Attachment A Part 3 of 3

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C. ASHRAE Compliance: Applicable requirements in ASHRAE/IES 90.1, "Section 6 - Heating, Ventilating, and Air Conditioning."

2.2 MODULATING, SINGLE-DUCT AIR TERMINAL UNITS

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

1. Carnes Company.
2. Krueger.
3. Nailor Industries Inc.
4. Price Industries.
5. Titus.
6. Tuttle & Bailey.

B. Configuration: Volume-damper assembly inside unit casing with control components inside a protective metal shroud.

C. Casing: 0.040-inch-thick galvanized steel, single wall.

1. Casing Liner: Comply with requirements in "Casing Liner" Article for flexible elastomeric duct liner.
2. Air Inlet: Round stub connection or S-slip and drive connections for duct attachment.
3. Air Outlet: S-slip and drive connections.
4. Access: Removable panels for access to parts requiring service, adjustment, or maintenance; with airtight gasket.
5. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

D. Volume Damper: Galvanized steel with peripheral gasket and self-lubricating bearings.

1. Maximum Damper Leakage: AHRI 880 rated, 2 percent of nominal airflow at 3-inch wg inlet static pressure.
2. Damper Position: Normally open.

E. Hydronic Heating Coils: Copper tube, with mechanically bonded aluminum fins spaced no closer than 0.1 inch, and rated for a minimum working pressure of 200 psig and a maximum entering-water temperature of 220 deg F. Include manual air vent and drain valve. Provide hydronic heating coils for air terminal units scheduled on Drawings.

F. Control devices shall be compatible with temperature controls system specified in Section 230923 "Direct Digital Control (DDC) System for HVAC."

1. Electric Damper Actuator: 24 V, powered open, capacitous return.
2. Pneumatic Velocity Controller: Factory calibrated and field adjustable to minimum and maximum air volumes; shall maintain constant airflow dictated by thermostat within 5 percent of set point while compensating for inlet static-pressure variations up to 4-inch wg; and shall have a multipoint velocity sensor at air inlet.
3. Terminal Unit Controller: Pressure-independent, variable-air-volume (VAV) controller with electronic airflow transducer with multipoint velocity sensor at air inlet, factory calibrated to minimum and maximum air volumes, and having the following features:

a. Occupied and unoccupied operating mode.

b. Remote reset of airflow or temperature set points.
c. Adjusting and monitoring with portable terminal.
d. Communication with temperature-control system specified in Section 230923 "Direct Digital Control (DDC) System for HVAC."

4. Room Sensor: Wall mounted with temperature set-point adjustment and access for connection of portable operator terminal.

G. Controls:

1. Suitable for operation with duct pressures between 0.25- and 3.0-inch wg inlet static pressure.
2. System-powered, wall-mounted thermostat.

H. Control Sequences:

1. Occupied:

a. On a call for cooling, airflow will increase as the damper opens towards maximum setting to satisfy set point.
b. On a call for less cooling, airflow will decrease as the damper closes towards minimum setting to satisfy set point.
c. On a call for heating, after terminal unit has reached minimum airflow set point, hydronic heating coil valve will modulate toward open to satisfy set point.

2. Unoccupied:

a. Damper closes to minimum setting.

2.3 CASING LINER

A. Casing Liner: Flexible elastomeric duct liner fabricated of preformed, cellular, closed-cell, sheet materials complying with ASTM C534, Type II, Grade 1; and with NFPA 90A or NFPA 90B.

1. Minimum Thickness: 1/2 inch.
2. Surface-Burning Characteristics: Maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested according to UL 723; certified by an NRTL.
3. Liner Adhesive: As recommended by insulation manufacturer and complying with NFPA 90A or NFPA 90B.

2.4 SOURCE QUALITY CONTROL

A. Factory Tests: Test assembled air terminal units according to AHRI 880.

1. Label each air terminal unit with plan number, nominal airflow, maximum and minimum factory-set airflows, coil type, and AHRI certification seal.

PART 3 - EXECUTION

3.1 HANGER AND SUPPORT INSTALLATION

A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Ch. 5, "Hangers and Supports" and with Section 230529 "Hangers and Supports for HVAC Piping and Equipment."

B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.

1. Where practical, install concrete inserts before placing concrete.
2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes and for slabs more than 4 inches thick.
4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes and for slabs less than 4 inches thick.
5. Do not use powder-actuated concrete fasteners for seismic restraints.

C. Hangers Exposed to View: Threaded rod and angle or channel supports.

D. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.2 SEISMIC-RESTRAINT-DEVICE INSTALLATION

A. Install hangers and braces designed to support the air terminal units and to restrain against seismic forces required by applicable building codes. Comply with SMACNA's "Seismic Restraint Manual: Guidelines for Mechanical Systems." Comply with requirements for seismic-restraint devices in Section 230548 "Vibration and Seismic Controls for HVAC."

B. Select seismic-restraint devices with capacities adequate to carry present and future static and seismic loads.

C. Install cables so they do not bend across edges of adjacent equipment or building structure.

D. Install cable restraints on air terminal units that are suspended with vibration isolators.

E. Install seismic-restraint devices using methods approved by an evaluation service member of the ICC Evaluation Service.

F. Attachment to Structure: If specific attachment is not indicated, anchor bracing and restraints to structure, to flanges of beams, to upper truss chords of bar joists, or to concrete members.

G. Drilling for and Setting Anchors:

1. Identify position of reinforcing steel and other embedded items before drilling holes for anchors. Do not damage existing reinforcement or embedded items during drilling. Notify Architect if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.

2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
3. Wedge Anchors: Protect threads from damage during anchor installation. Install heavy-duty sleeve anchors with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Set anchors to manufacturer's recommended torque, using a torque wrench.
5. Install zinc-coated steel anchors for interior applications and stainless-steel anchors for applications exposed to weather.

3.3 TERMINAL UNIT INSTALLATION

A. Install air terminal units according to NFPA 90A, "Standard for the Installation of Air Conditioning and Ventilating Systems."

B. Install air terminal units level and plumb. Maintain sufficient clearance for normal service and maintenance.

C. Install wall-mounted thermostats.

3.4 PIPING CONNECTIONS

A. Where installing piping adjacent to air terminal unit, allow space for service and maintenance.

B. Hot-Water Piping: Comply with requirements in Section 232113 "Hydronic Piping" and Section 232116 Hydronic Piping Specialties," and connect heating coils to supply with shutoff valve, strainer, control valve, and union or flange; and to return with balancing valve and union or flange.

3.5 DUCTWORK CONNECTIONS

A. Comply with requirements in Section 233113 "Metal Ducts" for connecting ducts to air terminal units.

B. Make connections to air terminal units with flexible connectors complying with requirements in Section 233300 "Air Duct Accessories."

3.6 ELECTRICAL CONNECTIONS

A. Install field power to each air terminal unit electrical power connection. Coordinate with air terminal unit manufacturer and installers.

B. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

C. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."

D. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

E. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.7 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring in accordance with Section 260523 "Control-Voltage Electrical Power Cables."

3.8 IDENTIFICATION

A. Label each air terminal unit with plan number, nominal airflow, and maximum and minimum factory-set airflows. Comply with requirements in Section 230553 "Identification for HVAC Piping and Equipment" for equipment labels and warning signs and labels.

3.9 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. After installing air terminal units and after electrical circuitry has been energized, test for compliance with requirements.
2. Leak Test: After installation, fill water coils and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Air terminal unit will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.10 STARTUP SERVICE

A. Perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Verify that inlet duct connections are as recommended by air terminal unit manufacturer to achieve proper performance.
3. Verify that controls and control enclosure are accessible.
4. Verify that control connections are complete.
5. Verify that nameplate and identification tag are visible.
6. Verify that controls respond to inputs as specified.

3.11 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain air terminal units.

END OF SECTION 23 36 00

SECTION 23 37 13.13 - AIR DIFFUSERS

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. Diffusers, registers and grilles.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
2. Diffuser Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

PART 2 - PRODUCTS

2.1 DIFFUSERS, REGISTERS AND GRILLES

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

1. Carnes Company.
2. Krueger.
3. METALAIRE, Inc.
4. Nailor Industries Inc.
5. Price Industries.
6. Titus.
7. Tuttle & Bailey.

B. Devices shall be specifically designed for variable-air-volume flows.

C. Material: Steel.

D. Finish: Baked enamel, white.

2.2 SOURCE QUALITY CONTROL

A. Verification of Performance: Rate diffusers according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where diffusers are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.

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

3.2 INSTALLATION

A. Install diffusers level and plumb.

B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location.

C. Install diffusers with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.3 ADJUSTING

A. After installation, adjust diffusers to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION 23 37 13.13

SECTION 23 52 16 - CONDENSING BOILERS

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 gas-fired, fire-tube floor-mounted condensing boilers, trim, and accessories for generating hot water.

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 boilers.
2. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Shop Drawings: For boilers, boiler trim, and accessories.

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For boilers to include in emergency, operation, and maintenance manuals.

1.5 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of boilers that fail in materials or workmanship within specified warranty period. Where "prorated" is indicated, the boiler manufacturer will cover the indicated percentage of cost of replacement parts. With "prorated" type, covered cost decreases as age of equipment increases.

1. Warranty Period for Floor-Mounted Fire-Tube Condensing Boilers:

a. Heat Exchanger and Tank: Free from defects in material and workmanship.

b. Warranty Coverage: Prorated Year 0 to 5 - 100 percent; Year 6 to 7 - 50 percent; Year 8 to 9 - 30 percent; Year 10 - 10 percent for years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. ASME Compliance: Fabricate and label boilers to comply with ASME Boiler and Pressure Vessel Code.

C. ASHRAE/IES 90.1 Compliance: Boilers shall have minimum efficiency in accordance with Table 6.8.1-6 and other requirements in Ch. 6 of ASHRAE/IES 90.1.

D. ASHRAE 90.2 Compliance: Boilers shall have minimum efficiency in accordance with Ch. 6 of ASHRAE 90.2.

E. DOE Compliance: Minimum efficiency shall comply with 10 CFR 431, Subpart E, Appendix N.

F. Mounting Base: For securing boiler to concrete base.

1. Seismic Fabrication Requirements: Fabricate mounting base and attachment to boiler pressure vessel, accessories, and components with reinforcement strong enough to withstand seismic forces defined in Section 230548 "Vibration and Seismic Controls for HVAC" when mounting base is anchored to building structure.

2.2 FLOOR-MOUNTED, FORCED-DRAFT, FIRE-TUBE CONDENSING BOILERS

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

1. Bosch Thermotechnology Corp.
2. Fulton Boiler Works, Inc.
3. Laars Heating Systems Company; a subsidiary of Bradford White Corporation.
4. Lochinvar, LLC.
5. Weil-McLain.

B. Description: Factory-fabricated, -assembled, and -tested, fire-tube, forced-draft, condensing boiler with heat exchanger sealed pressure tight, built on a steel base, including insulated jacket; flue-gas vent; combustion-air intake connections; water supply, return, and condensate drain connections; and controls. Units are to be for water-heating service only.

C. Primary Heat Exchanger: Corrosion-resistant Type 316 stainless steel.

D. Secondary Heat Exchanger: Corrosion-resistant Type 316 stainless steel.

E. Combustion Chamber and Flue Pipes: Corrosion-resistant stainless steel.

F. Pressure Vessel: Carbon steel with welded heads and tube connections.

G. Burner: Natural gas, forced draft.

H. Blower: Centrifugal fan to operate during each burner-firing sequence and to prepurge and postpurge the combustion chamber.

1. Motors: Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."

a. Motor Sizes: Large enough so driven load will not require motor to operate in service factor range above 1.0.

I. Gas Train: Combination gas valve with manual shutoff and pressure regulator.

J. Ignition: Direct-spark ignition or silicone carbide hot-surface ignition with 100 percent main-valve shutoff and electronic flame supervision.

K. Casing:

1. Jacket: Sheet metal, with snap-in or interlocking closures.
2. Control Compartment Enclosures: NEMA 250, Type 1A.
3. Finish: Powder-coated protective finish.
4. Insulation: Minimum 2-inch-thick, mineral-fiber insulation surrounding the heat exchanger.
5. Combustion-Air Connections: Inlet and vent duct collars.

2.3 TRIM - FOR HOT-WATER BOILERS

A. Include devices sized to comply with ASME B31.9.

B. Aquastat Controllers: Operating, firing rate, and high limit with manual reset.

C. Safety Relief Valve: ASME rated.

D. Pressure and Temperature Gauge: Minimum 3-1/2-inch-diameter, combination water-pressure and -temperature gauge. Gauges shall have operating-pressure and -temperature ranges, so normal operating range is about 50 percent of full range.

E. High and low gas-pressure switches.

F. Alarm bell with silence switch.

G. Boiler Air Vent: Automatic.

H. Drain Valve: Minimum NPS 3/4 hose-end gate valve.

2.4 CONTROLS

A. Boiler operating controls shall include the following devices and features:

1. Control transformer.

2. Set-Point Adjust: All set points shall be adjustable.
3. Electric, factory-fabricated and factory-installed panel to modulate burner and control burner-firing rate to maintain space temperature in response to thermostat with heat anticipator located in heated space.

    a. Include automatic, alternating-firing sequence for multiple boilers to ensure maximum system efficiency throughout the load range and to provide equal runtime for boilers.

B. Burner Operating Controls: To maintain safe operating conditions, burner safety controls limit burner operation.

1. High Cutoff: Manual reset stops burner if operating conditions rise above maximum boiler design temperature.
2. Low-Water Cutoff Switch: Electronic probe shall prevent burner operation on low water. Cutoff switch shall be manual-reset type.
3. Blocked Inlet Safety Switch: Manual-reset pressure switch factory mounted on boiler combustion-air inlet.
4. Audible Alarm: Factory mounted on control panel with silence switch; shall sound alarm for above conditions.

C. Building Automation System Interface: Factory install hardware and software to enable building automation system to monitor, control, and display boiler status and alarms.

1. Hardwired Points:

    a. Monitoring: On/off status, common trouble alarm.
    b. Control: On/off operation, hot-water-supply temperature set-point adjustment.

2. A BACnet communication interface with building automation system shall enable building automation system operator to remotely control and monitor the boiler from an operator workstation. All monitoring and control features, which are available at the local boiler control panel, shall also be available at the remote operator workstation through the building automation system.

2.5 ELECTRICAL POWER

A. Controllers, Electrical Devices, and Wiring: Electrical devices and connections are shown on Drawings and specified in electrical Sections.

B. Single-Point Field Power Connection: Factory-installed and -wired switches, motor controllers, transformers, and other electrical devices necessary shall provide a single-point field power connection to boiler.

1. House in NEMA 250, Type 1 enclosure.
2. Wiring shall be numbered and color coded to match wiring diagram.
3. Install factory wiring outside of an enclosure in a raceway.
4. Field power interface shall be to nonfused disconnect switch.
5. Provide branch power circuit to each motor and to controls.
6. Provide each motor with overcurrent protection.

2.6 CONDENSATE-NEUTRALIZATION UNITS

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

1. Axiom.
2. Neutra-Safe Corporation.
3. SFA Saniflo USA.
4. Skidmore Pump.
5. Wessels Company.

B. Description: Factory-fabricated and -assembled condensate-neutralizing capsule assembly of corrosion-resistant plastic material with threaded or flanged inlet and outlet pipe connections. Device functions to prevent acidic condensate from damaging grain system. It is to be piped to receive acidic condensate discharged from condensing boiler and neutralize it by chemical reaction with replaceable neutralizing agent. Neutralized condensate is then piped to suitable drain.

C. Capsule features:

1. All corrosion-resistant material.
2. Suitable for use on all natural gas and propane boilers.
3. Includes initial charge of neutralizing agent.
4. Neutralizing agent to be easily replaceable when exhausted.
5. Inlet and outlet pipe connections.

D. Capsule Configuration:

1. Low-profile design for applications where boiler condensate drain is close to the floor.
2. Easily removed and opened for neutralizing agent replacement.
3. Multiple units may be used for larger capacity.

2.7 SOURCE QUALITY CONTROL

A. UL Compliance, Gas-Fired: Test gas-fired boilers for compliance with UL 2764. Boilers shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction.

B. Performance Testing: Test and label boilers for efficiency to comply with AHRI 1500.

C. Burner and Hydrostatic Test: Factory adjust burner to eliminate excess oxygen, carbon dioxide, oxides of nitrogen emissions, and carbon monoxide in flue gas and to achieve combustion efficiency; perform hydrostatic test.

D. Test and inspect factory-assembled boilers, before shipping, in accordance with 2017 ASME Boiler and Pressure Vessel Code. Factory test boilers for safety and functionality; fill boiler with water, and fire throughout firing range, to prove operation of all safety components.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for concrete equipment bases, anchor-bolt sizes and locations, and piping and electrical connections to verify actual locations, sizes, and other conditions affecting performance of the Work.

1. Final boiler locations indicated on Drawings are approximate. Determine exact locations before roughing-in for piping and electrical connections.

B. Examine mechanical spaces for suitable conditions where boilers will be installed.

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

3.2 BOILER INSTALLATION

A. Equipment Mounting:

1. Install floor-mounted boilers on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."
2. Comply with requirements for vibration isolation and seismic-restraint devices specified in Section 230548 "Vibration and Seismic Controls for HVAC."

B. Install gas-fired boilers according to NFPA 54.

C. Assemble and install boiler trim.

D. Install electrical devices furnished with boiler but not specified to be factory mounted.

E. Install control wiring to field-mounted electrical devices.

3.3 PIPING CONNECTIONS

A. Comply with requirements for hydronic piping specified in Section 232113 "Hydronic Piping."

B. Connect piping to boilers, except safety relief valve connections, with flexible connectors of materials suitable for service. Flexible connectors and their installation are specified in Section 232116 "Hydronic Piping Specialties."

C. Drawings indicate general arrangement of piping, fittings, and specialties.

D. When installing piping adjacent to boiler, allow space for service and maintenance of condensing boilers. Arrange piping for easy removal of condensing boilers.

E. Install condensate drain piping to condensate-neutralization unit and from neutralization unit to nearest floor drain. Piping shall be at least full size of connection. Install piping with a minimum of 2 percent downward slope in direction of flow.

F. Install condensate piping from equipment drain connection to nearest floor drain. Piping shall be at least full size of connection. Install piping with a minimum of 2 percent downward slope in direction of flow.

G. Connect gas piping to boiler gas-train inlet with union. Piping shall be at least full size of gas-train connection. Provide a reducer if required.

H. Connect hot-water piping to supply- and return-boiler tappings with shutoff valve, and union or flange at each connection.

I. Install piping from safety relief valves to nearest floor drain.

3.4 DUCT CONNECTIONS

A. Boiler Venting:

1. Field fabricate and install boiler vent and combustion-air intake.
2. Utilize vent and intake duct material, size, and configuration as indicated in boiler manufacturer's instructions and to comply with UL 1738.
3. Comply with all boiler manufacturer's installation instructions.
4. Connect boiler vent full size to boiler connections.
5. Comply with all boiler manufacturer's installation instructions.

3.5 ELECTRICAL CONNECTIONS

A. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.6 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring in accordance with Section 260523 "Control-Voltage Electrical Power Cables."

C. Install nameplate for each control connection, indicating field control panel designation and I/O control designation feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch high.

3.7 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

B. Tests and Inspections:

1. Perform installation and startup checks in accordance with manufacturer's written instructions.
2. Leak Test: Hydrostatic test. Repair leaks and retest until no leaks exist.
3. Operational Test: Start units to confirm proper motor rotation and unit operation. Adjust air-fuel ratio and combustion.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

    a. Check and adjust initial operating set points and high- and low-limit safety set points of fuel supply, water level, and water temperature.
    b. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

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

D. Prepare test and inspection reports.

E. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.8 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain boilers. Refer to Section 017900 "Demonstration and Training."

1. Instructor shall be factory trained and certified.
2. Provide not less than two hours of training.
3. Train personnel in operation and maintenance and to obtain maximum efficiency in plant operation.
4. Provide instructional videos showing general operation and maintenance that are coordinated with operation and maintenance manuals.
5. Obtain Owner sign-off that training is complete.
6. Owner training shall be held at Project site.

END OF SECTION 23 52 16

SECTION 23 74 16.13 - PACKAGED, LARGE-CAPACITY, ROOFTOP AIR-CONDITIONING UNITS

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 packaged, large-capacity, rooftop air conditioning units (RTUs) with the following components:

1. Casings.
2. Fans, drives, and motors.
3. Coils.
4. Refrigerant circuit components.
5. Air filtration.
6. Dampers.
7. Electrical power connections.
8. Controls.
9. Roof curbs.
10. Accessories.

1.3 DEFINITIONS

A. RTU: Rooftop unit. As used in this Section, this abbreviation means packaged, large-capacity, rooftop air-conditioning units. This abbreviation is used regardless of whether the unit is mounted on the roof or on a concrete base on ground.

1.4 ACTION SUBMITTALS

A. Product Data: For each RTU.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include rated capacities, dimensions, required clearances, characteristics, furnished specialties, and accessories.
3. Include unit dimensions and weight.
4. Include cabinet material, metal thickness, finishes, insulation, and accessories.
5. Fans:

    a. Include certified fan-performance curves with system operating conditions indicated.
    b. Include certified fan-sound power ratings.
    c. Include fan construction and accessories.
    d. Include motor ratings, electrical characteristics, and motor accessories.

6. Include certified coil-performance ratings with system operating conditions indicated.
7. Include filters with performance characteristics.
8. Include gas furnaces with performance characteristics.
9. Include factory selection calculations for each antimicrobial ultraviolet lamp installation.
10. Include dampers, including housings, linkages, and operators.

B. Shop Drawings: For each packaged, large-capacity, rooftop air-conditioning units.

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For RTUs to include in emergency, operation, and maintenance manuals.

1.6 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of outdoor, semi-custom, air-handling unit that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of Substantial Completion for whole unit parts, labor, and refrigerant.
2. Warranty Period for Compressors: Manufacturer's standard, but not less than five years parts and labor from date of Substantial Completion

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of RTUs and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE 15 Compliance: For refrigeration system safety.

E. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

F. UL Compliance: Comply with UL 1995.

2.2 MANUFACTURERS

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

1. AAON.
2. Carrier Corporation; a unit of United Technologies Corp.
3. Trane.
4. YORK; a Johnson Controls company.

2.3 UNIT CASINGS

A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed.

B. Double-Wall Construction:

1. Outside Casing Wall: Galvanized steel, minimum 18 gauge thick with manufacturer's standard finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.
2. Inside Casing Wall: G90-coated galvanized steel, 0.028 inch thick.
3. Floor Plate: G90 galvanized steel,minimum 18 gauge thick.
4. Casing Insulation:

a. Materials: Injected polyurethane foam insulation.
b. Casing Panel R-Value: Minimum R-8.
c. Insulation Thickness: 2inches.
d. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roof of unit.

C. Airstream Surfaces: Surfaces in contact with airstream shall comply with requirements in ASHRAE 62.1.

D. Static-Pressure Classifications:

1. For Unit Sections Upstream of Fans: Minus 3-inch wg.
2. For Unit Sections Downstream and Including Fans: 4-inch wg.

E. Panels and Doors:

1. Panels:

a. Fabrication: Formed and reinforced with same materials and insulation thickness as casing.
b. Fasteners: Two or more camlock type for panel lift-out operation. Arrangement shall allow panels to be opened against air-pressure differential.
c. Gasket: Neoprene, applied around entire perimeters of panel frames.
d. Size: Large enough to allow inspection and maintenance of air-handling unit's internal components. Dimensions to be at least 18 inches wide by full height of unit casing up to a maximum height of 60 inches.

2. Access Doors:

a. Hinges: A minimum of two ball-bearing hinges or stainless steel piano hinge and two wedge-lever-type latches, operable from inside and outside. Arrange doors to be opened against air-pressure differential.
b. Gasket: Neoprene, applied around entire perimeters of panel frames.
c. Size: Large enough to allow inspection and maintenance of air-handling unit's internal components. Dimensions to be at least 18 inches wide by full height of unit casing up to a maximum height of 60 inches.

3. Locations and Applications:

a. Fan Section: Doors.
b. Access Section: Doors.
c. Coil Section: Inspection and access panels.
d. Damper Section: Doors.
e. Filter Section: Doors large enough to allow periodic removal and installation of filters.
f. Mixing Section: Doors.

F. Condensate Drain Pans:

1. Location: Each type of cooling coil.
2. Construction:

a. Double-wall, stainless steel sheet with space between walls filled with foam insulation and moisture-tight seal.

3. Drain Connection:

a. Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on both ends of pan.
b. Minimum Connection Size: NPS 1.

4. Slope: Minimum 0.125-in./ft. slope in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and from humidifiers and to direct water toward drain connection.
5. Width: Entire width of water producing device.
6. Depth: A minimum of 2 inches deep.
7. Units with stacked coils shall have an intermediate drain pan to collect condensate from top coil.

2.4 FANS, DRIVES, AND MOTORS

A. Fan and Drive Assemblies: Statically and dynamically balanced and designed for continuous operation at maximum-rated fan speed and motor horsepower.

B. Supply-Air Fans: Centrifugal, rated according to AMCA 210; galvanized or painted steel; mounted on solid-steel shaft.

1. Shafts: With field-adjustable alignment.

a. Turned, ground, and polished hot-rolled steel with keyway.

2. Shaft Bearings:

a. Heavy-duty, self-aligning, pillow-block type with an L-50 rated life of minimum 100,000 hours according to ABMA 9.

3. Housings: Formed- and reinforced-steel panels to form curved scroll housings with shaped cutoff and spun-metal inlet bell.

a. Bracing: Steel angle or channel supports for mounting and supporting fan scroll, wheel, motor, and accessories.

4. Centrifugal Fan Wheels: Inlet flange, backplate, and shallow blades with inlet and tip curved forward in direction of airflow and mechanically fastened to flange and backplate; steel or aluminum hub swaged to backplate and fastened to shaft with setscrews.
5. Mounting: For internal vibration isolation and seismic control. Factory-mount fans with manufacturer's standard restrained vibration isolation mounting devices having a minimum static deflection of 1 inch.
6. Shaft Lubrication Lines: Extended to a location outside the casing.
7. Flexible Connector: Factory fabricated with a fabric strip minimum 3-1/2 inches wide, attached to two strips of minimum 2-3/4-inch-wide by 0.028-inch-thick, galvanized-steel sheet.

a. Flexible Connector Fabric: Glass fabric, double coated with neoprene. Fabrics, coatings, and adhesives shall comply with UL 181, Class 1.

C. Drives, Direct: Factory-mounted, direct drive.

D. Condenser-Coil Fan: Variable-speed propeller, mounted on shaft of permanently lubricated ECM motors.

E. Relief-Air Fan: Forward curved, shaft mounted on perman**ently lubr**ica**ted** motor.

F. Motors:

1. Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
2. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
3. Efficiency: Premium efficient as defined in NEMA MG 1.
4. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.

2.5 COILS

A. General Requirements for Coils:

1. Comply with AHRI 410.
2. Fabricate coils section to allow removal and replacement of coil for maintenance and to allow in-place access for service and maintenance of coil(s).
3. Coils shall not act as structural component of unit.

B. Supply-Air Refrigerant Coil:

1. Tubes: Copper.

2. Fins:

a. Material: Aluminum.
b. Fin Spacing: Maximum 10 fins per inch.

3. Fin and Tube Joints: Mechanical bond.
4. Headers: Seamless-copper headers with brazed connections.
5. Frames: Galvanized steel or stainless steel.
6. Ratings: Designed, tested, and rated according to ASHRAE 33 and AHRI 410.

a. Working Pressure: Minimum 300 psig.

C. Outdoor-Air Refrigerant Coil:

1. Tubes: Copper.
2. Fins:

a. Material: Aluminum.
b. Fin Spacing: Maximum 10 fins per inch.

3. Fin and Tube Joints: Mechanical bond.
4. Headers: Seamless-copper headers with brazed connections.
5. Frames: Galvanized steel or stainless steel.
6. Ratings: Designed, tested, and rated according to ASHRAE 33 and AHRI 410.

a. Working Pressure: Minimum 300 psig.

2.6 REFRIGERANT CIRCUIT COMPONENTS

A. Number of Refrigerant Circuits: One.

B. Compressor: Hermetic, variable speed scroll, mounted on vibration isolators; with internal overcurrent and high-temperature protection, internal pressure relief.

C. Refrigeration Specialties:

1. Refrigerant: R-410A.
2. Expansion valve with replaceable thermostatic element.
3. Refrigerant filter/dryer.
4. Manual-reset high-pressure safety switch.
5. Automatic-reset low-pressure safety switch.
6. Minimum off-time relay.
7. Automatic-reset compressor motor thermal overload.
8. Brass service valves installed in compressor suction and liquid lines.

2.7 AIR FILTRATION

A. Particulate air filtration is specified in Section 234100 "Particulate Air Filtration."

B. Panel Filters:

1. Description: Pleated factory-fabricated, self-supported, disposable air filters with holding frames.
2. Filter Unit Class: UL 900.
3. Media: Interlaced glass, synthetic or cotton fibers coated with nonflammable adhesive and antimicrobial coating.
4. Filter-Media Frame: Beverage board with perforated metal retainer, or metal grid, on outlet side.

C. Cartridge Filters:

1. Description: Factory-fabricated,disposable, packaged air filters with media perpendicular to airflow, and with holding frames.
2. Filter Unit Class: UL 900.
3. Media: Fibrous material, with antimicrobial coating, constructed so individual pleats are maintained in pleated form under rater-airflow conditions by corrugated aluminum separators.
4. Filter Media Frame: Galvanized steel.

2.8 DAMPERS

A. Outdoor- and Return-Air Dampers: Low-leakage, double-skin, airfoil-blade, galvanized-steel dampers with compressible jamb seals and extruded-vinyl blade edge seals in opposed-blade arrangement with zinc-plated steel operating rods rotating in sintered bronze or nylon bearings mounted in a single galvanized-steel frame, and with operating rods connected with a common linkage. Leakage rate shall not exceed 4 cfm/sq. ft. at 1-inch wg and 8 cfm/sq. ft. at 4-inch wg

B. Damper Operators: Comply with requirements in Section 230923.12 "Control Dampers."

C. Electronic Damper Operators:

1. Direct-coupled type designed for minimum 60,000 full-stroke cycles at rated torque.
2. Electronic damper position indicator shall have visual scale indicating percent of travel and 2- to 10-V dc, feedback signal.
3. Operator Motors:

    a. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
    b. Size to operate with sufficient reserve power to provide smooth modulating action or two-position action.
    c. Permanent Split-Capacitor or Shaded-Pole Type: Gear trains completely oil immersed and sealed. Equip spring-return motors with integral spiral-spring mechanism in housings designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.

2.9 ELECTRICAL POWER CONNECTIONS

A. RTU shall have a single connection of power to unit with unit-mounted disconnect switch accessible from outside unit and control-circuit transformer with built-in overcurrent protection.

2.10 CONTROLS

A. DDC Controller:

1. Controller shall have volatile-memory backup.
2. Safety Control Operation:

    a. Smoke Detectors: Stop fan and close outdoor-air damper if smoke is detected. Provide additional contacts for alarm interface to fire alarm control panel.
    b. Fire Alarm Control Panel Interface: Provide control interface to coordinate with operating sequence described in Section 284621.11 "Addressable Fire-Alarm Systems."
    c. Low-Discharge Temperature: Stop fan and close outdoor-air damper if supply air temperature is less than 40 deg F.

3. Scheduled Operation: Occupied and unoccupied periods on 365-day clock with a minimum of four programmable periods per day.
4. Unoccupied Period:

    a. Heating Setback: Plus 10 deg F.
    b. Cooling Setback: System off.
    c. Override Operation: Two hours.

5. Supply Fan Operation:

    a. Occupied Periods: Run fan continuously.
    b. Unoccupied Periods: Cycle fan to maintain setback temperature.

6. Refrigerant Circuit Operation:

    a. Occupied Periods: Cycle or stage compressors to match compressor output to cooling load to maintain discharge temperature. Cycle condenser fans to maintain maximum hot-gas pressure. Operate low-ambient control kit to maintain minimum hot-gas pressure.
    b. Unoccupied Periods: Compressors off.
    c. Switch reversing valve for heating or cooling mode on air-to-air heat pump.

7. Economizer Outdoor-Air Damper Operation:

    a. Morning warm up cycles.
    b. Occupied Periods: Open to 25 percent fixed minimum intake, and maximum 100 percent of the fan capacity. Controller shall permit air-side economizer operation when outdoor air is less than 60 deg F. Use mixed-air and outdoor-air temperature to adjust mixing dampers. During economizer cycle operation, lock out cooling.
    c. Unoccupied Periods: Close outdoor-air damper and open return-air damper.
    d. Outdoor-Airflow Monitor: Accuracy maximum plus or minus 5 percent within 15 and 100 percent of total outdoor air. Monitor microprocessor shall adjust for temperature, and output shall range from 4 to 20 mA.

8. Terminal-Unit Relays:

    a. Provide heating- and cooling-mode changeover relays compatible with terminal control system required in Section 233600 "Air Terminal Units" and Section 230923 "Direct Digital Control (DDC) System for HVAC."

B. Interface Requirements for HVAC Instrumentation and Control System:

1. Interface relay for scheduled operation.
2. Interface relay to provide indication of fault at the central workstation and diagnostic code storage.
3. Provide BACnet compatible interface for central HVAC control workstation for the following:

a. Adjusting set points.
b. Monitoring supply fan start, stop, and operation.
c. Inquiring data to include outdoor-air damper position, supply- and room-air temperature.
d. Monitoring occupied and unoccupied operations.
e. Monitoring constant and variable motor loads.
f. Monitoring variable-frequency drive operation.
g. Monitoring cooling load.
h. Monitoring economizer cycles.
i. Monitoring air-distribution static pressure and ventilation air volume.

2.11 ROOF CURBS

A. Roof curbs with vibration isolators and wind or seismic restraints are specified in Section 230548 "Vibration and Seismic Controls for HVAC."

2.12 ACCESSORIES

A. Duplex, 115-V, ground-fault-interrupter outlet with 15-A overcurrent protection. Include transformer if required. Outlet shall be energized even if the unit main disconnect is open.

B. Filter differential pressure switch with sensor tubing on either side of filter. Set for final filter pressure loss.

C. Remote potentiometer to adjust minimum economizer damper position.

D. Factory- or field-installed demand-controlled ventilation.

E. Safeties:

1. Smoke detector.
2. Condensate overflow switch.
3. Phase-loss reversal protection.
4. High and low pressure control.

F. Coil guards of painted, galvanized-steel wire.

G. Door switches to disable heating or reset set point when open.

H. Outdoor air intake weather hood.

I. Service Lights and Switch: Factory installed in fan and coil sections with weatherproof cover. Factory wire lights to a single-point field connection.

2.13 MATERIALS

A. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for steel sheet.

B. Stainless Steel:

1. Manufacturer's standard grade for casing.
2. Manufacturer's standard type, ASTM A240/A240M for bare steel exposed to airstream or moisture.

C. Galvanized Steel: ASTM A653/A653M.

D. Aluminum: ASTM B209.

2.14 SOURCE QUALITY CONTROL

A. AHRI Compliance:

1. Comply with AHRI 340/360 for testing and rating energy efficiencies for RTUs.
2. Comply with AHRI 270 for testing and rating sound performance for RTUs.
3. Comply with AHRI 1060 for testing and rating performance for air-to-air exchanger.

B. AMCA Compliance:

1. Comply with AMCA 11 and bear the AMCA-Certified Ratings Seal for air and sound performance according to AMCA 211 and AMCA 311.
2. Damper leakage tested in accordance with AMCA 500-D.
3. Operating Limits: Classify according to AMCA 99.

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 RTUs.

B. Examine roughing-in for RTUs to verify actual locations of piping and duct connections before equipment installation.

C. Examine roofs for suitable conditions where RTUs will be installed.

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

3.2 INSTALLATION

A. Roof Curb: Install on roof structure or concrete base, level and secure, according to NRCA's "NRCA Roofing Manual: Membrane Roof Systems." Install RTUs on curbs and coordinate roof

penetrations and flashing with roof construction specified in Section 077200 "Roof Accessories." Secure RTUs to upper curb rail, and secure curb base to roof framing or concrete base with anchor bolts. Coordinate sizes and locations of roof curbs with actual equipment provided.

3.3 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to RTU, allow space for service and maintenance.

C. Connect piping to unit mounted on vibration isolators with flexible connectors.

D. Connect condensate drain pans using pipe size to match the drain connection or as indicated on the drawings, whichever is larger, ASTM B88, Type M copper tubing. Extend to point of discharge shown on the drawings.

E. Hot-Water Piping: Comply with applicable requirements in Section 232113 "Hydronic Piping" and Section 232116 "Hydronic Piping Specialties." Install shutoff valve and union or flange at each coil supply connection. Install balancing valve and union or flange at each coil return connection.

3.4 DUCT CONNECTIONS

A. Comply with duct installation requirements specified in other HVAC Sections. Drawings indicate the general arrangement of ducts. The following are specific connection requirements:

1. Install ducts to termination at top of roof curb.
2. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.
3. Connect supply ducts to RTUs with flexible duct connectors specified in Section 233300 "Air Duct Accessories."
4. Install return-air duct continuously through roof structure.

3.5 ELECTRICAL CONNECTIONS

A. Connect electrical wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs as layers of black with engraved white letters at least 1/2 inch high.
2. Locate nameplate where easily visible.

3.6 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring according to Section 260523 "Control-Voltage Electrical Power Cables."

3.7 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

B. Complete installation and startup checks according to manufacturer's written instructions.

1. Inspect for visible damage to unit casing.
2. Inspect for visible damage to furnace combustion chamber.
3. Inspect for visible damage to compressor, coils, and fans.
4. Inspect internal insulation.
5. Verify that labels are clearly visible.
6. Verify that clearances have been provided for servicing.
7. Verify that controls are connected and operable.
8. Verify that filters are installed.
9. Clean condenser coil and inspect for construction debris.
10. Remove packing from vibration isolators.
11. Verify lubrication on fan and motor bearings.
12. Inspect fan-wheel rotation for movement in correct direction without vibration and binding.
13. Start unit according to manufacturer's written instructions.

    a. Start refrigeration system.
    b. Do not operate below recommended low-ambient temperature.
    c. Complete startup sheets and attach copy with Contractor's startup report.

14. Inspect and record performance of interlocks and protective devices; verify sequences.
15. Operate unit for an initial period as recommended or required by manufacturer.
16. Calibrate thermostats.
17. Adjust and inspect high-temperature limits.
18. Inspect outdoor-air dampers for proper stroke and interlock with return-air dampers.
19. Start refrigeration system and measure and record the following when ambient is a minimum of 15 deg F above return-air temperature:

    a. Coil leaving-air, dry- and wet-bulb temperatures.
    b. Coil entering-air, dry- and wet-bulb temperatures.
    c. Outdoor-air, dry-bulb temperature.
    d. Outdoor-air-coil, discharge-air, dry-bulb temperature.

20. Inspect controls for correct sequencing of heating, mixing dampers, refrigeration, and normal and emergency shutdown.
21. Measure and record the following minimum and maximum airflows. Plot fan volumes on fan curve.

    a. Supply-air volume.
    b. Return-air volume.
    c. Relief-air volume.
    d. Outdoor-air intake volume.

22. Simulate maximum cooling demand and inspect the following:

    a. Compressor refrigerant suction and hot-gas pressures.
    b. Short circuiting of air through condenser coil or from condenser fans to outdoor-air intake.

23. Verify operation of remote panel including pilot-light operation and failure modes. Inspect the following:

    a. High-temperature limit on gas-fired heat exchanger.
    b. Low-temperature safety operation.
    c. Filter high-pressure differential alarm.
    d. Economizer to minimum outdoor-air changeover.
    e. Relief-air fan operation.
    f. Smoke alarms.

24. After startup and performance testing and prior to Substantial Completion, replace existing filters with new filters.

3.8 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

C. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.9 CLEANING

A. After completing system installation and testing, adjusting, and balancing RTUs and air-distribution systems and after completing startup service, clean RTUs internally to remove foreign material and construction dirt and dust. Clean fan wheels, cabinets, dampers, coils, and filter housings, and install new, clean filters.

3.10 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

    1. After installing RTUs and after electrical circuitry has been energized, test units for compliance with requirements.
    2. Inspect for and remove shipping bolts, blocks, and tie-down straps.
    3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
    4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. RTU will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.11 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain RTUs.

END OF SECTION 23 74 16.13

SECTION 23 81 26 - SPLIT-SYSTEM AIR-CONDITIONERS

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 split-system air-conditioning and heat-pump units consisting of separate evaporator-fan and compressor-condenser components.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories. Include performance data in terms of capacities, outlet velocities, static pressures, sound power characteristics, motor requirements, and electrical characteristics.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Wiring Diagrams: For power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For split-system air-conditioning units to include in emergency, operation, and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. ASHRAE Compliance:

1. Fabricate and label refrigeration system to comply with ASHRAE 15, "Safety Standard for Refrigeration Systems."
2. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 4 - "Outdoor Air Quality," Section 5 - "Systems and Equipment," Section 6 - " Procedures," and Section 7 - "Construction and System Start-up."

C. ASHRAE/IES Compliance: Applicable requirements in ASHRAE/IES 90.1.

1.6 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of split-system air-conditioning units that fail in materials or workmanship within specified warranty period.

1. Warranty Period:

a. For Compressor: Five year(s) from date of Substantial Completion.
b. For Parts: Five year(s) from date of Substantial Completion.
c. For Labor: One year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Daikin AC.
2. Lennox Industries, Inc.; Lennox International.
3. Mitsubishi Electric & Electronics USA, Inc.
4. SANYO North America Corporation.

2.2 INDOOR UNITS (5 TONS OR LESS)

A. Wall-Mounted, Evaporator-Fan Components:

1. Cabinet: Enameled steel with removable panels on front and ends in color selected by Architect, and discharge drain pans with drain connection.
2. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and thermal-expansion valve. Comply with ARI 206/110.
3. Fan: Direct drive, centrifugal.
4. Fan Motors:

a. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
b. Multitapped, multispeed with internal thermal protection and permanent lubrication.
c. Enclosure Type: Totally enclosed, fan cooled.
d. NEMA Premium (TM) efficient motors as defined in NEMA MG 1.
e. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.
f. Mount unit-mounted disconnect switches on exterior of unit.

5. Condensate Drain Pans:

a. Fabricated with one percent slope in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and humidifiers, and to direct water toward drain connection.

6. Air Filtration Section:

a. General Requirements for Air Filtration Section:

1) Comply with NFPA 90A.
2) Minimum MERV according to ASHRAE 52.2.
3) Filter-Holding Frames: Arranged for flat or angular orientation, with access doors on both sides of unit. Filters shall be removable from one side or lifted out from access plenum.

b. Disposable Panel Filters:

1) Factory-fabricated, viscous-coated, flat-panel type.
2) Thickness: 1 inch.

2.3 OUTDOOR UNITS (5 TONS OR LESS)

A. Air-Cooled, Compressor-Condenser Components:

1. Casing: Steel, finished with baked enamel in color selected by Architect, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.
2. Compressor: Hermetically sealed with crankcase heater and mounted on vibration isolation device. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.

a. Compressor Type: Scroll.
b. Refrigerant: R-410A.
c. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and liquid subcooler. Comply with ARI 206/110.

3. Fan: Aluminum-propeller type, directly connected to motor.
4. Motor: Permanently lubricated, with integral thermal-overload protection.
5. Low Ambient Kit: Permits operation down to 45 deg F.
6. Mounting Base: Polyethylene.

2.4 ACCESSORIES

A. Thermostat: Wireless infrared functioning to remotely control compressor and evaporator fan, with the following features:

1. Compressor time delay.
2. 24-hour time control of system stop and start.
3. Liquid-crystal display indicating temperature, set-point temperature, time setting, operating mode, and fan speed.
4. Fan-speed selection including auto setting.

B. Automatic-reset timer to prevent rapid cycling of compressor.

C. Refrigerant Line Kits: Soft-annealed copper suction and liquid lines factory cleaned, dried, pressurized, and sealed; factory-insulated suction line with flared fittings at both ends.

D. Drain Hose: For condensate.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install units level and plumb.

B. Install evaporator-fan components using manufacturer's standard mounting devices securely fastened to building structure.

C. Install roof-mounted, compressor-condenser components on equipment supports specified in Section 077200 "Roof Accessories." Anchor units to supports with removable, cadmium-plated fasteners.

3.2 CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where piping is installed adjacent to unit, allow space for service and maintenance of unit.

3.3 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Remove and replace malfunctioning units and retest as specified above.

D. Prepare test and inspection reports.

3.4 STARTUP SERVICE

A. Perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

3.5 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain units.

END OF SECTION 23 81 26

SECTION 23 82 16.11 - HYDRONIC AIR COILS

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. Hydronic air coils.

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 each air coil.
2. Include rated capacities, operating characteristics, and pressure drops for each air coil.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air coils to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. ASHRAE 62.1 Compliance: Comply with applicable requirements in ASHRAE 62.1, Section 5, "Systems and Equipment," and Section 7, "Construction and Startup."

B. Performance Ratings: Tested and rated in accordance with AHRI 410 and ASHRAE 33.

C. Minimum Working-Pressure/Temperature Ratings: 200 psig/300 deg F.

D. Select cooling coils for no moisture carryover at design conditions. Provide moisture eliminators on discharge face of cooling coil if necessary to eliminate moisture carryover.

2.2 HYDRONIC AIR COILS

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

1. Modine Commercial and Industrial Solutions.
2. Nortek Air Solutions, LLC – Temtrol Coils.
3. Trane.

B. Source Limitations: Obtain hydronic coils from single source from single manufacturer.

C. Description: Coils constructed of staggered tubes mechanically expanded into continuous collars that are die-formed into the coil fins; self-venting; counterflow design of air to fluid.

D. Tubes:

1. Material: Copper.
2. Nominal Diameter: Minimum 1/2 inch before expanding, selected to provide performance indicated.
3. Nominal Wall Thickness: As required by performance, minimum 0.025 inch thick.
4. Return Bends: 180-degree bends; material, wall thickness, and nominal diameter to match tubes.
5. Fluid Velocity at Design Flow Rate:

a. Maximum: 6 fps.
b. Minimum: 3 fps.

E. Fins:

1. Type: Plate.
2. Materials:

a. Aluminum: 0.0060 inch thick.

3. Spacing: Maximum 12 fins per inch.
4. Collars: Full collars for accurate fin spacing and maximum tube contact while leaving no surface of tube exposed.
5. Configuration: Flat-face fins.
6. Fin and Tube Joint: Mechanical bond or silver brazed.

F. Headers:

1. Material: Copper.
2. Tube-to-Header Connections: Tube-to-header holes to intrude inward, so landed surface area is 3 times the core tube thickness, to provide enhanced-header-to-tube joint integrity. Evenly extend tubes within the ID of the header no more than 0.12 inch.
3. Header Top and Bottom Caps: End caps to be die-formed and installed on the ID of header, such that the landed surface area is 3 times the header wall thickness.
4. Drains: Include low point of supply header with a NPS 1/2 drain connection.
5. Vents: Include high point of return header with a NPS 1/2 vent connection.
6. Supply and Return Connections: Red brass pipe; threaded, same end of coil.
7. Protect opening of supply, return, vent, and drain connections with a threaded cap to prevent entry of dirt into coil.
8. Fluid Velocity at Design Flow Rate: Maximum of 6 fps.

G. Casings and Tube Sheets:

1. Depth: Extend coil casing and tube sheets a minimum of 1/2 inch beyond face of fins on both entering and leaving sides.
2. Materials:

a. Galvanized steel, ASTM A653/A653M, G90 coating.

H. Top and Bottom Casings:

1. Flange face minimum of 1-1/2 inches; double-flange edge for rigidity and ease of removal with secondary flange face minimum of 1/2 inch.
2. Thickness:

a. Coils with Fin Length of Up to 72 Inches: Minimum of 14 gauge thick.

I. End Tube Sheets:

1. Tube sheet holes rolled to prevent chaffing of tubes during thermal expansion and contraction.
2. Flange face minimum of 1-1/2 inches.
3. Thickness: Minimum of 14 gauge thick.

J. Intermediate Tube Sheets:

1. Tube sheet holes rolled to prevent chaffing of tubes during thermal expansion and contraction.
2. Space intermediate tube sheets a maximum of 48 inches o.c. and locate to provide equal spacing between tube sheet across coil tube length.
3. Flange face minimum of 1/2 inch.
4. Thickness: Minimum of 16 gauge thick.

K. Holes: Include number, size, and location of holes in casing and end tube sheets required for coil installation.

L. Hardware: Use hex-head bolts, nuts, and washers constructed of Type 304 stainless steel.

M. Nameplate: Aluminum or stainless steel nameplate with brass or stainless steel chain for each coil, with the following data engraved or embossed:

1. Manufacturer name, address, telephone number, and website address.
2. Manufacturer model number.
3. Serial number.
4. Manufacturing date.
5. Coil identification (indicated on Drawings).
6. Coil fin length.
7. Coil fin height.

N. Coating: None.

2.3 MATERIALS

A. Aluminum: ASTM B209.

B. Copper Tube: ASTM B75/ASTM 75M annealed temper or ASTM B280 drawn temper.

C. Copper Sheet: ASTM B152.

2.4 SOURCE QUALITY CONTROL

A. Hydronic Coils: Factory tested with air while coil is completely submerged underwater to design pressure indicated, but not less than 300-psig internal pressure.

B. Coils to display a tag with inspector's identification as proof of testing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine ducts, plenums, and casings to receive air coils for compliance with requirements for installation tolerances and other conditions affecting coil performance.

B. Examine roughing-in for piping systems to verify actual locations of piping connections before coil installation.

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

3.2 INSTALLATION

A. Install coils level and plumb.

B. Install coils in metal ducts and casings constructed in accordance with SMACNA's "HVAC Duct Construction Standards, Metal and Flexible."

C. Straighten bent fins on air coils.

D. Clean coils using materials and methods recommended in writing by manufacturers, and clean inside of casings and enclosures to remove dust and debris.

3.3 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to coils to allow service and maintenance.

C. Connect water piping with unions and shutoff valves to allow coils to be disconnected without draining piping. Control valves are specified in Section 230923 "Direct Digital Control System for HVAC," and other piping specialties are specified in Section 232116 "Hydronic Piping Specialties."

END OF SECTION 23 82 16.11

SECTION 26 05 00 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 – GENERAL

1.1 Description of Work:

A. The work of this Section consists of providing all required labor, supervision, materials and equipment to satisfactorily complete all electrical installations that are shown on the Drawings, included in these specifications, or otherwise needed for a complete and fully operating facility.

B. Furnish and install all required in-place equipment, conduits, conductors, cables and any miscellaneous materials for the satisfactory interconnection and operation of all associated electrical systems.

1.2 Related Work:

A. This Section provides the basic Electrical Requirements which supplement the General Requirements of Division 01 and apply to all Sections of Division 26.

1.3 Submittals:

A. As specified in Division 01. Submit to the Architect shop drawings, manufacturer's data and certificates for equipment, materials and finish, and pertinent details for each system specified. Information to be submitted includes manufacturer's descriptive literature of cataloged products, equipment, drawings, diagrams, performance and characteristic curves as applicable, test data and catalog cuts. Obtain written approval before procurement, fabrication, or delivery of the items to the job site. Partial submittals are not acceptable and will be returned without review. Furnish manufacturer's name, trade name, catalog model or number, nameplate data, size, layout dimensions, capacity, project specification and paragraph reference, applicable Federal, Industry and Technical Society Publication References, and years of satisfactory service of each item required to establish contract compliance. Photographs of existing installations and data submitted in lieu of catalog data are not acceptable and will be returned without approval.

B. Organize submittals for equipment and items related to each specification section together as a package.

C. Proposed substitutions of products will not be reviewed or approved prior to awarding of the Contract.

D. Substitutions shall be proven to the Architect or Engineer to be equal or superior to the specified product. Architect’s decision is final. The Contractor shall pay all costs incurred by the Architect and Engineer in reviewing and processing any proposed substitutions whether or not a proposed substitution is accepted.

E. If a proposed substitution is rejected, the contractor shall furnish the specified product at no increase in contract price.

F. If a proposed substitution is accepted, the contractor shall be completely responsible for all dimensional changes, electrical changes, or changes to other work which are a result of the substitution. The accepted substitution shall be made at no additional cost to the owner or design consultants.

1.4 Quality Assurance:

A. Codes: All electrical equipment and materials, including installation and testing, shall conform to the latest editions following applicable codes:

1. California Electrical Code (CEC).

2. Occupational Safety and Health Act (OSHA) standards.

3. All applicable local codes, rules and regulations.

4. Electrical Contractor shall possess a C-10 license and all other licenses as may be required. Licenses shall be in effect at start of this contract and be maintained throughout the duration of this contract.

B. Variances: In instances where two or more codes are at variance, the most restrictive requirement shall apply.

C. Standards: Equipment shall conform to applicable standards of American National Standards Institute (ANSI), Electronics Industries Association (EIA), Institute of Electrical and Electronics Engineers (IEEE), and National Electrical Manufacturers Association (NEMA).

D. Underwriter Laboratories (UL) listing is required for all equipment and materials where such listing is offered by the Underwriters Laboratories. Provide service entrance labels for all equipment required by the NEC to have such labels.

E. The electrical contractor shall guarantee all work and materials installed under this contract for a period of one (1) year from date of acceptance by owner.

F. All work and materials covered by this specification shall be subject to inspection at any and all times by representatives of the owner. Work shall not be closed in or covered before inspection and approval by the owner or his representative. Any material found not conforming with these specifications shall, within 3 days after being notified by the owner, be removed from premises; if said material has been installed, entire expense of removing and replacing same, including any cutting and patching that may be necessary, shall be borne by the contractor.

1.5 Contract Documents:

A. Drawings and Specifications:

1. In the case of conflict between the drawings and specifications, the specifications shall take precedence.

2. Drawings and specifications are intended to comply with all law, ordinances, rules and regulations of constituted authorities having jurisdiction, and where referred to in the Contract Documents, said laws, ordinance, rules and regulations shall be considered as a part of said Contract Documents within the limits specified. The Contractor shall bear all expenses of correcting work done contrary to said laws, ordinance, rules and regulations if the Contractor knew or should have known that the work as performed is contrary to said laws, ordinances, rules and regulations and if the Contractor performed same (1) without first consulting the Architect for further instructions regarding said work and/or (2) disregarded the Architect's instructions regarding said work.

B. Drawings: The Electrical Drawings shall govern the general layout of the completed construction.

1. Locations of equipment, panels, pullboxes, conduits, stub-ups, ground connections are approximate unless dimensioned; verify locations with the Architect prior to installation.

2. Review the Drawings and Specification Divisions of other trades and perform the electrical work that will be required for those installations.

3. Should there be a need to deviate from the Electrical Drawings and Specifications, submit written details and reasons for all changes to the Architect for approval.

4. The general arrangement and location of existing conduits, piping, apparatus, etc., is approximate. The drawings and specifications are for the assistance and guidance of the contractor, exact locations, distances and elevations are governed by actual field conditions. Accuracy of data given herein and on the drawings is not guaranteed. Minor changes may be necessary to accommodate work. The contractor is responsible for verifying existing conditions. Should it be necessary to deviate from the design due to interference with existing conditions or work in progress, claims for additional compensation shall be limited to those for work required by unforeseen conditions as determined by the Architect.

5. All drawings and divisions of these specifications shall be considered as whole. The contractor shall report any apparent discrepancies to the Architect prior to submitting bids.

6. The contractor shall be held responsible to have examined the site and compared it with the specifications and plans and to have satisfied himself as to the conditions under which the work is to be performed. He shall be held responsible for knowledge of all existing conditions whether or not accurately described. No subsequent allowance shall be made for any extra expense due to failure to make such examination.

1.6 Closeout Submittals:

A. Manuals: Furnish manuals for equipment where manuals are specified in the equipment specifications or are specified in Division 01.

1.7 Coordination:

A. Coordinate the electrical work with the other trades, code authorities, utilities and the Architect.

B. Provide and install all trenching, backfilling, conduit, pull boxes, splice boxes, etc. for all Utility Company services to the locations indicated on the Drawings. All materials and construction shall be in accordance with the requirements for all the Utility Companies. Prior to performing any work, the Electrical Contractor shall coordinate with the various Utility Companies and obtain utility company engineering drawings. Verify that all such work and materials shown on the Drawings are of sufficient sizes and correctly located to provide services on the site. The Electrical Contractor shall verify with all the Utility Companies that additional contractor furnished and installed work is not required. If additional work, materials, or changes are required by any of the Utility Companies, the Electrical Contractor shall advise the Architect of such changes and no further work shall then be performed until instructed to do so by the Architect. The Electrical Contractor shall coordinate with the various Utility Companies to schedule inspections and to obtain service connections.

C. The Electrical Contractor shall schedule all utility work necessary for utility inspections, connections, cable installation, etc. for the new electrical service to meet the construction schedule.

D. Utility Company charges shall be paid by the Owner.

E. Contractor shall pay all inspection and other applicable fees and procure all permits necessary for the completion of this work.

F. Where connections must be made to existing installations, properly schedule all the required work, including the power shutdown periods.

G. When two trades join together in an area, make certain that no electrical work is omitted.

1.8 Job Conditions:

A. Operations: Perform all work in compliance with Division 01

1. Keep the number and duration of power shutdown periods to a minimum.

2. Show all proposed shutdowns and their expected duration on the construction schedule. Schedule and carry out shutdowns so as to cause the least disruption to operation of the Owner's facilities.

3. Carry out shutdown only after the schedule has been approved, in writing, by the owner. Submit power interruption schedule 15 days prior to date of interruption.

B. Construction Power: Unless otherwise noted in Division 01 of these specifications, contractor shall make all arrangements and provide all necessary facilities for temporary construction power to the site. Energy costs shall be paid by the General Contractor.

C. Storage: Provide adequate storage for all equipment and materials which will become part of the completed facility so that it is protected from weather, dust, water, or construction operations.

1.9 Damaged Products:

A. Notify the Architect in writing in the event that any equipment or material is damaged. Obtain approval from the Architect before making repairs to damaged products.

1.10 Locations:

A. General: Use equipment, materials and wiring methods suitable for the types of locations in which they are located.

B. Dry Locations: All those indoor areas which do not fall within the definition below for Wet Locations and which are not otherwise designated on the Drawings.

C. Wet Locations: All locations exposed to the weather, whether under a roof or not, unless otherwise designated on the Drawings.

1.11 Safety and Indemnity:

A. The Contractor is solely and completely responsible for conditions of the job site including safety of all persons and property during performance of the work. This requirement will apply continually and not be limited to normal working hours. The contractor shall provide and maintain throughout the work site proper safeguards including, but not limited to, enclosures, barriers, warning signs, lights, etc. to prevent accidental injury to people or damage to property.

B. No act, service, drawing review or construction review by the Owner, the Engineer or their Consultants is intended to include reviews of the adequacy of the Contractors safety measures in or near the construction site.

C. The Contractor performing work under this Division of the Specifications shall hold harmless, indemnify, and defend the Owner, the Engineer, their consultants, and each of their officers, agents and employees from any and all liability claims, losses, or damage arising out of or alleged to arise from bodily injury, sickness, or death of a person or persons and for all damages arising out of injury to or destruction of property arising directly or indirectly out of or in connection with the performance of the work under this Division of the Specifications, and from the Contractor's negligence in the performance of the work described in the construction contract documents, but not including liability that may be due to the sole negligence of the Owner, the Engineer, their Consultants or their officers, agents and employees.

D. If a work area is encountered that contains hazardous materials, the contractor is advised to coordinate with the owner and its abatement consultant for abatement of hazardous material by the Owner's Representative. "Hazardous materials" means any toxic substance regulated or controlled by OSHA, EPA, State of California or local rules, regulations and laws. Nothing herein shall be construed to create a liability for Aurum Consulting Engineers regarding hazardous materials abatement measures, or discovery of hazardous materials.

1.12 Access Doors:

A. The contractor shall install access panels as required where floors, walls or ceilings must be penetrated for access to electrical, control, fire alarm or other specified electrical devices. The minimum size panel shall be 14" x 14" in usable opening. Where access by a service person is required, minimum usable opening shall be 18" x 24".

B. All access doors installed lower than 7'-0" above finished floor and exposed to public access shall have keyed locks.

C. Where specific information or details relating to access panels differ from Division 26 paragraph 1.12 of these specifications, or shown on the electrical drawings and details or under other Divisions of work, those requirements shall supersede these specifications.

1.13 Arc Flash:

A. The contractor shall install a clearly visible arc flash warning to the inside door of all panelboards and industrial control panels, as well as to the front of all switchboards and motor control centers that are a part of this project.

B. The warning shall have the following wording: line 1 "WARNING" (in large letters), line 2 "Potential Arc Flash Hazard" (in medium letters), line 3 & 4 "Appropriate Personal Protective Equipment and Tools required when working on this equipment".

1.14 Emergency Boxes:

A. All boxes and enclosures for emergency circuits shall be permanently marked with a readily visible red spray-painted mark.

PART 2 - PRODUCTS

2.1 Standard of Quality:

A. Products that are specified by manufacturer, trade name or catalog number establish a standard of quality and do not prohibit the use of equal products of other manufacturers provided they are established to be equal to the specified product and approved by the Architect prior to installation.

B. Material and Equipment: Provide materials and equipment that are new and are current products of manufacturers regularly engaged in the production of such products. The standard products

shall have been in satisfactory commercial or industrial use for two years prior to bid opening. The two-year period includes use of equipment and materials of similar size under similar circumstances. For uniformity, only one manufacturer will be accepted for each type of product.

C. Service Support: Submit a certified list of qualified permanent service organizations including their addresses and qualification for support of the equipment. These service organizations shall be convenient to the equipment installation and able to render service to the equipment on a regular and emergency basis during the warranty period of the contract.

D. Manufacturer's Recommendations: Where installation procedures are required to be in accordance with manufacturer's recommendations, furnish printed copies of the recommendations prior to installation. Installation of the item shall not proceed until recommendations are received. Failure to furnish recommendation shall be cause for rejection of the equipment or material.

2.2 Nameplates:

A. For each piece of electrical equipment, provide a manufacturer's nameplate showing his name, location, the pertinent ratings, the model designation, and shop order number.

B. Identify each piece of equipment and related controls with a rigid laminated engraved plastic nameplate. Unless otherwise noted, nameplates shall be melamine plastic 0.125-inch-thick, white with black center core. Surface shall be matte finish. Corners shall be square. Accurately align lettering and engrave into the core. Minimum size of nameplates shall be 0.5 by 2.5 inches unless otherwise noted. Where not otherwise specified, lettering shall be a minimum of 0.25-inch-high normal block style. Engrave nameplates with the inscriptions indicated on the Drawings and, if not so indicated, with the equipment name. Securely fasten nameplates in place using two stainless steel or brass screws.

2.3 Fasteners:

A. Fasteners for securing equipment to walls, floors and the like shall be either hot-dip galvanized after fabrication or stainless steel.

2.4 Finish requirements:

A. Equipment: Refer to each electrical equipment section of these Specifications for painting requirements of equipment enclosures. Repair any final paint finish which has been damaged or is otherwise unsatisfactory, to the satisfaction of the Architect.

B. Wiring System: In finished areas, paint all exposed conduits, boxes and fittings to match the color of the surface to which they are affixed.

PART 3 - EXECUTION

3.1 Workmanship:

A. Ensure that all equipment and materials fit properly in their installation.

B. Perform any required work to correct improperly fit installation at no additional expense to the owner.

C. All electrical equipment and materials shall be installed in a neat and workmanship manner in accordance with the “NECA-1 Standard Practices for Good Workmanship in Electrical Contracting”. Workmanship of the entire job shall be first class in every respect.

3.2 Equipment Installations:

A. Provide the required inserts, bolts and anchors, and securely attach all equipment and materials to their supports.

B. Do all the cutting and patching necessary for the proper installation of work and repair any damage done.

C. Earthquake restraints: all electrical equipment, including conduits over 2 inches in diameter, shall be braced or anchored to resist a horizontal force acting in any direction as per CBC Section 1616A Title 24, part 2 and ASCE7-10, Sections 13.3 and 13.6 and Table 13.6-1.

D. Structural work: All core drilling, bolt anchor insertion, or cutting of existing structural concrete shall be approved by a California registered structural consulting engineer prior to the execution of any construction. At all floor slabs and structural concrete walls to be drilled, cut or bolt anchors inserted, the contractor shall find and mark all reinforcing in both faces located by means of x-ray, pach-ometer, or prof-ometer. Submit sketch showing location of rebar and proposed cuts, cores, or bolt anchor locations for approval.

3.3 Field Test:

A. Test shall be in accordance with Acceptance testing specifications issued by the National Electrical Testing Association (NETA).

B. Perform equipment field tests and adjustments. Properly calibrate, adjust and operationally check all circuits and components, and demonstrate as ready for service. Make additional calibration and adjustments if it is determined later that the initial adjustments are not satisfactory for proper performance. Perform equipment field test for equipment where equipment field tests are specified in the equipment Specifications. Give sufficient notice to the Architect prior to any test so that the tests may be witnessed.

C. Provide instruments, other equipment and material required for the tests. These shall be of the type designed for the type of tests to be performed. Test instrument shall be calibrated by a recognized testing laboratory within three months prior to performing tests.

D. Operational Tests: Operationally test all circuits to demonstrate that the circuits and equipment have been properly installed and adjusted and are ready for full-time service. Demonstrate the proper functioning of circuits in all modes of operation, including alarm conditions.

E. Re-testing will be required for all unsatisfactory tests after the equipment or system has been repaired. Re-test all related equipment and systems if required by the Architect. Repair and re-test equipment and systems which have been satisfactorily tested but later fail, until satisfactory performance is obtained.

F. Maintain records of each test and submit five copies to the Architect when testing is complete. All tests shall be witnessed by the Architect. These records shall include:

1. Name of equipment tested.

2. Date of report.

3. Date of test.

4. Description of test setup.

5. Identification and rating of test equipment.

6. Test results and data.

7. Name of person performing test.

8. Owner or Architect's initials.

G. Items requiring testing shall be as noted in the additional electrical sections of these specifications.

3.4 Cleaning Equipment:

A. Thoroughly clean all soiled surfaces of installed equipment and materials.

3.5 Painting of Equipment:

A. Factory Applied: Electrical equipment shall have factory applied painting system which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance test and the additional requirements specified in the technical section.

B. Field Applied: Paint electrical equipment as required to match finish of adjacent surfaces.

3.6 Records:

A. Maintain one copy of the contract Drawing Sheets on the site of the work for recording the "as built" condition. After completion of the work, the Contractor shall carefully mark the work as actually constructed, revising, deleting and adding to the Drawing Sheets as required. The following requirements shall be complied with:

1. Cable Size and Type: Provide the size and type of each cable installed on project.

2. Substructure: Where the location of all underground conduits, pull boxes, stub ups and etc. where are found to be different than shown, carefully mark the correct location on the Drawings. Work shall be dimensioned from existing improvements.

3. Size of all conduit runs.

4. Routes of concealed conduit runs and conduit runs below grade.

5. Homerun points of all branch circuit.

6. Location of all switchgear, panels, MCC, lighting control panels, pullcans, etc.

7. Changes made as a result of all approved change orders, addendums, or field authorized revisions.

8. As Builts: At the completion of the Work the Contractor shall review, certify, correct and turn over the marked up Drawings to the Architect for his use in preparing "as built" plans.

9. As built Drawings shall be delivered to the Architect within ten (10) days of completion of construction.

3.7 Clean Up:

A. Upon completion of electrical work, remove all surplus materials, rubbish, and debris that accumulated during the construction work. Leave the entire area neat, clean, and acceptable to the Architect.

3.8 Mechanical and Plumbing Electrical Work:

A. The requirements for electrical power and/or devices for all mechanical and plumbing equipment supplied and/or installed under this Contract shall be coordinated and verified with the following:

1. Mechanical and Plumbing Drawings.
2. Mechanical and Plumbing sections of these Specifications.
3. Manufacturers of the Mechanical and Plumbing equipment supplied.

B. The coordination and verification shall include the voltage, ampacity, phase, location and type of disconnect, control, and connection required. Any changes that are required as a result of this coordination and verification shall be a part of this Contract.

C. The Electrical Contractor shall furnish and install the following for all mechanical and plumbing equipment:

1. Line voltage conduit and wiring.
2. Disconnect switches.
3. Manual line motor starters.

D. Automatic line voltage controls and magnetic starters shall be furnished by the Mechanical and/or Plumbing Contractor and installed and connected by the Electrical Contractor. When subcontracted for by the Mechanical and/or Plumbing Contractor, all line voltage control wiring installed by the Electrical Contractor shall be done per directions from the Mechanical and/or Plumbing Contractor.

E. All low voltage control wiring for Mechanical and Plumbing equipment shall be installed in conduit. Furnishing, installation and connection of all low voltage conduit, boxes, wiring and controls shall be by the Mechanical and/or Plumbing Contractor.

F. Disconnects (Motor And Circuit)

1. Disconnect switches shall be provided and located at all motors.
2. Switches for three-phase motors shall be heavy-duty, horsepower rated three-pole, and surface mounted except as noted on drawings.
3. Switches containing more than three poles shall be as specified on the drawings.
4. Switches for single-phase, fractional horsepower motors shall be heavy-duty, horsepower rated.
5. Disconnect switches shall be as manufactured by ITE- Siemens, General Electric or Square D.

G. Disconnects (Motor: Fused):

1. Disconnect switches shall be provided and located at all motors.
2. Switches for three-phase motors shall be heavy-duty, horsepower rated three-pole, and surface mounted except as noted on drawings.
3. Switches containing more than three poles shall be as specified on the drawings.
4. Switches for single-phase, fractional horsepower motors shall be heavy-duty, horsepower rated.
5. Disconnect switches shall be as manufactured by ITE- Siemens, General Electric or Square D.

H. Manual motor starters, where required, shall have toggle type operators with pilot light and melting alloy type overload relays, SQUARE D COMPANY, Class 2510, Type FG-1P (surface) or Type FS-1P (flush) or ITE, WESTINGHOUSE or GENERAL ELECTRIC equal.

END OF SECTION 26 05 00

SECTION 26 05 19 - LINE VOLTAGE WIRE AND CABLE

PART 1 - GENERAL

1.1 Description of Work:

A. The work of this Section consists of providing all wire and cable rated 600 volts or less, including splices and terminations, as shown on the Drawings and as described herein.

1.2 Related Work:

A. See the following Specification Section for work related to the work in this Section:

1. 26 05 42 Conduits, Raceways and Fittings.

2. 26 05 33 Junction and Pull Boxes.

1.3 Quality Assurance

A. Field tests shall be performed as specified in paragraph 3.04 of this Section.

PART 2 - PRODUCTS

2.1 Conductors:

A. Conductors shall be copper, type THHN/THWN/MTW oil and gasoline resistant, 600 volt rated insulation.

B. Conductors shall be stranded copper.

C. Minimum power and control wire size shall be No. 12 AWG unless otherwise noted.

D. All conductors used on this Project shall be of the same type and conductor material.

2.2 Cables:

A. All individual conductors shall be copper with type THHN/THWN, 600 volt rated insulation.

B. Type MC Armored Cable

1. Conductors shall be copper type THHN/THWN/MTW oil and gasoline resistant, 600 volt rated insulation.
2. Conductors shall be stranded copper No.8 AWG and above.
3. Minimum power and control wire shall be No.12 AWG unless otherwise noted.
4. All conductors used on this project shall be of the same type and conductor material.
5. Lightweight aluminum interlocked armor.
6. Integral green insulated grounding conductor.

D. Insulation Marking - All insulated conductors shall be identified with printing colored to contrast with the insulation color.

E. Color Coding - As specified in paragraph 3.03.

F. Special Wiring - Where special wiring is proposed by an equipment manufacturer, submit the special wiring requirements to the Owner's Representative and, if approved, provide same. Special wire shall be the type required by the equipment manufacturer.

G. Other Wiring - Wire or cable not specifically shown on the Drawings or specified, but required, shall be of the type and size required for the application and as approved by the Owner's Representative.

H. Manufacturer - Acceptable manufacturers including Cablec, Southwire, or equal.

2.3 Terminations:

A. Manufacturer - Terminals as manufactured by T&B, Burndy or equal.

B. Wire Terminations – Stranded conductors shall be terminated in clamping type terminations which serve to contain all the strands of the conductor. Curling of a stranded conductor around a screw type terminal is not allowed. For screw type terminations, use a fork type stake-on termination on the stranded conductor. Use only a stake-on tool approved for the fork terminals selected.

C. End Seals - Heat shrink plastic caps of proper size for the wire on which used.

2.4 Tape:

A. Tape used for terminations and cable marking shall be compatible with the insulation and jacket of the cable and shall be of plastic material.

PART 3 - EXECUTION

3.1 Cable Installation:

A. Clean Raceways - Clean all raceways prior to installation of cables as specified in Section 260542 - Conduits Raceway and Fittings.

B. All line voltage wiring shall be installed in conduit.

C. All feeder conductors shall be continuous from equipment to equipment. Splices in feeders are not permitted unless specifically noted or approved by the Electrical Engineer.

D. All branch circuit wiring shall be run concealed in ceiling spaces, walls, below floors or in crawl spaces unless noted otherwise.

E. Cable Pulling - Exercise care in pulling wires and cables into conduit or wireways so as to avoid kinking, putting undue stress on the cables or otherwise abrading them. No grease will be permitted in pulling cables. Only soapstone, talc, or UL listed pulling compound will be permitted. The raceway construction shall be complete and protected from the weather before cable is pulled into it. Swab conduits before installing cables and exercise care in pulling, to avoid damage to conductors.

F. Bending Radius - Cable bending radius shall be per applicable code. Install feeder cables in one continuous length.

G. Equipment Grounding Conductors - Provide an equipment grounding conductor, whether or not it is shown on the Drawings, in all conduits or all raceways.

H. Panelboard Wiring - In panels, bundle incoming wire and cables which are No. 6 AWG and smaller, lace at intervals not greater than 6 inches, neatly spread into trees and connect to their respective terminals. Allow sufficient slack in cables for alterations in terminal connections. Perform lacing with plastic cable ties or linen lacing twine. Where plastic panel wiring duct is provided for cable runs, lacing is not necessary when the cable is properly installed in the duct.

3.2 Cable Terminations and Splices:

A. Splices - UL Listed wirenuts.

B. Terminations - Shall comply with the following:

1. Make up and form cable and orient terminals to minimize cable strain and stress on device being terminated on.

2. Burnish oxide from conductor prior to inserting in oxide breaking compound filled terminal.

3.3 Circuit and Conductor Identification:

A. Color Coding - Provide color coding for all circuit conductors. Insulation color shall be white for neutrals and green for grounding conductors. Conductor colors shall be as follows:

VOLTAGE	208/120V
Phase A	Black
Phase B	Red
Phase C	Blue
Neutral	White
Ground	Green

B. Color coding shall be in the conductor insulation for all conductors #10 AWG and smaller; for larger conductors, color shall be either in the insulation or in colored plastic tape applied at every location where the conductor is readily accessible.

C. Circuit Identification - All underground distribution and service circuits shall be provided with plastic identification tags in each secondary box and at each termination. Tags shall identify the source transformer of the circuit and the building number(s) serviced by the circuit.

3.4 Field Tests:

A. All systems shall test free from short circuits and grounds, shall be free from mechanical and electrical defects, and shall show an insulation resistance between phase conductors and ground of not less than the requirements of the CEC. All circuits shall be tested for proper neutral connections.

B. Insulation Resistance Tests: Perform insulation resistance tests on circuits with #2 AWG and larger conductors to be energized with a line-to-neutral voltage of 120 volts or more. Make these tests before all equipment has been connected. Test the insulation with a 500Vdc insulation resistance tester with a scale reading 100 megohms. The insulation resistance shall be 2 megohms or more. Submit results for review.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING

PART 1 GENERAL

1.1 Section Includes:

A. Conduits, wires, ground rods and other materials for the electrical grounding system.

1.2 Related Sections:

A. Section 26 05 00- Electrical General Requirements.

PART 2 PRODUCTS

2.1 Ground Rod:

A. "Copperweld" ground rod conforming to or exceeding requirements of U.L. Specification No. 467 (ANSI C-33.8). Rod shall be 3/4" diameter and 10' in length, unless otherwise noted on the Drawings.

2.2 Below Grade Connections:

A. Compression fittings, Thomas & Betts, Series 52000, 53000 or 54000 or approved equal.

2.3 Hardware:

A. Bolts, nuts and washers shall be bronze, cadmium plated steel or other non-corrosive materials, approved for the purpose.

2.4 Waterproof Sealant:

A. Use Kearney "Aqua Seal" mastic sealant on all below grade clamp or compression type connections.

PART 3 EXECUTION

3.1 Grounding and Bonding:

A. Grounding and bonding shall be as required by codes and local authorities.

B. All electrical equipment shall be grounded, including, but not limited to, panel boards, terminal cabinets and outlet boxes.

C. The ground pole of receptacles shall be connected to their outlet boxes by means of a copper ground wire connecting to a screw in the back of the box.

D. A green insulated copper ground wire, sized to comply with codes, shall be installed in all conduit runs.

E. All metal parts of pull boxes shall be grounded per code requirements.

F. All ground conductors shall be green insulated copper.

G. The ground system electrodes shall be tested for resistance before the equipment ground conductors are connected. Maximum ground system resistance shall be 25 ohms. Install up to two additional ground rods to meet the 25 ohm requirement. Multiple ground rods shall not be less than 10 feet apart.

H. Grounding of the panels and buildings shall be completed as indicated on the Drawings.

END OF SECTION 26 05 26

SECTION 26 05 33 - OUTLET, JUNCTION AND PULL BOXES

PART 1 - GENERAL

1.1 Description of Work:

A. The work of this Section consists of providing all required labor, supervision, materials and equipment to satisfactorily complete all electrical installations shown on the drawings, included in these Specification, or otherwise needed for a complete and fully operating facility. The work shall include but not be limited to the following:
B. Furnish and install all required material, supports and miscellaneous material for the satisfactory interconnection of all associated electrical systems.

1.2 Related Work:

A. See the following specification sections for work related to the work of this section.

1. 26 05 00 General Electrical Requirements.

2. 26 05 42 Conduits, Raceway and Fittings.

3. 26 05 19 Line Voltage Wire and Cable.

PART 2 - PRODUCTS

2.1 Outlet boxes, Junction and Pull boxes

A. Standard Outlet Boxes: Galvanized, steel, knock-out type of size and configuration best suited to the application indicated on the Drawings. Minimum box size shall be 4 inches square (octagon for most light fixtures) by 1-1/2 inches deep with mud rings as required.

B. Switch boxes: Minimum box size shall be 4 inches square by 1-1/2 inches deep with mud rings as required. Install multiple switches in standard gang boxes with raised device covers suitable for the application indicated.

C. Conduit bodies: Cadmium plated, cast iron alloy. Conduit bodies with threaded conduit hubs and neoprene gasketed, cast iron covers. Bodies shall be used to facilitate pulling of conductors or to make changes in conduit direction only. Splices are not permitted in conduit bodies. Crouse-Hinds Form 8 Condulets, Appleton Form 35 Unilets or equal.

D. Sheet Metal Boxes: Use standard outlet or concrete ring boxes wherever possible; otherwise use a minimum 16 gauge galvanized sheet metal, NEMA I box sized to Code requirements with covers secured by cadmium plated machine screws located six inches on centers. Circle AW Products, Hoffman Engineering Company or equal.

E. Flush Mounted Pull boxes and Junction boxes: Provide overlapping covers with flush head cover retaining screws, prime coated.

PART 3 - EXECUTION

3.1 Outlet Boxes

A. General:

1. All outlet boxes shall finish flush with building walls, ceilings and floors except in mechanical and electrical rooms above accessible ceiling or where exposed work is called for on the Drawings.

2. Install raised device covers (plaster rings) on all switch and receptacle outlet boxes installed in masonry or stud walls or in furred, suspended or exposed concrete ceilings. Covers shall be of a depth to suit the wall or ceiling finish.

3. Leave no unused openings in any box. Install close-up plugs as required to seal openings.

B. Box Layout:

1. Outlet boxes shall be installed at the locations and elevations shown on the drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades.

2. Locate switch outlet boxes on the latch side of doorways.

3. Outlet boxes shall not be installed back to back nor shall through-wall boxes be permitted. Outlet boxes on opposite sides of a common wall shall be separated horizontally by at least one stud or vertical structural member.

4. For outlets mounted above counters, benches or backsplashes, coordinate location and mounting heights with built-in units. Adjust mounting height to agree with required location for equipment served.

5. On fire rated walls, the total face area of the outlet boxes shall not exceed 100 square inches per 100 square feet of wall area.

C. Supports:

1. Outlet Boxes installed in metal stud walls shall be equipped with brackets designed for attaching directly to the studs or shall be mounted on specified box supports.

2. Fixture outlet boxes installed in suspended ceiling of gypsum board or lath and plaster construction shall be mounted to 16 gauge metal channel bars attached to main ceiling runners.

3. Fixture outlet boxes installed in suspended ceilings supporting acoustical tiles or panels shall be supported directly from the structure above where pendant mounted lighting fixture are to be installed on the box.

4. Fixture Boxes above tile ceilings having exposed suspension systems shall be supported directly from the structure above.

5. Outlet and / or junction boxes shall not be supported by grid or fixture hanger wires at any locations.

3.2 Junction And Pull Boxes

A. General:

1. Install junction or pull boxes where required to limit bends in conduit runs to not more than 360 degrees or where pulling tension achieved would exceed the maximum allowable for the cable to be installed. Note that these boxes are not shown on the Drawings.

2. Locate pull boxes and junction boxes in concealed locations above accessible ceilings or exposed in electrical rooms, utility rooms or storage areas.

3. Install raised covers (plaster rings) on boxes in stud walls or in furred, suspended or exposed concrete ceilings. Covers shall be of a depth to suit the wall or ceiling finish.

4. Leave no unused openings in any box. Install close-up plugs as required to seal openings.

5. Identify circuit numbers and panel on cover of junction box with black marker pen.

B. Box Layouts:

1. Boxes above hung ceilings having concealed suspension systems shall be located adjacent to openings for removable recessed lighting fixtures.

C. Supports:

1. Boxes installed in metal stud walls shall be equipped with brackets designed for attaching directly to the studs or shall be mounted on specified box supports.

2. Boxes installed in suspended ceilings of gypsum board or lath and plaster construction shall be mounted to 16 gauge metal channel bars attached to main ceiling runners.

3. Boxes installed in suspended ceilings supporting acoustical tiles or panels shall be supported directly from the structure above.

4. Boxes mounted above suspended acoustical tile ceilings having exposed suspension systems shall be supported directly from the structure above.

END OF SECTION 26 05 33

SECTION 26 05 42 - CONDUITS, RACEWAYS AND FITTINGS

PART 1 - GENERAL

1.1 Description of Work:

A. The work of this section consists of furnishing and installing conduits, raceways and fittings as shown on the Drawings and as described herein.

1.2 Related Work:

A. See the following specification sections for work related to the work in this section:

1. 26 05 43 Underground Ducts
2. 26 05 44 In Grade Pull Boxes
3. 26 05 19 Line Voltage Wire and Cable
4. 26 05 33 Junction and Pull Boxes

PART 2 - PRODUCTS

2.1 Conduits, Raceways:

A. Electrical Metallic Tubing (EMT) shall be hot-dip galvanized after fabrication. Couplings shall be compression or set-screw type.

B. Flexible Conduit: Flexible metal conduit shall be galvanized steel.

C. Galvanized Rigid Steel Conduit (GRS) shall be hot-dip galvanized after fabrication. Couplings shall be threaded type.

D. Rigid Non-metallic Conduit: Rigid non-metallic conduit shall be PVC Schedule 40 (PVC-40 or NEMA Type EPC-40) conduit approved for underground use and for use with 90˚ C wires.

2.2 Conduit Supports:

A. Supports for individual conduits shall be galvanized malleable iron one-hole type with conduit back spacer.

B. Supports for multiple conduits shall be hot-dipped galvanized Unistrut or Superstrut channels, or approved equal. All associated hardware shall be hot-dip galvanized.

C. Supports for EMT conduits shall be galvanized pressed steel single hole straps.

D. Clamp fasteners shall be by wedge anchors. Shot in anchors shall not be allowed.

2.3 Fittings:

A. Provide threaded-type couplings and connectors for rigid steel conduits; provide steel compression (watertight), or steel set-screw type for EMT, (die-cast zinc or malleable iron type fittings are not allowed). Provide threaded couplings and Meyers hubs for rigid steel conduit exposed to weather.

B. Fittings for flexible conduit shall be Appleton, Chicago, IL, Type ST, O-Z Gedney Series 4Q by General Signal Corp., Terryville, CT, T & B 5300 series, or approved equal.

C. Fittings for use with rigid steel shall be galvanized steel or galvanized cast ferrous metal; access fittings shall have gasketed cast covers and be Crouse Hinds Condulets, Syracuse, NY, Appleton Unilets, Chicago, IL, or approved equal. Provide threaded-type couplings and connectors; set-screw type and compression-type are not acceptable.

D. Fittings for use with rigid non-metallic conduit shall be PVC and have solvent-weld-type conduit connections.

E. Union couplings for conduits shall be the Erickson type and shall be Appleton, Chicago, IL, Type EC, O-Z Gedney 3-piece Series 4 by General Signal Corp., Terryvile, CT, or approved equal. Threadless coupling shall not be used.

F. Bushings:

1. Bushings shall be the insulated type.

2. Bushings for rigid steel shall be insulated grounding type, O-Z Gedney Type HBLG, Appleton Type GIB, or approved equal.

G. Conduit Sealants:

1. Fire Retardant Types: Fire stop material shall be reusable, non-toxic, asbestos-free, expanding, putty type material with a 3-hour rating in accordance with UL Classification 35L4 or as specified on the Drawings.

PART 3 - EXECUTION

3.1 Conduit, Raceway and Fitting Installation:

A. For conduit runs exposed to weather provide rigid metal (GRS).

B. For conduit run underground, in concrete or masonry block wall and under concrete slabs, install minimum ¾" size nonmetallic (PVC) with PVC elbows. Where conduits transition from underground or under slab to above grade install wrapped rigid metal (GRS) elbows and risers.

C. For conduit runs concealed in steel or wood framed walls or in ceiling spaces or exposed in interior spaces above six feet over the finished floor, install EMT.

D. Flexible metal conduit shall be used only for the connection of recessed lighting fixtures and motor connections unless otherwise noted on the Drawings. Liquid-tight steel flexible conduit shall be used for motor connections.

E. The minimum size raceway shall be 1/2-inch unless indicated otherwise on the Drawings.

F. Installation shall comply with the CEC.

G. From pull point to pull point, the sum of the angles of all of the bends and offset shall not exceed 360 degrees.

H. Conduit Supports: Properly support all conduits as required by the NEC. Run all conduits concealed except where otherwise shown on the drawings.

1. Exposed Conduits: Support exposed conduits within three feet of any equipment or device and at intervals not exceeding NEC requirements; wherever possible, group conduits together and support on common supports. Support exposed conduits fastened to the surface of the concrete structure by one-hole clamps, or with channels. Use conduit spacers with one-hole clamps.

    a. Conduits attached to walls or columns shall be as unobtrusive as possible and shall avoid windows. Run all exposed conduits parallel or at right angles to building lines.

    b. Group exposed conduits together. Arrange such conduits uniformly and neatly.

2. Support all conduits within three feet of any junction box, coupling, bend or fixture.

3. Support conduit risers in shafts with Unistrut Superstrut, or approved equal, channels and straps.

I. Moisture Seals: Provide in accordance with NEC paragraphs 230-8 and 300-5(g).

J. Where PVC conduit transitions from underground to above grade, provide rigid steel 90's with risers. Rigid steel shall be half-lap wrapped with 20 mil tape and extend minimum 12" above grade.

K. Provide a nylon pull cord in each empty raceway.

L. Provide galvanized rigid steel factory fittings for galvanized rigid steel conduit.

M. Slope all underground raceways to provide drainage; for example, slope conduit from equipment located inside a building to the pull box or manhole located outside the building.

N. Conduits shall be blown out and swabbed prior to pulling wires, or installation of pull cord in empty conduits.

END OF SECTION 26 05 42

SECTION 26 05 44 - IN GRADE PULL BOXES

PART 1 - GENERAL

1.1 Description of Work:

A. The work of this section consists of providing all labor, supervision, tools, materials, and performing all work necessary to furnish and install pre-cast concrete vaults, and pull boxes with necessary excavation.

1.2 Related Work:

A. See the Civil drawings for grading, excavation and trenching specifications.

1.3 Submittals:

1. Catalog Data: Provide manufacturer's descriptive literature - Pre-cast Vaults, Pull Boxes and Accessories.

PART 2 - PRODUCTS

2.1 Materials and Equipment:

A. General Requirements:

1. Pull boxes for electrical power, controls and other communication circuits shall consist of pre-cast reinforced concrete boxes, extensions' bases, and covers as specified herein and as indicated on the Drawings. Pre-cast units shall be the product of a manufacturer regularly engaged in the manufacture of pre-cast vaults and pull boxes. Acceptable manufacturers are Christy, Utility Vault, Brooks, Associated Concrete or equal.

B. Construction:

1. Pre-cast concrete vaults and pull boxes for electrical power distribution and communication circuits with associated risers and tops shall conform to ASTM C478 and ACI 318. Pull boxes shall be the type noted on the Drawings and shall be constructed in accordance with the applicable details as shown. Tops and walls shall consist of reinforced concrete. Walls and bottom shall be of monolithic concrete construction. Duct entrances and windows shall be located near the corners of structures to facilitate cable racking.

C. Covers:

1. The word "ELECTRICAL" shall be cast in the top face of all electrical cable boxes. The word “Signal” or “Fire Alarm” shall be cast in the top of the boxes utilized for these systems.

PART 3 - EXECUTION

3.1 Installation:

A. Install pull boxes where required to limit bends in conduit runs to not more than 360 degrees or where pulling tension achieved would exceed the maximum allowable for the cable to be installed. Note that these boxes are not shown on the Drawings.

B. Pre-cast pull boxes shall be installed approximately where indicated on the Drawings. The exact location of each pull box shall be determined after careful consideration has been given to the location of other utilities, grading, and paving. All cable boxes and secondary pull boxes shall be installed with a minimum of 6-inch thick crushed rock or sand bedding.

C. Paved areas - Vaults and pull boxes located in areas to be paved shall be installed such that the top of the cover shall be flush with the finished surface of the paving.

D. Unpaved Areas - In unpaved areas, the top of vaults and pull box covers shall be approximately 2 inches above finished grade.

E. Joint Seals - Section joints of pre-cast vaults and pull boxes shall be sealed with compound as recommended by the manufacturer.

B. Trenching, Backfilling, and Compaction - See the Civil drawings for grading, excavation and trenching specifications.

F.

END OF SECTION 26 05 44

SECTION 26 05 50 - THROUGH-PENETRATION FIRESTOPPING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 Related Documents:

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

1.2 Definitions:

A. Firestopping: The process of restoring an hourly fire endurance rating back to a fire barrier that lost its rating from an opening created in it.

1.3 General Description of the Work of This Section:

Only tested firestop systems shall be used in specific locations as follows:

A. Penetrations for the passage of cables, conduit, and other electrical equipment through fire-rated vertical barriers (walls and partitions), horizontal barriers (floor/ceiling assemblies), and vertical service shaft walls and partitions.

1.4 Related Work of Other Sections:

A. Coordinate work of this section with work of other sections as required to properly execute the work and as necessary to maintain satisfactory progress of the work of other sections, including (if available):

1. DIVISION 9 - Gypsum Drywall Systems
2. DIVISION 21 – Fire Protection
3. DIVISION 26 - General Electrical Requirements

1.5 References:

A. Test Requirements: ASTM E-814, "Standard Method of Fire Tests of Through Penetration Fire Stops" (July 1997).

B. Underwriters Laboratories (UL) of Northbrook, IL runs ASTM E-814 under their designation of UL 1479 and publishes the results in their "FIRE RESISTANCE DIRECTORY" that is updated annually.

1. UL Fire Resistance Directory:

a. Through-Penetration Firestop Devices (XHCR)
b. Fire Resistance Ratings (BXUV)
c. Through-Penetration Firestop Systems (XHEZ)
d. Fill, Voids, or Cavity Material (XHHW)
e. Forming Materials (XHKU)

C. International Firestop Council Guidelines for Evaluating Firestop Systems Engineering Judgments

D. ASTM E-84, Standard Test Method for Surface Burning Characteristics of Building Materials.

E. All major building codes: ICBO, SBCCI, BOCA, and IBC.
(Note to specifier: Retain or delete building codes listed above as applicable)

F. NFPA 101 - Life Safety Code

1.6 Quality Assurance:

A. Firestop System installation must meet requirements of ASTM E-814, UL 1479 or UL 2079 tested assemblies that provide a fire rating equal to that of construction being penetrated.

B. Proposed firestop materials and methods shall conform to applicable governing codes having local jurisdiction.

C. Firestop Systems do not reestablish the structural integrity of load bearing partitions/assemblies, or support live loads and traffic. Installer shall consult the structural engineer prior to penetrating any load bearing assembly.

1.7 Project Conditions :

A. Do not use materials that contain flammable solvents.

B. Do not install penetration firestopping when ambient or substrate temperatures are outside limits permitted by penetration firestopping manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.

C. Install and cure penetration firestopping per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

D. Scheduling

1. Schedule installation of CAST IN PLACE firestop devices after completion of floor formwork, metal form deck, or composite deck but before placement of concrete.

2. Schedule installation of other firestopping materials after completion of penetrating item installation but prior to covering or concealing of openings.

E. Verify existing conditions and substrates before starting work. Correct unsatisfactory conditions before proceeding.

F. During installation, provide masking and drop cloths to prevent firestopping materials from contaminating any adjacent surfaces.

PART 2 - PRODUCTS

2.1 Firestopping, General:

A. Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by the firestopping manufacturer based on testing and field experience.

B. Provide components for each firestopping system that are needed to install fill material. Use only components specified by the firestopping manufacturer and approved by the qualified testing agency for the designated fire-resistance-rated systems.

C. Fire rated pathway devices shall be the preferred product and shall be installed in all locations where frequent cable moves, add-ons and changes will occur.

2.2 Acceptable Manufacturers:

A. Subject to compliance with through penetration firestop systems (XHEZ) listed in Volume II of the UL Fire Resistance Directory, provide products of the following manufacturers as identified below:

1. Specified Technologies Inc., STI
   800-992-1180
2. Hilti, Inc., Tulsa, Oklahoma
   800-879-8000
3. Other manufacturers listed in the U.L. Fire Resistance Directory – Volume 2

2.3 Materials:

A. Use only firestop products that have been UL 1479, ASTM E-814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.

B. Cast-in place firestop devices: Single component molded firestop device installed on forms prior to concrete placement with totally encapsulated, tamper-proof integral firestop system and smoke sealing gasket. Cast-in Place firestop devices are installed prior to concrete placement for use with non-combustible and combustible plastic pipe (closed and open piping systems), or electrical cable bundles, penetrating concrete floors, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal CD Cast-In Firestop Device
2. Hilti CP 680 Cast-In Place Firestop Device
3. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

C. Latex Sealants: Single component latex formulations that upon cure do not re-emulsify during exposure to moisture. Latex Sealants for use with non-combustible items including rigid steel conduit and electrical metallic tubing (EMT), the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSS Intumescent Sealant
2. Specified Technologies, Inc. (STI) SpecSeal Series LCI Intumescent Sealant
3. Specified Technologies, Inc. (STI) SpecSeal Series LC Endothermic Sealant
4. Hilti FS-ONE Intumescent Firestop Sealant
5. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

D. Intumescent Latex sealants: Single component latex formulations that upon cure do not re-emulsify during exposure to moisture. Intumescent Latex Sealants or caulking materials for use with combustible items (penetrants consumed by high heat and flame) including PVC jacketed, flexible cable or cable bundles and plastic pipe, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSS Intumescent Sealant
2. Specified Technologies, Inc. (STI) SpecSeal Series LCI Intumescent Sealant
3. Hilti FS-ONE Intumescent Firestop Sealant
4. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

E. Intumescent sealants, foams, caulking or putty materials for use with flexible cable or cable bundles, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSS Intumescent Sealant
2. Specified Technologies, Inc. (STI) SpecSeal Series LCI Intumescent Sealant
3. Specified Technologies, Inc. (STI) SpecSeal Series SSP Firestop Putty
4. Specified Technologies, Inc. (STI) Ready Firestop Grommet
5. Hilti FS-ONE Intumescent Firestop Sealant
6. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

F. Non curing, re-penetrable intumescent sealants, caulking or putty materials for use with flexible cable or cable bundles, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSP Firestop Putty

2. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

G. Wall opening protective materials: Intumescent, non-curing pads or inserts for protection of electrical switch and receptacle boxes to reduce horizontal separation to less than 24". Wall opening protective materials for use with U.L. listed metallic and specified nonmetallic outlet boxes, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSP Firestop Putty Pads
2. Specified Technologies, Inc. (STI) SpecSeal Series EP PowerShield Insert Pads
3. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 1

H. Materials used for complex penetrations made to accommodate cable trays, multiple steel and copper pipes, electrical busways in raceways, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSM Firestop Mortar
2. Specified Technologies, Inc. (STI) SpecSeal Series SSB Firestop Pillows
3. Hilti FS 635 Trowelable Firestop Compound
4. Hilti FS 657 FIRE BLOCK
5. Hilti CP 620 Fire Foam
6. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

I. Non curing, re-penetrable materials used for large size/complex penetrations made to accommodate cable trays, multiple steel and copper pipes, electrical busways in raceways, the following products are acceptable:

1. Specified Technologies, Inc. (STI) SpecSeal Series SSB Firestop Pillows
2. Hilti FS 657 FIRE BLOCK
3. Equivalent products listed in the U.L. Fire Resistance Directory – Volume 2

J. Fire Rated Cable Pathways: STI EZ-PATH™ Brand device modules comprised of steel raceway with intumescent foam pads allowing 0 to 100 percent cable fill, the following products are acceptable:

1. Specified Technologies Inc. (STI) EZ-PATH™ Fire Rated Pathway

K. Provide a firestop system with a "F" Rating as determined by UL 1479 or ASTM E814 which is equal to the time rating of construction being penetrated.

PART 3 - EXECUTION

3.1 Preparation:

A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.

1. Verify penetrations are properly sized and in suitable condition for application of materials.

2. Surfaces to which firestop materials will be applied shall be free of dirt, grease, oil, rust, laitance, release agents, water repellents, and any other substances that may affect proper adhesion.

3. Provide masking and temporary covering to prevent soiling of adjacent surfaces by firestopping materials.

4. Comply with manufacturer's recommendations for temperature and humidity conditions before, during and after installation of firestopping.

5. Do not proceed until unsatisfactory conditions have been corrected.

3.2 Coordination:

A. Coordinate location and proper selection of cast-in-place Firestop Devices with trade responsible for the work. Ensure device is installed before placement of concrete.

3.3 Installation:

A. Regulatory Requirements: Install firestop materials in accordance with UL Fire Resistance Directory.

B. Manufacturer's Instructions: Comply with manufacturer's instructions for installation of through-penetration materials.

1. Seal all holes or voids made by penetrations to ensure an air and water resistant seal.

2. Protect materials from damage on surfaces subjected to traffic.

3.4 Field Quality Control:

A. Examine sealed penetration areas to ensure proper installation before concealing or enclosing areas.

B. Keep areas of work accessible until inspection by applicable code authorities.

C. Perform under this section patching and repairing of firestopping caused by cutting or penetrating of existing firestop systems already installed by other trades.

3.5 Adjusting and Cleaning:

A. Remove equipment, materials and debris, leaving area in undamaged, clean condition.

B. Clean all surfaces adjacent to sealed holes and joints to be free of excess firestop materials and soiling as work progresses.

END OF SECTION 26 05 50

SECTION 26 08 00 - COMMISSIONING OF ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. The General Conditions, any Supplementary Conditions, Section 26 00 00, Electrical General Requirements, and Division 01 are hereby a part of this Section as fully as if repeated herein.

1.2 SCOPE

A. Work includes performing commissioning process requirements for Lighting controls, BMS and related communication system, assemblies, and equipment.

B. Refer to Section 01 91 00 General Commissioning Requirements for general commissioning process requirements.

1.3 DEFINITIONS

A. See 01 91 00 General Commissioning Requirements for definitions

1.4 CONTRACTOR'S RESPONSIBILITIES

A. See 01 91 00 General Commissioning Requirements for contractors' and subcontractors' responsibilities.

B. Provide training on each piece of commissioned equipment. See 01 91 00 for training details.

1.5 CA RESPONSIBILITIES

A. See 01 91 00 General Commissioning Requirements for CA responsibilities

1.6 COMMISSIONING DOCUMENTATION

A. Provide the following information to the CA for inclusion in the commissioning plan:

1. Identification of installed systems, assemblies, equipment, and components including design changes that occurred during the construction phase.

2. Schedule for completing construction checklists and manufacturer's prestart and startup checklists for Plumbing systems, assemblies, equipment, and components to be commissioned.

B. Provide the following as discussed in Section 01 91 00, General Commissioning Requirements to General Contractor:

1. Completed system readiness checklist for each piece of commissioned equipment. Completion of system readiness checklist, O&M manual start-up checklist, and any manufacturer provided field start-up checklists.

2. Verification to GC readiness certifying that electrical systems, subsystems, equipment, and associated controls are ready for functional testing.

3. Corrective action documents resulting from issues in the Commissioning Issues Log or deficiencies found from completing the start-up plan.

1.7 SUBMITTALS

A. Updated submittals: keep the CA informed of all changes to the control system documentation made during programming and setup.

B. Certificates of readiness (completion of the system readiness checklist) to General Contractor for review by CA.

C. Written training plan for review by A/E and CA prior to training. See Section 01 91 00 General Commissioning Requirements for specific items to be included in the training plan.

D. Provide O&M manuals to GC for submission to CA. These are required prior to development of the system readiness checklists.

PART 2 - PRODUCTS

2.1 TEST EQUIPMENT

A. Provide all standard testing equipment required to perform startup and initial checkout and required functional performance testing.

B. Equipment-specific tools: where special testing equipment, tools and instruments are specific to a piece of equipment, are only available from the vendor, and are required in order to accomplish startup or functional testing, provide such equipment, tools, and instruments as part of the work at no extra cost to owner; such equipment, tools, and instruments are to become the property of owner.

PART 3 - EXECUTION

3.1 TESTING PREPARATION

A. Cooperate with the CA in development of the functional test procedures.

B. Certify that electrical systems, subsystems, and equipment have been installed, calibrated, and started and are operating according to the Contract Documents.

C. Certify that electrical control systems have been completed and calibrated, that they are operating according to the Contract Documents, and that pretest set points have been recorded.

D. Provide input on equipment start-up schedule to GC. Notify the CA when these items are scheduled.

E. Certify that all related A/E punch list items are complete prior to commencing functional tests.

F. Correct deficiencies found from completing the start-up plan prior to conducting functional tests.

3.2 GENERAL TESTING REQUIREMENTS

A. System readiness checklists and functional test forms will be provided by CA, and executed by installing subcontractors. System readiness checklists are part of the start-up plan that will be provided by the CA to the GC. The GC will distribute the forms and ensure their completion prior to submitting back to the CA for review.

B. CA will oversee execution of the functional tests. Functional tests are provided early to obtain any comments or suggestions.

C. Provide installing technicians, instrumentation, and tools to perform commissioning test at the direction of the CA.

D. Provide skilled technicians who are familiar with this building to execute the functional tests as directed by the CA.

E. Scope of electrical testing shall include interior and exterior lighting controls.

F. The CA may direct that set points be altered when simulating conditions is not practical.

G. If tests cannot be completed because of a deficiency outside the scope of the electrical system, document the deficiency and report it to the CM and GC. After deficiencies are resolved, coordinate with CA to reschedule tests.

H. Installing subcontractor shall be present during all functional tests, whether sub-contractor's equipment is directly involved with the test or not. This is to speed the process of problem resolution as they are discovered during the testing process.

3.3 TESTING PROCEDURES

A. See 01 91 00 General Commissioning Requirements for contractor's testing procedures.

3.4 TRAINING

A. Provide training on each piece of commissioned equipment. See 01 91 00 and Division 26 for training details.

1. Instructor and technicians conducting training must be familiar with this building and equipment. Have the technicians that performed work on this building available for answering questions.

END OF SECTION 26 08 00

SECTION 26 09 23 - DISTRIBUTED DIGITAL LIGHTING CONTROL SYSTEM

PART 1 - GENERAL

1.1 Summary:

A. Section Includes:

1. Digital Lighting Controls
2. Relay Panels
3. Emergency Lighting Control (if applicable)

B. Related Sections:

1. Section 26 27 26 – Wiring Devices: Receptacles
2. Section 26 51 00 – Lighting
3. Drawings and general provision of the Contract, including General and Supplementary Conditions and Division 01, Specification Sections apply to this Section.
4. Electrical Sections, including wiring devices, apply to the work of this Section.

C. Control Intent – Control Intent includes, but is not limited to:

1. Defaults and initial calibration settings for such items as time delay, sensitivity, fade rates, etc.
2. Initial sensor and switching zones
3. Initial time switch settings
4. Task lighting and receptacle controls
5. Emergency Lighting control (if applicable)

1.2 References:

A. American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE)

B. National Electrical Manufacturers Association (NEMA)

C. Underwriters Laboratories, Inc. (UL)

1. 20 – Plug Load Controls
2. 508– Industrial Controls
3. 916 – Energy Management Equipment.

4. 924 – Emergency Lighting

1.3 System Description & Operation:

A. The Lighting Control and Automation system as defined under this section covers the following equipment:

1. Digital Occupancy Sensors – Self-configuring, digitally addressable and calibrated occupancy sensors with LCD display and two-way active infrared (IR) communications.

2. Digital Switches – Self-configuring, digitally addressable pushbutton on/off, dimming, and scene switches with two-way active infrared (IR) communications.

3. Handheld remotes for personal control – One-button dimming, two-button on/off, or five-button scene remotes provide control using infrared communications. Remote may be configured in the field to control selected loads or scenes without special tools.

4. Digital Daylighting Sensors – Single-zone closed loop, multi-zone open loop and single-zone dual-loop daylighting sensors with two-way active infrared (IR) communications can provide switching, bi-level, tri-level or dimming control for daylight harvesting.

5. Digital Room Controllers – Self-configuring, digitally addressable one, two or three relay plenum-rated controllers for on/off control. Selected models include 0-10 volt or line voltage forward phase control dimming outputs and integral current monitoring capabilities.

6. Digital Plug-Load Controllers – Self-configuring, digitally addressable, single relay, plenum-rated application-specific controllers. Selected models include integral current monitoring capabilities.

7. Configuration Tools – Handheld remote for room configuration and relay panel programming provides two way infrared (IR) communications to digital devices and allows complete configuration and reconfiguration of the device / room from up to 30 feet away. Unit to have Organic LED display, simple pushbutton interface, and allow bi-directional communication of room variables and occupancy sensor settings. Computer software also customizes room settings.

8. Digital Lighting Management (DLM) local network – Free topology, plug-in wiring system (Cat 5e) for power and data to room devices.

9. Digital Lighting Management (DLM) segment network – Linear topology, BACnet MS/TP network (1.5 twisted pair, shielded,) to connect multiple DLM local networks for centralized control

10. Network Bridge – provides BACnet MS/TP-compliant digital networked communication between rooms, panels and the Segment Manager or building automation system (BAS) and automatically creates BACnet objects representative of connected devices.

11. Segment Manager – provides web browser-based user interface for system control, scheduling, power monitoring, room device parameter administration and reporting.

12. Programming and Configuration software – Optional PC-native application capable of accessing DLM control parameters within a room, for the local network, via a USB adapter, or globally, for many segment networks simultaneously, via BACnet/IP communication.

13. LMCP Digital Lighting Management Relay Panel – provides up to 8, 24, or 48 mechanically latching relays. Relays include a manual override and a single push-on connector for easy installation or removal from the panel. Panel accepts program changes from handheld configuration tool for date and time, location, holidays, event scheduling, button binding and group programming. Provides BACnet MS/TP-compliant digital networked communication between other lighting controls and/or building automation system (BAS).

14. Emergency Lighting Control Unit (ELCU) – allows a standard lighting control device to control emergency lighting in conjunction with normal lighting in any area within a building

1.4 Lighting Control Applications:

A. Unless relevant provisions of the applicable local Energy Codes are more stringent, provide a minimum application of lighting controls as follows:

1. Space Control Requirements – Provide occupancy/vacancy sensors with Manual- or Partial-ON functionality in all spaces except toilet rooms, storerooms, library stacks, or other applications where hands-free operation is desirable and Automatic-ON occupancy sensors are more appropriate. Provide Manual-ON occupancy/vacancy sensors for any enclosed office, conference room, meeting room, open plan system and training room. For spaces with multiple occupants, or where line-of-sight may be obscured, provide ceiling- or corner-mounted sensors and Manual-ON switches.

2. Bi-Level Lighting – Provide multi-level controls in all spaces except toilet rooms, storerooms, library stacks, or applications where variable dimming is used.

3. Task Lighting / Plug Loads – Provide automatic shut off of non-essential plug loads and task lighting in all spaces except toilet rooms and storerooms. Provide Automatic-ON of plug loads whenever spaces are occupied. For spaces with multiple occupants a single shut off consistent with the overhead lighting may be used for the area.

4. Daylit Areas – Provide daylight-responsive automatic control in all spaces (conditioned or unconditioned) where daylight contribution is available as defined by relevant local building energy code:

   a. All luminaires within code-defined daylight zones shall be controlled separately from luminaires outside of daylit zones.

   b. Daytime setpoints for total ambient illumination (combined daylight and electric light) levels that initiate dimming shall be programmed in compliance with relevant local building energy codes.

   c. Multiple-leveled switched daylight harvesting controls may be utilized for areas marked on drawings.

   d. Provide smooth and continuous daylight dimming for areas marked on drawings. Daylighting control system may be designed to turn off electric lighting when daylight is at or above required lighting levels, only if system functions to turn lamps back on at dimmed level, rather than turning full-on prior to dimming.

5. Conference, meeting, training, auditoriums, and multipurpose rooms shall have controls that allow for independent control of each local control zone. Rooms larger than 300 square feet shall instead have at least four (4) pre-set lighting scenes unless otherwise specified. Occupancy / vacancy sensors shall be provided to extinguish all lighting in the space. Spaces

with up to four moveable walls shall include controls that can be reconfigured when the room is partitioned.

1.5 Submittals:

A. Submittals Package: Submit the shop drawings, and the product data specified below at the same time as a package.

B. Shop Drawings:

1. Composite wiring and/or schematic diagram of each control circuit as proposed to be installed.

2. Show exact location of all digital devices and part numbers, including at minimum sensors, room controllers, and switches for each area on reflected ceiling plans. (Contractor must provide AutoCAD format reflected ceiling plans.)

3. Provide room/area details including products and sequence of operation for each room or area. Illustrate typical acceptable room/area connection topologies.

4. Network riser diagram including floor and building level details. Include network cable specification and end-of-line termination details, if required. Illustrate points of connection to integrated systems. Coordinate integration with mechanical and/or other trades.

C. Product Data: Catalog sheets, specifications and installation instructions.

D. Include data for each device which:

1. Indicates where sensor is proposed to be installed.

2. Prove that the sensor is suitable for the proposed application.

1.6 Quality Assurance:

A. Manufacturer: Minimum 10 years' experience in manufacture of lighting controls.

1.7 Project Conditions:

A. Do not install equipment until following conditions can be maintained in spaces to receive equipment:

1. Ambient temperature: 0° to 40° C (32° to 104° F).

2. Relative humidity: Maximum 90 percent, non-condensing.

1.8 Warranty:

A. Provide a five year limited manufacturer's warranty on all room control devices and panels.

1.9 Maintenance:

A. Spare Parts:

1. Provide spares of each product to be used for maintenance as listed below:
   a. Provide one of each type of room controller, switch, plug load controller and sensor on the project.

PART 2 – PRODUCTS

2.1 Manufacturers:

A. Acceptable Manufacturer:

1. WattStopper

a. System: Digital Lighting Management (DLM)

2. Basis of design product: WattStopper Digital Lighting Management (DLM) or subject to compliance and prior approval with specified requirements of this section, of the following:

a. Approved equal.

B. Substitutions:

1. This specification is based on products from WattStopper, Santa Clara, CA. Complete information on any other system proposed as a substitute must be submitted in writing for approval after bid and assorted cost saving. Prior approval does not guarantee final approval by the electrical engineer. The contractor shall be completely responsible for providing a system meeting this specification in its entirety. All deviations from this specification must be listed and individually signed off by the consultant.

2.2 Digital Lighting Controls:

A. Furnish the Company's system which accommodates the square-footage coverage requirements for each area controlled, utilizing room controllers, digital occupancy sensors, switches, daylighting sensors and accessories which suit the lighting and electrical system parameters.

2.3 Digital Wall Switch Occupancy Sensors:

A. Wallbox mounted passive infrared PIR or dual technology (passive infrared and ultrasonic) digital occupancy sensor with 1 or 2 switch buttons.

B. Digital Occupancy Sensors shall provide scrolling LCD display for digital calibration and electronic documentation. Features include the following:

1. Digital calibration and pushbutton configuration for the following variables:

a. Sensitivity – 0-100% in 10% increments

b. Time delay – 1-30 minutes in 1 minute increments

c. Test mode – Five second time delay

d. Detection technology – PIR, Dual Technology activation and/or re-activation.

e. Walk-through mode

f. Load parameters including Auto/Manual-ON, blink warning, and daylight enable/disable when photosensors are included in the DLM local network.

2. Programmable control functionality including:

a. Each sensor may be programmed to control specific loads within a local network.

b. Sensor shall be capable of activating one of 16 user-definable lighting scenes.

c. Adjustable retrigger time period for manual-on loads. Load will retrigger (turn on) automatically during the configurable period of time (default 10 seconds) after turning off.

d. On dual technology sensors, independently configurable trigger modes are available for both Normal (NH) and After Hours (AH) time periods. The retrigger mode can be programmed to use the following technologies:

(1) Ultrasonic and Passive Infrared
(2) Ultrasonic or Passive Infrared
(3) Ultrasonic only
(4) Passive Infrared only

3. Independently configurable sensitivity settings for passive infrared and ultrasonic technologies (on dual technology sensors) for both Normal (NH) and After Hour (AH) time periods.

4. Two RJ-45 ports for connection to DLM local network.

5. Two-way infrared (IR) transceiver to allow remote programming through handheld configuration tool and control by remote personal controls.

6. Device Status LEDs including:

a. PIR detection

b. Ultrasonic detection

c. Configuration mode

d. Load binding

7. Assignment of occupancy sensor to a specific load within the room without wiring or special tools.

8. Assignment of local buttons to specific loads within the room without wiring or special tools

9. Manual override of controlled loads..

10. All digital parameter data programmed into an individual wall switch sensor shall be retained in non-volatile FLASH memory within the wall switch sensor itself. Memory shall have an expected life of no less than 10 years.

C. BACnet object information shall be available for the following objects:

1. Detection state

2. Occupancy sensor time delay

3. Occupancy sensor sensitivity, PIR and Ultrasonic

4. Button state

5. Switch lock control

6. Switch lock status

D. Units shall not have any dip switches or potentiometers for field settings.

E. Multiple occupancy sensors may be installed in a room by simply connecting them to the free topology DLM local network. No additional configuration will be required.

F. Two-button wall switch occupancy sensors, when connected to a single relay dimming room controller, shall operate in the following sequence as a factory default:

1. Left button

a. Press and release - Turn load on

b. Press and hold - Raise dimming load

2. Right button

a. Press and release - Turn load off

b. Press and hold - Lower dimming load

G. Low voltage momentary pushbuttons shall include the following features:

1. Load/Scene Status LED on each switch button with the following characteristics:

a. Bi-level LED

b. Dim locator level indicates power to switch

c. Bright status level indicates that load or scene is active

2. The following button attributes may be changed or selected using a wireless configuration tool:

a. Load and Scene button function may be reconfigured for individual buttons (from Load to Scene, and vice versa).

b. Individual button function may be configured to Toggle, On only or Off only.

c. Individual scenes may be locked to prevent unauthorized change.

d. Fade Up and Fade Down times for individual scenes may be adjusted from 0 seconds to 18 hours.

e. Ramp rate may be adjusted for each dimmer switch.

f. Switch buttons may be bound to any load on a room controller and are not load type dependent; each button may be bound to multiple loads.

H. WattStopper part numbers: LMPW, LMDW. Available in white, light almond, ivory, grey, red and black; compatible with wall plates with decorator opening. Contractor shall coordinate device finish with Architect.

2.4 Digital Wall or Ceiling Mounted Occupancy Sensor:

A. Wall or ceiling mounted (to suit installation) passive infrared (PIR), ultrasonic or dual technology digital (passive infrared and ultrasonic) occupancy sensor.

B. Digital Occupancy Sensors shall provide graphic LCD display for digital calibration and electronic documentation. Features include the following:

1. Digital calibration and pushbutton configuration for the following variables:

a. Sensitivity – 0-100% in 10% increments

b. Time delay – 1-30 minutes in 1 minute increments

c. Test mode – Five second time delay

d. Detection technology – PIR, Ultrasonic or Dual Technology activation and/or re-activation.

e. Walk-through mode

f. Load parameters including Auto/Manual-ON, blink warning, and daylight enable/disable when photosensors are included in the DLM local network.

2. Programmable control functionality including:

a. Each sensor may be programmed to control specific loads within a local network.

b. Sensor shall be capable of activating one of 16 user-definable lighting scenes.

c. Adjustable retrigger time period for manual-on loads. Load will retrigger (turn on) automatically within a configurable period of time (default 10 seconds) after turning off.

d. On dual technology sensors, independently configurable trigger modes are available for both Normal (NH) and After Hours (AH) time periods. The retrigger mode can be programmed to use the following technologies:

(1) Ultrasonic and Passive Infrared
(2) Ultrasonic or Passive Infrared
(3) Ultrasonic only
(4) Passive Infrared only

3. Independently configurable sensitivity settings for passive infrared and ultrasonic technologies (on dual technology sensors) for both Normal (NH) and After Hour (AH) time periods.

4. One or two RJ-45 port(s) for connection to DLM local network.

5. Two-way infrared (IR) transceiver to allow remote programming through handheld commissioning tool and control by remote personal controls.

6. Device Status LEDs, which may be disabled for selected applications, including:
    a. PIR detection
    b. Ultrasonic detection
    c. Configuration mode
    d. Load binding
7. Assignment of occupancy sensor to a specific load within the room without wiring or special tools.
8. Manual override of controlled loads.
9. All digital parameter data programmed into an individual occupancy sensor shall be retained in non-volatile FLASH memory within the sensor itself. Memory shall have an expected life of no less than 10 years.

C. BACnet object information shall be available for the following objects:
1. Detection state
2. Occupancy sensor time delay
3. Occupancy sensor sensitivity, PIR and Ultrasonic

D. Units shall not have any dip switches or potentiometers for field settings.

E. Multiple occupancy sensors may be installed in a room by simply connecting them to the free topology DLM local network. No additional configuration will be required.

F. WattStopper product numbers: LMPX, LMDX, LMPC, LMUC, LMDC

2.5 Digital Wall Switches:

A. Low voltage momentary pushbutton switches in 1, 2, 3, 4, 5 and 8 button configuration. Wall switches shall include the following features:
1. Two-way infrared (IR) transceiver for use with personal and configuration remote controls.
2. Removable buttons for field replacement with engraved buttons and/or alternate color buttons. Button replacement may be completed without removing the switch from the wall.
3. Configuration LED on each switch that blinks to indicate data transmission.
4. Load/Scene Status LED on each switch button with the following characteristics:
    a. Bi-level LED
    b. Dim locator level indicates power to switch
    c. Bright status level indicates that load or scene is active
5. Dimming switches shall include seven bi-level LEDs to indicate load levels using 14 steps.

6. Programmable control functionality including:

    a. Button priority may be configured to any BACnet priority level, from 1-16, corresponding to networked operation allowing local actions to utilize life safety priority

    b. Scene patterns may be saved to any button other than dimming rockers. Once set, buttons may be digitally locked to prevent overwriting of the preset levels.

7. All digital parameter data programmed into an individual wall switch shall be retained in non-volatile FLASH memory within the wall switch itself. Memory shall have an expected life of no less than 10 years.

B. BACnet object information shall be available for the following objects:

1. Button state

2. Switch lock control

3. Switch lock status

C. Two RJ-45 ports for connection to DLM local network.

D. Multiple digital wall switches may be installed in a room by simply connecting them to the free topology DLM local network. No additional configuration shall be required to achieve multi-way switching.

E. The following switch attributes may be changed or selected using a wireless configuration tool:

1. Load and Scene button function may be reconfigured for individual buttons (from Load to Scene, and vice versa).

2. Individual button function may be configured to Toggle, On only or Off only.

3. Individual scenes may be locked to prevent unauthorized change.

4. Fade Up and Fade Down times for individual scenes may be adjusted from 0 seconds to 18 hours.

5. Ramp rate may be adjusted for each dimmer switch.

6. Switch buttons may be bound to any load on a room controller and are not load type dependant; each button may be bound to multiple loads.

F. WattStopper product numbers: LMSW-101, LMSW-102, LMSW-103, LMSW-104, LMSW-105, LMSW-108, LMDM-101. Available in white, light almond, ivory, grey, red and black; compatible with wall plates with decorator opening. Contractor shall coordinate device finish with Architect.

2.6 Handheld Remote Controls:

A. Battery-operated handheld devices in 1, 2 and 5 button configurations for remote switching or dimming control. Remote controls shall include the following features:

1. Two-way infrared (IR) transceiver for line of sight communication with DLM local network within up to 30 feet.

2. LED on each button confirms button press.

3. Load buttons may be bound to any load on a room controller and are not load type dependent; each button may be bound to multiple loads.

4. Inactivity timeout to save battery life.

B. A wall mount holster and mounting hardware shall be included with each remote control

C. WattStopper part numbers: LMRH-101, LMRH-102, LMRH-105.

2.7 Digital Partition Controls:

A. Partition controls shall enable manual or automatic coordination of lighting controls in flexible spaces with up to four moveable walls by reconfiguring the connected digital switches and occupancy sensors.

B. Four-button low voltage pushbutton switch for manual control.

1. Two-way infrared (IR) transceiver for use with configuration remote control.

2. Removable buttons for field replacement with engraved buttons and/or alternate color buttons. Button replacement may be completed without removing the switch from the wall.

3. Configuration LED on each switch that blinks to indicate data transmission.

4. Each button represents one wall; Green button LED indicates status.

5. Two RJ-45 ports for connection to DLM local network.

6. WattStopper part number: LMPS-104. Available in white, light almond, ivory, grey and black; compatible with wall plates with decorator opening.

C. Contact closure interface for automatic control via input from limit switches on movable walls (by others).

1. Operates on Class 2 power supplied by DLM local network.

2. Includes 24VDC output and four input terminals for maintained third party contract closure inputs.

a. Input max. sink/source current: 1-5mA

b. Logic input signal voltage High: >18VDC

c. Logic input signal voltage Low: <2VDC

3. Four status LEDs under hinged cover indicate if walls are open or closed; supports LMPS-104 as remote status indicator.

4. Two RJ-45 ports for connection to DLM local network.

5. WattStopper part number: LMIO-102

2.8 Digital Daylighting Sensors:

A. Digital daylighting sensors shall work with room controllers to provide automatic switching, bi-level, or tri-level or dimming daylight harvesting capabilities for any load type connected to a room controller. Daylighting sensors shall be interchangeable without the need for rewiring.

1. Closed loop sensors measure the ambient light in the space and control a single lighting zone.

2. Open loop sensors measure incoming daylight in the space, and are capable of controlling up to three lighting zones.

3. Dual loop sensors measure both ambient and incoming daylight in the space to insure that proper light levels are maintained as changes to reflective materials are made in a single zone.

B. Digital daylighting sensors shall include the following features:

1. The sensor's internal photodiode shall only measure lightwaves within the visible spectrum. The photodiode's spectral response curve shall closely match the entire photopic curve. The photodiode shall not measure energy in either the ultraviolet or infrared spectrums. The photocell shall have a sensitivity of less than 5% for any wavelengths less than 400 nanometers or greater than 700 nanometers.

2. Sensor light level range shall be from 1-6,553 footcandles (fc).

3. The capability of ON/OFF, bi-level or tri-level switching, or dimming, for each controlled zone, depending on the selection of room controller(s) and load binding to room controller(s).

4. For switching daylight harvesting, the photosensor shall provide a field-selectable deadband, or a separation, between the "ON Setpoint" and the "OFF Setpoint" that will prevent the lights from cycling excessively after they turn off.

5. For dimming daylight harvesting, the photosensor shall provide the option, when the daylight contribution is sufficient, of turning lights off or dimming lights to a field-selectable minimum level.

6. Photosensors shall have a digital, independently configurable fade rate for both increasing and decreasing light level in units of percent per second.

7. Photosensors shall provide adjustable cut-off time. Cut-off time is defined by the number of selected minutes the load is at the minimum output before the load turns off. Selectable range between 0-240 minutes including option to never cut-off.

8. Optional wall switch override shall allow occupants to reduce lighting level to increase energy savings or, if permitted by system administrator, raise lighting levels for a selectable period of time or cycle of occupancy.

9. Integral infrared (IR) transceiver for configuration and/or commissioning with a handheld configuration tool, to transmit detected light level to wireless configuration tool, and for communication with personal remote controls.

10. Configuration LED status light on device that blinks to indicate data transmission.

11. Status LED indicates test mode, override mode and load binding.

12. Recessed switch on device to turn controlled load(s) ON and OFF.

13. BACnet object information shall be available for the following daylighting sensor objects, based on the specific photocell's settings:

    a. Light level

    b. Day and night setpoints

    c. Off time delay

    d. On and off setpoints

    e. Up to three zone setpoints

    f. Operating mode – on/off, bi-level, tri-level or dimming

14. One RJ-45 port for connection to DLM local network.

15. A choice of accessories to accommodate multiple mounting methods and building materials. The photosensors may be mounted on a ceiling tile, skylight light well, suspended lighting fixture or backbox. Standard tube photosensors accommodate mounting materials from 0-0.62" thickness (LMLS-400, LMLS-500). Extended tube photosensors accommodate mounting materials from 0.62"-1.25" thickness (LMLS-400-L, LMLS-500-L). Mounting brackets are compatible with J boxes (LMLS-MB1) and wall mounting (LMLS-MB2). LMLS-600 photosensor to be mounted on included bracket below skylight well.

16. Any load or group of loads in the room can be assigned to a daylighting zone

17. Each load within a daylighting zone can be individually enabled or disabled for discrete control (load independence).

18. All digital parameter data programmed into a photosensor shall be retained in non-volatile FLASH memory within the photosensor itself. Memory shall have an expected life of no less than 10 years.

C. Closed loop digital photosensors shall include the following additional features:

1. An internal photodiode that measures light in a 100-degree angle, cutting off the unwanted light from bright sources outside of this cone.

2. Automatic self-calibration, initiated from the photosensor, a wireless configuration tool or a PC with appropriate software.

3. Automatically establishes application-specific setpoints following self-calibration. For switching operation, an adequate deadband between the ON and OFF setpoints shall prevent the lights from cycling; for dimming operation a sliding setpoint control algorithm with separate Day and Night setpoints shall prevent abrupt ramping of loads.

4. WattStopper Product Number: LMLS-400, LMLS-400-L.

D. Open loop digital photosensors shall include the following additional features:

1. An internal photodiode that measures light in a 60-degree angle cutting off the unwanted light from the interior of the room.

2. Automatically establishes application-specific setpoints following manual calibration using a wireless configuration tool or a PC with appropriate software. For switching operation, an adequate deadband between the ON and OFF setpoints for each zone shall prevent the lights from cycling; for dimming operation, a proportional control algorithm shall maintain the design lighting level in each zone.

3. Each of the three discrete daylight zones can include any non overlapping group of loads in the room.

4. WattStopper Product Number: LMLS-500, LMLS-500-L.

E. Dual loop digital photosensors shall include the following additional features:

1. Close loop portion of dual loop device must have an internal photodiode that measures light in a 100 degree angle, cutting off the unwanted light from sources outside of this con

2. Open loop portion of dual loop device must have an internal photodiode that can measure light in a 60 degree angle, cutting off the unwanted light from the interior of the room.

3. Automatically establishes application-specific set-points following self-calibration. For switching operation, an adequate deadband between the ON and OFF setpoints shall prevent the lights from cycling; for dimming operation a sliding setpoint control algorithm with separate Day and Night setpoints shall prevent abrupt ramping of load.

4. Device must reference closed loop photosensor information as a base line reference. The device must be able to analyze the open loop photosensor information to determine if an adjustment in light levels is required.

5. Device must be able to automatically commission setpoints each night to provide adjustments to electrical lighting based on changes in overall lighting in the space due to changes in reflectance within the space or changes to daylight contribution based on seasonal changes.

6. Device must include extendable mounting arm to properly position sensor within a skylight well.

7. WattStopper product number LMLS-600

2.9 Digital Room Controllers and Plug-load Controllers:

A. Digital controllers for lighting and plug loads automatically bind the room loads to the connected devices in the space without commissioning or the use of any tools. Room and plug load controllers shall be provided to match the room lighting and plug load control requirements. The controllers will be simple to install, and will not have dip switches or potentiometers, or require special configuration for standard Plug n’ Go applications. The control units will include the following features:

1. Automatic room configuration to the most energy-efficient sequence of operation based upon the devices in the room.

2. Simple replacement – Using the default automatic configuration capabilities, a room controller may be replaced with an off-the-shelf.

3. Multiple room controllers connected together in a local network must automatically prioritize each room controller, without requiring any configuration or setup, so that loads are sequentially assigned using room controller device ID's from highest to lowest.

4. Device Status LEDs to indicate:

    a. Data transmission

    b. Device has power

    c. Status for each load

    d. Configuration status

5. Quick installation features including:

    a. Standard junction box mounting

    b. Quick low voltage connections using standard RJ-45 patch cable

6. Based on individual configuration, each load shall be capable of the following behavior on power up following the loss of normal power:

    a. Turn on to 100%

    b. Remain off

    c. Turn on to last level

7. Each load shall be configurable to operate in the following sequences based on occupancy:

    a. Auto-on/Auto-off (Follow on and off)

8. Manual-on/Auto-off (Follow off only)

9. The polarity of each load output shall be reversible, via digital configuration, so that on is off and off is on.

10. BACnet object information shall be available for the following objects:

    a. Load status

    b. Electrical current

    c. Total watts per controller

    d. Schedule state – normal or after-hours

    e. Demand response control and cap level

    f. Room occupancy status

    g. Total room lighting and plug loads watts

    h. Total room watts/sq ft

i. Force on/off all loads

11. UL 2043 plenum rated

12. Manual override and LED indication for each load

13. Dual voltage (120/277 VAC, 60 Hz), or 347 VAC, 60 Hz (selected models only). 120/277 volt models rated for 20A total load, derating to 16A required for some dimmed loads (forward phase dimming); 347 volt models rated for 15A total load; plug load controllers carry application-specific UL 20 rating for receptacle control.

14. Zero cross circuitry for each load

15. All digital parameter data programmed into an individual room controller or plug load controller shall be retained in non-volatile FLASH memory within the controller itself. Memory shall have an expected life of no less than 10 years.

B. On/Off Room Controllers shall include:

1. One or two relay configuration

2. Efficient 150 mA switching power supply

3. Three RJ-45 DLM local network ports with integral strain relief and dust cover

4. WattStopper product numbers: LMRC-101, LMRC-102

C. On/Off/Dimming enhanced Room Controllers shall include:

1. Real time current monitoring

2. Multiple relay configurations

a. One, two or three relays (LMRC-21x series)

b. One or two relays (LMRC-22x series)

3. Efficient 250 mA switching power supply

4. Four RJ-45 DLM local network ports with integral strain relief and dust cover

5. One dimming output per relay

a. 0-10V Dimming - Where indicated, one 0-10 volt analog output per relay for control of compatible ballasts and LED drivers. The 0-10 volt output shall automatically open upon loss of power to the Room Controller to assure full light output from the controlled lighting. (LMRC-21x series)

b. Line Voltage, Forward Phase Dimming - Where indicated, one forward phase control line voltage dimming output per relay for control of compatible two-wire or three-wire ballasts, LED drivers, MLV, forward phase compatible ELV, neon/cold cathode and incandescent loads. (LMRC-22x series)

c. Each dimming output channel shall have an independently configurable minimum and maximum calibration trim level to set the dimming range to match the true dynamic range of the connected ballast or driver.

d. The LED level indicators on bound dimming switches shall utilize this new maximum and minimum trim.

e. Each dimming output channel shall have an independently configurable minimum and maximum trim level to set the dynamic range of the output within the new 0-100% dimming range defined by the minimum and maximum calibration trim.

f. Calibration and trim levels must be set per output channel.

g. Devices that set calibration or trim levels per controller are not acceptable.

h. All configuration shall be digital. Devices that set calibration or trim levels per output channel via trim pots or dip-switches are not acceptable.

6. Each load shall have an independently configurable preset on level for Normal Hours and After Hours events to allow different dimmed levels to be established at the start of both Normal Hours and After Hours events.

7. Fade rates for dimming loads shall be specific to bound switch buttons, and the load shall maintain a default value for any bound buttons that do not specify a unique value.

8. The following dimming attributes may be changed or selected using a wireless configuration tool:

   a. Establish preset level for each load from 0-100%

   b. Set high and low trim for each load

   c. Set lamp burn in time for each load up to 100 hours

9. Override button for each load provides the following functions:

   a. Press and release for on/off control

   b. Press and hold for dimming control

10. WattStopper product numbers: LMRC-211, LRMC-212, LRMC-213, LMRC-221, LMRC-222

D. Plug Load Room Controllers shall include:

1. One relay configuration with additional connection for unswitched load

2. Configurable additive time delay to extend plug load time delay beyond occupancy sensor time delay (e.g. a 10 minute additive delay in a space with a 20 minute occupancy sensor delay ensures that plug loads turn off 30 minutes after the space is vacated).

3. Factory default operation is Auto-on/Auto-off, based on occupancy

4. Real time current monitoring of both switched and un-switched load (LMPL-201 only)

5. Efficient switching power supply

   a. 150mA (LMPL-101)

   b. 250mA (LMPL-201)

6. RJ-45 DLM local network ports

    a. Three RJ-45 ports (LMPL-101)

    b. Four RJ-45 ports (LMPL-201)

7. WattStopper product numbers: LMPL-101, LMPL-201.

2.10 DLM Local Network (Room Network):

A. The DLM local network is a free topology lighting control physical connection and communication protocol designed to control a small area of a building.

B. Features of the DLM local network include:

1. Plug n' Go® automatic configuration and binding of occupancy sensors, switches and lighting loads to the most energy-efficient sequence of operation based upon the device attached.

2. Simple replacement of any device in the network with a standard off the shelf unit without requiring commissioning, configuration or setup.

3. Push n' Learn® configuration to change the automatic configuration, including binding and load parameters without tools, using only the buttons on the digital devices in the local network.

4. Two-way infrared communications for control by handheld remotes, and configuration by a handheld tool including adjusting load parameters, sensor configuration and binding, within a line of sight of up to 30 feet from a sensor, wall switch or IR receiver.

C. Digital room devices connect to the local network using pre-terminated Cat 5e cables with RJ-45 connectors, which provide both data and power to room devices. Systems that utilize RJ-45 patch cords but do not provide serial communication data from individual end devices are not acceptable.

D. If manufacturer's pre-terminated Cat 5e cables are not used for the installation, the contractor is responsible for testing each cable following installation and supplying manufacturer with test results.

E. WattStopper Product Number: LMRJ-Series

2.11 DLM Segment Network (Room to Room Network):

A. The segment network shall be a linear topology, BACnet-based MS/TP subnet to connect DLM local networks (rooms) and LMCP relay panels for centralized control.

1. Each connected DLM local network shall include a single network bridge (LMBC-300), and the network bridge is the only room-based device that is connected to the segment network.

2. Network bridges, relay panels and segment managers shall include terminal blocks, with provisions for separate "in" and "out" terminations, for segment network connections.

3. The segment network shall utilize 1.5 twisted pair, shielded, cable supplied by the lighting control manufacturer. The maximum cable run for each segment is 4,000 feet. Conductor-to-conductor capacitance of the twisted pair shall be less than 30 pf/ft and have a characteristic impedance of 120 Ohms.

4. Network signal integrity requires that each conductor and ground wire be correctly terminated at every connected device.

5. Substitution of manufacturer-supplied cable must be pre-approved: Manufacturer will not certify network reliability, and reserves the right to void warranty, if non-approved cable is installed, and if terminations are not completed according to manufacturer's specific requirements.

6. Segment networks shall be capable of connecting to BACnet-compliant BAS (provided by others) either directly, via MS/TP, or through NB-ROUTERs, via BACnet/IP or BACnet/Ethernet. Systems whose room-connected network infrastructure require gateway devices to provide BACnet data to a BAS are unacceptable.

B. WattStopper Product Number: LM-MSTP, LM-MSTP-DB

2.12 Configuration Tools:

A. A wireless configuration tool facilitates optional customization of DLM local networks using two-way infrared communications, while PC software connects to each local network via a USB interface.

B. Features and functionality of the wireless configuration tool shall include but not be limited to:

1. Two-way infrared (IR) communication with DLM IR-enabled devices within a range of approximately 30 feet.

2. High visibility organic LED (OLED) display, pushbutton user interface and menu-driven operation.

3. Must be able to read and modify parameters for room controllers, occupancy sensors, wall switches, daylighting sensors, network bridges and relay panels, and identify room devices by type and serial number.

4. Save up to eight occupancy sensor setting profiles, and apply profiles to selected sensors.

5. Temporarily adjust light level of any load(s) on the local network, and incorporate those levels in scene setting. Set room mode for testing of Normal Hours (NH) and After Hours (AH) parameter settings.
6. Adjust or fine-tune daylighting settings established during auto-configuration, and input light level data to complete configuration of open loop daylighting controls.

7. Set room mode for testing of Normal Hours (NH) and After Hours (AH) parameter settings.

8. Verify status of building level network devices.

C. WattStopper Product Numbers: LMCT-100, LMCI-100/LMCS-100

2.13 Network Bridge:

A. The network bridge module connects a DLM local network to a BACnet-compliant segment network for communication between rooms, relay panels and a segment manager or BAS. Each local network shall include a network bridge component to provide a connection to the local network room devices. The network bridge shall use industry standard BACnet MS/TP network communication and an optically isolated EIA/TIA RS-485 transceiver.

1. The network bridge shall be provided as a separate module connected on the local network through an available RJ-45 port.

2. Provide Plug n' Go operation to automatically discover room devices connected to the local network and make all device parameters visible to the segment manager via the segment network. No commissioning shall be required for set up of the network bridge on the local network.

3. The network bridge shall automatically create standard BACnet objects for selected room device parameters to allow any BACnet-compliant BAS to include lighting control and power monitoring features as provided by the DLM room devices on each local network. BACnet objects will be created for the addition or replacement of any given in-room DLM device for the installed life of the system. Products requiring that an application-specific point database be loaded to create or map BACnet objects are not acceptable. Systems not capable of providing BACnet data for control devices via a dedicated BACnet Device ID and physical MS/TP termination per room are not acceptable. Standard BACnet objects shall be provided as follows:

    a. Read/write the normal or after hours schedule state for the room

    b. Read the **detection** state of each occupancy sensor

    c. Read the aggregate occupancy state of the room

    d. Read/write the On/Off state of loads

    e. Read/write the dimmed light level of loads

    f. Read the button states of switches

    g. Read total current in amps, and total power in watts through the room controller

    h. Read/write occupancy sensor time delay, PIR sensitivity and ultrasonic sensitivity settings

    i. Activate a preset scene for the room

    j. Read/write daylight sensor fade time and day and night setpoints

    k. Read the current light level, in footcandles, from interior and exterior photosensors and photocells

    l. Set daylight sensor operating mode

    m. Read/write wall switch lock status

    n. Read watts per square foot for the entire controlled room

    o. Write maximum light level per load for demand response mode

    p. Read/write activation of demand response mode for the room

    q. Activate/restore demand response mode for the room

B. WattStopper product numbers: LMBC-300

2.14 Segment Manager:

A. For networked applications, the Digital Lighting Management system shall include at least one segment manager to manage network communication. It shall be capable of serving up a graphical user interface via a standard web browser utilizing either unencrypted TCP/IP traffic via a configurable port (default is 80) or 256 bit AES encrypted SSL TCP/IP traffic via a configurable port (default is 443).

B. Each segment manager shall have integral support for at least three segment and format networks. Segment networks may alternately be connected to the segment manger via external routers and switches, using standard Ethernet structured wiring. Each router shall accommodate one segment network. Provide the quantity of routers and switches as shown on the plans.

C. Operational features of the Segment Manager shall include the following:

1. Connection to PC or LAN via standard Ethernet TCP/IP via standard Ethernet TCP/IP with the option to use SSL encrypted connections for all traffic.

2. Easy to learn and use graphical user interface, compatible with Internet Explorer 8, or equal browser. Shall not require installation of any lighting control software to an end-user PC.

3. Log in security capable of restricting some users to view-only or other limited operations.

4. Automatic discovery of DLM devices and relay panels on the segment network(s). Commissioning beyond activation of the discovery function shall not be required to provide communication, monitoring or control of all local networks and lighting control panels.

5. After discovery, all rooms and panels shall be presented in a standard navigation tree format. Selecting a device from the tree will allow the device settings and operational parameters to be viewed and changed by the user.

6. Ability to view and modify room device operational parameters. It shall be possible to set device parameters independently for normal hours and after hours operation including sensor time delays and sensitivities, and load response to sensor including Manual-On or Auto-On.

7. Ability to set up schedules for rooms and panels, view and override current status of panel channels and relays, and assign relays to groups. Schedules shall automatically set controlled zones or areas to either a normal hours or after hours mode of operation. Support for a minimum of 100 unique schedules, each with up to four time events per day. Support for annual schedules, holiday schedules and unique date-bound schedules.

8. Ability to group rooms and loads for common control by schedules, switches or network commands.

9. Ability to monitor connected load current and display power consumption for areas equipped with room controllers incorporating the integral current monitoring feature.

10. Provide capabilities for integration with a BAS via BACnet protocol. At a minimum, the following points shall be available to the BAS via BACnet IP connection to the segment manager: room occupancy state; room schedule mode; room switch lock control; individual occupancy sensor state; room lighting power; room plug-load power; load ON/OFF state; load dimming level; panel channel schedule state; panel relay state; and Segment Manager Group schedule state control.

11. The Segment Manager shall allow access and control of the overall system database via Native Niagara AX FOX connectivity. Systems that must utilize a Tridium Niagara controller in addition to the programming, scheduling and configuration server are not acceptable.

D. Segment Manager shall support multiple DLM rooms as follows:

1. Support up to 120 network bridges and 900 digital in-room devices (LMSM-3E).

2. Support up to 300 network bridges and 2,200 digital in room devices, connected via network routers and switches (LMSM-6E).

E. WattStopper Product Numbers: LMSM-3E, LMSM-6E, NB-ROUTER, NB-SWITCH, NB-SWITCH-8, NB-SWITCH-16.

2.15 Programming, Configuration and Documentation Software:

A. PC-native application for optional programming of detailed technician-level parameter information for all DLM products, including all parameters not accessible via BACnet and the handled IR configuration tool. Software must be capable of accessing room-level parameter information locally within the room when connected via the optional LMCI-100 USB programming adapter, or globally for many segment networks simultaneously utilizing standard BACnet/IP communication.

1. Additional parameters exposed through this method include but are not limited to:

a. Occupancy sensor detection LED disable for performance and other aesthetic spaces where blinking LEDs present a distraction.

b. Six occupancy sensor action behaviors for each controlled load, separately configurable for normal hours and after hours modes. Modes include: No Action, Follow Off Only, Follow On Only, Follow On and Off, Follow On Only with Override Time Delay, Follow Off Only with Blink Warn Grace Time, Follow On and Off with Blink Warn Grace Time.

c. Separate fade time adjustments per load for both normal and after hours from 0 - 4 hours.

d. Configurable occupancy sensor re-trigger grace period from 0 - 4 minutes separate for both normal hours and after hours.

e. Separate normal hours and after hours per-load button mode with modes including: Do nothing, on only, off only, on and off.

f. Load control polarity reversal so that on events turn loads off and vice versa.

g. Per-load DR (demand response) shed level in units of percent.

h. Load output pulse mode in increments of 1second.

i. Fade trip point for each load for normal hours and after hours that establishes the dimmer command level at which a switched load closes its relay to allow for staggered On of switched loads in response to a dimmer.

2. Generation of reports at the whole file, partial file, or room level. Reports include but are not limited to:

a. Device list report: All devices in a project listed by type.

b. Load binding report: All load controller bindings showing interaction with sensors, switches, and daylighting.

c. BACnet points report: Per room Device ID report of the valid BACnet points for a given site's BOM.

d. Room summary report: Device manifest for each room, aggregated by common BOM, showing basic sequence of operations.

e. Device parameter report: Per-room lists of all configured parameters accessible via hand held IR programmer for use with O&M documentation.

f. Scene report: All project scene pattern values not left at defaults (i.e. 1 = all loads 100%, 2 = all loads 75%, 3 = all loads 50%, 4 = all loads 25%, 5-16 = same as scene 1).

g. Occupancy sensor report: Basic settings including time delay and sensitivity(ies) for all occupancy sensors.

3. Network-wide programming of parameter data in a spreadsheet-like programming environment including but not limited to the following operations:

a. Set, copy/paste an entire project site of sensor time delays.
b. Set, copy/paste an entire project site of sensor sensitivity settings.

c. Search based on room name and text labels.

d. Filter by product type (i.e. LMRC-212) to allow parameter set by product.

e. Filter by parameter value to search for product with specific configurations.

4. Network-wide firmware upgrading remotely via the BACnet/IP network.

a. Mass firmware update of entire rooms.

b. Mass firmware update of specifically selected rooms or areas.

c. Mass firmware upgrade of specific products.

B. WattStopper Product Number: LMCS-100, LMCI-100

2.16 Emergency Lighting Control Devices:

A. Emergency Lighting Control Unit – A UL 924 listed device that monitors a switched circuit providing normal lighting to an area. The unit provides normal ON/OFF control of emergency lighting along with the normal lighting. Upon normal power failure the emergency lighting circuit will close, forcing the emergency lighting ON until normal power is restored. Features include:

1. 120/277 volts, 50/60 Hz, 20 amp ballast rating

2. Push to test button

3. Auxiliary contact for remote test or fire alarm system interface

B. WattStopper Product Numbers: ELCU-100, ELCU-200.

PART 3 – EXECUTION

3.1 Pre-installation Meeting:

A. A factory authorized manufacturer's representative shall provide the electrical contractor a functional overview of the lighting control system prior to installation. The contractor shall schedule the pre-installation site visit after receipt of approved submittals to review the following:

1. Confirm the location and mounting of all digital devices, with special attention to placement of occupancy and daylighting sensors.

2. Review the specifications for low voltage control wiring and termination.

3. Discuss the functionality and configuration of all products, including sequences of operation, per design requirements.

4. Discuss requirements for integration with other trades.

3.2 Contractor Installation and Services:

A. Contractor to install all devices and wiring in a professional manner. All line voltage connections to be tagged to indicate circuit and switched legs.

B. Contractor to install all room/area devices using manufacturer's factory-tested Cat 5e cable with pre-terminated RJ-45 connectors. If pre-terminated cable is not used for room/area wiring, the contractor is responsible for testing each field-terminated cable following installation, and shall supply the lighting controls manufactuerer with test results. Contractor to install any room to room network devices using manufacturer-supplied LM-MSTP network wire. Network wire substitution is not permitted and may result in loss of product warranty per DLM SEGMENT NETWORK section of specification. Low voltage wiring topology must comply with manufacturer's specifications. Contractor shall route network wiring as shown in submittal drawings as closely as possible, and shall document final wiring location, routing and topology on as built drawings.

C. Install the work of this Section in accordance with manufacturer's printed instructions unless otherwise indicated. Before start up, contractor shall test all devices to ensure proper communication.

D. Calibrate all sensor time delays and sensitivity to guarantee proper detection of occupants and energy savings.

1. Adjust time delay so that controlled area remains lighted while occupied.

E. Provide written or computer-generated documentation on the configuration of the system including room by room description including:

1. Sensor parameters, time delays, sensitivities, and daylighting setpoints.

2. Sequence of operation, (e.g. manual ON, Auto OFF. etc.)

3. Load Parameters (e.g. blink warning, etc.)

F. Post start-up tuning – After 30 days from occupancy contractor shall adjust sensor time delays and sensitivities to meet the Owner's requirements. Provide a detailed report to the Architect / Owner of post start-up activity.

3.3 Factory Services:

A. Upon completion of the installation, the manufacturer's factory authorized representative shall start up and verify a complete fully functional system.

B. The electrical contractor shall provide both the manufacturer and the electrical engineer with three weeks written notice of the system start up and adjustment date.

C. Upon completion of the system start up, the factory-authorized technician shall provide the proper training to the owner's personnel on the adjustment and maintenance of the system.

3.4 Commissioning Support Services:

A. On this project, a commissioning agent will be hired to verify the installation and programming of all building systems, which includes the lighting control system. Manufacturer should include an extra day of technician's time to review the functionality and settings of the lighting control hardware with the commissioning agent, including reviewing submittal drawings and ensuring that instructions on how to configure each device are readily available. Manufacturer is NOT responsible for helping the commissioning agent inspect the individual devices. It will be the commissioning agent's responsibility to create and complete any forms required for the commissioning process, although the manufacturer or contractor may offer spreadsheets and/or printouts to assist the agent with this task.

B. The commissioning agent shall work with the electrical contractor during installation of the lighting control hardware to become familiar with the specific products. The agent may also accompany the manufacturer's technicians during their start-up work to better understand the process of testing, calibration and configuration of the products. However, the contractor and manufacturer shall ensure that interfacing with the agent does not prevent them from completing the requirements outlined in the contract documents.

3.5 Acceptance Testing Support Services:

A. On all California projects, a certified lighting controls acceptance test technician (CLCATT) must verify the installation of the lighting control system. Manufacturer should include an extra day of factory technician's time to assist the CLCATT review the functionality and settings of the lighting control hardware per the requirements in the California State forms. It will be the CLCATT's responsibility to create and complete any forms required for the commissioning process, although the manufacturer or contractor may offer spreadsheets and/or printouts to assist the CLCATT with this task.

3.6 Lighting Control Installation Certificate Requirements:

A. When certification is required by Title 24, Part 1, Section 10-103-A, the acceptance testing specified by Section 130.4 shall be performed by a Certified Lighting Controls Acceptance Test Technician (CLCATT) employed or hired by the electrical contractor. If the CLCATT is operating as an employee, the CLCATT shall be employed by a Certified Lighting Controls Acceptance Employer. The CLCATT shall disclose on the Certificate of Acceptance a valid CLCATT certification identification number issued by an approved Acceptance Test Technician Provider. The CLCATT shall complete all Certificate of Acceptance documentation in accordance with the applicable requirements in Section 10-103(a)4.

B. Lighting Control Installation Certificate Requirements. To be recognized for compliance with Part 6 an Installation Certificate shall be submitted in accordance with Section 10-103(a) for any lighting control system, Energy Management Control System, track lighting integral current limiter, track lighting supplementary overcurrent protection panel, interlocked lighting system, lighting Power Adjustment Factor, or additional wattage available for videoconference studio, in accordance with the following requirements, as applicable:

1. Certification that when a lighting control system is installed to comply with lighting control requirements in Part 6 it complies with the applicable requirements of Section 110.9; and complies with Reference Nonresidential Appendix NA7.7.1.

2. Certification that when an Energy Management Control System is installed to function as a lighting control required by Part 6 it functionally meets all applicable requirements for each application for which it is installed, in accordance with Sections 110.9, 130.0 through 130.5, 140.6 through 150.0, and 150.2; and complies with Reference Nonresidential Appendix NA7.7.2.

