

A. For testing and balancing requirements, refer to Section 23 05 93, Testing and Balancing for HVAC.

3.12 CLEANING AND PROTECTION

A. As each duct section is installed, clean interior of ductwork of dust and debris. Clean external surfaces of foreign substances that might cause corrosive deterioration of metal or where ductwork is to be painted.

B. Temporary Closure: At ends of ducts that are not connected to equipment or air distribution devices at time of ductwork installation, provide temporary closure of polyethylene film or other covering that will prevent entrance of dust and debris until connections are to be completed.

C. As each internally lined duct section is installed, check internal lining for small cuts, tears, or abrasions. Repair all damage with fire retardant adhesive.

3.13 EQUIPMENT MOUNTING

A. Mount and anchor equipment in strict compliance with Drawings details. Alternate anchorage methods will not be considered for roof mounted equipment.

3.14 INDOOR DUCT INSULATION SCHEDULE

A. Ducts Located Within Building Thermal Envelope:

1. Minimum R-Value = R-4.2.
2. Supply and Return Ducts: Mineral Fiber Blanket, 1-1/2 inches thick, 0.75 lb/cu. ft.

B. Ducts Located Within Building Outside Thermal Envelope:

1. Minimum R-Value – R-8.0.
2. Supply and Return Ducts: Mineral Fiber Blanket, 3 inches thick, 0.75 lb/cu. ft.

3.15 OUTDOOR DUCT INSULATION SCHDULE.

A. Minimum R-Value = R-8.

B. Refer to article, Ductwork, for internal duct lining. Provide 2 inches thick internal duct lining where indicated on Drawings.

3.16 INDOOR FIELD-APPLIED DUCT JACKET SCHEDULE

A. Insulated ducts in concealed spaces: None.

B. Insulated ducts in exposed unconditioned spaces: PVC, 20 mils thick.

END OF SECTION 23 80 00

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

1001 SCHOOLHOUSE RD., SAN JOSE CA 95138

OAK GROVE SCHOOL DISTRICT

CONSTRUCTION DOCUMENTS

DSA FILE NUMBER 43-41
DSA APP. NUMBER 01-122831
PTN 69625-156

ABBREVIATIONS

&	AND	LAB.	LABORATORY
@	AT	LAM.	LAMINATE
A.B.	ANCHOR BOLT	LAV.	LAVATORY
ABV.	ABOVE	LKR.	LOCKER
A.C.	ASPHALTIC CONCRETE	LT.	LIGHT
ACT	ACOUSTIC TILE		
ADJ.	ADJUSTABLE	MAX.	MAXIMUM
A.F.F.	ABOVE FINISHED FLOOR	M.B.	MACHINE BOLT
ALUM.	ALUMINUM	MECH.	MECHANICAL
A.P.	ACCESS PANEL	MFR.	MANUFACTURER
APPROX.	APPROXIMATELY	M.H.	MANHOLE
ARCH.	ARCHITECT	MIN.	MINIMUM
		MIR.	MIRROR
BD.	BOARD	MISC.	MISCELLANEOUS
BLDG.	BUILDING	M.O.	MASONRY OPENING
BLKG.	BLOCKING	M.S.	MACHINE SCREW
BM	BEAM	MTD.	MOUNTED
B.M.	BENCH MARK	MTL.	METAL
BOT.	BOTTOM	MUL.	MULLION
BTWN.	BETWEEN		
B.W.	BOTH WAYS	(N)	NEW
		N.	NORTH
CAB.	CABINET	N.I.C.	NOT IN CONTRACT
C.B.	CATCH BASIN	NO. or #	NUMBER
C.C or O.C.	CENTER TO CENTER	NOM.	NOMINAL
CEM.	CEMENT	N.T.S.	NOT TO SCALE
CER. TILE	CERAMIC TILE		
C.G.	CORNER GUARD	OBS.	OBSCURE
C.I.	CAST IRON	O.C.	ON CENTER
C.J.	CONTROL JOINT	OCC.	OCCUPANT(CY)
CLG.	CEILING	O.D.	OVERFLOW DRAIN and/or OUTSIDE DIAMETER
CLKG.	CAULKING	O.F.O.S.	OUTSIDE FACE OF STUD
CLR.	CLEAR	O.F.C.I.	OWNER FURNISHED and CONTRACTOR INSTALLED
CMU	CONCRETE MASONRY UNIT	O.H.	OPPOSITE HAND
CNTR.	COUNTER	OPNG.	OPENING
C.O.	CLEANOUT	OPP.	OPPOSITE
COL.	COLUMN		
CONC.	CONCRETE		
CONST.	CONSTRUCTION	P.A.F.	POWDER ACTUATED FASTENER
CONT.	CONTINUOUS	PL	PLATE
CONTR.	CONTRACTOR	P.L.	PROPERTY LINE
C.P.	CONCRETE PIPE	P. LAM	PLASTIC LAMINATE
CTR.	CENTER	PLAS.	PLASTER
CTSK.	COUNTER SUNK	PLYWD.	PLYWOOD
C.W.	COLD WATER	PR.	PAIR
		PTD.	PAINTED
D.A.	DISABLED ACCESS	PTN.	PARTITION
DBL	DOUBLE		
D.F.	DRINKING FOUNTAIN	Q.T.	QUARRY TILE
D.FIR	DOUGLAS FIR		
DTL.	DETAIL	R. or RAD.	RADIUS
DIA. or Ø	DIAMETER	R.C.P.	REINFORCED CONCRETE PIPE
DIM.	DIMENSION	R.D.	ROOF DRAIN
DISP.	DISPOSAL	R.E.	RIM ELEVATION
DN	DOWN	REF.	REFERENCE
DO	DITTO	REINF.	REINFORCING
DR.	DOOR	REQ'D	REQUIRED
DS.	DOWNSPOUT	R.H.M.S.	ROUND HEAD METAL SCREW
DWG.	DRAWING	R.H.W.S.	ROUND HEAD WOOD SCREW
		RM.	ROOM
(E)	EXISTING	R.O.	ROUGH OPENING
E.	EAST	RWD.	REDWOOD
EA.	EACH	R.W.L.	RAIN WATER LEADER
E.J.	EXPANSION JOINT		
ELEC.	ELECTRIC or ELECTRICAL	S	SOUTH
EL.	ELEVATION	S.A.D.	SEE ARCHITECTURAL DRAWINGS
ELEV.	ELEVATOR	S.C.	SOLID CORE
ENCL.	ENCLOSE and/or ENCLOSURE	S.C.D.	SEE CIVIL DRAWINGS
EQ.	EQUAL	SCHED.	SCHEDULE
EQUIP.	EQUIPMENT	S.E.D.	SEE ELECTRICAL DRAWINGS
E.W.	EACH WAY	S.F.	SQUARE FEET
E.W.C.	ELECTRIC WATER COOLER	SHEATH.	SHEATHING
EX.	EXPANSION	SHT.	SHEET
EXP.	EXPOSED	SIM.	SIMILAR
EXT.	EXTERIOR	S.L.D.	SEE LANDSCAPE DRAWINGS
		S.M.	SHEET METAL
F.A.	FIRE ALARM	S.M.D.	SEE MECHANICAL DRAWINGS
F.D.	FLOOR DRAIN	S.M.S.	SHEET METAL SCREW
FDN.	FOUNDATION	S.O.V.	SHUT OFF VALVE
F.E.	FIRE EXTINGUISHER	S.P.D.	SEE PLUMBING DRAWINGS
F.E.C.	FIRE EXTINGUISHER CABINET	SPEC.	SPECIFICATIONS
F.H.	FIRE HYDRANT	SQ. or Ø	SQUARE
F.H.C.	FIRE HOSE CABINET	S.S.	STAINLESS STEEL
F.H.S.M.S.	FLAT HEAD SHEET METAL SCREW	S.S.D.	SEE STRUCTURAL DRAWINGS
F.H.W.S.	FLAT HEAD WOOD SCREW	STAG.	STAGGERED
FIN.	FINISH	STD.	STANDARD
FL. or FLR.	FLOOR	STL.	STEEL
F.O.C.	FACE OF CONCRETE	STOR.	STORAGE
F.O.F.	FACE OF FINISH	STRUCT.	STRUCTURAL
F.O.M.	FACE OF MASONRY	S.T.S.M.S.	SELF TAPPING SHEET METAL SCREW
F.O.S.	FACE OF STUD	SUSP.	SUSPENDED
F.S.	FINISH SLAB		
FT.	FOOT OR FEET	T.& G.	TONGUE & GROOVE
FTG.	FOOTING	TEL.	TELEPHONE
FURR.	FURRING	TERR.	TERRAZZO
		THRES.	THRESHOLD
GA.	GAUGE	T.J.	TOOLED JOINT
GALV.	GALVANIZED	T.O.B.	TOP OF BEAM
G.B.	GRAB BAR	T.O.C.	TOP OF CURB or CONCRETE
G.I.	GALVANIZED IRON	T.O.S.	TOP OF STEEL or SLAB
GL.	GLASS	T.O.W.	TOP OF WALL
GLU-LAM	GLUE-LAMINATED	TYP.	TYPICAL
GND.	GROUND		
GR.	GRADE	U.O.N.	UNLESS OTHERWISE NOTED
GYP.	GYPSUM		
		VERT.	VERTICAL
H.B.	HOSE BIBB	V.C.P.	VITRIFIED CLAY PIPE
H.C.	HOLLOW CORE	V.C.T.	VINYL COMPOSITION TILE
HDWD.	HARDWOOD	V.G.	VERTICAL GRAIN
HDWR.	HARDWARE	V.I.F.	VERIFY IN FIELD
H.M.	HOLLOW METAL	V.T.R.	VENT THROUGH ROOF
HORIZ.	HORIZONTAL	V.W.C.	VINYL WALL COVERING
HR.	HOUR		
HT.	HEIGHT	W	WEST
		W/	WITH
I.D.	INSIDE DIAMETER	W.C.	WATER CLOSET
INSUL.	INSULATION	WD.	WOOD
INT.	INTERIOR	W.H.	WATER HEATER
INV.	INVERT	W/O	WITHOUT
		W.O.	WHERE OCCURS
JAN.	JANITOR	WP.	WATERPROOF / WEATHERPROOF
JT	JOINT	W. PT.	WORKING POINT
		W.R.	WATER RESISTANT
K.D.	KILN DRIED	WT.	WEIGHT

REFERENCE STANDARDS

PARTIAL LIST OF APPLICABLE STANDARDS (AS REFERENCED IN 2022 CBC - CHAPTER 35 & CFC):

ADA STANDARDS FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36)		2010 EDITION
NFPA 13	STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS	2022 EDITION
NFPA 14	STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS	2019 EDITION
NFPA 17	STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 17-A	STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE	2022 EDITION
NFPA 80	STANDARD FOR FIRE DOOR AND OTHER OPENING PROTECTIVES	2019 EDITION
NFPA 110	STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS	2019 EDITION
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHER SYSTEMS	2018 EDITION

BOARD OF TRUSTEES

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DISTRICT SUPERINTENDANT
DR. IVAN CHAIDEZ

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SAN FRANCISCO, CA 94104
(415) 466-2997

CIVIL

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MECHANICAL

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RANCHO CORDOVA, CA 95670
(916) 851-3500

LANDSCAPE

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(408) 261-9800

ELECTRICAL

AMERICAN CONSULTING ENGINEERS, ELECTRICAL
100 SARATOGA AVE., STE 200
SANTA CLARA CA 95051
(408) 236-2312

ADMINISTRATIVE REQUIREMENTS

1. A COPY OF PART 1 AND 2 CCR SHALL BE KEPT ON SITE AT ALL TIMES.
2. ALL CONSTRUCTION CHANGE DOCUMENTS AND ADDENDA TO BE SIGNED BY THE ARCHITECT, THE OWNER, AND APPROVED BY DSA. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338.
3. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335.
4. TESTS OF MATERIALS AND TESTING LABORATORY SHALL BE IN ACCORDANCE WITH SECTION 4-335.
5. DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO PLACEMENT OF CONCRETE PER SECTION 4-331.
6. INSPECTOR SHALL BE APPROVED BY DSA. MIN CLASS 3 DSA PROJECT INSPECTOR IS REQUIRED. INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-333(b). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-342.
7. SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH 4-334.
8. CONTRACTOR, INSPECTOR, ARCHITECT, AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (FORM 6) IN ACCORDANCE WITH SECTION 4-336 AND 4-343.
9. THE ARCHITECT AND THE STRUCTURAL ENGINEERS SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-341.
10. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343.
11. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THE (RE)CONSTRUCTION OF A SCHOOL BUILDING(S) IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID C.C.R. A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
12. DSA IS NOT SUBJECT TO ARBITRATION.

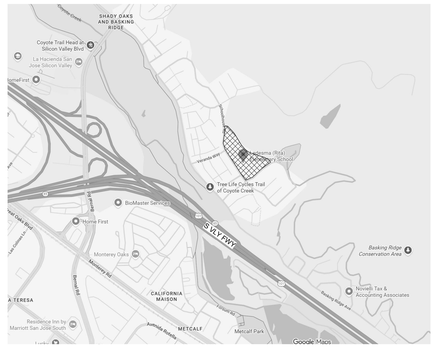
GENERAL NOTES

1. ITEMS OF A CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING OR ELECTRICAL NATURE MAY NOT APPEAR ON THE ARCHITECTURAL DRAWINGS. SEE APPROPRIATE DRAWINGS FOR THESE ITEMS.
2. DIVISION OF THE STATE ARCHITECT (DSA) APPROVAL OF THIS APPLICATION DOES NOT INCLUDE FUTURE OR N.I.C. ITEMS.
3. ALL DEFERRED APPROVAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND THE APPROPRIATE CONSULTING ENGINEER FOR REVIEW & APPROVAL PRIOR TO SUBMITTING TO DSA FOR CHECKING & APPROVAL.
4. THE FIRE SUPPRESSION SYSTEM, I.E. AUTOMATIC SPRINKLERS, HOOD-DUCT SYSTEM, WET STANDPIPES, AND HYDRANTS SHALL NOT BE INSTALLED UNTIL SHOP DRAWINGS HAVE BEEN APPROVED BY THE FIRE & LIFE SAFETY SECTION AT DSA.
5. THE FIRE PROTECTION SIGNALING SYSTEM SHALL NOT BE INSTALLED UNTIL SHOP DRAWINGS, INCLUDING FIRE MARSHAL LISTING NUMBER FOR EACH COMPONENT OF THE SYSTEM, HAS BEEN SUBMITTED AND APPROVED BY THE STATE FIRE MARSHAL AT DSA.
6. FOOD HANDLING FACILITIES SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS & CALIFORNIA UNIFORM RETAIL FOOD FACILITIES LAW.
7. PRIOR TO BIDDING, THE GENERAL CONTRACTOR SHALL VISIT & INSPECT THE SITE TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AFFECTING THE NEW WORK. THE GENERAL CONTRACTOR SHALL NOT DISPUTE, COMPLAIN, OR ASSERT THAT THERE IS ANY MISUNDERSTANDING IN REGARDS TO LOCATION, EXTENT, NATURE, OR AMOUNT OF WORK TO BE PERFORMED UNDER THIS CONTRACT DUE TO THE CONTRACTOR'S FAILURE TO INSPECT THE SITE AND/OR FAILURE TO INSPECT THE CONTRACT DOCUMENTS.
8. THE GENERAL CONTRACTOR & SUBCONTRACTORS ARE RESPONSIBLE FOR LOCATING & VERIFYING ALL EXISTING UNDERGROUND UTILITIES IN ALL AREAS OF THE NEW WORK PRIOR TO COMMENCEMENT OF EXCAVATION. EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ROUTING LOCATIONS AS BEST DETERMINED FROM EXISTING DRAWINGS & BY THE SCHOOL DISTRICT, BUT SHOULD NOT BE CONSTRUED TO REPRESENT ALL EXISTING UTILITIES. ANY ALTERATIONS OF EXISTING FACILITIES TO ACCOMMODATE THE INSTALLATION OF NEW WORK SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
9. ALL EXISTING FINISHES OR MATERIALS DAMAGED OR DISCOLORED DUE TO NEW CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL STATE OR REPLACED WITH NEW MATERIALS FINISHED TO MATCH EXISTING.
10. CONTRACTOR SHALL COORDINATE ALL WORK TO AVOID DISRUPTION OF STUDENTS OR TEACHERS DURING SCHOOL HOURS. ANY DISRUPTION OF POWER, TELEPHONE, OR HVAC SYSTEMS MUST BE COORDINATED AND APPROVED BY THE DISTRICT REPRESENTATIVE PRIOR TO ANY WORK COMMENCING.
11. ALL CONSTRUCTION AND DEMOLITION SHALL BE IN ACCORDANCE WITH CHAPTER 33 OF THE CBC AND CFC, AND THE WRITTEN SITE FIRE SAFETY PLAN. △A
12. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND ARE INTENDED TO INCLUDE ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK. ANY ITEM OF WORK MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE PROVIDED BY THE CONTRACTOR AS IF SHOWN OR MENTIONED IN BOTH. WITHOUT LIMITING THE CONTRACTOR'S OBLIGATION TO IDENTIFY CONFLICTS FOR RESOLUTION BY THE OWNER, IT IS INTENDED THAT THE MORE STRINGENT, HIGHER QUALITY, AND GREATER QUANTITY OF WORK SHALL APPLY.

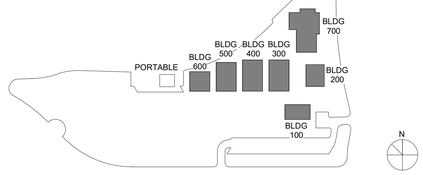
APPLICABLE CODES

1. △A 2025 BUILDING STANDARDS ADMINISTRATION CODE (PART 1, TITLE 24, CCR)
2. 2022 CALIFORNIA BUILDING CODE (PART 2, VOLUMES 1 AND 2, TITLE 24, CCR)
3. 2022 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR)
4. 2022 CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24, CCR)
5. 2022 CALIFORNIA PLUMBING CODE (PART 5, TITLE 24, CCR)
6. 2022 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR)
7. 2022 CALIFORNIA FIRE CODE (PART 9, TITLE 24, CCR)
8. 2022 CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24, CCR)
9. 2022 CALGREEN BUILDING STANDARDS CODE (PART 11, TITLE 24, CCR)
10. 2022 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR)
11. TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

LOCATION MAP



KEYPLAN



SYMBOL LEGEND

REFER TO ARCHITECTURAL FLOR PLAN SHEETS AND CONSULTANT DRAWINGS FOR ADDITIONAL SYMBOLS AND REFERENCE DESIGNATIONS

DIMENSION REFERENCE

10" FACE OF OBJECT

10" CENTER LINE OF OBJECT

TAGS AND MARKERS

0 PLAN REFERECE GRID

STRUCTURAL GRID LINE

△1 REVISION MARKER

Room name / 101 ROOM LABEL, ROOM NAME, ROOM NUMBER

1 WALL TYPE MARKER

101a DOOR ID, DOOR DESIGNATION, ROOM NUMBER

℄ CENTER LINE

XX-1 FINISH TAG

XX-1 FLOOR FINISH TAG

XX.XXX KEYNOTE ITEMS TO BE PROVIDED NEW, UON.

MATERIALS REFERENCE

EARTH

GRAVEL / ROCK

CONCRETE

CONCRETE BLOCK (CMU)

SAND, GROUT, OR PLASTER

STEEL

PLYWOOD

WOOD, CONTINUOUS MEMBER

WOOD, BLOCKING

WOOD, FINISH GRADE

CABINET TYPES

PC - PREFINISHED CABINETS
PM - PREFINISHED MOBILE CABINETS
PR - PREFINISHED MOVEABLE CABINETS
PU - PREFINISHED UTILITY CABINETS
PS - SCIENCE CABINETS

NOTE: REFER TO SPECIFICATIONS FOR SPECIFIC CABINET TYPE REQUIREMENTS.

SECTION REFERENCE

SECTION NUMBER
SIM
A12.08
REFERENCE LABEL WHERE OCCURES
SHEET NUMBER

DETAIL REFERENCE

DETAIL NUMBER
1
SIM
A12.08
REFERENCE LABEL WHERE OCCURES
SHEET NUMBER

DEFERRED APPROVAL ITEMS

1. NONE

SCOPE OF WORK

THIS PROJECT INCLUDES BUT IS NOT LIMITED TO SITE IMPROVEMENTS, REPLACEMENT OF ROOF TOP UNITS, AND MODERNIZATION OF RESTROOMS (FINISHES, FIXTURES, AND PARTITIONS).

SITE IMPROVEMENTS INCLUDE BUT ARE NOT LIMITED TO FENCING AND GATES, ACCESSIBLE PARKING AND ACCESSIBLE RAMP FROM PARKING TO ADMINISTRATION BUILDING 100, PASSENGER DROP OFF, RAMP FROM SIDEWALK TO ADMINISTRATION BUILDING 100, AND EGRESS LIGHTING IMPROVEMENTS.

REPLACEMENT OF ROOFTOP UNITS OCCURS AT BUILDINGS 100, 200, 300, 400, 500, 600, AND 700. RESTROOM UPGRADES OCCUR AT BUILDINGS 300 AND 400. △C

ALTERNATES

DEDUCTIVE ALTERNATE 1: ALL WORK WITHIN ALL GENDER RESTROOMS #305 AND #405 TO BE REMOVED. △A

STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS.
INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS
(Application No. 01-122831 , File No. 43-41)

[X] The drawings or sheets listed on the cover or index sheet (*)
[ ] This drawing, page of specifications/calculations

have 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 specifications 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 sheet listed on the cover or index sheet
[ ] This drawing or page

[X] is/are in general conformance with the project design intent, and
[X] has/have been coordinated with the project plans and specifications.

Signature / Date

Architect designated to be in general responsible charge

JOHN DIFFENDERFER

Print Name

C-25840 / 07/31/27

License Number / **Expiration Date**

[ ] is/are in general conformance with the project design intent, and
[ ] has/have been coordinated with the project plans and specifications.

Signature / Date

Architect or Engineer delegated responsibility for this portion of the work

Print Name

License Number / **Expiration Date**

DRAWING INDEX

T1 TITLE SHEET

CIVIL & LANDSCAPE

C0.1 NOTES, LEGEND & INDEX
C1.1 DEMOLITION PLAN
C2.1 GRADING & DRAINAGE PLAN
C3.1 HORIZONTAL CONTROL PLAN
C4.1 DETAILS
C5.1 MATERIAL & DETAIL REFERENCE PLAN
C6.1 CONSTRUCTION DETAILS
C6.2 CONSTRUCTION DETAILS
L1.1 IRRIGATION PLAN
L2.1 PLANTING PLAN
L3.1 IRRIGATION & PLANTING DETAILS

ARCHITECTURAL

A0.01 EXIT ANALYSIS - SITE
A0.02 EXIT ANALYSIS - BLDGS. 300 & 400
A1.01 DEMOLITION SITE PLAN
A1.02 NEW SITE PLAN & CODE ANALYSIS
A1.05 SITE DETAILS
A1.06 SITE DETAILS
A2.01 DEMOLITION PLANS, ENLARGED PLANS, & RCPS - BLDGS. 300 & 400
A2.02 DEMOLITION FLOOR PLANS - BLDGS 100, 200, 500, 600, & 700
A3.01 NEW FLOOR PLANS, ENLARGED PLANS, AND RCPS - BLDGS. 300 & 400
A3.02 NEW FLOOR PLANS - BLDGS 100, 200, 500, 600, & 700
A5.01 DEMOLITION ROOF PLAN - BLDGS. 300 & 400
A5.02 DEMOLITION ROOF PLAN - BLDGS. 100, 200, & 700
A5.03 DEMOLITION ROOF PLAN - BLDGS. 500 & 600
A5.04 NEW ROOF PLAN - BLDGS. 300 & 400
A5.05 NEW ROOF PLAN - BLDGS. 100, 200, & 700
A5.06 NEW ROOF PLAN - BLDGS. 500 & 600
△C A6.01 EXTERIOR ELEVATIONS
A6.10 EXTERIOR DETAILS
A9.01 WALL TYPES
A9.10 INTERIOR DETAILS
A11.01 OPENING SCHEDULE, FINISH SCHEDULE, LEGEND & DETAILS
A12.01 INTERIOR ELEVATIONS

STRUCTURAL

S1.00 GENERAL NOTES
S2.01 BLDGS 100, 200 & 700 ROOF FRAMING PLANS
S2.02 BLDGS 300 & 400 ROOF FRAMING PLANS
S2.03 BLDGS 500 & 600 ROOF FRAMING PLANS
S9.01 METAL STUD FRAMING DETAILS

MECHANICAL

M0.01 MECHANICAL LEGENDS AND NOTES
M0.02 MECHANICAL SCHEDULES
M2.01 MECHANICAL DEMOLITION FLOOR PLAN - BLDG 100, 200, & 700
M2.02 MECHANICAL DEMOLITION FLOOR PLAN - BLDG. 300 & 400
M2.03 MECHANICAL DEMOLITION FLOOR PLAN - BLDG, 500 & 600
M2.04 MECHANICAL FLOOR PLAN - BLDG 100, 200, & 700
M2.05 MECHANICAL FLOOR PLAN - BLDG 300 & 400
M2.06 MECHANICAL FLOOR PLAN - BLDG 500 & 600
M5.01 MECHANICAL DEMOLITION ROOF PLAN - BLDGS 100, 200, & 700
M5.02 MECHNICAL DEMOLITION ROOF PLAN - BLDG 300 & 400
* M5.03 MECHANICAL DEMOLITION ROOF PLAN - BLDG 500 & 600
M5.04 MECHANICAL ROOF PLAN - BLDG 100, 200 & 700
M5.05 MECHANICAL ROOF PLAN - BLDGS 300 & 400
M5.06 MECHANICAL ROOF PLAN - BLDG 500 & 600
M6.01 MECHANICAL DETAILS & CONTROLS
M6.02 MECHANICAL DETAILS & CONTROLS △A
(M6.03 MECHANICAL DETAILS & CONTROLS △A)
M7.01 MECHANICAL TITLE 24 DOCUMENTATION
M7.02 MECHANICAL TITLE 24 DOCUMENTATION
M7.03 MECHANICAL TITLE 24 DOCUMENTATION
M7.04 MECHANICAL TITLE 24 DOCUMENTATION
M7.05 MECHANICAL TITLE 24 DOCUMENTATION

PLUMBING

P0.01 PLUMBING COVER SHEET
P0.02 PLUMBING FIXTURE SCHEDULE
P2.02 PLUMBING DEMOLITION FLOOR PLAN - BLDG 300 & 400
P2.05 PLUMBING FLOOR PLAN - BLDG 300 & 400
P3.01 PLUMBING DEMOLITION ENLARGED PLANS
P3.02 PLUMBING ENLARGED PLANS
P5.01 PLUMBING DEMOLITION ROOF PLANS - BLDG 100, 200 & 700
P5.02 PLUMBING DEMOLITION ROOF PLANS - BLDG 300 - 400
P5.03 PLUMBING DEMOLITION ROOF PLANS - BLDGS 500 - 600
P5.04 PLUMBING ROOF PLANS - BLDG 100, 200 & 700
P5.05 PLUMBING ROOF PLANS - BLDG 300 - 400
P5.06 PLUMBING ROOF PLANS - BLDGS 500 - 600
P6.01 PLUMBING DETAILS

ELECTRICAL

E0.1 ELECTRICAL COVER SHEET
E0.2 FIXTURE SCHEDULE
E0.3 TITLE 24 LIGHTING
E1.1 OVERALL ELECTRICAL SITE PLAN
E1.2 SITE LIGHTING EGRESS PLAN
E2.0 BLDG. 300 & BLDG. 400 RESTROOM ELECTRICAL PLANS - DEMO
E2.1 BLDG. 300 & BLDG. 400 RESTROOM PLANS - NEW
E3.1 ELECTRICAL ROOF PLAN - BLDG. 100, 200 & 700
E3.2 ELECTRICAL ROOF PLAN - BLDG. 300 & 400
E3.3 ELECTRICAL ROOF PLAN - BLDG. 500 & 600
E4.1 ELECTRICAL DETAILS
E4.2 ELECTRICAL DETAILS
E5.1 PANEL SCHEDULES

TOTAL SHEET COUNT: 87

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PROJECT
LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP
LICENSED ARCHITECT — JOHN DIFFENDERFER — NO. C-25840 — REN. 07/31/27 — STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
△C	Addendum 3	06/05/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET
TITLE SHEET

DATE 12.29.2025
JOB # 2025014
SHEET # AD3- T1

6/5/2026 10:03:35 AM



DEMOLITION LEGEND

	DESCRIPTION	SYMBOL
	TREE TO REMAIN. PROTECT FROM DAMAGE. SEE SPECIAL PROVISION 01 56 39 TREE AND PLANT PROTECTION AND LANDSCAPE DRAWINGS FOR TREE PROTECTION NOTES.	o
	TREE TO BE REMOVED. REMOVE ALL ROOTS.	X

KEYNOTE	DESCRIPTION	SYMBOL
1	REMOVE (E) FENCE AND GATES BETWEEN BUILDINGS. GRIND GATE POSTS DOWN FLUSH TO GRADE. INFILL POST VOID WITH CONCRETE, FLUSH TO ADJACENT.	x x x
2	ASPHALT PAVING & AGGREGATE BASE ROCK TO RE REMOVED. REMOVE HEADER BOARD, TYP.	
3	CONCRETE TO BE REMOVED. REMOVE AGGREGATE BASE.	
4	SHRUBS AND/OR LANDSCAPING TO BE REMOVED. GRUB OUT ALL VEGETATION / REMOVE BARK / WOOD CHIPS. REMOVE PLANTER BOXES. REMOVE ANY IRRIGATION LINES OR VALVES.	

KEYNOTE	DESCRIPTION
1	SAWCUT ASPHALT OR REMOVE CONCRETE TO NEAREST CONTROL JOINT.
2	REMOVE CURB / CURB & GUTTER.
3	EXTENT OF REMOVAL OF CURB / CURB & GUTTER / VALLEY GUTTER / CMU WALL.
4	IRRIGATION VALVE / BOX TO REMAIN, SEE L1.1 FOR DETAILS.
5	REMOVE PARKING BUMPER.
6	REMOVE ELECTRICAL POLE, BASE & PULL BOX. S.E.D., SHEET E1.1
7	REMOVE HANDRAILS / POLE & FOUNDATION.
8	CURB / WALL / HANDRAIL & CURB & GUTTER AS OCCURS TO REMAIN. PROTECT FROM DAMAGE.
9	REMOVE ACCESSIBLE PARKING SIGN BOARD, POLE AND FOUNDATION TO REMAIN. S.A.D.
10	ELECTRICAL LINE AND BOX TO REMAIN. PROTECT FROM DAMAGE. ADJUST RIM TO NEW FG.
11	REMOVE CMU WALL AND FOUNDATIONS, SALVAGE CONCRETE WALL CAP FOR REINSTALLATION ON (N) CMU BLOCK WALL. REFER TO DETAIL 8 / C6.1.
12	REMOVE CANTILEVERED LUNCH TABLES AND SEATS. GRIND CENTRAL POST DOWN FLUSH TO GRADE. INFILL POST VOID WITH CONCRETE, FLUSH TO ADJACENT GRADE.

NOTES:

1. THE LIMITS OF DEMOLITION SHOWN HEREON ARE TO PROVIDE THE CONTRACTOR WITH A GENERAL SCOPE OF WORK. PRECISE LIMITS OF PAVEMENT REMOVAL AND GRADING SHOULD BE TAKEN FROM THE GRADING AND DRAINAGE PLAN. THE CONTRACTOR SHOULD ALSO REFERENCE LANDSCAPE ARCHITECT PLANS, ARCHITECTURAL PLANS, AND THE CONSTRUCTION DOCUMENTS FOR A COMPLETE SCOPE OF WORK. (VERIFY ALL DEMOLITION WITH THE SCHOOL DISTRICT).

2. DEMOLITION WORK SHALL CONFORM TO CAL GREEN CODE SECTIONS 5.408.3 (CONSTRUCTION WASTE REDUCTION BY AT LEAST 50%) AND 5.408.4 (EXCAVATED SOIL AND LAND CLEARING DEBRIS), AND LOCAL CONSTRUCTION WASTE MANAGEMENT REQUIREMENTS. THE MOST STRINGENT CODE SHALL PREVAIL.

3. ALL SIGNS, POSTS, AND FOOTINGS TO BE REMOVED WITHIN THE LIMITS OF DEMOLITION UNLESS NOTED OTHERWISE.

4. REFER TO ORIGINAL DESIGN DRAWINGS, AVAILABLE FROM DISTRICT, FOR EXISTING BUILDINGS (FOOTINGS, MATERIALS, ETC.).

5. EXISTING TURF TO REMAIN. LANDSCAPE CONTRACTOR TO COORDINATE WITH GENERAL CONTRACTOR IF REPLACEMENT IS REQUIRED DUE TO STAGING, CONSTRUCTION ACCESS, OR CONSTRUCTION ACTIVITY. REPAIR WITH SOD TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. TURF AREAS FENCED DURING CONSTRUCTION SHALL BE MAINTAINED (MOWED, WATERED, AND FERTILIZED) BY CONTRACTOR.

WHERE NEW SOD IS INSTALLED, SHOVEL CUT EDGE OF EXISTING TURF VERTICAL AND STRAIGHT, AMEND SOIL AND GRADE TO RECEIVE NEW SOD FLUSH WITH EXISTING EDGES. DO NOT SCALE SOD REPAIR FROM THIS DRAWING. COORDINATE WITH GENERAL CONTRACTOR FOR EXTENT OF REPAIR REQUIRED TO RESTORE TURF DUE TO CONSTRUCTION ACTIVITY.

NOTE:
SEE LANDSCAPE SPECS AND DRAWINGS FOR TREE PRESERVATION REQUIREMENTS

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STATE OF CALIFORNIA

STATE

DSA FILE NUMBER	43-41
APPL #	01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

DEMOLITION PLAN

DATE 06.01.2026

JOB # 2025014 CEI # 3221

SHEET # AD3-C1.1

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GRADING PLAN NOTES

KEYNOTE	DETAIL NAME
1	SAWCUT AND CONFORM TO (E) ASPHALT
2	CONFORM TO (E) CONCRETE AT NEAREST CONTROL JOINT
3	27 LF - CURB TRANSITION (6"- 1.7')
4	(E) WALL TO REMAIN
5	(N) ACCESSIBLE PARKING SIGNAGE BOARD WITH (E) POLE &FPUNDATION, S.A.D.

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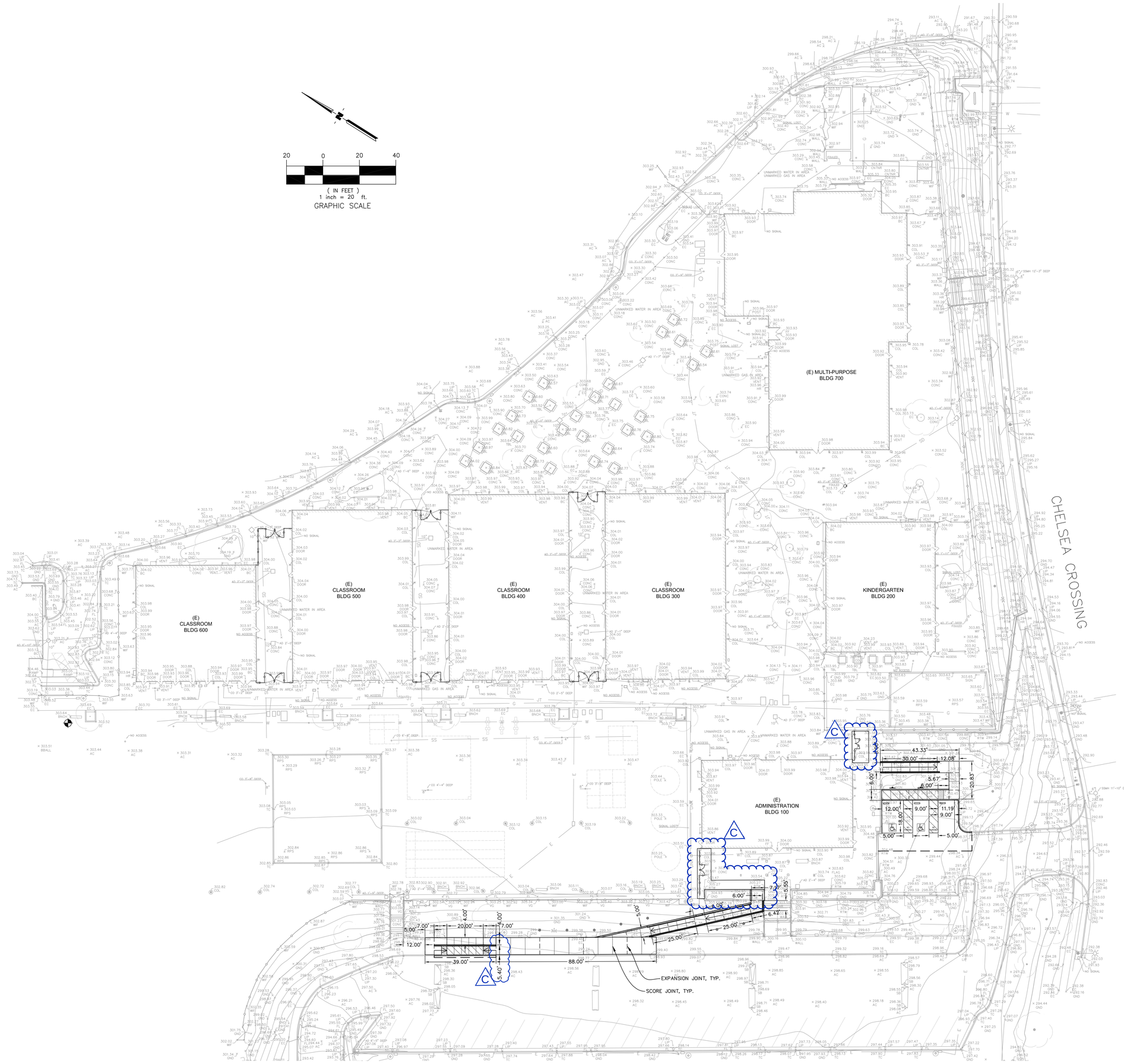
GRADING & DRAINAGE PLAN

DATE 06.01.2026

JOB # 2025014 **CEI #** 3221

SHEET # AD3-C2.1

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SHEET

HORIZONTAL CONTROL PLAN

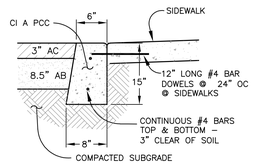
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JOB # 2025014 **CEI #** 3221

SHEET # AD3-

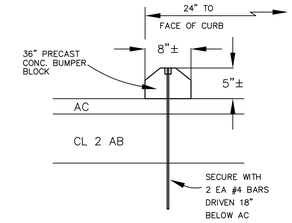
C3.1

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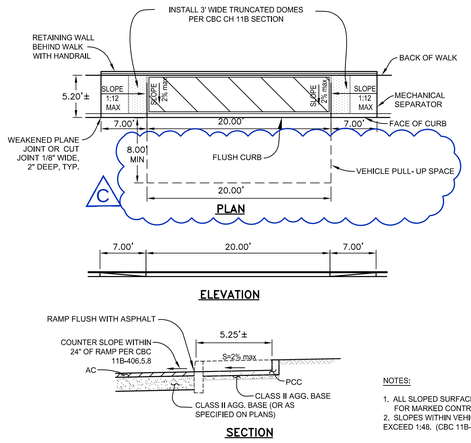
4 FLUSH VERTICAL CURB

SCALE: NTS



1 PARKING BUMPER

SCALE: NTS

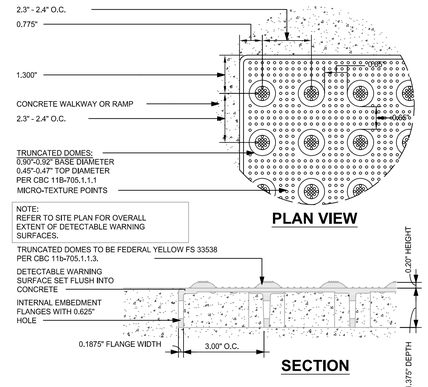


NOTES:

1. ALL SLOPED SURFACES SHALL BE ROUGH BROOM FINISH FOR MARKED CONTRAST FROM SIDEWALK FINISH.
2. SLOPES WITHIN VEHICLE PULL-UP SPACE SHALL NOT EXCEED 1:48. (CBC 11B-503.4)

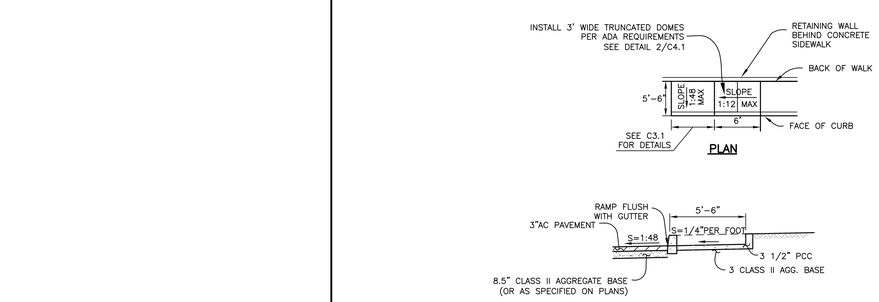
5 PASSENGER DROP OFF / LOADING RAMP

SCALE: NTS



2 TRUNCATED DOMES

SCALE: NTS

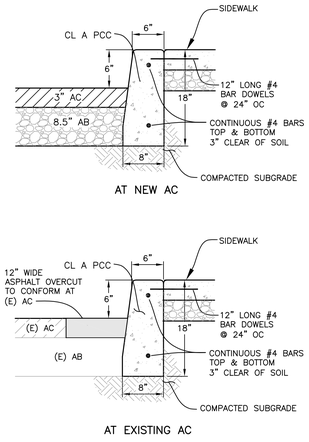


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2. SLOPES WITHIN VEHICLE PULL-UP SPACE SHALL NOT EXCEED 1:48. (11B-503.4)

6 CURB-CUT RAMP

SCALE: NTS



3 VERTICAL CURB

SCALE: NTS

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SHEET

DETAILS

DATE 06.01.2026

JOB # 2025014 CEI # 3221

SHEET # AD3- C4.1

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(IN FEET)
1 inch = 20 ft.
GRAPHIC SCALE



MATERIAL & DETAIL REFERENCE NOTES

1. THESE NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH AND AS A SUPPLEMENT TO THE WRITTEN SPECIFICATIONS, DETAILS, ADDENDA AND CHANGE ORDERS ASSOCIATED WITH THE CONTRACT DOCUMENTS.
2. CONTRACTOR SHALL BECOME FAMILIAR WITH THE LOCATION OF EXISTING AND PROPOSED UNDERGROUND SERVICES. CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800) 642-2444 PRIOR TO BEGINNING WORK. CONTACT DISTRICT REPRESENTATIVE SHOULD ANY CONFLICTS ARISE.
3. SCORE AND EXPANSION JOINTS SHALL BE LOCATED AS INDICATED ON THIS PLAN. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS WHEN NECESSARY TO ALIGN SCORE AND EXPANSION JOINTS WITH RELATIVE ELEMENTS AS SHOWN ON THE PLAN.
4. DETAIL CALLOUTS ON PLAN ARE PROVIDED FOR CONVENIENCE AND GENERAL REFERENCE ONLY. CONTRACTOR SHALL PROVIDE QUANTITY OF PRODUCTS, ELEMENTS AND MATERIALS AS SYMBOLIZED ON PLANS, ASSOCIATED DETAILS AND SPECIFICATIONS.
5. FOR EACH CONCRETE FINISH SPECIFIED, CONTRACTOR SHALL POUR A 2'x2' SAMPLE FOR APPROVAL BY DISTRICT REPRESENTATIVE PRIOR TO INSTALLING CONCRETE PAVING.
6. CIVIL ENGINEER IS NOT RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION. IF WORK WITHIN THIS SCOPE REQUIRES REMOVAL, RENOVATION, OR DEMOLITION OF EXISTING TO REMAIN ELEMENTS, BOTH SURFACE AND KNOWN SUBSURFACE CONDITIONS, CONTRACTOR SHALL INCLUDE IN THE BID SUFFICIENT LABOR AND MATERIALS TO RESTORE EXISTING TO REMAIN IMPROVEMENTS IN-KIND AND AS ACCEPTABLE TO DISTRICT REPRESENTATIVE.
7. CONTRACTOR SHALL COORDINATE ROUGH GRADING AND FINE GRADING TO ENSURE EXISTING SUITABLE TOPSOIL IS REMOVED, STOCKPILED AND REINSTALLED INTO ALL PROPOSED LANDSCAPE AREAS PER LANDSCAPE SPECIFICATION SECTION 32 90 00. IN THE EVENT THERE IS NOT ENOUGH EXISTING TOPSOIL, OR NO PLACE TO STOCKPILE TOPSOIL, CONTRACTOR SHALL IMPORT AND INSTALL TOPSOIL PER LANDSCAPE SPECIFICATION SECTION 32 90 00.
8. THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT FOR REPAIRING OR REPLACING, AT THEIR OWN EXPENSE, SURFACE AND SUBSURFACE SITE FEATURES TO REMAIN, INCLUDING BUT NOT LIMITED TO ANY STRUCTURES, FENCES, WALLS, PAVING SURFACES, PLANT MATERIAL AND/OR TREES DAMAGED OR DESTROYED, BOTH ON THIS PROPERTY OR THOSE PROPERTIES ADJACENT TO THIS SITE. THE DAMAGED ITEM(S) WILL BE RESTORED TO THEIR ORIGINAL CONDITION OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
9. CONTRACTOR SHALL ADJUST EXISTING UTILITY BOXES TO BE FLUSH WITH PROPOSED GRADES.
10. REFER TO CONSTRUCTION DETAILS ON SHEETS C4.1 AND C6.1 - C6.2
11. REFER TO THE FOLLOWING SPECIFICATION SECTIONS:

01 56 39	TEMPORARY TREE AND PLANT PROTECTION
05 52 00	METAL RAILINGS
32 12 16	ASPHALT PAVING
32 13 13	CONCRETE WORK
32 32 19	UNIT MASONRY RETAINING WALLS
32 84 00	PLANTING IRRIGATION
32 90 00	LANDSCAPE PLANTING

PAVING DETAILS

KEYNOTE	DETAIL NAME	SYMBOL	DETAIL REFERENCE
P1A	CONCRETE PAVING - PEDESTRIAN		1 / C6.1
P2	(N) CONCRETE TO (E) CONCRETE (EXPANSION JOINTS)		2 / C6.1
P3A	ASPHALT PAVING - AUTO		3 / C6.1
P4	(N) ASPHALT TO (E) ASPHALT (ASPHALT SAW CUT EDGE)		4 / C6.1
P5	PARKING BUMPERS		1 / C4.1
P6	TRUNCATED DOMES		2 / C4.1

CONCRETE CURBS AND WALLS

KEYNOTE	DETAIL NAME	SYMBOL	DETAIL REFERENCE
C1	CONCRETE CURB - TYPE I		5 / C6.1
C2	CONCRETE CURB - TYPE II		6 / C6.1
C3	VERTICAL CURB		3 / C4.1
C4	FLUSH VERTICAL CURB		4 / C4.1
W1	CMU BLOCK WALL		8 / C6.1

RAMPS

KEYNOTE	DETAIL NAME	SYMBOL	DETAIL REFERENCE
ER1	EDGE OF RAMP - TYPE I		4 / C6.2
ER2	EDGE OF RAMP - TYPE II		5 / C6.2
ER3	EDGE OF RAMP - TYPE III		6 / C6.2
R1	PASSENGER DROP OFF / LOADING RAMP		5 / C4.1
R2	CURB CUT RAMP		6 / C4.1

HANDRAILS AND RAIL PANELS

KEYNOTE	DETAIL NAME	SYMBOL	DETAIL REFERENCE
H1	HANDRAIL @ RAMP - TYPE I		1 / C6.2
H2	HANDRAIL @ RAMP - TYPE II		2 / C6.2
H3	HANDRAIL @ RAMP - TYPE III		3 / C6.2
RP1	RAIL PANEL		7 / C6.1

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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

CARROLL ENGINEERING
1301 E. WINCHESTER BLVD.
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EMAIL: Scott@carroll-engineering.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
MATTHEW PAUL MARTUS
No. C 68770
Exp. 09/30/27
CIVIL
STATE OF CALIFORNIA

STATE

DSA FILE NUMBER	43-41
APPL #	01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

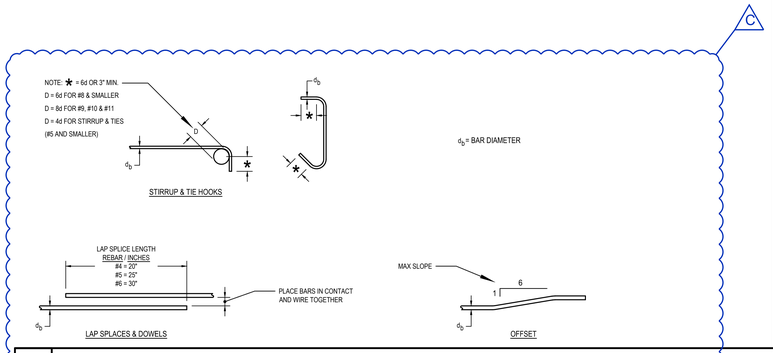
MATERIAL & DETAIL REFERENCE PLAN

DATE 06.01.2026

JOB # 2025014 CEI # 3221

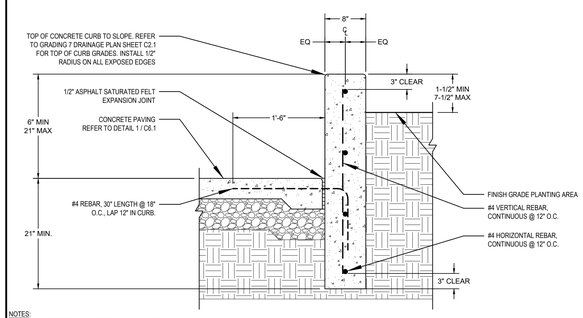
SHEET # AD3-C5.1

M:\3221 - Ledesmo ES Mod_DWG\3221_C5.1_MTL.dwg 5-12-26 04:11:30 PM chenyu



9 TYPICAL CONCRETE REINFORCEMENT BENDING & SPLICING

SCALE: NTS



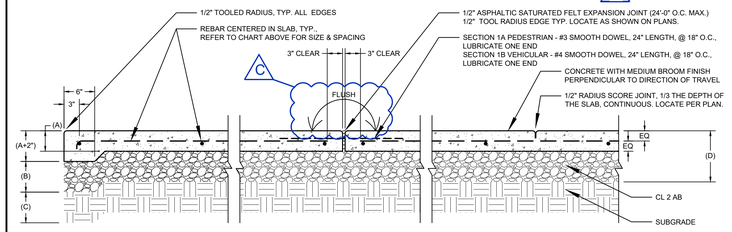
NOTES:
1. CONCRETE CURB TO RECEIVE SACK FINISH.
2. INSTALL VERTICAL SCORE JOINTS 10'-0" O.C. MAX. WITH 1/2" RADIUS EDGES.
3. INSTALL VERTICAL ASPHALTIC SATURATED EXPANSION JOINTS EVENLY SPACED @ 20'-0" O.C. MAX. PROVIDE 1" CHAMFER EDGES AT EXPANSION JOINTS.

SECTION

5 CONCRETE CURB - TYPE I

SCALE: NTS

SECTION	CONCRETE SLAB THICKNESS (A)	CL 2 BASE / COMPACTION (B)	UPPER 12" SUBGRADE COMPACTION (C)	TOTAL THICKNESS (D)	ANY REQUIRED FILL BELOW UPPER 12" SUBGRADE COMPACTION	REBAR SIZE & SPACING
1A CONCRETE PAVING - PEDESTRIAN	4"	6" / 90% RC	90% RC	10"	90% RC	#4 REBAR, TYP. @ 18" O.C. EACHWAY

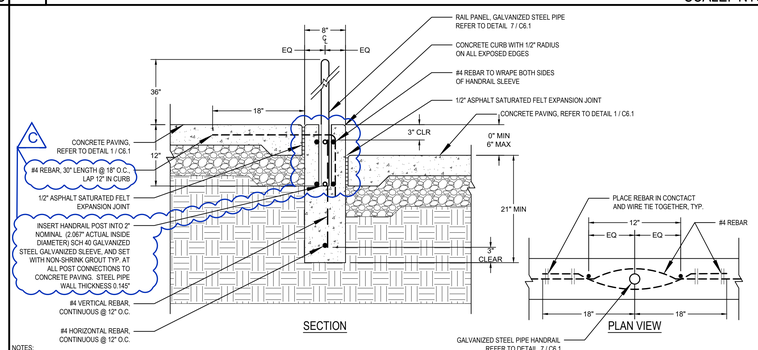


NOTES:
1. SCORE JOINTS SHALL BE PLACED A MAXIMUM OF 8'-0" O.C. REFER TO PLAN FOR EXACT LOCATIONS.
2. SCORE JOINTS TO BE 1/8" WIDE MAXIMUM, 1/2" RADIUS BOTH SIDES, SCORE DEPTH SHALL BE 1/3 OFCONCRETE PAVING DEPTH.
3. ADJACENT GRADE TO BE 1-1/2" BELOW CONCRETE IN PLANTING AND 1" BELOW CONCRETE IN SODDED TURF AND 1/2" BELOW CONCRETE IN SEEDED TURF.
4. REFER TO SPECIFICATION SECTION 32 13 13 - CONCRETE WORK FOR CONCRETE MIX DESIGN CRITERIA
5. FOR TYPICAL CONCRETE REINFORCEMENT BENDING & SPLICING, REFER TO DETAIL 9 / C6.1

1 CONCRETE PAVING

SCALE: NTS

10



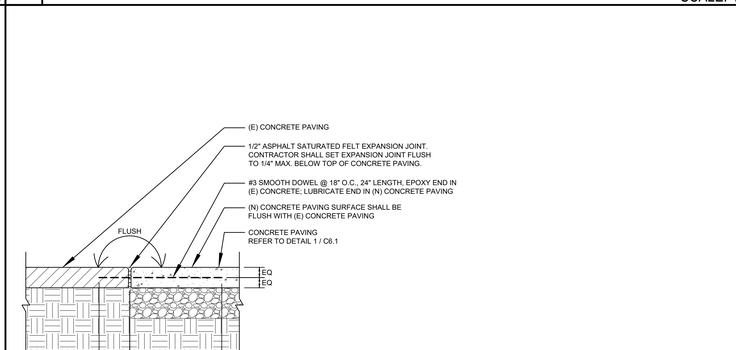
SECTION

PLAN VIEW

NOTES:
1. CONCRETE CURB TO RECEIVE SACK FINISH.
2. INSTALL VERTICAL SCORE JOINTS 10'-0" O.C. MAX. WITH 1/2" RADIUS EDGES.
3. INSTALL VERTICAL ASPHALTIC SATURATED EXPANSION JOINTS EVENLY SPACED @ 20'-0" O.C. MAX. PROVIDE 1" CHAMFER EDGES AT EXPANSION JOINTS.
4. CORE DRILLING FOR POST INSTALLATION WILL NOT BE ACCEPTED. CONTRACTOR SHALL SLEEVE AND WRAP WITH REBAR PRIOR TO POURING CONCRETE.

6 CONCRETE CURB - TYPE II

SCALE: NTS

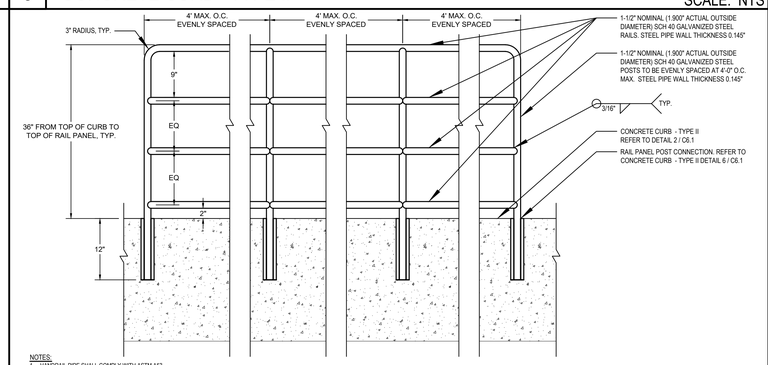


NOTES:
1. REFER TO SPECIFICATION SECTION 32 13 13 - CONCRETE PAVING

2 (N) CONCRETE TO (E) CONCRETE

SCALE: NTS

11

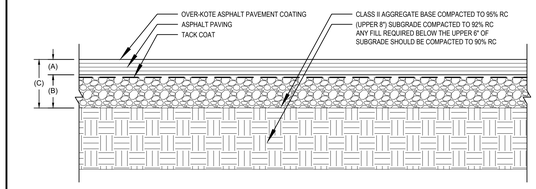


NOTES:
1. HANDRAIL PIPE SHALL COMPLY WITH ASTM A53.
2. ALL STEEL RAILS AND POSTS SHALL BE GALVANIZED.
3. INTERMEDIATE POSTS TO BE EVENLY SPACED AT 4' O.C. MAXIMUM.
4. ALL WELDS TO BE CONTINUOUS AND GROUND SMOOTH.
5. CORE DRILLING FOR POST INSTALLATION WILL NOT BE ACCEPTED. CONTRACTOR SHALL SLEEVE AND WRAP WITH REBAR PRIOR TO POURING CONCRETE.
6. REFER TO SPECIFICATION SECTION 05 52 00 METAL RAILINGS FOR WELDED CONNECTIONS.

7 RAIL PANEL

SCALE: NTS

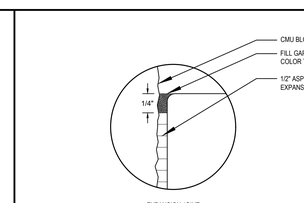
SECTION	TRAFFIC CONDITION	ASPHALTIC CONCRETE (INCHES) (A)	CLASS 2 AGGREGATE BASE (B)	TOTAL THICKNESS (C)
3A	AUTO (T.I. = 5.0)			
	UNTREATED	3"	8.5"	11.5"



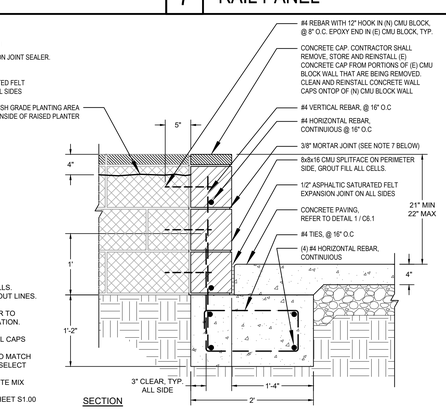
NOTES:
1. REFER TO SPECIFICATION SECTION 32 12 16 - ASPHALT PAVING
2. OVER-KOTE ASPHALT PAVEMENT COATING AVAILABLE THROUGH REED AND GRAHAM. INSTALL PER MANUFACTURES RECOMMENDATIONS.