3. Certification that line-voltage track lighting current limiters comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0(c); and comply with Reference Nonresidential Appendix NA7.7.3.

4. Certification that line-voltage track lighting supplemental overcurrent protection panels comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0(c); and comply with Reference Nonresidential Appendix NA7.7.4.

5. Certification that interlocked lighting systems used to serve an approved area comply with Section 140.6(a)1; and comply with Reference Nonresidential Appendix NA7.7.5.

6. Certification that lighting controls installed to earn a lighting Power Adjustment Factor (PAF) comply with Section 140.6(a)2; and comply with Reference Nonresidential Appendix NA7.7.6.

7. Certification that additional lighting wattage installed for a videoconference studio complies with Section 140.6(c)Gvii; and complies with Reference Nonresidential Appendix NA 7.7.7.

END OF SECTION 26 09 23

SECTION 26 09 24 - DIGITAL LIGHTING MANAGEMENT RELAY CONTROL PANEL

PART 1 - GENERAL

1.1 Introduction:

A. The work covered in this section is subject to the requirements in the General Conditions of division 01 and all sections of division 26 of the Specifications. Contractor shall coordinate the work in this section with the trades covered in other sections of the specification to provide a complete and operable system.

1.2 System Description:

A. Extent of lighting control system work is indicated by drawings and by the requirements of this section. It is the intent of this section to provide an integrated, energy saving lighting control system including Lighting Control Panels, Occupancy Sensors, and Daylighting Controls from a single supplier. Contractor is responsible for confirming that the panels and sensors interoperate as a single system. When centralized line-voltage mounting or management is required, relay panel platforms being considered must have sufficient configuration flexibility to implement room-level code compliant controls sequences including, but not limited, to those referenced in section 2.01 of this specification.

1.3 Submittals:

A. Submit manufacturer's data on lighting control system and components including shop drawings, detailed wiring diagrams, and cut sheets as required under related specification sections.

B. Shop Drawings:

1. Composite wiring and/or schematic diagram of each control circuit as proposed to be installed.

2. Show exact location of all digital devices and part numbers, including at minimum sensors, room controllers, and switches for each area on reflected ceiling plans. (Contractor must provide AutoCAD format reflected ceiling plans.)

3. Provide room/area details including products and sequence of operation for each room or area. Illustrate typical acceptable room/area connection topologies.

4. Network riser diagram including floor and building level details. Include network cable specification and end-of-line termination details, if required. Illustrate points of connection to integrated systems. Coordinate integration with mechanical and/or other trades.

1.4 Quality Assurance:

A. Manufacturers: Firms regularly engaged in the manufacture of lighting control equipment and ancillary equipment, of types and capacities required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Comply with NEC, NEMA, and FCC requirements for Class A applications.

C. UL Approvals: Relay panels and accessory devices are to be UL listed under UL 916 Energy Management Equipment. Emergency relay panels shall be co-listed under UL 924 Emergency Lighting Equipment.

1.5 Manufacturers:

A. This specification is based on products from WattStopper, Santa Clara, CA. Complete information on any other system proposed as a substitute must be submitted in writing for approval after bid and assorted cost saving. Prior approval does not guarantee final approval by the electrical engineer. The contractor shall be completely responsible for providing a system meeting this specification in its entirety. All deviations from this specification must be listed and individually signed off by the consultant.

PART 2 – PRODUCTS

2.1 Lighting Control Panels:

A. Provide lighting control panels in the locations and capacities as indicated on the plans and schedules. Each panel shall be of modular construction and consist of the following components:

1. Enclosure/Tub shall be NEMA 1, sized to accept an interior with 1 – 8 relays, 1 – 24 relays and 6 four-pole contactors, or 1 – 48 relays and 12 four-pole contactors.

2. Cover shall be configured for surface or flush wall mounting of the panel as indicated on the plans. The panel cover shall have a hinged and lockable door with restricted access to line voltage section of the panel.

3. Interior assembly shall be supplied as a factory assembled component specifically designed and listed for field installation. The interior construction shall provide total isolation of high voltage (Class 1) wiring from low voltage (Class 2) wiring within the assembled panel. The interior assembly shall include intelligence boards, power supply, DIN rails for mounting optional Class 2 control devices, and individually replaceable latching type relays. The panel interiors shall include the following features:

a. Removable, plug-in terminal blocks with screwless connections for all low voltage terminations.

b. Individual terminal block, override pushbutton, and LED status light for each relay.

c. Direct wired switch inputs associated with each relay and group channel shall support two-wire, momentary or maintained contact switches.

d. Digital inputs (four RJ-45 jacks) shall support 1-, 2-, 3-, 4-, and 8-button digital switches, digital IO modules capable of receiving 0-5V or 0-10V analog photocell inputs, digital IO modules capable of receiving momentary or maintained contact closure inputs, digital photocell modules, and digital occupancy sensors.

e. True relay state shall be indicated by the on-board LED and shall be available to external control devices and systems via BACnet.

f. Automatically sequenced operation of relays to reduce impact on the electrical distribution system when large loads are controlled simultaneously.

g. Group, channel, and pattern control of relays shall be provided through a simple keypad interface from a handheld IR programmer. Any group of relays can be associated with a channel for direct on/off control or pattern (scene) control via a simple programming sequence using the relay and channel override pushbuttons and LED displays for channels 1-9 or a handheld IR programmer for channels 1-99.

h. Relay group status for each channel shall be provided through red LED indicators for groups 1-9 and via BACnet for groups 1-99. Solid red indicates that the last group action called for an ON state and relays in the group are on or in a mixed state.

i. Single-pole latching relays with modular plug-in design. Relays shall provide the following ratings and features:

(1) Electrical:
(a) 30 amp ballast at 277V
(b) 20 amp tungsten at 120V
(c) 1.5 HP motor at 120V
(d) Relays shall be specifically UL listed for control of plug loads

(2) Mechanical:
(a) Individually replaceable, ½" KO mounting with removable Class 2 wire harness.
(b) Actuator on relay housing provides manual override and visual status indication, accessible from Class 2 section of panel.
(c) Dual line and load terminals each support two #14 – #12 solid or stranded conductors.
(d) Tested to 300,000 mechanical on/off cycles.

(3) Isolated low voltage contacts provide for true relay status feedback and pilot light indication.

4. Power supply shall be a multi-voltage transformer assembly with rated power to supply all electronics, occupancy sensors, switches, pilot lights, and photocells as necessary to meet the project requirements. Power supply to have internal over-current protection with automatic reset and metal oxide varistor protection.

5. Lighting control panels shall be WattStopper model LMCP8, LMCP24 or LMCP48 as shown on the plans.

2.2 BACnet® Based Digital Communications:

A. The lighting control panel shall support digital communications to facilitate the extension of control to include interoperation with building automation systems and other intelligent field devices. Digital communications shall be RS485 master/slave token passing-based using the BACnet® protocol.

1. The panel shall have provision for an individual BACnet device ID. The device ID description property shall be writable via the network to allow unique identification of the lighting control panel on the network.

2. The panel shall support MS/TP MAC addresses in the range of 0 – 127 and baud rates of 9600k, 38400k, 76800k, and 115.2k bits per second.

3. Lighting control relays shall be controllable as binary output objects in the instance range of 1 – 64. The state of each relay shall be readable and writable by the BAS via the object present value property.

4. Lighting control relays shall report their true on/off state as binary input objects in the instance range of 1 – 64.

5. The 99 channel groups associated with the panel shall be represented by binary value objects in the instance range of 201 – 299. The occupancy state of each channel group shall be readable and writable by the BAS via the object present value property. Commanding 1 to a channel group will put all relays associated with the channel into the normal hours mode. Commanding 0 or NULL shall put the relays into the after hours mode.

6. Setup and commissioning of the panel shall not require manufacturer-specific software or a computer. All configuration of the lighting control panel shall be performed using standard BACnet objects or via the handheld IR programming remote. Provide BACnet objects for panel setup and control as follows:

    a. Binary output objects in the instance range of 1 – 64 (one per relay) for on/off control of relays.

    b. Binary value objects in the instance range of 1 – 99 (one per channel) for normal hours/after hours schedule control.

    c. Binary input objects in the instance range of 1 – 64 (one per relay) for reading true on/off state of the relays.

    d. Analog value objects in the instance range of 1 – 64 (one per relay) shall assign relays to channel groups in the range of 1 – 99.

    e. Analog value objects in the instance range of 101 – 199 (one per channel group) shall assign a blink warn time value to each channel. A value of 5 shall activate the blink warn feature for the channel and set a 5-minute gracetime period. A value of 250 shall activate the sweep feature for the channel and enable the use of sweep type automatic wall switches.

    f. Analog value objects in the instance range of 201 – 299 (one per channel) shall assign an after hours time delay value to the channel in the range of 1 – 240 minutes.

    g. Multi-state value objects in the instance range of 1 – 99 (one per channel) shall provide the state of the relays assigned to the channel. Valid states shall be ALL ON, MIXED, BLINK, and ALL OFF.

7. The description property for all objects shall be writable via the network and shall be saved in non-volatile memory within the panel.

8. The BO and BV 1 – 99 objects shall support BACnet priority array with a relinquish default of off and after hours respectively. Prioritized writes to the channel BV objects shall propagate prioritized control to each member relay in a way analogous to the BACnet Channel object described in addendum aa. (http://www.bacnet.org/Addenda/Add-135-2010aa.pdf)

9. Panel-aggregate control of relay Force Off at priority 2 shall be available via a single BV5 object. Force On at priority 1 shall be available via a single BV4 object.

10. Lockout of all digital switch buttons connected to a given panel shall be command-able via a single BV2 object. The lock status of any connected switch station shall be represented as BV101-196.

11. Lighting control accessory devices connected to the panel shall be represented via BACnet objects including but not limited to the following:

    a. Digital occupancy sensor detection states shall be readable as BI objects ranging from BI1-96.

    b. Digital occupancy sensor configuration parameters shall each be accessible as BACnet objects when applicable to a given product.

        (1) Occupancy sensor time delay in minutes shall be writeable via AV101-196.
        (2) Occupancy sensor passive infrared (PIR) sensitivity percentage shall be writeable via AV201-296.
        (3) Occupancy sensor ultrasonic (US) sensitivity percentage shall be writeable via AV301-396.

    c. Digital switch buttons shall be readable and writeable as BI objects ranging from BI101 – 9608.

    d. Digital daylight sensors foot-candle readings shall be readable as follows:

        (1) Analog 0-5V/0-10V sensors connected to a digital input module shall be represented as AI1-96.
        (2) Digital closed loop sensors shall be represented as AI4001-4096.
        (3) Digital open loop sensors shall be represented as AI5001-5096.
        (4) Digital dual loop sensors shall be represented as follows:

            (a) The upward facing open loop sensor shall be represented as AI6001-6096.
            (b) The downward facing closed loop sensor shall be represented as AI6101-6196.

    e. Digital daylight sensor configuration shall be exposed as BACnet objects as follows:

        (1) Digital closed loop sensors shall be represented as follows:

            (a) Daylight Sensor Day Setpoint (ftcd) AV4201-4296.
            (b) Daylight Sensor Night Setpoint (ftcd) AV4301-4396.
            (c) Daylight Sensor Off Setpoint Delay (minutes) AV4401-4496.
            (d) Daylight Sensor On Setpoint (ftcd) AV4501-4596.
            (e) Daylight Sensor Off Setpoint (ftcd) AV4601-4696.

2.03 User Interface:

A. Each lighting control panel system shall be supplied with at least (1) handheld IR remote programming interface consisting of a keypad and associated OLED display screen. The user interface shall allow setup, configuration, and diagnostics of the panel without the need for software or connection of a computer. The user interface shall have the following functions as a minimum:

1. Set network parameters including panel device ID, MS/TP MAC address, baud rate and max master range.

2. Relay Group creation of up to 99 groups. Group creation shall result in programming of all seven key relay parameters for member relays. The seven parameters are as follows: After-hours Override Time Delay, Normal Hours Override Time Delay, Action on Transition to Normal Hours, Action on Transition to After Hours, Sensor Action During Normal Hours, Sensor Action During After Hours, Blink-Warn Time for After Hours.

3. Program up to 254 separate scheduled events. Events shall occur on seven day intervals with each day selectable as active or inactive, and shall be configurable as to whether the event is active on holidays. Holidays are also defined through the User Interface.

4. Program up to 32 separate Dark/Light events. Events shall have a selectable source as either calculated Astro with delay, or a digital IO module with an integral 0-5V or 0-10V analog photocell. Dark/Light events shall occur on seven day intervals with each day selectable as active or inactive, and shall be configurable as to whether the event is active on holidays.

5. Button binding of digital switches to groups shall be accessible via the handheld IR remote and accomplished from the digital switch station.

6. Programming of panel location information shall be accomplished by the handheld IR remote and include at a minmum LAT, LON, DST zone, and an approximate city/state location.

7. An additional handheld IR remote may optionally be specified to be permanently mounted to the panel interior via a retractable anti-theft lanyard to allow for convenient programming of the panel while assuring that the handheld programmer is always present at that panel. An unlimited number of handheld IR remotes may also be purchased for facilities staff as seen fit by the end user's representative.

2.4 Digital Network Switches:

A. Provide digital wall switches with 1, 2, 3, 4, or 8 buttons, in the colors indicated on the plans. Switches shall connect to the panel via standard Cat 5e cable with RJ-45 terminations. Digital wall switches shall have the following features:

1. Available colors: white, ivory, light almond, grey or black.

2. Single gang device shall fit standard decorator opening and use standard wall plates.

3. LED indicator on each button for status and locator function.

4. Concealed configuration button with LED indicator for binding buttons to relays, no software or computer shall be required.

5. Infrared window for use with handheld two-way wireless configuration tool,

6. Selectable function mode per button shall be momentary toggle (on/off), on only, or off only.

7. Removable button assembly for field color change or substitution of engraved buttons.

8. Two RJ-45 ports for connection to panel or other switches and/or occupancy sensors.

9. Open topology digital network via Cat 5e wire.

10. Digital switches shall be WattStopper LMSW series as indicated on the plans.

11. Digital switch buttons shall be able to control groups and group actions shall be system global such that any digital switch station can affect the state of relays present in up to (12) twelve panels networked together via BACnet.

2.5 Digital Occupancy Sensors:

A. Provide digital occupancy sensors to control relays in locations as shown on the plans. Sensors shall be either passive infrared, ultrasonic, or dual technology as indicated. Sensors shall be either ceiling or wall mounded and connect to the panel using Cat 5e cable with RJ-45 terminations. Digital occupancy sensors shall have the following features:

1. Setup and calibration shall be digital and precisely repeatable from sensor to sensor.

2. User interface with pushbuttons and illuminated LCD screen for setup and calibration.

3. Ladder-free setup and calibration with optional handheld two-way infrared commissioning tool.

4. Sensitivity, 0 – 100% in 10% increments.

5. Time delay, 1 – 30 minutes in 1 minute increments.

6. Test mode with five-second time delay for simplified walk testing.

7. Digital occupancy sensors shall be WattStopper LM series as indicated on the plans.

8. Digital occupancy sensors shall be able to control groups and group actions shall be system global such that any digital occupancy sensor can affect the state of relays present in up to (12) twelve panels networked together via BACnet.

2.6 Digital Network Clock:

A. Each panel shall include a digital clock capability able to issue system wide automation commands to up to (11) eleven other panels for a total of (12) twelve networked lighting control panels. The clock shall provide capability for up to 254 independent schedule events per panel for each of the ninety-nine system wide channel groups.

1. The clock capability of each panel shall support all of the energy saving features required of ASHRAE 90.1 - 2001, IECC 2003, as well as all state and local energy codes.

2. The clock module shall provide astronomic capabilities, time delays, blink warning, daylight savings, and holiday functions and will include a battery back up for the clock function and EEPROM for program retention. Clocks that require multiple events to meet local code lighting shut off requirements shall not be allowed.

3. The clock capability of each panel shall operate on a basis of ON/OFF or Normal Hours/After Hours messages to automation groups that implement pre-configured control scenarios. Scenarios shall include:

a. Scheduled ON / OFF

b. Manual ON / Scheduled OFF

c. Astro ON / OFF (or Photo ON / OFF)

d. Astro and Schedule ON / OFF (or Photo and Schedule ON / OFF)

4. The user interface shall be a portable IR handheld remote control capable of programming any panel in the system.

5. The clock capability of each panel shall employ non volatile memory and shlall retains user programming and time for a minimum of 10 years.

6. Schedules programmed into the clock of any one panel shall be capable of executing panel local schedule or Dark/Light (photocell or Astro) events for that panel in the event that global network communication is lost. Lighting control panels that are not capable of executing events independently of the global network shall not be acceptable.

2.7 Application Sequence of Operations Support:

A. The lighting control panel shall support relay behavior parameter configuration of such an extent as to allow digital switch, digital occupancy sensor, digital automatic photocells, and scheduled events to seamlessly implement, at a minimum, the following operational sequences:

1. Title 24 operation requiring Manual On 50%, Automatic on 100%, automatic shut-off on vacancy shall be able to be implemented by using any two relays in a given panel. The sensor(s) for that space will be bound to both relays, each of which shall be given an independent operation mode of Auto On and Manual On respectively, such that on occupancy only 50% of the lighting activates. The digital switch stations for the space, having at minimum two buttons, shall be bound to both relays such that at least one button controls only 50% of the lights and at least one separate button controls only the remaining 50% of the lights allowing for independent zone control. The occupancy sensor(s) action on vacancy shall be to turn off both relays. Configuration of this operational sequence shall not require special software or tools and shall be accomplished using only the handheld IR remote control.

2. Open office spaces that must turn on automatically by sensor during the Normal Hours operating period and stay on until a scheduled sweep of the space on transition to the After Hours operating shall use the handheld IR remote control to create a group of the relays for that space with a group parameter type that automatically adjust the Normal Hours and After Hours run-time parameters to the required values. Relay operation during Normal Hours shall therefore be for a relay to turn on when its respective occupancy sensor(s) detect motion and to stay on until the After Hours sweep time. Once the After Hours sweep occurs, all relays shall operate as automatic ON/OFF in response to their respective sensors. Systems that require individual relay parameters to be adjusted on a per relay basis are not acceptable.

3. Private office spaces that must operate as manual on/manual off during Normal Hours and automatic on/automatic off during After Hours with no sweep off on transition to After Hours operation shall use the handheld IR remote control to create a group of the relays that must follow that operational sequence using a group parameter type that automatically adjusts the Normal Hours and After Hours run-time parameters to the required values. Relay operation during Normal Hours shall therefore be for a relay to turn on only when a digital switch station button bound to it is activated and to turn off automatically in response to the vacancy signal of all occupancy sensors bound to it. Systems that require individual relay parameters to be adjusted on a per relay basis are not acceptable.

2.8 Schedule, Group, and Photocell Control of Relays:

A. The lighting control panel shall support schedule, group, and photocell control functions via the network as configured in the optional Segment Manager controller or building automation system. The lighting control panel shall be fully compatible with building automation systems that are BACnet compliant. See related specification sections for additional information on interfacing the lighting control panel(s) to the building automation system.

2.9 Browser-based Programming and Control:

A. The relay panel system shall be capable of use in conjunction with an optional digital web-based appliance such as the WattStopper Segment Manager. Such a controller shall be a compact controller capable of hosting the schedule, photocell, and group relay control functions for a network of LMCP series lighting control panels. The segment manager shall provide the following features:

1. Provision for 1 to 3 separate network segments to facilitate efficient network wire routing.

2. Compact housing with screw tab mounts for surface installation and integral DIN rail mounting slot for NEMA 1 installation in the LMSM-ENC1 enclosure.

3. Web browser-based user interface; shall not require the installation of any lighting control software.

4. User interface accessible form most smart phone browsers when Internet connected.

5. Login security access control restricting some users to view-only or other limited operations.

6. Automatic discovery of the lighting control panels.

7. Familiar navigation-tree-based browsing to individual lighting control panels.

8. View/override current status of channels and relays.

9. Assign relays to groups.

10. Create and run schedules:

    a. Normal hours/after hours schedules for channels.

    b. On/off schedules for relays.

    c. Support for a minimum of 100 unique schedules, each with up to four time events per day.

    d. Support annual schedules, holiday schedules and unique date-bound schedules.

11. Ethernet connectivity for user access via direct-wired connection, LAN/WAN, or Internet connection.

12. BACnet IP connectivity for connection to building automation systems.

13. Segment manager shall be WattStopper LMSM-201 with one network segment or LMSM-603 with support for three network segments.

14. Support for additional segments beyond 3 must be possible via the addition of standard BACnet MS/TP routers. The use of gateway devices or other proprietary protocols for system expansion is not acceptable.

PART 3 – EXECUTION

3.1 Support Services:

A. System Start Up and Commissioning

1. Manufacturer shall provide a factory authorized technician to confirm proper installation and operation of the lighting control panels, switches, and occupancy sensors.

2. The technician shall provide training on the lighting control features of the system and shall verify that the panel(s) is communicating with the building automation system.

3. The technician shall provide 1 – day of additional training and configuration of operation 60 days after final acceptance of project by owner.

4. The system integrator or BAS vendor shall be responsible for all integration including the mapping of BACnet objects into the BAS logic, schedules and graphics.

3.2 Acceptance Testing Support Services:

A. On all California projects, a certified lighting controls acceptance test technician (CLCATT) must verify the installation of the lighting control system. Manufacturer should include an extra day of factory technician's time to assist the CLCATT review the functionality and settings of the lighting control hardware per the requirements in the California State forms. It will be the CLCATT's responsibility to create and complete any forms required for the commissioning process, although the manufacturer or contractor may offer spreadsheets and/or printouts to assist the CLCATT with this task.

3.3 Lighting Control Installation Certificate Requirements:

A. When certification is required by Title 24, Part 1, Section 10-103-A, the acceptance testing specified by Section 130.4 shall be performed by a Certified Lighting Controls Acceptance Test Technician (CLCATT) employed or hired by the electrical contractor. If the CLCATT is operating as an employee, the CLCATT shall be employed by a Certified Lighting Controls Acceptance Employer. The CLCATT shall disclose on the Certificate of Acceptance a valid CLCATT certification identification number issued by an approved Acceptance Test Technician Provider. The CLCATT shall complete all Certificate of Acceptance documentation in accordance with the applicable requirements in Section 10-103(a)4.

B. Lighting Control Installation Certificate Requirements. To be recognized for compliance with Part 6 an Installation Certificate shall be submitted in accordance with Section 10-103(a) for any lighting control system, Energy Management Control System, track lighting integral current limiter, track lighting supplementary overcurrent protection panel, interlocked lighting system, lighting Power Adjustment Factor, or additional wattage available for videoconference studio, in accordance with the following requirements, as applicable:

1. Certification that when a lighting control system is installed to comply with lighting control requirements in Part 6 it complies with the applicable requirements of Section 110.9; and complies with Reference Nonresidential Appendix NA7.7.1.

2. Certification that when an Energy Management Control System is installed to function as a lighting control required by Part 6 it functionally meets all applicable requirements for each application for which it is installed, in accordance with Sections 110.9, 130.0 through 130.5, 140.6 through 150.0, and 150.2; and complies with Reference Nonresidential Appendix NA7.7.2.

3. Certification that line-voltage track lighting current limiters comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0©; and comply with Reference Nonresidential Appendix NA7.7.3.

4. Certification that line-voltage track lighting supplemental overcurrent protection panels comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.(c); and comply with Reference Nonresidential Appendix NA7.7.4.

5. Certification that interlocked lighting systems used to serve an approved area comply with Section 140.6(a)1; and comply with Reference Nonresidential Appendix NA7.7.5.

6. Certification that lighting controls installed to earn a lighting Power Adjustment Factor (PAF) comply with Section 140.6(a)2; and comply with Reference Nonresidential Appendix NA7.7.6.

7. Certification that additional lighting wattage installed for a videoconference studio complies with Section 140.6(c)Gvii; and complies with Reference Nonresidential Appendix NA 7.7.7.

END OF SECTION 26 09 24

SECTION 26 24 13 - SWITCHBOARDS, 600 VOLTS AND BELOW

PART 1 GENERAL

1.1 Description of Work: The work of this Section consists of providing switchboards, as shown on the Drawings and as described herein.

1.2 Related Work:

A. See the following Specification Sections for work related to the work in this Section.

1. 26 05 19 Line Voltage Wire and Cable
2. 26 22 00 Transformers
3. 26 28 16 Circuit Breakers

1.3 Submittals:

A. Shop Drawings - As specified in Section 26 05 00 and Division 01. For each switchboard furnished under this Contract, submit manufacturer's name, catalog data, and the following information:

1. Switchboard type.
2. Main bus and terminal connection sizes.
3. Location of line connections.
4. Section dimensions.
5. Gutter space.
6. Gauge of boxes and fronts.
7. Finish data.
8. Voltage rating.
9. Breaker manufacturer, types, trip ratings, and interrupting ratings.

B. Before construction of the main (service) switchboard, the contractor shall deliver two or more copies of the switchboard submittal to P.G.&E. for their approval. The contractor shall deliver one P.G.&E. approved copy of the submittal to the Electrical Engineer for record.

C. Submit operation and maintenance data for switchboards, and circuit breakers including nameplate data, parts lists, manufacturer's circuit breaker time current coordination curves, factory and field test reports, recommended maintenance procedures and typewritten as-built panel and switchboard schedules. Submit in accordance with Division 01.

1.4 Warranty

A. Manufacturer shall warrant equipment to be free from defects in materials and workmanship for the lesser of one (1) year from date of installation or eighteen (18) months from date of purchase

PART 2 – PRODUCTS

2.1 Switchboards:

A. General: Switchboards shall be designed, built and tested in accordance with applicable portions of the latest NEMA, EUSERC, and Underwriter Laboratories standards and the latest requirements of the California Electrical Code. All sections and devices shall be UL listed and labeled.

1. Switchboards shall be dead front, completely self-supporting structure of the required number of vertical sections bolted together to form one metal, totally enclosed, switchboard. Sides, top, and rear covers shall be code gauge steel, bolted to the switchboard structure.

2. The switchboard shall be furnished with phase and neutral busses of the amps, volts and phase shown on the Drawings. The bus shall extend the full length of the switchboard. Tapered bus is not acceptable. The switchboard sections, when called for on the plans, shall be as follows:

   a. Metering Section and landing lugs; Fully Pacific Gas & Electric Company compatible.

   b. All sections shall include full capacity busing between sections.

   c. All sections shall be front aligned and shall have front-connected devices.

3. All buses shall be silver plated copper, supported with high impact, non-tracking insulating material, braced to withstand the mechanical forces exerted during short circuit conditions. The current density of the bus shall not exceed 1000 amperes per square inch of cross section area or the switchboard bussing shall be of sufficient cross-sectional area to meet UL standard 891 for temperature rise. Provisions shall be provided for future splicing of additional sections from either end. The neutral bus shall be 100% rated.

4. A ground bus shall be furnished secured to each vertical section structure, and shall extend the entire length of the switchboard. The ground bus shall be sized per UL standard 891 and be of the same material as the through bus.

5. The neutral bus in the feeder sections shall be not further than 20 inches from the front of the switchboard.

6. Vertical main bus bars shall be furnished full height to accommodate future branch devices.

7. The switchboard shall be furnished and installed complete with all underground pull sections, utility sections, main device and feeder sections as indicated on the Drawings. Underground pull sections, utility cable termination, transformer and metering sections shall be in accordance with Pacific Gas and Electric Company requirements.

8. The main device, where indicated to be individually mounted, shall be completely isolated from the utility and the feeder sections of the switchboard, both in the device section and the cable section of the switchboard cubicle. The cable section shall also be isolated from the main horizontal bus. The main device cubicle shall have UL service equipment label.

9. Feeder devices shall be group-mounted and be front accessible, furnished with vertical wiring gutter on the front of the distribution sections. Wiring gutters shall be furnished with hinged, code gauge steel formed covers. Unused device space shall be covered with blank code gauge steel covers.

10. All vertical sections comprising the switchboard shall be aligned front and rear.

11. Switchboards for outdoor installation shall be furnished in stainless steel NEMA 3R non-walk-in enclosures provided with thermostatically controlled space heaters in each vertical section. Space heaters shall be powered from a circuit breaker protected circuit originating within the switchboard and shall be sized adequately to prevent the formation of condensation. Space heater shall be suitable for operation at 120V AC.

12. All steel surfaces are to be chemically cleaned and treated, providing a bond between paint and metal surfaces to help prevent the entrance of moisture and formation of rust under the paint finish. Switchboard exterior shall be furnished with a grey enamel finish color over a rust inhibiting primer, unless otherwise noted.

B. Circuit Breakers

1. Circuit breakers, unless otherwise indicated, shall be the molded case type with ratings as indicated on the Drawings. Circuit breakers shall meet the requirements specified under Section 262816- Circuit Breaker.

2. Main circuit breakers, where indicated to be Molded case type, shall be 100 percent rated, with the frame size and trip plug ratings shown.

C. Manufacturer

a. The switchboard shall be Square D, Siemens, General Electric, or Eaton Cutler Hammer.

PART 3 – EXECUTION

3.1 Installation:

A. Switchboards shall be installed where indicated on the Drawings, and in accordance with the manufacturer's instructions.

B. A 1” conduit shall be installed for new PG& E services from the PG& E Metering Section to the Main Telephone Terminal Board.

C. At switchboards located indoors, a 2” conduit and pull tape shall be installed from outside the switchboard meter cabinet to a location on the exterior of the building. The installation shall meet PG&E Green Book requirements.

D. Circuit breakers for solidly grounded Wye Electrical Systems of more than 150V to Ground and 1000A or larger shall be equipped with Ground-Fault Equipment Protection.

E. Circuit breakers 1200A and larger shall be equipped with a separate trip curve for an arc Energy-Reducing Maintenance Switch (ERMS) setting to reduce incident energy.

3.2 Mounting:

A. Switchboards shall be mounted on a concrete pad, as indicated on the drawings. Reinforcing shall be as shown on the Drawings. The top surface of the pad shall be 2 inches above the surrounding surface.

B. The switchboard shall be bolted to the pad with ½ inch diameter bolts minimum at each corner of each section unless otherwise noted.

C. The switchboard shall be seismically qualified to withstand potential seismic forces up to UBC Seismic Zone 4.

3.3 Padlocks:

A. Exterior switchboard shall be provided with padlocks keyed as directed by the Owner's Representative. Padlocks shall be supplied by the contractor.

3.4 Field Tests:

A. Insulation resistance Tests: Perform insulation resistance tests on circuits to be energized with a line-to-neutral voltage of 120 volts or more. Make these tests after all equipment has been connected, except that equipment which may be damaged by the test voltage shall not be connected. Test the insulation with 500V dc insulation resistance tester with a scale reading 100 megohms. The insulation resistance shall be 2 megohm or more. Submit results for review.

B. Grounding: Grounding shall conform to Section 260526.

C. Continuity: Switchboard circuits shall be tested for continuity prior to energizing. continuity tests shall be conducted using a dc device with a bell or buzzer.

END OF SECTION 26 24 13

SECTION 26 24 16 - PANELBOARDS AND DISTRIBUTION PANELS

PART 1 – GENERAL

1.1 Description of Work:

A. The work of this Section consists of providing panelboards and circuit breakers as shown on the Drawings and as described herein.

1.2 Related Work:

A. See the following specification sections for work related to the work in this Section.

1. 26 05 19 Line Voltage Wire and Cable
2. 26 05 26 Grounding
3. 26 28 16 Circuit Breakers

1.3 Submittals:

A. Shop Drawings - As specified in Division 01 and Section 26 05 00. For each panelboard and distribution panel furnished under this Contract, submit manufacturer's name, catalog data, and the following information:

1. Panelboard / distribution panel type.
2. Main bus and terminal connection sizes.
3. Location of line connections.
4. Cabinet dimension.
5. Gutter space.
6. Gauge of boxes and fronts.
7. Finish data.
8. Voltage rating.
9. Breaker manufacturer, types, trip rating, and interrupting ratings.
10. When information is available on the Drawings, show breaker circuit numbers and locations along with trip ratings on a panelboard layout.

B. Single Submittal - A single complete submittal is required for all products covered by this Section.

C. Closeout Submittals: Submit operation and maintenance data for panelboards and circuit breakers including nameplate data, parts lists, factory and field test reports, recommended maintenance procedures and typewritten as-built panel schedules. Submit in accordance with Division 01.

PART 2 – PRODUCTS

2.1 Panelboards:

A. General: Lighting and Receptacle Panelboards shall be the automatic circuit breaker type. The number and arrangement of circuits, trip ratings, spares and blank spaces for future circuit breakers shall be as shown on the Drawings or, if not shown, 42 circuits. All circuit breakers shall be quick-make, quick-break, thermal-magnetic, bolt-on type (unless otherwise noted on drawings), with 1, 2 or 3 poles a shown, each with a single operating handle. Tandem or piggy-back breakers shall not be used.

B. Nameplates:

1. Each panelboard shall have a field mounted identifying, rigid, plastic nameplate giving the panel identification as shown on the Drawings.

2. Each panelboard shall have a manufacturer's nameplate showing the voltage, bus rating, number of phases, frequency and number of wires.

C. Construction:

1. Door and trim shall be finished to match finish type and color of surrounding wall. Box shall be hot-dip galvanized, and field finished to match the front.

2. Panelboards and enclosures shall conform to requirements of all relevant codes. Panelboards shall be suitable for use as service equipment.

3. Panelboards shall be furnished with hinged trim fronts with key latch and a typed directory card and holder. Panelboard circuits shall be arranged with odd numbers on the left and even numbers on the right. Provide weatherproof, NEMA type 3R enclosures for outdoor installation.

D. Busbars: Panelboard busbars shall be phase sequence type suitable for bolt-on circuit breakers. All busbars shall be copper.

E. Circuit Breakers: Circuit breakers shall be the molded case type with trip and interrupting ratings as shown on the Drawings.

F. Manufacturer:

1. Panelboard manufacturer shall be Square D, Siemens, General Electric, or Eaton Cutler Hammer. Panelboards shall be of the same manufacturer as the switchboard.

2.2 Distribution Panels:

A. General: Distribution panels shall be the automatic circuit breaker type. The number and arrangement of circuits, trip ratings, spares and blank spaces for future circuit breakers shall be as shown on the Drawings. All circuit breakers shall be quick-make, quick-break, thermal-magnetic bolt-on type, with 1, 2 or 3 poles a shown, each with a single operating handle. Tandem or piggy-back breakers shall not be used.

B. Nameplates:

1. Each distribution panel shall have a field mounted, identifying, rigid, plastic nameplate giving the panel identification as shown on the Drawings.

2. Each distribution panel shall have a manufacturer's nameplate showing the voltage, bus rating, number of phases, frequency and number of wires.

C. Construction:

1. Door and trim shall be finished to match color of surrounding wall. Box shall be hot-dip galvanized, field finished to match the front.

2. Distribution panels and enclosures shall conform to requirements of all relevant codes. Distribution panels shall be suitable for use as service.

3. Distribution panels shall have a front door with key latch and a typed directory card and permanently attached holder. Adhesive backed holders are not acceptable. Distribution panels circuits shall be arranged with odd numbers on the left and even numbers on the right. Provide weatherproof, NEMA type 3R enclosures for outdoor installation.

D. Busbars: Distribution panels busbars shall be phase sequence type suitable for bolt-on circuit breakers. All busbars shall be copper, sized for a maximum current density of 1000A psi.

E. Circuit Breakers:

1. Circuit breakers shall be the molded case type with trip and interrupting ratings as shown on the Drawings.

2. Circuit breakers equipped with Ground-Fault Equipment Protection shall be capable of the following types of ground-fault protection: residual, source ground return, and modified differential.

a. Ground-fault settings for circuit breaker sensor sizes 1200 A or below shall be adjustable from 0.2 to 1.0 times In in 0.1 In increments. The ground-fault settings for circuit breakers above 1200 A shall be adjustable from 500 to 1200 A.

3. Circuit breakers with an arc Energy-Reducing Maintenance Switch (ERMS) setting shall be equipped with a separate trip curve to reduce incident energy.

a. The ERMS trip curve shall be selected through physical selector. Trip unit remote indicator light shall indicate when trip unit is operating in ERMS mode.

b. Trip unit shall operate in Fast Instantaneous trip mode, 25 to 30 mS, when ERMS trip curve is active.

c. Engaging/disengaging the ERMS mode or making settings changes to the ERMS settings shall be restricted to authorized personnel by limiting access to such features by padlocks or passwords to ensure safety of the personnel working with the equipment.

F. Manufacturer:

4. Distribution panel manufacturer shall be Square D, Siemens, General Electric, or Eaton Cutler Hammer. Distribution panels shall be of the same manufacturer as the switchboard.

PART 3 – EXECUTION

3.1 Installation: Panelboards and Distribution Panels shall be installed where indicated on the Drawings, and in accordance with the manufacturer's instructions.

3.2 Installation:

A. Panelboards and Distribution Panels shall be installed where indicated on the Drawings, and in accordance with the manufacturer's instructions.

B. Circuit breakers for solidly grounded Wye Electrical Systems of more than 150V to Ground and 1000A or larger shall be equipped with Ground-Fault Equipment Protection.

C. Circuit breakers 1200A and larger shall be equipped with a separate trip curve for an arc Energy-Reducing Maintenance Switch (ERMS) setting to reduce incident energy.

3.3 Mounting:

D. Panelboards and Distribution Panels shall be mounted with the top of the box 6'-6" above the floor. Panelboards and Distribution Panels shall be plumb within 1/8-inch. The highest breaker operating handle shall not be higher than 72 inches above the floor.

3.4 Field Tests:

A. Insulation Resistance Tests: Perform insulation resistance tests on circuits with #2 AWG and larger conductors to be energized with a line-to-neutral voltage of 120 volts or more. Make these tests after all equipment has been connected, except that equipment which may be damaged by the test voltage shall not be connected. Test the insulation with a 500Vdc insulation resistance tester with a scale reading 100 megohms. The insulation resistance shall be 2 megohms or more. Submit results for review.

B. Grounding: Grounding shall conform to Section 260526.

C. Continuity: Panelboard and Distribution Panel circuits shall be tested for continuity prior to energizing. Continuity tests shall be conducted using a dc device with a bell or buzzer.

END OF SECTION 26 24 16

SECTION 26 27 26 - DEVICES WIRING

PART 1 – GENERAL

1.1 Description of Work

A. The work of this section consists of:

1. Furnishing, installing, and connecting all duplex receptacles complete with wall plates and/or covers, as shown on the Drawings.

2. Furnishing, installing and connecting all light switches complete with wall plates and or handle operators, as shown on the Drawings.

1.2 Related Work:

A. See the following specification sections for work related to the work of this section:

1. 26 05 42 Conduits, Raceways and Fittings.

2. 26 05 19 Line Voltage Wire and Cable.

3. 26 05 33 Junction and Pull Boxes.

1.3 Submittals: As specified in Section 26 05 00 and Division 01.

A. Submit manufacturers published descriptive literature properly marked to identify the items to be supplied.

B. A single complete submittal is required for all products covered by this Section.

PART 2 – PRODUCTS

2.1 Receptacles:

A. General - Receptacles shall be heavy duty, high abuse, grounding type.

B. Tamper Resistant Duplex Receptacles:

1. Receptacles shall be specification grade, rated 20 ampere, two-pole, 3-wire, 125 volt, NEMA 5-20 configuration, self-grounding with screw terminals. Color shall be as selected by the Architect.

2. Devices shall have a nylon face, back and side wired.

3. Manufacturer: Hubbell #DR20 Series, Hubbell #DR20_ _ TR, Leviton #16352 Series, Leviton # 16352-TRE _ _ Series.

C. GFCI Receptacles Tamper Resistant:

1. Device shall be rated 20 ampere, 2-pole, 3-wire, 120 volt, conforming to NEMA 5-20 configuration. Face shall be nylon composition. Unit shall have an LED type red indicator light, test and reset push buttons. Color shall be as selected by the Architect.

2. GFCI component shall meet UL 943 Class A standards with a tripping time of 1/40 second at 5 milliamperes current unbalance. Operating range shall extend from -31°F to 158°F. Unit shall have transient voltage protection and shall be ceramic encapsulated for protection against moisture.

3. Manufacturer: Hubbell #GF20_ _LA Series, Hubbell # GFTR20 _ _ Series, Leviton #GFNT2 Series, Leviton #GFTR2 Series.

D. Automatically Controlled Receptacles Tamper Resistant:

1. Receptacles shall be specification grade, rated 20 amperes, two pole, 3-wire, 125V, NEMA 5-20 configuration, self-grounding with screw terminals. Color shall be selected by the Architect.

2. Devices shall have a nylon face, back and side wired. Marking permanently printed, molded, or stamped on the face of the receptacle and in compliance with controlled receptacle marking requirements stated in California Building Energy Efficiency Standards Section 130.5(d)(3).

3. Manufacturer: Pass & Seymour 26352CD (Dual Controlled Receptacle), 26352CH (Half Controlled Receptacle) TR26352CD (Tamper Dual Controlled Receptacle), TR26352CH (Tamper Half Switched Receptacles); Leviton 16352-1 (Half Controlled Receptacle), Leviton 16352-2 (Dual Controlled Receptacle).

E. Weather Resistant GFCI Receptacles:

1. Device shall be rated 20 ampere, 2-pole, 3-wire, 120 volt, conforming to NEMA 5-20 configuration, Face shall be nylon composition. Unit shall have a LED type red indicator light, test and reset push buttons. Color shall be as selected by the architect.

2. GFCI component shall meet UL 943 Class A standards with a tripping time of 1/40 second at 5 milliamperes current unbalance. Operating range shall extend from -31°F to 158°F. Unit shall have transient voltage protection and shall be ceramic encapsulated for protection against moisture.

3. Manufacturer: Hubbell #GFTR20 _ _ Series, Leviton #GFWR2 Series.

2.2 Switches:

A. Switches shall be rated 20 amperes to 120/277 volts ac. Units shall be flush mounted, self-grounding, quiet operating rocker devices. Rocker color shall be as selected by the Architect.

1. Manufacturer: Hubbell #DS_20_ _ Series, Leviton #5621 Series. See plans for single pole, three way and four way requirements.

B. Timed switches: Shall be as designed by Paragon Electric Company # ET2000f or Watt Stopper TS-400 rated for the voltage specified on drawings. Time-out shall be adjustable from 5 minutes up to 12 hours. Unit shall be provided with warning alarm.

C. Dimmer switches: Switch shall be a specified on drawings, color per architect. Heat fins shall not be removed, where dimmer switches are ganged together, care shall be taken to install correct size backbox to accommodate switches without removing fins.

2.3 Plates:

A. General - Plates shall be of the style and color to match the wiring devices, and of the required number of gangs. Plates shall conform with NEMA WD 1 , UL 514 and FS W-P-455A. Plates on finished walls shall be non-metallic or stainless steel. Plates on unfinished walls and on fittings shall be of zinc plated steel or case metal and shall have rounded corners and beveled edges.

B. Non-Metallic: Plates shall be plain with beveled edges and shall be nylon or reinforced fiberglass.

C. Stainless Steel: Plates shall be .040 inches thick with beveled edges and shall be manufactured from No. 430 alloy having a brushed or satin finish.

D. Cast Metal: Plates shall be cast or malleable iron covers with gaskets so as to be moisture resistant or weatherproof.

E. Blank Plates: Cover plates for future telephone outlets shall match adjacent device wall plates in appearance and construction.

F. Weatherproof Plate: Cover plates in wet and damp locations shall have recessed in-use covers, Taymac or equal. Back box shall be suitable for the wall material where it is installed.

G. Labeling: All switch and receptacle plates shall be labeled on the top portion of the plate with the panelboard and circuit number serving that device. Lettering shall be 3/16” minimum high, black color, on clear Mylar 3/8” tape. Manufactured by P-touch or equal.

PART 3 – EXECUTION

3.1 Installation of Wiring Devices:

A. Interior Locations: In finished walls, install each device in a flush mounted box with washers as required to bring the device mounting strap level with the surface of the finished wall. On unfinished walls, surface mount boxes level and plumb.

B. Mounting Heights: Adjust boxes so that the front edge of the box shall not be farther back from the finished wall plane than 1/4-inch. Adjust boxes so that they do not project beyond the finished wall. Height of device shall be as follows unless otherwise noted on the drawings:

1. Receptacles 15 Inches from finished floor to bottom of box.

2. Toggle Switches 48 Inches from finished floor to top of box.

C. Receptacles:

1. Ground each receptacle using a grounding conductor, not a yoke or screw contact.

2. Install receptacles with connections spliced to the branch circuit wiring in such a way that removal of the receptacle will not disrupt neutral continuity and branch circuit power will not be lost to other receptacles in the same circuit.

3.2 Installation of Wall Plates:

A. General - Plates shall match the style of the device and shall be plumb within 1/16-inch of the vertical or horizontal.

B. Interior Locations, Finished Walls: Install non-metallic plates so that all four edges are in continuous contact with the finished wall surfaces. Plaster filling will not be permitted. Do not use oversized plates or sectional plates.

C. Interior (not wet) Locations, Unfinished Walls: Install stainless steel or cast metal cover plates.

D. Wet Locations: Install cast metal plates with gaskets on wiring devices in such a manner as to provide a rain tight weatherproof installation. Cover shall be lockable outdoor “in use” type.

E. Future Locations: Install blanking cover plates on all unused outlets.

3.3 Tests:

A. Receptacles:

1. After installation of receptacles, energize circuits and test each receptacle to detect lack of ground continuity, reversed polarity, and open neutral condition.

END OF SECTION 26 27 26

SECTION 26 28 16 - CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 Description of Work:

A. The work of this Section consists of providing circuit breakers as shown on the Drawings and as described herein.

1.2 Related Work: See the following Specification Sections for work related to the work in this Section.

A. 26 05 00 General Electrical Requirements

B. 26 24 13 Switchboards

C. 26 24 16 Panelboards and Distribution Panels

1.3 Submittals:

A. Shop Drawings - Submittals shall be in accordance with Section 260500 and Division 01. For each circuit breaker furnished under this Contract, submit manufacturer's name, catalog data, and the following information:

1. Terminal connection sizes.

2. Voltage rating.

3. Breaker manufacturer, types, trip ratings and interrupting ratings.

B. Single Submittal - A single complete submittal is required for all products covered by this Section.

C. Closeout Submittals: Submit in accordance with and Section 260500, operation and maintenance data for circuit breakers including nameplate data, parts lists, manufacturer's circuit breaker timer, current, coordination curves, factory and field test reports and recommended maintenance procedures.

PART 2 - PRODUCTS

2.1 Circuit Breaker: Each circuit breaker shall consist of the following:

A. A molded case breaker with an over center toggle-type mechanism, providing quick-make, quick-break action. Each circuit breaker shall have a permanent trip unit containing individual thermal and magnetic trip elements in each pole. Multipole circuit breakers shall have variable magnetic trip elements which are set by a single adjustment to assure uniform tripping characteristics in each pole. Circuit breakers shall be of the bolt-on type unless otherwise noted.

B. Breaker shall be calibrated for operation in an ambient temperature of 40°C.

C. Each circuit breaker shall have trip indication by handle position and shall be trip-free.

D. Three pole breakers shall be common trip.

E. The circuit breakers shall be constructed to accommodate the supply connection at either end of the circuit breaker. Circuit breaker shall be suitable for mounting and operation in any position.

F. Breakers shall be rated as shown on Drawings.

G. Circuit breaker and/or Fuse/circuit breaker combinations for series connected interrupting ratings shall be listed by UL as recognized component combinations for use in the end use equipment in which it is installed. Any series rated combination used shall be marked on the end use equipment per CEC section 110-22.

H. Breakers shall be UL listed. Circuit breakers shall have removable lugs.

I. Lugs shall be UL listed for copper and aluminum conductors.

J. Breakers shall be UL listed for installation of mechanical screw type lugs.

K. Circuit breakers serving HACR rated loads shall be HACR type. Circuit breakers serving other motor loads shall be motor rated.

PART 3 - EXECUTION

3.1 Mounting:

A. The highest breaker operating handle shall not be higher than 72 inches above the floor.

END OF SECTION 26 28 16

SECTION 26 33 00 – PHOTOVOLTAIC SYSTEM PERFORMANCE SPEC **(Bid Alternative 3)**

PART 1 GENERAL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Refer to the General Conditions, Supplementary General Conditions, and Division 01 General Requirements.

1.2 DESCRIPTION OF WORK

A. The design and installation of the on-site solar Photovoltaic (PV) system will be the responsibility of the PV contractor, however, the system must be compliant with the applicable design guidelines included in the drawings. The Contractor shall provide and install all materials, equipment and provide all labor required and necessary to complete the work shown on the drawings. PV contractor shall include roof conduit/cable derating calculations. The Contractor shall provide and coordinate the scheduling of Manufacturer's representatives and Local Authority Having Jurisdiction (AHJ), necessary for a complete, functional and 100% approved photovoltaic by the AHJ. The photovoltaic system shall be installed as specified in all Sections of Division 26, including all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete installation, including programming, testing and all accessories and appurtenances required for testing the systems. It is the intent of the documentation that all systems be complete, approved, and ready for operation. No extra charge will be paid for furnishing additional equipment or work required by the AHJ, but not specified herein, or on documentation.

B. See Electrical Drawings and/or Photovoltaic Documents for additional requirements.

C. PV contractor shall provide and install PV system(s) at the project location(s):

1. 331 N. Sanborn Rd, Salinas, CA 93905 – 20kW-DC PV system minimum

D. PV Contractor shall provide the Architect owner’s representative the CSI EPBB calculation to ensure the PV system will deliver the power and energy requirements noted above.

E. PV Contractor shall coordinate with Electrical Utility and obtain Utility Construction Drawings for interconnection. Additional coordination shall include all work required for interconnection application (Rule 21) and plan approval from Electrical Utility. PV contractor shall pay all fees or charges for interconnection.

F. PV Contractor shall pursue and obtain all rebates available to client, including all applications, calculations, etc., necessary.

1.3 WORK INCLUDED

A. Complete photovoltaic system including all required equipment, mounting, disconnects, combiner boxes, inverter, solar panels, conductors, connections, programming, testing, grounding and approval by the Local AHJ.

B. Submit complete photovoltaic system plans including, three-line diagrams, wiring diagrams, mounting system details, PV module cut sheet and certifications, etc. to Local AHJ for review and approval prior to start of installation.

C. Contractor shall coordinate with Utility for interconnection requirements (Rule 21) and obtain Utility drawings as required for completion of scope. Contractor shall provide the client with a line item price for all Utility coordination scope (i.e. permits, fees, and etc.).

D. Devices and equipment shall be U.L. listed for the specific purpose the device or equipment is used.

1.4 SUBMITTALS

A. Submit in accordance with the General Requirements and Section 260500, Electrical General Provisions, the following items:

1. Manufacturer's Catalog Data - Manufacturer's original catalog cuts or original description of data of all material and equipment with sufficient information provided so that the exact function of each device is known. Each item supplied shall be clearly identified on each sheet including both U.L. and California Energy Commission's PTC list.

2. Description of conductors to be used with a statement that all wire shall be in conduit and voltage drop calculations.

3. Electrical Three Line Diagram complete with wiring diagrams suitable for the Local AHJ.

1.5 QUALIFICATIONS OF INSTALLER

A. Prior to installation, the Contractor shall submit data for review to the Architect, the installing Contractor has a minimum of 5 years of experience successfully installing solar PV systems of a similar type and design, that have been approved by the AHJ. Otherwise, evidence shall be provided that a contractual agreement exists with a subcontractor having a minimum of 5 years of experience successfully installing solar PV system of a similar type and design that have been approved by the AHJ. Installing contractor is required to have C-10 License.

PART 2 – GENERAL

2.1 Manufacturer:

Products shall be as indicated on the documentation.

2.2 System Design:

A. Solar PV system

1. PV Modules

(a) PV modules specified must be listed on the California Energy Commission's PTC list and must qualify for eligibility under the California Public Utilities Solar Generation Incentive Program

2. PV System installation and tests

   (a) PV System sizing must comply with IEEE 1562 "Guide for Array and Battery Sizing in Stand-Alone Photovoltaic"

   (b) Rooftop Solar Panel Modules must comply with ASTM E108 or UL790 – "Standard Test Methods for Fire Tests of Roof Coverings"

B. Electric Power Requirements:

1. Power provided from PV system must be compatible with the onsite Electrical Distribution system.

2. All equipment located outdoors shall be rated NEMA 3R, unless otherwise noted. All equipment located indoors inside conditioned spaces shall be rated NEMA 1, unless otherwise noted.

3. PV module Power capacity should be measured at the inverter AC output using the PVUSA Test Conditions (PTC), i.e. 1,000 Watts/sq. meter 20-degree C ambient temperature and wind speed of 1 m/s at 10 meters above sea level.

4. The PV System must include all the hardware needed for the solar PV. All mounting hardware installed on roof shall be stainless steel or galvanized aluminum.

5. All systems must be installed in accordance with all applicable requirements of local electrical codes and the California Electrical Code (CEC), including but not limited to Article 690, "Solar Photovoltaic Systems" and Article 705 - "Interconnected Electrical Power Production Sources".

6. Systems must be designed and installed using UL listed components, including mounting systems.

7. PV Modules must be certified to UL 1703 - "Flat-Plate Photovoltaic Modules and Panels".

8. PV Rack Mounting Systems and Clamping Devices shall be certified to UL 2703 – "Standard for Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels"

9. Inverters must comply with the following requirements:

   - UL 1741 -" Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources"
   - Listed on the California Energy Commission list of Grid Supported eligible inverters.
   - Be at least 96% energy efficient.
   - Have Ground Fault detection capability to isolate faulted DC circuits.

10. PV system shall have separate Grounding Electrode and shall be solidly connected to Building or Structure Grounding Electrode system per CEC.

11. Exposed non-current carrying metal parts of PV equipment shall be grounded and bonded per CEC.

12. PV systems installed on buildings with DC voltage greater than 80VDC between (2) conductors shall be protected with Arc-Fault Circuit Interrupter (AFCI) per CEC 690.11.

13. PV systems installed on buildings shall be equipped with code required Rapid Shutdown to reduce electrical shock hazard to first responders per CEC 690.12.

14. PV system AC and DC conductor sizing shall be per CEC section 690.08 and Tables 310.15(B)(16) & 310.15(B)(17) with derating factors as applicable.

15. PV system shall have Disconnecting Means which meets the requirements of CEC section 690 and local Electrical Utility. Disconnect shall be Lockable in the OPEN position, located within sight & within 10ft of electrical point of connection, and labeled as PV SYSTEM DISCONNECT with white letters on red background. Disconnect shall be from the pre-approved list from Utility.

16. PV equipment shall be labeled per CEC 690 PART VI. Labels shall be UV-resistant permanent material with white letters on red background.

17. Other acceptable PV system listing for components and electrical hardware recognized labs include ETL Semko and FM Global

18. Other technical codes that will apply include:
    - ANSI 457-2019 (Sustainability Leadership Standard For Photovoltaic Modules And Photovoltaic Inverters)
    - NFPA 70 (National Electric Code)
    - NFPA 70E (Standard for Electrical Safety in the Workplace)
    - IEEE 1547 (Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces)
    - NESC (National Electrical Safety Code -C2)
    - All applicable State Building Codes and requirements

19. Balance of Systems (equipment, wiring, components, conduits, and connections) must be suited for conditions for which they are to be installed. A PV interval data meter must be installed to measure the AC output of the inverter. This PV performance measuring meter shall be located in close proximity to the existing billing meter and in a location accessible to Owner facilities personnel.

20. Interconnection must comply with "Rule 21" affecting the IOUs in California. Interconnection must be acceptable to the distribution utility. Contractor will assist the Owner in preparing and submitting appropriate interconnection agreements with the local utility company. This shall be done at no cost or liability to the Owner.

C. Meters

1. Contractor will provide revenue grade Interval Data Recording (IDR) meters complete with industry standard telemetry for communication with Ethernet, cellular or other common output capabilities

2. Meters must connect to a monitoring/data collection recording solar production through Time of Use (TOU) increments applicable to the local utility standards, with a minimum 15-minute intervals.

3. Contractor will provide local data on ambient temperature, wind speed, and irradiance.

D. Structural Requirements

1. All structures, including array structures, shall be designed to resist dead load, live load, plus wind and seismic loads to the geographic area. Attachment to structures shall meet DSA's documentation and testing requirements detailed in IR 16-8 document.

2. PV systems must be able to withstand wind speeds of at least 110 mph, exposure 4.

3. Thermal loads caused by fluctuations of component and ambient temperatures must be combined with all the above load combinations

4. All structural components, including array structures, shall be designed in a manner commensurate with attaining a minimum 30-year design life. Particular attention shall be given to the prevention of corrosion at the connections between dissimilar metals.

5. The structural design should provide for easy and cost-effective repair or replacement of the roof. Contractor shall expect to remove and replace roof mounted solar systems no more than one time during the contract period at no expense to the Owner.

2.3 Standard of Quality / Warranty:

A. PV system components shall have a designed lifespan of 25 years.

B. PV system (non inverter) components shall be provided with a 25 year warranty. PV system inverter shall be provided with extended 20-year warranty.

2.4 Operations & Maintenance:

A. Manuals

1. Provide client physical copies of equipment manuals and cut sheets.

2. Send client electronic copes of equipment manuals and cut sheets.

B. Services

1. Operation & Maintenance services shall be priced separately from the design and construction of the PV System.

2. Coordinate with client the length of Operation & Maintenance agreement. The default agreement shall be 5 years initially with options to extend every year.

PART 3 – EXECUTION

3.1 Installation

Equipment, materials, installation, workmanship, inspection, and testing shall be in accordance with the NFPA publications and as modified herein.

A. Follow manufacturer's directions in all cases for installation, testing and energizing.

B. Accurately set, level, support and fasten all equipment.

C. All wiring shall be concealed conduit.

D. Earthquake Resistant installation/fastening of all electrical equipment shall conform to the Seismic Zone 4 general requirements.

Preliminary Tests

A. Conduct the following tests during installation of wiring and system components. Correct deficiency pertaining to these requirements prior to formal functional and operational tests of the system. Preliminary test shall be performed in the presence of the Local Authority Having Jurisdiction and Project Inspector of Record to determine conformance with the specified requirements.

1. Ground Resistance

Measure the resistance of each connection to ground. Ground resistance shall not exceed 25 ohms.

B. Field Inspection and Test:

Before final acceptance of the work, test system to demonstrate compliance with the contract requirements. System shall be subjected to complete functional and operational tests. When tests have been completed and corrections made, submit a signed and dated certificate with a request for formal inspection and tests. Perform field inspection and test in the presence of the Local Authority Having Jurisdiction and Project Inspector of Record.

END OF SECTION 26 33 00

SECTION 26 51 00 – LIGHTING

PART 1 – GENERAL

1.1 Description of Work:

A. The work of this section consists of providing and installing a complete lighting system, including fixtures, LED light module, ballasts, hangers, reflectors, glassware, lenses, auxiliary equipment, heat management components, LED driver (integral or remote), and housing.

1.2 Related Work:

A. See the following specification sections for work related to the work of this section:

1. 26 05 00 General Electrical Requirements.

2. 26 05 42 Conduit, Raceway and Fittings.

3. 26 05 19 Line Voltage Wire and Cable.

4. 26 05 33 Junction and Pull Boxes.

1.3 Submittals: In accordance with Division 01.

A. Submit descriptive data, photometric curves for each fixture configuration proposed.

B. Submit shop drawings showing proposed methods for mounting lighting fixtures.

C. Seismic Requirements: Submit:

1. Sketch or description of the anchorage system if not provided on construction documents.

D. Submit Operation and Maintenance Data per Division 01.

1.4 Warranty:

A. LED light module, LED driver, batteries or other luminaire components which fail within the first year after final acceptance shall be replaced by the Contractor with the warranty clause of the General Provisions.
B. Replacement components provided under warranty to be provided by contractor, not taken from project spare stock.

PART 2 – PRODUCTS

2.1 General

A. Fixtures shall be of the types, wattages and voltages shown on the Drawings and be UL or equivalent classified and labeled for the intended use.

B. Substitutions will not be considered unless the photometric distribution curve indicates the proposed fixture is equal to or exceeds the specified luminaire and the substitution is consistent with the design intent.

C. Luminaire (factory or field installed) wire, and the current carrying capacity thereof shall be in accordance with the CEC.

D. Luminaires and lighting equipment shall be delivered to the project site complete, with suspension accessories, aircraft cable, stems, hangers canopies, hickeys, castings, sockets, holders, LED light engine, ballasts, diffusers, frames, and related items, including support and braces.

2.2 Light Emitting Diode (LED) Light Sources and Luminaires:

A. General (Non-Emergency):

1. Provide identical power supply and driver within each luminaire type. Provide power supplies and drivers that are suitable and UL-listed for the electrical characteristics of the supply circuits to which they are to be connected and which are suitable for operating LED or relevant light sources.
2. Unless otherwise specified, provide power supplies of same type and same manufacturer for ease of stocking and replacement.
3. Components shall be configured and installed in luminaire by the luminaire manufacturer.
4. Luminaire housing shall be constructed of painted metal with no sharp edges unless otherwise noted.
5. Provide only luminaires whose design, fabrication and assembly prevent overheating or cycling of light engines or drivers/power supplies under any condition of use.
6. Electronic ballasts shall meet the requirements of the Federal Communications Commission Rules and Regulations, Part 18, Part C (RF Lighting Devices) Non-consumer equipment, regarding radio frequency interference (RFI) (radiated) and electromagnetic interference (EMI) (power line conducted).
7. Submit light fixture details with luminaire shop drawings.

B. Emergency Lighting: Battery-backed emergency lighting luminaires shall consist of a normal LED luminaire with some or all of the LEDs connected to a battery and charger.

1. The battery shall be nickel cadmium and sized for a minimum of 90 minutes of luminaire operation unless otherwise noted.
2. The charger shall be solid-state and include overload, short circuit, brownout and low battery voltage protection.
3. The battery and charger shall include self-diagnostic and self-exercising circuitry to exercise and test itself for 5 minutes every month and for 30 minutes every 6 months.
4. The luminaire shall include a test/monitor module with status indicating lights mounted so as to be visible to the public.
5. The luminaire shall not contain an audible alarm.
6. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.

C: LED Performance and component manufacturer requirements.

1. All color characteristics, SPD (Special Power Distribution) CCT, CRI, CIE Chromaticity Coordinates shall be consistent across the entire dimming range.

2. LEDs shall comply with ANSI/NEMA/ANSLG C78.377-2008 – Specifications for the Chromaticity of Solid State Lighting Products. Color shall remain stable throughout the life of the source. The chromaticity of the installed product shall match IES LM-80 data showing that the LED's do not shift more than .005 DuV from submitted documentation.

3. White LEDs shall have a minimum rated source life of 50,000 hours or as specified: Luminaire Schedule. Multicolor LEDs shall have a minimum rated source life of 100,000 hours. LED "rated source life" shall be determined per IES TM-21 - Projecting Long Term Lumen Maintenance of LED Light Sources based on LM-80 test data. Calculated lifetimes exceeding testing hours per TM-21 are not accepted.

4. Luminaire assembly shall include a method of dissipating heat so as to not degrade life of source, electronic equipment, or lenses. LED luminaire housing shall be designed to transfer heat from the LED board to the outside environment. Luminaire housing shall have no negative impact on life of components. Manufacturer shall provide Luminaire Efficacy (lm/W), total luminous flux (lumens), luminous intensity (candelas), chromaticity coordinates, CCT, CRI, optical performance, polar diagrams, and relevant luminance and illuminance photometric data. Provide data in IES file format in accordance with testing standards IES LM-79-08 and IES LM-82-12, based on test results from an independent Nationally Recognized Testing Laboratory or National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

5. Manufacturer will keep record of original chromaticity coordinates for each LED module and have replacement modules or luminaires from within three (3) MacAdamEllipses/ steps of the same coordinates available for the duration of the warranty period.

6. Manufacturer's LED light engine or equivalent system will be available for ten (10) years: Manufacturer will provide exact replacement parts, complete replacement luminaires, or provide upgraded parts that are designed to fit into the original luminaire and provide equivalent distribution and lumen output to the original, without any negative consequences.

7. All LED sources used in the LED luminaire shall be of proven quality from established and reputable LED manufacturers and shall have been fabricated within 12 months before installation per the date code on the module. Acceptable LED component or module manufacturers unless otherwise noted are:

    a. Cree, Inc.

    b. Lumileds

    c. Nichia Corporation

    d. Norlux

    e. Lextar

    f. Osram Optronic Semiconductors

    g. Xicato

    h. Bridgelux

i. Epistar

j. San'an

k. Citizen Electronics

l. General Electric Company

m. Soraa

n. Samsung

o. Seoul Semiconductor

p. Lumenetix

q. Ledengin

2.3 LED Power Supplies/ Drivers:

1. LED driver shall have a minimum 50,000 hour published life while operating at maximum case temperature and 90 percent non-condensing relative humidity.
2. Driver shall be Sound Rated A+.
3. Driver shall be > 80% efficient at full load across all input voltages.
4. Driver shall include ability to turn off at low control input rather than holding at a minimum dimming level, and shall consume 0.5 Watts or less in standby/off mode. Control deadband at low control intput shall be included to allow for voltage variation of incoming signal without causing noticeable variation in luminaire to luminaire output.
5. Drivers shall track evenly across multiple luminaires at all light levels, and shall have an input signal to output light level that allows smooth adjustment over the entire dimming range.
6. Control Input:
   a. 4-Wire (0-10V DC Voltage Controlled) Dimming Drivers
      (i) Must meet IEC 60929 Annex E for General White Lighting LED drivers.
      (ii) Connect to devices compatible with 0 to 10V Analog Control Protocol, Class 2, capable of sinking 0.6 ma per driver at a low end of 0.3V.
      (iii) Must meet ESTA E1.3 for RGBW LED drivers.
   b. Digital (DALI Low Voltage Controlled) Dimming Drivers
      (i) Must meet IEC 62386.
   c. Digital Multiplex (DMX Love Voltage Controlled) Dimming Drivers
      (i) Must meet DMX / RDM: USITT DMX512A and ANSI E1.20 (Explore & Address).
      (ii) Must be capable of signal interpolation and smoothing of color and intensity transitions.

7. Power Factor: The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
8. THD: Total harmonic distortion (current and voltage) induced into an AC power line by luminaire shall not exceed 10 percent at any standard input voltage and meet ANSI C82.11 maximum allowable THD requirements at full output. THD shall at no point in the dimming curve allow imbalance current to exceed full output THD.
9. In Rush Current: Meet or exceed NEMA 410 driver inrush standard of 430 Amps per 10 Amps load with a maximum of 370 Amps 2 – seconds.
10. RF Interference: The luminaire and associated on-board circuitry must meet Class A emissions limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 Non-Consumer requirements for EMI/RFI emissions.
11. Light engines shall be 3500°K 80 CRI minimum, U.O.N. on drawings.
12. Drivers and ballasts shall be accessible for maintenance or replacement without removal of recessed light fixture and without destruction of the ceiling.

PART 3 – EXECUTION

3.1 Installation:

A. General:

1. All fixtures and luminaires shall be clean and lamps shall be operable at the time of acceptance.

2. Install luminaires in accordance with manufacturer's instructions, complete with lamps, ready for operation as indicated.

3. Align, mount, and level the luminaires uniformly.

4. Avoid interference with and provide clearance for equipment. Where an indicated position conflicts with equipment locations, change the location of the luminaire by the minimum distance necessary.

5. Recessed light fixtures in fire rated assemblies shall be installed per an approved UL rated fire rated pentation detail.

B. Mounting and Supports:

1. Mounting heights shall be as shown on the Architectural and Electrical Drawings. Unless otherwise shown, mounting height shall be measured to the centerline of the outlet box for wall mounted fixtures and to the bottom of the fixture for suspended fixtures and to the bottom of the fixture for all other types.

2. Luminaire supports shall be anchored to structural members.

3. Pendant stem mounted luminaires shall be provided with ball aligners to assure a plumb installation and shall have a minimum 45 degree clean swing from horizontal in all directions. Sway bracing shall be installed as required to limit the movement of the fixture. Fixtures shall be allowed to sway a maximum of 45º without striking any object.

4. Fixture supports shall be designed to resist earthquake forces of seismic zone 4.

5. Refer to fixture mounting details on drawings for installation requirements.

6. Pendant cable mounted luminaries shall be provided with fully adjustable stainless steel aircraft cable hangers unless otherwise noted on the Drawings.

END OF SECTION 26 51 00

SECTION 27 05 00 - MONTEREY COUNTY TELECOMMUNICATIONS CABLING AND PATHWAY SYSTEMS

PART 1-GENERAL

1.1 RELATED DOCUMENTS

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

B. The general conditions for contracts of construction, referred to in the contract documents as the General Conditions, together with the following articles of the Telecommunications Cable and Pathways Specification, that amend, modify and supplement various articles and provisions of the General Conditions, are made part of the Contract and shall apply to all work under the Contract.

C. All articles or parts of articles of the General Conditions not so amended, modified or supplemented by this Telecommunications Cabling Specification shall remain in full force and effect. Should any discrepancy become apparent between the General Conditions and the Telecommunications Cable and Pathways Specification, the Contractor shall notify the Architect, in writing, and the Architect shall interpret and decide such matters in accordance with the provisions of the General Conditions.

1.2 SPECIAL CONDITIONS

A. Standards, materials specifications, related drawings, cable schedules, industry guidelines, and codes referred to herein shall be considered part of these specifications and shall apply to the Work described or implied, herein.

B. All local fees, permits and services of inspection authorities shall be obtained and paid for by the Contractor, The Contractor shall cooperate fully with local utility companies with respect to their services.

C. It is the intent of these specifications for the Contractor to provide a complete, functional, standards-based cabling infrastructure for the County's use, utilizing Category 6 and Category 6A cabling to support high speed data applications up to and in excess of 1000 Mb/s horizontally and 10 Gigabit Ethernet in the wireless and backbone network systems.

D. Any item not specifically shown on the drawings or called for in the specifications, but normally required to conform to the system design intent as presented, is to be considered as part of the Contract and required to be furnished and installed by the Contractor.

E. Any given item of equipment or material shall be the product of one manufacturer solution throughout the facility. Multiple manufacturers of any one item will not be permitted, unless specifically noted otherwise or approved in writing by the Designer prior to purchase and use.

F. This specification is an equipment and performance specification. Actual installation shall be as indicated on the Telecommunications Drawings and in the Specifications governing the Work. Any discrepancies found between the Specifications and the Drawings shall be immediately brought to the attention of the Architect for interpretation.

G. Contract Documents and Drawings depict equipment installation and wiring in a

diagrammatic fashion and indicate the general arrangement of equipment and wiring. The most direct routing for conduits and telecommunications pathways is not assured. Exact requirements shall be governed by architectural, structural and mechanical condition/features of the job. Consult all other drawings and specifications.

1.3 PRICING

A. Provide total cost and unit pricing as per the General Conditions and Bid instructions.

1.4 CONTRACTOR EXPERIENCE

A. The selected Contractor shall be fully capable and experienced in the telecommunications distribution system specified. To ensure the system has continued support, the County will contract only with Contractors having a successful history of sales, installation, service, and support.

B. During the bid evaluation process, the Customer may, with full cooperation of the Contractor, visit the Contractor's places of business, observe operations, and inspect records. The Contractor must have a minimum of five (5) years of continuous experience in the network cabling installation field and possess a C7 or C10 license in the State of California.

C. Contractor must be an approved Leviton Certified Installer in the Leviton Certified Network Installer program before, during, and through completion of the system installation. Supporting documentation will be required as part of the submittal.

D. The Contractor must have a Registered Communications Distribution Designer (RCDD) on staff that will be ultimately responsible for this project in the Project Manager role. The RCDD must have sufficient experience in this type project as to be able to lend adequate technical support to the field forces during installation,during the warranty period, and during any extended warranty periods or maintenance contracts. A resume of the responsible RCDD must be attached to the Contractor's response for evaluation by the County. Should the RCDD assigned to this project change during the installation, the new RCDD assigned must also submit a resume for review by the County. If, in the opinion of the County, the RCDD does not possess adequate qualifications to support the project, the County reserves the right to require the Contractor to assign an RCDD who, in the County's opinion, possesses the necessary skills and experience required of this project.

1.5 WORK INCLUDED

A. The work covered by this Contract includes the construction described and implied, all labor required to perform and complete such construction, all materials required to perform and complete such construction, all services, facilities, tools and equipment required to perform and complete such construction, and coordination with the General Contractor and all other trades.

B. The scope of this work includes, but is not limited to:

1. Provision, installation, termination, identification, and testing of optical fiber backbone cables and high pair count UTP copper cables between the BDF and all IDFs.
2. Provision, installation, termination, identification, and testing of inside plant UTP

workstation cables between the IDFs/BDF and the workstations located in the building. This includes all termination components to complete the horizontal links to each workstation outlet.

3. Provision, installation and grounding of all telecommunications racks, cabinets, cables (as required), and all cable pathways requiring grounding under TIA standards and BICSI guidelines.
4. Provision of labeling and documentation of all cables, racks, grounding buss-bars, pathways and spaces, faceplates, patch panels and termination blocks installed under this Work.
5. Provision and installation of wire management components, ladder-type cable runway, any surface-mount raceways and miscellaneous “nuts & bolts” type components to provide a complete and working cable system.
6. Fire stopping of floor and rated wall penetrations specifically provided for the distribution of telecommunications cables. Required floor and wall ratings shall be maintained.
7. Preparation and submission of shop drawings, termination schedules, test results, as-built drawings, warranty application, and component documentations described within this Specification.

1.6 RELATED WORK NOT INCLUDED IN THIS SECTION AND SPECIFIED ELSEWHERE, UNLESS OTHERWISE NOTED

A. Installation of conduits, pull-boxes and floor-boxes (provided under electrical Work).

B. Installation of workstation devices, computers, terminals and similar equipment (installed by County representatives and their additional representatives).

C. Installation, provisioning or supply of active data and telephone switch equipment is not included in this scope of work.

D. Provision and installation of AC grade or better plywood on the BDF and IDF walls, as indicated in the drawings. Plywood shall be at least ¾” thick and treated on all sides with at least two coats of fire-resistant paint, white color.

1.7 SITE VISIT & FIELD CONDITIONS

A. Since the work will be performed on an existing structure, the Contractor shall visit and examine the site of the proposed work to determine the existing conditions that may affect the work. The Contractor shall be held responsible for any assumptions in regard thereto.

B. The Contractor shall verify all dimensions and distances in the field and document the cable lengths and materials to be furnished and installed. The provision and installation of non-specified miscellaneous components and hardware, i.e. drag lines, nuts, bolts and tie wraps shall also be the Contractor’s responsibility.

C. Existing site conditions, Contract Documents and the overall construction schedule must be carefully reviewed to determine all required interfacing and timing of the work. All such documents shall be available through the General Contractor or Construction Management.

1.8 ADHERENCE, ABBREVIATIONS AND DEFINITIONS

A. The Work specified herein shall conform to the following codes, regulations, standards, and guidelines:

B. FCC:

1.	Part 15:	Unlicensed Radio Frequency Devices
2.	Part 68:	Terminal Equipment Certification Requirements

C. NEC 2017 or latest edition utilized by AHJ.

D. NESC 2008 or latest edition utilized by AHJ.

E. NFPA codes (latest edition utilized by AHJ).

F. State and Local Municipal Construction-Related Codes

G. Underwriters Laboratory (UL)

H. IEEE:

1.	IEEE 802.3:	10Base-T Ethernet Standard
2.	IEEE 802.12:	100Base-TX Ethernet Standard
3.	IEEE 802.3ab:	1000Base-T Ethernet Standard
4.	IEEE 802.3ae:	10Gb/s Ethernet Standard
5.	IEEE 802.3af:	Power Over Ethernet Standard
6.	IEEE 802.3at:	Power Over Ethernet (PoE+) Standard
7.	IEEE 802.3bt:	Power Over Ethernet (PoE+) Standard, Type 3 & 4
8.	IEEE 802.3ba:	40 and 100 Gigabit Ethernet Standard
9.	IEEE 802.11ac:	All Wireless Ethernet Standard(s)

I. BICSI:

1.	TDMM:	2014, 13th Edition or later
2.	TCIM:	2002, 3rd Edition
3.	C-O OSP:	2006, 4nd Edition
4.	BICSI/NECA-568	Standard for Installing Commercial Building Telecommunications Cabling

J. ANSI/TIA: (includes all related addenda to each standard)

1.	TIA-310-D:	Racks, Panels and Associated Equipment
2.	TIA-455-13-A:	Visual and Mechanical Inspection of Optical Fibers, Cables, Connectors and other Optical Devices.
3.	TIA-455-57-B:	Optical Fiber End Preparation and Examination.
4.	TIA-455-59:	Measurement of Optical Fiber Cable Point Defects with an OTDR.
5.	TIA-455-61:	Measurement of Optical Fiber Cable Attenuation with an OTDR.
6.	TIA-455-95:	Absolute Optical Power testing of Fiber Cables.
7.	TIA-472.0000-A:	Generic Specification of Optical Fiber Cables.
8.	TIA.472.C000-A:	Generic Specification of Optical Fiber Cables for Indoor Use.
9.	TIA-492.AAAD:	Detail Specification for 850-nm Laser- Optimized, 50-µm Core Diameter/125-µm Cladding Diameter Class la Graded-Index Multimode Optical Fibers Suitable for Manufacturing OM4 Cabled Optical Fiber.
10.	TIA-492.CAAB:	Specification for Class 1va Dispersion-Un-Shifted

(Zero Water Peak) Single Mode Optical Fiber.

11. TIA-526-7: Optical Power Loss Measurement of Single Mode Optical Fiber Cable Plant.
12. TIA-526-14: Optical Power Loss Measurements of Installed MMF Cables.
13. TIA-568.0-D: Generic Communications Cabling for Customer Premises.
14. TIA-568.1-D: Commercial Building Communications Cabling Standard.
15. TIA-568-2.D: Balanced Twisted-Pair Telecommunications Cabling and Components Standard.
16. TIA-568-3.D: Optical Fiber Cabling and Components Standard.
17. TIA-569-D-2: Telecommunications Pathways and Spaces: Addendum 2 – Guidelines for Supporting Remote Powering
18. TIA-598-D: Optical Fiber Cable Color Coding.
19. TIA-606-C: Administration Standard for the Commercial Telecommunications Infrastructure
20. TIA-607-C: Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises
21. TIA-758-B: Customer-owned Outside-Plant Telecommunications Infrastructure Standard.
22. TIA-862-B-1 Structured Cabling Infrastructure Standard for Intelligent Building Systems
23. TIA-942-B Telecommunications Infrastructure Standard For Data Centers

K. ANSI/ICEA:

1. ICEA S-83-596: Indoor Optical Fiber Cable Technical Requirements. (2016)
2. ICEA S-90-661: Standard for Individually UTP Indoor Cables for Use in General Purpose and LAN Communication Wiring Systems Technical Requirements (2012).

L. The installation shall comply fully with all National, State, and Local government authorities, laws and ordinances, as well as, all regulations, codes, and industry guidelines governing the work or interpreted to govern the work by the authority having jurisdiction (AHJ) at the site. This includes all Owner-specific standards and guidelines related to the Work.

M. Should any change in the current plans or specifications be required to comply with any Code, Regulation or Standard noted above, the Contractor shall notify the Designer and Architect in writing at the time of submitting the construction schedule.

N. All equipment and installation methods shall be equal to or exceed the minimum requirements of NEMA, IEEE, ASME, ANSI, TIA BICSI, and Underwriters' Laboratories, where applicable.

1.9 SUBMITTALS

A. Provide submittals in accordance with schedule and general requirements defined in the General Conditions.

B. Product Data:

1. Provide, as part of the bid, manufacturers' product data sheets for all material and equipment whose products are proposed. Only specified or accepted manufacturers or suppliers shall appear in the Product Data Submittal. Bid shall not be considered without a complete Product Data Submittal.

2. Approved suppliers of the structured cabling system are Berk-Tek and Leviton, or Berk-Tek Leviton Technologies. Approved supplier of the support infrastructure components is Chatsworth Products.

3. Provide, as part of the bid, manufacturer's product data sheets for all fire stopping materials proposed for use on the project.

4. Mark each copy to show applicable choices and options. Where product data includes information on several products, some of which are not required, mark copies to indicate the applicable information.

5. Requests for substitutions of equipment or materials must be made and approved prior to the bid submittal. Unapproved substitutions may constitute anon-compliant bid return.

C. Shop Drawings:

1. Provide, for Architect's action, shop drawings for the installation of the Work prior to beginning Work

2. Provide detailed plan views and elevations of all equipment racks, termination blocks, patch panels and cable paths, if the elevation and plan views are not identical to the T-series bid drawings.

3. Provide drawings to show evidence of coordination with other trades.

4. Acceptance of any submitted data or Shop Drawings for material, equipment apparatus, devices, arrangement and layout shall not relieve Contractor from responsibility of furnishing same of proper dimensions and weight, capacities,sizes, quantity, quality and installation details to perform efficiently the requirements and intent of the Contract. Such acceptance shall not relieve Contractor from responsibility for errors, omissions or inadequacies of any sort on submitted data or Shop Drawing.

5. All Shop Drawings shall be submitted sufficiently in advance of field requirements to allow ample time for review and re-submittal as may be required. All Submittals shall be complete and contain all required and detailed information.

6. All Shop Drawings shall contain job name/title and reference to the applicable Drawing and Specification article for reference by the reviewer.

7. Provide for County's documentation, a Finish Statement in form stipulated by the Architects, signed by the Contractor, stating that the Work was provided in compliance with the Contract Documents and that the installation was proper for the conditions of application and use.

D. Record Drawings – Submit for County's representative's documentation:

1. Provide Record Drawings annotated with the changes made during the installation of the Work so as to be a complete set of "as installed" plans. Drawings shall be in

printed form and on compact disk in AutoCAD 2014 or earlier DWG format.

2. Provide County representative with two (2) sets of Operation and Maintenance Manuals including wiring diagrams, parts lists, shop drawings and manufacturers' information on all equipment and cables provided under this Work. Provide manuals in a high quality, 3-ring binder, completely indexed. Provide manuals to the County representative not more than 1 week after project completion.

1.10 QUALITY ASSURANCE

A. Contractor is solely responsible for quality control of the Work. Comply with any Quality Control requirements specified in the General Conditions.

B. All materials furnished shall be new and unused. All materials shall meet all applicable codes provided a standard has been established for the material in question.

C. At a minimum, fifty percent (50%) of Contractor-provided field technicians at anytime shall be factory-certified within 12 months by the manufacturer of the telecommunications system components to install the Contractor-selected and Owner-approved system components. Proof of certification shall be available on site for review at all times for each field technician.

D. Contractor shall be in good standing with the selected manufacturer(s) of system components and be able to provide the Owner with the extended warranty for the installation offered by the manufacturer.

E. All work performed by the Contractor shall be available for observation and approval by the Manufacturer, the Owner, and the system Designer in order to verify the systems integrity and increase the performance of the system under the installation and performance guidelines described in the Contract Documents.

1.11 CODES, REGULATIONS & STANDARDS

A. The installation shall comply fully with all government authorities, laws and ordinances, regulations and codes applicable to the installation.

B. Should any change in plans or specifications be required to comply with governmental regulations, the Contractor shall notify the County representative and Architect at the time of submitting the construction schedule.

C. Local electrical and building codes may differ with national codes. Follow the most stringent code or recommendations. Where there are instances of ambiguity refer to the Architect for interpretation.

1.12 COORDINATION OF THE WORK

A. Carefully check space requirements and the physical confines of the area of work to insure that all material can be installed in the spaces allotted thereto, including conduits and cable supports.

B. Transmit to other trades in a timely manner all information required for work to be provided under the respective Sections in ample time for installation.

C. Wherever work interconnects with or contacts the work of other trades, coordinate with other trades to insure that all trades have the information necessary so that they may

properly install all the necessary connections and equipment.

D. Due to the type of installation, a fixed sequence of operation is required to properly install the complete systems. Coordinate project and schedule work with the General Contractor in accordance with the construction sequence. Provide status of the installation to the General Contractor to allow them to update their project schedules.

E. The Contractor shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper compliance with the design intent.

1.13 DELIVERY, STORAGE AND HANDLING

A. Procedure: In Accordance with Division One, General Requirements.

B. Deliver materials (except bulk materials) in manufacturer's unopened container fully identified with the manufacturer's name, trade name, type, class, grade, size and color.

C. Store materials suitably sheltered from the elements, but readily accessible for inspection until installed. Store all items subject to moisture damage in dry spaces. Provide space requirements for storage in submittals list. The General Contractor shall assign storage space.

1.14 CERTIFICATION & WARRANTY

A. All work and all items of equipment and materials shall be warranted by the Contractor for a minimum period of one year from the date of acceptance of the work. Where a manufacturer's warranty is longer than one year, the Contractor shall acquire and provide the extended warranty. The Contractor shall, upon notification of any defective items, repair or replace such items within 24 hours without cost to County, all to the satisfaction of the Architect.

B. The installed passive network cabling components of the Work described in the Contract Documents shall be covered under a manufacturer-supported Limited Lifetime Warranty related to installed materials, supported applications and the installation workmanship. The Contractor shall be responsible for submitting all necessary applications, test results, and closeout data to the Manufacturer in order to register this project with the Limited Lifetime Warranty. This guarantee and extended warranty shall be supported in writing by both the connectivity and cable manufacturer and shall address and cover the following:

1. All defects in wire, cable, components and/or other materials in the Voice and Data Communication System.

2. All specification and performance parameters of system components as presented in the Construction Documents at the time of installation completion will be warranted/ guaranteed to provide performance margins as described in this document for all frequencies swept from 1 – 500 MHz (as appropriate) for the published ANSI/TIA-568-2 parameters for NEXT, PSNEXT, ACRF, PSACRF, and Return Loss performance standards as published in TIA/EIA.

3. All installed components of the data backbone system shall support ten (10) Gigabits per second Ethernet applications that use 850 nm transceivers for serial transmission in LOMMF (OM4) at distances up to three hundred (300)meters.

4. All workmanship associated with any warranty issues related to providing, installing, certifying and documenting the Work described in the Construction Documents shall be covered by this warranty.

E. Contractor shall respond to the Owners request and correct any problems, malfunctions, and warranty issues associated with the Work described in the Construction Documents without additional charge to the Owner within three (3)calendar days for the entire warranty period, as stated in the Warranty.

F. The Owner considers the Voice Data Communications System components a whole, complete system and requires an integrated component/cable warranty from both the cable manufacturer and the connectivity manufacturer for material and installation workmanship as described in the Construction Documents.

1.15 PROJECT CLOSEOUT

A. The installed Voice and Data Communications System will not be accepted until all work is complete and properly documented and all punch list items discovered are completed to the Designer and Owner's complete satisfaction.

B. The warranty will not begin until after a thirty (30) day acceptance period (See below for Acceptance Period information) to judge the performance of the installed Voice and Data Communication System. If during this thirty (30) day period the installed system does not perform adequately, the Trade Contractor must repair the installation within two (2) days to the satisfaction of the Designer and Owner and/or the Contract Documents and the thirty (30) days will restart from the date of the resolution.

C. The Trade Contractor's project manager must be available to answer questions about the installation and to attend site visits and meetings during the acceptance period.

PART 2 – PRODUCTS

2.1 DESCRIPTION

A. Provide telecommunications cable and termination equipment with performance levels and capacities as noted herein.

B. Any item not specifically shown on the drawings or called for in this section of the project specifications, but normally required to conform to the system design intent, are to be considered as part of the Contract and shall be included in the Contractor's scope of work.

C. The Construction Documents define the minimum acceptable quality by designating a manufacturer's trade or brand name and part number, by describing attributes, performance, or other standards. It is the responsibility of the Contractor to verify that all Contractor-proposed products and system components meet or exceed the minimum acceptable performance requirements outlined below, even for those listed in the "material" section(s).

D. All products designated as "or equal", "or equivalent", and "or acceptable substitute" indicate that an alternate product that equals or exceeds the product attributes may be substituted for that product so specified. The proposed alternate component(s) performance must be independently verified and documented. This independent verification documentation must be presented to the Owner or Designer for review and approval during the bid submittal process. The alternate product must be approved by the Designer and Owner prior to purchase, installation, and/or certification. Purchase

and/or installation of any component without written approval of materials by the Designer and/or Owner is done at the Contractor's own risk.

E. Any part numbers provided in this Specification has been coordinated with the manufacturers' latest available product literature. Part numbers are subject to change without notice by the manufacturers. Where a specific part number is invalid, provide product meeting component description.

F. Contractor shall provide product submittals adequate to clearly demonstrate the conformance of the specific product to the attributes, performance, and standards set forth within the Construction Documents for all products prior to use after the bid submittal phase. Alternates proposed after the bid submittal phase are required to have written approval for use by the Designer.

G. All cable shall be rated and installed for the specific construction environment, unless otherwise noted in the Construction Documents. It is the responsibility of the Contractor to verify the installation environment prior to bid.

H. All products shall be new, unused, in perfect working condition, and in the original packaging containers upon arrival at the Project Site and also prior to installation. It shall be the Contractor's responsibility to verify the status of the products and report, in writing to the Designer and Owner, any products that do not conform to the requirements described within the Construction Documents. Commencement of the Work described herein constitutes the Contractor's acceptance of new, unused products as stated, being installed. Any products found to be non-conforming shall be replaced with conforming products by the Contractor at their expense immediately.

2.2 COMPONENT MANUFACTURERS

A. Subject to compliance with technical requirements of this section and the bid requirements provided in General Conditions, provide cable and equipment from the manufacturers as indicated herein as a complete connectivity and distribution "solution".

B. Horizontal cables and terminations must be certified as a system. Manufacturers' specifications and guarantees of system compliance must be provided for acceptance.

C. Approved suppliers of the structured cabling system are Berk-Tek and Leviton only. Approved supplier of the support infrastructure components is Chatsworth Products.

2.3 MATERIALS

A. Where specific items are called out in the specification or indicated on the drawings for a specific application, use those products or materials, or approved substitutes. Where no specific call outs are made use premium products and materials.

2.4 SUBSTITUTIONS

A. All products described by attributes and noted with the optional "or equal", "or equivalent", and "or acceptable substitute" indicate that an alternate product that equals or exceeds the specified product attributes may be substituted for that product so specified if approved by the Designer in writing prior to bid.

B. The alternate or equal designated products must be submitted for review and judgment to the Owner and Designer prior to inclusion in a Contractor's bid. The Contractor-proposed alternate products or components that meet or exceed the specified attributes must be published and verified by two (2) independent sources within the past 6 months.

C. The Contractor shall submit a written request for Designer and Owner approval of their use fourteen (14) elapsed days after the first pre-bid meeting date. This request shall include the two (2) independent sources, the original product's specification sheet, the proposed substitute product cut sheet, and a written request to review the substitute product that includes any cost impact (increase or decrease) associated with the request.

2.5 CABLE MEDIA

A. CATEGORY 6A 4-PAIR CABLE UNSHIELDED TWISTED PAIR PLENUM:

1. Category 6A cables made in the USA of solid annealed copper conductors, 23AWG, with four individually twisted pairs in a single round cable sheath.

2. Characterized to 750 MHz, 250 MHz greater than the standard

3. Outer diameter not to exceed 0.300" (7.6mm), CMP, typical

4. Colors as outlined in the T-series drawings.

5. Channel margin guarantees for TIA-568-2 CAT6A and ISO/IEC 11801 ClassEA (margin vs. TIA-568-2 and margin guarantees are for a standard 2- connector channel).

a.	Insertion Loss	3%
b.	NEXT	2 dB
c.	PSNEXT	3 dB
d.	ACR-F (ELFEXT)	5 dB
e.	PSACR-F (PSELFEXT)	6 dB
f.	Return Loss	1 dB
g.	ACR-N	4 dB
h.	PSACR-N	5 dB

Approved Products:
Berk-Tek BLUE LANmark 10G2 Category 6A CMP cable #10130484 (1000')Berk-Tek BLUE LANmark 10G2 Category 6A CMR cable #10133700 (1000')

B. CATEGORY 6 CABLE UNSHIELDED TWISTED PAIR PLENUM:

1. Category 6 cables made in the USA of solid annealed copper conductors, 23AWG, with four individually twisted pairs in a single round cable sheath.

2. 100 ohm nominal impedance, UL Listed and independently verified as TIA/EIA Category-6 performance.

3. Characterized to 550 MHz, 300 MHz greater than the standard

4. Outer diameter not to exceed 0.230" (5.8mm), CMP, typical

5. Colors as outlined in the T-series drawings.

6. Channel margin guarantees for TIA-568-2 CAT6 and ISO/IEC 11801 Class E (margin vs. TIA-568-2 and margin guarantees are for a standard 2-connector channel).

a. Insertion Loss 5%
b. NEXT 6 dB
c. PSNEXT 6 dB
d. ACR-F (ELFEXT) 8 dB
e. PSACR-F (PSELFEXT) 9 dB
f. Return Loss 3 dB
g. ACR-N 7 dB
h. PSACR-N 8 dB

Approved Products:
Berk-Tek BLUE LANmark 1000 Category 6 CMP cable #10032094 (1000')
Berk-Tek BLUE LANmark 1000 Category 6 CMR cable #10032445 (1000')

C. MULTI PAIR VOICE RISER CABLE:

1. Physical Specifications: 100 twisted pair – 24 AWG, solid copper conductors,100 ohm nominal impedance +/-15%.

2. Electrical characteristics: All pair counts must meet Category 3 transmission requirements.

3. Cable Construction: individually insulated conductors with standard UTP color code markings, a minimum of two twists per foot under a rated sheath.

Approved Products:
Berk-Tek # 10032111, 25-pr CMP, Gray.
Berk-Tek # 10032396, 25-pr CMR, Gray
Other multiples of 25 pairs are acceptable (50, 100, 200, 300pr as required)

D. MULTIMODE HORIZONTAL/BACKBONE FIBER:

1. Physical Specifications: Core Diameter 50 □m, Cladding Diameter 125µmLaser-Optimized Multi-Mode Fiber, OM4.

2. Optical Characteristics: maximum fiber loss 3.0 dB/km @ 850 nm & 1.0 dB/km @ 1300 nm, minimum modal Bandwidth 4700 MHz @ 850 nm, 500 MHz @ 1300 nm. Must be able to support 1 Gb/s at distance up to 1,000 meters for 850 nm and 600 meters for 1300 nm, 10Gb/s up to 550 meters, and40Gb/s or 100Gb/s up to 150 meters.

3. Armored Cable Construction: Cable shall be rated for use in plenum applications with fiber counts of 2 through 144 available. Cable shall consist of tight-buffered fibers with a dielectric strength member and be contained within an interlocking armor outer cover from end-to-end for protection.

4. Standard fiber Cable Construction: Cable shall be rated for use in plenum applications with fiber counts of 2 through 144 available. Cable shall consist of tight-buffered fibers with a dielectric strength member and aramid yarn for protection.

5. Cable shall be indoor/outdoor when installed outside buildings, with a Dry- Gel system of water block. Indoor/Outdoor tight buffered fiber is not suitable for aerial lashing.

Approved Products:
Berk-Tek indoor Plenum OM4, # PDPxxxFB3010/25 Berk-Tek
Armored Plenum OM4, # PDPKxxxFB3010/25
Berk-Tek Indoor/Outdoor Plenum OM4, PDPxxxFB3510/25-HE(BLA)
Berk-Tek Indoor/Outdoor Armored Plenum OM4, PDPKxxxFB3510/25-HE(BLA)Where:
xxx = # of strands, 006 -024.
Replace xxx with 12Bxxx for strand counts greater than 24(036,
048, 072, 096, 120, 144)

E. SINGLE MODE BACKBONE OPTICAL FIBER CABLE:

1. Physical Specifications: Core Diameter 8.3 µm, Cladding Diameter 125 µm.Low-Water Peak (OS2) single mode fiber, complies with ITU-T G.652D.

2. Optical Characteristics: maximum fiber loss 0.70 dB/km @ 1310 nm & 0.70dB/km @ 1550 nm.

3. Cable Construction: cable shall be rated for use in plenum applications with fiber counts from 2 to 144 available. Cable shall have a dielectric strength member for strength and be contained within a Plenum Tight Buffered Cablewith Aluminum Interlock Armor from end-to-end for protection.

Approved Products:
Berk-Tek 24-fiber indoor Plenum Singlemode, # PDP024AB0707
Berk-Tek 24-fiber Indoor Armored Plenum Singlemode, PDPK024AB0707
Berk-Tek 24-fiber Indoor/Outdoor Plenum Singlemode, PDP024AB0707-HE(BLA)Berk-Tek 24-fiber Indoor/Outdoor Armored Plenum Singlemode, PDPK024AB0707-HE(BLA)

Where:
xxx = # of strands, 006 -024.
Replace xxx with 12Bxxx for strand counts greater than 24(036,
048, 072, 096, 120, 144)

2.6 TERMINATION HARDWARE

A. COPPER TERMINATION BLOCKS

1. Provide termination blocks for Backbone Cabling Systems that support up to Category 5e applications and facilitate cross-connection using twisted pair wiring.

2. The connecting hardware block shall support the appropriate Category 3 to 5e voice (non-VOIP) applications and facilitate cross-connection and/or inter-connection using cross-connect wire.

3. The cross-connect shall be Category 5e 110-style wiring bases, mountable to wall or backboard to provide 110 termination capable of supporting voice, security, and Category 5e data applications, including high megabit and shared-sheath applications when used with Category 5e rated cabling.

4. The components shall be UL listed and TIA-568-2 compliant. Bases shall support 50, 100 or 300 pair densities with provision for TIA-606 compliant labeling. Plastic bases and blocks shall be made of fire-retardant plastic rated UL 94V-0.

5. Cross-connect blocks shall be available in a variety of insulation displacement clips

(IDC) with and without tails, and support wire sizes: Solid: Wire Ranges22-26 AWG (0.64mm - 0.40mm).

Approved Products:

Leviton 110 Connecting Block, 100-pair kit w/legs # 41AB2-1F4 (with C4)Leviton 110 Connecting Block, 100-pair kit w/legs # 41AB2-1F5 (with C5)Leviton Wire Manager w/legs, # 41A10-HCM

B. COPPER PATCH PANELS

1. Modular Insert Copper Termination Patch Panels shall exceed requirements for Category 6 and Category 6A described in TIA-568-2 and Class E and EA requirements described in ISO/IEC 11801 in a standard-density (24 ports per Rack Unit) or High-Density (48 ports per Rack Unit) format.

2. All copper termination panels shall be modular metal, 19" frame, flat, 2RU 48-port or 1RU 24-port, made of 16-gauge steel and powder-coated black with white silkscreened lettering that accept modular "RJ45"-style 8P8C jack inserts of any category rating, or blank inserts from the same manufacturer.

3. 48-port single Rack Unit panels may be required in space-constrained situations only. Confer with Owner prior to installation.

4. Panels shall utilize the same universal jacks as are used in workstation area outlets, and not a special purpose "panel jack".

5. Modular jack inserts shall correspond with the colors outlined in the T-series drawings. Wiring scheme shall be T568B.

6. IDF Patch panel modular jacks shall match the outlet jacks at each workstation location (color, performance, and labeling).

Approved Products:

Leviton QuickPort® 1RU 24-port Patch Panel, # 49255-H24
Leviton QuickPort® 2RU 48-port Patch Panel, # 49255-H48
Leviton QuickPort® 1RU 48-port Patch Panel, # 49255-Q48

C. MODULAR CONNECTORS/JACKS:

1. Provide modular type 8-position/ 8 conductor (8P8C, RJ45-style) connectors (jacks) for network (data, voice, wireless, video, etc.) information outlets using 22-26 AWG copper cable. Connectors shall be individual snap-in style, and exceed compliance with TIA-568-2 specifications.
2. The connectors shall utilize a universal Keystone-style (QuickPort) insertion footprint as the manufacturer's main "flagship" line of products. Jacks shall fit existing Leviton patch panels and faceplates to facilitate the County's ongoing operations.
3. CAT6A Jacks shall comply with FCC Part 68; UL listed and CSA Certified. Verified to exceed all channel performance requirements in TIA-568-2 from 1MHz to 500MHz to support the IEEE 802.3an standard for 10 Gigabit Ethernet over UTP Cable
4. CAT6 Jacks shall comply with FCC Part 68; UL listed and CSA Certified. Verified to exceed all channel performance requirements in TIA-568-2 from 1MHz to 250MHz to support the IEEE 802.ab standard for 1 Gigabit Ethernet over UTP Cable
5. Every connector shall include polymer springs above the tines ("Retention Force Technology" or similar functionality) to promote return of tines to original position and protect against deformation due to stress of patch cords or inappropriate materials insertion.

6. Connector shall have Pair Separation Towers on IDC to facilitate quick, easy terminations without a complete untwist of each pair of conductors. Jacks shall employ 2 or more circuitry solutions for dampening of NEXT.
7. The connector shall be rear 110-type insulation displacement connectors (IDC)with solder-plated phosphor bronze contacts, configured in a 180° orientation such that the punch down field is in the back, allowing for rear termination.
8. All plastics used in construction of the connector bodies shall be fire-retardant with a UL flammability rating of 94V-0.
9. The connector shall provide a ledge directly adjacent to the 110-style termination against which the wires can be directly terminated and cut in one action by the installation craftsperson.
10. Connector wiring label shall provide installation color codes for both T568A and T568B wiring schemes on separate labels.
11. Category 6A (CAT6A) connectors shall support 10G and will feature an injection molded Cone of Silence™ technology to eliminate alien crosstalk (AXT).

Approved Products:
Leviton eXtreme CAT6A QuickPort Module # 6110G-R*6 Leviton
eXtreme CAT6+ QuickPort Module # 61110-R*6 Leviton
eXtreme CAT5e+ QuickPort Module # 5G110-R*5

Where * = one of 13 colors. See drawings or check with County for application.

D. FIELD-TERMINABLE MODULAR PLUGS

1. The plug shall BE universal IN DESIGN, and meet or exceed all performance requirements for Category 6A and below as described in ANSI/TIA-568.2-D, as well as Class E_A requirements as described in ISO/IEC 11801-1.

2. The plug shall comply with all National Electrical Codes, be compliant with ANSI/TIA-1096-A, and be UL listed. The plug shall be compliant with UL 2043 for use in air handling spaces.

3. The plug shall meet all requirements of IEC 60603-7 (including IEC 60512-5-2) and IEC 60512-99-001(including IEC 60512-9-3) standards.

4. The plug shall be encased in a 360-degree die-cast housing to protect it from potential EMI/RFI.

5. The plug shall not require a specialized termination tool.

6. The plug wiring shall accommodate 26-22 AWG solid or stranded conductors and terminable in both T568A and T568B wiring schemes. T568B shall be used.

7. The plug may be used to terminate to horizontal cable when connecting to Ethernet devices placed in fixed locations as recognized in ANSI/TIA- 568.2-D Annex F- Modular Plug Terminated Link (MPTL), ANSI/TIA-862-B Annex C- Direct Connections, and ISO 11801-6 Type B generic cabling.

8. The connector module shall support IEEE 802.3at, IEEE Draft 802.3bt POE standards, and Power over HDBaseT™ (POH) applications up to 100watts

Approved Products:
Leviton Cat 6A Universal Tool-Free Plug, # 6APLG-S6A

E. OUTLETS & WALLPLATES

1. Contractor shall provide and install single gang faceplate kits to allow up to six data or voice jacks as required for all work area outlets, workstation base feeds, and unused telecom backboxes and furniture openings.
2. Faceplates shall utilize a Quickport ("keystone"-style) footprint to match the approved connectivity manufacturer, and be made by the same manufacturer as the connectors.
3. Faceplates shall support any connectivity media type, including fiber and copper applications, and shall be available in single-gang and double-gang configurations.
4. Surface-Mount Blocks (SMBs) are used to protect terminated CAT6 and CAT6A cables at the endpoints where they are not contained within walls or furniture. Example locations may be Wireless Access Points (WAPs) or other network-enabled device locations.
5. SMB shall be Plenum-rated for use in Plenum environments.

Approved Products:
Leviton QuickPort Single-Gang with ID Windows, # 42080-#xS Leviton QuickPort Double-Gang with ID Windows, # 42080-#xPLeviton QuickPort Blank Inserts, pack of 10, # 41084-BxB Leviton QuickPort Surface-Mount Box, # 41089-#xP

Where:
# = number of ports: 1, 2, 3, 4, 6
x = color: White (W), Ivory (I), Light Almond (T), Gray (G), Black (E)Match colors and materials of the power wiring device plates

F. CATEGORY-RATED PATCH CORDS:

1. Standard copper patch cords for CAT6 and CAT6A UTP locations shall be 26-gauge stranded conductor construction (0.24" OD), with a standard 8-position modular (RJ45) plug on both ends.
   a. Maximum Outer Diameter of 0.24"
   b. Power over Ethernet (PoE and PoE+) compatible
   c. Support 1 Gigabit applications over 90-meter permanent links with up to10 meters of cordage
   d. Meets all applicable standards and listings: ANSI/TIA-1096-A (formerly FCC Part 68), RoHS compliant, IEEE 802.3, PoE: IEEE 802.3at – 2012

2. High-flex copper patch cords for CAT6 UTP cable systems used inside Telecom Enclosures, Rooms and racks may be 28-gauge stranded conductor construction (0.15" OD), with a standard 8-position modular (RJ45) plug on both ends.

3. Copper patch cords shall be Power over Ethernet (PoE and PoE+) compatible and certified to support 1 Gigabit (CAT6) or 10Gigabit (CAT6A) applications over 90-meter permanent links. Cords shall meet all applicable standards and listings, such as ANSI/TIA-1096-A (formerly FCC Part 68), RoHS, IEEE 802.3, and PoE: IEEE 802.3at – 2012

4. Copper patch cords used in Plenum spaces shall be Plenum-rated.

5. Copper patch cords shall not have an overmolded rubber “boot” which covers the release tab.

Approved Products:
Leviton “Slimline” CAT6 Patch Cord, #6D460-xx* Leviton
“Slimline” CAT6A Patch Cord, #6AS10-xx*
Leviton High Flex 1G HD6 Patch Cord, for CAT6 systems, # 6H460-xx*Leviton
Plenum-Rated CAT6A Patch Cord, #UAPPP-xx*
Where
xx = Length in Feet (01, 03, 05, 07, 10, 15, 20 standard)
* = color, **W**hite, **Y**ellow, **R**ed, b**L**ue, **G**reen, **S**late (Gray), **E** (Black)

G. FIBER TERMINATION ENCLOSURES:

1. Shall provide cross connect, inter connect, and splicing capabilities and contain cable management for supporting and routing the fiber cables/jumpers.

2. Fiber enclosure shall be available in 1, 2 and 4RU versions to accommodate termination and splicing of fiber as outlined in the T-series drawings.

3. Enclosure depth shall be 17” and shall fit into a standard 19” rack. The combination shelf shall be able to support the terminations associated with the fiber cables and connectors as well as any splice cases required

4. Enclosure shall feature a sliding tray which removes completely, front or rear, from enclosure to facilitate field terminations and splicing.

5. Rack-mount enclosure shall have removable transparent hinged doors and slide away covers allow easy access during install and visibility of interior after install.

6. Fiber Adapter Plates (bulkheads) shall accept SC and/or LC connectors, MTP® adapters, and plug-n-play MTP modules/cassettes.

7. Fiber cable management for routing, storage, and protection shall accept patch cords, tight-buffer fiber, and backbone cables. Rear fiber cable management rings shall be stackable and configurable in ¼, ½, or full ring arrangements. Enclosure shall be constructed of 16-gauge steel with a powder-coated black finish and an optional locking door feature shall be available.

8. Enclosure shall support the use of splice cassettes in a standard adapter plate footprint.

Approved Products:
Leviton Opt-X Ultra Rack-Mount 1RU Enclosure, # 5R1UH-S03Leviton
Opt-X Ultra Rack-Mount 2RU Enclosure, # 5R2UH-S06Leviton Opt-X
Ultra Rack-Mount 4RU Enclosure, # 5R4UH-S12Leviton lock and key #
5L000-KAL
Leviton armored cable ground kit, # DPGRD-KIT

H. FIBER TERMINATION PANELS AND MODULES:

1. The adapter plate shall be offered in LC, SC, and MTP styles in 6, 12, or 24 fiber configurations. The adapter plate shall be compliant to ANSI/TIA-568-3 (for performance) and respective ANSI/TIA-604-X (for intermateability) standards, and shall be made in the United States of America.

2. Adapter plates shall use zirconia ceramic sleeves and be offered in standard fiber type colors pursuant to ANSI/TIA-568-3 standards. The adapter and plate shall be integrated to eliminate “rattle” and loose fit.

3. Integrated Fiber pigtail fusion splice modules shall be offered in 12- or 24-fiber LC in OS2 (Singlemode) and OM4 fiber types. Construction of module shall be of 14-gauge aluminum for robustness and light weight.

4. Splice Modules shall be pre-loaded and routed with respective 3-meter, color- coded pigtail assembly. Individual pigtails shall have maximum insertion loss of 0.4 dB and 0.35 dB for OM4 and OS2 fiber types, respectively. Return Loss

   shall be greater than -25 dB (for OM4), and -55 dB (for OS2/UPC).

5. Splice Modules shall contain individual compartments which provide slack storage and bend radius protection for incoming backbone fibers, 900µm tight-buffer fibers, and fusion-spliced fibers. Incoming 250µm backbone fibers shall be protected by a braided mesh sleeve. Heat shrink style splice sleeves, braided mesh sleeve, and tie wraps shall be included with splice module.

Approved Products:

Leviton 12-strand Adapter Plate, LC, SM, #5F100-2LL Leviton 12-strand Adapter Plate, SC, SM, #5F100-2LC Leviton 24-strand Adapter Plate, OM3/4, #5F100-4QL Leviton Opt-X 12-Fiber Splice Module, SM, # SPLCS-12L Leviton Opt-X 12-Fiber Splice Module, SM, SC, #SPSCS-12LLeviton Opt-X 24-Fiber Splice Module, OM4, # SPLCS-244

I. FIBER CONNECTORS

1. Pre-polished fiber optic connectors shall meet or exceed the requirements described in TIA-568-3 and ANSI/TIA-604-5 (LC) Connector Intermateablity Standards

2. Shall be pre polished and field installable to eliminate the need for hand polishing, bonding, or epoxy in the field.

3. Shall utilize a precision zirconia ceramic ferrule, and be re-terminable up to 3 times during testing without loss of performance.

4. Shall require the use of a cleaver with a guaranteed maximum cleaving angle of 2 degrees for multimode and 1 degree for single mode fibers.

5. Shall be provided in LC, single-mode or multimode (laser optimized) configurations, terminated on 250 or 900 µm buffered fiber and/or 2mm or 3mm jacketed fiber.

6. Maximum connector insertion loss shall be no greater than 0.5 dB, with an average of 0.1 dB (MM) or 0.2dB (SM). Typical connector return loss shall be -25 dB (multimode) and -55 dB (single mode). All versions shall allow continuity to be verified by use of a visual fault locator (VFL).

Approved Products:

Leviton FastCAM LC Singlemode, # 49991-SLC
Leviton FastCAM LC OM3/OM4 Multimode, # 49991-LLCLeviton / Lynx cleaver # 49886-LNX or equal

J. FIBER JUMPERS AND ARRAY CORDS

1. Fiber optic LC-LC patch cords shall be factory-manufactured, terminated and polished using Singlemode OS2 and Laser-Optimized OM4 Multimode optical fiber. Field terminations on fiber jumpers are not acceptable.

2. Shall utilize A-B polarity, and exhibit <0.3 dB insertion loss and -25 dB return loss.

Approved Products:
Leviton LC-LC SM duplex jumper, UPDLC-Sxx Leviton
LC-LC OM4 duplex jumper, 54DLC-Mxx
(xx = Length in Meters, for example, 03 or 10) as required

K. 2-POST RELAY RACKS:

1. 19” EIA-310 standard universal telecommunications equipment rack. 7 ft. High
2. Suitable for mounting approved modular patch panels, wire management and active network equipment. Must be seismically restrained.
3. Use vertical cable raceways at ends of rows (6”) and between each frame (10”), and horizontal cable management panels added as needed (if indicatedin the T-series drawings).

Approved Products:
Chatsworth 55053-703, Aluminum Relay Rack, Black

L. ADJUSTABLE FOUR POST SERVER RACK:

1. 19” EIA-310 standard steel, 4-post adjustable equipment frame, 7 ft high x29.5-35.4” deep,
2. Suitable for mounting approved modular patch panels, wire management and active network equipment. Must be seismically restrained.
3. Use vertical cable raceways at ends of rows (6”) and between each frame (10”), and horizontal cable management panels added as needed (if indicated in the T-series drawings).
4. Square-punched mounting holes. Include (50) 12/24 square nuts and bolts.

Approved Products:
Chatsworth 15213-703, Adjustable Server Rack, Black
Chatsworth 12639-007, square nuts and 12/24 hardware kit, packs of 25

M. WALL-MOUNT CABINET:

1. 19” EIA-310 standard steel, internal 4-post reinforced frame, 3 ft high, complete with vertical cable raceway channels and horizontal cable management panels (if indicated in the T-series drawings). Suitable for mounting approved modular patch panels, wire management and active network equipment.
2. Chatsworth Cube-IT Plus Cabinet

2.7 MANAGEMENT HARDWARE

A. CABLE MANAGERS:

1. Rack mounted, Double sided Slotted MCS Master Cabling vertical cable manager.
2. Rack mount, Double sided 19” Horizontal Universal Wire Management Panel
3. Wall-mount Fiber Slack Storage Rings

Approved Products:

Chatsworth 30096-703, 10” Vertical Wire Manager, Black
Chatsworth 30095-703, 6” Vertical Wire Manager, Black
Chatsworth 30529-719, Horizontal 1U Wire Manager, Black
Chatsworth 30530-719, Horizontal 2U Wire Manager, Black
Leviton 12” Inside Plant Cable storage ring, 48900-IFR
Leviton 24” Outside Plant/Armored Cable storage ring, 48900-OFR

2.8 CABLE PATHWAYS

A. EMT Steel Conduit for horizontal cable. (Installed by Others). The horizontal cable system will be totally enclosed. The cable will run in conduit and through junction boxes. The conduit system will extend from the station outlet box to the telecommunications Rooms.

B. Non-Continuous Cable Supports (Multi Tiered J Hook Assemblies) for cables not in conduit.

1. Multi- tiered non-continuous cable support assemblies shall be used to support telecommunications cables in accessible ceiling areas. Assemblies may be factory assembled or assembled from pre-packaged kits. Assemblies shall consist of a steel angled hanger bracket holding up to six non-continuous cable supports, rated for indoor use in non-corrosive environments; UL Listed.
2. Provide all necessary hardware for installing multi-tiered support brackets in accessible ceiling spaces. These spaces may include T-bar ceiling, threaded rod spaces, and or direct mounting to concrete wall or ceiling.

Approved Products
BLINE BCH32-1D, 2 x 2" J-hangers on a support
BLINE BCH64-1D, 2 x 4" J-hangers per support
BLINE BCH32-2D, 2 x 2" J-hangers per support
Other sizes or equivalent

C. Overhead and In-Box Brackets

1. Above-ceiling cable termination locations shall be either wall-mounted or suspended from structure above the drop ceiling. Cables or terminations shall not rest on ceiling grid or equipment above ceiling grid.

2. For Wireless access Points and other above-ceiling-mounted communications devices, cables shall land in an above-ceiling bracket which is affixed to dedicated cable support hardware. Above-ceiling bracket can hold 2 jacks, a 2-port Surface-Mount Box, or a 1U MOS SMB for multimedia applications.

3. For wall-mounted device locations (above or below ceiling), devices needing to be mounted directly to a backbox will utilize the in-wall mounting bracket to secure the jack inside the backbox.

4. One category-rated jack can be installed in each in-wall backbox jack mounting

bracket. For devices requiring (2) category-rated jacks, (2) in-wall brackets must be used.

Approved Products:

Leviton QuickPort In-Ceiling Bracket, rod/wire hanger, 49223-CBC
Leviton QuickPort In-Ceiling Bracket for beam and screw mounts, 49223-CB0 Leviton QuickPort In-Wall Bracket, 49223-BA5 (pack of 5)

D. Cable Runway Support and Pathway System.

1. All industry standard cable runway shall be manufactured with tubular steel rails twelve inches (12”), fifteen inches (15”), eighteen inches (18”) or twenty-four inches (24”) in width configures with industry standard on and on-half inch (1.5”) ladder cross bars positioned twelve inches (12”) on center perpendicular to the rails, as indicated in the Project Drawings.
2. Cable runway system shall include structural engineered and approved components to provide and install the necessary zon-4 seismic support system including end caps, wall angle support brackets, bonding straps,butt splice kits, junction splice kits, and rack-to-runway mounting kits.
3. The cable runway system shall include a corner section at each intersection that creates a radius “L”, “X”, and/or “T” formed when two (2) or more pieces of cable runway are connected together with a junction splice assembly.
4. The cable runway system shall include all components indicated in the T-series drawings to complete the system. These components shall be available from the same manufacturer and shall include, but may not be limited to:
    a. Cable runway bend radius drop assemblies (sized per runway section)
    b. Cable runway movable cross member assemblies to support cable runway bend radius drop assemblies (sized per runway section).
    c. Runway butt-splice kits
    d. Runway junction splice kits
    e. Cable runway corner brackets (sized per runway and site conditions)
    f. Swivel splice kits
    g. Rack-to-runway mounting plates (sized per runway section)
    h. Cable elevation kits (sized per site conditions)
    i. Wall angle support brackets (sized per runway section)
    j. Runway foot kits
    k. Threaded rod assemblies for attachment
    l. Slotted Support brackets for runway attachment to threaded rod assemblies
    m. Vertical wall brackets
    n. Cable retaining posts (6” as required)
    o. Runway grounding kits
    p. Protective end caps
6. All cable runway components shall be black in color, unless otherwise noted in the Project Drawings.
6. Cable Runway System Manufacturer
    a. Chatsworth Runway System and Components.

2.9 FIRESTOPPING

A. Fire rated pathway devices shall be the preferred product and shall be installed in all locations where frequent cable moves, add-ons and changes will occur. Such devices shall:

1. Meet the hourly rating of the floor or wall penetrated.
2. Permit the allowable cable load to range from 0% to 100% visual fill thereby eliminating the need to calculate allowable fill ratios.
3. Permit multiple devices to be ganged together to increase overall cable capacity.
4. Allow for retrofit to install around existing cables.
5. Include an optional means to lengthen the device to facilitate installation in thicker barriers without degrading fire or smoke sealing properties or inhibiting ability of device to permit cable moves, add-ons, or changes
6. Not require any additional action on the part of the installer to open or close the pathway device or activate the internal smoke and fire seal, such as, but not limited to:
   a. Opening or closing of doors.
   b. Twisting an inner liner.
   c. Removal or replacement of any material such as sealant, caulk, putty, pillows, bags, foam plugs, foam blocks, or any other material.
7. Where single cables (up to 0.27 in. (7 mm) diameter) penetrate gypsum board/stud wall assemblies, a fire-rated cable grommet may be substituted. Acceptable products shall be molded from plenum-grade polymer and conform to the outer diameter of the cable forming a tight seal for fire and smoke. Additionally, acceptable products shall lock into the barrier to secure cable penetration.

Approved Products:
Specified Technologies, Inc. EZ-PATH series 22, 33 and 44+ fire-rated pathway devices
Specified Technologies, Inc. EZ-PATH GROMMET

B. Where non-mechanical products are utilized, provide products that upon curing do no re-emulsify, dissolve, leach, breakdown or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water or other forms of moisture characteristic during or after construction.

1. Where it is not practical to use a mechanical device, openings within floors and walls designed to accommodate telecommunications and data cabling shall be provided with re-enterable products that do not cure or dry.
2. Utilize an EMT sleeve as a stub through a rated wall
3. Surround annular space between EMT sleeve and wall material with a hardening intumescent caulk.
4. Utilize re-enterable, non-hardening putty around cables inside a metal sleeve. Do not exceed 40% fill capacity of sleeve and follow all rated assembly requirements per Manufacturer, local codes, and AHJ.
5. Cable trays shall terminate at each barrier and resume on the opposite side such that cables pass independently through fire-rated pathway devices. Cable tray shall be rigidly supported independent from fire-rated pathway devices on each side of barrier.

Approved Products:

Specified Technologies, Inc. SSS Intumescent Caulk
Specified Technologies, Inc. SSP Intumescent Putty

2.10 LABELS

A. Labels:

1. Laser printed self-adhesive, smudge resistant self-laminating labels for cables and faceplates. Labels shall be appropriately sized for cable diameter. Labels shall be appropriately colored for faceplate color contrast.

   a. Black text on clear tape for Stainless Steel and Ivory surfaces
   b. Black text on white background for White surfaces and white label backgrounds
   c. White text on black background for labeling on Black surfaces

2. Wrap-around cable labels shall be min. 1" wide, and of sufficient length to wrap around the entire cable with multiple lines of a repeating label, visible from any orientation.

Approved products:

Brother P-Touch TZe tapes, 3/8", ½" widths x 26.2' per cartridge (or as required)
Brother P-Touch TZe Flexible-ID tapes, 1", and 1.5" widths x 26.2' per cartridge, for cable wraparound labeling
Brother P-Touch TZe tapes, 1" or 1.5" Width, white text on black background, for rack labels and other high visibility equipment purposes

PART 3 – EXECUTION

3.1 EXAMINATION

A. Contractor shall examine the site conditions and telecommunications spaces associate with the work and the conditions under which the Work would be performed prior to beginning work. Contractor shall remedy conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 METHODS AND PROCEDURES

A. Examine and compare the Telecommunications Drawings and Specifications with the Drawings and Specifications of the other trades. Report any discrepancies between them to the Architect, and obtain from them written instructions for changes necessary in the work. At time of bid, the most stringent requirements shall be included in the bid.

B. Install and coordinate the telecommunications cabling Work in cooperation with other trades installing interrelated work. Before installation, make proper provisions to avoid interference in a manner accepted by the Architect. Any repairs or changes made necessary in the Contract Work, caused by the Contractor's neglect, shall be made by him at his own expense.

C. The Contractor shall maintain a complete file of Shop Drawings and other submissions,

including the Project specifications and the drawings, at the job site at all times. Shop Drawings and all other submissions shall be made available to the Architect and County representative at their request.

D. The Contractor shall follow manufacturers' instructions for installing components and adjusting all equipment and telecommunications cables. Submit two (2) copies of such instructions to the Architect before installing any equipment. Provide a copy of such instructions at the equipment during any work on the equipment. Where no instructions are included with the equipment, follow accepted industry practices and workmanlike installation standards.

E. Perform all tests required by local authorities in addition to test specified herein.

F. Do not allow telecommunication cables to run parallel with electrical cables/conduits, unless they are separated by a minimum of 12 inches. Note: any telecommunications cables that must cross over electrical cables/conduits shall do so only at 90-degree angles.

G. Ensure that all telecommunications cable supports (conduits, support grips, J hooks) are fully installed before proceeding with cable installation. At no times shall cables be installed and left unsupported. At no times shall cables be tie- wrapped to any other supporting structure in lieu of specified cable supports. Do not bundle or tie-wrap the cables even within the approved cable supports.

H. For installation of Non-Continuous Cable supports (Multi-Tiered J Hook Assemblies), ensure cable is supported with J Hooks every 4 to 5 feet. No cable shall remain unsupported for more than 5 feet.

I. Do not lay telecommunications cables unprotected on the floor at any time. If cables must be left on any floor, protect the cables so that they may not be walked on or have any material or equipment placed or rolled on top of them at any time.

J. Maintain manufacturers' recommended minimum bend radius of the cables, at all times (minimum bend radius may be as small as 2 inches for 4-pair UTP). Do not stretch, stress, tightly coil, bend or crimp the workstation cables during the installation or when leaving them out of the way of other trades during the staging work. The Contractor, at the Contractors expense, shall replace all abused or stressed cables.

K. Keep all items protected before and after installation, with dust and waterproof barrier materials as necessary. The Contractor shall be responsible to ensure the integrity of the protective measures throughout the life of the project.

L. Clean up and remove all debris generated by installation activities. Keep the telecommunications areas free of debris at all times.

M. Deliver to County's representative, two sets of all special tools specifically needed for proper operation, adjustment and maintenance of cable and cable termination hardware installed under this Contract.

N. Upon project completion, provide as-built drawings and documentation as defined herein.

O. Craft personnel shall be qualified to perform the work activities and be knowledgeable of the following:

1. Color coding of standard UTP cables.

2. Bonding and grounding of cable tray and equipment racks.

3. Testing conductors for electrical continuity.

4. Testing of copper conductors for wire mapping, attenuation and worst case near end cross talk and other tests as required by ANSI/TIA-568-1 and 568-2.

5. Termination or connectorization of unshielded twisted pair cable on all specified connectors and termination.

6. Generally accepted industry standards, as well as manufacturers written installation instructions, will be used for in-process quality control and final acceptance of the work installation.

P. Check actual job conditions prior to start of any work. Ensure all preceding trade work associated with the telecommunications system in accurate before proceeding with the installation. The Contractor will be responsible for inspecting the previously performed work of other trades, and commencement of work will serve as evidence of the acceptance of this work as suitable for the work to follow. Notify in writing the Owner and Designer of any discrepancies that will impact the telecommunications system prior to commencement of said work. Examples of work which must be checked include, but are not limited to:

1. Electrical requirements (conduit installation and capacity)

2. The telecommunications rooms are the size shown on the Project Drawings.

3. Adequate clearances of doors, riser spaces and ceilings for all component of the telecommunications system.

3.3 INSTALLATION

A. Equipment Racks and Cabinets

1. Provide, as shown on drawings, rack and cabinets in the respective IDF rooms or termination locations for the mounting of termination panels and IT equipment. Bolt each rack to the floor slab and attach the cable runway system overhead via cable runway elevation kits per the manufacturer's recommended installation instructions. Bond each individual rack and cabinet directly to the grounding busbar located within the room/space.

B. Termination Components:

1. Provide fiber combination shelf in rack mount frame for mounting into racks and cabinets as indicated in the project drawings with a minimum of 48 port capacity. Provide and install correct adapters for fiber termination, complete with designation strips & any required cable managers.

2. Provide Wall Outlets & faceplates containing 8-pin 8-conductor modular connectors, non-keyed (8P8C), typical "RJ45" style; complies with ANSI/TIA-568-2, Category 6 or 6A performance specifications as determined by application. Outlet wired with standards compliant T568B pinning. Coordinate faceplate color and jack color with T-series drawings.

a. WIRELESS ACCESS POINTS (WAP): Install (2) CAT6A cables per WAP

location.

b. VIDEO CAMERAS: Install (1) CAT6A cable per location.

c. WORK AREA OUTLETS: Install (3) CAT6 cables to each standard Work Area Outlet (WAO).

3. Provide IDF modular termination jacks at patch panels as 8-pin modular connectors, non-keyed (RJ45) connectors; complies with TIA-568-2, Category 6 or 6A performance specifications as appropriate to match cable and jacks at both ends. Wired with standards compliant T568B pinning. Coordinate jack colors with T-series drawings. Install black colored blank modular inserts into unused patch panel ports.

4. Provide one 7' and one 10' patch cord for each WAO location as shown on drawings, specified by County or approved as change.

   a. Patch cord Category shall match the rating of the link for which they are provisioned.

   b. Plenum locations shall require one CMP and one CM/CMR cord per location. CM cord to be used at IDF and CMP cord to be used in ceiling plenum space.

   c. Confirm final lengths, quantities, Categories, ratings and colors of cords with County prior to ordering.

C. Cable Media:

1. Install riser UTP cable in accordance with this Specification in quantities indicated in the project drawings and terminate all UTP cable pairs (except the 25th pair in each binder group – coil for future use) on patch panels as indicated in the T-series drawings. Comply with the manufacturers' recommendations, and the Telecommunications Distribution Plan Drawings.

2. Install riser fiber cable in accordance with this Specification in quantities indicated in the T-series drawings from each IDF and to the BDF. Comply with the manufactures recommendations, and the Telecommunications Distribution Plan Drawings.

3. After dressing the cable to its final location, remove only enough sheath to allow the conductors to be splayed and terminated in a neat and uniform fashion. Every effort will be made to maintain sheath integrity by removing only as much sheath as is practical, to accomplish termination. For UTP cables, maintain the manufacturers twisting of the wire pairs through to the point of termination, with a maximum untwist of 1/8".

4. There shall be no splices or mechanical couplers installed between the cable points of origin and termination for the inter-building and intra-building cable.

D. Cables:

1. Provide 4-pair Category 6 cables from each workstation telecommunications outlet location (for standard type outlets) or 4-pair Category 6A cables from each camera or WAP telecommunications outlet location to the respective Telecom Room termination location as indicated in the project drawings. Cables to be color-coded consistent with T-series drawings. For additional workstation types as indicated on the telecommunications drawings route the correct amount of Category-rated cable from each workstation telecommunications outlet location to the respective termination location. Utilize the cable tray system for the routing of cables whenever possible. Terminate all cables onto 8-pin modular

connectors at the outlet location. Terminate the four-pair cables onto rack mounted, metal modular data jack insert patch panels.

2. Where telecommunications outlets are wall mounted inside enclosed offices, route cables overhead from the termination location (IDF) via the overhead cable tray network to the outlet area, and down a conduit stub-up to a junction box at the bottom of the conduit. Mount outlets with an appropriate faceplate.

3. Where workstation outlets are mounted in drywall partitions to support seating in the common areas, route cables from the termination location (IDF) to the accessible ceiling area within the commons area and down a conduit stub-up to a junction box at the bottom of the conduit. Mount outlets with an appropriate faceplate.

E. Cable Runway and Non-Continuous Cable Supports (Multi-Tiered J Hook Assemblies):

1. Provide cable runway and associate runway components in the IDF, BDF and termination locations as shown on the T-series drawings. Mount cable runway overhead at the indicated height following manufacturer's installation instructions at all times.

2. Provide threaded rod ceiling support assemblies spaced 5' on center, wall angle support kits, or triangular support brackets to support the cable runway over head (where required) as indicted in the T-series drawings.

3. Ground each cable runway section to the next. Ground each cable runway system to the nearest telecommunications grounding bus-bar located within the respective telecom rooms. Provide waterfall pieces for the gradual transition from end of cable runway or whenever cables exit the cable runway.

F. Identification:

1. Provide label identification on all outlet faceplates installed under this Work. Labels should be machined-generated labels with the outlet ID asper TIA-606, and approved by the Owner prior to use.

2. Provide on all termination panels installed under this Work, machine-generated designation strips with the cable ID and pair number, in uppercase lettering.

3. Provide on all patch panels installed under this Work, machine-generated label with the cable ID, and fiber strand number in uppercase lettering.

4. Provide on all telecommunications cables installed under this work a machine-generated label with the cable ID, in black uppercase lettering on a permanent adhesive, white label stock, covered with permanent water resistant sealer. Labels shall be placed on both ends of the cable and no more than 6" from the point at which the cable is broken out into individual copper pairs or strands from the connector or termination block or patch panel. Labels shall be placed parallel with the cable. All labels shall be readily visible.

5. Hand lettered label stock will not be accepted for final installation. Hand lettered stock is only acceptable for use with temporary labeling required during construction phases.

6. If at any time during the project, the label becomes illegible or removed, the Contractor shall immediately replace it with a duplicate preprinted label.

7. All cable IDs shall be both physically and visually accessible upon completion of the project.

3.4 COPPER CABLE TESTING AND VERIFICATION

A. Verify and test all Category 6 and 6A cables with a Fluke DTX series Level IIIe tester or newer, that has been properly calibrated by the manufacturer within the prior 12 months. Verification and documentation of latest factory certification must be provided by the Contractor prior to testing.

B. The tester interface adapters shall be PM06 universal permanent link adapters and must be in new condition with the adapter cable and assembly not indicating any twisting or kinking resulting from coiling and storing of the tester interface adapters.

C. Baseline accuracy of the copper test equipment must exceed TIA Level IIIe, as indicated by independent laboratory testing.

D. Copper Test equipment must be capable of verifying Category 3, Category-5e, Category-6 and Category-6A links or channels independent of termination hardware configuration (IDC or 110-style) for levels of performance.

E. Copper Test equipment shall be capable of storing full frequency sweep data for all tests and printing color graphical reports for all swept measurements.

F. The testing device shall be provided by the Trade Contractor and approved by the Designer, and Owner prior to use. It is the responsibility of the Trade Contractor to get written authorization from the Designer and Owner to commence testing with their proposed device. Failure to gain approval is at the Trade Contractor's risk and expense.

G. Category-3 testing of every copper cable pair shall be tested for, and comply with,TIA-568-2 standards and must include each of the following:

1. Wire Map
2. Length
3. Opens
4. Shorts
5. Continuity
6. Polarity, or Pair Reversals
7. Proper Labeling
8. Others as may be noted in the Contract Documents

H. Category 5e and 6 cables shall be tested for, and comply with, all of the above and TIA-568-2 standards related to the following:

1. Attenuation/Insertion Loss
2. NEXT (Near End Cross Talk)
3. PS-NEXT (Power Sum Near End Cross Talk)
4. FEXT (Far End Crosstalk)
5. ELFEXT (Equal Level Far End Cross Talk)
6. PS-ELFEXT (Power Sum Equal Level Far End Cross Talk)
7. Propagation Delay

8. Delay Skew
9. Return loss
10. PSFEXT (Power Sum Far End Crosstalk)
11. Attenuation to Cross Talk Ration (ACR)
12. PSACRF (Power Sum Attenuation to Crosstalk Ratio, Far End)

I. Category 6A cables shall be tested for, and comply with, all of the above and TIA-568-2 standards related to the following:

1. AACRF (Alien Attenuation to Crosstalk Ratio, Far End)
2. AFEXT (Alien Far End Crosstalk)
3. ANEXT (Alien Near End Crosstalk)
4. PSANEXT (Power Sum Alien Near End Crosstalk)
5. PSAACRF (Power Sum Alien Attenuation to Crosstalk Ratio, Far End)

J. Category cables terminated with a Field-installable modular plug shall be tested using the Modified Permanent Testable Link (MPTL) procedures as specified inANSI/TIA-568-2.D, to wit:

1. The MPTL consists of a jack at the patch panel end, and a Field-Terminable Modular Plug a the remote/device end. MPTL links may only be installed upon written instructions from the County.
2. The MPTL shall be tested with a Permanent Link Adapter on the Main Unit and a Patch Cord Adapter Suitable for Category 6A testing on the Far End or Remote Test Equipment
3. The Permanent Link Adapter RJ45 plug must meet the requirements for NEXT, FEXT and Return Loss in accordance with ANSI/TIA-568-2.D Annex C.
4. The Patch Cord Adapter must contain a test jack which meets the requirements for NEXT, FEXT and Return Loss in accordance with ANSI/TIA-568-2.D Annex C
5. Twisted pair Category 5e, 6, 6A, 7 or 7A patch cords are not permitted for testing as their performance degrades with use and can cause false Return Loss failures
6. All test parameters resulting from the MPTL test must comply with all of the above according to the rating of the cable system under test.

3.5 FIBER CABLE TESTING AND VERIFICATION

A. All optical fiber cables/strands must be tested in the end-to-end, completed system with a Fluke Opti-fiber Tier-2 optical fiber testing device and appropriate fiber mandrel that provides the following:

1. Measuring insertion loss
2. Analyzing the OTDR trace
3. Grading the connector end face
4. End face image of connector(s) embedded into certification report.

B. All tested fiber strands must meet the FOTP requirements put forth by TIA/EIA 526, TIA/EIA-455 (method-B), TIA/EIA 492AAAC, TIA/EIA TSB-63, and TIA/EIA TSB-140 requirements and the TIA-568-3 standard. Any optical fibers failing to meet these standards or the more stringent performance requirements stated above, must be removed and replaced, at no cost to the Owner, with fibers that prove, in additional testing, to meet or exceed the performance standards set forth.

C. Optical fiber splices, fusion or mechanical, shall not exceed a maximum optical attenuation stated in section 2, above, when measured in accordance with field

testing procedures

D. The system loss measurements shall be provided at 850 and 1310 nanometers for multimode fibers and 1310 and 1550 nanometers for single-mode fibers.

E. The testing of all optical fiber cables shall include bi-directional, end-to-end tests using both a hand-held Optical Time Domain Reflectometer (OTDR) and a light power meter testing device. The signature trace of the cable must include each of the following:

1. Attenuation per kilometer
2. Attenuation uniformity
3. End-to-end integrity
4. Total length of each strand
5. Total insertion light loss
6. Insertion loss at each incident throughout the cable path

F. After Optical fiber verification testing in one (1) direction has been completed and certified, all optical fiber strands are to be measured in the opposite direction. All test parameters shall be indicated for both directions on each strand in the test documentation.

G. All fiber test results shall include an image of both connector end faces embedded into the final test report (hard and soft copy) for a baseline reference of each connector.

H. The allowable loss budges shall be as follows:

1. MMF: (All cable loss per km) x (km of fiber in link) + (0.30dB LOMMF)x (number of connectors) = maximum allowable loss
2. Loss numbers for the installed link shall be calculated by taking the sum of the bi-directional measurements and dividing that sum by two.
3. Any link not meeting the requirements of the standard shall be brought into compliance by the contractor at no charge to the Owner.

I. Any installed component in the TIA/EIA fiber-related and/or industry standard verifications testing parameters found to be below performance standards for that particular channel and/or link, testing procedure, and manufacturer specified performance criteria shall be immediately replaced and retested by the Trade Contractor at no additional cost to the Owner until all deficiencies are rectified to the satisfaction off all testing procedures.

3.6 TEST DOCUMENTATION

A. A complete set of test results shall be presented to the Designer and Owner at least one (1) week before the placement of active electronics in the IT spaces. The Trade Contractor shall identify the types of cable tester(s) used during the testing and verification when presenting the results for each type of cable and each test procedure, unless otherwise indicated.

B. All verification and test results shall be submitted to the Designer and Owner in both paper and electronic formats printed directly from the testing device software application. Paper results must be neatly presented in a three (3) ring binder and

sectioned according to floor and cable type, OSP, Category-6A, Category-6, (and Category-5e, Category-3 if appropriate), and optical fiber cables must be divided into separate sections with each floor. Electronic results must be presented on CD-ROM disc(s) in the testing device's native file type with a copy of the electronic software used to generate the test results for review by the Owner, Designer and the contractor selected connectivity and cable group representative(s).

C. Trade Contractor shall warrant in writing that one hundred percent (100%) of the installation meets requirements specified under subsections above. Owner reserves the right to conduct, using Trade Contractor equipment and /or labor, a random re-test of up to five (5) percent of the cable plant to confirm documents results. Complete (100%) random re-testing, if performed, shall be at the expense of the Owner, using standard labor rates if no failures are found. If any failures are found in the 5% verification testing performed by the Owner, the re-testing expense shall be the Trade Contractor's. Any failing cabling shall be re-tested and restored to a passing condition. In the event more than two percent (2%) of the cable plant fails during re-test, the entire cable plant shall be re-tested and restored to a passing condition at no additional cost to the Owner.

3.7 FIRE STOP – PENETRATION SEALANT

A. Provide fire-resistant materials of a type and composition necessary to restore fire ratings to all wall or floor ceiling penetrations. Material must be properly classified and meet all national and local codes.

B. All penetrations through fire rated floors and walls shall be sealed to prevent the passage of cold smoke, fire, toxic gas or water through the penetrations, before, during or after a fire. The fire rating of the penetration seal shall be at least that of the floor or wall into which it is installed, so that the original fire rating of the floor or wall is maintained as required by Article 300-21 of the National Electrical Code.

C. No flammable material may be used to line the chase or hole in which the firestop material is to be installed.

D. All damming materials to be left in place after the seal is complete shall be non-flammable.

E. The sealant shall remain resilient and pliable to allow the removal and or addition of cable without necessity of drilling holes. It shall adhere to itself perfectly to allow any and all repairs to be made with the same material. It shall allow for

vibration, expansion and/or contraction of anything passing through the penetration without affecting the seal, or cracking, crumbling and spalling.

F. When sealant is injected into a penetration, the material shall expand to surround all the items within the penetration and maintain pressure against the walls of the penetration as well as the pass-through items. The material shall cure within five minutes and be fire resistant at that time. No heat shall be required to further expand the material to prevent the passage of fire and smoke or water.

G. The materials shall have been subjected to fire exposure in accordance with standard time-temperature curve in the Standard, UL ASTM E 119 and NFPA 251. The fire stop material shall have also been subjected to the hose stream test in accordance with UL 10B.

3.8 AS BUILT DRAWINGS AND CABLE LIST

A. The Contractor shall provide the following "As-Built" drawings to the owner. These as-built drawings shall include all work described within this specification section, including, but not limited to the following:

1. A complete backbone connectivity diagram showing backbone interconnection and cable routing. Each cable type and routing shall be

noted.

2. Finalized, detailed elevations of the Voice and Data MDF illustrating all punch- down locations and rack elevations.
3. Finalized, detailed elevations of the IDF(s) illustrating punch-down locations and equipment rack locations
4. Finalized equipment rack elevations illustrating vertical location of termination hardware (e.g. fiber boxes, patch panels, etc.) within all telecommunications areas.
5. Finalized outlet layout floor plans including room/area numbers, outlet numbers and the corresponding cable identification numbers.

3.9 MANUFACTURER'S LITERATURE

A. Where the Specifications and/or Project Drawings call for an installation to be made in accordance with the Manufacturer's recommendations, a copy of such recommendations shall always be kept on the job site, and shall be available to the Owner.

B. Contractor shall follow manufacturer's instructions where they cover points not specifically indicated on Project Drawings and Specifications. If said instructions differ from the Project Drawings and Specifications, it is the responsibility of the

Contractor to obtain clarification from the Owner in writing before commencing work.

3.10 TRAINING

A. Provide training for the Owner-appointed employees to operate and maintain the installed technology utility system. Training will include two (2) full day sessions that include, but are not limited to: a description of the system, a tour of the facilities, and a manufacturer-provided tutorial on using the cable testers and documentation software.

3.11 ACCEPTANCE

A. The installation will not be accepted until all work is complete and properly documented, as noted above and in the Project Drawings and not until all punch list items discovered are completed to the Owner's satisfaction and after the successful completion of the Acceptance period.

B. Following the completion and compliance of all requirements noted above and in Division One, the Owner will issue a Notice of Completion confirming that the Technology Portion of the project is complete. A forty-five (45) day Acceptance period will begin immediately following the issuance of this Notice of Completion

C. During the acceptance period, the Voice Data Communication System, as described herein and in the Project Drawings, must be up and operational. If there is a major system failure, the Acceptance period will begin again, once the failure is resolved and the system is back up and running. Major system failures are defined as failures that impact 10% or more of the user connections.

D. This Acceptance period shall be considered outside any Warranty period provided by the Contractor or Manufacturer. Once the forty-five (45) days Acceptance period has successfully passed, the Warranty period shall begin.

E. The project manager must be available to answer questions about the installation and to attend site visits and meetings during the acceptance period, as deemed necessary by the Owner.

F. Contractor shall submit all applications for Manufacturer extended warranty on behalf of Owner before completion of the Acceptance Period.

END OF SECTION 27 05 00

SECTION 28 1 600 - INTRUSION ALARM SYSTEM

PART 1 - GENERAL

1.1. Description of Work:

A. Furnish and install all materials and equipment including all required equipment, panels, raceways, conductors and connections, and provide all labor required and necessary to complete the work shown on the drawings and/or specified in all Sections of Division 26 and all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete intrusion alarm system installation including all accessories and appurtenances required for testing the systems. It is the intent of the drawings and specifications that all systems will be complete, and ready for operation. No extra charge will be paid for furnishing items required by regulations, but not specified herein, or on drawings.

1.2 Related Work:

A. Division 00 General Conditions, Division 01 General Requirements.

B. See the following specification sections for work related to the work in this section.

1. All other sections of Division 26.
2. All other sections of Division 27.

1.3 Submittals:

A. In accordance with Division 26.

B. Submit the following items:

1. Manufacturer’s Catalog Data: Manufacturer’s original catalog cuts and original description of data of all material and equipment with sufficient information provided so that the exact function of each device is known. Each item supplied shall be clearly identified.

2. Battery Calculations - Verify that battery capacity exceeds supervisory and alarm power requirements by a minimum of 20%.

3. Floor plan of the point to point connections.

4. Diagram of the power circuitry.

5. Riser diagram.

1.4 Quality Assurance:

A. Installer: The installation firm shall be an established communications and electronics contractor with a current California C-7 license and at least 5 years successful installation experience of products utilizing integrated intrusion systems and equipment specific to that required for this project. Provide proof of license to Owner.

B. All materials, unless otherwise specified, shall be new, and free from any defects. All items of equipment including wire and cable shall be designed by the manufacturer unless otherwise specified, shall function as a complete system and shall be accompanied by the manufacturer’s complete service notes and drawings detailing all interconnections.

C. The Contractor shall show satisfactory evidence, upon request, that he maintains a fully equipped service organization capable of furnishing adequate inspection and service to the system. The contractor shall maintain at his facility the necessary spare parts in the proper proportion as recommended by the manufacturer to maintain and service the equipment being supplied.

D. The system manufacturer shall maintain engineering and service departments capable of rendering advice regarding installation and final adjustment of the system.

1.5 Warranties:

A. The contractor shall warrant all equipment and wiring free from inherent mechanical and electrical defect for one year (365 days) from the date of final acceptance. The contractor shall, without additional expense to the owner, replace, in a timely manner, any defective materials or equipment provided by him under this contract within the warranty period.

PART 2 – PRODUCTS

2.1 Intrusion Alarm Control Panel: Contractor shall verify all part numbers are the most current and provide most current products at no additional cost to the Owner.

A. Control Panel: Enclosure complete with (2) Bosch DX4020 Conettix Ethernet network and Power Sonic PS-1270 12V 7AH battery. Bosch D9412GV2-C with an additional Bosch D8103 & D101 enclosure, lock and key.

B. Enclosure to include sufficient 8-point expanders to support homerun cables to each device. Bosch D8128D Octopopit.

2.2 Power Supply

A. 12 VDC, 5 amp uninterruptible power supply with multi-regulator and battery charger in vented locking 11”H x 15”W x 4”D cabinet. AlarmSaf AS/PLS-12050-B03-UL.

2.3 Motion Detectors

A. Wall mounted passive infrared type. Bosch DS840 with gimble mount B335-3.

2.4 Exterior Bell

A. Amesco ABB-1014 to match site standard.

2.5 Key Pads

A. Wall mounted alarm set/disable keypad with illuminated 16-character vacuum fluorescent display and sounder. Off-white case. Bosch D1255.

2.6 Cable:

A. #22/4 Conductor cable. West Penn 25241.

B. #18/4 Conductor cable. West Penn 25244.

C. #89-610 Barrier Strips for consolidation of power wires at the panel end. Ideal 89 series.

D. Superior Essex 66-272-3B CAT 6+ data cable grey in color. 2 cables from the Intrusion panel shall be terminated on the designated rack at the nearest IDF room.

E. All cable run outdoors or underground shall be U.L. listed type for such locations.

F. All cabling in plenum rated areas shall be plenum rated.

PART 3 – EXECUTION

3.1 General

A. All wiring in walls and hard ceilings shall be installed in conduit. Exposed wiring installed concealed above suspended ceilings is acceptable. Exposed wiring shall be supported on rings or J hooks not to exceed 48 inches on center. Cable sag shall not exceed more than 12" max. Separation of a minimum of 4" is required between low voltage systems throughout the cable run.

B. Each device shall have a homerun from the device to the security panel. No daisy chaining of power or alarm circuit wiring is permitted.

C. End-of-line resistors shall be installed at the device end, not at the panel end.

D. All devices shall be labeled and each end of the device. All cables are to be labeled with a p-touch labeler on both ends.

E. All point assignments shall be coordinated and approved by the Owner's IT personnel prior to termination of device cabling at panel end.

3.2 Tests:

A. Field Inspection and Test:

1. Before final acceptance of the work, pre-test system to demonstrate compliance with the contract requirements. System shall be subjected to complete functional and operational tests, including tests in place of each motion sensor.

2. Perform the field inspection and test in the presence of the manufacturer's representative, the owner's representative and Project Inspector of Record (IOR).

3. Test equipment: It shall be the responsibility of the installing Contractor to furnish tools, instruments, and materials required for a thorough test of the system.

3.3 Start Up: Assist:

A. Contractor shall assist Owner with system start up, for a complete and operational system. Provide sixteen (8) hours minimum system training. The Contractor shall provide (2) copies of manufacturer's literature.

B. Contractor shall provide an additional (8) hours of assistance, at the site, 30 days after initial systems training.

3.4 Project Closeout:

A. As Built Drawings:

1. Provide a complete set (full size scalable) of reproducible “as-built” and AutoCAD format drawings showing installed wiring, color coding, and wire tag notations for exact locations of all installed equipment, specific interconnections between all equipment, and internal wiring of the equipment upon completion of system.

B. Operating and Instruction Manuals:

1. Operating and Instruction manuals shall be submitted prior to testing of the system. Four complete sets of operation and instructions manuals shall be delivered to the owner upon request.

2. Complete, accurate, step-by-step testing instructions giving recommended and required testing frequency of all equipment, methods for testing each individual piece of equipment, and troubleshooting manual explaining how to test the preliminary internal parts or each piece of equipment shall be delivered upon completion of the system.

C. Maintenance instructions shall be complete, easy to read, understandable, and shall provide the following information:

1. Instructions on replacing any components of the system, including internal parts.

2. Instructions on periodic cleaning and adjustment of equipment with a schedule of these functions.

3. A complete list of all equipment and components with information as to the address and telephone number of both the manufacturer and local supplier of each item.

4. User operating instructions shall be provided prominently displayed on a separate sheet located next to the control unit.

END OF SECTION 28 16 00

SECTION 28 23 00 - SURVEILLANCE SYSTEMS

PART 1 – GENERAL

1.1 General Requirements:

A. Division 00 General Conditions, Division 01 General Requirements apply to the work of this section.

1.2 Description of Work:

A. Unless otherwise noted the work of this Section consists of providing all required labor, supervision, materials and equipment to satisfactorily complete the installation as shown on the Drawings, included in these specifications, or otherwise needed for a complete and fully operating surveillance system.

B. Furnish and install all required in-place equipment, conduits, conductors, cables and any miscellaneous materials for the satisfactory interconnection and operation of the surveillance system.

C. CAT 6 cabling and camera power cables shall be installed and tested by the contractor per District guidelines and standards. Contractor shall terminate CAT 6 cabling into patch panel as shown on drawings, provide enough slack for the camera power supply cable to be able to reach any area of the MDF.

D. It is the intent of the Drawings and Specifications to provide a surveillance system ready for use. Any item not specifically drawn or called for in the Specifications, but normally required for a complete system, is considered to be part of the Contract.

1.3. Related Work:

A. This section shall be used in conjunction with the following specifications and related Contract Documents to establish the complete requirements for basic communications materials and methods.

1. All sections of Division 26.

2. All sections of Division 27.

1.4 Submittals:

A. Manufacturer’s literature describing the product.

B. Wiring diagrams clearly showing the interconnections of all major components.

1.5 System Description:

A. Provide color video communications between points of surveillance indicated on the building and the campus monitoring station. The system includes cameras, transceivers, video receivers and wiring.

1.6 System Operation:

A. The security cameras mounted on the building exterior shall send video signals back to the campus monitoring station located in the MDF room. The video signals will be displayed on the command center console.

PART 2 – PRODUCTS

2.1 General:

A. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.

B. All systems and components shall be provided with a 5 business day repair or parts replacement. The repair and parts shall be warranted by the manufacturer on warranty and non-warranty items.

2.2 Cameras:

A. Stationary Cameras:

1. Weatherproof vandal proof color dome camera with built-in LEDs and anti-reflective technology with 650TBMT junction box. Each camera shall be installed with a passive video transceiver; Speco Technologies HT650IRVFHQ.

2. Passive video transceiver device shall be capable of transmitting and receiving baseband monochrome or color video signals over unshielded twisted-pair (UTP) telephone wire to a passive transceiver up to a distance of 750 feet (225 m) without requiring power at either end; Network Video Technologies NV-214A-M.

3. Active receiver distribution amplifier hub device shall be capable of receiving sixteen baseband monochrome or color video signals over UTP telephone wire up to a distance of 1 mile (1.6 km) when used with an active transmitter. NTSC distances up to 8,000 ft (2.4 km) shall be achieved when using Category 5 cable; Network Video Technologies NV-1662.

4. Power to supply to surveillance cameras and accessories. The unit shall provide 12 VDC distributed via eight (8) fused or PTC protected outputs with a total of 4 amp or 6 amp total supply current; Altronix ALTV1224C 8-12VDC outputs. (mounted in MDF or IDF)

B. Pan-Tilt-Zoom Cameras:

1. GE PTZ security camera 8" P.N. CYB-D9-D18N or GE PTZ security camera 7" P.N. CYB-R9-D18N depending on mounting applications.

2. Mounting Hardware:

a. Swing Arm Mount; GE Security GEA-104

b. Corner Mount Adapter; GE Security GEA-105

c. Pole-Mount Adapter; GE Security GEA-106

d. Cast Aluminum Wall Arm for Rugged Housing or 7" Pendant Housing GE Security GEA-102

3. PTZ Controller Keyboard and Components;

a. Controller Keyboard for Digiplex Systems GE Security KTD-405

b. I/O box, XFMR, 8C CBL, N. America plug; GE Security. KTD-405 I/O Box

c. 24 VAC/100 VA outdoor power supply; GE Security KTP-24

d. RS422 Data Signal Distributor; GE Security. KTD-83

C. PTZ Power Supply:

1. Dome Camera Power Supply, 8 Isolated and Fused 24 VAC Outputs, 400VA (to be mounted in the IDF or MDF); GE Security KTP-24-8I-400

2.3 Digital Video recorder and Accessories:

A. Security digital video recorder (DVR) shall be capable of recording sixteen discrete inputs with storage capacity of 320 GB. GE Kalatel DVMRE-16CTII-320 to be installed in MDF.

B. Install one Chatsworth single sided shelf part no. 40074-500 in MDF

C. Rack mounted power distribution unit shall be a 19 inch wide 20 amp 125V horizontal unit with eight 5-20R receptacles and a standard 10 foot power cord with 5- straight blade plug, Geist RCURN082-102D20ST5 to be installed in the MDF.

D. Each camera receives a Superior Essex CAT6 Yellow 66-272-6B and a West Penn 224 18/2 Stranded cable. Both cables are to be homeruns to the IDF. The CAT6 cable lands on its designated patch panel on a CAT6 Yellow jack Leviton 61110-RY6. The 18/2 terminates onto its respective power supply.

PART 3 – EXECUTION

3.1 General:

A. Install in accordance with manufacturer's instructions.

B. The Contractor shall meet with District representatives to confirm the locations of cameras, field of view requirements, and lens types for cameras to yield optimum coverage of areas indicated.

C. Conduit, Wire and Raceways

1. Conduit runs shall have a maximum of three 90 degree bends or any combination of bends not to exceed 270 degrees and/or be a maximum of 100 feet between pull boxes. Conduit bending radius shall meet signal cable requirements to minimize attenuation at each bend.

2. Conduit penetrations through roofs, outside walls, or fire-rated walls shall be made watertight using approved fire block.

3. All equipment, wiring, and conduit shall be installed in a manner that does not subject the system to the potential of tampering by unauthorized personnel.

4. No field splicing shall be permitted.

D. The contractor shall coordinate, provide and test all wiring.

3.2 Identification:

A. Cable: Cables shall be labeled at each end and in every panel, junction box, and at each field device termination. All cameras are to be labeled with designated device number (see drawing).

B. The contractor shall provide tags, straps and adhesive labels. These tags, straps and adhesive labels shall be of high quality that will endure heat, water and time.

C. Shall meet the legibility, defacement, exposure and adhesion requirements of UL 969.

D. Shall be printed using a mechanical means of printing.

E. Where used for cabling marking, provide vinyl substrate with a white printing area and clear “tail” that self laminates the printed area when wrapped around the cable. The cable marking shall be immediately visible and within two inches from the termination point.

F. Where insert type labels are used, provide clear plastic cover over label.

G. Copper patch panel labeling shall be completed with adhesive labeling kit specifically designed for the Leviton 49257-QHD panel.

H. Labeling P-touch font size 4MM bold, black on white, 3/8” labeling tape on all panel and devices.

I. Labels shall be numbered consecutively and separate for each type of use. Refer to Work Station Details for additional information.

3.3 Test and Adjust:

A. Adjust camera orientation and coverage in the presence of the District’s Representative.

B. Adjust manual lens irises to meet lighting conditions.

C. Verify signal clarity at campus monitoring station. All cameras must be 100% operational through DVR.

D. The Contractor shall perform an operational check to assure that the system complies with all requirements of these specifications. Operational tests shall be made in the presence of the Owner. Any system material or equipment found to be defective shall be replaced by the Contractor at no additional cost to the Owner.

3.4 Cleaning:

A. Clean and touch up all components to the satisfaction of the Owner.

B. All lenses, equipment enclosures, windows and monitors to be free from scratches, marks, etc., and clean.

3.5 As Built Documentation:

A. The Contractor will be provided drawings in electronic format (DWG, AutoCAD release 14 or later) on which as-built construction information can be added.

B. Upon completion of the project, the Contractor is to prepare as-built documentation showing actual site conditions and installation as constructed.

C. the Contractor shall annotate the base drawings and return a hard copy and electronic form (AutoCAD release 14 or later).

D. The Contractor shall provide and install a C-size framed floor plan with outlet and device locations for all low voltage systems in new MDF room. The drawing shall be a floor plan of the building with a symbols legend showing where all the devices are and labeling for each device only. Remove all general notes and details not applicable to the low voltage system

END OF SECTION 28 23 00

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November 19, 2020

Ms. Florence Kabwasa-Green
County of Monterey, Resource Management Agency
Public Works and Facilities
1441 Schilling Place – South, 2nd Floor
Salinas, California 93901

Subject: **Geotechnical Update Report and Plan Review**
Proposed Behavioral Health Center - East Salinas
331 North Sanborn Road, Salinas, California 93905
PSI Project No. 575-1400-2

Dear Ms. Kabwasa-Green:

As requested by your project architect, Mr. Paul Davis, Professional Service Industries, Inc. (PSI), an Intertek company, has completed a geotechnical review of the referenced plans for the subject project in Salinas, Monterey County, California.

Upon our initial review of the plans, we noted that the location of the proposed structure has changed significantly; moved to the opposite corner of the subject property from what was proposed at the time of our initial geotechnical study (PSI, 2018). Our 2018 study only includes subsurface data to a depth of about 5 feet in the area of the currently proposed building envelope. As such, we have performed a geotechnical study update along with the plan review to evaluate the subsurface foundational bearing soils within the newly proposed building envelope and to evaluate our geotechnical recommendations included in our 2018 report remain applicable.

The update and plan review were performed in accordance with our Additional Service Agreement No. 0575-1400-1 dated August 20, 2020. Our services were authorized through issuance of a Purchase Order (DO# 25375, dated September 18, 2020) in response to our Service Agreement.

Geotechnical Study Update

Pre-Field Activities - Prior to initiation of field drilling activities, PSI outlined the site and marked the proposed boring locations in white paint and contacted Underground Service Alert (USA) a minimum of 48 hours prior to beginning work to locate any potential buried utilities. The USA inquiry identification number (or Ticket Number) for the utility locate request was # X025500459.

Field Exploration - In order to evaluate soil conditions within the currently proposed building envelope at the subject site and to collect representative soil samples, PSI advanced 2 Standard Penetration Test (SPT) soil borings (B-7 and B-8) to supplement those drilled for our 2018 study. The SPT borings were drilled by HEW Drilling of East Palo Alto, California with a CME-75 truck-mounted drill rig using hollow-stem auger drilling methods and were both advanced to a depth of approximately 21½ feet below the ground surface (bgs) within the area of the proposed structure. Locations of the soil borings, as well as the proposed structure, are shown on Figure 1.

During the drilling procedure, Standard Penetration Tests (SPT) were performed in accordance with ASTM D1586 and relatively undisturbed samples were obtained in general accordance with ASTM D3550. The SPT for soil borings were performed by driving a 2-inch diameter split-spoon sampler into the undisturbed subsurface materials located at the bottom of the advanced borehole with repeated blows of a 140-pound hammer falling a vertical distance of 30 inches. The number of blows required to drive the sampler the last 12 inches of an 18-inch penetration depth is a measure of the soil consistency. For ASTM D3550 (California Modified Sampler) the split barrel sampler possesses a 3-inch outside diameter and is driven in the same manner as the SPT. The field blow counts obtained from the California Modified sampler, as indicated in the boring logs, are multiplied by a factor of 0.65 to obtain an approximate correlation to SPT blow counts (SPT-N value). Samples were identified in the field, placed in sealed containers, and transported to the laboratory for further classification and testing. At the completion of the drilling operations, the borings were backfilled with soil cuttings to match the existing surface grade.

Subsurface Conditions – In the areas explored, the site is generally surfaced with fill; B-7 encountered approximately 3 feet of hard lean clay (CL) and silt (ML) and B-8 encountered about ½ foot of loose sand (SP). Beneath the fill, the native subsurface soil encountered at the boring locations generally consists of lean clay (CL), silty lean clay (CL-ML), silt and sandy silt (ML) extending to a depth of between approximately 11 and 15½ feet bgs, underlain by about 3 to 5 feet of poorly graded sand (SP) and silty sand (SM) to depths of between about 16 and 18½ feet bgs. Beneath these sands, silt and sandy silt (ML) were encountered to the maximum depth explored of approximately 21½ feet bgs. The consistency of the fine soils was observed to be generally stiff to hard, while the sands (except for the surficial fill) were generally medium dense, in terms of the standard penetration tests performed.

Laboratory Evaluation - Selected samples of the subsurface soils encountered were returned to our laboratory for further evaluation to aid in classification of the materials, and to help assess their strength and expansive nature. The laboratory evaluation consisted of visual and textural examinations, moisture and density tests, Atterberg Limits testing, and Expansion Index testing.

Results of our laboratory testing indicate the tested soils have moisture contents between about 9 and 23 percent. An Expansion Index (EI) test performed on a bulk, near-surface composite soil sample from

Borings B-7 and B-8, resulted in an EI of 70 ("medium" expansive potential). The Atterberg Limits test results indicate the near-surface soils are lean clay with tested plasticity index values of PI=5 and PI=11 ("low" plasticity). Laboratory test data along with detailed descriptions of the soils can be found on the Boring Logs in the Appendix. Samples that were not altered by laboratory testing will be retained for 30 days from the date of this report and will then be discarded.

Conclusions - The soils encountered in our supplemental borings (B-7 and B-8) are generally consistent with those encountered in our 2018 study. As such, it is our opinion that the geotechnical recommendations given in our referenced study (PSI, 2018) should be considered applicable to the currently proposed structure in the revised location.

Plan Review

Grading and Structural Plans were reviewed from a geotechnical perspective. The plans reviewed are referenced below. The purpose of our plan review was to present our opinion as to whether the referenced plans have been prepared in general accordance with the recommendations presented in our referenced report (PSI, 2018). Based on our reviews of the referenced plans, and following our edits to these plans, it is our opinion that the geotechnical aspects of the referenced plans are in general conformance with the recommendations of the referenced report.

Construction Observations

We recommend that PSI be retained to evaluate over-excavation, exposed subgrades, and to perform foundation bearing surface evaluations during project construction in order to verify that soil conditions are as anticipated. We further recommend that any structural fills be continuously observed and tested by a PSI representative in order to evaluate the thoroughness and uniformity of their compaction. If possible, samples of fill materials should be submitted to our laboratory for evaluation prior to placement of fills on-site as this testing takes several days.

Limitations

The conclusions contained in this letter are based on our field explorations, a review of our previous geotechnical study, and of the referenced Structural and Civil Plans furnished to us for the proposed project. If there are any revisions to the plans for this project, or if deviations from the subsurface conditions noted in our referenced reports are encountered during construction, PSI should be notified immediately to determine if changes in our recommendations are required. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

Services performed by the geotechnical engineer for this project have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this area. No warranty either expressed or implied is made.

We appreciate the opportunity to perform this Geotechnical Update and Plan Review and look forward to continued participation during the construction phase of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted for,

PROFFESSIONAL SERVICE INDUSTRIES, INC.

REGISTERED GEOLOGIST • STATE OF CALIFORNIA • BRAND W. BURFIELD NO. 6986

Brand Burfield, PG
Project Geologist

REGISTERED PROFESSIONAL ENGINEER DOUGLAS T. ABERNATHY GE 2547 Exp. 12/31/20 GEOTECHNICAL STATE OF CALIFORNIA

Douglas T. Abernathy, PE, GE
Senior Project Engineer

Reviewed by; Robert R. Russell, PE, GE
Principal Consultant

Attachments: Figure 1: Site Plan and Boring Location Map
Appendix A: Exploration Logs (B-7 and B-8)
Appendix B: Laboratory Test Results

References

1. Howard Carter Associates, Inc., revision dated June 30, 2020, Structural Plans for "Behavioral Health Center, 331 N. Sanborn Road, Salinas, CA 93905", APN 004-601-015-000, 19 Sheets, PN#2018-038.
2. Monterey County Resource Management Agency, April 14, 2020, "Building Review Plan Correction List," PN#19CP03569, 331 N. Sanborn, Salinas, CA.
3. Professional Service Industries, Inc. (PSI), August 30, 2018, "Geotechnical Engineering Report, Proposed Behavioral Health Center - East Salinas, 331 North Sanborn Road, Salinas, California 93905," PSI Project No. 575-1400-1.
4. Whitson Engineers, revision dated June 30, 2020, Civil Plans for "Behavioral Health Center, 331 N. Sanborn Road, Salinas, CA 93905", APN 004-601-015-000, 14 Sheets, PN# 3861.0.

FIGURE



N

0 60 120ft

APPROXIMATE SCALE

LEGEND

- PROPERTY BOUNDARY
- B-2 – SPT/INFILTRATION BORING (2018)
- B-6 – SPT BORING (2018)
- B-8 – SPT BORING (2020)
- LOCATION OF PROPOSED IMPROVEMENTS

NOTES

1. PROPOSED IMPROVEMENTS TAKEN FROM PROPOSED DEVELOPMENT PLAN, OVER GOOGLE MAPS AREAL PHOTO DATED 9/14/2018.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.

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Project Name:	Drawn By:	Date:	File No.:	Figure No.:
PROPOSED BEHAVIORAL HEALTH CENTER 331 NORTH SANBORN ROAD, SALINAS, CALIFORNIA	M.U.	10/20	1400-2-1	1
Title: SITE PLAN AND BORING LOCATION MAP	**Approved By:** R.R.	**Project No.:** 575-1400-2		

APPENDIX A

EXPLORATION LOGS

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.
HSA: Hollow Stem Auger - typically 3¼" or 4¼ I.D. openings, except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry
R.C.: Diamond Bit Core Sampler
H.A.: Hand Auger
P.A.: Power Auger - Handheld motorized auger

SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
BS: Bulk Sample
PM: Pressuremeter
CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
N_{60}: A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
Q_u: Unconfined compressive strength, TSF
Q_p: Pocket penetrometer value, unconfined compressive strength, TSF
w%: Moisture/water content, %
LL: Liquid Limit, %
PL: Plastic Limit, %
PI: Plasticity Index = (LL-PL),%
DD: Dry unit weight, pcf
▼,▽,▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Relative Density	N - Blows/foot
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50+

ANGULARITY OF COARSE-GRAINED PARTICLES

Description	Criteria
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

Component	Size Range
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (¾ in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to ¾ in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

Description	Criteria
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

Descriptive Term	% Dry Weight
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

Q_U - TSF	N - Blows/foot	Consistency
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Medium Stiff
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30+	Hard

MOISTURE CONDITION DESCRIPTION

Description	Criteria
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term	% Dry Weight
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

Description	Criteria
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided:	Fracture planes appear polished or glossy, sometimes striated

Description	Criteria
Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed:	Inclusion of small pockets of different soils
Layer:	Inclusion greater than 3 inches thick (75 mm)
Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

Q_U - TSF	Consistency
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

Description	Criteria
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

Voids	Void Diameter
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

(Typically Sedimentary Rock)

Component	Size Range
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION

Rock Mass Description	RQD Value
Excellent	90 -100
Good	75 - 90
Fair	50 - 75
Poor	25 -50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

BORING B-7

DATE STARTED:	9/17/20	**DRILL COMPANY:**	HEW Drilling Co. Inc.
DATE COMPLETED:	9/17/20	**DRILLER:** Perfecto	**LOGGED BY:** B. Burfield
COMPLETION DEPTH	21.5 ft	**DRILL RIG:**	CME 75
BENCHMARK:	N/A	**DRILLING METHOD:**	8" Hollow Stem Auger
ELEVATION:	N/A	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LATITUDE:	36.679°	**HAMMER TYPE:**	Automatic
LONGITUDE:	-121.6259°	**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	R. Russell

Water ▽ Not encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ Moisture × PL ◪ LL ✚ (0, 25, 50) STRENGTH, tsf Qu ▲ Qp ✳ (0, 2.0, 4.0)	Additional Remarks
	0			1	18	**Lean CLAY**, dark brown, damp, moist, trace rootlets and organics **(FILL)**	CL	13-29-22 N=33	9		
						SILT, light olive-brown, moist, hard, few fine to coarse sand **(FILL)**	ML				
				2	18	**Lean CLAY**, medium olive-brown, moist, very stiff, fine to coarse sand **(NATIVE)**		9-12-16 N=28	11	>>✳	LL = 27 PL = 16
	5			3	18	becomes dark olive, hard	CL	8-25-40 N=42	14	✳	DD = 118 pcf EI = 70
				4	18	**SILT**, medium olive, moist, very stiff, few fine to medium sand	ML	6-9-12 N=21	17	>>✳	
	10			5	18	**Sandy SILT**, medium olive-brown, moist, very stiff, fine sand	ML	7-11-14 N=25	17	✳	
	15			6	18	**Silty SAND**, medium brown, moist, medium dense, fine sand	SM	8-10-14 N=24			
	20			7	18	**SILT**, medium brown, moist, very stiff	ML	7-8-10 N=18			
						End of boring at 21-1/2 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

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4703 Tidewater Avenue, Suite B
Oakland, CA 94601
Telephone: (510) 434-9200

PROJECT NO.: 575-1400-2
PROJECT: Monterey County Public Works / Facilities
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-8

DATE STARTED:	9/17/20	**DRILL COMPANY:**	HEW Drilling Co. Inc.
DATE COMPLETED:	9/17/20	**DRILLER:** Perfecto	**LOGGED BY:** B. Burfield
COMPLETION DEPTH	21.5 ft	**DRILL RIG:**	CME 75
BENCHMARK:	N/A	**DRILLING METHOD:**	8" Hollow Stem Auger
ELEVATION:	N/A	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LATITUDE:	36.679°	**HAMMER TYPE:**	Automatic
LONGITUDE:	-121.6257°	**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	R. Russell

Water ▽ Not encountered

BORING LOCATION:

REMARKS:

Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	Additional Remarks
0	1	18	**SAND**, tan, dry, loose, fine to medium sand, trace fine to medium gravel **(FILL)**	SP	4-8-12 N=20	10	LL = 19 PL = 14
			Silty CLAY, dark brown, damp, very stiff **(NATIVE)**				
	2	18	becomes dark olive-brown, moist	CL-ML	7-11-19 N=20	23	DD = 101 pcf EI = 70
5	3	18	**SILT** with sand, light olive-brown, moist, hard, fine sand	ML	10-17-27 N=44	17	Some light tan calcium carbonate veins
	4	18	**Sandy SILT**, medium olive-brown, moist, very stiff, fine sand	ML	9-14-16 N=20	17	DD = 114 pcf
10	5	18	**Poorly graded SAND**, medium olive-brown, moist, medium dense, fine to medium sand, trace silt	SP	6-7-8 N=15		
			Silty SAND, medium olive-brown, moist, medium dense, fine sand	SM			
15	6	18	**Sandy SILT**, medium olive-brown, moist, stiff, fine sand	ML	5-6-7 N=13		
			SILT, light olive, moist, stiff	ML			
20	7	18			5-7-7 N=14		
			End of boring at 21-1/2 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).				

STANDARD PENETRATION TEST DATA
N in blows/ft ◎
× Moisture ◪ PL ✚ LL
0 25 50
STRENGTH, tsf
▲ Qu ✳ Qp
0 2.0 4.0

intertek psi
Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, CA 94601
Telephone: (510) 434-9200

PROJECT NO.: 575-1400-2
PROJECT: Monterey County Public Works / Facilities
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

APPENDIX B

LABORATORY TEST RESULTS

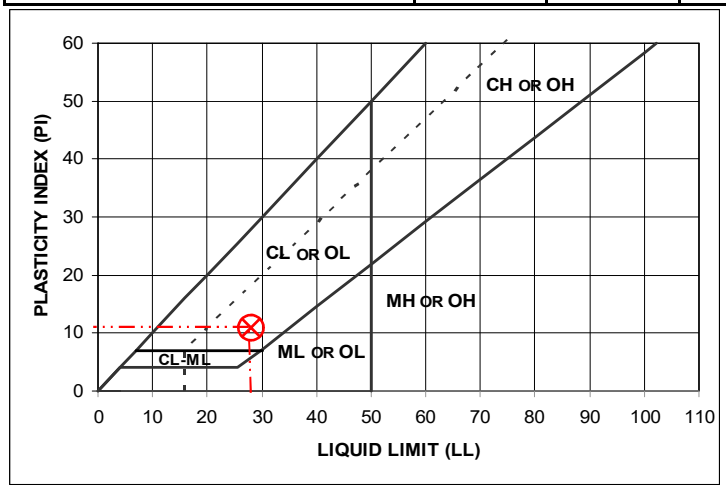
intertek psi
Total Quality. Assured.

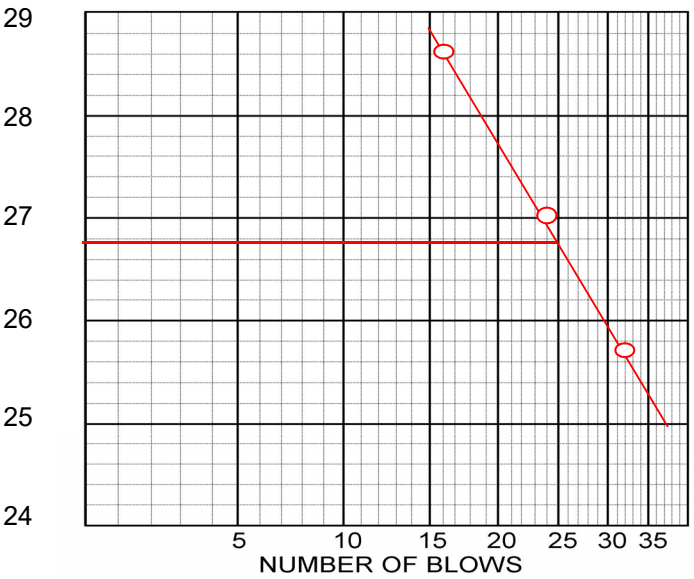
Atterberg Limits
(ASTM D4318-98 AASHTO T89/90)

Project Name:	**Monterey County - Salinas - Supplemental**	**Project Number:**	**575-1400-2**
Laboratory Number:	**0575 (Oakland, CA)**	**Date Tested:**	**9/24/2020**
Sample Description:	**B-7-3.0' (CL)**	**Tested By:**	**M. Uribe**

Equipment List:	**Scale: 01PS575/02PS575**	**Oven: VWR-1675**	**Liquid Limit Cup: 01LL575**

	LIQUID LIMIT				PLASTIC LIMIT		
CAN NUMBER	7	15	24		11	21	13
WEIGHT OF CAN	22.62	20.05	22.96		23.87	18.88	23.95
WEIGHT OF CAN + WET SOIL	31.91	30.01	34.29		31.55	27.43	31.73
WEIGHT OF CAN + DRY SOIL	30.01	27.89	31.77		30.49	26.27	30.64
WEIGHT OF WATER	1.9	2.12	2.52		1.06	1.16	1.09
WEIGHT OF DRY SOIL	7.39	7.84	8.81		6.62	7.39	6.69
MOISTURE CONTENT	25.7	27.0	28.6		16.0	15.7	16.3
NUMBER OF BLOWS	32	24	16				





Boring Number	**B-7**
Sample Depth (ft.)	**3.0**
Density	
Weight of Sample + Ring [a]	
Weight of Ring [b]	
Weight of Sample [c=a-b]	0
Diameter of Ring	2.4
Area of Ring [A]	4.52
Height of the Sample [h]	1
Wet Density of the Sample [d=(c*3.81)/(A*h)	0.00
Moisture Content	
Tare Number	65
Tare Weight (g) [e]	127.81
Wet Weight + Tare (g) [f]	349.31
Dry Weight + Tare (g) [g]	327.35
Weight of Water (g) [h=f-g]	21.96
Weight of Dry Sample (g) [i=g-e]	199.54
Moisture Content (%) [j=(h/i)*100]	11.0
Dry Density [k=d/(1+j/100)]	0.00

Liquid Limit	27
Plastic Limit	16
Plasticity Index	**11**

Equation of "A" – Line
Horizontal at PI=4 to LL=25.5,
Then PI= 0.73 (LL - 20)
Equation of "U" – Line
Vertical at LL=16 to PI=7,
Then PI= 0.9 (LL – 8)

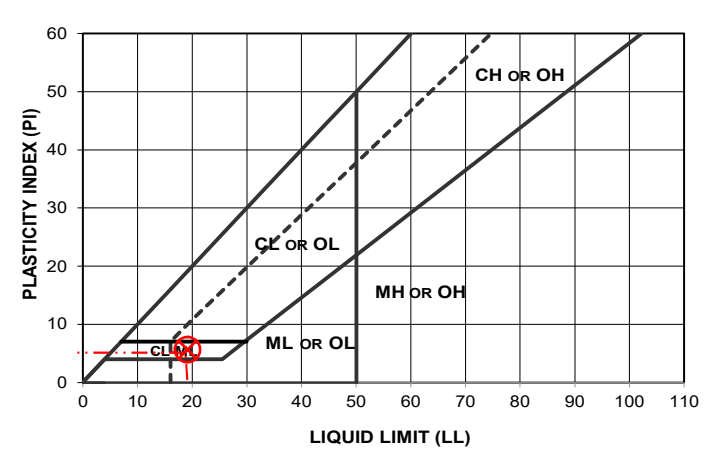
intertek psi
Total Quality. Assured.

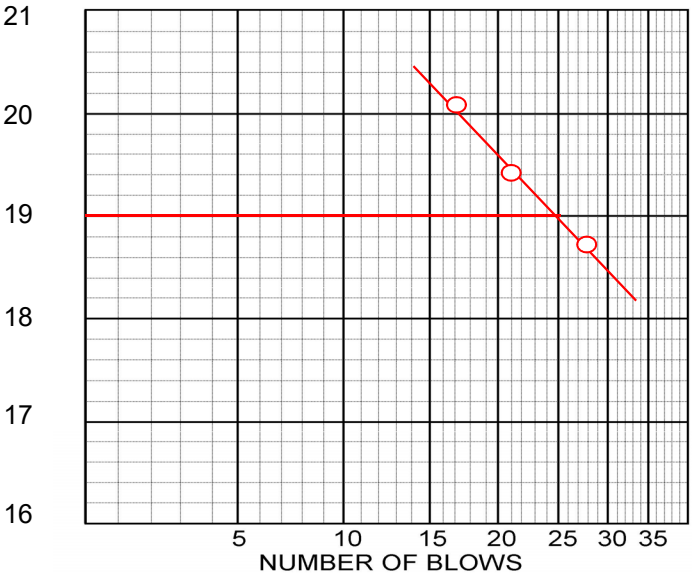
Atterberg Limits
(ASTM D4318-98 AASHTO T89/90)

Project Name:	**Monterey County - Salinas - Supplemental**	**Project Number:**	**575-1400-2**
Laboratory Number:	**0575 (Oakland, CA)**	**Date Tested:**	**9/24/2020**
Sample Description:	**B-8-0.5' (CL)**	**Tested By:**	**M. Uribe**

Equipment List:	**Scale: 01PS575/02PS575**	**Oven: VWR-1675**	**Liquid Limit Cup: 01LL575**

	LIQUID LIMIT				PLASTIC LIMIT		
CAN NUMBER	20	23	2		10	18	5
WEIGHT OF CAN	19.4	20.19	21.16		22.6	20.71	22.27
WEIGHT OF CAN + WET SOIL	29.75	28.87	31.86		31.49	30.08	31.8
WEIGHT OF CAN + DRY SOIL	28.12	27.46	30.07		30.39	28.87	30.59
WEIGHT OF WATER	1.63	1.41	1.79		1.1	1.21	1.21
WEIGHT OF DRY SOIL	8.72	7.27	8.91		7.79	8.16	8.32
MOISTURE CONTENT	18.7	19.4	20.1		14.1	14.8	14.5
NUMBER OF BLOWS	28	21	17				





Boring Number	**B-8**
Sample Depth (ft.)	**0.5**
Density	
Weight of Sample + Ring [a]	
Weight of Ring [b]	
Weight of Sample [c=a-b]	0
Diameter of Ring	2.4
Area of Ring [A]	4.52
Height of the Sample [h]	1
Wet Density of the Sample [d=(c*3.81)/(A*h)	0.00
Moisture Content	
Tare Number	54
Tare Weight (g) [e]	127.89
Wet Weight + Tare (g) [f]	293.28
Dry Weight + Tare (g) [g]	278.15
Weight of Water (g) [h=f-g]	15.13
Weight of Dry Sample (g) [i=g-e]	150.26
Moisture Content (%) [j=(h/i)*100]	10.1
Dry Density [k=d/(1+j/100)]	0.00

Liquid Limit	19
Plastic Limit	14
Plasticity Index	**5**

Equation of "A" – Line
Horizontal at PI=4 to LL=25.5,
Then PI= 0.73 (LL - 20)
Equation of "U" – Line
Vertical at LL=16 to PI=7,
Then PI= 0.9 (LL – 8)

EXPANSION ANALYSIS
ASTM - D4829

PROJECT NAME :	Monterey County-Salinas
PROJECT NUMBER:	575-1400-2
Sample Location:	B-7 & B-8 Composite
Date:	9/21/2020
Sample Depth:	6.0' & 3.5'
Tested By:	SE
Sample Description:	Brown Lean Clay (CL) + Fat Clay (CH)

RESULTS:

INITIAL READING:	0.460	
FINAL READING:	0.528	
RING HEIGHT:	1.000	in.
RING WEIGHT:	363.6	g
RING+SAMPLE WEIGHT:	739.5	g
WET WEIGHT-TARE:	133.6	g
DRY WEIGHT-TARE:	121.7	g
TARE WEIGHT:	30.3	g
EXPANSION INDEX (EImeas):	68	

w =	13.0
WET DENSITY=	113.5
$\delta_{d=}$	100.4
G_s=	2.70
δ_w=	62.4
S_{meas}=	51.9
EI_{50}=	70
$EI_{50\ corrected}$ =	70
Final Moisture Content =	26.6%

POTENTIAL EXPANSION: Medium

Expansion Index	Potential Expansion
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
>131	Very High

11980 Telegraph Road, Suite 104
Santa Fe Springs, CA
714-484-8600

GEOTECHNICAL ENGINEERING REPORT

Proposed Behavioral Health Center - East Salinas
331 North Sanborn Road
Salinas, California 93905

Prepared for

Ms. Florence Kabwasa-Green
County of Monterey, Resource Management Agency
Public Works and Facilities
1441 Schilling Place – South, 2nd Floor
Salinas, California 93901

Prepared by

Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, California 94601

August 30, 2018

PSI Project 0575-1400-1

Sean Schlitt
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August 30, 2018

Ms. Florence Kabwasa-Green
County of Monterey, Resource Management Agency
Public Works and Facilities
1441 Schilling Place – South, 2nd Floor
Salinas, California 93901

Subject: **Geotechnical Engineering Services Report**
Proposed Behavioral Health Center - East Salinas
331 North Sanborn Road, Salinas, California
PSI Project No. 575-1400-1

Dear Ms. Kabwasa-Green:

Professional Service Industries, Inc. (PSI), an Intertek Company, is pleased to submit our Geotechnical Engineering Services Report for the above-referenced project in Salinas, California. This report includes the results of field and laboratory testing and geotechnical recommendations for foundation, as well as general site development.

We appreciate the opportunity to perform this Geotechnical Study and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted,

PROFFESSIONAL SERVICE INDUSTRIES, INC.

Sean Schlitt
Staff Engineer

Robert R. Russell, PE, GE
Principal Consultant



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FIGURES

Figure 1: Site Location Map
Figure 2: Site Plan and Boring Location Map

APPENDIXES

Appendix A – Exploration Logs
Appendix B – Laboratory Test Results

1.0 PROJECT INFORMATION

1.1 Project Authorization

Professional Service Industries, Inc. (PSI) is pleased to submit our Geotechnical Engineering Services Report for the proposed Behavioral Health Center in Salinas, California. Our work was performed in general accordance with our proposal number 575-251766 dated August 2, 2018. Our services were authorized by Ms. Florence Kabwasa-Green of the County of Monterey in response to our proposal.

1.2 Site Location and Description

The subject site is located on the northwest side of North Sanborn Road at its intersection with Circle Drive in Salinas, California (see Figure 1 – Site Location Map). The site is rectangular in shape and measures a total of approximately 1.1 acres in plan area.

At the time of our field exploration, the site was mostly vacant and undeveloped, but the site was previously developed as a church. The church extended from the eastern corner across the site to the western corner. The northern quadrant was developed as a parking lot and the southern quadrant was left undeveloped. The site is bounded by Circle Drive to the north, North Sanborn Road to the east, a commercial property to the south and a county educational facility to the west.

In general, the site is predominantly flat, with site elevations obtained from Google Earth of approximately 80 feet above mean sea level.

1.3 Project Understanding

From information provided by you, PSI understands that it is planned to construct a 2-story office building with a footprint of 9,000 square feet for a total of 18,000 square feet for the proposed structure. The proposed building is to be located on the southeast corner of the subject property. Other improvements are to include utilities and pavements.

No structural loads were provided, however based on our experience with similar projects, we anticipate maximum column and wall loads for the building will be on the order of 80 kips and 4 kips per foot, respectively. For the purposes of this report, we have assumed finish exterior grades to be near (+/- two feet) existing grades.

A site plan with the approximate location of the proposed structure is presented as Figure 2. Should any of the above information or assumptions made by PSI be inconsistent with the planned construction, we request that you contact us immediately to allow us to make any necessary modifications to the recommendations in this report.

1.4 Purpose and Scope of Services

The purpose of our geotechnical evaluation was to assess the subsurface soil conditions at the site in order to provide appropriate recommendations for site preparation and foundation design. Our evaluation was in general accordance with the scope of work outlined in our Proposal Number 575-251766 dated August 2, 2018.

Our scope of services included a total of 6 hollow stem auger borings (HSA) with Standard Penetration Tests (SPT) performed at regular intervals, two of which were drilled to depths of up to approximately 31 feet below the existing ground surface (bgs) in the area of the proposed new structure, another to a depth of approximately 16 feet bgs in the area of the proposed new structure, one to a depth of approximately 6 feet bgs in the area of the proposed parking lot, the remaining two to depths of approximately 5 feet bgs to conduct infiltration testing, and the preparation of this geotechnical report. This report briefly outlines the testing procedures, presents available project information, describes the site and subsurface conditions, and presents geotechnical recommendations regarding the following:

- Site topographic information and surface conditions;
- Review of subsurface conditions including groundwater;
- Review of field and laboratory test procedures and test data;
- Information on potentially expansive, deleterious, chemically active or corrosive materials;
- Figures including a site plan with boring locations and boring logs;
- California Building Code (CBC) site class and seismic site coefficients for use in seismic design (CBSC, 2016);
- Site preparation and grading considerations, including recommended fill material characteristics and compaction requirements for general site fill and slab/pavement subgrades, including an assessment as to the suitability of on-site soils for use as fill;
- Recommendations pertaining to design and construction of foundations, floor slabs, concrete flatwork and pervious and impervious pavements, including allowable soil bearing pressures, anticipated bearing depths and estimated settlements;
- Comments regarding factors that may impact construction and performance of the proposed construction.
- Provide preliminary infiltration characteristics based on two infiltration tests performed.

The scope of services did not include an environmental assessment for determining the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for information purposes only.

2.0 SUBSURFACE EXPLORATION

2.1 Site Geology

The subject site is located within a large region known as the Coast Ranges geomorphic province. This province is characterized by extensively folded, faulted, and fractured earth materials. These structural features trend in a northwesterly direction and make up the prominent system of northwest-trending mountain ranges separated by straight-sided sediment-filled valleys.

The subject site is situated along the broad alluvial plain southwest of the Gabilan Range Mountains and northeast of the Salinas River Valley. Our observations and analysis of readily available, pertinent geologic literature indicate that the subject site is underlain by Quaternary-aged (Pleistocene) terrace deposits of Antioch (Dupre, 1980), described as moderately well to poorly sorted sand, silt and clay with interbedded gravel.

2.2 Pre-Field Activities

Prior to initiation of field drilling activities, PSI outlined the site and marked the proposed boring locations in white paint and contacted Underground Service Alert (USA) a minimum of 48 hours prior to beginning work to locate any potential buried utilities. The USA inquiry identification number (or Ticket Number) for the utility locate request was #W822700627-00W.

2.3 Field Exploration and Subsurface Conditions

In order to evaluate soil conditions at the subject site and to collect representative soil samples, PSI advanced 6 Standard Penetration Test (SPT) soil borings (B-1 through B-6). The SPT borings were drilled by HEW Drilling of East Palo Alto, California with a CME 75 truck-mounted drill rig using hollow-stem auger drilling methods. Two of the borings were advanced to a depth of approximately 31½ feet bgs and another to a depth of approximately 15½ feet bgs, all within the area of the proposed structure. The remaining three borings were advanced to depths of between approximately 5 and 6½ feet bgs within the area of the proposed parking lot with two being utilized for infiltration testing. Locations of the soil borings, as well as the approximate area of the proposed structure, are shown on Figure 2.

During the sampling procedure, Standard Penetration Tests (SPT) were performed in accordance with ASTM D1586 and relatively undisturbed samples were obtained in general accordance with ASTM D3550. The SPT for soil borings were performed by driving a 2-inch diameter split-spoon sampler into the undisturbed subsurface materials located at the bottom of the advanced borehole with repeated blows of a 140-pound hammer falling a vertical distance of 30 inches. The number of blows required to drive the sampler the last 12 inches of an 18-inch penetration depth is a measure of the soil consistency. For ASTM D3550 (California Modified Sampler) the split barrel sampler possesses a 3-inch outside diameter and is driven in the same manner as the SPT. The field blow counts obtained from the California Modified sampler, as indicated in the boring logs, are multiplied by a factor of 0.65 to obtain an approximate correlation to SPT blow counts (SPT-N value). Samples were identified in the field, placed in sealed containers, and transported to the laboratory for further classification and testing. At

the completion of the drilling operations, the borings were backfilled with soil cuttings to match the existing surface grade. The locations of the soil borings are shown on Figure 3.

In the areas explored, the site is generally surfaced with fill, consisting of between approximately 2 and 3 feet of medium stiff to very stiff lean clay with sand (CL) or medium dense sand (SP). Beneath the fill, the native subsurface soil encountered at the boring locations generally consists of lean clay (CL) extending to a depth of approximately 7 feet bgs, underlain by interbedded silt and sandy silt (ML) and silty sand (SM) to the total depth explored of approximately 31½ feet bgs. The shallow parking area borings predominantly encountered the lean clay with sand (CL) extending to the total depth explored of 6½ feet bgs. The consistency of the clay soils was observed to be stiff to hard, while the sands were medium dense to dense, in terms of the standard penetration tests performed. No bedrock was encountered to the total depth explored.

The above subsurface information is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs, included in Appendix A, should be reviewed for specific information at the boring locations. These records include soil descriptions, stratification, penetration resistance, locations of the samples and laboratory test data. The stratification shown on the logs represent the conditions only at the actual location at the time of our exploration. Variations may occur and should be expected between boring locations. The stratification that represents the approximate boundary between subsurface materials and the actual transition may be gradual. It should be noted that, although the test borings are drilled and sampled by experienced professionals, it is sometimes difficult to record changes in stratification within narrow limits, especially at great depths. In the absence of foreign substances, it is also sometimes difficult to distinguish between discolored soils and clean fill soil.

2.4 Groundwater

Groundwater was not encountered during drilling in any of the 6 borings. Based upon review of GeoTracker records for neighboring properties, groundwater is anticipated to be approximately 55 feet bgs. Based on anticipated groundwater levels, proposed excavations are not expected to encounter groundwater. It is possible that transient, saturated ground conditions at shallower depths could develop at a later time due to periods of heavy precipitation, landscape watering, leaking water lines, or other unforeseen causes. Variations in groundwater levels should be expected seasonally, annually, and from location to location. Based on the depth to groundwater, significant groundwater related problems are not expected either during or after construction.

2.5 Laboratory Evaluation

Selected samples of the subsurface soils encountered were returned to our laboratory for further evaluation to aid in classification of the materials, and to help assess their strength and expansive nature. The laboratory evaluation consisted of visual and textural examinations, moisture and density tests, Atterberg Limits testing, sieve analysis (passing the #200 sieve) and Expansion Index testing. Sulfate, chloride, pH and resistivity testing were also performed to evaluate the corrosive potential of

the site soils. A brief discussion of the laboratory tests performed, and a portion of the test results are presented in Appendix B. The remaining test results are shown on the boring logs in Appendix A. Samples that were not altered by laboratory testing will be retained for 30 days from the date of this report and will then be discarded.

2.6 Infiltration Rate for Bioretention Facilities

Two of the HSA borings (B-1 and B-2) were utilized as infiltration tests (I-1 and I-2) and were advanced to a depth of approximately 5 feet bgs to evaluate the feasibility of the use of shallow bioretention basins and to provide a basis for design. The approximate locations of the infiltration test borings are indicated on Figure 2.

Once advanced to the test depth, the bottom of each boring was filled with approximately 4 inches of pea gravel. A 5-foot section of perforated PVC piping (slotted well casing) with an inside diameter of approximately 2 inches was installed inside the boring on top of the gravel, extending upward to the ground surface. Pea gravel was placed within the annular space around the pipes. The pipes were then filled with a minimum of 4 feet of clean water, which was maintained for 4 hours to presoak the native soil material.

Following the presoak of the test holes, an infiltration test was performed in each hole by filling the pipe with approximately 4 feet of water above the soil and recording the drop in the water level within the pipe at regular time intervals for an hour. The water level was measured to the nearest 0.01 foot (approximately ⅛ inch) with a flat tape water level meter using the top of the pipe as a reference point. After the first test, the process was repeated 2 additional times, with the lowest sustained reading recorded as the infiltration rate for each test location. The results of our tests are as follows:

I-1 Test Results –

- An average (throughout the 3-hour test duration) un-factored infiltration rate of 0.24 gallons per square foot per day, or 0.019 inches per hour.

I-2 Test Results –

- An average (throughout the 3-hour test duration) un-factored infiltration rate of 0.16 gallons per square foot per day, or 0.011 inches per hour.

Based on the extremely slow measured rates of infiltration PSI does not believe infiltration at the site to be feasible. If it is determined that infiltration based on the measured rates is to be utilized, it should be noted that the values presented above are raw data. The associated permitting agency will likely require a safety factor be applied to the provided un-factored infiltration rates, for use in the design of any stormwater infiltration system. In our experience on similar projects, a factor of safety of no less than 2 (typically between 2 and 4) will likely be required, and design rates should be determined in accordance with local regulations.

3.0 SEISMIC CONSIDERATIONS

3.1 Regional Seismicity

Generally, seismicity within California can be attributed to faulting due to regional tectonic movement. This includes the San Andreas Fault, the Rinconada Fault, and most parallel and subparallel faulting within the State. The portion of California which includes the subject site is considered seismically active. Seismic hazards within the site can be attributed to potential groundshaking resulting from earthquake events along nearby or more distant faulting.

According to regional geologic literature (Blake, 2000), the closest known late Quaternary fault is the Rinconada Fault (shown as the Reliz Fault on the Monterey County Active Regional Faults map, 2010) located approximately 5 miles southwest of the site. Several potentially active and pre-Quaternary faults also occur within the regional vicinity. The site is subject to a Maximum Magnitude Event of 7.5 Magnitude along the Rinconada (Reliz) Fault. The Maximum Magnitude Event is defined as the maximum earthquake that appears capable of occurring under the presently known tectonic framework.

3.2 Seismic Analysis

According to the Alquist-Priolo Special Studies Zones Act of 1972 (revised 1994) active faults are those that have shown movement during the last 11,000 years (i.e., Holocene time). This site is not currently situated within a mapped Earthquake Fault Zone (CGS, 2018).

The site will be affected by seismic shaking as a result of earthquakes on major active faults located throughout the northern California area. As part of the current, 2016 California Building Code (CBC), the design of structures must consider dynamic forces resulting from seismic events. These forces are dependent upon the magnitude of the earthquake event as well as the properties of the soils that underlie the site. As part of the procedure to evaluate seismic forces, the code requires the evaluation of the Seismic Site Class, which categorizes the site based upon the characteristics of the subsurface profile within the upper 100 feet of the ground surface.

To define the Site Class for this project, we have interpreted the results of soil test borings drilled within the project site and estimated appropriate soil properties below the base of the borings to a depth of 100 feet as permitted by the code. The estimated soil properties were based upon our experience with subsurface conditions in the general site area. Based upon our evaluation, it is our opinion the subsurface conditions within the site are consistent with the characteristics of a Site Class “D” (stiff soil).

In accordance with the 2016 CBC, The USGS probabilistic ground acceleration values (ASCE 7 Chapter 20, 2010) for latitude 36.67892° and longitude -121.62592° obtained from the USGS Seismic Design Maps web page (USGS, 2017) are presented in the following table;

Ground Motion Values*

Period (sec)	Mapped MCE Spectral Response Acceleration**(g)		Site Coefficients		Adjusted MCE Spectral Response Acceleration (g)		Design Spectral Response Acceleration (g)	
0.2	S_s	1.502	F_a	1.000	S_{Ms}	1.502	S_{Ds}	1.001
1.0	S_1	0.601	F_v	1.500	S_{M1}	0.902	S_{D1}	0.601

**2% Probability of Exceedance in 50 years*
***At B-C interface (i.e. top of bedrock)*
MCE = Maximum Considered Earthquake
Peak Ground Acceleration = PGA= 0.563,
Site Coefficient FPGA = 1.000,
Geometric Mean Peak Ground Acceleration (PGAM) = 0.563

The Site Coefficients, F_a and F_v presented in the above table were also obtained from the noted USGS webpage, as a function of the site classification and mapped spectral response acceleration at the short (S_s) and 1-second (S_1) periods but can also be interpolated from CBC Tables 1613.3.3(1) and 1613.3.3(2).

3.3 Hazard Assessment

Shallow Ground Rupture – Evidence of active fault rupture was not observed within the explored areas of the site at the time of our field exploration and no active faults are mapped as crossing the site (Kilbourne, 1980; Monterey, 2010; USGS, 2017). As such, the potential for ground rupture from faulting at the site is considered to be nil.

Seismically-Induced Dry Settlement of Soils – Within the depths of our explorations the materials comprising the subsurface soils were observed to consist of stiff to hard clays and silts and medium dense to dense sands and silty sands. Based on the results of the liquefaction analysis (noted below), estimated dry settlement (settlement above the water table) is anticipated to be nil. Therefore, dry settlement is not considered a design constraint for this project.

Liquefaction-Induced Settlement – In general, liquefaction is a condition where soils lose intergranular strength due to abrupt increases in pore water pressure. Pore water pressure increases typically occur during dynamic loading such as ground shaking during a seismic event. Liquefaction, should it occur on a site, can induce ground settlement and lateral spreading, which can result in damage to the structures.

For liquefaction to occur, the following conditions must be present:

- The soil sediments must be in saturated or near-saturated conditions. At least 80-85 percent saturation is generally considered necessary for the liquefaction to occur.
- The soil must be predominately composed of non-plastic material such as sand or silt or low plasticity materials with a PI of Less than 18.
- The soil must be in a relatively loose state.
- The soil must be subjected to dynamic loading, such as an earthquake.

Groundwater was not encountered in any of the exploratory borings at the time of drilling and is anticipated to be approximately 55 feet below ground surface. The encountered subsurface soils are unsaturated, and the soil is in a relatively dense state. The Salinas and Natividad Quadrangles have not been zoned for seismic hazards by the California Geological Survey (CGS, 2018), however; the liquefaction potential map (Dupre, 1980) indicates that the site is within an area mapped as having a "Low" liquefaction potential.

As such, based on the expected depth to groundwater, and on the information referenced above, it is our opinion that the potential for seismically-induced liquefaction at the subject site should be considered to be very low and is not a design consideration for this project.

Landsliding and Slope Stability – The site is predominantly flat, with no significant cuts required to accommodate the structure. As such, slope instability and landsliding are not considered a hazard on, or adjacent to the project site, due to the absence of significant steep slopes in or around the project area.

Tsunamis and Seiches - Inundation by tsunamis (seismic or "tidal waves") or seiches ("tidal waves" in confined bodies of water) are not considered to be a significant threat to the subject site due to the absence of proximal large bodies of water.

4.0 GEOTECHNICAL RECOMMENDATIONS

4.1 General

Soil deposits, generally consisting of lean clay, sandy clay, silty sand, silt, and sand were encountered at the site. Soils were observed to generally consist of stiff to hard clays and medium dense to dense silty sands and sands. Based on the results of our field exploration, the subsurface soils appear to be generally suitable for foundation support provided the recommendations in this report are followed.

It should be noted that our review of historical aerial photographs and documents indicates that the site was previously developed with structural improvements (e.g. church structure and associated parking lot) that appear to have since been demolished. No efforts were made during our field exploration to identify signs of previous developments, and remnants of previous site improvements, such as underground tanks, concrete slabs, foundation elements, utilities, pavements and septic leach fields, may still be present at the site.

The proposed construction at the site should be performed in accordance with the following recommendations, the current edition of the California Building Code, and local governmental standards which have jurisdiction over this project. Our recommendations have been developed on the basis of the described project characteristics and subsurface conditions encountered. If there are any changes in these project criteria, including project location on the site, a review should be made by PSI to determine if modifications to the recommendations are warranted.

Once final design plans and specifications are available, a general review by PSI is recommended to check that the evaluations made in preparation of this report are correct and that earthwork and foundation recommendations are properly interpreted and implemented.

4.2 Site Preparation

Prior to construction, the location of any remnants of the previous site improvements (such as old foundations and floor slabs) within the new construction areas should be established. All remnants should be removed and legally disposed of off-site. Any existing underground utilities should be properly capped off at the property boundary and removed or be re-routed around the new development. The site should also be cleared of surface vegetation. As a minimum, it is recommended the clearing operations extend at least five feet beyond the development perimeter, where feasible.

In order to provide a relatively uniform bearing grade, we recommend that the existing fill soils beneath the planned foundations be removed. Based on the test borings performed in the planned building area, we anticipate an over-excavation depth of about 2 to 3 feet.

The soils exposed at the base of the over-excavation and subgrade areas to support surface improvements (i.e., pavements, sidewalks, etc.) should then be proof rolled with a heavy rubber-tired piece of construction equipment (minimum10 ton gross weight) approved by and in the presence of the

Geotechnical Engineer. Any soil that ruts or excessively deflects during proof rolling should be removed as recommended by the Geotechnical Engineer. Following proof rolling and any additional over-excavation as recommended by PSI, the exposed subgrade should be scarified to a depth of about 12 inches, moisture treated to slightly above the soil's optimum moisture content and then compacted to at least 90% of the soil's maximum dry density, per ASTM D1557.

These excavations should then be backfilled with a low expansive (EI<50) fill compacted to at least 90% of the soil's maximum dry density per ASTM D1557. The over-excavation should extend laterally at least 3 feet beyond the limits of the footings. As an alternate, the over-excavated areas could be backfilled with a lean concrete (minimum 28-day compressive strength of 500 psi), which would eliminate the need for the lateral over-excavation deemed necessary with use of a soil backfill.

Any grading operation should be performed in accordance with our recommendations, the requirements of the current edition of the CBC, and local governmental standards which have jurisdiction over this project.

4.2.1 Wet Weather Grading Considerations

The near surface lean clay and sandy lean clay soils are expected to be moisture sensitive and subgrade stability problems (pumping) may be expected to occur during wet weather conditions, which typically occur between October and April. If grading occurs during these climatic conditions, subgrade stability problems are expected, and it may be necessary to stabilize the subgrade with a coarse aggregate material, possibly with a geogrid or geotextile. Typically, a coarse aggregate thickness of about 12 to 18 inches is sufficient to stabilize a pumping subgrade. It may also be desired/beneficial to stabilize the subgrade with hydrated lime or cement, dependent upon the soil types and conditions encountered. Specific subgrade stabilization recommendations should be provided by the geotechnical engineer based on the conditions encountered at the time of grading.

4.3 Engineered Fill

All Engineered Fill material required at this site should not contain rocks greater than 3-inches in diameter or greater than 30 percent retained on the ¾-inch sieve and should not contain more than 3 percent (by weight) of organic matter or other unsuitable material. The Expansion Index (EI) for the material should not exceed 50. Based on our laboratory testing, which indicates EI=13, existing on-site clay soils are likely suitable for use as Engineered Fill, however, this should be confirmed by a PSI representative during grading. Import materials meeting the above requirements should be approved by the Geotechnical Engineer prior to use as Engineered Fill.

Engineered Fill should be compacted to at least 90 percent of the maximum dry density as determined by the modified Proctor (ASTM D1557). The moisture content of Engineered Fill should be about 0 to 2 percent above the fill's optimum moisture content, as determined by the same index during compaction. If the Engineered Fill is too dry, water should be uniformly applied across the affected fill area. If the Engineered Fill is too wet, it must be dried. In either event, the Engineered Fill should be thoroughly

mixed by disking to obtain relatively uniform moisture content throughout the lift immediately prior to compaction.

Engineered Fill should be placed in maximum lifts of 8-inches of loose material. Each lift of Engineered Fill should be tested by a PSI soils technician, working under the direction of our Project Geotechnical Engineer, prior to placement of subsequent lifts.

Compaction of the backfill should be checked with a sufficient number of density tests by a representative of the Geotechnical Engineer to determine if adequate compaction is being achieved by the contractor. The properly compacted Engineered Fill should extend horizontally outward beyond the exterior perimeter of the foundations, or pavements, a distance equal to the height of fill prior to significant sloping.

4.4 Excavations

Excavation and construction operations may expose the on-site soils to inclement weather conditions. The stability of exposed soils will rapidly deteriorate due to precipitation or the action of heavy or repeated construction traffic. Accordingly, foundation area excavations should be adequately protected from the elements, and from the action of repetitive or heavy construction loading.

4.4.1 Excavations/Slopes

Any permanent cut or fill slopes should not exceed 2 Horizontal to 1 Vertical (2H:1V). Excavations extending below a 1H:1V plane extending down from any adjacent footings should be shored for safety. All excavations should be evaluated by a representative of the Geotechnical Engineer during construction to allow any modifications to be made due to variation in the soil types. All work should be performed in accordance with the state Division of Occupational Safety and Health (Cal/OSHA) and federal regulations. Job site safety is the responsibility of the project contractor.

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its “Construction Standards for Excavations, 29 CFR, part 1926, subpart P”. This document was issued to better insure the safety of personnel entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavations, or footing excavations, be constructed in accordance with the new OSHA guidelines.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor’s “responsible person”, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor’s safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal state regulations.

We are providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and federal safety or other regulations.

4.4.2 Utility Trench Backfill

Excavations should be made in accordance with applicable Federal and State Occupational Safety and Health Administration regulations. Any utility trenches in the soils at the site will need to be sloped or shored from the ground surface due to the potential for caving. Actual inclinations will ultimately depend on the soil conditions encountered during earthwork. While we may provide certain approaches for trench excavations, the contractor should be responsible for selecting the excavation technique, monitoring the trench excavations for safety, and providing shoring, as required, to protect personnel and adjacent improvements. The information provided below is for use by the owner and engineer and should not be interpreted to mean that PSI is assuming responsibility for the contractor's actions or site safety. The soils encountered in our subsurface explorations should be classified as Type B soil. According to the most recent OSHA regulations temporary excavations may be sloped, without shoring at no steeper than 1H:1V for Type B conditions to a maximum height of 20 feet, provided groundwater is not present. If groundwater is observed within slope cuts, PSI should be immediately notified to determine if our sloping recommendation will need to be modified. In our opinion, excavations should be safely sloped or shored. The contractor should be aware that excavation and shoring should conform to the requirements specified in the applicable local, state, and federal safety regulations, such as OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, or successor regulations. We understand that such regulations are being strictly enforced, and if not followed, the contractor may be liable for substantial penalties.

Excavation and construction operations may expose the on-site soils to inclement weather conditions. The stability of exposed soils may deteriorate due to a change in moisture content or the action of heavy or repeated construction traffic. Accordingly, foundation and pavement area excavations should be protected from the elements and from the action of repetitive or heavy construction loadings.

Utility trenches below the slab, footings and pavement areas should be backfilled with engineered fill.

4.5 Conventional Spread Footings

Following site grading and remedial grading as recommended in this report, it is our opinion that the proposed structure can be supported by shallow foundations embedded at least 12 inches below the finish grade and bearing on Engineered Fill or competent native soil designed for a maximum allowable soil bearing pressure of 2,500 pounds per square foot (psf). This allowable soil bearing capacity may be increased by one-third for short term wind and/or seismic loads.

The weight of the foundation concrete below grade may be neglected in dead load computations. Isolated spread footings should have minimum widths of 18 inches and should be founded at least 18

inches below lowest adjacent finished grade. Continuous footings should have minimum widths of 12 inches and should be founded at least 12 inches below lowest adjacent finished grade.

Foundations and slabs should be dimensioned and reinforced as deemed necessary by the project structural engineer and/or architect.

For resistance to lateral loads, an allowable coefficient of friction of 0.35 between the base of the foundation elements and underlying material is recommended. In addition, an allowable passive resistance equal to an equivalent fluid weighing 250 pounds per cubic foot (pcf) acting against the foundation may be used to resist lateral forces. The top foot of passive resistance at foundations should be neglected unless the ground surface around the footing is covered by concrete or pavement.

The foundation excavations should be observed and tested by a representative of PSI prior to steel or concrete placement to assess that the foundation materials are capable of supporting the design loads and are consistent with the material discussed in this report. Foundation excavations should be observed and concrete placed as quickly as possible to avoid exposure of the beam bottoms to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. If it is required that footing excavations be left open for more than one day, they should be protected to reduce evaporation or entry of moisture.

PSI estimates that foundations designed and constructed in accordance with the recommendations herein will experience total static settlements generally less than 1 inch with differential settlement along a 40-foot-long portion of a continuous footing, or similarly spaced pad footings, of less than ½-inch. Total and differential settlements of these magnitudes are usually considered tolerable for the anticipated construction. However, the tolerance of the proposed structures to the predicted total and differential settlements should be confirmed by the Structural Engineer.

4.6 Concrete Slabs-On-Grade

The floor slab should be supported on a properly prepared low expansive (EI<50) subgrade as recommended in Section 4.2 of this report. The slab section may be designed by the structural engineer using a coefficient of subgrade reaction of 150 pci based on a one-foot plate bearing test. Based on geotechnical considerations, it is recommended that the interior slabs be at least 5 inches in thickness and reinforced in accordance with the Structural Engineer's requirements. Care should be taken by the contractor to ensure that the reinforcement is placed and maintained at slab mid-height. Floor slabs should be suitably reinforced and jointed so that a small amount of independent movement can occur without causing damage.

Slabs should be underlain by a capillary break at least 4 inches in thickness, consisting of clean sand or gravel. In moisture-sensitive flooring areas or areas used to store moisture-sensitive materials, such as carpeted or linoleum covered areas, a 10-mil visqueen moisture retarder should be placed beneath the slab at mid-height within the capillary break material. The visqueen sheet should be sealed along the edges to prevent lateral migration of soil moisture from adjacent non-visqueen areas. Prior to placement of clean sand and

slab-on-grade, the visqueen sheet should be thoroughly inspected for cracks, punctures, tears, and holes. If necessary, the visqueen should be replaced or patched to assure a fully functional entity.

Some minor cracking of slabs can be expected due to shrinkage. The potential for this slab cracking can be reduced by careful control of water/cement ratios in the concrete. The contractor should take appropriate curing precautions during the pouring of concrete in hot weather to reduce cracking of slabs. We recommend that a slipsheet (or equivalent) be utilized if grouted fill, tile, or other moisture-sensitive floor covering is planned directly on concrete slabs. All slabs should be designed in accordance with structural considerations. The floor slab should be liberally jointed in accordance with ACI guidelines to help control cracking, resulting from differential movement and concrete shrinkage.

4.7 Pavement Recommendations

While specific traffic loads and volumes for the project have not been provided, we are providing recommended light-duty, and heavy-duty pavement sections, which have been successfully utilized for this type of development in the project area with similar traffic loading. For these pavement sections, we have assumed an R-value of 20 for the site subgrade soils and a Traffic Index of 5 and 6 for the light-duty and heavy-duty areas, respectively. R-value testing should be performed on the actual pavement subgrade material at the time of site grading.

Asphaltic Concrete (AC):

Light Duty (Automobile Parking; TI=5)

- 3 inches Asphalt Concrete (Caltrans Standard Specs. Section 39)
- 7-½ inches Class II Aggregate Base (Caltrans Standard Specs. Section 26)

Heavy Duty (Entrance and Drive Lanes; TI=6)

- 3-½ inches Asphalt Concrete (Caltrans Standard Specs. Section 39)
- 9-½ inches Class II Aggregate Base (Caltrans Standard Specs. Section 26)

Once site grading has been completed, we recommend that R-value testing be performed to confirm that the design R-value is consistent with the as-graded subgrade soil conditions and/or to provide final pavement section recommendations. Aggregate base and the upper 12 inches of subgrade should be compacted to at least 95% of the maximum dry density, per ASTM D1557.

As an alternate, concrete pavement could also be used at the site. Based on the near surface soil encountered in the borings, it is our opinion that a modulus of subgrade reaction (k) of 150 pounds per square inch per inch (psi/in) is suitable for all the concrete pavement sections, given the presence of the underlying base course. Based on this, we offer the following concrete pavement recommendations:

Portland Cement Concrete (PCC):

Light Duty Section (TI=5)

- 5 Inches Portland Cement Concrete
- 6 inches Class II Aggregate Base

Heavy Duty Section (TI=7)

- 6 Inches Portland Cement Concrete
- 6 inches Class II Aggregate Base

Based on our local experience, rigid concrete pavements are considered to be a part of the civil site work package and the concrete mix design specifications and rebar reinforcement detailing is developed as part of the project specifications, typically by the Civil Engineer. Minimum cement contents and cementitious material replacement specifications should consider the time of year for concrete placement for optimal material performance. The design project engineer of record is best qualified to be familiar with the project schedule and to establish those parameters. Making some typical assumptions, however, PSI provides the following recommendations.

PSI recommends that the concrete should have a minimum 28-day compressive strength of 4,000 psi. The aggregate base course and the upper 12 inches of subgrade should be compacted to at least 95% of the soil's maximum dry density, per ASTM D-1557. The concrete pavements should be properly reinforced and jointed (per ACI requirements).

Saw cut control joints should be placed at maximum 15-foot intervals and should be cut at a depth of at least one-quarter of the pavement thickness. Saw cut control joints spaced at 10 feet usually control cracking better than the 15-foot interval. Joints should be sawed within 12 hours of concrete placement, and preferably sooner. All joint spacing in large pavement areas should be spaced in accordance the American Concrete Institute (ACI) standard or other local requirements, if stricter than those set by ACI.

Expansion joints should be used wherever the pavement will abut a structural element subject to a different magnitude of movement, such as: light poles, retaining walls, or manholes. Expansion joints should be sealed with a polyurethane sealant so that moisture infiltration into the subgrade soils and resultant concrete deterioration at the joints is minimized.

4.7.1 General Pavement Notes

The above recommended pavement sections represent minimum design thicknesses and, as such, periodic maintenance should be anticipated. Also, these recommended pavement sections should be confirmed or modified by your Civil Engineer, based on actual traffic and the owner's requirements. The pavement section materials and construction should comply with the Caltrans Standard Specifications and local municipality requirements.

Where pavement areas are adjacent to heavily-watered landscaping areas, we recommend some measure of moisture control be taken to prevent the subgrade soils from becoming saturated. It is

recommended that concrete curbing adjacent to the landscape areas extend into the prepared subgrade to reduce the potential for irrigation water to saturate the subgrade soils.

4.8 Drainage Considerations

The on-site soils are susceptible to erosion and the site soils will become unstable when disturbed by construction traffic. The contractor should exercise care in creating drainage paths for water during the construction phase of the project. Water should not be allowed to collect in the foundation excavations or on prepared subgrades of the construction area during construction. Positive site drainage away from excavation areas should be established to minimize the flow of surface runoff or rain water into the excavations. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. During wet-weather conditions, the use of aggregate haul routes should be considered to limit wide-spread disturbance of the moisture-sensitive subgrade.

Following construction, water should not be allowed to pond adjacent to the building foundations or adjacent to concrete flatwork. Positive site drainage of the finish grade should be provided to reduce infiltration of surface water beneath the floor slabs and around the perimeter of foundations for the proposed improvements. The grades should be sloped, and surface drainage should be collected and discharged to an acceptable location away from the proposed site improvements. Curbing adjacent to landscaped areas should be designed deep enough to act as a barrier between the landscape irrigation and pavement subgrade soils. Surface run-off from roofs, parking areas, etc., should be tightlined to the storm sewer or other approved disposal areas.

4.9 Corrosivity

Testing was performed to evaluate the corrosivity of the on-site soils and the potential for attack on concrete and subsurface utility pipes, specifically cast iron and ductile iron. The testing included pH, sulfate, chloride and electrical resistivity. The results of the chemical analysis are as follows:

Boring Number	Sample Depth (feet)	pH	Resistivity (ohm-cm)	Water Soluble Sulfates (ppm)	Water Soluble Chlorides (ppm)
B-6	0 to 4	9.0	1,900	ND (<10)	68.6

ND = Not detected above the lab reporting limit indicated

Concrete mix designs should follow the minimum requirements of the California Building Code. Laboratory testing of selected soil samples indicates that the on-site soils possess a negligible sulfate exposure, indicating a low degree of corrosivity with respect to concrete. Based on this result, it is our opinion that special sulfate-resistant concrete mix designs are not warranted and that the use of Type I or II cement is suitable for concrete in contact with on-site soils. Final concrete mix designs should be evaluated after sulfate tests have been performed on the actual subgrade material.

Corrosivity testing was also performed to determine whether the on-site near-surface soils have the potential to attack subsurface utility pipes, specifically cast iron and ductile iron. Based on the resistivity test results, the soils are characterized as being *highly corrosive* to cast iron or ductile iron piping (Roberge, 2000).

PSI does not practice in the field of corrosion engineering. We recommend that a qualified corrosion engineer be consulted to determine if special corrosion protection is warranted for this site. Testing for corrosivity of any fill soils should be conducted during site grading.

4.10 Construction Monitoring

It is recommended that PSI be retained to examine and identify soil exposures created during project construction to document that soil conditions are as anticipated. We further recommend that any Engineered Fills be continuously observed and tested by our representative to evaluate the thoroughness and uniformity of their compaction. If possible, samples of fill materials should be submitted to our laboratory for evaluation at least 2 working days prior to placement of fills on site. Costs for the recommended observations during construction are beyond the scope of this current consultation.

5.0 GENERAL

Our conclusions and recommendations described in this report are subject to the following general conditions:

5.1 Use of Report

This report is for the exclusive use of the County of Monterey and their representatives to use for the design of the proposed structures described herein and preparation of construction documents. The data, analyses, and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us. In the absence of our written approval, we make no representation and assume no responsibility to other parties regarding this report.

After the plans and specifications are more complete, the geotechnical engineer should be retained and provided the opportunity to review the final design plans and specifications to check that our engineering recommendations have been properly incorporated into the design documents.

5.2 Limitations

The recommendations contained in this report are based on the available subsurface information obtained by PSI, and design details furnished for the proposed project. If there are any revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

PSI did not provide any service to investigate or detect the presence of moisture, mold or other biological contaminants in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence of the amplification of the same. Client acknowledges that mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. Client further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, PSI cannot and shall not be held responsible for the occurrence or recurrence of mold amplification.

Services performed by PSI for this project have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this area. No warranty, expressed or implied, is made.

6.0 REFERENCES

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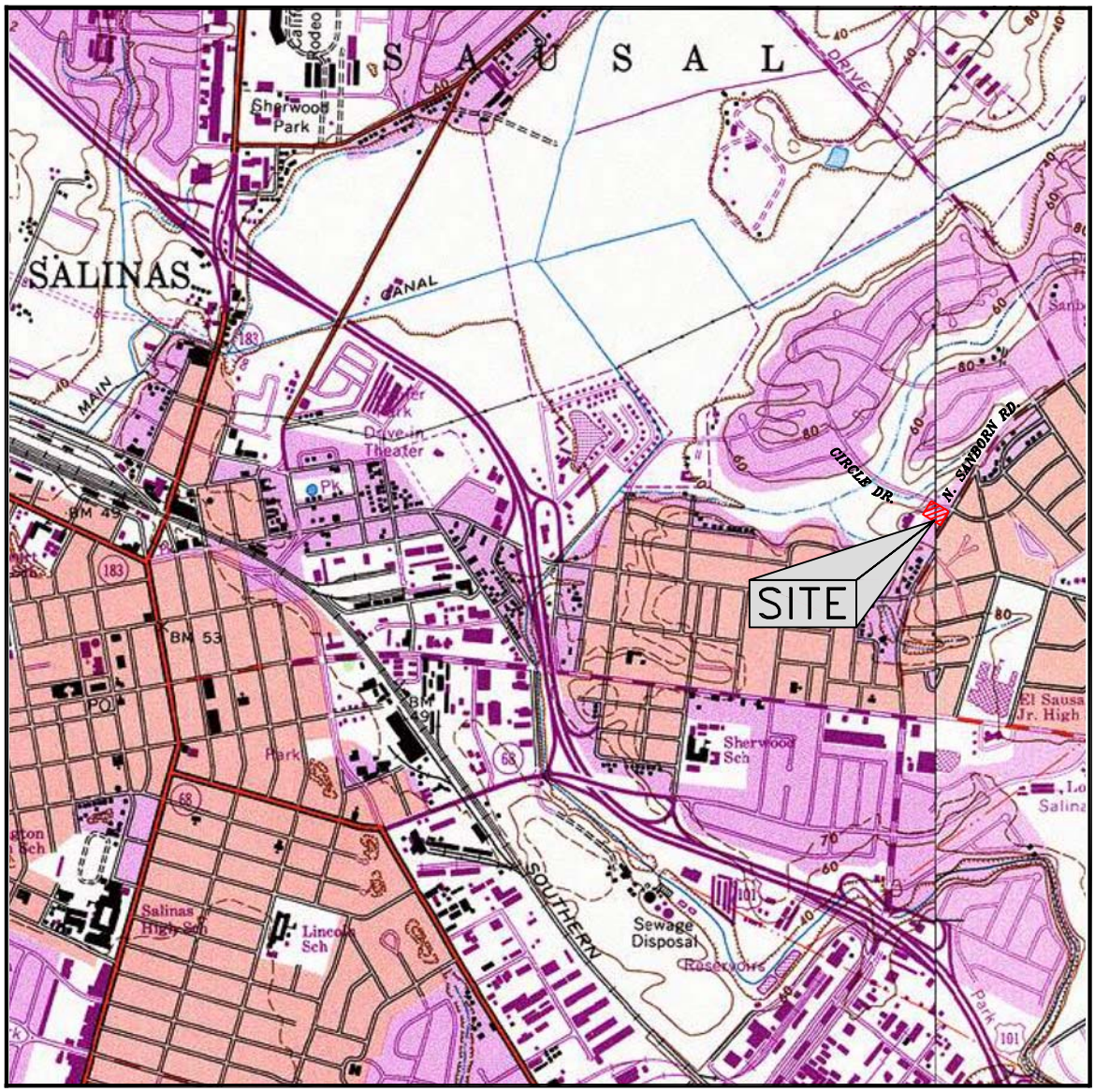
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FIGURES



REFERENCE:

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Project Name:	Drawn By:	Date:	File No.:	Figure No.:
PROPOSED BEHAVIORAL HEALTH CENTER 331 NORTH SANBORN ROAD, SALINAS, CALIFORNIA	B.B.	8/18	1400-1-1	1
Title: SITE LOCATION MAP	**Approved By:** R.R.	**Project No.:** 575-1400-1		



LEGEND

- PROPERTY BOUNDARY
- B-6 – SPT BORING
- B-2 – INFILTRATION BORING
- LOCATION OF PROPOSED IMPROVEMENTS

NOTES

1. PROPOSED IMPROVEMENTS TAKEN FROM THE PAUL DAVIS PARTNERSHIP, "SITE PLAN, COUNTY OF MONTEREY HEALTH DEPARTMENT, SITE FEASIBILITY STUDY, 331 N. SANBORN RD, SALINAS, CA 93905," SHEET A1.1, DATED 8/10/2018, OVER GOOGLE MAPS AERIAL PHOTO DATED 2/4/2018.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.

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(510) 434-9200

Project Name:	Drawn By:	Date:	File No.:	Figure No.:
PROPOSED BEHAVIORAL HEALTH CENTER 331 NORTH SANBORN ROAD, SALINAS, CALIFORNIA	B.B.	8/18	1400-1-2	2
Title: SITE PLAN AND BORING LOCATION MAP	**Approved By:** R.R.	**Project No.:** 575-1400-1		

APPENDIX A

EXPLORATION LOGS

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.
HSA: Hollow Stem Auger - typically 3¼" or 4¼ I.D. openings, except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry
R.C.: Diamond Bit Core Sampler
H.A.: Hand Auger
P.A.: Power Auger - Handheld motorized auger

SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
BS: Bulk Sample
PM: Pressuremeter
CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
N_{60}: A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
Q_u: Unconfined compressive strength, TSF
Q_p: Pocket penetrometer value, unconfined compressive strength, TSF
w%: Moisture/water content, %
LL: Liquid Limit, %
PL: Plastic Limit, %
PI: Plasticity Index = (LL-PL),%
DD: Dry unit weight, pcf
▼,▽,▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Relative Density	N - Blows/foot
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50+

ANGULARITY OF COARSE-GRAINED PARTICLES

Description	Criteria
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

Component	Size Range
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (¾ in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to ¾ in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

Description	Criteria
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

Descriptive Term	% Dry Weight
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

Q_U - TSF	N - Blows/foot	Consistency
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Medium Stiff
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30+	Hard

MOISTURE CONDITION DESCRIPTION

Description	Criteria
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term	% Dry Weight
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

Description	Criteria
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided:	Fracture planes appear polished or glossy, sometimes striated

Description	Criteria
Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed:	Inclusion of small pockets of different soils
Layer:	Inclusion greater than 3 inches thick (75 mm)
Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

Q_U - TSF	Consistency
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

Description	Criteria
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

Voids	Void Diameter
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

(Typically Sedimentary Rock)

Component	Size Range
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION

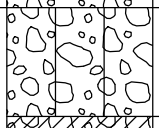
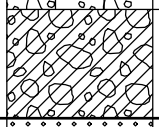
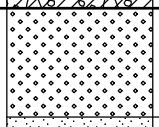
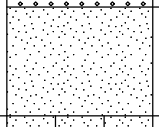
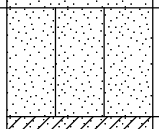
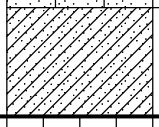
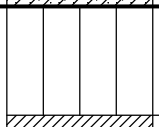
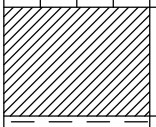
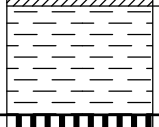
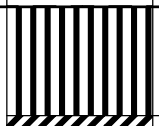
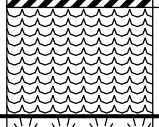
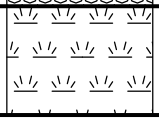
Rock Mass Description	RQD Value
Excellent	90 -100
Good	75 - 90
Fair	50 - 75
Poor	25 -50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

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BORING B-1

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	5.0 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.6791°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6258°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water ▽ None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0										
				1	18	Lean CLAY with sand, medium to dark brown, stiff, moist, fine sand (FILL)	CL	6-7-10 N=11			
				2	18	Lean CLAY, medium olive-brown, stiff, moist (NATIVE)	CL	3-4-4 N=8			
				3	18	becomes very stiff, some fine sand		5-10-16 N=26		>>✳	
	5					End of boring at 5 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

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Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, CA 94601
Telephone: (510) 434-9200

PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-2

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	5.0 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.6788°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6259°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ / STRENGTH, tsf	Additional Remarks
	0			1	18	Lean CLAY with sand, medium brown, very stiff, moist, fine sand (FILL)	CL	14-14-14 N=18	7		
				2	18	Lean CLAY, dark brown, very stiff, moist (NATIVE)	CL	6-10-10 N=20			
	5			3	18	becomes dark olive-brown, hard, damp		11-18-27 N=45			
						End of boring at 5 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

Moisture ✕ PL ◪ LL — 0 / 25 / 50

Qu ▲ Qp ✳ — 0 / 2.0 / 4.0

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PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-3

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	6.5 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.6789°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6258°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water ▽ None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0			1	18	Lean CLAY with sand, dark brown, medium stiff, moist, fine sand (FILL)	CL	4-4-3 N=7			
				2	18	Lean CLAY, dark brown, stiff, moist (NATIVE) becomes medium olive-brown	CL	6-7-11 N=12			
	5			3	18	becomes light olive-brown, hard, some fine sand		12-14-23 N=37			
						End of boring at 6-1/2 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

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PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-4

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	31.5 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.679°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6261°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water ▽ None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0			1	18	SAND, medium reddish-brown, medium dense, moist, fine to coarse sand, few fine gravel, few fines (FILL)	SP	6-10-11 N=14			
				2	18	Lean CLAY with sand, dark brown, very stiff, moist (NATIVE)	CL	5-7-8 N=15	20		LL = 40 PL = 17 % passing #200=78
	5										Not sampled
				3	18	Sandy SILT, medium olive-brown, hard, moist, fine sand	ML	23-30-32 N=40		>>✳	
	10			4	18			12-10-10 N=20			
						Silty SAND, light olive-brown, medium dense, moist, fine sand, some silt	SM				
	15			5	18			8-7-9 N=16	11		% passing 200=33
	20			6	18	SILT, light olive, very stiff, moist	ML	6-10-11 N=21			
	25										

Continued Next Page

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PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-4

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:** Perfecto	**LOGGED BY:** B. Burfield
COMPLETION DEPTH	31.5 ft	**DRILL RIG:**	CME 75
BENCHMARK:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
ELEVATION:	N/A	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LATITUDE:	36.679°	**HAMMER TYPE:**	Automatic
LONGITUDE:	-121.6261°	**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	R. Russell

Water ▽ None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	25			7	18	SILT, light olive, very stiff, moist	ML	6-7-11 N=18			
	30			8	18			8-10-13 N=23			
						End of boring at 31-1/2 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

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PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

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BORING B-5

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	16.5 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.6791°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6263°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0			1	18	Lean CLAY with sand, medium brown, very stiff, very moist, fine to medium sand (FILL)	CL	7-11-14 N=16			
				2	18	Lean CLAY, dark olive-brown, stiff, moist (NATIVE)		4-4-6 N=10			
	5			3	18	becomes medium olive-brown, hard	CL	12-16-20 N=36			
				4	18	Sandy SILT, medium olive, hard, moist, fine sand		18-24-25 N=32			
	10			5	18	becomes very stiff, trace fine gravel	ML	7-8-11 N=19			
	15			6	18	Silty SAND, light olive-brown, medium dense, moist, fine sand	SM	8-11-14 N=25			
						End of boring at 16-1/2 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

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PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-6

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	31.5 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.6789°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6263°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water ▽ None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎	Additional Remarks
	0			1	18	Lean CLAY with sand, medium-brown, very stiff, moist, fine to medium sand (FILL)	CL	5-7-10 N=17			
				2	18	Lean CLAY, dark brown, stiff, moist (NATIVE) becomes medium olive-brown	CL	7-9-13 N=14	18		EI = 13
	5			3	18	becomes very stiff, fine sand		10-13-16 N=29	17		LL = 43 PL = 18 % passing #200=70
				4	18	Sandy SILT, medium olive-brown, very stiff, moist, fine sand		13-13-16 N=19			
	10			5	18	becomes stiff	ML	5-6-8 N=14			
	15			6	18	Silty SAND, light olive, damp to moist, medium dense, fine sand	SM	6-8-10 N=18			
	20			7	18	SILT, light olive, moist, very stiff, trace fine gravel	ML	8-12-15 N=27			
	25					*Continued Next Page*					

STANDARD PENETRATION TEST DATA
N in blows/ft ◎
Moisture ✕ PL ◪ LL ✚
0 25 50
STRENGTH, tsf
Qu ▲ Qp ✳
0 2.0 4.0

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Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, CA 94601
Telephone: (510) 434-9200

PROJECT NO.:	575-1400
PROJECT:	Monterey County
LOCATION:	Behavioral Health Center
	331 N. Sanborn Road
	Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-6

DATE STARTED:	8/21/18	**DRILL COMPANY:**	HEW Drilling
DATE COMPLETED:	8/21/18	**DRILLER:**	Perfecto
COMPLETION DEPTH	31.5 ft	**LOGGED BY:**	B. Burfield
BENCHMARK:	N/A	**DRILL RIG:**	CME 75
ELEVATION:	N/A	**DRILLING METHOD:**	6" Solid Flight Auger
LATITUDE:	36.6789°	**SAMPLING METHOD:**	SS; 3" CMS & SPT
LONGITUDE:	-121.6263°	**HAMMER TYPE:**	Automatic
STATION:	N/A	**EFFICIENCY**	N/A
OFFSET:	N/A	**REVIEWED BY:**	R. Russell

Water None encountered

BORING LOCATION:

REMARKS:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL 0 25 50 STRENGTH, tsf ▲ Qu ✳ Qp 0 2.0 4.0	Additional Remarks
	25			8	18	SILT, light olive-brown, moist, very stiff	ML	5-8-12 N=20		✳ ◎	
	30			9	18			7-9-12 N=21		✳ ◎	
						End of boring at 31-1/2 feet below grade. Groundwater was not encountered. Borehole was backfilled with soil cuttings. Calif. sampler N Values were converted to SPT-equivalent (Calif. * 0.65).					

intertek psi
Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, CA 94601
Telephone: (510) 434-9200

PROJECT NO.: 575-1400
PROJECT: Monterey County
LOCATION: Behavioral Health Center
331 N. Sanborn Road
Salinas, California

The stratification lines represent approximate boundaries. The transition may be gradual.

APPENDIX B

LABORATORY TEST RESULTS

Laboratory Testing Program

Laboratory tests were performed on representative soil samples to determine their relative engineering properties. Tests were performed in general accordance with test methods of the American Society for Testing Materials or other accepted standards. The following presents a brief description of the various test methods used.

Classification - Soils were classified visually according to the Unified Soil Classification System. Visual classifications were supplemented by laboratory testing of selected samples in general accordance with ASTM D2487. The soil classifications are shown on the boring logs in Appendix A.

In-Situ Moisture / Density - The in-place moisture content and dry unit weight of selected samples were determined using relatively undisturbed samples from the linear rings of a 2.38-inch I.D. modified California Sampler. The moisture content of representative SPT samples was also determined. The dry unit weight and moisture contents are shown on the boring logs.

Atterberg Limits – The liquid limit, plastic limit, and plasticity index of selected representative samples were determined in accordance with ASTM D4318. The liquid limit and plastic limit are shown on the boring logs in Appendix A.

Expansion Index - Expansion index testing was performed on a representative sample of the on-site soils in general accordance with ASTM Test method D4829. The result of this test is provided in the text of this report, below in this appendix and on the boring logs.

Sieve Analysis – Grain size testing was performed on representative samples of the on-site soil in general accordance with ASTM D422. The percent passing the #200 sieve is shown on the boring logs.

Soil Sulfate / Chloride – In order to estimate the concrete degradation potential of soils, the soluble sulfate and chloride content of a representative sample of the on-site soil, provided in the text of this report, was determined in accordance with EPA Test Method 300.0.

pH (Potential of Hydrogen) – The measure of acidity or alkalinity of a material is referred to as the pH factor, which increases with alkalinity and decreases with acidity. The corrosivity potential of iron increases with low pH (4-5) while the corrosivity potential of copper increases with high pH (10-11). The pH value of a representative sample of the on-site soil, provided in the text of this report, was determined in accordance with EPA Test Method 9045B.

Resistivity – The electrical resistivity of a soil is a measure of its resistance to electrical current flow. Corrosion of buried ferrous metals is an electrochemical process which is related to the flow of electrical current from the metal to the soil. Lower electrical resistivity (higher currents) results from higher moisture and chemical content in the soil. Resistivity is minimal when the soil is saturated. The resistivity of representative samples of the on-site soil, provided in the text of this report, was determined in accordance with AASHTO Test Method T 288-91.

RESULTS OF EXPANSION INDEX TEST
(ASTM D-4829)

SAMPLE LOCATION	EXPANSION INDEX
B-6 Bulk Near-Surface (0-4 feet) Soil	13 (very low)

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

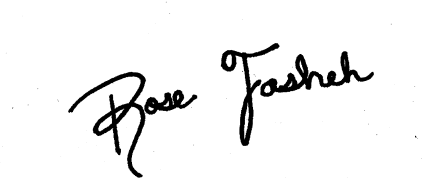
29 August 2018

Brand Burfield
PSI -- Oakland
4703 Tidewater Ave Ste B
Oakland, CA 94601

RE: Monterey County - Salinas

Enclosed are the results of analyses for samples received by the laboratory on 08/23/18 09:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rose Fasheh For Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

PSI -- Oakland	Project: Monterey County - Salinas	
4703 Tidewater Ave Ste B	Project Number: 575-1400	**Reported:**
Oakland CA, 94601	Project Manager: Brand Burfield	08/29/18 12:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-6 (0-4)	T182600-01	Soil	08/21/18 00:00	08/23/18 09:30

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Rose Fasheh For Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
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949.297.5027 Fax

PSI -- Oakland	Project: Monterey County - Salinas	
4703 Tidewater Ave Ste B	Project Number: 575-1400	**Reported:**
Oakland CA, 94601	Project Manager: Brand Burfield	08/29/18 12:34

DETECTIONS SUMMARY

Sample ID: B-6 (0-4) **Laboratory ID:** T182600-01

Analyte	Result	Reporting Limit	Units	Method	Notes
pH	**9.0**	0.1	pH Units	EPA 9045B	
Chloride	**68.6**	10.0	mg/kg	EPA 300.0	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Rose Fasheh For Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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PSI -- Oakland	Project: Monterey County - Salinas	
4703 Tidewater Ave Ste B	Project Number: 575-1400	**Reported:**
Oakland CA, 94601	Project Manager: Brand Burfield	08/29/18 12:34

B-6 (0-4)

T182600-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Conventional Chemistry Parameters by APHA/EPA/ASTM Methods									
pH	**9.0**	0.1	pH Units	1	8082312	08/23/18	08/23/18	EPA 9045B	
Anion Scan by EPA Method 300.0									
Chloride	**68.6**	10.0	mg/kg	1	8082421	08/24/18	08/27/18	EPA 300.0	
Sulfate as SO4	ND	10.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Rose Fasheh For Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5020 Phone
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PSI -- Oakland	Project: Monterey County - Salinas	
4703 Tidewater Ave Ste B	Project Number: 575-1400	**Reported:**
Oakland CA, 94601	Project Manager: Brand Burfield	08/29/18 12:34

Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8082312 - General Preparation										
Duplicate (8082312-DUP1)		**Source: T182600-01**		Prepared & Analyzed: 08/23/18						
pH	9.00	0.1	pH Units		9.02			0.222	20	

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949.297.5027 Fax

PSI -- Oakland	Project: Monterey County - Salinas	
4703 Tidewater Ave Ste B	Project Number: 575-1400	**Reported:**
Oakland CA, 94601	Project Manager: Brand Burfield	08/29/18 12:34

Anion Scan by EPA Method 300.0 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8082421 - General Preparation										
Blank (8082421-BLK1)				Prepared: 08/24/18 Analyzed: 08/27/18						
Chloride	ND	10.0	mg/kg							
Sulfate as SO4	ND	10.0	"							
LCS (8082421-BS1)				Prepared: 08/24/18 Analyzed: 08/27/18						
Chloride	238	10.0	mg/kg	250		95.1	70-130			
Sulfate as SO4	234	10.0	"	250		93.7	70-130			
Matrix Spike (8082421-MS1)	**Source: T182600-01**			Prepared: 08/24/18 Analyzed: 08/27/18						
Chloride	299	10.0	mg/kg	250	68.6	92.5	70-130			
Sulfate as SO4	228	10.0	"	250	7.24	88.3	70-130			
Matrix Spike Dup (8082421-MSD1)	**Source: T182600-01**			Prepared: 08/24/18 Analyzed: 08/27/18						
Chloride	294	10.0	mg/kg	249	68.6	90.6	70-130	1.95	20	
Sulfate as SO4	225	10.0	"	249	7.24	87.6	70-130	1.21	20	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Rose Fasheh For Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

PSI -- Oakland	Project: Monterey County - Salinas	
4703 Tidewater Ave Ste B	Project Number: 575-1400	**Reported:**
Oakland CA, 94601	Project Manager: Brand Burfield	08/29/18 12:34

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: PSI
Address: 4703 TIDEWATER AVE, STE B, OAKLAND CA 94601
Phone: 510 434-9200 Fax: 510 434-7676
Project Manager: B. BURFIEND

Date: AUGUST 22, 2018 Page: 1 Of 1
Project Name: MONTEREY COUNTY - SALINAS
Collector: B. BURFIEND Client Project #: 575-1400
Batch #: 718600 EDF #: N/A

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	pH	CHLORIDE, SULFATE		Laboratory ID #	Comments/Preservative	Total # of containers
B-6 (0-4')	8/21/18	—	SOIL	BAG											/	/		01		

Relinquished by: (signature) Date / Time: 17:10 8/22/18
Received by: (signature) Date / Time: GSO AIRBILL # 107229354

Relinquished by: (signature) Date / Time: BSD 8/23/18 9:30
Received by: (signature) Date / Time: 8.23.18 9:30

Relinquished by: (signature) Date / Time
Received by: (signature) Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold: 24.0

Turn around time: STD

Notes: NEED RESULTS BY 8/30/18 TO THE MONITOR

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 170209

SECTION 32 01 90 - LANDSCAPE MAINTENANCE

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

A. Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for Landscape Maintenance as specified in this Section during the landscape maintenance period, referred to herein as the Maintenance Period. The work includes establishing the plantings, providing pest and disease control, mowing, and maintaining the irrigation system and related construction elements during the Maintenance Period.

B. Related Work:

1. Irrigation

2. Planting

3. MAINTENANCE PERIOD

A. Time Limits: The Maintenance Period commences from the date of approval of substantial completion and extend for 60 calendar days, or until final completion approval, whichever is later.

4. REVIEWS

A. Substantial Completion Review: Specifically request this review at least (5) five days in advance of the proposed start of the Maintenance Period. The Owners Representative will review for a final checklist of minor items to be completed. The Maintenance Period commences once the items are completed and approved by the Owners Representative. Items to be checked during this review include but are not limited to:

1. All planted areas.

2. Valve boxes, spray head / emitter / tree bubbler installation.

3. Overall operation of the irrigation system.

4. For point-source drip-irrigated areas, do not apply mulch until the system has been inspected unless permitted otherwise by the Owner's Representative.

5. For sub-surface drip irrigated areas, ensure that the system was inspected earlier by the Owner's Representative prior to soil backfill over the drip lines.

B. Punch -list Check: This review will be conducted by the Owners Representative half-way through the Maintenance Period, at the request of the Owner, when punch-list items identified at Substantial Completion have been corrected and are ready for inspection. The Final Review

may be rescheduled at the discretion of the Owners Representative, if additional time beyond the scheduled date of final completion is needed to correct Punch-list items.

C. Final Review: Specifically request this review at least (5) five days in advance of the end of the Maintenance Period. Failure to request this notice automatically extends the date of completion. The Maintenance Period will continue until final completion is approved by the Owners Representative. Items to be checked during this review include but are not limited to:

1. All planted areas including all punch-list items identified at Substantial Completion Review and Punch-list Check

2. All irrigation punch-list items identified at Substantial Completion Review, and Punch-list Check.

5. MAINTENANCE PERIOD SUBMITTALS

A. Fertilizer: Submit written certificate showing rates, materials, and date of fertilizer application, to the Owner within five (5) days of each application.

B. Pesticides / herbicides: If pesticides / herbicides are used, submit written certificate showing rates, materials, and date to the Owner within five (5) days of each application.

6. CLOSE-OUT DOCUMENTATION

A. Submit prior to the Final Review, the following additional documents for the Maintenance Binder.

1. Work tags / reports, countersigned by the Owner's Representative:

a. Fertilizer applications, including initial application.

b. Pesticide and herbicide applications, including initial application.

c. In-service meeting discussion / decisions.

2. Copies of the following documents:

a. Amended soils test report.

B. Controller Schedule: 8.5x11 size type-written and laminated irrigation schedule for established (mature) landscape at end of Maintenance Period for reference purposes inside the controller. Schedule is to include run-times and frequency for each station.

1. Attach irrigation schedule to laminated valve stationing plan – see Specification Section Landscape Irrigation.

C. The Final Review will take place only after additional submittals and documents have been reviewed and approved by the Owners Representative.

7. AMENDED SOILS TEST

A. Test Samples: At no less than 2 weeks and no more than 3 weeks after first watering, take one-quart samples of the amended soil, from 0"-6" deep from at least three separate locations in the

planting areas. Mix samples from the three locations to provide a composite sample, representative of amended soil in the planting areas. Forward the amended soil samples to the Testing Lab for testing to determine any additional amendment and/or fertilizer applications during landscape maintenance.

1. Testing Lab: as specified in Specification Section Soil Preparation and is to be the same lab that provided the existing soils test report.

2. For landscape installations in separate project phases, an amended soils test will be required for each phase.

3. Submit the amended soils test report to the Owners Representative for review as soon as it is available.

4. Follow the instructions of the Owners Representative for additional applications of amendment and/or fertilizer, which in mulch areas will involve temporarily removing mulch at plant pits for application and raking / hand watering prior to recovering the pits with mulch.

5. Additional amendment and/or fertilizer applications, if required by the amended soils test report(s), will be at no additional cost to the Owner.

PART 2 - MATERIALS

1. FERTILIZER

A. For maintenance fertilization: as specified in Specification Section Landscape Planting.

2. WATER

A. During the course of construction and maintenance, water for landscape will be paid for by the Owner. Submit watering schedule with dates, times and frequency at start of the Maintenance Period.

3. CHEMICALS

A. Insecticides, fungicides, pre and post-emergent herbicides as recommended by licensed Pest Control Operator and approved by the Owners Representative.

PART 3 - EXECUTION

1. GENERAL

A. Contractor's Responsibility: Work installed under this Contract damaged by vandalism, vehicular damage and/or theft during the installation of the work and up to the Substantial Completion approval, is to be repaired or replaced without additional cost to the Owner.

B. Owner's Responsibility: Throughout the Maintenance Period, these damages and similar factors such as excessive litter, abuse and defacement will be the Owner's responsibility to repair or replace and will not be a part of this Contract. No planting is to be guaranteed beyond the Maintenance Period, except as to conformance to specified species and variety, and as specified in Specification Section Landscape Planting.

2. BASIC REQUIREMENTS

A. Irrigation and Erosion: Maintain all planting areas at optimum moisture for plant growth. Hand water planting not adequately served by the automatic irrigation system. Repair settlement of soil and plants and soil erosion and replant areas to the satisfaction of the Owner's Representative. Replace dying or deficient plants as they become apparent or as directed by the Owners Representative.

B. Cultivating and Clean-Up: Keep all planting areas neat and free from debris at all times and cultivate at not more than ten (10) day intervals.

C. Weed control: Keep all planting areas weed-free at all times during the Maintenance Period.

D. Insect, Pest, and Disease Control: Control insects, pests, rodents and diseases by the use of insecticides and fungicides, as applied by a licensed pest control operator with the prior approval of the Owners Representative.

Fertilizer: Application for all planting areas: as specified in Specification Section Landscape Planting.

E. Fertilizer: Maintenance fertilization for all planting areas: as specified in Specification Section Landscape Planting.

F. Pruning: Prune new trees and shrubs as directed by the Owners Representative. Do not remove lower branches from multi-trunk or low branching trees unless directed.

G. Replacement Materials: Immediately replace any dead or damaged plant materials. Repair or replace turf areas not fully established and healthy as directed by the Owners Representative. Carry out replacements to the specifications and as required to match adjacent plantings at no additional cost to the Owner.

H. Irrigation: Schedule and monitor controller stations as necessary to minimize water consumption while still providing adequate water for the plant material.

1. Adjust and clean all heads, emitters, valves, filters, regulators and other equipment as necessary to maintain the system.

I. Watering: For small plant material (under 1-gallon size) under drip irrigation, supplemental hand water as required during maintenance period until root structures develop enough for drip irrigation to be effective.

3. CONDITION OF PLANTING AT END OF MAINTENANCE PERIOD

A. Complete the following tasks prior to Final Review, and bring all planting areas to a satisfactory condition before final acceptance of the work. Replace plantings that do not conform to specifications.

B. Clean all mulched planting areas of all broadleaf and grass weeds including those sprouting from root balls. Remove all basal growth and tree suckers from tree trunks and branches.

C. Remove all nursery tree stakes and associated tying materials.

D. Mulch: Rake out watering basins from all plants under a permanent irrigation system and re-spread the mulch, keeping mulch away from the plant stem.

4. IN-SERVICE MEETING

A. Specifically request, prior to Final Review, an In-Service meeting with the Owner's maintenance staff to identify any landscape maintenance issues and verify irrigation station sequence / run-times (controller schedule).

1. Document any discussions / decisions at the in-service meeting and provide this to the Owners Representative. Include a copy in the Maintenance Binder. See Specification Section Landscape Irrigation for other documents to be included in the Maintenance Binder.

2. The Final Review will take place only after the in-service meeting is completed, and final approval is contingent on the in-service meeting taking place to the satisfaction of the Owners Representative.

5. HARDWARE

A. Provide the Owner at the in-service meeting the following:

1. Quick Couplers – (2) quick coupler key / hose swivels

2. Irrigation Controller – (2) enclosure keys

3. Other enclosures / back flow preventers – (2) enclosure lock keys

END OF SECTION 32 02 90

SECTION 32 11 43 - PERMEABLE AGGREGATE BASE

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

A. Extent: Work in this section includes, but is not limited to, providing all labor, materials, and equipment necessary for the complete installation of a stable, compacted, porous aggregate base layer, as shown on the Drawings.

B. Related Work:

1. Resilient Surfacing

2. Precast Concrete Unit Paving

3. STANDARDS

A. State of California, Department of Transportation Standard Specifications, referred to in this Specification as 'Caltrans Standard Specifications'.

B. Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:

1. D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

2. D2940 Specification for Graded Aggregate Material for Bases

3. F2898 Test Method for Permeability of Synthetic Turf Sports Field Base Stone and Surface System by Non-confined Area Flood Test Method

4. DEFINITIONS

A. Relative compaction or compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density as determined by ASTM Test D1557 latest edition, expressed as a percentage.

5. SUBMITTALS

A. Contractor shall submit sieve analyses of the stone courses specified to verify conformance to these specifications. Submittals shall include permeability testing from a certified laboratory or Geotechnical Engineer, at compaction percentages specified, and shall verify stone materials to be 100% fractured.

6. DELIVERY, STORAGE, AND HANDLING

7. TESTING

A. General: After installation of the permeable aggregate base designed to conduct rainfall from the resilient rubber surface to an under-drain system, and prior to the installation of the rubber surface, test the finished base in situ for infiltration rate per ASTM F2898.

1. The finished permeable aggregate base is to have an infiltration rate of minimum 4-6 inches per hour.

2. The test is to be performed by a registered Geotechnical Engineer or certified agronomist, in at least 2 areas of each contiguous rubber surface as determined by the Owner's Representative. Non-contiguous surfaces will require separate tests.

3. If the permeable aggregate base does not meet the required permeability, correct or reinstall the non-conforming sections to the required grade, cross-section and density.

4. Testing fees and corrections to and/or reinstallation of the permeable aggregate base are at no additional cost to the Owner.

PART 2 - PRODUCTS

1. BASE MATERIAL - GENERAL

A. Aggregate: Durable crushed rock or gravel or sand that is washed and devoid of mineral fines. Material that is free from slaking and decomposition under the action of alternate wetting and drying. 100% fractured by mechanical means with elongated characters on each individual particle larger than 1/4". Rounded sands or aggregates are not permitted.

2. BASE MATERIAL – ALTERNATE 1

A. Permeable Aggregate Base: Class 2 Permeable, three fourths inch (3/4") maximum, gradation in accordance with Caltrans Standard Specifications 68-2.02F(3), thickness as shown on the Drawings.

Sieve Size	Percent Passing
1" (25.0 mm)	100%
3/4" (19.0 mm)	90-100%
3/8" (9.5 mm)	40-100%
#4 (4.75 mm)	25-40%
#8 (2.36 mm)	18-33%
#30 (600 um)	5-15%
#50 (300 um)	0-7%
#200 (75 um)	0-3%

R-value		78 Min.
Sand Equivalent CTM# 217		75 Min.
Durability Index CTM #229	Fine Coarse	40 Min. 40 Min.

PART 3 - EXECUTION

1. JOB CONDITIONS

A. Protection: Take all steps necessary not to damage existing improvements. If damage occurs, repair immediately and if repair cannot be made to the satisfaction of the Owners Representative, remove and replace at no expense to the Owner.

2. SUB-GRADE PREPARATION

A. General: See Geotechnical Report for sub-grade preparation and compaction requirements.

B. Verify that sub-grade preparation, compacted density and elevations conform to the Specifications.

1. In the event of over-excavation, use select-fill materials to achieve design sub-grade elevations. Materials and compaction as specified in Specification Section Earthwork and Grading.

C. Verify that subgrade is free of rocks, depressions, voids, organic materials, and irregularities. Remove any excess or contaminated backfill from the drainage trenches.

3. PERMEABLE AGGREGATE BASE INSTALLATION

A. General: Install the permeable material over the entire sub-grade and the composite drain system if present, to a compacted thickness as shown on the Drawings. Take adequate care taken to maintain the designed sub-grade.

B. Base Material Alternate 1: Handling and Placement:

1. Maintain moisture content from the quarry throughout installation.

2. Should any separation of the permeable materials occur during any stage of the spreading, immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further separation. Double handling of materials is not permitted.

3. Do not push the permeable material more than 30' from the point of discharge under any circumstances.

4. Spread each layer of permeable material uniformly with equipment that will not cause perceptible separation in gradation (segregation of the aggregates) using low ground pressure equipment.

C. Compaction and Planarity: *SELECT ONE*

1. Base Material Alternate 1: Compact the permeable material to a minimum/maximum density of 85%-90% as determined by ASTM D1557.

2. Base Material Alternate 2: Consolidate with a vibratory smooth drum roller no less than 3 tons. Consolidate each lift with 3 passes in each direction with the vibration turned on.

D. Drainage Verification: Verify that permeable aggregate base is draining correctly- see clause on Testing elsewhere in this Specification.

E. Finished surface of permeable material shall be dry.

4. PROTECTION

A. Protect the installed permeable base from contamination by the work of other trades, vehicular movement, and undue amounts of compaction.

END OF SECTION 32 11 43

SECTION 32 14 13 - PRECAST CONCRETE UNIT PAVING

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

   A. Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of Concrete Pavers as shown on the Drawings and as specified in this Section.

      1. For sand-set pavers, the work includes installation of edge restraints and setting beds. ‘Sand-set’ refers to crushed stone setting bed in the case of permeable/porous paver installation.

   B. Related work includes but is not limited to:

      1. Earthwork and Grading

      2. Miscellaneous Metals.

3. STANDARDS

   A. Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:

      1. C33 / C33M Specification for Concrete Aggregates

      2. C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates

      3. C140 Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

      4. C150 / C150M Specification for Portland Cement

      5. C260 Specification for Air-Entraining Admixtures for Concrete

      6. C494/C494M Specification for Chemical Admixtures for Concrete

      7. C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete

      8. C979 Specification for Pigments for Integrally Colored Concrete

      9. D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

      10. D4253 Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

11. D4254 Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density

12. D2940 Specification for Graded Aggregate Material for Bases

13. Interlocking Concrete Pavement Institute (ICPI) Tech Spec No.5 – Cleaning, Sealing and Joint Sand Stabilization of Interlocking Concrete Pavement, available at www.icpi.org .

14. Sand-set Paving: install pavers in accordance with established flexible paving design procedures.

15. Relative compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density determined in accordance with ASTM D1557, expressed as a percentage.

4. SUBMITTALS

A. Documentation: Submit the following within fourteen (14) days after Notice to Proceed.

B. Product literature and warranty for each type of precast concrete paver. Warranty shall cover precast concrete paving units against defects in material and workmanship for a period of 5 years.

C. Samples: Submit the following within fourteen (14) days after Notice to Proceed. Samples shall be the basis of all rejection or approval of the material.

1. One full-size sample of each type of precast concrete paving unit representative of quality and tolerances.
2. Color-chip samples of each type of precast concrete paving unit representative of color ranges and textures available from the manufacturer.
3. One quart sample of bedding sand with sieve analysis.
4. One quart sample of gravel.

5. QUALITY ASSURANCE

A. Warranty: shall cover precast concrete paving units against defects in material and workmanship for a period of 5 years.

B. Source Limitations:

1. Obtain each type of paver and joint material from a single source with resources to provide materials and products of consistent quality in appearance and physical properties.

C. Physical properties:

1. Precast concrete pavers shall have a minimum compressive strength of 5,000 psi at 28 days.
2. Average Water Absorption (ASTM C 140): 5% with no unit greater than 7%.

6. MOCK-UPS

A. Site Reviews: Stake and lay out a minimum 3-ft x 3-ft mock-up of paver installation for review and approval by the Engineer. Mock-up shall include all paver types and colors / finishes specified and be a representative example of each paver pattern specified.
   1. Approved mock-up(s) shall remain on site intact until final approval has been given by the Engineer.
   2. The approved mock-up(s) shall be the basis for approval or rejection of paver installations.
   3. Any paver installation installed that does not conform to the approved mock-up(s) shall be removed and reinstalled by the Contractor, as directed by the Engineer, at the Contractor's expense.

7. DELIVERY, STORAGE & HANDLING

A. Delivery & Handling: Deliver materials in manufacturer’s original, unopened, undamaged container packaging with identification tags intact in each paver bundle. Unload pavers in such manner that no damage occurs to the product or existing construction.

B. Storage & Protection Store materials such that they are kept free from mud, dirt, and other foreign materials.

PART 2 - PRODUCTS

1. PAVER ASSEMBLIES

A. Paver assemblies shall consist of the following materials / products, on stabilized subgrade, as specified elsewhere in this Specification Section and shown on the Drawings:
   1. Pedestrian Paving on stone bed:
   2. Permeable aggregate base
   3. Crushed Stone Setting Bed - ASTM No.8
   4. Pedestrian Grade Permeable Paver

2. PAVER MATERIALS

A. Materials used to manufacture pavers shall conform to the following:

   1. Portland Cement: ASTM C150, Type-III, high early strength.
   2. Aggregate: ASTM C33. Washed, graded sand and rock; no expanded shale or light weight aggregates.
   3. Color: ASTM C979. Integral color admixture by Davis Colors, or equal, as required to achieve color as selected.

B. Finishes: Walking surfaces of precast concrete paving units shall be slip-resistant.

3. CONCRETE PAVERS

A. Pervious Concrete Pavers: Hydro-Flo Pavers, Estate Series, size and colors as shown on the Drawings, by Pacific Interlock Pavingstone, Inc., San Jose, CA, (408)257-3645, or prior approved equal.

   1. Colors as specified on the Drawings shall be based on Bayferrox Lanxess color pigments by Empire Blended (732)269-4949 or approved equal.

4. BASE MATERIALS

A. Permeable Aggregate Base: Class 2, three fourths inch (3/4") maximum, gradation in accordance with Standard Specifications 68-1.025:

Sieve Size	Percent Passing
1" (25.0 mm)	100%
3/4" (19.0 mm)	90-100%
3/8" (9.5 mm)	40-100%
#4 (4.75 mm)	25-40%
#8 (2.36 mm)	18-33%
#30 (600 um)	5-15%
#50 (300 um)	0-7%
#200 (75 um)	0-3%

R-value	78 Min.
Sand Equivalent (Cal 217)	75 Min.
Durability Index (Cal 229)	40 Min.

B. Class 2 Permeable Material shall be an imported material consisting of durable crushed rock or gravel and sand that is free from slaking and decomposition under the action of alternate wetting and drying.

5. SETTING BED MATERIALS

A. Bedding Material: for Pavers shall conform to the sieve analysis / gradation below. Clean crushed stone free of deleterious substances.

ASTM No.8 Stone	
Sieve Size	Percent Passing
1/2" (12.5mm)	100%
3/8" (9.5mm)	85-100%
#4 (4.75mm)	10-30%
#8 (2.36mm)	0-10%

#16 (1.18mm)	0-5%

B. Joint Material: for pedestrian paving, shall conform to the sieve analysis / gradation per ASTM C144. Clean washed material and free of deleterious substances.

C. Contractor may substitute ASTM C144 with ASTM C33 material for paving with larger joints on prior written approval from the Engineer. Sieve material to remove larger particles and apply extra material and sweeping as required to ensure that the joints are completely full.

ASTM C144 Gradation		
Sieve Size	Natural Sand Percent Passing	Manufactured Sand Percent PassinG
#4 (4.75mm)	100%	100%
#8 (2.36mm)	95-100%	95-100%
#16 (1.18mm)	70-100%	70-100%
#30 (600 um)	40-75%	40-75%
#50 (300 um)	10-35%	20-40%
#100 (150 um)	2-15%	10-25%
#200 (75 um)	0-5%	0-10%

6. OTHER MATERIALS

A. Stain & Efflorescence Removers: As specified in ICPI Tech Spec No.5.

B. Geotextile fabric: shall be woven, minimum 6.0 oz/sq.yd, high-tenacity polypropylene yarn, inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

1. Mirafi 600X by TenCate Geosynthetics, www.tencate.com
2. RG315W Woven Geotextile by Reed & Graham Geosynthetics
3. Approved Equal

7. EDGE RESTRAINT

A. Steel Edging: Flexible carbon steel, 1/4"x5”x10’ minimum lengths, designed to receive tapered steel stakes at 30”-32” on center from an approved supplier as given below.

1. Tapered steel stakes 15”-16” length, designed to anchor edge restraint in place, as supplied by edge restraint manufacturer.
2. Finish: Black
3. Touch-up paint as supplied by steel edging manufacturer, will be required for all cut edges. Do not use commercial enamel paint for touch-up.

B. Approved suppliers (steel edging)

1. Duraedge available from The J.D. Russell Company, Tucson, AZ (800) 888-7425, www.jdrussellco.com
2. Commercial grade edging available from Col-Met, Garland TX, (800) 829-8225. www.col-met.com
3. Steel Edging, by Border Concepts, Charlotte NC, (800) 845-3343 www.borderconcepts.com

PART 3 - EXECUTION

1. JOB CONDITIONS

A. Sub-grade: See Geotechnical Report for sub-grade preparation and compaction requirements. Verify that sub-grade preparation, compacted density and elevations conform to the Specifications.

B. Permeable Aggregate Base: Permeable material shall be moistened thoroughly and compacted to a relative density of at least 75 percent in accordance with ASTM D4253 and ASTM D4254 using suitable plate or roller type vibratory compaction equipment.

C. Geotextile fabric: For sand-set pavers, excessive deflection in the base under loading may require the installation of a geotextile fabric as determined by the Engineer based on field observation. Verify that geotextile fabric, if applicable, has been placed according to specifications.

D. Edge restraints: Verify installation and elevations of edge restraints / curbs around perimeter of area to be paved. Notify Architect if entire perimeter is not contained.

E. Coordination: Fit paving work into other work. Scribe and cope as required for accurate fit.

2. INSTALLATION – GENERAL

A. Installation: Pavers shall be clean and free of foreign materials before installation.

B. Lay paving as shown on the Drawings with setting bed and joints as shown. Follow paver manufacturer's guidelines for typical joint widths for pavers, unless otherwise noted on the Drawings.

C. Pavers shall start from a corner or straight edge and proceed forward. Paving work shall be plumb, level, and true to line and grade; shall be installed to properly coincide and align with adjacent work and elevations String lines should be used to hold pattern lines true.

D. All paving shall be laid to provide positive drainage. There shall be no abrupt changes in slope.

E. Fill gaps at the edges of paved areas with cut pavers. Use a double bladed breaker or a masonry saw to cut pavers. Lay pavers to avoid cut pieces smaller than 1/3 the size of a paver.

F. The final surface elevation of pavers shall not deviate more than 3/8 in. under a 10 ft long straightedge.

G. The surface elevation of pavers shall be 1/8 to 1/4 inch above adjacent drainage inlets, concrete collars or channels.

3. INSTALLATION – SAND SET PAVERS

A. Install the geotextile fabric where shown on the compacted earth base per manufacturer's recommendations.

B. Install the edge restraints per manufacturer's recommendations prior to installing the setting bed.

C. Setting bed: Thickness shall be nominal 1-inch (maximum 1-1/4-inch) and uniform to insure an even surface. Use a low-amplitude, high-frequency plate vibrator to compact the sand/crushed stone bed. Ensure that the setting bed remains undisturbed prior to setting the pavers. Maintain sand moisture content at constant level.

D. Set pavers at an elevation to allow for vibration compaction to final finished surface. All edges must be retained to secure the perimeter pavers and the sand-laying course.

E. Pavers shall be installed hand-tight and level on the undisturbed setting bed.

F. Compaction: Use a low-amplitude, high-frequency plate vibrator to compact the pavers into the setting bed. In case of sand as setting bed material, vibrate the sand into the joints between the pavers and do not use joint sand during this process.

1. Ensure paver surface is clean prior to compaction.
2. Protect the pavers from scratching or cracking during compaction.
3. Smaller pavers may need to be compacted with a rubber mallet instead of a plate vibrator.

G. Vibrate pavers prior to sweeping sand to fill joints. Upon first pass of vibrator, fill joints with sand. Vibrate pavers after filling with sand in opposite direction of first pass.

1. Sweep excess sand into the joints and/or dispose of from the surface area.
2. Ensure all joints are full before final clean-up.

4. EDGE RESTRAINT

A. General: Alignment and grade of edge restraints shall be staked and limited to accurately reflect the plan layout prior to commencing work. After approval by the Architect, edge restraints shall be assembled to form well crafted and securely constructed lines.

B. Backfill all edge restraints prior to paving operations. Protect and repair all damaged edge restraints prior to final acceptance

5. CLEANING

A. Clean exposed surfaces of precast concrete paving units. Use cleaning products and method as specified in ICPI Tech Spec No.5. The completed paver installation shall be washed down ad cleaned to provide a clean finished surface.

6. CLEAN-UP

A. After completion of all operations, Contractor shall remove all trash, excess soil and other debris. All walks, walls, and pavement shall be swept and washed clean, leaving the entire area in a neat, orderly condition.

B. All planting soil contaminated by mortar, concrete, or grout shall be removed and replaced with top soil to the approval of the Engineer.

END OF SECTION 32 14 13

SECTION 32 18 16 - SYNTHETIC RESILIENT SURFACING

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

A. Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of Resilient Surfacing as shown on the Drawings and as specified in this Section. The work includes all required site preparation for new and repaired surfacing.

B. Related work includes but is not limited to:

1. Earthwork and Grading

2. Permeable Aggregate Base

3. Site Concrete

3. REFERENCES

A. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.

B. ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.

C. ASTM F1292-04 Standard Specification for Impact Attenuation of Surface Systems under and around Playground Equipment.

D. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.

E. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.

4. QUALITY ASSURANCE

A. Review: Limits of resilient surfacing repair and new locations shall be reviewed by the Engineer prior to installation.

B. Qualifications: The Contractor must have a C-61, D-12 specialty contractor's license to install Poured-in-Place Resilient Surfacing.

C. Poured-in-Place Resilient Surfacing System shall be WARRANTED by manufacturer for any defects in material and workmanship for a period of 5 YEARS from the date of purchase.

D. Standards: All resilient surfacing shall comply with the latest edition of the Handbook for Public Playground Safety as published by the U.S. Consumer Product and Safety Commission

(CPSC), American Society for Testing and Materials (ASTM) and California Disabled Accessibility Guidebook (CALDAG).

E. Sequencing: Contractor to perform the following tasks in this order:

1. Installation of playground equipment prior to placement of Resilient Surfacing.

2. Installation of activity area concrete flush curb prior to placement of Resilient Surfacing.

3. Placement of Resilient Surfacing after installation of sub-base.

F. Manufacturer's Services: For Resilient Surfacing, services of the manufacturer's representative who is experienced in installation of Resilient Surfacing shall be provided. The representative shall supervise the installation to ensure that the Resilient Surfacing meets the impact attenuation requirements as specified herein.

5. SUBMITTALS

A. General: Prior to the purchase of the items and within 10 days after award of contract, Contractor shall submit the following items to Engineer for review and approval. No materials for this section shall be purchased until such approval is granted. Incomplete submittals shall be returned without review.

B. Resilient Surfacing, Poured-In-Place Rubber:

1. One pint sample of rubber granules showing color, manufacturer's test data identifying the critical height of material per specified base and wear course depths, and certification of compliance with ASTM F2223-04, ASTM F1292 and ASTM F1951.

6. DELIVERY, STORAGE, AND HANDLING

A. Materials: Attention is directed to Section 6, Control of Materials of the City Standard Specifications and these Special Provisions. All materials required to complete the work under this contract shall be furnished by the Contractor.

B. Resilient Surfacing

1. Delivery and Acceptance Requirements

a. All materials shall be delivered in original unopened packages with labels intact.

b. Labels shall clearly state the product contained within the packages.

2. Storage and Handling Requirements

a. Store all materials protected from weather and at a temperature not less than forty degrees Fahrenheit (40° F).

7. WARRANTY

A. Final Guarantee: Contractor shall provide guarantee per Section 7-1.23, Final Guarantee of the City Standard Specifications.

B. Warranty: Resilient Surfacing shall maintain required impact attenuation characteristics and be guaranteed against defects in workmanship AND material for a period of seven (7) years. Warranty shall note maintenance requirements and performance standards of completed product.

PART 2 - PRODUCTS

1. GENERAL

A. All Resilient Surfacing shall meet ASTM F1951.

B. Resilient Surfacing intended to serve as accessible routes for persons with disabilities shall be firm, stable and slip resistant, and shall meet the requirements of ADA and ASTM F1487-07.

2. RESILIENT SURFACING

A. Poured-in-Place Rubber

1. Product shall be Tot Turf Supreme, 0.5-1.5mm wear course, to include 14-color TPV options, or approved equal.

2. Manufacturer shall be Robertson Recreational Surfaces, Northern California Office, (510) 433-0655 1354, 14th Street, Oakland, CA 94607.

3. Performance Criteria

a. Surfacing shall comply with current ASTM F-1292.

b. Wear course shall be minimum ½" thick and shall be porous

c. Cushion (base) course shall be minimum 3.5" thick and shall be porous

d. TPV rubber granules shall be 0.5mm-1.5mm.

4. Finishes

a. Color mixes shall be selected from Premium manufacturer colors as indicated on the Drawings.

b. The UV Resistant Aliphatic binder shall be used.

PART 3 - EXECUTION

1. EXAMINATION

A. Verification of Conditions: Verify that finished elevations of adjacent areas are as indicated on the drawings, that the appropriate sub-grade elevation has been established for the particular Resilient Surfacing to be installed, and that the subsurface has been installed in a true, even plane, and sloped to drain as indicated in drawings.

B. Subsurface: Tolerance of permeable aggregate base course shall be within three eighths inch (3/8") in ten feet (10'). Verify that aggregate subsurface has been fully compacted in two inch (2") lifts to ninety five percent (95%) or greater.

C. Drainage: Verify that sub-surfacing drainage, if required, has been installed to provide positive drainage.

D. Ambient Conditions: Resilient Surfacing shall be installed on a dry subsurface, with no prospect of rain within the initial drying period, at temperatures recommended by the manufacturer. Installation in weather condition of extreme heat, less than fifty five degrees Fahrenheit (55°F), and/or high humidity may impact cure time, and the structural integrity of the final product. Immediate surrounding of site shall be reasonably free of dust conditions and poor particulate air quality which will impact the final surface look. The manufacturer's installation manager shall reserve the fight to control installation based on such factor without penalty to the installer.

2. PREPARATION

A. Protection of In-Place Conditions

1. Surrounding areas, surfaces and appurtenances already in place shall be protected during installation of Resilient Surfacing.

3. INSTALLATION

A. The surfacing shall be constructed and installed in accordance with the manufacturer's specifications and with the details as shown on the Drawings and per applicable sections of these specifications.

B. Resilient Surfacings intended to serve as accessible routes for persons with disabilities shall be firm, stable and slip resistant, and shall meet the requirements of 2010 ADA and ASTM F1951.

C. Substrate: Whenever practical, substrate layer of surfacing material shall be installed in one continuous pour on the same day. When a second pour is required, fully coat the edge of the previous work with polyurethane binder to ensure one hundred percent (100%) bond with new work. Apply adhesive in small quantities so that new substrate can be placed before the adhesive dries.

D. Wear Surface:

1. The maximum thickness of the color wear surface shall be as shown on the Drawings.

2. The color wear surface shall be completed in one continuous pour with no seams or joints except where wearing surface is composed of differing color patterns.

3. The color mixtures shall be consistent throughout the entire surface as shown on the Drawings.

4. Wearing surface shall be bonded to substrate. Apply adhesive to substrate in small quantities so that wearing surface can be applied before adhesive dries.

5. Surface shall be hand trowelled to a smooth, even finish.

6. Where seams are required due to color change, a step configuration will be constructed to maintain wear surface integrity. The edge of initial pour shall be coated with adhesive and wearing surface mixture shall be immediately applied.

7. Pads with multiple seams are encouraged to include a top coating of urethane before being placed into use.

8. Butt joint seams are not acceptable.

9. Under special conditions and with Engineer's written approval, seams may be permitted in same color pad.

E. Perimeter: When connecting to a concrete curb the hardened edge shall be primed with adhesive and the final two inches (2") shall be tapered to allow the wear surface material to be a minimum of one inch (1") thick where it joins the concrete edge.

F. Thickness: Construction methods, such as use of measured screeds one and one sixteenth inches (1-1/16") thicker than the required surfacing depth, shall be employed to ensure that full depth of specified surfacing material is installed. Resilient Surfacing system thickness throughout the playground equipment use zone shall be as required to meet the impact attenuation requirements specified herein.

4. SITE QUALITY CONTROL

A. Materials: Attention is directed to Section 6, Control of Materials of the City Standard Specifications and these Special Provisions. All materials required to complete the work under this contract shall be furnished by the Contractor.

B. Non-Conforming Work

1. No subsequent layers of color surfacing shall be allowed to repair flaws, vandalism, etc.

2. If color and thickness is not consistent, the entire surface of the color coat shall be removed and replaced at the direction of the Engineer, at no additional cost to City.

5. CLEANING

A. Manufacturer's installers shall not leave adhesive on adjacent surface or play equipment.

B. Spills of excess adhesive shall be promptly cleaned.

6. PROTECTION

A. The Resilient Surfacing shall be allowed to fully cure in accordance with Manufacturer's instructions. The surface shall be protected by the Contractor from all traffic during the curing period of forty eight (48) hours or as instructed by the manufacturer.

END OF SECTION 32 18 16

SECTION 32 19 00 – SITE CONCRETE

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

B. Geotechnical Report by Intertek PSI dated 08/03/2018.

2. DESCRIPTION OF WORK

A. Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of plain Site Concrete, including where reinforced, as shown on the Drawings and as specified in this Section.
   1. The work includes installation of aggregate base.

B. Related work includes but is not limited to:
   1. Earthwork and Grading
   2. Site Furnishings
   3. Resilient Surfacing
   4. Playground Equipment

3. STANDARDS AND DEFINITIONS

A. Unless otherwise shown or specified all materials and methods shall conform to the appropriate current sections of the State of California, Department of Transportation Standard Specifications (Caltrans Standard Specification) as they reasonable apply to this work, except for measurement and payment requirements.

B. Portland Cement Association, Design and Control of Concrete Mixtures, latest edition.

C. American Concrete Institute (ACI) specifications, latest editions, including:
   1. ACI 301 Specifications for Structural Concrete
   2. ACI 302 Guide to Concrete Floor and Slab Construction
   3. ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete
   4. ACI 318 Building Code Requirements for Structural Concrete
   5. ACI 347 Guide to Formwork for Concrete

D. Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
   1. A615 Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
   2. A1064 Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
   3. C33 Specification for Concrete Aggregates
   4. C39 Test Method for Compressive Strength of Cylindrical Concrete Specimens
   5. C94 Specification for Ready-Mixed Concrete
   6. C114 Test Methods for Chemical Analysis of Hydraulic Cement

7. C131 Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
8. C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
9. C143 Test Method for Slump of Hydraulic-Cement Concrete
10. C150 Specification for Portland Cement
11. C157 Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete
12. C171 Specification for Sheet Materials for Curing Concrete
13. C173 Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
14. C260 Specification for Air-Entraining Admixtures for Concrete
15. C309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete
16. C311 Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
17. C330 Specification for Lightweight Aggregates for Structural Concrete
18. C494 Specification for Chemical Admixtures for Concrete
19. C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
20. C881 Specification for Epoxy-Resin-Base Bonding Systems for Concrete
21. C920 Specification for Elastomeric Joint Sealants
22. C979 Specification for Pigments for Integrally Colored Concrete
23. C989 Specification for Slag Cement for Use in Concrete and Mortars
24. C1240 Specification for Silica Fume Used in Cementitious Mixtures
25. C1602 Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
26. C1603 Test Method for Measurement of Solids in Water
27. D448 Classification for Sizes of Aggregate for Road and Bridge Construction
28. D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
29. D1751 Specification for Preformed Expansion Joint Filler for Concrete Paving
30. D1883 Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils

E. California Air Quality Management District (AQMD) Rule 1113 Volatile Organic Compound (VOC) Limits.

F. California Building Code (CBC), Part 2 of California Code of Regulations, Title 24: Walking surface finishes are to comply with accessibility provisions of the CBC, applicable edition.

G. Relative compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density determined in accordance with ASTM D1557, expressed as a percentage.

4. QUALITY ASSURANCE

A. Layout Review: Stake and layout all site concrete installations for review by the Owners Representative prior to excavation.

B. Inspection: Notify the Owners Representative 24 hours prior to placement of any concrete to inspect sub-grade, forms, and reinforcement.

C. Tolerances: Install the aggregate base and concrete to the minimum thickness shown and maintain tolerances for sub-grade, sub-base and finished grade as specified by Caltrans Standard Specifications. No combination of high and low tolerances will be permitted.

D. Substitutions: shotcrete / gunite will not be permitted as a substitute for cast-in-place concrete.

5. SUBMITTALS

A. Product data: DELETE ITEMS NOT REQUIRED
   1. Steel reinforcement (mill certificates) / fiber reinforcement / expansion joint filler, metal-key joints

B. Sieve analysis: Sieve analysis for aggregate base.

C. Concrete Mix: Proposed mix design of each class of concrete, indicating name of batch plant, date and # of mix design, project location, Contractor requesting delivery.
   1. Mix design: state the following:
      a. Proportions of all materials used
      b. Compressive strength in PSI at 28 days.
      c. Slump
      d. Water-cement ratio
      e. Color, if applicable
   2. Slump Test Data in support of submitted concrete mix
   3. Cylinder Report in support of submitted concrete mix
   4. Strength Performance Reports per ASTM C39 and ACI 301 of submitted concrete mix
   5. Sieve data / certification for coarse and fine aggregate
   6. Test report / certification for cement and fly ash.
   7. Admixture data.
   8. Water test report for ready mix concrete.

D. Schedule: schedule for saw-cutting concrete in relation to pour, see time period recommendation elsewhere in this Specification.

E. Detectable Warning Surfaces: Manufacturer's Certificate of compliance with ADAAG / CA-Title 24, and 5-year product warranty as noted herein.
   1. Provide a sample of the Detectable Warning Surface if a substitution is requested.

6. MOCK-UPS

A. Site Reviews – Special Concrete: Prepare mock-ups of all at-grade and above-grade concrete work that is colored and/or has a special finish, as shown on the Drawings. Minimum 3-ft x 3-ft for paving. Minimum 10-ft length for curbs and gutters.
   1. Mock-ups will be reviewed for color, form, pattern, jointing, and finish requirements and will be the basis of approval.
      a. Provide documentation of the coloring product and dosage used for each color of concrete.
      b. Mock-ups are to include expansion joint and control joints.
      c. Mock-ups are to include the specified cure and sealer, applied with the same equipment to be used in the final installation.
   2. Provide up to two additional mock-up panel(s) if the original mock-up(s) is/are not approved, at no additional cost to the Owner.
   3. Keep approved mock-ups at the job site to serve as a demonstration for all finishes. Remove mock-ups at the completion of the concrete work.
   4. Remove and replace all concrete work installed that does not conform to the approved mock-ups at the direction of the Owners Representative and at no additional cost to the Owner.

B. Schedule:
   1. Integral or surface color concrete: pour mock-up(s) at least 4-weeks before the scheduled pour, to allow for curing, and additional mock-up(s) if required. Each cured mock-up will be reviewed 7-10 days after pouring.
   2. Painted or color-stained concrete: cure mock-up(s) for at least 3-weeks before application of the color.

C. Detectable Warning Surfaces: Prepare one complete installation at a curb ramp; if a continuous band, then a minimum 3-foot long strip.
   1. For cast-in place composite surfaces, include at least two panels to show joint.
   2. If the installation includes a curved portion, the mock-up shall be of a curved portion.

7. DELIVERY, STORAGE AND HANDLING

A. Store materials in a dry and protected location. Protect reinforcing steel, dowels, and welded wire mesh from rusting, deformation, staining, and moisture damage.

8. TESTS ***DELETE IF ELSEWHERE IN THE MAIN PROJECT SPEC***

A. Testing and analysis of concrete will be performed under provisions of Caltrans Standard Specifications Section 6-3.

B. Testing firm shall take cylinders and perform slump, compression strength, and air entrainment tests in accordance with ASTM C143, C39 and C173.
   1. Testing shall be carried out for vertical surfaces equal to or greater than 48” as measured from bottom of footing to top of wall, and for vehicular concrete subject to increased loading conditions such as stress pads.
   2. All testing shall be at no additional cost to the Owner.

9. DSA-TESTS ***DSA PROJEDDTS UNDERGOING STRUCTURAL REVIEW, NOT FOR OVER THE COUNTER REVIEW***

A. Testing and analysis of structural concrete will be performed under the requirements of Division of the State Architect, DSA-103, latest edition.

PART 2 - PRODUCTS

1. BASE, FORMWORK AND REINFORCEMENT

A. Aggregate Base: Caltrans Standard Specifications, Section 26, Class-2, 3/4" maximum. ***PER PROJECT REQUIREMENTS. DELETE IF NOT REQURIED SEE ALSO 3.02. TABLES BELOW CAN BE RE-SIZED INDIVIDUALLY AS REQURED.***

Sieve Sizes	Percentage Passing			
	1 ½ “Maxiumum		¾ “ Maximum	
	Operating Range	Contract Compliance	Operating Range	Contract Compliance
2”	100	100		
1 ½ “	90-100	87-100		

1”			100	100
¾ “	50-85	45-90	90-100	87-100
No. 4	25-45	20-50	35-60	30-65
No. 30	10-25	6-29	10-30	5-35
No. 200	2-9	0-12	2-9	0-12

Quality Requirements		
Test	Operating Range	Contract Compliance
Resistance (R-value)		78 min.
Sand Equivalent	25 min.	22 min.
Durability Index		35 min.

B. Formwork: Steel or wood, of size and strength to resist movement during concrete placement and to retain straight, true, and to proper elevation, horizontal and vertical alignment until removed. Use forms that are straight and free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required.
   1. Form lumber: #2 or better grade wood. Do not use used form lumber.

C. Reinforcement Bars and Dowels: ASTM A615. Clean and free of paint, grease, oils, and loose rust scale. Deformed steel bars, Grade 60 for bars #5 and larger; Grade 40 for bars #4 and smaller, unless otherwise shown.
   1. Tie Wire: 16-gauge plain cold-drawn steel conforming to ASTM A1064, clean and free of rust, dirt, grease or oils.
   2. Supports: bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars in place.

D. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A1064 by Davis Wire Corporation or approved equal. Clean and free of paint and rust. Furnished in flat panels, not rolls.

E. Form-release: form release agent, California AQMD Rule 1113 VOC-limits compliant.

2. CONCRETE

A. Cementitious Materials:
   1. Portland Cement: ASTM C150. Type-II. Use single source throughout entire project.
   2. Fly Ash: ASTM C618 & C311. Class C, F, or N.
      a. Source fly ash from an experienced producer, conforming to all applicable standards.
      b. At no time during the course of the project will a change of fly ash source (plant) be permitted without the prior written consent of the Owners Representative.
   3. Slag: ASTM C989 if specified in the concrete mix design.

B. Coarse Aggregate: ASTM C33 and Caltrans Standard Specifications Section 90. Gravel, crushed gravel, crushed rock, or combinations thereof, free from organic matter and other deleterious substances, from an approved source. Use single source throughout entire project.

C. Fine Aggregate: ASTM C33 and Caltrans Standard Specifications Section 90. Natural sand or a combination of not less than 50% natural and manufactured sand, free from deleterious coatings, roots, bark, sticks, rags, and other extraneous material. Thoroughly and uniformly washed. Use single source throughout entire project.

D. Water: ASTM C94, clear and free from injurious amounts of oil, salts, acid, alkali, organic matter, or other deleterious substances. For ready-mix concrete water density shall be monitored with an automated device conforming to ASTM C1603.

E. Chemical Admixtures:
1. All admixtures: California AQMD Rule 1113 VOC-limits compliant
2. Air Entraining: ASTM C260. Use five percent (5%) air entrainment: Manufactured by BASF, Sika, W.R. Grace or approved equal.
3. Water Reducing: ASTM C494, manufactured by BASF, Sika, W.R. Grace or approved equal.
4. Shrinkage Reducing: ASTM C494. Capable of reducing drying shrinkage up to 80% at 28 days per ASTM C157, BASF, W.R. Grace or approved equal.
5. Accelerating: ASTM C494, non-corrosive admixture manufactured by BASF, W.R. Grace or approved equal.
6. Hydration Controlling: ASTM C494, Type B, and Type D by BASF, or approved equal.
7. Calcium chloride is not permitted in the manufacture of chemical admixtures.
8. Admixtures batched, mixed and transported in accordance with ASTM C94

F. Cure: ASTM C309 Type 1, Class A&B, California AQMD Rule 1113 VOC-limits compliant, clear membrane curing compound, by W.R. Meadows, L.M. Scofield, or approved equal.
1. Do not use white liquid membrane curing compound.
2. For colored concrete, see clause on Concrete Colors in this Specification for cure-sealers that are applied to freshly placed concrete. Do not use this cure.

G. Waterproofing Sealant: California AQMD Rule 1113 VOC-limits compliant. Sinak S-102 Sealer by Sinak Corporation www.sinakcorp.com or approved equal.

3. CONCRETE MIX DESIGN

A. Concrete mix: conform to applicable industry standards for concrete materials, admixtures, bonding materials, curing and other except as noted.
1. Concrete mixes shall be properly proportioned for yield.
2. Water / cement ratio: 0.50 max unless otherwise approved by the Owners Representative
3. Slump: maximum four (4”) inches. A tolerance of up to one (1”) inch above the maximum indicated is allowed for one batch in any five consecutive batches tested.

B. Strength: ASTM C39 designated by class based on 28-day compressive strengths when tested:
1. Class-2 (590 lbs of cementitious material per cubic yard) for curbs, gutters, footings, vehicular paving, steps, walls, and all above-grade structures unless otherwise noted. Minimum compressive strength of 3000 PSI at 28-days.

C. Fly Ash: Incorporation of fly ash into the concrete mix is at the Contractor’s discretion. If fly-ash is to be used in the mix, substitute up to 25% of Portland cement with fly ash for all classes of concrete, final proportions to be determined by the concrete supplier.
1. Concrete mixtures with fly ash must be properly designed for the application, and finishing procedures must be appropriately applied.
2. For mix designs utilizing 25% or more fly ash, proportioning shall be based on field experience or trial mixtures or both, per ACI 318, Section 5.3.

D. Slag: Incorporation of slag into the concrete mix is at the Contractor’s discretion. If slag is to be used in the mix, substitute up to 40% of Portland cement with slag for all classes of concrete, final proportions to be determined by the concrete supplier.

1. Concrete mixtures with slag must be properly designed for the application, and finishing procedures must be appropriately applied.

E. Chemical Admixtures
1. Concrete mixes for walls and/or structures equal to and over 4'-0" in height: do not include Air Entraining Mixtures.
2. Concrete mixes for walls and/or structures equal to and over 4'-0" in height: include Water Reducing Admixtures.
3. Chemical admixtures: at the Contractor's discretion or the mix design submitted by the concrete ready-mix supplier, with the two exceptions noted above.
4. Chemical admixtures: specified within the range of the manufacturer's recommended concentration.

4. CONCRETE JOINTS

A. General: All adhesives, fillers, sealants: California AQMD Rule 1113 VOC-limits compliant

B. Epoxy Adhesive: ASTM C881, injectable two-component epoxy adhesive, where used for threaded anchor rods or dowels. HIT-RE 500-V3 epoxy adhesive anchoring system by Hilti Inc. USA (800)879-8000, www.us.hilti.com, or equal.

C. Expansion joint filler: ASTM D1751, 3/8" thick asphalt impregnated fiberboard, by W.R. Meadows or approved equal.

PART 3 - EXECUTION

1. JOB CONDITIONS

A. Weather Conditions: Construct concrete surface course only when atmospheric temperature is above 40 degrees F., when the underlying base is dry, and when weather is not rainy.

B. Grade Control: Establish and maintain the required lines and grades, including cross-slope during construction operations.

C. Protection: Take all steps necessary not to discolor or damage existing improvements. If damage occurs, repair immediately and if repair cannot be made to the satisfaction of the Owners Representative, remove and replace at no expense to the Owner.

2. BASE PREPARATION

A. Sub-grade: See Specification Section Earthwork and Grading for sub-grade preparation and compaction requirements. Verify that sub-grade preparation, compacted density and elevations conform to the Specifications.

B. Place and compact aggregate base as specified in Caltrans Standard Specifications Section 26, to at least 95% relative compaction in accordance with ASTM D1557, and to a depth as noted on the Drawings. Verify grades to allow for finish paving.

C. Clear aggregate base surface of all loose or unsuitable material.

INCLUDE AGGREGATE BASE PREP ONLY IF REQUIRED. SEE ALSO 2.01A

3. INSTALLATION

A. Form Construction: Set forms to the required grades and lines, rigidly braced and secured; work conforming to ACI 347.
   1. Construct walls and seat walls less than 18” above finish grade without form ties unless essential for stability of formwork. Align form ties horizontally and vertically.
   2. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
   3. Remove forms without damage to the placed concrete.
   4. Do not use form ties for exposed portions of sand-blasted walls and structures where the holes will be visible after the form ties are removed. Use form braces only.
   5. Install form ties and similar accessories such that all metal will be at least 1 inch from surface when forms are stripped.

B. Reinforcement: Install per the Drawings, and secure in place. Do not pour concrete prior to the inspection by the Owners Representative.
   1. Use reinforcement chairs, concrete dobies, or other equivalent method to ensure that reinforcement / welded wire mesh has the required clearance off the bottom of the slab.
   2. Welded wire mesh is to be installed parallel to the bottom of the slab, and without dents.
   3. Install reinforcement / welded wire mesh with minimum cover as shown on the Drawings. A single cut through reinforcing materials in full depth vertical joints in paving as a means of separation is not acceptable.

C. Placement: Moisten as required to provide a uniform, dampened condition at the time concrete is placed. Place concrete using methods which prevent segregation of the mix, with as little re-handling as possible. Consolidate concrete along the face of forms and adjacent to transverse assemblies, reinforcement, or side forms. Use care to prevent dislocation of reinforcing, dowels, and joint devices. Deposit and spread concrete in a continuous operation between transverse joints. If interrupted for more than 1/2 hour, place a construction/cold joint.

D. Control Joints: Construct control joints true-to-line with face perpendicular to surface of the concrete, unless otherwise shown. Construct transverse joints at right angles to the centerline, unless otherwise noted. See Control Joint Types specified herein for specific guidelines.
   1. Set all joints accurately to grade and straight in alignment as shown on the Drawings. Alignment shall not vary more than 1/8" in 10' length.

E. Finishing: After striking-off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Distribute concrete as required to remove surface irregularities, and re-float repaired areas to provide a continuous, smooth finish. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 1/2" radius, unless otherwise shown. Eliminate any tool marks on concrete surface.
   1. After floating, test concrete surface for trueness - maximum 1/8" variation in 10’ length in any direction.
   2. After completion of floating and when excess moisture or surface sheet has disappeared, complete surface finishing, as specified herein.
   3. During finishing, do not apply cement to the dry concrete surface.
   4. See Concrete Finishing elsewhere in this Specification

F. Curing: Protect and cure finished concrete, conforming to applicable requirements of Caltrans Standard Specifications
   1. Cure all concrete for at least 7 days after placing.

G. Waterproofing Sealant: Apply sealant per product manufacturer recommendations to the inside surface of planters and all areas of walls below finished grade and/or in contact with soil. Two coats minimum.

4. CONTROL JOINTS

A. General: Work under this Section to comply with ACI 302.

B. Expansion Joints: locate as shown on the Drawings.
   1. Dowels: grease both ends.
   2. Joint fillers: one-piece lengths for the full width being placed wherever possible. Where more than one length is required, lace or clip joint filler sections together. Form top edge of filler to conform to top profile of concrete.

C. Construction (Cold) Joints:
   1. At old and new concrete pours. Drill the existing concrete to accept dowels and embed. Grease both ends of dowel, or epoxy end in existing concrete and grease end in new concrete.
   2. At previous day's pour and fresh pour: Grease both ends of dowel.
   3. When curb and/or gutter and pedestrian paving are poured separately, provide #3 dowels, 8" length 24" O.C.

D. Weakened Plane Joints: locate as shown on the Drawings.
   1. Pedestrian paving: construct as shown on the Drawings.
   2. Vehicular paving: saw-cut joints per Caltrans Standard Specifications, Section 40-1.08 Joints.
   3. Trench drains: joint top of drain surround a minimum of 60" O.C.
   4. Joint Width & Depth: Per Drawings. Do not exceed 3/16-inch in width.
   5. Do not end completed joints short of vertical surfaces.
   6. Saw-cut joints:
      a. Carry out saw cutting within the first 12 to 24 hours after pour, specific time within this time range is at the Contractor's discretion. Raveling and cracking of joints due to saw cutting too early or too late is not acceptable.
      b. Saw-cut joints in a straight line with no over-cutting.
      c. Perform saw-cut jointing with a new diamond tip circular saw.
      d. Use a hand tool to saw-cut up to vertical edges such as walls, steps, curbs and columns. No cutting into vertical surfaces will be allowed.

E. Score Marks: locate and construct as shown on the Drawings. Owner's standard detail if available takes precedence.
   1. If not shown then at a maximum spacing of 5' O.C. in any direction. Joints: tooled

5. COLOR HARDENER (FOR SURFACE COLOR ONLY)

A. Consolidate concrete by vibrating. Screed the concrete, then float it to the specified finished grade, flatness, and levelness, using wood floats and keeping the surface open.

B. Distribute the required number of bags of hardener as needed around the perimeter of the plastic concrete. Protect adjacent horizontal areas, landscaping with plastic sheeting.

C. Apply the dry hardener when the bleed water disappears and the floating process will not disrupt the level of the surface.

1. Apply the dry hardener from a bridge or use mechanical spreaders for larger or wider installations.
2. Apply the dry hardener evenly in two separate shakes, using two-thirds of the material for the first shake.
3. Make the shakes at 90 degrees to each other when practical, applying material to and working the edges first.

D. Use wood floats or a power troweling machine equipped with float blades to work the dry hardener completely and thoroughly into the surface after each application.

E. After floating the final shake, hand or machine trowel the surface to a flat, uniform finish and apply the specified texture. See also Concrete Finishing this section.

F. Install Scofield Lithochrome Colorwax in the matching color to cure color-hardened flatwork per manufacturer's instructions.
1. Apply the cure by airless sprayer at the rate of 300 – 400 square feet per gallon when the concrete is hard enough to walk on gently without marring, surface moisture has evaporated, and no condensation can occur.

G. Protect the coated surfaces from damage by other trades and traffic.

6. CONCRETE FINISHING

A. General: finishes as specified on the Drawings. Walking surfaces including curbs: slip-resistant and comply with accessibility provisions of CBC.
1. Prior to finishing, fill in form holes flush with concrete surface. Excludes Form Finish.
2. Remove all imperfections and blemishes that cannot be removed by specified finish type.

B. Finish types:
1. Broom finish - draw a stiff fine-hair broom across concrete surface, perpendicular to line of traffic. Repeat operation if required to provide a fine line texture. Texture must be true and straight across entire width of concrete slab.
2. Sand blast type finish: expose fines in the mix, using any of the following methods:
   a. Finishing work to take place only on fully cured concrete.
   b. Vapor blasting / wet blasting.

C. Wall caps: Strip forms with sufficient time to trowel smooth the wall cap with a plastic mule, and finish with a camel hair paint brush, along length of cap.

7. REPAIR AND CLEAN-UP

A. Repair: repair or remove and replace defective work such as under-strength concrete, concrete out of line, level or plumb, or showing objectionable cracks, honeycomb, rock pockets, voids, spalling, exposed reinforcing, etc., directed by the Owners Representative and at no additional cost to the Owner. All cleaning, patching, and repairs shall be subject to approval and acceptance by the Owners Representative.

B. Protect new concrete from all construction activities for 72 hours; from construction material or equipment movement for 7 days; and from heavy vehicular movement for 28 days. Any activity on new concrete prior to 28 days is at the Contractor's discretion and risk.

C. Clean up and remove from the site all spillage, overpour, discarded forming materials, rejected work or materials, and any other refuse or debris resulting from the work. Sweep concrete and wash free of stains, discolorations, dirt and other foreign materials just prior to final inspection.
   1. Clean step nosings of all cement or concrete.

D. Disposal: Segregate surplus material and debris remaining upon completion of the work as to type, and transport from the job site and dispose of in a legal manner.

8. MEASUREMENT AND PAYMENT

A. The Contract lump sum price or Contract unit price paid for each item shall be considered full compensation for furnishing all labor, material, equipment, tools, and incidentals, for all work involved as specified in this Section, as shown on the Drawings, and as directed by the Owners Representative, and no separate payment shall be made.

B. Payment for aggregate base shall be included in the Contract unit price for Base Rock.

C. Payment for retaining wall backfill, drain rock and filter cloth shall be included in the Contract unit price or Contract lump sum price for Retaining Walls.

D. Payment for sidewalk and curb ramps shall be included in the Contract unit price for Ramps and shall include detectable warning surfaces as specified herein.

E. Payment for concrete foundations or footings, including sub-grade and base preparation, shall be included in the Contract unit price or Contract lump sum price of items requiring foundations or footings.

F. Payment for metal control joints, saw-cut joints shall be included in the Contract lump sum price for Basketball Court.

END OF SECTION 32 19 00

SECTION 32 31 13 – CHAIN LINK FENCES & GATES

PART – 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY:

A. The work in this section shall include furnishing all labor, materials, equipment and appliances necessary to complete all detention grade enclosed drive motorized sliding gate(s), detention grade pedestrian swing gate(s) and detention grade pedestrian sliding gate(s) required for this project in strict accordance with this section of specifications and drawings.

B. Related Sections: The following sections contain requirements that relate to this section.

1. Division 03 00 00 Section Cast-in-Place Concrete.
2. Division 26 00 00 Sections for electrical requirements.

1.03 REFERENCES:

A. Underwriters Laboratory Vehicle Gate Operator Requirements (UL 325). (See 2.1 – D4)

B. American Welding Society AWS D1.1 / D1.1M Structural Welding Code. (See 1.05 – D2)

C. ASTM F 1083 Standard Specification for Pipe, Steel, Hot-Dipped Zinc Coated (galvanized) Welded, for Fence Structures. (See 1.05 – D1)

D. ASCE – 7: Minimum Design Loads for Buildings and Other Structures. (See 1.05 – D3)

1.04 DEFINITIONS:

A. Technical Advisor(s): An employee of the company producing the system who is certified in writing by the manufacturer to be technically qualified in design, installation, and servicing of the required gate systems. Personnel involved solely in sales do not qualify.

1.05 SUBMITTALS:

A. Product Data: Include details of construction relative to materials, dimensions of individual components, and gate. Provide roughing-in diagrams, operating instructions, and maintenance information. Include the following:

1. Setting drawings, templates, and installation instructions for built-in or embedded anchor devices.
2. Motors: Indicate nameplate data and ratings; characteristics; mounting arrangements; size and location of winding termination lugs, conduit entry, and grounding lug and coatings.
3. Detailed description of operation.

B. Shop Drawings: For special components and installations not dimensioned or detailed in manufacturer's data sheets.

1. Wiring Diagrams: Detail wiring for power, signal, and control systems. Differentiate between manufacturer-installed and field-installed wiring and between components provided by gate operator manufacturer and those provided by others.
2. Foundation details for operator.

C. CERTIFICATIONS:

1. Gate in Compliance with ASTM F1083 – Standard Specification for Pipe, Steel, Hot-Dipped Zinc Coated (galvanized) welded, for Fence Structures. (See 1.03 C)
2. Gate manufacturer shall provide independent certification as to the use of a documented Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 Welding Code. Upon request, Individual Certificates of Welder Qualification documenting successful completion of the requirements of the AWS D1.2 code shall also be provided. (See 1.03 – B).
3. Gate is to be designed to meet specified ASCE-7 Wind Load requirements with the gate in the closed and latched condition only. Typical gate design is expected to operate satisfactorily in winds up to 30 MPH. Depending on the gate panel infill, winds higher than 30 MPH may cause gate operational problems (if automated, operator entrapment may trigger, gate panel may not engage receiver). For sites with higher operational, non-typical, or specified wind loadings, manufacturer should be advised of the site conditions and a specifically engineered design will be offered. (See 1.03 – D).
4. The gate operator shall be in compliance with UL 325 as evidenced by UL listing label attached to gate operator. (See 1.03 – A)

1.06 CONTRACT CLOSEOUT SUBMITTALS:

A. Operation and Maintenance Data for each Gate Type: Deliver 3 copies of instructions for operation, maintenance, recommendations, and parts manuals covering the installed products to the Owners Representative.

B. Certification: Deliver to the Owners Representative written certification from the manufacturer's technical advisor that the gate systems and accessories are installed and operating properly. Include System Acceptance Test Report as per specification 3.3.

C. Selected manufacturer shall furnish an extended 2-year warranty. The manufacturer shall warrant the operator parts against failure resulting from normal operation of the system for a period of 2 years from the date of purchase. "Failure" is defined as a factory defect, thereby preventing normal movement of the system.