3 ASPHALT PAVING

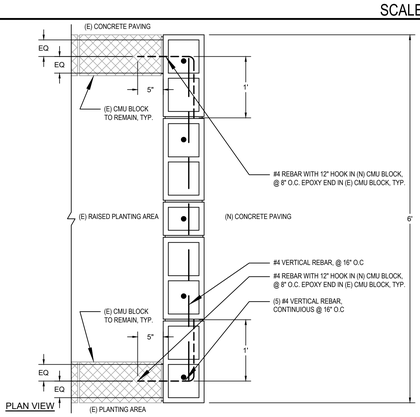
SCALE: NTS



EXPANSION JOINT



SECTION

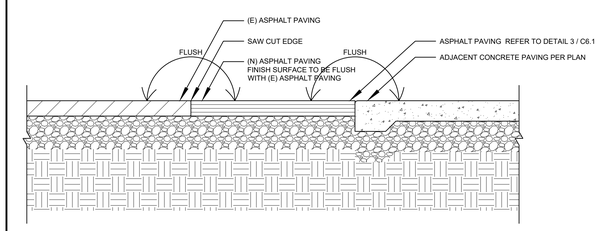


PLAN VIEW

NOTES:
1. REFER TO SPECIFICATION SECTION 32 32 19 - UNIT MASONRY RETAINING WALLS.
2. TOP OF(N) CMU BLOCK WALL TO BE LEVEL, MATCH (E) WALL HEIGHT AND GROUT LINES.
3. GROUT FILL CMU CELLS IN 2 COURSE LIFTS MAXIMUM.
4. CONTRACTOR SHALL SUBMIT COLOR SAMPLES OF SPLIT FACE BLOCK. COLOR TO MATCH (E) SPLIT FACE CMU BLOCK WALL FOR APPROVAL PRIOR TO INSTALLATION. ARCHITECT TO SELECT COLOR.
5. CONTRACTOR SHALL REMOVE, SALVAGE AND REINSTALL (E) CONCRETE WALL CAPS AND REINSTALL ON NEW SPLITFACE CMU BLOCK WALL.
4. CONTRACTOR SHALL SUBMIT COLOR SAMPLES OF MORTAR JOINT. COLOR TO MATCH (E) MORTAR JOINT FOR APPROVAL PRIOR TO INSTALLATION. ARCHITECT TO SELECT COLOR.
5. REFER TO SPECIFICATION SECTION 32 13 13 CONCRETE WORK FOR CONCRETE MIX DESIGN CRITERIA.
6. FOR EPOXY INFORMATION SEE STRUCTURAL DRAWINGS GENERAL NOTES SHEET S1.00
7. REBAR TO BE GRADE 60, CONCRETE MASONRY STRENTH f'm = 2,000 PSI

8 CMU BLOCK WALL

SCALE: NTS



4 (N) ASPHALT TO (E) ASPHALT

SCALE: NTS

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OAK GROVE SCHOOL DISTRICT

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REGISTERED PROFESSIONAL ENGINEER
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Exp. 09/30/27
STATE OF CALIFORNIA
CIVIL

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

REVISIONS

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MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

CONSTRUCTION DETAILS

DATE 06.01.2026

JOB # 2025014 CEI # 3221

SHEET # AD3-C6.1

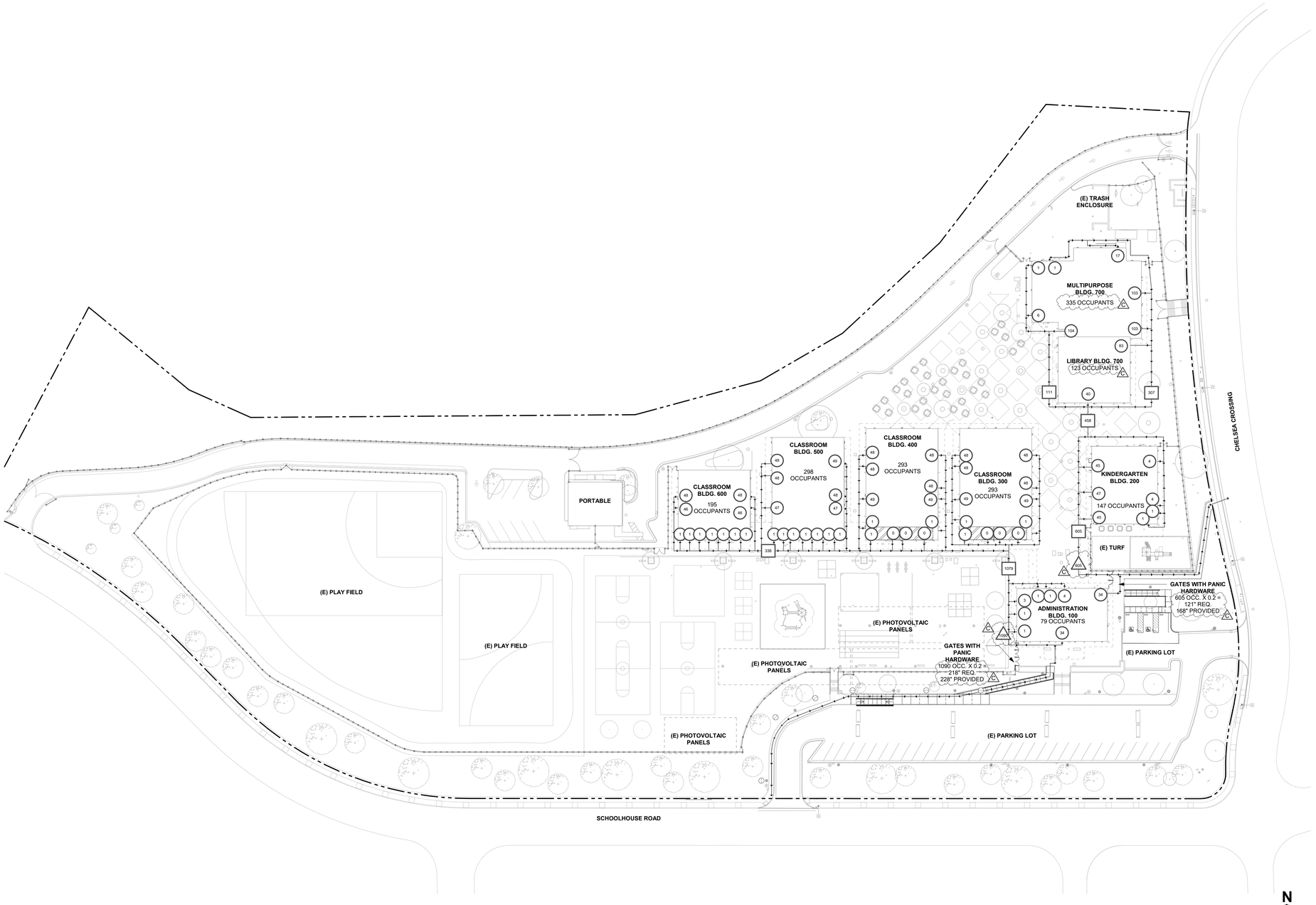
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GENERAL SHEET NOTES

N/A

EXIT ANALYSIS PLAN KEYNOTES

N/A



1 **EXIT ANALYSIS - SITE**
SCALE: 1" = 40'-0"

GRAPHIC KEY

- MODERNIZATION OF EXISTING CONSTRUCTION
- EXISTING CONSTRUCTION TO REMAIN
- PROPERTY LINE
- EXISTING ORNAMENTAL FENCE
- (N) ORNAMENTAL FENCE
- (E) CHAIN LINK FENCE
- EXIT ANALYSIS PATH OF TRAVEL, SCOPE OF WORK
- EXIT ANALYSIS PATH OF TRAVEL, EXISTING
- XX — ROOM OCCUPANT LOAD
- XX — COMBINED OCCUPANT LOAD
- XX — TOTAL FLOOR OCCUPANT LOAD
- (E) F.H. — EXISTING FIRE HYDRANT

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OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP

LICENSED ARCHITECT — JOHN C. PITTENGER — NO. C-25840 — REN. 07-31-27 — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

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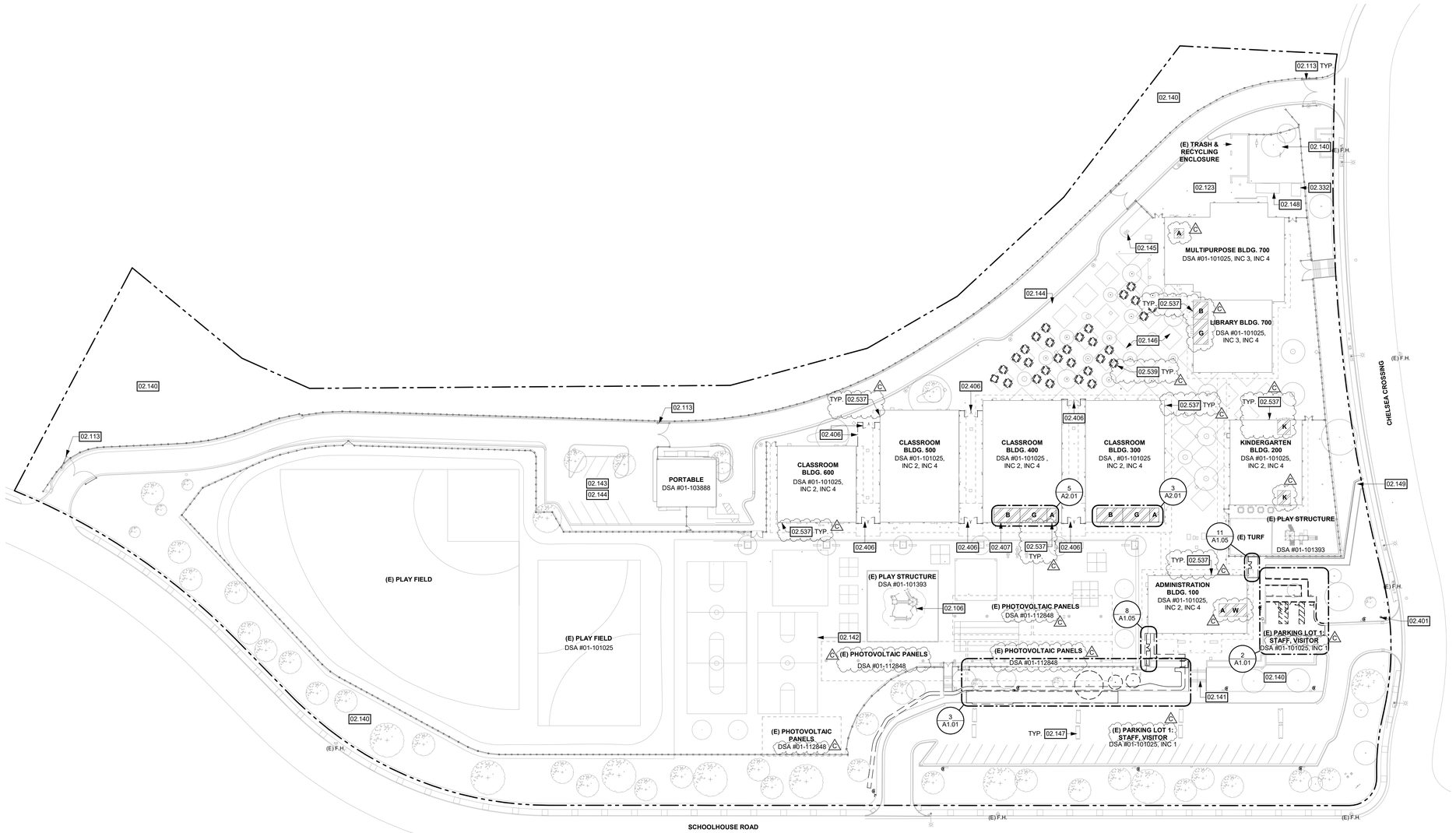
EXIT ANALYSIS - SITE

DATE 12.29.2025

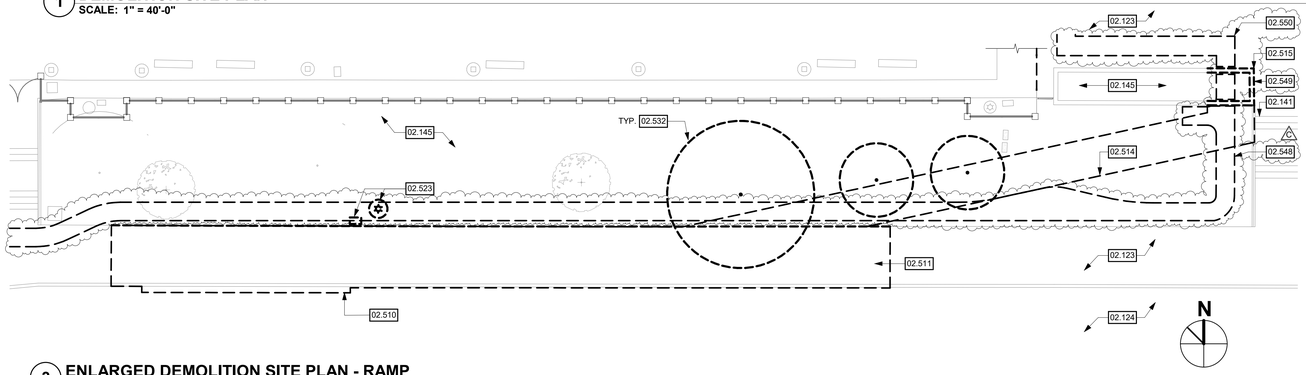
JOB # 2025014

SHEET # AD3-A0.01

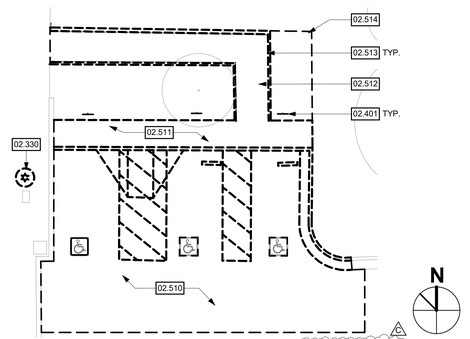
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1 DEMOLITION SITE PLAN
SCALE: 1" = 40'-0"



3 ENLARGED DEMOLITION SITE PLAN - RAMP
SCALE: 1" = 10'-0"



2 ENLARGED DEMOLITION SITE PLAN - ACCESSIBLE PARKING
SCALE: 1" = 10'-0"

GENERAL SHEET NOTES

A THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUEMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMETNS FOR ALTERATIONS, ADDITIONS, AND STRUCTURAL REPAIRS. AS PART OD THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NON-COMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SEPCIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NON-COMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT. C

B CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.

C DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE OWNER.

D PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION.

E REFER TO CIVIL, MECHANICAL, PLUMBING, ELECTRICAL AND LANDSCAPE DRAWINGS FOR EXTENT OF CIVIL, MECHANICAL, PLUMBING, ELECTRICAL AND LANDSCAPE WORK.

F ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

G PATCH PAVING AT ELECTRICAL TRENCHING. S.E.D. FOR EXTENTS.

DEMOLITION SITE PLAN KEYNOTES

02.106 (E) PLAY STRUCTURE TO REMAIN. A
02.113 (E) VEHICULAR GATE TO REMAIN.
02.123 (E) CONCRETE PAVING TO REMAIN.
02.124 (E) ASPHALT PAVING TO REMAIN.
02.140 (E) LANDSCAPE AREA TO REMAIN.
02.141 (E) CONCRETE STAIR TO REMAIN.
02.142 (E) COURT STRIPING TO REMAIN.
02.143 (E) PARKING STRIPING TO REMAIN.
02.144 (E) DROP OFF ZONE TO REMAIN.
02.145 (E) PLANTING AREA TO REMAIN.
02.146 (E) COURTYARD TO REMAIN.
02.147 (E) SPEED BUMP TO REMAIN.
02.148 (E) STORAGE SHED TO REMAIN.
02.149 (E) ACCESSIBLE RAMP TO REMAIN, DSA #01-101025 A
02.330 (E) LIGHT POLE TO REMAIN. S.E.D.
02.332 (E) ELECTRICAL TRANSFORMER AND CONCRETE PAD TO REMAIN. C
02.401 REMOVE (E) POST AND SIGNAGE
02.406 REMOVE (E) FENCE AND GATES BETWEEN BUILDINGS. GRIND GATE POSTS DOWN FLUSH TO GRADE. INFILL POST VOID WITH CONCRETE, FLUSH TO ADJACENT.
02.407 REMOVE (E) DRINKING FOUNTAIN
02.510 REMOVE (E) ASPHALT, S.C.D. FOR EXTENTS
02.511 REMOVE (E) CONCRETE, S.C.D. FOR EXTENTS
02.512 REMOVE (E) RAMP, S.C.D.
02.513 REMOVE (E) HANDRAIL
02.514 REMOVE (E) LANDSCAPE AND PREP FOR NEW ACCESSIBLE RAMP, S.C.D. AND S.L.D. FOR EXTENTS
02.515 PARTIAL REMOVAL OF PLANTER WALL, S.C.D. AND S.L.D. FOR EXTENTS. SALVAGE WALL CAP FOR REUSE. C
02.523 REMOVE (E) LIGHT FIXTURE, S.E.D.
02.532 REMOVE (E) TREE, S.C.D.
02.537 REMOVE (E) WALL PACK LIGHT FIXTURES, S.E.D.
02.539 REMOVE (E) CANTILEVERED LUNCH TABLES AND SEATS. GRIND CENTRAL POST DOWN FLUSH TO GRADE. INFILL POST VOID WITH CONCRETE, FLUSH TO ADJACENT.
02.548 REMOVE (E) PLANTING FOR NEW ELECTRICAL ROUTING, S.E.D. FOR EXTENTS AND S.C.D. AND S.C.D.
02.549 REMOVE (E) LANDSCAPE AND CMU PERIMETER AND PREP FOR NEW ACCESSIBLE RAMP, S.C.D. AND S.L.D. FOR EXTENTS. SALVAGE WALL CAP FOR REUSE. TRIM AS REQUIRED FOR REINSTALLATION.
02.550 REMOVE (E) CONCRETE PAVING FOR NEW ELECTRICAL ROUTING, S.E.D. FOR EXTENTS. C

GRAPHIC KEY - DEMOLITION SITE PLAN

TOILET ROOM USER GROUP:
B BOYS
G GIRLS
W WOMEN
M MEN
A ALL GENDER STAFF & VISITOR A

(E) TOILET ROOMS TO BE MODERNIZED.
(E) TOILET ROOMS TO REMAIN.
(E) CONSTRUCTION TO REMAIN
(E) COVERED WALKWAY TO REMAIN
(E) CONSTRUCTION TO BE DEMOLISHED
PROPERTY LINE
(E) ORNAMENTAL FENCE
(E) CHAIN LINK FENCE A
EXISTING FIRE HYDRANT
(E) F.H.

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CONSULTANT

STAMP
LICENSED ARCHITECT JOHN C. DITTENHAFER NO. C-25840 STATE OF CALIFORNIA REG. 07/31/27

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MILESTONES

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SHEET
DEMOLITION SITE PLAN

DATE 12.29.2025
JOB # 2025014
SHEET # AD3-A1.01

6/5/2026 9:59:45 AM

CAMPUS CODE ANALYSIS

(E) 100 BUILDING:
DSA #: 01-101025 INC 2 & INC 4, THIS APPLICATION

USE	OFFICE
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	3,852 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) 200 BUILDING:
DSA #: 01-101025 INC 2 & INC 4, THIS APPLICATION

USE	CLASSROOMS
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	4,149 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) 300 BUILDING:
DSA #: 01-101025 INC 2 & INC 4, THIS APPLICATION

USE	CLASSROOMS
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	6,564 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) 400 BUILDING:
DSA #: 01-101025 INC 2 & INC 4, THIS APPLICATION

USE	CLASSROOMS
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	6,563 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) 500 BUILDING:
DSA #: 01-101025 INC 2 & INC 4, THIS APPLICATION

USE	CLASSROOMS
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	6,030 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) 600 BUILDING:
DSA #: 01-101025 INC 2 & INC 4, THIS APPLICATION

USE	CLASSROOMS
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	4,079 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) 700 BUILDING:
DSA #: 01-101025 INC 3 & INC 4, THIS APPLICATION

USE	LIBRARY, MULTIPURPOSE
OCCUPANCY GROUP	A-2, A-3
CONSTRUCTION TYPE	V-A
ACTUAL AREA	10,945 SF
NUMBER OF STORIES	1
SPRINKLERED	YES

(E) PORTABLE BUILDING:
DSA #: 01-103888

USE	CLASSROOMS
OCCUPANCY GROUP	E
CONSTRUCTION TYPE	V-B
ACTUAL AREA	1,900 SF
NUMBER OF STORIES	1
SPRINKLERED	NO

PARKING COUNT

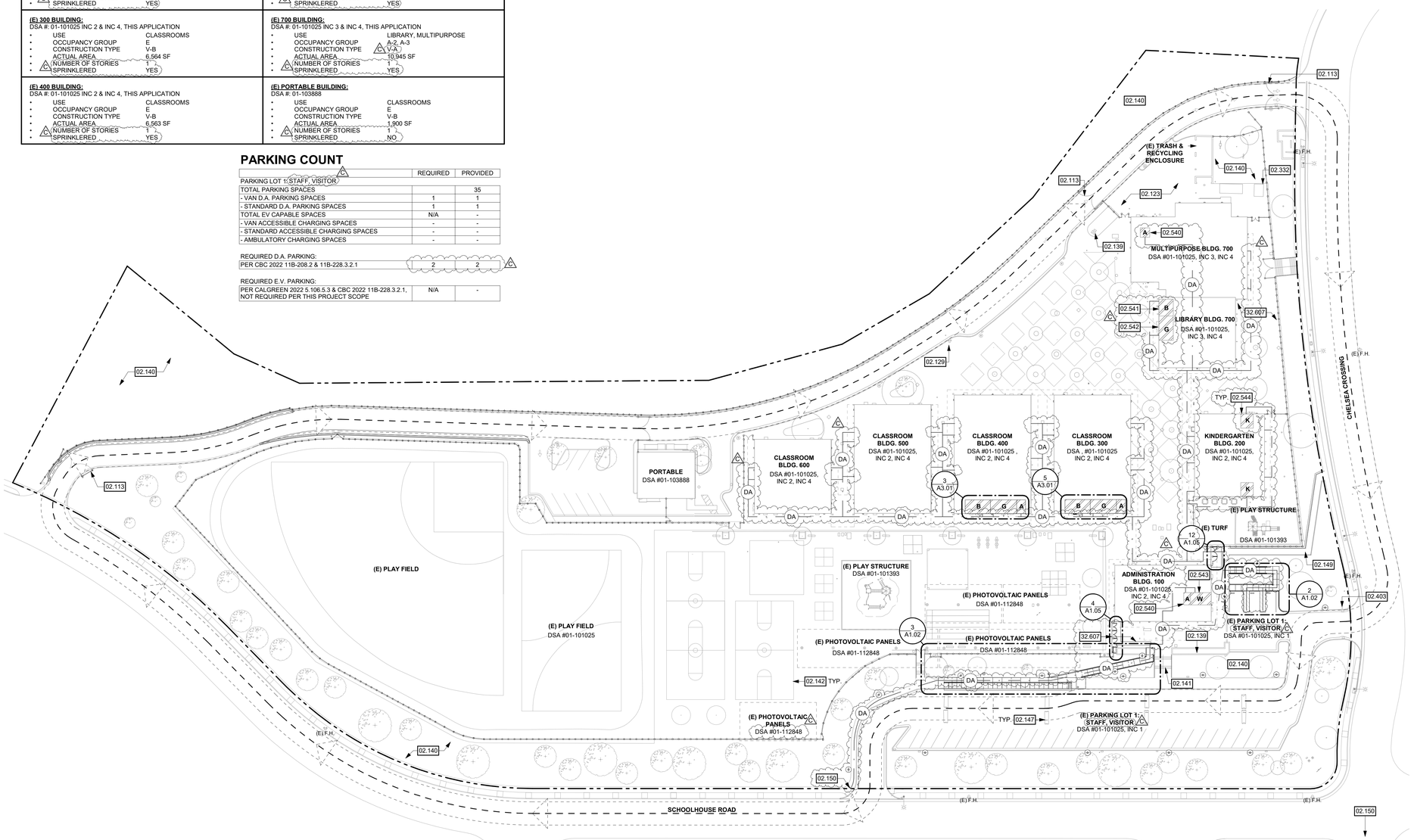
	REQUIRED	PROVIDED
PARKING LOT 1: STAFF, VISITOR		
TOTAL PARKING SPACES		35
- VAN D.A. PARKING SPACES	1	1
- STANDARD D.A. PARKING SPACES	1	1
TOTAL EV CAPABLE SPACES	N/A	-
- VAN ACCESSIBLE CHARGING SPACES	-	-
- STANDARD ACCESSIBLE CHARGING SPACES	-	-
- AMBULATORY CHARGING SPACES	-	-

REQUIRED D.A. PARKING:

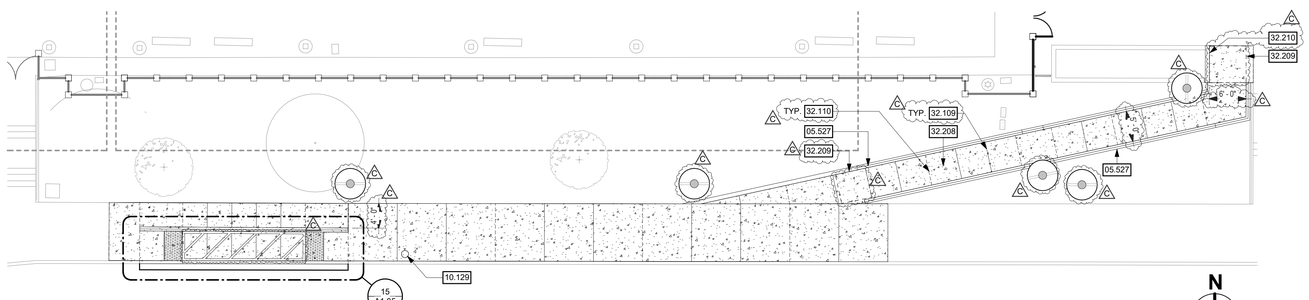
PER CBC 2022 11B-208.2 & 11B-228.3.2.1	2	2

REQUIRED E.V. PARKING:

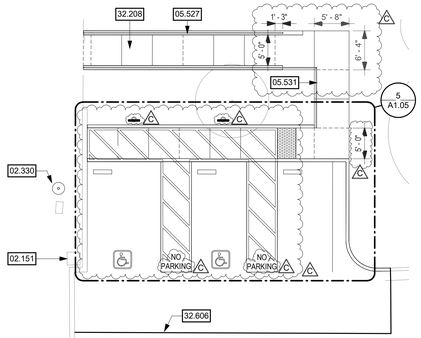
PER CALGREEN 2022 5.106.5.3 & CBC 2022 11B-228.3.2.1, NOT REQUIRED PER THIS PROJECT SCOPE	N/A	-



1 **NEW SITE PLAN**
SCALE: 1" = 40'-0"



3 **ENLARGED NEW SITE PLAN - RAMP**
SCALE: 1" = 10'-0"



2 **ENLARGED NEW SITE PLAN - ACCESSIBLE PARKING**
SCALE: 1" = 10'-0"

GENERAL SHEET NOTES

A THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUEMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMETNS FOR ALTERATIONS, ADDITIONS, AND STRUCTURAL REPAIRS. AS PART OD THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NON-COMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SEPCIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NON-COMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

B CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.

C DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE OWNER.

D PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION.

E REFER TO CIVIL, MECHANICAL, PLUMBING, ELECTRICAL AND LANDSCAPE DRAWINGS FOR EXTENT OF CIVIL, MECHANICAL, PLUMBING, ELECTRICAL AND LANDSCAPE WORK.

F ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

G PATCH PAVING AT ELECTRICAL TRENCHING. S.E.D. FOR EXTENTS.

SITE PLAN KEYNOTES

02.113 (E) VEHICULAR GATE TO REMAIN.
02.123 (E) CONCRETE PAVING TO REMAIN.
02.129 (E) FIRE HYDRANT TO REMAIN.
02.139 (E) PLANTER TO REMAIN.
02.140 (E) LANDSCAPE AREA TO REMAIN.
02.141 (E) CONCRETE STAIR TO REMAIN.
02.142 (E) COURT STRIPING TO REMAIN.
02.147 (E) SPEED BUMP TO REMAIN.
02.149 (E) ACCESSIBLE RAMP TO REMAIN, DSA #01-101025
02.150 PUBLIC BUS STOP, 1 MILE AWAY AT INTERSECTION OF EDEN PARK PLACE AND SILICON VALLEY BLVD
02.151 (E) STORM DRAIN TO REMAIN.
02.330 (E) LIGHT POLE TO REMAIN, S.E.D.
02.332 (E) ELECTRICAL TRANSFORMER AND CONCRETE PAD TO REMAIN.
02.403 POLE AND ENTRY WARNING SIGNAGE, SEE DETAIL 10 / A1.05
02.540 STAFF RESTROOM PER DSA #01-101025
02.541 BOYS STUDENT RESTROOM, DSA #01-101025
02.542 GIRLS STUDENT RESTROOM, DSA #01-101025
02.543 WOMENS STAFF RESTROOM, DSA #01-101025
02.544 KINDER RESTROOM, DSA #01-101025
05.527 1 1/2" DIAMETER STANDARD STEEL PIPE HANDRAIL, SEE DETAIL 7/C6.1
05.531 EXTEND RAILING ALONG SLOPED WALK, THIS SIDE ONLY.
10.129 PASSENGER DROP OFF SIGNAGE, SEE DETAIL 10 / A1.05
32.109 CONCRETE EXPANSION JOINT, S.C.D.
32.110 CONCRETE CONTROL JOINT, S.C.D.
32.208 RAMP, S.C.D.
32.209 LANDING, S.C.D.
32.210 CMU BLOCK WALL, S.C.D.
32.606 EXTENTS OF PAVING WORK, S.C.D.
32.607 CUT AND PATCH (E) CONCRETE AS REQUIRED FOR ELECTRICAL ROUTING, S.E.D. AND 2/C6.1

GRAPHIC KEY - NEW SITE PLAN

(E) TOILET ROOMS TO BE MODERNIZED.
(E) TOILET ROOMS TO REMAIN.
(E) CONSTRUCTION TO REMAIN
(E) COVERED WALKWAY TO REMAIN
SITE LIGHTING, S.E.D.
PROPERTY LINE
(E) ORNAMENTAL FENCE
(N) ORNAMENTAL FENCE
(E) CHAIN LINK FENCE
(E) FIRE DEPARTMENT ACCESS, DSA #01-103888
FIRE DEPARTMENT ACCESS IS 20'-0" WIDE AND RATED FOR 96,000 LBS.
D.A. PATH OF TRAVEL
D.A. PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" BEVELED AT 1:2. MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. D.A. PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM HEIGHT AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND BELOW 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.
(E) F.H. EXISTING FIRE HYDRANT

TOILET ROOM USER GROUP:
B BOYS
G GIRLS
W WOMEN
M MEN
A ALL GENDER STAFF & VISITOR

aedis architects
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PROJECT
LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP
LICENSED ARCHITECT — MARY BUTTERWORTH — NO. C-25840 — REN. 07/31/27 — STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

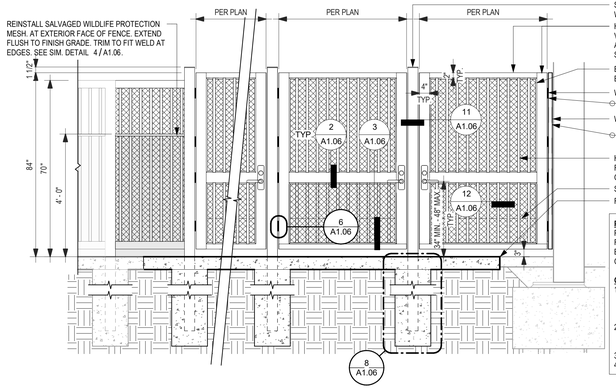
MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

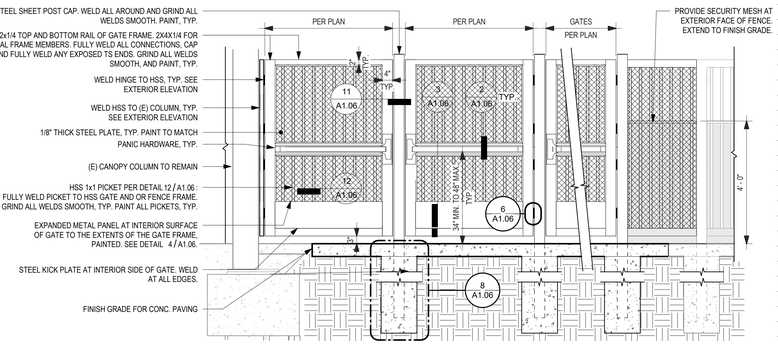
SHEET
NEW SITE PLAN & CODE ANALYSIS

DATE 12.29.2025
JOB # 2025014
SHEET # AD3-
A1.02

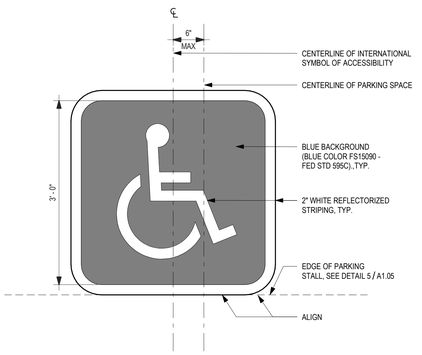
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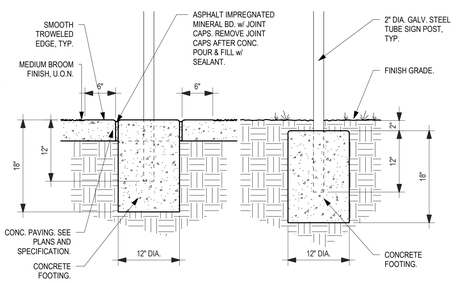
17 ORNAMENTAL ACCESSIBLE PEDESTRIAN GATES - EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



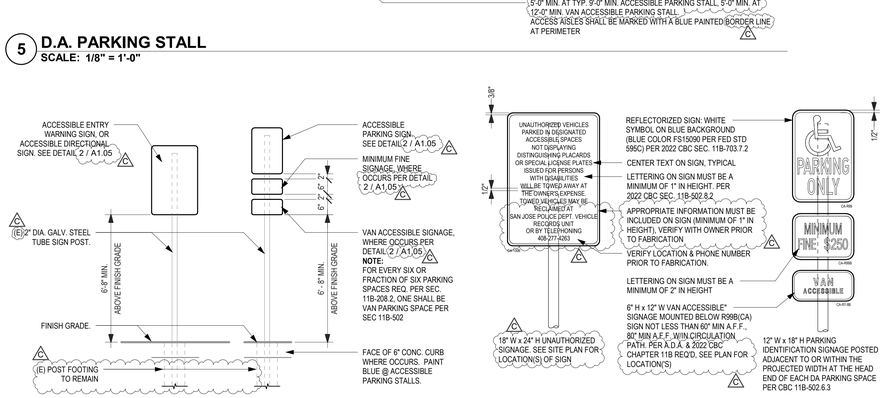
18 ORNAMENTAL ACCESSIBLE PEDESTRIAN GATES - INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



9 INTERNATIONAL SYMBOL OF ACCESSIBILITY
SCALE: 1" = 1'-0"



13 SITE SIGNAGE FOOTING
SCALE: 1" = 1'-0"

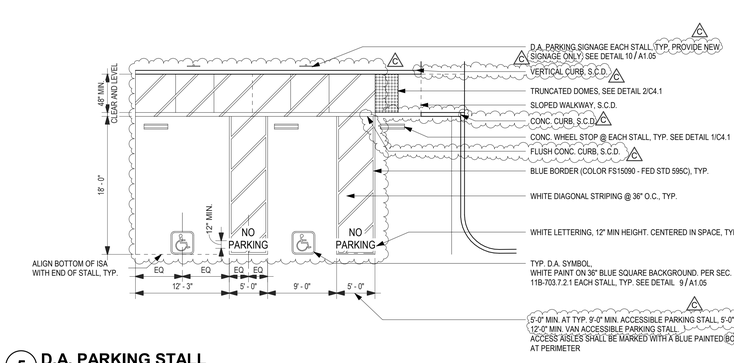


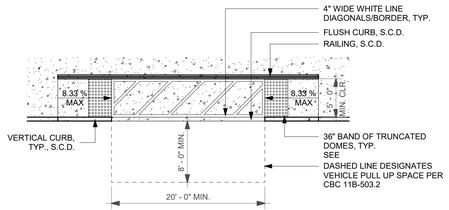
5 D.A. PARKING STALL
SCALE: 1/8" = 1'-0"

ENTRY WARNING SIGN **PARKING SIGN**

NOTE:
1. ALL SIGNS MUST HAVE REFLECTORIZED SURFACE FINISH
2. MOUNTING HEIGHTS SEE DETAIL 10 / A1.05

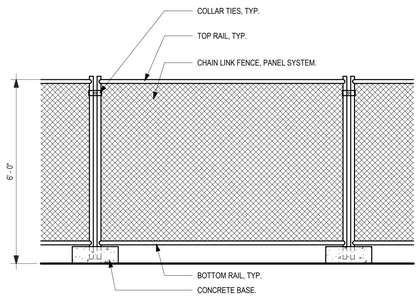
2 ACCESSIBLE PARKING SIGNS
SCALE: 1" = 1'-0"



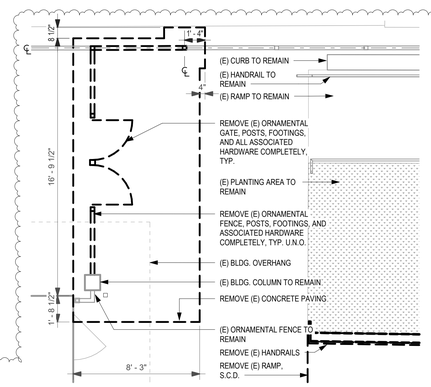


NOTE: S.C.D. FOR MORE INFORMATION

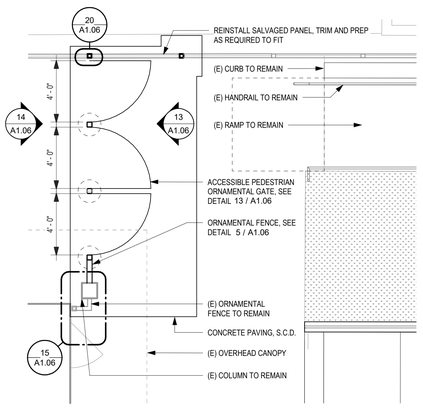
15 ENLARGED D.A DROP OFF
SCALE: 1/8" = 1'-0"



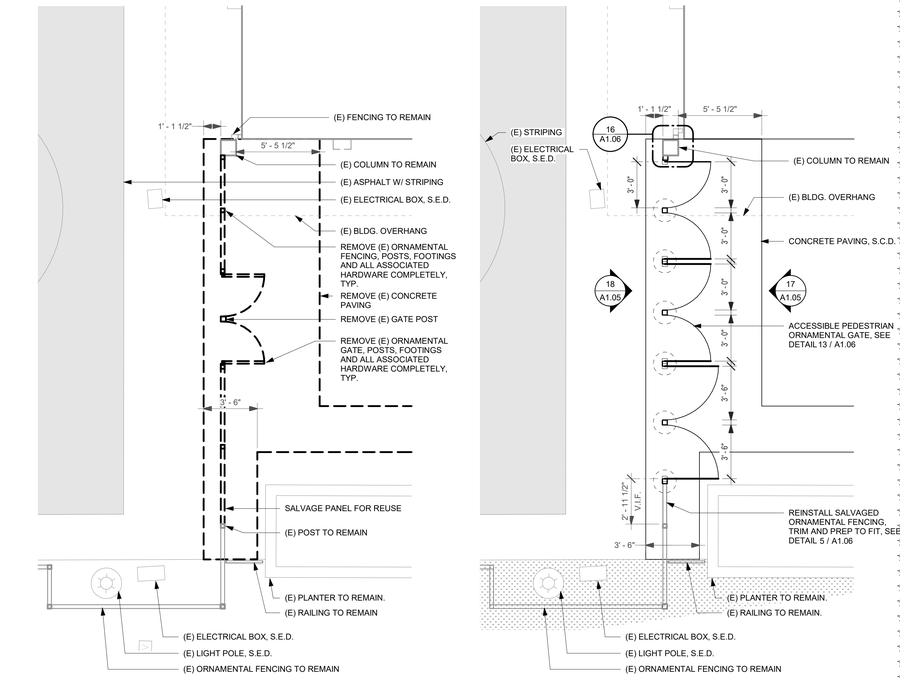
16 REQ'D TEMPORARY CONSTRUCTION FENCE
SCALE: 1/2" = 1'-0"



11 ENLARGED DEMOLITION PLAN - EAST GATES
SCALE: 1/4" = 1'-0"



12 ENLARGED NEW PLAN - EAST GATES
SCALE: 1/4" = 1'-0"



8 ENLARGED DEMOLITION PLAN - SOUTH GATES
SCALE: 1/4" = 1'-0"

4 ENLARGED NEW PLAN - SOUTH GATES
SCALE: 1/4" = 1'-0"

10 SITE SIGNAGE MOUNT
SCALE: 1/2" = 1'-0"

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PROJECT

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OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP

LICENSED ARCHITECT — NO. C-25840 — REN. 07/31/27 — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

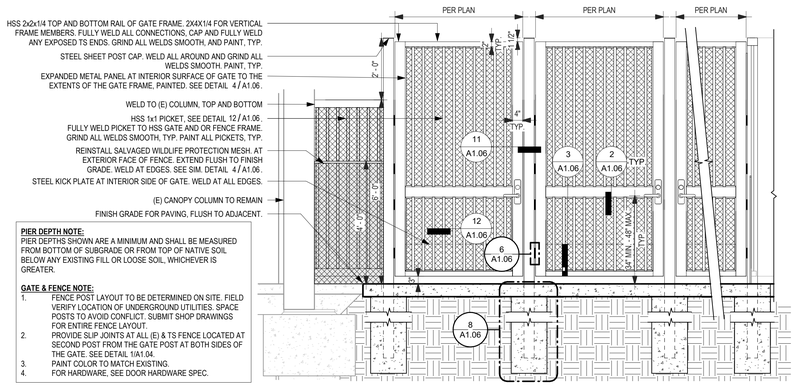
SITE DETAILS

DATE 12.29.2025

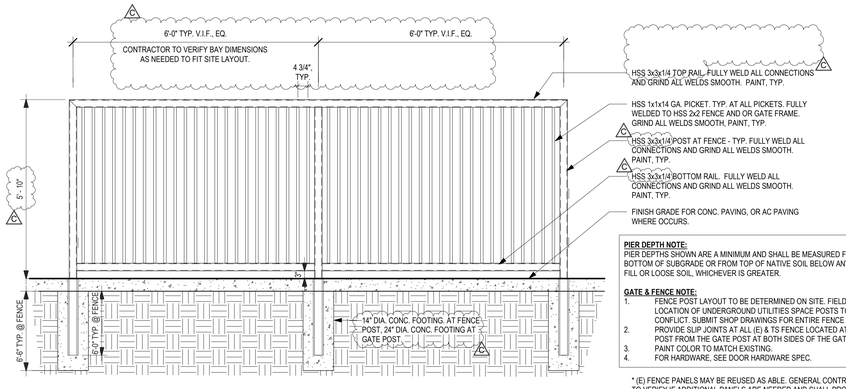
JOB # 2025014

SHEET # AD3- A1.05

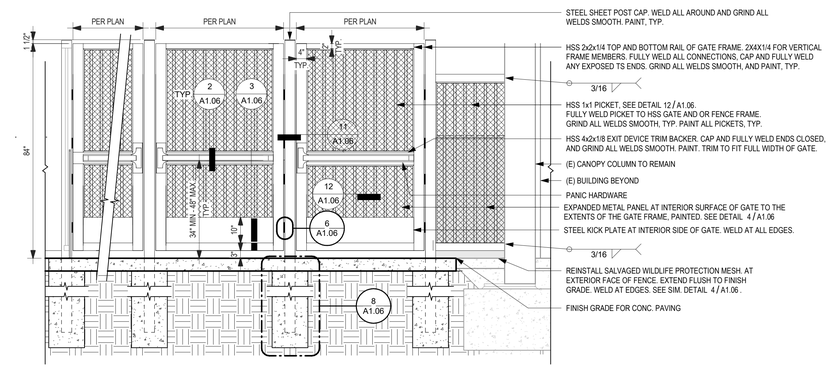
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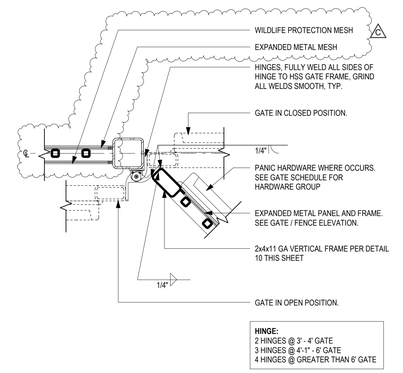
13 ORNAMENTAL ACCESSIBLE PEDESTRIAN GATES - EXTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



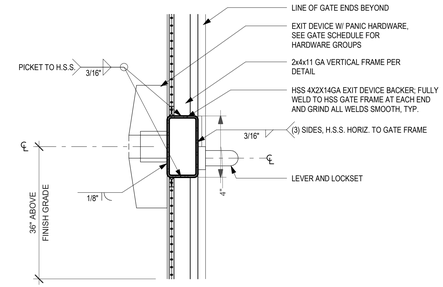
5 OUTSIDE ELEVATION @ DECORATIVE STEEL FENCE BAY
SCALE: 1/2" = 1'-0"



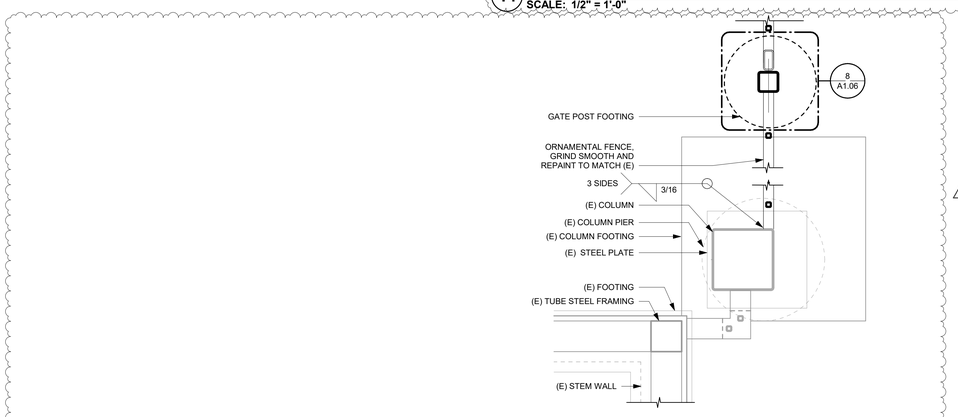
14 ORNAMENTAL ACCESSIBLE PEDESTRIAN GATES - INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"



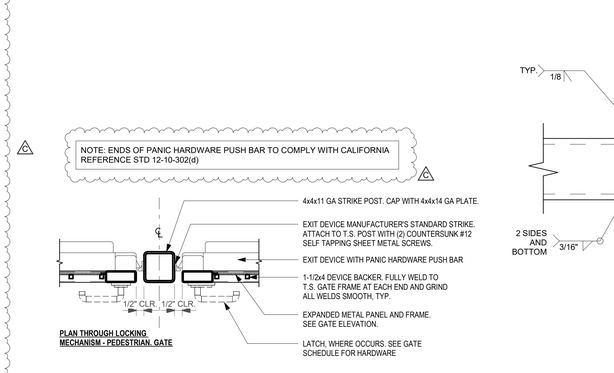
6 ORNAMENTAL STEEL GATE HINGE
SCALE: 1 1/2" = 1'-0"



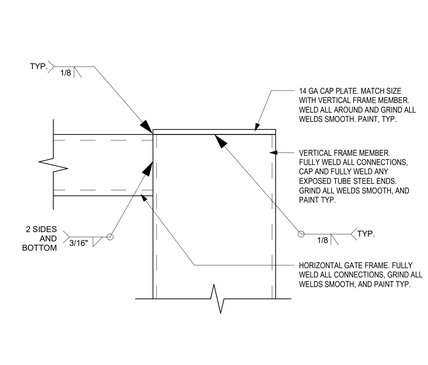
2 SECTION THROUGH PANIC PUSH BAR AT ORNAMENTAL GATE
SCALE: 3" = 1'-0"



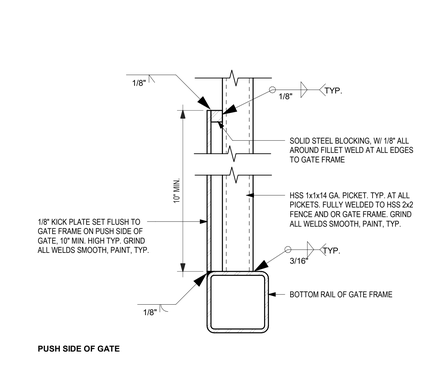
15 (E) COLUMN AT NEW EAST GATES
SCALE: 1" = 1'-0"



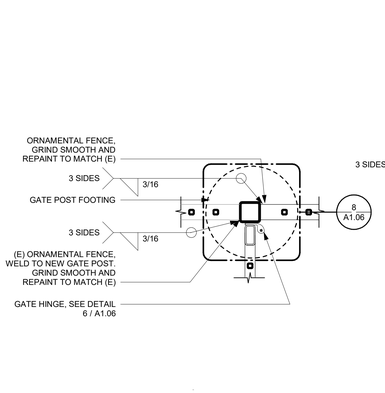
11 ORNAMENTAL GATE STRIKE
SCALE: 1 1/2" = 1'-0"



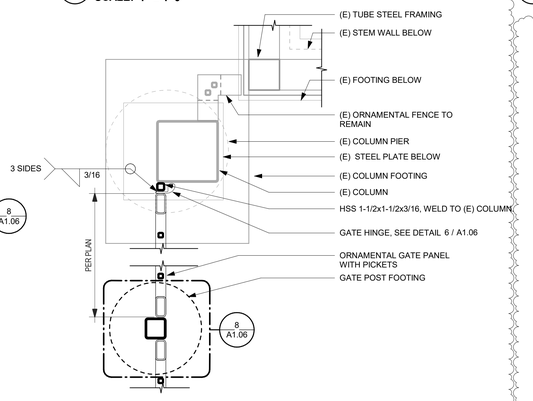
7 HORIZ. FRAME TO VERT. FRAME CONNECTION
SCALE: 6" = 1'-0"



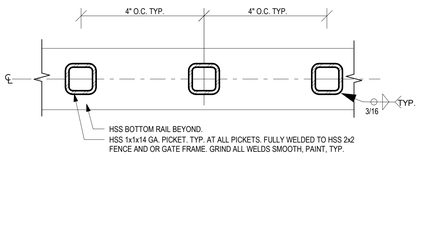
3 SECTION THROUGH KICK PLATE
SCALE: 6" = 1'-0"



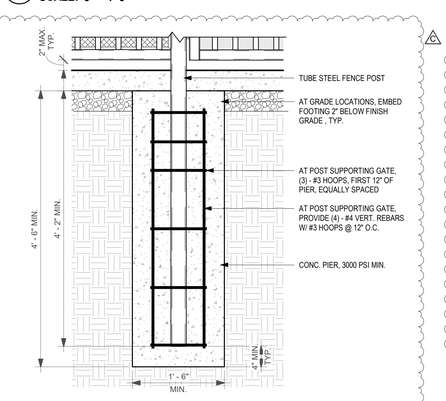
20 (E) COLUMN AT NEW EAST GATES
SCALE: 1" = 1'-0"



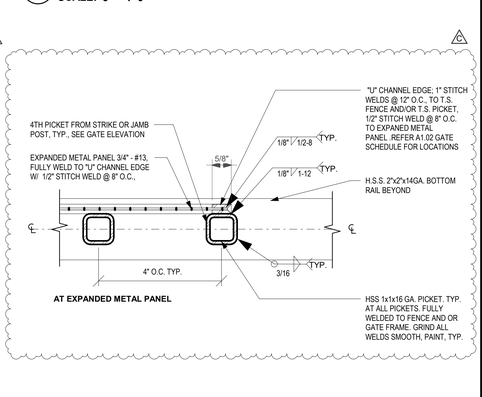
16 (E) COLUMN AT NEW SOUTH GATES
SCALE: 1" = 1'-0"



12 SECTION THROUGH T.S. PICKETS
SCALE: 6" = 1'-0"



8 TYPICAL ORNAMENTAL FENCE FOOTING
SCALE: 1" = 1'-0"



4 SECTION THROUGH PICKETS
SCALE: 6" = 1'-0"

aedis architects
www.aedisarchitects.com
333 W. Santa Clara Street, Suite 900
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fax: (408)-300-5121

PROJECT

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OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP

LICENSED ARCHITECT — JOHN C. PITTENGER — NO. C-25840 — STATE OF CALIFORNIA — REN. 07-31-27

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

REVISIONS

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/C	Addendum 3	06/05/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

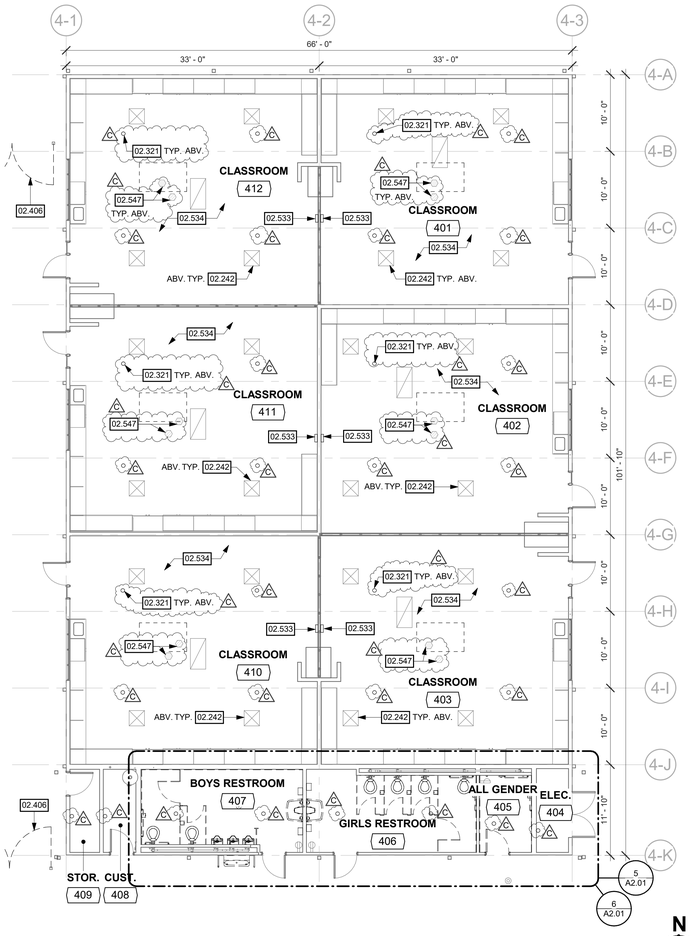
SITE DETAILS

DATE 12.29.2025

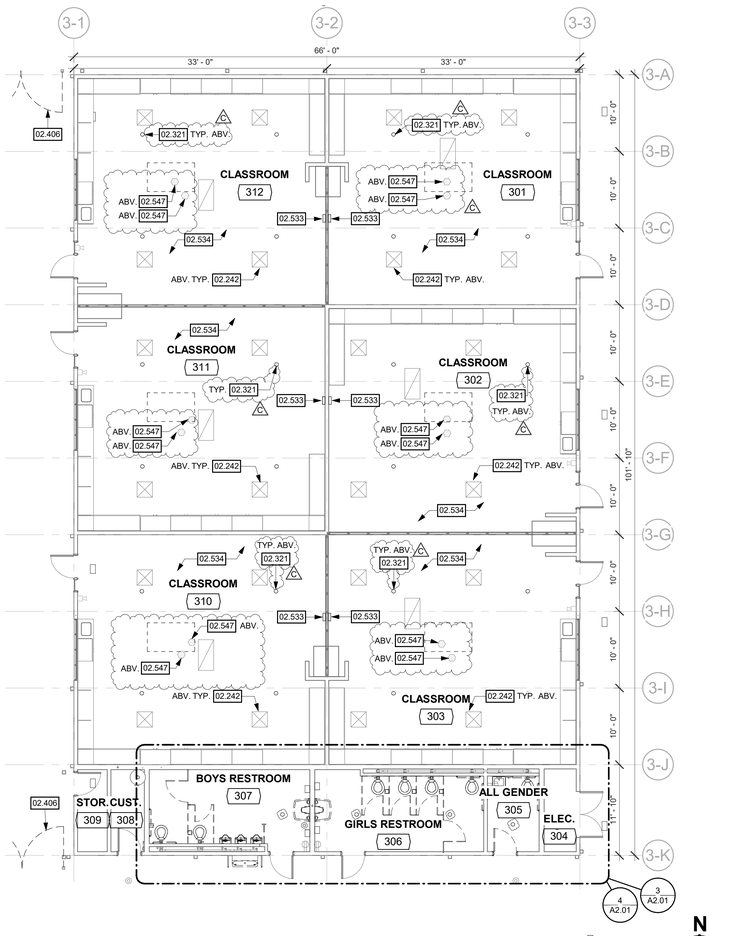
JOB # 2025014

SHEET # AD3-A1.06

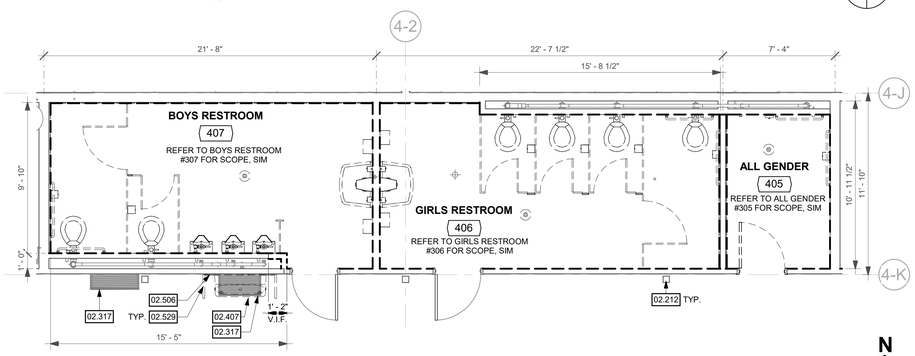
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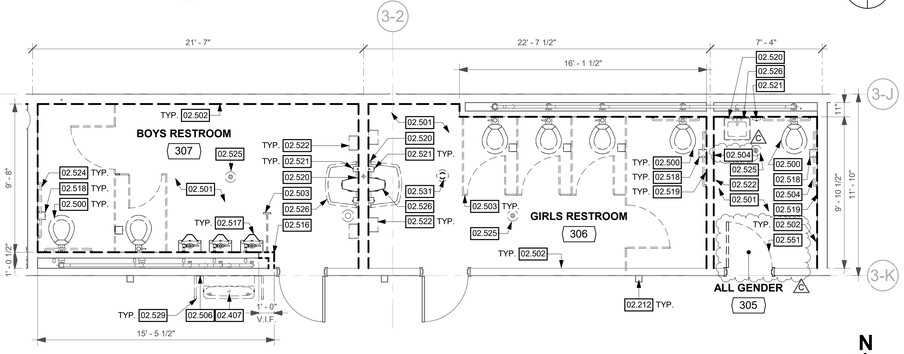
2 DEMOLITION FLOOR PLAN - BLDG 400
SCALE: 1/8" = 1'-0"



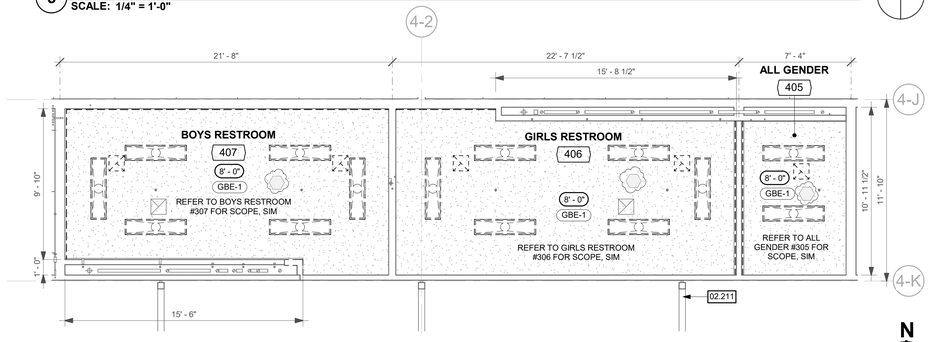
1 DEMOLITION FLOOR PLAN - BLDG 300
SCALE: 1/8" = 1'-0"



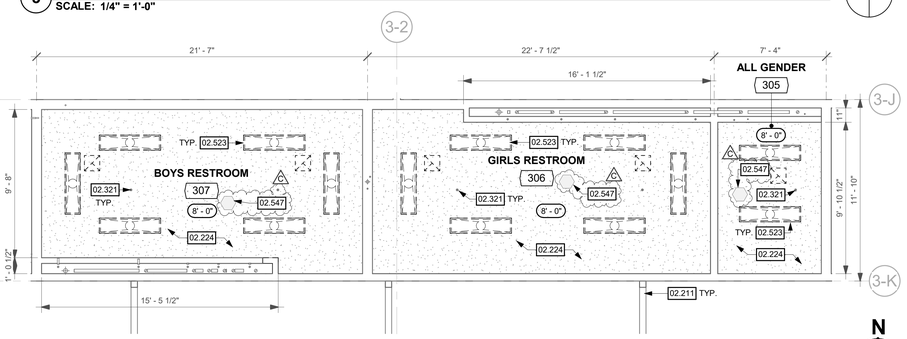
5 DEMOLITION ENLARGED RESTROOM FLOOR PLAN - BLDG 400
SCALE: 1/4" = 1'-0"



3 DEMOLITION ENLARGED RESTROOM FLOOR PLAN - BLDG 300
SCALE: 1/4" = 1'-0"



6 DEMOLITION ENLARGED RESTROOM RCP - BLDG 400
SCALE: 1/4" = 1'-0"



4 DEMOLITION ENLARGED RESTROOM RCP - BLDG 300
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

A ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND NEW FLOOR PLANS.

B REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DEMOLITION WORK.

C VERIFY LIMITS OF DEMOLITION WITH SCOPE OF NEW WORK PRIOR TO COMMENCING WORK.

D ALL ITEMS SHOWN DASHED ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED ON PLANS.

E PATCH AND PAINT ALL (E) SURFACES AFFECTED BY WORK.

PROJECT ALTERNATES

DEDUCTIVE ALTERNATE 1
ALL WORK WITHIN ALL GENDER RESTROOM #305 AND #405 TO BE REMOVED.

DEMOLITION FLOOR PLAN KEYNOTES

02.211	(E) STEEL BEAM TO REMAIN
02.212	(E) STEEL COLUMN TO REMAIN
02.224	(E) GYPSUM BOARD CEILING TO REMAIN. REMOVE (E) FINISH AS REQUIRED FOR CONSTRUCTION ACCESS. (E) STRUCTURE TO REMAIN
02.242	(E) REGISTERS ABOVE TO REMAIN, S.M.D.
02.317	(E) BUILDING VENT TO REMAIN
02.321	(E) FIRE SPRINKLER HEAD TO REMAIN (C)
02.406	REMOVE (E) FENCE AND GATES BETWEEN BUILDINGS. GRIND GATE POSTS DOWN FLUSH TO GRADE. INFILL POST VOID WITH CONCRETE, FLUSH TO ADJACENT.
02.407	REMOVE (E) DRINKING FOUNTAIN
02.500	REMOVE (E) WATER CLOSET, S.P.D.
02.501	REMOVE (E) RESILIENT EPOXY FLOORING, PATCH AND PREP AS REQUIRED FOR NEW
02.502	REMOVE (E) WALL FINISH DOWN TO (E) FRAMING TO REMAIN
02.503	REMOVE (E) TOILET PARTITIONS AND PARTITION DOORS
02.504	SALVAGE AND REINSTALL (E) ACCESS PANEL (A)
02.506	REMOVE TILE FINISH. PREP FOR NEW TILE FINISH. SEE DETAIL 3 / A6.01 FOR EXTENTS OF PLASTER PATCH AND REPAIR TO MATCH EXISTING
02.516	REMOVE (E) WALL
02.517	REMOVE (E) URINAL, S.P.D.
02.518	REMOVE (E) TOILET PAPER DISPENSER
02.519	REMOVE (E) SANITARY NAPKIN DISPOSAL
02.520	REMOVE (E) MIRROR
02.521	REMOVE (E) SOAP DISPENSER
02.522	REMOVE (E) HAND DRYER AND PREP FOR NEW FIXTURE, S.E.D.
02.523	REMOVE (E) LIGHT FIXTURE, S.E.D.
02.524	REMOVE (E) GRAB BAR
02.525	REMOVE (E) FLOOR DRAIN, S.P.D.
02.526	REMOVE (E) LAVATORY, S.P.D.
02.529	REMOVE (E) RAILING
02.531	REMOVE (E) FLOOR CLEAN OUT COVER AND PREP FOR NEW
02.533	REMOVE (E) THERMOSTAT, S.M.D. PREP AREA FOR NEW THERMOSTAT. PATCH AND PAINT SURFACE TO MATCH EXISTING FINISH
02.534	REMOVE AND REINSTALL (E) CEILING TILES AS REQUIRED FOR CONSTRUCTION ACCESS ABOVE, S.M.D. AND S.S.D. ALTERATION OF SUSPENSION GRID AS REQUIRED SHALL NOT EXCEED 10% OF ROOM AREA
02.547	SALVAGE AND REINSTALL EXISTING SMOKE/HEAT DETECTORS AS REQUIRED FOR CONSTRUCTION ACCESS. UPON REINSTALLATION, TEST TO CONFIRM FULL OPERABILITY.
02.551	REMOVE (E) DOOR AND FRAME. SALVAGE (E) DOOR HARDWARE FOR REUSE.

GRAPHIC KEY - DEMOLITION FLOOR PLAN

WALL TYPES:

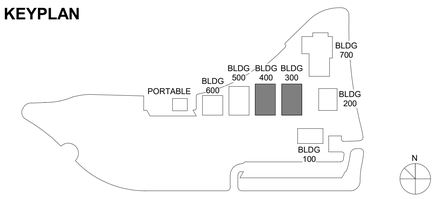
EXISTING WALL TO BE DEMOLISED

EXISTING WALL TO REMAIN

EXISTING DOOR AND/OR FRAME TO BE REMOVED. SEE NEW FLOOR PLAN AND DOOR SCHEDULE FOR MORE INFORMATION.

EXISTING DOOR AND/OR FRAME TO REMAIN. SEE DOOR SCHEDULE FOR MORE INFORMATION.

KEYPLAN



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www.aedisarchitects.com
333 W. Santa Clara Street, Suite 900
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT
LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP
LICENSED ARCHITECT JOHN T. DITTENBER NO. C-25840 REN. 01.31.27 STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

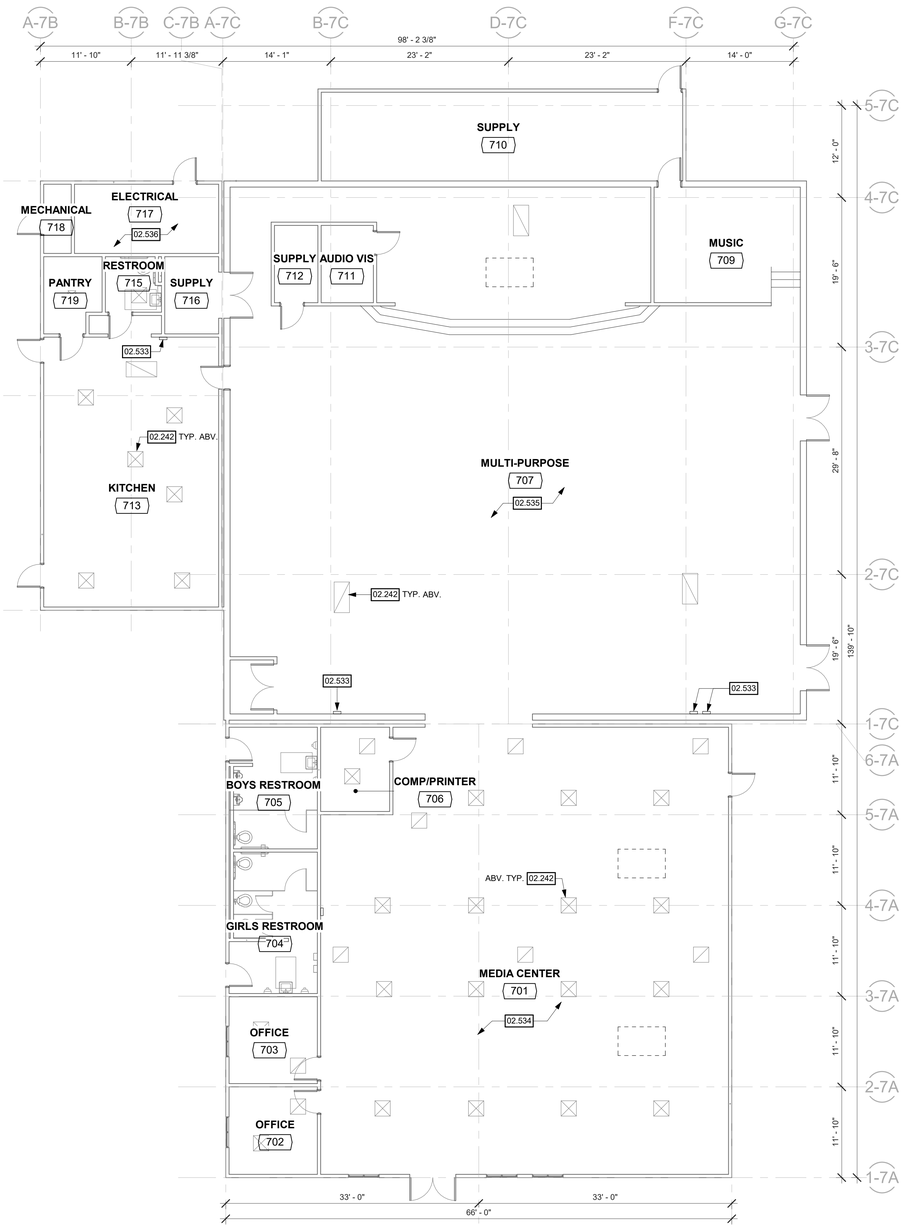
MILESTONES

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DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

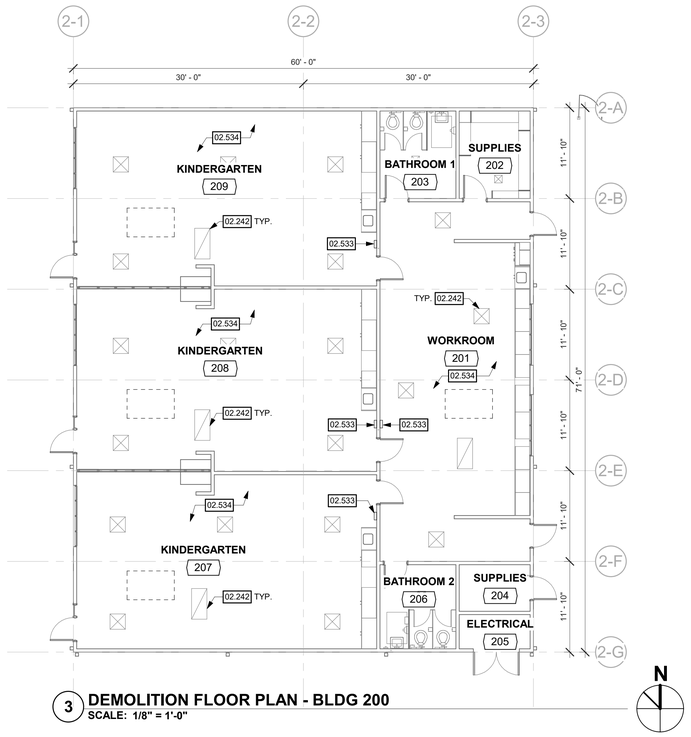
SHEET
DEMOLITION PLANS, ENLARGED PLANS, & RCPS - BLDGS. 300 & 400

DATE 12.29.2025
JOB # 2025014
SHEET # AD3-
A2.01

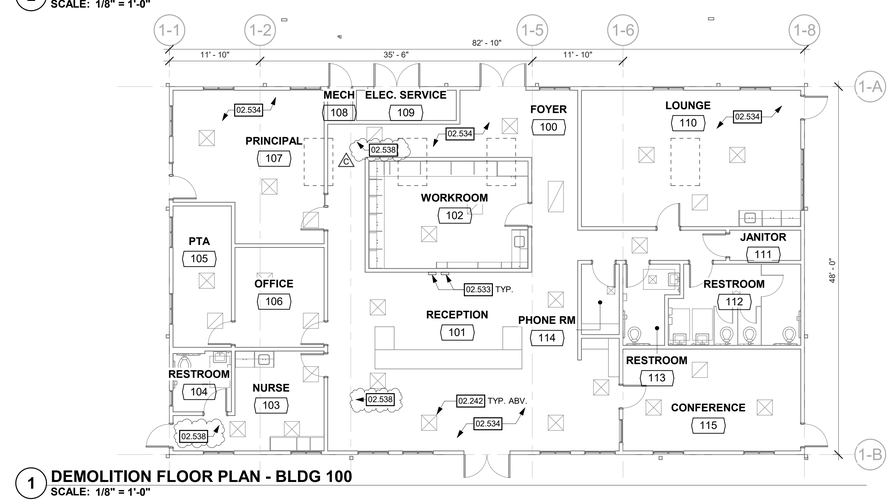
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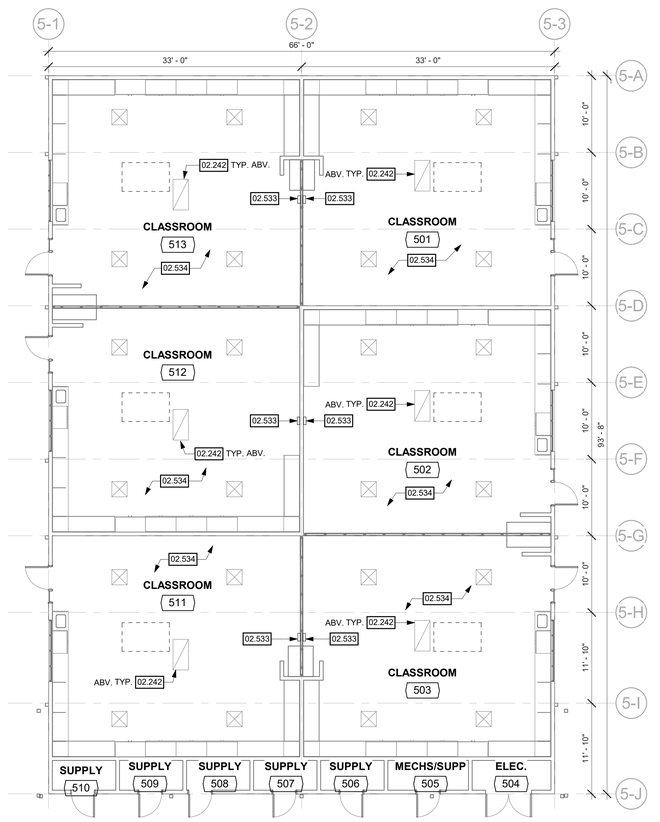
2 DEMOLITION FLOOR PLAN - BLDG 700
SCALE: 1/8" = 1'-0"



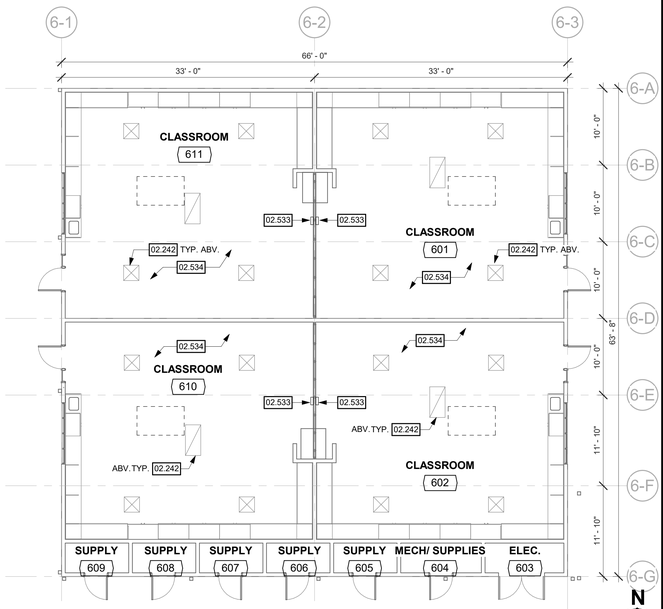
3 DEMOLITION FLOOR PLAN - BLDG 200
SCALE: 1/8" = 1'-0"



1 DEMOLITION FLOOR PLAN - BLDG 100
SCALE: 1/8" = 1'-0"



4 DEMOLITION FLOOR PLAN - BLDG 500
SCALE: 1/8" = 1'-0"



5 DEMOLITION FLOOR PLAN - BLDG 600
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

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B REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DEMOLITION WORK.

C VERIFY LIMITS OF DEMOLITION WITH SCOPE OF NEW WORK PRIOR TO COMMENCING WORK.

D ALL ITEMS SHOWN DASHED ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED ON PLANS.

E PATCH AND PAINT ALL (E) SURFACES AFFECTED BY WORK.

DEMOLITION FLOOR PLAN KEYNOTES

02.242 (E) REGISTERS ABOVE TO REMAIN, S.M.D.
02.533 REMOVE (E) THERMOSTAT, S.M.D. PREP AREA FOR NEW THERMOSTAT. PATCH AND PAINT SURFACE TO MATCH EXISTING FINISH
02.534 REMOVE AND REINSTALL (E) CEILING TILES AS REQUIRED FOR CONSTRUCTION ACCESS ABOVE, S.M.D. AND S.S.D. ALTERATION OF SUSPENSION GRID AS REQUIRED SHALL NOT EXCEED 10% OF ROOM AREA
02.535 REMOVE AND REINSTALL (E) GYP BOARD FINISH CEILING TILES AS REQUIRED FOR CONSTRUCTION ACCESS ABOVE, S.M.D. AND S.S.D., PATCH AND PAINT TO MATCH (E) ADJACENT
02.536 (E) EXPOSED CEILING, S.M.D. AND S.S.D. FOR UPGRADES
02.538 FOR WORK REQUIRING CEILING ACCESS, TEMPORARILY REMOVE TILE AT (E) ACOUSTICAL CEILING ABOVE AS REQUIRED. ANY TILE DAMAGED DURING EXECUTION OF THE WORK TO BE REPLACED TO MATCH ADJACENT TILES. CEILING TILE REPLACEMENT NOT TO EXCEED 10% OF TOTAL CEILING AREA.

GRAPHIC KEY - DEMOLITION FLOOR PLAN

WALL TYPES:

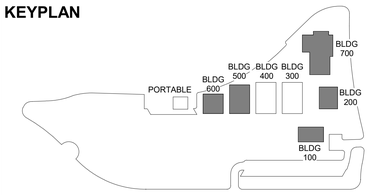
EXISTING WALL TO BE DEMOLISED

EXISTING WALL TO REMAIN

EXISTING DOOR AND/OR FRAME TO BE REMOVED. SEE NEW FLOOR PLAN AND DOOR SCHEDULE FOR MORE INFORMATION.

EXISTING DOOR AND/OR FRAME TO REMAIN. SEE DOOR SCHEDULE FOR MORE INFORMATION.

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LICENSED ARCHITECT — JOHN C. DITTENHAFER — NO. C-25840 — REG. 07/31/2027 — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER	43-41
APPL #	01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

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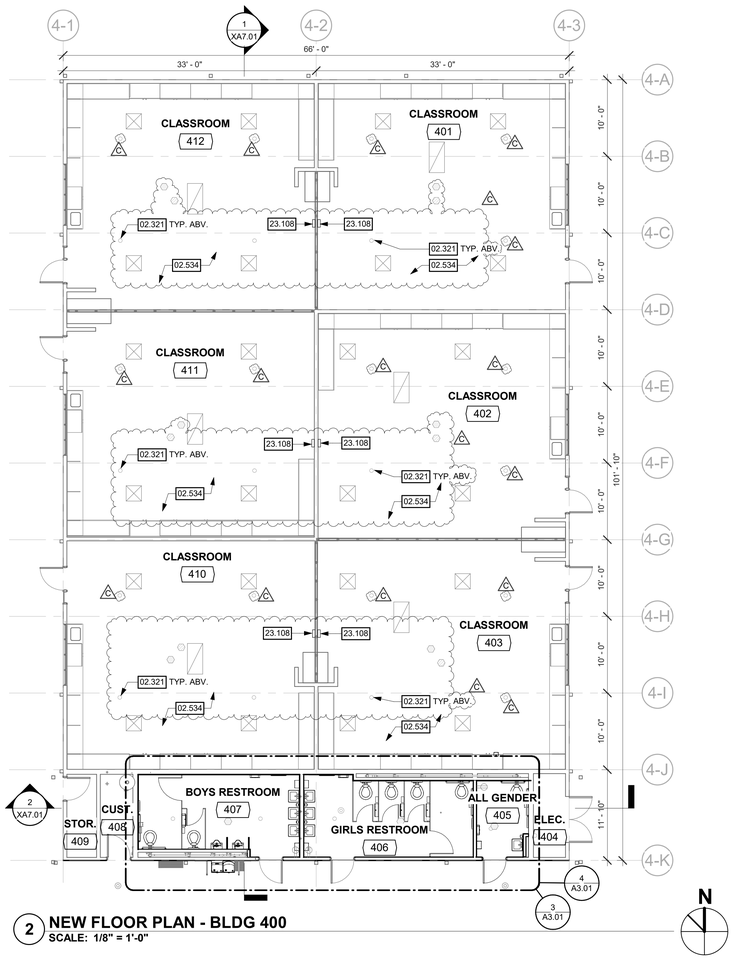
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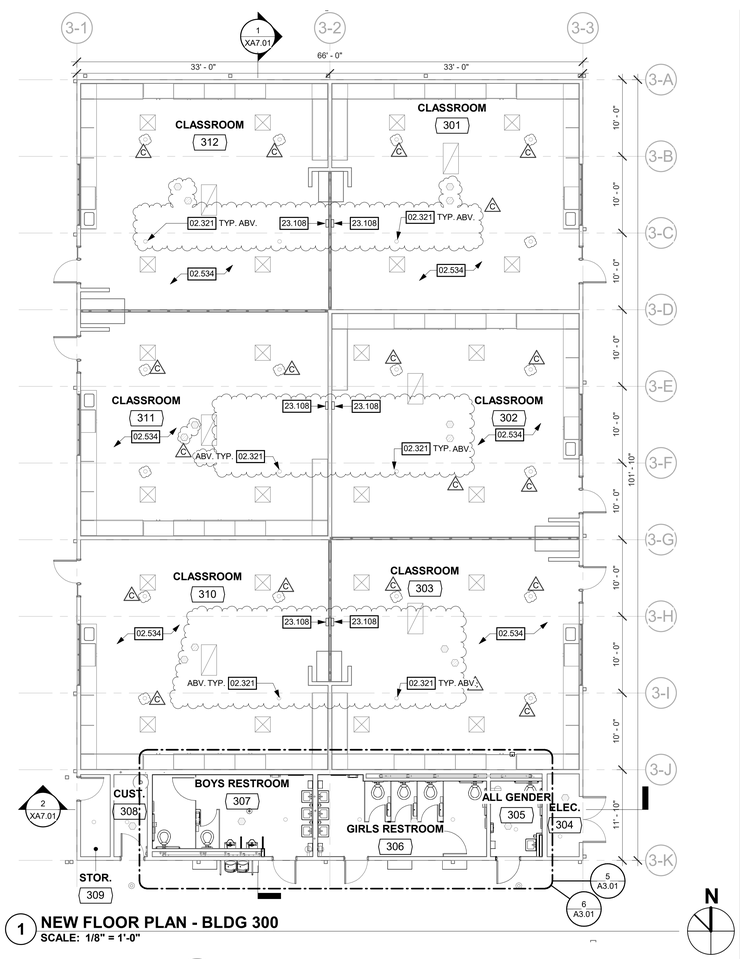
DEMOLITION FLOOR PLANS - BLDGS 100, 200, 500, 600, & 700

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JOB #	2025014
SHEET #	AD3-A2.02

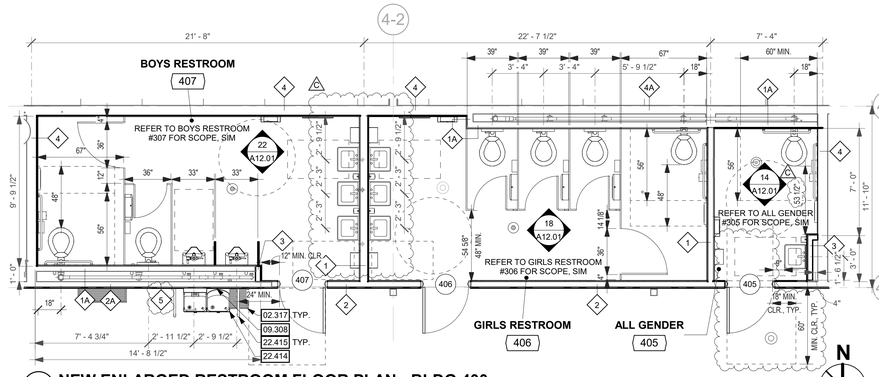
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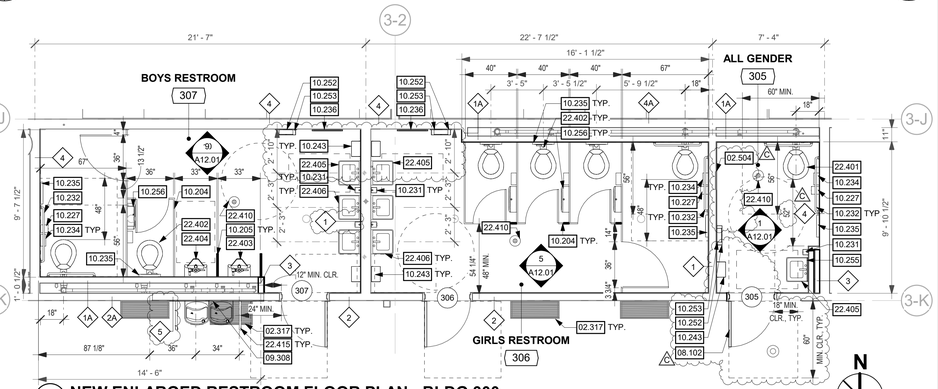
2 NEW FLOOR PLAN - BLDG 400
SCALE: 1/8" = 1'-0"



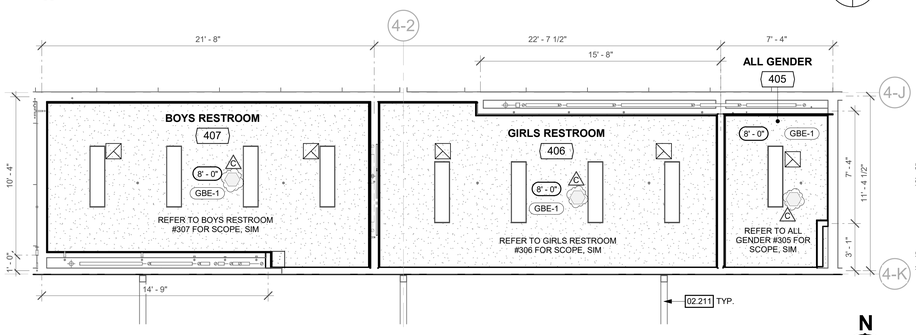
1 NEW FLOOR PLAN - BLDG 300
SCALE: 1/8" = 1'-0"



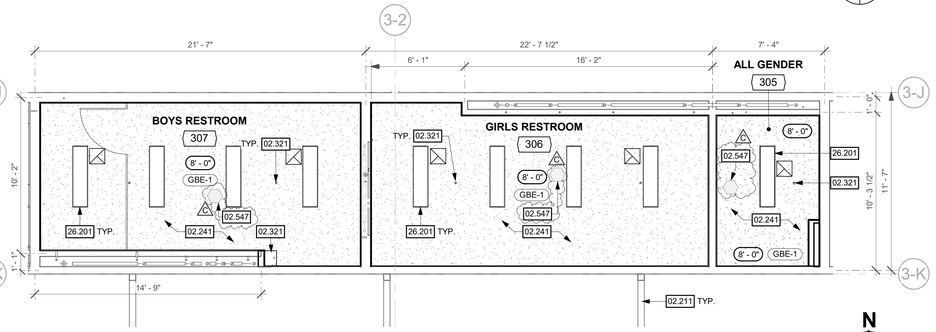
3 NEW ENLARGED RESTROOM FLOOR PLAN - BLDG 400
SCALE: 1/4" = 1'-0"



5 NEW ENLARGED RESTROOM FLOOR PLAN - BLDG 300
SCALE: 1/4" = 1'-0"



4 NEW ENLARGED RESTROOM RCP - BLDG 400
SCALE: 1/4" = 1'-0"



6 NEW ENLARGED RESTROOM RCP - BLDG 300
SCALE: 1/4" = 1'-0"

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PROJECT ALTERNATES

DEDUCTIVE ALTERNATE 1 C
ALL WORK WITHIN ALL GENDER RESTROOM #305 AND #405 TO BE REMOVED.

FLOOR PLAN KEYNOTES

02.211 (E) STEEL BEAM TO REMAIN
02.241 (E) GYPSUM BOARD CEILING TO REMAIN, PATCHED AND PAINTED
02.317 (E) BUILDING VENT TO REMAIN
02.321 (E) FIRE SPRINKLER HEAD TO REMAIN
02.504 SALVAGE AND REINSTALL (E) ACCESS PANEL
02.534 REMOVE AND REINSTALL (E) CEILING TILES AS REQUIRED FOR CONSTRUCTION ACCESS ABOVE, S.M.D. AND S.S.D. ALTERATION OF SUSPENSION GRID AS REQUIRED SHALL NOT EXCEED 10% OF ROOM AREA
02.547 SALVAGE AND REINSTALL EXISTING SMOKE/HEAT DETECTORS AS REQUIRED FOR CONSTRUCTION ACCESS. UPON REINSTALLATION, TEST TO CONFIRM FULL OPERABILITY. C
08.102 HOLLOW METAL DOOR AND FRAME. SEE DOOR SCHEDULE AND DOOR TYPES. REINSTALL SALVAGED DOOR HARDWARE.
09.308 EXTERIOR SINTERED STONE WALL FINISH, SEE DETAIL 6 / A8.10
10.204 FLOOR MOUNTED, OVERHEAD BRACED, SOLID COLOR REINFORCED COMPOSITE SUBSTRATE TOILET COMPARTMENT. SEE DETAIL 2 / A9.10
10.205 FLOOR TO CEILING, SOLID COLOR REINFORCED COMPOSITE SUBSTRATE URINAL SCREEN. SEE DETAIL 2 / A9.10
10.227 STAINLESS STEEL RECESSED SINGLE ROLL ACCESSIBLE TOILET TISSUE ROLL DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.231 SURFACE MOUNT SOAP DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL1 / A9.10
10.232 STAINLESS STEEL 1 1/2" DIAMETER GRAB BAR. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.234 STAINLESS STEEL SURFACE MOUNTED SANITARY NAPKIN DISPOSAL UNIT. FOR MOUNTING HEIGHTS SEE DETAIL1 / A9.10
10.235 STAINLESS STEEL SURFACE MOUNTED SEAT-COVER DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL1 / A9.10
10.236 24" x 48" MIRROR UNIT WITH STAINLESS STEEL ANGLE FRAME. FOR BACKING SEE DETAIL7 / A9.10
10.243 WARM-AIR DRYER. FOR MOUNTING HEIGHTS SEE DETAIL1 / A9.10
10.252 SEMI-RECESSED WASTE RECEPTACLE. FOR MOUNTING HEIGHTS, SEE DETAIL1 / A9.10 AND 8 / A9.10
10.253 FOLDED PAPER TOWEL DISPENSER, FOR MOUNTING HEIGHTS SEE DETAIL1 / A9.10
10.255 24" X 36" MIRROR UNIT WITH STAINLESS STEEL ANGLE FRAME. FOR MOUNTING HEIGHT SEE DETAIL7 / A9.10
10.256 SURFACE MOUNT STAINLESS STEEL SINGLE ROLL TOILET TISSUE ROLL DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL1 / A9.10
22.401 D.A. WATER CLOSET, S.P.D. AND SEE DETAIL1 / A9.10
22.402 WATER CLOSET, S.P.D. AND SEE DETAIL 1 / A9.10
22.403 D.A. URINAL, S.P.D.
22.404 URINAL, S.P.D.
22.405 D.A. LAVATORY, S.P.D.
22.406 LAVATORY, S.P.D.
22.410 FLOOR DRAIN, S.P.D.; SLOPE TO DRAIN, TYP.
22.414 D.A. HI-LO DRINKING FOUNTAIN, S.P.D. AND DETAIL12 / A8.10
22.415 ALCOVE RAIL, SEE DETAIL
23.108 OFOI THERMOSTAT, S.M.D. A
26.201 LIGHT FIXTURE, S.E.D.

GRAPHIC KEY - NEW FLOOR PLAN

WALL TYPES

EXISTING WALL TO REMAIN

WALL TYPE, REFER TO SHEET A9.XX FOR WALL TYPE DESCRIPTION, FIRE RATING LISTING, AND SOUND RATING WHERE APPLICABLE, TYP.

STUD WALL

GRAPHIC KEY - NEW REFLECTED CEILING PLAN

(E) FRAMED GYPSUM BOARD CEILING

(E) GYP. BD. CEILING, PATCHED AND PAINTED

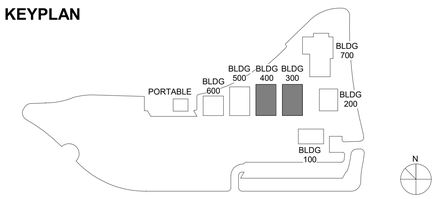
ELECTRICAL SYMBOLS

LIGHT FIXTURES, REFER TO ELECTRICAL DWGS. FOR SIZE, TYPE, AND MFR.; TO BE LOCATED PER ARCHITECTURAL DWGS.

MECHANICAL SYMBOLS

(E) EXHAUST AIR, REFER TO MECHANICAL DWGS.

KEYPLAN



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STAMP

LICENSED ARCHITECT — JOHN C. AITKEN — NO. C-25840 — EXP. 07-31-27 — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

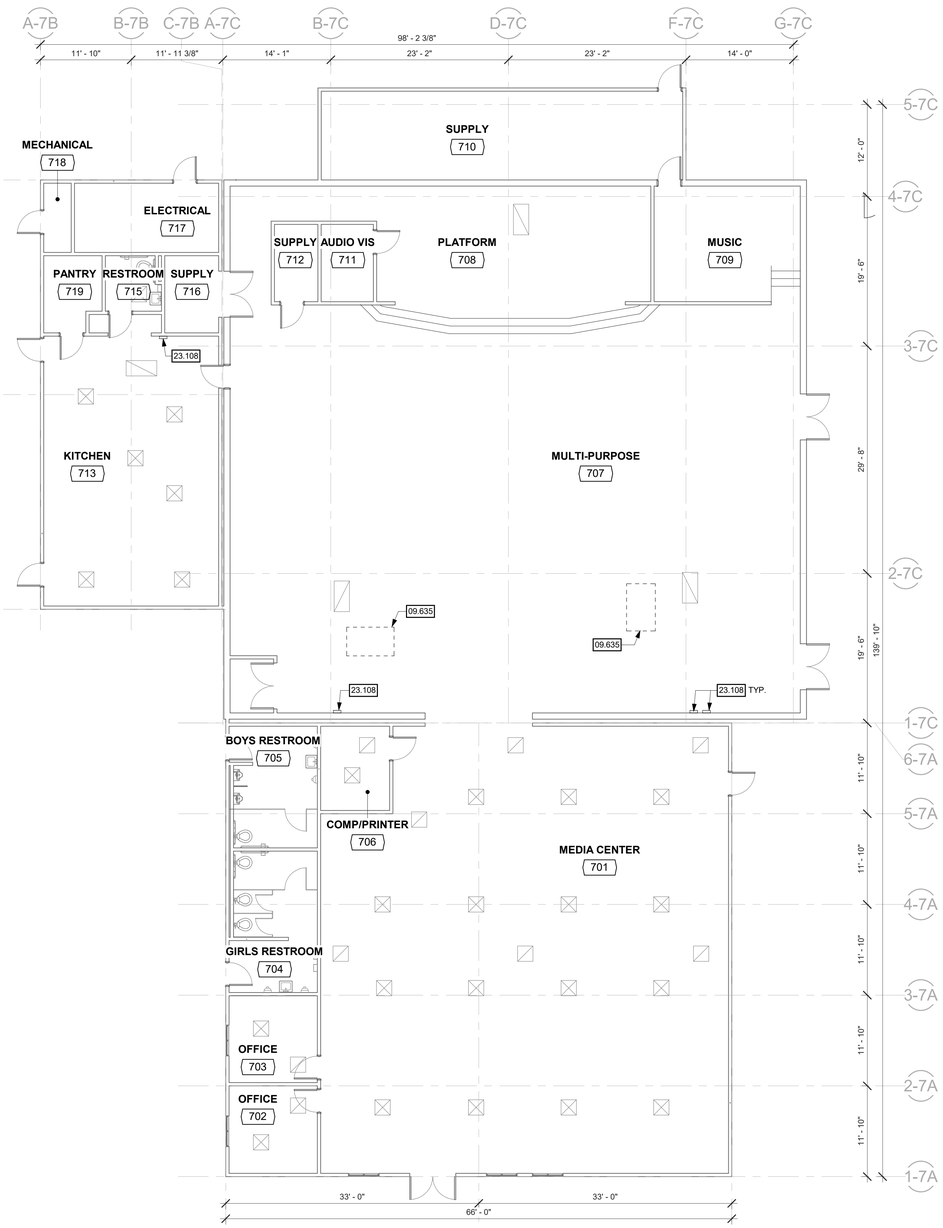
NEW FLOOR PLANS, ENLARGED PLANS, AND RCPS - BLDGS. 300 & 400

DATE 12.29.2025

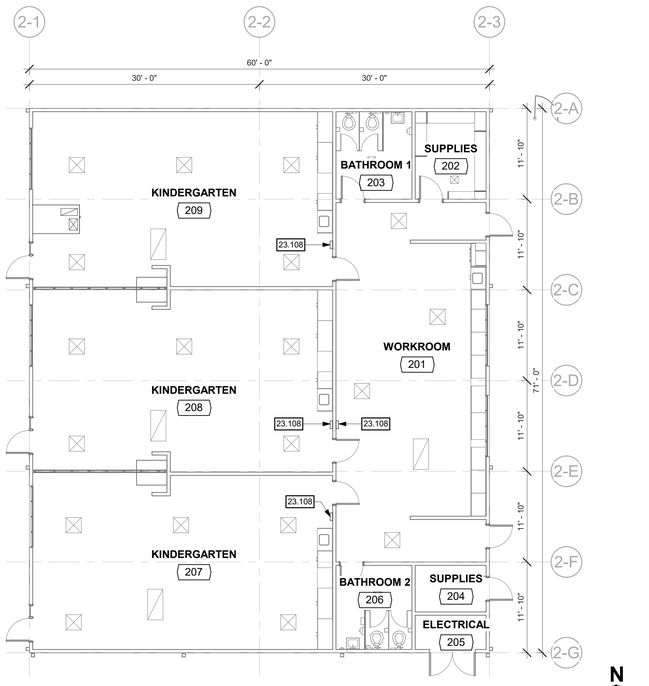
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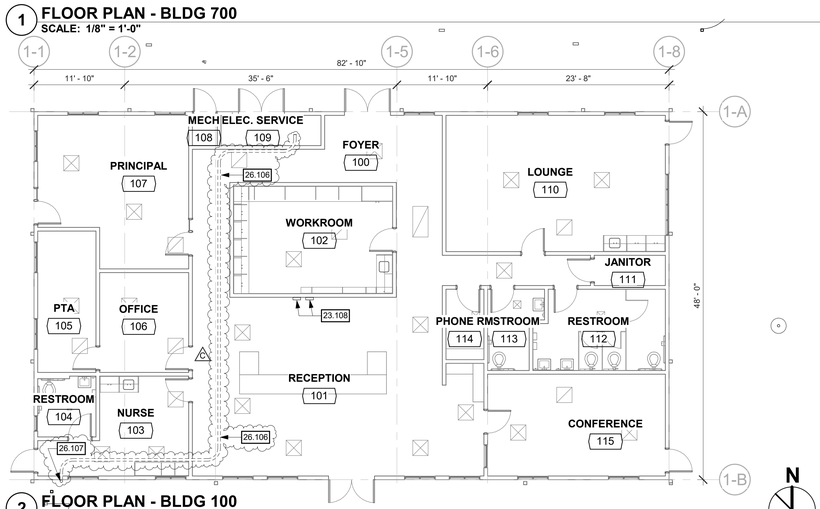
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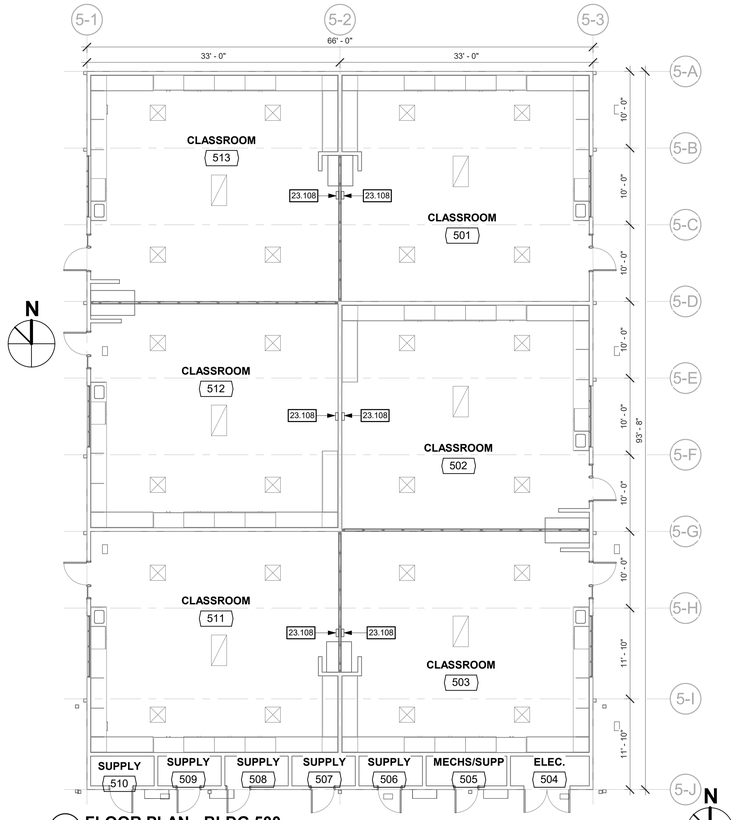
1 **FLOOR PLAN - BLDG 700**
SCALE: 1/8" = 1'-0"



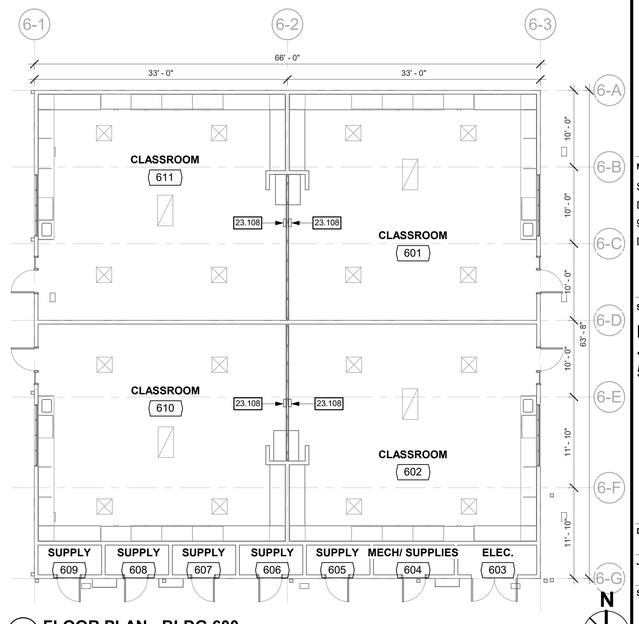
3 **FLOOR PLAN - BLDG 200**
SCALE: 1/8" = 1'-0"



2 **FLOOR PLAN - BLDG 100**
SCALE: 1/8" = 1'-0"



4 **FLOOR PLAN - BLDG 500**
SCALE: 1/8" = 1'-0"



5 **FLOOR PLAN - BLDG 600**
SCALE: 1/8" = 1'-0"

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DEMOLITION FLOOR PLAN KEYNOTES

09.635 PAINT EXPOSED STRUCTURAL UPGRADES, S.M.D. AND S.S.D.
23.108 OFOI THERMOSTAT, S.M.D.
26.106 ELECTRICAL CONDUIT FOR SITE LIGHTING, S.E.D. FOR ACCESS. REMOVE PANEL AT (E) ACOUSTICAL CEILING ABOVE.
26.107 ELECTRICAL CONDUIT FOR SITE LIGHTING, S.E.D. AND DETAIL

GRAPHIC KEY - DEMOLITION FLOOR PLAN

WALL TYPES:

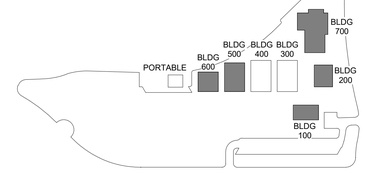
EXISTING WALL TO BE DEMOLISED

EXISTING WALL TO REMAIN

EXISTING DOOR AND/OR FRAME TO BE REMOVED. SEE NEW FLOOR PLAN AND DOOR SCHEDULE FOR MORE INFORMATION.

EXISTING DOOR AND/OR FRAME TO REMAIN. SEE DOOR SCHEDULE FOR MORE INFORMATION.

KEYPLAN



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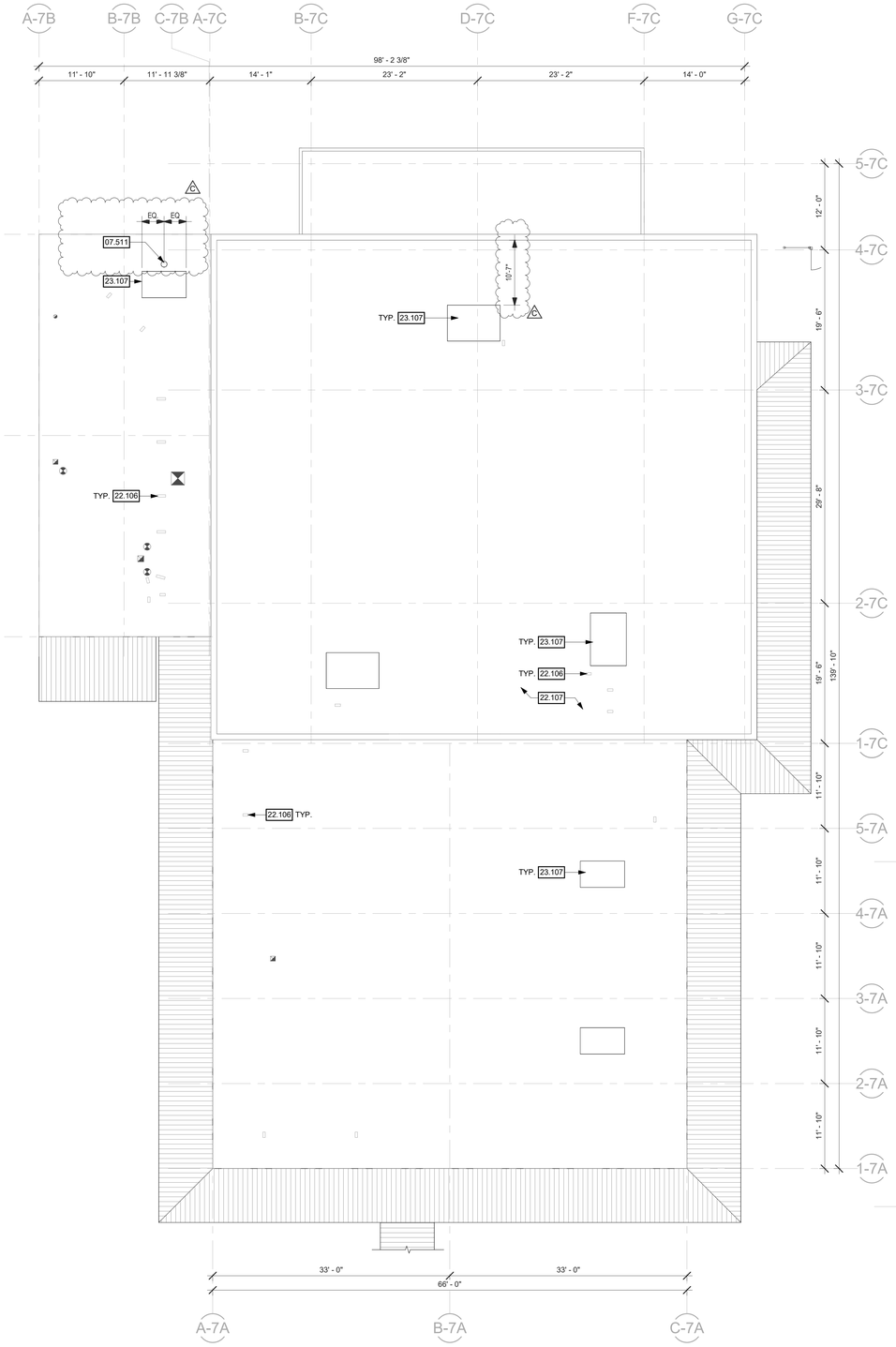
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90% CD	
DSA SUB	12.29.2025

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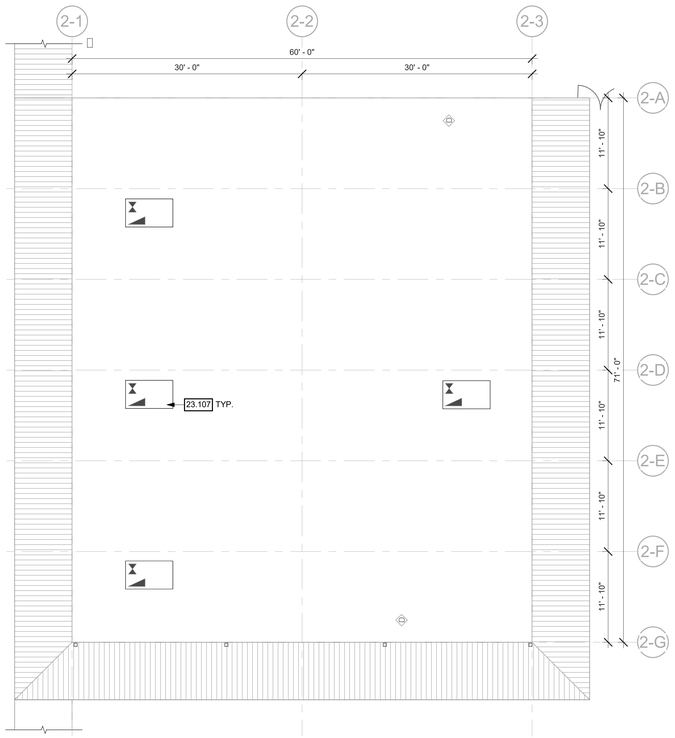
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DATE 12.29.2025
JOB # 2025014
SHEET # AD3-A3.02

6/5/2026 9:59:57 AM



3 NEW ROOF PLAN - BLDG 700
SCALE: 1/8" = 1'-0"



2 NEW ROOF PLAN - BLDG 200
SCALE: 1/8" = 1'-0"

1 NEW ROOF PLAN - BLDG 100
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

A REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL WORK.

B ALL EXPOSED SHEET METAL SHALL BE KYNAR COATED ALUMINUM OR STAINLESS STEEL.

C ALL TAPERED CRICKETS TO BE NEW.

D PROVIDE TAPERED INSULATION (TO COMPLY W/ FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF CBC 707.3) TO SLOPE TO DRAIN.

E SIZE OF MECHANICAL EQUIPMENT PADS ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY REQUIRED PAD DIMENSION WITH EQUIPMENT MANUFACTURER.

F ROOF CRICKETS, WHERE INDICATED, SHALL BE PROVIDED AS REQUIRED TO ENSURE A MINIMUM 1/4" PER FOOT VALLEY SLOPE. COORDINATE LOCATIONS OF CRICKETS WITH ROOFTOP EQUIPMENT.

G REFER TO TYPICAL SADDLE FLASHING DETAILS WHERE 2 EXTERIOR WALLS OF DIFFERENT HEIGHTS INTERSECT.

H DRAFT STOPS SHALL BE INSTALLED IN THE ATTICS, OVERHANGS AND OTHER CONCEALED SPACES PER CBC 717.4.3.

I ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

J AT ALL SINGLE PLY ROOFING, WALKWAY ROLL SHALL BE PROVIDED FROM ACCESS HATCHES TO AREAS REQUIRING MAINTENANCE (HVAC EQUPMENT, VENTS, PIPES, ETC.) VERIFY WITH ARCHITECT

ROOF PLAN KEYNOTES

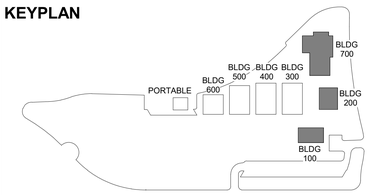
07.511 FALL PROTECTION ANCHOR, SEE DETAIL 16 / A8.10 C
22.106 PIPE SUPPORTS ALONG FULL LENGTH OF (E) PIPE, S.P.D. FOR EXTENTS
22.107 PAINT ALL (E) PIPING
23.107 ROOFTOP UNIT, S.M.D.