1.07 MAINTENANCE:

A. Spare Parts: Furnish the following and store at the site where directed:

1. Sliding Gate – Mechanical: One reduction gear assembly, one full-length chain and repair links and one crank handle.
2. Sliding Gate Operator – Electrical: one motor, two limit switches, four limit nuts, one transformer, one APEX II controller, one thermostat, one lock column status switch with short arm, one motor box cage heater and one gearbox immersion heater.
3. Required amounts of recommended lubricants for 3 years of service.

PART -2 PRODUCTS:

2.1 VEHICLE SALLYPORT LOCKING SYSTEM(S):

A. Fully integrated detention grade overhead sliding gate system with enclosed drive and three-point mechanical locking capability. The entire assembly shall be encased in a hot-dip galvanized steel enclosure protecting both the drive and locking assemblies from possible inmate tampering and poor operation due to inclement weather. Detention grade sallyport locking system must be tamper resistant. Exposed drive systems (chain or rail drive) do not meet this requirement.

1. Gate manufacturer shall provide independent certification as to the use of a documented Welding Procedure Specification and Procedure Qualification Record to insure conformance with the AWS D1.1 Welding Code. Individual Certificates of Welder

Qualification documenting successful completion of the requirements of the AWS D1.1M code shall also be provided.

B. MANUFACTURER:

1. Tymetal Corp. Model PLUSS or approved equal.
2. Southern Folger Model “J”.
3. Equivalent enclosed drive three-point mechanical locking system meeting the requirements of 2.1-A.

C. SYSTEM DIMENSIONS:

1. Each overhead locking system shall have a clear opening height and clear opening width as shown on the detail drawings.

D. SYSTEM FUNCTIONS:

1. System is designed to operate overhead sliding device.
2. System shall be designed so that gate movement from the closed position is impossible except by electric or mechanical means.

E. VARIABLE SPEED-RATE of TRAVEL:

1. The vehicle locking system shall have the ability to achieve a maximum gate speed of 1.5 feet per second, and shall be equipped with soft-start and soft-stop function to prevent shock load to the gate panel and locking system. Gate speed shall be adjustable and as selected by the facility at the project site.

F. MOTOR:

1. Controller/motor assembly shall meet the requirements of UL 325 (See 1.03-A).
2. Motor Size: The electrical motor shall be 1 HP, 230VAC, 3 Phase as produced by a nationally recognized manufacturer.
3. AC Drive: The variable frequency drive unit shall allow for programmable speeds and programmable soft-start and soft-stop features.
4. Overload Protection: Motors shall be protected against overload by either a thermal or a current sensing overload device.
5. Gear (Box) Reducer: The self-enclosed gear-head gearbox shall be manufactured as a single unit, and shall consist of hardened steel, machine cut worm and mating bronze gear running in oil bath. Oil shall be #460 viscosity grade oil with a fluid pour point of –22 degrees F. The gearbox shall perform the following functions:
   a) Adjustable Clutching Device.
   b) Manual disconnect by crank handle.
6. Gear Box Heater: Operator shall include internal gearbox heater and a heater strip for the control box.
7. Manual Operation: A crank handle, located at ground level in the motor box, shall provide a two-step emergency procedure for manual operation:
   a) Unlock and open motor-box door.
   b) Fold out handle and crank gate opened or closed.

8. Limits: The operator shall be equipped with an integral limit system, providing accurate settings to control the open and close positions of the gate, and shall not be affected by manual operation or motor removal.
9. Control Circuit: U.L. listed operator shall have 5v dc controls.
10. Control wiring: The electrical contractor shall supply all exterior control wiring.
11. Audio Alarm: This alarm shall have a dual function.
    a) The first function shall be as a warning prior to gate movement. When the motor control board recognizes a command, this alarm shall be activated three (3) seconds before the motor is energized and the gate begins to move. This shall be continuously activated while the gate is in motion.
12. Main Power Disconnect Switch and Wiring Compartment: When this switch is in the OFF position, the main power shall be disconnected from the Variable Speed Drive, Motor Control Board and power transformer(s).
13. Speed: The gate operator speed shall be fully programmable allowing a maximum speed of 2.0 feet per second.
14. Operators shall have an isolated low voltage (24V) secondary circuit supplied by a Class II transformer (24 VDC with a .5 AMP) to provide separate power for external control devices.

G. MOTOR HOUSING:

1. Water Resistant Motor Box: The motor box shall be constructed of 10-gauge sheet steel, hot-dip galvanized per ASTM 123, gasketed and located at ground level for easy maintenance.
2. Security Hinges and Tamper Resistant Security Screws: Security hinges and screws shall be furnished to secure operator enclosure components.
3. Motor Box Lock: Motor box shall be locked with a mogul lock or paracentric dead lock. Lock type to be selected during the submittal process. Manufacturer to ship motor box with a construction key code. Contractor to furnish facility specific key code (keys and lock cylinders).

H. SYSTEM COMPONENTS:

1. Overhead Track Assembly:
    a) Manufacturer’s structural steel shapes shall contain all the required components to support and encase both the drive and locking assemblies. The steel structural channels shall be hot-dipped galvanized after fabrication.
2. Bottom Guides: Bottom guides on plates: Bottom guides shall be constructed of 3/8” x 2 ½” (9.525 mm x 63.5 mm) flat steel, welded to a ¼” x 5” x 10 ½” (6mm x 127mm x 254mm) steel plate, shall be lagged to the concrete footing or as otherwise specified for vehicle crash gates.
3. Locking Column: The locking column is constructed of a W-4 “H” beam @ 13 lbs/lf (101.6 mm x 19.3 kg/m) with a removable steel cover, secured with security screws.
4. Locking Tangs: Three locking tangs to be affixed to the leading edge of the gate panel to provide positive locking into the locking column.
5. Posts: Double set of support posts shall be minimum 4” OD (102mm) galvanized steel with concrete footings as specified by the design team.

6. Gate Guide Angle: Gate guide angle shall consist of a 2 ½" x 1 ½" x ¼" (63.5 mm x 38 mm x 6.4 mm) steel angle attached to the bottom of the gate panel running its full length or as otherwise specified for vehicle crash gates.

I. VEHICLE GATE PANEL:

1. Gate panel shall be manufactured with galvanized steel pipe meeting the manufacturer's requirements. Gate frame shall be welded to form a rigid panel. Gate operator manufacturer must supply the gate panel equipment with truss rods.
2. Outer Support Members: SCH 40 (grade A) hot dip galvanized steel pipe 2.375" O.D. (60.3 mm) weighing 3.65 lbs. per. lin. ft. (5.4 kg/m). Grade B steel tubing 2.375" O.D. (73 mm) weight may differ depending on manufacturer. Product must be equal to SCH 40.
3. Inner Support Member: SCH 40 (grade A) hot dip galvanized steel pipe 2.375" O.D. (6.3 mm) weighing 3.65 lbs. per. lin. ft. (5.4 kg/m). Grade B steel tubing 2.375" O.D. (6.3 mm) weight may differ depending on manufacturer. Product must be equal to SCH 40.
4. Gate Panel shall be trussed in accordance with manufacturer's specifications.
5. Gate Panel Filler: Standard infill to be 2" x 2" x 9-gauge aluminized steel chain link.
   a) Other options for infill are available. Contact Tymetal for further options.

2.2 PEDESTRIAN SWING GATES:

A. Detention grade pedestrian swing gate systems shall be manufactured from structural steel tube of sufficient size and strength to accommodate the required detention hardware. Exterior detention swing gate system(s) shall be hot-dip galvanized after fabrication and fully assembled at the factory and shipped to the project site ready for installation. Only the hinges shall be welded after fabrication.

1. General: All pedestrian gate systems shall be pre-assembled, pre-hung and tested at the manufacturer's location.
2. Welding Certifications: Gate manufacturer shall provide independent certification as to the use of a documented Welding Procedure Specification and Procedure Qualification Record to insure conformance with the AWS D1.1 Welding Code. Individual Certificates of Welder Qualification documenting successful completion of the requirements of the AWS D1.1M code shall also be provided.
3. Storage: Store gate frames on building site, in an upright position, under cover, on wood sills or floors, and in a manner that prevents rust or damage. Ventilate canvas or plastic covers to prevent moisture traps.
4. Hot-dip galvanized coating to be a minimum 2 oz coating.
5. Tymetal Corp. Model 2150 is the design standard.

B. SYSTEM DIMENSIONS:

1. Gate opening heights and widths shall be as shown on the detail drawings.

C. PEDESTRIAN SWING GATE SYSTEM TYPE(S):

1. Type A-1: Pedestrian swing gate utilizing electro-mechanical lock with door closer.

D. Type A-1 Pedestrian Swing Gate System(s):

1. Pedestrian swing gate system shall be designed to accommodate an electro-mechanical lock.
2. Gate panel filler: 2" x 2" x 3/8 woven wire mesh crimped.

3. Single Swing Lock(s): Lock shall be Model 1050 electro-mechanical lock keyed both sides. Manufacturer to ship gates with construction key code only. Locks to be re-keyed on site to meet facility specific key code requirements.
4. Door Handles: Stainless steel handles shall be furnished for both sides of the gate.
5. Detention Hinges: Each gate shall be furnished with two detention hinges meeting a capacity of 2000lbs per hinge. Hinges are weld on type and serviceable and tamper resistant.
6. Door Position Switch: Each swing gate furnished with an electro- mechanical lock shall be furnished with a door position switch.
7. Pedestrian swing gate(s) furnished with a 1050 electro-mechanical lock shall be equipped with an internal electrical panel to terminate all electrical wires. All wiring to be concealed with in structural gate tube.
8. Door Stop: Furnish door stop in accordance with project details.

E. Steel Members:

1. General:

   Steel members shall be straight, true and free from dents, buckle, twist or rough edges. All joints shall be tight metal-to-metal welded finish. All welds shall show uniform section and deep penetration. Clean weld spatter off so that surfaces are easily cleaned.
2. All welds on the gate frame shall conform to Welding Procedure Specification and Procedure Qualification Record to insure conformance with AWS D1.1 / D1.1M Structural Welding Code. All individual welders shall be certified to AWS D1.1 / D1.1M Welding Code.
3. Storage: Store gate frames on building site, in an upright position, under cover, on wood sills or floors, and in a manner that prevents rust or damage. Ventilate canvas or plastic covers to prevent moisture traps.

2.3 FINISH:

A. Galvanizing:

   All exposed system parts shall be zinc galvanized or as otherwise specified.

PART -3 EXECUTION

3.1 SITE INSPECTION:

A. Final grades and installation conditions shall be examined. Installation shall not begin until all unsatisfactory conditions are corrected.

3.2 INSTALLATION:

A. Equipment in this section shall be installed in strict accordance with the company's printed instructions unless otherwise shown on the contract drawings.

3.3 FIELD QUALITY CONTROL:

A. General:

1. Pre-construction meeting that includes the factory construction manager.
2. Concrete Embedment: Factory supervisor shall be on site to inspect the work of the selected installation crew to insure compliance with manufacturer's specifications.
3. Commissioning: Facility staff training course shall last for a minimum time period of 4 hours and shall include the review of all installed systems, all controls and troubleshooting of any apparent or potential operation issues. Commissioning to be provided by factory staff only.

B. Preliminary System Test:

1. Preparation: Have the Technical Advisor adjust the complete system and then operate it long enough to assure that it is performing properly.
2. Run a preliminary test for each system:
   a) Determining whether the system is in a suitable condition to conduct the acceptance test.
   b) Checking and adjusting equipment.
   c) Training facility personnel.

C. System Acceptance Test:

1. Preparation: Notify the Owner's Representative at least three working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
2. Test each system function step by step.
3. Supply all equipment necessary for system adjustment and testing.
4. Test and Explain Safety Features:
   a) Each system feature and device is a separate component of the gate system.
   b) Ensure that all instructions for mechanical components, safety devices and the gate operator are available for everyone who will be using the gate system.
   c) The warning signs shipped with the gate operator must be installed in prominent position on both sides of the gate.
5. Ensure the owner is clear with regard to the safety points concerning the basic operational guidelines of the safety features of the gate operator system. These safety points are listed in the operator manual and must be read prior to system use.
6. Submit written report of test results signed by Technical Advisor and the Owner's representative.

END OF SECTION 32 31 13

SECTION 32 84 00 - IRRIGATION

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

A. Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of a complete and operational automatic Landscape Irrigation system as shown on the Drawings and as specified in this Section. The work includes:

1. Trenching, excavation, backfill including base and backfill materials.
2. Valve wiring associated with the system.
3. Maintenance of the system during the maintenance period.
4. Electrical wiring/conduit work associated with the controller.

B. Related work includes but is not limited to:

1. Earthwork and Grading
2. Site Concrete
3. Planting
4. Landscape Maintenance
5. Electrical – all relevant Specification Sections

3. STANDARDS & DEFINITIONS

A. Unless otherwise shown or specified, all materials and methods shall conform to the applicable current sections of:

1. National Sanitation Foundation (NSF) Standard 61 Drinking Water System Components
2. California Code of Regulations (CCR) Title 24 Part 5 California Plumbing Code (CPC)
3. California Code of Regulations (CCR) Title 24 Part 3 California Electrical Code (CEC)
4. State of California, Department of Transportation (CALTRANS) Standard Specifications (DTSS), except for measurement and payment requirements.

5. South Coast Air Quality Management District's (SCAQMD) Laboratory Methods of Analysis for Enforcement Samples Method 316A for VOC content of PVC, CPVC, and ABS pipe cements, and adhesives.

B. ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:

1. D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

2. D1784 Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds

3. D1785 Specification for Polyvinyl Chloride Plastic Pipe, Schedules 40, 80, and 120

4. D2241 Specification for Polyvinyl Chloride Pressure-Rated Pipe (SDR)

5. D2287 Specification for Non-rigid Vinyl Chloride Polymer, Copolymer Molding, &Extrusion Compounds

6. D2464 Specification for Threaded Polyvinyl Chloride Plastic Pipe Fittings, Schedule 80

7. D2466 Specification for Polyvinyl Chloride Plastic Pipe Fittings, Schedule 40

8. D2467 Specification for Polyvinyl Chloride Plastic Pipe Fittings, Schedule 80

9. D2564 Specification for Solvent Cements for Polyvinyl Chloride Plastic Piping Systems

10. D2609 Specification for Plastic Insert Fittings for Polyethylene Plastic Pipe

11. D2672 Specification for Joints for IPS PVC Pipe Using Solvent Cement

12. D2737 Specification for Polyethylene (PE) Plastic Tubing

13. D2855 Standard Practice for Making Solvent-Cemented Joints with Polyvinyl Chloride Pipe and Fittings

14. D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials

15. F656 Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings

16. F690 Standard Practice for Underground Installation of Thermoplastic Pressure Piping Irrigation Systems

17. F1498 Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings

C. All materials and methods shall conform to the applicable standards of the following organizations:

1. American Society of Irrigation Consultants (ASIC) Design Guidelines for Earth Grounding Electronic Equipment in Irrigation Systems

2. American Society of Mechanical Engineers (ASME) Standards

3. American Welding Society (AWS) Specifications

4. Copper Development Association: Copper Tube Handbook.

5. Manufacturers Standardization Society (MSS) Standards

6. National Electrical Manufacturers Association (NEMA) Standards

7. Underwriters Laboratories (UL) Standards

D. Relative compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density determined in accordance with ASTM D1557, expressed as a percentage.

E. Slope: as defined for installation of sub-surface drip irrigation, emitters low-flow bubblers, and tree bubblers on the uphill side of a plant or tree is any gradient in excess of 5%.

4. QUALITY ASSURANCE

A. Materials: All materials shall be new and of the best quality available unless otherwise specified. Manufacturer shall be clearly marked on all material, containers, or certificates of contents for inspection.

B. Codes: Install and test irrigation system and electrical power to controller in accordance with local codes and manufacturer's specifications.

C. Guarantee: Guarantee irrigation system for one year from date of acceptance.

5. SUBMITTALS

A. General:

1. Product data: all specified irrigation equipment, including any proposed substitutions.

B. Certification: Prior to the Substantial Completion Review submit to the Owner’s Representative:

1. Written statement that the controller has been grounded adequately from the controller manufacturer’s representative or other qualified testing professional

C. Drawings: Irrigation As-built Drawing(s) and Valve Stationing Plan(s).

D. Close-out Documentation: As specified herein.

6. REVIEWS

A. Request at least two (2) days in advance the following reviews prior to progressing with the work:

1. Preliminary Review – Main-line layout, trenching, pressure-test, flushing of main-line.

2. Intermediate Review - Irrigation coverage, controller location. Requirements for irrigation coverage inspection are specified herein.

3. Substantial Completion Review - valve box inspection, and overall operation of the irrigation system.

4. Final Review (at the completion of Maintenance Period) - all punch-list items identified at Substantial Completion Review, Close-out Documentation

5. See Specification Sections Earthwork and Grading, Soil Preparation, Planting, and Landscape Maintenance for other items to be inspected during these reviews.

6. Each review will be conducted only after all items pertaining to that review as noted above and in related Sections have been completed.

7. DELIVERY, STORAGE AND HANDLING

A. General: Exercise care in loading, unloading, storage, and handling of pipe, fittings, and irrigation equipment.

B. Remove any pipe / fittings that have been cracked, dented, or otherwise damaged from the site. If installed, replace pipe / fittings with undamaged pipe / fittings as directed by the Owner's Representative at no additional cost to the Owner.

8. TESTING

A. A licensed testing agency is to test the backflow preventer prior to substantial completion. Submit test results certificate to Owner as part of Substantial Completion review for Landscape Maintenance Period authorization.

PART 2 - PRODUCTS

1. PLASTIC PIPE AND FITTINGS

A. Unless otherwise noted:

1. Lateral lines: Schedule-40 PVC, solvent weld joints.

2. Mainline up to 2" diameter: Schedule-40 PVC, solvent weld joints.

3. Lateral line threaded / solvent weld fittings: Schedule 40 PVC.

4. Mainline threaded / solvent weld fittings: Schedule 80 PVC.

5. Risers and nipples: Schedule 80 PVC, molded thread. Machine threaded nipples will not be permitted.

2. CEMENTS, SEALANTS, AND PRIMERS

A. Unless otherwise noted:

1. Pipe Thread Sealant: low VOC, slow-drying, soft-setting multi-purpose sealant, Weld-On All Seal by IPS Corporation or approved equal. Do not use Teflon / PTFE tape.

2. PVC cement: low VOC, high strength, heavy bodied, medium setting, solvent weld cement, ASTM D2564, Weld-On 711 by IPS Corporation or approved equal. Do not use fast setting cements.

3. Primer: low VOC, industrial strength primer, ASTM F656, Weld-On P-70 by IPS Corporation or approved equal.

4. Paint: Krylon Fusion spray paint for plastics, for PVC pipe only where approved by the Owner's Representative to be installed above grade.

5. PVC Flex-hose glue: low VOC, medium bodied, fast setting solvent cement, ASTM D2564, Weld-on 795 Flex-PVC cement or approved equal.

6. Ensure that cans of solvents and primers have labels intact and stamped with the date of manufacture. Do not use cans dated over 1-year old. Do not thin solvents and primers.

3. BACKFLOW PREVENTERS & STRAINERS

A. Complying with NSF/ANSI Standard 61 for low lead requirements.

4. RED BRASS PIPE AND FITTINGS

A. Pipe sizes less than 4": ASTM B43 Specification for Seamless Red Brass Pipe, Standard Sizes.

B. Fittings: ANSI / ASME B16.15 Cast Bronze Threaded Fittings, Class 250.

5. DRIP IRRIGATION

A. Approved manufacturers of drip irrigation and associated products:

1. Agrifim by NDS, Fresno CA, (800) 688-8108 www.ndspro.com

2. King Brothers Industries (KBI) Valencia CA (800)325-9468 www.kbico.com

3. Netafim, Fresno CA (888)638-2346 www.netafimusa.com

4. Rainbird, Azusa CA (800)458-3005 www.rainbird.com

5. Salco Products, Ontario CA (855)725-2648 www.salcodrip.com

6. Toro, Riverside CA (877)345-8676 www.toro.com

B. Supply system:

1. Valve Assembly: solenoid valve, filter, and pressure regulator: as specified on the Drawings.

2. Laterals, supply / exhaust headers: as specified under Plastic Pipe and Fittings in this Specification, size per the Drawings.

C. General Drip Accessories:

1. Fittings as provided by the drip irrigation pipe manufacturer or approved equal.

2. Staples / stakes: 11-gauge x 6-inch galvanized steel irrigation round-head staples / stakes by An-Wil Bag Co., GPR, Southeastern Wire Fabricators or equal.

3. Flush port / valve by manufacturer or approved equal where shown on the Drawings.

4. In-line check valve by manufacturer or approved equal on all sloped areas. Spacing per manufacturer's recommendation. Swing-type for water flowing uphill; spring-type for water flowing downhill.

D. Point-source with 1/4" emitters:

1. Supply: polyethylene (PE) pipe ASTM D2737 as shown on the Drawings. 3/4" I.D. tubing with a minimum 0.055" (1.4mm) wall thickness. Color: black unless otherwise noted.

2. Distribution: polyethylene tube ASTM D2737 as shown on the Drawings. 1/4" I.D. tubing with a minimum 0.04" (1mm) wall thickness. Color: black unless otherwise noted.

3. Emitters: as shown on the Drawings.

4. Emitters: as shown on the Drawings.

E. Sub-Surface:

1. Dripline: as shown on the Drawings.

2. Use manufacturer's blank tubing to transport water across locations where irrigation is not required and as shown on the Drawings.

3. Dripline: purple color for reclaimed water used. *IF RECLAIMED.*

F. Sub-Surface Drip Accessories:

1. Air-relief valve by manufacturer or approved equal where shown on the Drawings.

2. Automatic flushing valve by manufacturer or approved equal where shown on the Drawings.

3. Pressure gauge by manufacturer or approved equal where shown on the Drawings

6. SLEEVING

A. Sleeves: As shown on the Drawings.

7. VALVE BOXES

A. General: Pre-cast plastic with bolt-down covers free of all cracks, chips or structural defects.

1. Size: valve boxes as required by equipment plus adequate clearance to operate valves unless otherwise noted. Ensure that for drip irrigation valves, the box is sized large

enough so that the filter mounted sideways or pointing down as shown on the Drawings can be easily removed for cleaning.

2. Rodent screen: welded wire mesh, hot-dip galvanized, size as shown on the Drawings.

3. Color: unless otherwise noted on the Drawings: Green for turf areas. Black for shrub / groundcover / mulch areas.

B. Models / Types:

1. Shrub / groundcover / mulch areas: Carson, Rainbird PVB Series, NDS Standard Series (Commercial) or approved equal.

2. Turf areas: ribbed / reinforced lids capable of withstanding the loads of ride-on lawn mowers. Carson TrussT Line, Rainbird VB Series, NDS Pro Plus Series or approved equal.

3. Vehicular paving: concrete with traffic rated lids.

C. Valve Identification (ID) Tags: Christy's Irrigation Standard size ID Tags by T.Christy Enterprises, Anaheim CA, (800)258-4583, or approved equal. Blue background for potable water, purple background for reclaimed/recycled water. If single controller, use the alphanumeric sequence starting with A1. For multiple controllers, use separate sequences starting with A1, B1, C1 to match controller identification shown on the Drawings.

8. IRRIGATION EQUIPMENT

A. General: Supply and install irrigation equipment as shown on the Drawings, or approved equal.

B. Backflow Preventer: lead-free as certified under NSF Standard 61 by NSF International.

1. Enclosure: Guardshack or equal, size to fit backflow device plus 6" clearance at the top and sides.

2. Enclosure Pad: Encpad or equal, size to fit backflow enclosure.

C. Controller: As specified on the Drawings

1. ET-Sensor with auto shut-off switch: Install in an unobstructed area open to the sky. Depending on site conditions install sensor assembly:

a. On the roof eaves / parapet wall coping wall

b. A galvanized steel pole 80-inches above ground level mounted in an appropriate concrete footing.

c. Connect sensor to the controller by underground cable / conduit, all exposed conduit to be galvanized steel.

D. Tree bubblers: field install socks / sleeves on root watering assemblies, supplied by manufacturer, size to match bubbler tube.

E. Drip Irrigation Valve Pressure Regulators: in-line regulators as shown on the Drawings. Pressure regulating dials are not permitted unless otherwise noted. Pressure regulating dials if specified: preset/fixed type not exceeding 45 PSI.

9. CONDUCTORS

A. Control Wire: Type UF, 600V, copper, common ground white, UL listed for irrigation control use.

1. Minimum wire gauge #14, use gauge appropriate to distance to account for voltage loss.

2. PVC (polyvinyl chloride) or PE (polyethylene) insulation.

3. Seal splices with connectors using epoxy resin or sealant; grease filled connectors not permitted: Spears DS-100 connectors with Spears DS-300 sealant, 3M Scotchlok 3570 connector sealing pack, or approved equal.

B. Controller Power: insulated copper conductor, THHN/THWN (Thermoplastic High Heat-resistant / Water-resistant Nylon-coated), solid or stranded.

1. Conductors: No.12 AWG (American Wire Gauge) minimum size. Use size and number of conductors appropriate to distance to account for voltage loss.

2. Follow standard electrical practices for wire color code.

10. CONDUIT

A. Conduits: rigid nonmetallic type, conforming to UL 651, rated 90 degrees C, and NSF certified. Schedule 40 PVC plastic for underground installations with glue-on PVC couplings and factory made elbows and sweeps. Carlon Plus 80 or approved equal.

1. Size: minimum 1” diameter or size for the conductors, whichever is greater.

2. Install conduits minimum 18” depth in planting areas, minimum 24” depth under paving.

3. Make couplings and connectors watertight in all runs. Utilize solvent cement of type approved by conduit manufacturer.

4. Join conduits with approved conduit couplings with ends butted in all such cases. Ream all conduit ends to remove burrs and sharp edges.

5. Provide adapters and locknuts where conduit is attached to metal boxes and panels.

6. Chamfer inner edges of conduits which open into pull boxes or install bushings.

7. Bends: free from dents or flattening, made with standard conduit elbows or conduit bent to not less than same radius. No more than 360 degrees of bend between pull boxes.

8. Leave a 14 AWG trace wire in each empty conduit.

9. Use Duct Seal to seal all conduit ends.

B. Conduits above grade: rigid galvanized steel.

1. Field wrap steel conduits extending below grade with 3M Scotchrap 50, with a 50% overlap. Complete with necessary fittings for a complete watertight installation.

PART 3 - EXECUTION

1. GENERAL

A. Acceptance of Work: Complete site grading to specified tolerances before trenching. Verify the existing conditions on site and the removal and or reinstallation required making the grades.

B. Existing Utilities: Verify location of all on site utilities prior to trenching. Notify Owner's Representative by telephone and in writing of any conflicts prior to installation. Restore damaged utilities as directed by the Owner's Representative at no additional cost to the Owner.

C. Coordination: Coordinate trenching as required with trenching contractor as well as with any other trades affected by irrigation installation. Coordinate installation of pipe and other irrigation equipment with other existing and proposed utilities and planting locations.

D. Grading: Install all irrigation features to their finished elevation and at depths indicated.

E. Finish Grade: Unless otherwise noted, set all heads at and perpendicular to, finish grade.

F. As-Built Conditions: regularly update a print of the system and any changes made to the system throughout the project. See Valve Stationing requirements elsewhere in this Specification.

G. Unusual Conditions: Immediately notify the Owner's Representative in the event that any unusual soil conditions are encountered during irrigation trenching operations. Excavate unsuitable material encountered below the natural grade and dispose of as directed by the Owner's Representative. Unsuitable material is defined in Section 19 Earthwork Clause 1.01B of the CALTRANS Standard Specifications.

H. Hazardous Materials: In the event existing asbestos pipe is encountered and needs to be modified and/or removed, comply with the requirements of Federal (OSHA) regulations, and California Code of Regulations Title 8 (Cal/OSHA).

2. INSTALLATION – TRENCHING & PIPE

A. Point of Connection: below grade. Connect to water meter and plumb backflow device and remaining irrigation system.

B. Excavation:

1. Depth – excavate trenches for mainline, sleeves, and laterals to the depth required for laying pipe or conduit, plus depth of bedding if required as noted below.

2. For pipes 4" dia. and less - level bottom of trenches for a smooth flat grade, and excavate bell holes where necessary to ensure that pipe rests for entire length on solid ground. Should rock or other unsuitable material be encountered, excavate to 6" below bottom of pipe and replace with well tamped and compacted approved backfill material or sand before laying pipe.

3. For pipes greater than 4" dia. – depth of pipe and bedding as shown on the Drawings, or 6" below bottom of pipe whichever is greater.

4. Width – excavate trenches wide enough to provide adequate working space to align and lay pipe or to construct the trench, make up and inspect joints, and allow placing and compaction of bedding material. Maximum trench width at the top of the pipe is the pipe outside diameter plus 12- inches on each side of the pipe.

5. Maintain excavations free of water while installing pipe and until backfilled.

C. Bedding: Install bedding upwards from the bottom of the trench to the extent shown on the Drawings.

1. Bedding material: compacted approved sub-soil or sand as defined herein.

2. In planting areas excluding natural turf sports fields, sand bedding may be jetted or ponded into place. Compact to equal that of the adjacent prepared sub-grade as specified herein. Mechanical compaction may be necessary to achieve this required density. If the bedding is jetted or ponded, the operation should be closely supervised and provisions should be made for the removal of excess water.

D. Backfill: Cover no joints until system has been pressure tested and approved by the Owner's Representative.

1. Backfill material: selected on-site excavated/sub-soil material, imported sandy soils, subject to prior approval by the Owner's Representative. Backfill with potentially damaging rocks and debris is not permitted.

2. When piping has been installed, tested, inspected, and approved, backfill excavations in layers not exceeding 8". Moisten and machine tamp as required.

3. In planting areas, install on-site near surface soils in the top 6" of the trenches compacted to maximum 85% relative compaction. For trenches in existing planting areas maintain near surface soils as uniform as possible with existing upper stratum soils.

4. In paving areas, install fill and compact per Geotech Report.

5. For trenches in existing areas, restore the ground or paving to original condition.

6. After backfilling, remove from the premises all surplus earth resulting from this work and dispose of same, to the satisfaction of the Owner's Representative.

E. Pipe: pipes shown parallel on the Plan may be installed in a common trench. Where required, snake pipe from side to side when trench exceeds 30 feet in length.

1. Install pipes in planting areas including those shown schematically adjacent or parallel to such areas.

2. Install all changes in depth of pipe using 45 degree fittings.

3. Use Teflon tape on all threaded connections.

F. Check Valve: On sloped sites, install in-line check-valves in sloped main / lateral / supply lines as required to prevent low sprinkler head / drip emitter / tree bubbler drainage. This may be omitted only on those circuits where all sprinkler heads or tree bubblers have built-in check valves.

G. Sleeves: install sleeves for all wiring and irrigation lines to be placed (with ends clearly marked above grade) under driveways and walks prior to their construction.

1. Install sleeves minimum 24" under paving.

2. Extend sleeves a minimum of 12-inches into planting areas.

3. Install all wiring in a separate sleeve.

4. Install temporary PVC caps to prevent intrusion of earth/debris prior to installation of pipes / wire.

5. For longer lengths of sleeve (> 15'-20') with multiple pipes, consider installing pipes along with sleeve and connecting later.

6. Install removable non-decaying plugs, expanding insulation foam, grout, or equal, at ends of sleeves and conduits to prevent entrance of earth and roots.

H. Fabrication: Install all manifolds in a neat and orderly manner, for ease in maintenance operations. Install manifolds to allow valve boxes to be parallel to each other and to adjacent walls, walks, and curbs. Cuts and joints shall be free of burrs, smooth and minimum in quantity.

I. Flushing of System: After installation of pipe lines and risers, but before installation of sprinkler heads, tree bubblers, and/or drip irrigation emitters, thoroughly flush the system to remove any foreign material in the pipes.

1. Flush the system in the presence of the Owner's Representative.

2. For flushing mainline and sprinkler portions of the system utilize full water main pressure.

3. For flushing downstream of drip irrigation valves via flush ports use drip system design pressure.

4. After flushing, backfill and settle soil. Rake smooth to match surrounding grade.

3. INSTALLATION – EQUIPMENT

A. General: Install irrigation equipment as shown on the Drawings

B. Valve Boxes: Install valve boxes so that the top of box is ½" above finish grade in turf areas and 1-½" above finish grade in mulch areas. Install valve box assembly in ground cover / shrub and not in hard paved areas. Install in lawn area only if groundcover does not exist adjacent to lawn.

1. Label valve box lids with the valve station number using a weather resistant method. Plastic valve box lids may be labeled using a branding tool / branding iron.

2. Attach a Valve ID tag, with the valve station number clearly marked with weatherproof method, to the inside of each remote control valve, and attached by means of a weatherproof tie.

C. Tree bubblers:

1. Install tree bubblers for boxed trees, unless otherwise noted on the Drawings.

2. In sloped areas, install tree bubblers on the uphill side of the rootball as noted on the Drawings.

4. CONTROL WIRE

A. General: Install control wire in pipe trenches wherever practical. Install wire below or level with the bottom of adjacent pipes. Install wire inside conduits as specified in this section where pipes are not available.

1. Bundle wire and tape to pipe every 10 feet. Size conduits or sleeve required based on control wires as specified herein.

2. Enclose wiring above finish grade in steel conduit.

3. Use a different color for control wires and the common wire.

4. One solenoid valve per station unless otherwise indicated on the Drawings or with prior approval of the Owner's Representative.

5. Test all wiring for continuity, open circuits and unintentional grounding prior to connecting.

B. Splices: seal with direct bury connectors as specified in this section.

1. Install wire splices in valve boxes, locations as approved by the Owner's Representative. Install traffic rated boxes in vehicular areas.

C. Additional wire:

1. Pull control wire for unused stations as noted on the Drawings.

2. Pull control wire and common to each stub-out as shown on the Drawings. Minimum one control wire and common if not indicated on the Drawings.

3. Provide 24" excess wiring in each valve box / pull box and in the nearest project valve box at 100-ft intervals on wire runs of greater than 100-ft. Neatly coil in valve box or pull box.

5. DRIP IRRIGATION – GENERAL

A. Install all drip line and equipment as indicated on drawings. Follow equipment Manufacturers Instructions.

B. Bury all supply and distribution pipes to the depths shown on the Drawings.

C. Staples: Install steel staples on drip line as follows:

1. 2' on center in sand, 3' on center in loam, 4' on center in clay, unless otherwise shown on the Drawings.

2. Two (2) staples on each change of direction (tee, elbow, or cross).

6. DRIP IRRIGATION (POINT-SOURCE) INSTALLATION

A. Install the flexible supply pipes through the planting to allow for expansion and movement, maximum length as shown on the Drawings. Do not kink the pipes, use right angle connectors in tight corners. Install and stake at the depth shown on the Drawings.

B. Install rigid supply pipes under paved areas and to reach distant planting zones, as shown on the Drawings and specified in this Section.

C. Do not back-fill over the supply pipes until inspected and approved by the Owner's Representative. Any back-fill work completed prior to inspection will need to be removed for review.

D. Install the flexible distribution pipes as shown on the drawings, and adjust or cut length as necessary, maximum length as shown on the Drawings.

E. Installing emitters directly into the supply pipes is not permitted. Incorrectly installed emitters will require replacement of the supply pipe.

F. Locate emitters / low-flow bubblers at top of mulch. Verify that locations of and flow from emitters / low-flow bubblers is optimum for each root ball watering.

G. Do not install mulch to the planting areas until the distribution pipes and emitter locations are inspected and approved by the Owner's Representative. Any mulch work completed prior to inspection will need to be removed for review.

H. On sloped areas, install supply pipes parallel to the slope wherever possible. Locate emitters / low-flow bubblers on the uphill side of the plant.

7. CONTROLLER

A. General: Based on existing soil types, soil imports, and final ground conditions, additional grounding equipment may require to be installed at no additional cost to the Owner.

1. Submit manufacturers grounding equipment details recommended for the Project.

B. Installation: install controller enclosure onto concrete base or on to wall per the Drawings.

C. Power: Install power to controller following all applicable electrical codes. Install GFCI switch and 9-volt battery.

8. VALVE STATIONING

A. As-built Drawing: Provide the Owner's Representative as-built mark-ups of the most current irrigation drawings, to reflect changes to the irrigation system layout, including:

1. Point of connection, isolation valves, filter, pressure regulator, master valve & flow sensor as applicable.

2. Remote control valve locations and renumbering if applicable.

3. Isolation valve, quick couplers, and stub-out locations as applicable.

4. Valve boxes for intermediate control wire splices.

5. Main-line and lateral lines.

6. Drip irrigation supply pipes. These are shown only in typical schematic form on the Drawings. Do not draw in drip irrigation distribution pipes.

7. Dimensionally locate all the above irrigation equipment with at least two measurements from surface features such as pavements, fences and buildings. Dimensionally locate each direction of main-line with one offset measurement from a surface feature. Lateral lines and drip irrigation supply pipes do not require measurements but are required to be drawn accurately.

8. Record all final changes before trenches are backfilled.

B. Valve-stationing Plan (New Systems): Clearly label and sequence stations according to the assigned valve identification numbers shown on the Record Drawings and color code the corresponding valve zones. Use a separate color for each valve zone.

1. Valve Stationing Maps shall be electronically and neatly prepared in color using software capable of annotating PDF documents. Hand colored mark-ups will not be accepted. Provide the Owner an unlocked copy of the PDF for future use.

2. In case valve sequencing needs to be changed for ease in maintenance operations, verify changes in advance with the Owner's Representative.

3. Provide (2) 11"x17" laminated copies for reference purposes inside the controller, and for the Owner's record.

4. Include a non-laminated 3rd copy of the Valve-stationing Plan in the Post

5. Submit completed valve-stationing plan to the Owner's Representative before final payment request.

9. PRESSURE TEST

A. Pressure Test:

1. Notify the Owner's Representative a minimum of two (2) working days prior to pressure test.

2. Furnish all equipment and temporary connections required for tests at no additional cost to the Owner.

3. Exercise caution in filling the system to prevent excessive surge pressure and water hammer.

4. Test pipe subject to continuous water pressure (pressure lines) at 125 lbs. of hydrostatic pressure for two hours with a maximum 5 PSI drop.

5. Pressure test all lateral supply lines (non-pressurized) with joints under paving that are connected to planters.

6. Repair any leaks, if necessary, and re-test.

7. Have the Owner's Representative visually inspect the pressure gauge at the start and end of the test period, without which the test will not be approved.

B. Closing in Un-inspected Work: Pay all costs necessitated by requiring opening, restoration and correction of all work closed in or concealed before inspection, testing as required and approval by Owner's Representative. Notify Owner's Representative 48 hours in advance of required testing.

10. IRRIGATION COVERAGE

A. Inspection of irrigation coverage shall take place during the Intermediate Review, as specified herein.

1. In the presence of the Owner's Representative, perform a coverage and operation test to determine if the system is fully operational.

2. If it is determined that adjustments in the irrigation equipment and the re-spacing of heads and/or relocation of emitters / low-flow bubblers will provide more complete coverage, then make such adjustments prior to planting. Adjustments may also include changes in nozzle or emitter / low-flow bubbler sizes, and degrees of nozzle arc as necessary.

3. Make changes and obtain complete and adequate coverage in all irrigated areas at no additional cost to the Owner.

11. HARDWARE

A. See Specification Section Landscape Maintenance for items to be handed over to the Owner at the in-service meeting.

12. CLOSE-OUT DOCUMENTATION

A. Submit prior to Final Review, the following documents:

1. Sheet containing:

a. Contractor's name, address, and phone number.

b. Controller manufacturer's service address, and phone number

2. Copies of the following documents:

a. Valve-stationing Plan

b. Existing soils test report – see Specification Section Soil Preparation.

3. Warranties and Certificates. Warranty documents or accompanying letters on company letterhead are to include project name and location and effective start date for warranties.

a. Irrigation Controller Warranty.

b. Backflow Prevention Device testing certificate.

4. Statement of verification of correct installation and operation:

5. In-service Meeting discussions & decisions. See Specification Section Landscape Maintenance.

6. Include all the documents in a 3-ring binder.

B. The Final Review will not be considered complete until the Close-out Documentation has been reviewed and approved by the Owner's Representative.

13. CLEAN-UP

A. Keep project area clean on a daily basis, removing debris from the site.

END OF SECTION 32 84 00

SECTION 32 91 13 - SOIL PREPARATION

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

A. Preparation of planting areas as shown on the Drawings and as specified in this Section. The Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for Soil work includes installation of soil amendments, finish grading and plant pit backfill.

B. Related work includes but is not limited to:
   1. Earthwork and Grading
   2. Planting

3. QUALITY ASSURANCE

A. Finish Grade: is defined as the finished top surface of the soil after all grading and soil preparation activities, and prior to installation of mulch.

B. Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
   1. C602 Specification for Agricultural Liming Materials

C. Fertilizers: Comply with the requirements of the Fertilizing Materials Inspection Program of the California Department of Food and Agriculture.

4. SUBMITTALS

A. Product Data: to be approved by the Owners Representative before the material is delivered to the site.
   1. Amendments, fertilizers and chemicals.

B. Samples: to be approved by the Owners Representative before the material is delivered to the site.
   1. 1-quart bag of soil amendments
   2. 1-quart bag of planter soil mix

C. Test Samples: Provide samples, as specified herein, to an agricultural soil testing laboratory approved by the Owners Representative, referred to herein as the Testing Lab, unless delivered to the site in original, unopened containers, each bearing the manufacturer guaranteed analysis.
   1. Pre-approved Testing Labs include:
      a. Waypoint Analytical (formerly Soil & Plant Laboratory) 4741 E Hunter Ave Suite A, Anaheim, CA 92807, (714)282-8777
      b. Wallace Laboratories LLC, 365 Coral Circle, El Segundo, CA 90245, (310) 615-0116
      c. Soil Control Lab, 42 Hangar Way, Watsonville CA 95076, (831) 724-5422

2. The Owners Representative reserves the right to reject the analysis from an alternate soil testing lab without prior approval.
3. Do not deliver any soil or amendment material to the site without approval by the Owners Representative.
4. Use the same Testing Lab for all tests specified herein.
5. Pay for all testing fees from the Testing Lab for all tests specified herein.

D. Testing – Amendments: Provide, along with a sample, latest analysis of amendments / compost / bulk organic materials by the Testing Lab for verification of conformance to this specification, and specific recommendations as to exact quantities to be used in planting.
1. Analysis is to conform to physical and chemical properties specified herein.
2. Analysis is to assume tilling of the amendments into the soil as described elsewhere in this Specification
3. Analysis is to be carried out / reported no more than three months prior to the date of amendment installation, not the start of the project.

E. Testing – Existing Soil: Prior to finish grading operations or at least four weeks before proposed planting operations, take a sample each of the topsoil and sub-soil, from 0”-12" deep, in at least three separate locations across the site, or as directed by the Owners Representative. Mix the samples from the locations to provide a composite sample, representative of the entire site, combined volume of samples not less than 2 quarts. Forward the soil samples to the Testing Lab for testing and recommendations as to exact fertilizers and soil amendments to be used in planting, A05-2 complete analysis or approved equal.
1. Amendment and fertilizer recommendations by the Testing Lab shall be specific to the proposed amendments to be used and include the amendment lab test / sample ID number and testing date as reference. Generic recommendations will be rejected and will require specific recommendations to be re-obtained from the Testing Lab.
   a. For planting other than turf sod, reference the amendment test report by number.
2. Soils report shall include an estimated infiltration rate for the tested soils.
3. Provide a sketch on an 8.5”x11” site plan of the locations from which samples were taken.

F. Submit delivery tags for all amendments and fertilizers delivered to the Site for the Project, if required by the Owners Representative.
1. Fertilizer delivery tags should clearly indicate the product and NPK designation.
2. Amendment delivery tags should clearly indicate the lab test number corresponding to the approved amendment test report.

5. REVIEWS

A. Specifically request at least (2) two days in advance the following review prior to progressing with the work:
1. Intermediate Review – completion of amendment depths, finish grade.
2. See Specification Sections Landscape Irrigation and Landscape Planting for other items to be inspected during this review.
3. The review shall be conducted only after all items pertaining to the review as noted above and in related Sections have been completed.

6. DELIVERY, STORAGE AND HANDLING

A. Deliver fertilizers and manufactured amendments to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Materials in broken

containers or which become caked or contaminated making them unsuitable for use will not be accepted and are to be removed from the site.

PART 2 - PRODUCTS

1. EXISTING SOIL

A. Topsoil: The top layer of existing soil in planting areas, containing minerals and organic materials including humus, and completely free of weeds, roots, rocks/clods over 1 cubic inch and other objectionable material. Depth of topsoil shall be taken to be 4-6 inches deep or as determined by the Owners Representative at the time of construction after clearing and grubbing.

B. Sub-soil: The remaining existing soil on the site after clearing & grubbing, after topsoil has been removed, and after all rocks over 1 cubic inch and all foreign debris and organic material have been removed.
   1. Soil under paving and aggregate base areas may be considered as subsoil provided contamination testing as specified elsewhere in this section indicates that it is free of contaminants that are harmful to plant growth.

2. FERTILIZER

A. Soil amendment fertilizer: commercial fertilizer, 16-6-8 (N-P-K) uniform pellet. For bidding purposes only, exact fertilizer type and quantity to be determined by Testing Lab analysis.

B. Plant fertilizer: commercial fertilizer packets / tablets, two-year controlled-release 20-10-05 (N-P-K). Best Tabs by Simplot Professional Products, Agriform by The Scotts Company, or equal.

3. SOIL AMENDMENTS

A. Amendment: nitrogen stabilized organic amendment / compost produced only from landscape / yard trimmings, grass clippings, food scraps or agricultural residues.
   1. Compost to be supplied by a producer who participates in the U.S. Composting Council's Standard Testing Assurance (STA) program.
   2. Compost is to have a dark brown color, does not exhibit a sour or putrid smell, does not contain recognizable grass or leaves, and is not hot upon delivery or rewetting.
   3. Compost gradation:

Sieve Size	Percent Passing
3/8 inch (9.5 mm)	100%
1/4 inch (6.25 mm)	At least 95%
#8 (2.36 mm)	At least 60%
#16 (1.18 mm)	20% - 70%
#32 (500 um)	0% - 30%

B. Amendment Chemistry – Suitability Considerations
   1. Nitrogen (dry weight basis): 0.4 to 0.6%
   2. Iron (minimum): 0.08%
   3. Organic content: above 17%
   4. Carbon-Nitrogen Ratio: below 25
   5. pH: below 8.0

6. Salinity (ECe): a value such that when combined with the existing site soil at a use rate determined by the Testing Lab Analysis, the salinity of the amended soil shall not exceed 4.0 dS/m (mmhos/cm).

C. Gypsum (if required by existing soils test): agricultural grade, OMRI listed.
1. Cal-Sul Pelletized Gypsum by North Pacific, Portland OR
2. Ultra Fine AG Gypsum by Western Mining & Minerals
3. Approved equal.

D. Sulfur (if required by existing soils test): granular degradable sulfur product, Tiger 90CR Organic 0-0-0-90 Sulfur by TigerSul.com, or approved equal.

4. CHEMICALS

A. The following brand names of various chemicals to be used in this Section are provided for ease of specifying; equals or brands with similar chemicals that will match or improve performance may be used at the Contractor's discretion. Verify use of any chemicals with Owner's Representative to application:
1. Pre-emergent herbicides - (granular form only) Treflan, Ronstar, or prior approved equal.

PART 3 - EXECUTION

1. GENERAL

A. Limits and Grades: Prior to commencing soil preparation operations, request a review by the Owners Representative to verify rough / mass grading work completed to date and verify specified limits of soil preparation work to commence.

B. Finish grade all non-hardscape areas to round the top and toe of all slopes, providing natural contouring to integrate newly graded areas with the existing natural topography.

C. Finish grade all non-hardscape areas to smoothly integrate newly graded areas with the existing grades.

D. Protect concrete from any sulfate-based amendments that may be specified from soils analysis to avoid staining. Replace any concrete damaged from amendment placement at the no additional cost to the Owner.

2. AMENDMENT PLACEMENT

A. The requirements below are for bidding purposes only, adjustments to the bidding formula shall be determined by the Testing Lab analysis.

B. Cross-rip all planting areas thoroughly to a minimum 10-inch depth. Upon completion of cross-ripping apply the amendments as follows:

Amount / 1000 Square Feet	
6 cubic yards	Nitrogen Stabilized Organic Amendment
12 lbs.	Commercial Fertilizer
50 lbs.	Gypsum

C. Uniformly spread and incorporated the materials to obtain a homogeneously blended soil, 6-inches in depth.

D. Plant pits: Use soil which has been amended in the above manner as the backfill mix around the sides of the root balls. See Specification Section Landscape Planting for plant pit requirements.

E. Watering: Apply water to areas to be drip irrigated to thoroughly mix in amendments and fertilizers immediately after amending soil, and a minimum of 24-hours prior to planting, unless rain is forecast for that period.
   1. Water may be manually applied by spray attachments or impact sprinklers on stands.
   2. Connect hose pipes to quick couplers or hose bibs. If neither is available or the main line has not been pressurized, use a portable lawn sprinkler pump connected to a water tank.
   3. The cost of watering to mix in amendments is at no additional cost to the Owner.

3. FINISH GRADING

A. Finish grade all areas, including those indicated to be planted on the Drawings, and remove all rocks and clods over 1 cubic inch. Finish grade all planting areas smoothly and uniformly. Repair all erosion damage during the construction period.

B. Unless otherwise shown on the Drawings, all soil finish grades shall be 1-inch below finish surface of walks, pavements, and curbs.

4. CHEMICALS

A. Herbicides and pesticides: Verify compatibility, dosage and other application procedures with the manufacturer. All chemicals shall be applied by a pest control operator licensed in the State of California.

B. Planting areas: Treat all planting and non-naturalized areas for weed control with pre-emergent herbicide, as recommended by the manufacturer. See Specification Section Landscape Maintenance for related work.

C. Include copies of documentation of pesticide and herbicide applications, countersigned by the Owner's Representative, as part of Close-out Documentation – see Specification Section Landscape Maintenance.

5. PLANT FERTILIZER

A. Apply additional fertilizer to all container stock, in the form of commercial fertilizer packets / tablets at the rate of:

Container size	Fertilizer Packets / Tablets
4-inch pot	one (1)
1-gallon plant	two (2)
5-gallon plant	four (4)
15-gallon plant	ten (10)
24" box	fifteen (15)

1. Space the packets / tablets evenly around the ball halfway up backfill touching side of root ball.
2. The additional fertilizer requirement is independent of the Testing Lab analysis.

6. CLEAN UP

A. After completion of all soil preparation operations, remove all trash, excess soil and other debris. Sweep and wash clean all walks, walls, and pavement. Leave the entire area in a neat, orderly condition.

END OF SECTION 32 91 13

SECTION 32 93 03 - PLANTING

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. DESCRIPTION OF WORK

A. Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the provision and installation of plant materials as shown on the Drawings and as specified in this Section.

B. Related work includes but is not limited to:

1. Soil Preparation

2. Irrigation

3. Landscape Maintenance

3. QUALITY ASSURANCE

A. Quality: Minimum quality of all plant material shall unless otherwise indicated conform to:

1. ANSI Z60.1-2004 American Standard for Nursery Stock, Sponsored by the American Nursery and Landscape Association (ANLA)

2. Prevailing published specifications of the California Association of Nurserymen.

3. Additional standards as indicated on the Drawings and as specified herein.

B. Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:

1. D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

C. Fertilizers: Comply with the requirements of the Fertilizing Materials Inspection Program of the California Department of Food and Agriculture.

D. Guarantee: Any plant material, within twelve (12) months following the final acceptance of the project, determined by the Owners Representative to be defective, restricted, declining or otherwise deficient due to abnormal root growth, shall be replaced to the equal condition of the adjacent plants, at the time of replacement.

4. SUBMITTALS

A. Product Data: to be approved by the Owners Representative before the material is delivered to the site.

1. Plant List Summary certifying species / size of plant material ordered, the nursery supplier(s), along with nursery photographs of species. Approval of photographs only constitutes approval of the portion of the plant above ground; root balls and container soil levels are subject to approval after delivery to site as described elsewhere in this Specification.

2. Note any plant material not available at that time, or proposed substitutions to be reviewed.

3. All associated planting products and accessories specified in this Section and shown on the Drawings, including fertilizers / chemicals / mulch / staking / guying / anchors / aeration tubes / root barrier

B. Samples: to be approved by the Owners Representative before the material is delivered to the site.

1. 1-quart bag sample of each mulch type specified.

5. REVIEWS

A. Intermediate Reviews - plant material approval and layout/locations. See Specification Sections Landscape Irrigation and Soil Preparation for other items to be inspected during these reviews.

1. Plants - allow a minimum of two (2) and maximum of five (5) % of the quantity of plants of each species for removal from containers and inspection of root balls.

2. Trees – allow a minimum of one (1) and maximum of three (3) of the quantity of trees of each species for removal from containers in case of 15-gallon specimens, and opening of the side of the containers in case of 24” and larger box sizes, for inspection of root balls.

3. Root systems and container soil levels not complying with the requirements as described elsewhere in these Specifications may be rejected by the Owner’s Representative.

B. Substantial Completion Review (to initiate Maintenance Period) – all planting areas Specification Section Landscape Maintenance.

C. Final Review (at the completion of Maintenance Period) - all planting areas including all punch-list items identified at Substantial Completion Review. See Specification Section Landscape Maintenance.

D. If not part of a regularly scheduled Owner-Architect-Contractor site meetings, then specifically request the above reviews at least (5) five days in advance prior to progressing with the work.

E. Each review will be conducted only after all items pertaining to that review as noted above and in related Sections have been completed.

6. DELIVERY, STORAGE AND HANDLING

A. Deliver fertilizers and manufactured amendments to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Materials in broken containers or which become caked or contaminated making them unsuitable for use will not be accepted and are to be removed from the site.

PART 2 - PRODUCTS

1. GENERAL

A. Nomenclature and Labels: Plant botanical names conform to “Standardized Plant Names,” second edition, and secondly, “A Checklist of Woody Ornamental Plants of California, “Manual 32, University of California. Deliver all plants of each clone, species, and cultivar to the site labeled with their full botanical name. Label every plant species with no less than one label for every ten plants of a species.

B. Quantities: The quantities shown on the plant list and in labels are for the use of the Owners Representative use and are not to be construed as the complete and accurate limits of the Contract. Furnish and install all plants shown schematically on the Drawings.

C. Trunk, Branches and Canopy:

D. Root Systems: All container-grown stock shall be grown in its container for at least six months prior to its planting.

1. Tree root crown and surrounding soil level shall be within 1-inch of the container rim for 15-gallon containers, 3-inches of the container rim for 24-inch boxes and above.

2. Do not deliver any trees to site with girdling roots or similar abnormalities. It is the Contractors responsibility to check trees before they are loaded on at the nursery suppliers.

E. Health: Foliage, roots and stems of all plants shall be of vigorous health and normal habit of growth for its species. All plants shall be free of all disease, insect stages, burns or disfiguring characteristics.

F. Untrue Species: All plant material, within 12-months following the final acceptance of the Project, determined by the Owner to be untrue to the species, clone, and/or variety specified, shall be replaced to the equal condition of adjacent plants at the time of replacement.

2. TREES

A. All trees shall have straight trunks of uniform taper, larger at the bottom. Trunks shall be free of damaged bark, with all minor abrasions and cuts showing healing tissue. Remove sucker basal growth and lateral growth and treated surface to eliminate re-sprouting. Allow normal lower side branching to remain. Trees unable to stand upright without support shall be rejected.

3. FERTILIZER

A. 15-15-15 (N-P-K) Commercial Fertilizer, uniform pellet.

1. The requirements above are for bidding purposes only, exact fertilizer types per Testing Lab analysis.

4. CHEMICALS

A. The following brand names of various chemicals to be used in this Section are provided for ease of specifying; equals or brands with similar chemicals that will match or improve

performance may be used at the Contractor's discretion. Verify use of any chemicals with Owner's Representative prior to application:

1. Pre-emergent herbicides - (granular form only) Treflan, Ronstar, or prior approved equal.

5. MULCH

A. General: Mulch is to contain less than 1% foreign matter including soil, weeds, seeds, etc. by dry weight.

1. Pneumatically applied mulch will not be permitted.

B. Mulch: 100% recycled construction wood with biodegradable coloring, ½-inch to 2-inches.

1. Pre-approved products / suppliers:

a. Woodchip Mulch by Vision Recycling, CA Color –golden (natural)

b. Decorative Mulch by Recology Organics. Color –gold

c. Republic Services, Milpitas CA (formerly BFI), CA

6. TREE STAKES AND GUYS

A. Wood Pole Staking

1. Stakes: Peeled and pressure-treated (EPA approved chemical not containing arsenic) lodgepole pine tree stakes, smooth, clean, and new, sized as follows:

a. 2" dia x 8' long for trees less than and equal to 8' height for the main cluster of foliage.

b. 3" dia. x 10' long for trees greater than 8' height for the main cluster of foliage.

2. Ties: Flat rubber / vinyl ties with U.V. inhibitors, meeting ASTM D412, width 1" minimum & length per container size requirements (24" minimum), by Gro Strait Products, Walnut Creek, CA / V.I.T Products, Escondido CA, or approved equal.

a. Use roofing nails of adequate length to firmly attach ties to stake.

7. WEED MAT AND FILTER FABRIC

A. Weed mat: non-woven polypropylene fabric, Mirafi 140N by Tencate, www.tencate.com, or approved equal.

B. Staples: 11-gauge x 6-inch galvanized steel irrigation square-head staples by An-Wil Bag Co., Southeastern Wire Fabricators or equal.

8. ROOT BARRIER

A. Tree root barrier: locking panel type, fabricated from a high density and high impact extruded ABS, Polyetheylene, or Polyproylene and ultraviolet inhibitors, with minimum 50% post-

consumer recycled plastic. 1/2 - 3/4-inch-high raised vertical ribs on the inner surface spaced not more than 6-8 inches apart.

1. Minimum mean thickness 0.08”

2. At new trees, depth of root barrier shall be 18”

3. Length and layout of root barrier per the Drawings.

B. Approved Products / Suppliers:

1. Universal Barrier (UB) Series by Deep Root Partners, L.P. San Francisco, CA, (800)458-7668

2. Vespro, Inc., San Rafael CA, (800) 554-0914

3. CP-Series by Century Products, Anaheim CA, (714) 632-7083

4. EP / RP Series by NDS, (800)726-1994

5. Villa Root Barrier, Inc. Lake Elsinore CA, (800) 654-4067

C. Bamboo root barrier: 30” x 60 mil polythene rhizome barrier as available from the Bamboo Sourcery, Sebastopol, CA (707) 823-5866, bamboosourcery.com. Plastic two-sided sealing tape as supplied the manufacturer.

D. Root Barrier Fabric (Buildings & Retaining Walls): Biobarrier by Typar Geosynthetics, Roseville MN, (877) 642-9929. Roll width: 39-inches. *ONLY TO PROTECT BUILDING FOUNDATIONS / BASEMENTS*

PART 3 - EXECUTION

1. GENERAL

A. Plant Material Approvals: Before planting operations commence, review all plant material with the Owners Representative. Remove defective plants from the site and substitute acceptable material in its place. The review does not accept defective plants which may be installed.

B. Layout: Lay out only those plants to be planted in any single day. Review locations of all plants prior to planting. Plants installed without this review may have be relocated and replanted as directed by the Owners Representative.

C. Protection of Plants: Maintain all plant material in a healthy growing condition prior to and during planting operation. Contractor shall be responsible for vandalism, theft, and damage to plant material until commencement of the maintenance period.

D. Pruning: Do not prune without specific authorization of the Owners Representative. Replace plants pruned without authorization if directed by the Owners Representative.

2. PLANTING

A. Rest the rootball only on undisturbed soil, or in the case of fill areas, on compacted, un-amended sub-grade. See Specification Section Soil Preparation for backfill mix requirements.

Loosen / scarify the sides and bottoms of plant rootball and pits to prevent glazing or compaction.

1. Plant pit sizes: as shown on the Drawings.

2. Plant pits in paved areas are to extend to the edge of the planter opening in all directions unless otherwise noted on the Drawings.

B. Watering basins: construct watering basins with bottoms draining away from plant stems to the edge of basins.

1. Flat areas with sprinkler / point-source drip irrigation and all areas with sub-surface drip irrigation - construct basins only if required to hand water plants during establishment period. See Specification Section Landscape Maintenance for removal of basins.

2. Sloped areas with sprinkler / point-source drip irrigation – construct basins and do not remove at the end of landscape maintenance, unless directed to do so by the Owner's Representative.

C. Foliage: trim foliage and lower branches if necessary, so that watering basin is clearly visible. Bubblers/emitters if installed should be clearly visible for maintenance.

3. TREE STABILIZATION

A. Unless otherwise shown on the Drawings, follow this table for staking, guying, and anchoring trees:

Standard Trees					
	15-gal	24" box	36" box	48" box	60" box
In-ground / accessible areas (1)	2-stakes	2-stakes	3-stakes	(4) root ball anchors	(4) root ball anchors
In-ground / inaccessible areas except for maintenance (2)	2-stakes	2-stakes or (3) trunk guys	3-stakes or (3) trunk guys	(3) trunk guys or (4) root ball anchors	(3) trunk guys or (4) root ball anchors
Green Roof / Ground w/ limited depth (3)	None	(4) root ball anchors	(4) root ball anchors	(4) root ball anchors	(4) root ball anchors
Raised Concrete Planter (3)	None	(3) trunk guys	(3) trunk guys	(4) trunk guys	(4) trunk guys

(1) Root ball steel anchors
(2) Guy wires attached to embedded earth anchors
(3) Root ball plastic cell anchors
(4) Guy wires attached to eye-bolts embedded in planter

4. TREE STAKING AND GUYING

A. Wood Pole Staking: Stake all trees supplied as 'Standard' form, unless otherwise noted on the Drawings. Install stakes as shown on the Drawings.

1. Drive stakes securely into existing soil on opposite sides of the rootball. If there is a prevailing wind direction then install stakes on the windward side of the tree. Install a minimum of (2) two figure-eight, rubber tree ties.

2. If using rubber ties without wire, nail rubber ties to the back of stakes in areas of severe wind conditions

5. ROOT BALL ANCHORING

A. General: Follow Manufacturer's written instructions and details for assembly of tree anchoring system.

1. Select system (metal anchors / plastic cells) based on whether root ball is being excavated in firm compacted existing or in-place soil (metal anchors), or soil is being placed around tree after installation (plastic cells).

2. For metal anchors, do not trim the steel cables; drive the anchors in as deep as the cables will allow.

3. For DMAN plastic cells, provide a minimum of 12-inches of subsoil between the base of the root ball and DMAN cell. Compact this subsoil to 85% relative compaction. Compact the planting backfill on the sides of the root ball to 60% relative compaction using a hand tamp.

4. Re-tension cables if required after 2-3 weeks since trees may settle after planting.

6. CHEMICALS

A. Herbicides and pesticides: Verify compatibility, dosage and other application procedures with the manufacturer. All chemicals shall be applied by a pest control operator licensed in the State of California.

B. After planting and prior to installation of mulch, treat all planting areas for weed control with pre-emergent herbicide, as recommended by the manufacturer.

1. For drip irrigation areas, manually water granular herbicides in to the soil soils using impact sprinklers or hose-end sprinklers.

C. Include copies of documentation of pesticide and herbicide applications, countersigned by the Owner's Representative, as part of Close-out Documentation – see Specification Section Landscape Maintenance.

7. FERTILIZER

A. Shrubs and groundcovers - Apply Commercial Fertilizer at 5 pounds per 1,000 square feet to planting areas 30 days after planting. Schedule re-application at 45-day intervals until completion of Landscape Maintenance.

1. The requirements above are for bidding purposes only, exact application rates per Testing Lab analysis.

2. Hand-water as necessary to dissolve fertilizer into the ground below the mulch.

B. Include copies of documentation of fertilizer applications, countersigned by the Owner as apart of Close-out Documentation – see Specification Section Landscape Maintenance.

8. MULCH

A. Install mulch to a minimum depth after settling / natural compaction as specified below – see the Drawings for areas to be covered and for tapering mulch down to the edge of adjacent hard surfaces

1. Wood Mulch – three (3") inches

2. In drip irrigation areas do not install mulch until inspection of irrigation by the Owner's Representative.

3. At planters with soil mixture and/or bioretention areas, do not install mulch until the Owner's Representative is able to verify soil settlement.

9. ROOT BARRIER

A. General: Install root barriers per manufacturer's instructions, and as shown on the Drawings. Irrigation / utility lines are not permitted to penetrate root barrier. The top of the root barrier is to be 1/2 inch above finished grade.

B. New trees: Install root barrier panels around trees planted within 5-feet of curbs, paving and landscape walls.

1. Linear Applications: At tree planters in paved areas, parking islands, medians, and parkway strips less than or equal to 10-ft wide inside dimension, install the root barrier at the edge of the surrounding curb or paving. Number of root barrier panels per the Drawings. *BFS NOW HAS A TEMPLATE DETAIL FOR THIS*

C. Existing trees: Install root barrier panels at the edges of curbs and paving installed under the canopy of existing trees, or within 5-feet of existing tree trunk, whichever is greater.

1. Length of the barrier is to be 16-feet (8 x 24" panels) or the extent under the tree canopy, whichever is greater.

2. Cut tree roots cleanly with a saw 12-inches away from the root barrier, and apply latex paint to the cut surface. Follow the tree protection ordinance for the local jurisdiction if applicable, for any tree work required to be done by an ISA certified arborist.

D. Building / retaining walls: Install root barrier fabric along wall foundations within 5-feet of tree trunk.

1. For new trees, length of root barrier fabric is equal to that shown on the Drawings for root barriers in linear applications.

2. For existing trees, length of the root barrier fabric is to be 16-feet or the extent under the tree canopy, whichever is greater.

10. WEED MAT

A. Install weed mat as shown and/or noted in the Drawings per manufacturer's instructions. Weed mat is to completely cover the soil in shrub, groundcover, planting areas, including areas to be mulched only. Overlap fabric pieces by at least 6 inches and staple per manufacturer's instructions.

11. MAINTENANCE

A. See Specification Section Landscape Maintenance

12. CLEAN UP

A. After completion of all planting operations, remove all trash, excess soil and other debris. Sweep and wash clean all walks, walls, and pavement. Leave the entire area in a neat, orderly condition.

END OF SECTION 32 93 03

ALISAL INTEGRATED HEALTH CENTER

SALINAS — COUNTY OF MONTEREY HEALTH DEPARTMENT — CALIFORNIA

MATERIALS

- CONCRETE
- CERAMIC TILE OR TILE PAVERS IN PLAN VIEW (SEE FINISH SCHEDULE)
- MASONRY
- BATT INSULATION IN SECTION
- RIGID INSULATION IN SECTION
- FINISH WOOD MEMBER IN SECTION
- CONTINUOUS WOOD MEMBER IN SECTION
- WOOD BLOCKING BETWEEN FRAMING MEMBERS IN SECTION
- PLYWOOD IN SECTION
- STEEL IN SECTION
- ACOUSTIC TILE CEILING MATERIAL IN SECTION

SEE FLOOR PLANS & SECTIONS FOR ADDITIONAL LEGENDS

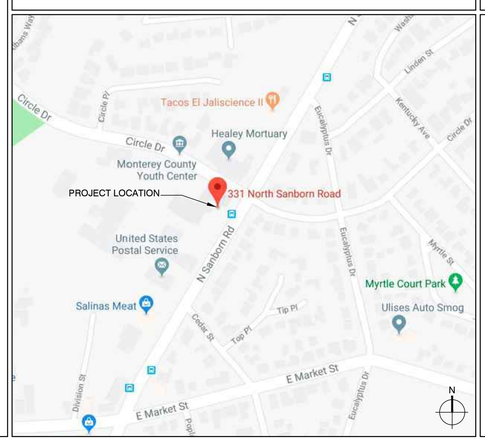
SYMBOLS

- DETAIL KEY: 2 / A6 — DETAIL NUMBER, SHEET NUMBER
- SECTION KEY: A / A7 — SECTION NUMBER, SHEET NUMBER
- INTERIOR ELEVATION KEY: C / A8 — ELEVATION NUMBER, SHEET NUMBER, ARROWS INDICATE ELEVATIONS SHOWN
- OFFICE / B201 — ROOM NAME, ROOM NUMBER
- WORK POINT, CONTROL POINT, OR DATUM POINT
- MATCHLINE
- 8 — SHEET NOTE SYMBOL (SEE SHEET NOTES TABLE)
- 101C — DOOR NUMBER (SEE DOOR SCHEDULE)
- D — WALL SYMBOL (SEE WALL TYPES DETAIL)
- A — WINDOW SYMBOL (SEE WINDOW SCHEDULE)
- 2 — REVISION

ABBREVIATIONS

&	AND	FLUOR.	FLUORESCENT	PLY.	PLYWOOD
L	ANGLE	F.O.	FACE OF	PR.	PAIR
@	AT	F.O.C.	FACE OF CONCRETE	P.S.F.	POUNDS PER SQUARE FOOT
℄	CENTERLINE	F.O.F.	FACE OF FINISH	P.S.I.	POUNDS PER SQUARE INCH
▯	PLATE	F.O.M.	FACE OF MASONRY	P.T.	PRESSURE TREATED
Ø	DIAMETER OR ROUND	F.O.S.	FACE OF STUDS	PART.	PARTITION
⊥	PERPENDICULAR	F.P.	FIREPLACE	P.T.D.	PAPER TOWEL DISPENSER
//	PARALLEL	F.S.	FULL SIZE	P.V.C.	POLYVINYL CHLORIDE
#	POUND OR NUMBER	FT.	FOOT OR FEET		
(E)	EXISTING	FTG.	FOOTING	R.	RISER (S)
		FURR.	FURRED (ING)	R.A.	RETURN AIR
A.B.	ANCHOR BOLT			RAD.	RADIUS
A.B.S.	ACRYLONITRILE BUTADIENE STYRENE	GA.	GAUGE	R.D.	ROOF DRAIN
A.C.	ASPHALTIC CONCRETE	GALV.	GALVANIZED	REG.	REGISTER
A.C.T.	ACOUSTICAL CEILING TILE	G.B.	GRAB BAR	REF.	REFRIGERATOR
A/C	AIR CONDITIONING	G.I.	GALVANIZED IRON	REINF.	REINFORCED, REINFORCING
ACOUS.	ACOUSTICAL	GL.	GLASS, GLAZING	REQD.	REQUIRED
ADJ.	ADJUSTABLE, ADJACENT	GR.	GRADE, GRADING	REQMT.	REQUIREMENT
AGGR.	AGGREGATE	G.W.B.	GYPSUM WALLBOARD	RESIL.	RESILIENT
ALUM.	ALUMINUM			R.H.M.S.	ROUND HEAD METAL SCREW
ANOD.	ANODIZED	H.B.	HOSE BIB	R.H.W.S.	ROUND HEAD WOOD SCREW
A.P.A.	AMERICAN PLYWOOD ASSOCIATION	HBD.	HARDBOARD	RM.	ROOM
APPROX.	APPROXIMATE	H.C.	HOLLOW CORE	R.O.	ROUGH OPENING
ARCH.	ARCHITECT (URAL)	HDR.	HEADER	R.O.W.	RIGHT OF WAY
		HDWD.	HARDWOOD	R.S.	RESAWN
BD.	BOARD	HDWR.	HARDWARE	RUB.	RUBBER
BIT.	BITUMINOUS	H.M.	HOLLOW METAL	RWD.	REDWOOD
BLDG.	BUILDING	HORIZ.	HORIZONTAL	R.W.L.	RAIN WATER LEADER
BLK.	BLOCK	HGT.	HEIGHT		
BLKG.	BLOCKING	HTG.	HEATING	S.	SOUTH
B.M.	BENCH MARK	H.W.	HOT WATER	S.A.M.	SELF-ADHERING MEMBRANE
BM.	BEAM	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	S.B.	SOLID BLOCKING
BOT.	BOTTOM			S.C.	SOLID CORE
BRG.	BEARING	I.C.B.O.	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	SCHED.	SCHEDULE
BTWN.	BETWEEN			S.D.	STORM DRAIN
B.W.	BOTH WAYS	I.D.	INSIDE DIAMETER	SECT.	SECTION
		INCL.	INCLUDED, INCLUDING	SERV.	SERVICE
CAB.	CABINET	INSUL.	INSULATION	S.F.	SQUARE FEET (FOOT)
C.B.	CATCH BASIN	INT.	INTERIOR	SH.	SHELF, SHELVING
C.C.B.R.	CLOSED CELL BACKER ROD	INV.	INVERT	SHWR.	SHOWER
CEM.	CEMENT	JAN.	JANITOR	SHT.	SHEET
CER.	CERAMIC	J.H.	JOIST HANGER	SHTG.	SHEATHING
C.F.	CUBIC FOOT	JT.	JOINT	SIM.	SIMILAR
C.I.	CAST IRON			S.O.H.	SIMILAR OPPOSITE HAND
CLKG.	CAULKING	KIT.	KITCHEN	S.S.	STAINLESS STEEL
CLG.	CEILING			S.M.	SHEET METAL
CL.	CLOSET	L.	LONG, LENGTH	S.M.S.	SHEET METAL SCREW
CLR.	CLEAR (ANCE)	LAM.	LAMINATE, LAMINATED	SPECS.	SPECIFICATIONS
COL.	COLUMN	LAV.	LAVATORY	SQ.	SQUARE
COMP.	COMPOSITION	L.B.	LAG BOLT	STL.	STEEL
CONC.	CONCRETE	LOC.	LOCATE, LOCATION	STD.	STANDARD
CONN.	CONNECT (ION)	L.W.	LIGHT WEIGHT	STAG.	STAGGERED
CONSTR.	CONSTRUCT (ION)			STOR.	STORAGE
CONT.	CONTINUOUS	MAS.	MASONRY	STRUCT.	STRUCTURAL
CORR.	CORRUGATED	MAT.	MATERIAL (S)	SUSP.	SUSPENDED
CSMT.	CASEMENT	MAX.	MAXIMUM	SYM.	SYMMETRICAL
CSWK.	CASEWORK	M.B.	MACHINE BOLT	$YS.	SYSTEM
C.T.	CERAMIC TILE	M.C.	MEDICINE CABINET		
CTR.	COUNTER	M.H.	MAN HOLE		TREAD (S)
CTSK.	COUNTERSINK	MECH.	MECHANICAL	T.B.	TOWEL BAR
CY.	CUBIC YARD	MEMB.	MEMBRANE	T.C.	TOP OF CURB
		MEZZ.	MEZZANINE	TEL.	TELEPHONE
DBL.	DOUBLE	MFR.	MANUFACTURE (ER)	TEMP.	TEMPERED
DEPT.	DEPARTMENT	MIN.	MINIMUM	T.E.N.	TYPICAL EDGE NAILING
DET.	DETAIL	MIR.	MIRROR	T & G	TONGUE AND GROOVE
D.F.	DOUGLAS FIR	MISC.	MISCELLANEOUS	T.GR.	TOP OF GRATE
D.H.	DOUBLE HUNG	MLDG.	MOLDING	THK.	THICK (NESS)
DIAG.	DIAGONAL	M.I.W.	MALLEABLE IRON WASHER	THRESH.	THRESHOLD
DIA.	DIAMETER	M.O.	MASONRY OPENING	T.O.	TOP OF
DIMEN.	DIMENSION	MTD.	MOUNTED	T.P.	TOP OF PAVEMENT
DISP.	DISPENSER	MTL.	METAL	T.P.H.	TOILET PAPER HOLDER
DN.	DOWN	MULL.	MULLION	TV	TELEVISION
DRWG.	DRAWING			T.W.	TOP OF WALL
D.S.	DOWNSPOUT	N.	NORTH	TYP.	TYPICAL
DWR.	DRAWER	(N)	NEW		
		NAT.	NATURAL	U.B.C.	UNIFORM BUILDING CODE
E.	EAST	N.I.C.	NOT IN CONTRACT	U.L.	UNDERWRITER'S LABORATORIES
EA.	EACH	NOM.	NOMINAL	U.O.N.	UNLESS OTHERWISE NOTED
ELEV.	ELEVATION, ELEVATOR	N.T.S.	NOT TO SCALE	UR.	URINAL
ELEC.	ELECTRIC (AL)				
EMER.	EMERGENCY	O/	OVER	V.B.	VAPOR BARRIER
ENCL.	ENCLOSURE	OBS.	OBSCURE	VAR.	VARIES
EP	ELECTRICAL PANEL	O.C.	ON CENTER	VERT.	VERTICAL
EQUIP.	EQUIPMENT	O.D.	OUTSIDE DIAMETER	V.G.	VERTICAL GRAIN
EXIST. (E)	EXISTING	O.F.C.I.	OWNER FURNISH, CONTRACTOR INSTALL	V.T.	VINYL TILE
EXH.	EXHAUST			W.	WEST
EXP.	EXPOSED, EXPANSION	OFF.	OFFICE	W.	WIDE, WIDTH
EXT.	EXTERIOR	O.H.M.S.	OVALHEAD MACHINE SCREW	W/	WITH
		O.H.W.S.	OVALHEAD WOOD SCREW	W.C.	WATER CLOSET
F.A.	FIRE ALARM	OPNG.	OPENING	WD.	WOOD
FAST.	FASTEN, FASTENER	OPP.	OPPOSITE	WDW.	WINDOW
F.B.	FLAT BAR	O.S.B.	ORIENTED STRAND BOARD	W.H.	WATER HEATER
F.D.	FLOOR DRAIN			W.I.C.	WOODWORK INSTITUTE OF CALIFORNIA
FDN.	FOUNDATION	P.A.F.	POWDER ACTUATED FASTENER		
F.E.C.	FIRE EXTINGUISHER CABINET	PART. BD.	PARTICLE BOARD	W/O	WITHOUT
FIBERGL.	FIBERGLASS	P.G.	PAINT GRADE	W.P.	WATERPROOF
FIN.	FINISH (ED)	PERF.	PERFORATED	W.R.	WATER RESISTANT
F.H.M.S.	FLAT HEAD MACHINE SCREW	P.L.F.	POUNDS PER LINEAL FOOT	W.R.B.	WATER RESISTANT BARRIER
F.H.W.S.	FLAT HEAD WOOD SCREW	P.L.	PROPERTY LINE.	W.S.	WOOD SCREW
FLASH.	FLASHING	PL. LAM.	PLASTIC LAMINATE	WSCT.	WAINSCOT
FLR.	FLOOR (ING)	PLAS.	PLASTER	WT.	WEIGHT
				W.W.M.	WELDED WIRE MESH

VICINITY MAP



CODE ANAYLSIS

APPLICABLE CODES:

2016 Building Standards Administrative Code, Part1, CBSC
2016 California Building Code (CBC) Part 2, CBSC
2016 California Electrical Code (CEC) Part 3, CBSC
2016 California Mechanical Code (CMC) Part 4, CBSC
2016 California Plumbing Code (CPC), Part 5 CBSC
2016 California Energy Code, Part 6 CBSC
2016 California Fire Code, Part 9 CBSC
2016 California Referenced Standards, Part 12, CBSC
Title 19 C.C.R., Public Safety, SFM Regulations
Americans with Disabilities Act (ADA), Title II or Title III
NFPA 13, Automatic Sprinkler System, 2010 edition
NFPA 72, Nat'l Fire Alarm Code, (Ca Amended) 2010 Edition

REVIEW IS LIMITED TO THE 2016 CBC INCLUDING 07/01/2018 INTERVENING CODE REVISION AND THE 2010 ADA GUIDELINES FOR ACCESSIBLE DESIGN.

IF FEDERAL FUNDING, OWNERSHIP OR LEASES ARE INCLUDED, OTHER REGULATIONS MAY APPLY.

GENERAL PROJECT NOTES

1. All work shall comply with the applicable sections of the 2016 edition of the California Building Code, Plumbing Code, Mechanical Code, Fire Code, Electrical Code, and of Title 24 of the State of California and the requirements of the County of Monterey.
2. Dimensions shall take precedence over scale at all times and large-scale details shall take precedence over smaller scale details. Dimension at framing shall be from face of stud at interior and to face of exterior sheathing at exterior, unless otherwise noted. The Contractor shall verify all details and dimensions and shall be held responsible for the correctness of same.
3. All staging, scaffolding, etc shall be designed, furnished, erected, maintained, and dismantled in conformance with all applicable Code Requirements and regulations by the General Contractor. The Contractor shall be solely responsible for all bracing required during construction. The Contractor shall not store construction materials or operate equipment in a manner such that the design live loads are exceeded. No construction equipment shall be stored on overhanging framing.
4. Contractor to provide all blocking or support framing required for mechanical, electrical equipment, accessories and trim, equipment, etc.

DEFERRED SUBMITTALS

Deferred submittals are defined as those portions of the design that are not submitted at the time of application and that are to be submitted to the building official within a specified period.

Deferred submittals for this project include:
The building shall be fully protected with an automatic fire alarm & fire sprinkler system by a licensed contractor. Installation, approval and maintenance shall be in compliance with applicable National Fire Protection Association Standard 13, International Building Code Standards, and local amendments, the editions of which shall be determined by the enforcing to the Salinas Fire Department jurisdiction. Four (4) sets of plans for fire sprinkler and alarm systems must be submitted and approved prior to installation. Rough-in inspections must be completed prior to requesting a framing inspection.

Unless noted otherwise, submittal documents for deferred submittal items shall be submitted to the architect or engineer of record who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the building official. Submittals to be prepared by qualified individuals and stamped/signed by state licensed individuals qualified for subject work.

Deferred submittals for this project include:
- Exterior, Building-Mounted Signs
- Fire alarm system
- Fire sprinkler system & Underground Fire Service
- Steel Joists
- Steel Stairs
- Mechanical Unit Screen
- Building Signage

BID ALTERNATES

Alternate Bid #1
Provide the cost for adding an automatic transfer switch and infrastructure to hook up a mobile generator as described in the drawings and specifications.

Alternate Bid #2
Provide the cost for additional acoustical scope as described in the drawings and specifications.

Alternate Bid #3
Provide the cost for the design/build PV solar system on the roof as described in the drawings and specifications.

Alternate Bid #4
Provide the cost to install the electrical vehicle charging stations as described in the drawings and specifications.

Alternate Bid #5
Provide the cost savings to change the specification for the building windows (not including the curtain wall) as described in the drawings and specifications.

PROJECT INFORMATION

LOCATION:	331 N. SANBORN RD SALINAS, CA 93905	NUMBER OF EXITS PER FLOOR	SECOND FLOOR - 2 PROVIDED FIRST FLOOR - MORE THAN 2 PROVIDED (see sheet A0.2)
APN:	004-601-015-000		
ZONING:	COMMUNITY COMMERCIAL		
(N) BUILDING AREA (Gross):	19,713 sf (TOTAL)		
FIRST FLOOR	9,785 sf	PARKING :	18,000 x 0.9 (NET USABLE) = 16,200 / 200 SF/SP = 81 SPACES TOTAL PARKING PROVIDED = 83 SPACES / STALLS
SECOND FLOOR	9,928 sf		
TOTAL SITE AREA:	47,328 sf (1.08 AC)		
BUILDING COVERAGE:	20.2%	DESCRIPTION OF WORK:	NEW TWO-STORY COMMERCIAL BEHAVIORAL/ OFFICE BUILDING FOR MONTEREY COUNTY HEALTH DEPARTMENT, CLINIC SERVICES. MAXIMUM BUILDING HEIGHT = 38'-0". EXTERIOR MATERIALS SYSTEM: STUCCO WITH FIBER CEMENT SIDING AND LOW-SLOPE MEMBRANE ROOF SYSTEM WITH PARAPETS. THIS CLINIC IS NOT LICENSED BY DEPARTMENT OF PUBLIC HEALTH (DPH) AND IS NOT PERMITTED AS AN OSHPD 3 CLINIC
OCCUPANCY GROUP:	B & A3 (see sheet A0.2)		
CONSTRUCTION TYPE:	V-B		
SPRINKLERED:	YES		
STORIES:	2		
BUILDING HEIGHT:	+38'-6"		

PROJECT DIRECTORY

OWNER:	MONTEREY COUNTY HEALTH DEPARTMENT 1270 NATIVIDAD ROAD SALINAS, CA 93906 (831)755-4513 PHONE (831)755-4743 ALT PHONE CONTACT: CHRIS LEVENTON, ELSA JIMENEZ EMAIL: leventonc@co.monterey.ca.us	STRUCTURAL ENGINEER:	HOWARD CARTER ASSOCIATES, INC. 9600 BLUE LARKSPUR LANE SUITE 202 MONTEREY, CA 93940 (831)373-3119 PHONE (831)373-5872 FAX CONTACT: CSILLA FOSS, SE & BRIAN NICHOLS, PE EMAIL: hcaengineer9600@gmail.com	LANDSCAPE ARCHITECT:	BFS LANDSCAPE ARCHITECTS 425 PACIFIC STREET, SUITE 201 MONTEREY, CA 93940 (831)646-1383 PHONE (831)373-8653 FAX CONTACT: MIKE BELLINGER, JAMES BISHOP EMAIL: mike@bfsla.com, james@bfsla.com
OWNER'S REPRESENTATIVE:	FLORENCE KABWASA-GREEN, PROJ. MANAGER II PUBLIC WORKS & FACILITIES-ARCHITECTURAL SERVICES 1441 SCHILLING PLACE-SOUTH, 2ND FLOOR SALINAS, CA 93901-4527 (831)755-4805 PHONE (831)755-4958 FAX EMAIL: kabwasa-greenfa@co.monterey.ca.us	MECHANICAL ENGINEER:	AXIOM ENGINEERS 22 LOWER RAGSDALE, SUITE A MONTEREY, CA 93940 (831)649-8000 PHONE (831)649-8038 FAX CONTACT: SCOTT STROSHANE, PE EMAIL: scotts@axiomengineers.com	GEOTECHNICAL ENGINEER:	PROFESSIONAL SERVICE INDUSTRIES, INC 4703 TIDEWATER AVENUE, SUITE B OAKLAND, CA 94601 (510)434-9200 PHONE (510)434-7676 FAX CONTACT: ROBERT R. RUSSELL, PE, GE
ARCHITECTURE:	THE PAUL DAVIS PARTNERSHIP, LLP 286 ELDORADO STREET MONTEREY, CA 93940 (831)373-2784 PHONE ext. 207 (831)373-7459 FAX CONTACT: PAUL W. DAVIS, AIA EMAIL: paulw@pauldavispartnership.com	ELECTRICAL ENGINEER:	AURUM CONSULTING ENGINEERS 60 GARDEN COURT, SUITE 210 MONTEREY, CA 93940 (831)646-3330 PHONE (831)646-3336 FAX CONTACT: ELDRIDGE O. BELL, PE EMAIL: eldridge@acemb.com	INTERIOR DESIGNER:	NELSON ZIMMERMAN DESIGN 102 LAUREL DRIVE CARMEL VALLEY, CA 93924 (831)236-6116 PHONE CONTACT: CHRISTINA ZIMMERMAN EMAIL: zimmerman102@comcast.net
CIVIL ENGINEER:	WHITSON ENGINEERS 6 HARRIS COURT MONTEREY, CA 93940 (831)649-5225 PHONE (831)373-5065 FAX CONTACT: CARRIE WRIGHT, PE EMAIL: cwright@whitsonengineers.com	ACOUSTICAL ENGINEER:	SONICS ESD 40 RAGSDALE, SUITE 130 MONTEREY, CA 93940 (831)646-9711 PHONE (831)646-9780 FAX CONTACT: JIM BARATH EMAIL: jim@sonicsesd.com		

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M6.3 DETAILS - MECHANICAL

PLUMBING
P0.1 LEGENDS, NOTES & SCHEDULES - PLUMBING
P1.1 SITE PLAN - PLUMBING
P2.1 FIRST FLOOR PLAN - PLUMBING
P2.2 SECOND FLOOR PLAN - PLUMBING
P2.3 ROOF PLAN - PLUMBING
P4.1 PARTIAL FLOOR PLANS - PLUMBING
P4.2 PARTIAL FLOOR PLANS - PLUMBING
P6.1 DETAILS - PLUMBING
P6.2 DETAILS - PLUMBING
P6.3 DETAILS - PLUMBING

ELECTRICAL
E0.1 SYMBOLS, ABBREVIATIONS, LIGHT FIXTURE SCHEDULES, CODES, STANDARDS, NOTES & SHEET INDEX
E0.2 CA ENERGY COMPLIANCE, TITLE 24 BUILDING INTERIOR
E0.3 CA ENERGY COMPLIANCE, TITLE 24 BUILDING EXTERIOR
E0.4 CA ENERGY COMPLIANCE, TITLE 24 BUILDING POWER DISTRIBUTION
E1.1 ELECTRICAL SINGLE LINE DIAGRAM
E1.2 PANELBOARD SCHEDULES
E2.1 ELECTRICAL SITE PLAN
E3.1 PARTIAL POWER & SYSTEMS PLAN - FIRST FLOOR
E3.2 PARTIAL POWER & SYSTEMS PLAN - FIRST FLOOR
E3.3 PARTIAL POWER & SYSTEMS PLAN - SECOND FLOOR
E3.4 PARTIAL POWER & SYSTEMS PLAN - SECOND FLOOR
E3.5 POWER & SYSTEMS PLAN - ROOF
E5.1 PARTIAL LIGHTING PLAN - FIRST FLOOR
E5.2 PARTIAL LIGHTING PLAN - FIRST FLOOR
E5.3 PARTIAL LIGHTING PLAN - SECOND FLOOR
E5.4 PARTIAL LIGHTING PLAN - SECOND FLOOR
E6.1 ELECTRICAL DETAILS
E6.2 ELECTRICAL DETAILS
E6.3 ELECTRICAL DETAILS
E6.4 ELECTRICAL DETAILS
E6.5 ELECTRICAL DETAILS

LANDSCAPE
L-1.0 CONSTRUCTION PLAN
L-1.1 CONSTRUCTION PLAN
L-2.0 CONSTRUCTION DETAILS
L-2.1 CONSTRUCTION DETAILS
L-3.0 IRRIGATION PLAN
L-3.1 IRRIGATION PLAN
L-3.2 IRRIGATION PLAN
L-4.0 PLANTING PLAN
L-4.1 PLANTING PLAN
L-5.0 IRRIGATION & PLANTING DETAILS
L-5.1 IRRIGATION & PLANTING DETAILS
L-5.2 IRRIGATION & PLANTING DETAILS

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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LICENSED ARCHITECT — PAUL W. DAVIS — No. C-15182 — REN. 12-31-21 — STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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Sheet Title:
COVER SHEET

Sheet Number:
A0.1

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PLUMBING FIXTURE CALCULATION (CPC 4-2)

PER 2016 CPC TABLE 422.1, TABLE A (OCCUPANT LOAD FACTOR) & 2016 CBC TABLE 2902.1

B OCCUPANCY
18,502 SF / 200 = 93

MIN. FIXTURE REQUIRED:

FIXTURE PER PERSON	WC	LAV
MALE (47)	1	1
FEMALE (46)	3	1

A3 OCCUPANCY
1,187 SF / 30 = 40

MIN. FIXTURE REQUIRED:

FIXTURE PER PERSON	WC	LAV
MALE (20)	1	1
FEMALE (20)	2	1

MIN. FIXTURE REQUIRED (COMBINED B & A3 OCCUPANCIES):

FIXTURE PER PERSON	WC	LAV
MALE (67)	2	2
FEMALE (66)	5	2

URINAL - 1 REQUIRED

FIXTURE PROVIDED (COMBINED B & A3 OCCUPANCIES):

FIXTURE PER PERSON	WC	LAV
MALE (67)	5	5
FEMALE (66)	6	5

URINAL - 1 (LOCATED IN STAFF TOILET)

CODE ANALYSIS

OCCUPANCY SEPARATION PER TABLE 508.4

'A' OCCUPANCY TO B OCCUPANCY: 1 HR FIRE BARRIER TO COMPLY WITH CBC 707

AUTOMATIC SPRINKLER SYSTEM INCREASE PER 506.3

ALLOWABLE BUILDING AREA
Aa = At + (NS x If)

FIRST FLOOR (B & A3 OCCUPANCIES) = 9,723 SF
Allowable Area = 24,000 + (6,000 x 1) = 30,000 SF
RATIO = 9,723 / 30,000 = 0.32

SECOND FLOOR (B OCCUPANCY) =9,867 SF
Allowable Area = 27,000 + (9,000 X 1) = 36,000 SF
RATIO = 9,867 / 36,000 = 0.27

TOTAL: 0.32 + 0.27 = 0.59 < 1 OK

NUMBER OF EXITS

PER CBC TABLE 1006.2.1 - MAXIMUM TRAVEL FOR B OCCUPANCY WITH ONE EXIT OR EXIT ACCESS IS 100 FEET. FIRST FLOOR HAS MORE THAN TWO EXITS PROVIDED & SECOND FLOOR HAS TWO.

PER CBC TABLE 1006.3.1 - MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY IS 2 PER 1-500 OCCUPANT LOAD. BOTH FLOORS HAVE MORE THAN 2 EXITS OR ACCESS TO EXIT PROVIDED.

OCCUPANCY LOAD CALCULATION

FIRST FLOOR OCCUPANT LOAD:

B OCCUPANCY
CLINIC
8536 sf - (238 sf+159 sf+157 sf+154 sf+259 sf) = 7569 sf
7,569 sf / 100 = 76 occup.
TREATMENT ROOMS
708 sf / 20 = 36 occup.
OCCUPATIONAL THERAPY
259 sf / 50 = 6 occup.
CHILDREN'S ROOM
370 sf / 20 = 19 occup.

A-3 OCCUPANCY
MULTI-PURPOSE ROOM
1,187 sf / 15 = 80 occup.

1ST FLOOR OCCUPANCY TOTAL: 217 OCCUPANTS

SECOND FLOOR OCCUPANT LOAD:

B OCCUPANCY
OFFICE / RECEP. / HALLWAY ETC.
9,867 sf / 100 = 99 OCCUP.

2ND FLOOR TOTAL OCCUPANT LOAD = 99 OCCUP.

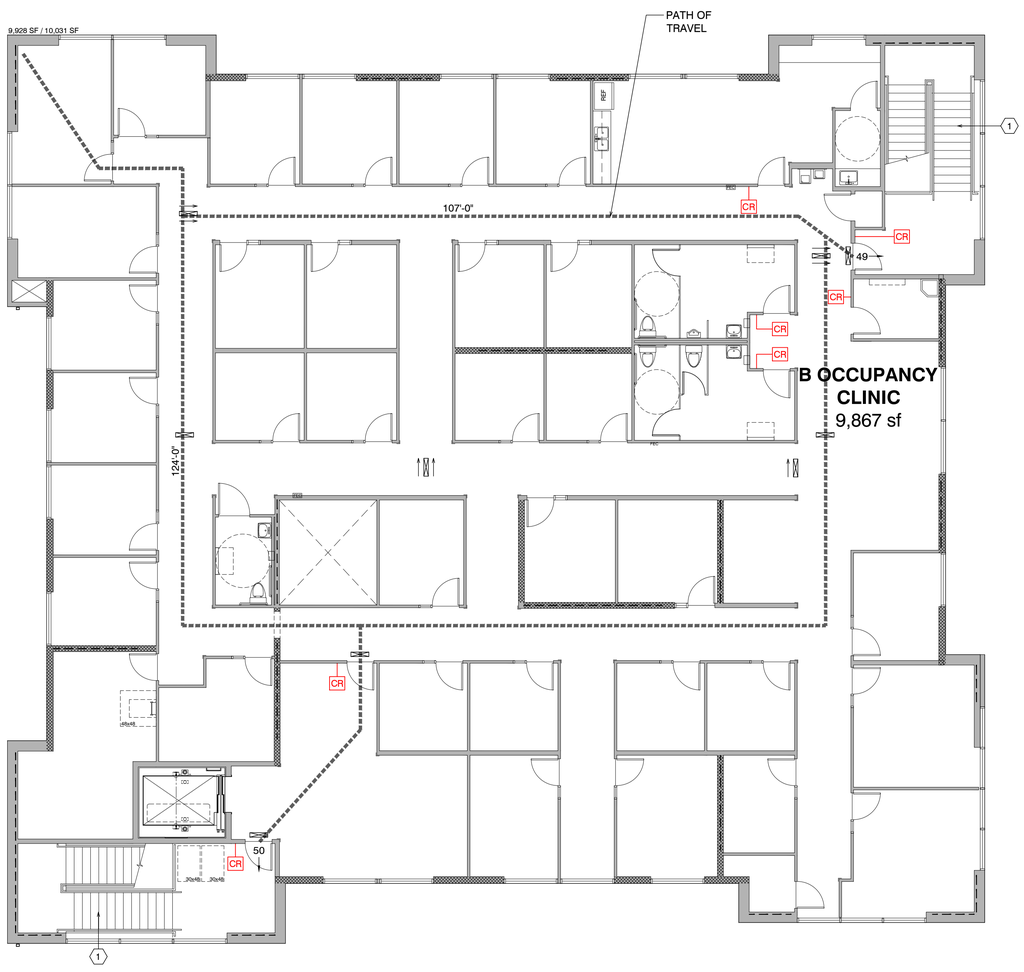
TOTAL BLDG OCCUPANT LOAD = 316 OCCUPANTS

SHEET NOTES

1. ACCESSIBLE EXIT STAIR PER CBC 1009.2.2 48" CLEAR BETWEEN HANDRAILS, 7" MAX. RISER & 11" MIN. TREAD

LEGEND

- EXIT LIGHT
- FEC — FIRE EXTINGUISHER CABINET
- 1-HR RATED WALL
- CR — CARD READER



NORTH

SECOND FLOOR EXIT PLAN

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

0 2 4 8 16
SCALE: 1/8" = 1'-0"



NORTH

FIRST FLOOR EXIT PLAN

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

0 2 4 8 16
SCALE: 1/8" = 1'-0"

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Sheet Title:
CODE ANALYSIS

Sheet Number:

A0.2

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Metering faucets for wash fountains – 5.303.3.4.5 The flow rate shall not exceed 0.20 gpm.	N/A	
Commercial Kitchen equipment – 5.303.4 Food waste disposers shall modulate the use of water to no more than 1 gpm when the disposer is not in use or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.	N/A	
Areas of addition or alteration – 5.303.5. Provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alterations to all buildings within the authority of the California Building Standards Commission.	N/A	
Standards for plumbing fixtures and fittings – 5.303.6. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code and Chapter 6 of this code.	Drawing sheet P0.1	
Water budget – 5.304.1. A water budget shall be developed for landscape irrigation use.	Drawing sheet L-3.0	
Outdoor water use in landscape areas equal to or greater than 500 square feet – 5.304.2.	Drawing sheet L-3.0	
Outdoor water use in rehabilitated landscape projects equal to or greater than 2,500 square feet – 5.304.3	N/A	
MATERIAL CONSERVATION AND RESOURCE		
Weather protection – 5.407.1. Provide a weather-resistant exterior wall and foundation envelope.		
Moisture control - 5.407.2. Employ moisture control measures by the following methods; **Sprinklers**. Prevent irrigation spray on structures. **Entries and openings**. Design exterior entries and openings to prevent water intrusion into buildings.	Drawing sheets A1.1 & L-3.0 - L-3.2	
Construction waste management – 5.408.1. A minimum of 50% of the non-hazardous construction and demolition waste generated at the site shall be diverted to recycle or salvaged. This is achieved by submitting a Waste Management Plan for approval by the Building and Safety Department prior to demolition permit issuance and providing documentation to demonstrate compliance with the Waste Management Plan after completion of demolition and/or prior to final inspection.	60% Secured	
Excavated soil and land clearing debris – 5.408.3. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily		

1. Additions and alterations not altering the drainage path.	N/A	
WATER EFFICIENCY AND CONSERVATION		
Meters – 5.303.1. Separate submeters or metering devices shall be installed for the uses described below:		
New buildings or additions in excess of 50,000 square feet. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day, including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.	N/A	
New buildings or additions in excess of 50,000 square feet For water supplied to the following subsystems, where separate submeters for individual building tenants are unfeasible: a) Makeup water for cooling towers where flow through is greater than 500 gpm b) Makeup water for evaporative coolers greater than 6gpm c) Steam and hot-water boilers with energy input more than 500,000 Btu/h **Excess consumption – 5.303.1.2.** For any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.	N/A	
Water conserving plumbing fixtures and fittings – 5.303.3 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:		
Water closets – 5.303.3.1 The effective flush volume of all water closets shall not exceed 1.28 gpf.	Drawing sheet P0.1	
Urinals – 5.303.3.2 The effective flush volume of urinals shall not exceed 0.5 gpf.	Drawing sheet P0.1	
Single showerheads – 5.303.3.3.1 Showerheads shall have a max. flow rate of not more than 2.0 gpm at 80 psi.	N/A	
Multiple showerheads – 5.303.3.3.2 When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.	N/A	
Nonresidential lavatory faucets – 5.303.3.4.1 The flow rate shall not exceed 0.5 gpm at 60 psi.	Drawing sheet P0.1	
Kitchen faucets – 5.303.3.4.2 The flow rate shall not exceed 1.8 gpm at 60 psi. Kitchen faucet can temporarily increase the flow rate above the maximum rate, not to exceed 2.2 gpm @ 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.	Drawing sheet P0.1	
Wash fountains – 5.303.3.4.3 The flow rate shall not exceed 1.5 gpm	N/A	
Metering faucets – 5.303.3.4.4 The flow rate shall not exceed 0.20 gallons per cycle.	N/A	

space.		
Designated parking – 5.106.5.2. In new projects or additions of alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel efficient, and carpool/van pool vehicles as shown on Table 5.106.5.2.	Drawing sheet A1.1	
Electric Vehicle (EV) Charging - 5.106.5.3. [N] Construction shall comply with Section 5.106.5.3.1 or 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). (Table 5.106.5.3.3)	Drawing sheets A1.1 & E2.1	
Light pollution reduction. – 5.106.8 [N] Outdoor lighting systems shall be designed and installed to comply with the following: 1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-11; and 3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or Comply with local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent. **Exception: [N]** 1 Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code. 2 Emergency lighting 3 Building façade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6. 4 Custom lighting features as allowed by local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction. **Note:** [N] See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.	Drawing sheet E0.3	
Grading and paving – 5.106.10. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. **Exception:**	Drawing sheet C1.2	

Total Number of Actual Parking Spaces	Number of Required EV Ready Parking Spaces
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total (round up to nearest whole number)

2016 CAL GREEN

NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST

DATE: 03 / 04 / 19

PERMIT NUMBER:

JOB ADDRESS: 331 N. SANBORN RD, SALINAS, CA 93905

CONTACT INFORMATION:

APPLICANT'S NAME: Paul W. Davis, AIA

PHONE NUMBER: (831) 373-2784

E-MAIL: paulw@pauldavispartnership.com

Following is a standardized checklist of the 2016 California Green Building Standards Code (CalGreen) requirements that may be used to demonstrate compliance with the CalGreen Mandatory Measures (chapter 4). This checklist applies to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above. Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

CALGREEN REFERENCE AND DESCRIPTION	DESIGNER'S COMMENTS WITH PLAN SHEET REFERENCE	CITY USE: FIELD VERIFICATION
5.201.1 Scope The California Energy Commission will continue to adopt mandatory building standards.	Sheets M0.3 - M0.5 for HVAC & Plumbing	
PLANNING AND DESIGN – SITE DEVELOPMENT		
Storm water pollution prevention – 5.106.1. Newly constructed projects and additions which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through one or more of the following measures: 1. Local ordinance. Comply with a lawfully enacted stormwater management and/or erosion control ordinance. 2. Best management practices (BMP). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMP.	Drawing sheets C1.3 - C1.4 and approved Storm Water Control Plan dated June 16, 2021	
Short-term bicycle parking – 5.106.4.1.1. If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack. **Exception:** 1. Additions or alterations which add nine or less visitor vehicular parking spaces.	Drawing sheet A1.1	
Long-term bicycle parking – 5.106.4.1.2. For new buildings with over 10 tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5% of the tenant vehicular parking spaces being added, with a minimum of one	Drawing sheet A1.1	

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Sheet Title:
CALGREEN NON-RESIDENTIAL CHECKLIST

Sheet Number:

A0.3

Paints, stains and other coatings shall be compliant with VOC limits per sec. 5.504.4.3.		

VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS
(Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds)

COATING CATEGORY	VOC
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
SPECIALTY COATING	**Specialty**
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings[1]	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	250
Shellacs	
Clear	730
Opaque	550
Specialty primers, sealers and undercoaters	100
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and tile refinish coatings	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

Aerosol paints and coatings shall be compliant with Product-Weighted MIR limits for ROC, VOC and other toxic compounds limits per sec. 5.504.4.3.1.	N/A	

Adhesives, sealants and caulks shall be compliant with VOC limits per sec. 5.504.4.1.		

ADHESIVE VOC LIMIT [1,2]
(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL	VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure VOC content specified in table, see South Coast Air Quality Management District Rule 1168.

SEALANT VOC LIMIT
(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural Nonporous Porous	 250 775
Modified bituminous	500
Marine deck	760
Other	750

Testing and adjusting – 5.410.4. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to sec. 303.1. **Systems.** Develop a written plan of procedures for testing and adjusting systems. **Procedures.** Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system. **HVAC balancing.** Before a new space-conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by standards as listed in sec. 5.410.4.3.1. **Reporting.** After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services. **Operation and maintenance (O&M) manual.** Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	Specification Section 230 593 for TAB Contractor will perform testing & provide report.	
Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.	See above	
ENVIRONMENTAL QUALITY		
Fireplaces – 5.503.1 Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Wood stoves and pellet stoves shall comply with U.S. EPA Phase II emission limits where applicable.	N/A	
Pollutant Control – 5.504 Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.		
The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a MERV of 8. Replace all filters immediately prior to occupancy, or if the building is occupied during alteration, at the conclusion of construction.	Specification section 237416.16	
Duct openings and other related air distribution component openings shall be covered during construction.	Drawing sheet M0.1	

from land clearing shall be reused or recycled.	N/A	
Recycling by occupants – 5.410.1. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling. **Additions.** All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site. **Exceptions:** Additions conducted within a 12 month period within a tenant space resulting in less than a 30% increase in the tenant space floor area.	Trash enclosure is sized for waste & recycling and approved by Republic Services	
Commissioning – 5.410.2. For new buildings 10,000 square feet and over, building commissioning for all building operating systems covered by T24, Part 6, process equipment and controls, and renewable energy systems shall be included in the design and construction processes of the building project to verify they meet the owner's or owner representative's project requirements. Commissioning shall be performed by trained personnel with experience on projects of comparable size and complexity. **Owner's Project Requirements (OPR).** The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins.	Commissioning agent will be used	
Basis of Design (BOD) – 5.410.2.2. A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. **Commissioning plan.** A commissioning plan describing how the project will be commissioned shall be completed prior to permit issuance. **Functional performance testing.** Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. **Systems manual.** The Systems Manual, which includes documentation of the operational aspects of the building, shall be delivered to the building owner or representative and facilities operator. **Systems operations training.** A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report. **Commissioning report**. A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.	By Commissioning agent	

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Carbon dioxide (CO_2) monitoring – 5.506.2. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with California Energy Code sec. 120.1(c)(4).	See Drawing 2 / M5.2	
ENVIRONMENTAL COMFORT		
Acoustical Control – 5.507.4 Employ building assemblies and components with Sound Transmission Class (STC) values using one of the following methods:		
Prescriptive method - Exterior noise transmission – 5.507.4.1 Wall and roof ceiling assemblies making up the building or addition envelope or altered envelope shall have a composite STC of min. 50, or a composite OITC rating of min. 40, with exterior windows of an STC of min. 40 or OITC of 30 in the following locations: 1. Within the 65 CNEL noise contour of an airport. 2. Within the 65 CNEL or Ldn noise contour of a freeway, railroad, industrial source or fixed-guideway source. Buildings exposed to a noise level of 65 dB Leq-1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies of at least 45 composite STC rating (or OITC 35), with exterior windows of a min. STC of 40 (or OITC 30).	Acoustical engineer reviewed	
Performance method – 5.507.4.2 For buildings located as defined in sec. 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies making up the building or addition envelope or altered envelope shall be constructed to provide Leq-1Hr of 50 dBA in occupied areas during any hour of operation. An acoustical analysis documenting compliance shall be provided.	Acoustical engineer reviewed	
Interior sound transmission – 5.505.7.4.3 Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have a min. STC of 40.	Acoustical engineer reviewed	
OUTDOOR AIR QUALITY		
Ozone depletion and greenhouse gas reductions – 5.508.1 Installations of HVAC, refrigeration and fire suppression equipment shall not contain Chlorofluorocarbons (CFCs) and Halons.	Specifications Sections 237416.13 & 238126	
Supermarket refrigerant leak reduction – 5.508.2. New commercial refrigeration systems (including both new facilities and the replacement of existing refrigeration systems in existing facilities) installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units and contain high-global-warming potential (High-GWP) refrigerants with a GWP of 150 or greater, shall comply with the following:		
Refrigerant piping. Piping shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than ¼", flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted in sec. 5.508.2.1.1, 5.508.2.1.2, 5.508.2.1.3, 5.508.2.1.4.	N/A	

Carpet and carpet systems shall be compliant with the testing and product requirements per sec. 5.504.4.4, 504.4.4.1, 504.4.4.2.	N/A	
Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the formaldehyde limits per sec. 5.504.4.5. **FORMALDEHYDE LIMITS[1]** **(Maximum formaldehyde Emissions in Parts per Million)** **PRODUCT** / **LIMIT** Hardwood plywood veneer core: 0.05 Hardwood plywood composite core: 0.05 Particleboard: 0.09 Medium density fiberboard: 0.11 Thin medium density fiberboard[2]: 0.13 1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333-96(2002). For additional information, see California Code of Regulations, Title 17, Sections 93120 through 93120.12. 2. Thin medium density fiberboard has a maximum thickness of 5/16 inch (8mm)	See Specification section 06 10 00	
For 80% of floor area receiving resilient flooring shall meet the requirements per sec. 5.504.4.6.	See Spec section 09 6510	
Documentation shall be provided to the City building inspector verifying that compliant finish materials have been used.		
Filters – 5.504.5.3. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 8. Recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. **Exceptions:** 1. An ASHRAE 10% to 15% efficiency filter shall be permitted for an HVAC unit meeting 2013 California Energy Code having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at design air flow. 1. Existing mechanical equipment. **Labeling.** Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.	Drawing sheet M0.2	
Environmental tobacco smoke (ETS) control – 5.504.7. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within buildings.	N/A	
Indoor moisture control - 5.505.1 Buildings shall meet or exceed the provisions of California Building Code, CCR. Title 24. Part 2. Sections 1203 and Chapter 14.1.	See Exterior Wall Details	
Outside air delivery – 5.506.1. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 of the California Energy Code and Chapter 4 of CCRC, Title 8 or the applicable local code, whichever is more stringent.	Drawing sheet M0.2	

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE
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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

CALGREEN NOTES

CALIFORNIA GREEN BUILDING STANDARDS

1. Contractor to submit construction waste management plan per Section 5.408.1.4 Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.
   a. Identify the materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
   b. Specify if materials will be sorted on site or mixed for transportation to a diversion facility.
   c. Identify the diversion facility where the material collected will be taken.
   d. Identify construction methods employed to reduce the amount of waste generated.
   e. Specify that the amount of materials diverted shall be calculated by weight or volume.

   Note on plan to provide documentation showing compliance with above to the building department.
2. Indoor water use shall be reduced by at least 20% by using water saving fixtures or flow restrictor, or demonstrate at 20% reduction in baseline water use per CalGreen Section 5.303.1. Contractor to submit evidence to show conformance with one of the above methods.
3. Contractor to prepare an operation and maintenance manual to the building occupant or owner addressing items 1-10 in CalGreen Section 5.410.4.5.
4. Vent terminations shall be not less than 4' below or 4' horizontally from and not less than 1' above a door, openable window or gravity air inlet into a building.
5. Appliances designed to be in a fixed position shall be securely fastened in place.
6. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or and average efficiency of 30 percent based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.
7. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which my enter the system.
8. Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits (5.504.4.1). See tables below. Aerosol adhesive and smaller unit sizes of adhesives and sealant or caulking compounds shall comply with statewide VOC standards and other requirements.
9. Paints, stains and other coatings shall be compliant with VOC limits (5.504.4.3).
10. Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.
11. Carpet and carpet systems shall be compliant with VOC limits (5.504.4.1, 5.504.4.3.).
12. Minimum 80% of floor area receiving resilient flooring shall comply with Section (5.504.4.6)
13. Particleboard, medium density fiberboard (MDF) and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards (5.504.4.5)

CALGREEN SIGNATURE DECLARATIONS

Section 1 – Design Verification
Complete all lines of Section 1 – "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to the Building Department.

The owner and design professional responsible for compliance with CalGreen Standards have revised the plans and certify that the items checked above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2016 California Green Building Standards Code.

County of Monterey
Owner's Name (Printed) | Owner's Signature | Date

Paul W. Davis
Design Professional's Name (Printed) | Design Professional's Signature | Date

Name of License Professional responsible for Cal Green Compliance | Phone Number

Signature of License Professional responsible for Cal Green Compliance | Date

E-Mail Address for License Professional responsible for Cal Green Compliance

Section 2 – Implementation Verification (To be completed prior to Final Inspection)
Complete, sign and submit the competed checklist, including column 3, together with all original signatures on Section 2 to the Building Inspector at the Final Inspection.

I have inspected the work and have received sufficient documentation to verify and certify that the project identified above was constructed in accordance with this Green Building Checklist and in accordance with the requirements of the 2016 California Green Building Standards Code.

Name of License Professional responsible for Cal Green Compliance | Phone Number

Signature of License Professional responsible for Cal Green Compliance | Date

E-Mail Address for License Professional responsible for Cal Green Compliance

Valves. Valves and fittings shall comply with the requirements in sec. 5.508.2.2.	N/A	
Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, or be coated to prevent corrosion from these substances. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.	N/A	
Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicates the level of refrigerant in the receiver.	N/A	
Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging per sec. 5.508.2.5.	N/A	
Evacuation. The system shall be evacuated after pressure testing and prior to charging per sec. 5.508.2.6.	N/A	
INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS - 702		
HVAC system installers are trained and certified in the proper installation of HVAC systems.	See General Conditions	
Special inspectors employed by the owner or owner's agent shall demonstrate competence for the particular type of inspection to be performed and shall have a certification from a recognized state, national or international association in the area closely related to the primary job function.		
Verifications (703). Verification of compliance with this code may include construction documents, plans specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency, which show substantial conformance.		
REFERENCES		
2016 Green Building Standards Code, Part 11 http://codes.iccsafe.org/app/book/toc/2016/California/Green/index.html		

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

The use of these plans and specifications is restricted to the original site for which they were prepared, and publication thereof is expressly limited to such use. Re-use, reproduction or publication by any method in whole or in part is prohibited. Title to the plans and specifications remains with the architect, and visual contact with them constitutes prima facie evidence of the acceptance of the restrictions.

Sheet Title:
CALGREEN NON-RESIDENTIAL CHECKLIST

Sheet Number:

A0.4

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	Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 2.0 gpm at 80 psi	5.303.3.3.2				
	Mandatory	Nonresidential lavatory faucets	5.303.3.4.1				
	Mandatory	Kitchen faucets	5.303.3.4.2				
	Mandatory	Wash basins	5.303.3.4.3				
	Mandatory	Metering faucets	5.303.3.4.4				
	Mandatory	Metering faucets for wash fountains	5.303.3.4.5				
	Mandatory	Food waste disposers w/note	5.303.4.1				
	Mandatory	Areas of additions and alterations	5.303.5				
	Mandatory	Standards for plumbing fixtures and fittings	5.303.6				
	Mandatory	Outdoor water use in landscape areas equal to or greater than 500 square feet	5.304.2				
	Mandatory	Outdoor water use in rehabilitated landscape projects with areas equal to or greater than 2,500 square feet	5.304.3				
	Mandatory	Outdoor water use in landscape areas of 2,500 square feet or less	5.304.4				
	Mandatory	Graywater or rainwater use in landscaped areas	5.304.5				
	Mandatory	Outdoor water supply systems (with exceptions 1-4)	5.305.1.1				
	Mandatory	Technical requirements for outdoor recycled water supply systems	5.305.1.2				
SELECT ONE ELECTIVE	Elective	Nonpotable water systems for indoor use	A5.303.2.3.4				
	Elective	Appliances and fixtures for commercial application	A5.303.3				
		Nonwater supplied urinals	A5.303.4.1				
	Elective	Dual plumbing	A5.303.5				
	Elective	Outdoor potable water use	A5.304.2				
	Elective	Restoration of areas disturbed by construction	A5.304.6				
	Elective	Previously developed sites w/ exception	A5.304.7				
	Elective	Graywater irrigation system	A5.304.8				
	Elective	Nonpotable water systems	A5.305.1				
	Elective	Irrigation systems	A5.305.2				
DIVISION 5.4 Material Conservation and Resource Efficiency	Tier 1 Prerequisite	Recycled content for10% of total material cost	A5.405.4A 5.405.4.1 Through A5.405.4.5	X			Minimum recycled content in spec section
	Mandatory	Weather Protection	5.407.1				
	Mandatory	Moisture Control: sprinklers	5.407.2.1				
	Mandatory	Moisture Control: Exterior door protection	5.407.2.2/.1				
	Mandatory	Moisture Control: Flashing	5.407.2.2/.2				
	Mandatory	Construction waste management-comply with either: sections 5.408.1.1, 5.408.1.2, 5.408.1.3 or more stringent local ordinance	5.408.1.1, 5.408.1.2, 5.408.1.3				
	Mandatory	Construction waste management: Documentation w/notes	5.408.1.4				

	Mandatory	Halons	5.508.1.2				
	Mandatory	Supermarket refrigerant leak reduction for retail food stores 8,000 square feet or more: sections 5.508.2 through 5.508.2.6.3	5.508.2 through 5.508.2.6.3				
SELECT ONE ELECTIVE	Elective	Indoor air quality (IAQ) during construction	A5.504.1 A5.504.1.1 A5.504.1.2				Spec section 01 40 00
		IAQ postconstruction	A5.504.2				
	Elective	IAQ testing	A5.504.2.1 A5.504.2.1.1 A5.504.2.1.2 A5.504.2.1.3				
	Elective	No added formaldehyde Tier 1 w/ noted	A5.504.4.5.1				
	Elective	Acoustical ceilings and wall panels w/ verification of compliance	A5.504.4.9 A5.504.4.9.1				
	Elective	Hazardous particulates and chemical pollutants	A5.504.5				
	Elective	Entryway systems	A5.504.5.1				Spec section 12 48 13
	Elective	Isolation of pollutant sources	A5.504.5.2				
	Elective	Filters, Tier 1	A5.504.5.3.1				MERV 14 specified
	Elective	Lighting and thermal comfort controls	A5.507.1 A5.507.1.1 through A5.507.1.2				
	Elective	Daylight w/ exception	A5.507.2				
	Elective	Views w/ exception	A5.507.3				
	Elective	Interior office spaces	A5.507.3.1				
	Elective	Multi-occupant spaces	A5.507.3.2				
	Elective	Hydrochlorofluorocarbons (HCFCs)	A5.508.1.3				No HCFCs specified
	Elective	Hydrofluorocarbons (HFCs)	A5.508.1.4				
Additional Measures		Select 1 additional measure (from any division)	Add section #				
Total number of Measures require for Tier 1			15				
Total number of Measures selected			18				

Documentation Author's /Responsible Designer's Declaration Statement

Check the appropriate box(s) for the list below

- **Mandatory:** I attest that the mandatory provisions checklist is accurate and complete.
- **Tier 1compliant:** I attest that the total number of voluntary measures selected meet or exceed the total number required to achieve Tier 1compliance.
- **Partial Tier 1 compliant:** I attest that the total number of voluntary measures selected do not meet the total number required to achieve Tier 1compliance however partial Tier 1 compliance has been achieved.

Signature:

Company: The Paul Davis Partnership, LLP	Date: August 4, 2021
Address: 286 Eldorado Street	License: C-15182
City/State/Zip: Monterey, CA 93940	Phone: (831) 373-2784 ext. 207

SELECT ONE ELECTIVE	Elective	Community Connectivity	A5.103.1				
	Elective	Brownfield or Greyfield site redevelopment or infill area development	A5.103.2 A5.103.2.1				
	Elective	Reduce development footprint and optimize open space	A5.104.1 A5.104.1.1 A5.104.1.2 A5.104.1.3				
	Elective	Disassemble and Reuse Existing Building Structure (70%) with exceptions	A5.105.1.1				
	Elective	Disassemble and Reuse Existing Non-Structure elements (50%) with exceptions	A5.105.1.2				
	Elective	Salvage	A5.105.1.3				
	Elective	Storm Water Design	A5.106.2 A5.106.2.1 A5.106.2.2	X			C1.1 - C1.4
	Elective	Low Impact Development (LID)	A5.106.3 A5.106.3.1 A5.106.3.2	X			C1.1 - C1.4
	Elective	Changing rooms w/ note	A5.106.4.3				
	Elective	Parking capacity w/ reduced parking capacity option	A5.106.6 A5.106.6.1				
	Elective	Exterior wall shading w/ fenestration and/or opaque wall areas option	A5.106.7 A5.106.7.1 A5.106.7.2				
	Elective	Heat island Effect	A5.106.11				
DIVISION 5.2 Energy Efficiency	Mandatory	Meet the minimum Energy Efficiency Standard	5.201.1				
	Tier 1 Prerequisite	Energy Performance Outdoor lighting power 90% of Part 6	A5.203.1.1.1	X			E0.3
	Tier 1 Prerequisite	If applicable, Service for water heating in restaurants 8,000 sf or greater	A5.203.1.1.2				N/A
	Tier 1 Prerequisite	Energy Budget 95% or 90% of Part 6 calculated value of allowance	A5.203.1.2.1	X			E0.3
SELECT ONE ELECTIVE	Elective	On-site renewable energy w/ documentation	A5.211.1 A5.211.1.1				
	Elective	Green power	A5.211.3				
	Elective	Elevators w/ car lights and fan	A5.212.1.1 A5.212.1.1.1				
	Elective	Escalators w/ controls	A5.212.1.2				
	Elective	Controls that reduce energy	A5.212.1.4				Spec sec 26 09 23
	Elective	Steel framing	A5.213.1	X			051 200 & 05 400
DIVISION 5.3 Water Efficiency and Conservation	Mandatory	Separate Meters (new Buildings or additions > 50,000 SF that consume more than 100 gal/day)	5.303.1.1				
	Mandatory	Separate Meters (for tenants in new buildings or additions that consume more than 1,000 gal/day)	5.303.1.2				
	Tier 1 Prerequisite	Water Reduction Tier 1, 12% savings over the "water use baseline" Table A5.303.2.2 or Meet table A5.303.2.3.1	A5.303.2.3.1	X			
	Mandatory	Water closets shall not exceed 1.28 gallons per flush	5.303.3.1				
	Mandatory	Wall-mounted urinals shall not exceed 0.125 gpf	5.303.3.2.1				
	Mandatory	Floor-mounted urinals shall not exceed 0.5 gpf	5.303.3.2.2				
	Mandatory	Single showerhead shall have maximum flow rate of 2.0 gpm (gallons per minute) at 80 psi	5.303.3.3.1				

SELECT ONE ELECTIVE	Elective	Choice of materials	A5.406.1 A5.406.1.1 A5.406.1.2 A5.406.1.3				
	Elective	Life cycle assessment: General	A5.409.1				
	Elective	Whole building life cycle assessment	A5.409.2 A5.409.2.1 A5.409.2.2				
	Elective	Materials and system assemblies	A5.409.3				
	Elective	Substitution for prescriptive standards	A5.409.4				
	Elective	Verification of compliance	A5.409.5				
DIVISION 5.5 Environmental Quality	Mandatory	Fireplaces	5.503.1				
	Mandatory	Woodstoves	5.503.1.1				
	Mandatory	Temporary ventilation	5.504.1				
	Mandatory	Covering of ducts openings and protection of mechanical equipment during construction	5.504.3				
	Mandatory	Adhesives, sealants and caulks	5.504.4.1				
	Mandatory	Paints and coatings	5.504.4.3				
	Mandatory	Aerosol paints and coatings	5.504.4.3.1				
	Mandatory	Aerosol paints and coatings: Verification	5.504.4.3.2				
	Mandatory	Carpet systems	5.504.4.4				
	Mandatory	Carpet cushion	5.504.4.4.1				
	Mandatory	Carpet adhesives	5.504.4.4.2				
	Mandatory	Composite wood products	5.504.4.5				
	Mandatory	Composite wood products: Documentation	5.504.4.5.3				
	Mandatory	Resilient flooring systems	5.504.4.6				
	Mandatory	Resilient flooring: Verification of compliance	5.504.4.6.1				
	Tier 1 Prerequisite	Resilient flooring systems, Tier 1w/ verification	A5.504.4.7 A5.504.4.7.2	X			Spec section 09 65 16
	Tier 1 Prerequisite	Thermal insulation, Tier 1 w/ verification of compliance	A5.504.4.8 A5.504.4.8.2	X			Spec section 07 21 00
	Mandatory	Filters w/ exceptions	5.504.5.3				
	Mandatory	Filters: Labeling	5.504.5.3.1				
	Mandatory	Environmental tobacco smoke (ETS) control	5.504.7				
	Mandatory	Indoor moisture control	5.505.1				
	Mandatory	Outside air delivery	5.506.1				
	Mandatory	Carbon dioxide (CO2) monitoring	5.506.2				
	Mandatory	Acoustical control w/ exception	5.507.4				
	Mandatory	Exterior noise transmission, prescriptive method w/ exceptions	5.507.4.1				
	Mandatory	Noise exposure where noise contours are not readily available	5.507.4.1.1				
	Mandatory	Performance method	5.507.4.2				
	Mandatory	Site features	5.507.4.2.1				

	Mandatory	Documentation of compliance	5.507.4.2.2				
	Mandatory	Interior sound transmission w/ note	5.507.4.3				
	Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1				
	Mandatory	Chlorofluorocarbons (CFCs)	5.508.1.1				

STATE OF CALIFORNIA – DEPARTMENT OF GENERAL SERVICES – BUILDING STANDARDS COMMISSION
CALGreen Verification Guidelines – Tier 1 Checklist
BSC CG-201 (Rev. 12/17-2016 Intervening Code Supplement effective July 1, 2018)

CALGreen VERIFICATION GUIDELINES TIER 1 CHECKLIST

Application: This checklist shall be used for nonresidential projects that meet the following: new construction, or building additions of 1,000 sq. ft. or greater, or building alterations with a permit valuation of $200,000 or more pursuant to CALGreen Section 5.301.3, AND are adopting Tier 1 voluntary measures.

Note: All applicable mandatory requirements in chapter 5 shall be met prior to applying Tier 1 voluntary measures.

Instructions:

Comply with all Tier 1 (prerequisite) measures from the various categories shown on the table below.

Add a "Y" to all Mandatory and Tier 1 mandatory provisions in the appropriate columns.

Select the required number of additional electives from those categories shown on the table below and add a "Y" on the selected elective and add an "N" on the rest.

Count the total number of Tier 1 (prerequisite) measures plus the additional electives and write down the total number at the end of the checklist. Determine if the required number of Tier 1 measures have been selected to achieve Tier 1 compliance.

Y = Yes (section has been selected and/or included)
N = No (section has not been selected and/or included)
O = Other (provide explanation)
[N] = New construction pursuant to Section 301.3
[A] = Additions and/or alterations pursuant to Section 301.3

CHAPTER 5 DIVISIONS		SECTION TITLE	CODE SECTION	Y	N	O	Plan sheet, Spec or Attach Reference
DIVISION 5.1 Planning and Design	Mandatory	Storm Water Pollution Prevention for projects that disturb less than 1 acre of land	5.106.1 Through 5.106.1.2				
	Mandatory	Short Term Bicycle Parking (with exceptions)	5.106.4/.1.1				
	Mandatory	Long Term Bicycle Parking	5.106.4.1.2 Through 5.106.4.1.5				
	Mandatory	Designated Parking for clean air vehicles	5.106.5.2				
	Tier 1 Prerequisite	Designated Parking - 10% of Parking Capacity w/ parking stall markings and stall identification.	A5.106.5.1 A5.106.5.1.1 A5.106.5.1.3 A5.106.5.1.4	X			A1.1
	Mandatory	Parking stall marking	5.106.5.2.1				
	Mandatory	Single (EV) Charging space requirements	5.106.5.3.1				
	Mandatory	Multiple (EV) Charging space requirements[N]	5.106.5.3.2				
	Tier 1 Prerequisite	Electric Vehicle (EV) Charging [N] w/ issociated electrical panel Identification and designated parking allowance.	A5.106.5.3 A5.106.5.3.1 A5.106.5.3.3 A5.106.5.3.4	X			A1.1
	Mandatory	EV charging space calculation [N] (with exceptions)	5.106.5.3.3				
	Mandatory	[N] Identification	5.106.5.3.4				
	Mandatory	[N] Future charging spaces (with notes 1-3)	5.106.5.3.5				
	Mandatory	Light Pollution Reduction [N] (exceptions and note)	5.106.8				
	Mandatory	Grading and Paving: w/exception for Additions and Alterations not altering the drainage path	5.106.10				
	Tier 1 Prerequisite	Cool Roof (Table A5.106.11.2.2): SRI 75 when < or = 2:12, SRI 16 when >2:12	A5.106.11.2	X			Spec 07 55 00
	Mandatory	Universal waste [A]	5.408.2				
	Mandatory	Excavated soil and land clearing debris w/ exceptions and notes	5.408.3				
	Tier 1 Prerequisite	Enhanced construction waste reduction 65% = Tier 1 w/ verification	A5.408.3.1 A5.408.3.1.2	X			Spec section & CFO form
	Mandatory	Recycling by Occupants (with exception)	5.410.1				
	Mandatory	Recycling by Occupants: Additions(with exception)	5.410.1.1				
	Mandatory	Recycling by Occupants: Sample ordinance	5.410.1.2				
	Mandatory	Commissioning new buildings (≥ 10,000 SF) [N] w/exceptions and notes	5.410.2				
	Mandatory	Owner's or Owner representative's Project Requirements (OPR) [N]	5.410.2.1				
	Mandatory	Basis of Design (BOD) [N]	5.410.2.2				
	Mandatory	Commissioning Plan [N]	5.410.2.3				
	Mandatory	Functional Performance Testing [N]	5.410.2.4				
	Mandatory	Documentation and Training [N]	5.410.2.5				
	Mandatory	Systems Manual [N]	5.410.2.5.1				
	Mandatory	Systems Operation Training) [N]	5.410.2.5.2				
	Mandatory	Commissioning Report [N]	5.410.2.6				
	Mandatory	Testing and adjusting for new buildings < 10,000 SF or new systems that serve additions or alterations.	5.410.4				
	Mandatory	System Testing Plan for HVAC, Lighting, water heating, renewable energy, landscape irrigation and water reuse.	5.410.4.2				
	Mandatory	Procedures for testing and adjusting	5.410.4.3				
	Mandatory	HVAC balancing	5.410.4.3.1				
	Mandatory	Reporting for testing and adjusting	5.410.4.4				
	Mandatory	Operation and Maintenance (O&M) Manual	5.410.4.5				
	Mandatory	Inspection and reports	5.410.4.5.1				
SELECT ONE ELECTIVE (less one if none selected)	Elective	Wood framing or OVE w/ note.	A5.404.1 A5.404.1.1 A5.404.1.2				
	Elective	Regional materials	A5.405.1				
	Elective	Bio-based materials	A5.405.2				
	Elective	Rapidly renewable materials	A5.405.2.2				
	Elective	Reused materials w/ note	A5.405.3				
	Elective	Cement and concrete: Cement	A5.405.5.1				20% Fly ash
	Elective	Cement and concrete: Concrete /w SCM & Mix design equation	A5.405.5.2 A5.405.5.2.1 A5.405.5.2.1.1				
	Elective	Cement and concrete: Additional means of compliance	A5.405.5.3 A5.405.5.3.1 A5.405.5.3.1.1 A5.405.5.3.1.2 A5.405.5.3.2 A5.405.5.3.2.1 A5.405.5.3.2.2 A5.405.5.3.2.3 A5.405.5.3.2.4				

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

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EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

The use of these plans and specifications is restricted to the original site for which they were prepared, and publication thereof is expressly limited to such use. Re-use, reproduction or publication by any method in whole or in part is prohibited. Title to the plans and specifications remains with the architect, and visual contact with them constitutes prima facie evidence of the acceptance of the restrictions.

Sheet Title:
CALGREEN NON-RESIDENTIAL CHECKLIST

Sheet Number:

A0.4a

Z:\Projects\Projects 2018\1838_MCCO Beh Hlth Clinic N Sanborn\Plot Sheets\A0.3_Calgreen.dwg, 9/13/2021 8:08:33 AM, virgilq

Option 1: **CONTRACT**	Option 2: **SELF HAUL**
Step 1: Contract with Waste Management, the County's franchised hauler, by calling 1(800) 321-8226 to order your debris box(es). Identify your site and your project as construction and/or demolition (ask for diversion reports). Improve recycling and save money by requesting separate bins to separate materials such as concrete, metal, wood, and cardboard. Keep all applicable invoices from Waste Management for your records. **Communicate** with franchise hauler before service to establish need for C&D service requirements (**ask** for diversion report).	**Step 1: Complete and sign** the attached C&D Recycling Plan (Page 3) selecting self-haul as the method of compliance with the C&D recycling requirements. **Submit** the C&D Recycling Plan (Page 3) to the Monterey County Permit Center at the time of permit application.
Step 2: Complete and sign the attached C&D Recycling Plan/Debris Management Plan (Page 3) to demonstrate vendor haul as the method of compliance with the C&D recycling requirements. **Submit** the C&D Recycling Plan/Debris Management Plan (Page 3) to the Monterey County Permit Center at the time of the permit application (prior to the permit issuance);	**Step 2: Complete and sign** the C&D Recycling Report (Page 4). Make sure to include all invoices, weight tickets and receipts for all of your recycled and disposed materials.
Step 3: **Keep** diversion reports and any documents (weight tickets) as proof your project is complying with State regulations.	**Step 3: Scan and Submit** C&D Recycling Report (Page 4) with all invoices, weight tickets and receipts for all of your recycled and disposed materials by e-mail to RMA-Building Services at: RMARecycleVerification@co.monterey.ca.us Failure to provide the C&D Recycling Report will prevent scheduling of the final the inspection and will delay issuance of the Certificate of Occupancy.

Monterey County
Resource Management Agency
Permit Center
1441 Schilling Place S, Second Floor
Salinas CA 93901

Construction & Demolition (C&D) Recycling Report

Construction Permit Number:_____

Section 3-Material Information

MATERIAL TYPE	Reuse	Recycle	Disposed	Hauler	Material Destination
Sample: Roofing			*1000*	*Self*	*Marina Landfill*
Sample: Asphalt/ Concrete		*1000*		*Self*	*Granite Construction*
Sample: Wood/Lumber		*1000*		*Self*	*Marina Landfill*
Sample Mixed C&D		*550*	*450*	Sub-Contractor X	*Marina Materials Recovery Facility*
Sample: TOTAL LBS	*1000*	*2550*	*1450*	*% Diversion = (Reuse + Recycle)/ (Total all materials) = (3550/ 5000) = 71% Diversion*	

Section 4 – Certification

By signing below, I hereby certify that the information reported is complete and accurate to the best of my knowledge. I have put forth good faith effort to ensure that a minimum of 65% of the waste materials from this project were recycled or reused.

Signature Date

Print Name Phone Number

Scan and e-mail C&D Recycling Report with all weight tags (recycling and disposal) to:

RMARecycleVerification@co.monterey.ca.us

Monterey County
Resource Management Agency
Permit Center
1441 Schilling Place S, Second Floor, Salinas CA 93901
Phone: (831)755-5027 – Fax 757-9516

Construction & Demolition (C&D) Recycling Guide

Construction and demolition debris, or C&D debris, comprises nearly 30% of the solid waste stream. This guide is designed to help construction permit applicants understand and comply with California state law related to recycling C&D debris.

Your construction permit falls under this state law if your project involves:

- New building construction (both residential and non-residential)
- Demolition
- Certain additions and alteration projects

Under State law, all new building construction (residential and non-residential), demolition, and certain additions and alteration projects (all locally permitted additions and alterations to **non-residential** buildings or structures; additions and alterations to **residential** buildings that increase the structure's conditioned area, volume or size) are required to recycle and/or salvage for reuse a minimum 65% of non-hazardous C&D debris (California Green Building Standards Code Sections 4.408, 5.408, 301.1.1 and 301.3).

Monterey County helps to implement this state law through its construction permitting services. Under this program, administered through a partnership between the Monterey County Environmental Health Bureau and the Resource Management Agency Permit Center, construction permit recipients document how their C&D debris is recycled in order to get their building permit finalized, closed and/or approved for occupancy.

Construction permit recipients have two options for C&D recycling as detailed below. Under both options, the construction permit recipient must submit a C&D Recycling Plan, however under the self-haul option, the recipient must also submit a C&D Recycling Report.

Option 1: **CONTRACT**	**Option 2**: **SELF HAUL**
Under this option, building permit recipients contract with Waste Management, the franchise hauler. Monterey County has an exclusive franchise agreement for construction and demolition debris box hauling services with Waste Management. This means only Waste Management may independently deliver debris boxes and/or bins to a job site and haul them away when full.	Under this option, building permit recipients haul construction and demolition debris from the project directly to recycling and disposal facilities. You may self-haul materials to any C&D Recycling Facility to meet the 65% recycling requirement. Contact the Environmental Health Bureau at (831) 755-8979 for information on C& D Recycling Facilities. Cost savings may apply for source separated materials such as concrete, metal, etc. **NOTE:** Contractors may self-haul debris from their job sites as an incidental part of their services, only when the equipment, vehicles and/or trailers being used is owned and operated by the Contractor performing the service at the job site(s). Contractors may not hire a third-party to provide hauling services.

Monterey County
Resource Management Agency
Permit Center
1441 Schilling Place S, Second Floor
Salinas CA 93901

Construction & Demolition (C&D) Recycling Plan/Debris Management Plan

Construction Permit Number: _____

Section 1 – Recycling Plan

How will you meet the requirement to recycle or salvage a minimum 65% of non-hazardous C&D debris?

✓ Option 1: I will contract with Waste Management, the franchise hauler.

o Option 2: I (includes subcontractors and clean up contractors) will self-haul the materials.

Section 2 – Certification

By signing below, I hereby certify that the information reported is complete and accurate to the best of my knowledge. I also understand that I must recycle/salvage at least 65% by weight of all materials generated during the project and that if I choose to self-haul materials from the project site (Option 2 above), I am required to complete a C&D Recycling Report (Page 4). With the C&D Recycling Report I agree to submit all invoices, weight tickets and receipts for all of my recycled and disposed materials to the County of Monterey by e-mail prior to final inspection.

Signature Date

Print Name Phone number

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
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LICENSED ARCHITECT
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Sheet Title:
CONSTRUCTION WASTE MANAGEMENT PLAN

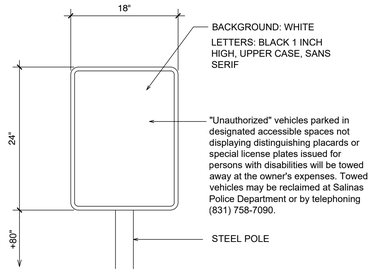
Sheet Number:

A0.5

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17

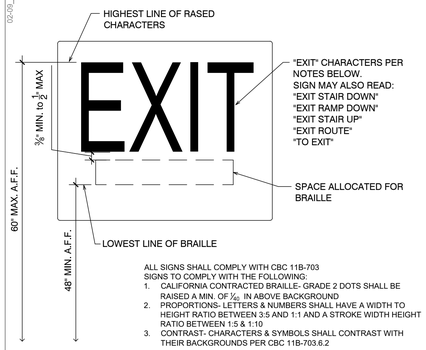
TOW-AWAY SIGN



13 TOW-AWAY SIGN

SCALE: 1" = 1'-0"

02-09_Exit



ALL SIGNS SHALL COMPLY WITH CBC 11B-703
SIGNS TO COMPLY WITH THE FOLLOWING:

1. CALIFORNIA CONTRACTED BRAILLE- GRADE 2 DOTS SHALL BE RAISED A MIN. OF 1/26 IN ABOVE BACKGROUND
2. PROPORTIONS- LETTERS & NUMBERS SHALL HAVE A WIDTH TO HEIGHT RATIO BETWEEN 3:5 AND 1:1 AND A STROKE WIDTH HEIGHT RATIO BETWEEN 1:5 & 1:10
3. CONTRAST- CHARACTERS & SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUNDS PER CBC 11B-703.6.2

9 EXIT SIGN DETAIL

SCALE: 3" = 1'-0"

02-09_ISA



A. MIN. 5" x 5" SHALL BE LOCATED AT PRIMARY ENTRANCE TO BUILDING ON WALL SURFACE 60" A.F.F. TO CENTER LINE OF SIGN AND 15" FROM EDGE OF STRIKE SIDE TO CENTER OF SIGN.

B. MIN. 36" x 36" PAINTED SYMBOL ON PAVEMENT BEYOND ACCESSIBLE PARKING STALL(S).

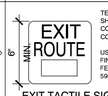
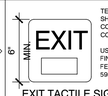
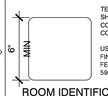
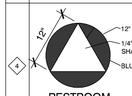
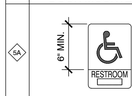
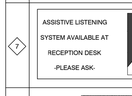
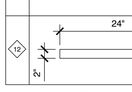
C. BACKGROUND TO BE BLUE (EQUAL TO COLOR #15090 IN FEDERAL STANDARD 595C, WHEELCHAIR SYMBOL TO BE WHITE (TYP. U.O.N.)

D. REFER TO CBC FIGURE 11B-703.7.2.1

5 INT'L SYMBOL of ACCESSIBILITY (ISA)

SCALE: 6" = 1'-0"

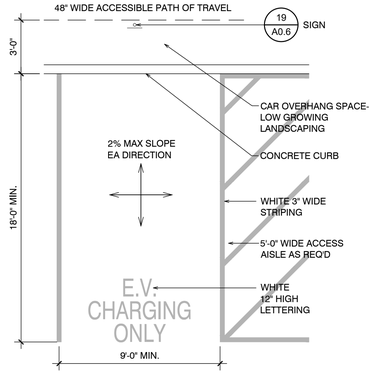
SIGN SCHEDULE

	TYPE	MOUNTING	NOTES:
1	 WHITE FIGURE ON BLUE BACKGROUND EQUAL TO COLOR NO. 15090 IN FEDERAL STD. 595C PAINTED ALUMINUM OR DECAL ON DOOR GLASS BLDG ACCESSIBILITY	4 SCREWS INTO WALL NEAR DOORS OR DECAL o/ DOOR.	PROPORTIONS, FINISH, CONTRAST, & CHARACTER HEIGHT SHALL BE PER CBC 11B-703.7.2.1
29	 TEXT & PLACARD SHALL BE OF CONTRASTING COLORS- 70% MIN. USE NON-GLARE FIN. NO. 15090 FEDERAL STANDARD 595B. EXIT TACTILE SIGNAGE	LATCH SIDE OF DOOR WHERE POSSIBLE	INSTALL ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ADJACENT TO THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. PROPORTIONS, FINISH, CONTRAST, & CHARACTER HEIGHT SHALL BE PER CBC SECTION 11B-703
29	 TEXT & PLACARD SHALL BE OF CONTRASTING COLORS- 70% MIN. USE NON-GLARE FIN. NO. 15090 FEDERAL STANDARD 595B. EXIT TACTILE SIGNAGE	LATCH SIDE OF DOOR WHERE POSSIBLE	INSTALL ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ADJACENT TO THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. PROPORTIONS, FINISH, CONTRAST, & CHARACTER HEIGHT SHALL BE PER CBC SECTION 11B-703
9	 TEXT & PLACARD SHALL BE OF CONTRASTING COLORS- 70% MIN. USE NON-GLARE FIN. NO. 15090 FEDERAL STANDARD 595B. ROOM IDENTIFICATION	LATCH SIDE OF DOOR WHERE POSSIBLE	INSTALL ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ADJACENT TO THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. SEE PLAN FOR SIGN COPY. METAL SIGNS AT EXTERIOR LOCATIONS.
4	 12" DIA. @ WOMENS 1/4" THK GEOMETRIC SHAPE AT MENS BLUE FIELD RESTROOM DOOR MOUNTED ISA		COLOR & CONRAST OF SIGN SHALL DISTINCTLY CONTRAST w/ COLOR OF DOOR (TYP) 1/4" THICK GEOMETRIC SHAPES (TYP)
5A 5B 5C	 RESTROOM MEN WOMEN WALL MOUNTED ISA	LATCH SIDE OF DOOR WHERE POSSIBLE	CHARACTERS AND BACKGROUND OF SIGN SHALL BE EGGSHELL, MATTE, OR OTHER NON-GLARE FINISH COLOR AND CONTRAST OF SIGN SHALL DISTINCTIVELY CONTRAST WITH COLOR OF THE WALL HEIGHT OF LETTERING SHALL A MIN. OF 5/8" AND A MAX. OF 2". PROVIDE RAISED LETTERING 1/32". SEE CBC FIGURE 11B-703.4.2
6	 MAXIMUM OCCUPANCY ## MAX. OCCUPANCY SIGNAGE	LATCH SIDE OF DOOR WHERE POSSIBLE	PROPORTIONS, FINISH, CONTRAST, & CHARACTER HEIGHT SHALL BE PER CBC SECTION 11B-703
7	 ASSISTIVE LISTENING SYSTEM AVAILABLE AT RECEPTION DESK -PLEASE ASK-	14	MOUNTING HEIGHT SHALL BE 60" A.F.F. TO CENTER LINE OF SIGN. PROPORTIONS, FINISH, CONTRAST, & CHARACTER HEIGHT SHALL BE PER CBC 11B-703
8	 IN CASE OF FIRE WAIT FOR ASSISTANCE AT REFUGE AREA ROGER STARWELL	LATCH SIDE OF DOOR 7 PROVIDE W/ BRAILLE	INSTALL ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ADJACENT TO THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. SEE PLAN FOR SIGN COPY. PROPORTIONS, FINISH, CONTRAST, & CHARACTER HEIGHT SHALL BE PER CBC 1117B.5.1
9	 EXIT STAIRS		
10	 NORTH STAIRS LEVEL 1 FLOORS 1-6 EXIT LEVEL 1 (SIM.)	7 PROVIDE W/ BRAILLE	
11	ENTRANCE SIGNAGE FOR PARKING	12 13	POSTED AT ENTRANCE OF SITE
12	 24" 2'	ABOVE ENTRY DOOR	SIGN SHALL READ: **"DOORS MUST REMAIN UNLOCKED WHEN THIS BUILDING IS OCCUPIED"** LETTERS MIN. 1" HIGH ON CONTRASTING BACKGROUND

SIGNAGE NOTES:

1. ROOM IDENTIFICATION SIGNAGE TO COMPLY WITH FOLLOWING:
   1a. ALL SIGNS SHALL COMPLY WITH TITLE 24 & CBC SECTION 11B-703 BRAILLE - GRADE 2. SHOULD COMPLY WITH 11B-703.3 AND 11B-703.4.
   1b. CHARACTER HEIGHT - MINIMUM 3" CBC 11B-703.2.5 AND A STROKE WIDTH HEIGHT RATIO BETWEEN 1:5 AND 1:10. CONTRAST - CHARACTERS & SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND CBC 11B-703.5.1 ; MUST BE 70% MIN.
2. INTERNATIONAL SYMBOL OF ACCESSIBILITY TO CONFORM TO CBC 11B-703.7 AND FIGURE 11B-703.7.2.1
3. CHARACTER WIDTH 100% MAX. AND 60% MIN OF HEIGHT, MEASURED BY WIDTH OF UPPERCASE "X" AT BASE; OR BY WIDTH OF UPPERCASE "O" (WHICHEVER IS NARROWER). STROKE WIDTH MUST BE 10% MIN TO 20% MAX CHARACTER HEIGHT, MEASURED BY STROKE, WIDTH, AND HEIGHT OF UPPERCASE "I".
4. VISUAL CHARACTERS MAY BE SERIF OR SANS SERIF AND UPPER AND LOWERCASE CHARACTERS MAY BE USED FOR VISUAL CHARACTERS.
5. USE TYPESTYLES WHICH ARE CONVENTIONAL AND NON-DECORATIVE. NO SCRIPT, ITALIC OR OBLIQUE TYPE STYLES.
6. EASE ALL EDGES AND CORNERS OF SIGNS. ON SIGNS INSTALLED ON PILES, PROVIDE RADIUS CORNERS AND EASED EDGES.
7. FINAL LOCATION OF EXIT SIGNS MAY BE ALTERED DURING FINAL INSPECTIONS.
8. SEE SHEETS A2.1a, A2.1b, A2.2a & A2.2b FOR SIGNS LOCATED AT DOORS.

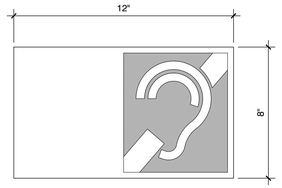
Clean Air Stall



18 E.V. CHARGING STALL

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

11-01_ALD



PER CBC FIGURE 11B-703.7.2.4

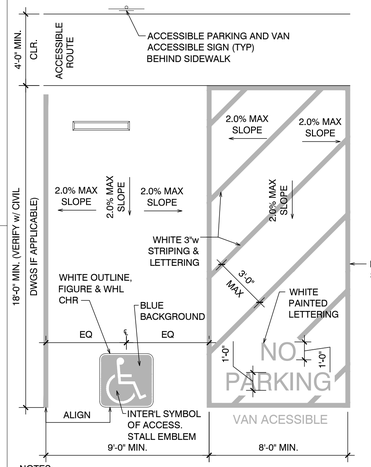
14 ASSISTIVE LISTENING DEVICE SIGN

SCALE: 1" = 1'-0"

02-06_PVisi-Stall-Van

INTERNATIONAL SIGN of ACCESSIBILITY NOTES:

1. SIGN MUST BE LOCATED AT THE INTERIOR END OF THE ACCESSIBLE STALL, WITH BOTTOM AT 80" A.F.F.
2. SIGNS MUST BE REFLECTORIZED, 70 SQ. IN. MIN., WITH A WHITE INT'L SIGN OF ACCESSIBILITY ON BLUE BACKGROUND.
3. VAN STALLS MUST HAVE ADDITIONAL SIGNAGE STATING "VAN ACCESSIBLE" BELOW THE INT'L SIGN OF ACCESSIBILITY.
4. INT'L SIGN of ACCESSIBILITY SHALL BE PAINTED ON PAVING WITH WHITE ON BLUE BACKGROUND EQUAL TO COLOR NO. 15090 ON FEDERAL STANDARD 595-B



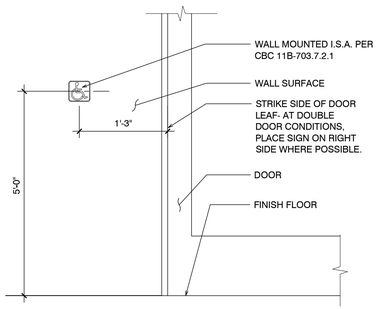
NOTES:

1. TRANSITIONS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
2. SIDEWALK THICKNESS SHALL BE 4" MIN.

11 VAN ACCESSIBLE PARKING STALL

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

02-09_Bldg-Acce-Sign



6 BLDG ACCESSIBILITY SIGN (ELEV)

SCALE: 1" = 1'-0"

EV Tow-Away Sign

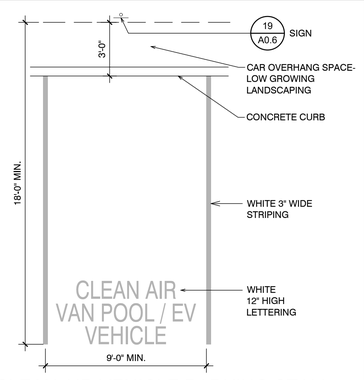


"UNAUTHORIZED VEHICLES NOT CONNECTED FOR ELECTRIC CHARGING PURPOSES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE. RECLAIM TOWED VEHICLES AT SALINAS POLICE DEPT. OR BY TELEPHONING (831) 758-7090"

19 ELECTRIC VEHICLE SIGNS

SCALE: N.T.S.

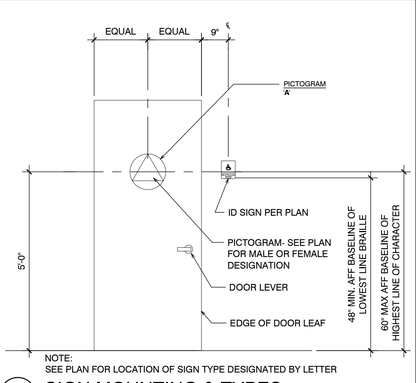
Clean Air Stall



15 CLEAN AIR VEHICLE PARKING STALL

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

02-09_Mtng

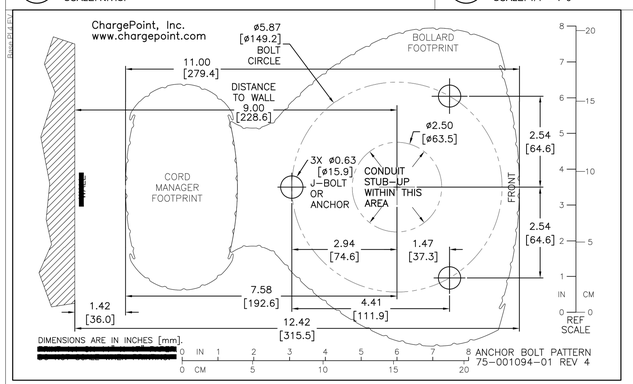


NOTE:
SEE PLAN FOR LOCATION OF SIGN TYPE DESIGNATED BY LETTER

7 SIGN MOUNTING & TYPES

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

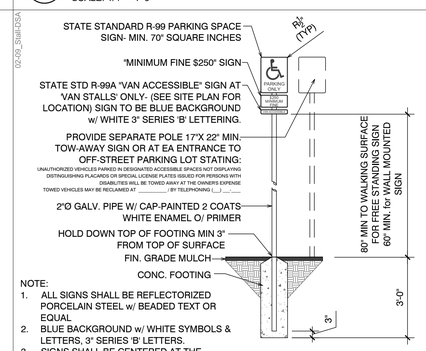
Revit Pl Ext



20 BASE PLATE FOR CHARGING STATION

SCALE: 6" = 1'-0"

02-09_SIMI-DBA

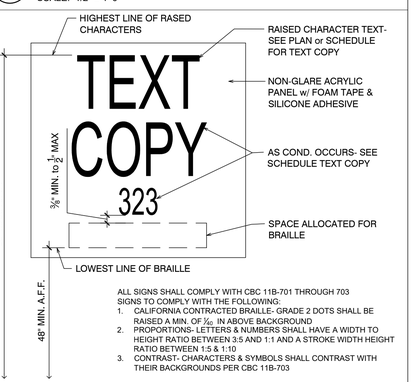


NOTE:
1. ALL SIGNS SHALL BE REFLECTORIZED PORCELAIN STEEL w/ BEADED TEXT OR EQUAL
2. BLUE BACKGROUND w/ WHITE SYMBOLS & LETTERS, 3" SERIES 'B' LETTERS.
3. SIGNS SHALL BE CENTERED AT THE INTERIOR END OF THE PARKING SPACE

12 PARKING SIGN DETAIL

SCALE: 3/8" = 1'-0"

02-09_RoomID



ALL SIGNS SHALL COMPLY WITH CBC 11B-701 THROUGH 703
SIGNS TO COMPLY WITH THE FOLLOWING:

1. CALIFORNIA CONTRACTED BRAILLE- GRADE 2 DOTS SHALL BE RAISED A MIN. OF 1/26 IN ABOVE BACKGROUND
2. PROPORTIONS- LETTERS & NUMBERS SHALL HAVE A WIDTH TO HEIGHT RATIO BETWEEN 3:5 AND 1:1 AND A STROKE WIDTH HEIGHT RATIO BETWEEN 1:5 & 1:10
3. CONTRAST- CHARACTERS & SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUNDS PER CBC 11B-703

8 IDENTIFICATION SIGN

SCALE: 3" = 1'-0"

Project / Owner:

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HEALTH DEPARTMENT

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Title:
SIGN DETAILS

Sheet Number:
A0.6

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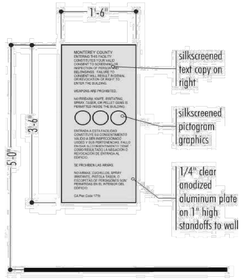
17 | 13 | 9

18 | 14 | 10

19 | 15 | 11

20 | 16 | 12

SecuritySign Type





SIGNAGE NOTES:

1. ALL SIGNAGE SHALL COMPLY WITH CBC SECTION 11B-703 INCLUDING:
   IDENTIFICATION SIGNAGE (ROOM OR BUILDING SIGNAGE)
   DIRECTIONAL SIGNAGE
   ACCESSIBILITY SIGNS

   A. SHALL HAVE NO GLARE FINISH.

   B. SHALL BE HIGH CONTRAST - 70% PER ADAAG A4.30.5.

   C. CHARACTER SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPER CASE LETTER "I".

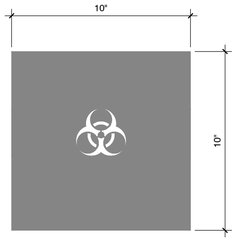
   D. RAISED CHARACTERS AND PICTORIAL SYMBOLS:
      D.A. CHARACTERS SHALL BE RAISED 1/32", SANS SERIF ACCOMPANIED BY GRADE 2 BRAILLE PER SECTION 11B-703.2.
      D.B. RAISED CHARACTERS SHALL BE 5/8" TO 2" HIGH
      D.C. PICTOGRAMS SHALL BE ACCOMPANIED BY VERBAL DESCRIPTION DIRECTLY BELOW THE PICTOGRAM.
      D.D. CHARACTERS SHALL HAVE HORIZONTAL FORMAT.
      D.E. BRAILLE SHALL BE PLACED 3/8" TO 1/2" BELOW TACTILE.

   E. BRAILLE SHALL BE CALIFORNIA GRADE 2 WITH DOTS 1/10" WITH 2/10" BETWEEN CELLS. DOTS SHALL BE ROUNDED OR DOMED.

6 SECURITY SIGN TYPE

SCALE: N.T.S.

Biohazard-Sign

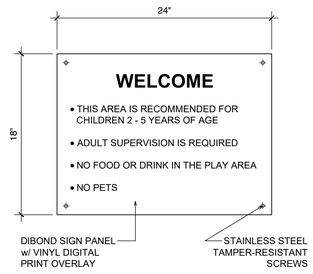


MATERIAL SUBSTRATE:	ROWMARK ACRYLIC
SIZE:	10" x 10"
THICKNESS:	1/8"
APPLICATION:	SUB-SURFACE
BACKGROUND COLOR:	CHARCOAL GRAY, 3x2-301
FOREGROUND COLOR:	BRIGHT WHITE
SPECIAL TREATMENT:	NONE
ATTACHMENT METHOD:	DS FOAM TAPE & SILICONE
QUANTITY:	1

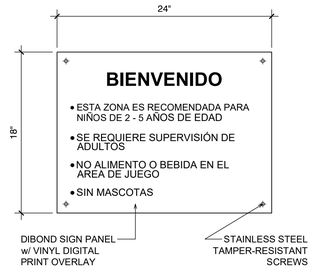
7 BIOHAZARD SIGN

SCALE: N.T.S.

Welcome-Sign



NOTE: SIGNS MOUNTED TO METAL FENCE NEED TO BE BOLTED THROUGH BACK PLATE IN LIEU OF SCREW ATTACHMENT



4 WELCOME SIGN

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

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Sheet Title:
SECURITY DETAILS

Sheet Number:

A0.7

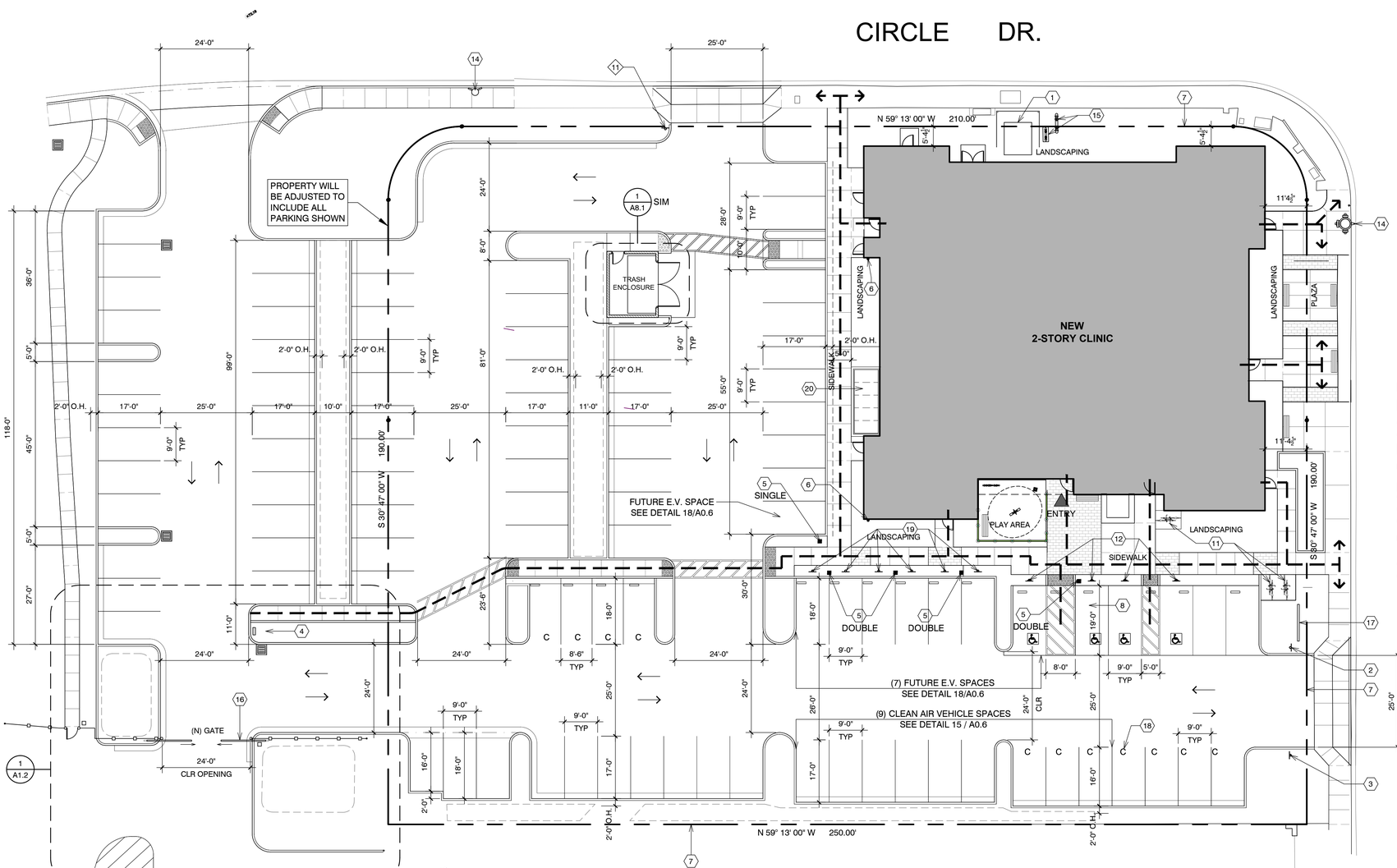
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SECURITY GATE NOTES:

Security gates shall comply with all of the following, as per CFC 503.6 & 6, D103.5, and Salinas Municipal Code 13-9 (dd):

a) Gate width shall be a minimum of 20'. Gated entrances with card readers, guard stations or center medians are allowed, provided that each lane is not less than fifteen (15') wide.
b) Gate shall be of the swinging or sliding type.
c) Gates shall be of materials that allow manual operation by one person.
d) Gate components shall be maintained in an operative condition at all times.
e) Electric gates shall be equipped with a means of opening the gate by Fire Department personnel, and shall be approved by the Fire Code Official.
f) Manual opening gates shall not be locked with a padlock and/or chain unless they are capable of being opened by means of forcible entry tools, or key box containing the key(s) to the lock that is installed at the gate location.
g) Locking device specifications shall be submitted for approval by the Fire Code Official.
h) Electric gate operators, where provided, shall be listed in accordance with UL 325 (Class I - IV).
i) Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200 (Class I - IV).
j) A gate accessing more than four residences or residential lots or a gate accessing hazardous institutional, educational or assembly occupancy groups shall also be equipped with an approved emergency traffic control-activating strobe light sensor or other device approved by the Fire Code Official, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure.

The installation of security gates across a fire apparatus access road shall be approved by the fire chief. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200. CBC 503.6 Security Gates.



NORTH

N. SANBORN RD - SITE PLAN

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

0 4 8 16 32

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

SHEET NOTES

1. PROPOSED ELECTRICAL TRANSFORMER w/ SCREEN, SEE DTL 17/A8.1 & 5/A8.5
2. POLE MOUNTED SIGN - "DO NOT ENTER"
3. POLE MOUNTED SIGN - "RIGHT TURN ONLY"
4. NEW CALL BOX TO MATCH EXISTING
5. FUTURE ELECTRIC VEHICLE CHARGING STATION w/ CONDUIT BACK TO A DEDICATED CIRCUIT - SEE DTL 20/A0.6
6. DOWNSPOUT, SEE CIVIL DWGS FOR DRAINAGE PLAN
7. PROPERTY LINE
8. FUTURE VAN ACCESSIBLE PARKING E.V. CHARGING STALL
9. Not Used
10. Not Used
11. BIKE RACKS - SEE LANDSCAPE DWGS
12. POLE MOUNTED SIGN - "ACCESSIBLE PARKING" - SEE DTL 12/A0.6
13. Not Used
14. (E) FIRE HYDRANT
15. (N) FIRE RISER LOCATION & FIRE DEPT. CONNECTION
16. REMOVE EXISTING GATE & FENCING AND INSTALL NEW FENCING LAYOUT & GATE. SEE SECURITY GATE NOTES ABOVE
17. BUILDING MONUMENT SIGN, SEE DTL 18/A8.1
18. PAINT "COMPACT" IN SPACE w/ MIN. 8" HIGH LETTERS
19. FUTURE POLE MOUNTED SIGN - "EV CHARGING SPACE" **(BID ALTERNATE #4 - PROVIDE THIS SIGN o/ POLE)**
20. 5 BIKE LOCKERS (PRO MARK SM BY CYCLE SAFE - 1 BIKE) ANCHORED ON 4" CONCRETE PAD w/ THICKENED EDGES

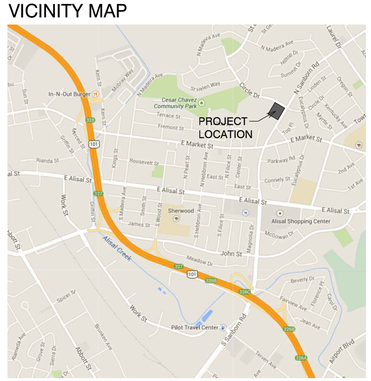
BUILDING DIMENSION SHOWN TO FACE OF EXTERIOR INSULATION ON THIS PAGE

EXTERIOR PATH OF TRAVEL

WALKING SURFACES WITH A SLOPE LESS THAN 5% AND A MAXIMUM CROSS SLOPE OF 2%. THE SURFACE SHALL BE STABLE, FIRM AND SLIP RESISTANT. CHANGES IN LEVEL SHALL BE MAXIMUM ¼" WITHOUT EDGE TREATMENT AND ½" MAXIMUM IF TOP ¼" IS BEVELED MAX. 2:1. WALKWAYS SHALL BE A MINIMUM 4'-0" CLEAR WIDTH. ABRUPT CHANGES IN LEVEL OF ADJACENT GRADE TO THE SIDEWALK EXCEEDING 4" SHALL BE IDENTIFIED BY WARNING CURBS AT LEAST 6" IN HEIGHT ABOVE SIDEWALK SURFACE. CBC 11B-403.3

X SEE SHEET A0.6 FOR SIGN SCHEDULE & DETAILS

VICINITY MAP



Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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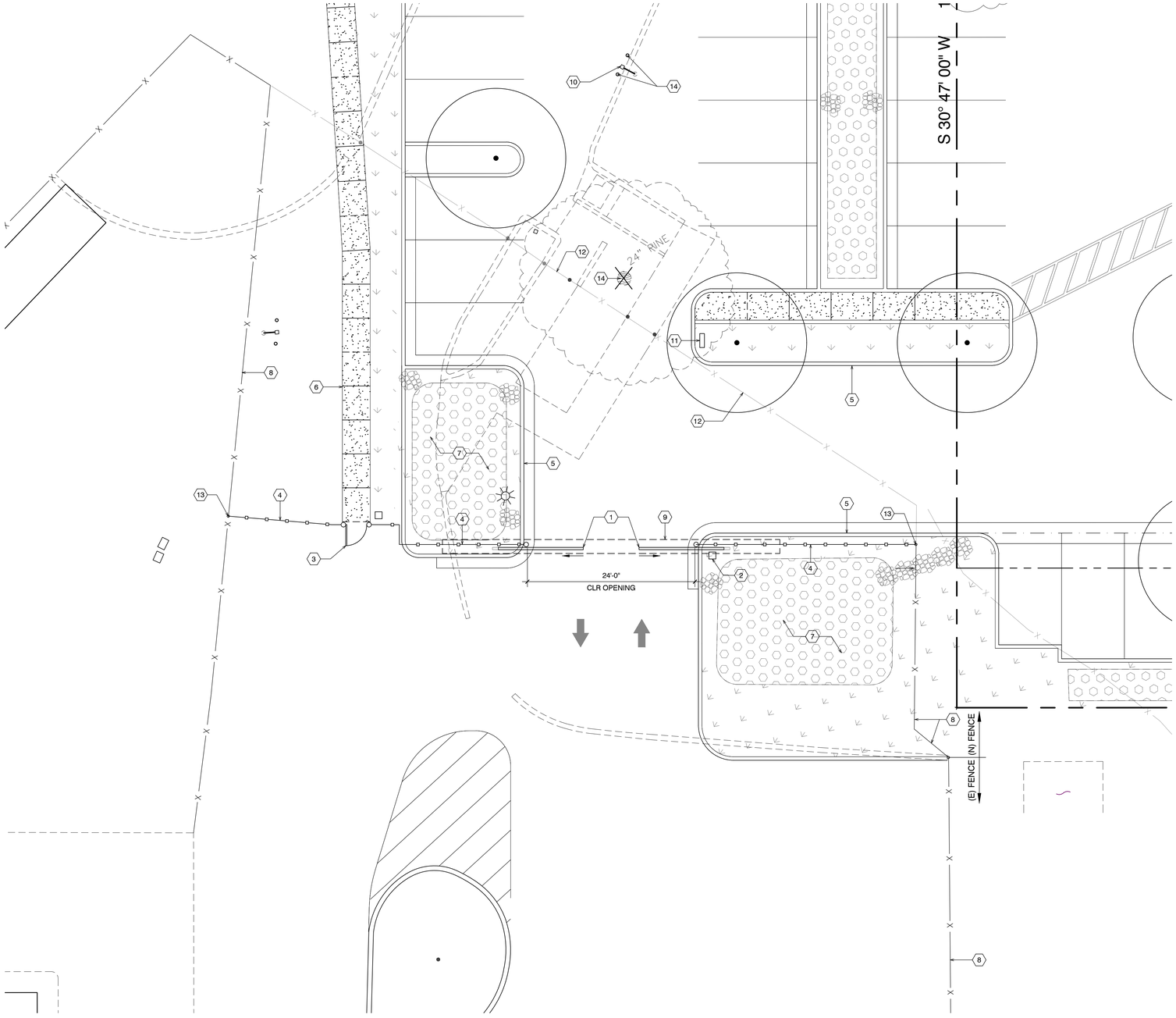
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Sheet Title:
SITE PLAN

Sheet Number:

A1.1

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SHEET NOTES

1. BI-PARTING METAL GATE ON TRACKS, SEE DETAIL 10/A8.6
2. ELECTRIC GATE MOTOR / CONTROL
3. (N) METAL MAN GATE, SEE DETAIL 11/A8.6
4. (N) 13'-0" HIGH CHAIN LINK FENCE w/ CONCERTINA RAZOR COILS ABOVE
5. (N) CURB
6. (N) 4' WIDE CONC WALK
7. BIO RETENTION PLANTER
8. (E) CHAIN LINK FENCE TO REMAIN
9. (N) GRADE BEAM / FOUNDATION FOR (N) GATE SYSTEM
10. RELOCATE (E) CALL BOX
11. RELOCATED (E) CALL BOX
12. REMOVE (E) CHAIN LINK FENCE
13. (N) MTL POST
14. REMOVE (E) TREE
15. REMOVE (E) BOLLARDS

1 PARTIAL SITE PLAN
SCALE: 1/8" = 1'-0"

0 2 4 8 16
SCALE: 1/8" = 1'-0"

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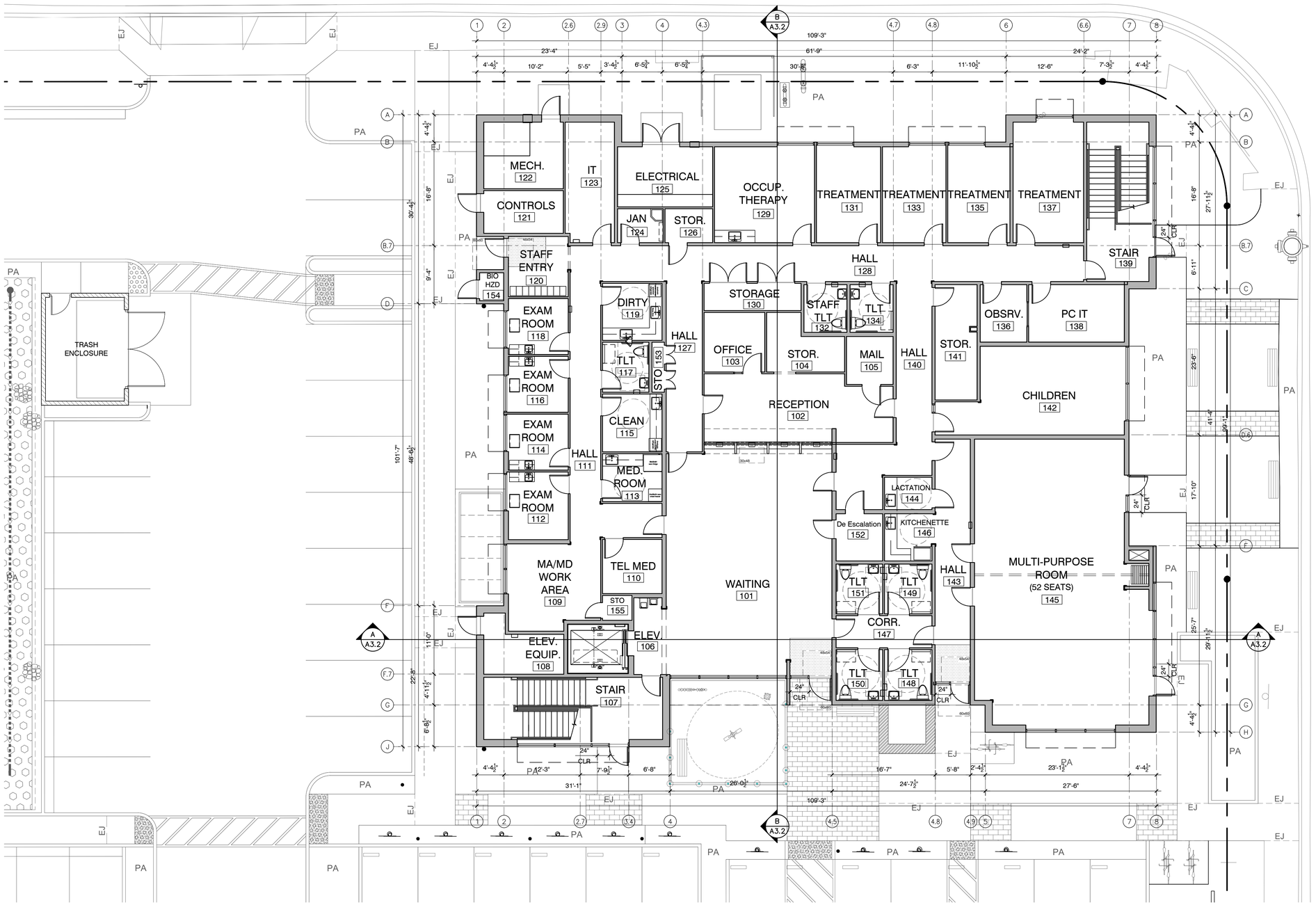
Sheet Title:
PARTIAL SITE PLAN
NEW FENCE &
SECURITY GATE

Sheet Number:

A1.2

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CIRCLE DRIVE



NORTH

FIRST FLOOR PLAN (9,785 sf)

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

0 2 4 8 16

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

EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR WALL SHEATHING, U.O.N.

N. SANBORN RD

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Sheet Title:
FIRST FLOOR PLAN

Sheet Number:

A2.1

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FLOOR PLAN GENERAL NOTES

1. ALL ITEMS DESIGNATED ON FLOOR PLAN SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE
2. ALL WALLS PAINTED (IN PART, ABOVE TILE OR FRP, OR IN WHOLE) WHETHER INTERIOR OR EXTERIOR. SEE PAINT PLAN FOR INTERIOR WALL PAINT COLORS AND LOCATIONS.
3. ALL INTERIOR SPACE SHALL HAVE FLOOR FINISH. SEE FLOOR PATTERN PLAN FOR TYPES AND LOCATIONS OF FLOOR FINISH.
4. ALL "OUTSIDE" CORNERS WITHIN THE FINISHED INTERIOR SPACE SHALL HAVE PARTIAL HEIGHT CORNER GUARDS - SEE DETAIL 12/A9.3
5. SEE SHEET A9.1 FOR GENERAL ACCESSIBILITY REQUIREMENTS.
6. PROVIDE PULL-DOWN SHADES IN ALL ROOMS WITH WINDOWS EXCEPT AT STAIRWELLS.

ACCESSIBLE ENTRANCE GENERAL NOTES:

ALL EXTERIOR ENTRANCES AND EXITS IDENTIFIED WITH A TRIANGULAR SYMBOL (◆) ON THIS PLAN ARE ACCESSIBLE AND COMPLY WITH CBC 11B DIVISION 4, INCLUDING:

1. 32" CLEAR OPENING;
2. REQUIRED STRIKE EDGE CLEARANCE AT PULL SIDE OF DOOR (24" FOR FRONT AND LATCH, 36" FOR HINGE APPROACH);
3. LEVEL LANDINGS (2% SLOPE MAX ON EXTERIOR SIDE, 0% ON INTERIOR SIDE); ACCESSIBLE THRESHOLD, HARDWARE, CLOSER, KICK-PLATE;
4. ISA SIGN ON EXTERIOR SIDE OF ENTRANCE.
5. ALL DOOR CLOSERS TO BE ADJUSTABLE WITH MAX. EFFORT TO OPERATE DOOR PER SECTION 11B-404.2.8.
6. A SMOOTH, UNINTERRUPTED SURFACE AT THE BOTTOM OF THE 10" IS REQUIRED AT ALL DOORS PER SECTION 11B-404.2.10
7. LEVER OPERATING HARDWARE IS REQUIRED AT ALL OPENINGS PER SECTION 11B-309.4
8. FLOOR-MOUNTED DOOR STOPS AND SIMILAR OBSTRUCTIONS ARE ALLOWED TO BE INSTALLED AT A MAXIMUM OF FOUR INCHES FROM THE FACE OF THE WALL OR PARTITION PER SECTION 11B-307.2
9. EXIT HARDWARE TO BE ACCESSIBLE TYPE AND COMPLY WITH SECTION 1008.1.9 & 11B-309.4
10. MOUNTING HEIGHT OF HAND-ACTIVATED DOOR HARDWARE, INCLUDING ALL DEAD BOLTS, SHALL BE MOUNTED BETWEEN 34" AND 44" A.F.F. PER 11B-404.2.7

WALL SYMBOL

- $3\frac{5}{8}$" MTL STUD
- 6" MTL STUD
- 8" MTL STUD
- 1-HR RATED WALL w/ TYPE 'X' GWB
- STEEL FRAME

INTERIOR WALL TYPES

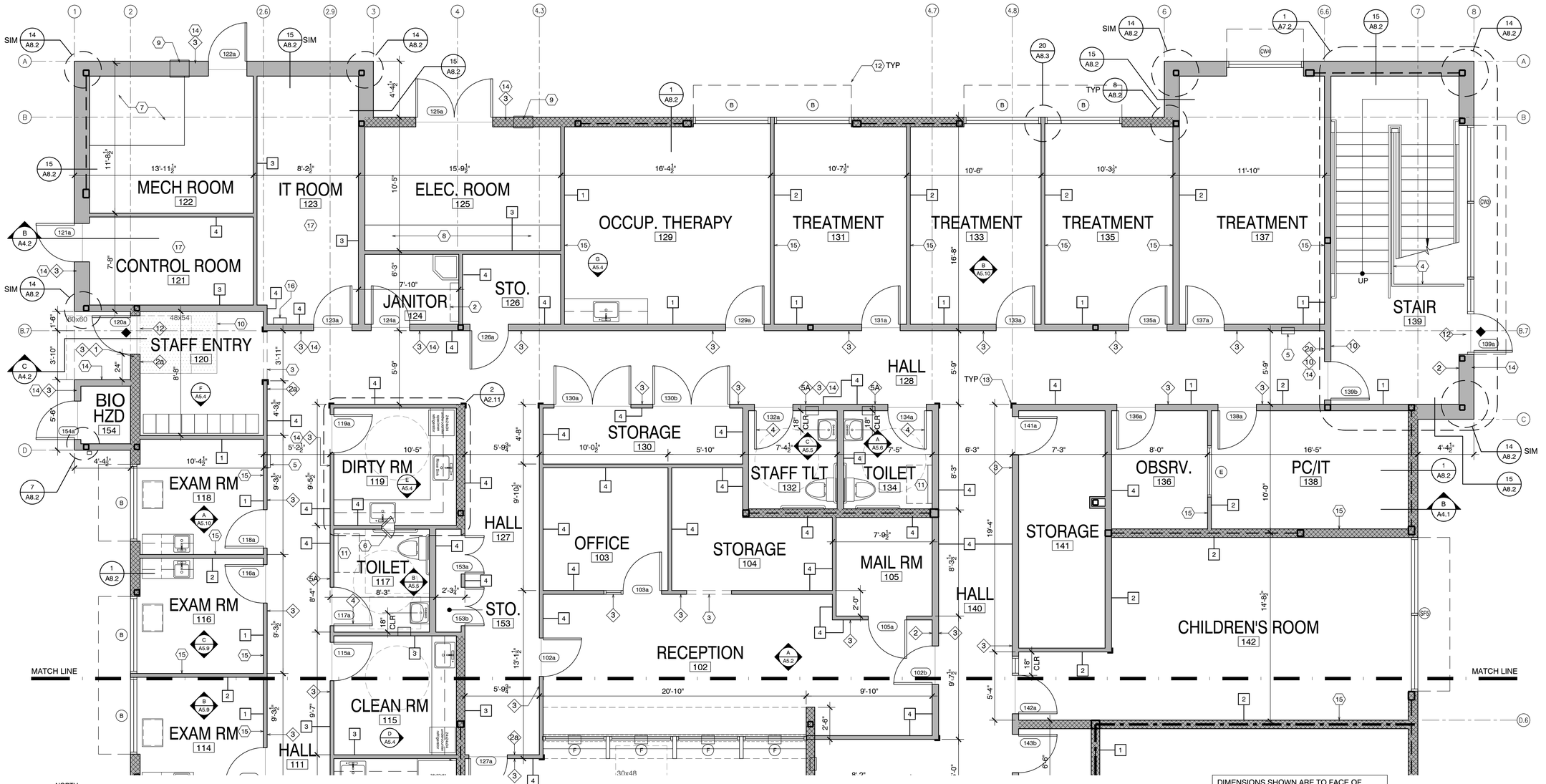
		Bid Alternate No. 2
1	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE	A3 A9.2 / A3. A9.5
2	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE	A4 A9.2 / A4 A9.5
3	WALL TO STRUCTURE	A5 A9.2
4	WALL TO 12" ABOVE CEILING	A5 A9.2
5	WALL TO STRUCTURE	A6 A9.2

SIGN LEGEND

◇ SEE SHEET A0.6 FOR SIGN SCHEDULE

SHEET NOTES

1. Not Used
2. SHELF ON WALL (SEE ACCESSORIES SCHEDULE). PROVIDE BACKING IN WALL
3. DROPPED HEADER AT +7'-0"
4. MTL RAILING, SEE STAIR DETAIL 4/A7.4
5. FIRE EXTINGUISHER CABINET, SEE DETAIL 5/A9.3
6. SPECIMEN BOX, PASS-THROUGH STYLE, LOCKED AT STAFF SIDE, UNLOCKED AT RESTROOM SIDE. TOP SHELF MOUNTED AT 34" AFF MAX.
7. HOUSEKEEPING PAD FOR MECH UNIT: 7'-5" x 5'-5" x 3" HIGH
8. 2" HIGH HOUSEKEEPING PAD FOR MAIN SWITCHBOARD - COORDINATE w/ SIZE OF ELECTRICAL EQUIPMENT
9. LOUVER - SEE MECH DWGS
10. 72" DEEP RECESSED WALK-OFF MAT, SEE SPECS
11. DIAPER CHANGING STATION
12. OUTLINE OF WINDOW / STOREFRONT SHADE ABOVE
13. CORNER GUARD, TYP. SEE DTL 12/A9.3
14. CARD READER
15. **BID ALTERNATE #2** - SIDE OF WALL w/ RESILIENT CHANNELS & RSIC CLIPS
16. FIRE EXTINGUISHER o/ BRACKET
17. SEE SHEET E3.1 FOR PLYWOOD BACKING PANELS o/ WALLS



NORTH

ENLARGED PARTIAL FIRST FLOOR PLAN

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

DIMENSIONS SHOWN ARE TO FACE OF FRAMING AT INTERIOR & FACE OF EXTERIOR SHEATHING ON EXTERIOR U.O.N.

0 1 2 4 8

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

Project / Owner:

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Sheet Title:
ENLARGED PARTIAL FIRST FLOOR PLAN

Sheet Number:

A2.1a

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3. ALL INTERIOR SPACE SHALL HAVE FLOOR FINISH. SEE FLOOR PATTERN PLAN FOR TYPES AND LOCATIONS OF FLOOR FINISH.
4. ALL "OUTSIDE" CORNERS WITHIN THE FINISHED INTERIOR SPACE SHALL HAVE PARTIAL HEIGHT CORNER GUARDS - SEE DETAIL 12/A9.3
5. SEE SHEET A9.1 FOR GENERAL ACCESSIBILITY REQUIREMENTS.
6. PROVIDE PULL-DOWN SHADES IN ALL ROOMS WITH WINDOWS EXCEPT AT STAIRWELLS.

ACCESSIBLE ENTRANCE GENERAL NOTES:

ALL EXTERIOR ENTRANCES AND EXITS IDENTIFIED WITH A TRIANGULAR SYMBOL (◆) ON THIS PLAN ARE ACCESSIBLE AND COMPLY WITH CBC 11B DIVISION 4, INCLUDING:

1. 32" CLEAR OPENING;
2. REQUIRED STRIKE EDGE CLEARANCE AT PULL SIDE OF DOOR (24" FOR FRONT AND LATCH, 36" FOR HINGE APPROACH);
3. LEVEL LANDINGS (2% SLOPE MAX ON EXTERIOR SIDE, 0% ON INTERIOR SIDE); ACCESSIBLE THRESHOLD, HARDWARE, CLOSER, KICK-PLATE;
4. ISA SIGN ON EXTERIOR SIDE OF ENTRANCE.
5. ALL DOOR CLOSERS TO BE ADJUSTABLE WITH MAX. EFFORT TO OPERATE DOOR PER SECTION 11B-404.2.8.
6. A SMOOTH, UNINTERRUPTED SURFACE AT THE BOTTOM OF THE 10" IS REQUIRED AT ALL DOORS PER SECTION 11B-404.2.10
7. LEVER OPERATING HARDWARE IS REQUIRED AT ALL OPENINGS PER SECTION 11B-309.4
8. FLOOR-MOUNTED DOOR STOPS AND SIMILAR OBSTRUCTIONS ARE ALLOWED TO BE INSTALLED AT A MAXIMUM OF FOUR INCHES FROM THE FACE OF THE WALL OR PARTITION PER SECTION 11B-307.2
9. EXIT HARDWARE TO BE ACCESSIBLE TYPE AND COMPLY WITH SECTION 1008.1.9 & 11B-309.4
10. MOUNTING HEIGHT OF HAND-ACTIVATED DOOR HARDWARE, INCLUDING ALL DEAD BOLTS, SHALL BE MOUNTED BETWEEN 34" AND 44" A.F.F. PER 11B-404.2.7

WALL SYMBOL

- $3\frac{5}{8}$" MTL STUD
- 6" MTL STUD
- 8" MTL STUD
- 1-HR RATED WALL w/ TYPE 'X' GWB
- STEEL FRAME

INTERIOR WALL TYPES

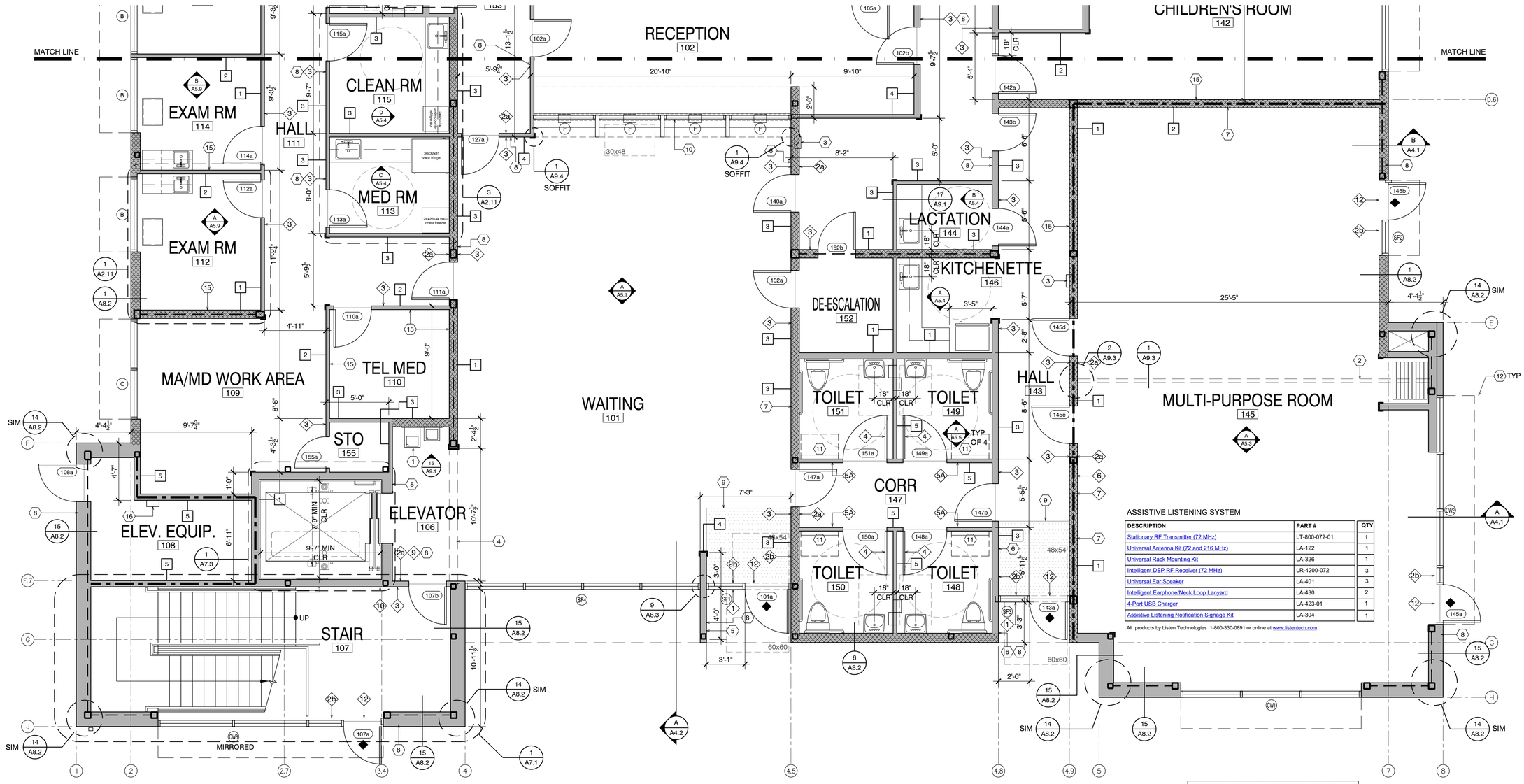
		Bid Alternate No. 2
1	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE	A3 / A9.2 — A3 / A9.5
2	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE	A4 / A9.2 — A4 / A9.5
3	WALL TO STRUCTURE	A5 / A9.2
4	WALL TO 12" ABOVE CEILING	A5 / A9.2
5	WALL TO STRUCTURE	A6 / A9.2

SHEET NOTES

1. DUAL HEIGHT DRINKING FOUNTAIN w/ WATER BOTTLE FILLING STATION
2. MIN 9' HIGH 50 STC MOVABLE PARTITION
3. FIRE EXTINGUISHER CABINET, SEE DETAIL 5/A9.3
4. DROPPED HEADER AT +9'-0"
5. KNOX BOX
6. PUSH BAR FOR DOOR OPENER
7. WALL MOUNTED TELEVISION, VERIFY HEIGHT
8. CARD READER
9. 72" DEEP RECESSED WALK-OFF MAT, SEE SPECS
10. 6" STL STUD WALL BELOW
11. DIAPER CHANGING STATION
12. OUTLINE OF WINDOW / STOREFRONT SHADE ABOVE
15. **BID ALTERNATE #2** - SIDE OF WALL w/ RESILIENT CHANNELS & RSIC CLIPS
16. FIRE EXTINGUISHER o/ BRACKET

SIGN LEGEND

◇ SEE SHEET A0.6 FOR SIGN SCHEDULE



ASSISTIVE LISTENING SYSTEM

DESCRIPTION	PART #	QTY
Stationary RF Transmitter (72 MHz)	LT-800-072-01	1
Universal Antenna Kit (72 and 216 MHz)	LA-122	1
Universal Rack Mounting Kit	LA-326	1
Intelligent DSP RF Receiver (72 MHz)	LR-4200-072	3
Universal Ear Speaker	LA-401	3
Intelligent Earphone/Neck Loop Lanyard	LA-430	2
4-Port USB Charger	LA-423-01	1
Assistive Listening Notification Signage Kit	LA-304	1

All products by Listen Technologies 1-800-330-0891 or online at www.listentech.com.

DIMENSIONS SHOWN ARE TO FACE OF FRAMING AT INTERIOR & FACE OF EXTERIOR SHEATHING ON EXTERIOR U.O.N.

ENLARGED PARTIAL FIRST FLOOR PLAN

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

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
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EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT — PAUL W. DAVIS — No. C-15182 — REN. 12-31-21 — STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:

09.21.21 ISSUED FOR BID

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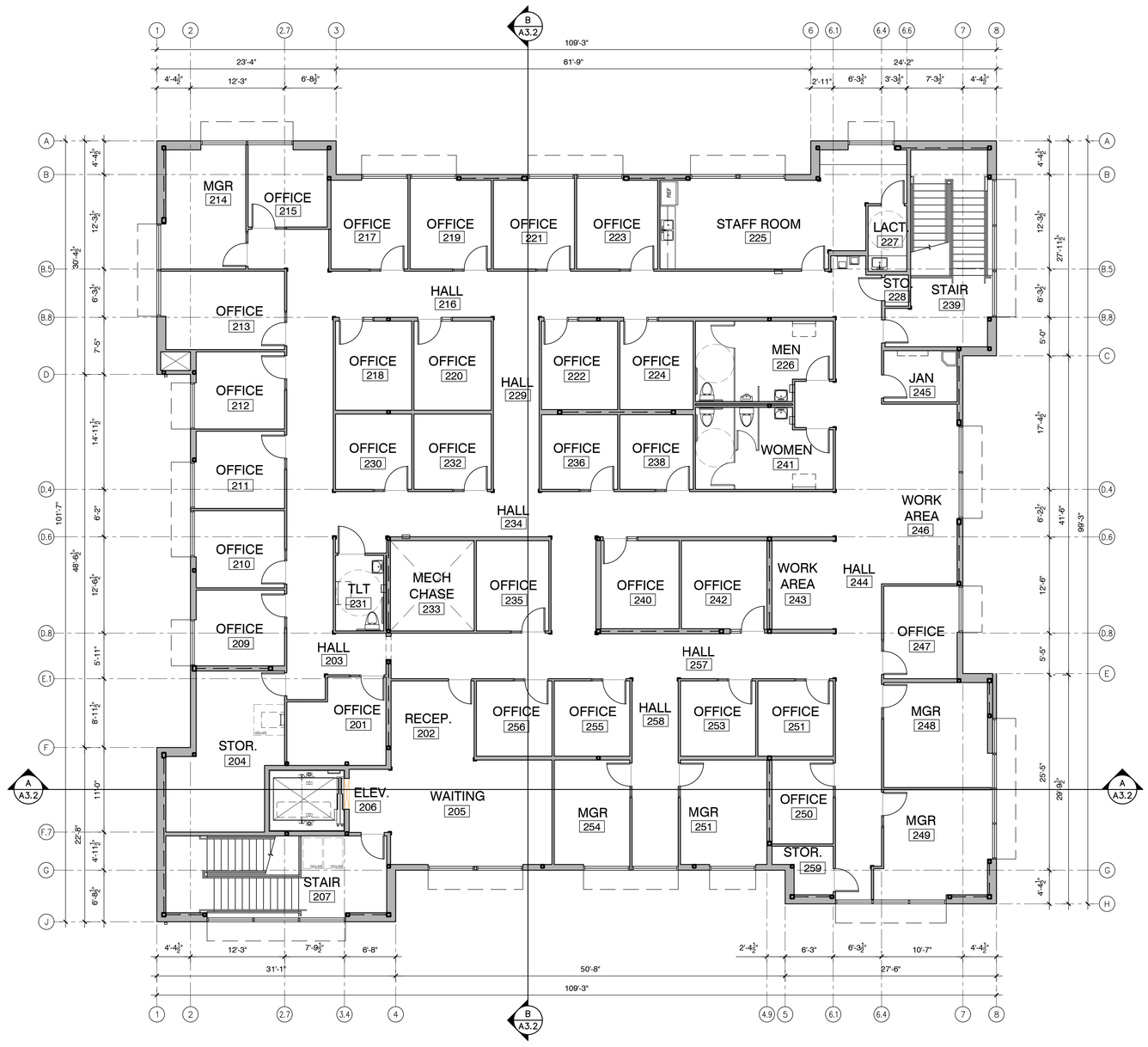
Sheet Title:

ENLARGED PARTIAL FIRST FLOOR PLAN

Sheet Number:

A2.1b

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NORTH

SECOND FLOOR PLAN (9,928 sf)

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

0 2 4 8 16

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

EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR WALL SHEATHING, U.O.N.

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PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

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Sheet Title:
SECOND FLOOR PLAN

Sheet Number:

A2.2

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FLOOR PLAN GENERAL NOTES

1. ALL ITEMS DESIGNATED ON FLOOR PLAN SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE
2. ALL WALLS PAINTED (IN PART, ABOVE TILE OR FRP, OR IN WHOLE) WHETHER INTERIOR OR EXTERIOR. SEE PAINT PLAN FOR INTERIOR WALL PAINT COLORS AND LOCATIONS.
3. ALL INTERIOR SPACE SHALL HAVE FLOOR FINISH. SEE FLOOR PATTERN PLAN FOR TYPES AND LOCATIONS OF FLOOR FINISH.
4. ALL "OUTSIDE" CORNERS WITHIN THE FINISHED INTERIOR SPACE SHALL HAVE PARTIAL HEIGHT CORNER GUARDS - SEE DETAIL 12/A9.3
5. SEE SHEET A9.1 FOR GENERAL ACCESSIBILITY REQUIREMENTS.
6. PROVIDE PULL-DOWN SHADES IN ALL ROOMS WITH WINDOWS EXCEPT AT STAIRWELLS.

WALL SYMBOL

- $3\frac{5}{8}$" MTL STUD
- 6" MTL STUD
- 8" MTL STUD
- 1-HR RATED WALL w/ TYPE 'X' GWB
- STEEL FRAME

INTERIOR WALL LEGEND

		Bid Alternate No. 2
1	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE — A3 / A9.2	A3 / A9.5
2	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE — A4 / A9.2	A4 / A9.5
3	WALL TO STRUCTURE — A5 / A9.2	
4	WALL TO 12" ABOVE CEILING — A5 / A9.2	
5	WALL TO STRUCTURE — A6 / A9.2	

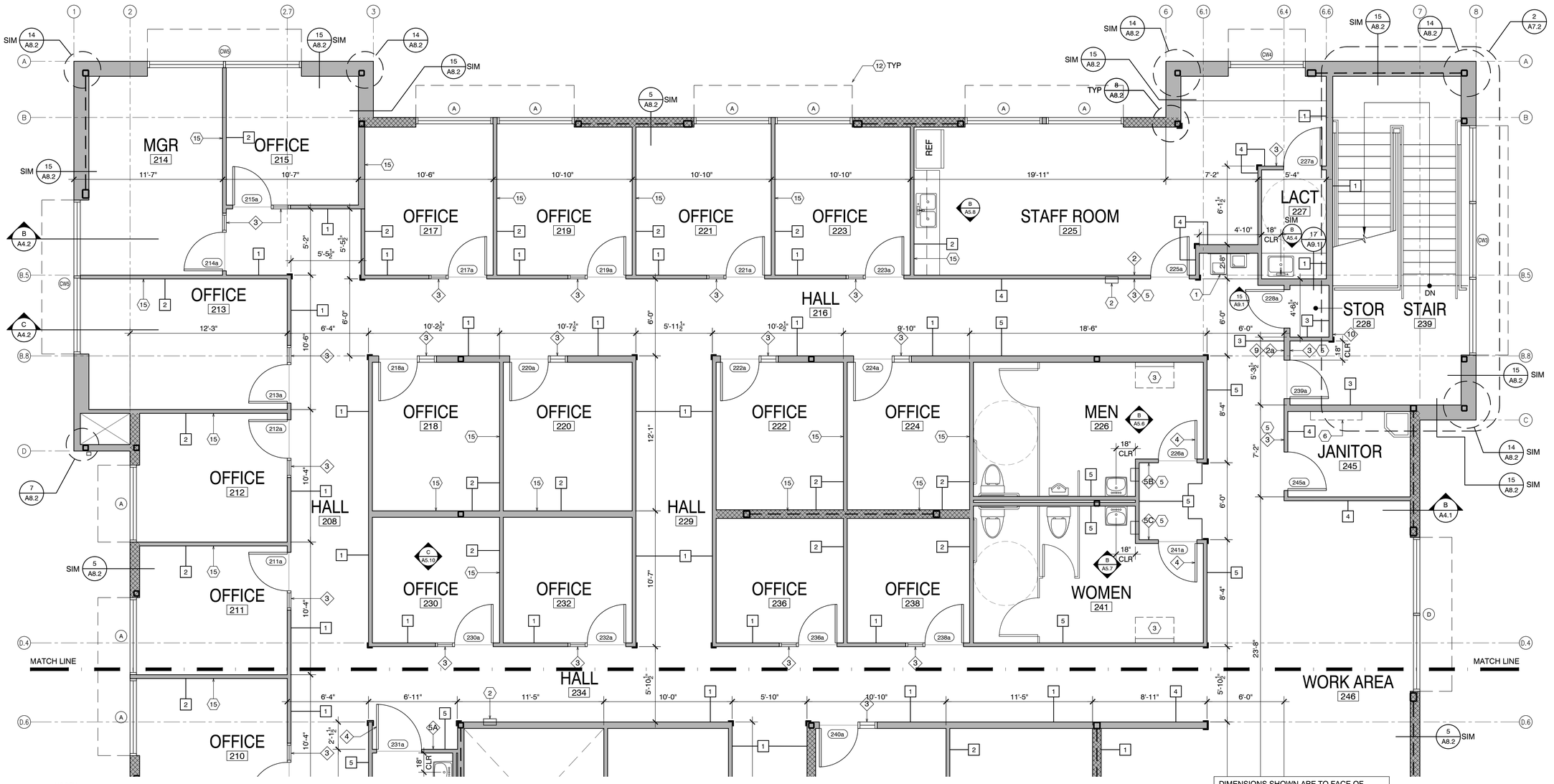
SHEET NOTES

1. DUAL HEIGHT DRINKING FOUNTAIN w/ WATER BOTTLE FILLING STATION
2. FIRE EXTINGUISHER CABINET, SEE DETAIL 5/A9.3
3. DIAPER CHANGING STATION
4. OUTLINE OF WINDOW / STOREFRONT SHADE ABOVE
5. CARD READER
6. SHELF ON WALL (SEE ACCESSORIES SCHEDULE). PROVIDE BACKING IN WALL

15. BID ALTERNATE #2 - SIDE OF WALL w/ RESILIENT CHANNELS & RSIC CLIPS

SIGN LEGEND

SEE SHEET A0.6 FOR SIGN SCHEDULE



NORTH

ENLARGED PARTIAL SECOND FLOOR PLAN

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

DIMENSIONS SHOWN ARE TO FACE OF FRAMING AT INTERIOR & FACE OF EXTERIOR SHEATHING ON EXTERIOR U.O.N.

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

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:

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Sheet Title:
ENLARGED PARTIAL SECOND FLOOR PLAN

Sheet Number:

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FLOOR PLAN GENERAL NOTES

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3. ALL INTERIOR SPACE SHALL HAVE FLOOR FINISH. SEE FLOOR PATTERN PLAN FOR TYPES AND LOCATIONS OF FLOOR FINISH.
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5. SEE SHEET A9.1 FOR GENERAL ACCESSIBILITY REQUIREMENTS.
6. PROVIDE PULL-DOWN SHADES IN ALL ROOMS WITH WINDOWS EXCEPT AT STAIRWELLS.

WALL SYMBOL

- 3⅝" MTL STUD
- 6" MTL STUD
- 8" MTL STUD
- 1-HR RATED WALL w/ TYPE 'X' GWB
- STEEL FRAME

INTERIOR WALL LEGEND

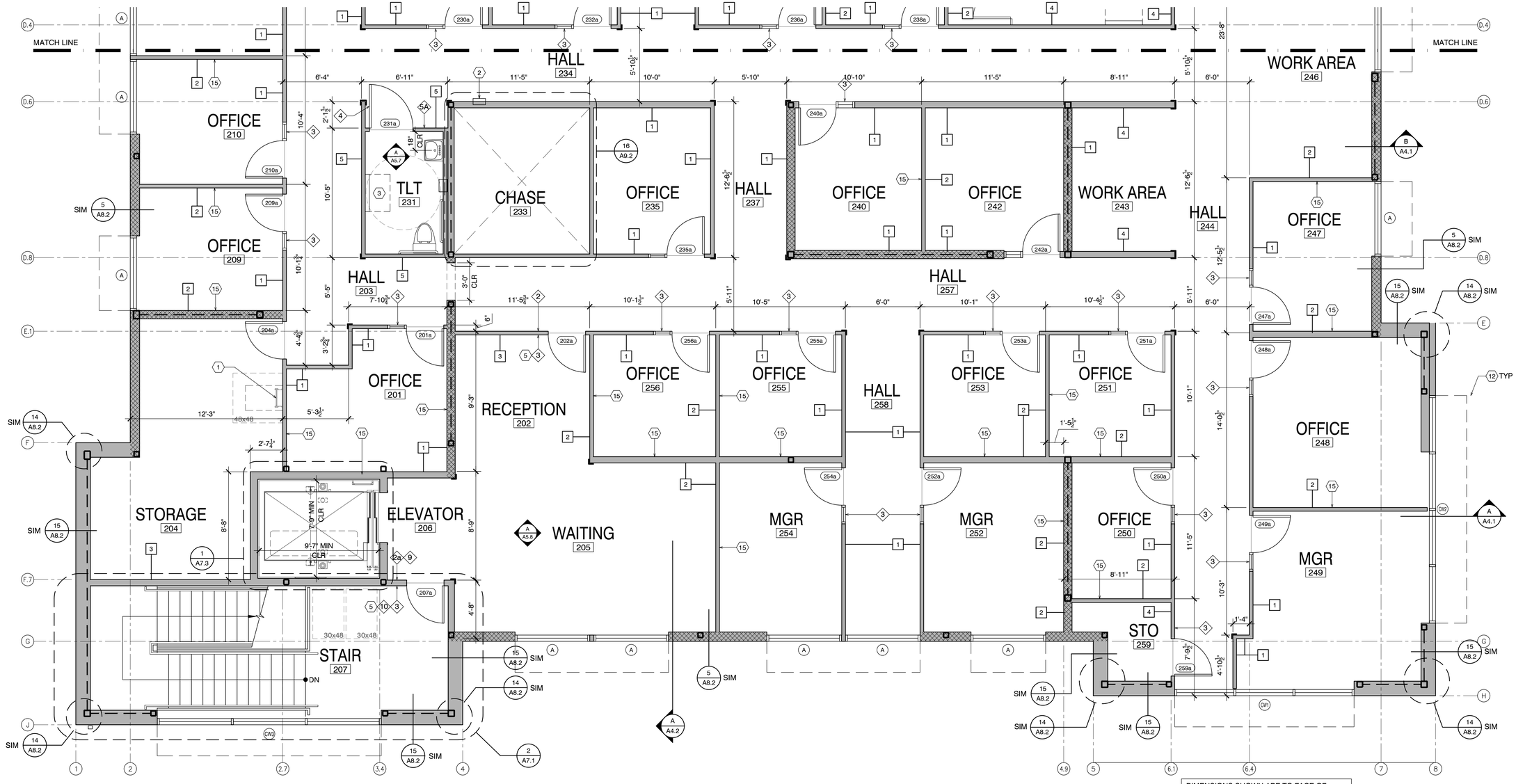
		Bid Alternate No. 2
1	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE — A3 / A9.2	A3 / A9.5
2	SOUND WALL TO FLOOR / ROOF STRUCTURE ABOVE — A4 / A9.2	A4 / A9.5
3	WALL TO STRUCTURE — A5 / A9.2	
4	WALL TO 12" ABOVE CEILING — A5 / A9.2	
5	WALL TO STRUCTURE — A6 / A9.2	

SHEET NOTES

1. LADDER, SEE DTL 20/A8.4
2. FIRE EXTINGUISHER CABINET, SEE DETAIL 5/A9.3
3. DIAPER CHANGING STATION
4. OUTLINE OF WINDOW / STOREFRONT SHADE ABOVE
5. CARD READER
15. **BID ALTERNATE #2** - SIDE OF WALL w/ RESILIENT CHANNELS & RSIC CLIPS

SIGN LEGEND

SEE SHEET A0.6 FOR SIGN SCHEDULE



ENLARGED PARTIAL SECOND FLOOR PLAN

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

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

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Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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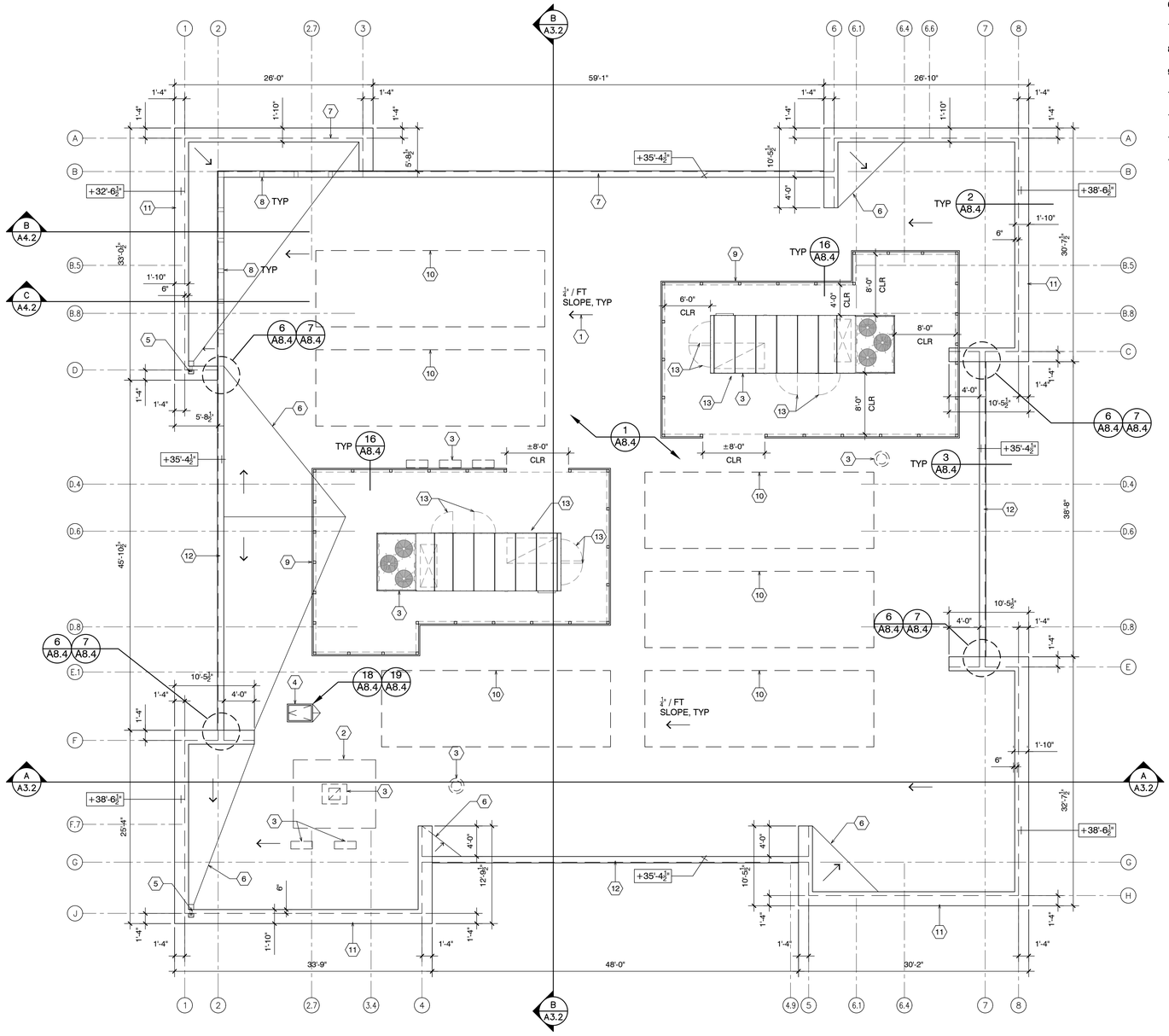
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Sheet Title:
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Sheet Number:

A2.2b

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NORTH

ROOF PLAN

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

0 2 4 8 16

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

SHEET NOTES

1. DIRECTION OF SLOPE
2. OUTLINE OF ELEVATOR BELOW
3. EQUIPMENT - SEE MECH DWGS FOR ROOF CURB DETAILS
4. ROOF ACCESS HATCH
5. DOWNSPOUT, SEE DTL 10 / A8.4
6. CRICKET, SEE DTL 5 / A8.4
7. OUTLINE OF BLDG BELOW
8. POST AT 48" o.c. BELOW WALL
9. MECHANICAL UNIT SCREEN
10. LOCATION OF FUTURE SOLAR PANELS
11. UPPER PARAPET
12. LOWER PARAPET
13. INSTALL 36"x48" WALKING PADS AT EQUIPMENT SERVICE PANELS (PER ROOF MANUFACTURER'S RECOMMENDATION)

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Sheet Title:
ROOF PLAN

Sheet Number:

A2.3

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DOOR SCHEDULE - SECOND FLOOR

NO.	TYPE	SIZE			DOOR MATERIAL	FRAME MATERIAL	FRAME TYPE	DETAIL			FIRE RATING	REMARKS
		WIDTH	HEIGHT	THK.				HEAD	JAMB	THRESH.		
201a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		SEE DOOR SCHEDULE NOTE 11 FOR ALL 2ND FLOOR OFFICE DOORS & SIDELIGHTS
202a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
204a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
207a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER w/ DELAYED ACTION ALARMED PANIC HARDWARE
209a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
210a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
211a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
212a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
213a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
214a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
215a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
217a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
218a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
219a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
220a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
221a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
222a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
223a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
224a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
225a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
226a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
227a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
228a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
230a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
231a	B	3'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
232a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
235a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
236a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
238a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
239a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER w/ DELAYED ACTION ALARMED PANIC HARDWARE
240a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
241a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
242a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
243a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
245a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
247a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
248a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
249a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
250a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
251a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
252a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
253a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
254a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
255a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
256a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		

ABBREVIATIONS: ALUM = ALUMINUM GL = GLASS HC = HOLLOW CORE SC = SOLID CORE WD = WOOD HM = HOLLOW METAL

DOOR SCHEDULE NOTES

1. All exit doors shall be operable from the inside without the use of a key, special knowledge or effort. The unlatching of any leaf should not require more than one operation and must be operable without requiring the ability of grasping the openable hardware per CBC 11B-309.4.
2. Landings at doors - floor levels are required at each side of door regardless of occupant load per CBC 11B-404.2.4.
3. Maximum effort to operate exterior & interior doors shall not exceed 5 pounds, with such pull or push effort being applied at right angles to hinged doors & at the center plane of sliding or folding doors. Compensating devices or automatic door operators may be utilized to meet the above standards. When fire doors are required, the maximum effort to operate the door may be increased to the minimum allowable by the appropriate authority, not to exceed 15 pounds. (CBC 11B-404).
4. The bottom 10" of all doors shall have a smooth uninterrupted surface to allow the door to be opened by a wheelchair footrest without creating a trap or a hazardous condition per CBC 11B-404.2.10.
5. Mounting height of hand-activated hardware shall be between 34" and 44" above floor per CBC 11B-404.2.7.
6. Floor mounted door stops and similar obstructions are allowed to be installed at a maximum of four inches from the face of the wall or partition.
7. Provide new door hardware at new doors.
8. New doors & frames to match existing finish.
9. At rated openings, door frames to be min. 16ga.
10. When the door has a closer, the door closers & gate closers shall be adjusted so that from an open position of 90 degrees, the time rquried to move the door to a position of 12 degrees from the latch is 5 seconds minimum. (CBC 11B-404.2.8.1)
11. Insulated glass units at Office Doors & Sidelights.
12. **SEE WALL TYPES & BID ALTERNATE 2 WALL TYPES FOR DOOR FRAME THROAT.**

DOOR SCHEDULE - FIRST FLOOR

NO.	TYPE	SIZE			DOOR MATERIAL	FRAME MATERIAL	FRAME TYPE	DETAIL			FIRE RATING	REMARKS
		WIDTH	HEIGHT	THK.				HEAD	JAMB	THRESH.		
101a	A	3'-6"	7'-0"	1 3/4"	ALUM/GL	ALUM	SF1	7/A8.3	7/A8.3	7/A8.3	-	CARD READER
102a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
102b	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
103a	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
105a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
107a	A	3'-0"	7'-0"	1 3/4"	ALUM/GL	ALUM	SF4	7/A8.3	7/A8.3	7/A8.3	-	CARD READER
107b	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER w/ DELAYED ACTION ALARMED PANIC HARDWARE
108a	C	3'-0"	7'-0"	1 3/4"	MTL	HM	-	10/A8.3	12/A8.3	8/A8.3		LOUVERED DOOR, CARD READER
110a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
111a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
112a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
113a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
114a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
115a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
116a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
117a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
118a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
119a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
120a	A	3'-0"	7'-0"	1 3/4"	ALUM/GL	ALUM	-	7/A8.3	7/A8.3	7/A8.3		CARD READER
121a	C	3'-0"	7'-0"	1 3/4"	MTL	HM	-	10/A8.3	12/A8.3	8/A8.3		LOUVERED DOOR, CARD READER
122a	C	3'-0"	7'-0"	1 3/4"	MTL	HM	-	10/A8.3	12/A8.3	8/A8.3		LOUVERED DOOR, CARD READER
123a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
124a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER (1)
125a	C	PR 3'-0"	7'-0"	1 3/4"	MTL	HM	-	10/A8.3	12/A8.3	8/A8.3		CARD READER
126a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
127a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
129a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
130a	B	PR 3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
130b	B	PR 3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
131a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
132a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER (1)
133a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
134a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
135a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
136a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
137a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
138a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
139a	A	3'-0"	7'-0"	1 3/4"	ALUM/GL	ALUM	-	7/A8.3	7/A8.3	7/A8.3		CARD READER
139b	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER w/ DELAYED ACTION ALARMED PANIC HARDWARE
140a	E	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		CARD READER
141a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
142a	E	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		
143a	A	3'-0"	7'-0"	1 3/4"	ALUM/GL	ALUM	SF2	7/A8.3	7/A8.3	7/A8.3		CARD READER
143b	B	3'-0"	7'-0"	1 3/4"	WD	HM	FT1	1/A9.5	2/A9.5	-		CARD READER
144a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
145a	A	3'-0"	7'-0"	1 3/4"	ALUM/GL	ALUM	-	7/A8.3	7/A8.3	7/A8.3		PANIC HARDWARE, CARD READER
145b	A	3'-0"	7'-0"	1 3/4"	ALUM/GL	ALUM	-	7/A8.3	7/A8.3	7/A8.3		PANIC HARDWARE, CARD READER
145c	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-	60 MIN	PANIC HARDWARE
145d	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-	60 MIN	PANIC HARDWARE
147a	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
147b	F	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
148a	B	3'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
149a	B	3'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
150a	B	3'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
151a	B	3'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		(1)
152a	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
152b	B	3'-0"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
153a	B	PR 1'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
153b	B	PR 1'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
154a	D	3'-0"	7'-0"	1 3/4"	MTL	HM	-	10/A8.3	12/A8.3	8/A8.3		CARD READER
155a	B	2'-6"	7'-0"	1 3/4"	WD	HM	-	1/A9.5	2/A9.5	-		
156a	B	3'-0"	7'-0"	1 3/4"	MTL	MTL	-	-	-	-		TRASH ENCLOSURE

ABBREVIATIONS: ALUM = ALUMINUM GL = GLASS HC = HOLLOW CORE SC = SOLID CORE WD = WOOD HM = HOLLOW METAL

SHEET NOTES

1. MINIMUM 3/8" - 1/2" MAXIMUM UNDERCUT AT DOOR

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

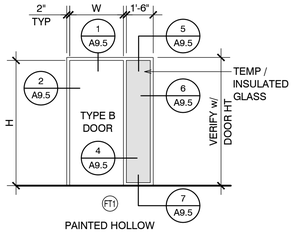
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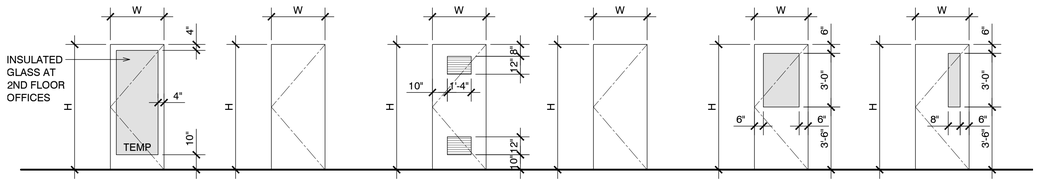
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DOOR SCHEDULE

Sheet Number:

A2.4

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TYPE A
ALUMINUM DOOR w/ TEMP GLAZING

TYPE B
SOLID CORE INTERIOR STAINED WOOD DOOR

TYPE C
GALVANIZED EXTERIOR METAL DOOR w/ LOUVERS

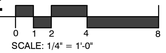
TYPE D
GALVANIZED EXTERIOR METAL DOOR

TYPE E
SOLID CORE INTERIOR STAINED WOOD DOOR w/ LIGHT

TYPE F
SOLID CORE INTERIOR STAINED WOOD DOOR w/ LIGHT

OFFICE - FRAME TYPE

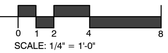
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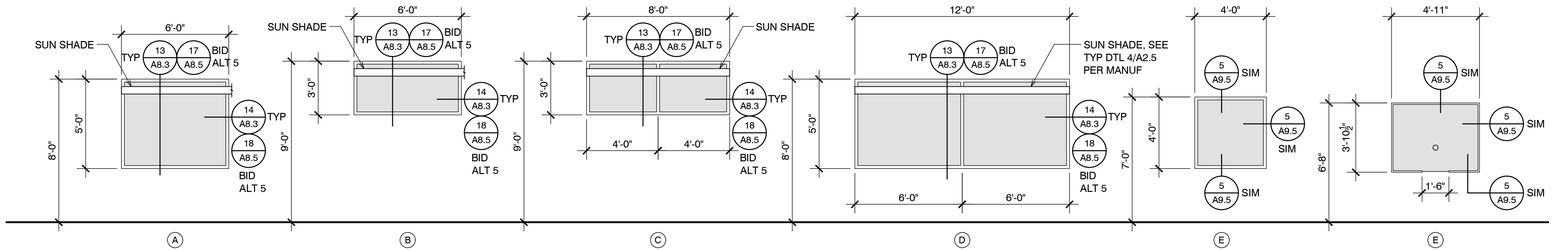


DOOR TYPES

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

EXTERIOR FRAMES: PAINTED GALVANIZED WELDED METAL
INTERIOR FRAMES: PAINTED HOLLOW METAL





Ⓐ FIXED PANE ALUMINUM FRAME w/ DBL GLAZING
(BID ALTERNATIVE 5 ALTERNATE WINDOW SPEC)

Ⓑ FIXED PANE ALUMINUM FRAME w/ DBL GLAZING
(BID ALTERNATIVE 5 ALTERNATE WINDOW SPEC)

Ⓒ FIXED PANE ALUMINUM FRAME w/ DBL GLAZING
(BID ALTERNATIVE 5 ALTERNATE WINDOW SPEC)

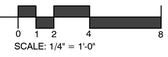
Ⓓ FIXED PANE ALUMINUM FRAME w/ DBL GLAZING
(BID ALTERNATIVE 5 ALTERNATE WINDOW SPEC)

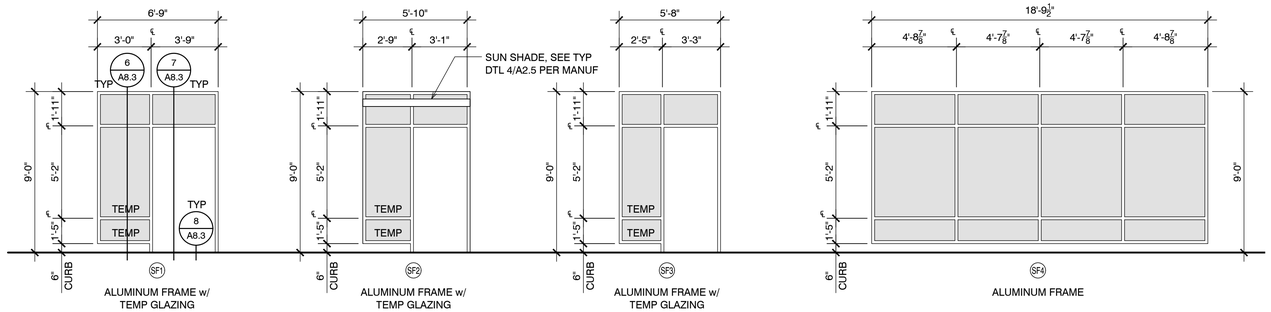
Ⓔ FIXED PANE HOLLOW METAL FRAME w/ ONE-WAY MIRRORED GLAZING

Ⓔ STOREFRONT FRAMING w/ 1/2" LAMINATED GLASS w/ SPEAK-THRU HOLE

WINDOW TYPES

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



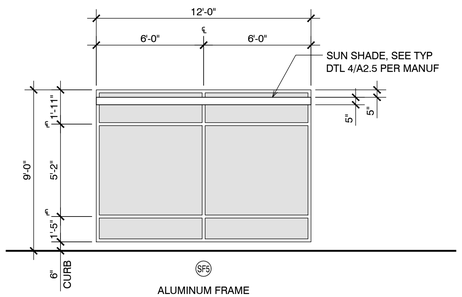


ALUMINUM FRAME w/ TEMP GLAZING

ALUMINUM FRAME w/ TEMP GLAZING

ALUMINUM FRAME w/ TEMP GLAZING

ALUMINUM FRAME



ALUMINUM FRAME

GLASS:

Storefront / Curtainwall:
Vitro Solarban 70XL (2) + Clear
Max. U-factor = 0.28
Max. SHGC = 0.27

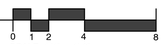
Fixed Windows:
PPG Solarban 70XL Clear
Max. U-factor = 0.29
Max. SHGC = 0.27

GENERAL NOTE

1. PROVIDE PULL-DOWN SHADES IN ALL ROOMS WITH WINDOWS / STOREFRONT EXCEPT AT STAIRWELLS.

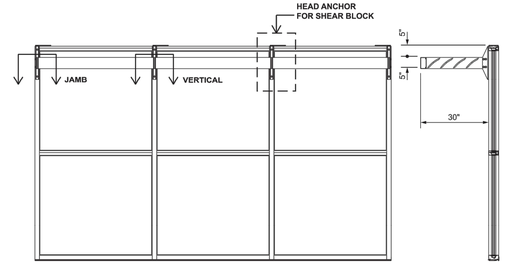
STOREFRONT TYPES

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

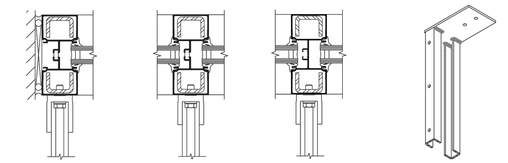


4 **Versoleil™ SunShade - Outrigger System** AUGUST, 2018
TRIFAB™ VG 451/451T FRAMING - SHEAR BLOCK ASSEMBLY EC 97911-173

NOTE: For standard storefront applications the outrigger is limited to 30".
Details shown with 30" square outrigger, arch blade and rectangular fascia.



NOTE:
Horizontal SunShades are not recommended directly over entrances and walkways to eliminate any risk of injury due to falling ice or snow.



TRIFAB™ VG 451T JAMB (TF VG 451 SIMILAR)

451T VERTICAL

451 VERTICAL

HEAD ANCHOR FOR SHEAR BLOCK FRAMING

Laws and codes, and safety code provisions to the design or use of glass entrances, window, and curtain wall products vary widely. Kawneer does not control and assumes no responsibility for, the selection, operating hardware, or glazing materials.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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ADMG031EN

kawneer.com

4 TYP OUTRIGGER DETAIL
SCALE: N.T.S.

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

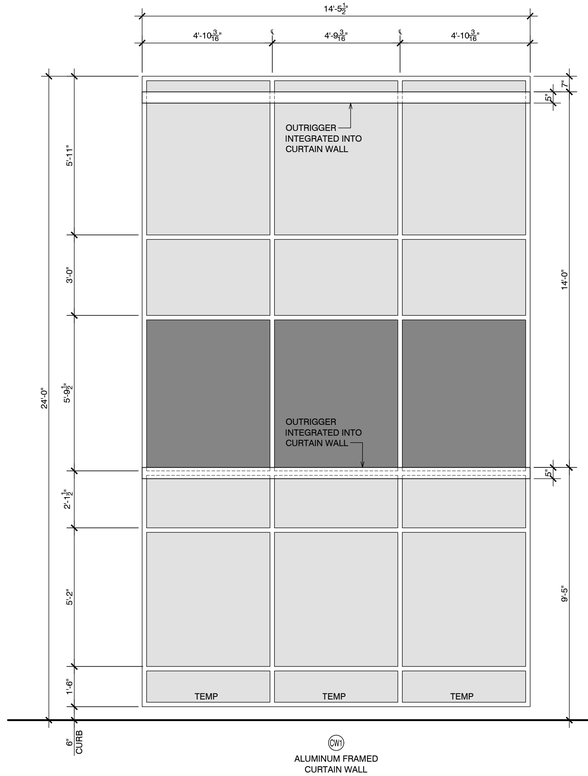
Revisions:
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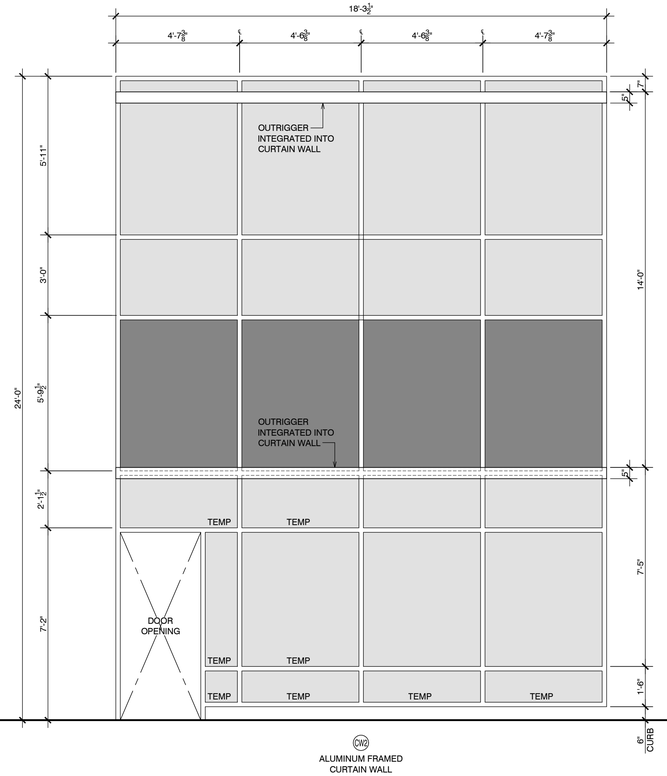
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DOOR / FRAME STOREFRONT / WINDOW TYPES

Sheet Number:
A2.5

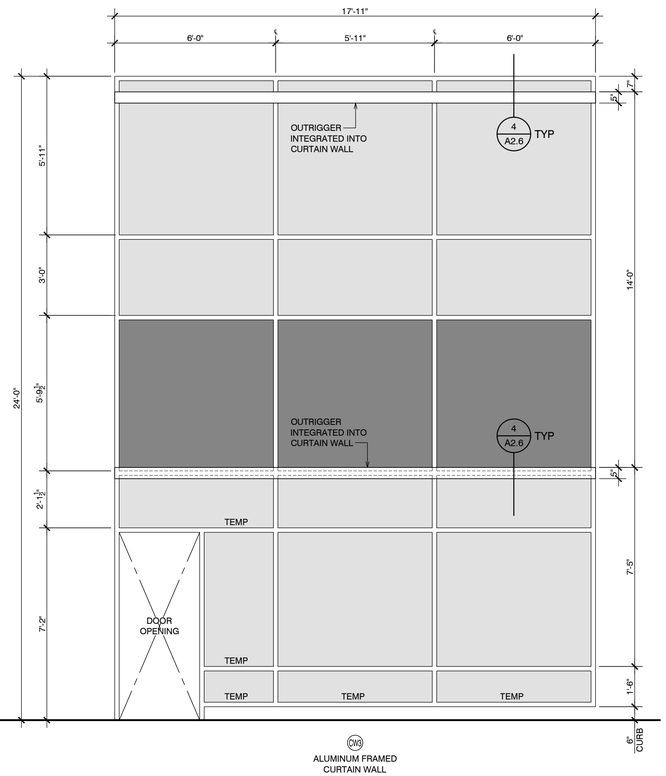
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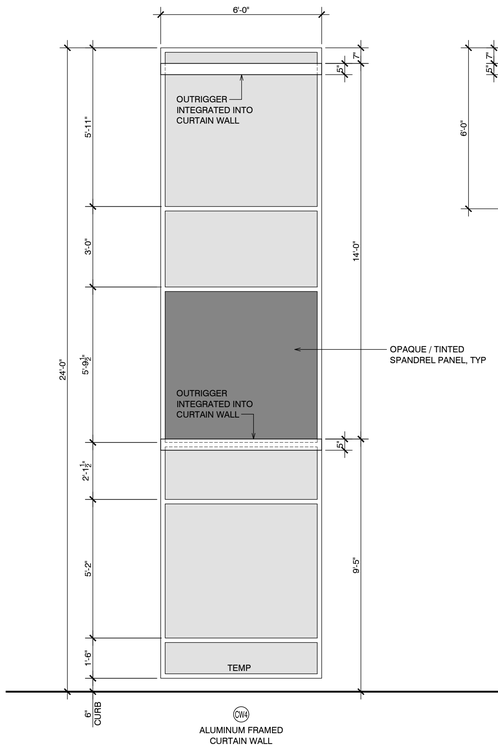
CW1
ALUMINUM FRAMED CURTAIN WALL



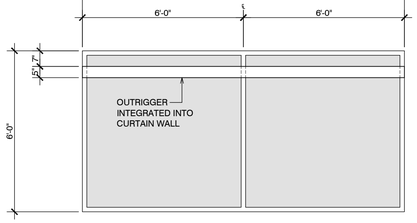
CW2
ALUMINUM FRAMED CURTAIN WALL



CW3
ALUMINUM FRAMED CURTAIN WALL



CW4
ALUMINUM FRAMED CURTAIN WALL



CW5
ALUMINUM CURTAIN WALL w/ TEMP GLAZING

GLASS:

Storefront / Curtainwall:
Vitro Solarban 70XL (2) + Clear
Max. U-factor = 0.28
Max. SHGC = 0.27

Fixed Windows:
PPG Solarban 70XL Clear
Max. U-factor = 0.29
Max. SHGC = 0.27

GENERAL NOTE

1. PROVIDE PULL-DOWN SHADES IN ALL ROOMS WITH WINDOWS / STOREFRONT EXCEPT AT STAIRWELLS.

CURTAIN WALL TYPES

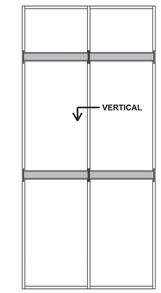
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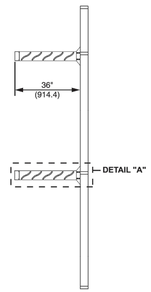
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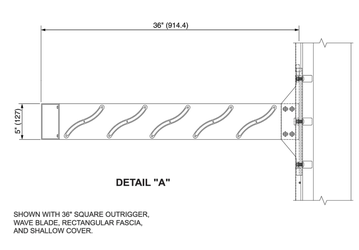
SCALE: 3/8" = 1'-0"

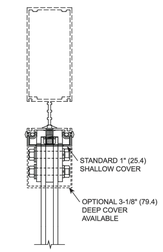
8 **Versoleil™ SunShade - Outrigger System** AUGUST, 2018

1600 WALL SYSTEM™5 APPLICATION EC 97911-173









SECTION VIEW THROUGH VERTICAL MULLION

NOTE:
Horizontal sunshades are not recommended directly over entrances and walkways to eliminate any risk of injury due to falling ice or snow.
Attachment bracket is painted only and will be painted to match anodized finish.

KAWNEER
AN ARCONIC COMPANY

ADMG030EN

kawneer.com

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

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Laws and codes and safety and/or construction practices, the design or use of glued entrances, windows, and curtain wall products may vary widely. Kawneer does not control the selection or use of glazing materials, operating hardware, or glazing materials, and assumes no responsibility therefor.

TYP OUTRIGGER DETAIL

4 SCALE: N.T.S.

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:

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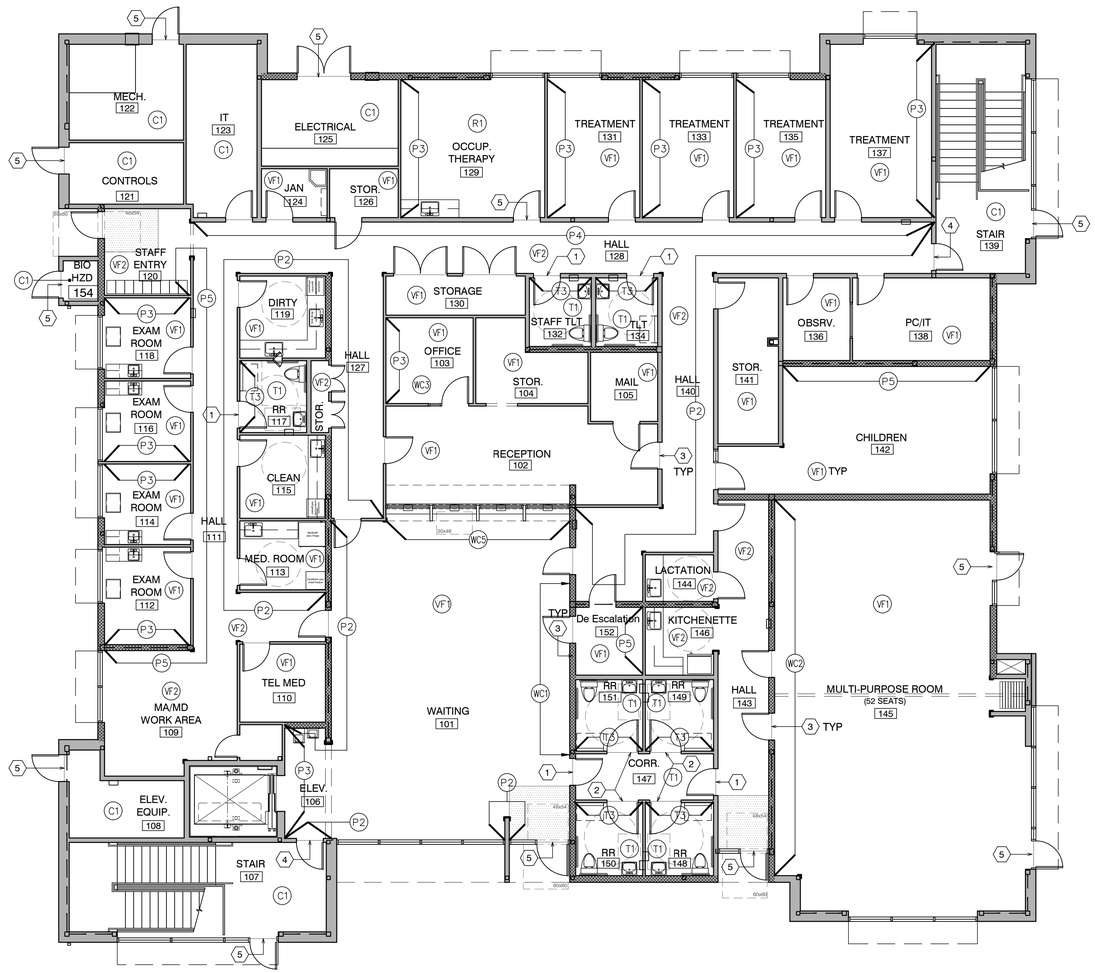
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Sheet Title:
CURTAIN WALL

Sheet Number:

A2.6

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NORTH

FIRST FLOOR - PAINT PLAN

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

0 2 4 8 16

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

PAINT SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
P1	PAINT	THROUGHOUT U.O.N.	SHERWIN WILLIAMS SW 7021 SIMPLE WHITE	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED
P2	ACCENT PAINT	SEE PLAN - INCLUDES DOORS & FRAMES	SHERWIN WILLIAMS SW 6073 PERFECT GRIEGE	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED
P3	ACCENT PAINT	SEE PLAN - TOILET ROOMS, OFFICE ACCENT WALLS	SHERWIN WILLIAMS SW 6128 BLONDE	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED
P4	ACCENT PAINT	SEE PLAN	SHERWIN WILLIAMS SW 9009 SUBDUED SIENNA	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED

FLOORING SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
VF1	VINYL FLOORING	RECEPTION LOBBY, 1ST FLOOR INTERIOR SPACES, 2ND FLOOR CORRIDORS	ECORE INFINITY RX #9929, MOCHACCINO 6'x30' ROLL GOODS; .28" GAUGE	SEE PLAN FOR DEVIATIONS; ADVISE IF QUESTIONS. ALL ROOMS OPENING ONTO CORRIDORS TO RUN THE SAME DIRECTION. SUBMIT SEAMING DIAGRAM.
VF2	VINYL FLOORING	1ST FLOOR CORRIDORS, 2ND FLOOR INTERIOR SPACES	ECORE INFINITY RX #9869, HONEY BEIGE 6'x30' ROLL GOODS; .28" GAUGE	SEE PLAN FOR DEVIATIONS; ADVISE IF QUESTIONS. ALL ROOMS OPENING ONTO CORRIDORS TO RUN THE SAME DIRECTION. SUBMIT SEAMING DIAGRAM.
R1	RUBBER FLOORING	OCCUPATIONAL THERAPY	ECOFIT PLUS 3.2+ 15.2mm COMPOSITION RUBBER FLOORING; 2605 GULF SHORES	4' WIDE ROLL GOODS
T1	PORCELAIN TILE	RESTROOM FLOORS THROUGHOUT	TRINITY TILE PORCELAIN CERAMIC TILE; CASCADE 12" x 24" MATTE FINISH	SUBMIT INSTALLATION DIAGRAM FOR DIRECTION OF TILE
T2	PORCELAIN TILE	ELEVATOR CAB FLOOR	TRINITY TILE POPLIN COLOR: YARN 12" x 24"	BY G.C.
B1	RUBBER WALL BASE	THROUGHOUT EXCEPT RESTROOMS	TARKETT TA8 WELSH CASTLE, 6" HIGH COVED	
C1	CONCRETE - SEALED			

WALL COVERING SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
WC1	ACOUSTICAL TILE DESIGN	LOBBY	CARNEGIE FABRICS XOREL ARTFORM SHAPES	SEE SPECIFICATIONS
WC2	ACOUSTICAL WALLS	MULTI-PURPOSE ROOM	CARNEGIE FABRICS XOREL SAHARA MATTE 0089/609	WRAPPED OVER HOMASOTE PANELS
WC3-A WC3-B	ACOUSTICAL BULLETIN BOARDS	ALL PRIVATE OFFICES	CARNEGIE FABRICS XOREL ARTFORMS QUIET CORE PLUS ACOUSTICAL & TACKLE 12x12: (A) 6427/712 (B) 6427/759	MOUNTED TIGHTLY INTO A 2' x 3' RECTANGLE (6 TILES EACH); COLOR TBD; LOCATION IN 2ND FLOOR OFFICES
WC4	WALLCOVERING	AT SOFFIT - INTAKE COUNTER RECEPTION	CARNEGIE TWINE 6217-32	WRAPPED OVER 1/2" HOMASOTE PANELS
WC5	ACROVYN	BELOW RECEPTION COUNTER RM 101	ACROVYN #194 CHINCILLA PEBBLETTE TEXTURE	
T2	PORCELAIN WALL TILE	TOILET ROOMS	TRINITY ESCA - 4" x 24", COLOR: ALMOND	
T3	PORCELAIN WALL TILE	TOILET ROOMS	TRINITY ESCA - 4" x 24", COLOR: PEARL	
T4	PORCELAIN WALL TILE	TOILET ROOMS	TRINITY ESCA - 4" x 24", COLOR: WHITE	
SS1	COUNTERS	TOILET ROOMS	SILESTONE BLANCO MAPLE	

MISCELLANEOUS SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
CG1	CORNER GUARDS	CORRIDORS THROUGHOUT	ACROVYN SOLID IN THE FOLLOWING COLORS: #282 DRIFTWOOD @ P-1 #187 SLATE @ P-2 #405 COLORADO @ P-3 #321 RUSSET @ P-4	48" HIGH
G1	GROUT AT T1	THROUGHOUT	CUSTOM BUILDING PRODUCTS 643 WARM GRAY	
PL-1	PLASTIC LAMINATE	ELEVATOR CAB	NEVAMAR GALAO WX0075AB AGED BARK	
MM2	SOLID SURFACE COUNTERS	LACTATION ROOMS & RECEPTION COUNTER	CORIAN CLAMSHELL	
MF1	MODERNFOLD VINYL	MULTI PURPOSE ROOM	VINYL - GOBI DESERT 5418/H446	

SHEET NOTES

1. FLOOR TRANSITION STRIP FROM TILE FLOORING TO VINYL FLOORING, SEE DTL 5/A9.4
2. FLOOR TRANSITION STRIP FROM TILE FLOORING TO TILE FLOORING, SEE DTL 6/A9.4
3. FLOOR TRANSITION STRIP FROM VINYL FLOORING TO VINYL FLOORING, SEE DTL 7/A9.4
4. FLOOR TRANSITION STRIP FROM VINYL FLOORING TO CONCRETE FLOORING, SEE DTL 8/A9.4
5. MTL THRESHOLD, SEE DTL 8/A8.3 SIM

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
FIRST FLOOR PAINT PLAN & FINISHES

Sheet Number:

A2.7

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NORTH

SECOND FLOOR - PAINT PLAN

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

0 2 4 8 16

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

PAINT SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
P1	PAINT	THROUGHOUT U.O.N.	SHERWIN WILLIAMS SW 7021 SIMPLE WHITE	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED
P2	ACCENT PAINT	SEE PLAN - INCLUDES DOORS & FRAMES	SHERWIN WILLIAMS SW 6073 PERFECT GRIEGE	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED
P3	ACCENT PAINT	SEE PLAN - TOILET ROOMS, OFFICE ACCENT WALLS	SHERWIN WILLIAMS SW 6128 BLONDE	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED
P4	ACCENT PAINT	SEE PLAN	SHERWIN WILLIAMS SW 9009 SUBDUED SIENNA	BENJAMIN MOORE AURA OR EQUAL EGGSHELL FINISH - WALLS SEMI-GLOSS FINISH - DOOR & WINDOW FRAMES METAL SURFACES AS REQUIRED

FLOORING SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
VF1	VINYL FLOORING	RECEPTION LOBBY, 1ST FLOOR INTERIOR SPACES, 2ND FLOOR CORRIDORS	ECORE INFINITY RX #9929, MOCHACCINO 6'x30' ROLL GOODS; .28" GAUGE	SEE PLAN FOR DEVIATIONS; ADVISE IF QUESTIONS. ALL ROOMS OPENING ONTO CORRIDORS TO RUN THE SAME DIRECTION. SUBMIT SEAMING DIAGRAM.
VF2	VINYL FLOORING	1ST FLOOR CORRIDORS, 2ND FLOOR INTERIOR SPACES	ECORE INFINITY RX #9869, HONEY BEIGE 6'x30' ROLL GOODS; .28" GAUGE	SEE PLAN FOR DEVIATIONS; ADVISE IF QUESTIONS. ALL ROOMS OPENING ONTO CORRIDORS TO RUN THE SAME DIRECTION. SUBMIT SEAMING DIAGRAM.
R1	RUBBER FLOORING	OCCUPATIONAL THERAPY	ECOFIT PLUS 3.2+ 15.2mm COMPOSITION RUBBER FLOORING; 2605 GULF SHORES	4' WIDE ROLL GOODS
T1	PORCELAIN TILE	RESTROOM FLOORS THROUGHOUT	TRINITY TILE PORCELAIN CERAMIC TILE; CASCADE 12" x 24" MATTE FINISH	SUBMIT INSTALLATION DIAGRAM FOR DIRECTION OF TILE
T2	PORCELAIN TILE	ELEVATOR CAB FLOOR	TRINITY TILE POPLIN COLOR: YARN 12" x 24"	BY G.C.
B1	RUBBER WALL BASE	THROUGHOUT EXCEPT RESTROOMS	TARKETT TA8 WELSH CASTLE, 6" HIGH COVED	
C1	CONCRETE - SEALED			

WALL COVERING SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
WC1	ACOUSTICAL TILE DESIGN	LOBBY	CARNEGIE FABRICS XOREL ARTFORM SHAPES	SEE SPECIFICATIONS
WC2	ACOUSTICAL WALLS	MULTI-PURPOSE ROOM	CARNEGIE FABRICS XOREL SAHARA MATTE 0089/609	WRAPPED OVER HOMASOTE PANELS
WC3-A WC3-B	ACOUSTICAL BULLETIN BOARDS	ALL PRIVATE OFFICES	CARNEGIE FABRICS XOREL ARTFORMS QUIET CORE PLUS ACOUSTICAL & TACKLE 12x12: (A) 6427/712 (B) 6427/759	MOUNTED TIGHTLY INTO A 2' x 3' RECTANGLE (6 TILES EACH); COLOR TBD; LOCATION IN 2ND FLOOR OFFICES
WC4	WALLCOVERING	AT SOFFIT - INTAKE COUNTER RECEPTION	CARNEGIE TWINE 6217-32	WRAPPED OVER 1/2" HOMASOTE PANELS
WC5	ACROVYN	BELOW RECEPTION COUNTER RM 101	ACROVYN #194 CHINCILLA PEBBLETTE TEXTURE	
T2	PORCELAIN WALL TILE	TOILET ROOMS	TRINITY ESCA - 4" x 24", COLOR: ALMOND	
T3	PORCELAIN WALL TILE	TOILET ROOMS	TRINITY ESCA - 4" x 24", COLOR: PEARL	
T4	PORCELAIN WALL TILE	TOILET ROOMS	TRINITY ESCA - 4" x 24", COLOR: WHITE	
SS1	COUNTERS	TOILET ROOMS	SILESTONE BLANCO MAPLE	

MISCELLANEOUS SCHEDULE

CODE	ITEM	LOCATION	SPECIFICATION	COMMENTS
CG1	CORNER GUARDS	CORRIDORS THROUGHOUT	ACROVYN SOLID IN THE FOLLOWING COLORS: #282 DRIFTWOOD @ P-1 #187 SLATE @ P-2 #405 COLORADO @ P-3 #321 RUSSET @ P-4	48" HIGH
G1	GROUT AT T1	THROUGHOUT	CUSTOM BUILDING PRODUCTS 643 WARM GRAY	
PL-1	PLASTIC LAMINATE	ELEVATOR CAB	NEVAMAR GALAO WX0075AB AGED BARK	
MM2	SOLID SURFACE COUNTERS	LACTATION ROOMS & RECEPTION COUNTER	CORIAN CLAMSHELL	
MF1	MODERNFOLD VINYL	MULTI PURPOSE ROOM	VINYL - GOBI DESERT 5418/H446	

SHEET NOTES

1. FLOOR TRANSITION STRIP FROM TILE FLOORING TO VINYL FLOORING, SEE DTL 5/A9.4
2. FLOOR TRANSITION STRIP FROM TILE FLOORING TO TILE FLOORING, SEE DTL 6/A9.4
3. FLOOR TRANSITION STRIP FROM VINYL FLOORING TO VINYL FLOORING, SEE DTL 7/A9.4
4. FLOOR TRANSITION STRIP FROM VINYL FLOORING TO CONCRETE FLOORING, SEE DTL 8/A9.4

Project / Owner:

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
SECOND FLOOR PAINT PLAN & FINISHES

Sheet Number:

A2.8

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ROOM FINISH MATERIAL KEY

FLOORS		BASE		WALLS		CEILING	
F1	CORK	B1	6" RUBBER	W1	GWB / LEVEL 5 FINISH	C1	SUSPENDED ACOUSTICAL CEILING
F2	SHEET VINYL	B2	Not Used	W2	TILE w/ GWB LEVEL 5 ABOVE	C2	SUSPENDED GWB w/ LEVEL 4 FINISH
F3	TILE	B3	COVED TILE BASE	W3	4' HIGH WAINSCOT o/ GWB w/ LEVEL 4 GWB ABOVE	C3	EXPOSED TO STRUCTURE
F4	CONCRETE - SEALED			W4	PLYWOOD, 8' HIGH PANELS o/ GWB - TAPED JOINTS & PRIMED	C4	GWB - LEVEL 5
				W5	GWB - LEVEL 4	C5	SUSPENDED GWB w/ LEVEL 5 FINISH
				W6	GWB - TAPED JOINTS & PRIMED		
				W7	MOISTURE RESISTANT GWB - TAPED JOINTS & PRIMED		
				W8	WALL COVERING o/ GWB		

ACCESSORIES SCHEDULE

Item	Manufacturer	Product Name / Model Number	Width	Height	Depth	Finish	Notes / Special Requirements	Location	Furnished / Installed By (CF/CI)
Paper Towel Dispenser	Georgia Pacific	enMotion 59466A						Restrooms Troughout	CF/CI
Trash Receptacle	Georgia Pacific	59471	13.5"	60"	4"			Restrooms Troughout	CF/CI
Clothes Hook	Bobrick	B-233 Clothes Hook						One for each toilet (single or stall) througout	CF/CI
Seat Cover Dispenser	Bobrick	B-4221						One for each toilet (single or stall) througout	CF/CI
Toilet Paper Dispenser	Bobrick	B-4388 Semi-Recessed						Wall Locations	CF/CI
Toilet Paper Dispenser	Bobrick	B-2888 Surface Mounted						Non-Accessible Toilet Stall	CF/CI
Sanitary Napkin Disposal	Bobrick	B270						Women's restroom & single accommodation toilets	CF/CI
Baby Changing Station	Koala Kare	110-SSRE Horizontal, Recessed	35.5"	20.5"	4.25" min. recessed depth			Restrooms Troughout	CF/CI
Mirror	Bobrick	B-290 2436 Welded Frame Mirror	24"	36"				Restrooms Troughout	CF/CI
Cubicle Curtains		See Drawing Sheet A2.11						Every exam room	CF/CI
Cubicle Curtain Tracks		See Drawing Sheet A2.11	3/4"	3/4"	1-5/8"			Every exam room	CF/CI
Glove Dispenser Box	Select Medical	3114	11"	16"	4.25"			Every exam room	CF/CI
Soap Dispenser	Healthlink	7730							CF/CI
Towel Dispenser	Bobrick	Affilink B-262							CF/CI
Hand Sanitizer Dispenser	Purell	ES6 Touch-Free	6.7"	11"	3.9"			Every exam room	CF/CI
Sharps Cabinet	Select Medical	2263 Sharps Cabinet Lock Wall 5 qt						Every exam room	CF/CI
Hand Soap Dispenser	Georgia Pacific	53590 Pacific Blue Ultra	5.4"	4.7"				At every sink, throughout	CF/CI
Specimen Pass-Thru	Bobrick	B-505						117 Restroom	CF/CI
Mop/Broom Utility Shelf	Bobrick	B-239						Two Janitor closets	CF/CI

Notes

1. Provide lithium batteries in all automatic products
2. CF/CI - Contracto Funished / Contractor Installed

EQUIPMENT SCHEDULE

Item	Manufacturer	Product Name / Model Number	Lengh	Width	Hieght	Depth	Utility Connections Required	Location	Furnished / Installed By (OF/OI UON))
Vaccine Refrigerator	Panasonic	MPR-514		70.9"	70.5"	23.6"	115V/60 Hz	Room 115	OF/OI
Vaccine Freezer	Follet	FZR5P		23.75"	34"	25.62"	115V/60 Hz	Room 116	OF/OI
Staff Refrigerator	Samsung	RF10A5101SR 19.5 cf French Door		32 1/8"	70"	30 1/8"	115V/60 Hz	Staff	OF/OI
Speciment Refrigerator	So-Low	DH4-27GD		30"	81"	32"	115V/60 Hz	Room 119	OF/OI
Lactation Refrigerator	Accucold	AL751WL		23.63"	32.25"	23.5"		2 Lactation Room	OF/OI
Scale	Healthometer	500KL Column Scale with Height Rod						Each Exam Room	OF/CI
Ergotron	Ergotron	45-359-026 LX Sit-Stand Wall Mount						Each Exam Room	OF/CI
Intergrated Wall System	McKesson	#1076089 & #1076090						Each Exam Room	OF/CI

Notes

1. OF/OI - Owner Furnished / Owner Installed
2. OF/CI - Owner Funished / Contractor Installed

ROOM FINISH SCHEDULE - FIRST FLOOR

LOCATION		FINISHES						CLG	CLG HT	REMARKS
		FLOORS	BASE	WALLS						
				N	E	S	W			
101	WAITING	F2	B1	W1/W8	W1	W1	W1	C1	+10'-0"	ACROVYN WALL COVERING AT RECEPTION COUNTER WALL
102	RECEPTION	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
103	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
104	STORAGE	F2	B1	W5	W5	W5	W5	C2	+9'-0"	
105	MAIL ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
106	ELEVATOR LOBBY	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
107	STAIR 1	F4	B1	W1	W1	W1	W1	C4		
108	ELEVATOR EQUIP. ROOM	F4	B1	W6	W6	W6	W6	C3		
109	MA/MD WORK AREA	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
110	TEL MED	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
111	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
112	EXAM ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
113	MED ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
114	EXAM ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
115	CLEAN ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
116	EXAM ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
117	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
118	EXAM ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
119	DIRTY ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
120	STAFF ENTRY	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
121	CONTROL ROOM	F4	B1	W6	W6	W6	W6	C3		
122	MECHANICAL ROOM	F4	B1	W7	W7	W7	W7	C3		
123	IT ROOM	F4	B1	W4	W4	W4	W4	C3		SEE SHEET NOTE 1 ON SHEET E3.1 FOR 3/4" PLYWOOD w/ INTUMESCENT PAINT ON GYP BD WALLS
124	JANITOR	F2	B1	W3	W3	W3	W3	C2	+9'-0"	
125	ELECTRICAL ROOM	F4	B1	W6	W6	W6	W6	C3		PLYWOOD PANELS - PAINT w/ INTUMESCENT PAINT
126	STORAGE	F2	B1	W5	W5	W5	W5	C2	+9'-0"	
127	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
128	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
129	OCCUPATIONAL THERAPY	F1	B1	W1	W1	W1	W1	C1	+9'-0"	
130	STORAGE	F2	B1	W5	W5	W5	W5	C3	+9'-0"	
131	TREATMENT	F2	B1	W2	W2	W2	W2	C1	+9'-0"	
132	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
133	TREATMENT	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
134	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
135	TREATMENT	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
136	OBSERVATION	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
137	TREATMENT	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
138	PC / IT	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
139	STAIR 2	F4	B1	W1	W1	W1	W1	C4		
140	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
141	STORAGE	F2	B1	W5	W5	W5	W5	C2	+9'-0"	
142	CHILDREN'S ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
143	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
144	LACTATION ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
145	MULTI-PURPOSE ROOM	F2	B1	W1	W1	W1	W1	C1	+10'-0"	
146	KITCHENETTE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
147	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
148	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
149	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
150	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
151	TOILET	F3	B3	W2	W2	W2	W2	C5	+9'-0"	
152	DE-ESCALATION	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
153	STORAGE	F2	B1	W5	W5	W5	W5	C2	+9'-0"	
154	BIO HAZARD WASTE	F4	B1	W3	W3	W3	W3	C2	+9'-0"	

GENERAL NOTES

1. Wall and ceiling materials shall not exceed the flame spread classification in CBC Table 803.9
2. See finish WC3 on sheets A2.7 & A2.8 at all offices.

Project / Owner:

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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
FINISH, ACCESSORIES & EQUIP. SCHEDULES FIRST FLOOR

Sheet Number:

A2.9

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ROOM FINISH MATERIAL KEY

FLOORS		BASE		WALLS		CEILING	
F1	CORK	B1	6" RUBBER	W1	GWB / LEVEL 5 FINISH	C1	SUSPENDED ACOUSTICAL CEILING
F2	SHEET VINYL	B2	Not Used	W2	TILE w/ GWB LEVEL 5 ABOVE	C2	SUSPENDED GWB w/ LEVEL 4 FINISH
F3	TILE	B3	COVED TILE BASE	W3	4' HIGH WAINSCOT o/ GWB w/ LEVEL 4 GWB ABOVE	C3	EXPOSED TO STRUCTURE
F4	CONCRETE - SEALED			W4	PLYWOOD, 8' HIGH PANELS o/ GWB - TAPED JOINTS & PRIMED	C4	GWB - LEVEL 5
				W5	GWB - LEVEL 4	C5	SUSPENDED GWB w/ LEVEL 5 FINISH
				W6	GWB - TAPED JOINTS & PRIMED		
				W7	MOISTURE RESISTANT GWB - TAPED JOINTS & PRIMED		
				W8	WALL COVERING o/ GWB		

ROOM FINISH SCHEDULE - SECOND FLOOR

LOCATION (N / W E / S)		FINISHES								REMARKS
		FLOORS	BASE	WALLS				CLG	CLG HT	
				N	E	S	W			
201	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	-
202	STORAGE	F2	B1	W1	W1	W1	W1	C2	+9'-0"	
203	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
204	STORAGE	F2	B1	W5	W5	W5	W5	C2	+9'-0"	
205	WAITING	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
206	ELEVATOR LOBBY	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
207	STAIR 1	F4	B1	W1	W1	W1	W1	C1	+9'-0"	
208	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
209	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
210	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
211	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
212	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
213	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
214	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
215	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
216	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
217	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
218	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
219	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
220	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
221	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
222	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
223	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
224	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
225	STAFF ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
226	MEN'S RESTROOM	F3	B3	W3	W3	W3	W3	C5	+9'-0"	
227	LACTATION ROOM	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
228	STORAGE	F2	B1	W5	W5	W5	W5	C2	+9'-0"	
229	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
230	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
231	TOILET	F3	B3	W3	W3	W3	W3	C5	+9'-0"	
232	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
233	CHASE									SEE DETAIL 16/A9.2
234	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
235	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
236	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
237	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
238	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
239	STAIR 2	F4	B1	W1	W1	W1	W1	C1	+9'-0"	
240	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
241	WOMEN'S RESTROOM	F3	B3	W3	W3	W3	W3	C5	+9'-0"	
242	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
243	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
244	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
245	JANITOR	F2	B1	W1	W1	W1	W1	C2	+9'-0"	
246	WORK AREA	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
247	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
248	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
249	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
250	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
251	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
252	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
253	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
254	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
255	OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
256	MGR OFFICE	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
257	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	
258	CORRIDOR	F2	B1	W1	W1	W1	W1	C1	+9'-0"	

GENERAL NOTES

1. Wall and ceiling materials shall not exceed the flame spread classification in CBC Table 803.9
2. See finish WC3 on sheets A2.7 & A2.8 at all offices.

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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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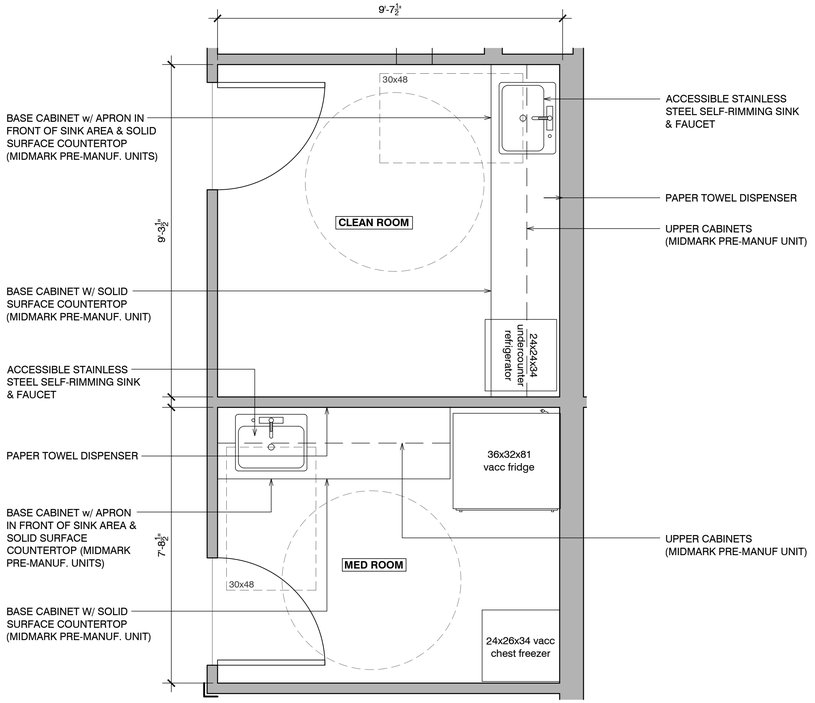
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Sheet Title:
FINISH SCHEDULE
SECOND FLOOR

Sheet Number:

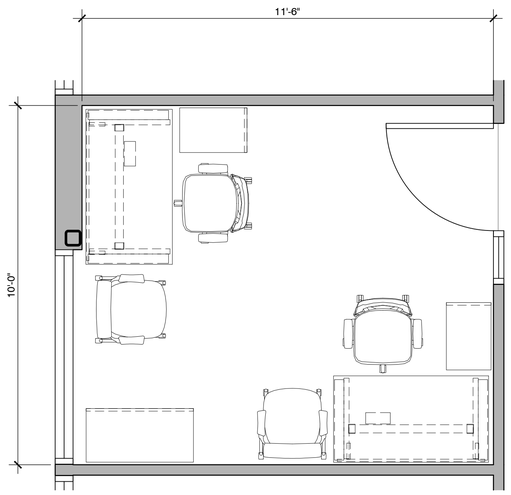
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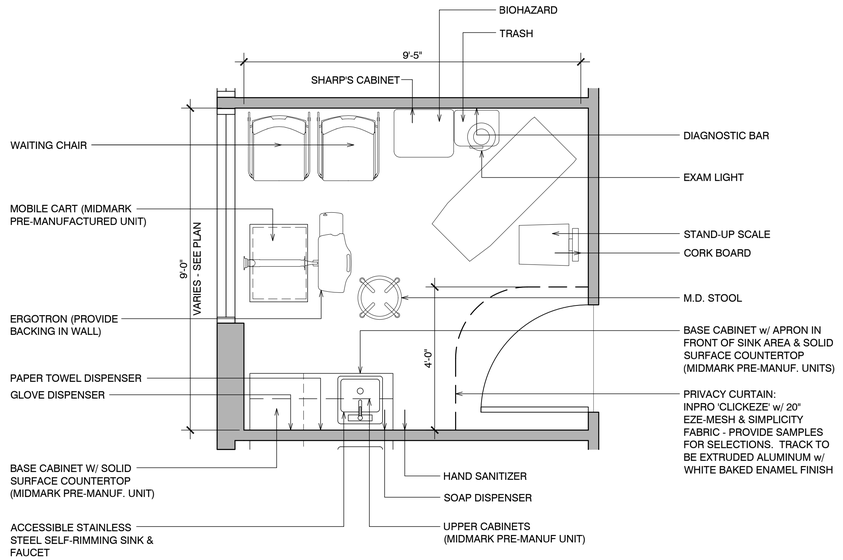
3 MED / CLEAN ROOMS 113 115
SCALE: 1/2" = 1'-0"

0 1 2 4
SCALE: 1/2" = 1'-0"



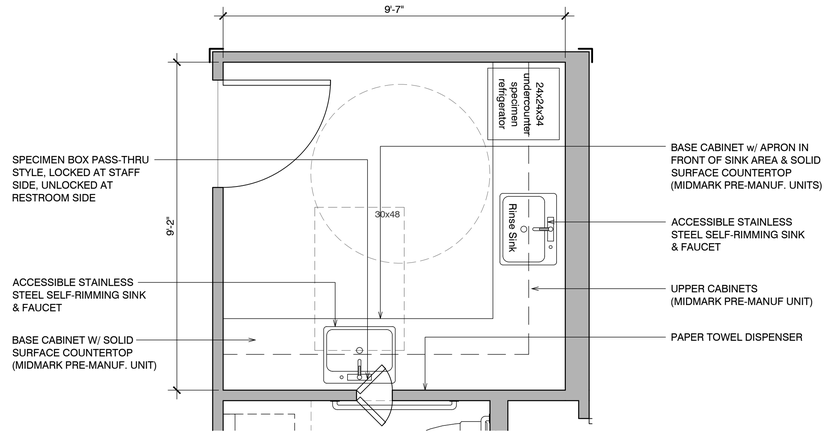
4 TYP. OFFICE 210
SCALE: 1/2" = 1'-0"

0 1 2 4
SCALE: 1/2" = 1'-0"



1 TYP. EXAM ROOM 112 114 116 118
SCALE: 1/2" = 1'-0"

0 1 2 4
SCALE: 1/2" = 1'-0"



2 DIRTY ROOM 119
SCALE: 1/2" = 1'-0"

0 1 2 4
SCALE: 1/2" = 1'-0"

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Sheet Title:
TYPCIAL FLOOR PLANS

Sheet Number:

A2.11

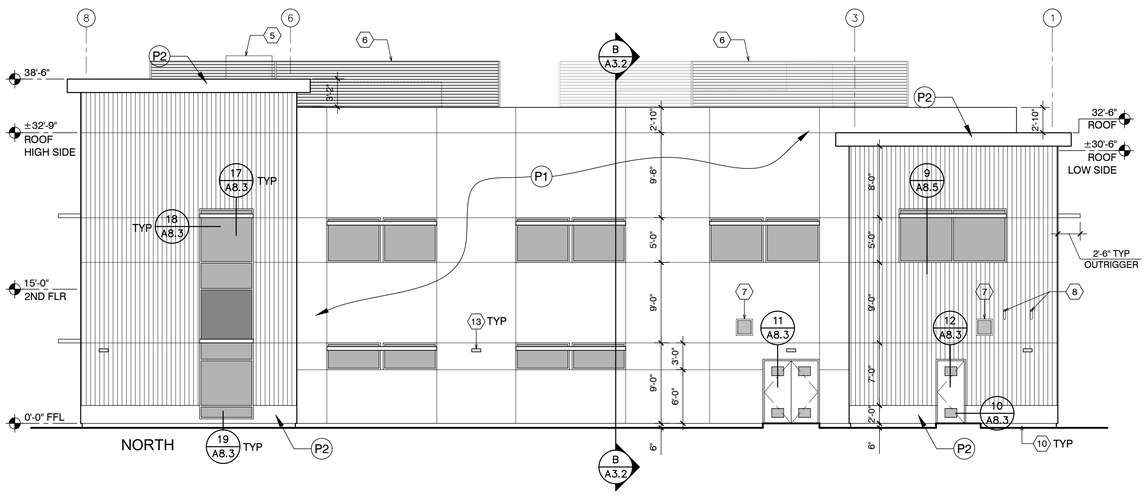
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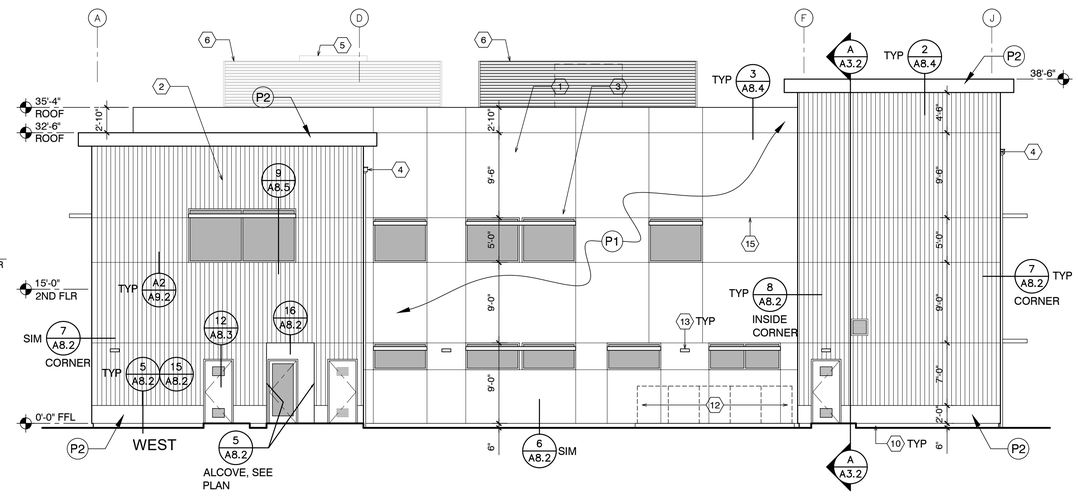
PAINT LEGEND

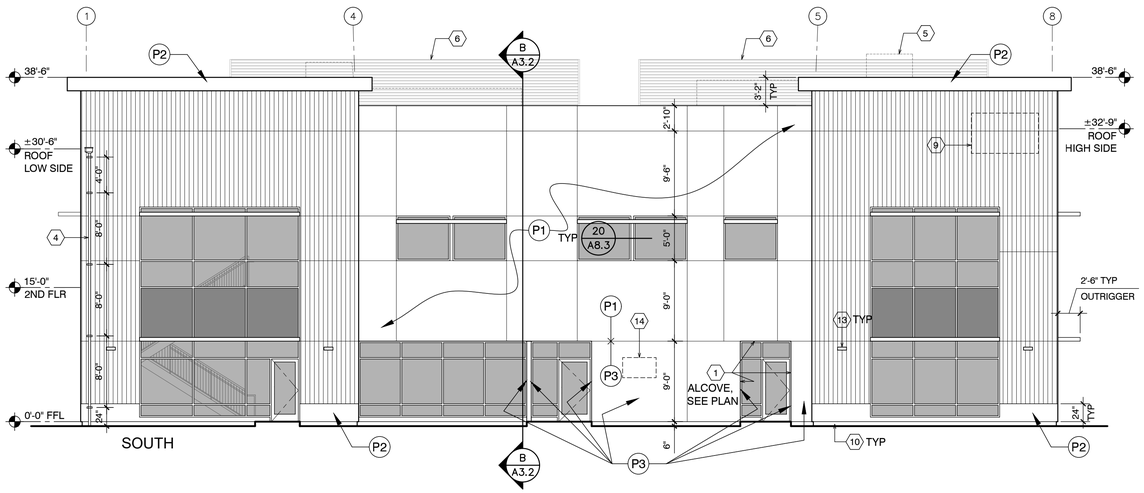
- P1 PAINT COLOR
- P2 PAINT COLOR
- P3 PAINT COLOR
- P4 PAINT COLOR
- P5 PAINT COLOR AT SIDING o/ BACK OF PARAPET

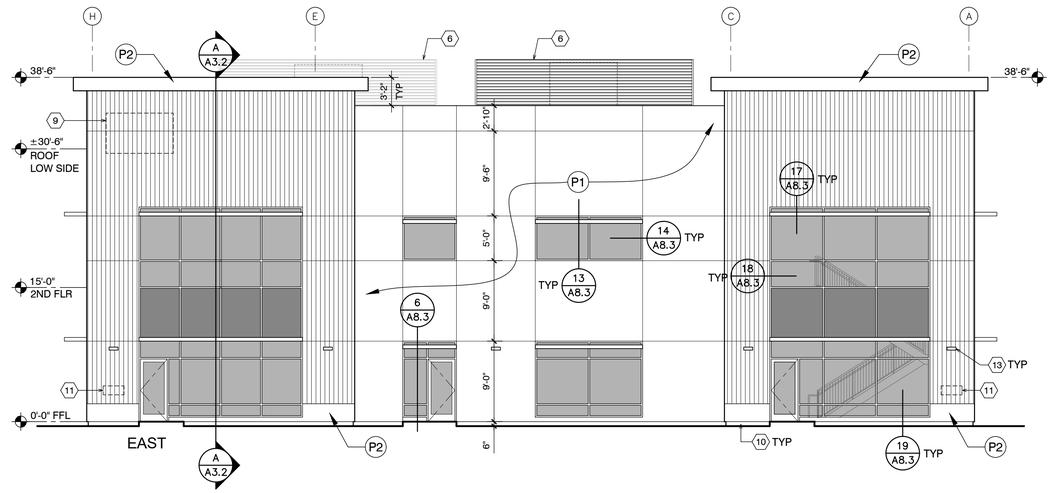
SHEET NOTES

1. 7/8" 3-COAT CEMENT PLASTER o/ RAINSCREEN (TYVEK STUCOO WRAP) o/ 1" RIGID INSULATION BOARD o/ SHEATHING
2. FIBER CEMENT PANEL w/ RAINSCREEN SYSTEM - NICHIHA VINTAGE WOOD 18"W x 10'-0"L PANELS IN "BARK" (DARK BROWN)
3. 36" DEEP CANOPY CANTILEVERED - METAL EDGE IN MATTE ALUMINUM ENAMEL (SIMILAR TO BHMA 689)
4. PAINTED SCUPPER / DOWNSPOUT - SEE DETAILS 7/A8.1 & 10/A8.4
5. MECH UNIT
6. MECH SCREEN, SEE DTL 16/A8.4
7. LOUVER, SEE MECH DWGS, PAINT TO MATCH SIDING
8. FLUE, SEE MECH DWGS
9. WALL MOUNTED SIGN, SEE DTL 20/A8.1
10. PAINT EXPOSED CONCRETE FOUNDATION TO MATCH WALL COLOR
11. SURFACE MOUNTED 12" BLACK LETTERING - "331"
12. 5 LOCKABLE BIKE STORAGE
13. EXTERIOR LIGHT FIXTURE - VERIFY HEIGHT w/ ARCHITECT
14. WALL MOUNTED SIGN, SEE DTL 20/A8.1. SIGN WILL BE HALF-SIZE SHOWN ON DETAIL
15. TYP EXPANSION JOINT, SEE DTL 18/A8.2









EXTERIOR ELEVATIONS

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

0 2 4 8 16

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

Project / Owner:

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Drawn By: ML, VQ

Drawing Date: 12.18.19

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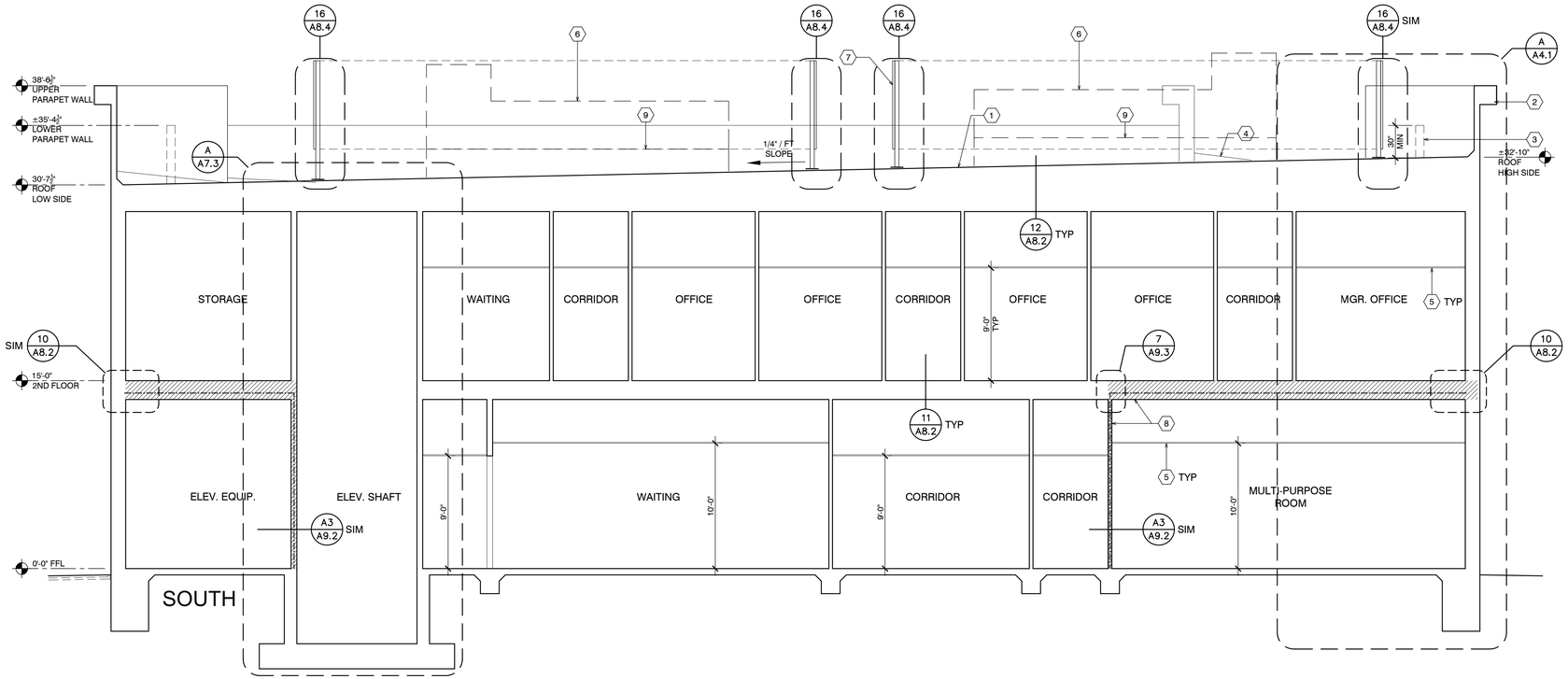
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Sheet Title:
EXTERIOR ELEVATIONS

Sheet Number:

A3.1

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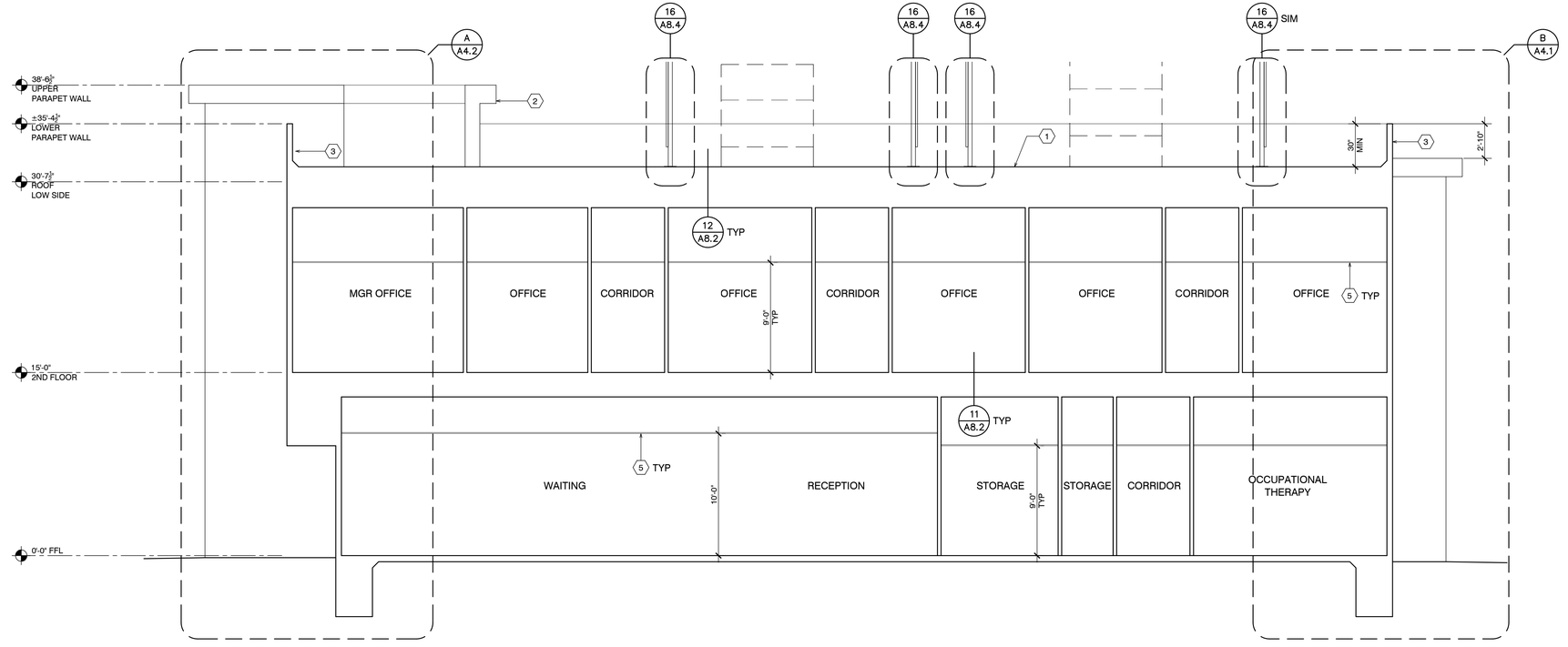


A BUILDING SECTION

SCALE: 3/16" = 1'-0"

0 4 8 12

SCALE: 3/16" = 1'-0"



B BUILDING SECTION

SCALE: 3/16" = 1'-0"

0 4 8 12

SCALE: 3/16" = 1'-0"

SHEET NOTES

1. ROOF MEMBRANE o/ ROOF DECKING o/ ROOF JOIST, SEE DTL 1/A8.4
2. UPPER PARAPET WALL
3. LOWER PARAPET WALL
4. CRICKET, TYP
5. SUSPENDED CEILING, SEE RCP
6. AIR HANDLING UNIT - SEE MECH DRAWINGS
7. ROOF SCREEN
8. 1-HR RATED (HATCHED)
9. 21" HIGH CURB w/ VIBRATION ISOLATION, SEE MECH DWGS

INSULATION:

WALLS: R21 BATT
ROOF: R-30 RIGID ON ROOF

Project / Owner:

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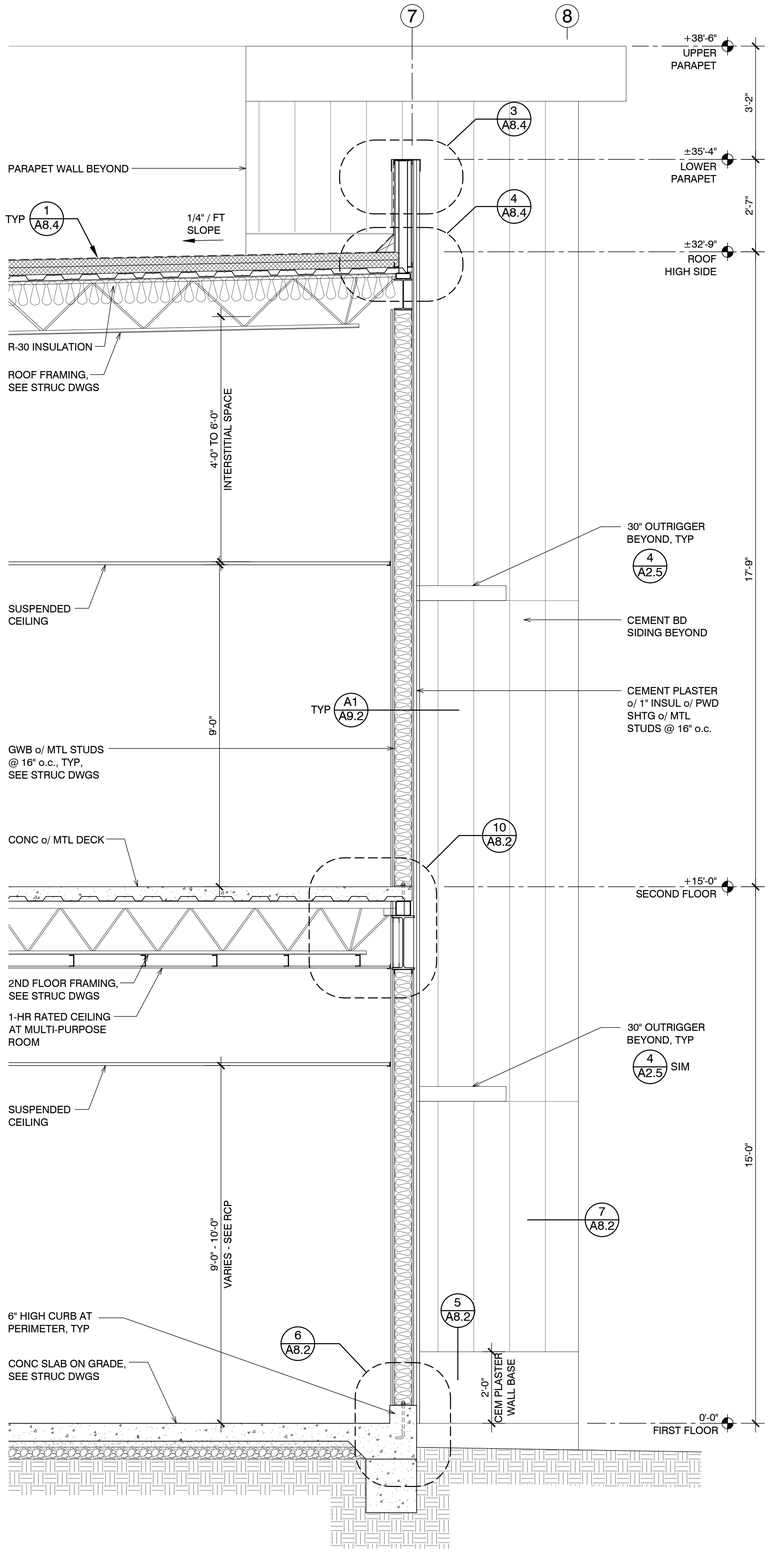
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Sheet Title:
BUILDING SECTIONS

Sheet Number:

A3.2

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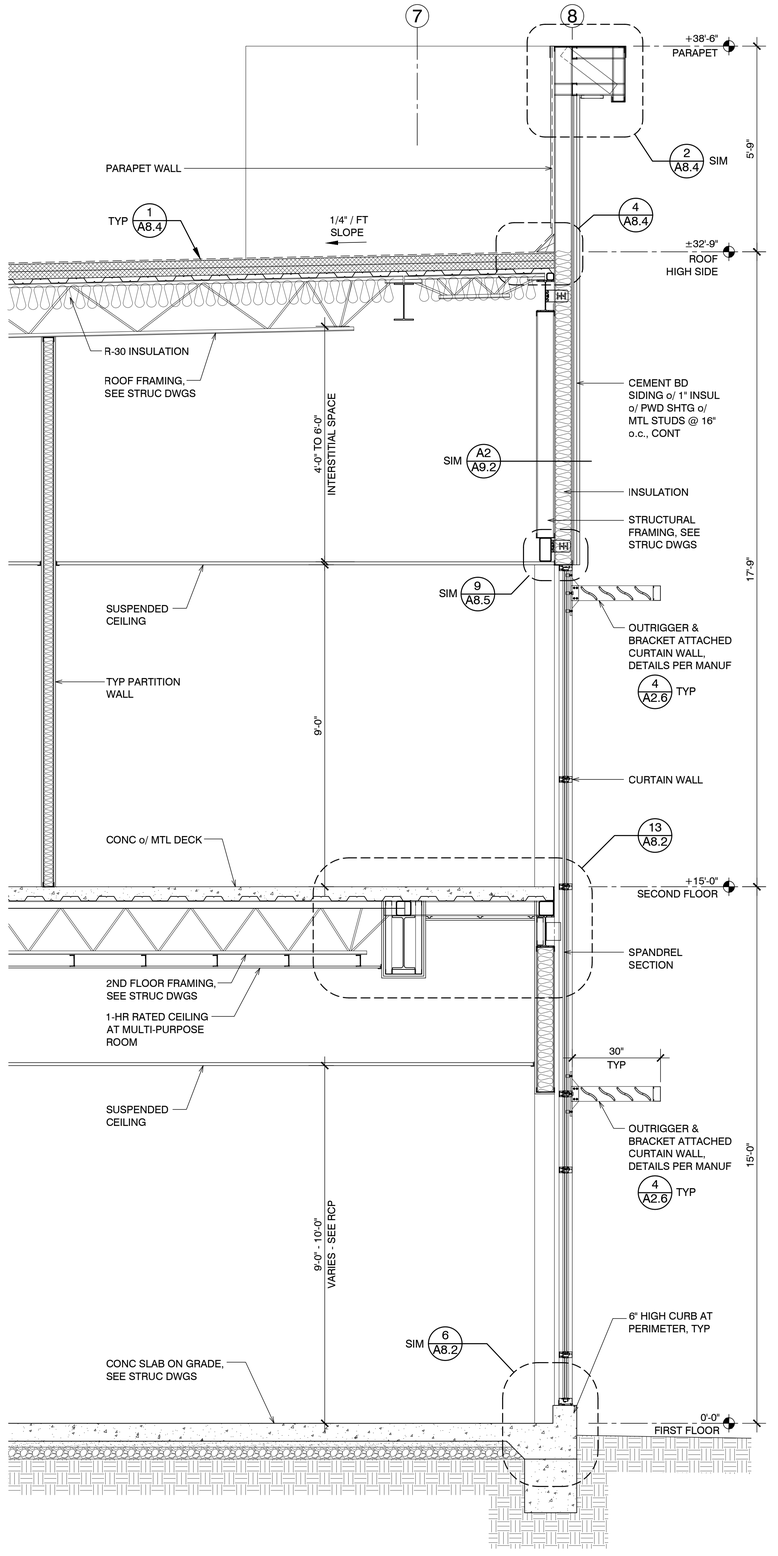


B TYP WALL SECTION

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

0 .5 1 2 4

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



A TYP WALL SECTION

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

0 .5 1 2 4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

The Paul Davis Partnership, LLP
286 Eldorado Street
Monterey, CA 93940
(831) 373-2784 FAX (831) 373-7459
EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:

09.21.21 ISSUED FOR BID

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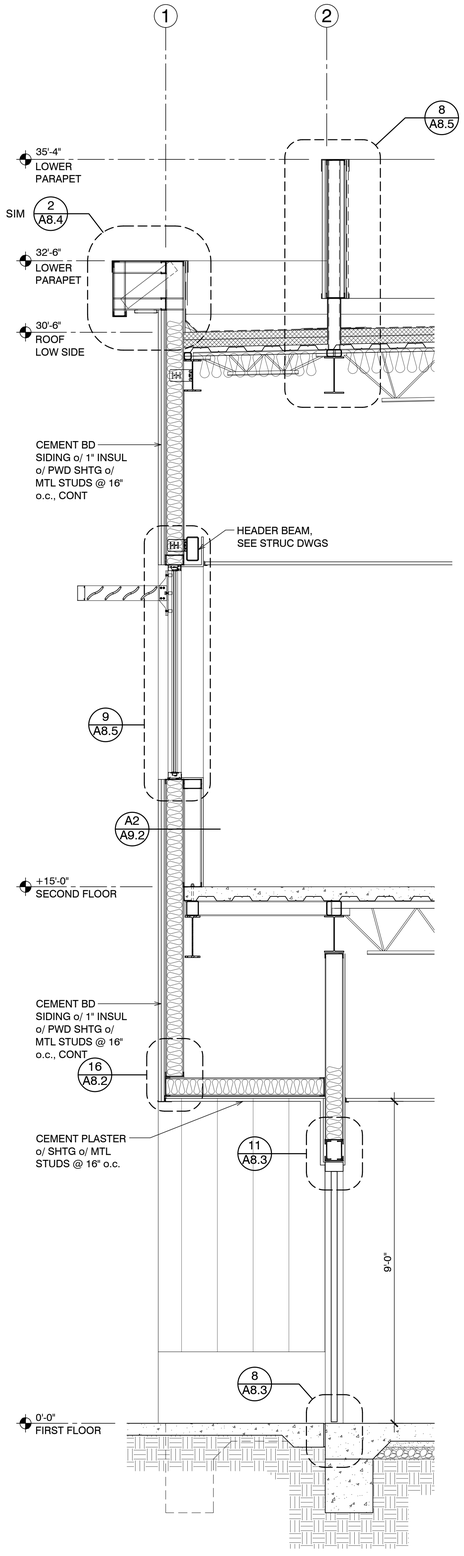
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TYPICAL WALL SECTIONS

Sheet Number:

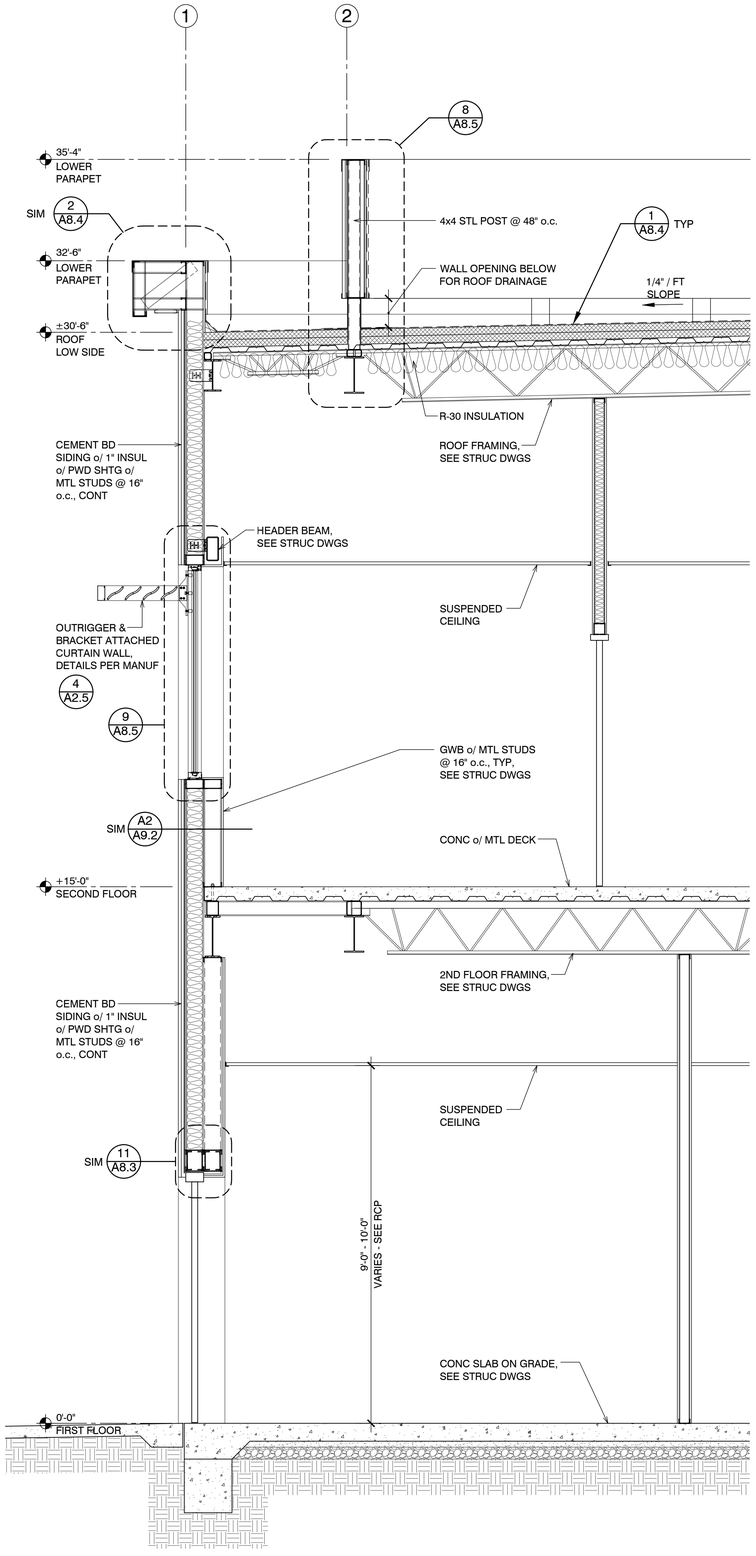
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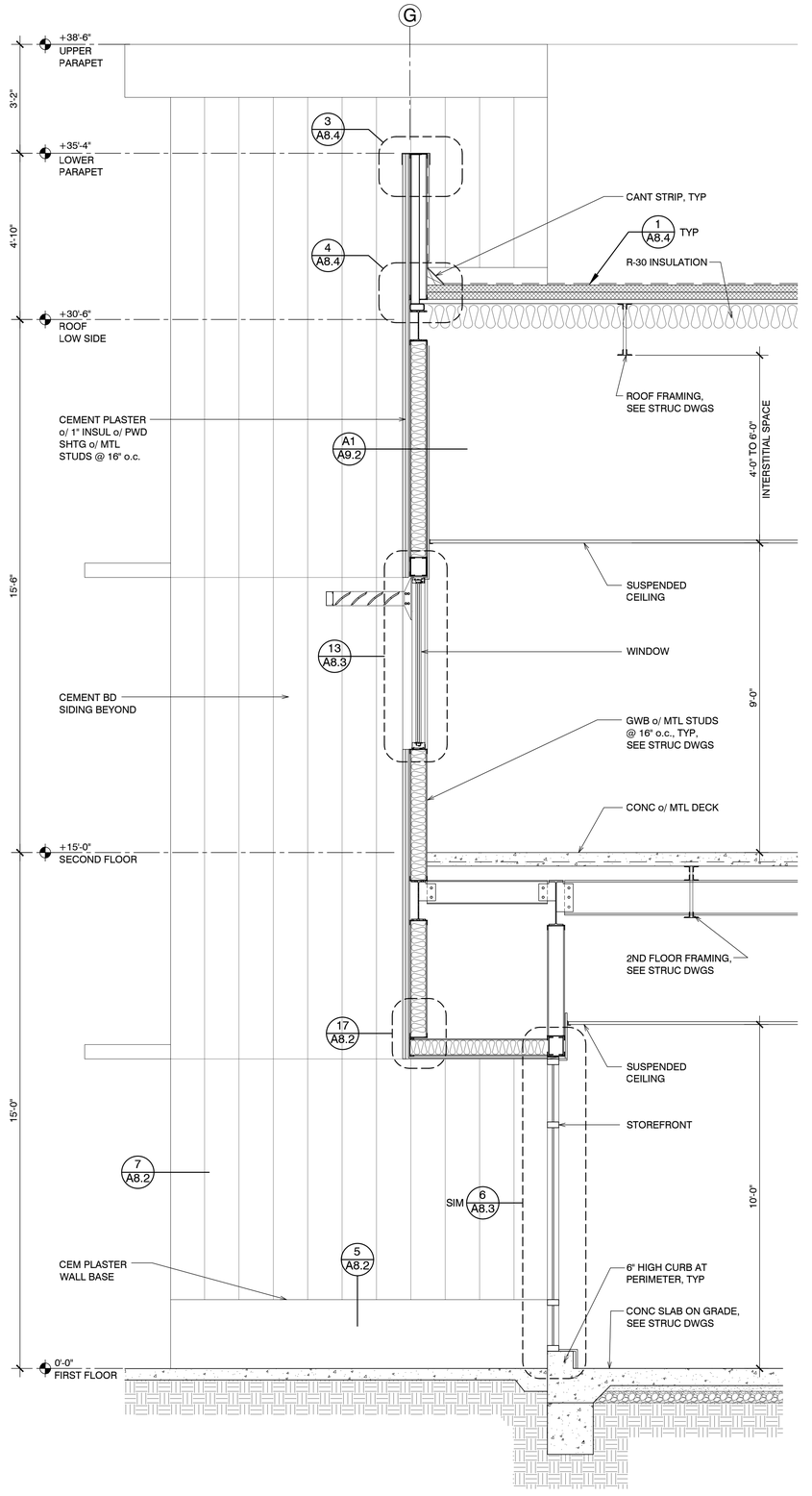
C WALL SECTION