GRAPHIC KEY - ROOF PLAN

(E) METAL DECK ROOF

(E) TPO ROOFING

KEYPLAN



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PROJECT
LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP
LICENSED ARCHITECT JOHN C. DITTENHAFER NO. C-25840 REN. 07-31-27 STATE OF CALIFORNIA

STATE
DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

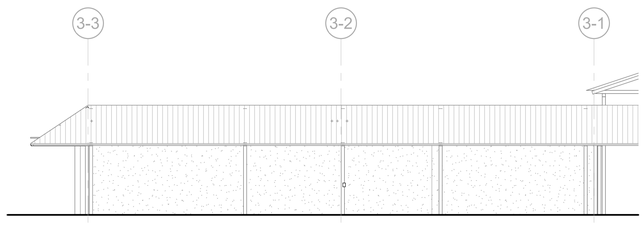
MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

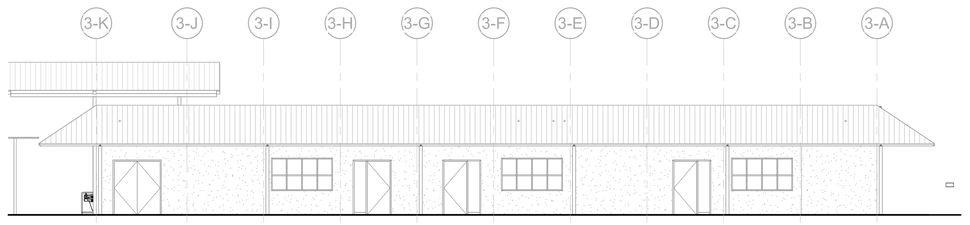
SHEET
NEW ROOF PLAN - BLDGS. 100, 200, & 700

DATE 12.29.2025
JOB # 2025014
SHEET # AD3- A5.05

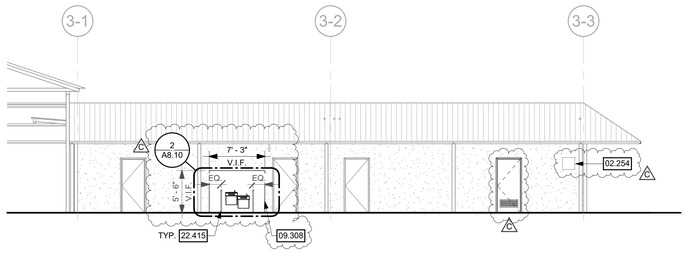
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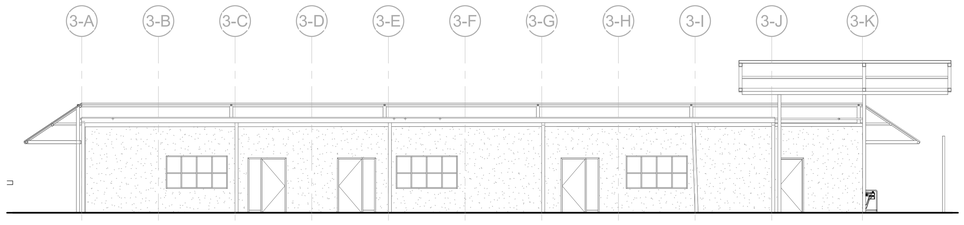
1 BLDG 300 - NORTH EXT. ELEVATION
SCALE: 1/8" = 1'-0"



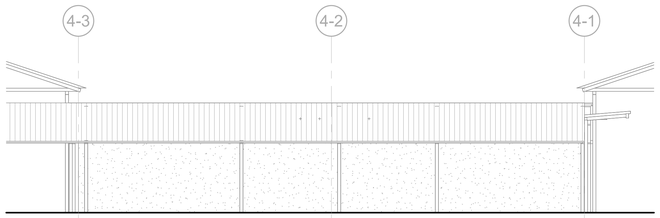
2 BLDG 300 - EAST EXT. ELEVATION
SCALE: 1/8" = 1'-0"



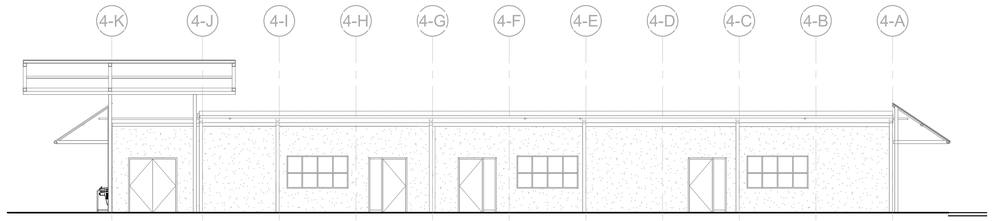
3 BLDG 300 - SOUTH EXT. ELEVATION
SCALE: 1/8" = 1'-0"



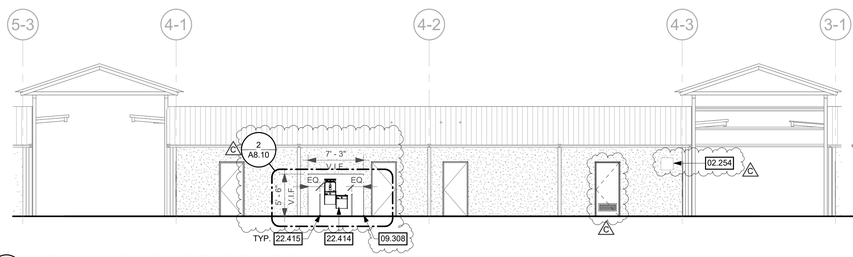
4 BLDG 300 - WEST EXT. ELEVATION
SCALE: 1/8" = 1'-0"



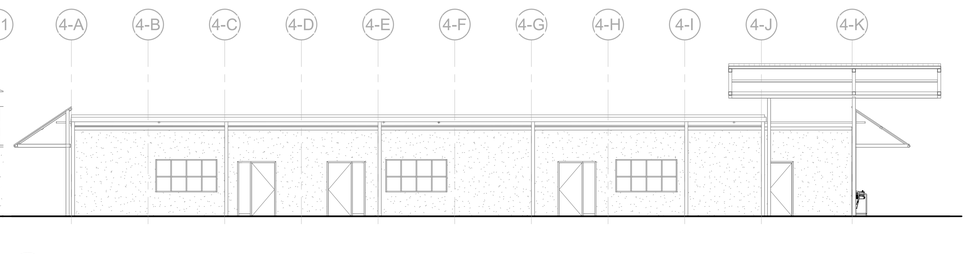
5 BLDG 400 - NORTH EXT. ELEVATION
SCALE: 1/8" = 1'-0"



6 BLDG 400 - EAST EXT. ELEVATION
SCALE: 1/8" = 1'-0"



7 BLDG 400 - SOUTH EXT. ELEVATION
SCALE: 1/8" = 1'-0"



8 BLDG 400 - WEST EXT. ELEVATION
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

A ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

B EXTERIOR WALL MOUNTED LIGHT FIXTURES MOUNTING HEIGHT TO MATCH EXISTING - V.I.F. 92" ABOVE FINISH GRADE.

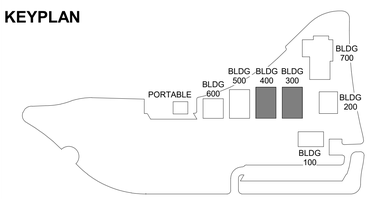
C SEE PLANS AND DOOR SCHEDULE FOR SIGNAGE.

D PATCH AND PAINT ALL SURFACES AFFECTED BY WORK

EXTERIOR ELEVATION KEYNOTES

02.254 (E) BUILDING SIGNAGE TO REMAIN
09.308 EXTERIOR SINTERED STONE WALL FINISH, SEE DETAIL 2 / A8.10 AND 6 / A8.10 C
22.414 D.A. HI-LO DRINKING FOUNTAIN, S.P.D. AND DETAIL 12 / A8.10
22.415 ALCOVE RAIL, SEE DETAIL 12 / A8.10 C

KEYPLAN



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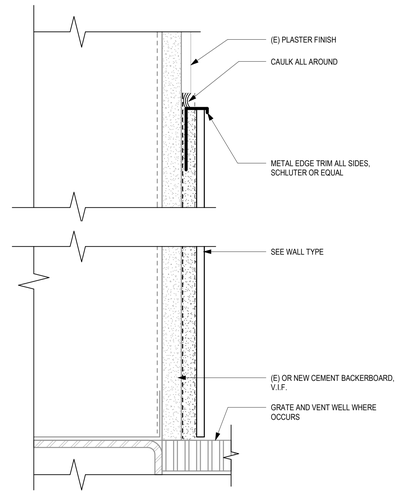
EXTERIOR ELEVATIONS

DATE 12.29.2025

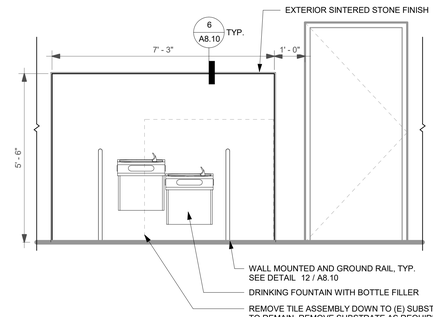
JOB # 2025014

SHEET # AD3-A6.01

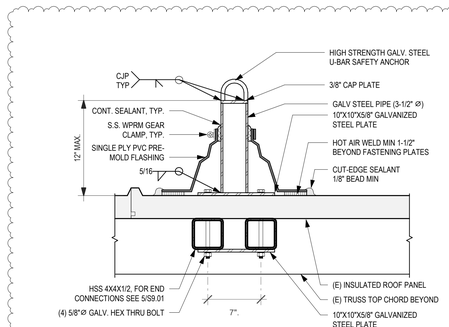
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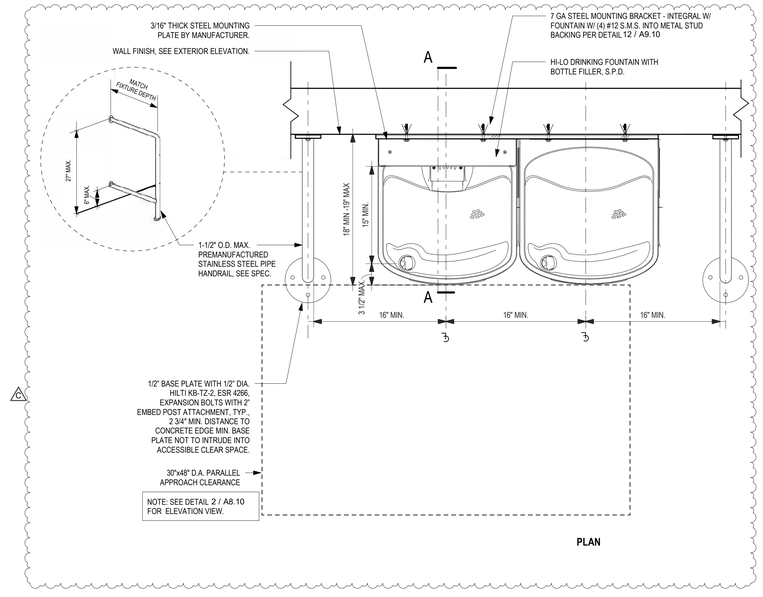
6 THIN SET TILE EDGE TRIM - EXTERIOR
SCALE: 6" = 1'-0"



2 WALL FINISH @ DRINKING FOUNTAIN
SCALE: 1/2" = 1'-0"



16 FALL PROTECTION ANCHOR
SCALE: 1 1/2" = 1'-0"



DISABLED ACCESSIBILITY MOUNTING HEIGHTS E = ELEMENTARY DIMENSIONS	
DIMENSION	E (inches)
Drinking Fountain Bubbler Height	30 max.

NOTES:

1. INSTALL D.F. PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

12 HI-LO DRINKING FOUNTAIN W/ BOTTLE FILLING STATION
SCALE: 1 1/2" = 1'-0"

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SHEET

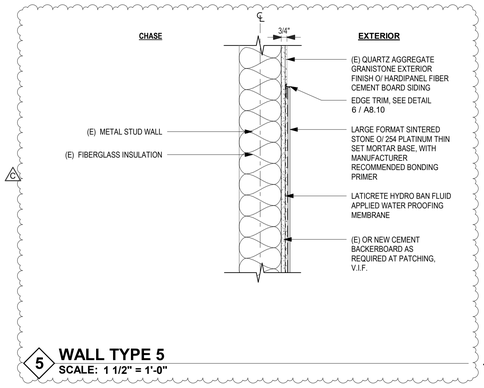
EXTERIOR DETAILS

DATE 12.29.2025

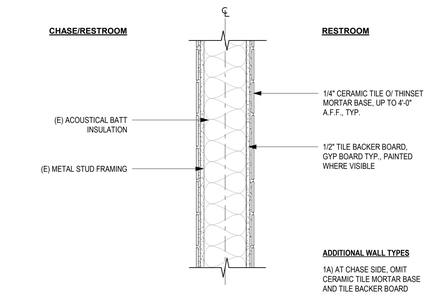
JOB # 2025014

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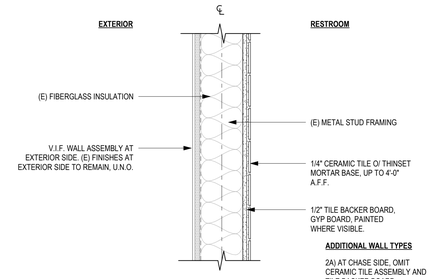
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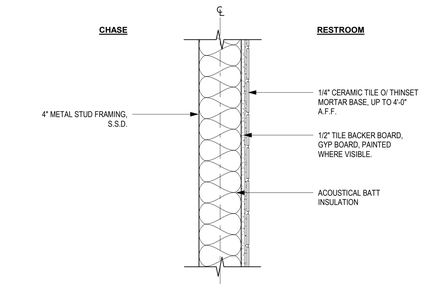
5 WALL TYPE 5
SCALE: 1 1/2" = 1'-0"



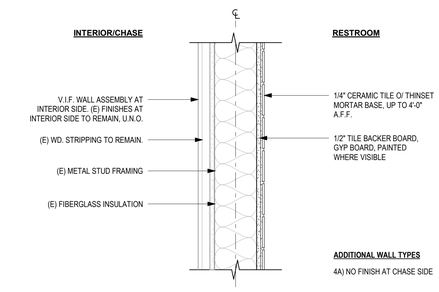
1 WALL TYPE 1
SCALE: 1 1/2" = 1'-0"



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



3 WALL TYPE 3
SCALE: 1 1/2" = 1'-0"



4 WALL TYPE 4
SCALE: 1 1/2" = 1'-0"

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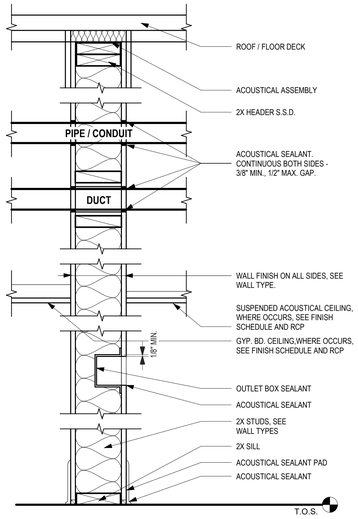
WALL TYPES

DATE 12.29.2025

JOB # 2025014

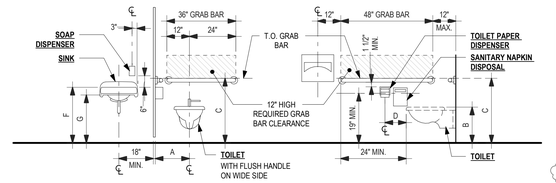
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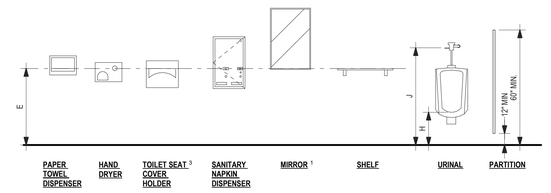
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NOTES:
1. FOR RECESSED ACCESSORIES OR CABINETS, PROVIDE BLOCKING, GYPSUM BOARD AND ACOUSTICAL SEALANT SIMILAR TO DETAIL AT DUCT.
2. SEE DETAIL 8/A9.08 FOR PENETRATIONS AT NON RATED PARTITIONS.
3. SEE DETAIL 13/A9.08 FOR PENETRATION SUPPORTS AT SOUND RATED CONSTRUCTION.

6 TYPICAL SOUND TREATED WALL
SCALE: 1 1/2" = 1'-0"

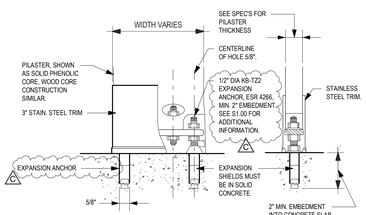




MOUNTING HEIGHTS			
DIM.	DESCRIPTION	ELEM. (INCHES) AGES 5-12	D.A. ADULT [2] (INCHES)
A	TOILET CENTERING FROM WALL	15	17-18
B	TOILET SEAT HEIGHT	15	17-19
C	GRAB BAR HEIGHT	25	33-36
	TOILET PAPER OUTLET HEIGHT AFF	17	19
D	TOILET PAPER IN FRONT OF TOILET	7-9	7-9
E	DISPENSER/ MIRROR HEIGHT/ SHELF	36	40 MAX.
F	LAVATORY TOP HEIGHT	29	34 MAX.
G	LAVATORY KNEE CLEARANCE	24	29
H	URINAL LIP HEIGHT	17	17 MAX.
J	URINAL FLUSH HANDLE HEIGHT	37 MAX.	44 MAX.
	DRINKING FOUNTAIN BUBBLER HEIGHT [4]	30	36 MAX. (ADD'L APPROACH)

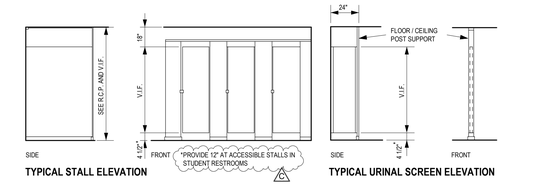
NOTES:
1. FOR MIRRORS NOT MOUNTED ABOVE A LAVATORY, AT LEAST ONE MIRROR IS TO BE MOUNTED @ 35" MAX., PER 2022 CBC SEC 11B-603.3.
2. ADULT DIMENSIONS ARE FOR THOSE ABOVE AGE 12.
3. ROOMS 306, 307, 406 AND 407 ARE ELEMENTARY HEIGHT, BOTH D.A. AND NON-D.A. HEIGHTS. ROOMS 305 AND 405 ARE ADULT D.A. HEIGHT.
4. TOILET SEAT COVER HOLDER AT D.A. STALL SHALL BE MOUNTED ON SIDE WALL.
5. FOR HIGH AND LOW DRINKING FOUNTAIN DETAILS, SEE DETAIL 12 / A8.10

1 TYPICAL FIXTURE MOUNTING HEIGHTS
SCALE: 1/4" = 1'-0"



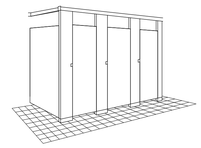
FLOOR ATTACHMENT DETAIL

NOTE: DRILL HOLES FOR FLOOR ATTACHMENT 5/8" FROM EDGE OF PILASTER. TYPICAL FOR ALL LOCATIONS. PLACE STAINLESS STEEL TRIM ON PILASTER, SLIDE UP BEFORE SECURING PILASTER TO FLOOR ATTACHMENT.

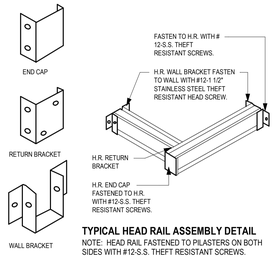


TYPICAL STALL ELEVATION

TYPICAL URINAL SCREEN ELEVATION



OVERHEAD BRACED

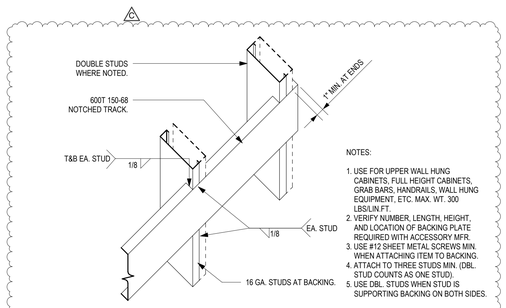


TYPICAL HEAD RAIL ASSEMBLY DETAIL

NOTE: HEAD RAIL FASTENED TO PILASTERS ON BOTH SIDES WITH #12-S.S. THEFT RESISTANT SCREWS.

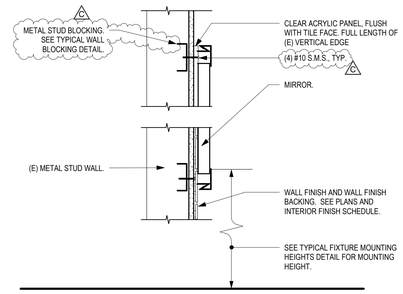
TYPICAL HORIZONTAL SECTION

NOTE: SEE SPEC'S FOR DOOR PULL REQUIREMENTS.

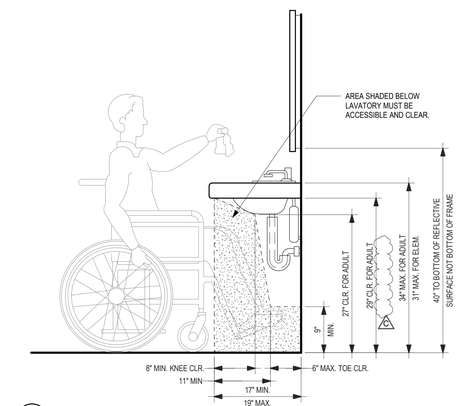


NOTES:
1. USE FOR UPPER WALL HUNG CABINETS, FULL HEIGHT CABINETS, GRAB BARS, HANDRAILS, WALL HUNG EQUIPMENT, ETC. MAX. WT. 300 LBS/LIN.FT.
2. VERIFY NUMBER, LENGTH, HEIGHT, AND LOCATION OF BACKING PLATE REQUIRED WITH ACCESSORY MFR.
3. USE #12 SHEET METAL SCREWS MIN. WHEN ATTACHING ITEM TO BACKING.
4. ATTACH TO THREE STUDS MIN. (DBL. STUD COUNTS AS ONE STUD).
5. USE DBL. STUDS WHEN STUD IS SUPPORTING BACKING ON BOTH SIDES.

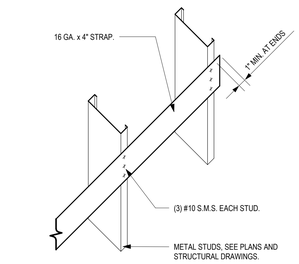
11 TYPICAL WALL BACKING 300 LBS/L-IN FT
SCALE: 1 1/2" = 1'-0"



7 MIRROR MOUNTING (2x STUDS)
SCALE: 1 1/2" = 1'-0"



2 TOILET PARTITION ANCHORAGE DETAILS
SCALE: 1 : 1



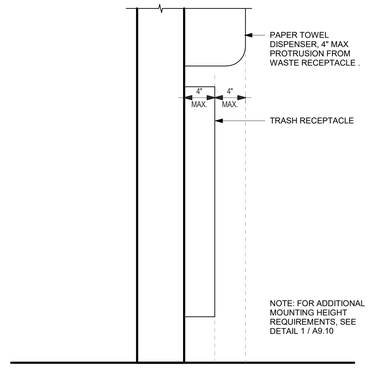
NOTES:

1. USE FOR MISC. ITEMS (E.G. SURFACE MOUNTED MIRROR,WASTE RECEPTACLE, TOWEL DISPENSER, WALL MOUNTED DOOR STOP, ETC.) MAX. WT. 50LB POINT LOAD.

2. VERIFY NUMBER, LENGTH, HEIGHT, AND LOCATION OF BACKING PLATE REQUIRED WITH ACCESSORY MANUFACTURERS.

3. SE #12 SHEET METAL SCREWS MIN. WHEN ATTACHING ITEM TO BACKING.

12 TYPICAL WALL BACKING 50LB POINT LOAD
SCALE: 1 1/2" = 1'-0"



8 PAPER TOWEL DISPENSER
SCALE: 1 1/2" = 1'-0"

4 KNEE CLEARANCE AT LAVATORY
SCALE: 1" = 1'-0"

3 GRAB BAR ANCHORAGE (2X STUDS)
SCALE: 1 1/2" = 1'-0"

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LICENSED ARCHITECT — JOHN C. DITTENHAFER — NO. C-25840 — EXP. 07/31/27 — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/05/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

INTERIOR DETAILS

DATE 12.29.2025

JOB # 2025014

SHEET # AD3-A9.10

6/5/2026 10:00:03 AM

DOOR SCHEDULE

DOOR ID	OPENING SIZE		DOOR		FRAME		DETAILS (SHT. A11.01 U.O.N.)			FIRE RATING (min.)	SIGN		COMMENTS
	WIDTH	HEIGHT	TYPE	FINISH	TYPE	FINISH	HEAD	JAMB	SILL		TYPE	LANGUAGE	
305	3' - 0"	7' - 0"	A C	P-2	F1 C	P-2	15	15	16	0	2, 8a	ALL GENDER	
306	3' - 0"	7' - 0"	(E) MTL.	P-2	(E) MTL.	P-2	15	15	16	0	5, 4a	GIRLS	
307	3' - 0"	7' - 0"	(E) MTL.	P-2	(E) MTL.	P-2	15	15	16	0	7, 6a	BOYS	
405	3' - 0"	7' - 0"	A A	P-2	F1	P-2	15	15	16	0	2, 8a	ALL GENDER	
406	3' - 0"	7' - 0"	(E) MTL.	P-2	(E) MTL.	P-2	15	15	16	0	5, 4a	GIRLS	
407	3' - 0"	7' - 0"	(E) MTL.	P-2	(E) MTL.	P-2	15	15	16	0	7, 6a	BOYS	

DOOR SCHEDULE COMMENTS

1 NONE

DOOR SCHEDULE GENERAL NOTES

1 CONTRACTOR SHALL COORDINATE, PRIOR TO FABRICATION, DOOR FRAME DEPTH TO ACCEPT ALL WALL FINISHES AS DETAILED IN THE DRAWINGS.

2 ALL ROOMS WITH AN OCCUPANCY OF 5 OR MORE PERSONS SHALL BE LOCKABLE FROM THE INSIDE IN COMPLIANCE WITH DSA BULLETIN 11-05, EXCEPTIONS AS NOTED IN THE BULLETIN.

3 FOR SIGN TYPES, REFER TO DETAIL 11 / A11.01 A

4 FOR SIGN PLACEMENT, REFER TO TYPICAL DOOR NOTES DETAIL 12 / A11.01 A

5 CONTRACTOR SHALL VERIFY SIGN LANGUAGE WITH DISTRICT PRIOR TO FABRICATION.

6 DOOR AND FRAMES TO BE PAINTED, INSIDE AND OUT.

7 FIRE RATING IS ZERO HOURS UNLESS OTHERWISE NOTED.

8 DOOR HARDWARE INCLUDES CLOSER UNLESS OTHERWISE NOTED.

9 (E) DOOR HARDWARE TO REMAIN. C

FINISH LEGEND

MARK	DESCRIPTION	MFR. / BRAND	COLOR / FINISH	COMMENTS
CT-1	3" x 6" CERAMIC TILE	DALTILE	CLASSIC COLOR WHEEL GLAZED SUEDE GREY 0188	1
CT-2	3" x 6" CERAMIC TILE	DALTILE	CLASSIC COLOR WHEEL GLAZED DESERT GREY X114	2
CT-3	3" x 6" CERAMIC TILE	DALTILE C	CLASSIC COLOR WHEEL GLAZED, EMERAL 0115	2
CT-4	2" x 2" CERAMIC TILE	DALTILE	KEYSTONES GROUP 1, DESERT GRAY SPECKLE (1) D200	
FRP	FIBERGLASS REINFORCED PLASTIC PANELS			
GB-1	GYPSUM BOARD, PAINTED			
GBE-2	(E) GYPSUM BOARD, PAINTED			3
GR-1	GROUT	CBP PRISM GROUT	SHADOW, #644	
N-1	SINTERED STONE	NEOLITH	NERO SATIN	
P-1	PAINT	SHERWIN WILLIAMS	GREEK VILLA 7042	
P-2	PAINT	SHERWIN WILLIAMS		

C

FINISH LEGEND COMMENTS

1 SEE DETAILS 3 / A11.01 AND 4 / A11.01

2 SEE DETAILS 2 / A11.01, 3 / A11.01 AND 4 / A11.01

3 PATCHED WHERE REQUIRED

FINISH SCHEDULE

NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	COMMENTS
305	ALL GENDER	CT-4	CT-1	GB-1, CT-1, CT-2, CT-3	GBE-1	
306	GIRLS RESTROOM	CT-4	CT-1	GB-1, CT-1, CT-2, CT-3	GBE-1	
307	BOYS RESTROOM	CT-4	CT-1	GB-1, CT-1, CT-2, CT-3	GBE-1	
405	ALL GENDER	CT-4	CT-1	GB-1, CT-1, CT-2, CT-3	GBE-1	
406	GIRLS RESTROOM	CT-4	CT-1	GB-1, CT-1, CT-2, CT-3	GBE-1	
407	BOYS RESTROOM	CT-4	CT-1	GB-1, CT-1, CT-2, CT-3	GBE-1	

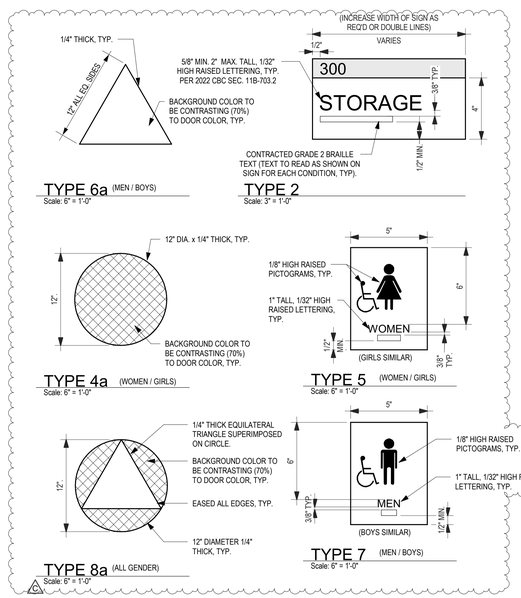
GENERAL FINISH SCHEDULE NOTES

A WHERE MULTIPLE WALL FINISHES ARE CALLED OUT, REFER TO INTERIOR ELEVATIONS FOR LOCATIONS OF INDIVIDUAL FINISHES.

B PROVIDE FINISHES TO COMPLY WITH FLAME SPREAD & SMOKE DENSITY REQUIREMENTS OF CBC 803 AND 804.

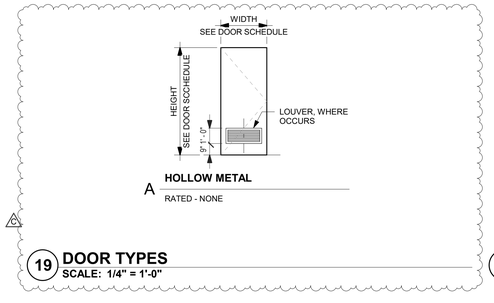
FINISH SCHEDULE COMMENTS

1 NONE

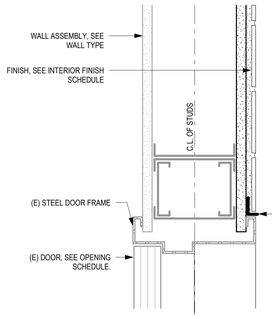


NOTES:
1. SEE TYPICAL DOOR SIGNAGE MOUNTING FOR MORE INFORMATION.
2. ALL ROOM NAMES & CLASSROOM NUMBERS SHALL BE VERIFIED WITH THE OWNER PRIOR TO FABRICATION.
3. ALL FONTS SHALL BE "NEUTRA TEXT DEMI".
4. VERIFY ALL TEXT CONTAINED WITHIN PARENTHESIS WITH ARCHITECT PRIOR TO FABRICATION.
5. ATTACH TO WALL WITH VANDAL RESISTANT SCREWS AND SILICONE. WHEN SIGNAGE IS ON WINDOW, ALIGN ROOM ID SIGN WITH EXIT SIGN OR PROVIDE BLANK SIGNAGE.
6. EDGES SHALL BE EASED OR ROUNDED AT 1/16" MIN., OR CHAMFERED AT 1/8" MAX. VERTICES SHALL BE RADIUSED BETWEEN 1/8" MIN. AND 1/4" MAX.
7. SEE TYPICAL DOOR AND SIGNAGE NOTES

11 TYPICAL SIGNAGE
SCALE: 3" = 1'-0"



19 DOOR TYPES
SCALE: 1/4" = 1'-0"

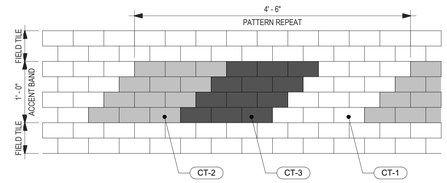


15 STEEL FRAME HEAD AND JAMB
SCALE: 3" = 1'-0"

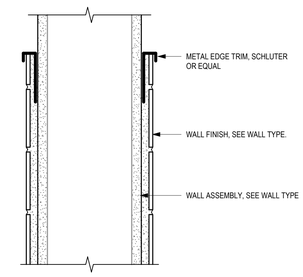
TYPOGRAPHY: CODE COMPLIANCE DIAGRAM

WIDTH TO HEIGHT RATIO MUST BE BETWEEN 3:5 AND 1:1.
COMPLIES: "X" AND "O" ARE NOT WIDER THAN 2 INCH SQUARE NOR NARROWER THAN 3.5 RECTANGLE.

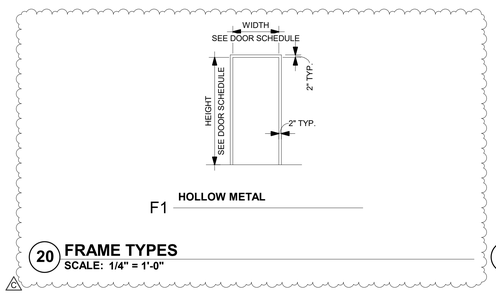
STROKE-WIDTH-TO-HEIGHT RATIO MUST BE BETWEEN 1:5 AND 1:10.
COMPLIES: "I" IS NOT WIDER THAN 1:5 INCH RECTANGLE NOR NARROWER THAN 1:10 RECTANGLE.



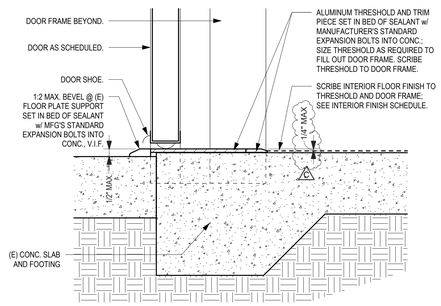
2 ENLARGED TILE PATTERN
SCALE: 1" = 1'-0"



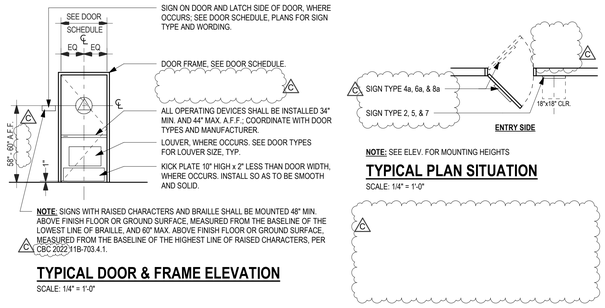
3 THIN SET TILE EDGE TRIM
SCALE: 3" = 1'-0"



20 FRAME TYPES
SCALE: 1/4" = 1'-0"



16 DOOR SILL
SCALE: 3" = 1'-0"



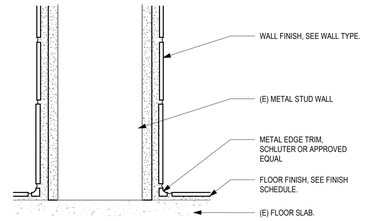
TYPICAL DOOR & FRAME ELEVATION
SCALE: 1/4" = 1'-0"

NOTE: SEE ELEV. FOR MOUNTING HEIGHTS

TYPICAL PLAN SITUATION
SCALE: 1/4" = 1'-0"

NOTES:
1. PROVIDE TRIANGULAR SIGN (WITH 12" SIDES) AT ALL MEN'S AND BOY'S, AND CIRCULAR SIGN (WITH 12" DIAMETER) AT ALL WOMENS AND GIRL'S TOILET DOORWAYS AND WALL ADJACENT TO LATCH LEADING TO SANITARY FACILITIES PER CBC 2022 SECTION 11B-216.8 & 11B-703.7.2.6, MOUNTED AT 5'-0" TO CENTER OF SIGN TO FINISH FLOOR. A
2. ALL RATED DOORS TO BE POSITIVE LATCHING AND SELF CLOSING. ALL DOORS TO COMPLY WITH 2022 CBC, SEC. 716. A
3. ALL 20 MINUTE RATED ASSEMBLIES SHALL BE PROVIDED WITH APPROVED GASKETING MATERIAL INSTALLED TO PROVIDE A SEAL WHERE THE DOOR MEETS THE STOP ON BOTH SIDES AND ACROSS THE TOP (PER CBC 2022 SEC. 716). A
4. ALL DOORS SHALL BE 1-3/4" THICK U.O.N.
5. ALUMINUM EXTERIOR SIGNAGE FRAMES SHALL BE ATTACHED TO SUBSTRATE WITH VANDAL-PROOF FASTENERS WITH EXPANSION SHIELDS. NAME OR ROOM NAME PLATES SHALL BE ATTACHED TO FRAME WITH BRASS SCREWS, AS APPROVED BY ARCHITECT. WHEN SIGNAGE OCCURS ON GLAZING, PROVIDE SIGNAGE WITH GLAZING ADHESIVE AND BLANK SIGNAGE BACKING OTHER SIDE OF GLAZING
6. ALL BRAILLE TEXT SHALL BE CONTRACTED GRADE 2 BRAILLE PER TITLE 24, SECTION 11B-703.3, TYP.
7. ALL SIGNS AND IDENTIFICATION (AT MAIN ENTRANCE, TOILETS, PERMANENT ASSISTIVE LISTENING, ETC.) SHALL COMPLY WITH TITLE 24 , AND CBC SECTIONS 11B-216 AND 11B-703.1 THROUGH 11B-703.7.
8. CONTRACTOR TO VERIFY ALL OPENING DIMENSIONS IN FIELD.

12 TYPICAL DOOR AND SIGNAGE NOTES
SCALE: 1/4" = 1'-0"



4 THIN SET TILE WALL BASE
SCALE: 3" = 1'-0"

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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

STAMP

LICENSED ARCHITECT — JOHN D. PETTIBONE — NO. C-25840 — REG. 31.12.27 — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

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C	Addendum 3	06/05/26

MILESTONES

SD	05.23.2025
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90% CD	
DSA SUB	12.29.2025

SHEET

OPENING SCHEDULE, FINISH SCHEDULE, LEGEND & DETAILS

DATE 12.29.2025

JOB # 2025014

SHEET # AD3- A11.01

6/5/2026 10:00:06 AM

GENERAL SHEET NOTES

A FOR INTERIOR FINISHES NOT SHOWN ON ELEVATIONS REFER TO INTERIOR FINISH SCHEDULE.

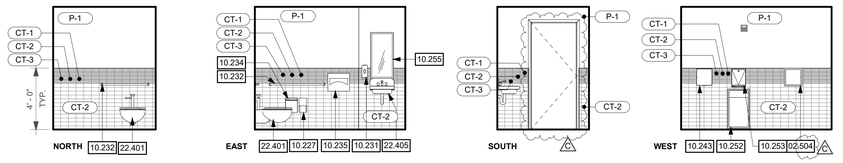
B SEE TYPICAL FIXTURE MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHT OF ACCESSORIES.

C ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

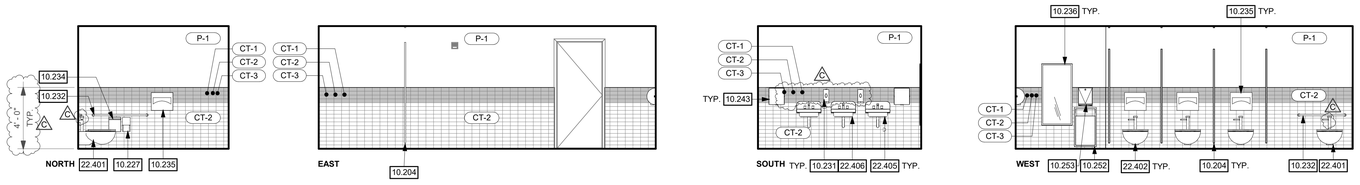
D PATCH AND PAINT ALL (E) SURFACES AFFECTED BY WORK.

INTERIOR ELEVATION KEYNOTES

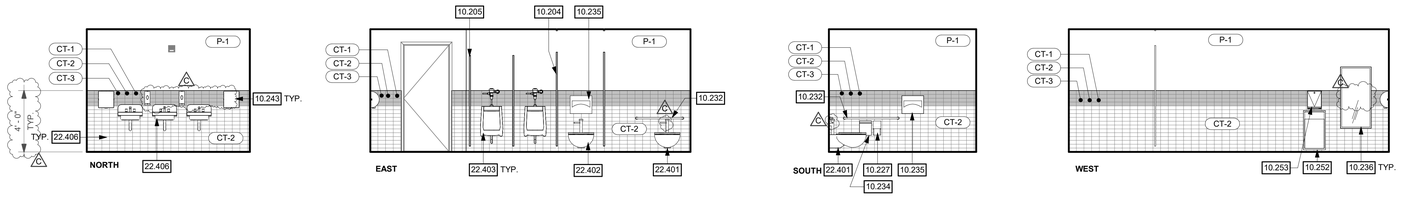
02.504 SALVAGE AND REINSTALL (E) ACCESS PANEL △C
10.204 FLOOR MOUNTED, OVERHEAD BRACED, SOLID COLOR REINFORCED COMPOSITE SUBSTRATE TOILET COMPARTMENT. SEE DETAIL 2 / A9.10
10.205 FLOOR TO CEILING, SOLID COLOR REINFORCED COMPOSITE SUBSTRATE URINAL SCREEN. SEE DETAIL 2 / A9.10
10.227 STAINLESS STEEL RECESSED SINGLE ROLL ACCESSIBLE TOILET TISSUE ROLL DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.231 SURFACE MOUNT SOAP DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.232 STAINLESS STEEL 1 1/2" DIAMETER GRAB BAR. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.234 STAINLESS STEEL SURFACE MOUNTED SANITARY NAPKIN DISPOSAL UNIT. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.235 STAINLESS STEEL SURFACE MOUNTED SEAT-COVER DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.236 24" x 48" MIRROR UNIT WITH STAINLESS STEEL ANGLE FRAME. FOR BACKING SEE DETAIL 1 / A9.10
10.243 WARM-AIR DRYER. FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.252 SEMI-RECESSED WASTE RECEPTACLE, FOR MOUNTING HEIGHTS, SEE DETAIL 1 / A9.10
10.253 FOLDED PAPER TOWEL DISPENSER, FOR MOUNTING HEIGHTS SEE DETAIL 1 / A9.10
10.254 URINAL SCREEN, SEE DETAIL 1 / A9.10
10.255 24" X 36" MIRROR UNIT WITH STAINLESS STEEL ANGLE FRAME. FOR MOUNTING HEIGHT SEE DETAIL 1 / A9.10
22.401 D.A. WATER CLOSET, S.P.D. AND SEE DETAIL 1 / A9.10
22.402 WATER CLOSET, S.P.D. AND SEE DETAIL 1 / A9.10
22.403 D.A. URINAL, S.P.D.
22.405 D.A. LAVATORY, S.P.D.
22.406 LAVATORY, S.P.D.



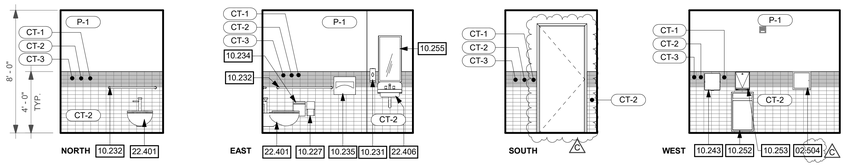
1 RESTROOM 305 - ALL GENDER
SCALE: 1/4" = 1'-0"



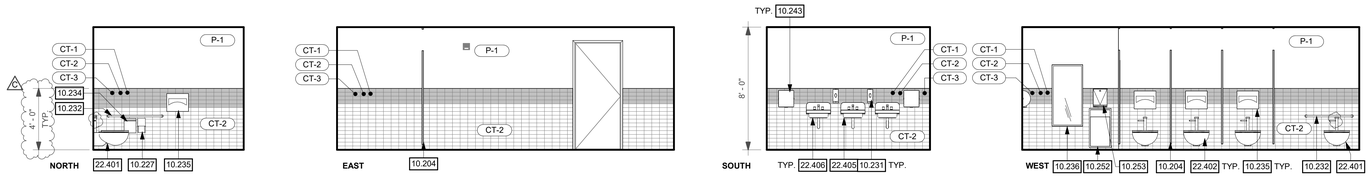
5 RESTROOM 306 - GIRLS
SCALE: 1/4" = 1'-0"



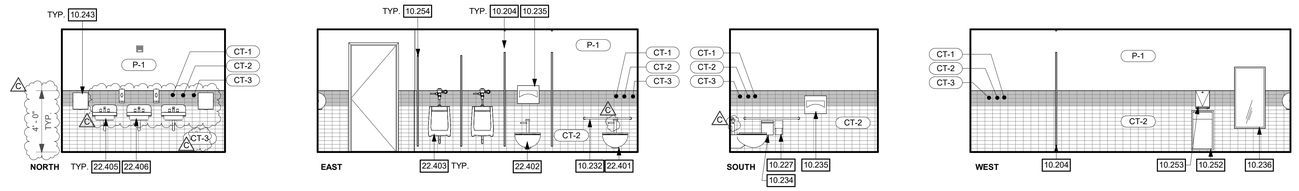
9 RESTROOM 307 - BOYS
SCALE: 1/4" = 1'-0"



14 RESTROOM 405 - ALL GENDER
SCALE: 1/4" = 1'-0"



18 RESTROOM 406 - GIRLS
SCALE: 1/4" = 1'-0"



22 RESTROOM 407 - BOYS
SCALE: 1/4" = 1'-0"

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PROJECT
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MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET
INTERIOR ELEVATIONS

DATE 12.29.2025
JOB # 2025014
SHEET # AD3-A12.01

6/5/2026 10:00:14 AM

I. GENERAL REQUIREMENTS

A. THE STRUCTURAL DRAWINGS AND PROJECT SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THE MEANS, METHODS, PROCEDURES AND SEQUENCE OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

B. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL STANDARDS.

C. ALL CONSTRUCTION, TESTING, AND INSPECTIONS SHALL CONFORM TO THE BUILDING CODE REFERENCED UNDER THE HEADING "BASIS OF DESIGN" BELOW.

D. STANDARDS REFERENCED IN THESE DRAWINGS SHALL BE THE LATEST EDITION, UNLESS OTHERWISE NOTED.

E. SEE DRAWINGS OTHER THAN STRUCTURAL FOR: FLOOR FINISHES; DEPRESSIONS IN FLOOR SLABS; OPENINGS IN WALLS AND FLOORS REQUIRED BY ARCHITECTURAL AND MEP FEATURES; EXTERIOR PAVING; CURBS; SLOPES; DRAINS; PADS; NON-STRUCTURAL PARTITIONS; EMBEDDED ITEMS; ETC. COORDINATE THESE ITEMS WITH THE STRUCTURAL DRAWINGS.

F. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT.

G. OMISSIONS OR DISCREPANCIES BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.

H. DO NOT SCALE THE DRAWINGS; USE WRITTEN DIMENSIONS ONLY. WHERE NO DIMENSIONS ARE PROVIDED OR WHERE DIMENSIONS PROVIDED CONFLICT WITH OTHER DRAWINGS, CONSULT THE ARCHITECT AND SEOR BEFORE PROCEEDING WITH THE WORK.

I. WHERE MEMBER LOCATIONS ARE NOT DIMENSIONED, MEMBERS SHALL BE LOCATED ON COLUMN LINES OR EQUALLY SPACED BETWEEN MEMBERS ON COLUMN LINES OR BETWEEN MEMBERS OTHERWISE LOCATED. CENTERLINES OF COLUMNS, WALLS, FRAMING MEMBERS, AND FOUNDATIONS COINCIDE WITH GRIDLINES, UNLESS OTHERWISE NOTED.

J. TYPICAL DETAILS ARE INTENDED TO APPLY TO APPLICABLE SITUATIONS, UNLESS OTHERWISE NOTED. TYPICAL DETAILS MAY NOT BE SPECIFICALLY LOCATED.

K. DETAILS SHALL BE APPLIED TO EVERY LIKE CONDITION WHETHER OR NOT THEY ARE REFERENCED IN EVERY INSTANCE. FOR CONDITIONS NOT SPECIFICALLY SHOWN, USE DETAILS SIMILAR TO THOSE PROVIDED.

L. THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOADS ARE PLACED.

II. EXISTING CONSTRUCTION

A. WORK SHOWN IS NEW UNLESS OTHERWISE NOTED AS EXISTING, (E).

B. EXISTING CONSTRUCTION SHOWN IN THESE DRAWINGS WAS OBTAINED FROM AS-BUILT DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, REVIEW ALL AVAILABLE EXISTING DRAWINGS AND VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND SEOR OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH THE WORK.

C. THE REMOVAL, CUTTING, DRILLING, ETC. OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE AND SMALL TOOLS IN ORDER TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE BUILDING. IF EXISTING STRUCTURAL MEMBERS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE SEOR SHALL BE NOTIFIED IMMEDIATELY. APPROVAL SHALL BE OBTAINED PRIOR TO REMOVAL OF THE EXISTING MEMBERS.

D. THE CONTRACTOR SHALL SAFELY SHORE EXISTING CONSTRUCTION WHEREVER EXISTING SUPPORTS ARE REMOVED TO ALLOW INSTALLATION OF THE NEW WORK. THE EXISTING CONSTRUCTION SHALL BE CONNECTED AND/OR EMBEDDED INTO THE NEW CONSTRUCTION AS SHOWN OR SPECIFIED.

E. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE SPECIFIED BY A LICENSED CIVIL OR STRUCTURAL ENGINEER IN THE STATE OF CALIFORNIA TO BE RETAINED BY THE CONTRACTOR. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.

F. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BEFORE BEGINNING WORK. SPECIAL CARE SHALL BE TAKEN TO PROTECT UTILITIES THAT ARE TO REMAIN IN SERVICE DURING CONSTRUCTION.

G. THE CONTRACTOR SHALL PROMPTLY REPAIR DAMAGE CAUSED DURING OPERATIONS WITH SIMILAR MATERIALS AND WORKMANSHIP.

H. THE CONTRACTOR SHALL LOCATE EXISTING REINFORCING STEEL WHERE EXISTING CONCRETE IS TO BE CUT, CORED OR SAWN. LOCATION SHALL BE DONE USING A NON-DESTRUCTIVE METHOD. DO NOT DAMAGE EXISTING REINFORCING WITHOUT NOTIFYING THE ARCHITECT AND SEOR.

III. BASIS OF DESIGN

A. THE STRUCTURAL DESIGN OF THIS PROJECT IS GOVERNED BY THE 2022 CALIFORNIA BUILDING CODE (CBC) WITH SS/DSA AMENDMENTS.

B. RISK CATEGORY = III

D. LIVE LOADS:
1. ROOF = 20 PSF

E. WIND DESIGN DATA:
1. BASIC WIND SPEED = 100 mph (3 SECOND GUST)
2. EXPOSURE CATEGORY = C
3. INTERAL PRESSURE COEFFICIENT = +/-0.18
4. WIND LOAD ON ROOFTOP UNITS: FH= 34.14 PSF FV= 27.74 PSF.

F. SEISMIC DESIGN DATA:
1. I = 1.25
2. Fa = 1.2
3. Fv = N/A
4. Ss = 1.761
5. S1 = 0.665
6. SDS = 1.409
7. SD1 = N/A
8. SITE CLASS = D (DEFAULT)
9. SEISMIC DESIGN CATEGORY = D
10.ROOFTOP UNITS
PER ASCE 7-16 CHAPTER 13
Ip = 1.0
Ω = 2.0
ap = 2.5
Rp = 6.0
z/h = 1.0 (ROOFTOP UNIT)

IV. STRUCTURAL STEEL

A. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS.

B. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1 AND PERFORMED BY AWS CERTIFIED WELDERS.

C. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
1. MISCELLANEOUS PLATES = ASTM A36
2. ANGLES AND CHANNELS = ASTM A36
3. RECTANGULAR AND SQUARE HSS MEMBERS = ASTM A500, GR B
4. HIGH STRENGTH BOLTS = ASTM A325N, UON
5. NUTS = ASTM A563
6. WASHERS (FLAT OR BEVELLED) = ASTM F436
7. WELDING ELECTRODES = E70XX, UON
8. ANCHOR RODS = ASTM F1554, GR 36 UON

D. ALL STEEL EXPOSED TO WEATHER SHALL BE GALVANIZED, UON.

E. FIELD MODIFICATIONS TO STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ARCHITECT, SEOR AND DSA.

F. STEEL DECK REQUIREMENTS
1. THE STEEL DECK AND ITS ANCHORAGE SHALL BE MANUFACTURED AND ERECTED IN ACCORDANCE WITH THE STEEL DECK INSTITUTE (SDI) "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS" AND WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATIONS FOR DESIGN OF LIGHT GAUGE COLD-FORMED STEEL STRUCTURAL MEMBERS".
2. CONFIGURE ALL STEEL DECK LAYOUTS TO COVER THREE OR MORE CONTINUOUS SPANS WHERE POSSIBLE. SPLICES SHALL BE LOCATED OVER SUPPORTS ONLY.

G. COLD-FORMED STEEL FRAMING
1. ALL COLD-FORMED STEEL FRAMING SHALL CONFORM TO AISI STANDARDS.
2. ALL WELDING OF COLD-FORMED STEEL SHALL BE IN CONFORMANCE WITH AWS D1.3.
3. MATERIALS:
   a. STRUCTURAL STEEL SECTIONS: 54-, 68-, 97-MIL PER ASTM A653 GR D OR ASTM A1011 GR 50; 33- AND 43-MIL PER ASTM A653 GR A OR ASTM A1011 GR 33.
   b. SHEET METAL SCREWS: GRABBER SELF-DRILLING PER ICC ESR-1271 OR ALTERNATE IN ACCORDANCE WITH ASTM C1513 AND APPROVED BY THE SEOR.
   c. ALL PREFABRICATED CLIPS AND OTHER ACCESSORIES SHALL BE MANUFACTURED BY SIMPSON STRONG TIE OR APPROVED EQUAL. SIMPSON DESIGNATIONS USED IN THE DRAWINGS.
4. SEE DRAWINGS OTHER THAN STRUCTURAL FOR FIRE STOPPING, BACKING FOR FINISHES, NON-BEARING WALLS, AND OTHER NON-BEARING FRAMING, UON.
5. SHEAR WALL PANEL SHEATHING SHALL BE 1/2" MIN THICKNESS, MANUFACTURED BY SURE-BOARD PER IAPMO UES-ER-0126.

VIII. POST-INSTALLED ANCHORS

A. POST-INSTALLED ANCHORS INCLUDE EXPANSION ANCHORS, EPOXY ANCHORS AND REINFORCING STEEL DOWELS, SCREW ANCHORS AND POWDER-ACTUATED FASTENERS. AS DETAILED IN THE DRAWINGS.

B. DO NOT DAMAGE OR CUT EXISTING REINFORCING STEEL WHILE INSTALLING POST-INSTALLED ANCHORS. NOTIFY SEOR IF EXISTING REINFORCING STEEL INTERFERES WITH INSTALLATION OF POST-INSTALLED ANCHORS.

C. ALL MIS-DRILLED OR UNACCEPTABLE HOLES SHALL NOT BE USED AND SHALL BE GROUTED SOLID.

D. ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS.

E. PROVIDE SPECIAL INSPECTION FOR THE INSTALLATION OF ALL POST-INSTALLED ANCHORS, UNLESS OTHERWISE NOTED.

F. FIELD TEST POST-INSTALLED ANCHORS, UNLESS OTHERWISE NOTED. FIELD TESTING SHALL BE IN COMPLIANCE WITH THE FOLLOWING:
1. 10% OF POST-INSTALLED ANCHORS USED FOR SILL PLATE BOLTING SHALL BE TESTED; 100% OF ALL OTHER POST-INSTALLED ANCHORS USED FOR STRUTURAL APPLICATIONS SHALL BE TESTED.
2. 50% OF POST-INSTALLED ANCHORS USED FOR NON-STRUCTURAL APPLICATIONS SHALL BE TESTED, INCLUDING ONE HALF OF ALL ANCHORS IN EACH GROUP.
   a. IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME TYPE THAT ARE UNTESTED SHALL BE TESTED UNTIL 20 CONSECUTIVE ANCHORS PASS.
   b. NO TESTING REQUIRED FOR POWDER-ACTUATED FASTENERS USED TO ATTACH TRACKS OF INTERIOR, NON-STRUCTURAL PARTITION WALLS WHERE THERE ARE AT LEAST THREE FASTENERS PER PIECE OF TRACK.
3. NO TESTING REQUIRED OF REINFORCING STEEL DOWELS ACROSS COLD JOINTS IN CONCRETE SLABS ON GRADE.
4. TORQUE TESTING MAY BE USED FOR TORQUE CONTROLLED POST-INSTALLED ANCHORS; TENSION TEST ALL OTHER POST-INSTALLED ANCHORS.
5. TORQUE TESTING SHALL BE IN ACCORDANCE WITH CBC SECTION 1910A.5.5.2.
6. TENSION TESTING SHALL BE IN ACCORDANCE WITH CBC SECTION 1910A.5.5.1.
7. ALL FIELD TESTING SHALL BE DONE UNDER THE OBSERVATION OF THE PROJECT INSPECTOR.
8. TESTING SHALL OCCUR AT LEAST 24 HOURS AFTER THE ANCHOR HAS BEEN INSTALLED.

G. EPOXY ANCHORS AND REINFORCING STEEL DOWELS
1. FOR INSTALLATION IN CONCRETE, EPOXY SHALL BE ONE OF THE FOLLOWING:
   a. SET-XP PER ICC-ES ESR-2508 AS MANUFACTURED BY SIMPSON STRONG TIE
   b. HIT-RE 500 V3 PER ICC-ES ESR-3814 AS MANUFACTURED BY HILTI, INC.
   c. HY-200 V3 PER ICC-ES ESR-4868 AS MANUFACTURED BY HILTI, INC.
2. EPOXIED ANCHOR RODS SHALL BE CARBON STEEL THREADED RODS PER APPROPRIATE ICC-ES REPORT; EPOXIED REINFORCING STEEL DOWELS SHALL BE ASTM A615 GR 60 UNLESS OTHERWISE NOTED. MINIMUM ANCHOR EMBEDMENT AND TENSION TEST VALUES ARE AS FOLLOWS:

EPOXY REBARS IN NORMAL-WEIGHT CONCRETE				
REBAR SIZE	EMBED (IN)	TENSION TEST VALUE (LBS)		
		HY-200-V3	HIT-RE 500-V3	SET-XP
#3	3	3159	3931	2570
#4	4	5615	6053	4441
#5	5	8459	8459	6740
#6	6	11119	11119	9419

EPOXY ANCHORS IN NORMAL-WEIGHT CONCRETE				
THREADED ROD DIAMETER (IN)	EMBED (IN)	TENSION TEST VALUE (LBS)		
		HY-200-V3	HIT-RE 500-V3	SET-XP
3/8	3	3360	3510	3620
1/2	4	6010	6150	5690
5/8	5	9440	9330	7640
3/4	6	11190	12860	9770

ANCHORS SHALL NOT BE INSTALLED INTO CONCRETE THAT IS LESS THAN 21 DAYS OLD.