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



B TYP WALL SECTION

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



A TYP WALL SECTION

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

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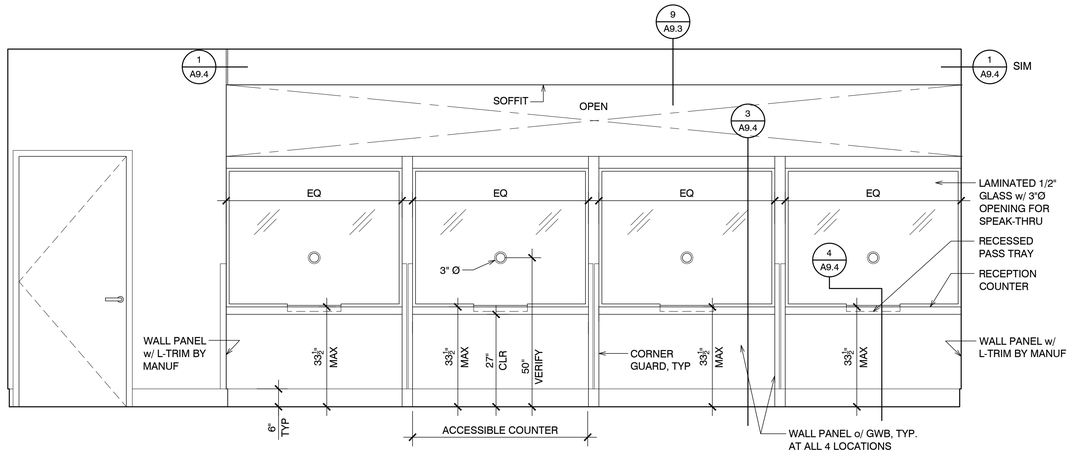
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TYPICAL WALL SECTIONS

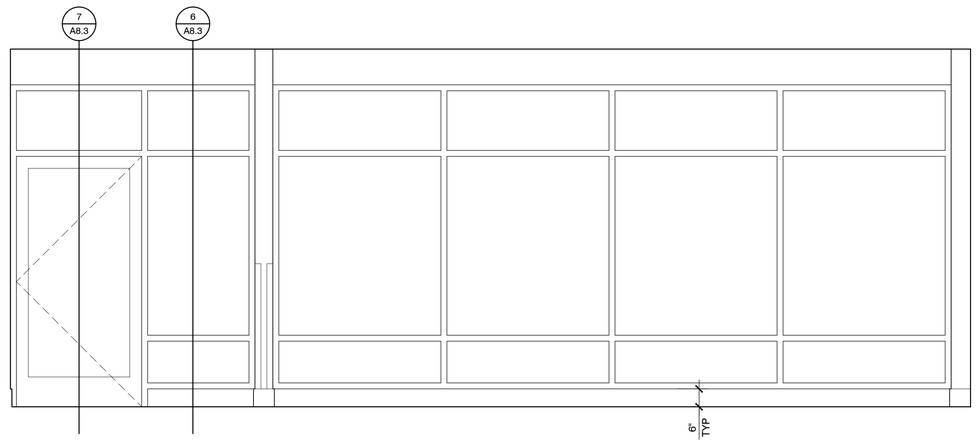
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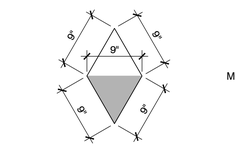


NORTH

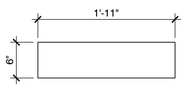


SOUTH

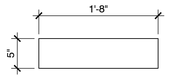
XOREL ARTFORM SHAPES



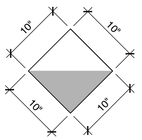
METEOR 721 - DIAMOND 3D / SMALL



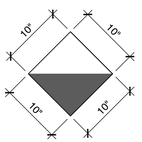
METEOR 2003 - VALLEY / SMALL



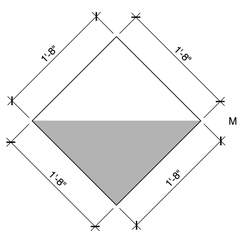
METEOR 726 - PLANK / SMALL



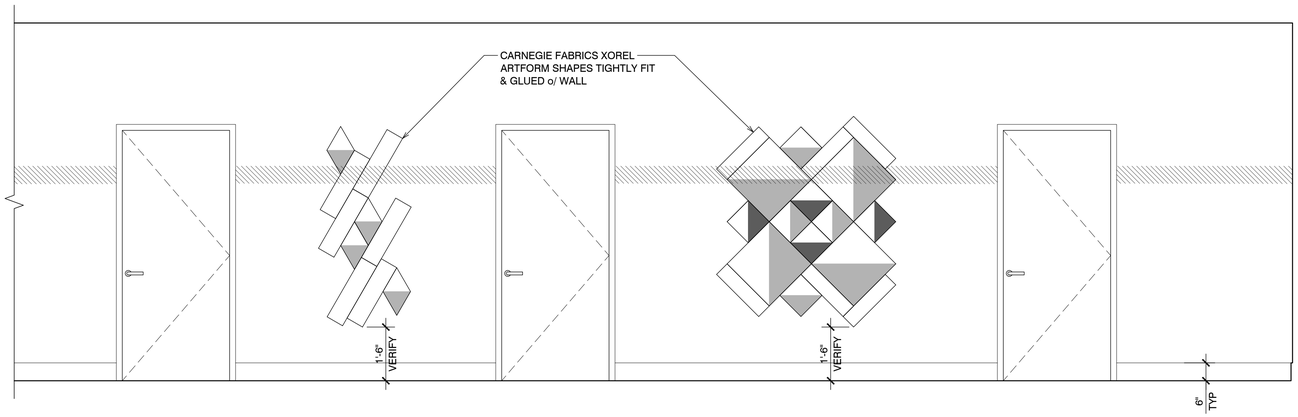
METEOR 726 - SQUARE 3D / SMALL



METEOR 2016 - SQUARE 3D / SMALL

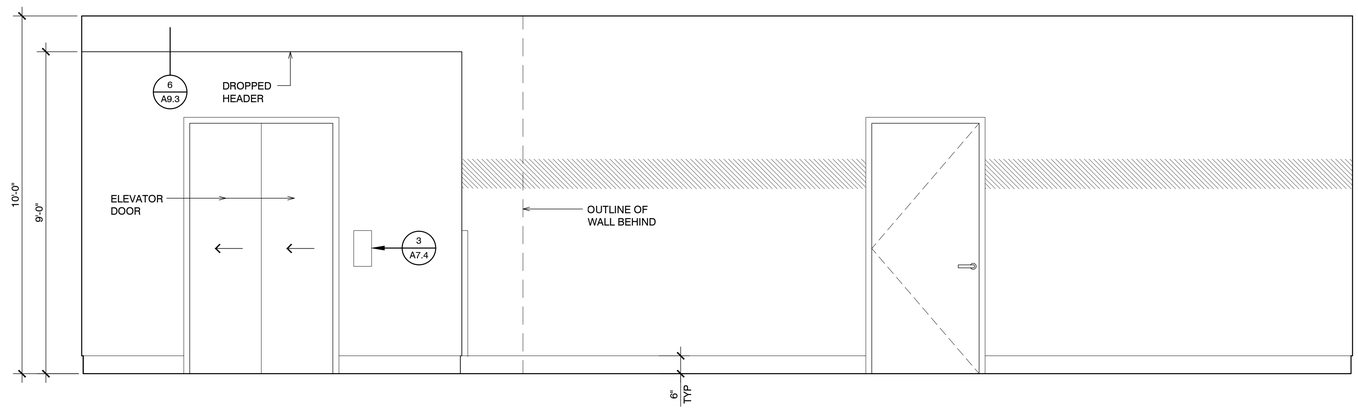


METEOR 726 - SQUARE 3D / LARGE



EAST

WALL BACKING, SEE DTL 8/A9.1



WEST

A WAITING ROOM 101

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

0 .5 1 2 4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

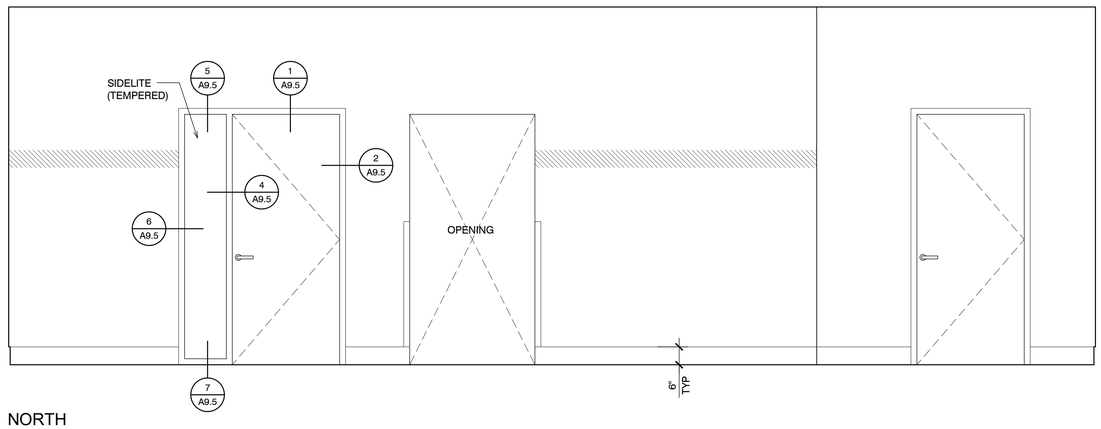
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Sheet Title:
INTERIOR ELEVATIONS

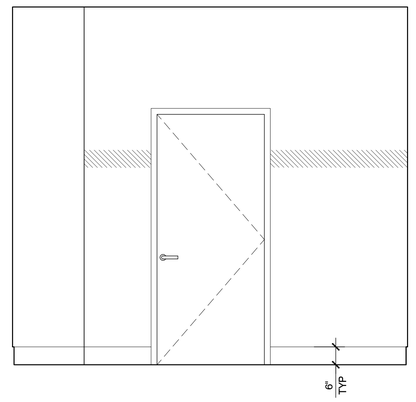
Sheet Number:

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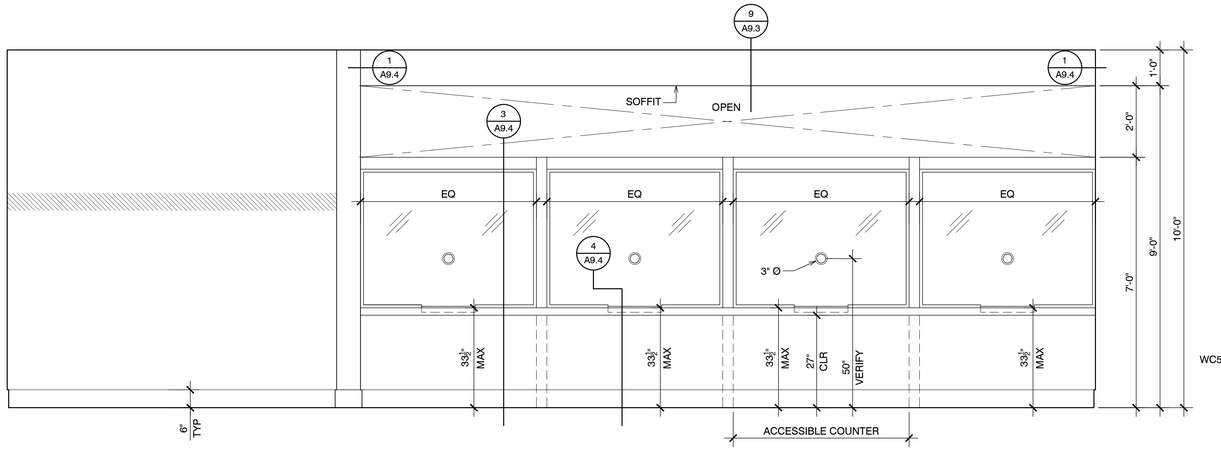
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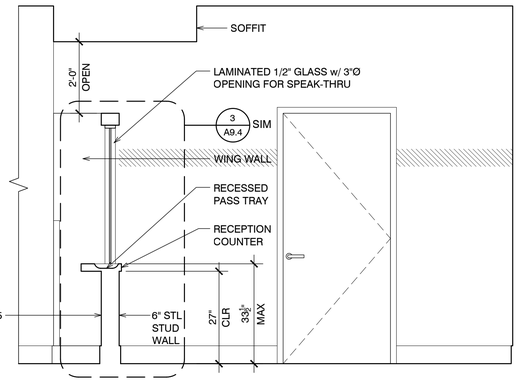
NORTH



EAST



SOUTH



WEST

WALL BACKING,
SEE DTL 8/A9.1

A RECEPTION 102

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

0 .5 1 2 4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

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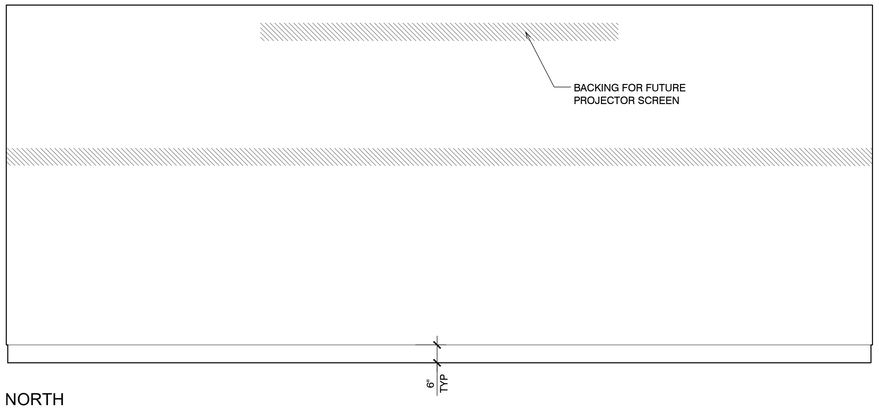
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Sheet Title:
INTERIOR
ELEVATIONS

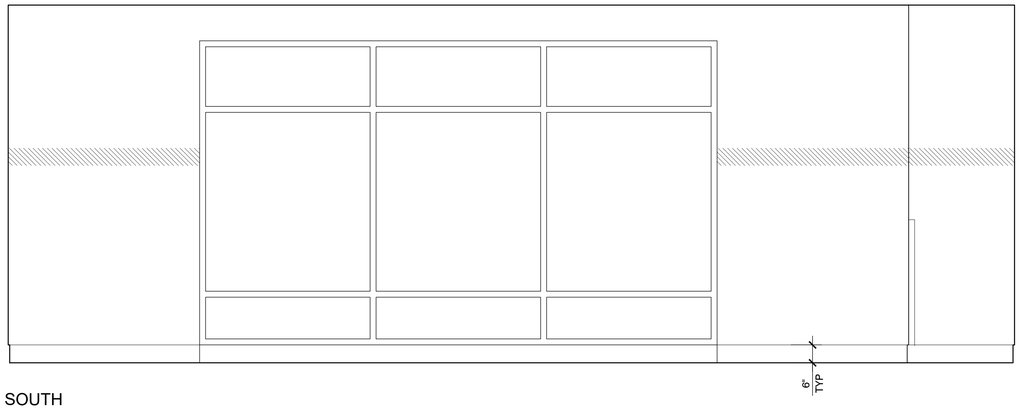
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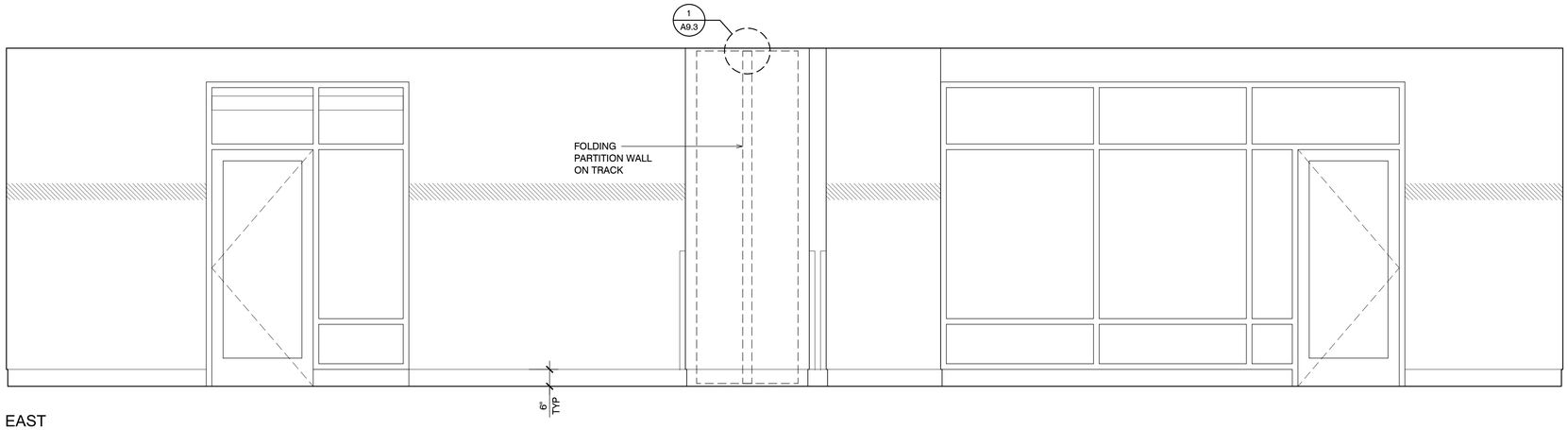
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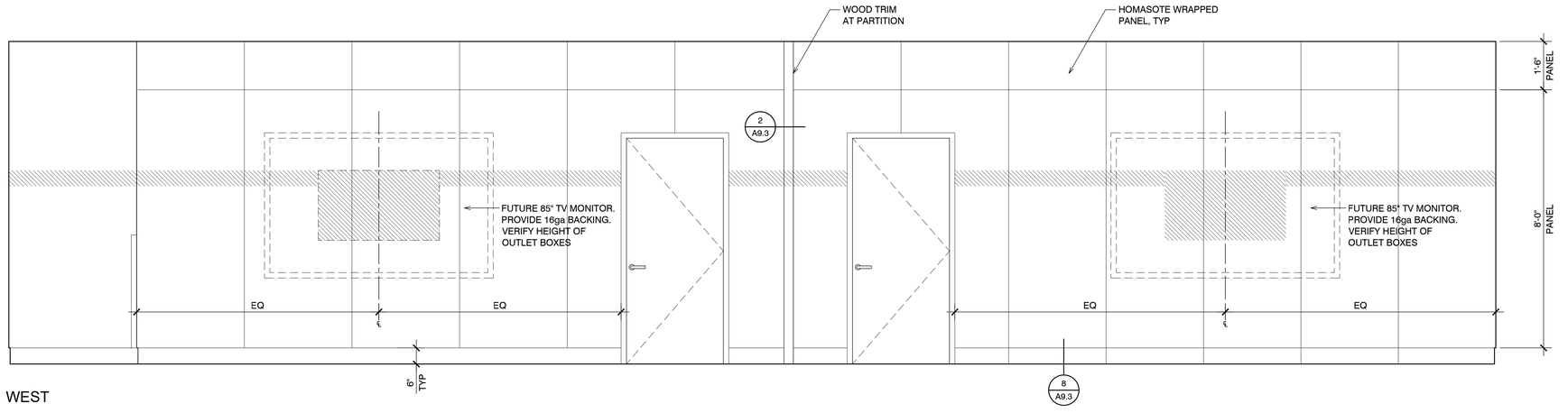
NORTH



SOUTH



EAST



WEST

WALL BACKING,
SEE DTL 8/A9.1

A MULTI-PURPOSE ROOM 145

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

0 .5 1 2 4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

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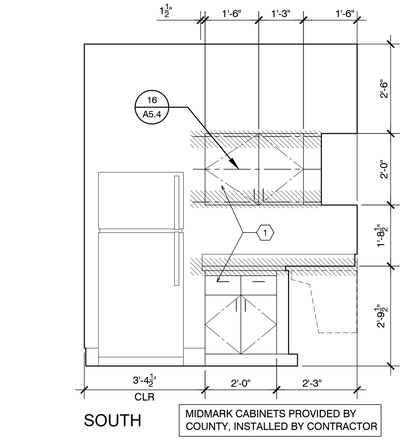
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ELEVATIONS

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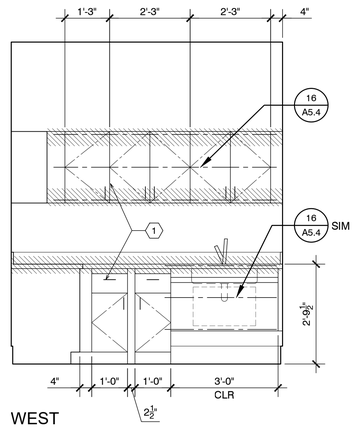
A5.3

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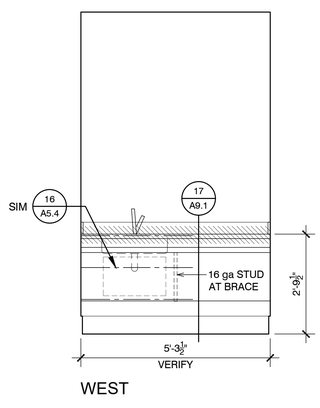
SOUTH

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

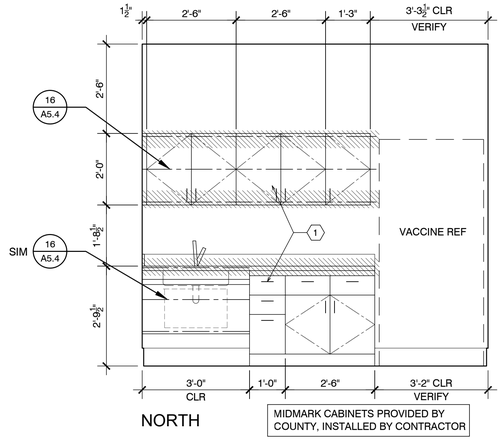


WEST

USE 16GA STUDS AT UPPER CABINETS



WEST



NORTH

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

A KITCHENETTE 146

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

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

B LACTATION 144 227

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

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

C MED ROOM 113

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

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

EAST

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

EAST

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

SOUTH

NOTE: 5% OF EACH LOCKER TYPE SHALL BE ACCESSIBLE

SOUTH

D CLEAN ROOM 115

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

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

E DIRTY ROOM 119

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

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

F STAFF ENTRY 120

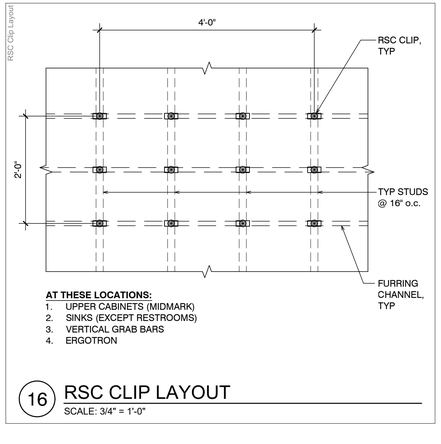
SCALE: 1/2" = 1'-0"

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

WALL BACKING, SEE DTL 8/A9.1

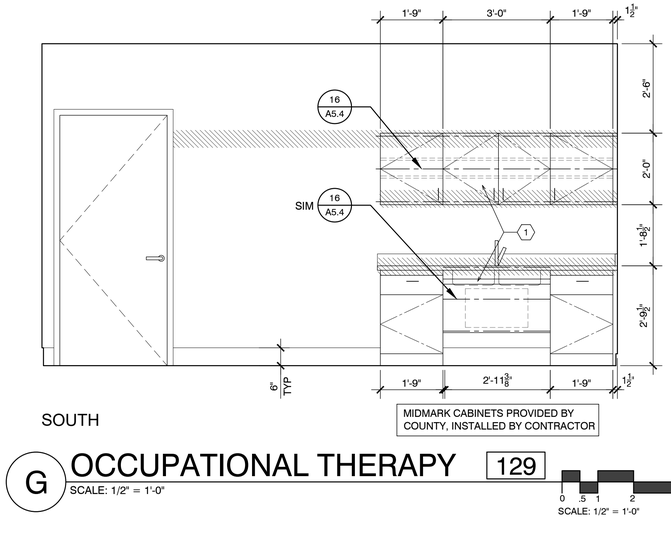
SHEET NOTES

1. OWNER PROVIDED MIDMARK CASEWORK, CONTRACTOR INSTALLED
2. KEY LOCKED, TYP



16 RSC CLIP LAYOUT

SCALE: 3/4" = 1'-0"



SOUTH

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

G OCCUPATIONAL THERAPY 129

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

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

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Sheet Number:

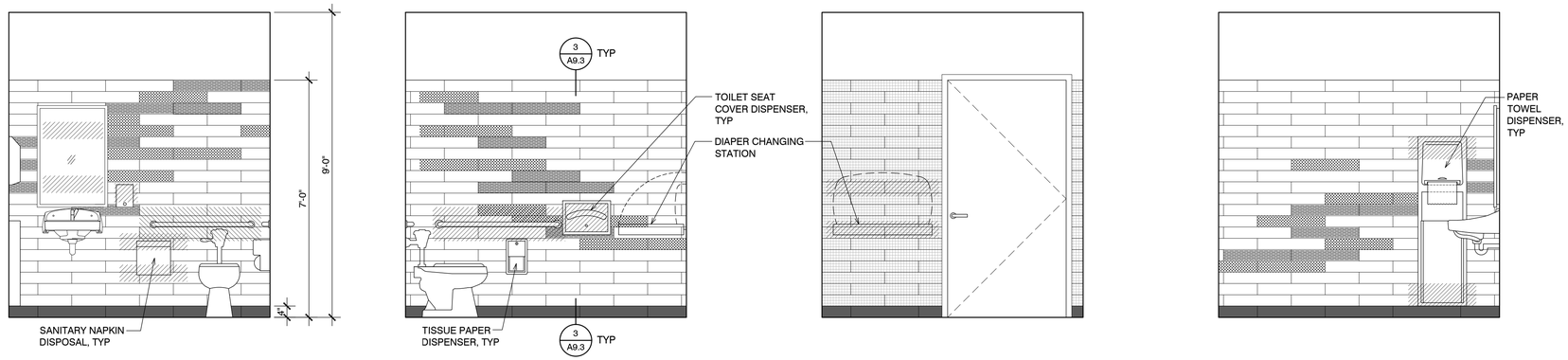
A5.4

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TILE LEGEND

	T2	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Pearl
	T3	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Grey
	T4	Procelain Wall Tile - Trinity Esca - 4" x 24", Color: Red
	T5	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Orange
	B2	Porcelain Tile Base - Trinity Esca - 4" x 24", Color: Grey

WALL BACKING, SEE DTL 8/A9.1
SEE DTL 13/A9.1 FOR WALL BACKING AT GRAB BARS



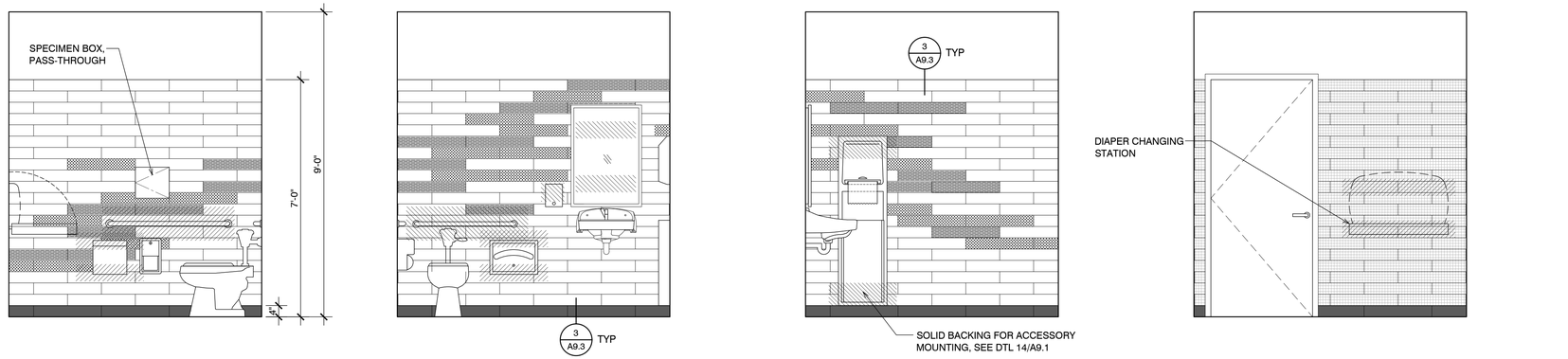
NORTH EAST SOUTH WEST

SEE 1 A9.1 | 2 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

A TOILET 148 149 150 151

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



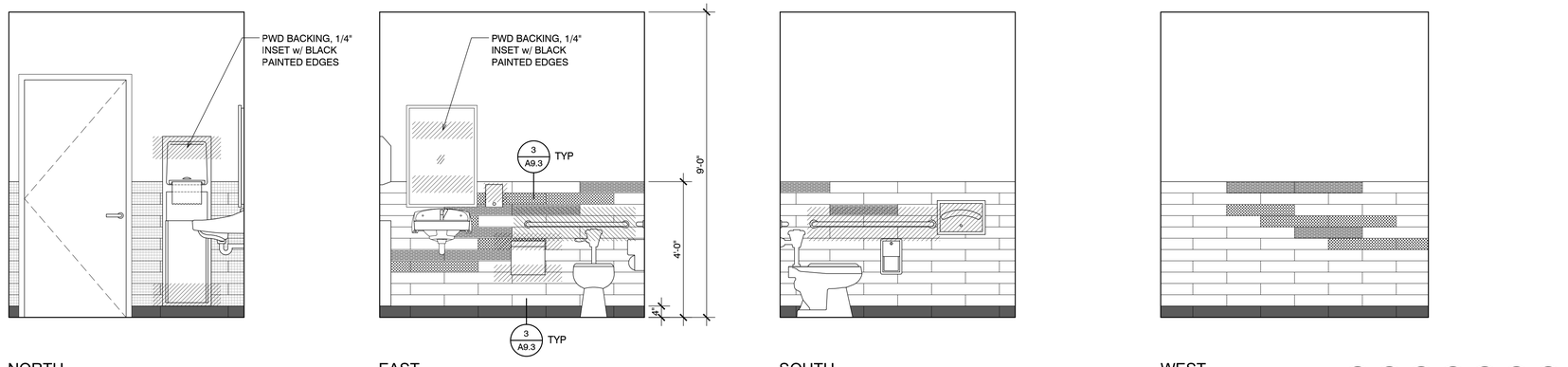
NORTH EAST SOUTH WEST

SEE 1 A9.1 | 2 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

B TOILET 117

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



NORTH EAST SOUTH WEST

SEE 1 A9.1 | 2 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

C STAFF TOILET 132

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

Project / Owner:

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Sheet Title:
INTERIOR ELEVATIONS

Sheet Number:

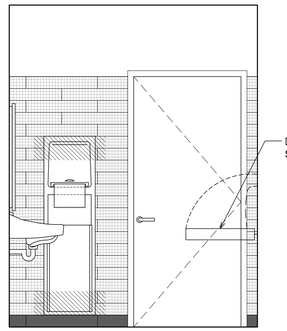
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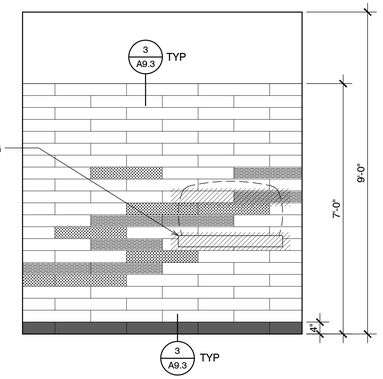
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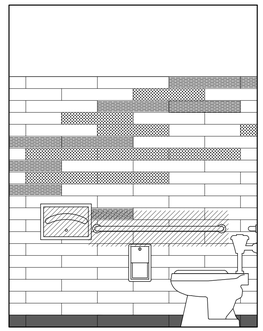
TILE LEGEND

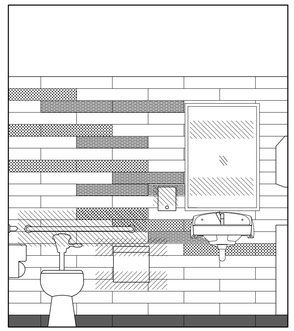
T2	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Pearl
T3	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Grey
T4	Procelain Wall Tile - Trinity Esca - 4" x 24", Color: Red
T5	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Orange
B2	Porcelain Tile Base - Trinity Esca - 4" x 24", Color: Grey

WALL BACKING,
SEE DTL 8/A9.1









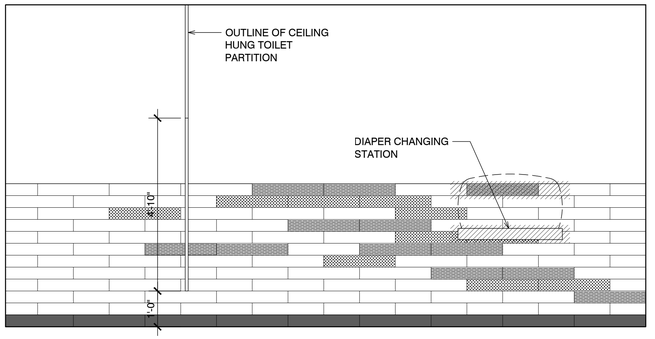
NORTH | EAST | SOUTH | WEST

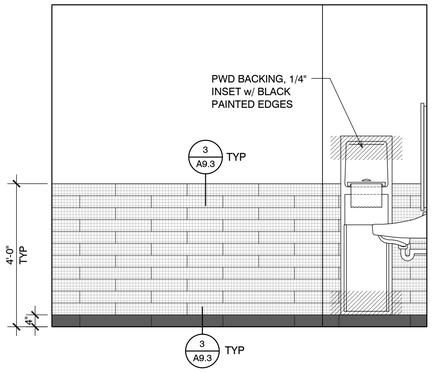
SEE 1 A9.1 | 2 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

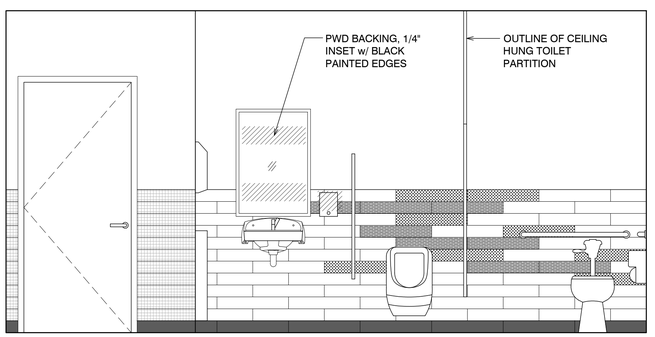
A TOILET 134

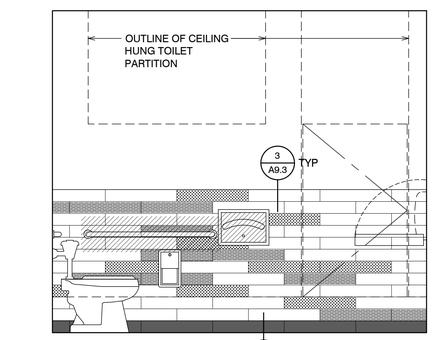
SCALE: 1/2" = 1'-0"





NORTH | EAST





SOUTH | WEST

SEE 1 A9.1 | 2 A9.1 | 4 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

B MEN'S TOILET 226

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
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Monterey, CA 93940
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EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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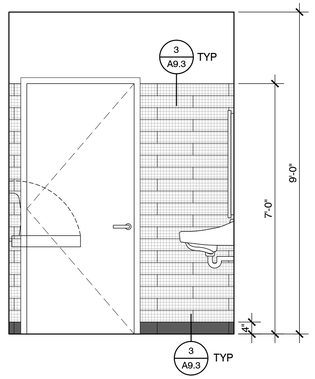
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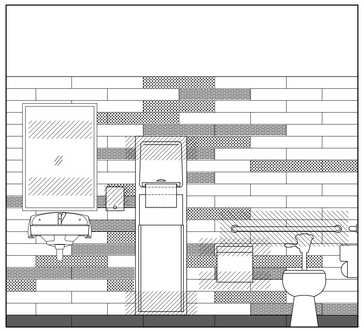
TILE LEGEND

T2	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Pearl
T3	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Grey
T4	Procelain Wall Tile - Trinity Esca - 4" x 24", Color: Red
T5	Porcelain Wall Tile - Trinity Esca - 4" x 24", Color: Orange
B2	Porcelain Tile Base - Trinity Esca - 4" x 24", Color: Grey

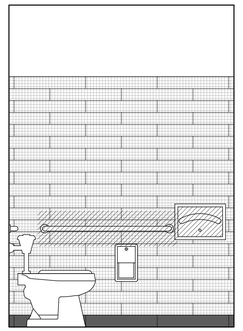
WALL BACKING,
SEE DTL 8/A9.1



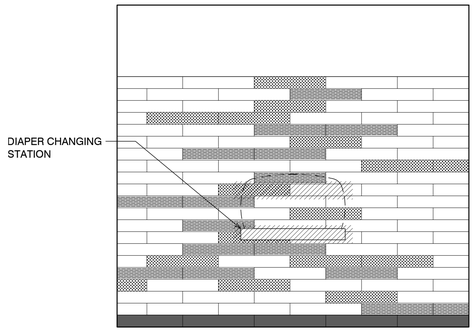
NORTH



EAST



SOUTH



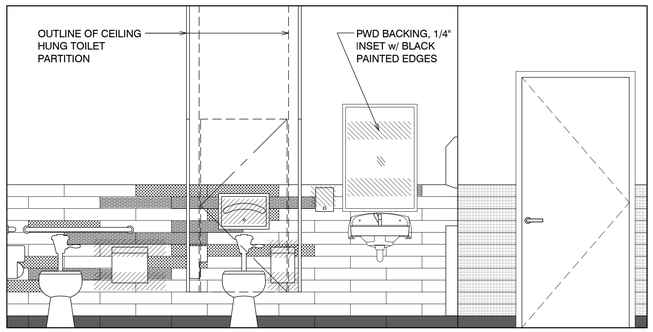
WEST

SEE 1 A9.1 | 2 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

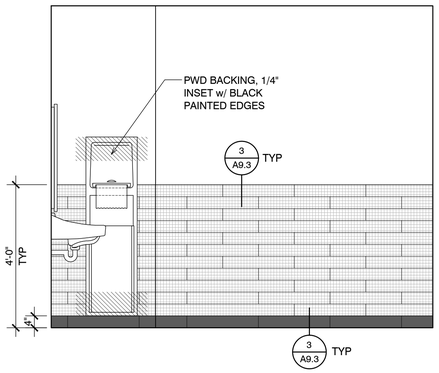
0 .5 1 2 4
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A TOILET 231

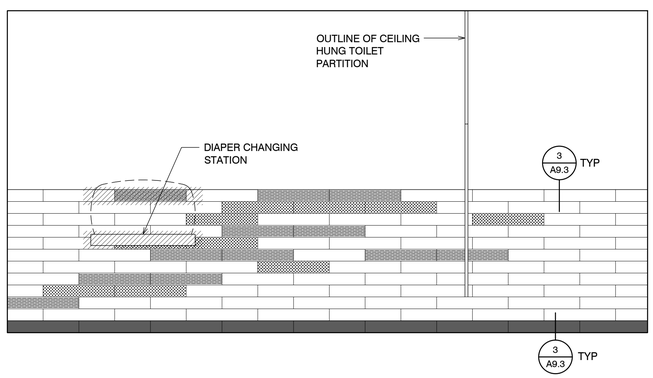
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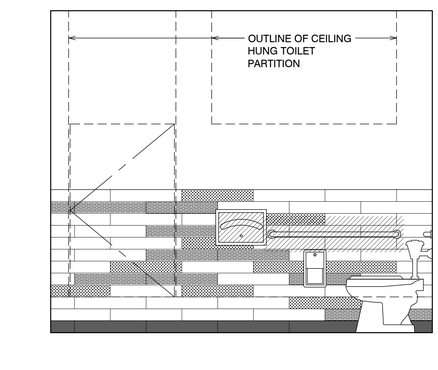
NORTH



EAST



SOUTH



WEST

SEE 1 A9.1 | 2 A9.1 | 4 A9.1 | 5 A9.1 | 6 A9.1 | 16 A9.1 | 3 A9.3 | 13 A9.1

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

B WOMEN'S TOILET 241

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

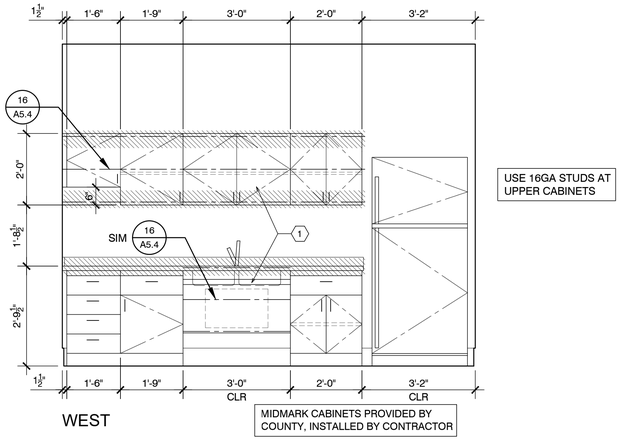
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Sheet Title:
INTERIOR ELEVATIONS

Sheet Number:

A5.7

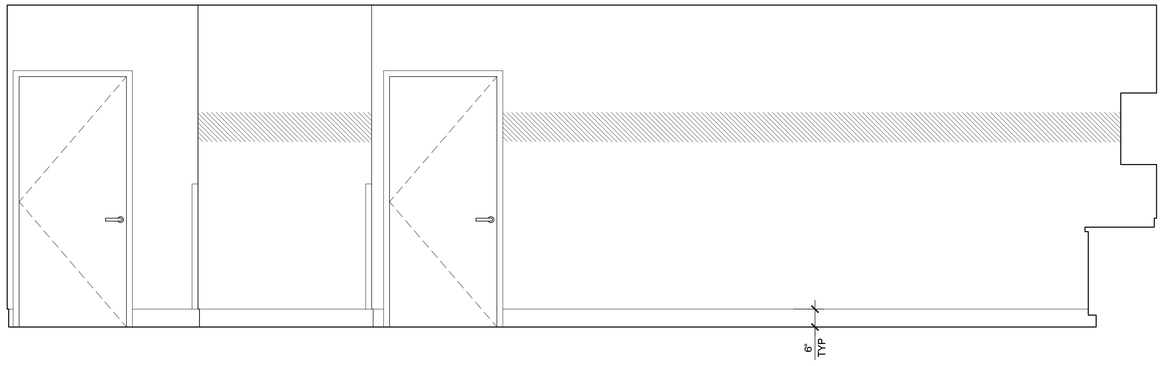
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USE 16GA STUDS AT UPPER CABINETS

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

WEST



B STAFF ROOM 225

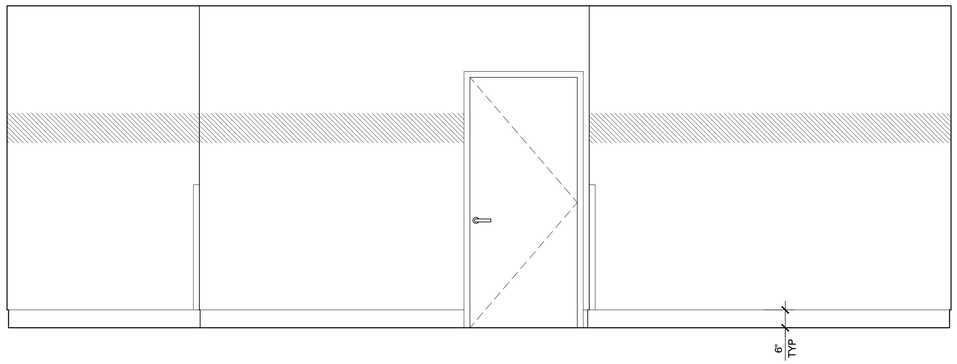
SCALE: 1/2" = 1'-0"

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

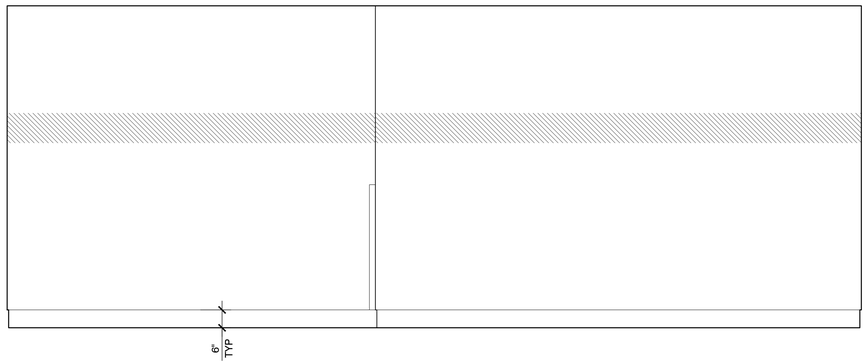
WALL BACKING, SEE DTL 8/A9.1

SHEET NOTES

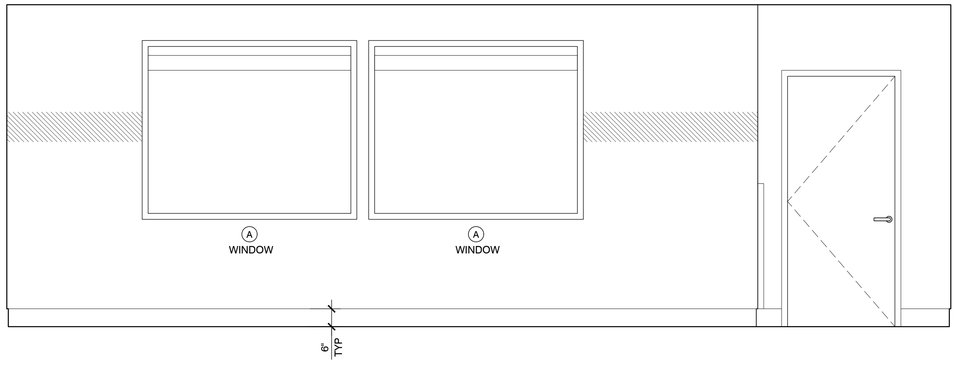
1. OWNER PROVIDED MIDMARK CASEWORK, CONTRACTOR INSTALLED



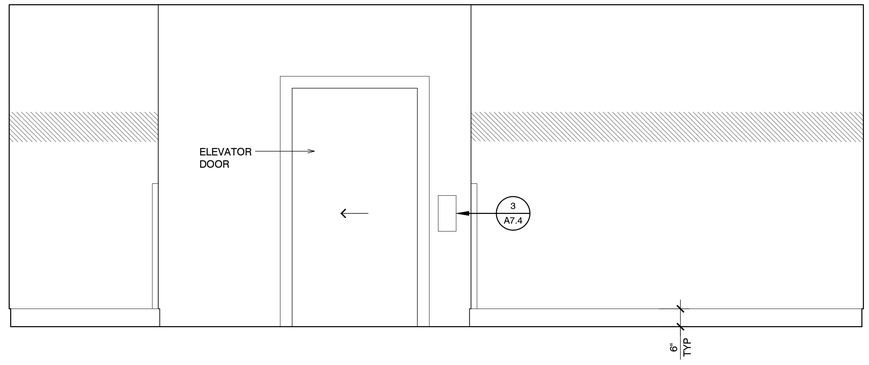
NORTH



EAST



SOUTH



WEST

A WAITING ROOM 205

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

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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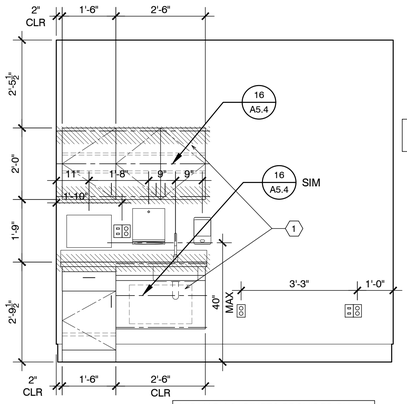
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Sheet Number:

A5.8

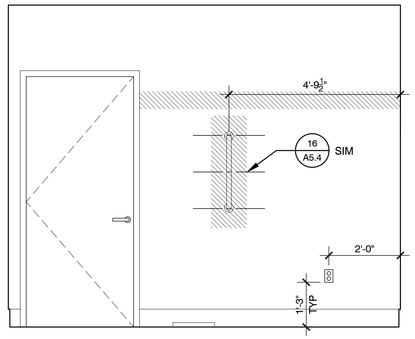
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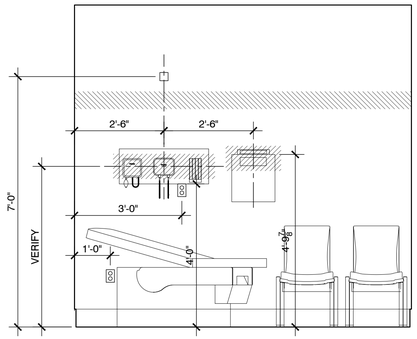
NORTH

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

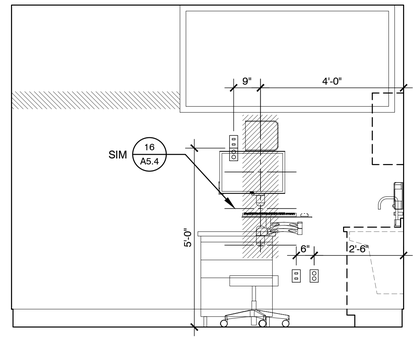
USE 16GA STUDS AT UPPER CABINETS



EAST



SOUTH



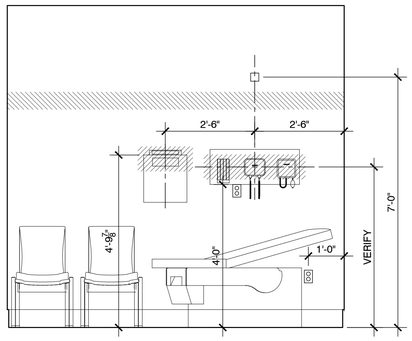
WEST

A EXAM ROOM 112

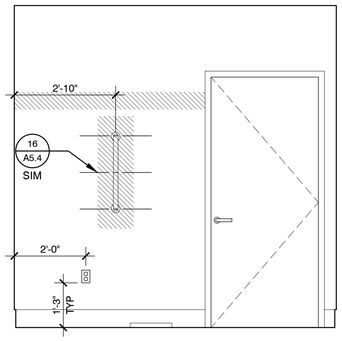
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0 .5 1 2 4

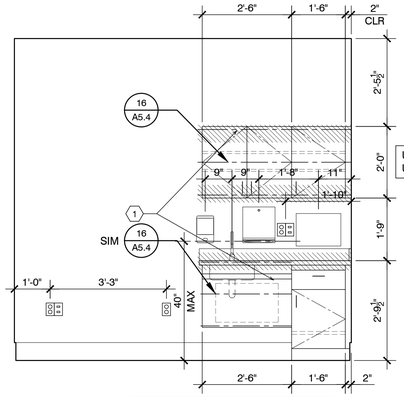
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NORTH



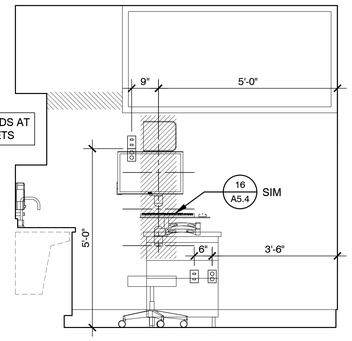
EAST



MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

SOUTH

USE 16GA STUDS AT UPPER CABINETS



WEST

SHEET NOTES

1. OWNER PROVIDED MIDMARK CASEWORK, CONTRACTOR INSTALLED

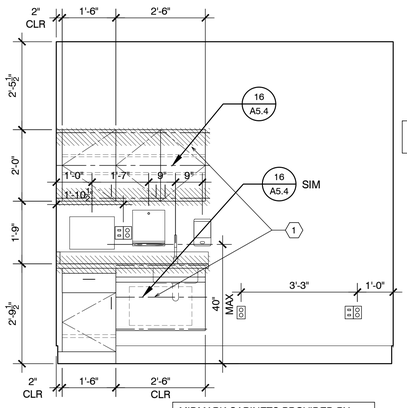
WALL BACKING, SEE DTL 8/A9.1

B EXAM ROOM 114

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

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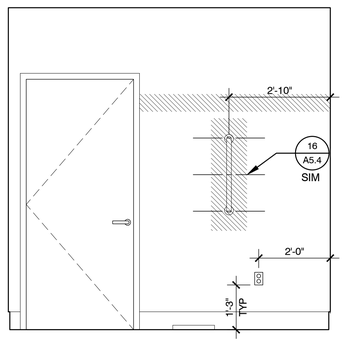
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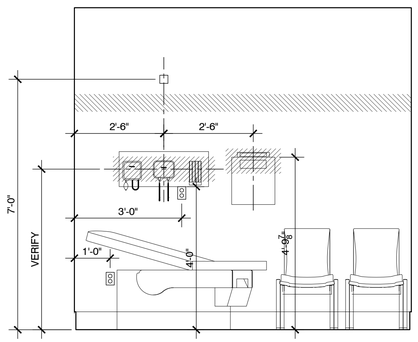
NORTH

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR

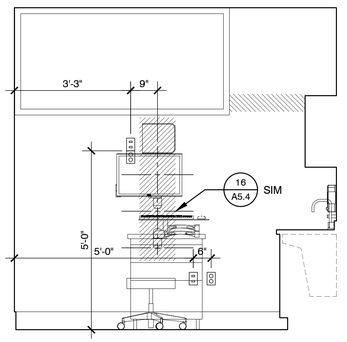
USE 16GA STUDS AT UPPER CABINETS



EAST



SOUTH



WEST

C EXAM ROOM 116

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

0 .5 1 2 4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

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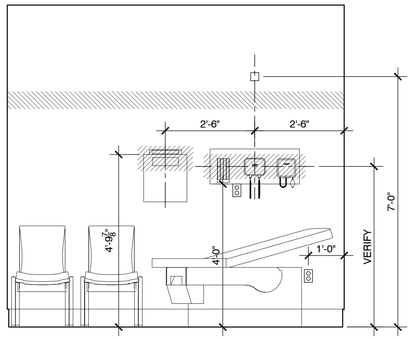
Sheet Title:

INTERIOR ELEVATIONS

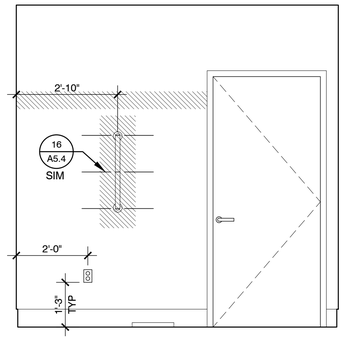
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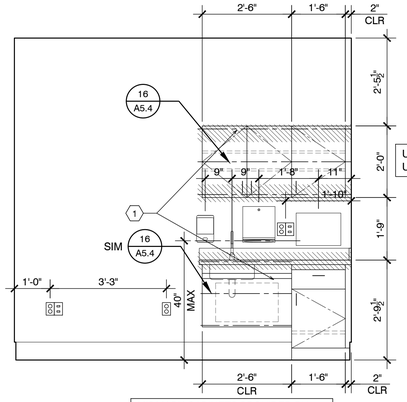
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NORTH



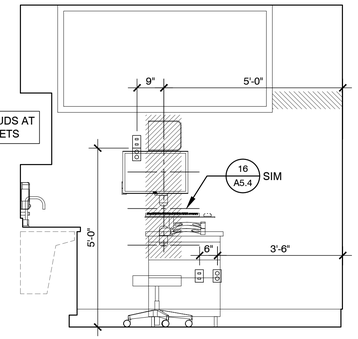
EAST



USE 16GA STUDS AT UPPER CABINETS

SOUTH

MIDMARK CABINETS PROVIDED BY COUNTY, INSTALLED BY CONTRACTOR



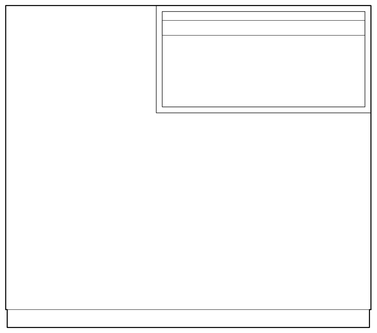
WEST

A EXAM ROOM 118

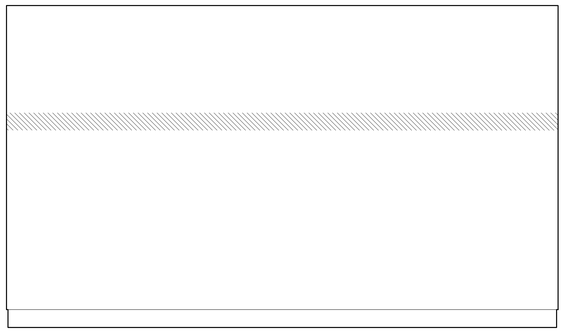
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0 .5 1 2 4

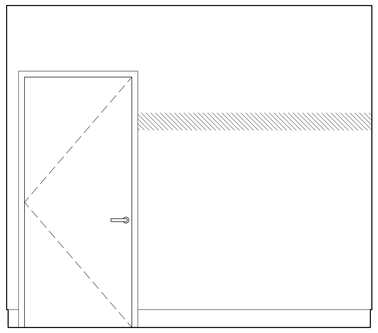
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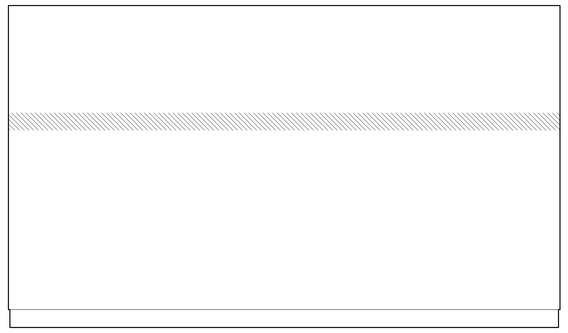
NORTH



EAST



SOUTH



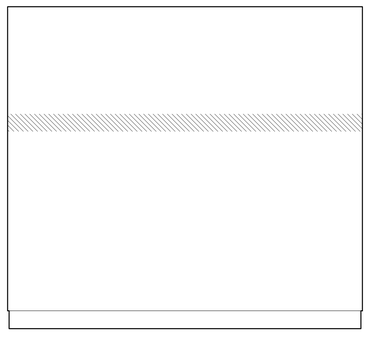
WEST

B TREATMENT ROOM - TYPICAL FOR ROOMS 129, 131, 135, 137, 138 & 142

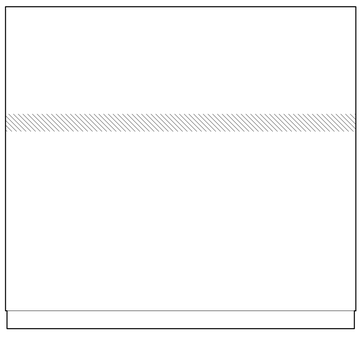
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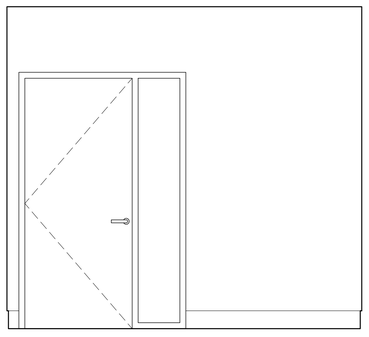
SCALE: 1/2" = 1'-0"



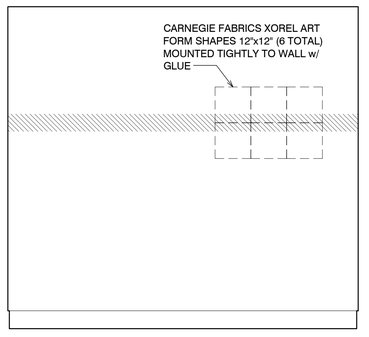
NORTH



EAST



SOUTH



WEST

C TYPICAL OFFICE ON SECOND FLOOR

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

0 .5 1 2 4

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

SHEET NOTES

1. OWNER PROVIDED MIDMARK CASEWORK, CONTRACTOR INSTALLED

WALL BACKING, SEE DTL 8/A9.1

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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Sheet Title:
INTERIOR ELEVATIONS

Sheet Number:

A5.10

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TYPICAL CEILING HEIGHT 9'-0" U.O.N.

SEE MECHANICAL DRAWINGS FOR REGISTERS & DIFFUSERS & LEGEND.

SEE ELECTRICAL DRAWINGS FOR LIGHTING TYPES & LEGEND

CEILING GRID LAYOUT START POINT

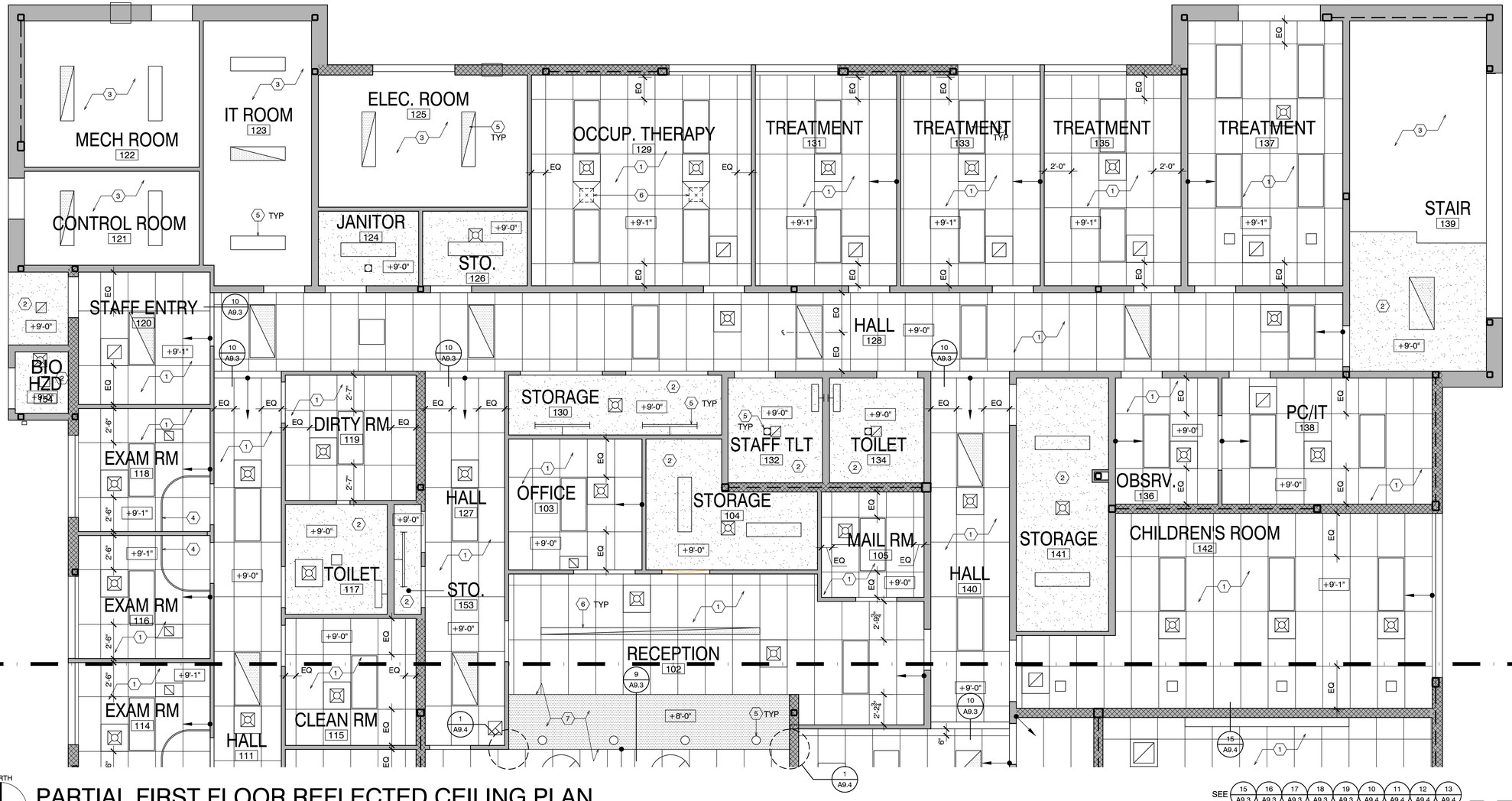
+0'-0" CEILING HEIGHT AFF

GENERAL NOTES

1. SEE SHEET A9.3 FOR SUSPENDED CEILING DETAILS
2. SURFACE MOUNTED DEVICES, LIGHTING FIXTURES & FIRE SPRINKLER HEADS SHALL BE CENTERED IN CEILING TILES U.N.O
3. FIRE SPRINKLER HEADS SHALL BE SEMI-RECESSED WITH WHITE ESCUTCHEON, CENTERED IN CEILING/CEILING TILE.
4. SEE ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON LIGHT FIXTURES, WIRING, SWITCHING, CONTROLS, ETC.
5. SEE MECHANICAL DRAWINGS FOR FURTHER INFORMATION ON DUCTWORK, DIFFUSERS, THERMOSTAT CONTROLS, ACCESS PANELS, ETC.
6. SUSPENDED CEILING IN SEISMIC DESIGN CATEGORIES D,E, AND F SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ASTM C635, ASTM C636, AND THE CISCA FOR SEISMIC ZONES 3-4 MODIFIED BY THE FOLLOWING:
   a. A HEAVY DUTY T-BAR GRID SYSTEM SHALL BE USED.
   b. THE WIDTH OF THE PERIMETER SUPPORTING CLOSURE ANGLE SHALL BE NOT LESS THAN 2 INCHES.
   c. SPRINKLER HEADS AND OTHER PENETRATIONS SHALL HAVE A 2 INCH OVERSIZE RING, SLEEVE, OR ADAPTER THROUGH THE CEILING TILE TO ALLOW FOR FREE MOVEMENT OF AT LEAST 1 INCH IN ALL HORIZONTAL DIRECTIONS.
   d. SUSPENSION WIRE SHALL NOT HANG MORE THAN 1 IN 6 OUT OF PLUMB.

SHEET NOTES

1. CEILING GRID, TYP (9'-0" HIGH U.O.N.)
2. GWB CEILING, TYP (9'-0" HIGH U.O.N.)
3. OPEN TO STRUCTURE ABOVE
4. PRIVACY CURTAIN TRACK
5. LIGHTING FIXTURE, TYP. SEE ELEC DWGS
6. EQUIPMENT BRACING ABOVE CEILING, SEE MECH DWGS. PROVIDE 2x2 SMOOTH PANEL FOR HANGING HARDWARE, SEE DTL 16/A9.4.
7. SOFFIT - FABRIC WRAPPED PANEL



NORTH

PARTIAL FIRST FLOOR REFLECTED CEILING PLAN

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

SEE 15 A9.3 | 16 A9.3 | 17 A9.3 | 18 A9.3 | 19 A9.3 | 10 A9.4 | 11 A9.4 | 12 A9.4 | 13 A9.4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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Sheet Title:
PARTIAL
FIRST FLOOR - RCP

Sheet Number:

A6.1a

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TYPICAL CEILING HEIGHT 9'-0" U.O.N.

SEE MECHANICAL DRAWINGS FOR REGISTERS & DIFFUSERS & LEGEND.

SEE ELECTRICAL DRAWINGS FOR LIGHTING TYPES & LEGEND

CEILING GRID LAYOUT START POINT

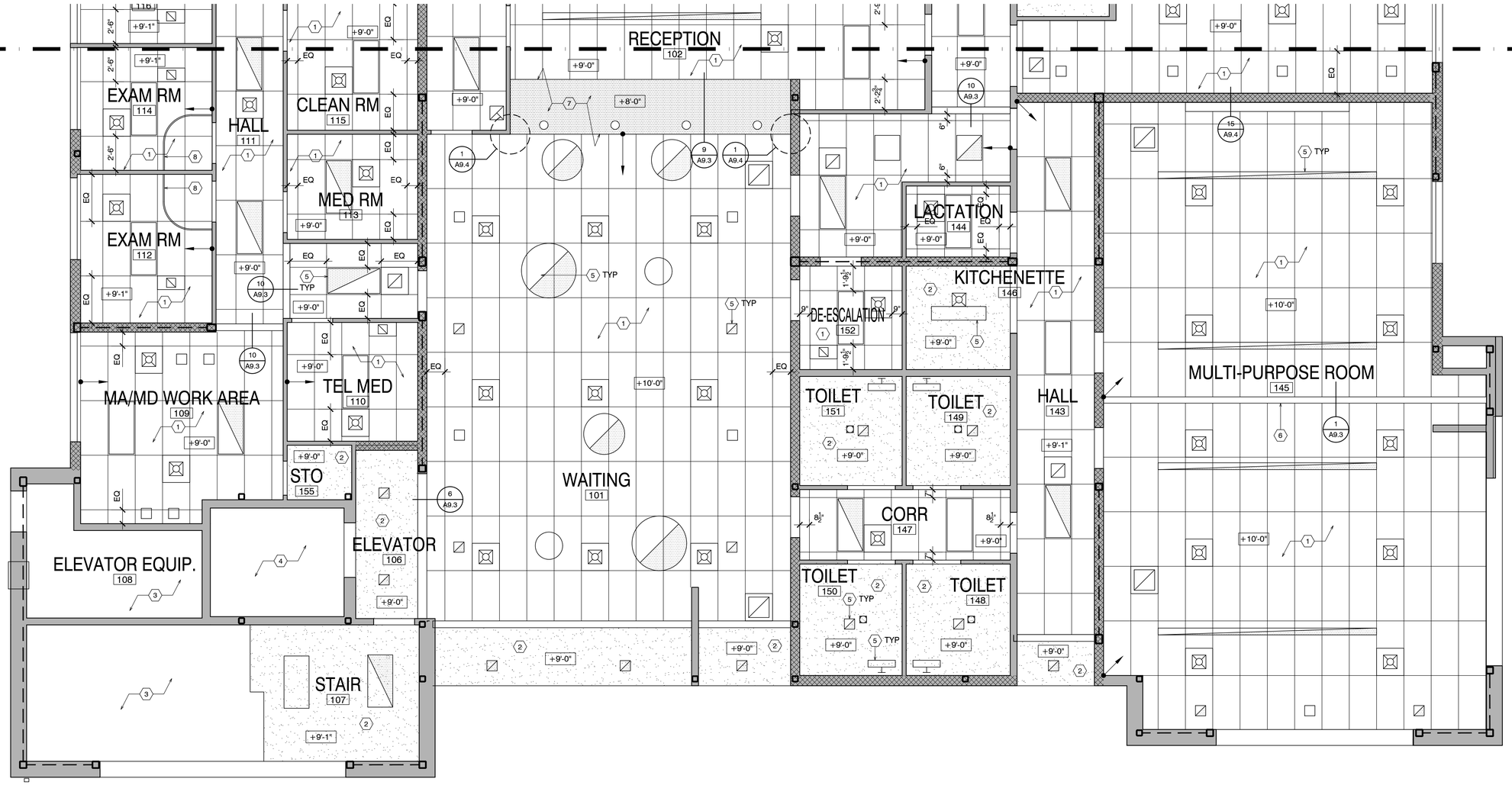
+0'-0" CEILING HEIGHT AFF

GENERAL NOTES

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   d. SUSPENSION WIRE SHALL NOT HANG MORE THAN 1 IN 6 OUT OF PLUMB.

SHEET NOTES

1. CEILING GRID, TYP
2. GWB CEILING, TYP
3. OPEN TO STRUCTURE ABOVE
4. ELEVATOR SHAFT
5. LIGHTING FIXTURE, TYP. SEE ELEC DWGS
6. PARTITION WALL TRACK
7. SOFFIT - FABRIC WRAPPED PANEL
8. PRIVACY CURTAIN TRACK



PARTIAL FIRST FLOOR REFLECTED CEILING PLAN

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

SEE 15 A9.3 | 16 A9.3 | 17 A9.3 | 18 A9.3 | 19 A9.3 | 10 A9.4 | 11 A9.4 | 12 A9.4 | 13 A9.4

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
PARTIAL
FIRST FLOOR - RCP

Sheet Number:

A6.1b

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TYPICAL CEILING HEIGHT 9'-0" U.O.N.

SEE MECHANICAL DRAWINGS FOR REGISTERS & DIFFUSERS & LEGEND.

SEE ELECTRICAL DRAWINGS FOR LIGHTING TYPES & LEGEND

CEILING GRID LAYOUT START POINT

+0'-0" CEILING HEIGHT AFF

GENERAL NOTES

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SHEET NOTES

1. CEILING GRID, TYP
2. GWB CEILING, TYP
3. OPEN TO STRUCTURE ABOVE
4. LIGHTING FIXTURE, TYP. SEE ELEC DWGS



NORTH

PARTIAL SECOND FLOOR REFLECTED CEILING PLAN

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

SEE 15 A9.3 | 16 A9.3 | 17 A9.3 | 18 A9.3 | 19 A9.3 | 10 A9.4 | 11 A9.4 | 12 A9.4 | 13 A9.4

0 1 2 4 8

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
PARTIAL
SECOND FLOOR RCP

Sheet Number:

A6.2a

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TYPICAL CEILING HEIGHT 9'-0" U.O.N.

SEE MECHANICAL DRAWINGS FOR REGISTERS & DIFFUSERS & LEGEND.

SEE ELECTRICAL DRAWINGS FOR LIGHTING TYPES & LEGEND

CEILING GRID LAYOUT START POINT

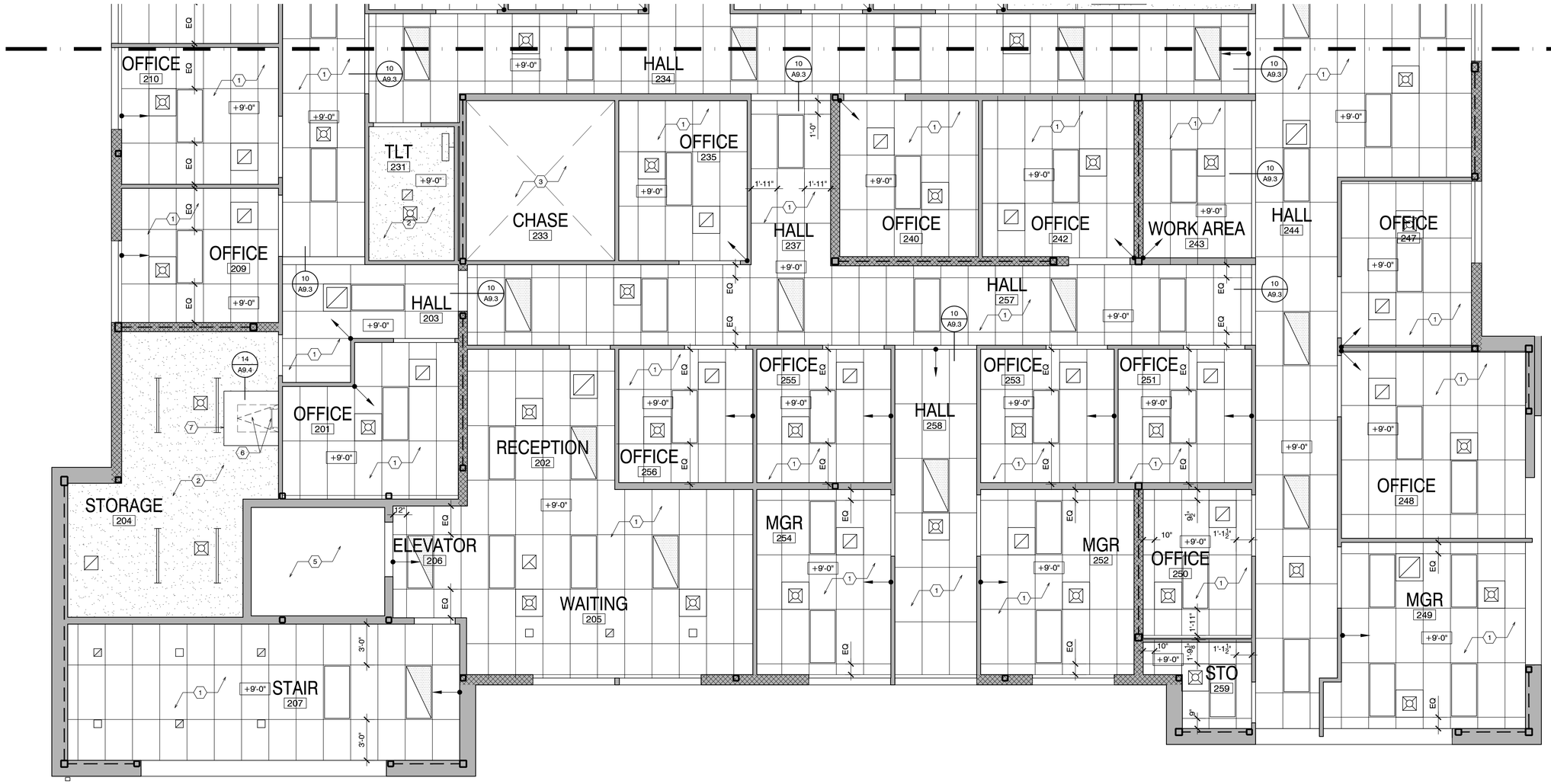
+0'-0" CEILING HEIGHT AFF

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   d. SUSPENSION WIRE SHALL NOT HANG MORE THAN 1 IN 6 OUT OF PLUMB.

SHEET NOTES

1. CEILING GRID, TYP
2. GWB CEILING, TYP
3. OPEN TO STRUCTURE ABOVE
4. LIGHTING FIXTURE, TYP. SEE ELEC DWGS
5. ELEVATOR SHAFT
6. ROOF ACCESS & LADDER, SEE DTL 20/A8.4
7. 48x48 CLG OPENING, SEE DTL 14/A9.4



PARTIAL SECOND FLOOR REFLECTED CEILING PLAN

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

SEE 15 A9.3 | 16 A9.3 | 17 A9.3 | 18 A9.3 | 19 A9.3 | 10 A9.4 | 11 A9.4 | 12 A9.4 | 13 A9.4 | 14 A9.4

0 1 2 4 8
SCALE: 1/4" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Drawn By: ML, VQ

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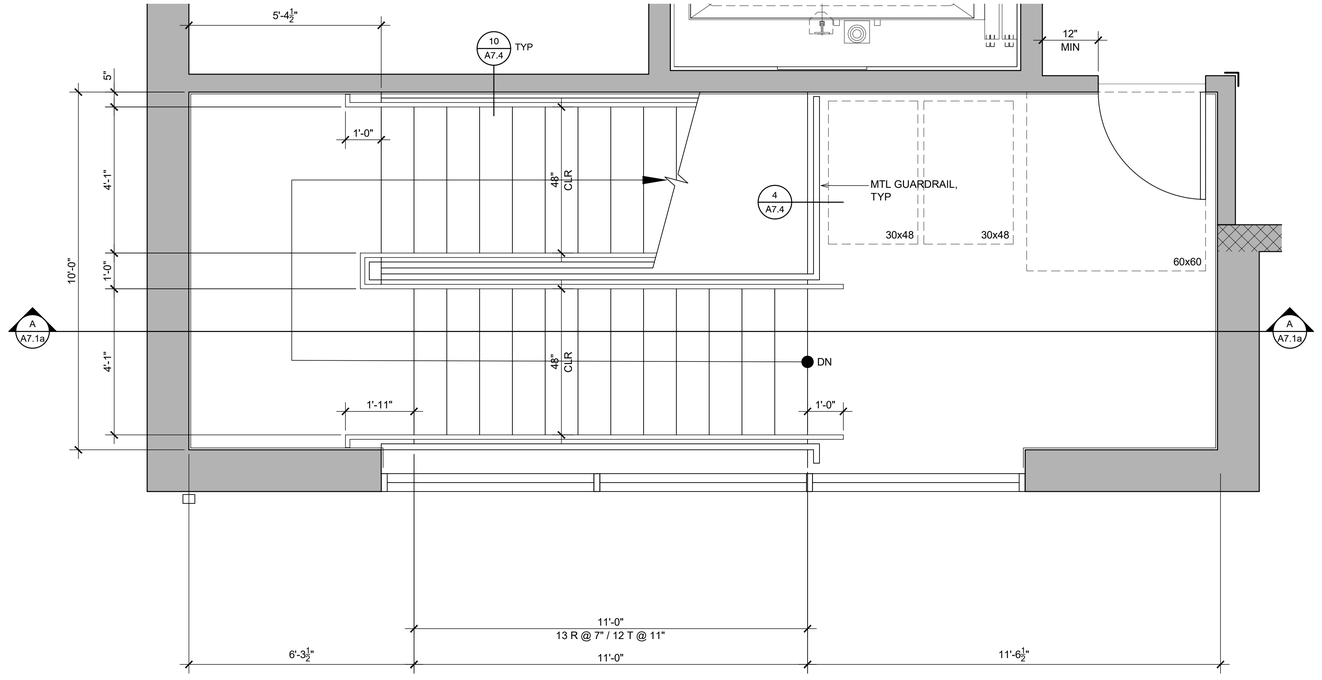
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Sheet Title:
PARTIAL
SECOND FLOOR RCP

Sheet Number:

A6.2b

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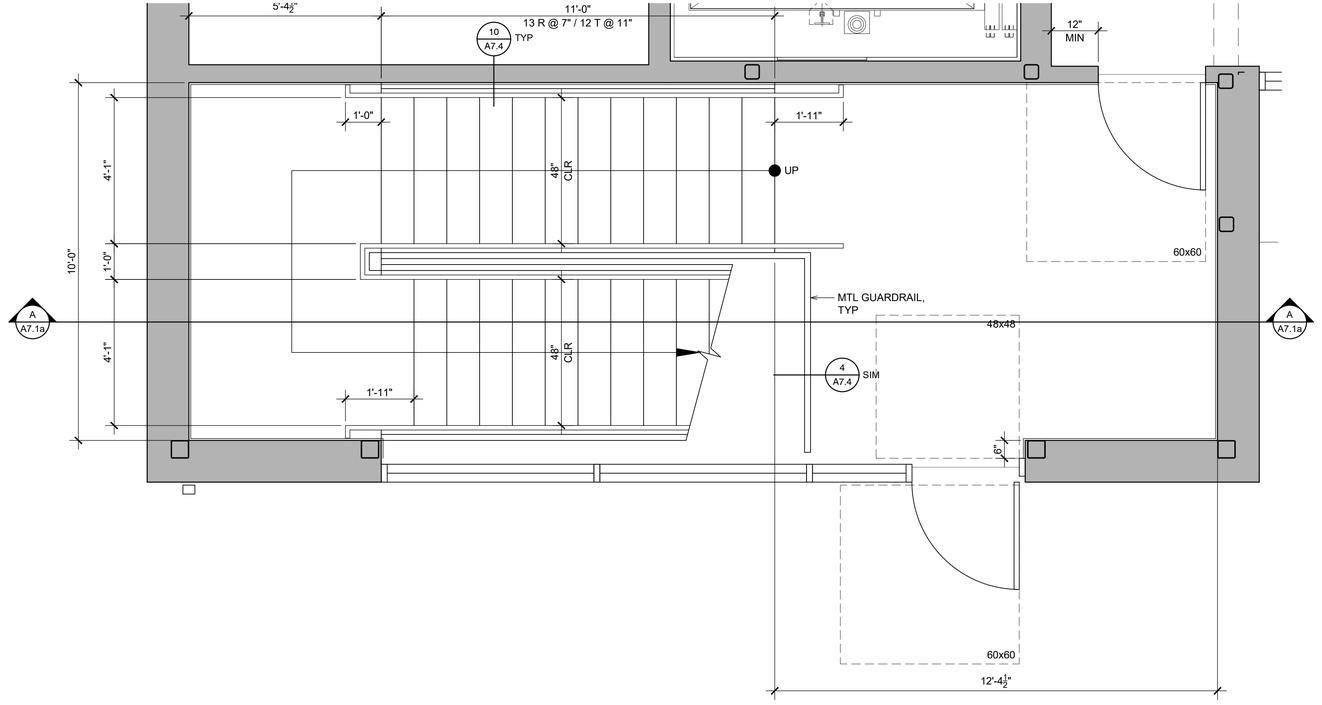
SECOND FLOOR

2 STAIR 1 PLAN 207

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

0 .5 1 2 4

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



FIRST FLOOR

1 STAIR 1 PLAN 107

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

0 .5 1 2 4

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

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Project Number: 1838

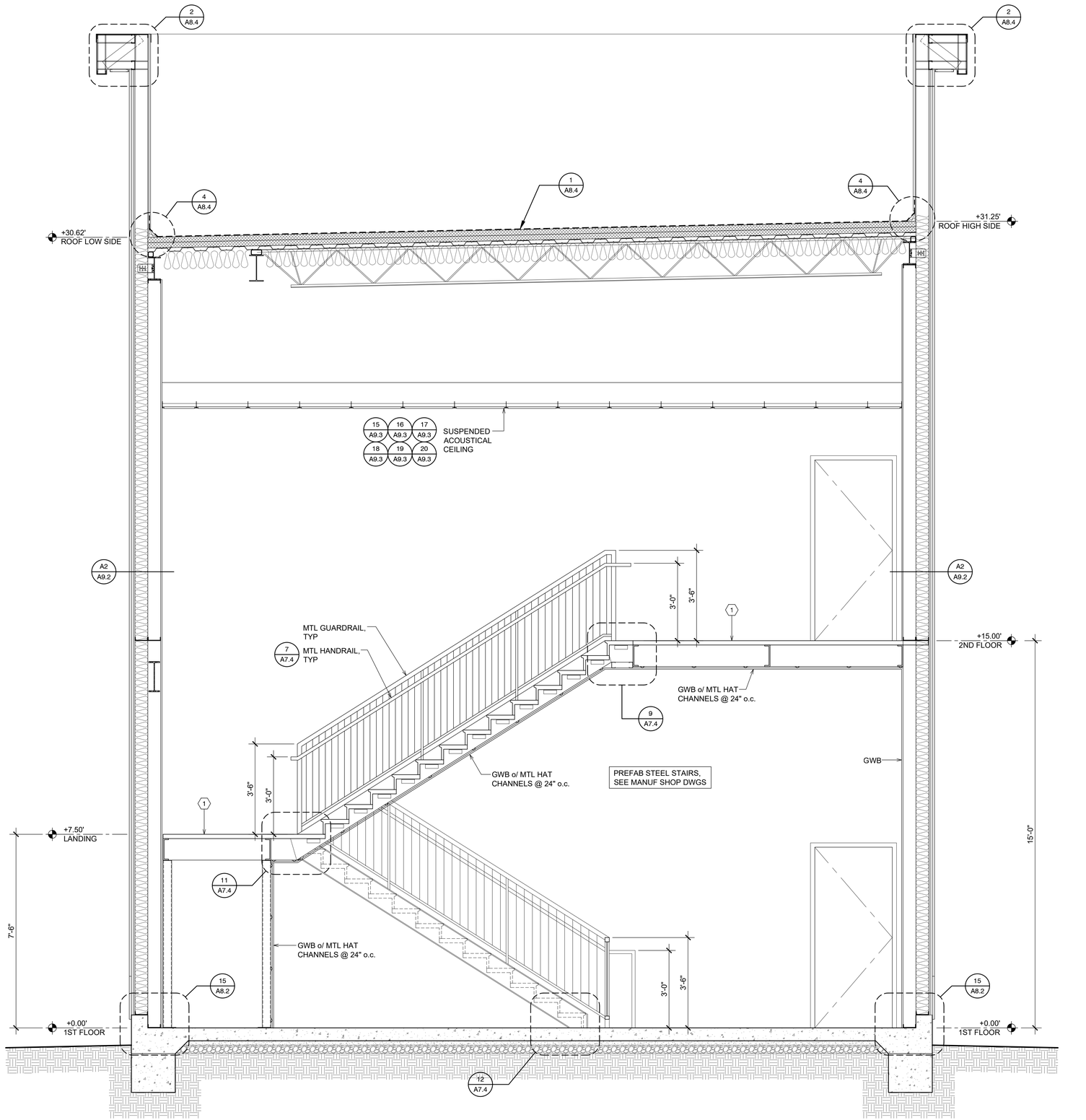
Revisions:
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Sheet Title:
STAIR 1 PLANS

Sheet Number:

A7.1



A STAIR 1 SECTION

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

0 .5 1 2 4

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

SHEET NOTES

1. LIGHT WEIGHT CONCRETE o/ MTL DECK

Project / Owner:

COUNTY OF MONTEREY
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Revisions:

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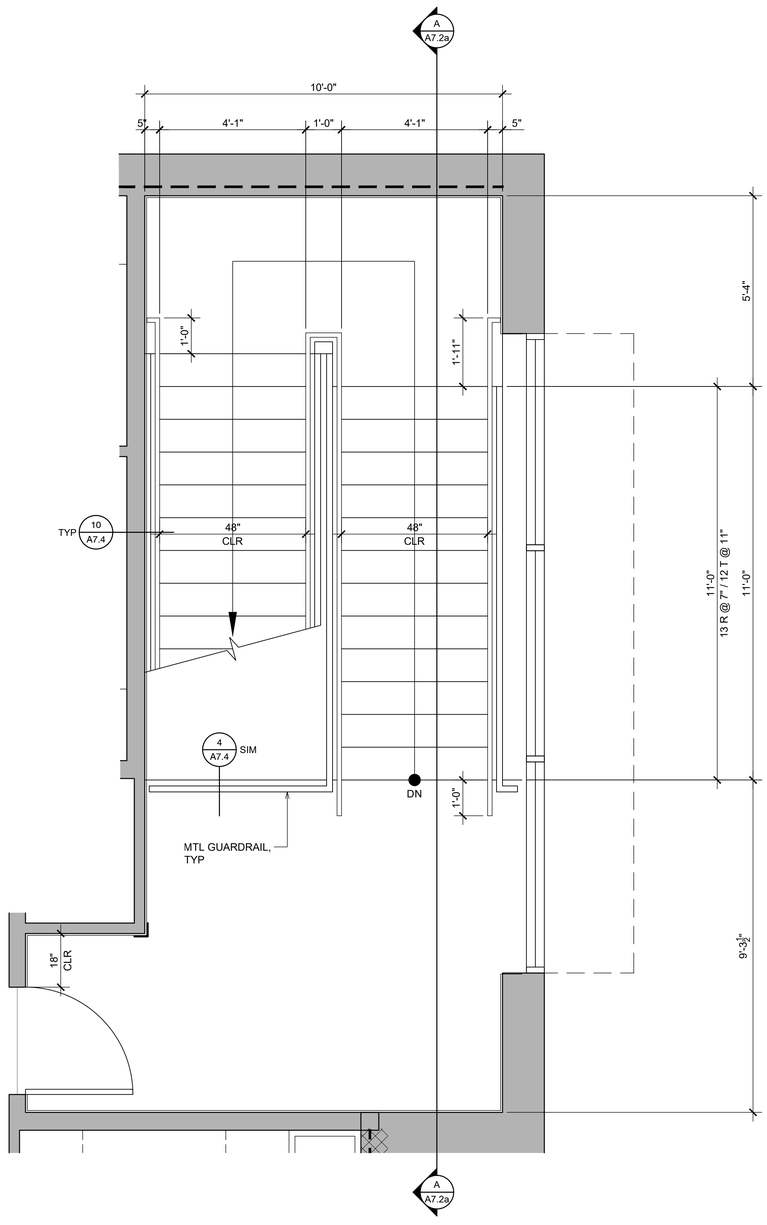
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STAIR 1 SECTION

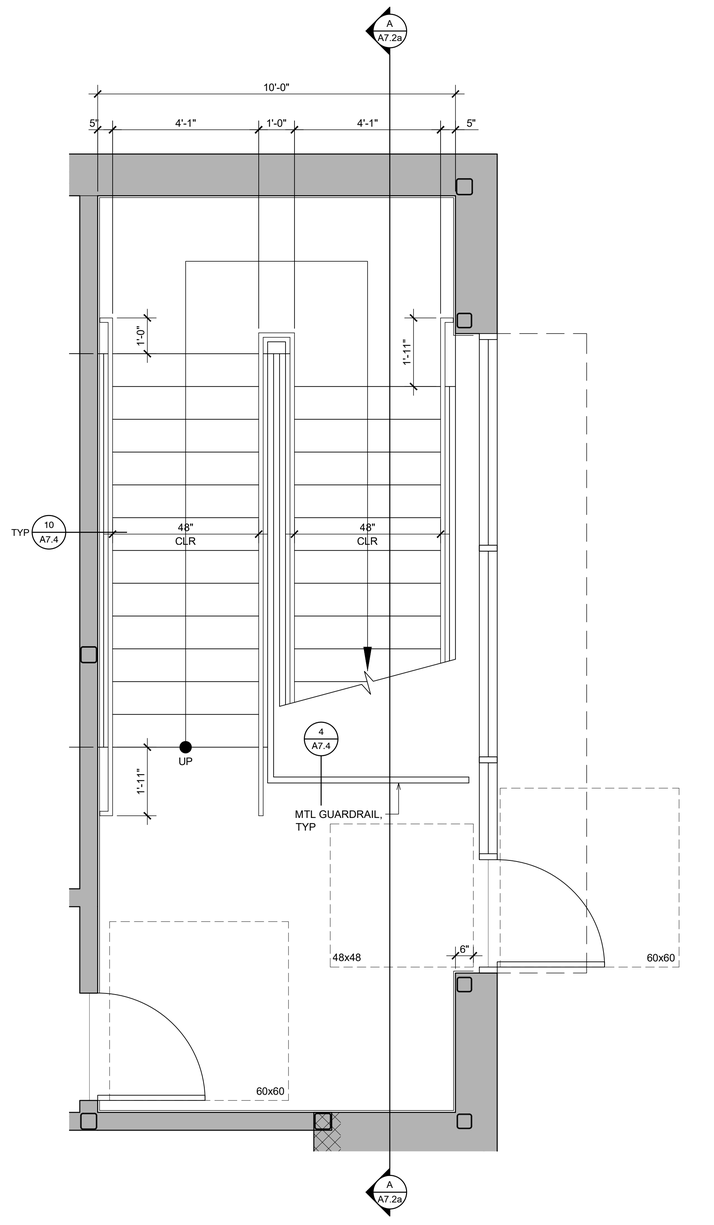
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A7.1a

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SECOND FLOOR



FIRST FLOOR

2 STAIR 2 PLAN 239
SCALE: 1/2" = 1'-0"

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

1 STAIR 2 PLAN 139
SCALE: 1/2" = 1'-0"

0 .5 1 2 4
SCALE: 1/2" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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PAUL DAVIS
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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

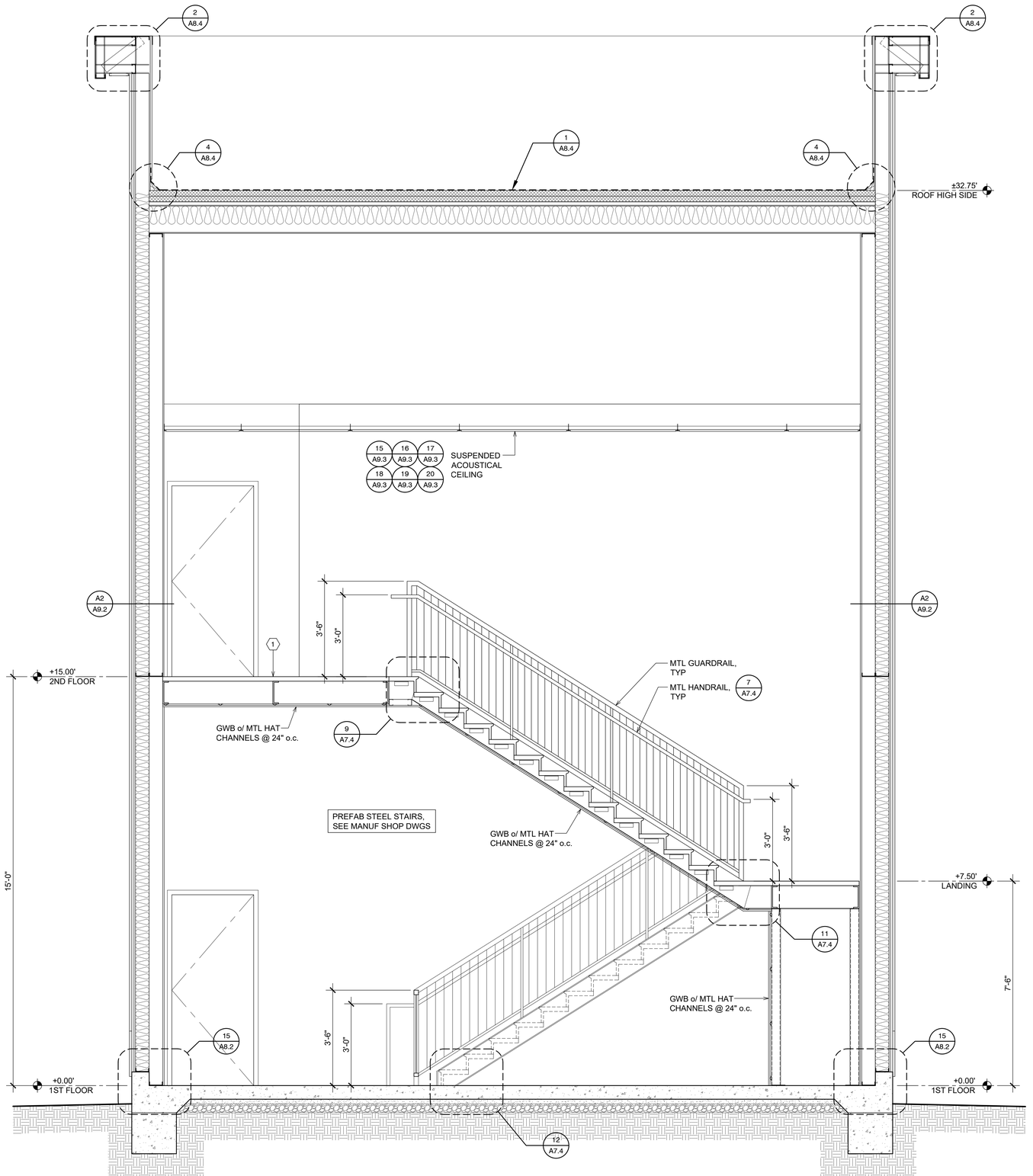
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Sheet Title:
STAIR 2 PLANS

Sheet Number:

A7.2

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A STAIR 2 SECTION

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

0 .5 1 2 4

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

SHEET NOTES

1. LIGHT WEIGHT CONCRETE o/ MTL DECK

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Sheet Title:

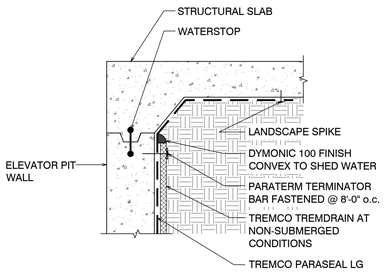
STAIR 2 SECTION

Sheet Number:

A7.2a

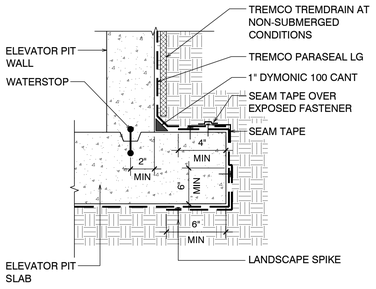
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Elev_Pit-Slab_Trans.VWP

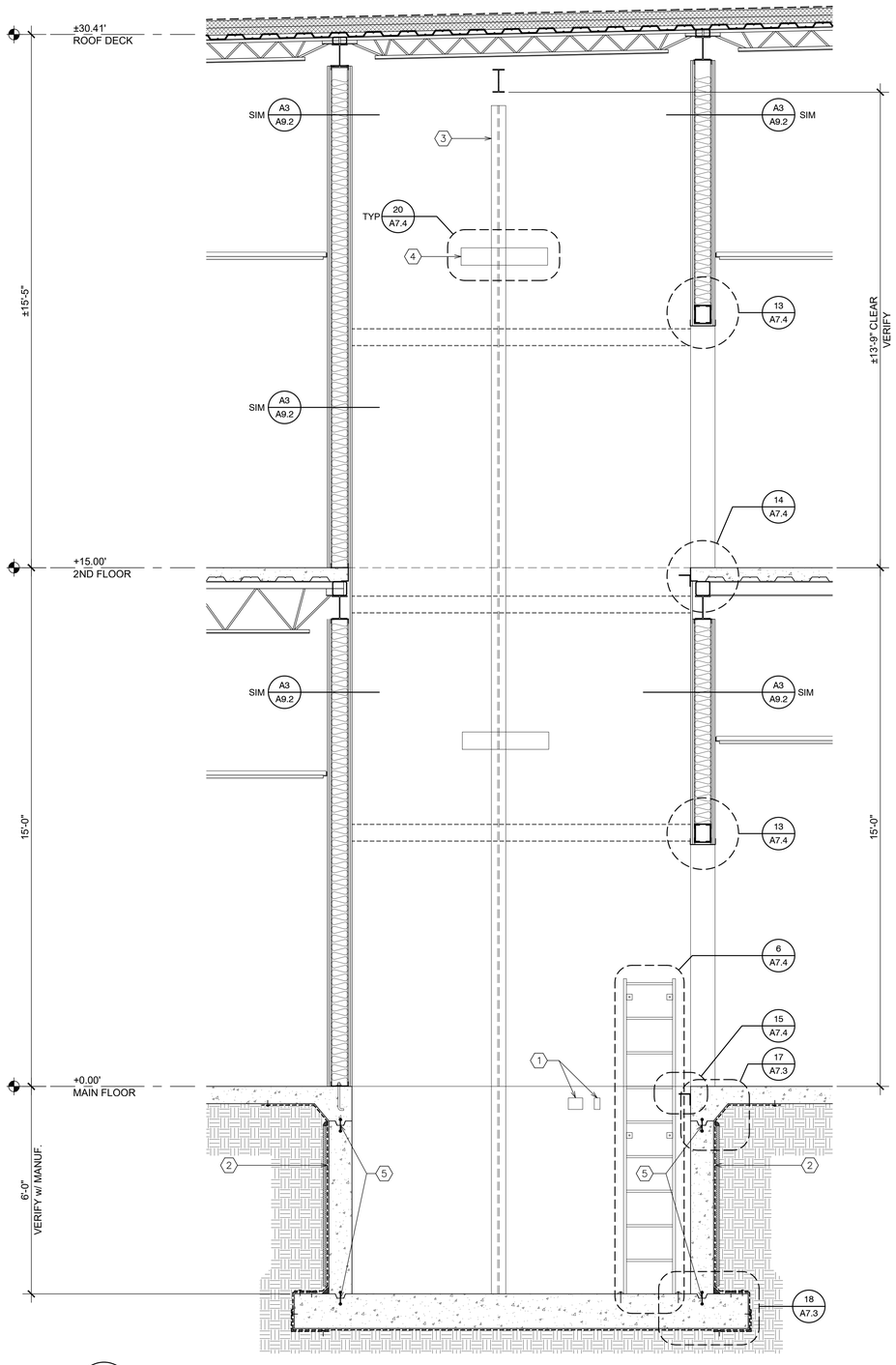


17 ELEVATOR PIT / SLAB TO WALL TRANSITION
SCALE: 1" = 1'-0"

Elev_Pit-Ftg.VWP



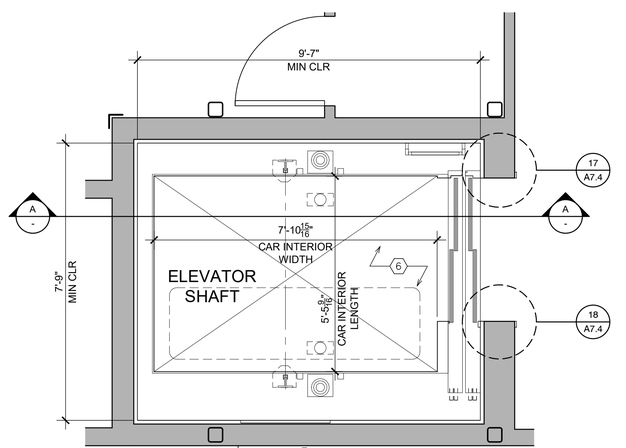
18 ELEVATOR PIT FOOTING
SCALE: 1" = 1'-0"



A ELEVATOR SECTION
SCALE: 1/2" = 1'-0"
0 .5 1 2 4
SCALE: 1/2" = 1'-0"

SHEET NOTES

1. ELECTRICAL OUTLET & LIGHT FOR MAINTENANCE
2. WATERPROOF MEMBRANE
3. ELEVATOR HOIST, SEE ELEV MANUF REQ'S, SEE STRUC DWGS
4. ELEVATOR RAIL BRACKET PER MANUF
5. BENTONITE WATER STOP
6. COORDINATE w/ ELEVATOR SUPPLIER TO PROVIDE STRUCTURAL FLOOR FOR TILE



1 ELEVATOR PLAN
SCALE: 1/2" = 1'-0"
0 .5 1 2 4
SCALE: 1/2" = 1'-0"

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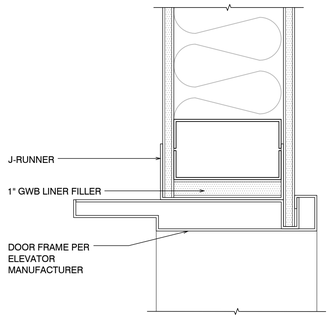
Sheet Title:
ELEVATOR PLAN & SECTION

Sheet Number:

A7.3

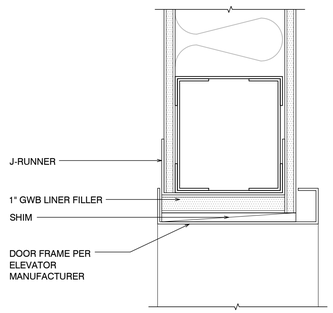
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Elev-door jamb-strike



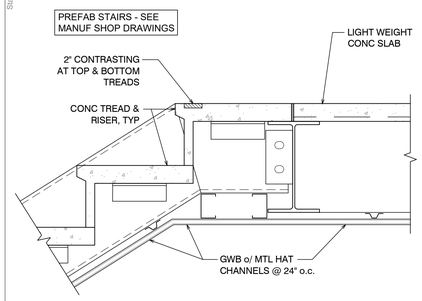
17 ELEVATOR DOOR JAMB - STRIKE
SCALE: 3" = 1'-0"

Elev-door head



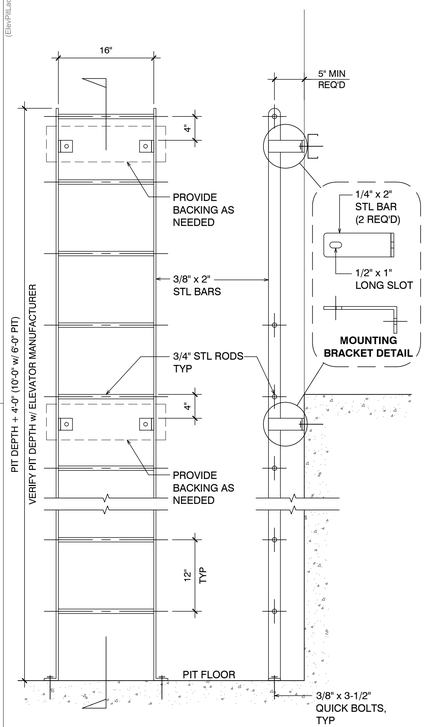
13 ELEVATOR DOOR HEAD
SCALE: 3" = 1'-0"

Stair Top



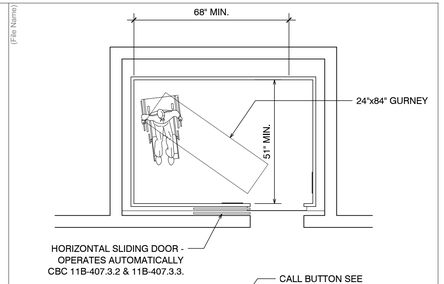
9 STAIR TOP
SCALE: 1-1/2" = 1'-0"

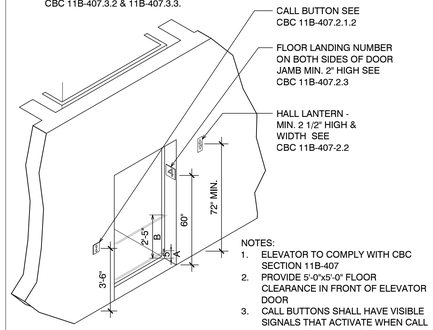
(ElevPitLadder)



6 ELEVATOR PIT LADDER
SCALE: 1" = 1'-0"

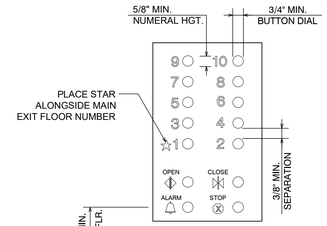
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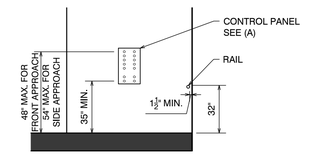


NOTE:
THE AUTOMATIC DOOR REOPENING DEVICES IS ACTIVATED IF AN OBJECT PASSES THROUGH EITHER LINE A OR LINE B. LINE A AND LINE B REPRESENT THE VERTICAL LOCATION OF THE DOOR REOPENING DEVICE NOT REQUIRING CONTACT. DOOR REOPENING DEVICES SHALL REMAIN EFFECTIVE FOR 20 SECONDS MINIMUM PER CBC 11B-407.3.3.3.

NOTES:
1. ELEVATOR TO COMPLY WITH CBC SECTION 11B-407
2. PROVIDE 5'-0"x5'-0" FLOOR CLEARANCE IN FRONT OF ELEVATOR DOOR
3. CALL BUTTONS SHALL HAVE VISIBLE SIGNALS THAT ACTIVATE WHEN CALL IS REGISTER AN WILL EXTINGUISH WHEN CALL IS ANSWERED. CALL BUTTONS SHALL BE INTERNALLY ILLUMINATED WITH WHITE LIGHT OVER ENTIRE BUTTON.
4. AUDIBLE SIGNALS SHALL SOUND ONCE FOR UP DIRECTION & TWICE FOR DOWN DIRECTION SEE CBC 11B-407.2.2.3.
5. DOOR & SIGNAL TIMING - CBC 11B-407.3.4.
6. BUTTONS - CBC-407.4.6.2



(A) ELEVATOR CONTROL PANEL DETAIL
CBC 11B-407.4.7 THRU 407.4.9.

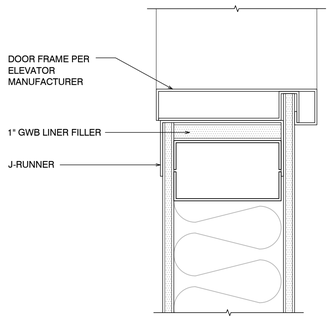


(B) MAXIMUM INSTALLATION HEIGHTS ABOVE CAB FLOOR

THIS DIAGRAM ILLUSTRATES THE SPECIFIED REQUIREMENTS OF THESE REGULATIONS AND IS INTENDED ONLY AS AN AID FOR BUILDING DESIGN AND CONSTRUCTION.

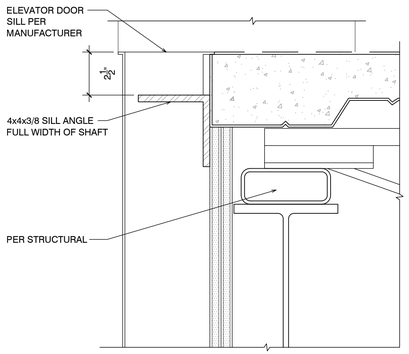
3 .
SCALE: N.T.S.

Elev-door jamb



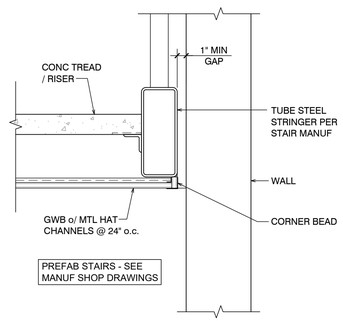
18 ELEVATOR DOOR JAMB
SCALE: 3" = 1'-0"

Elev-door sill-conc



14 ELEVATOR DOOR SILL
SCALE: 3" = 1'-0"

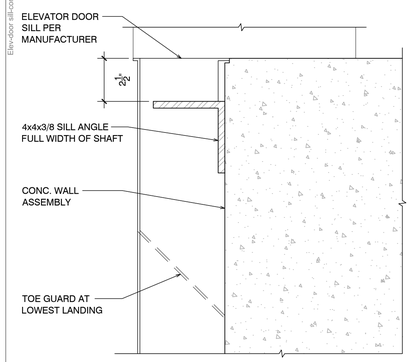
Stair Tread



10 STAIR TREAD
SCALE: 1-1/2" = 1'-0"

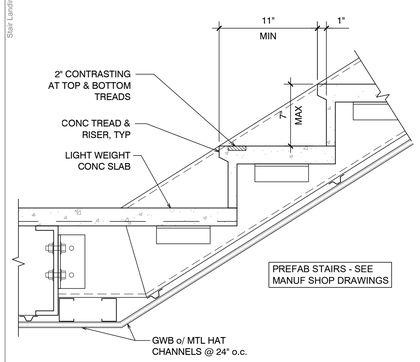
19

Elev-door sill-conc



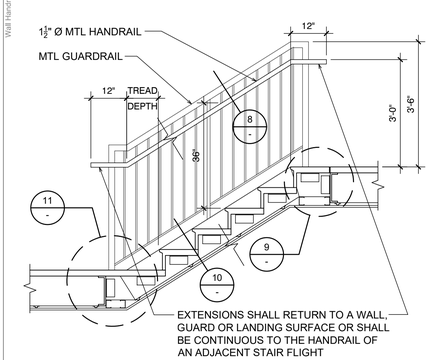
15 ELEVATOR DOOR SILL @ CONC. SLAB
SCALE: 3" = 1'-0"

Stair Landing



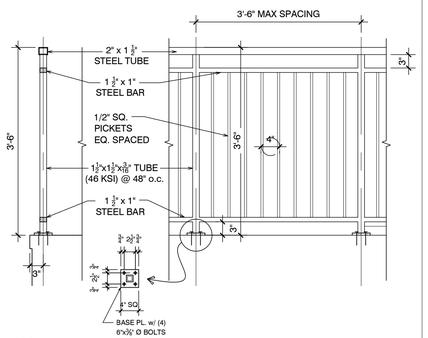
11 STAIR LANDING
SCALE: 1-1/2" = 1'-0"

Wall Handrail



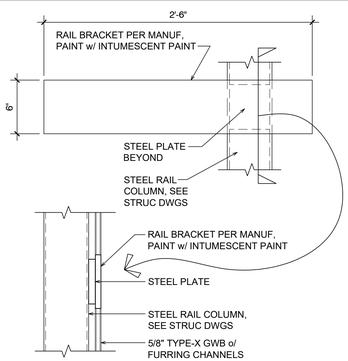
7 TYP HANDRAIL
SCALE: 1/2" = 1'-0"

Exterior Guardrail-Spcl



4 GUARDRAIL
SCALE: 3/4" = 1'-0"

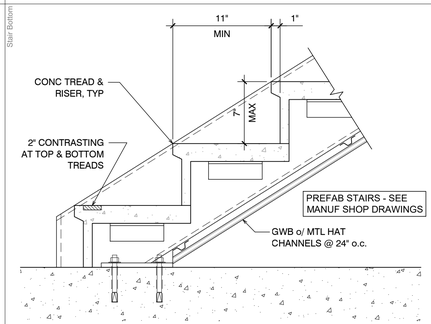
Elev-Rail



20 ELEVATOR RAIL DETAIL
SCALE: 1-1/2" = 1'-0"

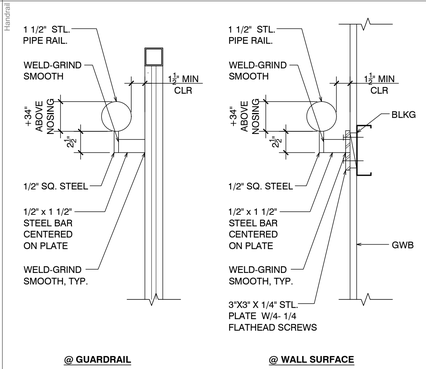
16

Stair Bottom



12 STAIR BOTTOM
SCALE: 1-1/2" = 1'-0"

Handrail



8 HANDRAIL ANCHORAGE
SCALE: 1-1/2" = 1'-0"

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Sheet Title:
STAIR & ELEVATOR DETAILS

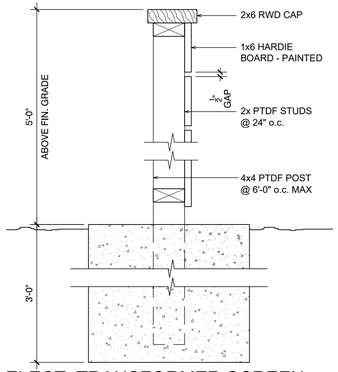
TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

A7.4

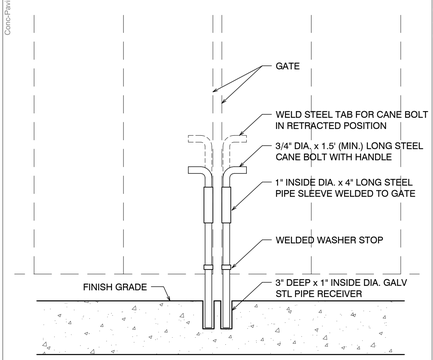
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(Elect_Screen)



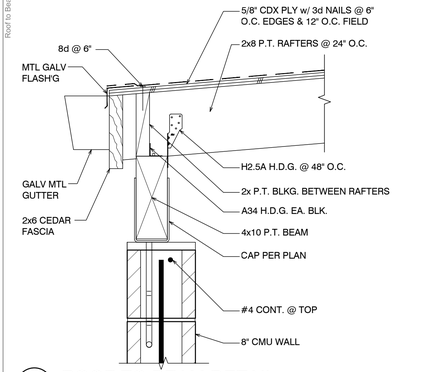
17 ELECT. TRANSFORMER SCREEN
SCALE: 1-1/2" = 1'-0"

(Conc-Paving)



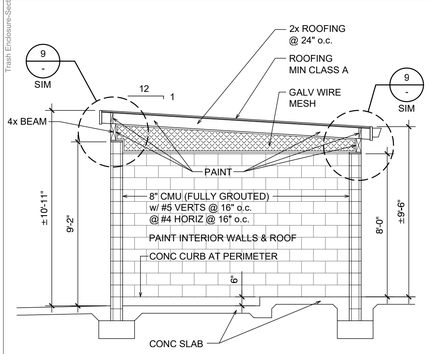
13 CANE BOLT LATCH DETAIL
SCALE: N.T.S.

(Roof to Beam)



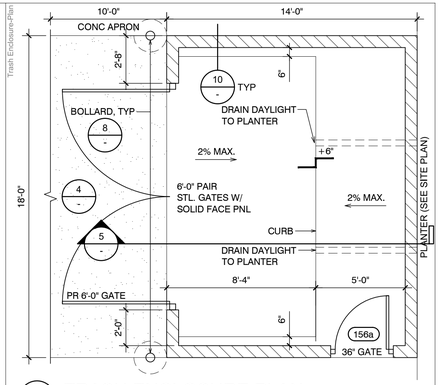
9 ROOF TO BEAM DETAIL
SCALE: 1-1/2" = 1'-0"

(Trash Enclosure-Sect)



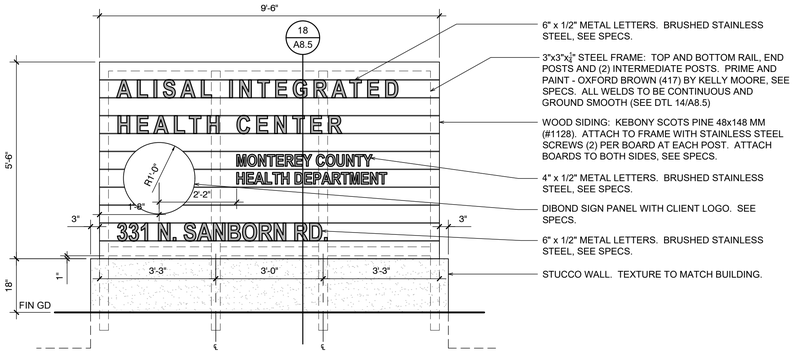
5 TRASH ENCLOSURE SECTION
SCALE: 1/4" = 1'-0"

(Trash Enclosure-Plan)



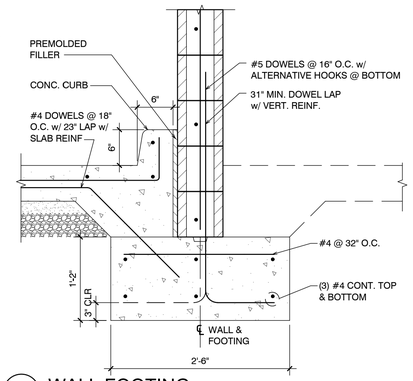
1 TRASH ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"

(Monument Sign_Elev)



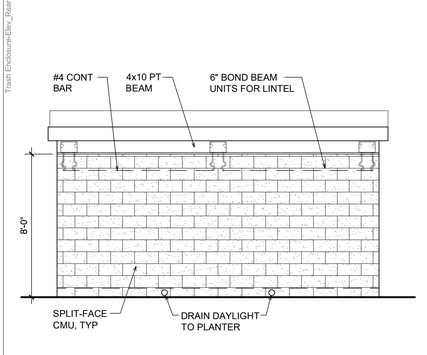
18 MONUMENT SIGN AT ENTRY (ELEVATION)
SCALE: 1/2" = 1'-0"

(File Name)



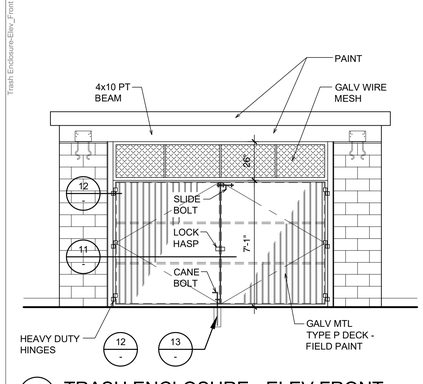
10 WALL FOOTING
SCALE: 1" = 1'-0"

(Trash Enclosure-Elev_Rear)



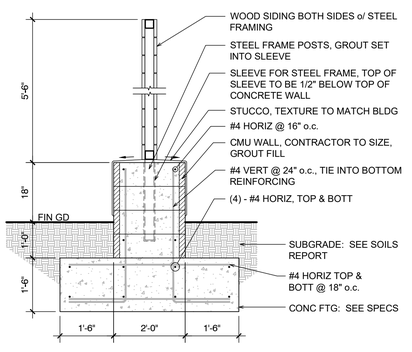
6 TRASH ENCLOSURE - ELEV REAR
SCALE: 1/4" = 1'-0"

(Trash Enclosure-Elev_Front)



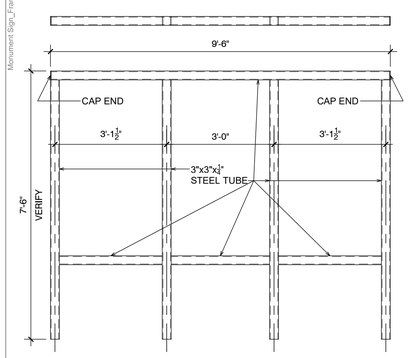
2 TRASH ENCLOSURE - ELEV FRONT
SCALE: 1/4" = 1'-0"

(Monument Sign_Sect)



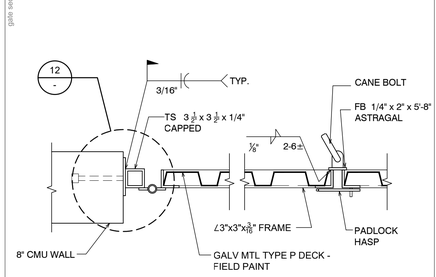
19 MONUMENT SIGN (SECTION)
SCALE: 1/2" = 1'-0"

(Monument Sign_Framing)



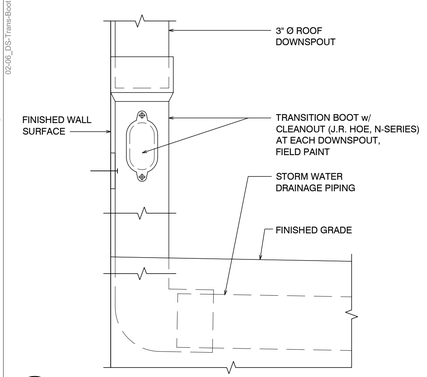
15 MONUMENT SIGN - STEEL FRAME
SCALE: 1/2" = 1'-0"

(gate section)



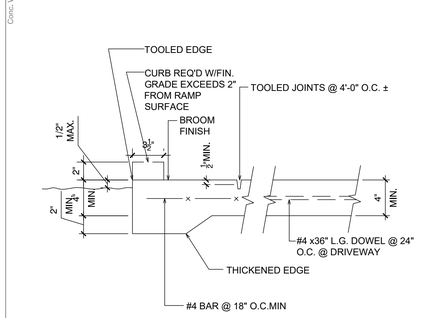
11 GATE SECTION
SCALE: 1-1/2" = 1'-0"

(02-06_03-Trans-Boot)



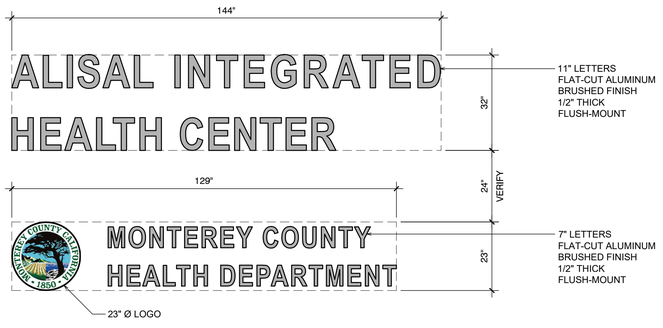
7 DOWNSPOUT TRANSITION BOOT
SCALE: 3" = 1'-0"

(Conc. Walk)



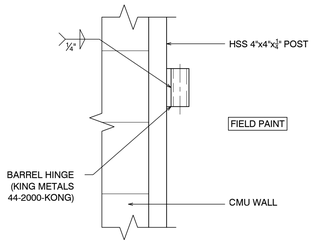
3 CONC. WALK
SCALE: 1-1/2" = 1'-0"

(Wall Mounted Sign)



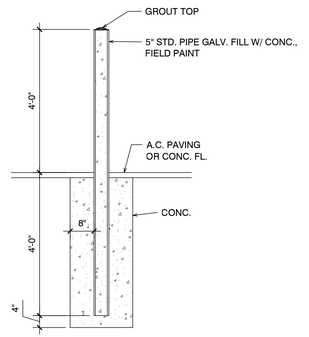
20 WALL MOUNTED SIGN
SCALE: 1/2" = 1'-0"

(Hinge)



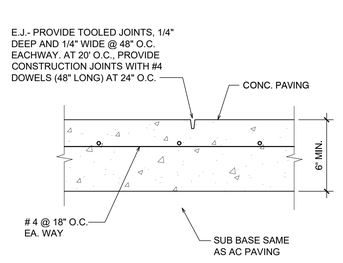
12 HINGE DETAIL
SCALE: N.T.S.

(Bollard)



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

(Conc-Paving)



ARCHITECT TO APPROVE JOINT LAYOUTS. SEE PLAN FOR LOCATION OF COLOR CONCRETE.

4 CONC PAVING @ TRASH ENCLOSURE APRON
SCALE: NTS

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

The Paul Davis Partnership, LLP
286 Eldorado Street
Monterey, CA 93940
(831) 373-2784 FAX (831) 373-7459
EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:

09.21.21 ISSUED FOR BID

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Sheet Title:

EXTERIOR DETAILS

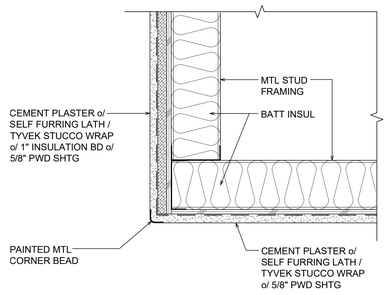
TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

A8.1

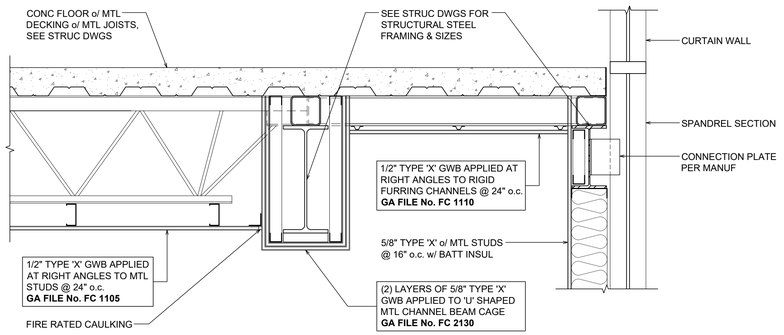
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Soffit Detail2



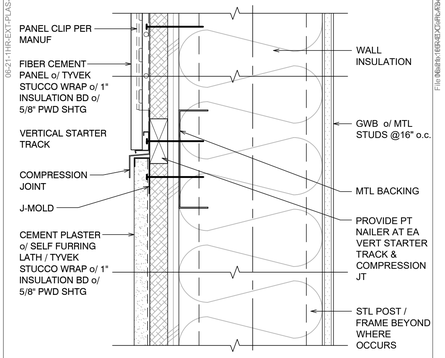
17 SOFFIT DETAIL AT CEMENT PLASTER
SCALE: 1-1/2" = 1'-0"

Floor-Dbl_1-HR-Rated-01



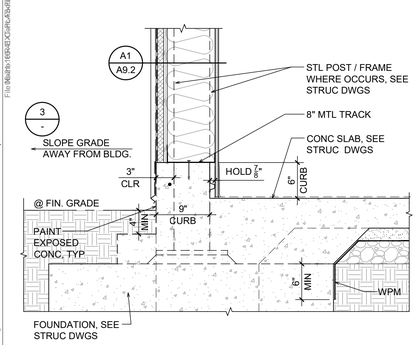
13 1-HR RATED FLOOR / CEILING AT MULTI PURPOSE ROOM
SCALE: 1" = 1'-0"

06-2-1-HR-EXT-PLAS-FLR



5 TYP PLASTER / SIDING TRANSITION
SCALE: 3" = 1'-0"

File Name: 02-16-PVMT-SLDG



1 TYP CONC FOOTING
SCALE: 1" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

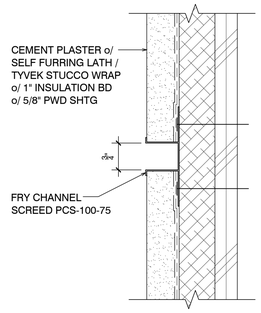
331 N. SANBORN RD.
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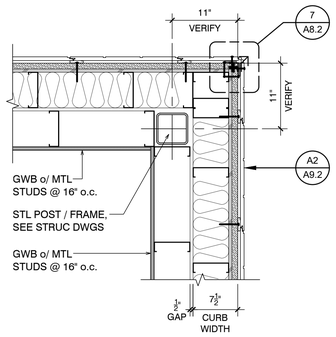
LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Expo-Joint



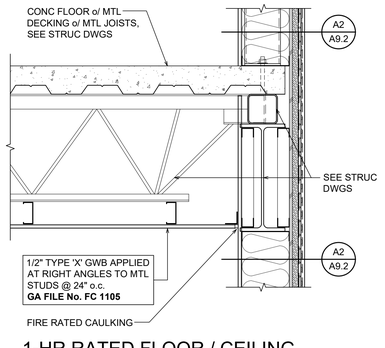
18 EXPANSION JOINT
SCALE: 6" = 1'-0"

Corner Detail



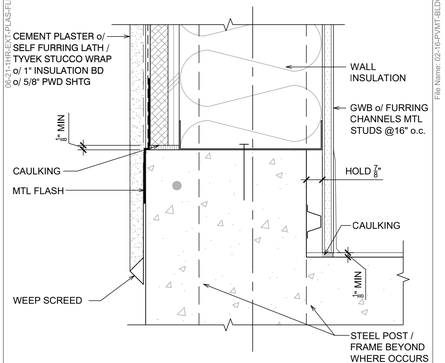
14 CORNER DETAIL
SCALE: 1" = 1'-0"

Floor-Dbl_1-HR-Rated-02



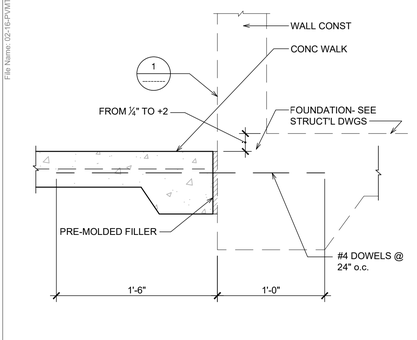
10 1-HR RATED FLOOR / CEILING AT MULTI PURPOSE ROOM
SCALE: 1" = 1'-0"

06-2-1-HR-EXT-PLAS-FLR



6 TYP WALL BASE
SCALE: 3" = 1'-0"

File Name: 02-16-PVMT-SLDG



2 PAVEMENT at BUILDING
SCALE: 1-1/2" = 1'-0"

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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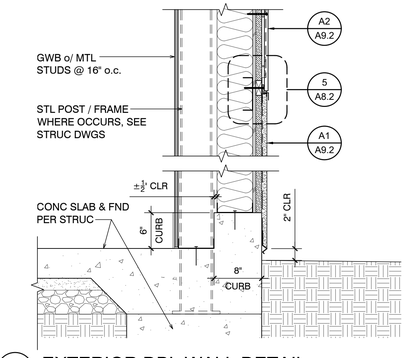
Sheet Title:
EXTERIOR DETAILS

TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

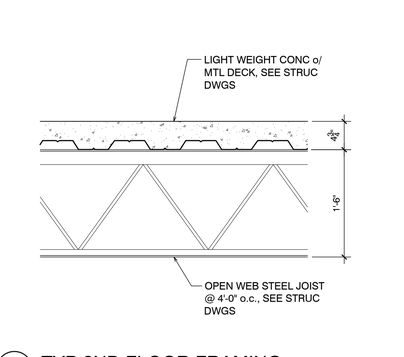
A8.2

Wall Base @ Dbl Wall



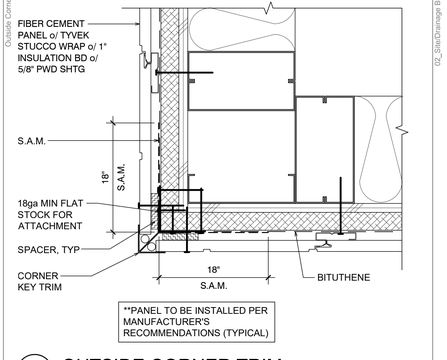
15 EXTERIOR DBL WALL DETAIL
SCALE: 1" = 1'-0"

Floor Framing



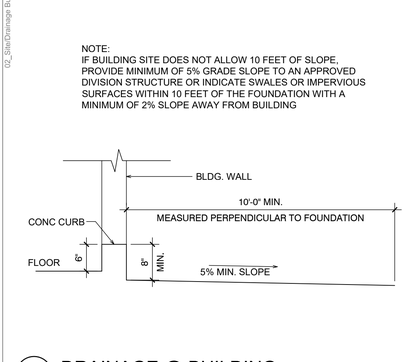
11 TYP 2ND FLOOR FRAMING
SCALE: 1" = 1'-0"

Outside Corner Trim



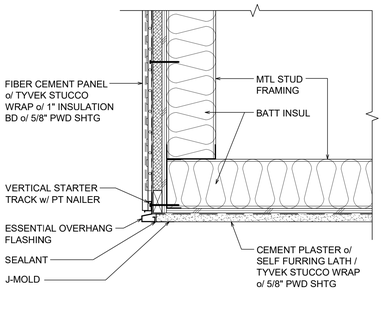
7 OUTSIDE CORNER TRIM
SCALE: 3" = 1'-0"

02_Site/Drainage Building



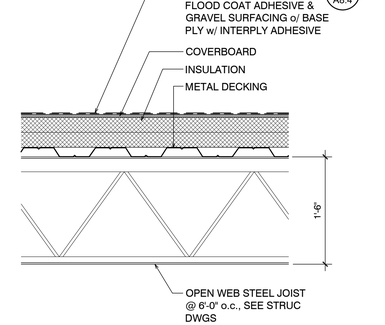
3 DRAINAGE @ BUILDING
SCALE: 3/4" = 1'-0"

Soffit Detail



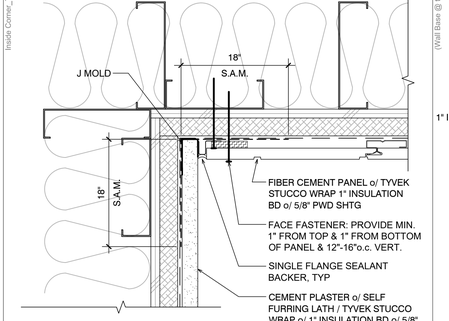
16 SOFFIT DETAIL
SCALE: 1-1/2" = 1'-0"

Roof Framing



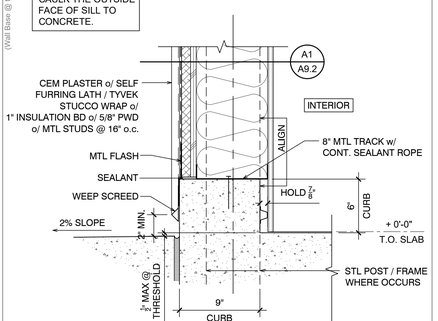
12 TYP ROOF FRAMING
SCALE: 1" = 1'-0"

Inside Corner_Transition



8 INSIDE CORNER - PANEL TO PLASTER
SCALE: 3" = 1'-0"

(Wall Base @ threshold)

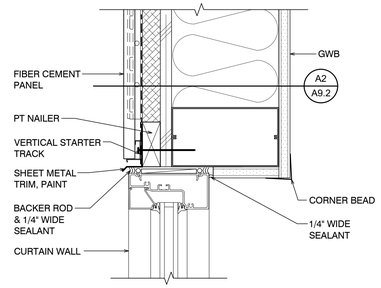


4 WALL BASE @ LANDING/THRESHOLD
SCALE: 1-1/2" = 1'-0"

19

20

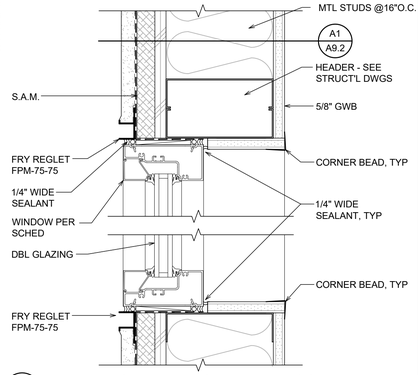
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NOTE: SEE CURTAIN WALL MANUFACTURER FOR INSTALLATION RECOMMENDATION

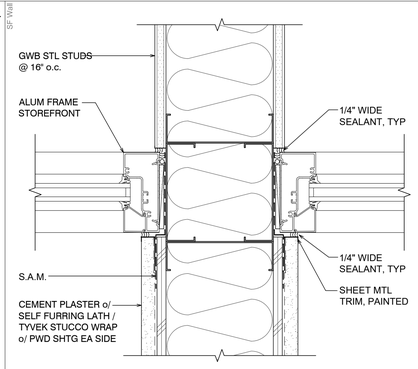
17 TYP CURTAIN WALL / WINDOW HEAD

SCALE: 3" = 1'-0"



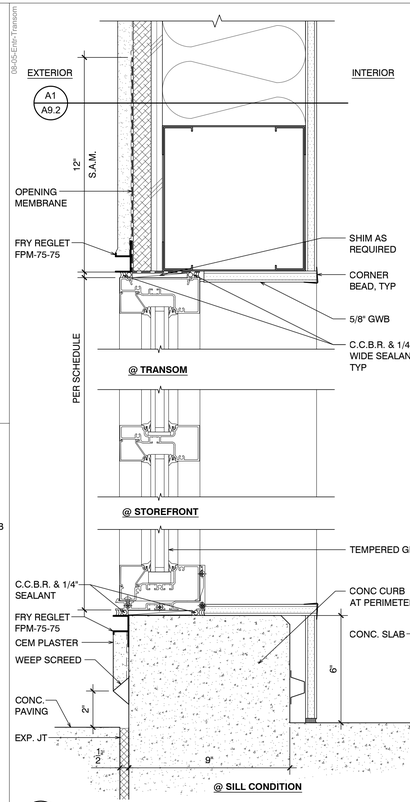
13 EXTERIOR WINDOW HEAD / SILL

SCALE: 3" = 1'-0"



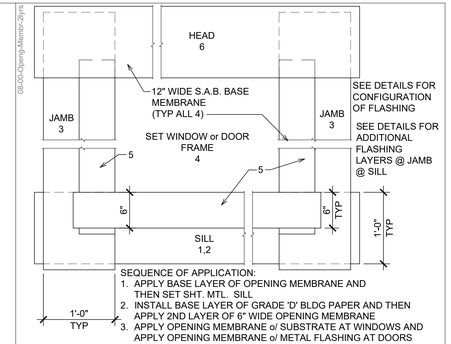
9 WALL BETWEEN STOREFRONT

SCALE: 3" = 1'-0"



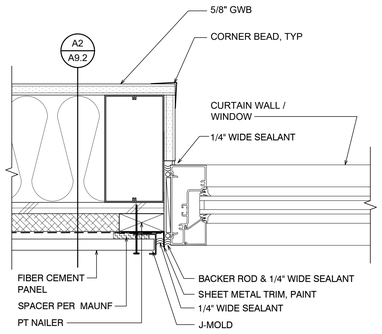
6 STOREFRONT FIXED / TRANSOM

SCALE: 3" = 1'-0"



1 OPENING MEMBRANE-SELF ADHERING

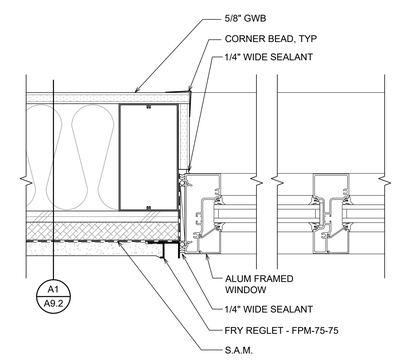
SCALE: 1" = 1'-0"



NOTE: SEE CURTAIN WALL MANUFACTURER FOR INSTALLATION RECOMMENDATION

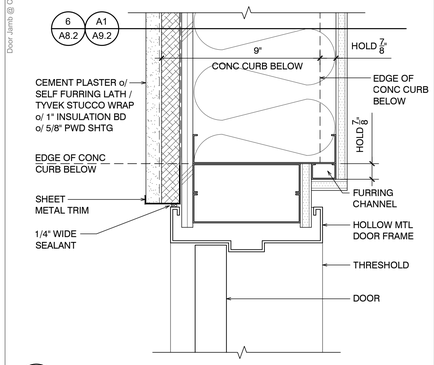
18 TYP CURTAIN WALL / WINDOW JAMB

SCALE: 3" = 1'-0"



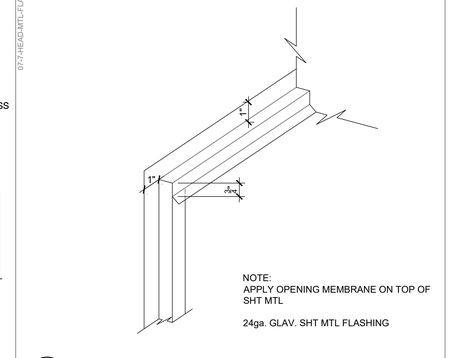
14 EXTERIOR WINDOW JAMB / MULLION

SCALE: 3" = 1'-0"



10 DOOR JAMB AT CONC CURB

SCALE: 3" = 1'-0"



6 STOREFRONT FIXED / TRANSOM

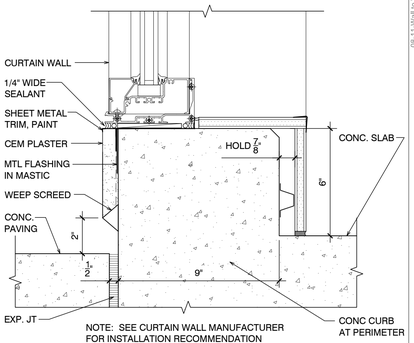
SCALE: 3" = 1'-0"

NOTE:
APPLY OPENING MEMBRANE ON TOP OF SHT MTL

24ga. GLAV. SHT MTL FLASHING

2 HEAD SHT MTL FLASH'G @ DOOR HEAD

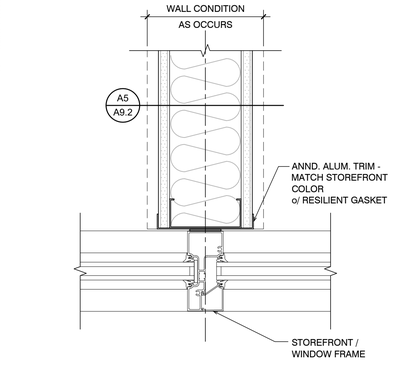
SCALE: 3" = 1'-0"



NOTE: SEE CURTAIN WALL MANUFACTURER FOR INSTALLATION RECOMMENDATION

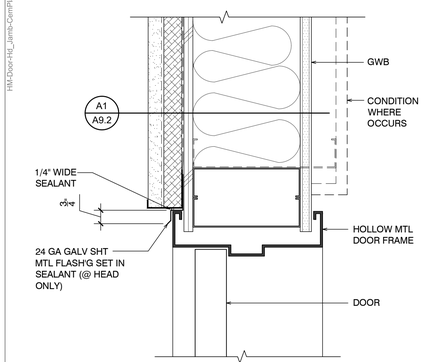
19 TYP CURTAIN WALL SILL

SCALE: 3" = 1'-0"



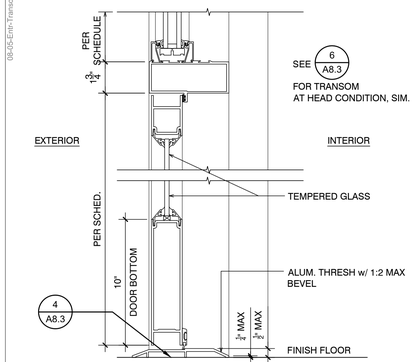
15 WALL TO STOREFRONT / WINDOW

SCALE: 3" = 1'-0"



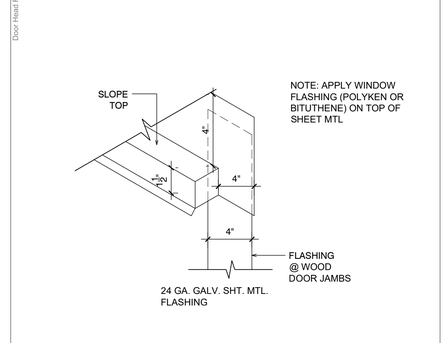
11 EXTERIOR DOOR HEAD/JAMB (CEM PLAS)

SCALE: 3" = 1'-0"



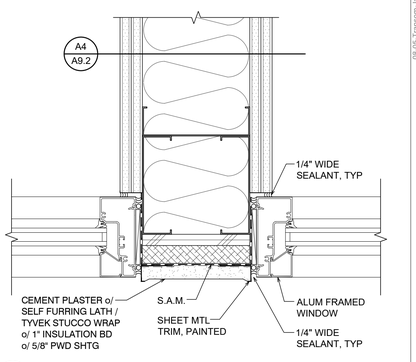
7 STOREFRONT ENTRANCE DETAILS

SCALE: 3" = 1'-0"



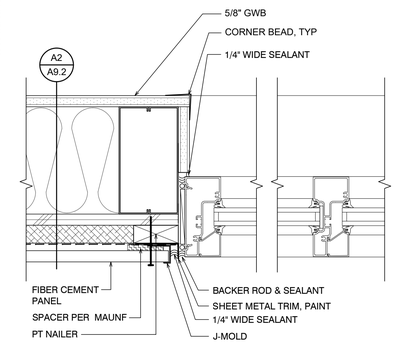
3 DOOR HEAD FLASHING

SCALE: 3" = 1'-0"



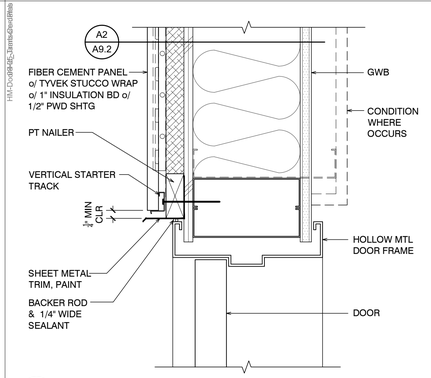
20 WINDOW JAMB AT WALL

SCALE: 3" = 1'-0"



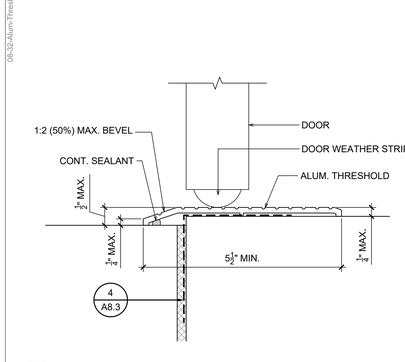
16 STOREFRONT FIXED JAMB / MULLION

SCALE: 3" = 1'-0"



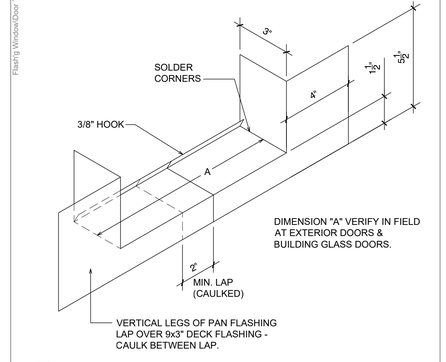
12 EXTERIOR DOOR HEAD/JAMB (SIDING)

SCALE: 3" = 1'-0"



8 THRESHOLD

SCALE: 6" = 1'-0"



4 DOOR PAN FLASHING

SCALE: 3" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
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LICENSED ARCHITECT
PAUL W. DAVIS
No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
OPENING DETAILS

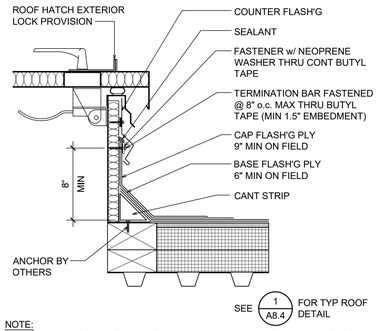
TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

A8.3

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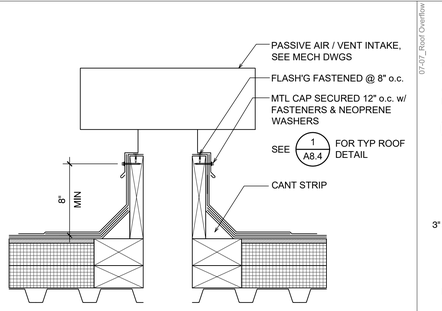
Roof Hatch



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

17 HATCH DETAIL
SCALE: 1-1/2" = 1'-0"

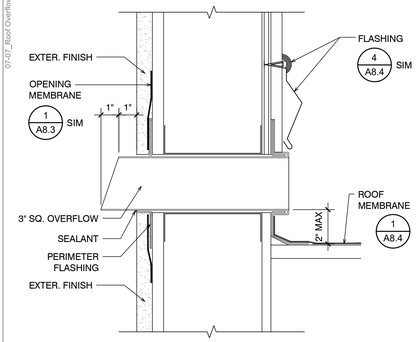
PassiveAir_ VentIntake



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

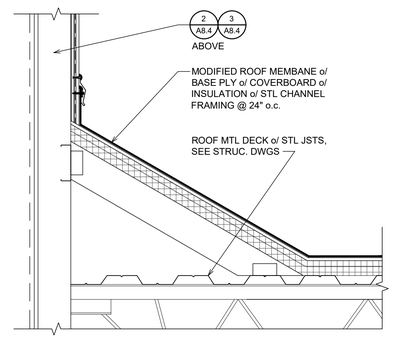
13 PASSIVE AIR VENT / INTAKE
SCALE: 1-1/2" = 1'-0"

07-07_Roof Overflow



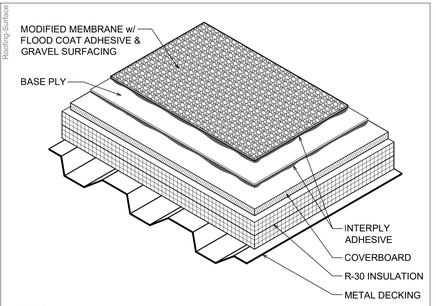
9 ROOF OVERFLOW
SCALE: 3" = 1'-0"

07-02-Roof Cricket



5 ROOF CRICKET
SCALE: 1" = 1'-0"

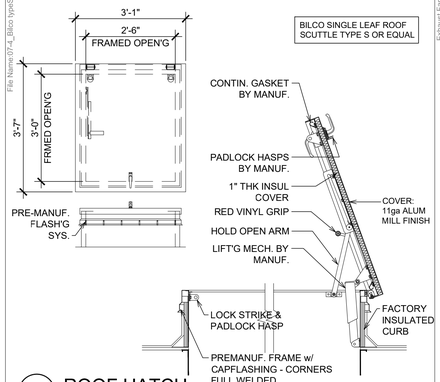
Roofing-Surface



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

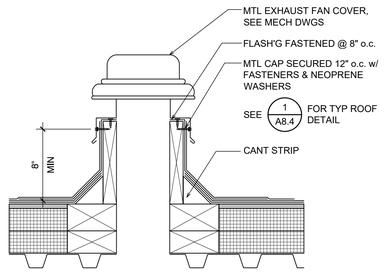
1 TYP ROOF SYSTEM GRAVEL SURFACE
SCALE: 1-1/2" = 1'-0"

File Name:07-4_Bilco typ6S



18 ROOF HATCH
SCALE: 1/2" = 1'-0"

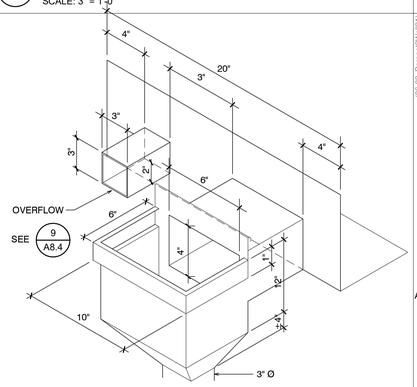
Exhaust Fan



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

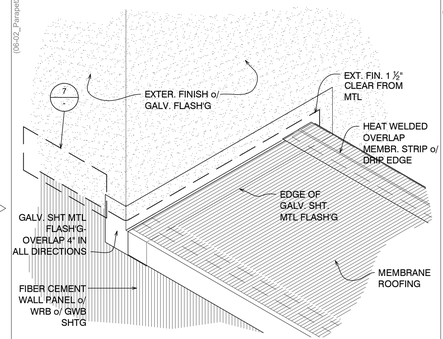
14 EXHAUST FAN
SCALE: 1-1/2" = 1'-0"

(06-35_ScupperDetail)



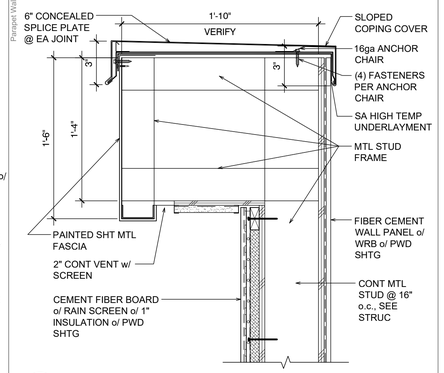
10 SCUPPER DETAIL
SCALE: 1-1/2" = 1'-0"

(06-02_ParapetDWall01)



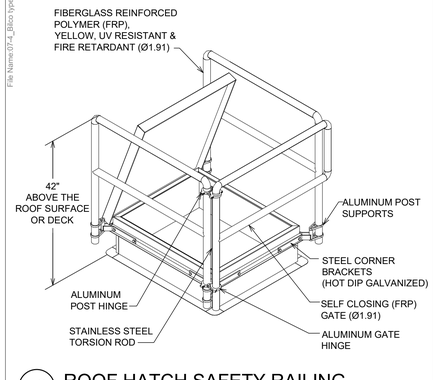
6 AXONOMETRIC PARAPET TO WALL
SCALE: 1" = 1'-0"

Parapet Wall



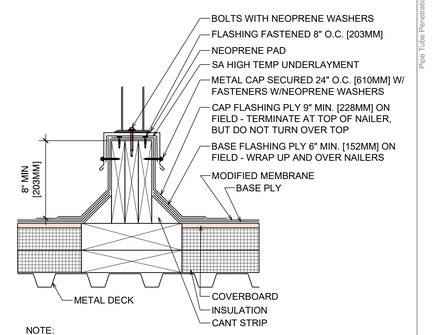
2 PARAPET WALL
SCALE: 1-1/2" = 1'-0"

File Name:07-4_Bilco typ6S



19 ROOF HATCH SAFETY RAILING
SCALE: 1/2" = 1'-0"

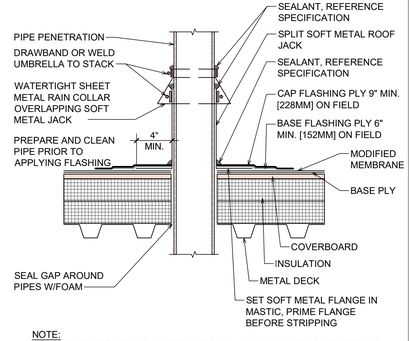
Equip_Support



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

15 EQUIPMENT SUPPORT
SCALE: 1-1/2" = 1'-0"

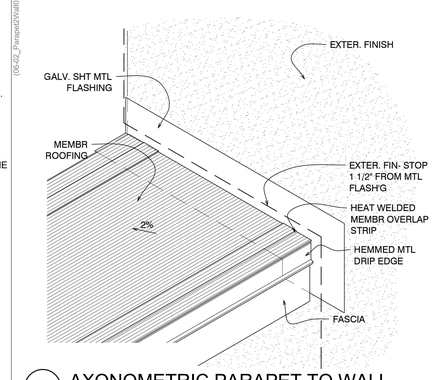
Pipe Tube Penetration



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

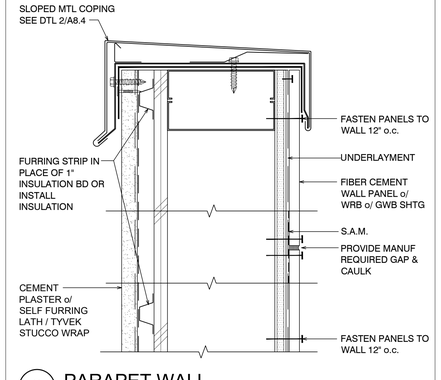
11 PIPE/TUBE PENETRATION - SPLIT JACK w/ COLLAR
SCALE: 1-1/2" = 1'-0"

(06-02_ParapetDWall02)



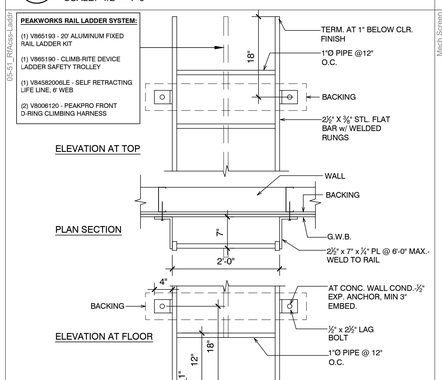
7 AXONOMETRIC PARAPET TO WALL
SCALE: 1" = 1'-0"

ROOF TO WALL2



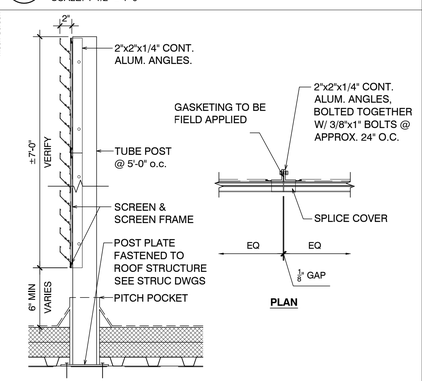
3 PARAPET WALL
SCALE: 3" = 1'-0"

05-51_RAccessLadder



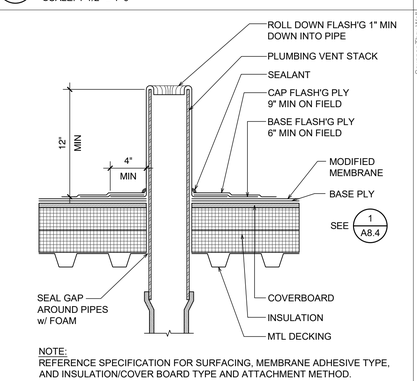
20 ROOF ACCESS LADDER
SCALE: 3/4" = 1'-0"

Mech Screen



16 ROOF SCREEN
SCALE: 1" = 1'-0"

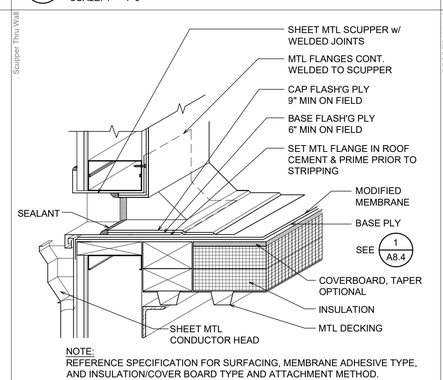
Plumbing Stack



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

12 PLUMBING STACK
SCALE: 1-1/2" = 1'-0"

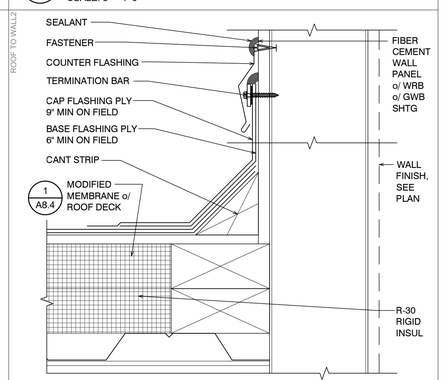
Scupper Thru Wall



NOTE:
REFERENCE SPECIFICATION FOR SURFACING, MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

8 SCUPPER THROUGH WALL
SCALE: 1-1/2" = 1'-0"

ROOF TO WALL2



4 ROOF TO WALL
SCALE: 3" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
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ALISAL INTEGRATED HEALTH CENTER

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A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
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EMAIL: info@pauldavispartnership.com

LICENSED ARCHITECT — PAUL W. DAVIS — No. C-15182 — REN. 12-31-21 — STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:

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Sheet Title:

EXTERIOR DETAILS

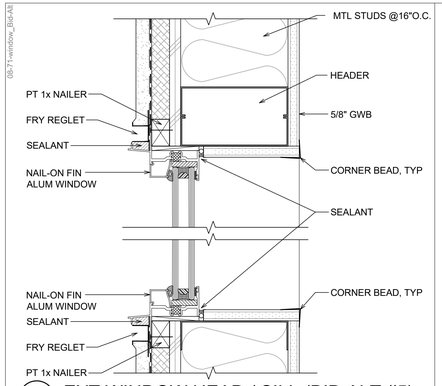
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Sheet Number:

A8.4

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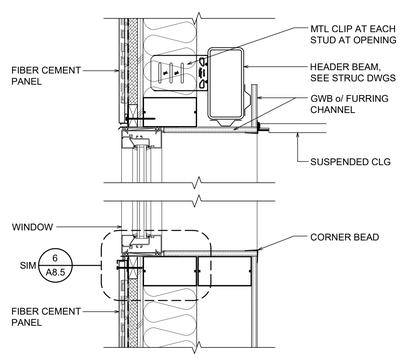
08-17-twindow_Bld-Alt



17 EXT WINDOW HEAD / SILL (BID ALT #5)
SCALE: 3" = 1'-0"

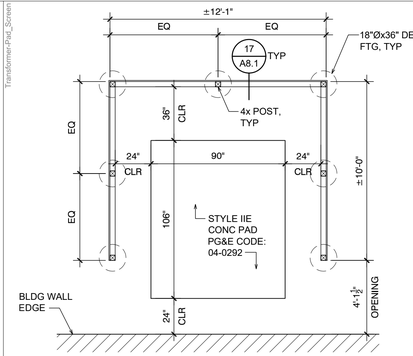
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Wdw-Dbl-Wall_HS-Sill



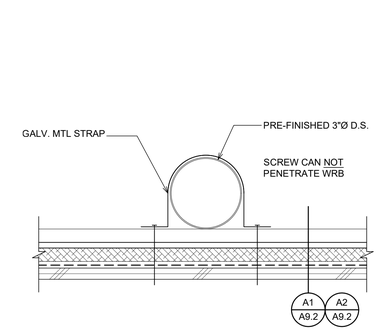
9 WINDOW AT DBL WALL
SCALE: 1-1/2" = 1'-0"

Transformer-Pad_Screen



5 TRANSFORMER PAD / SCREEN
SCALE: 1/4" = 1'-0"

Downspout



1 DOWNSPOUT
SCALE: 3" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

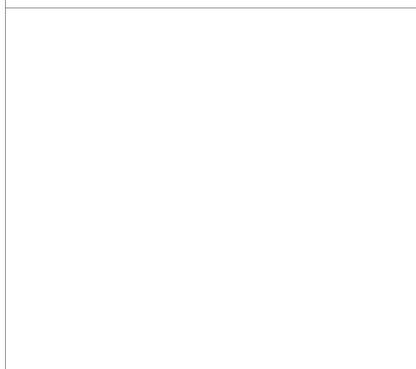
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STATE OF CALIFORNIA

08-17-twindow-mullion_Bld-Alt



18 EXT WINDOW JAMB / MULLION (BID ALT #5)
SCALE: 3" = 1'-0"

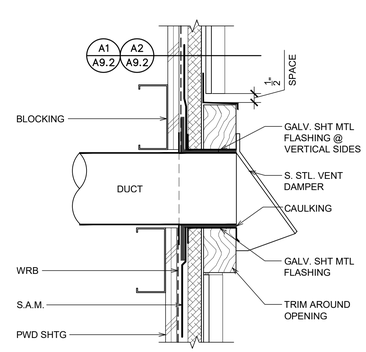
14

10

08-11-Window-Sill

6 WINDOW SILL AT WALL PANEL
SCALE: 3" = 1'-0"

Elect-box



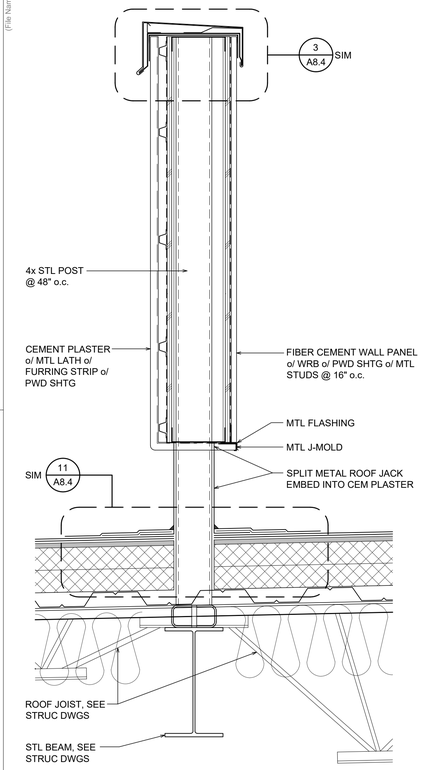
2 RECESSED ELECTRICAL BOX / PANELS
SCALE: 3" = 1'-0"

19

15

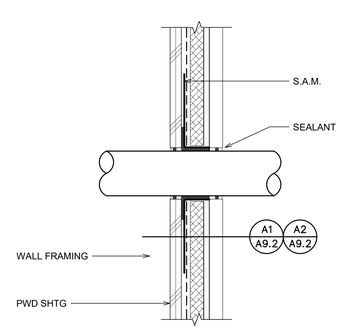
11

(File Name)



8 PARAPET WALL SUPPORT
SCALE: 1-1/2" = 1'-0"

Pipe Penetration



3 PIPE PENETRATIONS
SCALE: 3" = 1'-0"

Wall Vent

4 WALL VENT
SCALE: 3" = 1'-0"

20

16

12

Drawn By: ML, VQ

Drawing Date: 12.18.19

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Sheet Title:
EXTERIOR DETAILS

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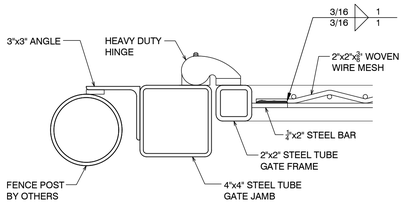
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A8.5

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17

Hinge_Detail

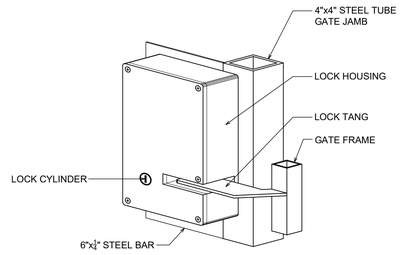


13 HINGE DETAIL

SCALE: 3" = 1'-0"

18

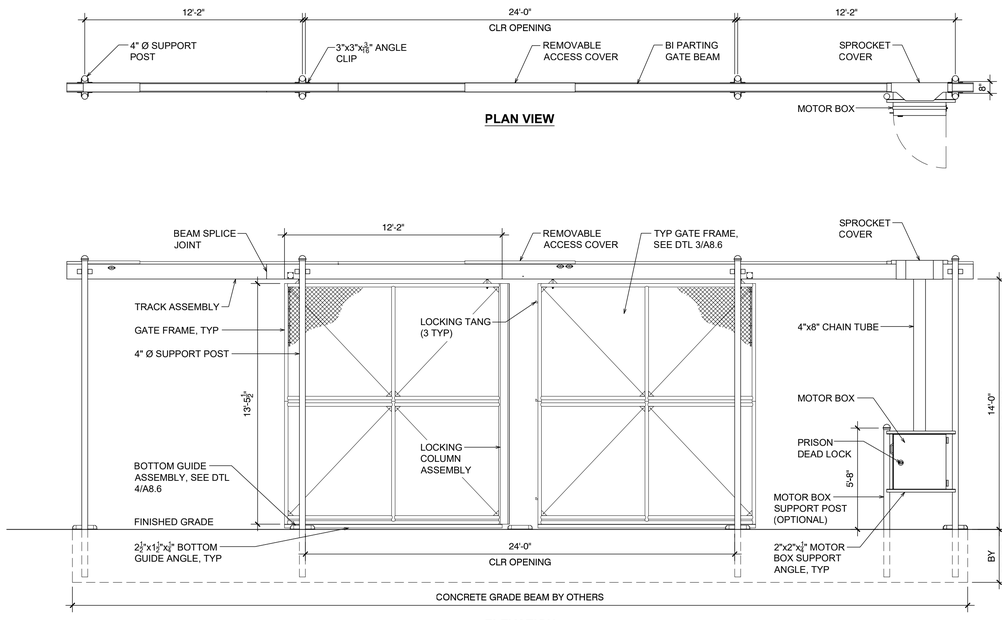
ElectroMechLock



14 ELECTROMECHANICAL LOCK

SCALE: N.T.S.

B_Parting_Gate



10 BI PARTING METAL GATE

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

Project / Owner:

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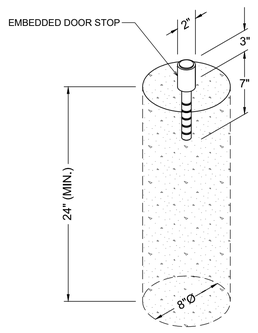
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19

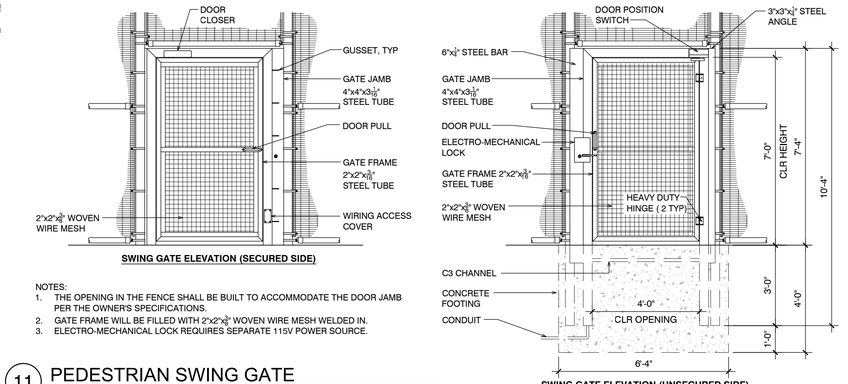
Embedded-Door-Stop



15 EMBEDDED DOOR STOP

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

Pedestrian_Swing_Gate

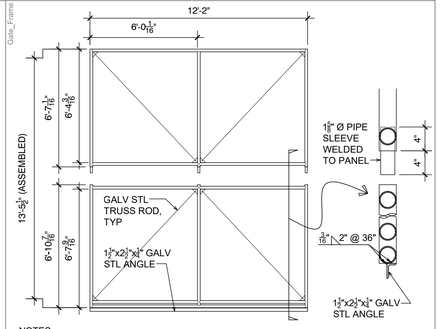


NOTES:
1. THE OPENING IN THE FENCE SHALL BE BUILT TO ACCOMMODATE THE DOOR JAMB PER THE OWNER'S SPECIFICATIONS.
2. GATE FRAME WILL BE FILLED WITH 2"x2"x$\frac{3}{8}$" WOVEN WIRE MESH WELDED IN.
3. ELECTRO-MECHANICAL LOCK REQUIRES SEPARATE 115V POWER SOURCE.

11 PEDESTRIAN SWING GATE

SCALE: 3/8" = 1'-0"

Gate_Frame



NOTES:
1. GATE FRAME SECTIONS WILL BE WELDED TOGETHER IN THE FIELD.
2. UNLESS NOTED OTHERWISE, ALL GATE FRAME MEMBERS ARE 1$\frac{5}{8}$" Ø GALVANIZED STEEL PIPE.

3 GATE FRAME

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

Drawn By: ML, VQ

Drawing Date: 12.18.19

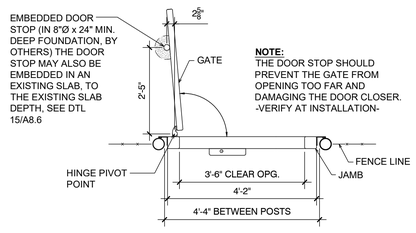
Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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20

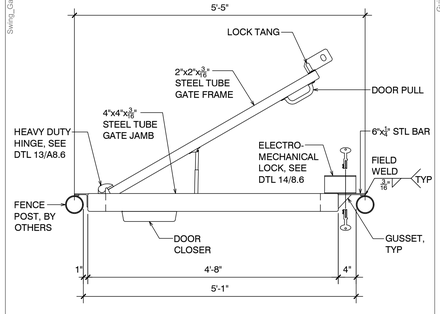
Swing_Gate_Plan-View-2



12 SWING GATE PLAN VIEW 2

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

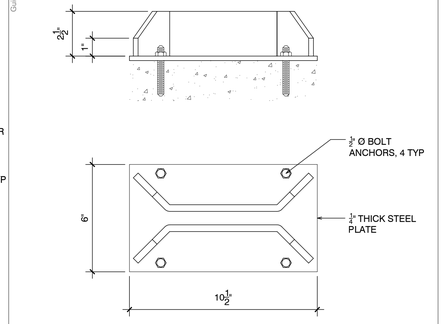
Swing_Gate_Plan-View



8 SWING GATE PLAN VIEW

SCALE: 3/4" = 1'-0"

Guide_Assembly



4 GUIDE ASSEMBLY

SCALE: 3" = 1'-0"

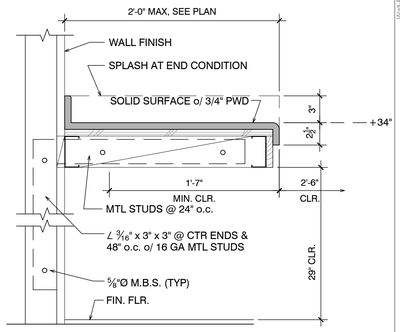
Sheet Title:
EXTERIOR DETAILS

TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

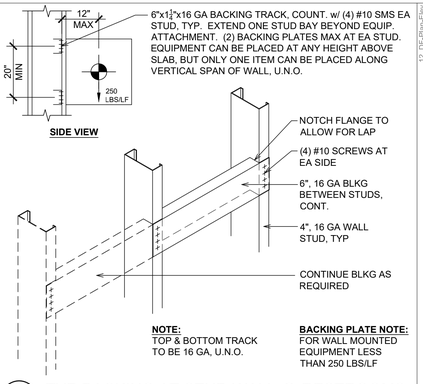
A8.6

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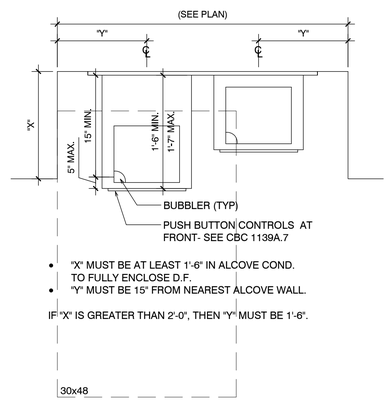
17 SELF SUPPORTING COUNTER

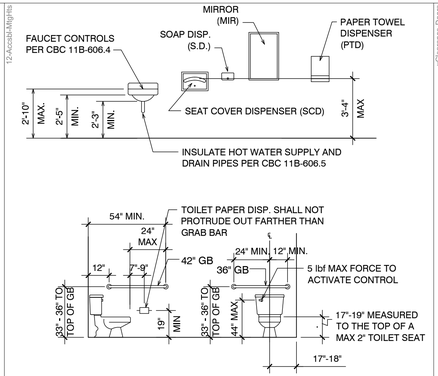
SCALE: 1-1/2" = 1'-0"



13 TYP BACKING AT STUD WALL @ RESTROOMS

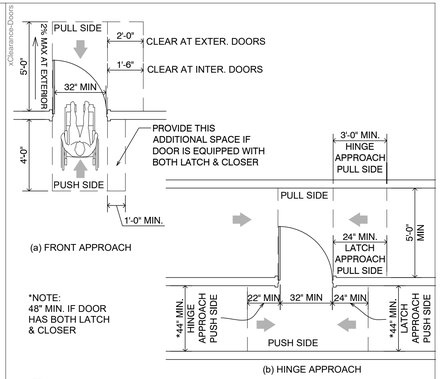
SCALE: 1" = 1"





5 TYP. ACCESSIBLE MTG FIXTURE HTS

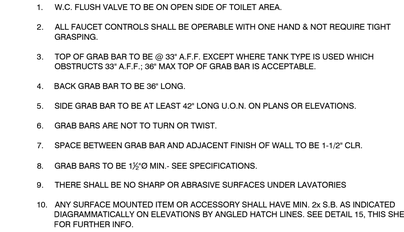
NO SCALE



1 CLEARANCE AT DOORS

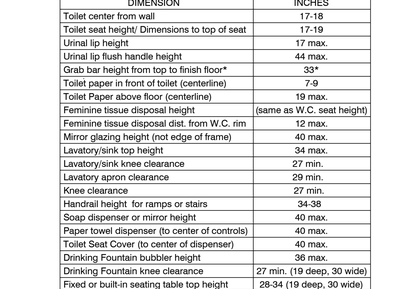
SCALE: 1/4" = 1'-0"

18



14 MOUNTING BLOCKING

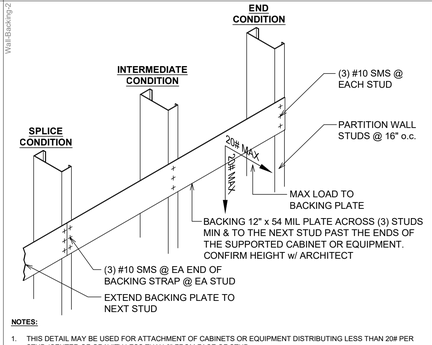
SCALE: 1-1/2" = 1'-0"



NOTE:
FOUNTAIN SHOWN IS DIAGRAMMATIC ONLY- REFER TO SPECIFICATIONS FOR MODEL & TYPE.

10 DRINKING FOUNTAIN PLAN & ELEV.

SCALE: 1" = 1'-0"



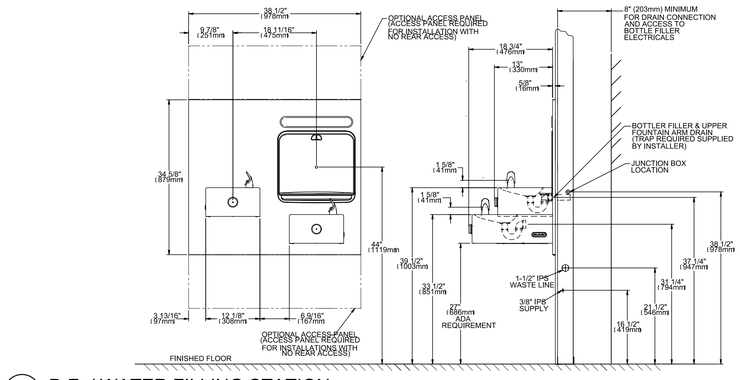
6 ACCESSIBLE WALL-HUNG LAV DETAIL

SCALE: 1" = 1'-0"

2 TYP. SINGLE ACCOMMODATION R/R

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

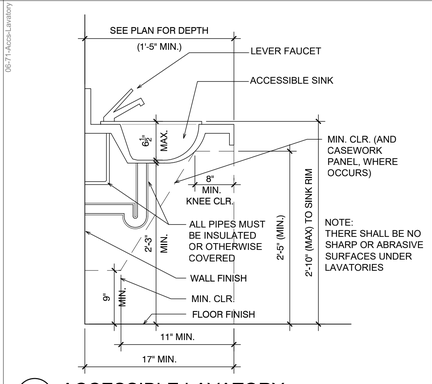
19



15 D.F. / WATER FILLING STATION

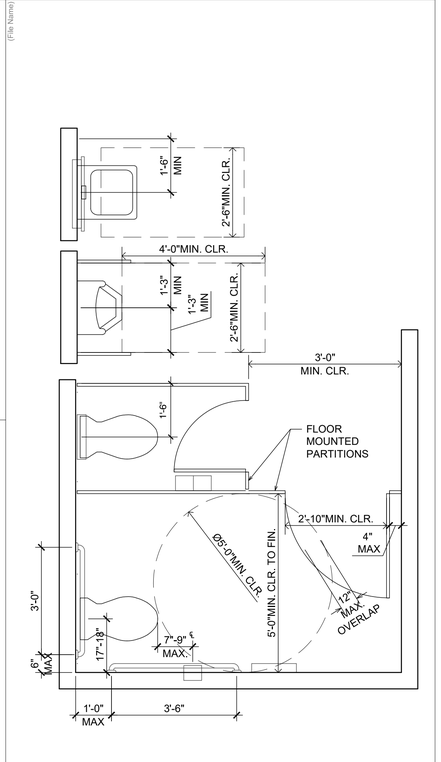
ELKAY - Model LZWS-EDFP217K

SCALE: 3/4" = 1'-0"



7 ACCESSIBLE LAVATORY

SCALE: 1" = 1'-0"



4 ACCESSIBLE RESTROOM CLEARANCE

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

20

ACCESSIBILITY NOTES: (SEE ALSO CBC 11B-603)

1. W.C. FLUSH VALVE TO BE ON OPEN SIDE OF TOILET AREA.
2. ALL FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND & NOT REQUIRE TIGHT GRASPING.
3. TOP OF GRAB BAR TO BE @ 33" A.F.F. EXCEPT WHERE TANK TYPE IS USED WHICH OBSTRUCTS 33" A.F.F.; 36" MAX TOP OF GRAB BAR IS ACCEPTABLE.
4. BACK GRAB BAR TO BE 36" LONG.
5. SIDE GRAB BAR TO BE AT LEAST 42" LONG U.O.N. ON PLANS OR ELEVATIONS.
6. GRAB BARS ARE NOT TO TURN OR TWIST.
7. SPACE BETWEEN GRAB BAR AND ADJACENT FINISH OF WALL TO BE 1-1/2" CLR.
8. GRAB BARS TO BE 1½"Ø MIN.- SEE SPECIFICATIONS.
9. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES
10. ANY SURFACE MOUNTED ITEM OR ACCESSORY SHALL HAVE MIN. 2x S.B. AS INDICATED DIAGRAMMATICALLY ON ELEVATIONS BY ANGLED HATCH LINES. SEE DETAIL 15, THIS SHEET, FOR FURTHER INFO.
11. COORDINATE WITH ACCESSORY AND FIXTURE SPECIFICATIONS AND CUT SHEETS FOR INSTALLATION RECOMMENDATIONS PRIOR TO MOUNTING.
12. COORDINATE SUBCONTRACTORS FOR REQUIRED BACKING, RECESSED MOUNTING, WALL FINISH, ETC. PRIOR TO INSTALLATION OF MATERIALS.
13. HOT /COLD WATER AND ALL DRAIN PIPES MUST BE INSULATED OR OTHERWISE PROTECTED FROM SCALDING UPON CONTACT.

ACCESSIBLE MOUNTING DIMENSIONS - CBC TABLE 11B-603	
DIMENSION	INCHES
Toilet center from wall	17-18
Toilet seat height/ Dimensions to top of seat	17-19
Urinal lip height	17 max.
Urinal lip flush handle height	44 max.
Grab bar height from top to finish floor*	33*
Toilet paper in front of toilet (centerline)	7-9
Toilet Paper above floor (centerline)	19 max.
Feminine tissue disposal height	(same as W.C. seat height)
Feminine tissue disposal dist. from W.C. rim	12 max.
Mirror glazing height (not edge of frame)	40 max.
Lavatory/sink top height	34 max.
Lavatory/sink knee clearance	27 min.
Lavatory apron clearance	29 min.
Knee clearance	27 min.
Handrail height for ramps or stairs	34-38
Soap dispenser or mirror height	40 max.
Paper towel dispenser (to center of controls)	40 max.
Toilet Seat Cover (to center of dispenser)	40 max.
Drinking Fountain bubbler height	36 max.
Drinking Fountain knee clearance	27 min. (19 deep, 30 wide)
Fixed or built-in seating table top height	28-34 (19 deep, 30 wide)
Fixed or built-in seating table and knee clr.	27 min.(19 deep, 30 wide)

*Where a tank-type toilet is used which obstructs placement at 33", the back grab bar may be 36" max. o.c. a.f.f.

16 ACCESSIBILITY NOTES

NO SCALE

NOTES:

1. THIS DETAIL MAY BE USED FOR ATTACHMENT OF CABINETS OR EQUIPMENT DISTRIBUTING LESS THAN 20# PER STUD (CENTER OF GRAVITY LESS THAN 6" FROM FACE OF STUD.
2. NOTCHING OR CUTTING OF BACKING PLATE IS NOT PERMITTED.

8 TYP WALL BACKING

SCALE: 1" = 1"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
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Sheet Title:
INTERIOR DETAILS

TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

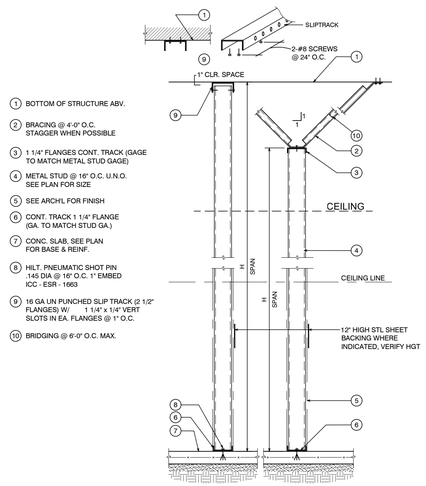
Sheet Number:

A9.1

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05-06_Typ.Mtl.StudWall

PROVIDE 16 GA STUDS ON DTL 17/A9.1
& AT WALLS WITH UPPER CABINETS



1. BOTTOM OF STRUCTURE ABV.
2. BRACING @ 4'-0" O.C. STAGGER WHEN POSSIBLE
3. 1 1/4" FLANGES CONT. TRACK (GAGE TO MATCH METAL STUD GAGE)
4. METAL STUD @ 16" O.C. U.N.O. SEE PLAN FOR SIZE
5. SEE ARCHL FOR FINISH
6. CONT. TRACK 1 1/4" FLANGE (GA. TO MATCH STUD GA.)
7. CONC. SLAB, SEE PLAN FOR BASE & REINF.
8. HILT. PNEUMATIC SHOT PIN .145 DIA @ 16" O.C. 1" EMBED ICC - ESR - 1663
9. 16 GA UN PUNCHED SLIP TRACK (2 1/2" FLANGES) W/ 1 1/4" x 1/4" VERT SLOTS IN EA. FLANGES @ 1" O.C.
10. BRIDGING @ 6'-0" O.C. MAX.

HEIGHT BTN. SUPPORT	ICC - ESR - 3064P INTERIOR METAL STUD SIZE & SPAC'G	REMARK
0 TO 15'-0"	1 1/4" x 3 5/8" x 20 GA. @ 16" O.C.	
15' - 1" TO 23' - 0"	1 1/4" x 6" x 20 GA. @ 16" O.C.	
23' - 1" TO 26' - 0"	1 1/4" x 6" x 18 GA. @ 16" O.C.	

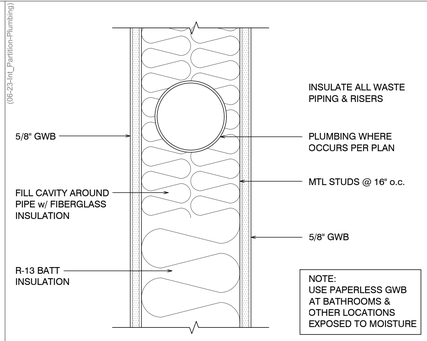
BRACING LENGTH	SIZE	SCREWS
6' OR UNDER	1 1/4" x 3 5/8" x 20 GA.	3 - #10 EA. END
6' - 1" TO 12'	1 1/4" x 4" x 20 GA.	3 - #10 EA. END
12' - 1" TO 16'	1 1/4" x 6" x 20 GA.	3 - #10 EA. END

18 TYP. MTL. STUD WALL
SCALE: 1" = 1'-0"

13

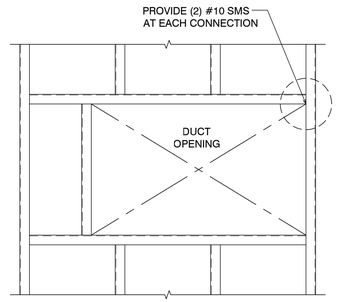
14

06-23-Int_Partition-Plumbing



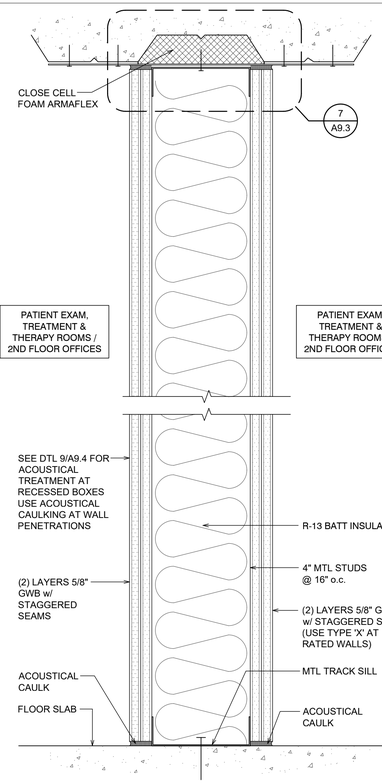
9 INTERIOR PARTITION w/ PLUMBING
SCALE: 3" = 1'-0"

Duct_Opening



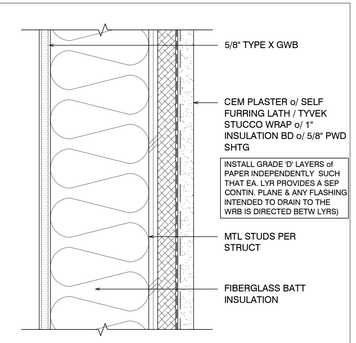
10 DUCT OPENING
SCALE: 1" = 1'-0"

06-23-WallAnch@Mezz



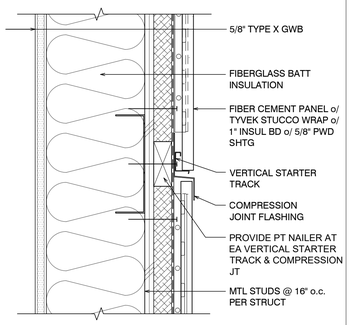
A4 DEMISING WALL - STC-54
SCALE: 3" = 1'-0"

(06-21-HHR-EXT-Stucco)



A1 EXTERIOR WALL- CEMENT PLASTER
SCALE: 3" = 1'-0"

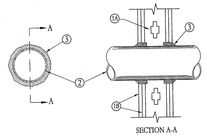
(06-21-HHR-EXT-Siding)



A2 EXTERIOR WALL - SIDING
SCALE: 3" = 1'-0"

09_Wall-Caulk-Penetration

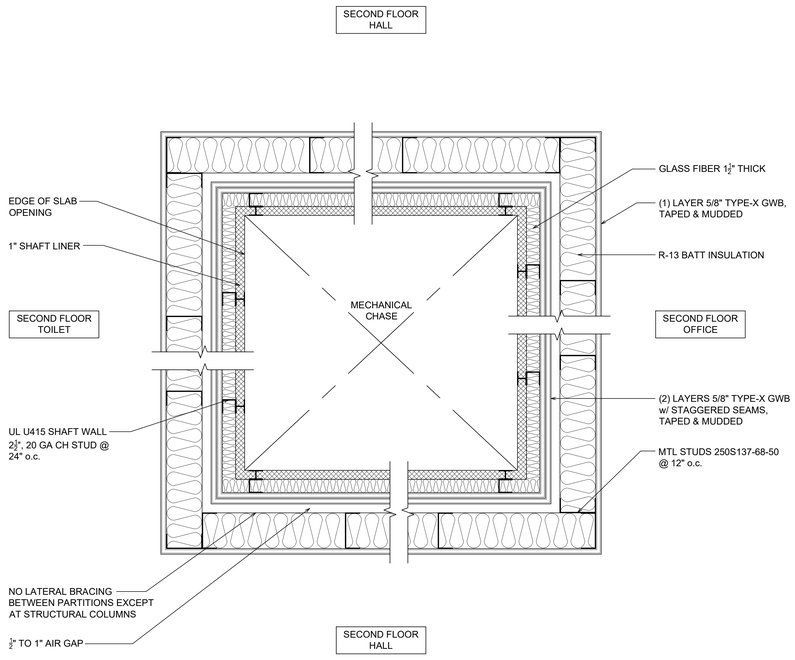
System No. W-L-1001
September 07, 2004
(Formerly System No. 147)
F Ratings – 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings – 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient – less than 1 CFM/sq ft
L Rating At 400 F – less than 1 CFM/sq ft



1. **Wall Assembly** – The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.
   B. **Gypsum Board*** – Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in
2. **Through Penetrant** – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** – Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
   C. **Conduit** – Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing
   D. **Copper Tubing** – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing
   E. **Copper Pipe** – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
   F. **Through Penetrating Product* – Flexible Metal Piping** – The following types of steel flexible metal gas piping may be used:
      1. Nom 2 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
         OMEGA FLEX INC
      2. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
         TITEFLEX CORP, A BUNDY CO
      3. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
         WARD MFG INC
3. **Fill, Void or Cavity Material* – Caulk or Sealant** – Min 5/8. 1-1/4, 1-7/8 and 2-1/2 in. thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. diam bead of caulk applied to gypsum board/penetrant interface at point contact location on

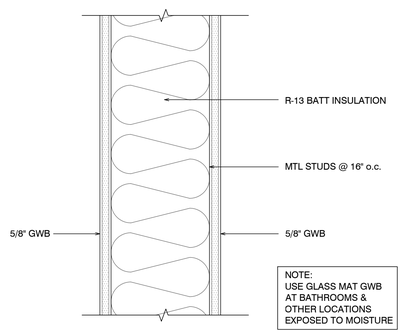
20 THROUGH-PENETRATION FIRE STOP
SCALE: 1" = 1'-0"

Duct_Shaft



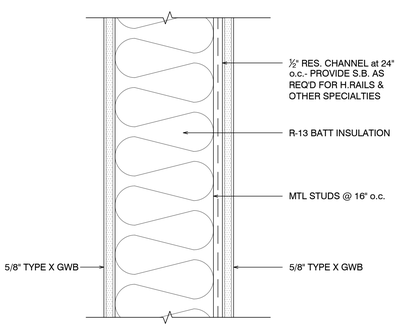
16 FRAMING AT DUCT SHAFT
SCALE: 1-1/2" = 1'-0"

06-23-Int_Partition-THR



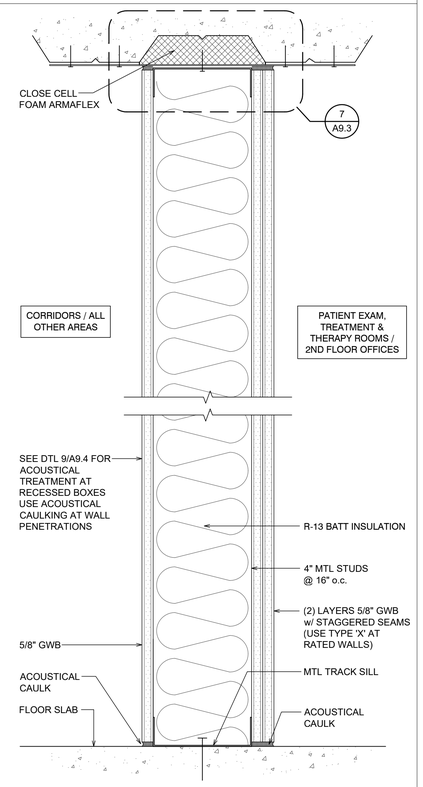
A5 INTERIOR PARTITION
SCALE: 3" = 1'-0"

06-23-CorridorWall



A6 WALL
SCALE: 3" = 1'-0"

06-23-WallAnch@Mezz



A3 DEMISING WALL - STC-51
SCALE: 3" = 1'-0"

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Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
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No. C-15182
REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

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Revisions:
09.21.21 ISSUED FOR BID

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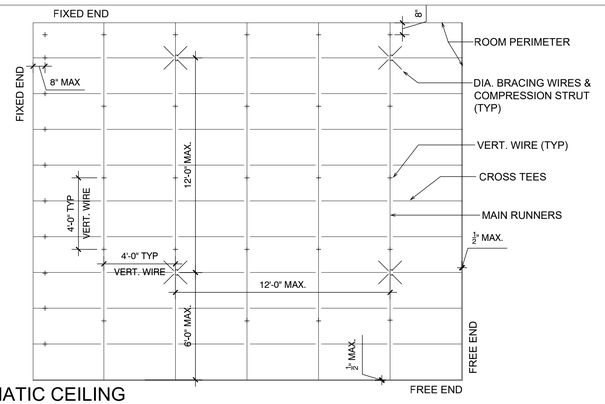
Sheet Title:
INTERIOR DOOR DETAILS WALL TYPES

TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

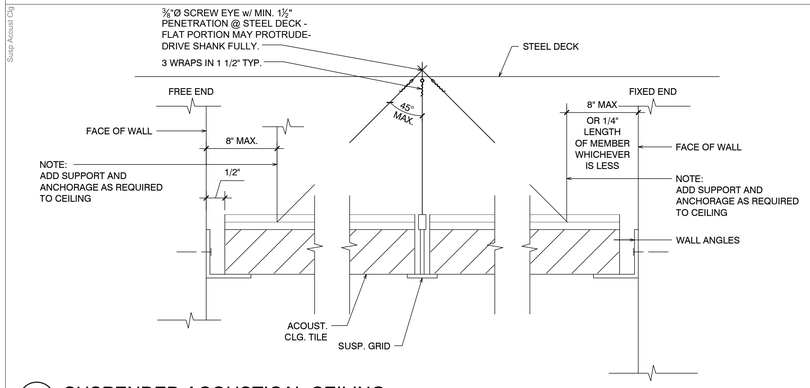
A9.2

09-03-01_Diagram



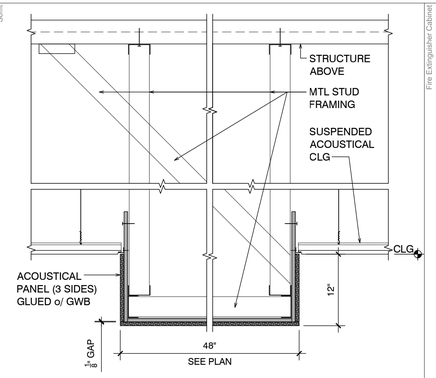
17 DIAGRAMMATIC CEILING
SCALE: 1/4" = 1'-0"

Susp Acoust Clg



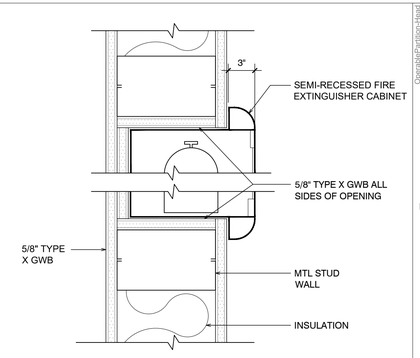
18 SUSPENDED ACOUSTICAL CEILING
SCALE: 1-1/2" = 1'-0"

Soffit



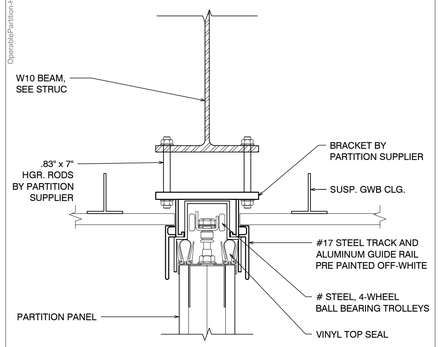
9 SOFFIT AT RECEPTION
SCALE: 1" = 1'-0"

Fire Extinguisher Cabinet



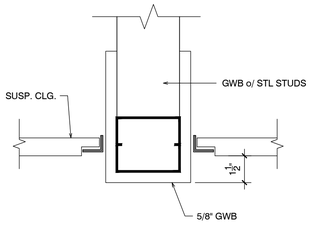
5 FIRE EXTINGUISHER CABINET
SCALE: 3" = 1'-0"

OperablePartition-Head



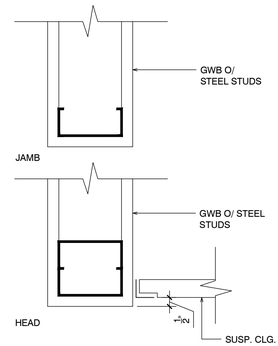
1 OPERABLE PARTITION - HEAD
SCALE: 3" = 1'-0"

Ceiling Trans



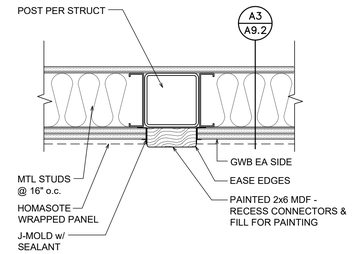
10 CEILING TRANSITION
SCALE: 3" = 1'-0"

Framed Opening

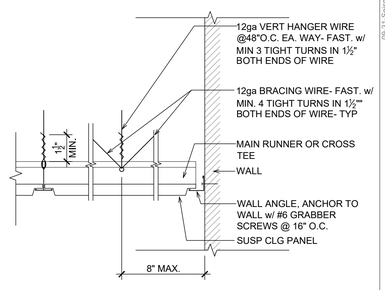


6 FRAMED OPENING
SCALE: 3" = 1'-0"

Partition_Jamb

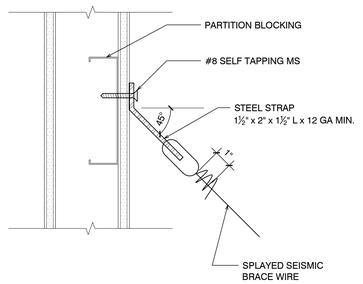


2 PARTITION JAMB (FLOOR TO CLG.)
SCALE: 1-1/2" = 1'-0"



19 SUSP CLG TILE TO WALL
SCALE: 3" = 1'-0"

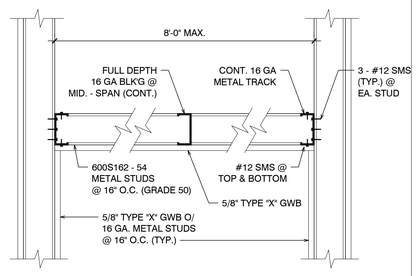
09-31-SeismicBrace



NOTE: PROVIDE FASTENERS COMPLYING w/ UL EX-2258

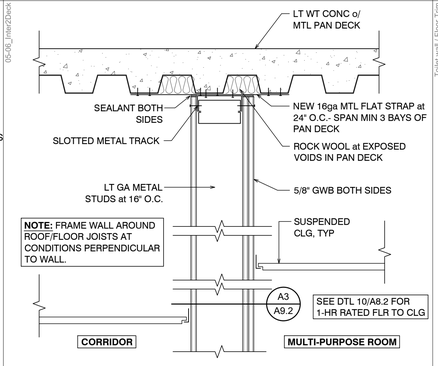
15 SEISMIC BRACE ATTACHMENT
SCALE: 3" = 1'-0"

Alternate ceiling support



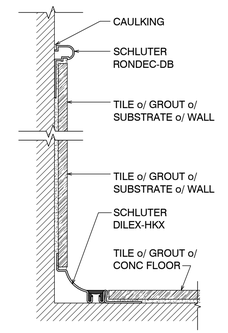
11 ALTERNATE CEILING SUPPORT (8'-0" MAX.)
SCALE: 1-1/2" = 1'-0"

05-06_Inter2Dock



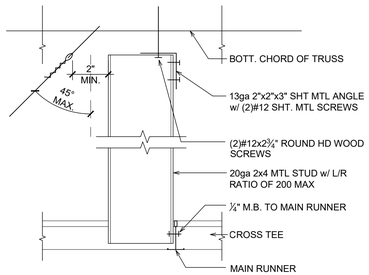
7 METAL FRAMING TO FLOOR DECK
SCALE: 1-1/2" = 1'-0"

Toilet wall / Floor Trim



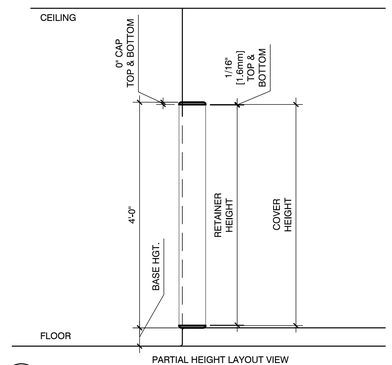
3 TOILET WALL / FLOOR TRIM
SCALE: 6" = 1'-0"

20



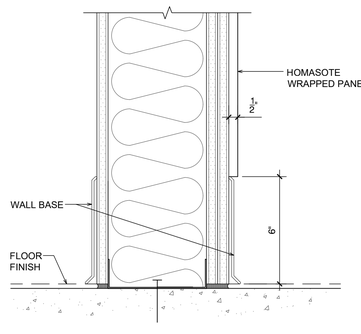
16 SUSP. CLG STRUT ATTACHMENT
SCALE: 3" = 1'-0"

(File Name)



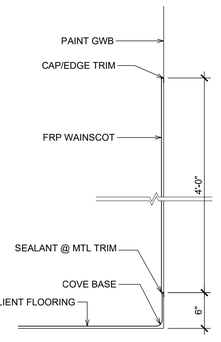
12 CORNER GUARD
SCALE: 3" = 1'-0"

Wall_Base_Homasote_Panel



8 WALL BASE AT HOMASOTE PANEL
SCALE: 3" = 1'-0"

09-2-Wainscot



4 WALL WAINSCOT
SCALE: 1" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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286 Eldorado Street
Monterey, CA 93940
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LICENSED ARCHITECT — PAUL W. DAVIS — No. C-15182 — REN. 12-31-21 — STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.21.21 ISSUED FOR BID

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Sheet Title:
INTERIOR DETAILS

TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

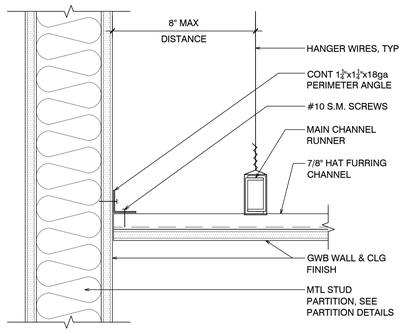
Sheet Number:

A9.3

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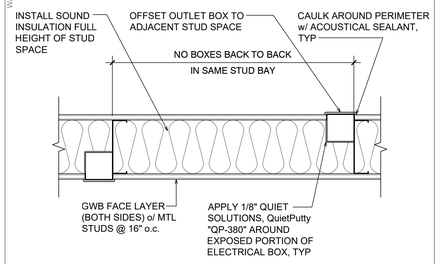
Cdg-Runner-Parallel



13 SUSPENDED GYP BD CEILING - PERIMETER PARALLEL TO MAIN RUNNER

SCALE: 3" = 1'-0"

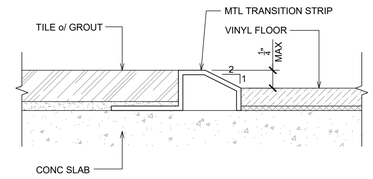
Wall Penetration_Sound Wall



9 WALL PENETRATION AT SOUND WALL

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

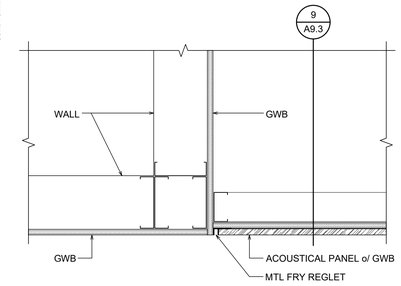
09-01-Floor-Trans



5 TRANSITION DETAIL - TILE TO VINYL

SCALE: 1" = 1"

Soffit-Termination

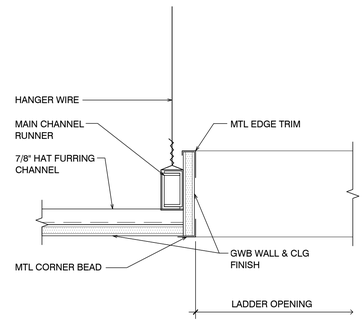


1 SOFFIT TERMINATION

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

18

Cdg-Ladder-Thru-Roof

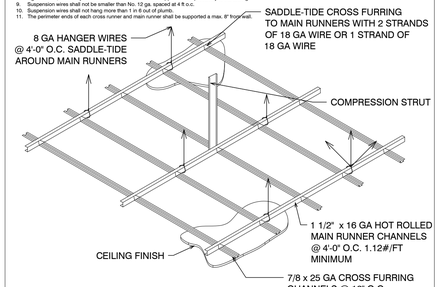


14 CEILING - LADDER THRU ROOF

SCALE: 3" = 1'-0"

09-31-Susp-Clg

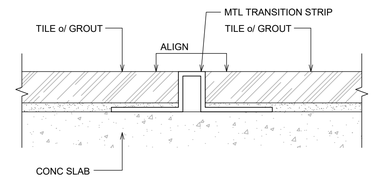
1. Suspended ceilings shall comply with Section 808.1 and ASCE 7-10 Section 13.5.6 and designed & installed in accordance with ASTM C635, C636, and E580 for seismic Design Cats D, E and F
2. A heavy type of T-bar ceiling shall be used.
3. The width of perimeter closure angle shall be 2" minimum in width.
4. For ceiling area exceeding 2,500 sf, horizontal restraint of the ceiling to the structural system shall be provided. The tributary areas of the horizontal restraints shall be approximately equal.
5. For ceiling areas exceeding 2,500 sf, a seismic separation joint or full height partition that breaks the ceiling up into areas not exceeding 2,500 s.f. shall be provided unless structural analyses are performed.
6. Sprinkler heads and other similar system type penetrations that do not behave integrally with the ceiling system in the lateral direction shall have a 2-inch oversize ring, sleeve, or adapter thru the clg tile which shall allow for free movement of at least an inch in all directions.
7. Bracing wires shall not be permitted and shall be provided with positive bracing.
8. Light fixtures, cable trays and electrical conduits shall be supported independently of the ceiling.
9. Suspension wires shall not be smaller than No. 12 ga, spaced at 4 ft o.c.
10. Suspension wires shall not hang more than 1 in 6 out of plumb.
11. The perimeter ends of each cross runner and main runner shall be supported a max. 8" from wall.



10 SUSPENDED CEILING

SCALE: N.T.S.

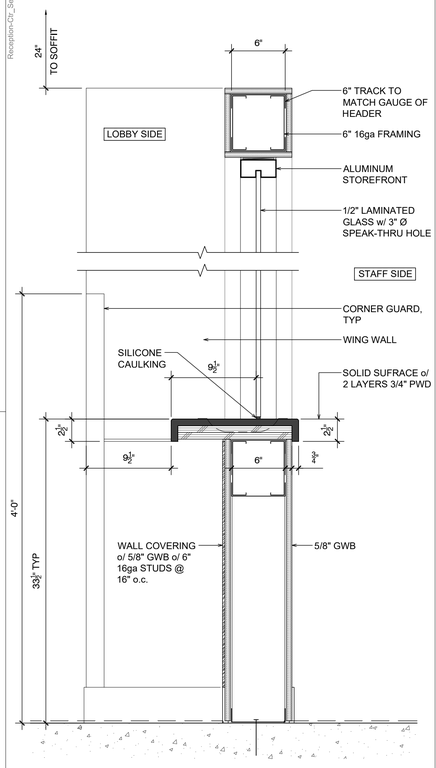
09-01-Floor-Trans-2



6 TRANSITION DETAIL - TILE TO TILE

SCALE: 1" = 1"

Reception-Clg_Sect

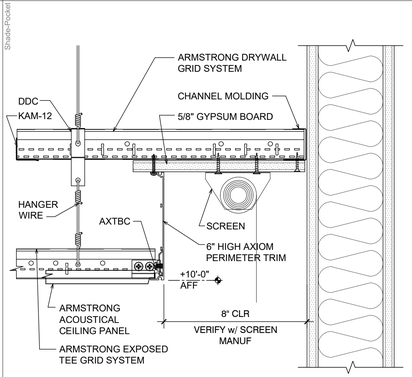


3 RECEPTION COUNTER

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

19

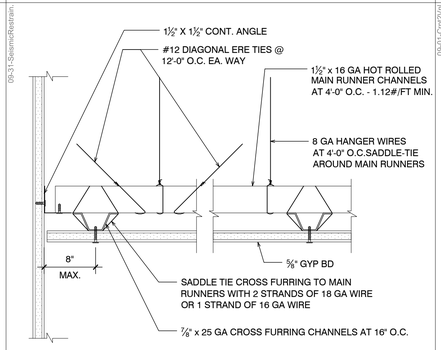
Shade-Pocket



15 CEILING POCKET REF. (ARMSTRONG CEILING SYSTEMS)

SCALE: 3" = 1'-0"

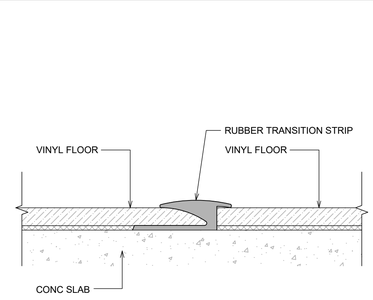
09-31-Seismic/Restrain.



11 GWB CLG. SEISMIC RESTRAINED END

SCALE: 3" = 1'-0"

09-01-Cpt2Vnl

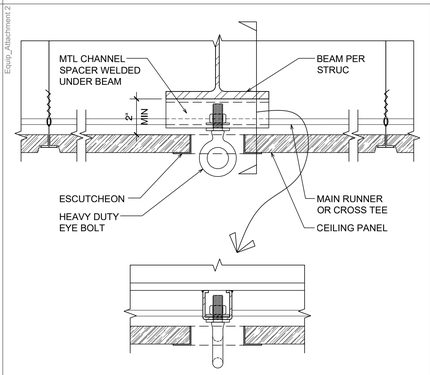


7 TRANSITION DETAIL - VINYL TO VINYL

SCALE: 1" = 1"

20

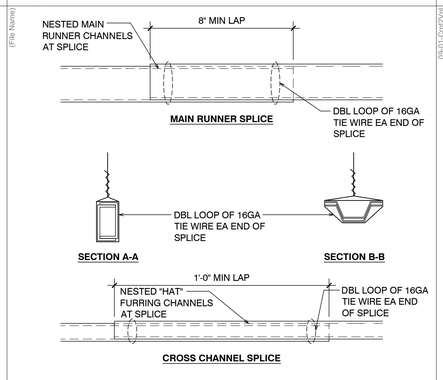
Equip_Attachment 2



16 HANGING EQUIPMENT ATTACHMENT

SCALE: 3" = 1'-0"

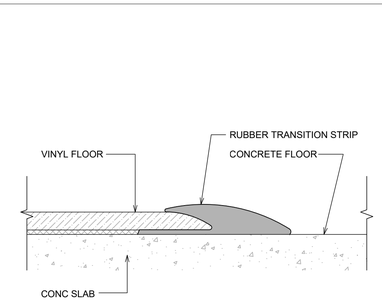
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12 SUSPENDED GYP BD CLG - FRAMING SPLICE

SCALE: 3" = 1'-0"

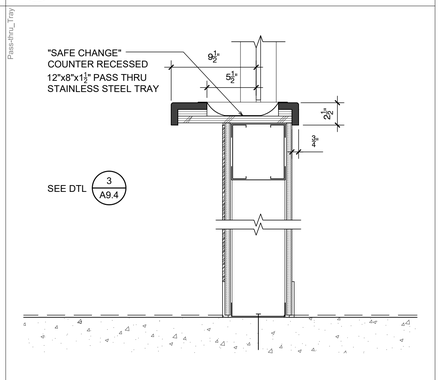
09-01-Cpt2Vnl



8 TRANSITION DETAIL - VINYL TO CONC

SCALE: 1" = 1"

Pass-thru_Tray



4 PASS THROUGH TRAY

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

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COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

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286 Eldorado Street
Monterey, CA 93940
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LICENSED ARCHITECT PAUL W. DAVIS No. C-15182 REN. 12-31-21 STATE OF CALIFORNIA

Drawn By: ML, VQ

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Sheet Number:

A9.4

Z:\Projects\Projects 2018\1838_MCCO Beh Hlth Clinic N Sanborn\Plot Sheets\A9.4.dwg, 9/13/2021 8:11:35 AM, virgil

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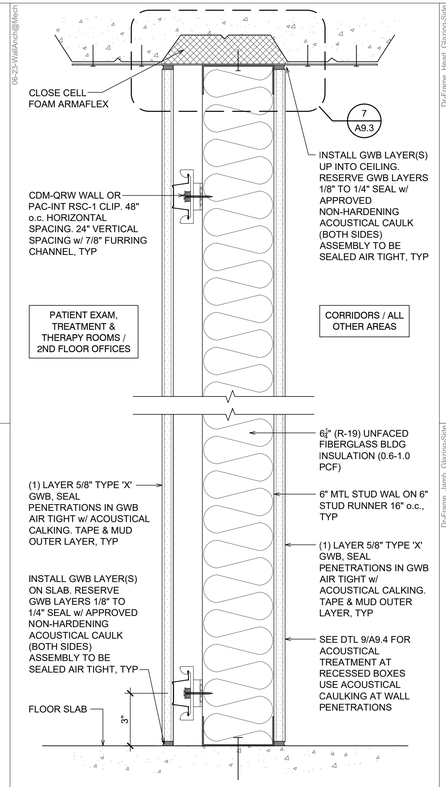
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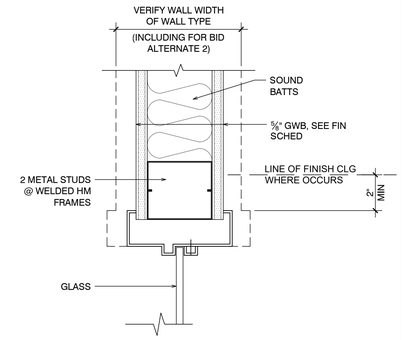
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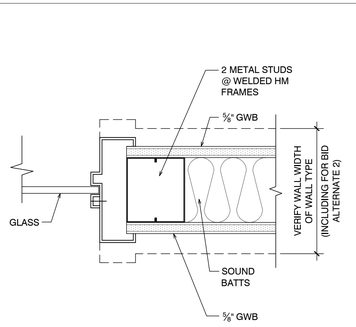
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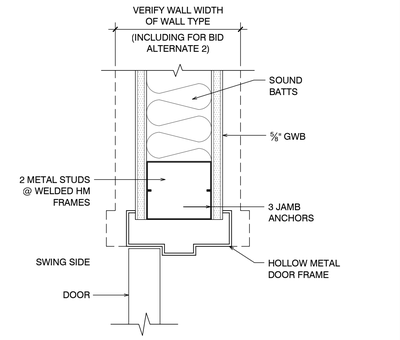
A3 WALL SECTION - STC-61 (BID ALT #2)
SCALE: 3" = 1'-0"



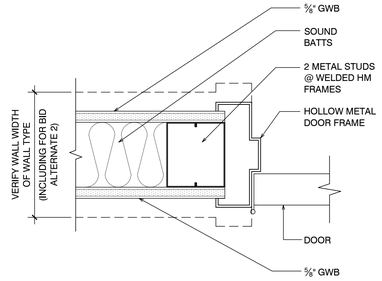
5 DOOR FRAME HEAD - GLAZING SIDE
SCALE: 3" = 1'-0"



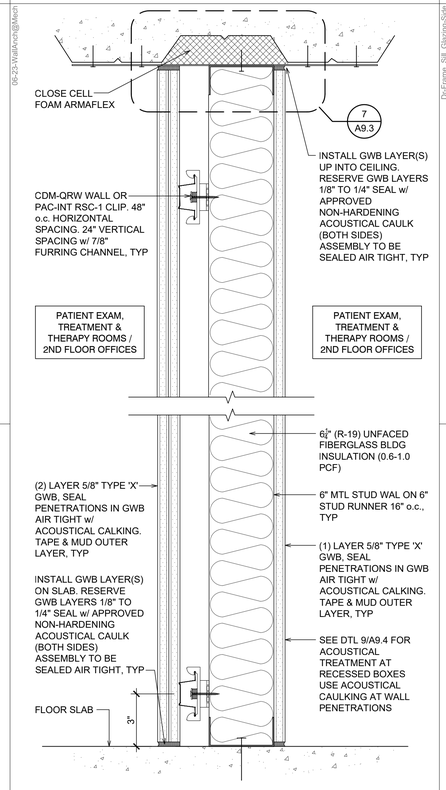
6 DOOR FRAME JAMB - GLAZING SIDE
SCALE: 3" = 1'-0"



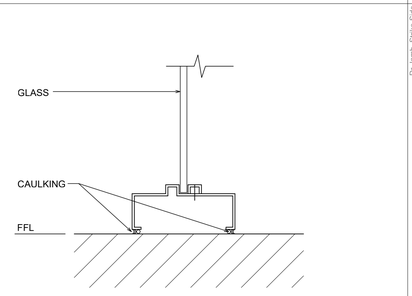
1 DOOR HEAD
SCALE: 3" = 1'-0"



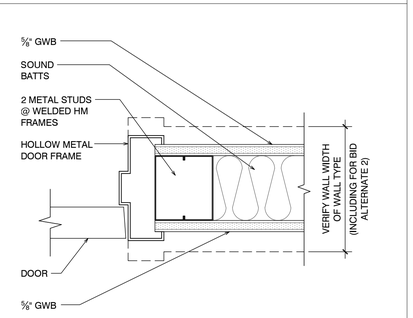
2 DOOR JAMB - HINGE SIDE
SCALE: 3" = 1'-0"



A4 WALL SECTION - STC-64 (BID ALT #2)
SCALE: 3" = 1'-0"

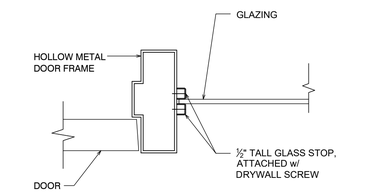


7 DOOR FRAME SILL - GLAZING SIDE
SCALE: 3" = 1'-0"



3 DOOR JAMB - STRIKE SIDE
SCALE: 3" = 1'-0"

8



4 DOOR MULLION - STRIKE SIDE
SCALE: 3" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
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REN. 12-31-21
STATE OF CALIFORNIA

Drawn By: ML, VQ

Drawing Date: 12.18.19

Project Number: 1838

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Sheet Title:
INTERIOR DETAILS

TYPICAL DETAIL ASSEMBLY OF MATERIALS SHOWN W/ SPACE FOR LAYERS. ASSEMBLY IS TIGHT.

Sheet Number:

A9.5

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GENERAL

1. CONSTRUCTION CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL(S) HARMLESS FROM ANY AND ALL LIABILITY, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL(S).
2. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH:
   A. ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, ORDINANCES, AND RULES, INCLUDING WITHOUT LIMITATION:
      CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIVE CODE (CAL–OSHA)
      CALIFORNIA CODE 4216 – PROTECTION OF UNDERGROUND INFRASTRUCTURE
   B. THE 2016 CALIFORNIA BUILDING STANDARDS CODE (CCR TITLE 24), WITH AMENDMENTS ADOPTED BY THE JURISDICTION HAVING AUTHORITY
   C. CALIFORNIA EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
   D. THE PROJECT PLANS AND SPECIFICATIONS
   E. THE 2018 EDITION OF "STANDARD SPECIFICATIONS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)
   F. THE 2018 EDITION OF "STANDARD PLANS," STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)
3. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ALL APPLICABLE JURISDICTIONAL BODIES. FOR INFORMATION REGARDING THIS PROVISION, THE CONTRACTOR IS DIRECTED TO CONTACT STATE OF CALIFORNIA, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, SALINAS, CALIFORNIA AT PHONE (831) 443–3050.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN THE CONSTRUCTION AREA.
5. INTENTION OF GRADING: CONSTRUCTION OF ONE NEW HOUSING DEVELOPMENT AND ASSOCIATED SITE WORK.
6. PROPERTY IS NOT SUBJECT TO INUNDATION OR 100 YEAR FLOOD LEVELS.
7. ESTIMATED START: 10/2021 , ESTIMATED COMPLETION: 11/2023.
8. SEE ARCHITECTURAL/LANDSCAPE PLANS AND/OR THE PROJECT ARBORIST'S REPORT FOR TREE PROTECTION AND REMOVAL REQUIREMENTS.
9. IF, DURING THE COURSE OF CONSTRUCTION, CULTURAL, ARCHAEOLOGICAL, HISTORICAL OR PALEONTOLOGICAL RESOURCES ARE UNCOVERED AT THE SITE (SURFACE OR SUBSURFACE RESOURCES) WORK SHALL BE HALTED IMMEDIATELY WITHIN 50 METERS (165 FEET) OF THE FIND UNTIL A QUALIFIED PROFESSIONAL ARCHEOLOGIST CAN EVALUATE IT. MONTEREY COUNTY RMA – PLANNING AND A QUALIFIED ARCHAEOLOGIST (I.E. AN ARCHAEOLOGIST REGISTERED WITH THE REGISTER OF PROFESSIONAL ARCHAEOLOGISTS) SHALL BE IMMEDIATELY CONTACTED BY THE RESPONSIBLE INDIVIDUAL PRESENT ON–SITE. WHEN CONTACTED, THE PROJECT PLANNER AND THE ARCHAEOLOGIST SHALL IMMEDIATELY VISIT THE SITE TO DETERMINE THE EXTENT OF THE RESOURCES AND TO DEVELOP PROPER MITIGATION MEASURES REQUIRED FOR THE DISCOVERY.
10. ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT (MBUAPCD) RULE 402 – NUISANCES.

EARTHWORK AND AREA OF DISTURBANCE SUMMARY

CUT = 4,000 CY

FILL = 200 CY

EXPORT = 3,800 CY

ESTIMATED AREA OF DISTURBANCE = 1.7 AC

1. THE QUANTITIES PRESENTED ABOVE ARE ESTIMATES ONLY, BASED ON THE DIFFERENCE BETWEEN EXISTING ONSITE GRADE AND SUBGRADE ELEVATIONS AND FINISHED GRADE AND SUBGRADE ELEVATIONS, AS SHOWN ON THE PLANS, AND ARE NOT ADJUSTED FOR CHANGES IN VOLUME DUE TO CHANGES IN SOIL DENSITY.
2. OVER–EXCAVATION IS NOT INCLUDED IN THE ABOVE ESTIMATE. CLEARING AND STRIPPING AND REMOVAL OF AC AND PCC PAVEMENTS ARE NOT INCLUDED IN THE ABOVE ESTIMATES. SITE SPOILS SUCH AS FROM UTILITY TRENCHING, FOUNDATIONS, ETC. ARE NOT INCLUDED IN ABOVE ESTIMATES.
3. THESE QUANTITIES SHALL BE USED FOR BONDING AND PERMIT PURPOSES ONLY. CONTRACTOR SHALL MAKE HIS/HER OWN SITE VISIT AND QUANTITY TAKE–OFFS AND SHALL BID ACCORDINGLY.
4. EARTHWORK VALUES SHOULD BE REEVALUATED DURING THE EARLY STAGES OF SITE GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING FINAL EARTHWORK QUANTITIES TO HIS/HER SATISFACTION PRIOR TO START OF GRADING OPERATIONS.

SURVEY AND EXISTING CONDITIONS

1. TOPOGRAPHY WAS PREPARED BY WHITSON ENGINEERS ON JULY 30TH, 2018 AND MARCH 19, 2019.
2. BENCHMARK TAKEN AS A CHISELED SQUARE IN THE SOUTHWEST TOP OF CURB AT THE INTERSECTION OF CIRCLE DRIVE AND NORTH SANBORN ROAD PER THE CITY OF SALINAS BENCHMARK BOOK. ELEVATION = 76.82' (NGVD29). SEE SHEET C1.0
3. ALL "MATCH" OR "JOIN" CALLOUTS ON THE PLANS SHALL BE FIELD VERIFIED FOR EXACT LOCATION AND ELEVATION PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER IN THE CASE OF ANY FIELD DISCREPANCY.
4. PAD ELEVATIONS SHALL BE CERTIFIED TO 0.1 FEET, PRIOR TO DIGGING ANY FOOTINGS OR SCHEDULING ANY INSPECTIONS. (MONTEREY COUNTY)
5. THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL DEVIATIONS FROM THE WORK PROPOSED IN THESE PLANS AND SPECIFICATIONS, AND A RECORD DRAWING SET SHALL BE PREPARED AND PROVIDED TO THE ENGINEER AT THE COMPLETION OF WORK. CHANGES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER.
6. THE EXISTENCE, LOCATION AND ELEVATION OF ANY UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS IN A GENERAL WAY ONLY. NOT ALL UTILITIES MAY BE SHOWN. IT IS MANDATORY THAT THE CONTRACTOR EXPOSE AND VERIFY THE TOP AND BOTTOM OF ALL UTILITIES PRIOR TO ANY WORK ON SYSTEMS WHICH MAY BE AFFECTED BY THE EXISTING UTILITY'S LOCATION. IT IS THE RESPONSIBILITY AND DUTY OF THE CONTRACTOR TO MAKE THE FINAL DETERMINATION AS TO THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AND TO BRING ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT.
7. BOUNDARY INFORMATION SHOWN IS FROM RECORD DATA. A BOUNDARY SURVEY WAS NOT PERFORMED AS A PART OF THIS WORK. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.

GRADING AND DRAINAGE

1. SITE GRADING AND EARTHWORK SHALL BE PERFORMED IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL REPORT ENTITLED:
   GEOTECHNICAL ENGINEERING REPORT: PROPOSED BEHAVIORAL HEALTH CENTER–EAST SALINAS
   BY PROFESSIONAL SERVICE INDUSTRIES, INC., DATED AUGUST 30 2018,
   PROJECT NO. 0575–1400–1.
2. ONSITE GRADING AND EARTHWORK, SITE PREPARATION, EXCAVATION, TRENCHING AND COMPACTION SHALL BE OBSERVED AND TESTED BY THE GEOTECHNICAL ENGINEER DESIGNATED BY THE OWNER. ALL GRADING AND EARTHWORK SHALL BE DONE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
3. SHOULD THE RESULTS OF ANY COMPACTION TEST FAIL TO MEET THE MINIMUM REQUIRED DENSITY AS SPECIFIED ON THESE PLANS OR IN THE GEOTECHNICAL REPORT, THE DEFICIENCY SHALL BE CORRECTED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AT THE CONTRACTOR'S EXPENSE. THE EXPENSE OF RETESTING SUCH AREAS SHALL ALSO BE BORNE BY THE CONTRACTOR, AT NO COST TO THE OWNER.
4. NOTIFY THE GEOTECHNICAL ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO ANY GRADING OR FOUNDATION EXCAVATION.
5. ALL SOILS UTILIZED FOR FILL PURPOSES SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. IMPORTED SOILS SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE BEING BROUGHT TO THE SITE.
6. EXCAVATION FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS OR WITH A CONTROLLED LOW–STRENGTH MATERIAL (CLSM). THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPPROOFING MATERIAL. EXCEPTION: CLSM NEED NOT BE COMPACTED (REF. 2013 CBC 1804.1–1804.2)
7. IMPERVIOUS SURFACES ADJACENT TO STRUCTURES SHALL SLOPE A MINIMUM OF 2% AWAY FROM THE STRUCTURE FOR A MINIMUM DISTANCE OF 10 FEET, UNLESS OTHERWISE SHOWN. LANDSCAPE AREAS ADJACENT TO STRUCTURES SHALL SLOPE A MINIMUM OF 5% AWAY FROM THE STRUCTURE FOR A MINIMUM DISTANCE OF 10 FEET, UNLESS OTHERWISE SHOWN. (REF. 2013 CBC 1804.3)
8. RELATIVE COMPACTION SHALL BE EXPRESSED AS A PERCENTAGE OF THE MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY ASTM TEST D–1557. IN–PLACE DENSITY TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM TESTS D–1556 AND D–6938.
9. GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL BY REMOVING STRUCTURES, OBSTRUCTIONS, TREES SHOWN TO BE REMOVED, VEGETATION, ORGANIC–LADEN TOPSOIL, LARGE ROOTS, DEBRIS, AND OTHER DELETERIOUS MATERIALS. BURIED SUBSURFACE OBJECTS ENCOUNTERED, OR VOIDS CREATED DURING SITE PREPARATION SHALL BE CALLED TO THE ATTENTION OF THE GEOTECHNICAL ENGINEER. AS DETERMINED BY THE GEOTECHNICAL ENGINEER, AN OVER–EXCAVATION DEPTH OF ABOUT 2 TO 3 FEET IS ANTICIPATED IN THE PLANNED BUILDING AREA. THE SOILS EXPOSED AT THE BASE OF THE OVER–EXCAVATION AND SUBGRADE AREAS TO SUPPORT SURFACE IMPROVEMENTS SHOULD THEN BE PROOF ROLLED AND APPROVED BY THE GEOTECHNICAL ENGINEER. ALL BUILDING PADS AND GRADE STRUCTURES SHOULD BE CONSTRUCTED ON A MINIMUM OF 1 FOOT OF ENGINEERED FILL.
10. SURPLUS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE SITE IN A LEGAL MANNER.
11. SUBGRADE PREPARATION AND ENGINEERED FILL THAT SUPPORTS FOOTINGS, SLABS, PAVEMENTS, AND FLATWORK SHALL EXTEND AT LEAST 3 FEET BEYOND THE LIMITS OF PROPOSED IMPROVEMENTS.
12. FOOTINGS LOCATED ADJACENT TO OTHER FOOTINGS OR RETAINING WALLS SHALL HAVE THEIR BEARING SURFACES FOUNDED BELOW A 2:1 (H:V) LINE PROJECTED UPWARD FROM THE BOTTOM EDGE OF THE ADJACENT FOOTING, WALL, OR UTILITY TRENCH.
13. FOLLOWING CLEARING AND STRIPPING, EXPOSED SUBGRADE IN AREAS TO RECEIVE ENGINEERED FILL, STRUCTURES, PAVEMENTS, CONCRETE SLABS, OR OTHER IMPROVEMENTS SHALL BE SCARIFIED TO A DEPTH OF 6 INCHES, MOISTURE CONDITIONED, AND UNIFORMLY COMPACTED TO AT LEAST 90% RELATIVE COMPACTION. THE GEOTECHNICAL ENGINEER SHALL DETERMINE IF ADDITIONAL OVER–EXCAVATIONS WILL BE REQUIRED.
14. THE GEOTECHNICAL ENGINEER SHALL INSPECT ALL SURFACES TO RECEIVE FILL PRIOR TO THE PLACEMENT OF ANY FILL.
15. ENGINEERED FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, MOISTURE CONDITIONED, AND COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.
16. CUT/FILL SLOPES SHALL BE NO STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2H:1V) UNLESS OTHERWISE APPROVED AT THE TIME OF GRADING BY THE GEOTECHNICAL ENGINEER.
17. WHERE EXISTING GRADE IS AT A SLOPE OF 6H:1V (16%) OR STEEPER AND THE DEPTH OF THE FILL EXCEEDS 5 FEET, BENCHING SHALL BE PROVIDED. A TOE KEY SHALL BE CUT A MINIMUM DEPTH OF 3 FEET INTO UNDISTURBED SOILS TO THE INSIDE OF THE FILL'S TOE. THIS KEY SHALL BE A MINIMUM OF 6 FEET WIDE AND SLOPE AT NO LESS THAN 10% INTO THE SLOPE. AS THE FILL ADVANCES UP–SLOPE, BENCHES AT LEAST 3 FEET WIDE, OR TWICE THE WIDTH OF THE COMPACTION EQUIPMENT, WHICHEVER IS WIDER, SHALL BE SCARIFIED INTO THE FILL/UNDISTURBED SOIL INTERFACE.
18. ENGINEERED FILL IN BUILDING AREAS, STRUCTURAL BACKFILL, AND THE UPPER 6" BELOW FLATWORK AND PAVEMENT SHALL BE COMPACTED TO A MINIMUM OF 95% OF ITS MAXIMUM DRY DENSITY, OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
19. ALL RE–COMPACTED AND ENGINEERED FILL SOILS SHALL BE COMPACTED WITHIN 0%–2% OF THE LABORATORY OPTIMUM MOISTURE CONTENT FOR THE SOIL.
20. ON–SITE NON–ORGANIC SOIL IS GENERALLY ACCEPTABLE FOR USE AS ENGINEERED FILL. NATIVE SOIL USED AS ENGINEERED FILL SHALL MEET THE FOLLOWING REQUIREMENTS:
    - SOIL SHALL BE FREE OF ORGANICS, DEBRIS, AND OTHER DELETRIOUS MATERIALS.
    - ROCK OVER 3 INCHES IN ITS MAXIMUM DIMENSION MAY NOT BE USED IN AN ENGINEERED FILL.
21. IMPORTED SOIL USED AS GENERAL ENGINEERED FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER, AND MEET THE FOLLOWING REQUIREMENTS:
    - SOIL SHALL BE FREE OF ORGANIC AND DELETERIOUS MATERIALS, OR RECYCLED MATERIALS SUCH AS ASPHALTIC CONCRETE, CONCRETE, BRICK, ETC.
    - SOIL SHALL NOT CONTAIN ANY ROCKS OR CLODS OVER 3 INCHES IN MAXIMUM DIMENSION, AND SHALL NOT CONTAIN OVER 30 PERCENT BY WEIGHT ROCKS LARGER THAN 3/4 INCHES
    - SOIL SHALL HAVE SUFFICIENT BINDER TO ALLOW EXCAVATIONS TO STAND WITHOUT CAVING
22. ALL SOIL PLACED ON THE PROJECT SITE SHALL BE SAMPLED TO DETERMINE IF THERE ARE ANY HAZARDOUS ELEMENTS PRESENT IN THE SOIL. A SOIL SAMPLING PLAN THAT INCLUDES ALL SOURCES OF FILL MATERIAL SHALL BE SUBMITTED TO THE ENVIRONMENTAL HEALTH BUREAU FOR REVIEW AND APPROVAL AND PAY NECESSARY FEES. IN THE EVENT A BORROW SITE IS IDENTIFIED AS BEING CONTAMINATED, FILL MATERIAL SHALL NOT BE IMPORTED TO THE PROJECT FROM THAT SITE. ONCE APPROVED, AN APPROPRIATELY LICENSED, CA–REGISTERED PROFESSIONAL SHALL COMPLETE DOCUMENTATION OF THE BORROW SITE(S), OVERSEE SOIL SAMPLING AND PREPARE A COMPREHENSIVE REPORT TO BE SUBMITTED TO THE ENVIRONMENTAL HEALTH BUREAU FOR REVIEW AND ACCEPTANCE.
23. IN THE EVENT THAT ANY UNUSUAL CONDITIONS ARE ENCOUNTERED DURING GRADING OPERATIONS WHICH ARE NOT COVERED BY THE SOIL INVESTIGATION OR SPECIFICATIONS, THE SOILS ENGINEER SHALL BE IMMEDIATELY NOTIFIED SUCH THAT ADDITIONAL RECOMMENDATIONS MAY BE MADE.
24. A LETTER SHALL BE SUBMITTED FROM A LICENSED SURVEYOR CERTIFYING THAT PAD ELEVATIONS ARE WITHIN 0.1 FEET OF ELEVATIONS STATED ON APPROVED PLANS, PRIOR TO DIGGING ANY FOOTINGS OR SCHEDULING ANY INSPECTIONS.
25. A "FINAL SOILS LETTER" FROM THE GEOTECHNICAL ENGINEER STATING THAT ALL EARTHWORK COMPLETED WAS IN ACCORDANCE WITH THE RECOMMENDATIONS STATED IN THE GEOTECHNICAL REPORT SHALL BE SUBMITTED PRIOR TO FINAL INSPECTION.
26. EXPORT SOIL SHALL BE TRANSPORTED TO A LEGAL DUMP OR TO A PERMITTED SITE APPROVED BY THE COUNTY. CONTRACTOR SHALL NOTIFY GRADING OFFICIAL OF PROPOSED HAUL ROUTE.

ABBREVIATIONS

±	PLUS OR MINUS; APPROX
@	AT
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
APPROX	APPROXIMATE
ASB	AGGREGATE SUBBASE
BC	BEGIN CURVE
BM	BENCHMARK
BVC	BEGIN VERTICAL CURVE
BVCE	BVC ELEVATION
BVCS	BVC STATION
BS	BOTTOM OF STAIR
BW	BACK OF WALK
C&G	CURB AND GUTTER
CATV	CABLE TV
CGSW	CURB, GUTTER AND SIDEWALK
℄	CENTERLINE
CL	CLASS
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCT
CONT	CONTINUOUS
CY	CUBIC YARD
DEMO	DEMOLISH AND DISPOSE OF
D.G.	DECOMPOSED GRANITE
DI	DRAIN INLET
DIA	DIAMETER
DS	DOWNSPOUT
(E)	EXISTING
EC	END CURVE
EG	EXISTING GRADE
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATION
EQ	EQUAL
ETW	EDGE OF TRAVELED WAY
EVA	EMERGENCY VEHICLE ACCESS
EVC	END VERTICAL CURVE
EVCE	EVC ELEVATION
EVCS	EVC STATION
E.W.	EACH WAY
EX	EXISTING
FC	FACE OF CURB
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOWLINE
FR	FIRE RISER
FS	FINISHED SURFACE
GB	GRADE BREAK
GBE	GB ELEVATION
GBS	GB STATION
GM	GAS METER
GRT	GRATE
GV	GAS VALVE/VAULT
HP	HIGH POINT
HORIZ.	HORIZONTAL
INS	INSERT
INV	INVERT
JP	JOINT UTILITY POLE
LDG	LANDING
LF	LINEAR FEET
LFF	LOWER FINISH FLOOR
LP	LOW POINT
LT	LEFT
MATCH	MATCH EXISTING GRADE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N.I.C.	NOT IN CONTRACT (BY OTHERS)
OCEW	ON CENTER EACH WAY
OG	ORIGINAL GROUND
P.A.	PLANTER AREA
PB	PULL BOX
PC	POINT OF CURVATURE
P.O.C.	POINT OF CONNECTION
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PTDF	PRESSURE TREATED DOUG–FIR
R	RADIUS
R.C.	RELATIVE COMPACTION
RCP	REINFORCED CONC PIPE
RT	RIGHT
RW	RECYCLED WATER
RWL	RAIN WATER LEADER
S.A.A.	SEE ARCHITECTURAL DRAWINGS
S.L.D.	SEE LANDSCAPE DRAWINGS
S.E.D	SEE ELECTRICAL DRAWINGS
SD	STORM DRAIN
SL	STREET LIGHT
SS	SANITARY SEWER
STA	STATION
SW	SIDEWALK
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB
TFC	TOP OF FLUSH CURB
TG	TOP OF GRATE
TOP	TOP OF PIPE
TS	TOP OF STAIR / TRAFFIC SIGNAL
TW	TOP OF WALL
TYP	TYPICAL
UFF	UPPER FINISH FLOOR
UG	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
UP	UTILITY POLE
UNKN	UNKNOWN
VAR	VARIES
VERT.	VERTICAL
W	WATER
WM	WATER METER
WV	WATER VALVE
XFMR	TRANSFORMER

811

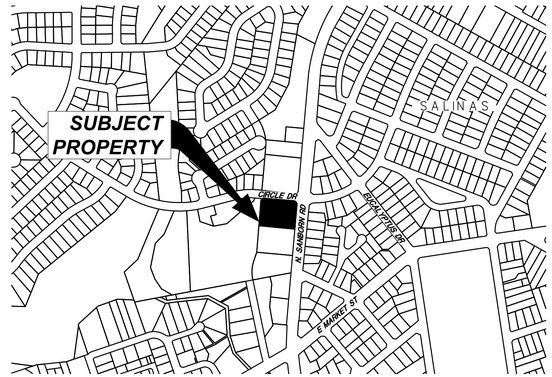
LEGEND

DESCRIPTION	PROPOSED	EXISTING
PROPERTY BOUNDARY		
CENTER LINE		
EASEMENT LINE		
SAWCUT LIMIT	SC	
CURB AND GUTTER		
CONC SIDEWALK AT FIRE LANE		
CONC PEDESTRIAN SIDEWALK		
RETAINING WALL		
DRIVEWAY CURB CUT		
CASE "C" CURB RAMP		
DOMESTIC WATER MAIN	6" W	W
SANITARY SEWER	8" SS	SSFM
STORM DRAIN	12" SD	
FIRE MAIN	4" F	8"F
JOINT TRENCH		XJT
SANITARY SEWER LATERAL		
WATER SERVICE		
IRRIGATION SLEEVE		
SANITARY MANHOLE		
STORM MANHOLE		
STANDARD CURB INLET		
ROCK COBBLE		
FIRE HYDRANT		
WATER VALVE		
STREET LIGHT		
BLOW OFF VALVE		
SLOPE GRADIENT	2.0%	(2.0%)
NEW ASPHALT PAVEMENT		
BUILDING		
UTILITY REMOVAL	/// ///	

SPECIAL TESTS AND INSPECTION SCHEDULE

THE FOLLOWING ITEMS SHALL BE INSPECTED. "SPECIAL INSPECTION" SHALL CONFORM TO 2016 CBC TABLE 1705.6. SPECIAL INSPECTION AGENCIES AND/OR INDIVIDUALS SHALL BE RETAINED BY THE OWNER AND APPROVED BY THE BUILDING OFFICIAL PRIOR TO ANY WORK. FOR MATERIAL TESTING REQUIREMENTS, SEE GEOTECHNICAL REPORT AND/OR GENERAL NOTES. TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE BUILDING OFFICIAL AND ENGINEER.

VERIFICATION AND INSPECTION TASK	WHEN TO BE COMPLETED	INSPECTION BY	INSPECTOR'S NAME	COMPLETION DATE
OBSERVATION OF FILL MATERIAL / COMPACTION	CONTINUOUS, AS FILL IS PLACED	SOIL ENGINEER		
CLASSIFICATION / TESTING FILL MATERIAL	PERIODIC	SOIL ENGINEER		
SUBGRADE / FINISH GRADE PREPARATION	PERIODIC, AFTER FILL PLACEMENT	SOIL ENGINEER		
FOUNDATION EXCAVATIONS	PRIOR TO STEEL OR FORM PLACEMENT	SOIL ENGINEER		
REINFORCING STEEL CONSTRUCTION	PERIODIC	TO BE DETERMINED		
FOUNDATION	PERIODIC	SOIL ENGINEER		
MASONRY & CONCRETE CONSTRUCTION	PERIODIC	TO BE DETERMINED		



VICINITY MAP
SCALE: 1" = 2000'

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CIVIL SHEET INDEX

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C0.2	CIVIL DETAILS
C0.3	CIVIL DETAILS
C0.4	CIVIL DETAILS
C0.5	CIVIL DETAILS
C0.6	CIVIL NOTES AND SPECIFICATIONS
C1.0	EXISTING CONDITIONS SITE PLAN
C1.1	OVERALL CIVIL SITE PLAN
C1.2	GRADING AND DRAINAGE PLAN (WEST)
C1.3	GRADING AND DRAINAGE PLAN (EAST)
C1.4	GRADING DETAILS & SECTIONS
C2.1	UTILITY PLAN
C3.1	TEMPORARY WATER POLLUTION CONTROL PLAN
C3.2	WATER POLLUTION CONTROL DETAILS

0 1 2 INCHES 3

Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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REGISTERED PROFESSIONAL ENGINEER
RICHARD P. WEBER
No. 35
CIVIL
STATE OF CALIFORNIA

Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

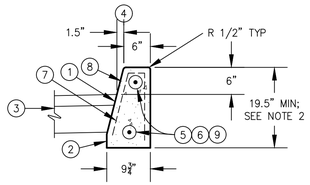
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Sheet Title:
CIVIL TITLE SHEET

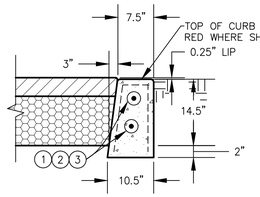
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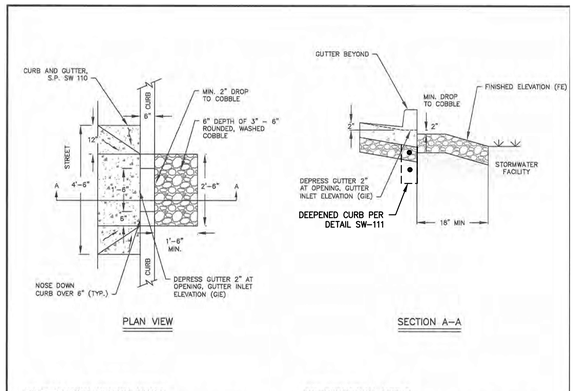
KEYNOTES:
1. APPLY TACK COAT TO FACE OF CURB PRIOR TO PAVING
2. EXTEND CURB MIN 2" BELOW BOTTOM OF AGGREGATE BASE COURSE
3. NEW AC PAVEMENT
4. CURB LINE PER PLANS
5. SLIP DOWEL EXPANSION JOINTS WITH TWO 12"–LONG #4 SMOOTH DOWELS. PROVIDE EXPANSION JOINTS AT CURB RETURNS, POINTS OF CURVATURE, AND EVERY 60' MAX.
6. DOWEL CONSTRUCTION JOINTS WITH TWO 12"–LONG #4 DEFORMED BAR DOWELS.
7. PROVIDE 1–1/2"–DEEP WEAKENED PLANE JOINTS AT MAXIMUM 12–FOOT INTERVALS. JOINTS SHOULD CORRESPOND TO SIDEWALK JOINT LOCATIONS WHERE ADJOINING.
8. TOP AND FRONT OF ALL CURBS SHALL BE FINE BROOM FINISHED. WHERE CURB ABUTS PLANTER, BACK OF CURB SHALL ALSO BE FINISHED TO 6" BELOW FINISH PLANTER GRADE.
9. 2–#4 LONGITUDINAL BARS

1 -- CONCRETE VERTICAL CURB (ON-SITE, NON-BIOFILTRATION AREA)
SCALE: N.T.S.



KEYNOTES:
1. SLIP DOWEL EXPANSION JOINTS WITH TWO 12"–LONG #4 SMOOTH DOWELS. PROVIDE EXPANSION JOINTS AT CURB RETURNS, POINTS OF CURVATURE, AND EVERY 60' MAX.
2. DOWEL CONSTRUCTION JOINTS WITH TWO 12"–LONG #4 DEFORMED BAR DOWELS.
3. 2–#4 LONGITUDINAL BARS

2 -- FLUSH CURB
SCALE: NONE

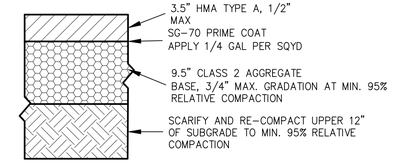


BIORETENTION DESIGN NOTES
1. FOR USE WITH STORMWATER FACILITIES WITH SLOPED SIDES OR FLAT BOTTOMS.
2. PROVIDE SPOT ELEVATIONS ON PLANS (FE, OE, GIE, IE). SEE S.P. SW 100, 101.
3. DROP FROM INLET TO AGGREGATE PAD WILL BE GREATER FOR PLANTERS.
4. CURB AND WALL DETAILS MAY BE MODIFIED BY CIVIL AND GEOTECHNICAL ENGINEERS SUBJECT TO APPROVAL OF THE CITY ENGINEER.
5. WHERE INLET FLOW VELOCITY IS HIGH, EXTEND COBBLE INTO FACILITY, BUT AVOID EXCESSIVE USE.

CONSTRUCTION NOTES
1. AFTER CONSTRUCTION PLACE SAND BAGS AT GUTTER OPENINGS TO KEEP STORM FLOWS FROM ENTERING FACILITY UNTIL VEGETATION IS ESTABLISHED.

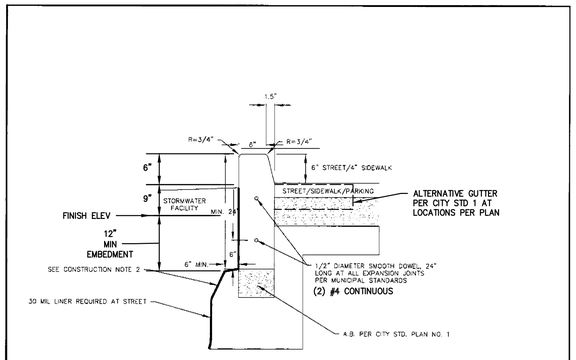
PUBLIC WORKS DEPARTMENT
ENGINEERING & TRANSPORTATION DIVISION
TITLE: **CURB CUT INLET WITH GRAVEL ENERGY DISSIPATION**
CITY OF SALINAS
STANDARD PLAN No. **SW 122**
DESIGNED BY: STAFF
CADD BY: STAFF
PROJECT MANAGER: WALTER GRANT, P.E.
DATE 9/0/14
ROBERT C. RUSSELL, CITY ENGINEER
R.C.E. 42871, EXPIRES 3-31-2016
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3 -- CURB OPENING
SCALE: N.T.S.



NOTE:
SECTION ASSUMES R VALUE=20 PER GEOTECHNICAL REPORT. R VALUE TO BE CONFIRMED WITH ON–SITE TESTING OF ACTUAL PAVEMENT SUBGRADE MATERIAL AT THE TIME OF SITE GRADING.

4 -- ASPHALT PAVING (T.I.=6.0)
SCALE: N.T.S.

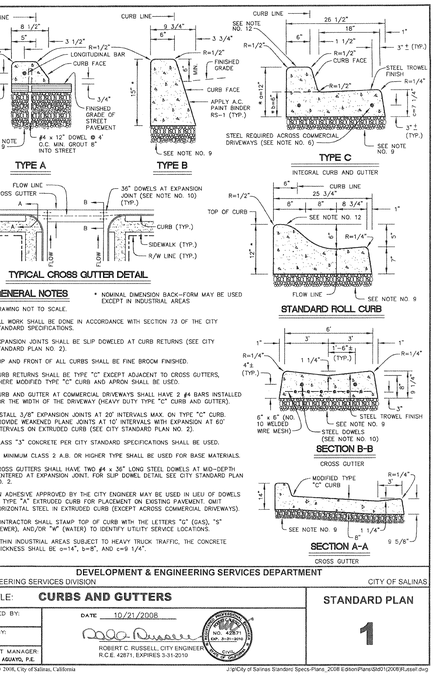


DESIGN NOTES
1. SPECIAL DESIGN CONSIDERATION OR STRUCTURAL REVIEW MAY BE REQUIRED FOR LONGER SWALE EDGE SPANS. STEEL REINFORCEMENT OR ADDITIONAL CONCRETE CHECK DAMS MAY BE NEEDED FOR STABILITY.
2. WHEN SIDEWALK DRAINS TO PLANTER, PROVIDE 4" – 6" WIDE NOTCH OPENINGS, 1" BELOW SIDEWALK, SLOPED TO FACILITY. PER BIORETENTION PLANTER DETAILS. SPACE OPENINGS TO CONVEY FLOWS. PROVIDE MINIMUM 2" COVER BETWEEN DRAINAGE NOTCH OPENING AND DOWELS.
3. CONCRETE AND EXPANSION JOINTS SHALL MEET THE REQUIREMENTS OF THE CITY OF SALINAS STD. PLAN NO. 1.

CONSTRUCTION NOTES
1. FINISH ALL EXPOSED CONCRETE SURFACES. PER CITY STD. PLAN NO. 1
2. LAYBACK SLOPE AS FLAT AS POSSIBLE UNTIL TOP WIDTH PRODUCES 1:1 SLOPE & 24" BOTTOM WIDTH. AS PLANTER GETS WIDER MAINTAIN 1:1 SLOPE & INCREASE BOTTOM WIDTH WIDER THAN 24". ALTERNATIVE TRENCH WALL CONFIGURATIONS MAY BE PROPOSED BY THE PROJECT GEOTECHNICAL ENGINEER (i.e. VERTICAL SHORING, REINFORCED TRENCH SIDEWALL) THAT DON'T REQUIRE SIDEWALL SUPPORT FROM THE LIGHTLY COMPACTED BSM.

PUBLIC WORKS DEPARTMENT
ENGINEERING & TRANSPORTATION DIVISION
TITLE: **DEEP CURB @ STORMWATER FACILITY**
CITY OF SALINAS
STANDARD PLAN No. **SW 111**
DESIGNED BY: STAFF
CADD BY: STAFF
PROJECT MANAGER: WALTER GRANT, P.E.
DATE 4/8/14
ROBERT C. RUSSELL, CITY ENGINEER
R.C.E. 42871, EXPIRES 3-31-2016
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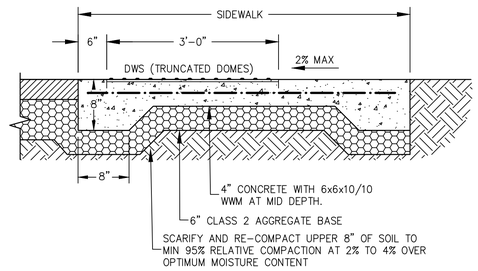
5 -- DEEPENED CURB
SCALE: N.T.S.



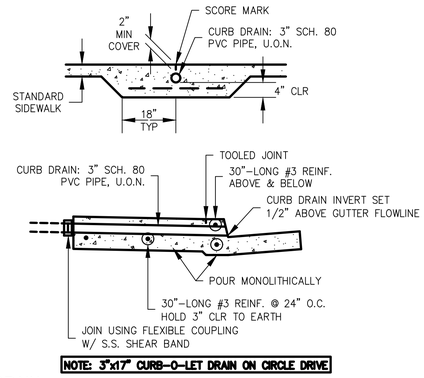
GENERAL NOTES
* NOMINAL DIMENSION BACK–FORM MAY BE USED EXCEPT IN INDUSTRIAL AREAS
1. DRAWING NOT TO SCALE.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH SECTION 73 OF THE CITY STANDARD SPECIFICATIONS.
3. EXPANSION JOINTS SHALL BE SLIP DOWELED AT CURB RETURNS (SEE CITY STANDARD PLAN NO. 2).
4. TOP AND FRONT OF ALL CURBS SHALL BE FINE BROOM FINISHED.
5. CURB RETURNS SHALL BE TYPE "C" EXCEPT ADJACENT TO CROSS GUTTERS, WHERE MODIFIED TYPE "C" CURB AND APRON SHALL BE USED.
6. CURB AND GUTTER AT COMMERCIAL DRIVEWAYS SHALL HAVE 2 #4 BARS INSTALLED FOR THE WIDTH OF THE DRIVEWAY (HEAVY DUTY TYPE "C" CURB AND GUTTER).
7. INSTALL 3/8" EXPANSION JOINTS AT 20' INTERVALS MAX. ON TYPE "C" CURB. PROVIDE WEAKENED PLANE JOINTS AT 10' INTERVALS WITH EXPANSION AT 60' INTERVALS ON EXTRUDED CURB (SEE CITY STANDARD PLAN NO. 2).
8. CLASS "3" CONCRETE PER CITY STANDARD SPECIFICATIONS SHALL BE USED.
9. 6" MINIMUM CLASS 2 A.B. OR HIGHER TYPE SHALL BE USED FOR BASE MATERIALS.
10. CROSS GUTTERS SHALL HAVE TWO #4 x 36" LONG STEEL DOWELS AT MID–DEPTH CENTERED AT EXPANSION JOINT. FOR SLIP DOWEL DETAIL SEE CITY STANDARD PLAN NO. 2.
11. AN ADHESIVE APPROVED BY THE CITY ENGINEER MAY BE USED IN LIEU OF DOWELS IN TYPE "A" EXTRUDED CURB FOR PLACEMENT ON EXISTING PAVEMENT. OMIT HORIZONTAL STEEL IN EXTRUDED CURB (EXCEPT ACROSS COMMERCIAL DRIVEWAYS).
12. CONTRACTOR SHALL STAMP TOP OF CURB WITH THE LETTERS "G" (GAS), "S" (SEWER), AND/OR "W" (WATER) TO IDENTIFY UTILITY SERVICE LOCATIONS.
13. WITHIN INDUSTRIAL AREAS SUBJECT TO HEAVY TRUCK TRAFFIC, THE CONCRETE THICKNESS SHALL BE a=14"; b=8", and c=9 1/4".

DEVELOPMENT & ENGINEERING SERVICES DEPARTMENT
ENGINEERING SERVICES DIVISION
CITY OF SALINAS
TITLE: **CURBS AND GUTTERS**
STANDARD PLAN **1**
DESIGNED BY: STAFF
CADD BY: STAFF
PROJECT MANAGER: FRANK A. AGUAYO, P.E.
DATE 10/21/2008
ROBERT C. RUSSELL, CITY ENGINEER
R.C.E. 42871, EXPIRES 3-31-2010
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6 -- CURB AND GUTTER
SCALE: N.T.S.



7 -- FLUSH SIDEWALK W/ TRUNCATED DOMES
SCALE: N.T.S.



NOTE: 3"x17" CURB–O–LET DRAIN ON CIRCLE DRIVE

8 -- THRU-CURB DRAIN
SCALE: N.T.S.

811

Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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REGISTERED PROFESSIONAL ENGINEER RICHARD P. WEBER No. 20102 CIVIL STATE OF CALIFORNIA

Drawn By: CW
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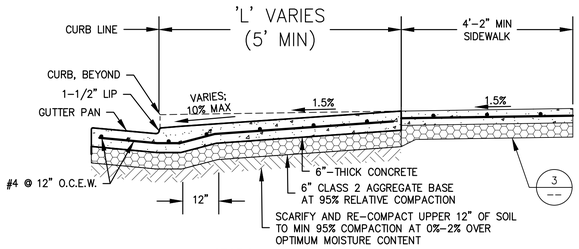
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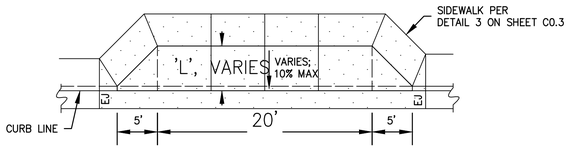
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SECTION

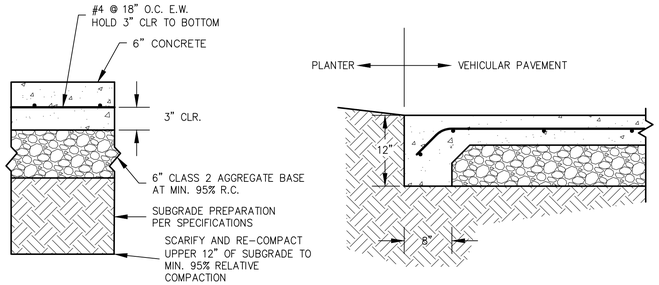


PLAN

1 CONCRETE DRIVEWAY

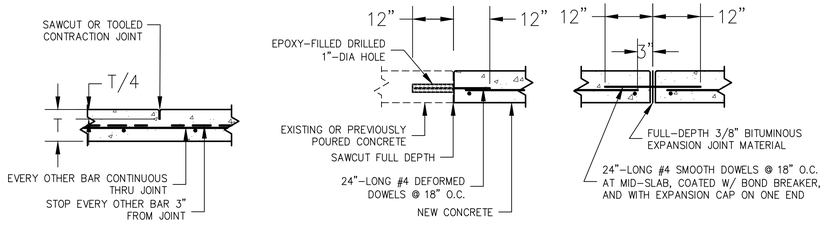
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HMA PAVING EDGE



TYPICAL SECTION

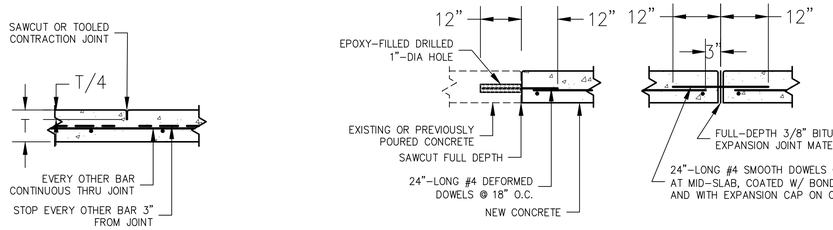
THICKENED EDGE AT ADA PLANTER



CONTROL JOINT | CONSTRUCTION JOINT | EXPANSION JOINT

2 CONCRETE VEHICULAR PAVEMENT

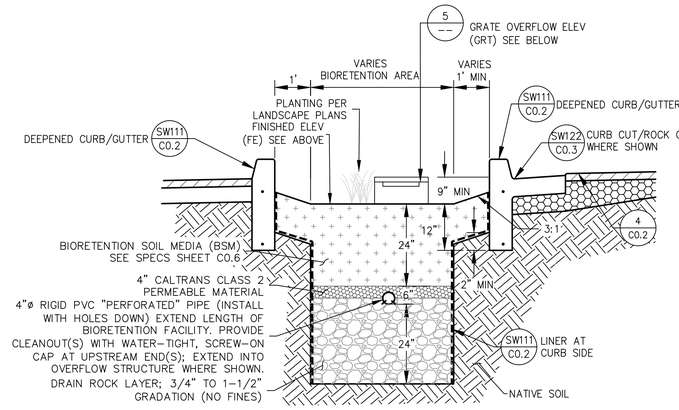
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TYPICAL SECTION | HMA PAVING EDGE | THICKENED EDGE AT PAVERS

3 CONCRETE PEDESTRIAN PAVEMENT

SCALE: N.T.S.



4 BIORETENTION PLANTER

SCALE: NONE

5 OUTLET STRUCTURE

SCALE: NONE

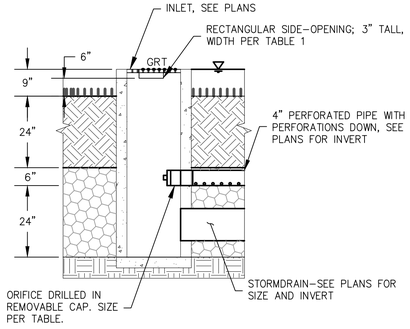


TABLE 1

OUTLET STRUCTURE	ORIFICE ø (IN)	SIDE OPENING WIDTH (IN)	BIORETENTION AREA (SF)
SCM A	1.32	11	683
SCM B	0.96	1.5	364
SCM C	1.23	8	597
SCM D	1.32	9	682
SCM E	0.77	1.5	232

BIORETENTION POND

BIORETENTION POND INSPECTION NOTES

THE ENGINEER OF RECORD (WHITSON ENGINEERS) WILL PROVIDE CONSTRUCTION OBSERVATIONS. THE CONSTRUCTION CONTRACTOR MUST COORDINATE THE POND CONSTRUCTION AND OBSERVATION SCHEDULE WITH THE ENGINEER TO ENSURE THE ENGINEER IS ABLE TO PROVIDE THE REQUIRED INSPECTIONS. THE FOLLOWING INSPECTIONS ARE ANTICIPATED:

1. POND EXCAVATION – MEASURE EXCAVATION AREA AND ELEVATION, AND OBSERVE SUBGRADE CONDITION
2. STRUCTURES – MEASURE STRUCTURE ELEVATIONS, AND OBSERVE ALL STRUCTURES, PIPES AND APPURTENANCES
3. BIORETENTION SOIL / FINISHED GRADE – MEASURE BACKFILLED POND AREA AND GRADING, AND OBSERVE BSM CONDITION
4. FINAL INSPECTION – OBSERVE CONDITION OF COMPLETED POND, INCLUDING MULCH, IRRIGATION, AND PLANTS.

BIORETENTION POND CONSTRUCTION NOTES

1. BIORETENTION PONDS MAY BE ROUGH GRADED AND USED AS TEMPORARY SEDIMENTATION PONDS DURING CONSTRUCTION. THE BOTTOM OF THE TEMPORARY SEDIMENTATION PONDS MUST BE AT LEAST 12 INCHES ABOVE THE BOTTOM OF THE FINAL PLANNED EXCAVATION, TO ALLOW FOR FINAL EXCAVATION AS DESCRIBED BELOW.
2. FINAL POND EXCAVATION AND PLACEMENT OF BIORETENTION SOIL MIX SHALL OCCUR AFTER CONSTRUCTION OF SURROUNDING EMBANKMENTS, PAVEMENTS AND CURBS AND AFTER STABILIZATION OF SURROUNDING LANDSCAPE AREAS; AND NOT MORE THAN 2 WEEKS PRIOR TO MULCHING AND LANDSCAPING THE PONDS.
   - 2.1. FINAL POND EXCAVATION MUST BE TO A DEPTH OF AT LEAST 12 INCHES INTO UNDISTURBED NATIVE SOIL, TO ENSURE FINE-GRAINED SEDIMENTS DEPOSITED DURING THE COURSE OF CONSTRUCTION ARE REMOVED FROM THE POND FOOTPRINT.
   - 2.2. IF CONSTRUCTION SITE RUNOFF ENTERS THE POND AFTER FINAL EXCAVATION (E.G., DUE TO STORM OR TEMPORARY IRRIGATION RUNOFF), AND PRIOR TO PLACEMENT OF BIORETENTION SOIL MIX, THE ENGINEER MAY REQUIRE REMOVAL OF AN ADDITIONAL 2 INCHES OF UNDISTURBED NATIVE SOIL.
3. THE CONTRACTOR IS RESPONSIBLE FOR POND MAINTENANCE DURING CONSTRUCTION UNTIL CONTRACT ACCEPTANCE. THIS INCLUDES REMOVAL OF ALL SEDIMENTS WHICH ARE DEPOSITED IN THE PONDS.
   - 3.1. IMMEDIATELY PRIOR TO CONSTRACT ACCEPTANCE, CONTRACTOR MUST REMOVE ALL TRASH, DEBRIS AND ACCUMULATED SEDIMENT.
4. THE PROJECT STORM WATER CONTROL PLAN (SWCP) AND OPERATION & MAINTENANCE PLAN (OMP) OUTLINE THE OPERATION AND MAINTENANCE REQUIREMENTS AFTER CONTRACT ACCEPTANCE.

0 1 2 INCHES 3

Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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RICHARD P. WEBER
No. 52512
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STATE OF CALIFORNIA

Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

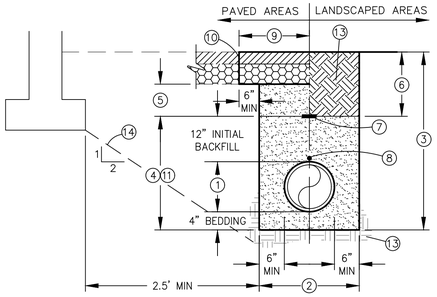
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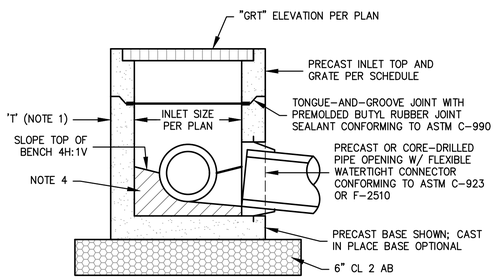
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KEYNOTES

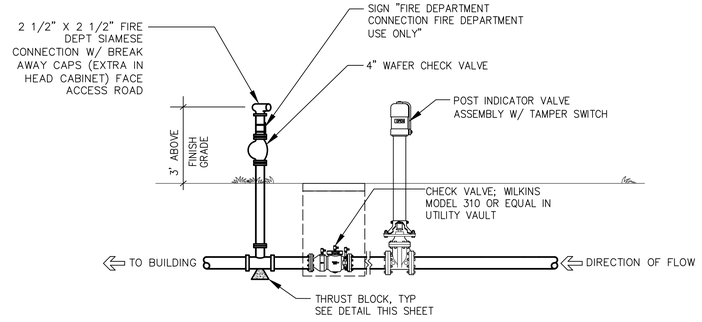
1. PROPOSED PRIVATE UTILITY; PIPE ZONE
2. MINIMUM TRENCH WIDTH = PIPE O.D. + 12" MIN. PROVIDE MIN 6" CLR EITHER SIDE OF PIPE. TRENCH WIDTH MAY VARY FROM ACTUAL WIDTH REQUIRED TO PERFORM THE WORK DEPENDING UPON METHOD OF COMPACTION AND FOR TRENCH SHORING/PROTECTION USED BY CONTRACTOR.
3. TRENCH DEPTH AS SHOWN ON PLANS. IF NOT SHOWN OR OTHERWISE SPECIFIED, PROVIDE MIN 36" COVER FOR WATER MAINS 4" AND LARGER, AND MIN 30" COVER FOR OTHER FACILITIES.
4. PIPE BEDDING AND INITIAL BACKFILL: CLEAN SAND AS DEFINED IN ASTM 2487–10, WITH SAND EQUIVALENT OF 30 OR GREATER, COMPACTED IN MAX 8" LIFTS TO MIN. 95% R.C.
5. FINAL BACKFILL IN BUILDING, SLAB, FLATWORK, AND PAVEMENT AREAS: CLEAN SAND AS DEFINED IN ASTM 2487–10, WITH SAND EQUIVALENT OF 30 OR GREATER, COMPACTED IN MAX 6" LIFTS TO MIN. 95% R.C.
6. FINAL BACKFILL IN LANDSCAPE AREAS: NATIVE MATERIAL COMPACTED IN MAX 6" LIFTS TO MIN. 90% R.C.
7. PLACE 3"–WIDE WARNING TAPE 12" ABOVE PIPE.
8. PROVIDE INSULATED 12 AWG TRACER WIRE FOR ALL EXTERIOR NON–METALLIC WATER AND GAS PIPES 4"–DIA AND LARGER. TAPE TO TOP OF PIPE AT 10' INTERVALS. EXTEND TO THE SURFACE AT VALVE BOXES, RISERS, ETC., SO LOCATOR EQUIPMENT CAN BE CONNECTED.
9. PIPE TRENCHING WORK IN EXISTING IMPROVED STREETS SHALL INCLUDE REPLACEMENT OF EXISTING PAVEMENT. THE THICKNESS OF THE NEW AC. AND AB SHALL BE EQUIVALENT TO THE EXISTING AC. AND AB THICKNESS, OR 2.5" AC ON 8" AB, WHICHEVER IS GREATER. TRENCH PATCH SHALL EXTEND MIN 6" BEYOND TRENCH WALL.
10. ALL STREET CUTS SHALL BE NEATLY SAWCUT ON TRUE LINE TO 1–1/2" MINIMUM DEPTH AT A MINIMUM OF 6" BEYOND EDGE OF TRENCH WALL.
11. IN VEHICULAR AREAS, WHERE FINISH GRADE IS LESS THAN 24" ABOVE THE TOP OF PIPE, BACKFILL TO MIN 6" ABOVE TOP OF PIPE WITH 5–SACK CONCRETE.
12. ALL SOILS PROPOSED TO BE UTILIZED FOR TRENCH BEDDING AND BACKFILL SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE USE. IMPORTED SOILS SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE BEING BROUGHT TO THE SITE.
13. UNDISTURBED SUBGRADE SOIL. THE GEOTECHNICAL ENGINEER SHALL APPROVE SUBGRADE PRIOR TO PLACING BEDDING.
14. UTILITY TRENCHES THAT ARE PARALLEL TO THE SIDES OF BUILDINGS OR WALL FOOTINGS SHALL BE LOCATED SO THAT THE TRENCHES DO NOT EXTEND BELOW AN IMAGINARY LINE SLOPING DOWN AT A 2:1 (H:V) SLOPE FROM THE BOTTOM OUTSIDE EDGE OF THE FOOTINGS.
15. WHERE UTILITY TRENCHES CROSS BENEATH FOOTINGS (INCLUDING PERIMETER FOUNDATIONS), A CONCRETE PLUG SHALL BE PROVIDED.

1 PRIVATE UTILITY TRENCHING
SCALE: NONE



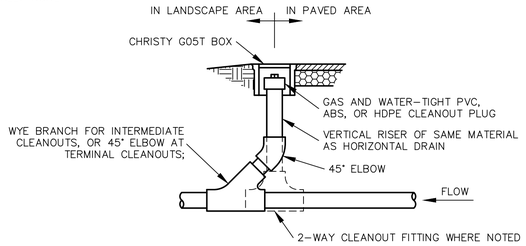
NOTES:
1. WALL 'T'=4" FOR 12" INLETS, T=5" FOR 15"–27" INLETS, AND T=6" FOR 30" AND LARGER INLET SIZES.
2. CAST IN PLACE CONCRETE AND PRECAST CONCRETE DRAIN INLETS SHALL CONFORM TO SECTION 51, "CONCRETE STRUCTURES", SECTION 52 "REINFORCEMENT", SECTION 70 "MISCELLANEOUS FACILITIES", SECTION 75 "MISCELLANEOUS METAL" OF THE STANDARD SPECIFICATIONS, AND THESE SPECIFICATIONS.
3. PRECAST MEMBERS SHALL CONFORM TO SECTION 70–1.02H, "PRECAST CONCRETE STRUCTURES", OF THE STANDARD SPECIFICATIONS, AND NEW STANDARD PLAN D73A.
4. THE FLOW LINE OF CONCRETE INLETS, WHETHER PRECAST OR CAST IN PLACE, SHALL BE FORMED IN THE FIELD TO PROVIDE A SMOOTH FLOW LINE WITH BENCH AT THE PIPE SPRING LINE. PRECAST INLET INVERT PAVING THICKNESS SHALL BE AT LEAST 3" BELOW THE BOTTOM OF THE LOWEST PIPE.
5. STRUCTURES SHALL BE H–20 LOAD RATED IF LOCATED IN VEHICULAR AREAS, AND PEDESTRIAN LOAD RATED OTHERWISE.

2 PRECAST CONCRETE DROP INLET
SCALE: N.T.S.

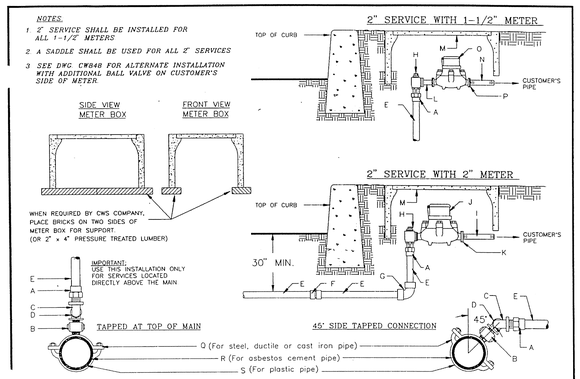


NOTE:
1. ALL PRODUCTS/MATERIALS TO BE APPROVED BY FIRE DEPARTMENT PRIOR TO ORDERING.
2. THRUST BLOCKS NOT SHOWN.

3 FIRE DEPARTMENT CONNECTION AND POST INDICATOR VALVE
SCALE: NONE



4 CLEAN OUT
SCALE: N.T.S.



MATERIAL REQUIREMENTS		MATERIAL REQUIREMENTS	
PART	DESCRIPTION	PART	DESCRIPTION
A	2" ADAPTER C TO I.P.T. MALE STREAMLINE	L	METER FLG ADAPTER, FORD A67–2" MET.FLG.x1–1/2" MET.FLG.
B	CORPORATION STOP–MT MUELLER H–10003 1–1/2" CC x 2" M.I.P., OR –FORD FB–800 1–1/2" CC x 2" M.I.P. OR, JAMES JONES J–89 1–1/2" CC x 2" M.I.P.	M	BOX, METER: (FOR 2" AND 1–1/2" METER) 17" X 28" NOMINAL BROOKS CONCRETE #65 BOX W/ #655 CONCRETE COVER & LID CHRISTY CONCRETE B65 BOX W/ B65E CONCRETE COVER & LID NOTE: CAST IRON COVERS REQUIRED IN TRAFFIC AREAS.
C	2" ELL STD. BRASS 90° (F.I.P. x F.I.P.)	N	1–1/2" NIPPLE STD. BRASS
D	2" ELL STREET STD. BRASS 90° (F.I.P. x M.I.P.)	O	1–1/2" METER, (BY CWS COMPANY) LENGTH 13" NOTE: DEVELOPER'S CONTRACTOR SHALL INSTALL SPACER IN PLACE OF METER, PER CWS CO.'S DIRECTION
E	2" TUBING COPPER, TYPE "K", SOFT	P	1–1/2" METER FLG (FLG. x F.I.P.) BRONZE W/ FULL FACE GASKET AND #304 STAINLESS STEEL BOLTS & NUTS
F	2" COUPLING C TO C STREAMLINE	Q	SADDLE, MALLEABLE IRON, DOUBLE STRAP, MUELLER H–10500, FORD F202, JAMES JONES, ROCKWELL INT'L.
G	2" ELL C TO C STREAMLINE 90°	R	SERVICE SADDLE, ALL BRONZE, DOUBLE STRAP, FORD 2020 STYLES, OR JAMES JONES J–979, OR ROCKWELL INTERNATIONAL NO. 323, MUELLER H–16000.
H	2" BALL ANGLE METER VALVE – F.I.P. x METER FLANGE – FULL PORT MUELLER B–24286, FORD BFA13–777W, JAMES JONES J–1974 W.	S	SERVICE SADDLE, ALL BRONZE, JAMES JONES J–996, FORD METER BOX CO. S–90 STYLES, OR MUELLER #H–13400 SERIES
I	2" NIPPLE STD. BRASS		
J	2" METER, (BY CWS COMPANY) LENGTH 17" NOTE: DEVELOPER'S CONTRACTOR SHALL INSTALL SPACER IN PLACE OF METER, PER CWS CO.'S DIRECTION.		
K	2" METER FLG (FLG. x F.I.P.) BRONZE WITH FULL FACE GASKET AND #304 STAINLESS STEEL BOLTS & NUTS		

ENGINEERING — CALIFORNIA WATER SERVICE CO. — DEPARTMENT

TITLE: STANDARD 2" SERVICE CONNECTION FOR 2" METER OR 1–1/2" METER

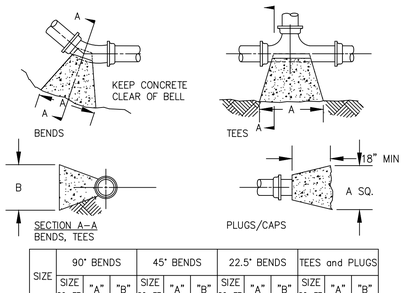
DISTRICT:	DATE:	SCALE:	EST. NO.:	PLAT NO.:
	10/1/62	NONE		

DRAWN BY:	CHECKED BY:	APPROVED BY:	DWG. NO.:
A.I.G.	A.F.G.	Alta Fromm Goodrich	CW–436–R6

REVISION: R5 Redrawn on AutoCAD, changed detail and mat'ls. A.I.G. 6/4/94
R6. Changed to ANGLE METER VALVE, 17" x 28" BOX for 2" METER and for 1–1/2" A.I.G. 6/9/94

NOTE:
POLYETHYLENE TUBING SHALL BE USED FOR ALL ON–SITE PIPING IN LIEU OF COPPER TUBING.

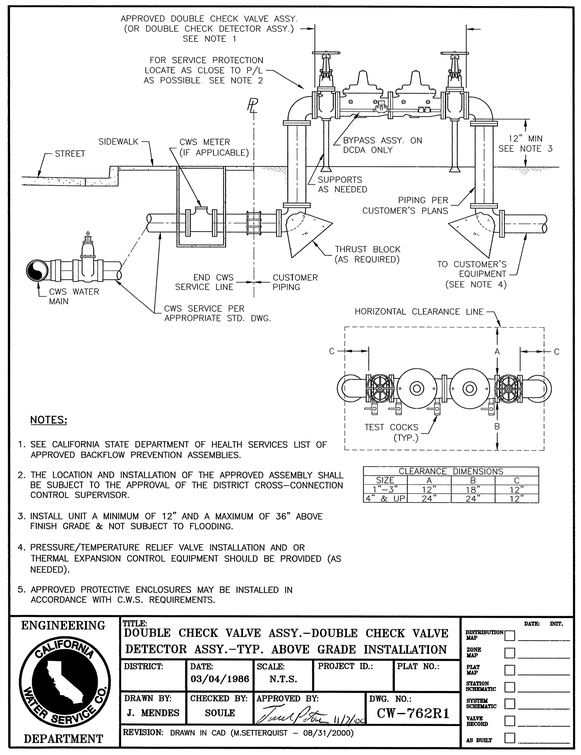
5 2" WATER SERVICE CONNECTION
SCALE: N.T.S.



SIZE	90° BENDS			45° BENDS			22.5° BENDS			TEES and PLUGS		
	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"	SIZE SQ. FT.	"A"	"B"
4"	2	24"	12"	2	24"	12"	2	24"	12"	2	18"	12"
6"	5	36"	18"	3	24"	18"	3	24"	18"	4	36"	18"
8"	8	46"	24"	5	28"	24"	4	26"	20"	6	42"	20"
10"	13	60"	36"	7	36"	30"	6	32"	22"	9	48"	24"
12"	18	66"	42"	10	42"	36"	8	40"	24"	13	56"	30"

BASED ON A WATER PRESSURE OF 225 POUNDS PER SQUARE INCH AND A SOIL RESISTANCE OF 2000 POUNDS PER SQUARE FOOT, PER NFPA 24 TABLE 8–6.2.7.

6 THRUST BLOCKS
SCALE: NONE



NOTES:

1. SEE CALIFORNIA STATE DEPARTMENT OF HEALTH SERVICES LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES.
2. THE LOCATION AND INSTALLATION OF THE APPROVED ASSEMBLY SHALL BE SUBJECT TO THE APPROVAL OF THE DISTRICT CROSS–CONNECTION CONTROL SUPERVISOR.
3. INSTALL UNIT A MINIMUM OF 12" AND A MAXIMUM OF 36" ABOVE FINISH GRADE & NOT SUBJECT TO FLOODING.
4. PRESSURE/TEMPERATURE RELIEF VALVE INSTALLATION AND OR THERMAL EXPANSION CONTROL EQUIPMENT SHOULD BE PROVIDED (AS NEEDED).
5. APPROVED PROTECTIVE ENCLOSURES MAY BE INSTALLED IN ACCORDANCE WITH C.W.S. REQUIREMENTS.

CLEARANCE DIMENSIONS			
SIZE	A	B	C
1"–3"	12"	18"	12"
4" & UP	24"	24"	12"

ENGINEERING — CALIFORNIA WATER SERVICE CO. — DEPARTMENT

TITLE: DOUBLE CHECK VALVE ASSY.–DOUBLE CHECK VALVE DETECTOR ASSY.–TYP. ABOVE GRADE INSTALLATION

DISTRICT:	DATE:	SCALE:	PROJECT ID.:	PLAT NO.:
	03/04/1986	N.T.S.		

DRAWN BY:	CHECKED BY:	APPROVED BY:	DWG. NO.:
J. MENDES	SOULE		CW–762R1

REVISION: DRAWN IN CAD (M.SETTERQUIST – 08/31/2000)

DATE: INIT.	
DISTRIBUTION MAP	
ZONE MAP	
PLAT MAP	
STATION SCHEMATIC	
SYSTEM SCHEMATIC	
VALVE RECORD	
AS BUILT	

7 DOUBLE CHECK VALVE
SCALE: N.T.S.

811

Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N.004-601-015-000

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EMAIL: info@pauldavispartnership.com

REGISTERED PROFESSIONAL ENGINEER — RICHARD P. WEBER — NO. 33219 — CIVIL — STATE OF CALIFORNIA

Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

09.21.21 ISSUED FOR BID

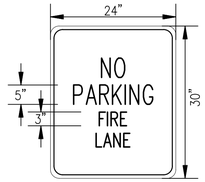
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Sheet Title:
CIVIL DETAILS

Sheet Number:
C0.4

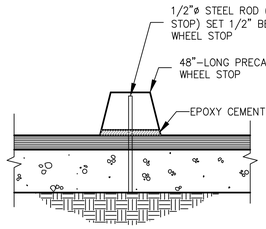
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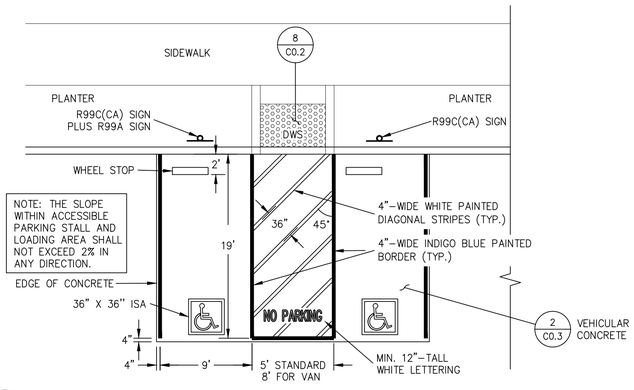
SIGN SHALL HAVE RED LETTERING (LETTER SERIES B 2000)
WITH A WHITE BACKGROUND

1 "NO PARKING FIRE LANE" SIGN
SCALE: NONE

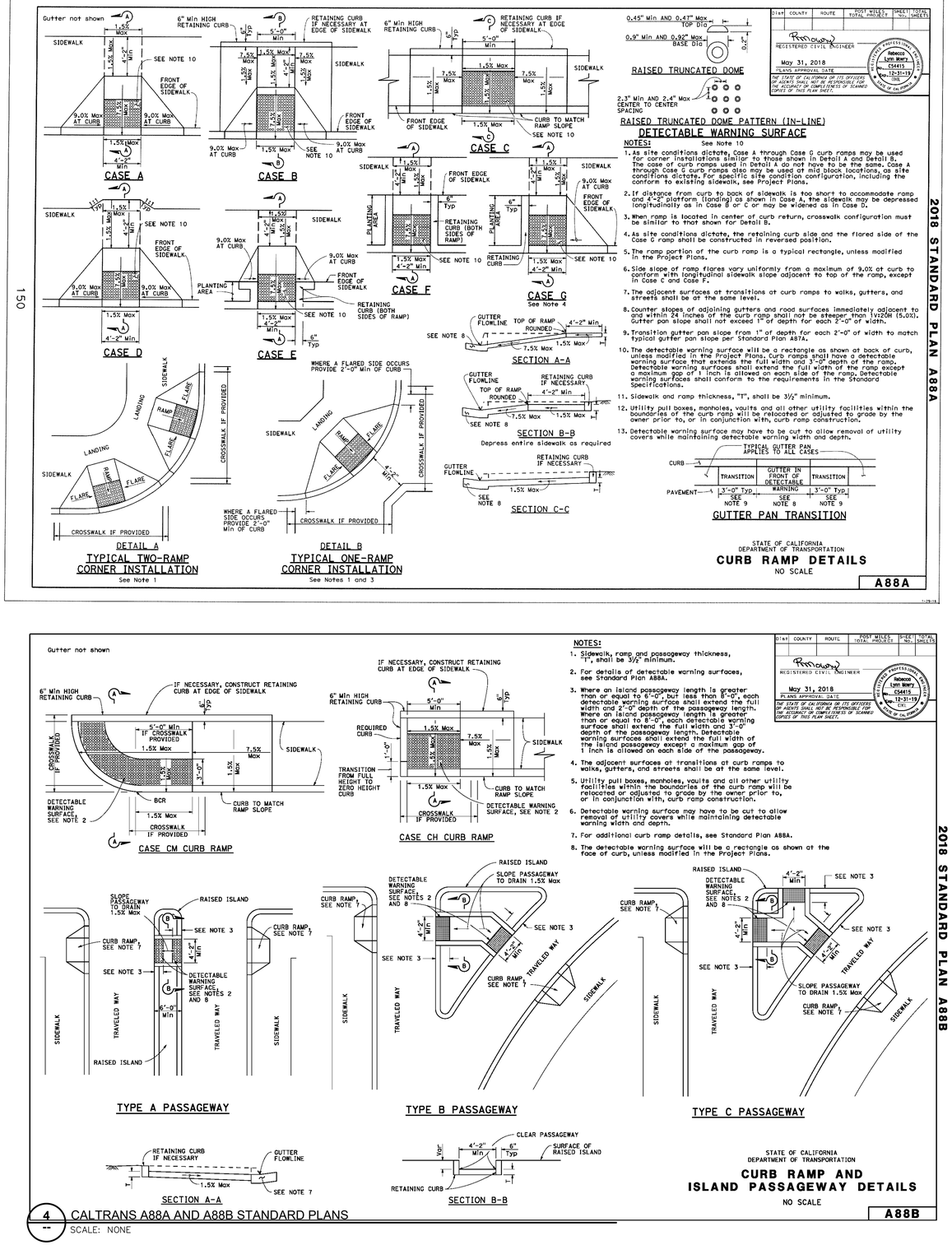


CONCRETE WHEELSTOP
48" LONG X 5" TALL X 7" WIDE PRECAST CONCRETE WHEELSTOP REINFORCED WITH MIN (1) #3 REBAR. FINISH SHALL BE CLEAN AND CONSOLIDATED. EPOXY CEMENT TO AC PAVEMENT AND ALSO DOWEL INTO AC PAVEMENT WITH (2) 12"-LONG #4 REBAR.

2 CONCRETE WHEEL STOP
SCALE: N.T.S.



3 ACCESSIBLE PARKING
SCALE: N.T.S.



4 CALTRANS A88A AND A88B STANDARD PLANS
SCALE: NONE

Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
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REGISTERED PROFESSIONAL ENGINEER
RICHARD P. WEBER
No. 15257
CIVIL
STATE OF CALIFORNIA

Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

09.21.21 ISSUED FOR BID

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Sheet Title:
CIVIL DETAILS

Sheet Number:
C0.5

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DEMOLITION

REMOVAL OF PAVEMENTS AND STRUCTURES

ALL EXISTING PAVEMENT, STRUCTURES AND FOOTINGS WITHIN THE LIMITS OF WORK NOT SHOWN TO BE RETAINED SHALL BE REMOVED AND RESULTING VOIDS SHALL BE BACKFILLED WITH ENGINEERED FILL OR CONTROLLED DENSITY FILL.

SAWCUTTING

MARK THE PLANNED SAWCUT LOCATIONS IN THE FIELD FOR REVIEW BY THE ENGINEER. THE ENGINEER MAY REVISE THE SAWCUT LIMITS BASED ON ACTUAL FIELD CONDITIONS, SUCH AS TO COINCIDE WITH EXISTING JOINTS. SAWCUTTING SHALL BE DONE SO AS TO PROVIDE A STRAIGHT, NEAT EDGE. WHERE CONSTRUCTION OPERATIONS CAUSE DAMAGE BEYOND THE LIMITS OF A COMPLETED SAWCUT LINE, THE DAMAGED AREA SHALL ALSO BE REMOVED AND REPLACED TO A NEAT, SAWCUT EDGE.

SAWCUT ASPHALT CONCRETE AND CONCRETE CURBS, GUTTERS, SIDEWALK, RAMPS, DRIVEWAYS, AND CROSS-GUTTERS FULL-DEPTH AT THE LOCATIONS SHOWN ON THE PLANS AND INDICATED BY THE ENGINEER IN THE FIELD. SAWCUT LINES IN CONCRETE PAVEMENTS SHALL COINCIDE WITH EXISTING SCORE MARKS OR JOINTS WHERE POSSIBLE.

SAWCUT SLURRY SHALL BE VACUUMED AND SHALL NOT BE ALLOWED TO RUN OUT OF THE WORK AREA.

UTILITY REMOVAL AND ABANDONMENT

PIPES 4" AND LARGER, VAULTS, RISERS, BOXES, INLETS, ETC., WHICH ARE NOT TO BE RETAINED IN SERVICE SHALL BE COMPLETELY REMOVED FROM WITHIN THE WORK AREA. PIPES SMALLER THAN 4" MAY BE ABANDONED IN PLACE BY CAPPING BOTH ENDS OF THE PIPE, UNLESS OTHERWISE NOTED.

UTILITY COVER ADJUSTMENTS

ADJUST TO GRADE ALL UTILITY COVERS AND BOXES, AND SURVEY MONUMENT BOXES, WITHIN THE WORK AREA, UNLESS THE COVER OR BOX WILL BE ADJUSTED TO GRADE BY THE UTILITY OWNER, OR AS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER. SALVAGE EXISTING COVERS AND BOXES AND FURNISH AND INSTALL NEW COVERS AND BOXES, UNLESS THE THE EXISTING COVER OR BOX IS SPECIFICALLY APPROVED FOR REUSE BY THE ENGINEER. PROVIDE SALVAGED COVERS AND BOXES TO THE UTILITY OWNER.

CONTROLLED DENSITY FILL

CONTROLLED DENSITY FILL (ALSO REFERRED TO AS CONTROLLED LOW STRENGTH MATERIAL, SLURRY CEMENT BACKFILL, OR LEAN CONCRETE BACKFILL) SHALL BE A FLUID, WORKABLE MIXTURE OF AGGREGATE, CEMENT AND WATER CONTAINING AT LEAST 188 POUNDS OF CEMENT PER CUBIC YARD AND ENOUGH WATER TO PRODUCE A FLUID WORKABLE MIX THAT FLOWS AND CAN BE PUMPED WITHOUT SEGREGATION DURING PLACEMENT.

CONCRETE BACKFILL

CONCRETE BACKFILL MUST CONFORM TO SECTION 90-2, "MINOR CONCRETE", AND CONTAIN AT LEAST 505 POUNDS OF CEMENTITIOUS MATERIAL PER CUBIC YARD. CONCRETE BACKFILL MUST BE USED WHERE UTILITY TRENCHES CROSS BENEATH FOOTINGS (INCLUDING PERIMETER FOUNDATIONS) AND IN VEHICULAR AREAS WHERE FINISH GRADE IS LESS THAN 24" ABOVE THE TOP OF PIPE.

AGGREGATE BASE

AGGREGATE BASE SHALL BE CLASS 2 CONFORMING TO THE PROVISIONS IN SECTION 26, "AGGREGATE BASES," OF THE STANDARD SPECIFICATIONS. AGGREGATE BASE SHALL BE COMPACTED TO AT LEAST 95% R.C.

BITUMINOUS SEALS

FOG SEAL SHALL BE A DOUBLE APPLICATION OF FOG SEAL COAT CONFORMING TO SECTION 37, "BITUMINOUS SEALS," OF THE STANDARD SPECIFICATIONS.

ASPHALT CONCRETE

HOT MIX ASPHALT SHALL BE TYPE "A" CONFORMING TO THE PROVISIONS IN SECTION 39, "ASPHALT CONCRETE," OF THE STANDARD SPECIFICATIONS. THE GRADE OF ASPHALT BINDER SHALL BE PG 64-10.

SIGNS, STRIPES AND MARKINGS

SIGNS, MARKERS, TRAFFIC STRIPES AND PAVEMENT MARKINGS SHALL CONFORM TO SECTION 81, "MISCELLANEOUS TRAFFIC CONTROL DEVICES", SECTION 82, "SIGNS AND MARKERS", AND SECTION 84, "MARKINGS," OF THE STANDARD SPECIFICATIONS.