H. EXPANSION ANCHORS
1. FOR INSTALLATION IN CONCRETE, EXPANSION ANCHORS SHALL BE ONE OF THE FOLLOWING:
   a. STRONG BOLT 2 PER ICC-ES ESR-3037 AS MANUFACTURED BY SIMPSON STRONG TIE.
   b. KWIK BOLT TZ2 PER ICC-ES ESR-4266 AS MANUFACTURED BY HILTI, INC.
2. FOR INSTALLATION IN FULLY-GROUTED CONCRETE MASONRY, EXPANSION ANCHORS SHALL BE ONE OF THE FOLLOWING:
   a. KWIK BOLT KBTZ2 PER ICC-ES ESR-4561 AS MANUFACTURED BY HILTI, INC.
3. USE STAINLESS STEEL AT EXTERIOR, WEATHER-EXPOSED OR DAMP LOCATIONS; CARBON STEEL EXPANSION ANCHORS MAY BE USED AT ALL OTHER LOCATION, UNLESS OTHERWISE NOTED.
4. MINIMUM ANCHOR EMBEDMENT AND TORQUE TEST VALUES ARE AS FOLLOWS:

KWIK BOLT TZ2 IN NORMAL WEIGHT CONCRETE				
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TORQUE TEST VALUES (FT-LBS)	
(IN)		DEPTH (IN)	CARBON STEEL	STAINLESS STEEL
3/8	2 1/2	2 3/4	30	30
1/2	3	3 1/4	50	40
5/8	4 1/2	4 3/4	40	60
3/4	5 1/2	5 3/4	110	125

STRONG BOLT 2 IN NORMAL WEIGHT CONCRETE				
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TORQUE TEST VALUES (FT-LBS)	
(IN)		DEPTH (IN)	CARBON STEEL	STAINLESS STEEL
3/8	1 7/8	2	30	30
1/2	2 3/4	3	60	65
5/8	5 3/8	5 3/8	90	80
3/4	5 3/4	6	150	150

4. WHERE EXPANSION ANCHORS ARE INSTALLED IN CONTACT WITH WOOD FRAMING, PROVIDE AN OVERSIZE WASHER IN ORDER TO ACHIEVE TORQUE REQUIRED BY ICC-ES REPORT. USE 1/4"x3"x3" WASHER, MINIMUM.
5. CONTRACTOR SHALL PROVIDE ANCHORS WITH SUFFICIENT TOTAL LENGTH FOR THE SPECIFIED EMBEDMENT LENGTH, THICKNESS OF FASTENED PART, WASHER AND NUT.

I. SCREW ANCHORS
1. FOR INSTALLATION IN CONCRETE, SCREW ANCHORS SHALL BE ONE OF THE FOLLOWING:
   a. TITEN HD PER ICC-ES ESR-2713 AS MANUFACTURED BY SIMPSON STRONG TIE.
   b. KH-EZ PER ICC-ES ESR-3027 AS MANUFACTURED BY HILTI, INC.
2. RE-USE OF SCREW ANCHORS OR SCREW ANCHOR HOLTS SHALL NOT BE PERMITTED.
3. SCREW-TYPE ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH SHALL ATTAIN THE SPECIFIED TORQUE WITHIN ONE-QUARTER (1/4) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD.
4. MINIMUM ANCHOR EMBEDMENT AND TORQUE TEST VALUES ARE AS FOLLOWS:

TITEN HD IN NORMAL WEIGHT CONCRETE			
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TORQUE TEST
(IN)		DEPTH (IN)	VALUE (FT-LBS)
1/4	1 5/8	1 3/4	24
3/8	2 1/2	2 3/4	50
1/2	3 1/4	3 3/4	65
5/8	4	4 1/2	100
3/4	4	4 1/2	150

KH-EZ IN NORMAL WEIGHT CONCRETE			
ANCHOR DIAMETER	EMBED (IN)	MINIMUM HOLE	TORQUE TEST
(IN)		DEPTH (IN)	VALUE (FT-LBS)
1/4	1 5/8	2	18
3/8	2 1/8	2 3/8	40
1/2	2 1/4	2 5/8	45
5/8	3 1/4	3 5/8	85
3/4	4	4 3/8	95

J. POWDER-ACTUATED FASTENERS
1. PAF SHALL BE ONE OF THE FOLLOWING:
   a. SIMPSON STRONG TIE POWDER-ACTUATED FASTENERS PER ICC-S ESR-2138 FOR ANCHORAGE OF METAL O CCONRETE, MASONRY OR STEEL.
   b. HILTI, INC. X-U PER ICC-ES ESR-2269 FOR ANCHORAGE OF METAL TO CONCRETE, MASONRY OR STEEL
   c. HILTI, INC. X-CP 72 PER ICC-ES ESR-2379 FOR ANCHORAGE OF SILL PLATES TO CONCRETE.
2. PROVIDE 0.08"x1.1"x1.1" SQUARE OR 0.08"x1.425" DIAMETER ROUND WASHER AT EACH PAF.
3. MINIMUM PAF EMBED INTO CONCRETE SHALL BE 1", UNLESS OTHERWISE NOTED.
4. MINIMUM PAF EMBED INTO STEEL SHALL BE PER MANUFACTURER.
5. POWER ACTUATED FASTENERS SHALL NOT BE USED TO ANCHOR SEISMIC BRACING, EXTERIOR CLADDING OR CURTAIN WALL SYSTEMS.

VIII. SUBMITTALS AND DEFERRED APPROVALS

A. THE CONTRACTOR SHALL REVIEW EACH SUBMITTAL PRIOR TO SENDING TO THE ARCHITECT AND SEOR. SUBMITTALS WILL ONLY BE REVIEWED IF THEY ARE BASED ON THE LATEST DESIGN, IF THEY ADDRESS ANY COMMENTS FROM PREVIOUS VERSIONS OF THE SUBMITTAL, IF THE WORK IS COORDINATED WITH ALL OTHER TRADES, AND IF THE SUBMITTAL DOES NOT INCLUDE SUBSTITUTION REQUESTS. SUBMITTALS NOT MEETING THESE REQUIREMENTS WILL BE RETURNED TO THE CONTRACTOR WITHOUT COMMENT.

B. THE SEOR'S REVIEW OF EACH SUBMITTAL SHALL BE FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT.

C. NO WORK SHALL PROCEED PRIOR TO THE SEOR'S AND ARCHITECT'S APPROVAL OF THE SUBMITTAL.

IX. TESTING AND INSPECTION

A. SPECIAL INSPECTIONS SHALL BE PERFORMED BY A SPECIAL INSPECTOR PER CBC SECTIONS 1704A AND 1705A. THE SPECIAL INSPECTOR SHALL BE RETAINED BY THE OWNER AND NOT BY THE CONTRACTOR.

B. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN SEISMIC FORCE RESISTING SYSTEM SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY PER CBC SECTION 1704A.4 TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK FOR THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
1. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
2. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF REPORTS.
4. IDENTIFICATION AND QUALIFICATION OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

C. SEE PROJECT DSA 103 FORM FOR THE WORK REQUIRES STRUCTURAL TESTS AND SPECIAL INSPECTIONS. FOR SPECIFIC REQUIREMENTS OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS, SEE THE SPECIFICATIONS AND GENERAL NOTES.

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
(E)	EXISTING
(N)	NEW
AB	ANCHOR BOLT
ADDL	ADDITIONAL
ALT	ALTERNATE
APPRX	APPROXIMATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
AVG	AVERAGE
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRDG	BRIDGING
BTWN	BETWEEN
CIP	CAST-IN-PLACE
CJ	CONTROL/CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR	CLEAR OR CLEARANCE
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTR	CENTER
CTRD	CENTERED
CTRSK	COUNTERSINK
db	DIAMETER OF BOLT OR REBAR
DBL	DOUBLE
DEMO	DEMOLISH
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM(S)	DIMENSION(S)
DL	DEAD LOAD
DWG(S)	DRAWING(S)
DWL	DOWEL(S)
EA	EACH
ECC	ECCENTRICITY
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT
EN	EDGE NAIL
ENGR	ENGINEER
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FF	FINISH FLOOR
FIN	FINISH(ED)
FLR	FLOOR
FN	FIELD NAILING
FND	FOUNDATION
FO	FACE OF
FRM'G	FRAMING
FS	FAR SIDE
FTG	FOOTING
GA	GAGE, GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GEN	GENERAL
GLB	GLUE-LAMINATED BEAM
GR	GRADE
GYP	GYPSUM
HD	HOLDOWN
HDR	HEADER
HGR	HANGER
HK	HOOK
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING VENTING AND AIR CONDITIONING
ID	INSIDE DIAMETER
IF	INSIDE FACE
INFO	INFORMATION
INT	INTERIOR
JH	JOIST HANGER
JST(S)	JOIST(S)
JT	JOINT
LBS	POUNDS
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
MATL	MATERIAL
MAX	MAXIMUM
MB	UNFINISHED MACHINE BOLT
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION
MEZZ	MEZZANINE
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
NW	NORMAL WEIGHT
NWC	NORMALWEIGHT CONCRETE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG(S)	OPENING(S)
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
PAF	POWDER ACTUATED FASTENER
PERP	PERPENDICULAR
PL	PLATE
PLY	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
RAD	RADIUS
REF	REFERENCE
REINF	REINFORCE(D) (ING) OR (MENT)
REQD	REQUIRED
REV	REVISION
RWD	REDWOOD
SAD	SEE ARCHITECTURAL DRAWINGS
SCD	SEE CIVIL DRAWINGS
SCHED	SCHEDULE(D)
SECT	SECTION
SEOR	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SLRS	SEISMIC LOAD RESISTING SYSTEM
SMD	SEE MECHANICAL DRAWINGS
SMS	SHEET METAL SCREW(S)
SOG	SLAB ON GRADE
SP	SPACE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STAGG'D	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STR	STRUCTURE
STRCTL	STRUCTURAL
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TD	TIE DOWN
TEMP	TEMPERATURE OR TEMPORARY
THK	THICK OR THICKNESS
THRD'D	THREADED
TO	TOP OF
TRANSV	TRANSVERSE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WD	WOOD
WF	WIDE FLANGE
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCEMENT

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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

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STAMP

REGISTERED PROFESSIONAL ENGINEER OMAN AKALAN NO. 5584 STRUCTURAL STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

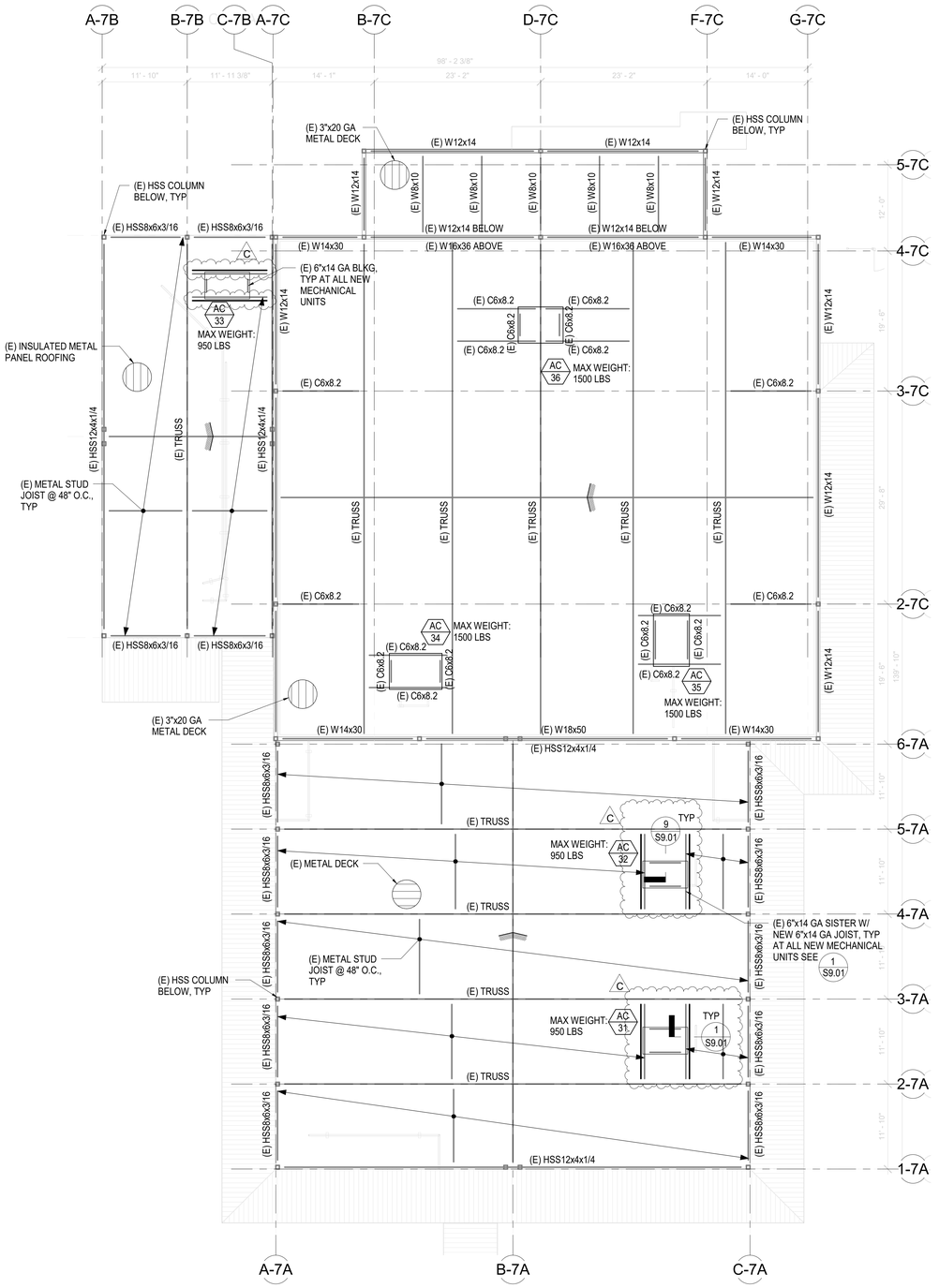
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DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

GENERAL NOTES

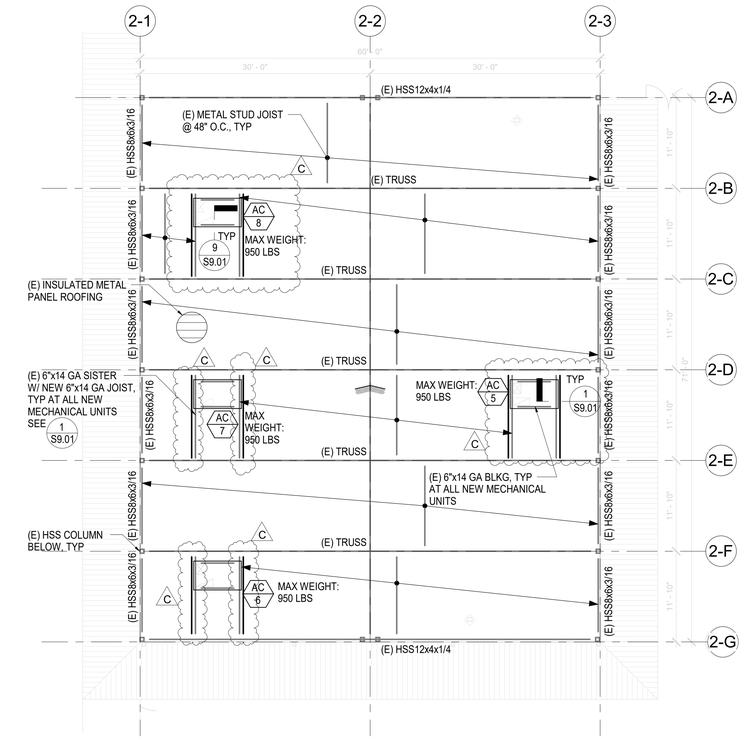
DATE 06.01.2026
JOB # 2025014
SHEET # AD3-
S1.00

5/8/2026 2:44:00 PM



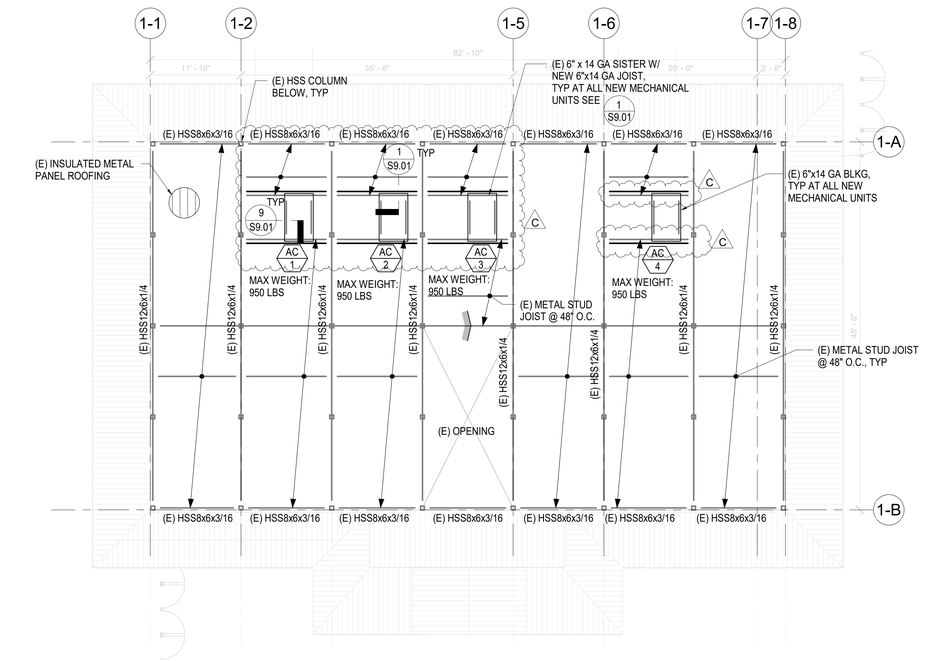
3 ROOF FRAMING PLAN - BLDG 700

1/8" = 1'-0"



2 PARTIAL ROOF FRAMING PLAN - BLDG 200

1/8" = 1'-0"



1 ROOF FRAMING PLAN - BLDG 100

1/8" = 1'-0"

SHEET NOTES:

1. SEE GENERAL NOTES ON SHEET S1.00.
2. SEE TYPICAL METAL STUD DETAILS ON SHEET S9.01.
3. METAL CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG TIE OR EQUAL PRODUCT IF APPROVED BY SEOR. SIMPSON DESIGNATIONS USED IN THESE DRAWINGS.
4. FOR DRAINAGE DETAILS, DAMP PROOFING, TRENCHES, CURBS, EXTERIOR PAVING, UTILITIES, EQUIPMENT DETAIL, ETC., SEE DWG'S OTHER THAN STRUCTURAL.
5. COORDINATE ROOF SLOPE AND ELEVATION WITH ARCHITECTURAL DRAWINGS.

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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

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GOKMAN AKALAN
NO. 5584
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STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

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C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

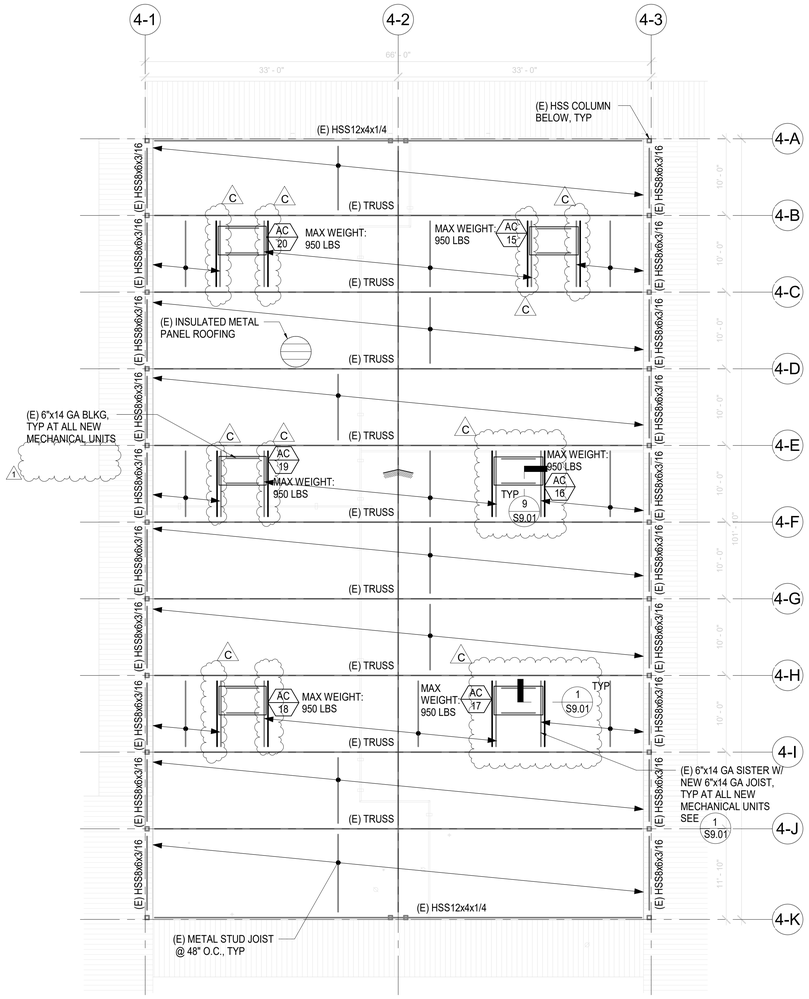
BLDGS 100, 200 & 700 ROOF FRAMING PLANS

DATE 06.01.2026
JOB # 2025014
SHEET # AD3-
S2.01

5/9/2026 2:44:00 PM

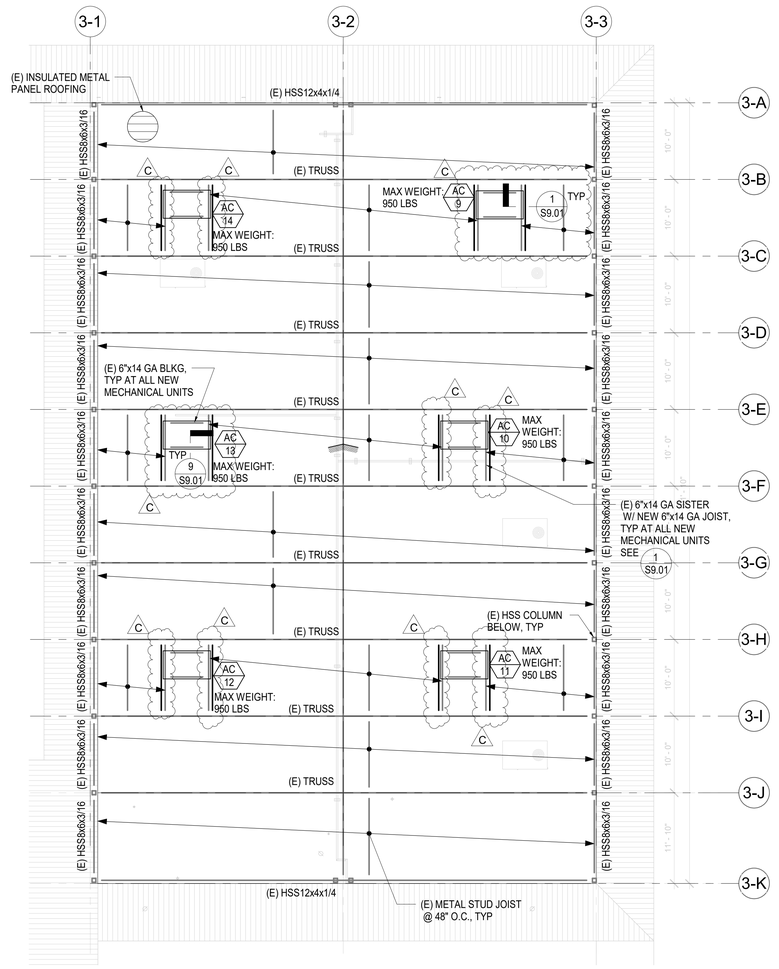
SHEET NOTES:

1. SEE SHEET NOTES ON S2.01



2 ROOF FRAMING PLAN - BLDG 400

1/8" = 1'-0"



1 ROOF FRAMING PLAN - BLDG 300

1/8" = 1'-0"

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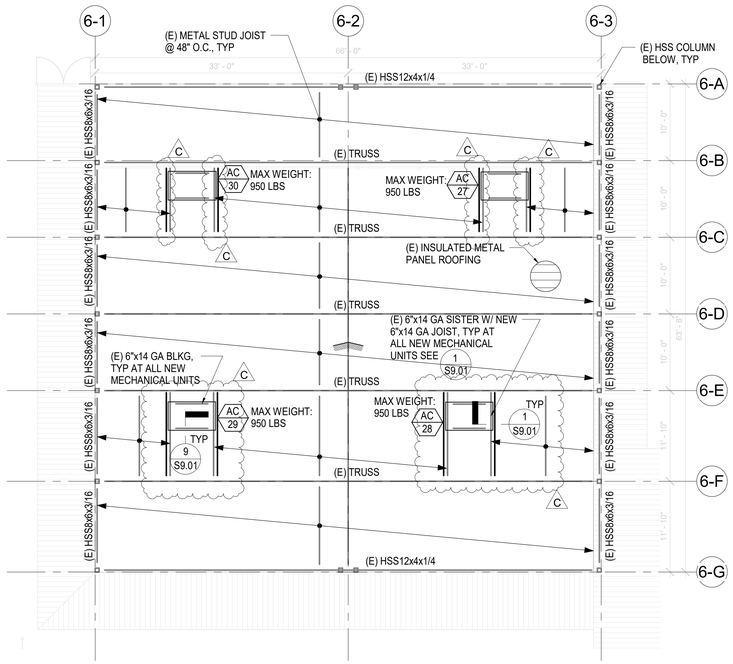
BLDGS 300 & 400 ROOF FRAMING PLANS

DATE 06.01.2026

JOB # 2025014

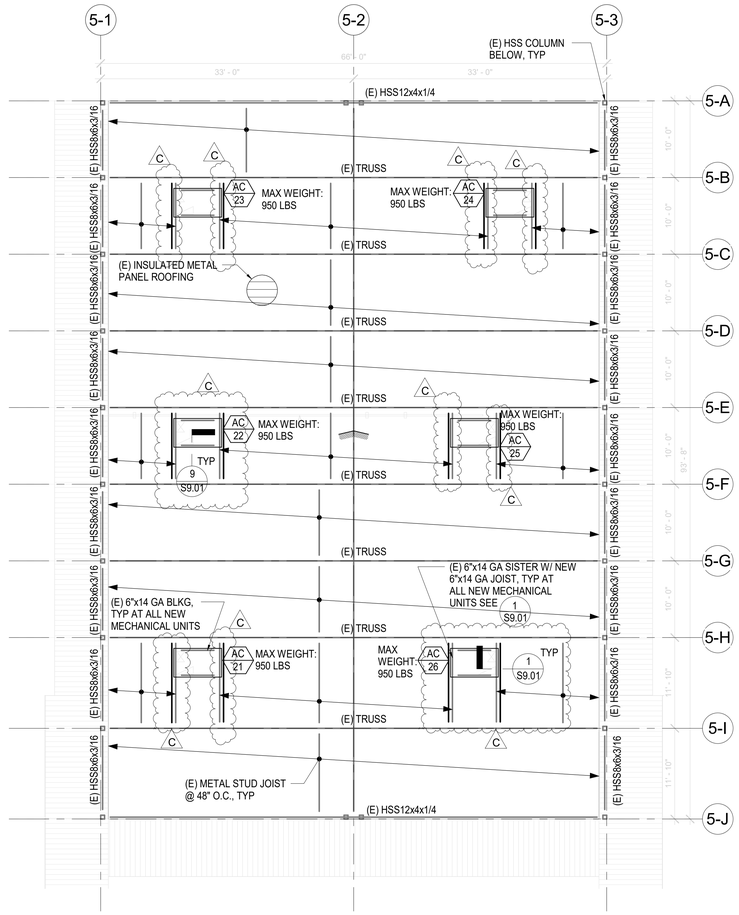
SHEET # AD3-S2.02

5/8/2026 2:44:01 PM



2 ROOF FRAMING PLAN - BLDG 600

1/8" = 1'-0"



1 ROOF FRAMING PLAN - BLDG 500

1/8" = 1'-0"

SHEET NOTES:

1. SEE SHEET NOTES ON S2.01

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San Jose, CA 95113
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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

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REGISTERED PROFESSIONAL ENGINEER GOKMAN AKALAN NO. 5584 STRUCTURAL STATE OF CALIFORNIA

STATE

DSA FILE NUMBER	43-41
APPL #	01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

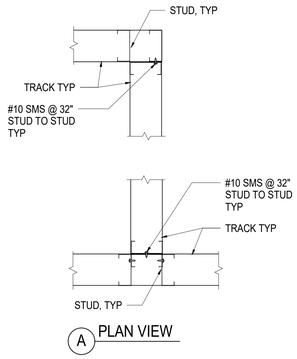
BLDGS 500 & 600 ROOF FRAMING PLANS

DATE 06.01.2026

JOB # 2025014

SHEET # AD3-S2.03

5/8/2026 2:44:01 PM



A PLAN VIEW

10 TYPICAL CORNERS AND INTERSECTIONS

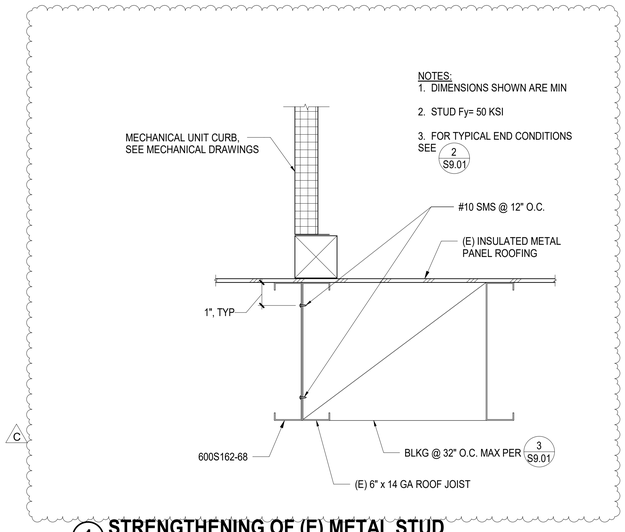
NTS

MAX HEIGHT "H"	STUD SIZE	IDENTIFICATION	STUD SPACING	MINIMUM PROPERTIES				TRACK
				A(in²)	Ix(in⁴)	Sx(in³)	M(in-k)	
9'-6"	3 5/8"x18GA	362S162-43	16" O.C.	0.272	0.709	0.371	7.33	362T150-43
9'-6"	6"x18GA	600S162-43	16" O.C.	0.379	2.315	0.767	16.68	600T150-43
9'-6"	3 5/8"x20GA	362S162-33	12" O.C.	0.262	0.551	0.304	5.29	362T150-43
9'-6"	6"x20GA	600S162-33	12" O.C.	0.344	1.793	0.598	11.41	600T150-43

1. METAL STUD WALL FRAMING COMPONENT SHALL CONFIRM TO ASTM A1003 OR A653.
2. ALL STUDS AND TRACKS SHALL COMPLY WITH ICC REPORT N0. ESR-3064P
3. FRAMING MEMBER 18GA AND LIGHTER SHALL BE MIN GRADE 33
   FRAMING MEMBER 16GA AND HEAVIER SHALL BE MIN GRADE 50
4. ALL FRAMING COMPONENT SHALL BE ATTACHED BY WELDING AND/OR SHEET METAL SCREWS AS SHOWN ON THE DRAWINGS.
5. ALL FRAMING COMPONENTS SHALL BE CUT TO FIT SQUARELY AGAINST ABUTTING MEMBER. HOLD MEMBERS FIRMLY IN POSITION UNTIL FASTENED PROPERLY.
6. SPLICES ARE NOT ALLOWED IN STUDS AND TRACKS UNLESS SPECIFICALLY DETAILED IN THER DRAWINGS.
7. COORDINATE ALL FRAMING WITH ARCH AND M/E/P DWGS.
8. WHEN PROVIDED MANUFACTURES FACTORY PUNCHOUTS SHALL BE LOCATED ALONG THE CENTER LINE OF THE WEBS OF THE STUD MEMBERS AND SHALL HAVE A MINIMUM CENTER TO CENTER SPACING OF 24". PUNCHOUT SHALL HAVE A MAXIMUM WIDTH OF HALF THE DEPTH OF MEMBER OR 2 1/2", WHICHEVER IS LESS. AND SHALL HAVE A MAXIMUM LENGHT OF 4 1/2".

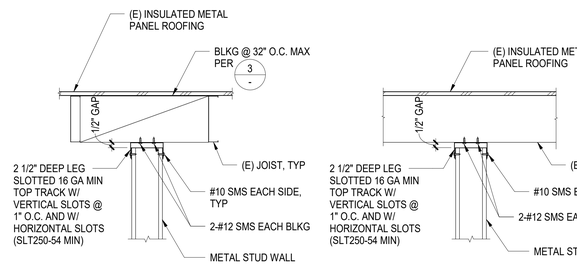
7 TYPICAL METAL STUD WALL FRAMING NOTES AND SCHEDULE

NTS



1 STRENGTHENING OF (E) METAL STUD JOIST AT MECHANICAL UNIT

NTS

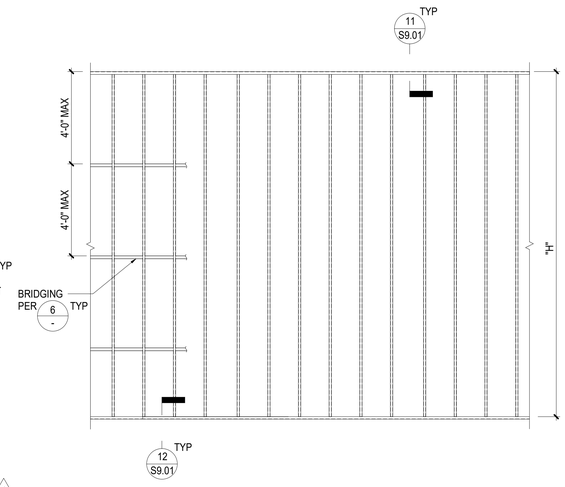


A PARALLEL TO (E) JOISTS

B PERP TO (E) JOISTS

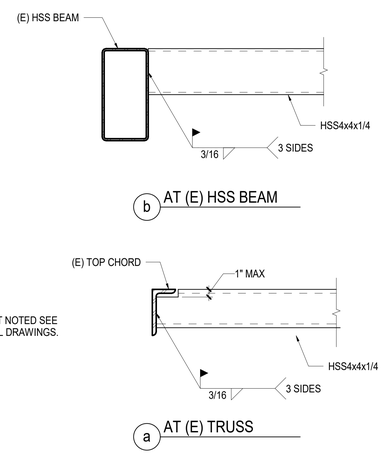
11 METAL STUD WALL TOP CONNECTION & SUPPORT

NTS



8 TYPICAL NON-LOAD BEARING METAL STUD WALL FRAMING ELEVATION

NTS

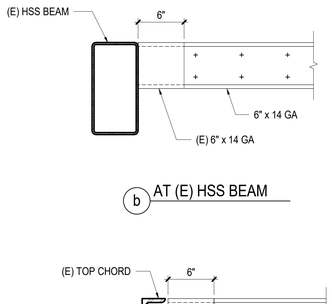


b AT (E) HSS BEAM

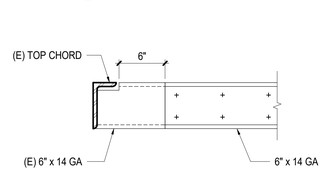
a AT (E) TRUSS

5 END CONNECTIONS FOR HSS BEAM SUPPORTING FALL ARREST ANCHORAGE

1 1/2" = 1'-0"



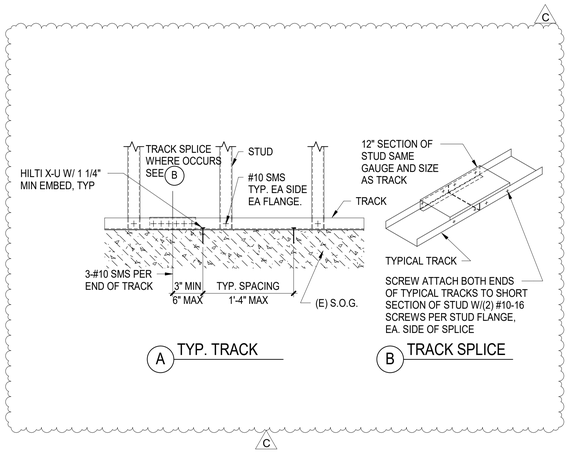
b AT (E) HSS BEAM



a AT (E) TRUSS

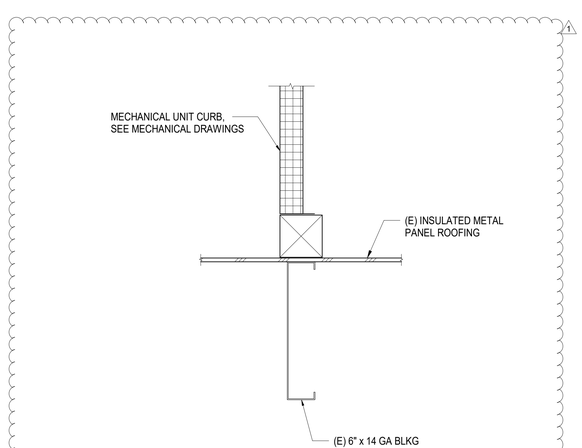
2 TYPICAL END CONDITIONS

NTS



A TYP. TRACK

B TRACK SPLICE

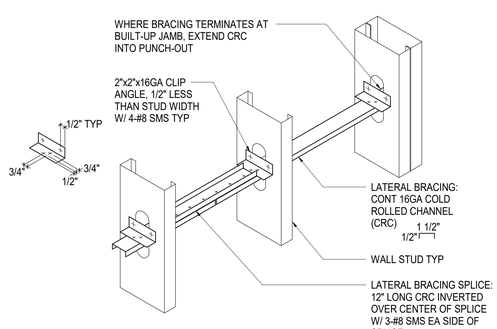


12 TYPICAL BASE CONDITIONS

NTS

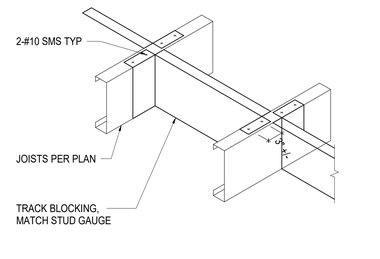
9 SECTION AT (E) BLKG UNDER UNIT

NTS



6 TYPICAL BRIDGING

NTS



3 BLOCKING DETAIL

NTS

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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

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REGISTERED PROFESSIONAL ENGINEER — GOKMAN AKALAN — NO. 5584 — STRUCTURAL — STATE OF CALIFORNIA

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	
DSA SUB	12.29.2025

SHEET

METAL STUD FRAMING DETAILS

DATE 06.01.2026
JOB # 2025014
SHEET # AD3-S9.01

5/8/2026 2:44:01 PM

LEDESMA ELEMENTARY SCHOOL - AIR CONDITIONING UNIT SCHEDULE (OFCI) C

UNIT	SERVES	"CARRIER" MODEL NO. U.N.O.	NOM. TONS	CFM	MIN. O.A. (CFM)	ESP (IN. W.G.)	DX COOLING					GAS HEATING			AC UNIT ELECTRICAL DATA												EFFICIENCY						OPERATING WEIGHT (LBS.)				MOUNTING DETAIL	CONTROL DIAGRAM	NOTES
							LOW CFM (66%)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EVAP. EDB (°F)	EVAP. EWB (°F)	INPUT (MBH)	OUTPUT (MBH)	HX EDB (°F)	VOLT/PH	SUPPLY FAN BHP	SUPPLY FAN FLA	COMPRESSOR QTY	COMPRESSOR RLA	COMPRESSOR LRA	COND. FAN QTY	COND. FAN FLA	COMB. FAN FLA	UNIT MCA	UNIT MOCP	PWR. EXH. MCA	PWR. EXH. MOCP	COOLING SEER	COOLING SEER2	COOLING EER	COOLING IEER	HEATING AFUE (%)	HEATING TE (%)	AC. UNIT	PWR. EXH. ECON.	ROOF CURB	TOTAL			
AC 1	BLDG 100 OFFICES 103 - 107	48GEGM04A3M6	3	1200	140	1.0	--	31.8	39.7	80.0	65.0	60	49	70.0	460/3	0.59	1.7	1	4.8	44	1	1.4	0.25	12	15	1.5	2.7	17.2	16.8	--	--	--	81.0	615	225	N/A	840	1 M6.01	1 M6.02	1 2 3 4 5
AC 2	BLDG 100 RECEPTION 101 & WORKROOM 103	48GEGM05A3M6	4	1600	245	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	1 M6.02	1 2 3 4 5
AC 3	BLDG 100 RECEPTION 101	48GEGM05A3M6	4	1600	115	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	1 M6.02	1 2 3 4 5
AC 4	BLDG 100 LOUNGE 110 & CONFERENCE 115	48GEGM05A3M6	4	1600	465	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	1 M6.02	1 2 3 4 5
AC 5	BLDG 200 WORKROOM 201	48GEGM05A3M6	4	1600	525	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	1 M6.02	1 2 3 4 5
AC 6	BLDG 200 KINDERGARTEN 207	48GEGM05A3M6	4	1600	UPPER 350 / LOWER 140	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 7	BLDG 200 KINDERGARTEN 208	48GEGM05A3M6	4	1600	UPPER 350 / LOWER 140	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 8	BLDG 200 KINDERGARTEN 209	48GEGM05A3M6	4	1600	UPPER 350 / LOWER 140	1.0	--	42.9	52.7	80.0	65.0	60	49	70.0	460/3	1.05	2.6	1	8.1	62	1	1.4	0.25	17	20	1.5	2.7	17.2	16.8	--	--	--	81.0	635	225	N/A	860	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 9	BLDG 300 CLASSROOM 301	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 10	BLDG 300 CLASSROOM 302	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 11	BLDG 300 CLASSROOM 303	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 12	BLDG 300 CLASSROOM 310	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 13	BLDG 300 CLASSROOM 311	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 14	BLDG 300 CLASSROOM 312	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 15	BLDG 400 CLASSROOM 401	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 16	BLDG 400 CLASSROOM 402	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 17	BLDG 400 CLASSROOM 403	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 18	BLDG 400 CLASSROOM 410	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 19	BLDG 400 CLASSROOM 411	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 20	BLDG 400 CLASSROOM 412	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 21	BLDG 500 CLASSROOM 501	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 22	BLDG 500 CLASSROOM 502	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 23	BLDG 500 CLASSROOM 503	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 24	BLDG 500 CLASSROOM 511	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 25	BLDG 500 CLASSROOM 512	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 26	BLDG 500 CLASSROOM 513	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 27	BLDG 600 CLASSROOM 601	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 28	BLDG 600 CLASSROOM 602	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 29	BLDG 600 CLASSROOM 610	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 30	BLDG 600 CLASSROOM 611	48GEHM06A3M6	5	2000	UPPER 375 / LOWER 150	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	2 M6.02	1 2 3 4 5 6
AC 31	BLDG 700 MEDIA CENTER 701	48FEDM07A3M6	6	2400	UPPER 655 / LOWER 260	1.0	1585	64.5	78.1	80.0	65.0	67	54	70.0	460/3	1.56	3.1	1	9.6	71	1	0.8	0.25	19	25	3	5.4	--	--	11.2	15.5	--	82.0	665	225	N/A	890	1 M6.01	1 M6.03	1 2 3 4 5 6 7 8
AC 32	BLDG 700 MEDIA CENTER 701	48FEDM07A3M6	6	2400	UPPER 655 / LOWER 260	1.0	1585	64.5	78.1	80.0	65.0	67	54	70.0	460/3	1.56	3.1	1	9.6	71	1	0.8	0.25	19	25	3	5.4	--	--	11.2	15.5	--	82.0	665	225	N/A	890	1 M6.01	1 M6.03	1 2 3 4 5 6 7 8
AC 33	BLDG 700 KITCHEN 713	48FEDM07A3M6	6	2400	1270	1.0	1585	64.5	78.1	80.0	65.0	67	54	70.0	460/3	1.56	3.1	1	9.6	71	1	0.8	0.25	19	25	3	5.4	--	--	11.2	15.5	--	82.0	665	225	N/A	890	1 M6.01	1 M6.03	1 2 3 4 5 7 8
AC 34	BLDG 700 MULTI-PURPOSE 707	48GEDM12A3M6	10	4000	UPPER 600 / LOWER 240	1.0	2640	108.7	130.4	80.0	65.0	120 / 180	98 / 148	70.0	460/3	2.99	5.6	2	9.1 / 6	75 / 49	1	7.4	0.25	33	40	3.875	6.975	--	--	12.1	17.5	--	82.0	1125	330	N/A	1455	1 M6.01	1 M6.03	1 2 3 4 5 6 7 8 9
AC 35	BLDG 700 MULTI-PURPOSE 707	48GEDM12A3M6	10	4000	UPPER 600 / LOWER 240	1.0	2640	108.7	130.4	80.0	65.0	120 / 180	98 / 148	70.0	460/3	2.99	5.6	2	9.1 / 6	75 / 49	1	7.4	0.25	33	40	3.875	6.975	--	--	12.1	17.5	--	82.0	1125	330	N/A	1455	1 M6.01	1 M6.03	1 2 3 4 5 6 7 8 9
AC 36	BLDG 700 STAGE 708	48GEHM06A3M6	5	2000	880	1.0	--	52.5	63.8	80.0	65.0	82	66	70.0	460/3	1.27	3.1	1	6.7	58	1	1.4	0.25	16	20	1.875	3.375	17.2	16.8	--	--	--	80.0	705	225	N/A	930	1 M6.01	1 M6.02	1 2 3 4 5 6 8

NOTES:

1. UNITS SELECTED AT 104 F DB / 70 F WB SUMMER AMBIENT, 29 F DB WINTER AMBIENT AIR TEMPERATURES. COOLING CAPACITIES SCHEDULED ARE NET SENSIBLE & NET TOTAL CAPACITIES.
2. PROVIDE UNIT WITH R-454B REFRIGERANT LEAK SAFETY GROUP A2L, HIGH-PROBABILITY SYSTEM), FACTORY INTEGRAL REFRIGERANT LEAK DETECTION SENSOR & CONTROLS, LOUVERED CONDENSER COIL GUARDS, HINGED ACCESS DOORS, PHASE MONITOR PROTECTION, THRU-THE-BOTTOM WIRING CONNECTION KIT, AUXILIARY STRIP HEATER WIRED FOR SINGLE POINT POWER CONNECTION. CONTRACTOR TO PROVIDE 2" THICK MERV 13 DISPOSABLE PLEATED MEDIA FILTER(S). C
3. PROVIDE UNIT WITH "CANTAB" MOTORIZING POWER EXHAUST ECONOMIZER WITH VFD, DIFFERENTIAL PRESSURE TRANSDUCER, ROOM PRESSURE TUBING WITH PICKUP FITTING, AMBIENT PRESSURE TUBING WITH INSECT SCREEN FITTING, AND "BELIMO" LF SERIES ACTUATORS. NOTE THAT SEPARATE POWER CONNECTIONS ARE REQUIRED TO THE AC UNIT AND TO THE MODULATING POWER EXHAUST ECONOMIZER. ELECTRICAL LOADS OF EACH DEVICE ARE SCHEDULED. ELECTRICAL CONTRACTOR SHALL PROVIDE SEPARATE POWER CONNECTIONS, APPROPRIATE CIRCUIT BREAKER(S), FEEDER(S), AND DISCONNECT(S) AS REQUIRED BY CODE.
4. MOUNTED ON EXISTING ROOF CURB. CONTRACTOR TO PROVIDE NEW HOLD DOWNS TO ATTACH UNIT TO EXISTING CURB. C
5. LOW SPEED SUPPLY FAN SETTING SHALL BE LOCKED OUT. UNIT SHALL OPERATE AS SINGLE ZONE CONSTANT VOLUME AT ALL TIMES. CONTRACTOR SHALL COORDINATE WITH AC UNIT FACTORY REP TO ACCOMPLISH SINGLE ZONE CONSTANT VOLUME OPERATION.
6. LOWER OUTSIDE AIR POSITION INDICATED IS BASED ON 0.15 CFM/SQ.FT., ALLOWABLE FOR CO2 DEMAND CONTROL VENTILATION SYSTEMS AT MINIMUM OCCUPANCY. UPPER OUTSIDE AIR POSITION INDICATED IS BASED ON 15 CFM/OCCUPANT WHEN SPACE IS AT MAXIMUM OCCUPANCY, UNLESS SYSTEM IS IN ECONOMIZER MODE. SEE CONTROLS FOR SEQUENCE OF OPERATION. FOR THESE UNITS WITH DEMAND CONTROL VENTILATION, ENTERING TEMPERATURES SCHEDULED REPRESENT CONDITIONS AT UPPER OSA POSITION.
7. FOR UNITS WITH NOM. COOLING CAPACITY OF 6 TONS AND LARGER, PROVIDE UNIT WITH FACTORY INSTALLED VARIABLE SPEED MOTOR ON SUPPLY FAN AND MINIMUM 2-STAGES OF MECHANICAL COOLING CAPACITY (SINGLE-ZONE VAV). SEE SCHEDULE FOR LOW SUPPLY AIRFLOW CFM (66%). SEE CONTROLS FOR SEQUENCE OF OPERATION. C
8. CONTRACTOR TO INTERCONNECT UNIT WITH (E) DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT FOR AUTOMATIC SHUTDOWN OF HVAC SYSTEM UPON SENSING SMOKE. INTERLOCKED WITH FIRE ALARM SYSTEM BY DIV. 26/28, CONNECTED TO AC UNIT BY DIV. 23. C

C C

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Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA
RC - EDG/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER — RYAN CELAYA — M 34234 — EXPIRES 12/31/26 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED:

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

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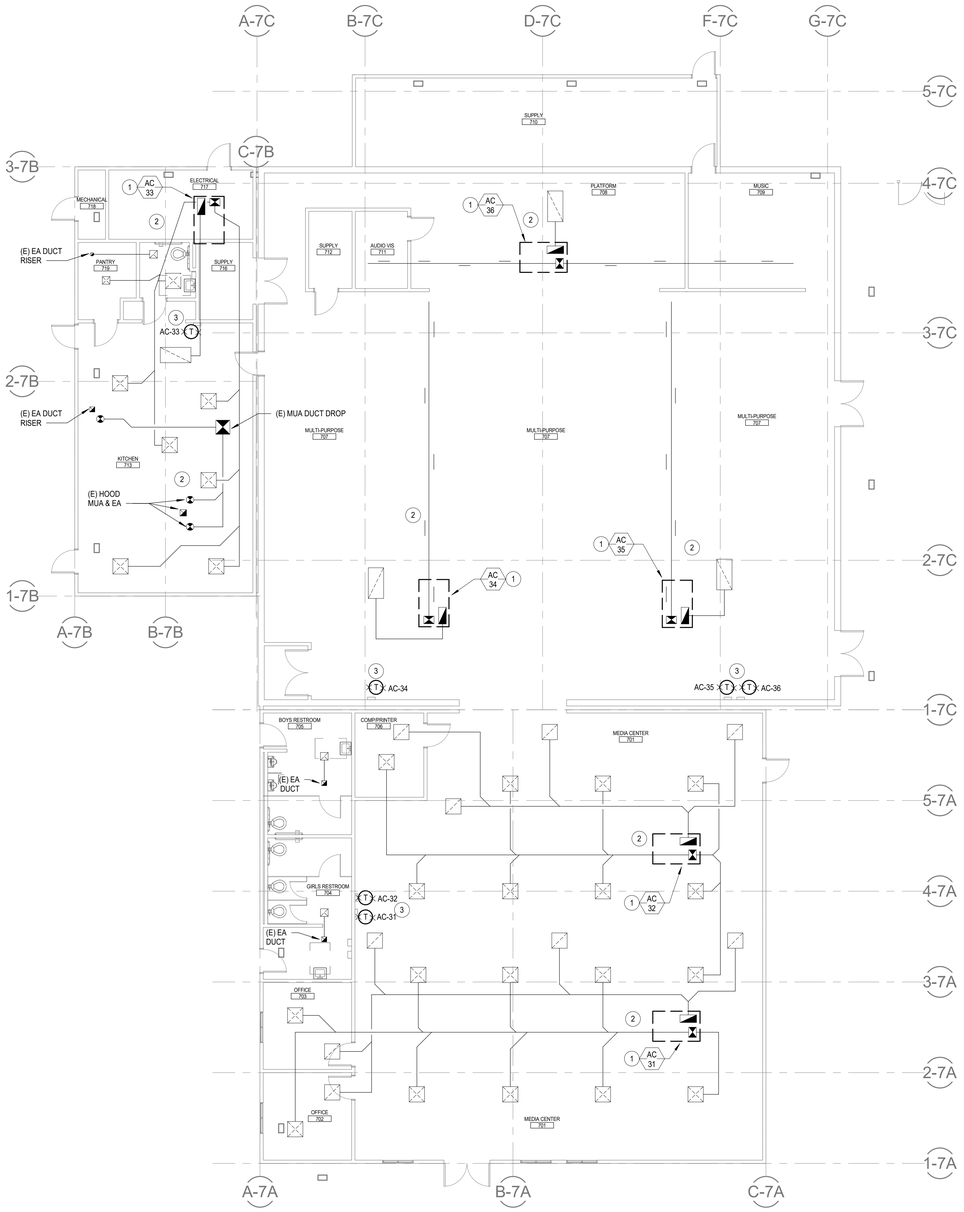
MECHANICAL SCHEDULES

DATE 06.01.2026

JOB # 2025014

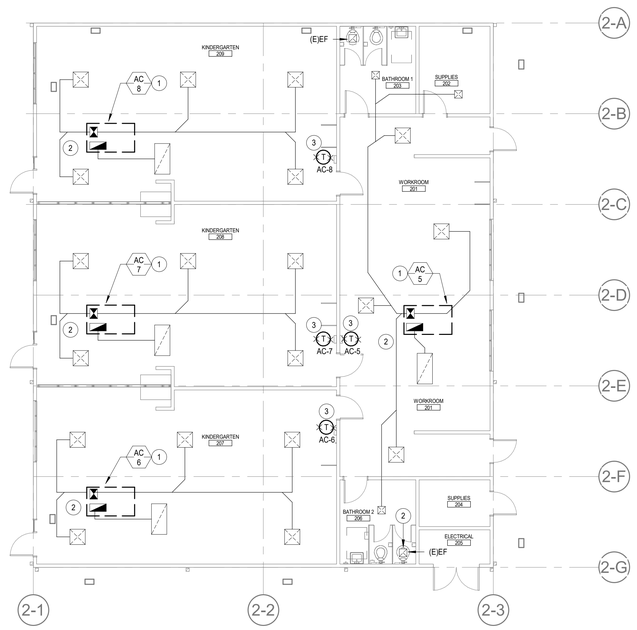
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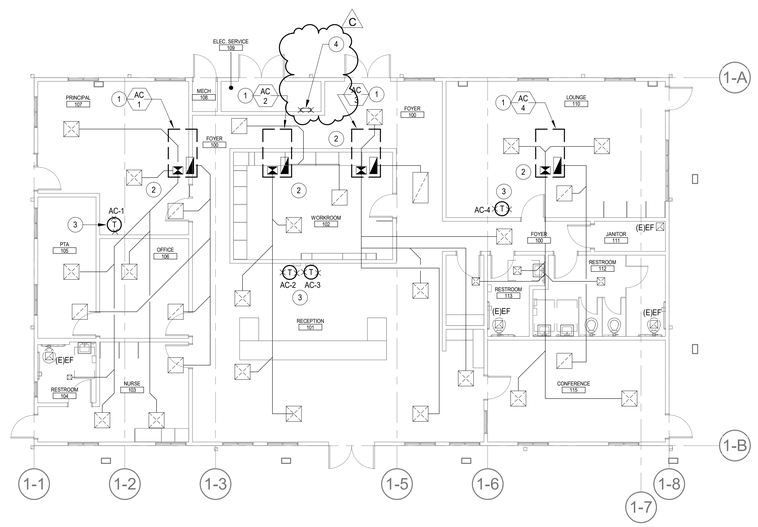
3 M2.01 MECHANICAL - BLDG - 700 - DEMOLITION FLOOR PLAN

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



2 M2.01 MECHANICAL - BLDG 200 - DEMOLITION FLOOR PLAN

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



1 M2.01 MECHANICAL - BLDG 100 - DEMOLITION FLOOR PLAN

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

GENERAL SHEET NOTES

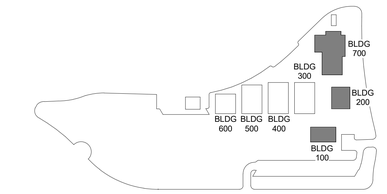
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2. EXISTING EQUIPMENT, PIPING, COMPONENTS, ETC. ARE SHOWN DIAGRAMMATICALLY AND ARE NOT EXACTLY AS SHOWN ON PLANS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS IN "COORDINATED LAYOUTS" REQUIRED BY SPECIFICATION SECTION 23 80 00, AND MAKE ANY ADJUSTMENTS NECESSARY TO COMPLETE THE DESCRIBED SCOPE OF WORK. CONTRACTOR SHALL MAKE ALLOWANCE IN BID FOR THE REQUIREMENT.

DEMOLITION FLOOR PLAN KEYNOTES

1. REMOVE EXISTING ROOFTOP UNIT ON ROOF, OUTLINE SHOWN FOR LOCATION REFERENCE. ROOFTOP UNIT DUCT DROPS SHOWN FOR REFERENCE.
2. EXISTING DUCTWORK AND FITTINGS ABOVE CEILING TO REMAIN. EXISTING AIR DEVICES TO REMAIN.
3. REMOVE EXISTING THERMOSTATS AND CONTROL WIRING.
4. REMOVE EXISTING BMS CONTROL PANEL AND CONTROL WIRING.

C

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capital engineering
Rancho Cordova, California
RC - EDG/LY PM - DESIGN TEAM
250163.00 PROJECT NO.

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REGISTERED PROFESSIONAL ENGINEER
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M 34234
EXPIRES 12/31/26
MECHANICAL
STATE OF CALIFORNIA

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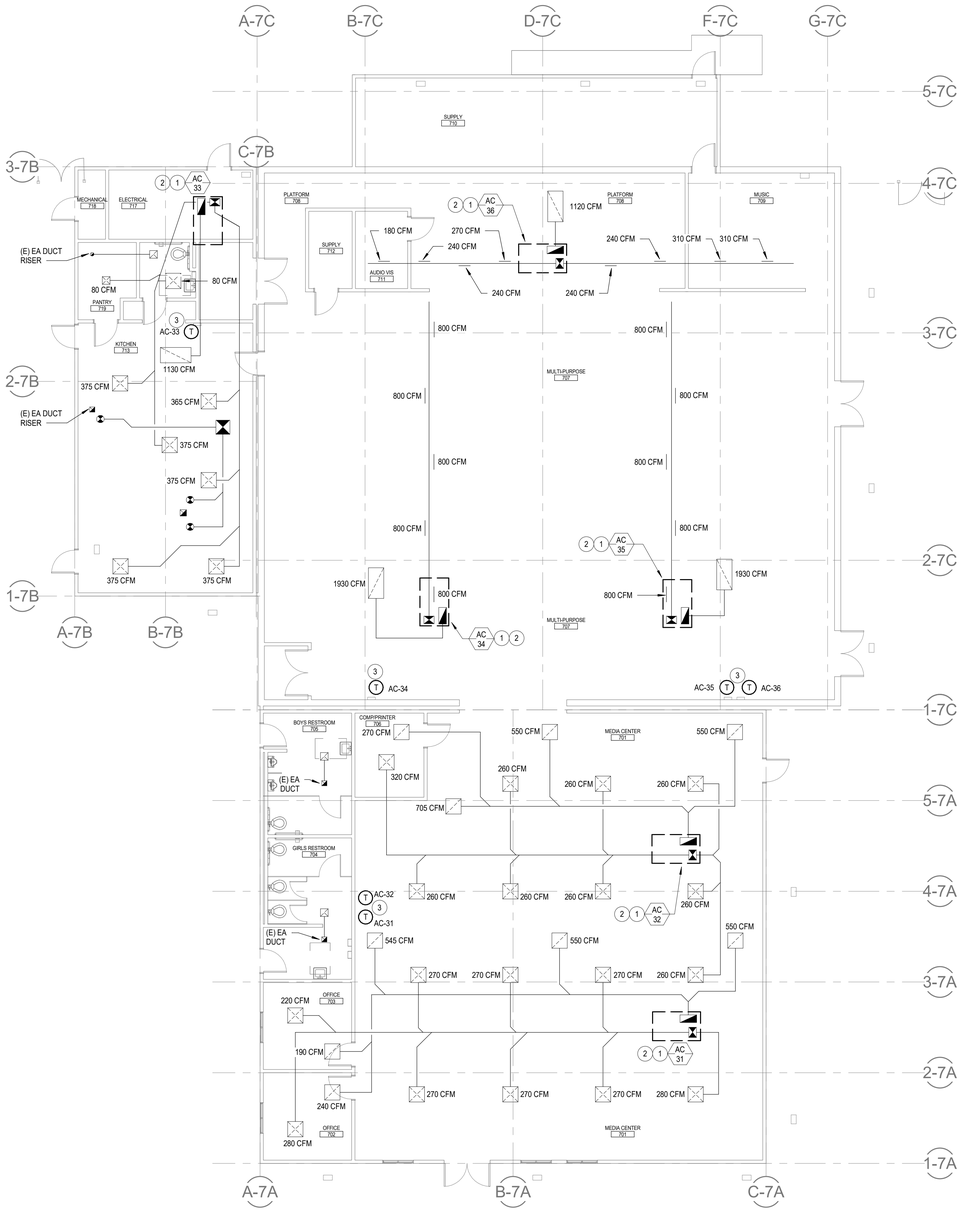
MECHANICAL DEMOLTION FLOOR PLAN - BLDG 100, 200 & 700

DATE 06.01.2026

JOB # 2025014

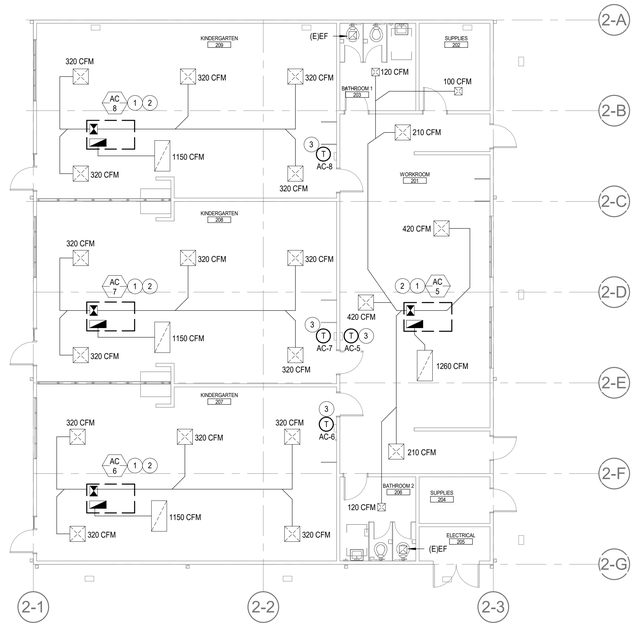
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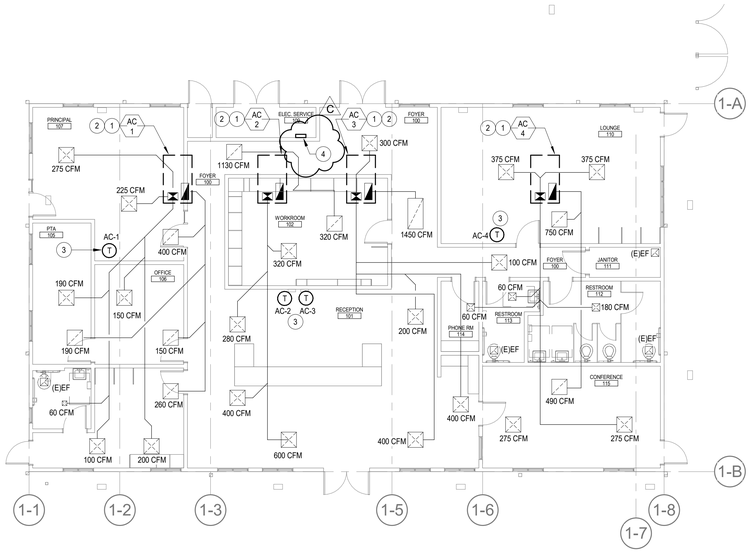
2 M2.04 MECHANICAL - BLDG 700 - FLOOR PLAN

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



2 M2.04 MECHANICAL - BLDG 200 - FLOOR PLAN

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



1 M2.04 MECHANICAL - BLDG 100 - FLOOR PLAN

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

GENERAL SHEET NOTES

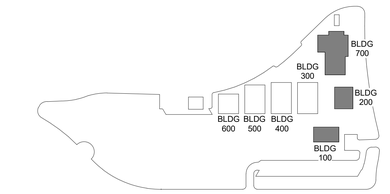
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3. AT COMPLETION OF PROJECT, RE-BALANCE ALL DIFFUSERS/GRILLES TO THE CFM'S INDICATED.

FLOOR PLAN KEYNOTES

1. NEW ROOFTOP UNIT ON ROOF, OUTLINE SHOWN FOR LOCATION REFERENCE.
2. RE-CONNECT TO EXISTING DUCT DROPS. SEE PLUMBING DRAWINGS FOR RE-CONNECTION TO CONDENSATE AND GAS PIPING.
3. INSTALL NEW THERMOSTAT, MOUNTED AT SAME LOCATION OF EXISTING. CONFIRM MOUNTING HEIGHT COMPLIES WITH "MECHANICAL GENERAL NOTES" ON M0.01.
4. NEW BMS CONTROL PANEL (OFOI), REFER TO CONTROL DIAGRAM 2/M6.01.

C

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PROJECT

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Oak Grove School District

CONSULTANT

capital engineering
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250163.00 PROJECT NO.

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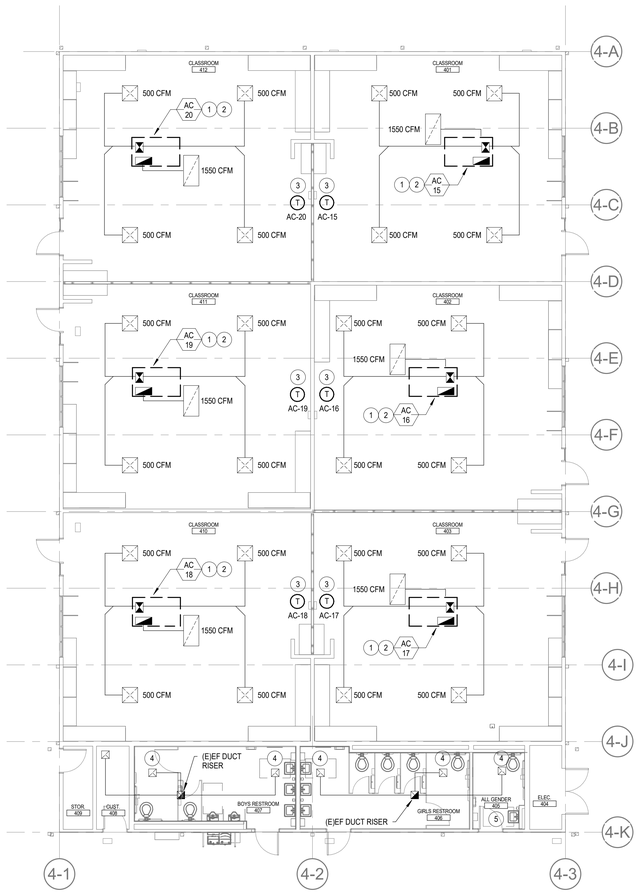
MECHANICAL FLOOR PLAN - BLDG 100, 200 & 700

DATE 06.01.2026

JOB # 2025014

SHEET # AD3- M2.04

5/8/2026 5:10:28 PM



2 M2.05 MECHANICAL - BLDG 400 - FLOOR PLAN

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



1 M2.05 MECHANICAL - BLDG 300 - FLOOR PLAN

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

GENERAL SHEET NOTES

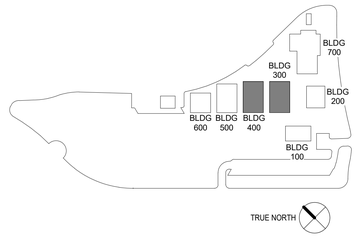
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3. AT COMPLETION OF PROJECT, RE-BALANCE ALL DIFFUSERS/GRILLES TO THE CFM'S INDICATED.

FLOOR PLAN KEYNOTES

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3. INSTALL NEW THERMOSTAT, MOUNTED AT SAME LOCATION OF EXISTING. CONFIRM MOUNTING HEIGHT COMPLIES WITH "MECHANICAL GENERAL NOTES" ON M0.01.
4. RE-INSTALL EXISTING EXHAUST GRILLES TO EXISTING EXHAUST DUCTWORK.
5. DEDUCTIVE ALTERNATE 1: ALL WORK WITHIN ALL GENDER RESTROOM TO BE REMOVED.

C

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MECHANICAL FLOOR PLAN - BLDG 300 & 400

DATE 06.01.2026

JOB # 2025014

SHEET # AD3- M2.05

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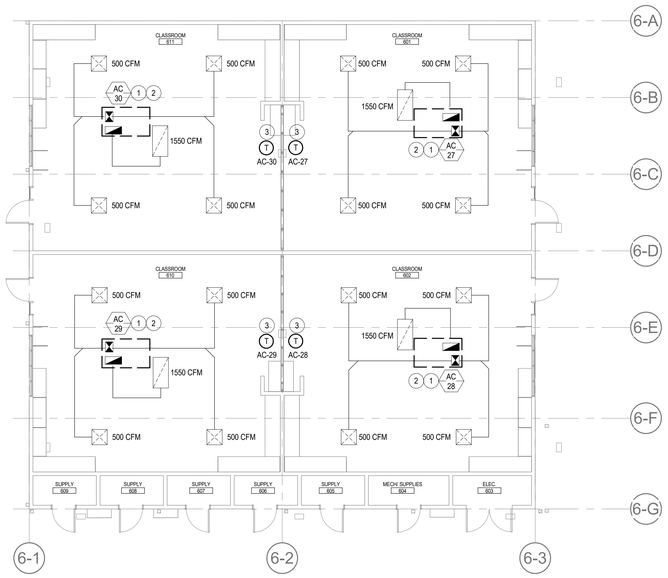
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3. AT COMPLETION OF PROJECT, RE-BALANCE ALL DIFFUSERS/GRILLES TO THE CFM'S INDICATED.

FLOOR PLAN KEYNOTES

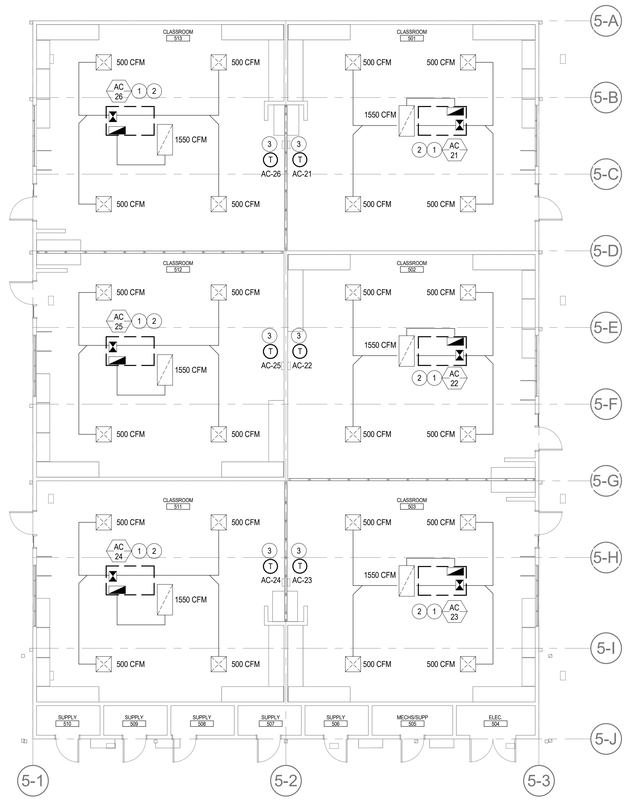
1. NEW ROOFTOP UNIT ON ROOF, OUTLINE SHOWN FOR LOCATION REFERENCE.
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3. INSTALL NEW THERMOSTAT, MOUNTED AT SAME LOCATION OF EXISTING. CONFIRM MOUNTING HEIGHT COMPLIES WITH "MECHANICAL GENERAL NOTES" ON M0.01.

C



2 M2.06 MECHANICAL - BLDG 600 - FLOOR PLAN

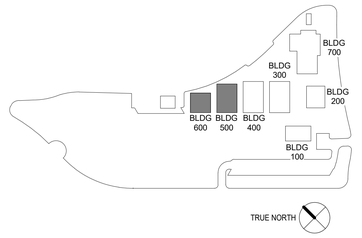
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1 M2.06 MECHANICAL - BLDG 500 - FLOOR PLAN

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

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MECHANICAL FLOOR PLAN - BLDG 500 & 600

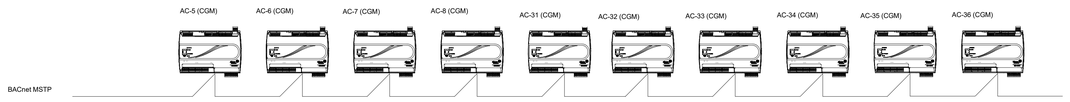
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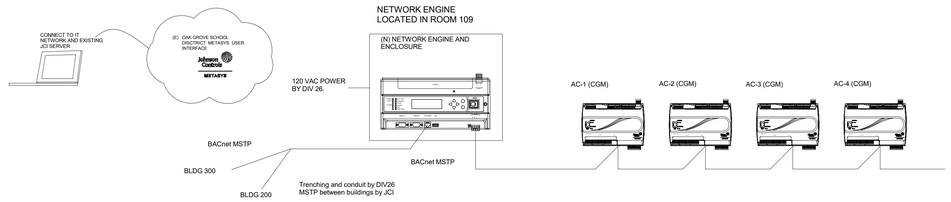
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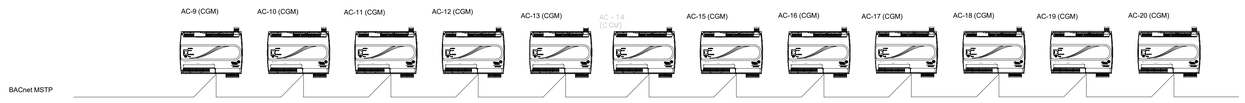
BLDG 200 & 700



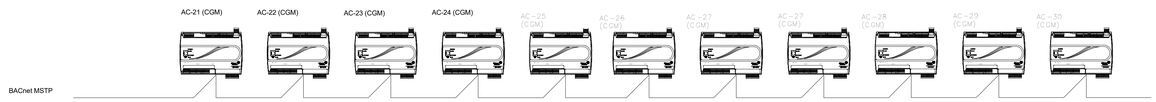
BLDG 100



BLDG 300 & 400



BLDG 500 & 600



BMS CONTROLS SHALL BE OWNER FURNISHED, OWNER INSTALLED (OFCI). CONTROL DIAGRAMS ARE PROVIDED FOR COORDINATION BETWEEN CONTRACTOR AND BMS INSTALLER.

GENERAL: NETWORK DIAGRAM IS REPRESENTATIVE OF NETWORK LAYOUT. PLEASE CONTACT CAMERON ROSS AT JOHNSON CONTROLS (Cameron.Ross@KCI.com 279.782.1252). JCI BRANCH OFFICE OF SACRAMENTO TO PROVIDE CONTROLLERS AND NETWORK AS NEEDED TO INSTALL A COMPLETE SYSTEM TO INTEGRATE TO EXISTING OAK GROVE SCHOOL DISTRICT METASYS SYSTEM.

BMS (BUILDING MANAGEMENT SYSTEM)
THE BMS SHALL BE JOHNSON CONTROLS METASYS TO MATCH OGSD STANDARD. THE METASYS SYTEM SHALL BE BY JCI BRANCH OFFICE, NO EXCEPTIONS.

THE BMS SHALL CONSIST OF THE FOLLOWING:
1) BACNET NETWORK AUTOMATION ENGINE (SNE).
2) PROGRAMMABLE BACNET FIELD EQUIPMENT CONTROLLERS (CGM/CVM).

THE SNE SHALL BE PROGRAMMED TO PROVIDE THE OPERATING SCHEDULES FOR EACH CONTROLLER AS DESIGNATED BY OGSD. ALL CONTROL WIRING AND CONDUIT SHALL BE PROVIDED AND INSTALLED BY JOHNSON CONTROLS AND SHALL BE INSTALLED PER OGSD STANDARD

OPERATOR INTERFACE

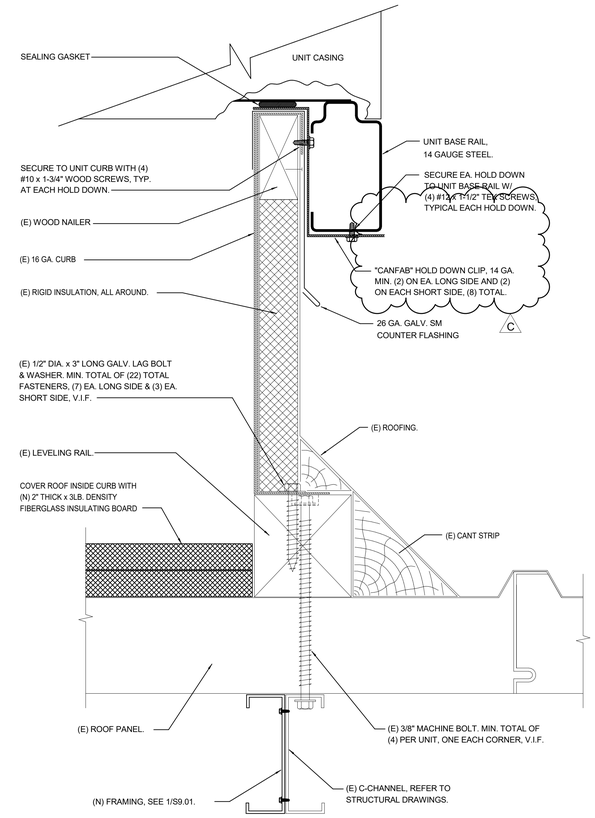
THE SNE SHALL RESIDE ON THE FACILITIES ETHERNET NETWORK. THE WORKSTATION SHALL PROVIDE COLOR GRAPHIC REPRESENTATIONS OF THE MECHANICAL EQUIPMENT CONTROLLED. REAL TIME DATA SHALL BE DISPLAYED ON THE GRAPHIC TO INDICATE SYSTEM PERFORMANCE. THE WORKSTATION SHALL PROVIDE THE CAPABILITY TO CHANGE TEMPERATURE SETPOINTS, AS WELL AS MODIFY SYSTEM SCHEDULES. SYSTEM ALARMS SHALL BE REPORTED TO AND ACKNOWLEDGED AT THE WORKSTATION. WEB BASED COLOR GRAPHICS TO BE PROVIDED AS FOLLOWS:
1) INDIVIDUAL BUILDING PLAN SHOWING BASIC FLOOR PLANS, ZONE SENSORS AND GENERAL EQUIPMENT LOCATIONS.
2) CONTROL PANEL GRAPHIC SHOWING ALL ATTRIBUTES OF EACH INDIVIDUAL CGM CONTROLLERS FOR EASE OF TROUBLESHOOTING.
3) EQUIPMENT GRAPHICS DEPICTING ACTUAL EQUIPMENT WITH ANIMATIONS DEPICTING STATUS OF FANS, PUMPS, VALVES, AND ACTUATORS. EQUIPMENT SHALL BE DENOTED IN GRAPHICS TO THEIR CORRESPONDING ROOM #.

OGSD- LEDESMA ES (METASYS) BMS ARCHITECTURE

SCALE : NONE

1
M6.02

C



AC UNIT TO (E) CURB MOUNTING

SCALE : NONE

1
M6.01

aedis architects
www.aedisarchitects.com
333 W. Santa Clara Street, Suite 900
San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA
RC - ED/G/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER
RYAN CELAYA
M 34234
EXPIRES 12/31/26
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: _____

STATE

DSA FILE NUMBER	43-41
APPL #	01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

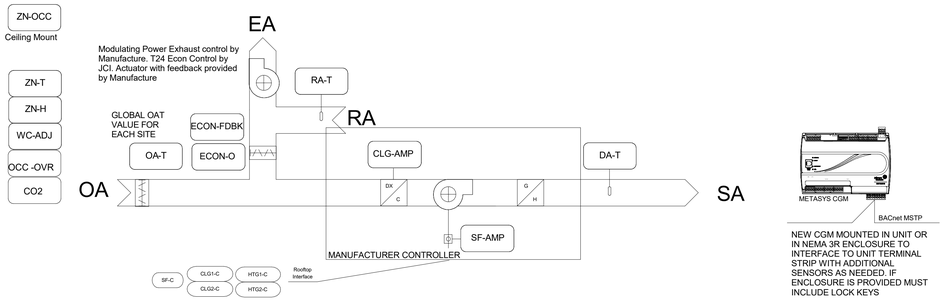
MECHANICAL DETAILS & CONTROLS

DATE 06.01.2026

JOB # 2025014

SHEET # AD3-
M6.01

5/8/2026 5:10:35 PM



BMS CONTROLS SHALL BE OWNER FURNISHED, OWNER INSTALLED (OFCI). CONTROL DIAGRAMS ARE PROVIDED FOR COORDINATION BETWEEN CONTRACTOR AND BMS INSTALLER.

SUPPLY FAN CONTROL:
THE SUPPLY FAN (SF-C) WILL BE STARTED BASED ON OCCUPANCY SCHEDULE. WHEN THE SUPPLY FAN STATUS (SF-AMP) INDICATES THE FAN STARTED, THE CONTROL SEQUENCE WILL BE ENABLED. UPON A LOSS OF AIRFLOW (SF-AMP), THE SUPPLY FAN WILL ATTEMPT TO AUTOMATICALLY RESTART UNTIL POSITIVE STATUS IS RECEIVED.

ECONOMIZER CONTROL:
THE BMS CONTRACTOR SHALL PROVIDE THE TITLE 24 FDD ECONOMIZER CONTROL WITH ASSOCIATED SENSORS AND LOGIC FOR A FUNCTIONAL SYSTEM. THIS INCLUDES GLOBAL OUTSIDE AIR TEMP (OA-T, UNIQUE TO THE SITE), RETURN AIR TEMP (RA-T), DISCHARGE AIR TEMP (DA-T) AND A DAMPER ACTUATOR/COMMAND (ECON-O) AND DAMPER ACTUATOR FEEDBACK (ECON-FDBK) FOR TYPICAL DRY BULB CONTROL. THE BMS WILL GENERATE THE FAULTS AS PER THE T24 CODE AND DISPLAY THEM AS AN ALARM AT THE OWS. THE FAULTS ARE TO BE 1. AIR TEMPERATURE SENSOR FAILURE/FAULT 2. NOT ECONOMIZING WHEN IT SHOULD 3. ECONOMIZING WHEN IT SHOULD NOT 4. DAMPERS NOT MODULATING 5. EXCESS OUTDOOR AIR. THE ECONOMIZER WILL BE ENABLED WHENEVER THE OAT IS LOWER THAN THE ECON ENABLE SET POINT.

MINIMUM OUTSIDE AIR VENTILATION:
DURING OCCUPIED MODE OR AFTERHOURS MODE, THE ECONOMIZER DAMPER SHALL BE COMMANDED BY THE EMS UNITARY CONTROLLER TO MAINTAIN A POSITION WHICH SATISFIES THE MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS FOR THE ZONE. DAMPER POSITION(S) DETERMINED BY AIR BALANCING CONTRACTOR.

TEMPERATURE CONTROL:
THE UNIT WILL CONTROL TO MAINTAIN THE LOCALLY ADJUSTABLE ZONE TEMPERATURE SETPOINT (ZN-SP) (WC-ADJ) AS SENSED BY THE ZONE TEMPERATURE (ZN-T) SENSOR.

OCCUPIED MODE:
THE OCCUPANCY MODE WILL BE CONTROLLED VIA A NETWORK INPUT (OCC-SCHEDULE). THE OCCUPANCY MODE CAN ALSO BE OVERRIDDEN BY A NETWORK INPUT (OCC-OVERRIDE). IT CAN ALSO BE OVERRIDDEN BY A TEMPORARY OCCUPANCY BUTTON (OCC-OVR) ON THE ZONE SENSOR WILL PLACE THE UNIT IN OCCUPIED MODE FOR AN ADJUSTABLE TIME - USER ADJUSTABLE INITIALLY SET FOR 2 HOURS. WHEN IN OCCUPIED MODE THE FAN FAN WILL RUN CONTINUOUSLY.

OCCUPANCY MONITORING:
ZONE OCCUPANCY WILL BE MONITORED BY CONNECTION TO LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR(S). IF AVAILABLE, MONITORING SHALL BE ACCOMPLISHED VIA BACNET SYSTEM INTEGRATION. OTHERWISE, BAS CONTRACTOR SHALL MONITOR AUXILIARY CONTACTS ON LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR(S).

UNOCCUPIED MODE:
THE UNIT WILL CYCLE TO MAINTAIN UNOCCUPIED ZONE SETPOINTS (CLGUNOCC-SP & HTGUNOCC-SP) DURING UNOCCUPIED PERIODS. THE FAN WILL ONLY BE ON WHEN THERE IS A CALL FOR COOLING OR HEATING AND A COMPRESSOR OR HEATER IS ENABLED. THE FAN WILL BE OFF AT ALL OTHER TIMES. IF IN "UNOCCUPIED" MODE THE OCC SENSOR (ZN-OCC) SENSES OCCUPANCY FOR A CONTINUOUS 10 MIN - THE UNIT SHALL OPERATE IN "OCCUPIED MODE" FOR A PERIOD OF 1 HOUR.

COOLING COIL:
THE COOLING COIL (CLGX-C) WILL BE STAGED IN SEQUENCE TO MAINTAIN THE TEMPERATURE SETPOINT INITIALLY SET AT 73 AND VARIABLE AT THE ZONE FROM 73-77.

HEAT PUMP CONTROL:
WHEN THE ZONE TEMPERATURE (ZN-T) FALLS BELOW THE ZONE TEMPERATURE SETPOINT (ZN-SP) THE REVERSING VALVE (S) (REV-C) WILL BE INDEXED TO PROVIDE HEATING WHEN THE COMPRESSOR IS RUNNING. WHEN THE ZONE TEMPERATURE (ZN-T) RISES ABOVE THE ZONE TEMPERATURE SETPOINT (ZN-SP) THE REVERSING VALVE (S) (REV-C) WILL BE INDEXED TO PROVIDE COOLING WHEN THE COMPRESSOR IS RUNNING.

HEAT PUMP HEATING:
THE REHEAT COIL (HTGX-C) WILL BE STAGED IN SEQUENCE TO MAINTAIN THE TEMPERATURE SETPOINT INITIALLY SET AT 69 AND VARIABLE AT THE ZONE FROM 65-69. IF THE UNIT IS SUPPLIED WITH KW HEAT STRIPS IT WILL CONTROL THEM PER THE MANUFACTURE SOO FOR DEFROST OR SUPPLEMENTAL HEAT TO MEET HEATING REQUESTS FROM THE BMS.

UNOCCUPIED SETPOINTS:
WHEN UNOCCUPIED THE COOLING SET POINT IS 90F (FIXED VALUE WITH NO RANGE, USER ADJUSTABLE)
WHEN UNOCCUPIED THE HEATING SET POINT IS 50F (FIXED VALUE WITH NO RANGE, USER ADJUSTABLE)

OCCUPIED STANDBY MODE:
THE BMS SYSTEM SHALL MONITOR ZONE OCCUPANCY (ZN-OCC) VIA A BMS PROVIDED CEILING MOUNT OCC SENSOR. WHEN IN OCCUPIED MODE - IF THE OCC SENSORS GOES DORMANT FOR A PERIOD OF 5 MIN, THE UNIT SHALL SWITCH TO "OCCUPIED STANDBY" CONTROL AND RESET THE ZONE TEMPERATURE SETPOINTS UP AND DOWN BY 2F FOR SINGLE ZONE SYSTEMS AND 0.5F FOR VAV SYSTEMS. ADDITIONALLY, DURING OCCUPIED STANBY MODE, WHEN THE SPACE TEMPERATURE SET POINT IS SATISFIED, THE FAN WILL SHUT OFF. IF THE OCC SENSOR SENSES OCCUPANCY DURING OCCUPIED MODE - IT WILL IMMEDIATELY REVERT TO STANDARD "OCCUPIED" MODE SET POINTS AND FAN OPERATION.

MINIMUM OUTDOOR AIR VENTIATION REQUIREMENTS IN THE ZONE NEED ONLY BE MAINTAINED 15 MINUTES OUT OF EVERY 60 MINUTES WHILE THE ZONE IS IN VACANT MODE.

ZONE PRESSURE CONTROL
THE AC UNITS ARE EQUIPPED WITH A MODULATING POWER EXHAUST ECONOMIZER. THE MODULATING POWER EXHAUST ECONOMIZER WITH FACTORY PROVIDED CONTROLLER WILL MODULATE THE EXHAUST FAN TO MAINTAIN THE ZONE PRESSURE SETPOINT. THE CONTROLS CONTRACTOR IS TO RUN THE PRESSURE TUBING TO ENSURE FACTORY PROVIDED MODULATING POWER EXHAUST CONTROLLER IS READING ACCURATE VALUES.

LOAD SHED PROGRAM:
THE AC UNIT WILL BE PART OF THE UTILITY LOAD SHED PROGRAM. WHENEVER THE UTILITY COMPANY SENDS THE NETWORK LEVEL COMMAND TO SHED LOAD, THE BMS WILL RESET THE ZONE COOLING SET POINT UP BY 2F WHILE MAINTAINING THE SAME RANGE FOR WARM COOL ADJUST (IE - FROM 75-79F). THIS LOAD SHED EVENT WILL CONTINUE UNTIL THE UTILITY RELEASES THE LOAD SHED EVENT COMMAND. WHEN THE UTILITY RELEASES THE LOAD SHED EVENT, THE BMS WILL REVERT TO NORMAL SET POINTS 5 UNITS AT A TIME PER SITE EVERY 3 MIN UNTIL 100% OF THE UNITS ARE BACK AT THE NORMAL SET POINT.

CO2 MONITORING
THE BMS WILL MONITOR A ZONE CO2 SENSOR (ZN-CO2) TO MONITOR ZONE CO2 CONCENTRATION
WHEN THE CO2 LEVEL IN THE SPACE IS BELOW 1000 PPM (ADJ.) OUTSIDE AIR DAMPER SHALL BE SET TO THE "LOWER MIN." POSITION AS SCHEDULED ON SHEET M0.02. WHEN THE CO2 LEVEL IN THE SPACE IS ABOVE 1000 PPM (ADJ.), OUTSIDE AIR DAMPER SHALL BE SET TO THE "UPPER MIN." POSITION AS SCHEDULED. OUTSIDE DAMPER SHALL REMAIN AT THE "UPPER MIN." POSITION UNTIL CO2 LEVEL HAS DROPPED BELOW 1000 PPM (ADJ.) AND WILL THEN RETURN TO THE "LOWER MIN" POSITION.

HEATING/COOLING MANUAL PID LOOP CONTROL:
JCI WILL DISABLE AUTOMATIC PID LOOP TUNING AND STAGE COOLING/HEATING PER THE FOLLOWING LOGIC. WHEN THE PID LOOP REACHES A 5% COOLING OR HEATING DEMAND THEN STAGE ONE OF COOLING OR HEATING WILL BE ENABLED. WHEN THE PID LOOP REACHES A 95% DEMAND THEN STAGE TWO WILL BE ENABLED. WHEN THE PID LOOP DROPS BELOW 95% THE SECOND STAGE WILL BE DISABLED AND WHEN IT DROPS BELOW 5% THE FIRST STAGE WILL BE DISABLED. THE MANUFACTURES UNIT CONTROLLER WILL ENSURE MINIMUM RUN TIMES ARE MET FOR HEATING AND COOLING.

OPTIMIZED START/STOP:
JCI WILL LEVERAGE THE JCI STANDARD OPTIMIZED START/STOP LOGIC BLOCK TO PROVIDE MICRO-ADJUSTMENTS TO THE UNIT ENABLE COMMAND IN THE MORNING AND DISABLE IN THE EVENING. LEVERAGING GLOBAL OUTSIDE AIR TEMP, ZONE TEMP, ZONE SET POINT AND SCHEDULE THE BMS WILL ENABLE/DISABLE UNIT AT DIFFERENT TIMES EACH DAY TO HIT THE SETPOINTS WHEN THE SCHEDULE SWITCHES FROM OCCUPIED TO UNOCCUPIED OR VISA VERSA.

ALARMS
THE BMS SYSTEM SHALL GENERATE AN ALARM IF:
-THE ZONE TEMPERATURE IS 6 DEGREES AWAY FROM SET POINT.
-THE FAN COMMAND DOES NOT MATCH ITS STATUS
-THE COOLING COMMAND DOES NOT MATCH ITS STATUS

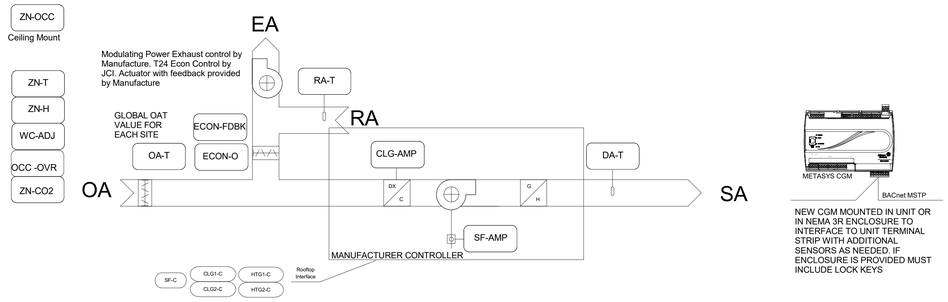
THE BMS WILL DISABLE ALL ALARMS DURING UNOCCUPIED MODE.

ADDITIONAL POINTS MONITORED BY THE FMS:
SUPPLY FAN AMPERAGE (SF-AMP)
DISCHARGE AIR TEMPERATURE (DA-T)
COMPRESSOR AMPERAGE (CLG-AMP)
RETURN AIR TEMPERATURE SENSOR (RA-T)
ECONOMIZER POSITION FEEDBACK (ECON-FDBK)
RUN TIME METER ON FAN, COMPRESSOR, AND HEAT

PACKAGED ROOFTOP AC UNIT W/ DCV CONTROL DIAGRAM

SCALE : NONE

2
M6.02



BMS CONTROLS SHALL BE OWNER FURNISHED, OWNER INSTALLED (OFCI). CONTROL DIAGRAMS ARE PROVIDED FOR COORDINATION BETWEEN CONTRACTOR AND BMS INSTALLER.

SUPPLY FAN CONTROL:
THE SUPPLY FAN (SF-C) WILL BE STARTED BASED ON OCCUPANCY SCHEDULE. WHEN THE SUPPLY FAN STATUS (SF-AMP) INDICATES THE FAN STARTED, THE CONTROL SEQUENCE WILL BE ENABLED. UPON A LOSS OF AIRFLOW (SF-AMP), THE SUPPLY FAN WILL ATTEMPT TO AUTOMATICALLY RESTART UNTIL POSITIVE STATUS IS RECEIVED.

SINGLE ZONE VAV CONTROL
UPON A CALL FOR COOLING - THE MANUFACTURE CONTROL BOARD SHALL STAGE THE SUPPLY FAN IN SEQUENCE WITH THE COOLING PER THE SINGLE ZONE VAV GUIDELINES IN ASHRAE 90.1

ECONOMIZER CONTROL:
THE BMS CONTRACTOR SHALL PROVIDE THE TITLE 24 FDD ECONOMIZER CONTROL WITH ASSOCIATED SENSORS AND LOGIC FOR A FUNCTIONAL SYSTEM. THIS INCLUDES GLOBAL OUTSIDE AIR TEMP (OA-T, UNIQUE TO THE SITE), RETURN AIR TEMP (RA-T), DISCHARGE AIR TEMP (DA-T) AND A DAMPER ACTUATOR/COMMAND (ECON-O) AND DAMPER ACTUATOR FEEDBACK (ECON-FDBK) FOR TYPICAL DRY BULB CONTROL. THE BMS WILL GENERATE THE FAULTS AS PER THE T24 CODE AND DISPLAY THEM AS AN ALARM AT THE OWS. THE FAULTS ARE TO BE 1. AIR TEMPERATURE SENSOR FAILURE/FAULT 2. NOT ECONOMIZING WHEN IT SHOULD 3. ECONOMIZING WHEN IT SHOULD NOT 4. DAMPERS NOT MODULATING 5. EXCESS OUTDOOR AIR. THE ECONOMIZER WILL BE ENABLED WHENEVER THE OAT IS LOWER THAN THE ECON ENABLE SET POINT.

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LOAD SHED PROGRAM:
THE AC UNIT WILL BE PART OF THE UTILITY LOAD SHED PROGRAM. WHENEVER THE UTILITY COMPANY SENDS THE NETWORK LEVEL COMMAND TO SHED LOAD, THE BMS WILL RESET THE ZONE COOLING SET POINT UP BY 2F WHILE MAINTAINING THE SAME RANGE FOR WARM COOL ADJUST (IE - FROM 75-79F). THIS LOAD SHED EVENT WILL CONTINUE UNTIL THE UTILITY RELEASES THE LOAD SHED EVENT COMMAND. WHEN THE UTILITY RELEASES THE LOAD SHED EVENT, THE BMS WILL REVERT TO NORMAL SET POINTS 5 UNITS AT A TIME PER SITE EVERY 3 MIN UNTIL 100% OF THE UNITS ARE BACK AT THE NORMAL SET POINT.

CO2 MONITORING
THE BMS WILL MONITOR A ZONE CO2 SENSOR (ZN-CO2) AND PROVIDE AN ALARM AT THE OWS WHEN THE ZONE CO2 VALUE EXCEEDS 1,100 PPM.

HEATING/COOLING MANUAL PID LOOP CONTROL:
JCI WILL DISABLE AUTOMATIC PID LOOP TUNING AND STAGE COOLING/HEATING PER THE FOLLOWING LOGIC. WHEN THE PID LOOP REACHES A 5% COOLING OR HEATING DEMAND THEN STAGE ONE OF COOLING OR HEATING WILL BE ENABLED. WHEN THE PID LOOP REACHES A 95% DEMAND THEN STAGE TWO WILL BE ENABLED. WHEN THE PID LOOP DROPS BELOW 95% THE SECOND STAGE WILL BE DISABLED AND WHEN IT DROPS BELOW 5% THE FIRST STAGE WILL BE DISABLED. THE MANUFACTURES UNIT CONTROLLER WILL ENSURE MINIMUM RUN TIMES ARE MET FOR HEATING AND COOLING.

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ALARMS
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-THE COOLING COMMAND DOES NOT MATCH ITS STATUS

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ADDITIONAL POINTS MONITORED BY THE FMS:
SUPPLY FAN AMPERAGE (SF-AMP)
DISCHARGE AIR TEMPERATURE (DA-T)
COMPRESSOR AMPERAGE (CLG-AMP)
RETURN AIR TEMPERATURE SENSOR (RA-T)
ZONE CO2 - (ZN-CO2)
ECONOMIZER POSITION FEEDBACK (ECON-FDBK)
RUN TIME METER ON FAN, COMPRESSOR, AND HEAT

PACKAGED ROOFTOP AC UNIT CONTROL DIAGRAM

SCALE : NONE

1
M6.02

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San Jose, CA 95113
tel: (408)-300-5160
fax: (408)-300-5121

PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA

RC - ED/G/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER
RYAN CELAYA
M 34234
EXPIRES 12/31/26
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: _____

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

MECHANICAL DETAILS & CONTROLS

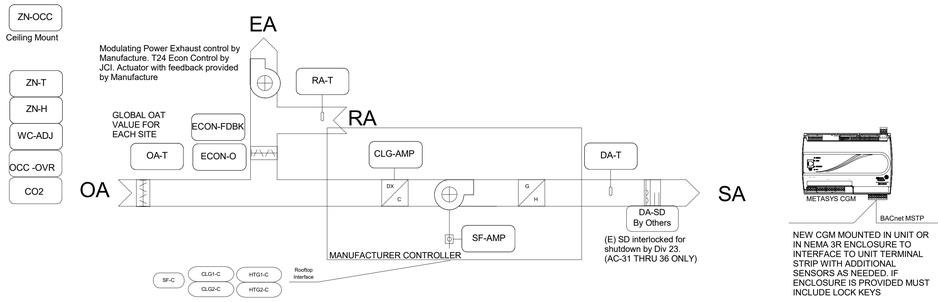
DATE 06.01.2026

JOB # 2025014

SHEET # AD3- M6.02

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BMS CONTROLS SHALL BE OWNER FURNISHED, OWNER INSTALLED (OFCI). CONTROL DIAGRAMS ARE PROVIDED FOR COORDINATION BETWEEN CONTRACTOR AND BMS INSTALLER.

SUPPLY FAN CONTROL:
THE SUPPLY FAN (SF-C) WILL BE STARTED BASED ON OCCUPANCY SCHEDULE. WHEN THE SUPPLY FAN STATUS (SF-AMP) INDICATES THE FAN STARTED, THE CONTROL SEQUENCE WILL BE ENABLED. UPON A LOSS OF AIRFLOW (SF-AMP), THE SUPPLY FAN WILL ATTEMPT TO AUTOMATICALLY RESTART UNTIL POSITIVE STATUS IS RECEIVED.

SINGLE ZONE VAV CONTROL:
UPON A CALL FOR COOLING - THE MANUFACTURE CONTROL BOARD SHALL STAGE THE SUPPLY FAN IN SEQUENCE WITH THE COOLING PER THE SINGLE ZONE VAV GUIDELINES IN ASHRAE 90.1

ECONOMIZER CONTROL:
THE BMS CONTRACTOR SHALL PROVIDE THE TITLE 24 FDD ECONOMIZER CONTROL WITH ASSOCIATED SENSORS AND LOGIC FOR A FUNCTIONAL SYSTEM. THIS INCLUDES GLOBAL OUTSIDE AIR TEMP (OA-T, UNIQUE TO THE SITE), RETURN AIR TEMP (RA-T), DISCHARGE AIR TEMP (DA-T) AND A DAMPER ACTUATOR/COMMAND (ECON-O) AND DAMPER ACTUATOR FEEDBACK (ECON-FDBK) FOR TYPICAL DRY BULB CONTROL. THE BMS WILL GENERATE THE FAULTS AS PER THE T24 CODE AND DISPLAY THEM AS AN ALARM AT THE OWS. THE FAULTS ARE TO BE 1. AIR TEMPERATURE SENSOR FAILURE/FAULT 2. NOT ECONOMIZING WHEN IT SHOULD 3. ECONOMIZING WHEN IT SHOULD NOT 4. DAMPERS NOT MODULATING 5. EXCESS OUTDOOR AIR. THE ECONOMIZER WILL BE ENABLED WHENEVER THE OAT IS LOWER THAN THE ECON ENABLE SET POINT.

MINIMUM OUTSIDE AIR VENTILATION:
DURING OCCUPIED MODE OR AFTERHOURS MODE, THE ECONOMIZER DAMPER SHALL BE COMMANDED BY THE EMS UNITARY CONTROLLER TO MAINTAIN A POSITION WHICH SATISFIES THE MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS FOR THE ZONE. DAMPER POSITION(S) DETERMINED BY AIR BALANCING CONTRACTOR. WHEN SUPPLY FAN SPEED IS LESS THAN 100% THE BMS UNITARY CONTROLLER SHALL MODULATE THE ECONOMIZER DAMPER OPEN FURTHER, SO AS TO MAINTAIN MINIMUM OUTDOOR AIR VENTILATION REQUIREMENTS. TAB AND BMS CONTRACTORS SHALL WORK IN CONCERT TO DETERMINE THE FOLLOWING MINIMUM OUTSIDE AIR DAMPER POSITION SETTINGS, AS SCHEDULED BELOW:

- LOWER OSA CFM AT LOW SUPPLY FAN SPEED.
- LOWER OSA CFM AT HIGH SUPPLY FAN SPEED.
- UPPER OSA CFM AT LOW SUPPLY FAN SPEED.
- UPPER OSA CFM AT HIGH SUPPLY FAN SPEED.

TEMPERATURE CONTROL:
THE UNIT WILL CONTROL TO MAINTAIN THE LOCALLY ADJUSTABLE ZONE TEMPERATURE SETPOINT (ZN-SP) (WC-ADJ) AS SENSED BY THE ZONE TEMPERATURE (ZN-T) SENSOR.

OCCUPIED MODE:
THE OCCUPANCY MODE WILL BE CONTROLLED VIA A NETWORK INPUT (OCC-SCHEDULE). THE OCCUPANCY MODE CAN ALSO BE OVERRIDDEN BY A NETWORK INPUT (OCC-OVERRIDE). IT CAN ALSO BE OVERRIDDEN BY A TEMPORARY OCCUPANCY BUTTON (OCC-OVR) ON THE ZONE SENSOR WILL PLACE THE UNIT IN OCCUPIED MODE FOR AN ADJUSTABLE TIME - USER ADJUSTABLE INITIALLY SET FOR 2 HOURS. WHEN IN OCCUPIED MODE THE FAN FAN WILL RUN CONTINUOUSLY.

OCCUPANCY MONITORING:
ZONE OCCUPANCY WILL BE MONITORED BY CONNECTION TO LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR(S). IF AVAILABLE, MONITORING SHALL BE ACCOMPLISHED VIA BACNET SYSTEM INTEGRATION. OTHERWISE, BAS CONTRACTOR SHALL MONITOR AUXILIARY CONTACTS ON LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR(S).

UNOCCUPIED MODE:
THE UNIT WILL CYCLE TO MAINTAIN UNOCCUPIED ZONE SETPOINTS (CLGUNOCC-SP & HTGUNOCC-SP) DURING UNOCCUPIED PERIODS. THE FAN WILL ONLY BE ON WHEN THERE IS A CALL FOR COOLING OR HEATING AND A COMPRESSOR OR HEATER IS ENABLED. THE FAN WILL BE OFF AT ALL OTHER TIMES. IF IN "UNOCCUPIED" MODE THE OCC SENSOR (ZN-OCC) SENSES OCCUPANCY FOR A CONTINUOUS 10 MIN - THE UNIT SHALL OPERATE IN "OCCUPIED MODE" FOR A PERIOD OF 1 HOUR.

COOLING COIL:
THE COOLING COIL (CLGX-C) WILL BE STAGED IN SEQUENCE TO MAINTAIN THE TEMPERATURE SETPOINT INITIALLY SET AT 73 AND VARIABLE AT THE ZONE FROM 73-77.

HEAT PUMP CONTROL:
WHEN THE ZONE TEMPERATURE (ZN-T) FALLS BELOW THE ZONE TEMPERATURE SETPOINT (ZN-SP) THE REVERSING VALVE (S) (REV-C) WILL BE INDEXED TO PROVIDE HEATING WHEN THE COMPRESSOR IS RUNNING. WHEN THE ZONE TEMPERATURE (ZN-T) RISES ABOVE THE ZONE TEMPERATURE SETPOINT (ZN-SP) THE REVERSING VALVE (S) (REV-C) WILL BE INDEXED TO PROVIDE COOLING WHEN THE COMPRESSOR IS RUNNING.

HEAT PUMP HEATING:
THE REHEAT COIL (HTGX-C) WILL BE STAGED IN SEQUENCE TO MAINTAIN THE TEMPERATURE SETPOINT INITIALLY SET AT 69 AND VARIABLE AT THE ZONE FROM 65-69. IF THE UNIT IS SUPPLIED WITH KW HEAT STRIPS IT WILL CONTROL THEM PER THE MANUFACTURE SOO FOR DEFROST OR SUPPLEMENTAL HEAT TO MEET HEATING REQUESTS FROM THE BMS.

UNOCCUPIED SETPOINTS:
WHEN UNOCCUPIED THE COOLING SET POINT IS 90F (FIXED VALUE WITH NO RANGE, USER ADJUSTABLE)
WHEN UNOCCUPIED THE HEATING SET POINT IS 50F (FIXED VALUE WITH NO RANGE, USER ADJUSTABLE)

OCCUPIED STANDBY MODE:
THE BMS SYSTEM SHALL MONITOR ZONE OCCUPANCY (ZN-OCC) VIA A BMS PROVIDED CEILING MOUNT OCC SENSOR. WHEN IN OCCUPIED MODE - IF THE OCC SENSORS GOES DORMANT FOR A PERIOD OF 5 MIN, THE UNIT SHALL SWITCH TO "OCCUPIED STANDBY" CONTROL AND RESET THE ZONE TEMPERATURE SETPOINTS UP AND DOWN BY 2F FOR SINGLE ZONE SYSTEMS AND 0.5F FOR VAV SYSTEMS. ADDITIONALLY, DURING OCCUPIED STANBY MODE, WHEN THE SPACE TEMPERATURE SET POINT IS SATISFIED, THE FAN WILL SHUT OFF. IF THE OCC SENSOR SENSES OCCUPANCY DURING OCCUPIED MODE - IT WILL IMMEDIATELY REVERT TO STANDARD "OCCUPIED" MODE SET POINTS AND FAN OPERATION.

MINIMUM OUTDOOR AIR VENTIATION REQUIREMENTS IN THE ZONE NEED ONLY BE MAINTAINED 15 MINUTES OUT OF EVERY 60 MINUTES WHILE THE ZONE IS IN VACANT MODE.

ZONE PRESSURE CONTROL
THE AC UNITS ARE EQUIPPED WITH A MODULATING POWER EXHAUST ECONOMIZER. THE MODULATING POWER EXHAUST ECONOMIZER WITH FACTORY PROVIDED CONTROLLER WILL MODULATE THE EXHAUST FAN TO MAINTAIN THE ZONE PRESSURE SETPOINT. THE CONTROLS CONTRACTOR IS TO RUN THE PRESSURE TUBING TO ENSURE FACTORY PROVIDED MODULATING POWER EXHAUST CONTROLLER IS READING ACCURATE VALUES.

LOAD SHED PROGRAM:
THE AC UNIT WILL BE PART OF THE UTILITY LOAD SHED PROGRAM. WHENEVER THE UTILITY COMPANY SENDS THE NETWORK LEVEL COMMAND TO SHED LOAD, THE BMS WILL RESET THE ZONE COOLING SET POINT UP BY 2F WHILE MAINTAINING THE SAME RANGE FOR WARM COOL ADJUST (IE - FROM 75-79F). THIS LOAD SHED EVENT WILL CONTINUE UNTIL THE UTILITY RELEASES THE LOAD SHED EVENT COMMAND. WHEN THE UTILITY RELEASES THE LOAD SHED EVENT, THE BMS WILL REVERT TO NORMAL SET POINTS 5 UNITS AT A TIME PER SITE EVERY 3 MIN UNTIL 100% OF THE UNITS ARE BACK AT THE NORMAL SET POINT.

CO2 MONITORING
THE BMS WILL MONITOR A ZONE CO2 SENSOR (ZN-CO2) TO MONITOR ZONE CO2 CONCENTRATION
WHEN THE CO2 LEVEL IN THE SPACE IS BELOW 1000 PPM (ADJ.) OUTSIDE AIR DAMPER SHALL BE SET TO THE "LOWER MIN." POSITION AS SCHEDULED ON SHEET M0.02. WHEN THE CO2 LEVEL IN THE SPACE IS ABOVE 1000 PPM (ADJ.), OUTSIDE AIR DAMPER SHALL BE SET TO THE "UPPER MIN." POSITION AS SCHEDULED. OUTSIDE DAMPER SHALL REMAIN AT THE "UPPER MIN." POSITION UNTIL CO2 LEVEL HAS DROPPED BELOW 1000 PPM (ADJ.) AND WILL THEN RETURN TO THE "LOWER MIN" POSITION.

HEATING/COOLING MANUAL PID LOOP CONTROL:
JCI WILL DISABLE AUTOMATIC PID LOOP TUNING AND STAGE COOLING/HEATING PER THE FOLLOWING LOGIC. WHEN THE PID LOOP REACHES A 5% COOLING OR HEATING DEMAND THEN STAGE ONE OF COOLING OR HEATING WILL BE ENABLED. WHEN THE PID LOOP REACHES A 95% DEMAND THEN STAGE TWO WILL BE ENABLED. WHEN THE PID LOOP DROPS BELOW 95% THE SECOND STAGE WILL BE DISABLED AND WHEN IT DROPS BELOW 5% THE FIRST STAGE WILL BE DISABLED. THE MANUFACTURES UNIT CONTROLLER WILL ENSURE MINIMUM RUN TIMES ARE MET FOR HEATING AND COOLING.

OPTIMIZED START/STOP:
JCI WILL LEVERAGE THE JCI STANDARD OPTIMIZED START/STOP LOGIC BLOCK TO PROVIDE MICRO-ADJUSTMENTS TO THE UNIT ENABLE COMMAND IN THE MORNING AND DISABLE IN THE EVENING. LEVERAGING GLOBAL OUTSIDE AIR TEMP, ZONE TEMP, ZONE SET POINT AND SCHEDULE THE BMS WILL ENABLE/DISABLE UNIT AT DIFFERENT TIMES EACH DAY TO HIT THE SETPOINTS WHEN THE SCHEDULE SWITCHES FROM OCCUPIED TO UNOCCUPIED OR VISA VERSA.

DUCT SMOKE DETECTOR (AC-31 THRU 36 ONLY):
WHEN PARTICLES OF COMBUSTION ARE DETECTED IN THE SUPPLY AIR STREAM BY THE (E) DUCT SMOKE DETECTOR, THE AC UNIT SHALL SHUT DOWN VIA HARDWIRE INTERLOCK.

ALARMS
THE BMS SYSTEM SHALL GENERATE AN ALARM IF:
-THE ZONE TEMPERATURE IS 6 DEGREES AWAY FROM SET POINT.
-THE FAN COMMAND DOES NOT MATCH ITS STATUS
-THE COOLING COMMAND DOES NOT MATCH ITS STATUS

THE BMS WILL DISABLE ALL ALARMS DURING UNOCCUPIED MODE.

ADDITIONAL POINTS MONITORED BY THE FMS:
SUPPLY FAN AMPERAGE (SF-AMP)
DISCHARGE AIR TEMPERATURE (DA-T)
COMPRESSOR AMPERAGE (CLG-AMP)
RETURN AIR TEMPERATURE SENSOR (RA-T)
ECONOMIZER POSITION FEEDBACK (ECON-FDBK)
RUN TIME METER ON FAN, COMPRESSOR, AND HEAT

SINGLE ZONE VAV PACKAGED ROOFTOP AC UNIT W/ DCV CONTROL DIAGRAM

1
M6.03

SCALE : NONE

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PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA
RC - ED/G/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER
RYAN CELAYA
M 34234
EXPIRES 12/31/26
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: _____

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

MECHANICAL DETAILS & CONTROLS

DATE 06.01.2026

JOB # 2025014

SHEET # M6.03

5/8/2026 10:36 AM

C

PLUMBING FIXTURE SPECIFICATION & CONNECTION SCHEDULE

C ACCESSIBLE	SYMBOL	FIXTURE	FIXTURE MANUFACTURER AND MODEL No.	FAUCET OR VALVE MANUFACTURER AND MODEL No.	TRIM MANUFACTURER AND MODEL No.	REMARKS	VENT	WASTE		COLD WATER		HOT WATER	
								BRANCH	OUTLET	BRANCH	OUTLET	BRANCH	OUTLET
	WC-1	WATER CLOSET WALL MOUNTED FLUSH VALVE ACCESSIBLE	"ZURN" HET NO. Z5615-BWL, 1.28 GPF WALL HUNG, VITREOUS CHINA, ELONGATED, SIPHON JET ACTION, 1-1/2" TOP SPUD.	"SLOAN" REGAL 111-XL 1.28, ADA COMPLIANT, 1.28 GPF (MANUAL)	SEAT: "ZURN" MODEL Z5955SS-EL-AM-STS OR "CHURCH" MODEL 295SSCT. PROVIDE WITH SELF- SUSTAINING CONCEALED CHECK HINGES, ONE PIECE STAINLESS STEEL POST HINGES, WHITE COLOR. CARRIER: "J.R. SMITH" 100 OR 200 SERIES OR "ZURN" Z1203 AND Z1204 SERIES PROVIDE REAR SUPPORT LUG AND ANCHOR FOOT ASSEMBLY.	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. WHERE USED FOR CBC ACCESSIBLE WATER CLOSETS, THE FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE WATER CLOSET ENCLOSURE.	2"	4"	4"	1-1/4"	1"	--	--
	WC-2	WATER CLOSET WALL MOUNTED FLUSH VALVE STANDARD	"ZURN" HET NO. Z5615-BWL, 1.28 GPF WALL HUNG, VITREOUS CHINA, ELONGATED, SIPHON JET ACTION, 1-1/2" TOP SPUD.	"SLOAN" REGAL 111-XL 1.28, 1.28 GPF (MANUAL) C	SEAT: "ZURN" MODEL Z5955SS-EL-AM-STS OR "CHURCH" MODEL 295SSCT. PROVIDE WITH SELF- SUSTAINING CONCEALED CHECK HINGES, ONE PIECE STAINLESS STEEL POST HINGES, WHITE COLOR. CARRIER: "J.R. SMITH" 100 OR 200 SERIES OR "ZURN" Z1203 AND Z1204 SERIES PROVIDE REAR SUPPORT LUG AND ANCHOR FOOT ASSEMBLY.	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. WHERE USED FOR CBC ACCESSIBLE WATER CLOSETS, THE FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE WATER CLOSET ENCLOSURE.	2"	4"	4"	1-1/4"	1"	--	--
	UR-1	URINAL WALL MOUNTED FLUSH VALVE ACCESSIBLE	"ZURN" OMNI-FLO NO. Z5755-U, 0.125 GPF WALL HUNG, VITREOUS CHINA, SIPHON JET ACTION. 3/4" TOP SPUD, 2" THREADED OUTLET.	"SLOAN" REGAL 186-0.125-XL, 0.125 GPF (MANUAL) POLISHED CHROME	CARRIER: "ZURN" Z1222 OR EQUAL	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS.	1 1/2"	2"	2"	1-1/2"	3/4"	--	--
	L-1	LAVATORY WALL MOUNTED HOT AND COLD WATER STD/ACCESSIBLE	"ZURN" NO. Z5344, WALL HUNG, VITREOUS CHINA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FRONT OVERFLOW, CONCEALED ARM RECESS, 4" CENTERS, 20" x 18" D SHAPED BOWL.	"ZURN" Z86500-XL-3M, COLOR CODED METERING HANDLE, 4" LONG LAVATORY FAUCET, CHROME PLATED SOLID BRASS CONSTRUCTION, 0.5 GPM MAX AERATOR, ADA COMPLIANT.	ADA COMPLIANT. LAVATORY GRID DRAIN WITH 1-1/4" OFFSET TAILPIECE, INTEGRAL PERFORATED GRID NO. 7723.018, CHROME FINISH. MOUNT P-TRAP FLUSH TO WALL. CARRIER: "ZURN" Z1231 OR EQUAL	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONCEALED ARMS AND FLOOR SUPPORT, WITH FEET OF SUPPORT SECURELY ANCHORED TO FLOOR. IN ADDITION ANCHOR TOP OF SUPPORT TO WALL CONSTRUCTION.	1 1/2"	2"	1 1/2"	3/4"	1/2"	3/4"	1/2"
	L-2	LAVATORY WALL MOUNTED COLD WATER STD/ACCESSIBLE	"ZURN" NO. Z5340, WALL HUNG, VITREOUS CHINA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FRONT OVERFLOW, CONCEALED ARM RECESS, 4" CENTERS, 20" x 18" D SHAPED BOWL.	"CHICAGO" 857-E2805-665PSHAB TAPERED HANDLE FAUCET, PUSH-BUTTON TYPE. MODEL E2805 VANDAL RESISTANT ECONO-FLO SPRAY OUTLET, 0.5 GPM FLOW RESTRICTOR. ADA COMPLIANT	ADA COMPLIANT. LAVATORY GRID DRAIN WITH 1-1/4" OFFSET TAILPIECE, INTEGRAL PERFORATED GRID NO. 7723.018, CHROME FINISH. MOUNT P-TRAP FLUSH TO WALL. CARRIER: "ZURN" Z1231 OR EQUAL	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONCEALED ARMS AND FLOOR SUPPORT, WITH FEET OF SUPPORT SECURELY ANCHORED TO FLOOR. IN ADDITION ANCHOR TOP OF SUPPORT TO WALL CONSTRUCTION.	1-1/2"	2"	1-1/2"	3/4"	1/2"	-	-
	DF-1	DRINKING FOUNTAIN WALL MOUNTED STD/ACCESSIBLE DUAL HEIGHT W/BOTTLE FILLER	"ELKAY" MODEL LVRCTLDDMWSK, STAINLESS STEEL DUAL HEIGHT, WALL MOUNTED STAINLESS STEEL BACK PANEL. WITH BOTTLE FILLER.	INTEGRAL	WITH P-TRAP	PROVIDE MANUFACTURER'S INTERNAL SUPPORT SYSTEM. WHERE INSTALLED ON CONCRETE OR CMU WALL, PROVIDE TWO MOUNTING PLATES AND INSTALL WITH ONE PLATE ON EACH SIDE OF WALL. SET AT HEIGHT INDICATED ON ARCH DRAWINGS.	1-1/2"	2"	1-1/2"	3/4"	1/2"	-	-
	FD	FLOOR DRAIN	GENERAL SERVICE FD - ZURN MODEL Z-415, OR EQUAL, WITH TYPE "B" STRAINER FOR EXPOSED CONCRETE AND TYPE "S" STRAINER FOR TILE FLOOR. PROVIDE BRONZE TRIM. FD IN COMPOSITION TYPE FLOORS - ZURN MODEL Z-415, OR EQUAL. WITH TYPE SL STRAINER. FD IN RESINOUS/EPOXY TYPE FLOORS - ZURN MODEL Z-415BL, OR EQUAL, NICKEL BRONZE WITH ADJUSTABLE STRAINER. OTHER APPROVED EQUAL MANUFACTURERS INCLUDE: JAY R. SMITH, WATTS & MIFAB.				2"	2"	2"	-	-	-	-
	HB	HOSE BIBB	INTERIOR WALL MOUNTED - WOODFORD MODEL B65 OR EQUAL.	WITH INTEGRAL VACUUM BREAKER PROTECTED, CARTRIDGE OPERATED HOSE VALVE WITH LOCK SHIELD BONNET AND REMOVABLE KEY HANDLE.		SET HEIGHT AT 18" ABOVE FINISHED FLOOR	-	-	-	1"	3/4"	-	-
	TP	TRAP PRIMER	MIFAB "M-500" SERIES, REQUIRES 3PSI DROP TO ACTIVATE.			PROVIDE ACCESS PANEL SEE DETAIL 3/P6.01	-	-	-	1/2"	1/2"	-	-
	WHA	WATER HAMMER ARRESTOR	SEE SPECIFICATIONS ON SHEET P0.02										

GENERAL NOTES:

1. WATER SUPPLIES AND STOPS:
   - A. PROVIDE 85 PERCENT IPS RED BRASS PIPE, SECURELY ANCHORED TO BUILDING CONSTRUCTION, FOR EACH CONNECTION TO FAUCETS, STOPS, HOSE BIBBS, ETC. EACH FIXTURE, EXCEPT HOSE BIBBS, SHALL HAVE A STOP VALVE INSTALLED ON WATER SUPPLY LINES TO PERMIT REPAIRS WITHOUT SHUTTING OFF WATER MAINS.
   - B. PROVIDE ALL WATER SUPPLIES TO FIXTURES WITH COMPRESSION SHUT-OFF STOPS WITH IPS INLETS WITH THREADED BRASS NIPPLES AT PIPE CONNECTION AND LOCK SHIELD LOOSE KEY. PROVIDE COMBINATION FIXTURES WITH COMPRESSION STOP AND IPS INLET ON EACH WATER SUPPLY FITTING. PROVIDE LOOSE KEY HANDLE FOR EACH STOP.
   - C. PROVIDE 1/2 INCH RISER TUBES WITH REDUCING COUPLING FOR ALL FIXTURES, UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION SECTION 22 40 00.

2. PIPE, PLUMBING FITTINGS, FIXTURES, SOLDER AND FLUX SHALL COMPLY WITH LEAD FREE REQUIREMENTS OF THE CALIFORNIA HEALTH AND SAFETY CODE SECTION 116875. PROVIDE PRODUCTS LISTED AND LABELED AS COMPLYING WITH NSF 61, ANNEX G, OR PROVIDE OTHER EVIDENCE OF COMPLIANCE WITH THE CALIFORNIA HEALTH AND SAFETY CODE SECTION 116875. PROVIDE PRODUCT SUBMITTAL INFORMATION PROVING COMPLIANCE WITH LEAD FREE REQUIREMENTS. ALSO SEE GENERAL NOTES ON SHEET P0.1 AND SPECIFICATION SECTIONS, 22 00 50, 22 10 00 AND 22 40 00.

WATER HAMMER ARRESTOR

PDI-WH201

P.D.I. UNITS	A	B	C	D	E	F
FIXTURE UNITS	1-11	12-32	33-60	61-113	114-154	155-330
"ZURN"	#100	#200	#300	#400	#500	#600
"JR SMITH"	5005	5010	5020	5030	5040	5050

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PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA
RC - ED/G/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER
RYAN CELAYA
M 34234
EXPIRES 12/31/26
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED: _____

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

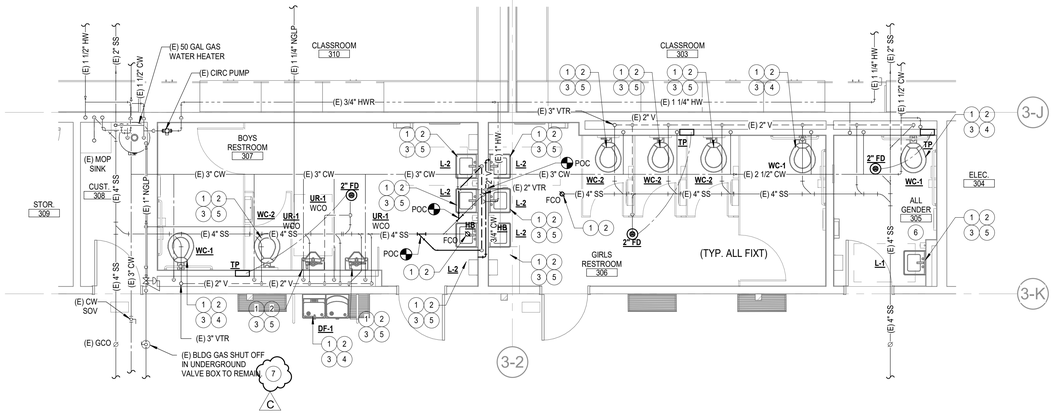
PLUMBING FIXTURE SCHEDULE

DATE 06.01.2026

JOB # 2025014

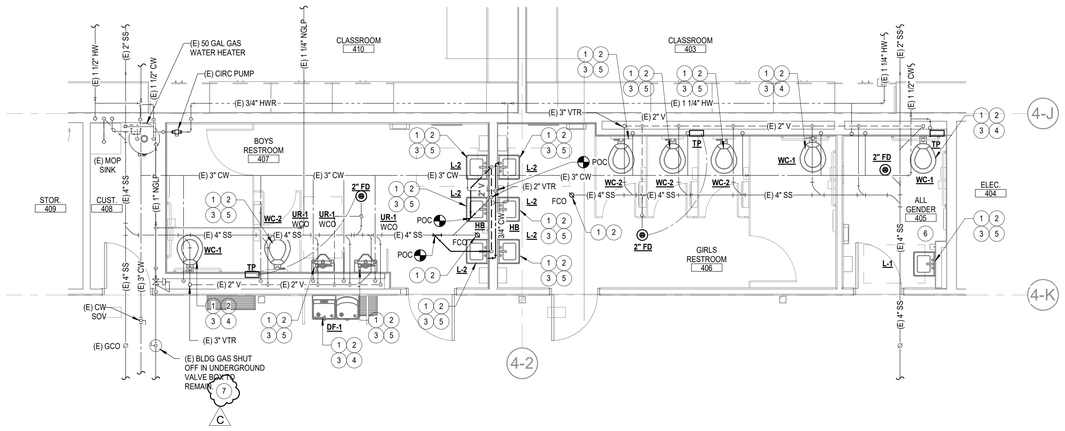
SHEET # AD3-P0.02

6/2/2026 2:28:00 PM



1 P3.02 PLUMBING - BLDG 300 - ENLARGED FLOOR PLAN

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



2 P3.02 PLUMBING - BLDG 400 - ENLARGED FLOOR PLAN

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

GENERAL SHEET NOTES

1. ANY MATERIAL REQUIRED FOR WORK NOT READILY AVAILABLE FOR PURCHASE SHALL HAVE LEAD TIME INDICATED ON THE BID AND ON THE SUBMITTALS. SUCCESSFUL PROCUREMENT OF ALL MATERIALS REQUIRED FOR THE COMPLETION OF WORK SHALL BE ASCERTAINED BY CONTRACTOR PRIOR TO SCHEDULING OF WORK.

2. EXISTING PLUMBING LAYOUT ARE BASED FROM AVAILABLE RECORD DRAWINGS OF UNKNOWN ACCURACY. ACTUAL CONDITIONS MAY BE DIFFERENT ESPECIALLY FOR THOSE WITHIN CONCEALED SPACES AND/OR UNDERGROUND. CONTRACTOR SHALL INVESTIGATE EXISTING PIPE ROUTE, ELEVATION, SIZE AND CONDITION, THRU VISUAL OBSERVATIONS, POT-HOLING, RADAR INSPECTION OR OTHER MEANS NECESSARY TO COMPLETE WORK, WELL AHEAD OF NEW PIPE INSTALLATION. SCHEDULE WORK ACCORDINGLY TO PROVIDE ENOUGH TIME TO FIND SOLUTIONS SHOULD VERIFIED INFORMATION BE DIFFERENT FROM HEREWITH. REFLECT ALL FINDINGS ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES, AND ON AS-BUILT DRAWINGS.

3. PROVIDE TEMPORARY UTILITIES TO ALL FIXTURES & EQUIPMENT TO REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.

4. COORDINATE CONSTRUCTION WORK AND SCHEDULE WITH SCHOOL DISTRICT. CONTRACTOR SHALL INCLUDE IN BID MEANS AND/OR METHODS REQUIRED FOR THE WORK INCLUDING ANY REQUIRED SERVICE SHUT DOWNS, TEMPORARY LINES, ROAD CLOSURES, SPECIAL INSPECTIONS, ETC. TO ACCOMPLISH SCOPE. SCHEDULING OF WORK SHALL BE AMICABLE BETWEEN OWNER AND CONTRACTOR.

5. CONTRACTOR SHALL FOLLOW GENERAL PIPE ROUTE AND VALVE LOCATIONS, GENERAL ORDER, ORIENTATION AND FLOW DIRECTION OF SYSTEM COMPONENTS SHOWN ON PLANS. ADJUST PIPE ELEVATIONS OR ROUTING TO AVOID STRUCTURAL COMPONENTS & OTHER BUILDING COMPONENTS WHEN POSSIBLE. IF NECESSARY & ONCE AMICABLE BETWEEN TRADES. COORDINATE ALL SHOP DRAWINGS AMONGST TRADES PRIOR TO ANY PIPE FABRICATION OR INSTALLATION.

6. CONTRACTOR SHALL PREPARE AND MAINTAIN AS-BUILT DRAWINGS OF ALL PLUMBING SYSTEMS AS INSTALLED AT THE JOB SITE, DRAWN BY CONTRACTOR OVER THE DESIGN PLANS. THEY SHALL BE READILY AVAILABLE TO VIEW & INSPECT UPON REQUEST BY PROJECT INSPECTOR, ENGINEER OR OWNER. AS-BUILTS SHALL CLEARLY SHOW CHANGES, REVISIONS, CLARIFICATIONS & SUBSTITUTIONS INSTALLED IN THE PROJECT INCLUDING BUT NOT LIMITED TO: EXACT PIPE ROUTE ESPECIALLY THOSE CONCEALED AND/OR UNDERGROUND, UNDERGROUND PIPE ELEVATIONS, PIPE SIZES, DIMENSIONS FROM WALLS/GRID LINES OF ANY REROUTED PIPE, RFI/CCD/ASI TAG AS REFERENCE TO WHERE CHANGES OCCURRED FROM IF ANY, AND ANY INFORMATION THAT MAY CLARIFY HOW SYSTEMS & COMPONENTS HAD BEEN INSTALLED OR HOW IT DIFFERS FROM ORIGINAL DESIGN PLANS. REFERENCE TO AN RFI/CCD/ASI ALONE SHALL NOT CONSTITUTE COMPLETE AS-BUILT DRAWINGS. AS-BUILT DRAWINGS SHALL BE IN HARD COPY AND DIGITAL (PDF) FORMAT. AS-BUILTS AND QUALITY OF SUCH ARE CRITICAL REQUIREMENTS FOR MAINTENANCE UPKEEP AND FOR USE AS BASIS FOR POSSIBLE FUTURE CONSTRUCTION IMPROVEMENTS FUTURE DESIGNER/CONTRACTOR WOULD RELY ON. CONTRACTOR SHALL PROVIDE "AS-BUILT" TAG AND CONTRACTOR INFORMATION ON ALL AS-BUILT SHEETS.

7. CONNECT WASTE, VENT & COLD WATER LINES TO ALL NEW FIXTURES. SEE FIXTURE SCHEDULE FOR BRANCH AND FIXTURE OUTLET/INLET CONNECTION SIZES.

8. HORIZONTAL DRAINAGE PIPING SHALL BE RUN IN PRACTICAL ALIGNMENT AND A UNIFORM SLOPE OF NOT LESS THAN 2% TOWARD THE POINT OF DISPOSAL UNLESS IMPRACTICAL DUE TO BUILDING'S STRUCTURAL FEATURES, OR IF CONNECTING TO EXISTING PIPE AT ITS EXISTING UPSTREAM/DOWNSTREAM DEPTH IS IMPOSSIBLE WITHOUT SLOPING LESS THAN 2%. IN SUCH CONDITIONS, PIPE CAN BE SLOPED AT NO LESS THAN 1%. COORDINATE SHOP DRAWINGS AMONGST TRADES PRIOR TO FABRICATION AND INSTALLATION THEN REFLECT ALL CHANGES ON THE AS-BUILT DRAWINGS.

9. COORDINATE ALL CONNECTION POINTS AMONGST TRADES AT SITE PRIOR TO FABRICATION OR INSTALLATION.

10. PROTECT ALL INSTALLED DRAINS, DRAIN STRAINERS, EQUIPMENT COMPONENTS, FIXTURES ESPECIALLY THOSE WITH STAINLESS STEEL SURFACES FROM DAMAGE. PLUMBING SYSTEM SHALL BE CLEAN, UNDAMAGED, WORKING AND IN NEW CONDITION UP TO HAND OFF TO OWNER. SEE SPECIFICATIONS FOR MORE INFORMATION ON CLOSING DOC.

11. NO PLUMBING PIPING SHALL BE INSTALLED UNDER OR THROUGH SPREAD FOOTINGS, UNLESS OTHERWISE SPECIFIED ON STRUCTURAL DRAWINGS. CLOSELY COORDINATE PENETRATIONS THRU STRUCTURAL MEMBERS AMONGST TRADES AT THE SITE THRU SHOP DRAWINGS PRIOR TO CONSTRUCTION AND WELL AHEAD OF CONCRETE FOUNDATION POUR. PENETRATION THRU CONCRETE FOUNDATION SHALL BE PROPERLY SLEEVED WHEN REQUIRED WHERE ALLOWED. COORDINATE DROPPING AND STEPPING FOOTINGS IF REQUIRED. ALL NOTCHES AND HOLES ALLOWED ON ABOVE GROUND COMPONENTS PER STRUCTURAL DRAWINGS SHALL BE NEATLY BORED. SEE STRUCTURAL DRAWINGS FOR MORE INFORMATION.

KEYNOTES

1. VERIFY PRECISE AND EXACT LOCATION OF EXISTING PIPE, PARTICULARLY THOSE INSIDE WALL CAVITIES, ABOVE CEILING OR UNDERGROUND. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REFLECT ON AS-BUILT DRAWING IF DIFFERENT FROM HEREWITH.

2. VERIFY EXACT LOCATION OF ALL BUILDING COMPONENTS THAT MAY OBSTRUCT PATH OF NEW PIPING WELL AHEAD OF INSTALLATION. REFLECT VERIFIED INFORMATION ON SHOP DRAWINGS AND COORDINATE AMONGST TRADES PRIOR TO ANY PIPE INSTALLATION. REROUTE PIPING IF REQUIRED, REFLECT ON AS-BUILT DRAWINGS IF DIFFERENT FROM HEREWITH.

3. CLEAN AND FLUSH ALL EXISTING SEWER LINES DOWNSTREAM OF NEW FIXTURES TO 5FT OUTSIDE BUILDING.

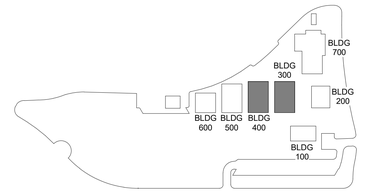
4. CONNECT NEW PLUMBING FIXTURE TO EXISTING UTILITIES. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS, CLEARANCES AND OTHER INFORMATION. COORDINATE SHOP DRAWINGS PRIOR TO ANY INSTALLATION.

5. EXTEND OR ADJUST SEWER, VENT & WATER PIPING FROM NEAREST EXISTING PIPE OF ADEQUATE SIZE TO MATCH NEW FIXTURE CONFIGURATION. REFER TO THE ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, CLEARANCES AND OTHER INFORMATION. COORDINATE SHOP DRAWINGS AMONGST TRADES WELL AHEAD OF ANY INSTALLATION.

6. DEDUCTIVE ALTERNATE 1: ALL WORK WITHIN ALL GENDER RESTROOM TO BE REMOVED.

7. EXISTING NATURAL GAS SHUT-OFF VALVE TO REMAIN. PROVIDE NEW SIGNAGE ON EXTERIOR WALL INDICATING "BUILDING GAS SHUT-OFF VALVE", IF NONE EXISTS.

KEYPLAN



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PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA
RC - EDG/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER — RYAN CELAYA — M 34234 — EXPIRES 12/31/26 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED:

STATE

DSA FILE NUMBER 43-41

APPL # 01-122831

REVISIONS

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C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
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90% CD	12.17.2025
DSA SUB	12.29.2025

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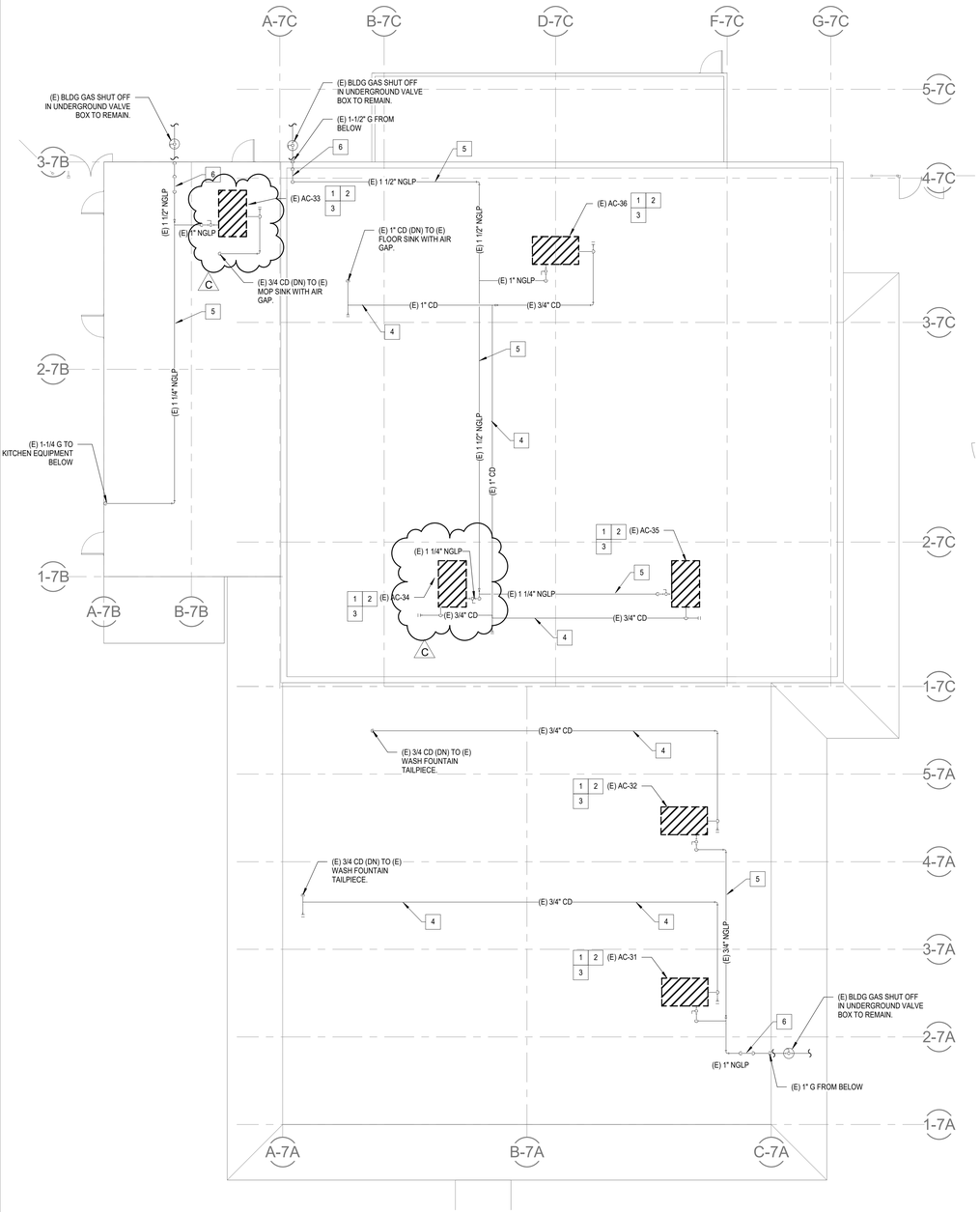
PLUMBING ENLARGED PLANS

DATE 06.01.2026

JOB # 2025014

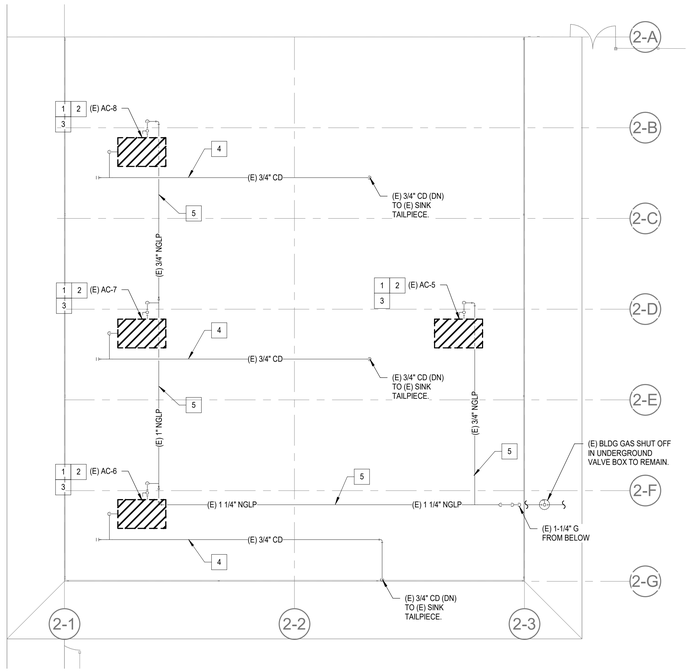
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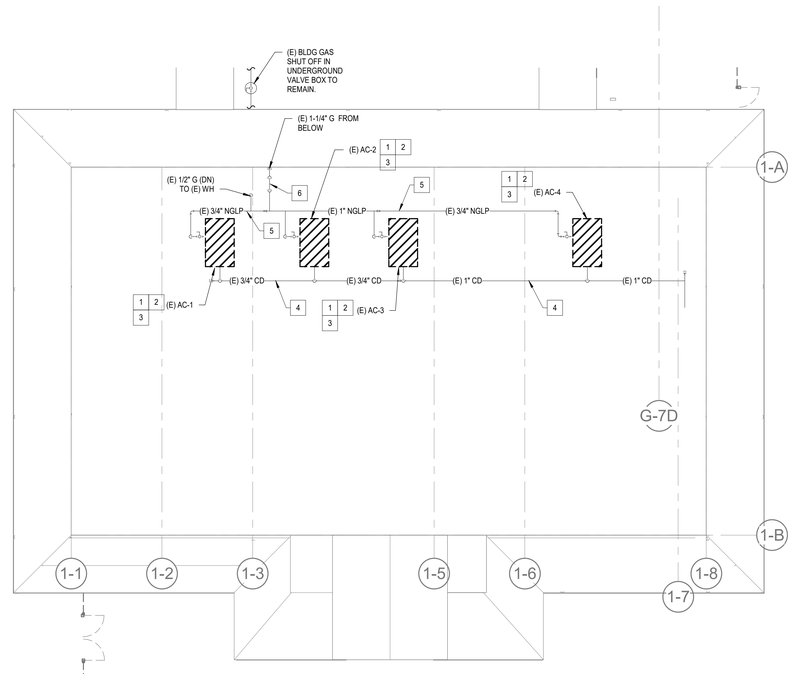
1 P5.01 PLUMBING - BUILDING 700 - DEMO ROOF PLAN

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



2 P5.01 PLUMBING - BLDG 200 - DEMO ROOF PLAN

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



3 P5.01 PLUMBING - BLDG 100 - DEMO ROOF PLAN

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

GENERAL SHEET NOTES

1. EXISTING PLUMBING LAYOUT SHOWN HEREWITH ARE BASED FROM AVAILABLE RECORD DRAWINGS OF UNKNOWN ACCURACY. ACTUAL CONDITIONS MAY BE DIFFERENT ESPECIALLY FOR THOSE WITHIN CONCEALED SPACES AND/OR UNDERGROUND. CONTRACTOR SHALL INVESTIGATE EXISTING PIPE ROUTE, ELEVATION, SIZE AND CONDITION, THRU VISUAL OBSERVATIONS, POT-HOLING, RADAR INSPECTION OR OTHER MEANS NECESSARY TO COMPLETE WORK, WELL AHEAD OF NEW PIPE INSTALLATION. SCHEDULE WORK ACCORDINGLY TO PROVIDE ENOUGH TIME TO FIND SOLUTIONS SHOULD VERIFIED INFORMATION BE DIFFERENT FROM HEREWITH. REFLECT ALL FINDINGS ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES, AND ON AS-BUILT DRAWINGS.
2. FOR CONNECTIONS TO EXISTING PIPE FOUND SMALLER THAN WHAT IS SHOWN ON PLANS, FIELD VERIFY TO LOCATE & CONNECT TO CLOSEST LARGEST PIPE UPSTREAM FOR SUPPLY PIPING. FOR DRAIN PIPING, FIELD VERIFY TO LOCATE & CONNECT TO CLOSEST LARGEST PIPE OF SUFFICIENT DEPTH DOWNSTREAM. REFLECT ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES.
3. CONTRACTOR SHALL REFLECT EXISTING AND/OR ABANDONED PIPING ON THE AS-BUILT DRAWINGS IF FOUND DIFFERENTLY FROM DESIGN PLANS FOR OWNER'S REFERENCE AND RECORD KEEPING.
4. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL REMOVE ALL INACTIVE PLUMBING PIPING ENCOUNTERED/VISIBLE WITHIN WORK AREA. CAP BEHIND ARCHITECTURAL FINISHES. REFLECT CAP LOCATIONS ON AS-BUILT DRAWINGS.
5. PATCH ALL UNUSED WALL & ROOF PENETRATIONS TO MATCH EXISTING. SEE ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
6. PROVIDE SLAB/WALL DEMOLITION WORK AS NECESSARY TO REMOVE, REPLACE, REROUTE OR ADD PIPING. PATCH BACK TO MATCH EXISTING.
7. REUSE EXISTING SLEEVE PENETRATIONS THRU DECK WHEN NEEDED, IF AVAILABLE AND IF POSSIBLE. AVOID REBARS WHEN PROVIDING NEW SLEEVE PENETRATIONS. INVESTIGATE AND MAP REBAR LOCATIONS PRIOR TO CORING OR SAWCUTTING THRU EXISTING OR INSTALLED SLAB, WALL OR FOOTING. SEAL ALL PENETRATIONS. SEE SPECIFICATIONS FOR MORE INFORMATION. USE ALL GATHERED DATA IN PROVIDING SHOP DRAWINGS. SHOP DRAWINGS SHALL BE COORDINATED BETWEEN TRADES.
8. WHEN CONNECTING TO EXISTING UTILITIES, CONTRACTOR TO ENSURE THAT THE EXISTING PIPE IS ACTIVE PRIOR TO CONNECTION. FIELD VERIFY AT SITE. FOR DRAINS LINES, USE PIPE CAMERA. REPORT BACK FOR ANY ISSUES.
9. PROVIDE TEMPORARY UTILITIES TO ALL FIXTURES & EQUIPMENT TO REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.
10. COORDINATE CONSTRUCTION WORK AND SCHEDULE OF WORK WITH SCHOOL DISTRICT. CONTRACTOR SHALL INCLUDE IN BID MEANS AND/OR METHODS REQUIRED FOR THE WORK INCLUDING ANY REQUIRED SERVICE SHUT DOWNS, TEMPORARY LINES, ROAD CLOSURES, SPECIAL INSPECTIONS, ETC. TO ACCOMPLISH SCOPE. SCHEDULING OF WORK SHALL BE AMICABLE BETWEEN OWNER AND CONTRACTOR.

DEMOLITION KEYNOTES

1 EXISTING AC UNIT TO BE REMOVED. DISCONNECT GAS LINE AND CONDENSATE DRAIN LINE. PREPARE CONNECTIONS TO NEW UNIT.

2 REMOVE CONDENSATE PIPING AND SUPPORTS AS NEEDED TO ALLOW INSTALLATION OF NEW AC UNIT.

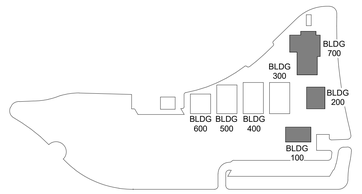
3 ALL OTHER EXISTING ROOFTOP PIPING TO REMAIN. REMOVE EXISTING SUPPORTS AND PROTECT PIPE IN PLACE.

4 EXISTING CONDENSATE PIPE IN CEILING SPACE BELOW TO REMAIN.

5 EXISTING GAS PIPE IN CEILING SPACE BELOW TO REMAIN.

6 EXISTING GAS PRESSURE REGULATOR ON ROOF TO REMAIN.

KEYPLAN



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REGISTERED PROFESSIONAL ENGINEER — RYAN CELAYA — M 34234 — EXPIRES 12/31/26 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED:

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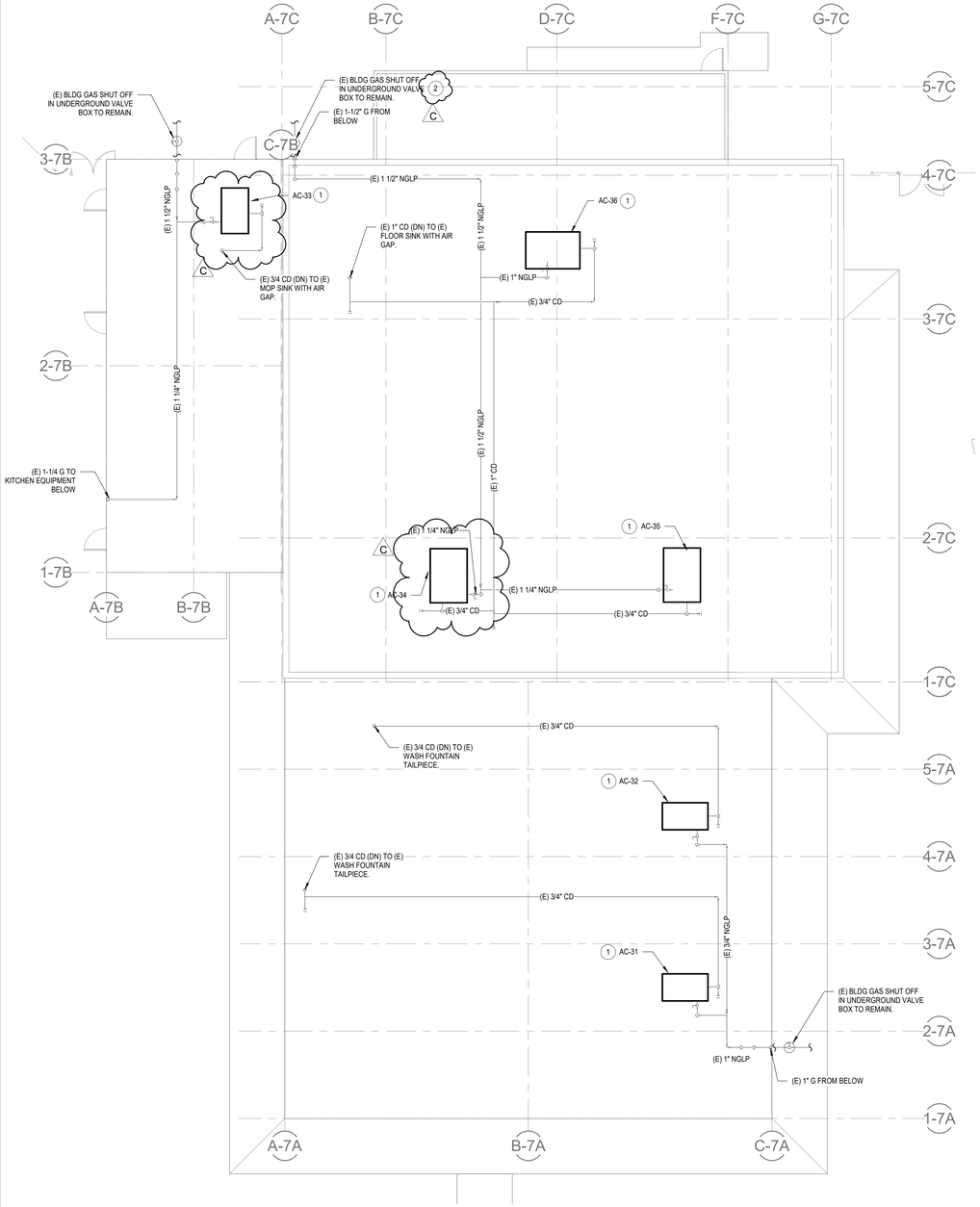
PLUMBING DEMOLITION ROOF PLANS - BLDG 100, 200 & 700

DATE 06.01.2026

JOB # 2025014

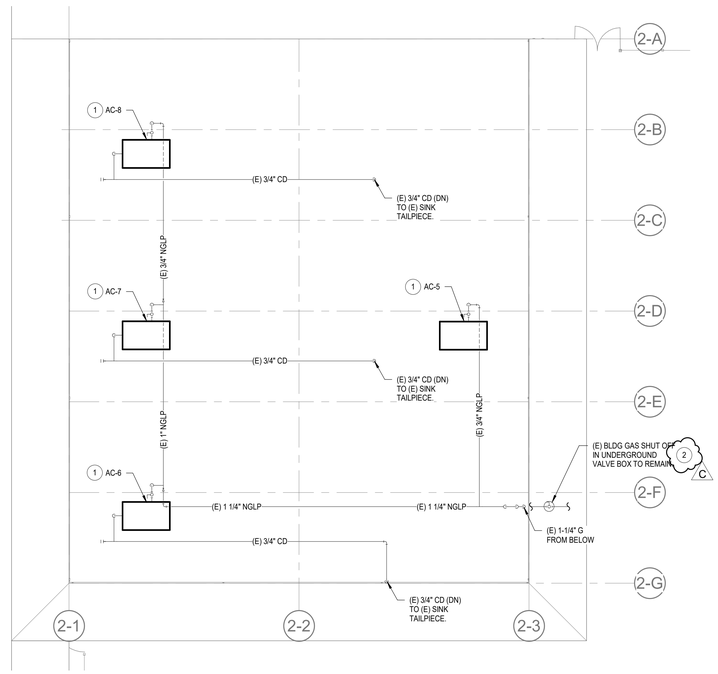
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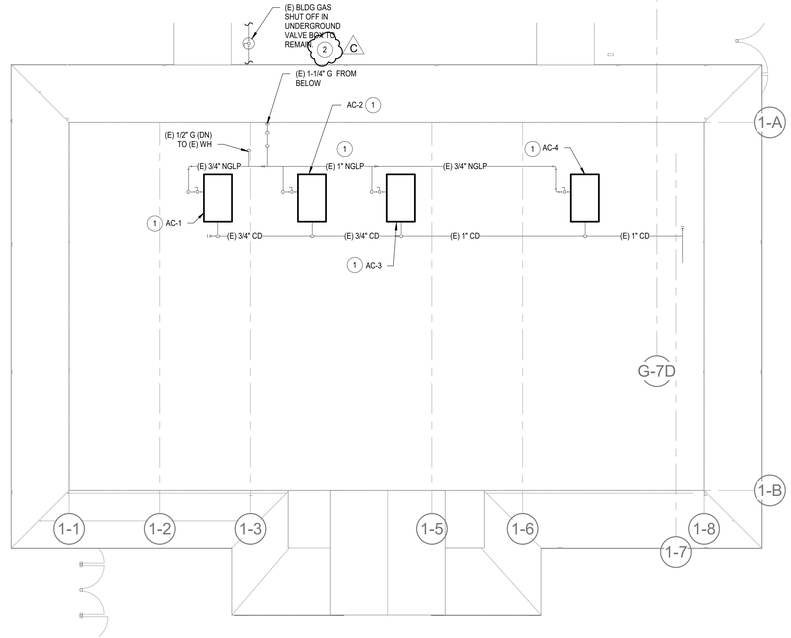
3 P5.04 PLUMBING - BUILDING 700 - ROOF PLAN

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



2 P5.04 PLUMBING - BLDG 200 - ROOF PLAN

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



1 P5.04 PLUMBING - BLDG 100 - ROOF PLAN

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

GENERAL SHEET NOTES

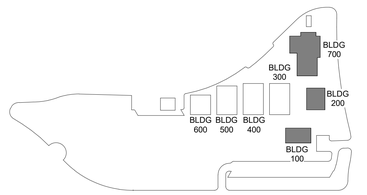
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2. ALL FINISH FLOOR ELEVATIONS (FF) BASED FROM CIVIL GRADING DRAWINGS. PLEASE REFER TO CIVIL DRAWINGS FOR MORE INFORMATION. BFF VALUES ARE ALL BASED FROM FINISH FLOOR ELEVATION INSIDE BUILDING. COORDINATE EXACT ELEVATIONS THRU SHOP DRAWINGS AND AT SITE.
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4. PROVIDE TEMPORARY UTILITIES TO ALL FIXTURES & EQUIPMENT TO REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.
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KEYNOTES

1. NEW GAS/ELEC AC UNIT. REFER TO DETAIL 1/P6.01 FOR GAS AND CONDENSATE PIPE CONNECTION DETAIL AND 2/P6.01 FOR PIPE MOUNTING DETAIL.
2. EXISTING NATURAL GAS SHUT-OFF VALVE TO REMAIN. PROVIDE NEW SIGNAGE ON EXTERIOR WALL INDICATING "BUILDING GAS SHUT-OFF VALVE", IF NONE EXISTS.

C

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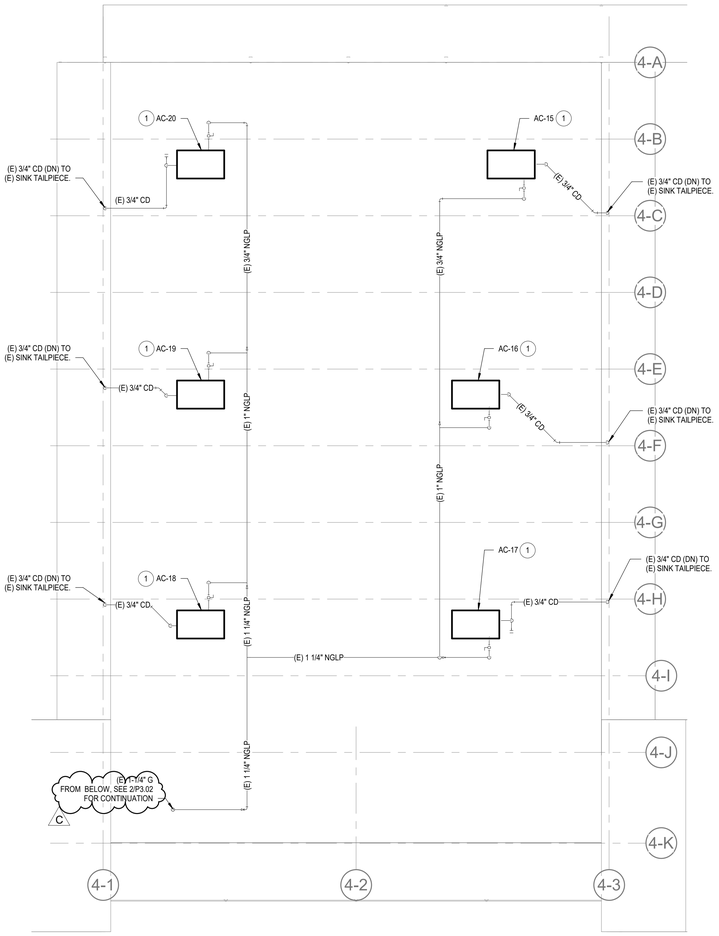
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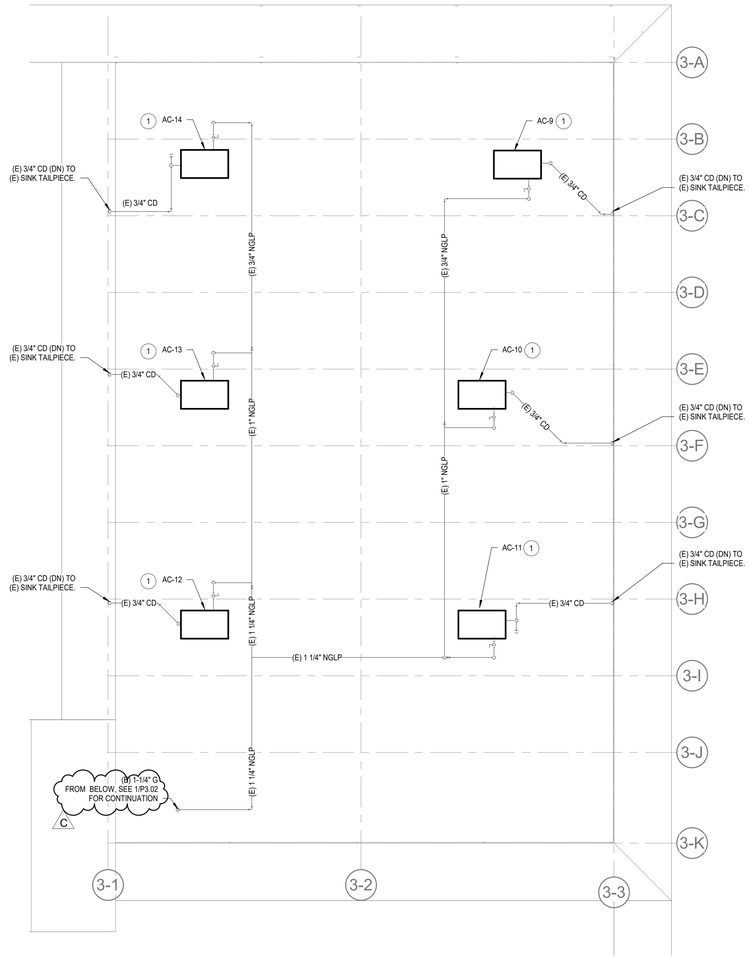
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2 P5.05 PLUMBING - BLDG 400 - ROOF PLAN

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1 P5.05 PLUMBING - BUILDING 300 - ROOF PLAN

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

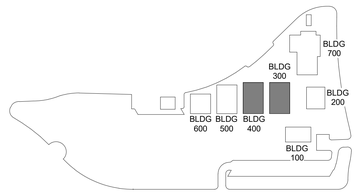
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7. CONTRACTOR SHALL PREPARE AND MAINTAIN AS-BUILT DRAWINGS OF ALL PLUMBING SYSTEMS AS INSTALLED AT THE JOB SITE, DRAWN BY CONTRACTOR OVER THE DESIGN PLANS. THEY SHALL BE READILY AVAILABLE TO VIEW & INSPECT UPON REQUEST BY PROJECT INSPECTOR, ENGINEER OR OWNER. AS-BUILTS SHALL CLEARLY SHOW CHANGES, REVISIONS, CLARIFICATIONS & SUBSTITUTIONS INSTALLED IN THE PROJECT INCLUDING BUT NOT LIMITED TO: EXACT PIPE ROUTE ESPECIALLY THOSE CONCEALED AND/OR UNDERGROUND, UNDERGROUND PIPE ELEVATIONS, PIPE SIZES, DIMENSIONS FROM WALLS/GRID LINES OF ANY REROUTED PIPE, RFI/CCD/ASI TAG AS REFERENCE TO WHERE CHANGES OCCURRED FROM IF ANY, AND ANY INFORMATION THAT MAY CLARIFY HOW SYSTEMS & COMPONENTS HAD BEEN INSTALLED OR HOW IT DIFFERS FROM ORIGINAL DESIGN PLANS. REFERENCE TO AN RFI/CCD/ASI ALONE SHALL NOT CONSTITUTE COMPLETE AS-BUILT DRAWINGS. AS-BUILT DRAWINGS SHALL BE IN HARD COPY AND DIGITAL (PDF) FORMAT. AS-BUILT'S AND QUALITY OF SUCH ARE CRITICAL REQUIREMENTS FOR MAINTENANCE UPKEEP AND FOR USE AS BASIS FOR POSSIBLE FUTURE CONSTRUCTION IMPROVEMENTS FUTURE DESIGNER/CONTRACTOR WOULD RELY ON. CONTRACTOR SHALL PROVIDE "AS-BUILT" TAG AND CONTRACTOR INFORMATION ON ALL AS-BUILT SHEETS.
8. CONNECT WASTE, VENT & COLD WATER LINES TO ALL NEW FIXTURES. SEE FIXTURE SCHEDULE FOR BRANCH AND FIXTURE OUTLET/INLET CONNECTION SIZES.
9. HORIZONTAL DRAINAGE PIPING SHALL BE RUN IN PRACTICAL ALIGNMENT AND A UNIFORM SLOPE OF NOT LESS THAN 2% TOWARD THE POINT OF DISPOSAL UNLESS IMPRACTICAL DUE TO BUILDING'S STRUCTURAL FEATURES, OR IF CONNECTING TO EXISTING PIPE AT ITS EXISTING UPSTREAM/DOWNSTREAM DEPTH IS IMPOSSIBLE WITHOUT SLOPING LESS THAN 2%. IN SUCH CONDITIONS, PIPE CAN BE SLOPED AT NO LESS THAN 1%. COORDINATE SHOP DRAWINGS AMONGST TRADES PRIOR TO FABRICATION AND INSTALLATION THEN REFLECT ALL CHANGES ON THE AS-BUILT DRAWINGS.
10. COORDINATE ALL CONNECTION POINTS AMONGST TRADES AT SITE PRIOR TO FABRICATION OR INSTALLATION.
11. PROTECT ALL INSTALLED DRAINS, DRAIN STRAINERS, EQUIPMENT COMPONENTS, FIXTURES ESPECIALLY THOSE WITH STAINLESS STEEL SURFACES FROM DAMAGE. PLUMBING SYSTEM SHALL BE CLEAN, UNDAMAGED, WORKING AND IN NEW CONDITION UP TO HAND OFF TO OWNER. SEE SPECIFICATIONS FOR MORE INFORMATION ON CLOSING DOC.
12. NO PLUMBING PIPING SHALL BE INSTALLED UNDER OR THROUGH SPREAD FOOTINGS, UNLESS OTHERWISE SPECIFIED ON STRUCTURAL DRAWINGS. CLOSELY COORDINATE PENETRATIONS THRU STRUCTURAL MEMBERS AMONGST TRADES AT THE SITE THRU SHOP DRAWINGS PRIOR TO CONSTRUCTION AND WELL AHEAD OF CONCRETE FOUNDATION POUR. PENETRATION THRU CONCRETE FOUNDATION SHALL BE PROPERLY SLEEVED WHEN REQUIRED WHERE ALLOWED. COORDINATE DROPPING AND STEPPING FOOTINGS IF REQUIRED. ALL NOTCHES AND HOLES ALLOWED ON ABOVE GROUND COMPONENTS PER STRUCTURAL DRAWINGS SHALL BE NEATLY BORED. SEE STRUCTURAL DRAWINGS FOR MORE INFORMATION.

KEYNOTES

1 NEW GAS/ELEC AC UNIT. REFER TO DETAIL 1/P6.01 FOR GAS AND CONDENSATE PIPE CONNECTION DETAIL AND 2/P6.01 FOR PIPE MOUNTING DETAIL.

KEYPLAN



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PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
RANCHO CORDOVA, CALIFORNIA
RC - ED/G/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER — RYAN CELAYA — M 34234 — EXPIRES 12/31/26 — MECHANICAL — STATE OF CALIFORNIA

DATE SIGNED:

STATE

DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
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90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

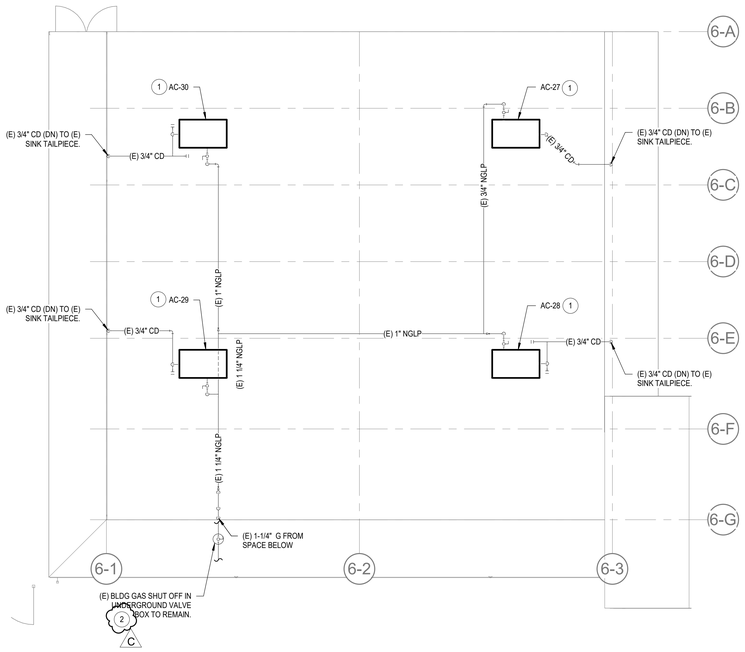
PLUMBING ROOF PLANS - BLDG 300 - 400

DATE 06.01.2026

JOB # 2025014

SHEET # AD3- P5.05

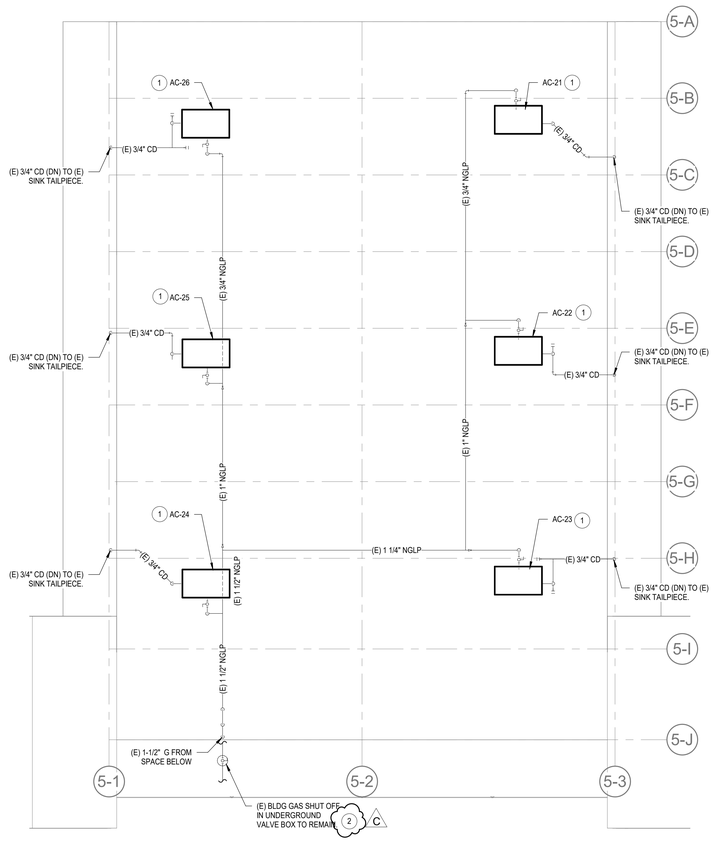
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2 PLUMBING - BUILDING 600 - ROOF PLAN

P5.06

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



1 PLUMBING - BUILDING 500 - ROOF PLAN

P5.06

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

GENERAL SHEET NOTES

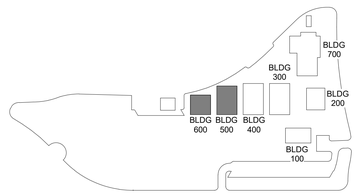
1. ANY MATERIAL REQUIRED FOR WORK NOT READILY AVAILABLE FOR PURCHASE SHALL HAVE LEAD TIME INDICATED ON THE BID AND ON THE SUBMITTALS. SUCCESSFUL PROCUREMENT OF ALL MATERIALS REQUIRED FOR THE COMPLETION OF WORK SHALL BE ASCERTAINED BY CONTRACTOR PRIOR TO SCHEDULING OF WORK.
2. ALL FINISH FLOOR ELEVATIONS (FF) BASED FROM CIVIL GRADING DRAWINGS. PLEASE REFER TO CIVIL DRAWINGS FOR MORE INFORMATION. BFF VALUES ARE ALL BASED FROM FINISH FLOOR ELEVATION INSIDE BUILDING. COORDINATE EXACT ELEVATIONS THRU SHOP DRAWINGS AND AT SITE.
3. EXISTING PLUMBING LAYOUT ARE BASED FROM AVAILABLE RECORD DRAWINGS OF UNKNOWN ACCURACY. ACTUAL CONDITIONS MAY BE DIFFERENT ESPECIALLY FOR THOSE WITHIN CONCEALED SPACES AND/OR UNDERGROUND. CONTRACTOR SHALL INVESTIGATE EXISTING PIPE ROUTE, ELEVATION, SIZE AND CONDITION, THRU VISUAL OBSERVATIONS, POT-HOLING, RADAR INSPECTION OR OTHER MEANS NECESSARY TO COMPLETE WORK, WELL AHEAD OF NEW PIPE INSTALLATION. SCHEDULE WORK ACCORDINGLY TO PROVIDE ENOUGH TIME TO FIND SOLUTIONS SHOULD VERIFIED INFORMATION BE DIFFERENT FROM HEREWITH. REFLECT ALL FINDINGS ON SHOP DRAWINGS FOR COORDINATION AMONGST TRADES, AND ON AS-BUILT DRAWINGS.
4. PROVIDE TEMPORARY UTILITIES TO ALL FIXTURES & EQUIPMENT TO REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.
5. COORDINATE CONSTRUCTION WORK AND SCHEDULE WITH SCHOOL DISTRICT. CONTRACTOR SHALL INCLUDE IN BID MEANS AND/OR METHODS REQUIRED FOR THE WORK INCLUDING ANY REQUIRED SERVICE SHUT DOWNS, TEMPORARY LINES, ROAD CLOSURES, SPECIAL INSPECTIONS, ETC. TO ACCOMPLISH SCOPE. SCHEDULING OF WORK SHALL BE AMICABLE BETWEEN OWNER AND CONTRACTOR.
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KEYNOTES

1. NEW GAS/ELEC AC UNIT. REFER TO DETAIL 1/P6.01 FOR GAS AND CONDENSATE PIPE CONNECTION DETAIL AND 2/P6.01 FOR PIPE MOUNTING DETAIL.
2. EXISTING NATURAL GAS SHUT-OFF VALVE TO REMAIN. PROVIDE NEW SIGNAGE ON EXTERIOR WALL INDICATING "BUILDING GAS SHUT-OFF VALVE", IF NONE EXISTS.

C

KEYPLAN



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PROJECT

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Oak Grove School District

CONSULTANT

capital engineering
Rancho Cordova, California
RC - EDG/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

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M 34234
EXPIRES 12/31/26
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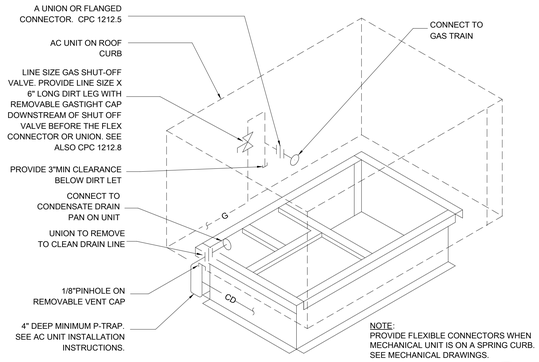
PLUMBING ROOF PLANS - BLDG 500 - 600

DATE 06.01.2026

JOB # 2025014

SHEET # AD3-P5.06

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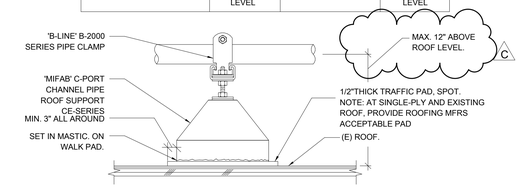
AC UNIT PIPING

SCALE : NONE

1
P6.01

CPC 2022 TABLE 1210.2.4.1
SPACING OF SUPPORTS IN GAS PIPING

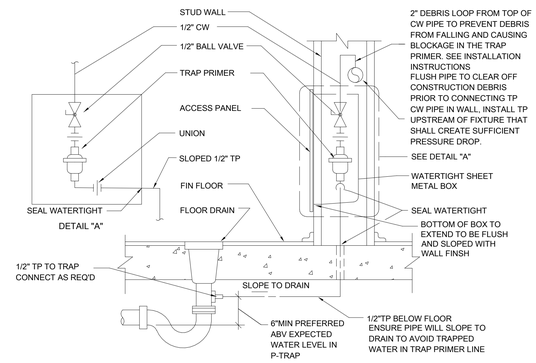
STEEL PIPE, NOMINAL SIZE OF PIPE (IN.)	SPACING OF SUPPORTS (FT.)	NOMINAL SIZE OF TUBING SMOOTH-WALL (IN. O.D.)	SPACING OF SUPPORTS (FT.)
1/2	6	1/2	4
3/4 OR 1	8	5/8 OR 3/4	6
1 1/4 OR LARGER (HORZ.)	10	7/8 OR 1 (HORZ.)	8
1 1/4 OR LARGER (VERT.)	EVERY FLOOR LEVEL	1 OR LAGER (VERT.)	EVERY FLOOR LEVEL



NON-SEISMIC PIPE SUPPORT ON ROOF

SCALE : NONE

2
P6.01



TRAP PRIMER TO FLOOR DRAIN

SCALE : NONE

3
P6.01

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PROJECT

LEDESMA ES MODERNIZATION

Oak Grove School District

CONSULTANT

capital engineering
Rancho Cordova, California
RC - EDG/LY — PM - DESIGN TEAM
250163.00 — PROJECT NO.

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REGISTERED PROFESSIONAL ENGINEER
RYAN CELAYA
M 34234
EXPIRES 12/31/26
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED:

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C	Addendum 3	06/01/26

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SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET

PLUMBING DETAILS

DATE 06.01.2026

JOB # 2025014

SHEET # AD3-
P6.01

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FIXTURE SCHEDULE

TYPE	LAMPS	BALLAST/ DRIVER	MOUNTING	DESCRIPTION	WEIGHT
				ALL FIXTURE TYPES FOLLOWED BY AN "E" AND HALF SHADED ON THE FLOOR PLANS ARE EMERGENCY FIXTURES. FIXTURES SHALL BE CONNECTED TO THE LIGHTING INVERTER WITH A MINIMUM OF 90 MINUTES. EMERGENCY FIXTURES SHALL WIRED FOR SWITCHING CAPABILITIES AND SHALL BE SWITCHED PER THE FLOOR PLAN. EXIT SIGNS SHALL BE CONNECTED TO THE EMERGENCY LIGHTING CIRCUIT.	
A AE	L.E.D. 22W	0-10V DIMMING DRIVER	SURFACE MOUNTED 9 64.1	FIXTURE HOUSING SHALL BE MARINE GRADE ALUMINUM. EXTRUDED HOUSING WITH DIE-CAST END CAPS. UV STABILIZED POLYCARBONATE LENS, .150" THICK. REFLECTIVE SURFACES WITH 92% MINIMUM AVERAGE REFLECTIVE WHITE POWDER COAT ON INTERIOR COMPONENTS. FINISH SHALL BE TEXTURED MATTE WHITE POLYESTER TGIC POWDER COAT BONDED TO PHOSPHATE-FREE, MULTI-STAGE PRETREATED METAL. ALL PARTS PAINTED AFTER FABRICATION TO FACILITATE INSTALLATION, INCREASE EFFICIENCY, AND INHIBIT CORROSION. HIGH QUALITY MID-POWER LED BOARD. RATED FOR 50,000 HOURS AT 70% LUMEN MAINTENANCE (L70). 25°C MAXIMUM AMBIENT OPERATING TEMPERATURE. WILLIAMS - AVX-4-L20/835-DIM-UNV OR APPROVED EQUAL 277 VOLT	15 LBS.

FIXTURE SCHEDULE

TYPE	LAMPS	BALLAST/ DRIVER	MOUNTING	DESCRIPTION	WEIGHT
				ALL FIXTURE TYPES FOLLOWED BY AN "E" AND HALF SHADED ON THE FLOOR PLANS ARE EMERGENCY FIXTURES. FIXTURES SHALL BE CONNECTED TO THE LIGHTING INVERTER WITH A MINIMUM OF 90 MINUTES. EMERGENCY FIXTURES SHALL WIRED FOR SWITCHING CAPABILITIES AND SHALL BE SWITCHED PER THE FLOOR PLAN. EXIT SIGNS SHALL BE CONNECTED TO THE EMERGENCY LIGHTING CIRCUIT.	
AA1	42W LED 4000K	0-10V DIMMING	MOUNTED ON A 14' POLE WITH 3' CONCRETE BASE 7 64.1	POST TOP LED FIXTURE WITH PRECISION OPTICS. TWO PIECE SEALED ENCLOSURE WITH MAIN PART HOUSING DESIGNED AS STRUCTURAL AND HEAT SINK FRAME. ALL DIE CAST PARTS ARE MADE OF LOW-COPPER, DIE-CAST ALUMINUM ALLOY FOR HIGH RESISTANCE TO CORROSION. LIGHT GUIDE TECHNOLOGY PROVIDING LOW-GLARE, UNIFORM ILLUMINATION. LUMINAIRE SHALL BE EQUIPPED WITH AN LED 0-10V DIMMING DRIVER THAT ACCEPTS 208V 60HZ INPUT. POST TOP TENON ADAPTER FOR 2 ⅜" X 4" (PPT-T2). GARDCO - PUREFORM #PPT-P-A04-840-T3M-T2-UNV-BL50L3-BZ WITH PPT-T2 277 VOLT FIXTURE MOUNTED ON A 15' POLE (GARDCO SRS-CB-4-11-14-T2D4L-BZ) WITH FLUSH BASE. POLE SHALL BE PROVIDED WITH 2 ⅜" X 4" TENON MOUNTING DESIGNATION	40 LBS.
BB BBE	L.E.D. 40W	0-10V DIMMING DRIVER	SURFACE WALL MOUNTED 8 64.1	WALL MOUNTED LED LIGHTING. FIXTURE HOUSING SHALL BE A SINGLE PIECE STYLIZED HOUSING WITH DIE CAST ALUMINUM AND A MEMORY RETENTIVE GASKET SEALS THE HOUSING WITH THE DOOR FRAME TO EXCLUDE MOISTURE, DUST, INSECTS AND POLLUTANTS FROM THE LUMINAIRE. OPTICAL SYSTEM TO HAVE LED ARRAYS SET TO ACHIEVE THE FORWARD THROW DISTRIBUTIONS. LUMINAIRES SHALL BE EQUIPPED WITH AN LED DRIVER THAT ACCEPTS 120V THROUGH 277V 60HZ INPUT. FINISH SHALL BE FADE AND ABRASION RESISTANT, ELECTROSTATICALLY APPLIED, THERMALLY CURED TGIC POLYESTER POWDERCOAT FINISH IN SILVER COLOR. FIXTURE SHALL BE UL LISTED FOR WET LOCATION. ELITE - OWP-NC-101-LED-6000L-DIM10-MVOLT-40K-BZ 277 VOLT ELITE - OWP-NC-101-LED-6000L-DM10-MVOLT-40K-EM-BZ	22 LBS.
CC	L.E.D. 20W	0-10V DIMMING DRIVER	EXTERIOR SURFACE MOUNTED 10 64.1	BELOW CANOPY MOUNTED LED 12" SQUARE LIGHTING. FIXTURE HOUSING SHALL BE MARINE GRADE DIE-CAST ALUMINU. HOUSING FLANGE INTERLOCKS AND WRAPS AROUND LENS BASE FOR MAXIMUMMOISTURE DEFLECTION. UV-STABILIZED, HIGH IMPACT RESISTANT, VIRGIN INJECTION MOLDED POLYCARBONATE. DIE-CUT, CLOSED CELL EPDM SELF ADHEASIVE GASKET SEALS HOUSING TO MOUNTING SURFACE. FIXTURE SHALL BE UL LISTED FOR WET LOCATION AND IP64 CERTIFIED. DRIVER THAT ACCEPTS 120V THROUGH 277V 60HZ INPUT. KENALL - MILLENIUM SQUARE (DEEP PROFILE) - MS11FD-PP-20L40K-DB-DV OR APPROVED EQUAL 277 VOLT	15 LBS.

C

C

Lighting Control Panel #1 Schedule

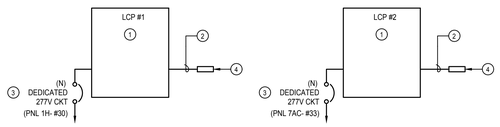
SITE LIGHTING SCHEDULE:

Relay #	Circuit	Description	LV Switch/Sensor	A	B	C	D	E	F	G	H
R1	1H-32	EXTERIOR PARKING LOT LIGHTS	VIA LCP	X							
R2	1H-32	EXTERIOR PARKING LOT LIGHTS	VIA LCP		X						
R3	1H-34	EXTERIOR PARKING LOT LIGHTS	VIA LCP	X							
R4	1H-32	EXTERIOR ENTRANCE PARKING LOT	VIA LCP	X							
R5		SPARE									
R6		SPARE									
R7		SPACE									
R8		SPACE									

Lighting Control Panel #2 Schedule

SITE LIGHTING SCHEDULE:

Relay #	Circuit	Description	LV Switch/Sensor	A	B	C	D	E	F	G	H
R9	TAC-34	EXTERIOR POLE MOUNTED LIGHT	VIA LCP	X							
R10		SPARE									
R11		SPARE									
R12		SPARE									
R5		SPACE									
R6		SPACE									
R7		SPACE									
R8		SPARE									



LCP RISER NOTES:

1. (N) LCP (LIGHTING CONTROL PANEL) IS LOCATED INSIDE THE NEMA-3R ELECTRICAL ENCLOSURE SECTION. SEE ELECTRICAL SITE PLAN FOR EXACT LOCATION OF THE NEMA-3R ELECTRICAL ENCLOSURE.
2. COORDINATE WITH WATTSTOPPER MANUFACTURER AND PROVIDE CABLES REQUIRED TO CONNECT TO CONTROL SWITCH. CABLES SHALL BE UNDERGROUND RATED AS NEEDED. ROUTING IS DIAGRAMMATIC.
3. ROUTE (N) ¾"C WITH (2)#12 AND (1)#12 GND. TO EXISTING PANEL 1H FOR POWER CONNECTION.
4. PROVIDE OVERRIDE SWITCHES FOR CONTROL OF LIGHTS. PROVIDE (4) SINGLE BUTTON LMSW-101 SWITCHES FOR CONTROL OF INDIVIDUAL RELAYS CONTROLLING THE LIGHTS. LOCATE SWITCHES INSIDE THE ELECTRICAL ROOM ADJACENT THE LCP. LABEL EACH SWITCH INDICATING THE RELAY NUMBER.

Site Name: LCP SCHEDULE

Channel	Description	Scenario *	On / Occupied at:	Off / Unoccupied at:	Flick ?	Time Delay
A	EXTERIOR	Auto On/Auto Off	Dusk On	9:00PM off	No	0 Min.
B	EXTERIOR	Auto On/Auto Off	Dusk On	12:00AM off	No	0 Min.
C	EXTERIOR	Auto On/Auto Off	Dusk On	Dawn off	No	0 Min.
D						
E						

NOTES:

1. LCP SHALL BE WATTSTOPPER #LMCP8 - (INPUT VOLTAGE 115/277) - (COIL VOLTAGE 277V) PANEL. PANEL SHALL BE PROVIDED WITH (8) 1-POLE RELAYS MINIMUM AND MOUNTED INSIDE NEMA-3R ENCLOSURE SECTION.
2. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. CONTRACTOR TO PROVIDE A COMPLETE FULLY OPERATIONAL SYSTEM WITH ALL CABLES CONNECTED.
4. CONTRACTOR SHALL COORDINATE THE LCP SCHEDULE WITH THE DISTRICT PRIOR TO PROGRAMMING. PROVIDE THE PROGRAMMING SET FOR THE SITE AND ADJUST AS NECESSARY.

1 / E0.2 **LIGHTING CONTROL PANEL RISER DIAGRAM**

NOT TO SCALE

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PROJECT

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OAK GROVE SCHOOL DISTRICT

CONSULTANT

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JOB # E251103.00

STAMP

REGISTERED PROFESSIONAL ENGINEER JAMES S. FERRARO E16890 Exp. 06/30/27 ELECTRICAL STATE OF CALIFORNIA

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SHEET

FIXTURE SCHEDULE

DATE 06.01.2026

JOB # 2025014

SHEET # AD3-
E0.2



1 E1.1 **OVERALL ELECTRICAL SITE PLAN**

SCALE: 1" = 40'-0"

GENERAL NOTES:

1. CONTRACTOR TO SITE VISIT AND VERIFY THE EXISTING CONDITIONS AND LOCATIONS OF EXISTING UNDERGROUND SYSTEMS, WHERE NEW TRENCH WORK OCCURS PRIOR TO BIDDING.
2. REFER TO THE RESTROOM DEMOLITION AND NEW ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. REFER TO THE SITE LIGHTING EGRESS SITE PLAN FOR ADDITIONAL REQUIREMENTS.

SHEET NOTES:

1. REFER TO THE RESTROOM FLOOR PLANS FOR NEW AND DEMO WORK IN THIS AREA.
2. EXISTING POLE MOUNTED LIGHT FIXTURE AND LIGHTING PULL BOX TO BE DEMOLISHED TO FACILITATE THE NEW SITE LIGHTING. PULL THE EXISTING CIRCUITRY BACK TO LAST ACTIVE DEVICE AND REMOVE. ALL EXISTING DOWNSTREAM POLE MOUNTED LIGHT FIXTURES ARE TO STAY CONNECTED. WHERE POWER IS DISCONNECTED CONTRACTOR SHALL RECONNECT. C

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PROJECT

LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

CONSULTANT

American Consulting Engineers Electrical, Inc.
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JOB # E25165.00

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REGISTERED PROFESSIONAL ENGINEER
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E16890
Exp. 06/30/27
ELECTRICAL
STATE OF CALIFORNIA

STATE

DSA FILE NUMBER	43-41
APPL #	01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

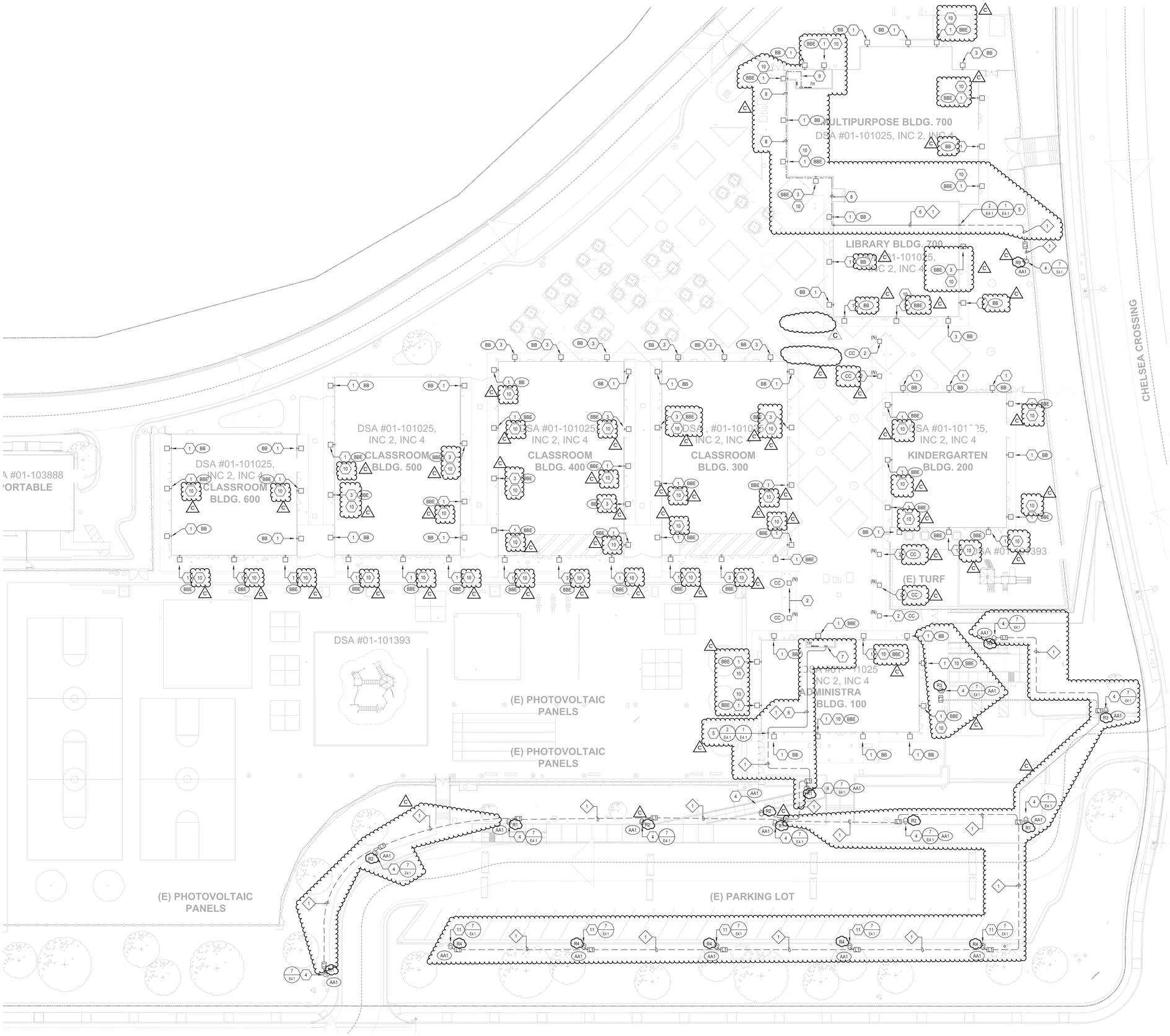
SHEET

OVERALL ELECTRICAL SITE PLAN

DATE 05.08.2026

JOB # 2025014

SHEET # AD3-E1.1



GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE UNDERGROUND CONDUITS AND CABLING.
2. CONTRACTOR TO SITE VISIT AND VERIFY THE EXISTING CONDITIONS AND LOCATIONS OF EXISTING UNDERGROUND SYSTEMS, WHERE NEW TRENCH WORK OCCURS PRIOR TO BIDDING.
3. CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO ENSURE EXISTING UNDERGROUND SYSTEMS/CONDUIT/PIPES ARE NOT DAMAGED DURING INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR ANY REPAIRS REQUIRED IN THE EVENT THE EXISTING UNDERGROUND SYSTEMS ARE DAMAGED AS A RESULT OF THE NEW ELECTRICAL TRENCH WORK.
4. ALL POLE MOUNTED LIGHT FIXTURES ARE MOUNTED ON A 3' CONCRETE BASE. SEE TYPICAL RAISED POLE BASE DETAIL 7/E4.1 FOR ADDITIONAL REQUIREMENTS.
5. SEE FIXTURE SCHEDULE FOR ADDITIONAL REQUIREMENTS.
6. SEE TYPICAL TRENCH DETAIL 5/E4.1 FOR ADDITIONAL REQUIREMENTS.
7. CONNECT THE NEW EXTERIOR PARKING LOT LIGHTING TO THE RELAY INDICATED. ROUTE TO NEW THE LCP CONTROLLER INSIDE THE ELECTRICAL ROOM (BUILDING 100) AND RELAY NUMBER INDICATED. CIRCUIT HOMERUNS SHALL BE #8 CONDUCTORS. SEE SHEET E0.2 FOR ADDITIONAL REQUIREMENTS.

C

SHEET NOTES:

1. REPLACE EXISTING WALL MOUNTED EXTERIOR LIGHTING WITH NEW FIXTURE. FOR LIGHT FIXTURE OVER EXTERIOR EXIT DOORS, REPLACE WITH EMERGENCY LIGHT FIXTURES.
2. PROVIDE NEW EXTERIOR EGRESS LIGHTING AT THE CANOPY. ROUTE NEW CIRCUITRY TO THE EXISTING BUILDING. CONNECT TO EXISTING EXTERIOR LIGHTING CIRCUIT AT THE BUILDING.
3. PROVIDE NEW WALL MOUNTED EXTERIOR LIGHTING. CONNECT TO THE BUILDING'S EXISTING EXTERIOR LIGHTING CIRCUIT.
4. PROVIDE NEW POLE MOUNTED LIGHT FIXTURE FOR EGRESS PATHWAY. PROVIDE B1017 IN-GRADE PULL BOX AT EACH POLE.
5. AVOID THE BUILDINGS FOOTING WHEN TRANSITIONING FROM UNDERGROUND TO ABOVE GRADE.
6. ROUTE CONDUIT CONCEALED IN THE ABOVE T-BAR CEILING.
7. ROUTE TO ELECTRICAL ROOM. CONNECT TO EXISTING PANEL '1H' - CIRCUIT 19 VIA A NEW WATTSTOPPER LMCP LIGHTING CONTROL PANEL IN THE ROOM. PROVIDE NEW 20A-1P CIRCUIT BREAKER IN AVAILABLE SPACE.
8. ROUTE CONDUIT EXPOSED ON THE EXTERIOR WALL.
9. ROUTE TO ELECTRICAL ROOM. CONNECT TO EXISTING PANEL '7H' - CIRCUIT 19 VIA A NEW WATTSTOPPER LMCP LIGHTING CONTROL PANEL IN THE ROOM. PROVIDE NEW 20A-1P CIRCUIT BREAKER IN AVAILABLE SPACE.
10. PROVIDE A NEW UNSWITCHED HOT CIRCUIT FOR EMERGENCY BATTERY MONITORING.
11. PROVIDE NEW POLE MOUNTED LIGHT FIXTURE. PROVIDE B1017 IN-GRADE PULL BOX AT EACH POLE.

CONDUIT SCHEDULE

1 (N) (1) 1½"C - LIGHTING

PULLBOX SCHEDULE:

L1 - NEW B1017 LIGHTING PULLBOX WITH TRAFFIC RATED LID. LABEL LID 'LIGHTING'.

1 / E1.2 **SITE LIGHTING EGRESS PLAN**

SCALE: 1" = 20'-0"

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REGISTERED PROFESSIONAL ENGINEER — STEVEN E. FERRARA — E16890 — Exp. 06/30/27 — ELECTRICAL — STATE OF CALIFORNIA

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SHEET

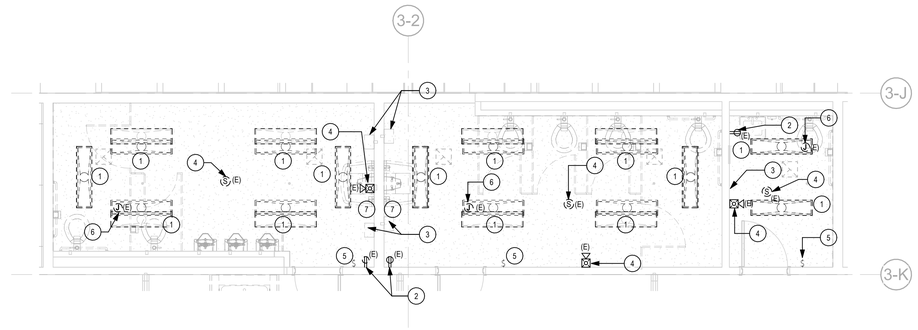
SITE LIGHTING EGRESS PLAN

DATE 06.01.2026

JOB # 2025014

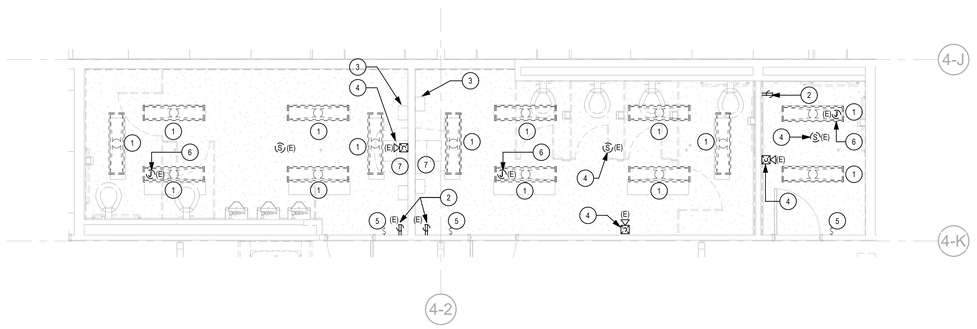
SHEET # AD3-

E1.2



1 E2.0 DEMO ENLARGED RESTROOM ELECTRICAL PLAN - BLDG 300

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



2 E2.0 DEMO ENLARGED RESTROOM ELECTRICAL PLAN - BLDG 400

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

GENERAL NOTES

1. REFER TO THE NEW ELECTRICAL AND NEW LIGHTING FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.
2. SEE THE ARCHITECTURAL SHEETS FOR ADDITIONAL REQUIREMENTS.
3. COORDINATE DEMOLITION WORK WITH ALL TRADES.
4. PATCH AND REPAIR ALL DAMAGED AREAS DUE TO ELECTRICAL AND LIGHTING DEMOLITION WORK. PAINT TO MATCH EXISTING.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONNECTING ALL DOWN STREAM DEVICES INTERRUPTED DUE TO THE DEMOLITION AND RENOVATION WORK.

DEMOLITION SHEET NOTES

#	NOTE
1	DEMOLISH EXISTING LIGHT FIXTURES AND EXISTING OCCUPANCY SENSOR. PULL EXISTING, UNUSED CIRCUITRY BACK TO THE ROOM'S EXISTING HOME RUN LIGHTING CIRCUIT.
2	EXISTING DUPLEX RECEPTACLE TO REMAIN AND STAY CONNECTED.
3	EXISTING HAND DRYERS TO BE REMOVED. DISCONNECT THE EXISTING POWER CONNECTIONS AND SAFE OFF. EXISTING CIRCUITRY TO BE REMAIN FOR CONNECTION TO THE NEW HAND DRYERS.
4	EXISTING FIRE ALARM NOTIFICATION AND INITIATING DEVICE TO REMAIN AND STAY CONNECTED.
5	EXISTING LIGHT SWITCH TO BE REMOVED. MODIFY THE EXISTING LIGHT SWITCH OPENING AT THE WALL AS REQUIRED TO INSTALL THE NEW KEYED LIGHT SWITCH. SEE THE NEW LIGHTING PLANS FOR ADDITIONAL REQUIREMENTS. MODIFY AND EXTEND EXISTING CONDUIT WITH NEW AS REQUIRED TO RECONNECT. PROVIDE NEW CIRCUITRY AS REQUIRED TO RECONNECT.
6	CONTRACTOR TO TEST AND CONFIRM THE NOTED EXISTING HOMERUN LIGHTING CIRCUIT BACK TO EXISTING HOME RUN LIGHTING CIRCUIT TO REMAIN FOR CONNECTION TO THE NEW LIGHT FIXTURES.
7	REMOVE THE EXISTING MULTI-STATION SINK 120V POWER CONNECTION. PULL BACK TO SOURCE AND REMOVE.

C

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OAK GROVE SCHOOL DISTRICT

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SHEET

BLDG 300 & 400 RR ELECTRICAL PLANS - DEMO

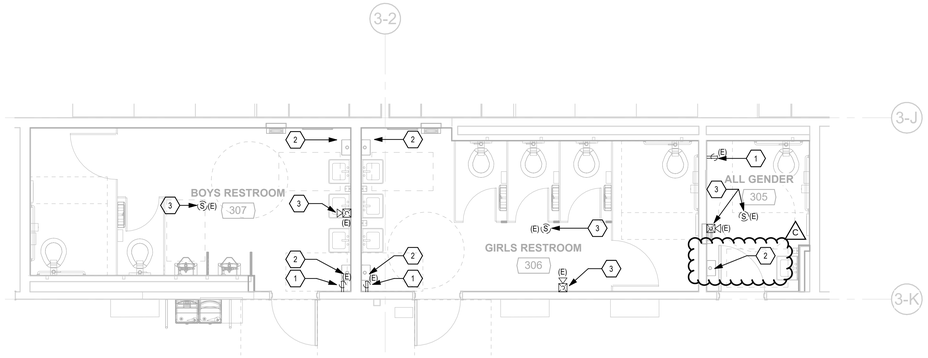
DATE 06.01.2026

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SHEET # AD3-

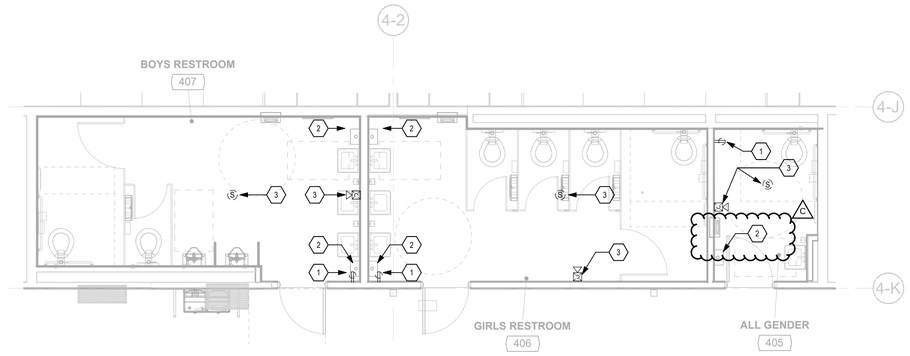
E2.0

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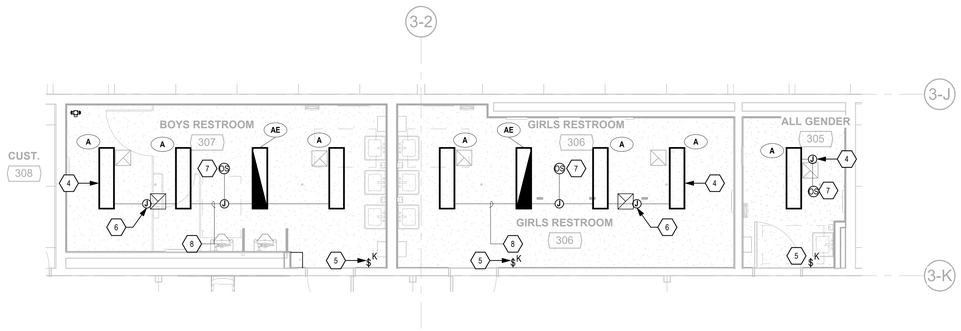
1 E2.1 BLDG 300 RESTROOM ELECTRICAL PLAN

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



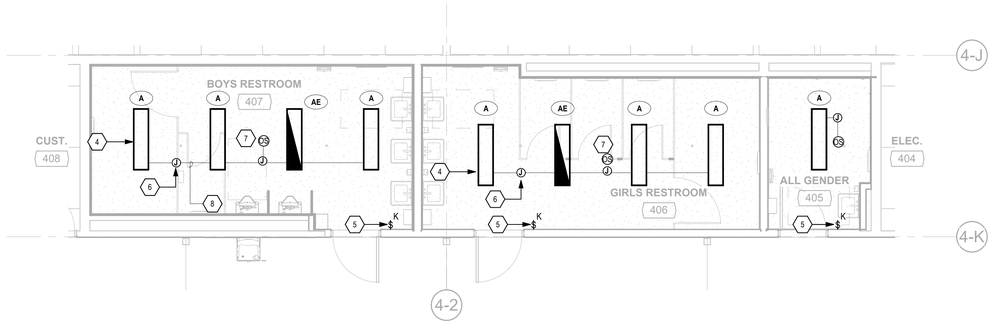
2 E2.1 BLDG 400 RESTROOM ELECTRICAL PLAN

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



3 E2.1 NEW ENLARGED RESTROOM LIGHTING PLAN - BLDG 300

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



4 E2.1 NEW ENLARGED RESTROOM LIGHTING PLAN - BLDG 400

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

GENERAL NOTES

1. ALL LIGHTING CIRCUITRY SHALL BE PROVIDED WITH NEW CONDUIT AND CONDUCTORS, UNLESS OTHERWISE NOTED.
2. ALL LOW VOLTAGE CONTROL CABLES SHALL BE INSTALLED IN MINIMUM 3/4" CONDUIT IN EXPOSED LOCATIONS.
3. CONTROLS AND SWITCHES SHALL NOT BE MORE THAN 48" A.F.F. TO THE TOP OF THE BOX. CONTROLS AND SWITCHES MUST BE UNOBSTRUCTED AND REACHABLE.
4. FOR INTERIOR EMERGENCY LIGHT FIXTURES, PROVIDE UN-SWITCHED HOT FOR CIRCUIT MONITORING. C
5. SEE THE PANELS SCHEDULES FOR ADDITIONAL REQUIREMENTS
6. REFER TO THE ELECTRICAL DETAILS FOR ADDITIONAL REQUIREMENTS.
7. ALL CONTROLS AND SWITCHES SHALL BE COMPATIBLE WITH THE WATTSTOPPER DIGITAL LIGHTING MANAGEMENT PLATFORM, UNLESS OTHERWISE NOTED.
8. SEE THE ELECTRICAL DEMO FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.
9. SEE THE ARCHITECTURAL SHEETS FOR ADDITIONAL REQUIREMENTS.

C

SHEET NOTES

#	NOTE
1	EXISTING DUPLEX RECEPTACLE TO REMAIN AND STAY CONNECTED.
2	CONNECT THE NEW HAND DRYER TO THE EXISTING CIRCUITRY PREVIOUSLY SERVING THE EXISTING HAND DRYER. PROVIDE NEW CONDUIT AND CIRCUITRY REQUIRED TO EXTEND TO NEW HAND DRYER.
3	EXISTING FIRE ALARM NOTIFICATION AND INITIATING DEVICE TO REMAIN AND STAY CONNECTED.
4	~~NEW RECESSED MOUNTED LIGHT FIXTURE.~~
5	PROVIDE NEW KEYED SWITCH FOR RESTROOM LIGHTING CONTROL. MODIFY OPENING AT THE WALL TO INSTALL NEW FLUSH MOUNTED J-BOX. INSTALL NEW FLUSH MOUNTED KEYED SWITCH AT ADA HEIGHT & 2022 CBC CHAPTER 11B ACCESSIBILITY. REFER TO GENERAL NOTE #3 FOR ADDITIONAL REQUIREMENTS. PROVIDE NEW CONDUIT AND CIRCUITRY AT WALL OPENING AS REQUIRED TO EXTEND AND CONNECT. C
6	~~EXISTING HOMERUN LIGHTING CIRCUIT TO BE EXTENDED TO NEW LIGHTING, OCCUPANCY SENSOR AND KEYED LIGHT SWITCH.~~ PROVIDE NEW CONDUIT AND CIRCUITRY AND EXTEND EXISTING HOMERUN CIRCUIT TO THE NEW LIGHTING, OCCUPANCY SENSOR AND KEYED LIGHT SWITCH.
7	PROVIDE NEW LINE VOLTAGE OCCUPANCY SENSOR.
8	ROUTE NEW CONDUIT CONCEALED IN THE ABOVE CEILING. PATCH AND REPAIR CEILING WHERE NEW WORK OCCURS.

PROJECT

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OAK GROVE SCHOOL DISTRICT

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STATE OF CALIFORNIA

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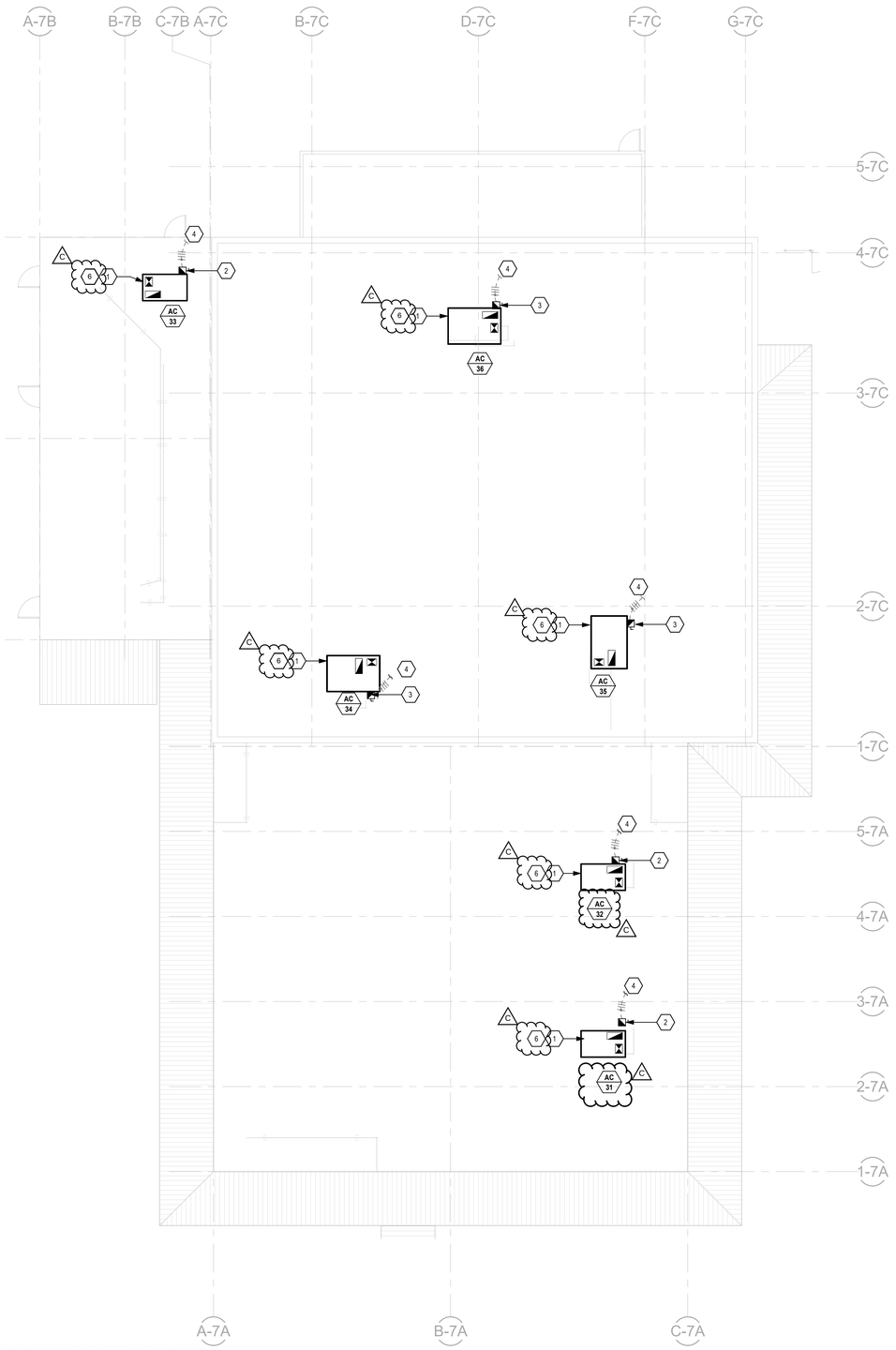
BLDG 300 & 400 RR PLANS - NEW

DATE 06.01.2026

JOB # 2025014

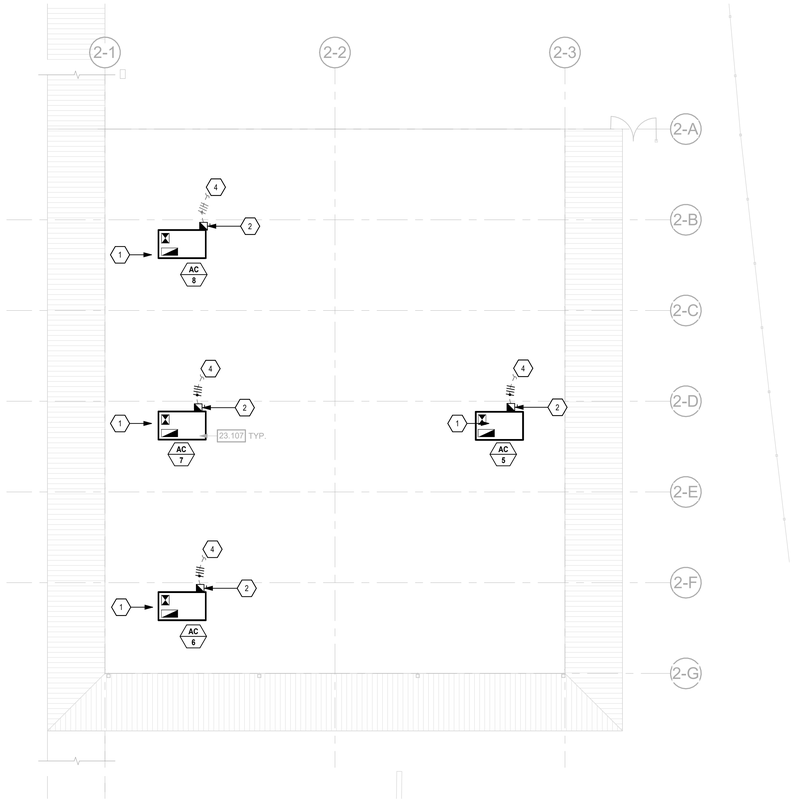
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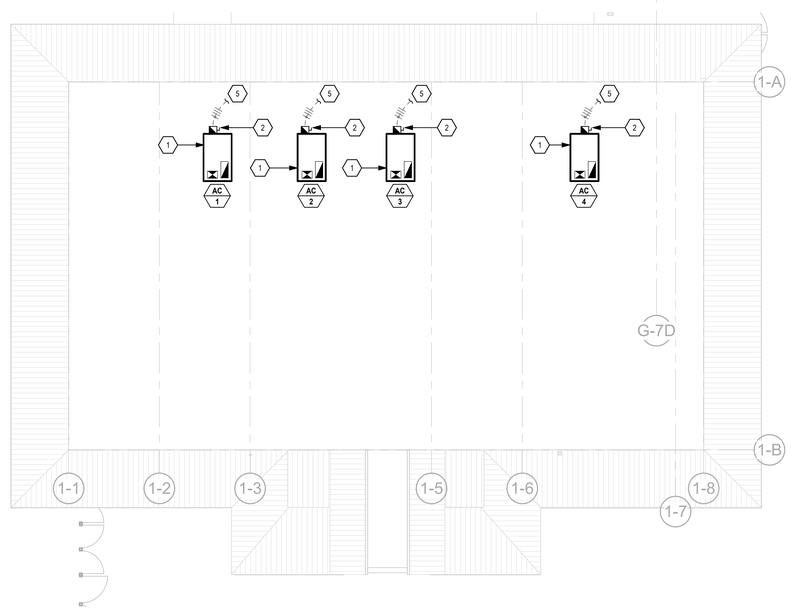
1 E3.1 ROOF PLAN - BLDG 700

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



2 E3.1 ROOF PLAN - BLDG 200

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



3 E3.1 ROOF PLAN - BLDG 100

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

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND POINTS OF CONNECTION FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR. ADJUST LOCATION AND CONNECTION POINTS AS NEEDED.
2. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS
3. FUSED AND UNFUSED DISCONNECT SWITCHES SHALL BE 600V RATED, HEAVY DUTY CYCLE. FUSES FOR MECHANICAL UNITS SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATION.

SHEET NOTES

#	NOTE
1	EXISTING MECHANICAL UNIT TO BE DEMOLISHED. REMOVE EXISTING DISCONNECT SWITCH ASSOCIATED WITH THE DEMOLISHED UNIT. EXISTING FEEDER CIRCUITRY SERVING THE UNIT IS TO REMAIN OF REUSE.
2	NEW 30A-3P, NEMA-3R , FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
3	NEW 60A-3P, NEMA-3R , FUSED DISCONNECT SWITCH FOR MECHANICAL UNIT.
4	EXTEND AND CONNECT THE EXISTING CIRCUITRY AND EXISTING CONDUIT TO THE NEW UNIT. MINIMUM FEEDER CABLE SIZE SHALL BE #10 AWG. CONFIRM THE SIZE OF THE EXISTING CABLES. WHERE THE EXISTING CABLES DO NOT MEET THE MINIMUM FEEDER CABLE SIZE REQUIRED, NEW FEEDER CABLES SHALL BE PROVIDED.
5	EXTEND AND CONNECT THE EXISTING CIRCUITRY AND EXISTING CONDUIT TO THE NEW UNIT. MINIMUM FEEDER CABLE SIZE SHALL BE #12 AWG. CONFIRM THE SIZE OF THE EXISTING CABLES. WHERE THE EXISTING CABLES DO NOT MEET THE MINIMUM FEEDER CABLE SIZE REQUIRED, NEW FEEDER CABLES SHALL BE PROVIDED.
6	DISCONNECT THE EXISTING DUCT SMOKE DETECTOR AND CONNECTIONS FOR AUTOMATIC SHUT DOWN FROM THE EXISTING MECHANICAL UNIT. REINSTALL AND RECONNECT TO THE NEW MECHANICAL UNIT FOR AUTOMATIC SHUT DOWN.

C

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ROOF PLAN - BLDG 100, 200 & 700

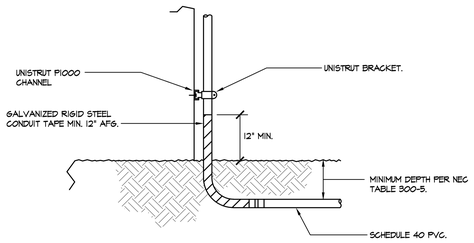
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SHEET # AD3-

E3.1

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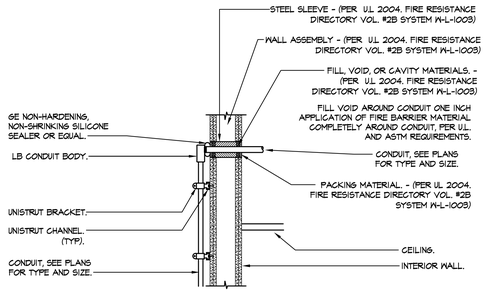


NOTE:

1. FOR WOOD STUD WALL: USE #10 WOOD SCREW WITH 1 ½" EMBEDMENT INTO CENTER OF STUDS. (ONE AT EACH END OF UNISTRUT)

1 UNDERGROUND CONDUIT RISER DETAIL

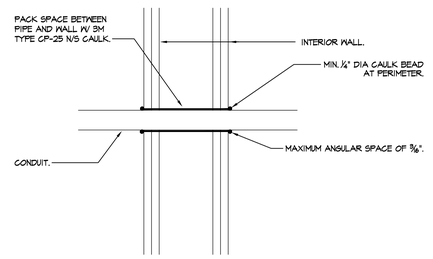
E4.1 NOT TO SCALE



NOTE:
REFERENCE U.L. 2004, FIRE RESISTANCE DIRECTORY VOL. #2B SYSTEM W-L-1003.

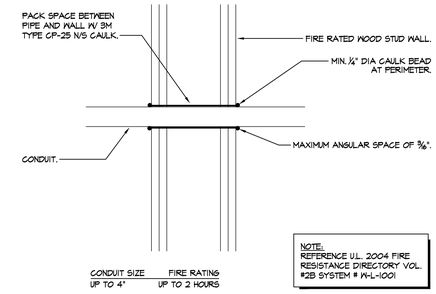
2 CONDUIT RISER AND WALL PENETRATION - POWER

E4.1 NOT TO SCALE



3 CONDUIT THROUGH WALL DETAIL

E4.1 NOT TO SCALE

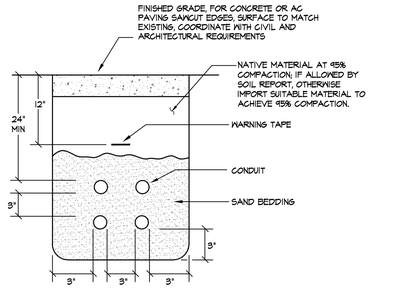


CONDUIT SIZE UP TO 4" — FIRE RATING UP TO 2 HOURS

NOTE:
REFERENCE U.L. 2004 FIRE RESISTANCE DIRECTORY VOL. #2B SYSTEM # W-L-1001

4 CONDUIT THROUGH ONE HOUR RATED FIRE WALL

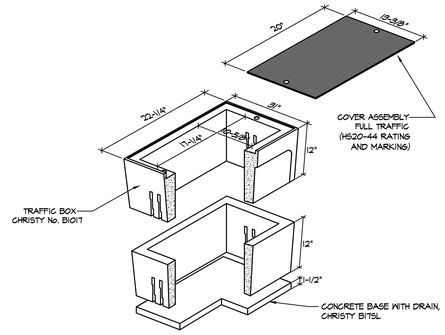
E4.1 NOT TO SCALE



1. COORDINATE TRENCH CONDUIT LAYOUT WITH OTHER CONDUIT SYSTEMS.
2. ALL UTILITY TRENCHES ARE TO BE IN CONFORMANCE WITH CBC SECTION 1809A.14 (UTILITIES NOT TO BE PLACED UNDER INFLUENCE LINE OF FUTURE/EXISTING FOOTINGS PER CBC SECTION ABOVE (A LINE 1 VERTICAL : 2 HORIZONTAL, 9 INCHES ABOVE BOTTOM EDGE OF FOOTING))

5 TYPICAL TRENCH DETAIL

E4.1 NOT TO SCALE

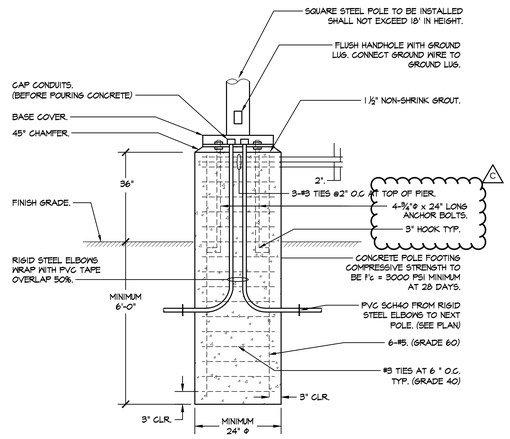


NOTES:

1. HIGH DENSITY REINFORCED CONCRETE BOX WITH NON-SETTING SHOULDERS POSITIONED TO MAINTAIN GRADE AND FACILITATE BACK FILLING. APPROXIMATE DIMENSIONS SHOWN.
2. ALL CONDUITS SHALL ENTER FROM SIDES OF PULL BOX. NO CONDUITS SHALL BE ALLOWED FROM THE BOTTOM OF THE PULL BOX.
3. CONTRACTOR SHALL STACK CONDUITS AS REQUIRED TO MEET THE NEC CODE REQUIREMENTS.
4. PROVIDE BELL ENDS ON ALL CONDUIT.
5. ALL PENETRATIONS INTO BOXES SHALL BE SEALED WITH GROUT.
6. PROVIDE BASE WITH DRAIN. PROVIDE DRAIN ROCK.

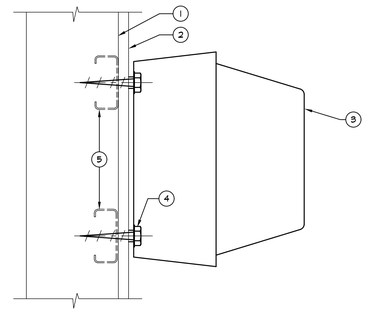
6 B1017 ELECTRICAL VAULT

E4.1 NOT TO SCALE (FULL TRAFFIC COVER)



7 TYPICAL RAISED POLE BASE DETAIL

E4.1 NOT TO SCALE (NOT PART OF DSA STRUCTURAL REVIEW PER IR A-22) (POLE LESS THAN 35')

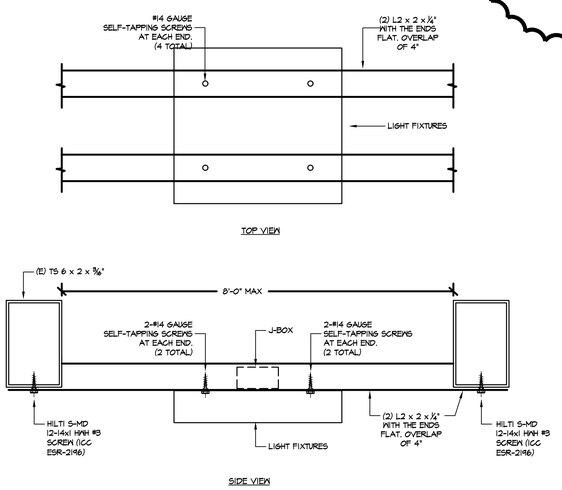


1. METAL BUILDING STUDS.
2. FOR BUILDING WALL CONSTRUCTION SEE ARCHITECTURAL DRAWINGS.
3. SURFACE MOUNTED FIXTURE.
4. (4) #10 x 2" LONG METAL SCREWS WITH FLAT WASHER, (4) PER FIXTURE.
5. METAL STUD BLOCKING PROVIDE #10 METAL SCREWS TO FASTEN BLOCKINGS TO METAL BUILDING STUDS, (4) AT EACH END. TYP.

8 SURFACE MOUNT WALL LIGHT FIXTURE

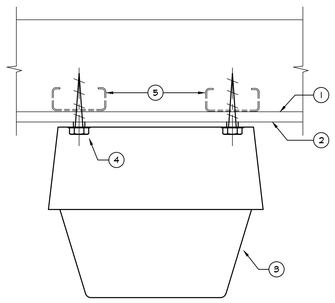
E4.1 NOT TO SCALE

C



9 SURFACE MOUNT LIGHT FIXTURE AT CANOPY MOUNTING DETAIL

E4.1 NOT TO SCALE



1. METAL BUILDING STUDS.
2. FOR BUILDING CEILING CONSTRUCTION, SEE ARCHITECTURAL DRAWINGS.
3. SURFACE MOUNTED FIXTURE.
4. (4) #10 x 2" LONG METAL SCREWS WITH FLAT WASHER, (4) PER FIXTURE.
5. METAL STUD BLOCKING PROVIDE #10 METAL SCREWS TO FASTEN BLOCKINGS TO METAL BUILDING STUDS, (4) AT EACH END. (TYP.)

C

10 SURFACE MOUNT CEILING LIGHT FIXTURE

E4.1 NOT TO SCALE

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PROJECT
LEDESMA ELEMENTARY SCHOOL MODERNIZATION

OAK GROVE SCHOOL DISTRICT

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STAMP


STATE
DSA FILE NUMBER 43-41
APPL # 01-122831

REVISIONS

No.	Description	Date
C	Addendum 3	06/01/26

MILESTONES

SD	05.23.2025
DD	11.14.2025
90% CD	12.17.2025
DSA SUB	12.29.2025

SHEET
ELECTRICAL DETAILS

DATE 06.01.2026
JOB # 2025014
SHEET # AD3-
E4.1