TWO COATS OF PAINT SHALL BE APPLIED FOR PAINTED LINES, MARKINGS AND CURBS.

SURFACES WHICH ARE TO RECEIVE TRAFFIC STRIPES AND MARKINGS SHALL BE DRY AND SHALL BE CLEANED OF ALL DIRT AND LOOSE MATERIAL.

THE CONTRACTOR SHALL REPLACE IN-KIND ALL STRIPING, PAVEMENT MARKINGS AND RAISED MARKERS REMOVED OR DAMAGED AS PART OF THE CONSTRUCTION.

FIRE SYSTEM NOTES

1. THRUST BLOCKS SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION OF WATER MAIN.
2. FIRE SPRINKLER SYSTEMS SHALL CONFORM TO NFPA 13 AND SHALL BE REVIEWED BY THE FIRE DEPARTMENT PRIOR TO INSTALLATION. STAMPED, APPROVED PLANS MUST BE KEPT ON SITE FOR FIRE INSPECTOR.
   A. SUBMITTAL SHALL INCLUDE FOUR (4) SETS OF PLANS AND CALCULATIONS WITH ALL DETAILS PER NFPA 13.
   B. CONTRACTOR IS REQUIRED TO SUBMIT A SET OF "AS-BUILT" DOCUMENTS AND/OR DRAWINGS FOR APPROVAL PRIOR TO FINAL INSPECTION WHEN NOT INSTALLED PER PLAN.
   C. TEST REQUIRED AT 200 PSI FOR MINIMUM TWO (2) HOURS AND WITNESSED BY THE CITY OF MONTEREY FIRE INSPECTOR.
3. THE FIRE SERVICE UNDERGROUND IS TO BE FULL BORE FLUSHED IN THE PRESENCE OF THE FIRE INSPECTOR.
4. FOR ANY OTHER ADDITIONAL REQUIREMENTS SEE NFPA 24 SECTION 4.1.
5. UNDERGROUND FIRE SERVICE MAINS AND ALL COMPONENTS SHALL CONFORM TO NFPA 24 MINIMUM STANDARD. THE PLANS SHALL BE REVIEWED AND APPROVED BY THE FIRE DEPARTMENT PRIOR TO INSTALLATION. STAMPED APPROVED PLANS MUST BE KEPT ON SITE FOR THE FIRE INSPECTOR.
6. SIZE AND TYPE OF FIRE SERVICE MAINS SHALL BE APPROVED BY THE FIRE DEPARTMENT PRIOR TO INSTALLATION. PIPES LESS THAN 6" IN DIAMETER SHALL BE MINIMUM SCHEDULE 80.
7. A FULLY AUTOMATIC FIRE SPRINKLER SYSTEM IS REQUIRED BY LOCAL ORDINANCE.

CONCRETE FLATWORK

CURBS, GUTTERS, WALKWAYS, DRIVEWAYS AND PARKING LOTS

CONCRETE FOR CURBS, GUTTERS, SIDEWALKS, WALKWAYS, CURB RAMPS, DRIVEWAYS, AND PAVING IN LIGHT-DUTY PARKING LOTS SHALL CONFORM TO THE PROVISIONS IN SECTION 73, "CONCRETE CURBS AND SIDEWALKS," OF THE STANDARD SPECIFICATIONS.

CONCRETE SHALL CONTAIN AT LEAST 463 POUNDS OF CEMENTITIOUS MATERIAL PER CUBIC YARD. FOR EXTRUDED OR SLIP FORM CURB CONSTRUCTION, THE MAXIMUM AGGREGATE SIZE MUST BE FROM 3/8 TO 1 INCH. THE CEMENTITIOUS MATERIAL CONTENT MUST BE AT LEAST 505 POUNDS PER CUBIC YARD IF A MAXIMUM OF 3/8-INCH AGGREGATE IS USED.

HEAVY DUTY VEHICULAR CONCRETE

CONCRETE FOR PAVING IN HEAVY-DUTY PARKING LOTS, PUBLIC STREETS, AND BUS STOP PADS MUST CONFORM TO SECTION 40, "CONCRETE PAVEMENT" OF THE STANDARD SPECIFICATIONS. ATTACHED CURBING SHALL BE CAST INTEGRALLY, WITHOUT A CONSTRUCTION JOINT BETWEEN THE CURB AND VEHICULAR PAVEMENT.

CONCRETE MIX SHALL ACHIEVE A MODULUS OF RUPTURE OF AT LEAST 570 PSI AT 28 DAYS OF AGE AND AT LEAST 650 PSI AT 42 DAYS OF AGE. ALTERNATIVELY, CONCRETE MIX MAY BE DESIGNED FOR A 28-DAY COMPRESSIVE STRENGTH OF AT LEAST 4,000 PSI.

CURB RAMP DETECTABLE WARNING SURFACE (DWS)

CURB RAMP DETECTABLE WARNING SURFACE SHALL BE:

1. A PREFABRICATED COMPOSITE PANEL CAST INTO WET CONCRETE.
2. LISTED ON THE CALTRANS AUTHORIZED MATERIALS LIST
3. COLOR AS SPECIFIED ON THE PLANS, OR IF NOT SPECIFIED, AS INDICATED BY THE ARCHITECT.

THE MANUFACTURER MUST PROVIDE A WRITTEN 5-YEAR WARRANTY, GUARANTEEING REPLACEMENT WHEN THERE IS DEFECT IN THE DOME SHAPE, COLOR FASTNESS, SOUND-ON-CANE ACOUSTIC QUALITY, RESILIENCE, OR ATTACHMENT. THE WARRANTY PERIOD WILL BEGIN UPON ACCEPTANCE OF THE CONTRACT.

INSTALLATION OF CURB RAMP DETECTABLE WARNING SURFACE MUST COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS.

REINFORCEMENT

REINFORCEMENT SHALL CONFORM WITH THE PROVISIONS IN SECTION 52, "REINFORCEMENT", OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS, AND SHALL BE PLACED AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.

REBAR DOWELS SHALL BE PROVIDED AT ALL CONSTRUCTION JOINTS (COLD JOINTS) AND EXPANSION JOINTS IN ACCORDANCE WITH THE PLAN DETAILS OR IN ACCORDANCE WITH THE TABLE BELOW U.O.N.

4"-THICK PAVEMENT	#3x12" AT 24" O.C. AT MID-SLAB
6"-THICK PAVEMENT	#4x12" AT 24" O.C. AT MID-SLAB *
8"-THICK PAVEMENT	#5x18" AT 18" O.C. 3" CLEAR OFF BOTTOM *
VERTICAL CURB	#4x12" CENTERED IN TOP & BOTTOM (2 TOTAL)
CURB AND GUTTER	#4x12" (1) CENTERED IN CURB & AND (2) CENTERED IN GUTTER (3 TOTAL)
SIDEWALK TO CURB	#3x12" AT 24" O.C.

* MATCH REINFORCING BAR SIZE, SPACING AND LOCATION IF PAVEMENT IS REINFORCED AND HAS LARGER BARS OR NARROWER SPACING.

DOWEL BARS AT EXPANSION JOINTS SHALL BE GRADE 40 OR 60 PLAIN, ROUND, SMOOTH BARS. EXPANSION JOINT DOWEL BARS SHALL BE FREE FROM BURRS OR OTHER DEFORMATIONS DETRIMENTAL TO FREE MOVEMENT OF THE BARS IN THE CONCRETE. EXPANSION JOINT DOWEL BARS SHALL BE LUBRICATED WITH A BOND BREAKER OVER THE ENTIRE BAR, AND SHALL HAVE AN EXPANSION CAP PLACED OVER ONE END.

EXPANSION JOINT MATERIAL

PREFORMED EXPANSION JOINT FILLER SHALL COMPLY WITH ASTM D1751. USE ⅜"-THICK EXPANSION JOINT FILLER UNLESS OTHERWISE NOTED.

EXTERIOR ACCESSIBLE PATHS OF TRAVEL

GENERAL:

EXTERIOR ACCESSIBLE ROUTES MUST COMPLY WITH CBC CHAPTER 11B.

ALL WALKING SURFACES MUST BE SLIP-RESISTANT. THE CROSS-SLOPE OF ACCESSIBLE PATHS OF TRAVEL MUST NOT EXCEED 2%. THE LONGITUDINAL SLOPE OF ACCESSIBLE PATHS OF TRAVEL, EXCEPTING RAMPS AND CURB RAMPS, MUST NOT EXCEED 4.99%. THE LONGITUDINAL SLOPE OF RAMPS AND CURB RAMPS MUST NOT EXCEED 8.33%.

WALKS AND SIDEWALKS SHALL HAVE A CONTINUOUS COMMON SURFACE, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2", AND SHALL BE A MINIMUM OF 48" IN WIDTH.

LANDINGS:

THE SLOPE MEASURED IN ANY DIRECTION WITHIN REQUIRED LANDING AREAS SHALL NOT EXCEED 2%. LANDING AREAS OCCUR AT DOORS AND GATES, AT CHANGES IN DIRECTION OF THE PATH OF TRAVEL OF 30 DEGREES OR MORE, AND AT CERTAIN INTERVALS WITHIN THE PATH OF TRAVEL. IN ADDITION, THE SLOPE MEASURED IN ANY DIRECTION WITHIN THE LIMITS OF ACCESSIBLE PARKING SPACES, ACCESSIBLE LOADING AREAS, AND ACCESSIBLE VEHICLE STANDING AREAS MUST NOT EXCEED 2%.

MANEUVERING CLEARANCES AT DOORS AND GATES:

THERE SHALL BE A LEVEL AND CLEAR FLOOR OR LANDING ON EACH SIDE OF DOORS AND GATES IN CONFORMANCE WITH 2019 CBC 11B-404.2. MANEUVERING CLEARANCES AT DOORS AND GATES SHALL COMPLY WITH SECTION 2019 CBC 11B-404.2.4. MANEUVERING CLEARANCES SHALL EXTEND THE FULL WIDTH OF THE DOORWAY AND THE REQUIRED LATCH SIDE OR HINGE SIDE CLEARANCE. THERE SHALL BE NO PROJECTIONS INTO THE REQUIRED CLEAR OPENING WIDTH LOWER THAN 34 INCHES ABOVE THE FINISH FLOOR OR GROUND. PROJECTIONS INTO THE CLEAR OPENING WIDTH BETWEEN 34 INCHES AND 80 INCHES ABOVE THE FINISH FLOOR OR GROUND SHALL NOT EXCEED 4 INCHES.

THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY.

WARNING CURBS:

A CHANGE IN LEVEL (DROP-OFF), EXCEEDING 4" VERTICALLY, BETWEEN WALKS, SIDEWALKS OR OTHER PEDESTRIAN WAYS AND ADJACENT SURFACES SHALL BE IDENTIFIED BY A 6"-TALL WARNING CURB. A WARNING CURB IS NOT REQUIRED BETWEEN A SIDEWALK AND ADJACENT STREET OR DRIVEWAY. A WARNING CURB IS NOT REQUIRED WHEN A GUARDRAIL OR HANDRAIL IS PROVIDED WITH A GUIDE RAIL CENTERED 2" TO 4" ABOVE THE WALKING SURFACE.

WATER SYSTEM

GENERAL

ALL WATER SYSTEM WORK SHALL CONFORM TO CALIFORNIA PLUMBING CODE, MONTEREY COUNTY HEALTH DEPARTMENT STANDARDS AND REQUIREMENTS AND THE STANDARD AND SPECIFICATIONS OF THE LOCAL WATER UTILITY.

WATER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C-605, MANUFACTURER RECOMMENDATIONS, AND THE DETAILS SHOWN ON THE PLANS.

WATER SYSTEM SHALL BE CLEANED, DISINFECTED AND TESTED IN ACCORDANCE WITH AWWA C-605 AND C-651.

UNDERGROUND FIRE SERVICE MAINS AND ALL COMPONENTS SHALL CONFORM TO NFPA 24 AND FIRE DEPARTMENT REQUIREMENTS.

ALL VALVE, HYDRANTS, ETC. SHALL BE INTERIOR EPOXY COATED PER AWWA C-550.

ALL BURIED METAL VALVES AND FITTINGS SHALL BE COATED WITH A COAL TAR BASED MASTIC. PRODUCT: BITUMASTIC 50, OR EQUAL APPROVED BY THE ENGINEER AND ALL FITTINGS WRAPPED IN POLYETHYLENE ENCASEMENT PRIOR TO BACKFILLING.

ALL NUTS, BOLTS, AND RODS SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM F-593 "G" OR "H". NUTS SHALL BE COATED WITH TRIPAC 2000 BLUE. BREAK-AWAY BOLTS PROVIDED WITH HYDRANT AND WEDGE BOLTS PROVIDED WITH RESTRAINT ASSEMBLY NEED NOT BE STAINLESS STEEL IF NOT AVAILABLE.

PIPE COVER SHALL BE 36" MINIMUM.

FIRE SYSTEM PRODUCTS SHALL BE SUBMITTED TO AND APPROVED BY THE FIRE DEPARTMENT PRIOR TO PURCHASING MATERIALS.

BURIED WATER PIPE AND FITTINGS

PVC PIPE: AWWA C-900, CLASS 235 (DR-18)

DUCTILE IRON PIPE: AWWA C-151, CLASS 250, CEMENT MORTAR LINED PER AWWA C-104.

DUCTILE IRON FITTINGS: AWWA C-110 OR C-153, CLASS 250, WITH RUBBER GASKETED JOINT PER AWWA C-111. FITTING SHALL BE EPOXY COATED AND LINED PER AWWA C-116.

ALL DUCTILE IRON FITTINGS SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT PRIOR TO BACKFILLING.

ALL TAPPING SLEEVES TO BE MECHANICAL JOINT TYPE OR ALL STAINLESS STEEL CICUMFERENCE EAL TYPE WITH STAINLESS STEEL FLANGE, BOLTS AND NUTS.

GATE VALVE

WATER SYSTEM VALVES 12" AND SMALLER SHALL BE RESILIENT WEDGE GATE VALVE WITH SQUARE OPERATING NUT CONFORMING TO AWWA C-509. VALVES LARGER THAN 12" SHALL BE BUTTERFLY VALVES CONFORMING TO AWWA C-504. UL AND FM APPROVED. PRODUCT: CLOW, MUELLER, OR EQUAL APPROVED BY THE ENGINEER.

VALVES SHALL BE INSTALLED IN HS-20 TRAFFIC RATED VALVE BOXES, CHRISTY G05 OR EQUAL APPROVED BY THE ENGINEER. VALVE RISER SHALL BE 8" PVC.

POST INDICATOR

POST INDICATOR APPROVED BY FIRE DEPARTMENT, UL CERTIFIED AND FM APPROVED. PRODUCT: AMERICAN FLOW CONTROL IP-71, OR EQUAL APPROVED BY THE ENGINEER.

SUPERVISORY SWITCH SHALL BE UL LISTED FOR OUTDOOR USE, AND FM APPROVED.

FIRE HYDRANT

6-INCH WET BARREL FIRE HYDRANT WITH ONE 4-1/2" AND ONE 2-1/2" OUTLET, CONFORMING TO AWWA C503. UL AND FM APPROVED. MODEL SHALL BE CONSISTENT WITH THAT OF THE LOCAL JURISDICTION. CONTRACTOR SHALL MAKE PRODUCT SUBMITTAL AND RECEIVE APPROVAL FOR USE BY THE LOCAL FIRE JURISDICTION.

INSTALL BREAK-OFF CHECK VALVE WITH THE BREAK-OFF SEGMENT ABOVE GRADE. PRODUCT: CLOW LBI 400A, OR EQUAL APPROVED BY THE ENGINEER.

FIRE HYDRANT BURY: 6 INCH DIAMETER LONG RADIUS BURY ELBOW, CEMENT LINED.

BASE FLANGE SHALL BE SET 4" ABOVE FINISH GRADE.

THRUST RESTRAINT

ALL BENDS, TEES, PLUGS, VALVES, ETC., SHALL BE RESTRAINED AGAINST MOVEMENT THROUGH THE USE OF CONCRETE THRUST BLOCKS OR MECHANICAL JOINT RESTRAINTS.

CONCRETE THRUST BLOCKS SHALL CONFORM TO THE DETAILS SHOWN ON THESE PLANS OR PER THE STANDARD PLANS OF THE JURISDICTION HAVING AUTHORITY.

MECHANICAL JOINT RESTRAINTS SHALL CONFORM TO ASTM F-1674 AND SHALL BE RATED FOR 250 PSI OPERATING PRESSURE. PRODUCT: EBAA IRON "MEGALUG", OR EQUAL APPROVED BY THE ENGINEER.

MECHANICAL JOINT RESTRAINT LENGTH SHALL BE DESIGNED FOR:

1. LINE PRESSURE = 200 PSI MINIMUM
2. FACTOR OF SAFETY = 1.5 MINIMUM
3. SOIL TYPE: PER GEOTECHNICAL REPORT, OR TYPE 'SM' IF ASSUMED

STORM DRAINAGE

STORM DRAIN PIPE

4" AND 6" PIPE: RUBBER GASKETED PVC GRAVITY SEWER PIPE CONFORMING TO ASTM D-3034, SDR 35 OR SDR 26. ALTERNATE, 4" AND 6" RAIN WATER LEADERS: SOLVENT WELD ABS SEWER PIPE CONFORMING TO ASTM D-2661, SCH 40.

8" AND LARGER PIPE: HDPE TYPE "S" (SMOOTH INTERIOR, CORRUGATED EXTERIOR) PIPE WITH WATERTIGHT JOINTS CONFORMING TO AASHTO DESIGNATION M 294. ALTERNATE: RUBBER GASKETED PVC GRAVITY SEWER PIPE CONFORMING TO ASTM D-3034, SDR 35 OR SDR 26.

PERFORATED PIPE

SOLVENT WELD PERFORATED PVC PIPE CONFORMING TO ONE OF THE FOLLOWING: ASTM D-1785, SCH 40; ASTM D-3034, SDR 35 OR SDR 25; OR ASTM D-2729; OR SOLVENT WELD PERFORATED ABS PIPE CONFORMING TO ASTM D-2661, SCH 40.

PERFORATION PATTERN SHALL CONFORM TO AASHTO M-27 OR ASTM D-2729.

PERMEABLE MATERIAL

PERMEABLE MATERIAL (DRAIN ROCK) SHALL CONFORM TO THE PROVISIONS IN SECTION 68, "SUBSURFACE DRAINS," OF THE STANDARD SPECIFICATIONS, UNLESS OTHERWISE NOTED.

STORM DRAINAGE (CONTINUED)

FILTER FABRIC

FILTER FABRIC SHALL CONFORM TO AASHTO M288 CLASS 2 (MIRAFI 160N OR APPROVED EQUAL) OR CLASS 3 (MIRAFI 140N OR APPROVED EQUAL). IF NOT OTHERWISE NOTED, USE CLASS 3 FILTER FABRIC.

BIORETENTION POND

SEE BIORETENTION POND DETAIL FOR BIORETENTION POND AND SOIL MIX SPECIFICATIONS.

CONCRETE DRAINAGE STRUCTURES

CONCRETE DRAINAGE STRUCTURES SHALL CONFORM TO SECTION 51, "CONCRETE STRUCTURES", SECTION 52 "REINFORCEMENT", SECTION 70 "MISCELLANEOUS FACILITIES", SECTION 75 "MISCELLANEOUS METAL" AND THESE SPECIAL PROVISIONS. PRECAST MEMBERS SHALL CONFORM TO SECTION 70-1.02H, "PRECAST CONCRETE STRUCTURES", OF THE STANDARD SPECIFICATIONS, AND NEW STANDARD PLAN D73A.

PRECAST UNIT JOINTS SHALL BE SEALED WITH PREFORMED BUTYL RUBBER JOINT SEALANT CONFORMING TO ASTM C-990.

PLASTIC PIPE CONNECTIONS TO CONCRETE STRUCTURES SHALL BE FITTED WITH AN ELASTOMERIC GASKET OR WATERSTOP CONFORMING TO ASTM C-923 OR ASTM C-1478 (FOR PVC PIPE), OR ASTM F-2510 (FOR HDPE TYPE 'S' PIPE).

THE BASE OF CONCRETE INLETS AND MANHOLES, WHETHER PRECAST OR CAST IN PLACE, SHALL BE FORMED IN THE FIELD TO PROVIDE A SMOOTH FLOW LINE TO THE PIPE SPRING LINE (HALF-BENCH). THE INVERT PAVING THICKNESS IN PRECAST BASE UNITS SHALL BE AT LEAST 4"-THICK BELOW THE BOTTOM OF PIPE.

ALL CONCRETE DRAINAGE STRUCTURES SHALL BE H-20 LOAD RATED IF LOCATED IN VEHICULAR AREAS, AND PEDESTRIAN LOAD RATED OTHERWISE. CONCRETE DRAIN INLET WALL THICKNESS "T" SHALL BE 4" FOR 12" INLETS, 5" FOR 15"-27" INLETS, AND 6" FOR 30" AND LARGER INLET SIZES.

ALL GRATES WITHIN PEDESTRIAN AREAS SHALL BE ADA-COMPLIANT. ADA-COMPLIANT GRATES HAVE LESS THAN 1/2" CLEAR BETWEEN BARS, AND THE BARS SHALL BE ALIGNED PERPENDICULAR TO THE PATH OF TRAVEL. ALL GRATES SHALL BE BOLT- OR LOCK-DOWN

INLET SCHEDULE

SEE SHEET C2.1.

SANITARY SEWER

GENERAL

SANITARY SEWER SYSTEM SHALL BE CONSTRUCTED IN CONFORMANCE WITH:

1. THE CALIFORNIA PLUMBING CODE
2. THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION
3. PUBLIC SEWER SYSTEM WORK SHALL CONFORM TO THE UTILITY OWNER'S REQUIREMENTS
4. ASTM D2321 – PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWER AND OTHER GRAVITY-FLOW APPLICATIONS
5. MANUFACTURER'S INSTALLATION REQUIREMENTS
6. THESE SEPECIFICATIONS

BUILDING SEWERS (SEWER LATERALS)

BUILDING SEWER LATERALS SHALL BE PLACED AT 2% OR GREATER SLOPE, UNLESS A LESSER SLOPE IS SHOWN ON THE PLANS. A SLOPE OF 1% MAY BE ALLOWED FOR 4" AND 6" SEWER LATERALS, AND A SLOPE OF 0.5% MAY BE ALLOWED FOR 8" SEWER LATERALS, UPON WRITTEN APPROVAL BY THE ENGINEER.

PROVIDE CLEANOUTS ON BUILDING SEWERS:

- AT THE UPSTREAM TERMINUS OF EACH BRANCH
- WHERE THE BUILDING DRAIN EXITS THE BUILDING
- AT EACH HORIZONTAL CHANGE IN DIRECTION OF 90° OR GREATER
- FOR EVERY AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135°
- AT INTERVALS NOT TO EXCEED 100'

SEWER PIPE

4" AND LARGER PIPE: RUBBER GASKETED PVC GRAVITY SEWER PIPE AND FITTINGS CONFORMING TO ASTM D-3034, SDR 35 OR SDR 26.

ALTERNATE, 4" BUILDING SEWERS (SEWER LATERALS) ONLY: SOLVENT WELD ABS SEWER PIPE AND FITTINGS CONFORMING TO ASTM D-2661, SCH 40.

CONCRETE STRUCTURES

CONCRETE STRUCTURES SHALL CONFORM TO SECTION 51, "CONCRETE STRUCTURES", SECTION 52 "REINFORCEMENT", SECTION 70 "MISCELLANEOUS FACILITIES", SECTION 75 "MISCELLANEOUS METAL" AND THESE SPECIAL PROVISIONS. PRECAST MEMBERS SHALL CONFORM TO SECTION 70-1.02H, "PRECAST CONCRETE STRUCTURES", OF THE CALTRANS STANDARD SPECIFICATIONS.

CONCRETE MANHOLES SHALL BE PRECAST UNITS CONFORMING TO ASTM C 478 AND THE DETAILS SHOWN ON THE PLANS.

PRECAST UNIT JOINTS SHALL BE SEALED WITH PREFORMED BUTYL RUBBER JOINT SEALANT CONFORMING TO ASTM C-990.

A FLEXIBLE COMPRESSION JOINT SHALL BE PROVIDED ON THE PIPE WHERE IT CONNECTS TO THE CONCRETE STRUCTURE. THE JOINT SHALL BE LOCATED BETWEEN 12" AND 36" FROM THE OUTSIDE WALL OF THE STRUCTURE.

THE BASE OF CONCRETE MANHOLES, WHETHER PRECAST OR CAST IN PLACE, SHALL BE FORMED IN THE FIELD TO PROVIDE A SMOOTH FLOW LINE TO THE PIPE SPRING LINE (HALF-BENCH) OR TOP OF PIPE (FULL BENCH), AS SHOWN ON THE PLANS. THE INVERT PAVING THICKNESS IN PRECAST BASE UNITS SHALL BE AT LEAST 4"-THICK BELOW THE BOTTOM OF PIPE.

ALL CONCRETE STRUCTURES SHALL BE H-20 LOAD RATED IF LOCATED IN VEHICULAR AREAS, AND PEDESTRIAN LOAD RATED OTHERWISE.

BUILDING SEWER (SEWER LATERAL) TESTING AND ACCEPTANCE

FOLLOWING PLACEMENT AND COMPACTION OF BACKFILL, AND PRIOR TO THE PLACEMENT OF PERMANENT PAVEMENT, SEWER LATERALS SHALL BE CLEANED, VIDEO INSPECTED, AND TESTED BY PLUGGING THE BUILDING SEWER AT THE POINT OF CONNECTION TO THE PUBLIC SEWER OR PRIVATE SEWAGE DISPOSAL SYSTEM AND COMPLETELY FILLED TO ITS HIGHEST POINT. THE BUILDING SEWER SHALL BE WATER-TIGHT.

TESTING AND ACCEPTANCE FOR SANITARY SEWER AND STORM DRAIN MAINS

FOLLOWING PLACEMENT AND COMPACTION OF BACKFILL, AND PRIOR TO THE PLACEMENT OF AGGREGATE BASE AND PAVEMENT, SANITARY SEWER AND STORM DRAIN MAINS SHALL BE CLEANED, DEFLECTION TESTED, LEAK TESTED AND VIDEO INSPECTED IN ACCORDANCE WITH THE CITY OF SALINAS REQUIREMENTS.

811

0 1 2 INCHES 3

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No. 22501
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Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

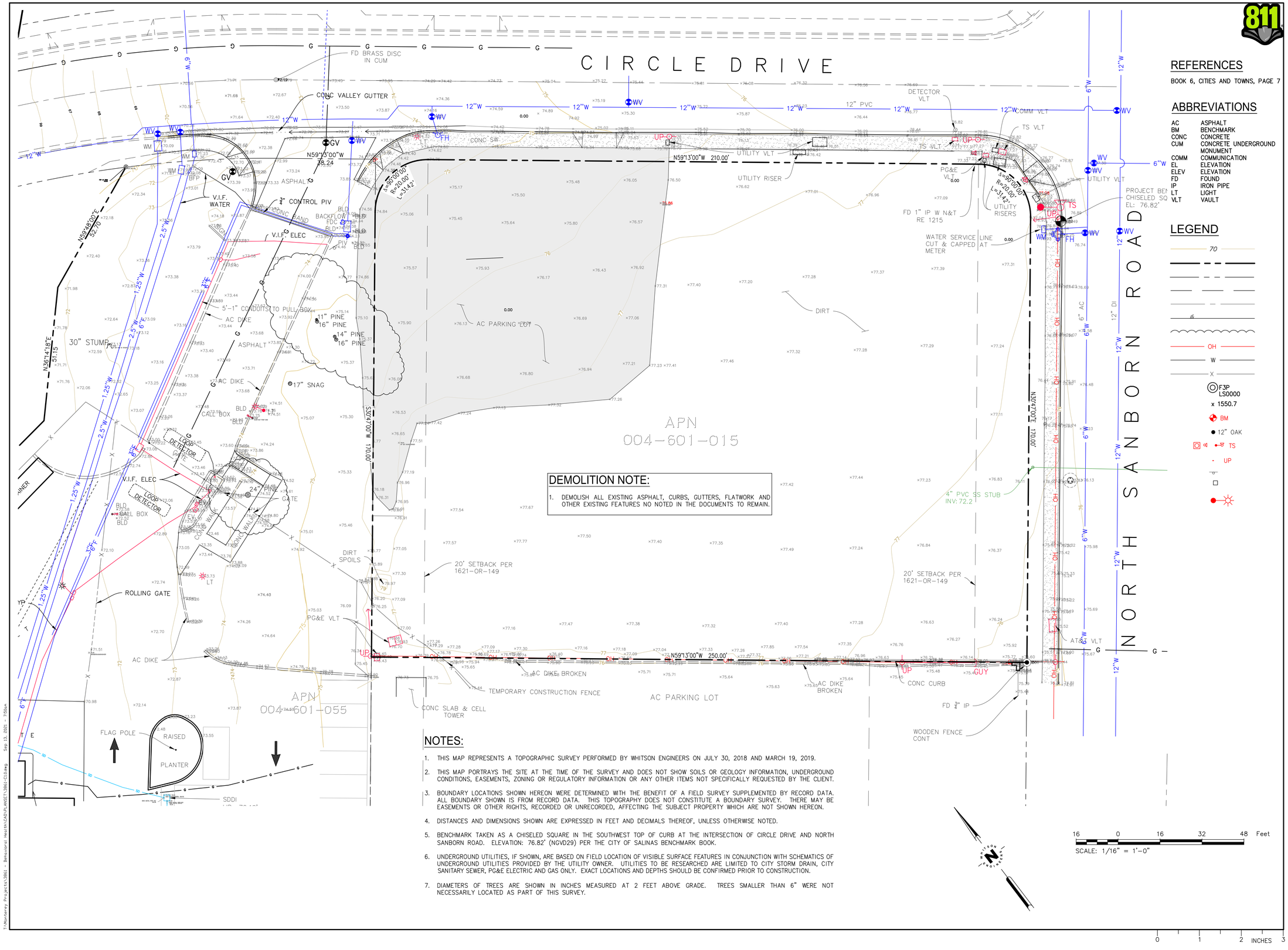
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Sheet Title:
CIVIL NOTES AND SPECIFICATIONS

Sheet Number:
C0.6

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DEMOLITION NOTE:

1. DEMOLISH ALL EXISTING ASPHALT, CURBS, GUTTERS, FLATWORK AND OTHER EXISTING FEATURES NO NOTED IN THE DOCUMENTS TO REMAIN.

NOTES:

1. THIS MAP REPRESENTS A TOPOGRAPHIC SURVEY PERFORMED BY WHITSON ENGINEERS ON JULY 30, 2018 AND MARCH 19, 2019.
2. THIS MAP PORTRAYS THE SITE AT THE TIME OF THE SURVEY AND DOES NOT SHOW SOILS OR GEOLOGY INFORMATION, UNDERGROUND CONDITIONS, EASEMENTS, ZONING OR REGULATORY INFORMATION OR ANY OTHER ITEMS NOT SPECIFICALLY REQUESTED BY THE CLIENT.
3. BOUNDARY LOCATIONS SHOWN HEREON WERE DETERMINED WITH THE BENEFIT OF A FIELD SURVEY SUPPLEMENTED BY RECORD DATA. ALL BOUNDARY SHOWN IS FROM RECORD DATA. THIS TOPOGRAPHY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.
4. DISTANCES AND DIMENSIONS SHOWN ARE EXPRESSED IN FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.
5. BENCHMARK TAKEN AS A CHISELED SQUARE IN THE SOUTHWEST TOP OF CURB AT THE INTERSECTION OF CIRCLE DRIVE AND NORTH SANBORN ROAD. ELEVATION: 76.82' (NGVD29) PER THE CITY OF SALINAS BENCHMARK BOOK.
6. UNDERGROUND UTILITIES, IF SHOWN, ARE BASED ON FIELD LOCATION OF VISIBLE SURFACE FEATURES IN CONJUNCTION WITH SCHEMATICS OF UNDERGROUND UTILITIES PROVIDED BY THE UTILITY OWNER. UTILITIES TO BE RESEARCHED ARE LIMITED TO CITY STORM DRAIN, CITY SANITARY SEWER, PG&E ELECTRIC AND GAS ONLY. EXACT LOCATIONS AND DEPTHS SHOULD BE CONFIRMED PRIOR TO CONSTRUCTION.
7. DIAMETERS OF TREES ARE SHOWN IN INCHES MEASURED AT 2 FEET ABOVE GRADE. TREES SMALLER THAN 6" WERE NOT NECESSARILY LOCATED AS PART OF THIS SURVEY.

16 0 16 32 48 Feet
SCALE: 1/16" = 1'-0"

0 1 2 INCHES 3

REFERENCES

BOOK 6, CITIES AND TOWNS, PAGE 7

ABBREVIATIONS

AC	ASPHALT
BM	BENCHMARK
CONC	CONCRETE
CUM	CONCRETE UNDERGROUND MONUMENT
COMM	COMMUNICATION
EL	ELEVATION
ELEV	ELEVATION
FD	FOUND
IP	IRON PIPE
LT	LIGHT
VLT	VAULT

LEGEND

70
OH
W
X
F3P LS0000
x 1550.7
BM
12" OAK
TS
UP

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Project Number: 3861.00

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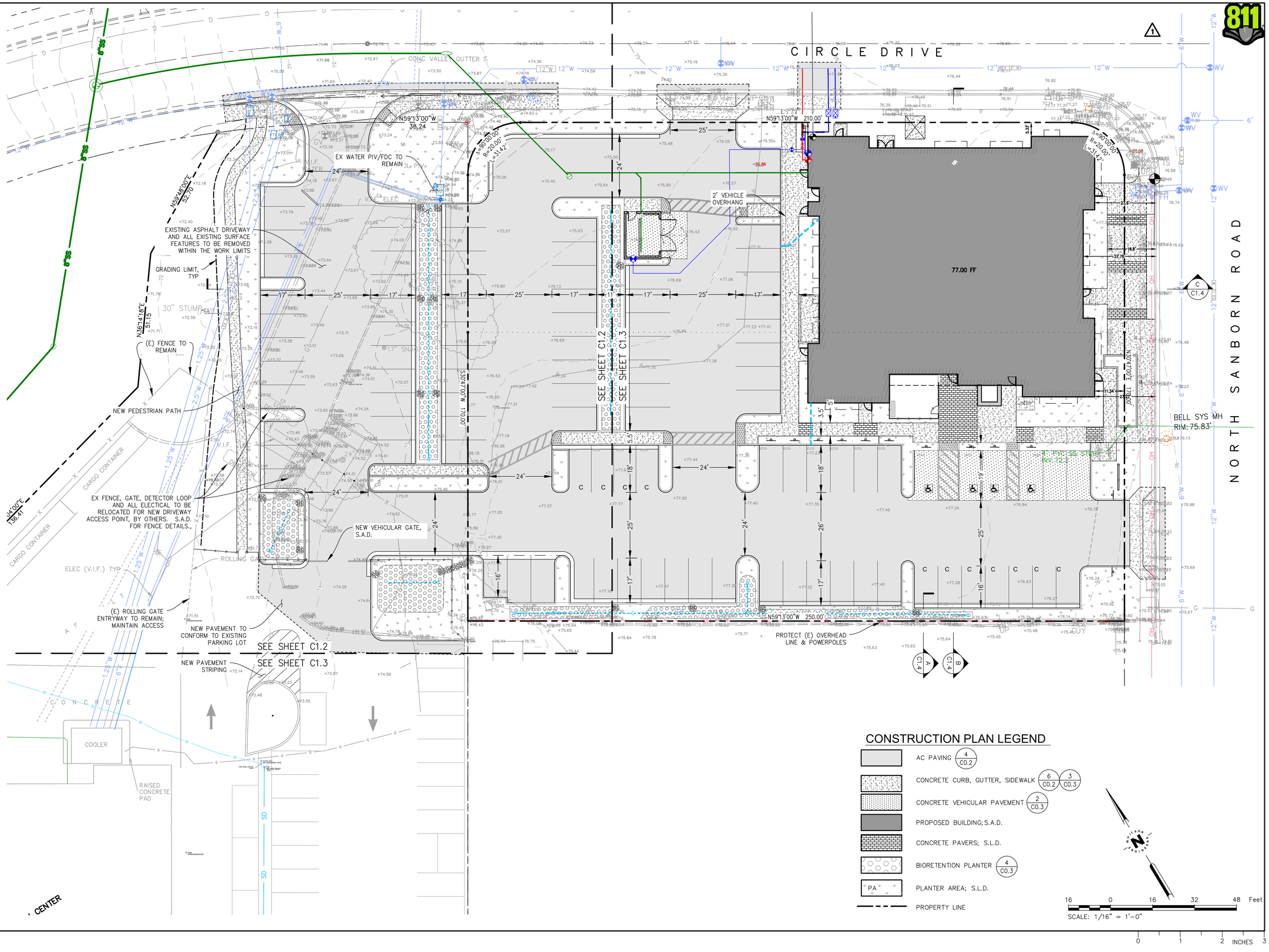
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Sheet Title:
EXISTING CONDITIONS SITE PLAN

Sheet Number:
C1.0

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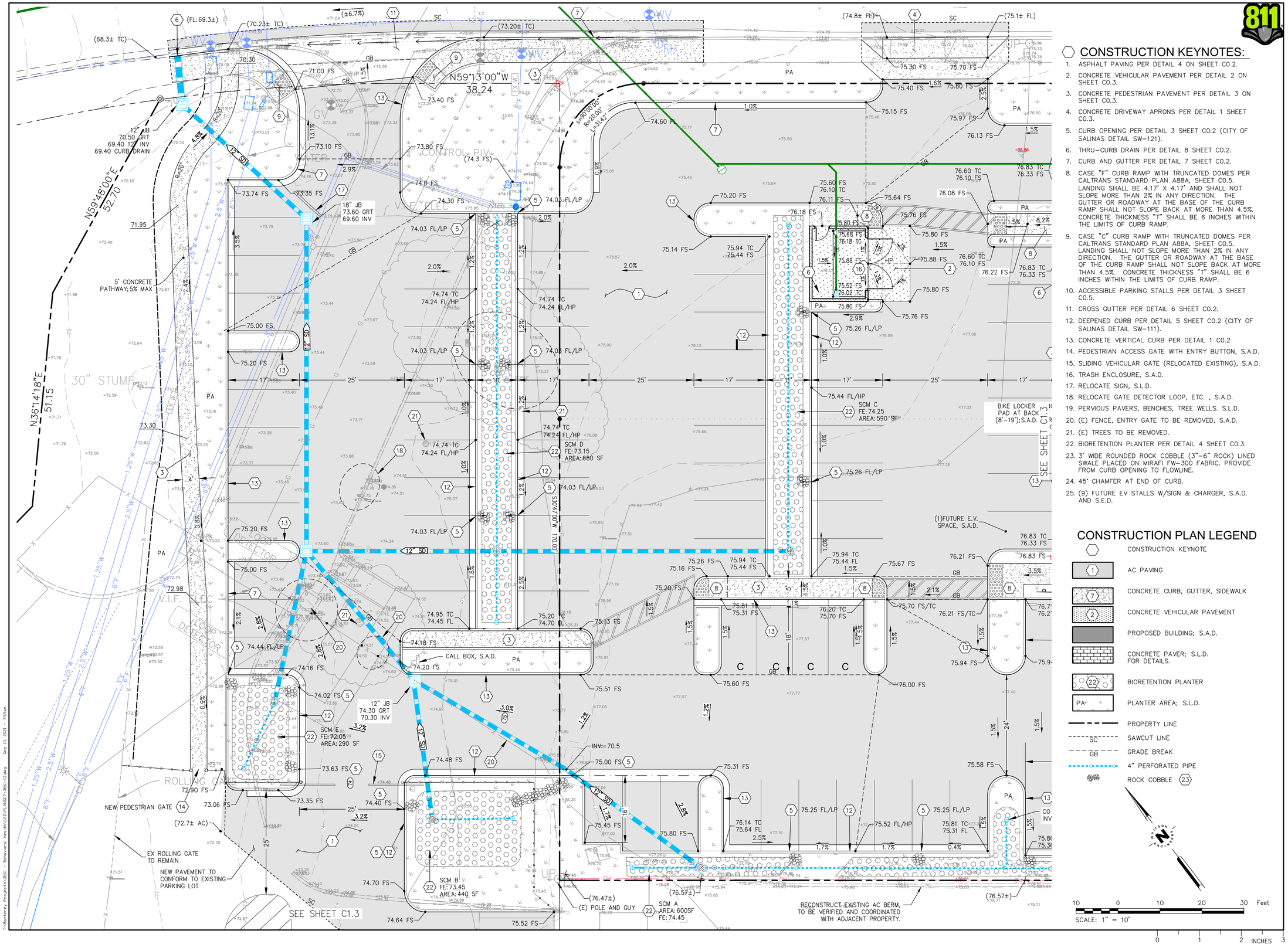
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Sheet Title:
OVERALL CIVIL SITE PLAN

Sheet Number:
C1.1



CONSTRUCTION KEYNOTES:

1. ASPHALT PAVING PER DETAIL 4 ON SHEET C0.2.
2. CONCRETE VEHICULAR PAVEMENT PER DETAIL 2 ON SHEET C0.3.
3. CONCRETE PEDESTRIAN PAVEMENT PER DETAIL 3 ON SHEET C0.3.
4. CONCRETE DRIVEWAY APRONS PER DETAIL 1 SHEET C0.3.
5. CURB OPENING PER DETAIL 3 SHEET C0.2 (CITY OF SALINAS DETAIL SW-121).
6. THRU-CURB DRAIN PER DETAIL 8 SHEET C0.2.
7. CURB AND GUTTER PER DETAIL 7 SHEET C0.2.
8. CASE "F" CURB RAMP WITH TRUNCATED DOMES PER CALTRANS STANDARD PLAN A88A, SHEET C0.5. LANDING SHALL BE 4.17' X 4.17' AND SHALL NOT SLOPE MORE THAN 2% IN ANY DIRECTION. THE GUTTER OR ROADWAY AT THE BASE OF THE CURB RAMP SHALL NOT SLOPE BACK AT MORE THAN 4.5%. CONCRETE THICKNESS "T" SHALL BE 6 INCHES WITHIN THE LIMITS OF CURB RAMP.
9. CASE "C" CURB RAMP WITH TRUNCATED DOMES PER CALTRANS STANDARD PLAN A88A, SHEET C0.5. LANDING SHALL NOT SLOPE MORE THAN 2% IN ANY DIRECTION. THE GUTTER OR ROADWAY AT THE BASE OF THE CURB RAMP SHALL NOT SLOPE BACK AT MORE THAN 4.5%. CONCRETE THICKNESS "T" SHALL BE 6 INCHES WITHIN THE LIMITS OF CURB RAMP.
10. ACCESSIBLE PARKING STALLS PER DETAIL 3 SHEET C0.5.
11. CROSS GUTTER PER DETAIL 6 SHEET C0.2.
12. DEEPENED CURB PER DETAIL 5 SHEET C0.2 (CITY OF SALINAS DETAIL SW-111).
13. CONCRETE VERTICAL CURB PER DETAIL 1 C0.2
14. PEDESTRIAN ACCESS GATE WITH ENTRY BUTTON, S.A.D.
15. SLIDING VEHICULAR GATE (RELOCATED EXISTING), S.A.D.
16. TRASH ENCLOSURE, S.A.D.
17. RELOCATE SIGN, S.L.D.
18. RELOCATE GATE DETECTOR LOOP, ETC. , S.A.D.
19. PERVIOUS PAVERS, BENCHES, TREE WELLS. S.L.D.
20. (E) FENCE, ENTRY GATE TO BE REMOVED, S.A.D.
21. (E) TREES TO BE REMOVED.
22. BIORETENTION PLANTER PER DETAIL 4 SHEET C0.3.
23. 3' WIDE ROUNDED ROCK COBBLE (3"-6" ROCK) LINED SWALE PLACED ON MIRAFI FW-300 FABRIC. PROVIDE FROM CURB OPENING TO FLOWLINE.
24. 45° CHAMFER AT END OF CURB.
25. (9) FUTURE EV STALLS W/SIGN & CHARGER, S.A.D. AND S.E.D.

CONSTRUCTION PLAN LEGEND

- CONSTRUCTION KEYNOTE
- AC PAVING
- CONCRETE CURB, GUTTER, SIDEWALK
- CONCRETE VEHICULAR PAVEMENT
- PROPOSED BUILDING; S.A.D.
- CONCRETE PAVER; S.L.D. FOR DETAILS.
- BIORETENTION PLANTER
- PLANTER AREA; S.L.D.
- PROPERTY LINE
- SAWCUT LINE
- GRADE BREAK
- 4" PERFORATED PIPE
- ROCK COBBLE

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Sheet Title:

GRADING AND DRAINAGE PLAN (WEST)

Sheet Number:

C1.2

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CONSTRUCTION KEYNOTES:

1. ASPHALT PAVING PER DETAIL 4 ON SHEET C0.2.
2. CONCRETE VEHICULAR PAVEMENT PER DETAIL 2 ON SHEET C0.3.
3. CONCRETE PEDESTRIAN PAVEMENT PER DETAIL 3 ON SHEET C0.3.
4. CONCRETE DRIVEWAY APRONS PER DETAIL 1 SHEET C0.3.
5. CURB OPENING PER DETAIL 3 SHEET C0.2 (CITY OF SALINAS DETAIL SW-121).
6. THRU-CURB DRAIN PER DETAIL 8 SHEET C0.2.
7. CURB AND GUTTER PER DETAIL 7 SHEET C0.2.
8. CASE "F" CURB RAMP WITH TRUNCATED DOMES PER CALTRANS STANDARD PLAN A88A, SHEET C0.5. LANDING SHALL BE 4.17' X 4.17' AND SHALL NOT SLOPE MORE THAN 2% IN ANY DIRECTION. THE GUTTER OR ROADWAY AT THE BASE OF THE CURB RAMP SHALL NOT SLOPE BACK AT MORE THAN 4.5%. CONCRETE THICKNESS "T" SHALL BE 6 INCHES WITHIN THE LIMITS OF CURB RAMP.
9. CASE "C" CURB RAMP WITH TRUNCATED DOMES PER CALTRANS STANDARD PLAN A88A, SHEET C0.5. LANDING SHALL NOT SLOPE MORE THAN 2% IN ANY DIRECTION. THE GUTTER OR ROADWAY AT THE BASE OF THE CURB RAMP SHALL NOT SLOPE BACK AT MORE THAN 4.5%. CONCRETE THICKNESS "T" SHALL BE 6 INCHES WITHIN THE LIMITS OF CURB RAMP.
10. ACCESSIBLE PARKING STALLS PER DETAIL 3 SHEET C0.5.
11. CROSS GUTTER PER DETAIL 6 SHEET C0.2.
12. DEEPENED CURB PER DETAIL 5 SHEET C0.2 (CITY OF SALINAS DETAIL SW-111).
13. CONCRETE VERTICAL CURB PER DETAIL 1 C0.2
14. PEDESTRIAN ACCESS GATE WITH ENTRY BUTTON, S.A.D.
15. SLIDING VEHICULAR GATE (RELOCATED EXISTING), S.A.D.
16. TRASH ENCLOSURE, S.A.D.
17. RELOCATE SIGN, S.L.D.
18. RELOCATE GATE DETECTOR LOOP, ETC. , S.A.D.
19. PERVIOUS PAVERS, BENCHES, TREE WELLS. S.L.D.
20. (E) FENCE, ENTRY GATE TO BE REMOVED, S.A.D.
21. (E) TREES TO BE REMOVED.
22. BIORETENTION PLANTER PER DETAIL 4 SHEET C0.3.
23. 3' WIDE ROUNDED ROCK COBBLE (3"-6" ROCK) LINED SWALE PLACED ON MIRAFI FW-300 FABRIC. PROVIDE FROM CURB OPENING TO FLOWLINE.
24. 45° CHAMFER AT END OF CURB.
25. (9) FUTURE EV STALLS W/SIGN & CHARGER, S.A.D. AND S.E.D.

CONSTRUCTION PLAN LEGEND

- CONSTRUCTION KEYNOTE
- AC PAVING
- CONCRETE CURB, GUTTER, SIDEWALK
- CONCRETE VEHICULAR PAVEMENT
- PROPOSED BUILDING; S.A.D.
- CONCRETE PAVER; S.L.D. FOR DETAILS.
- BIORETENTION PLANTER
- PLANTER AREA; S.L.D.
- PROPERTY LINE
- SAWCUT LINE
- GRADE BREAK
- 4" PERFORATED PIPE
- ROCK COBBLE

SCALE: 1" = 10'

SANBORN ROAD

NORTH

SEE SHEET C1.2

Project / Owner:
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HEALTH DEPARTMENT

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Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

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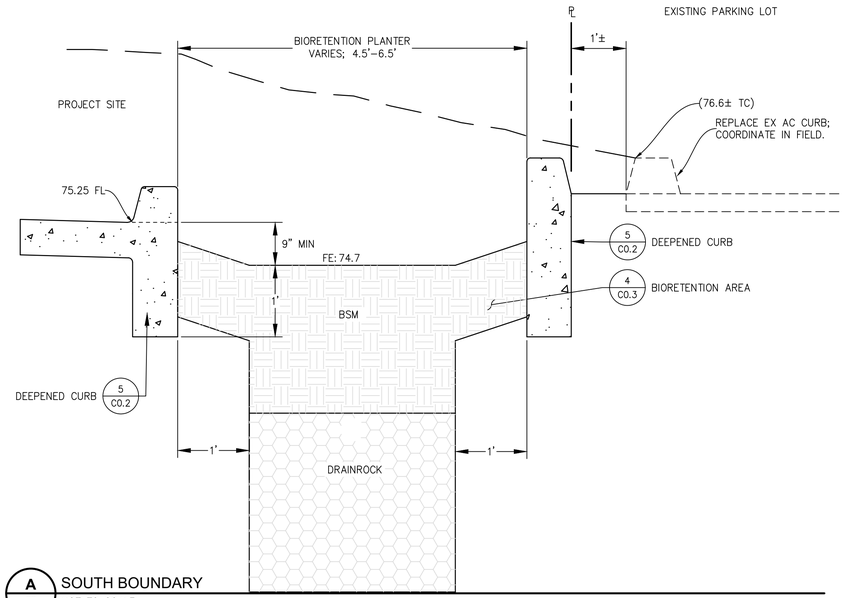
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GRADING AND DRAINAGE PLAN (EAST)

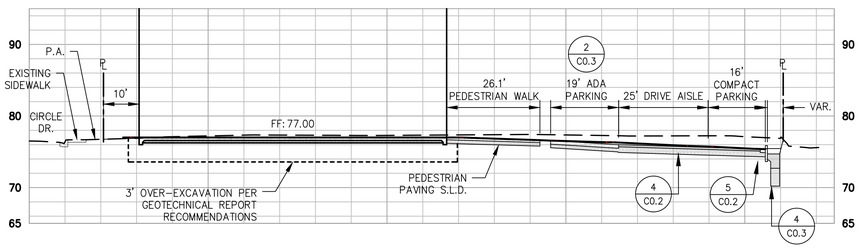
Sheet Number:

C1.3

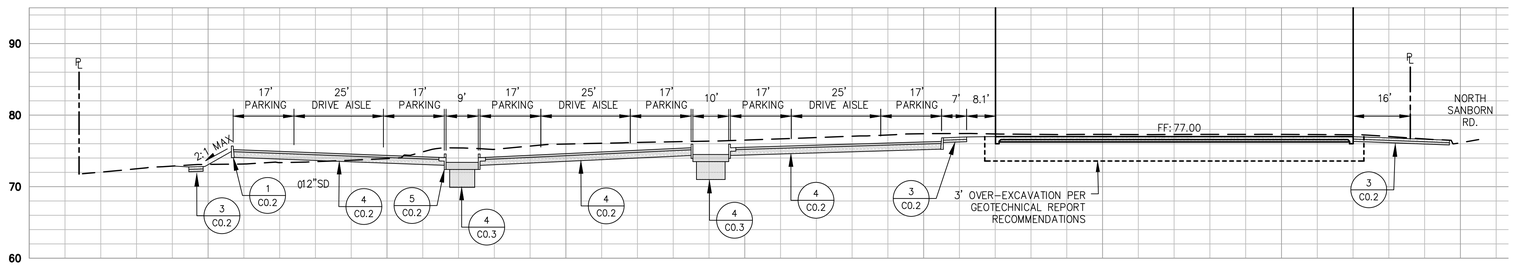
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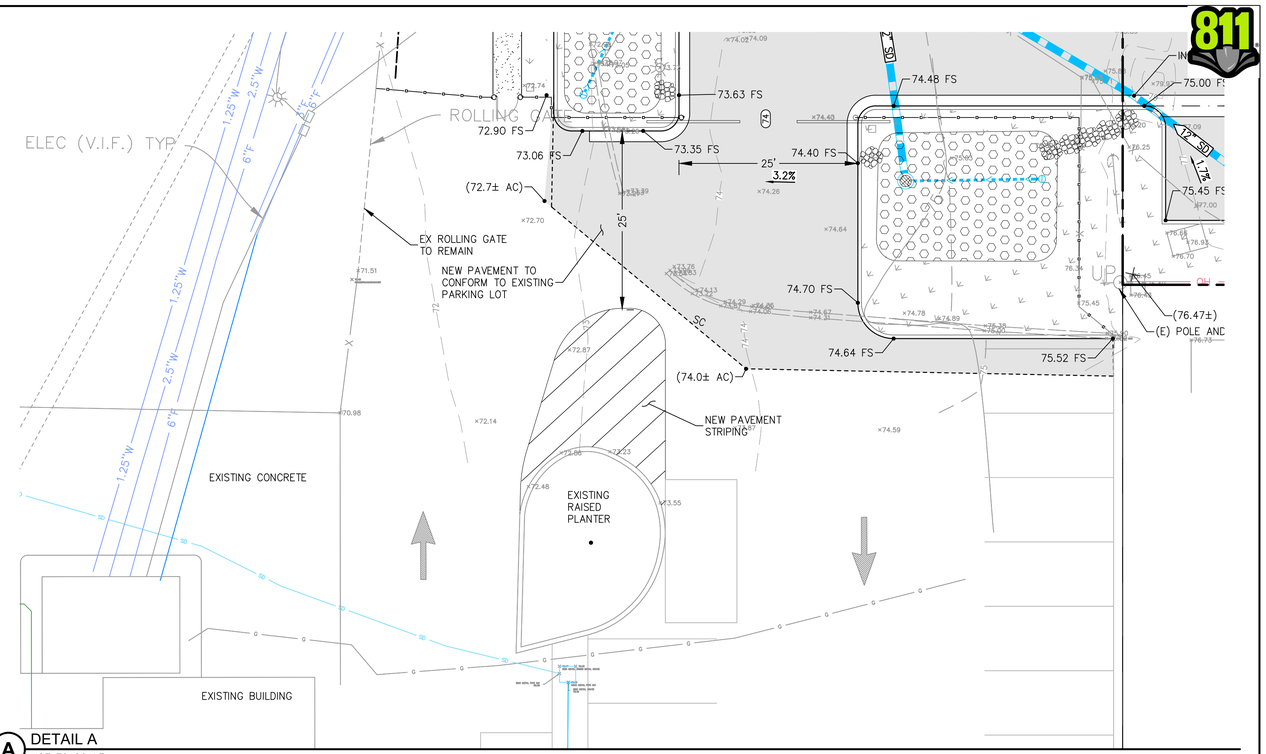
A SOUTH BOUNDARY
NOT TO SCALE



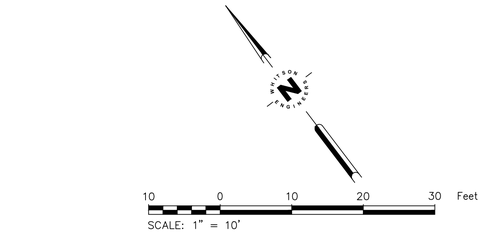
B NORTH-SOUTH SECTION
SCALE – HORIZ: 1"=20"; VERT: 1"=10'



C WEST-EAST SECTION
SCALE – HORIZ: 1"=20"; VERT: 1"=10'



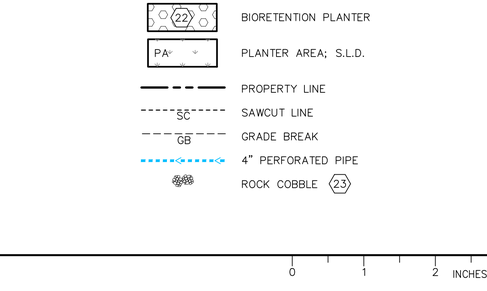
A DETAIL A
NOT TO SCALE



SCALE: 1" = 10'

CONSTRUCTION PLAN LEGEND

- CONSTRUCTION KEYNOTE
- 1 — AC PAVING
- 7 — CONCRETE CURB, GUTTER, SIDEWALK
- 2 — CONCRETE VEHICULAR PAVEMENT
- PROPOSED BUILDING; S.A.D.
- CONCRETE PAVER; S.L.D. FOR DETAILS.
- 22 — BIORETENTION PLANTER
- PA — PLANTER AREA; S.L.D.
- PROPERTY LINE
- SC — SAWCUT LINE
- GB — GRADE BREAK
- 4" PERFORATED PIPE
- ROCK COBBLE 23



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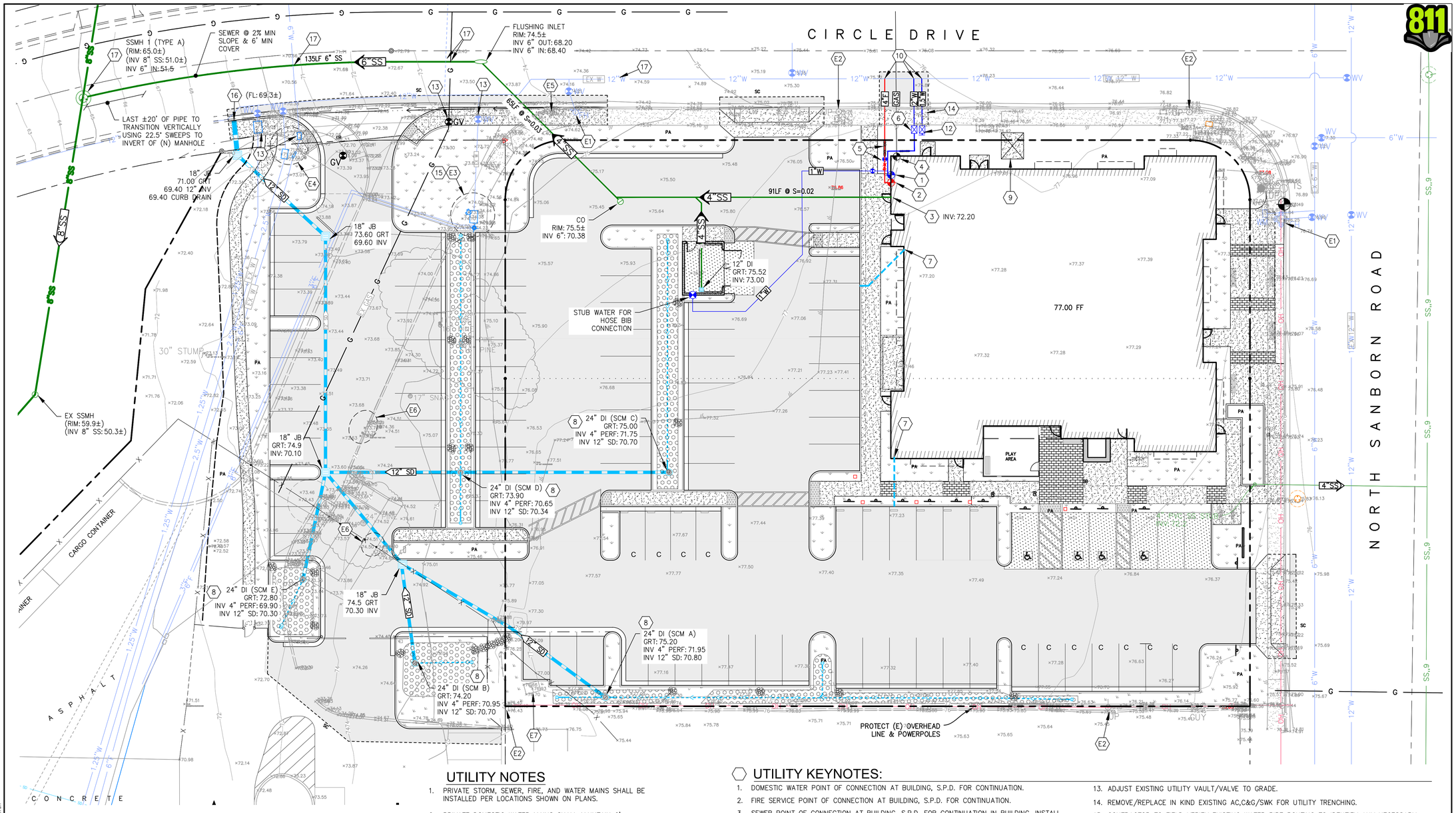
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Sheet Title:
GRADING DETAILS & SECTIONS

Sheet Number:
C1.4

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STORM DRAIN INLET SCHEDULE

12" DI:	12" SQUARE PRECAST CONCRETE DRAIN INLET BOX WITH H–20 LOAD RATED GALVANIZED STEEL FRAME AND SOLID GRATE. OLD CASTLE PRECAST MODEL V12 OR EQUIVALENT.
18" JB:	18" SQUARE PRECAST CONCRETE DRAIN INLET BOX WITH H–20 LOAD RATED GALVANIZED STEEL FRAME AND SOLID GRATE. OLD CASTLE PRECAST MODEL V64 OR EQUIVALENT.
24" DI:	24" SQUARE PRECAST CONCRETE DRAIN INLET WITH H–20 LOAD RATED GALVANIZED STEEL FRAME AND GRATE. OLD CASTLE PRECAST MODEL U23 OR EQUIVALENT.

UTILITY NOTES

1. PRIVATE STORM, SEWER, FIRE, AND WATER MAINS SHALL BE INSTALLED PER LOCATIONS SHOWN ON PLANS.
2. PRIVATE DOMESTIC WATER MAINS SHALL MAINTAIN 2' MINIMUM COVER AND 4' MINIMUM HORIZONTAL AND 1' VERTICAL CLEAR TO SEWER, STORM DRAIN OR FIRE MAINS.
3. SEE DETAIL 1 ON SHEET C0.4 AND THE PROJECT GEOTECHNICAL REQUIREMENTS FOR PIPE BEDDING AND TRENCH BACKFILL REQUIREMENTS. EARTHWORK CALCULATIONS ASSUME NATIVE BACKFILL OUTSIDE OF THE PIPE ENVELOPE.
4. STORM DRAIN PIPE SHALL HAVE A MINIMUM 2' OF COVER AND 0.5% MINIMUM SLOPE UNLESS OTHERWISE SHOWN.
5. ALL DRAINAGE STRUCTURES SHALL BE SLOPED AND SHAPED TO DRAIN.
6. GAS AND ELECTRIC FACILITIES ARE SHOWN FOR REFERENCE ONLY. SEE PLUMBING AND ELECTRICAL PLANS FOR SPECIFIC DESIGN REQUIREMENTS.
7. FIRE SPRINKLER SYSTEM IS PART OF A DEFERRED SUBMITTAL.
8. FIRE SYSTEM INCLUDING PIPE SIZING AND DEVICES SHOWN SHALL BE VERIFIED BY THE FIRE SPRINKLER DESIGNER AND ARE SUBJECT TO CHANGE WITH FINAL FIRE SPRINKLER DESIGN.

UTILITY KEYNOTES:

1. DOMESTIC WATER POINT OF CONNECTION AT BUILDING, S.P.D. FOR CONTINUATION.
2. FIRE SERVICE POINT OF CONNECTION AT BUILDING, S.P.D. FOR CONTINUATION.
3. SEWER POINT OF CONNECTION AT BUILDING, S.P.D. FOR CONTINUATION IN BUILDING. INSTALL CLEANOUT PER DETAIL 2 SHEET C0.4.
4. GAS SERVICE P.O.C. AT BUILDING (SHOWN FOR REFERENCE ONLY); SEE PG&E JOINT TRENCH PLANS FOR FINAL LOCATION.
5. 4" FIRE SERVICE WITH DOUBLE CHECK DETECTOR ASSEMBLY WITH FIRE DEPARTMENT CONNECTION AND PIV, SEE DETAIL 3 SHEET C0.4 AND PER CALIFORNIA WATER CO. STANDARD DRAWING CW-762-R1 ON SHEET C0.4.
6. 2" DOMESTIC WATER SERVICE AND 2" WATER METER PER CAL WATER STANDARD DRAWING CW-436-R6, WITH REDUCED PRESSURE PRINCIPLE ASSEMBLY. SEE SHEET C0.4. SERVICES UP TO METER TO BE INSTALLED BY CALIFORNIA WATER.
7. DOWNSPOUT LOCATION, S.A.D.;CONNECT TO THRU CURB DRAIN.
8. OUTLET STRUCTURE PER DETAIL 5 SHEET C0.3.
9. TRANSFORMER AND JOINT TRENCH (JT) SHOWN FOR REFERENCE ONLY. FINAL LOCATION PER PG&E JOINT TRENCH PLANS.
10. CONNECT TO EXISTING WATER MAIN (3 TOTAL). CONTRACTOR TO COORDINATE WITH CALIFORNIA WATER COMPANY.
11. CONNECT TO EXISTING SEWER. CONTRACTOR TO FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES. INSTALL BIORETENTION ROCK 5' CLEAR EACH SIDE OF SEWER PIPE CROSSING.
12. 1.5" LANDSCAPE SERVICE/METER, S.L.D. FOR BACKFLOW.
13. ADJUST EXISTING UTILITY VAULT/VALVE TO GRADE.
14. REMOVE/REPLACE IN KIND EXISTING AC,C&G/SWK FOR UTILITY TRENCHING.
15. CONTRACTOR TO FIELD VERIFY EXISTING WATER PIPE ROUTING TO IDENTIFY ANY NECESSARY PIPE RE-ROUTING AND COORDINATE WITH ENGINEER AS NEEDED.
16. THRU-CURB DRAIN PER DETAIL 8 SHEET C0.2.
17. EX UTILITY CROSSING. CONTRACTOR TO POTHOLE AND VERIFY IN FIELD PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPENCIES. MAINTAIN 10' HORIZONTAL AND 1' VERTICAL CLEAR AT ALL EXISTING UTILITY CROSSINGS.
18. TRENCHING PER CITY OF SALINAS (COS) DETAIL 16, MANHOLE(S) PER COS DETAILS 25 & 27, FLUSHING INLET PER COS DETAILS 30 & 31.

E1. PROTECT EXISTING FIRE HYDRANT AND GATE VALVE.
E2. PROTECT EX POWER POLE/OVERHEAD LINE.
E3. PROTECT EXISTING WATER FDC/PIV TO REMAIN
E4. PROTECT EXISTING WATER BACKFLOW TO REMAIN
E5. PROTECT EXISTING LIGHT, ADJUST TO GRADE.
E6. RELOCATE EXISTING UTILITY, BY OTHERS.
E7. PROTECT EXISTING UTILITY VAULT.

16 0 16 32 48 Feet
SCALE: 1/16" = 1'-0"
0 1 2 INCHES 3

Project / Owner:
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HEALTH DEPARTMENT

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Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

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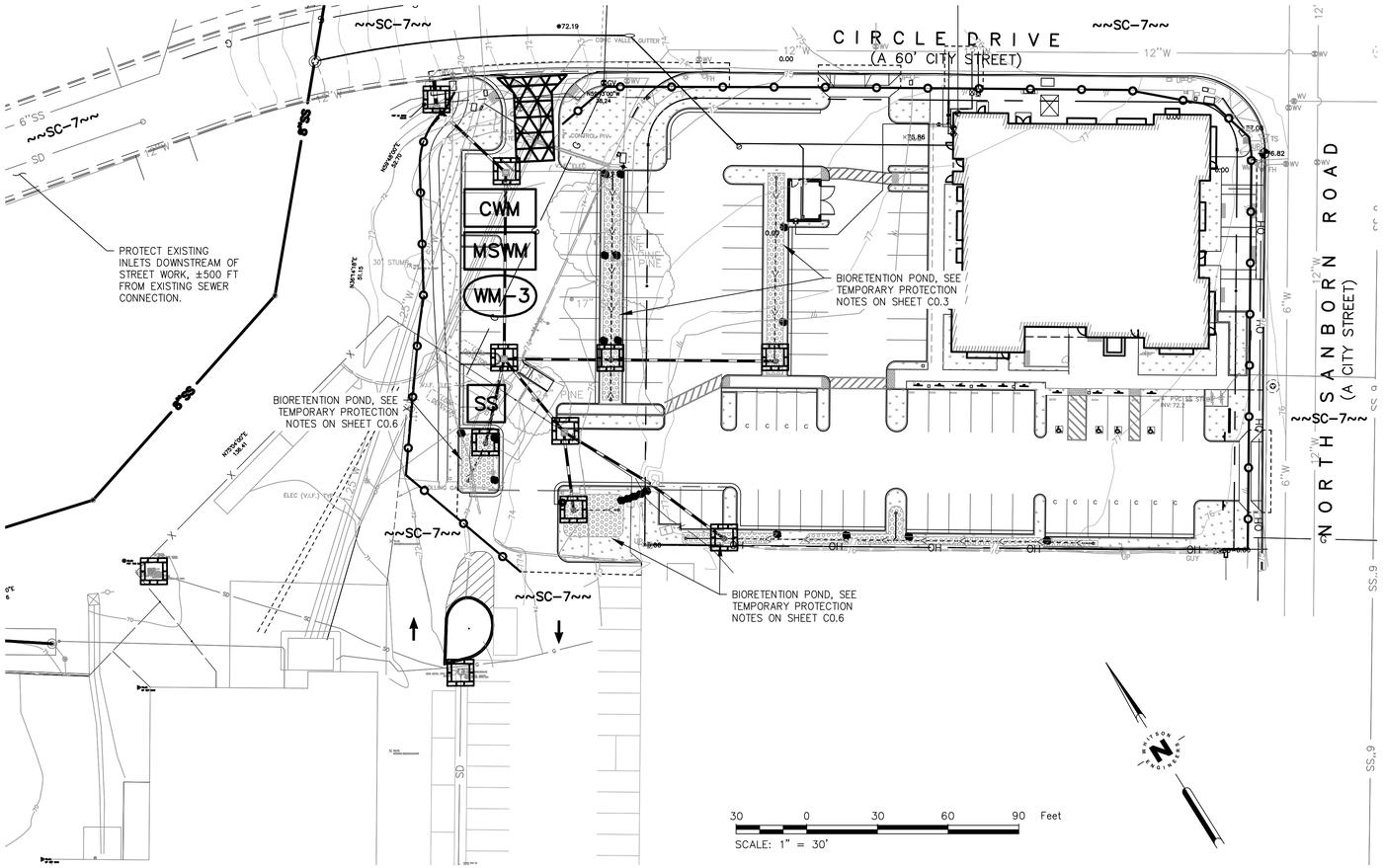
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Sheet Title:
UTILITY PLAN

Sheet Number:
C2.1

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SYMBOL	CALTRANS BMP #	CALTRANS STD. PLAN	DESCRIPTION
	SS-9	–	EARTH DIKES, DRAINAGE SWALES AND LINED DITCHES
	SC-1, SC-5, SC-6	T51, T56, T60, T66	LINEAR SEDIMENT BARRIER: FIBER ROLLS, SILT FENCE, OR COMPOST SOCK (CONTRACTOR'S OPTION)
	SC-1	T51, T60	SILT FENCE
~~SC-7~~	SC-7	–	STREET SWEEPING
	SC-10	–	INLET PROTECTION
CWM	WM-8	T61, T62, T63, T64	CONCRETE WASTE MANAGEMENT (WASHOUT) AREA
	SS-3, SS-4, SS-5, SS-6, SS-7, SS-8	T59 –	SOIL STABILIZATION (PROVIDE ON ALL DISTURBED SOILS) TEMPORARY STABILIZATION PER CIVIL PLANS PERMANENT STABILIZATION PER LANDSCAPE DWGS

SYMBOL	CALTRANS BMP #	CALTRANS STD. PLAN	DESCRIPTION
	TC-1, TC-3	T58	STABILIZED CONSTRUCTION ENTRANCE/EXIT OR TIRE WASH
MSWM	WM-1	–	MATERIAL STORAGE AND WASTE MANAGEMENT AREA
WM-3	WM-3	T53	TEMPORARY STOCKPILES
SS	WM-9	–	SANITARY FACILITIES
	–	–	DIRECTION OF DRAINAGE

EROSION CONTROL NOTES

1. ESTIMATED TOTAL DISTURBED AREA: 1.7 AC. ±
2. BEST MANAGEMENT PRACTICES (BMPs) (MATERIALS AND THEIR INSTALLATION) SHALL CONFORM TO ONE OF THE FOLLOWING:
   2.1. THE 2011 EDITION OF THE CALTRANS STORM WATER QUALITY HANDBOOK / CONSTRUCTION SITE BMP MANUAL. THE HANDBOOK MAY BE DOWNLOADED FOR FREE AT http://www.dot.ca.gov/hq/construc/stormwater/documents/SWPPP_Prep_Manuldune2011.pdf
   2.2. THE 2015 EDITION OF THE CALIFORNIA STORMWATER BMP HANDBOOK PROMULGATED BY THE CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA). THE HANDBOOK MAY BE DOWNLOADED FOR A FEE FROM THE CASQA WEBSITE AT http://www.cabmphandbooks.com/
3. THE BMPs SHOWN ON THIS WATER POLLUTION CONTROL PLAN SHALL BE ADJUSTED OR SUPPLEMENTED AS REQUIRED TO PROTECT WATER QUALITY AND/OR AS DIRECTED BY THE ENGINEER OR JURISDICTION HAVING AUTHORITY.
4. THIS PLAN IS INTENDED TO BE USED FOR INTERIM EROSION AND SEDIMENT WATER POLLUTION CONTROL ONLY AND IS NOT TO BE USED FOR FINAL ELEVATIONS OR PERMANENT IMPROVEMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL PRIOR TO, DURING, AND AFTER STORM EVENTS, AND SHALL PROMPTLY CORRECT ANY DEFICIENCIES NOTED.
6. ALL PAVED AREAS SHALL BE KEPT CLEAN OF SOIL AND DEBRIS. REGULAR STREET SWEEPING IS REQUIRED. ADDITIONAL STREET SWEEPING MAY BE REQUIRED BY THE ARCHITECT/ENGINEER OR JURISDICTION HAVING AUTHORITY.
7. REASONABLE CARE SHALL BE TAKEN WHEN HAULING ANY EARTH, SAND, GRAVEL, STONE, DEBRIS, PAPER OR ANY OTHER SUBSTANCE OVER ANY PUBLIC STREET, ALLEY OR OTHER PUBLIC PLACE. SHOULD ANY BLOW, SPILL, OR TRACK OVER AND UPON SAID PUBLIC OR ADJACENT PRIVATE PROPERTY, IMMEDIATELY REMEDY SHALL OCCUR.
8. KEEP ADDITIONAL EROSION AND SEDIMENT CONTROL SUPPLIES ON SITE IN CASE IMMEDIATE REPAIRS OR MODIFICATIONS ARE REQUIRED. THESE SUPPLIES MAY INCLUDE ADDITIONAL SLIT FENCING, FILTER FABRIC, HAY BALES, JUTE NETTING, BAGS AND TARPS.
9. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT SHALL BE COMPLIED WITH.
10. CONTRACTOR SHALL PROVIDE DUST CONTROL AS REQUIRED BY FEDERAL, STATE, AND LOCAL AGENCY REQUIREMENTS.
11. PROVIDE TEMPORARY "EFFECTIVE SOIL COVER" ON ALL INACTIVE DISTURBED AREAS (AREAS WHICH HAVE NOT BEEN DISTURBED FOR AT LEAST 14 DAYS) PRIOR TO INSTALLATION OF FINAL LANDSCAPING, IF REQUIRED DUE TO PROJECT SCHEDULING.
12. PROVIDE WIND EROSION CONTROL AT ALL TIMES IN ACCORDANCE WITH CALTRANS BEST MANAGEMENT PRACTICE WE-1.
13. LIMIT THE USE OF PLASTIC MATERIALS WHEN MORE SUSTAINABLE, ENVIRONMENTALLY FRIENDLY ALTERNATIVES EXIST. WHERE PLASTIC MATERIALS ARE DEEMED NECESSARY, CONSIDER THE USE OF PLASTIC MATERIALS RESISTANT TO SOLAR DEGRADATION AND WHICH MAY BE RE-USED.
14. ESTABLISH AND MAINTAIN EFFECTIVE PERIMETER CONTROLS AND STABILIZE ALL CONSTRUCTION ENTRANCES AND EXITS TO SUFFICIENTLY CONTROL EROSION AND SEDIMENT DISCHARGES FROM THE SITE.
    - PROVIDE SILT FENCE AT CONSTRUCTION SITE PERIMETER WHERE RUNOFF LEAVES THE CONSTRUCTION SITE.
    - PROVIDE INLET PROTECTION AT ALL DRAIN INLETS.
15. ALL GRADING SHALL CONFORM TO THE MONTEREY COUNTY GRADING ORDINANCE #2535, EROSION CONTROL ORDINANCE #2806, AND CALIFORNIA BUILDING CODE.
15. NO VEGETATION REMOVAL OR GRADING WILL BE ALLOWED WHICH WILL RESULT IN SILTATION OF WATER COURSES OR UNCONTROLLABLE EROSION. (MCC 16.08.300 C.2)
16. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE PERMITTEE TO ENSURE THAT EROSION DOES NOT OCCUR FROM AN ACTIVITY DURING OR AFTER PROJECT CONSTRUCTION. ADDITIONAL MEASURES, BEYOND THOSE SPECIFIED, MAY BE REQUIRED AS DEEMED NECESSARY TO CONTROL ACCELERATED EROSION. (MCC 16.12.100)
17. LAND CLEARING SHALL BE KEPT TO A MINIMUM. VEGETATION REMOVAL SHALL BE LIMITED TO THAT AMOUNT NECESSARY FOR BUILDING, ACCESS, AND CONSTRUCTION AS SHOWN ON THE APPROVED EROSION CONTROL PLAN.
18. VEGETATION REMOVAL BETWEEN OCTOBER 15 AND APRIL 15 SHALL NOT PRECEDE SUBSEQUENT GRADING OR CONSTRUCTION ACTIVITIES BY MORE THAN 15 DAYS. DURING THIS PERIOD, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
19. PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE, THE OWNER/APPLICANT SHALL SCHEDULE AN INSPECTION WITH RMA-ENVIRONMENTAL SERVICES TO ENSURE ALL NECESSARY SEDIMENT CONTROLS ARE IN PLACE AND THE PROJECT IS COMPLIANT WITH MONTEREY COUNTY GRADING AND EROSION CONTROL REGULATIONS.
20. DURING CONSTRUCTION THE OWNER/APPLICANT SHALL SCHEDULE AN INSPECTION WITH RMA-ENVIRONMENTAL SERVICES TO UPDATE COMPACTION TEST RECORDS, INSPECT DRAINAGE DEVICE INSTALLATION, REVIEW THE MAINTENANCE AND EFFECTIVENESS OF BMPS INSTALLED, AS WELL AS, TO VERIFY THAT POLLUTANTS OF CONCERN ARE NOT DISCHARGED FROM THE SITE. AT THE TIME OF THE INSPECTION, THE APPLICANT SHALL PROVIDE CERTIFICATION THAT ALL NECESSARY GEOTECHNICAL INSPECTIONS HAVE BEEN COMPLETED TO THAT POINT.
21. PRIOR TO FINAL INSPECTION, THE OWNER/APPLICANT SHALL SCHEDULE AN INSPECTION WITH RMA-ENVIRONMENTAL SERVICES TO CONDUCT A FINAL GRADING INSPECTION, COLLECT FINAL GEOTECHNICAL LETTER OF CONFORMANCE, ENSURE THAT ALL DISTURBED AREAS HAVE BEEN STABILIZED AND THAT ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES THAT ARE NO LONGER NEEDED HAVE BEEN REMOVED.
22. ALL OR PART OF THE CONSTRUCTION OF THIS PROJECT IS EXPECTED TO OCCUR DURING THE WINTER SEASON (OCTOBER 15TH THROUGH ARPIL 15TH).

OBSERVATION AND MAINTENANCE

1. VISUALLY OBSERVE AND MAINTAIN BEST MANAGEMENT PRACTICES (BMPs) AS FOLLOWS:
   A. WEEKLY, AND
   B. WITHIN 48 HOURS PRIOR TO EACH STORM EVENT, AND
   C. WITHIN 48 HOURS AFTER EACH STORM EVENT.
2. REPAIR DAMAGED BMPs WITHIN 48 HOURS OF OBSERVATION.
3. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL BMPs BEFORE SEDIMENT HAS ACCUMULATED TO A DEPTH OF ONE THIRD THE HEIGHT OF THE SEDIMENT BARRIER OR SUMP, IF NOT OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS OR BY THE BMP SUPPLIER OR MANUFACTURER.
4. TRASH AND DEBRIS SHALL BE REMOVED FROM BMPs DURING SCHEDULED INSPECTIONS.
5. REMOVED SEDIMENT SHALL BE PLACED AT AN APPROVED LOCATION AND IN SUCH A MANNER THAT IT WILL NOT ERODE, OR SHALL BE DISPOSED OF OFF-SITE.
6. REPAIR RILLS AND GULLIES BY RE-GRADING AND THEN TRACKWALKING PERPINDICULAR TO THE SLOPE. PROVIDE TEMPORARY SOIL COVER IF NECESSARY.

MONTEREY COUNTY REQUIREMENTS

1. ACTUAL GRADING SHALL BEGIN WITHIN 30 DAYS OF VEGETATION REMOVAL OR THE AREA SHALL BE PLANTED TO CONTROL EROSION. VEGETATION REMOVAL BETWEEN OCTOBER 15TH AND APRIL 15TH SHALL NOT PRECEDE SUBSEQUENT GRADING OR CONSTRUCTION ACTIVITIES BY MORE THAN 15 DAYS.
2. THE FOLLOWING PROVISIONS SHALL APPLY BETWEEN OCTOBER 15 AND APRIL 15.
   A. DISTURBED SURFACES NOT INVOLVED IN THE IMMEDIATE OPERATIONS MUST BE PROTECTED BY APPLYING STRAW MULCH AT 2000 LBS. PER ACRE AND ANCHORED BY TRACK-WALKING TO PREVENT MOVEMENT DURING WATER FLOW.
   B. RUNOFF FROM THE SITE SHALL BE DETAINED OR FILTERED BY BERMS, VEGETATED FILTER STRIPS AND/OR CATCH BASINS TO PREVENT THE ESCAPE OF SEDIMENT FROM THE SITE. THESE DRAINAGE CONTROLS MUST BE MAINTAINED BY THE CONTRACTOR AS NECESSARY TO ACHIEVE THEIR PURPOSE THROUGHOUT THE LIFE OF THE PROJECT. SEE THIS SHEET FOR EROSION CONTROL PLAN AND EROSION CONTROL DETAILS.
   C. EROSION CONTROL MEASURES SHALL BE IN PLACE AT THE END OF EACH DAY'S WORK.
   D. THE BUILDING INSPECTOR SHALL STOP OPERATIONS DURING PERIODS OF INCLEMENT WEATHER IF HE DETERMINES THAT EROSION PROBLEMS ARE NOT BEING CONTROLLED ADEQUATELY.
   E. CUT AND FILL SLOPES SHALL BE PLANTED WITH AN SEED MIX APPROVED BY THE LANDSCAPE ARCHITECT. AMOUNT OF SEED AND FERTILIZER SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND THE SANTA LUCIA PRESERVE.
3. ALL SURFACES EXPOSED OR EXPECTED TO BE EXPOSED DURING GRADING ACTIVITIES SHALL BE PREPARED AND MAINTAINED THROUGH THE LENGTH OF THE ENTIRE PROJECT TO PROTECT AGAINST EROSION.
4. AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION, THE CONTRACTOR, WHEN HE OR HIS SUBCONTRACTORS ARE OPERATING EQUIPMENT ON THE SITE, SHALL PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE BY WATERING AND/OR TREATING THE SITE OF THE WORK IN SUCH A MANNER THAT WILL CONFINE DUST PARTICLES TO THE IMMEDIATE SURFACE OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE DONE BY DUST FROM HIS OR HER SUBCONTRACTOR.

EMPLOYEE TRAINING

1. STORM WATER POLLUTION PREVENTION TRAINING SHALL BE PROVIDED AT THE BEGINNING OF CONSTRUCTION AND REGULARLY DURING CONSTRUCTION FOR ALL EMPLOYEES WORKING ON THE JOB SITE. TRAINING SHALL BE PROVIDED BY THE CONTRACTOR'S WATER POLLUTION CONTROL MANAGER. TOPICS SHALL INCLUDE, BUT ARE NOT LIMITED TO:
   - SPILL PREVENTION AND RESPONSE;
   - LOCATIONS AND FUNCTIONS OF SEDIMENT/EROSION CONTROL DEVICES;
   - GOOD HOUSEKEEPING;
   - FINES AND PENALTIES;
   - MATERIAL MANAGEMENT PRACTICES.

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HEALTH DEPARTMENT

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RICHARD P. WEBER
No. 19891
CIVIL
STATE OF CALIFORNIA

Drawn By: CW

Drawing Date: 12/18/19

Project Number: 3861.00

Revisions:

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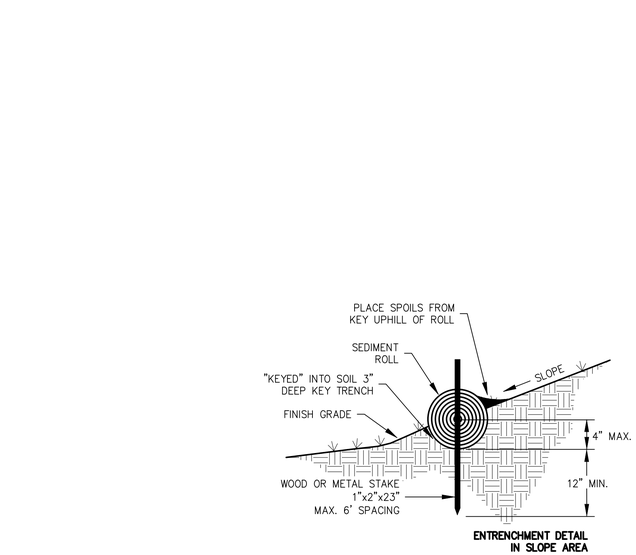
Sheet Title:
TEMPORARY WATER POLLUTION CONTROL PLAN

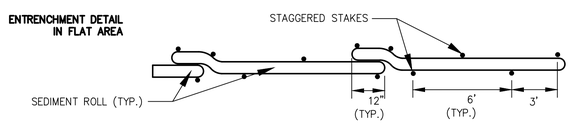
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NOTES

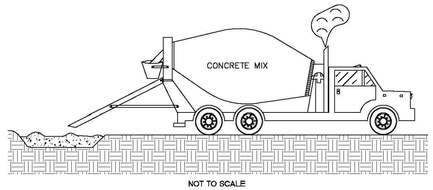
1. PRIOR TO ROLL INSTALLATION, CONTOUR A CONCAVE KEY TRENCH THREE (3" MIN.) TO FOUR (4") INCHES MAX. DEEP ALONG THE PROPOSED INSTALLATION ROUTE. TRENCH SHOULD BE LEVEL (ie ALONG THE CONTOUR)

2. SOIL EXCAVATED IN TRENCHING SHOULD BE PLACED ON THE UPHILL OR FLOW SIDE OF THE ROLL TO PREVENT WATER FROM UNDER CUTTING THE ROLL.

3. PLACE SEDIMENT ROLL INTO KEY TRENCH AND STAKE ON BOTH SIDES OF THE ROLL TO WITHIN SIX FEET (6') OF EACH END AND THEN EVERY SIX FEET (6') WITH 1" x 2" x 23" WOOD OR METAL STAKES.

4. STAKES ARE TYPICALLY DRIVEN IN ON ALTERNATING SIDES OF THE ROLL. WHEN MORE THAN ONE SEDIMENT ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED TWELVE INCHES (12") MIN. TO PROVIDE A TIGHT JOINT, NOT ABUTTED TO ONE ANOTHER.

SE-5 -- FIBER ROLL
SCALE: NONE



DESCRIPTION

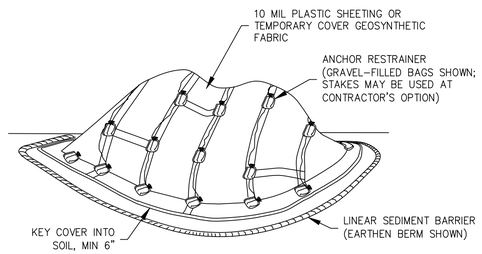
PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFF-SITE, PERFORMING ON-SITE WASHOUT IN A DESIGNATED AREA, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

APPROACH

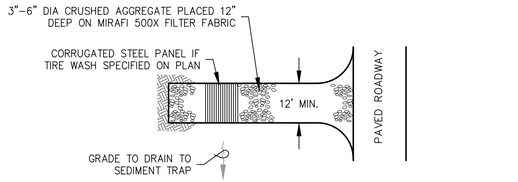
THE FOLLOWING STEPS WILL HELP REDUCE STORM WATER POLLUTION FROM CONCRETE WASTES:

- STORE DRY AND WET MATERIALS UNDER COVER, AWAY FROM DRAINAGE AREAS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE OR CEMENT ON-SITE.
- PERFORM WASHOUT OF CONCRETE TRUCKS OFF SITE OR IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ON-SITE, EXCEPT IN DESIGNATED AREAS.
- FOR ON-SITE WASHOUT:
  - LOCATE WASHOUT AREA AT LEAST 50' FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
  - WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.
- WHEN WASHING CONCRETE TO REMOVE FINE PARTICLES AND EXPOSE THE AGGREGATE, AVOID CREATING RUNOFF BY DRAINING THE WATER TO A BERMED OR LEVEL AREA.
- DO NOT WASH SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO THE STREET OR STORM DRAIN; COLLECT AND RETURN SWEEPINGS TO AGGREGATE BASE STOCK PILE, OR DISPOSE IN THE TRASH.

WM-8 -- TEMPORARY CONCRETE WASHOUT FACILITY
SCALE: NONE

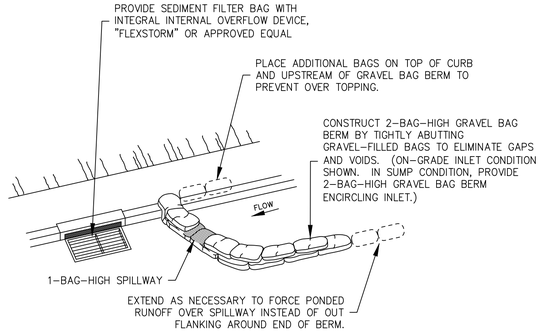


WM-3 -- TEMPORARY COVER ON STOCKPILE
SCALE: NONE

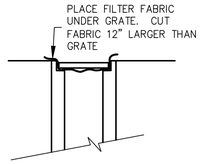


PLAN VIEW

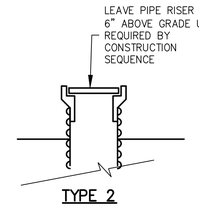
TC-1 -- STABILIZED CONSTRUCTION ENTRANCE
SCALE: NONE



TYPE 3



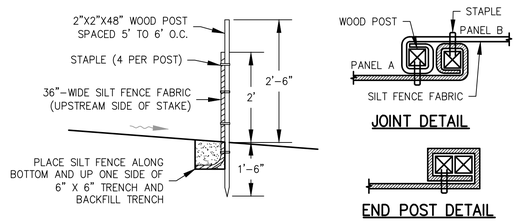
TYPE 1



TYPE 2

NOTES:
1. PROVIDE TYPE 1 INLET PROTECTION AT ALL INLETS IF OTHER TYPE NOT PROVIDED.
2. TYPE 2 INLET PROTECTION MAY BE PROVIDED IN LIEU OF TYPE 1 AT CONTRACTOR'S OPTION.
3. TYPE 3 INLET PROTECTION SHALL BE PROVIDED FOR ALL EXISTING AND PROPOSED PUBLIC STORM DRAIN INLETS, AND ANY PRIVATE INLETS WHICH ARE TO REMAIN IN SERVICE DURING CONSTRUCTION.

SE-10 -- STORM DRAIN INLET PROTECTION
SCALE: NONE



JOINT DETAIL

END POST DETAIL

NOTES:
1. THE DOWNSTREAM END OF THE SILT FENCE SHALL HAVE THE LAST 8' ANGLED UP SLOPE TO PREVENT WATER FROM RUNNING AROUND THE END OF THE SILT FENCE
2. JOINT SECTIONS SHALL NOT BE PLACED AT SUMP LOCATIONS

SE-1 -- TEMPORARY SILT FENCE
SCALE: NONE

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Project / Owner:
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HEALTH DEPARTMENT

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Drawn By: CW
Drawing Date: 12/18/19
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Sheet Title:
WATER POLLUTION CONTROL DETAILS

Sheet Number:
C3.2

GENERAL NOTES AND SPECIFICATIONS

1. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE AND ANY LOCAL CODE REQUIREMENTS. ALL DETAILS, SECTIONS AND NOTES SHOWN ON DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE NOTED, U.O.N. DIMENSIONS ARE GOVERNED BY THE ARCHITECTURAL PLAN. ALL DIMENSIONS SHOWN IN THE STRUCTURAL PLANS SHALL BE VERIFIED WITH THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER.

2. ALL SUBMITTALS SHALL BE TO THE CONTRACTING OFFICER REPRESENTATIVE. REFER TO SPECIFICATIONS FOR ADDITIONAL SUBMITTALS AND/OR CLARIFICATION OF SUBMITTALS. CHECK ALL DIMENSIONS IN RELATION TO SITE CONDITIONS BEFORE STARTING WORK. THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE CONTRACTING OFFICER REPRESENTATIVE AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. SEE ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS FOR DUCTS PIPES AND CONDUITS AND ITEMS EMBEDDED IN CONCRETE. DURING CONSTRUCTION PHASE THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF BUILDING AND PERSONNEL. PROVIDE ADEQUATE SHORING, BRACING IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.

3. FOUNDATION DESIGN
BASED ON SOILS REPORT NO. 0575-1400-1 PREPARED BY PROFESSIONAL SERVICES INDUSTRIES,INC., DATED 08-30-2018. IN PREPARATION OF SITE THE SOIL REPORT AND SPECIFICATIONS OF THE REPORT SHALL BE USED AS DIRECTED BY THE SOIL ENGINEER. A COPY OF THE SOIL REPORT SHALL BE KEPT ON THE JOB SITE. FOUNDATION SHALL BE CONVENTIONAL CONTINUOUS AND SPREAD PAD FOOTINGS AS DETAILED AND IS DESIGNED PER THE ABOVE NOTED REPORT FOR:
TOTAL LOAD BEARING VALUE OF FOOTINGS (DL+LL) = 2500 PSF
TOTAL LOAD BEARING VALUE OF FOOTINGS (DL+SHORT TERM) = 3325 PSF
ENGINEERED FILL AND FOUNDATION EXCAVATIONS SHALL BE CERTIFIED BY THE SOIL ENGINEER PRIOR TO THE PLACEMENT OF REINFORCING STEEL OR CONCRETE.

4. REINFORCING STEEL
SHALL BE ASTM A-615 DEFORMED, UNCOATED GRADE 60. BARS #3 AND SMALLER MAY BE GRADE 40. WELDED WIRE FABRIC W.W.F. SHALL BE ASTM A-185, UNCOATED. TIE WIRE: 16ga ANNEALED. ALL BAR LAPS AND REINFORCING MAY BE SPLICED 40 BAR DIAMETERS FOR ALL HORIZONTAL AND VERTICAL REINFORCEMENT, U.O.N. SPLICE WELDED WIRE MESH 12" MIN. AT END LAPS AND 6" MIN. AT SIDE LAPS, U.O.N. ALL STEEL SHALL BE RIGIDLY HELD IN PLACE WITH APPROVED METAL DEVICES PRIOR TO POURING CONCRETE. HOOKS, BENDS, FABRICATION AND PLACING SHALL BE IN ACCORDANCE WITH THE "ACI DETAILING MANUAL" ACI. SP-66(04). SUBMIT MILL TEST CERTIFICATES SHOWING CHEMICAL AND PHYSICAL ANALYSIS OF SUPPLIED REINFORCING. SUBMIT SHOP DRAWINGS OF REINFORCEMENT SHOWING ALL ASPECTS OF THE ITEMS AND ITS CONNECTION TO THE WORK. -SUBMIT SET FOR APPROVAL BEFORE FABRICATION.

5. CONCRETE
SHALL DEVELOP A 28 DAY MINIMUM ULTIMATE COMRESSIVE STRENGTH OF:
A. SLAB - 3000 PSI (DESIGNED FOR 2500 PSI)
B. FOOTINGS AND FOUNDATIONS - 2500 PSI
C. LIGHTWEIGHT CONCRETE ABOVE STEEL DECK - 3000 PSI
WATER / CEMENT RATIO FOR 2500 PSI SHALL NOT EXCEED .54
SLUMP: ± 4-1/2" MAXIMUM.
AGGREGATE: MAXIMUM SIZE 3/4"
-SUBMIT COPY OF CONCRETE MIX DESIGN FOR APPROVAL PRIOR TO MANUFACTURE.
ALL CONCRETE SHALL BE MACHINE MIXED, CONFORMING WITH ACI-613. ALL CEMENT USED SHALL COMPLY WITH ASTM C-150, TYPE II CEMENT. MAINTAIN COMPLETE RECORDS OF PLACED CONCRETE ITEMS: DATE, LOCATION, QUANTITY AND TEST SAMPLES TAKEN. CONCRETE TEST CYLINDERS: TAKE FOUR TEST CYLINDERS MINIMUM PER 50 CU. YARDS OF CONCRETE POUR PER DAY, MINIMUM FOUR TEST CYLINDERS OF EACH DAYS POUR OF CONCRETE.
CONCRETE COVERAGE (FACE OF BAR TO FACE OF CONCRETE) SHALL BE AS FOLLOWS, U.O.N. IN DRAWINGS:
A. 3" MIN. AT CONCRETE IN CONTACT WITH GRADE.
B. 2" MIN. AT ALL OTHER CONDITIONS U.O.N. ON PLANS.
ANCHOR RODS SHALL BE ASTM F1554, GRADE 36, U.O.N.
CORROSION RESISTANCE: ANCHOR BOLTS AND HOLDOWN BOLTS EXTENDING THROUGH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED. ANY STEEL IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED. HOT DIP GALVANIZED IS NOT REQUIRED FOR ANCHOR OR HOLDOWN BOLTS WITH D.O.T. TREATED WOOD AT MUDSILLS WITHIN WEATHER-TIGHT WALLS.

WORKMANSHIP: PLACE CONCRETE IN ACCORDANCE WITH ACI-301. ENSURE THAT REINFORCEMENT AND EMBEDDED ITEMS ARE NOT DISTURBING PLACEMENT OF CONCRETE. COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR PLACING REINFORCEMENT. TOP OF THE FLOOR SHALL BE TRUE TO INDICATED ELEVATIONS. VARIATIONS SHALL NOT EXCEED 1/8" IN 10 FEET. MACHINE TROWEL SURFACE IN TWO DIRECTIONS. PATCH IMPERFECTIONS. PROTECT CONCRETE FROM PREMATURE DRYING, MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECCESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
PROVIDE ¾" CHAMFER ON ALL EXPOSED CONCRETE EDGES U.O.N ON PLANS.
CONCRETE TO BE VIBRATED INTO PLACE WITH MECHANICAL VIBRATOR.

6. STRUCTURAL STEEL
FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE CURRENT AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
A. ROLLED W SHAPES SHALL BE ASTM A992, U.O.N..
B. ROLLED HP SHAPES SHALL BE A572, GR. 50
C. ROLLED STEEL PLATES, M SHAPES, S SHAPES AND BARS SHALL BE ASTM A36, U.O.N..
D. ANGLES, CHANNELS AND MC SHAPES SHALL BE ASTM A36.
E. HSS RECTANGULAR STEEL TUBE SHALL BE ASTM A500 GRADE 'B', Fy = 46 KSI
F. HSS ROUND STEEL TUBE SHALL BE ASTM A500 GRADE 'B', Fy = 42 KSI
G. STEEL PIPE SHALL BE ASTM A53, GRADE 'B'.
H. BOLTS SHALL BE ASTM A325 BOLTS, U.O.N. ON PLANS. INSTALL SNUG TIGHT PER RCSC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", U.O.N.
J. HEAVY-HEX NUTS SHALL BE ASTM A563.
K. WASHERS SHALL BE ASTM F436, U.O.N..
L. THREADED ROD SHALL BE A36, U.O.N..
ALL BOLT HOLES SHALL BE PUNCHED OR DRILLED AND BE 1/16" OVERSIZE OF BOLT DIAMETER. BURNING OF HOLES SHALL NOT BE PERMITTED. HOLES AT BASE PLATES TO BE PER TABLE 14-2 OF AISC "STEEL CONSTRUCTION MANUAL", THIRTEENTH EDITION.
ALL CONNECTIONS NOT SHOWN SHALL BE DETAILED AND FABRICATED AS PER DESIGN PROVISIONS FOR STANDARD CONNECTIONS OF THE LATEST EDITION OF THE AISC SPECIFICATIONS USING MINIMUM 3/4" DIAMETER BOLTS, OR EQUIVALENT WELDED FRAMING CONNECTIONS.
WELDING SHALL BE DONE BY ELECTRIC ARC PROCESS. WELDERS SHALL BE AWS CERTIFIED OPERATORS.
WELDING SHALL CONFORM WITH AWS D1.1 "STRUCTURAL WELDING CODE." ELECTRODES SHALL BE E-70 SERIES, UNLESS OTHERWISE NOTED AND SHALL CONFORM WITH AISC SPECIFICATIONS.
NON-SHRINK GROUT BELOW BASEPLATES SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI MINIMUM, U.O.N
-SUBMIT SET OF STRUCTURAL STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.

7. WEDGE ANCHORS
SHALL BE HILTI "KWIK-BOLT 3" (ESR-2302) SERIES OR EQUAL OF THE SIZE AND EMBEDMENT INDICATED ON THE DRAWINGS U.O.N.. WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT-DIPPED GALVANIZED WHERE EXPOSED TO WEATHER OR IN CONTACT WITH PRESSURE TREATED WOOD. SUBMIT MANUFACTURERS DATA.

8. EPOXY ANCHORS
FOR CONCRETE:
SHALL BE "SIMPSON SET-XP" (ESR-2508) OR OTHER TYPE WITH EQUIVALENT VALUES. SUBMIT MANUFACTURERS DATA.
FOR MASONRY:
SHALL BE "HILTI HIT HY-200" (ESR-3187) OR OTHER TYPE WITH EQUIVALENT VALUES. SUBMIT MANUFACTURERS DATA.

9. STEEL DECK NOTES
STEEL DECK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE "STEEL DECK INSTITUTE" (SDI) STANDARDS. STEEL DECK SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI WITH DESIGNATION, GAGE THICKNESS AND ATTACHMENTS AS NOTED ON PLANS. DECKING PERMANENTLY EXPOSED TO THE WEATHER SHALL BE MINIMUM ZINC COATED (ASTM A 653) WITH COATING DESIGNATION G90 U.O.N.. DECK SHALL BEAR 2" MINIMUM ON SUPPORTS PERPENDICULAR TO THE FLUTES. DECK PANELS SHALL BE ORIENTATED FOR FLUTES TO BE PERPENDICULAR TO SUPPORTS AND SPAN ACROSS TWO SUPPORT MEMBERS MINIMUM.

COMPOSITE DECK SHALL BE STEEL DECK WITH VENTS TOPPED WITH CONCRETE WITH THICKNESS AS NOTED ON PLANS. TOTAL THICKNESS OF CONCRETE AS NOTED ON PLANS IS MEASURED FROM THE BOTTOM FLUTE. CONCRETE SHALL BE LIGHT-WEIGHT WITH A 28 DAY MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI.
WATER / CEMENT RATIO SHALL NOT EXCEED .50
SLUMP: ± 4-1/2" MAXIMUM.
IN NO CASE SHALL THE CONCRETE OVER THE TOP OF THE FLUTE BE LESS THAN 2-1/2" THICK. UNLESS OTHERWISE NOTED ON PLAN, MINIMUM REINFORCEMENT IN THE CONCRETE FOR TEMPERATURE SHRINKAGE CONTROL SHALL BE 6x6-W1.4xW1.4 WIRE-WELDED FABRIC PLACED APPROXIMATELY AT THE CENTERLINE OF THE CONCRETE DEPTH OVER THE TOP OF FLUTE. SUBMIT MANUFACTURERS DATA TO ENGINEER OF RECORD FOR APPROVAL.

SUSPENDED LOADS ATTACHED DIRECTLY TO THE DECK WITH LOCATION, WEIGHT AND MEANS OF ATTACHMENT SHALL BE PROVIDED TO ENGINEER OF RECORD BEFORE DECK IS FABRICATED.
HOLES THROUGH DECK WITH LOCATION AND SIZE SHALL BE PROVIDED TO ENGINEER OF RECORD BEFORE INSTALLATION.
-SUBMIT COPY OF SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.

10. TREATED / PROTECTIVE COATINGS:
A. ALL STRUCTURAL STEEL SHAPES, CONNECTIONS, AND ASSEMBLIES NOT EMBEDDED IN CONCRETE SHALL BE PAINTED WITH ONE SHOP COAT OF RUST INHIBITIVE METAL PRIMER, U.O.N.
B. ALL STEEL EXPOSED TO EXTERIOR ELEMENTS OR IN CONTACT WITH TREATED WOOD SHALL BE HOT DIPPED GALVANIZED MINIMUM.
C. FASTENERS AT EXTERIOR CONDITIONS SHALL BE MINIMUM HOT DIPPED GALVANIZED, U.O.N. 316 STAINLESS STEEL CAN BE USED. STAINLESS STEEL BOLTS SHALL HAVE 316 STAINLESS NUTS AND WASHERS.
D. ALL HARDWARE AT EXTERIOR CONDITIONS SHALL BE MINIMUM HOT DIPPED GALVANIZED, U.O.N. IF STAINLESS STEEL IS USED, IT SHALL BE ASTM GRADE 316.
DO NOT USE HOT DIPPED GALVANIZED OR ANY OTHER COATED FASTENERS WITH STAINLESS STEEL HARDWARE OR VICE-VERSA.
E. "SIMPSON" CONNECTORS OR EQUIVALENT AT EXTERIOR CONDITIONS SHALL HAVE "ZMAX" COATING, U.O.N. USE ONLY HOT DIPPED GALVANIZED FASTENERS WITH HARDWARE. IF STAINLESS STEEL CONNECTORS ARE USED, USE ONLY STAINLESS STEEL FASTENERS.
F. POWDER ACTUATED FASTENERS SHALL BE "SIMPSON" "PDPWLMG" MECHANICAL GALVANIZED OR EQUIVALENT U.O.N. ON PLAN.
G. FOR WOOD TREATMENT INCLUDING ENGINEERED LUMBER-SEE NOTE "C" UNDER "CARPENTRY AND TIMBER" NOTES.
FIELD REPAIR OF GALVANIZED STEEL SHALL USE A ZINC RICH PAINT AND REPAIRED PER ASTM A780.

11. GENERAL PREFABRICATED STEEL JOISTS/GIRDERS
A. DESIGN, DETAIL, FABRICATE AND ERECT STEEL JOISTS AND GIRDERS TO CURRENT STANDARDS OF THE STEEL JOIST INSTITUTE.
B. DETERMINE QUANTITY, SIZE, CONFIGURATION, PLACEMENT AND DETAILING OF BRIDGING TO COMPLY WITH STANDARDS OF THE STEEL JOIST INSTITUTE.
C. CAMBER JOISTS/GIRDERS PER STANDARDS OF THE STEEL JOIST INSTITUTE, UNLESS OTHERWISE NOTED.
D. PROVIDE JOISTS/GIRDERS SEATS OF SAME DEPTH AT BEARING LOCATIONS COMMON TO JOISTS OF DIFFERENT SERIES (K, LH, DLH, ETC.).
E. STAGGER STEEL JOISTS WHERE REQUIRED TO MEET MINIMUM BEARING REQUIRED BY STEEL JOIST INSTITUTE.
F. APPLY CONCENTRATED LOADS (EQUIPMENT, PIPE HANGERS, ETC.) AT PANEL POINTS OF JOISTS/GIRDERS LONG TOP OR BOTTOM CHORDS.
G. TYPICAL "K" JOIST SEATS BEARING ON STEEL SUPPORTS SHALL BE ATTACHED BY A MINUMUM OF TWO 1/8" FILLET WELDS x 1" LONG OR WITH TWO 1/2"ø A325 BOLTS, U.O.N.
H. TYPICAL "LH" & "DLH" JOIST SEATS BEARING ON STEEL SUPPORTS SHALL BE ATTACHED BY A MINUMUM OF TWO 1/4" FILLET WELDS x 2" LONG OR WITH TWO 3/4"ø A325 BOLTS, U.O.N.
J. TYPICAL GIRDER SEATS BEARING ON STEEL SUPPORTS SHALL BE TWO 3/4"ø A325 BOLTS, U.O.N.
K. AT BEARING POINTS OF GIRDERS A 6"x6" MINIMUM x 3/4" THICK STABILIZER PLATE SHALL BE USED AT THE BOTTOM CHORD OF GIRDER. DO NOT WELD BOTTOM CHORD TO PLATE.
L. PROVIDE SLOPED BEARING ENDS WHERE JOIST OR JOIST GIRDERS SLOPE EXCEEDS 1/4:12.
M. PROVIDE BEARING LENGTHS PER STEEL JOIST INSTITUTE REQUIREMENTS, U.O.N.
N. DESIGN JOISTS AND GIRDERS WITH AXIAL LOADS AS INDICATED ON STRUCTURAL PLANS TO BE IN COMPRESSION OR TENSION, WHICHEVER IS MOST CRITICAL FOR THE DESIGN AND DETAILING OF JOIST/GIRDER AND COMPONENTS.
O. DESIGN JOISTS AND GIRDERS FOR THE MOST CRITICAL COMBINATIONS OF SPECIFIED GRAVITY AND WIND/SEISMIC LOADINGS.
P. JOISTS AND GIRDERS SHALL BE FABRICATED TO THE MINIMUM SIZES SHOWN ON STRUCTURAL PLANS. WHERE REQUIRED BY DESIGN OR OTHER CONDITIONS, SIZES MAY BE INCREASED UPON APPROVAL OF THE ARCHITECT AND ENGINEER OF RECORD.

DESIGN STEEL JOISTS, UNLESS OTHERWISE NOTED, FOR SIMPLE SPANS TO THE FOLLOWING CRITERIA:
ROOF FRAMING SUPPORTING CEILING-
MAXIMUM LIVE LOAD DEFLECTION = 1/360 OF SPAN
MAXIMUM TOTAL LOAD DEFLECTION = 1/240 OF SPAN
ROOF FRAMING WITHOUT CEILING-
MAXIMUM LIVE LOAD DEFLECTION = 1/240 OF SPAN
MAXIMUM TOTAL LOAD DEFLECTION = 1/180 OF SPAN
FLOOR FRAMING-
MAXIMUM LIVE LOAD DEFLECTION = 1/480 OF SPAN
MAXIMUM TOTAL LOAD DEFLECTION = 1/360 OF SPAN
REFER TO STRUCTURAL PLANS FOR JOIST AND GIRDER LOADING.
-SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW PRIOR TO FABRICATION.

12. LIGHT GAGE STEEL
ALL CONSTRUCTION SHALL COMPLY WITH THE AISI SPECIFICATION 2013 EDITION FOR THE DESIGN OF COLD-FORMED STRUCTURAL STEEL MEMBERS AND STANDARDS FOR COLD-FORMED STEEL FRAMING.

ALL LIGHT GAGE METAL FRAMING MEMBERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A653 AND C955.

16 GAGE AND HEAVIER FRAMING MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH Fy = 50 KSI, U.O.N.
18 GAGE AND LIGHTER FRAMING MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH Fy = 33 KSI, U.O.N.
MISCELLANEUOS ANGLES, CLIPS, AND OTHER BENT LIGHT GAGE ELEMENTS SHALL BE 16 GAGE MINIMUM, U.O.N.
U-CHANNEL SHALL BE 1-1/2" x 16 GAGE MINIMUM WITH Fy = 33 KSI.
FURRING CHANNELS MAY BE 20 GAGE.
FRAMING SCREWS SHALL BE #10 SELF TAPPING PAN HEAD SCREWS, 1/2" TO 3/4" LONG FOR FRAMED IN PLACE CONSTRUCTION. WELDING SHALL BE SINGLE PASS WELDS PER THE CURRENT AWS D1.3 SPECIFICATION FOR WELDING STEEL SHEET IN STRUCTURES AND IS PERMITTED ON 18 GAGE OR HEAVIER MATERIAL. TOUCH UP ALL WELDS WITH ZINC-RICH PAINT.

TRACKS SHALL BE ANCHORED TO CONCRETE SLAB OR DECK AS SHOWN ON PLANS. TRACK ATTACHMENT TO CONCRETE SLAB NOT SPECIFIED IN DETAILS FOR NON-BEARING AND NON-SHEAR WALLS SHALL HAVE 3/8"ø ANCHOR BOLTS WITH 2"x2"x1/4" WASHERS @ 32" O.C. WITH 6" EMBEDMENT OR POWDER DRIVEN FASTENERS (P.D.F) WITH .157" DIAMETER @ 16" O.C. IN STAGGERED PATTERN WITH 1-1/4" EMBEDMENT AND PRE-MOUNTED STEEL WASHERS. TRACK ATTACHMENT TO LIGHTWEIGHT CONCRETE OVER STEEL DECKING NOT SPECIFIED IN DETAILS FOR NON-BEARING AND NON-SHEAR WALLS SHALL HAVE 3/8"ø WEDGE ANCHORS WITH 2"x2"x1/4" WASHERS @ 32" O.C. WITH 2-1/2" EMBEDMENT.

UNLESS OTHERWISE NOTED IN DRAWINGS WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:

STUDS SHALL HAVE THE FOLLOWING MINIMUM SECTION PROPERTIES:

DEPTH	GAGE	LEG, in.	LIP, in.	Sx, in.3	Ix, in.4
8"	20	1 5/8	0.500	0.896	3.58
6"	20	1 5/8	0.500	0.598	1.79
4"	20	1 5/8	0.500	0.346	0.692
3⅝"	20	1 5/8	0.500	0.304	0.551

TRACKS SHALL HAVE THE FOLLOWING MINIMUM SECTION PROPERTIES:

DEPTH	GAGE	LEG, in.	Sx, in.3	Ix, in.4
8"	18	1 1/4	0.924	3.77
6"	18	1 1/4	0.604	1.861
4"	18	1 1/4	0.344	0.716
3⅝"	18	1 1/4	0.302	0.571

NORMAL DEEP LEG

** DEEP LEG TRACKS USE 2" LEG

JOISTS/RAFTERS SHALL HAVE THE FOLLOWING MINIMUM SECTION PROPERTIES:

DEPTH	GAGE	LEG, in.	LIP, in.	Sx, in.3	Ix, in.4
12"	16	1 5/8	0.500	2.62	15.7
10"	16	1 5/8	0.500	1.99	9.95
8"	16	1 5/8	0.500	1.43	5.74
6"	16	1 5/8	0.500	0.954	2.86

STEEL JOIST LOADS & FRAMING NOTES

NOTES:

1) MANUFACTURER SHALL SUBMIT DRAWINGS AND CALCULATIONS TO BUILDING DEPARTMENT FOR APPROVAL PRIOR TO FABRICATION.

2) SEE ROOF/FLOOR FRAMING PLAN FOR REQUIRED WIND AND SEISMIC AXIAL DRAG FORCES IN JOISTS.

3) JOIST MANUFACTURER SHALL VERIFY LOCATION AND WEIGHT OF MECHANICAL UNITS OVER ROOF JOISTS WITH MECHANICAL ENGINEER. JOISTS HAVE TO BE DESIGNED FOR THE EXTRA LOADS IMPOSED BY THE MECHANICAL UNITS.

4) ROOF/FLOOR JOISTS SHALL BE ENGINEERED, PREFABRICATED, DESIGNED FOR THE SPAN AND MINIMUM VERTICAL DESIGN LOADS AS NOTED ABOVE. THE JOIST MANUFACTURER SHALL BE RESPONSIBLE FOR PROVIDING INSTALLATION PLANS SHOWING CONFIGURATION AND LOCATION OF ALL JOISTS TO BE SUPPLIED ALONG WITH ENGINEERING CALCULATIONS PREPARED AND SIGNED BY A REGISTERED CALIFORNIA CIVIL OR STRUCTURAL ENGINEER WHICH APPLY TO THE JOISTS USED AND WHICH COVER ALL MEMBER AND JOINT SIZES, AS WELL AS END BEARING, CALCULATED DEFLECTIONS, AND PROPOSED CAMBER, WHEREVER OPENINGS OCCUR IN CONJUNCTION WITH JOISTS FRAMING, OR WHERE JOISTS FRAME INTO OTHER JOISTS SUPPLIED, THE JOIST MANUFACTURER SHALL BE RESPONSIBLE FOR THE DESIGN OF HEADER MEMBERS AND CONNECTIONS AND/OR SUPPORT CONNECTIONS NECESSARY TO CARRY THE VERTICAL LOADS APPLICABLE.

5) THE MANUFACTURED JOIST SUBMITTALS SHALL BE REVIEWED (INDICATED BY LETTER OR STAMP, SIGNATURE AND DATE) BY THE ARCHITECT OR ENGINEER OF RECORD FOR DESIGN COMPATIBILITY. JOISTS SHALL NOT BE MANUFACTURED OR INSTALLED PRIOR TO THE JOIST SUBMITTALS BEING APPROVED BY THE ARCHITECT OR ENGINEER. A CERTIFICATION LETTER FROM SUCH PERSON SHALL BE SENT TO THE DIVISION STATING AS SUCH.

6) JOISTS SHALL NOT BE INSTALLED UNTIL AN APPROVED COPY OF THE JOIST SUBMITTAL IS ISSUED BY THE BUILDING DEPARTMENT.

DEFERRED:

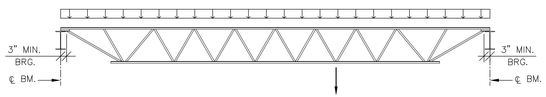
ROOF TRUSS CALCULATIONS AND SHOP DRAWINGS ARE DEFERRED ITEMS, BUT SHALL BE SUBMITTED FOR APPROVAL TO THE BUILDING DEPARTMENT AND TO THE ENGINEER OF RECORD PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BE SUBMITTED ALONG WITH CALCULATIONS, DETAILS, LAYOUT PLAN, AXIAL AND BEARING STRESSES AND JOINTS DESIGN. TRUSSES SHALL BE CLEARLY INDICATED TO CONFORM TO THE CURRENT BUILDING CODE PLUS STAMPED AND SIGNED BY A CALIFORNIA LICENSED PROFESSIONAL ENGINEER.

ROOF JOIST LOADS:

TOP CHORD:
D.L. =17 PSF
L.L. =20 PSF
BOTTOM CHORD:
D.L. =5 PSF

TOTAL LOAD =42 PSF

NET WIND PRESSURE UPLIFT: 14.7 PSF



ADDITIONAL LIVE LOAD ANYWHERE ALONG SPAN AT PANEL POINTS

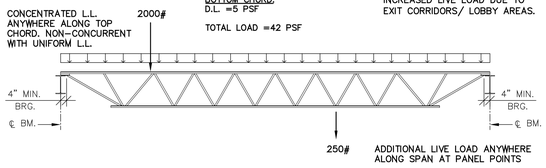
FLOOR JOIST LOADS:

TOP CHORD:
D.L. =47 PSF
L.L. =50 PSF (TYPICAL OFFICE LOAD)
BOTTOM CHORD:
D.L. =5 PSF

TOTAL LOAD =42 PSF

**SEE FLOOR FRAMING PLAN FOR INCREASED LIVE LOAD DUE TO EXIT CORRIDORS/ LOBBY AREAS.

CONCENTRATED L.L. ANYWHERE ALONG TOP CHORD. NON-CONCURRENT WITH UNIFORM L.L.



ADDITIONAL LIVE LOAD ANYWHERE ALONG SPAN AT PANEL POINTS

STRUCTURAL TESTS AND INSPECTIONS

THE FOLLOWING ITEMS SHALL BE INSPECTED. "SPECIAL INSPECTION" SHALL CONFORM TO CBC CHAPTER 17. SPECIAL INSPECTION AGENCIES AND/OR INDIVUDUALS SHALL BE APPROVED BY THE BUILDING DEPARTMENT PRIOR TO ANY WORK. FOR MATERIAL TESTING REQUIREMENTS SEE SPCIFICATIONS AND/ OR GENERAL NOTES. TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER.

ITEM	SPECIAL INSPECTION REQ'D	SPECIAL INSPECTION NOT REQ'D	OBSERVATION REQ'D	REMARKS	INSPECTION BY
GRADING, EXCAVATIONS AND FILL DENSITY (1705.6)	X			PERIODIC	GEOTECHNICAL ENGINEER/SPECIAL AGENT
REINFORCEMENT PLACEMENT (1705.3)		X	X	FINAL PLACEMENT	STRUCTURAL ENGINEER
REINFORCEMENT PLACEMENT-L.W. CONC. o/ STEEL DECK	X			FINAL PLACEMENT	SPECIAL AGENT
WET SET ANCHOR BOLTS (1705.3)		X	X	FINAL PLACEMENT	STRUCTURAL ENGINEER
CONCRETE PLACEMENT< 2500 PSI STRENGTH		X	X	PERIODIC	STRUCTURAL ENGINEER
L.W. CONCRETE PLACEMENT 3000 PSI STRENGTH (1705.3)	X			PERIODIC	SPECIAL AGENT
STRUCTURAL STEEL SHOP WELDING 1705.2)			X	PERIODIC	CERTIFIED WELDER/SPECIAL AGENT
STRUCTURAL STEEL FIELD WELDING (1705.2)	X			CONTINUOUS	SPECIAL AGENT
STRUCTURAL STEEL FIELD WELDING (1705.2)	X			CONTINUOUS	SPECIAL AGENT
COLD FORMED STEEL DECK FIELD WELDING (1705.2.2)	X			CONTINUOUS	SPECIAL AGENT
COLD FORMED STEEL DECK INSTALLATION (1705.2.2)	X			PERIODIC	SPECIAL AGENT
STEEL JOIST END CONNECTIONS (1705.2.3)	X			PERIODIC	SPECIAL AGENT
STEEL JOIST BRIDGING (1705.2.3)	X			PERIODIC	SPECIAL AGENT
SHEAR TRANSFER ELEMENTS (1705.12)		X	X	FINAL PLACEMENT	STRUCTURAL ENGINEER
EPOXY INSERTS (IF REQUIRED)	X			CONTINUOUS	SPECIAL AGENT

STRUCTURAL ENGINEER OBSERVATION IS REQUIRED FOR THIS PROJECT. THE OWNER SHALL RETAIN THE STRUCTURAL ENGINEER TO PERFORM OBSERVATIONS AS DEFINED IN CBC, SECTION 110. OBSERVED DEFICIENCIES SHALL BE REPORTED TO THE OWNER, CONTRACTOR, AND BUILDING OFFICIAL. STRUCTURAL OBSERVER SHALL SUBMIT A FINAL SUMMARY REPORT STATING THAT SITE VISITS HAVE BEEN MADE IDENTIFYING ANY DEFICIENCIES AND THAT CORRECTIVE WORK HAS BEEN COMPLETED AND CONSTRUCTION PROCEEDED IN ACCORDANCE WITH THE APPROVED PLANS AND APPLICABLE CODES.
SEE INSPECTION SCHEDULE ABOVE FOR ADDITIONAL EXTENDED LIST OF THE STRUCTURAL ENGINEER FIELD OBSERVATION.

CONTRACTOR SHALL GIVE A MINIMUM 24 HOUR NOTICE TO STRUCTURAL ENGINEER FOR SCHEDULING STRUCTURAL OBSERVATIONS.
ALL STRUCTURAL ITEMS WHICH ARE INTENDED TO HAVE A DEFFERED SUBMITTAL SHALL BE FIRST SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND COORDINATION THEN SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT FOR REVIEW AND APPROVAL. A LETTER OR STAMPED REVIEWED SHOP DRAWINGS SHALL BE INCLUDED FOR THE BUILDING DEPARTMENT STATING THAT REVIEW AND COORDINATION HAS BEEN PERFORMED AND COMPLIED WITH THE PLANS AND CALCULATIONS FOR THE DEFERRED ITEMS AND ALL HAS BEEN FOUND ACCEPTABLE (e.g. GEOMETRY. LOAD CONDITIONS ETC.) WITH NO EXCEPTIONS.

CONTRACTOR RESPONSIBILITY-(CBC 1706)

1. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
2. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURE FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.
4. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

BASIS OF DESIGN

WIND DESIGN DATA
ALL BUILDINGS
METHOD #1
BASIC WIND SPEED = 110 MPH
WIND IMPORTANCE FACTOR Iw = 1.0
WIND EXPOSURE = B

PARAPET WIND PRESSURE = + 17.69 PSF
- 11.8 PSF

SEISMIC DESIGN DATA
ALL BUILDINGS
IMPORTANCE FACTOR I = 1.0
S_s = 1.502 g
S_1 = .601 g
SITE CLASS = D-Stiff Soil
S_{MS} = 1.001 g
S_{M1} = 0.601 g
ANALYSIS METHOD= "ASCE 7-10 12.8 EQUIVALENT LATERAL FORCE PROCEDURE"
SEISMIC DESIGN CATAGORY = D
SEISMIC FORCE RESISTING SYSTEM = TABLE 12.2-1 (B)3
C_s = .28 [ASD]
R = 3.25

DESIGN LOADS
ALL BUILDINGS
ROOF DEAD LOAD = 21.5 PSF
ROOF LIVE LOAD = 20 PSF

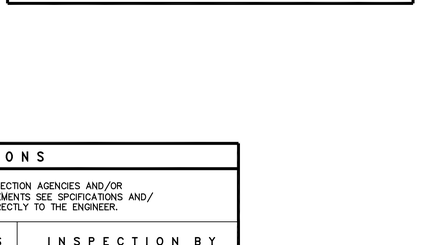
FLOOR DEAD LOAD = 52 PSF
FLOOR LIVE LOAD (OFFICE) = 50 PSF
CORRIDOR LIVE LOAD = 80 PSF
LOBBY/WAITING LIVE LOAD = 100 PSF

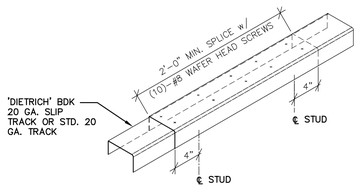
EXTERIOR WALL LOAD = 15.5 PSF

INTERIOR WALL LOAD = 8.0 PSF

SYMBOLS

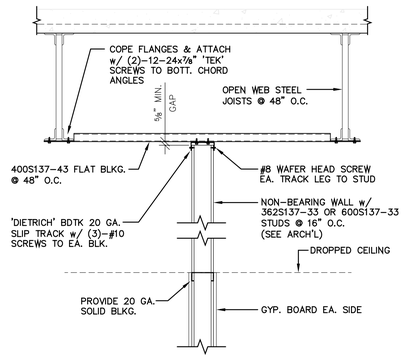
CONCRETE BLOCK OR STONE VENEER
CAST IN PLACE CONCRETE
CONTINUOUS TIMBER
TIMBER BLOCKING
POST ABOVE
POST BELOW
DETAIL No. 5 ON SHEET S2.0
STUD WALL
SHEATHING CALL-OUT (SEE SHEATHING SCHEDULE, ARROWHEAD POINTS TO SHEATHED SIDE)


5
S2.0
1
LENGTH 10'-0"
H.D

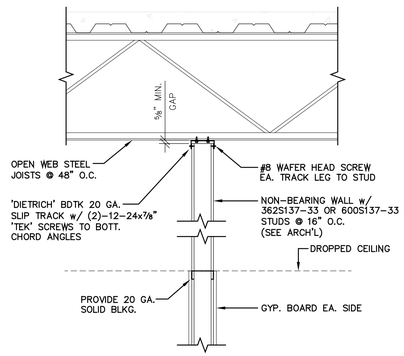


9 S1.1 Typ. Top Track Spice Detail

SCALE : 1" = 1'-0"



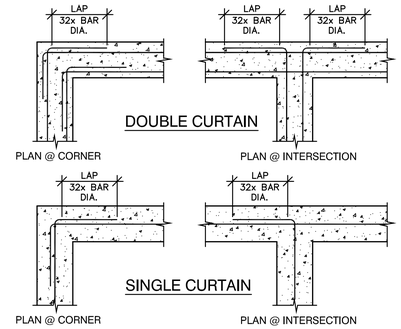
WALL PARALLEL TO JOISTS



WALL PERPENDICULAR TO JOISTS

7 S1.1 Typ. Non-Bearing Wall Top Track Attachment Detail

SCALE : 1" = 1'-0"

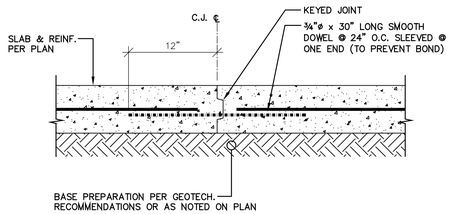


4 S1.1 Typ. Continuous Footing Intersections

SCALE : 1" = 1'-0"

NOTES:

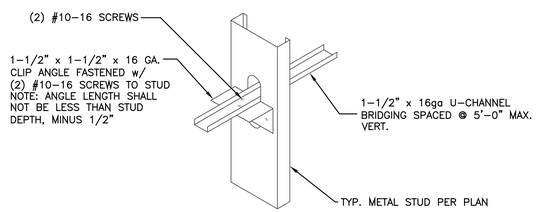
CONSTRUCTION JOINTS SHALL BE PROVIDED WHENEVER CONTINUOUS CONCRETE PLACEMENT WILL BE INTERRUPTED FOR 30 MINUTES OR MORE TO AVOID THE FORMATION OF A COLD JOINT.



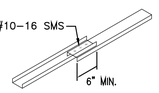
3 S1.1 Typ. Slab Construction Joint Detail

SCALE : 1" = 1'-0"

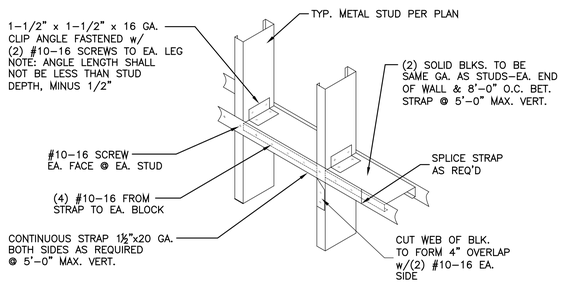
BRIDGING NOTES:
1. ALL EXTERIOR WALLS AND BEARING WALLS SHALL HAVE SHEATHING ONE SIDE (MIN.) PLUS BRIDGING PER DETAILS.
2. CHANNEL BRIDGING OR STRAP BRIDGING MAY BE USED WITH STUDS 8" OR LESS AT CONTRACTOR'S OPTION. STUDS WITH A WIDTH GREATER THAN 8" SHALL USE BLOCK AND STRAP BRIDGING.
3. NON-SHEAR, NON-BEARING, INTERIOR WALLS NOT EXCEEDING 16'-0" IN HEIGHT, CAN OMIT BRIDGING IF SHEATHING IS PRESENT ON BOTH SIDES.



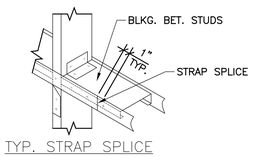
TYPICAL CHANNEL BRIDGING



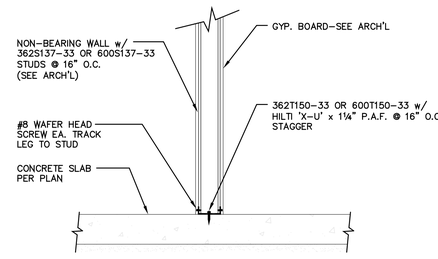
TYP. BRIDGE SPLICE



TYPICAL BLOCK & STRAP BRIDGING

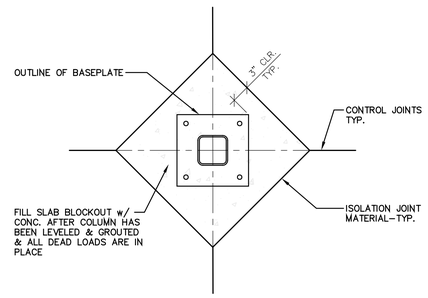


TYP. STRAP SPLICE



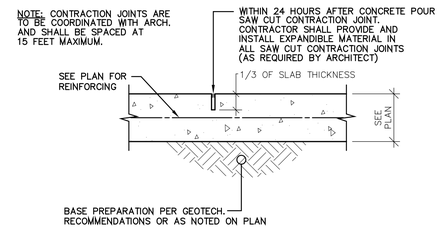
6 S1.1 Typ. Non-Bearing Wall Sill Detail

SCALE : 1" = 1'-0"



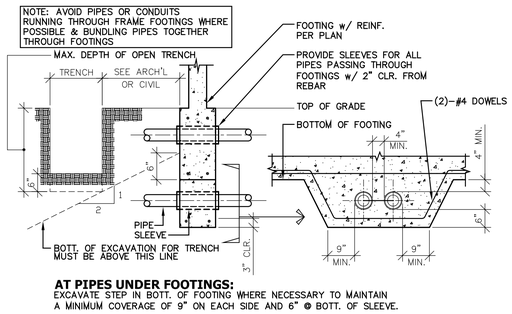
5 S1.1 Typ. Interior Column Blockout Detail

SCALE : 1" = 1'-0"



2 S1.1 Typ. Slab Contraction Joint Detail

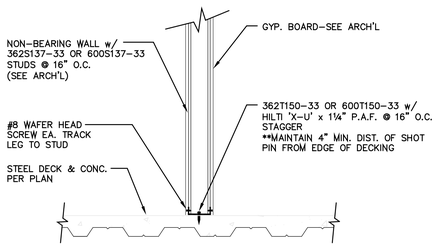
SCALE : 1" = 1'-0"



AT PIPES UNDER FOOTINGS:
EXCAVATE STEP IN BOTT. OF FOOTING WHERE NECESSARY TO MAINTAIN A MINIMUM COVERAGE OF 9" ON EACH SIDE AND 6" @ BOTT. OF SLEEVE.

1 S1.1 Typ. Pipe Through Footing Detail

SCALE : 1" = 1'-0"



10 S1.1 Typ. Non-Bearing Wall Sill Detail @ Steel Deck

SCALE : 1" = 1'-0"

8 S1.1 Typ. Steel Stud Bridging Details

SCALE : 1" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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(831)373-3119 FAX(831)373-5872

Drawn By: BLN

Drawing Date: 9.13.2021

Project Number: 2018-038

Revisions:

09.21.21 ISSUED FOR BID

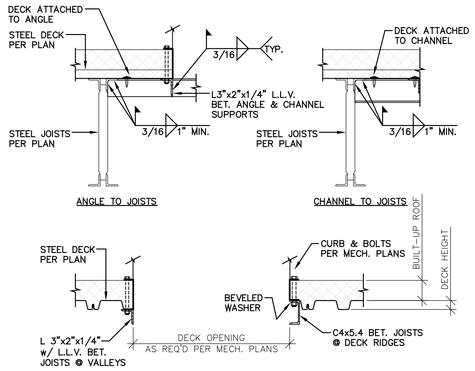
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Sheet Title:

Typical Details

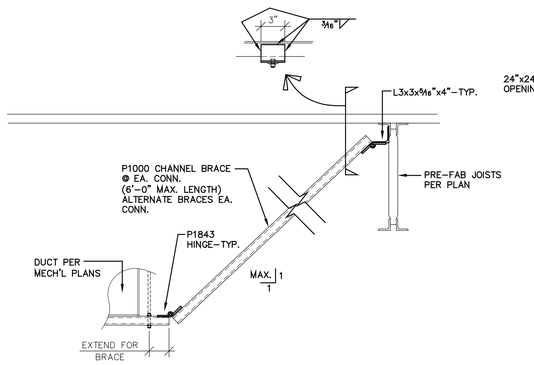
Sheet Number:

S1.1



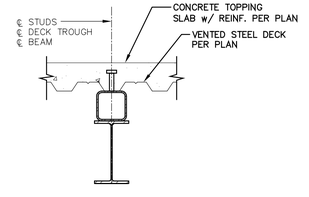
7 S1.2 Fan Mech. Equip. Detail

SCALE : 1" = 1'-0"

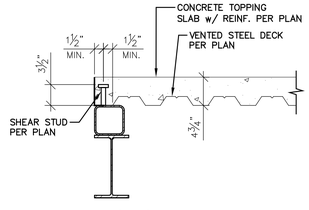


9 S1.2 Typ. Duct Bracing

SCALE : 1" = 1'-0"



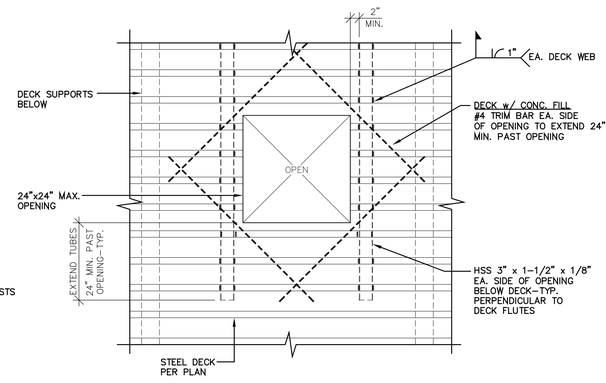
INTERIOR CONDITION



EDGE CONDITION

8 S1.2 Typ. Deck Shear Studs

SCALE : 1" = 1'-0"

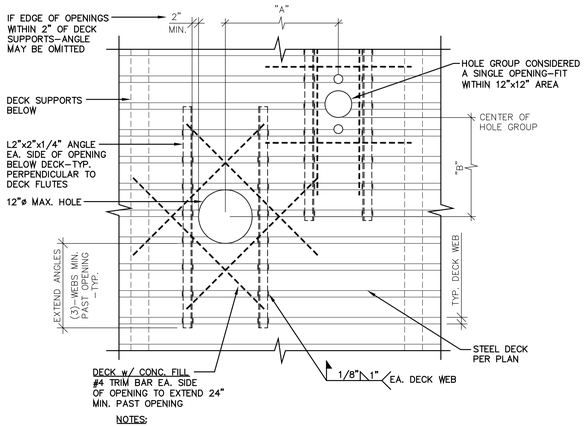


NOTES:

1. HOLES LESS THAN 6"ø AND DO NOT CUT MORE THAN ONE WEB DO NOT NEED REINFORCING.
2. FOR OPENINGS WITH CONCRETE FILL ABOVE DECK-BLOCK OUT OPENINGS BEFORE POUR LEAVING STEEL DECK INTACT. AFTER CONCRETE HAS CURED THE DECK MAY BE REMOVED.

6 S1.2 Typ. Deck Openings > 12"x12" < 24"

SCALE : 3/4" = 1'-0"

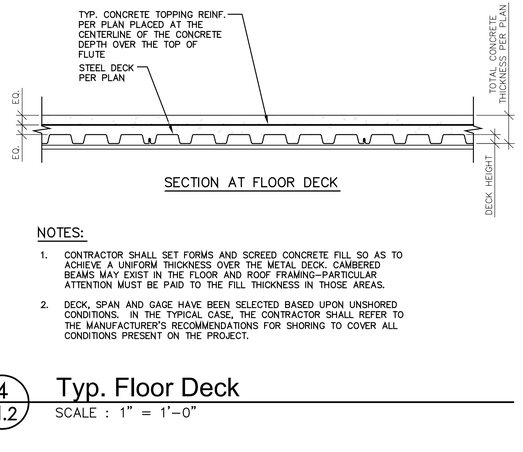


NOTES:

1. HOLES LESS THAN 6"ø AND DO NOT CUT MORE THAN ONE WEB DO NOT NEED REINFORCING.
2. IF DIMENSION "A" IS 48" MINIMUM, DIMENSION "B" HAS NO MINIMUM.
3. IF DIMENSION "B" IS 48" MINIMUM, DIMENSION "A" HAS NO MINIMUM.
4. FOR OPENINGS WITH CONCRETE FILL ABOVE DECK-BLOCK OUT OPENINGS BEFORE POUR LEAVING STEEL DECK INTACT. AFTER CONCRETE HAS CURED THE DECK MAY BE REMOVED.

5 S1.2 Typ. Deck Openings < 12"x12"

SCALE : 3/4" = 1'-0"



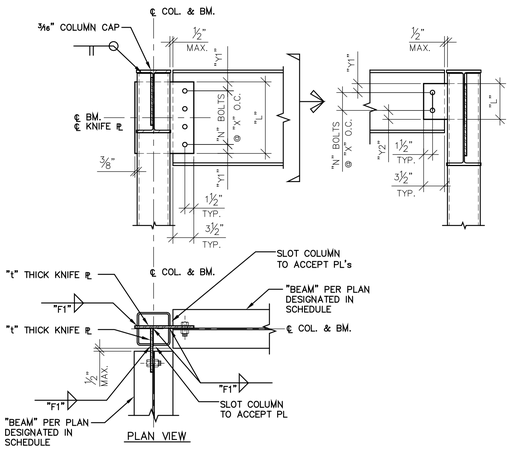
SECTION AT FLOOR DECK

NOTES:

1. CONTRACTOR SHALL SET FORMS AND SCREED CONCRETE FILL SO AS TO ACHIEVE A UNIFORM THICKNESS OVER THE METAL DECK. CAMBERED BEAMS MAY EXIST IN THE FLOOR AND ROOF FRAMING-PARTICULAR ATTENTION MUST BE PAID TO THE FILL THICKNESS IN THOSE AREAS.
2. DECK, SPAN AND GAGE HAVE BEEN SELECTED BASED UPON UNSHORED CONDITIONS. IN THE TYPICAL CASE, THE CONTRACTOR SHALL REFER TO THE MANUFACTURER'S RECOMMENDATIONS FOR SHORING TO COVER ALL CONDITIONS PRESENT ON THE PROJECT.

4 S1.2 Typ. Floor Deck

SCALE : 1" = 1'-0"

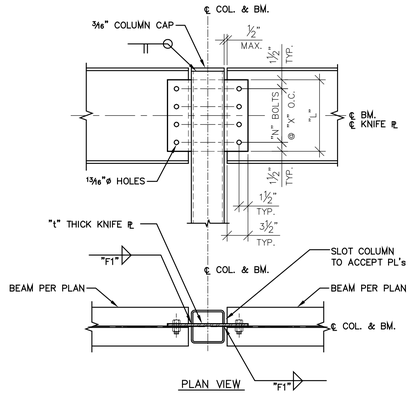


TYPICAL CONNECTION SCHEDULE									
BEAM	t (IN.)	L (IN.)	N (NO.)	X (IN.)	F1 (IN.)	F2 (IN.)	Y1 (IN.)	Y2 (IN.)	BOLT SIZE
W8x	¼	6	2	3	3/16	3/16	1½	1½	¾"ø
W10x	¼	8	3	2½	¼	3/16	1½	1½	¾"ø
W12x	¼	8½	3	2¾	¼	3/16	1½	1½	¾"ø
W12x53	⅜	9	3	3	¼	¼	1½	1½	⅞"ø
W12x58	⅜	9	3	3	¼	¼	1½	1½	⅞"ø
W14x	¼	11½	4	2⅞	¼	¼	1½	1½	¾"ø
W16x	¼	11½	4	2⅞	¼	¼	1½	1½	¾"ø
W18x	¼	14½	5	2⅞	¼	¼	1½	1½	¾"ø

1. BOLTS TO BE ASTM F3125, GRADE A325.
2. BOLT HOLE DIAMETER SHALL BE 1/16" LARGER THAN BOLT DIAMETER.
3. BOLTS TO BE HOT DIPPED GALVANIZED AT EXTERIOR CONNECTIONS.

3 S1.2 Beam to Column Knife Plate Conn.

SCALE : 1" = 1'-0"

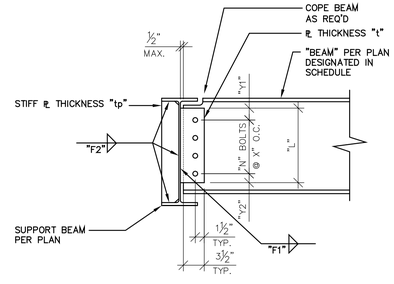


CONNECTION SCHEDULE					
BEAM	t (IN.)	L (IN.)	N (NO.)	X (IN.)	F1 (IN.)
W10	5/16	8	3	2½	¼
W12	5/16	9	3	3	¼
W14	5/16	10½	4	2½	¼

BOLTS TO BE ¾"ø A325.

2 S1.2 Beam to Column Knife Plate Conn.

SCALE : 1" = 1'-0"



TYPICAL CONNECTION SCHEDULE										
BEAM	t (IN.)	L (IN.)	N (NO.)	X (IN.)	F1 (IN.)	tp (IN.)	F2 (IN.)	Y1 (IN.)	Y2 (IN.)	BOLT SIZE
W8x	¼	6	2	3	3/16	¼	3/16	1½	1½	¾"ø
W10x	¼	8	3	2½	¼	¼	3/16	1½	1½	¾"ø
W12x	¼	8½	3	2¾	¼	¼	3/16	1½	1½	¾"ø
W12x53	⅜	9	3	3	¼	5/16	¼	1½	1½	⅞"ø
W12x58	⅜	9	3	3	¼	5/16	¼	1½	1½	⅞"ø
W14x	¼	11½	4	2⅞	¼	5/16	¼	1½	1½	¾"ø
W16x	¼	11½	4	2⅞	¼	5/16	¼	1½	1½	¾"ø
W18x	¼	14½	5	2⅞	¼	5/16	¼	1½	1½	¾"ø

1. BOLTS TO BE ASTM F3125, GRADE A325.
2. BOLT HOLE DIAMETER SHALL BE 1/16" LARGER THAN BOLT DIAMETER.
3. BOLTS TO BE HOT DIPPED GALVANIZED AT EXTERIOR CONNECTIONS.

1 S1.2 Typ. Beam to Beam Connection

SCALE : 1" = 1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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Drawn By: BLN

Drawing Date: 9.13.2021

Project Number: 2018-038

Revisions:
09.21.21 ISSUED FOR BID

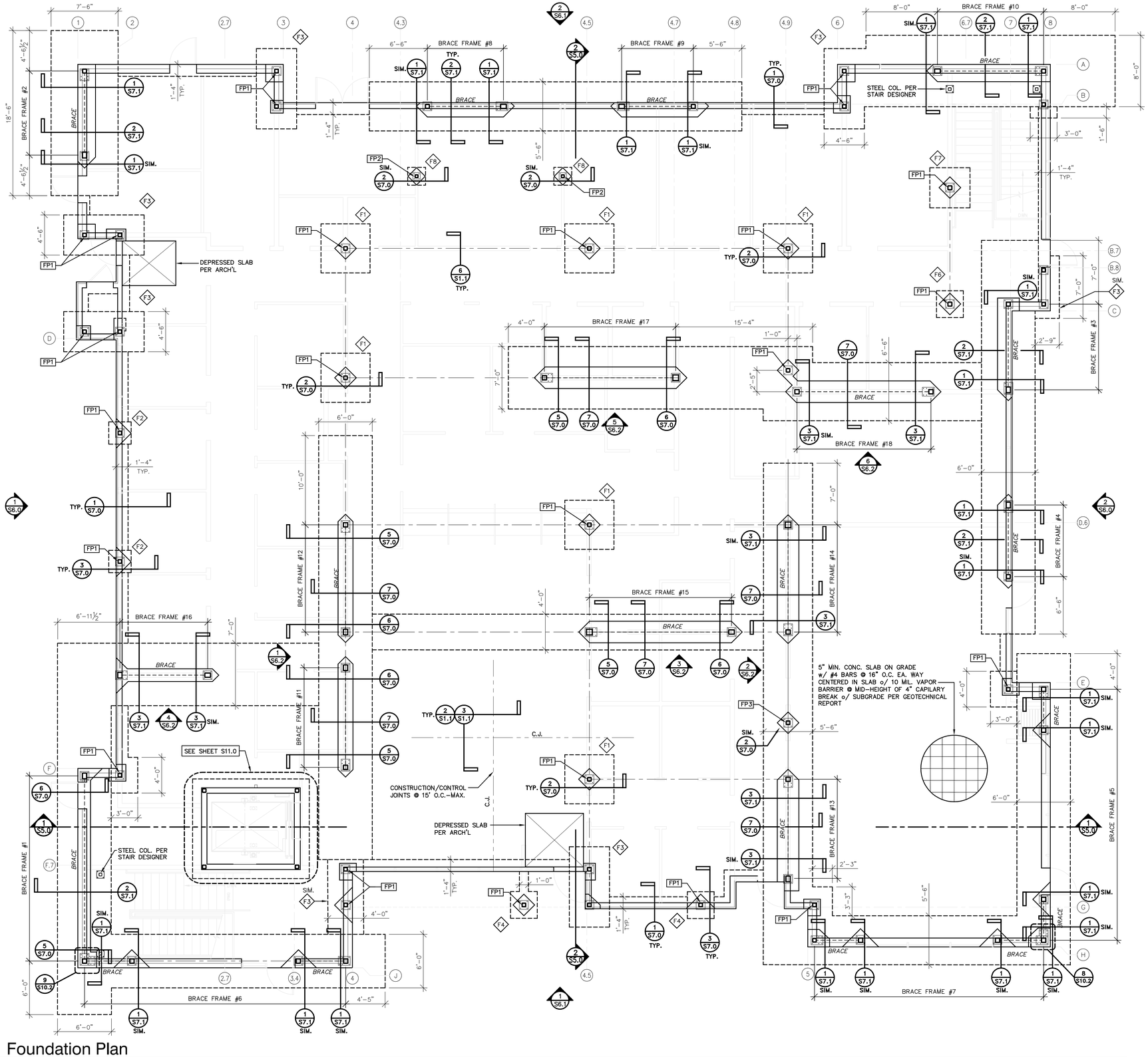
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Sheet Title:
General Notes & Schedules

Sheet Number:
S1.2

POST SCHEDULE		
MARK	POST SIZE	MEMBER GRADE
FP1	HSS5½x5½x¼"	A500 (46 KSI)
FP2	HSS4x4x¼"	A500 (46 KSI)
FP3	HSS5x5x⅜"	A500 (46 KSI)

FOOTING SCHEDULE			
MARK	FOOTING SIZE	FOOTING DEPTH	REINFORCING
F1	5'-6" x 5'-6"	18"	(8)-#5 EA. WAY @ BOTT.
F2	4'-0" x 4'-0"	18"	(5)-#5 EA. WAY @ BOTT.
F3	4'-6" x 9'-0"	18"	#5 @ 12" E.W. TOP #5 @ 12" E.W. BOTT
F4	3'-6" x 3'-6"	18"	(5)-#5 EA. WAY @ BOTT.
F5	4'-0" x 7'-0"	18"	#5 @ 12" E.W. TOP #5 @ 12" E.W. BOTT
F6	3'-0" x 3'-0"	18"	(4)-#5 EA. WAY @ BOTT.
F7	4'-6" x 4'-6"	18"	(6)-#5 EA. WAY @ BOTT.
F8	2'-0" x 2'-0"	18"	(3)-#5 EA. WAY @ BOTT.



Foundation Plan

SCALE: 3/16"=1'-0"

Project / Owner:

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HEALTH DEPARTMENT

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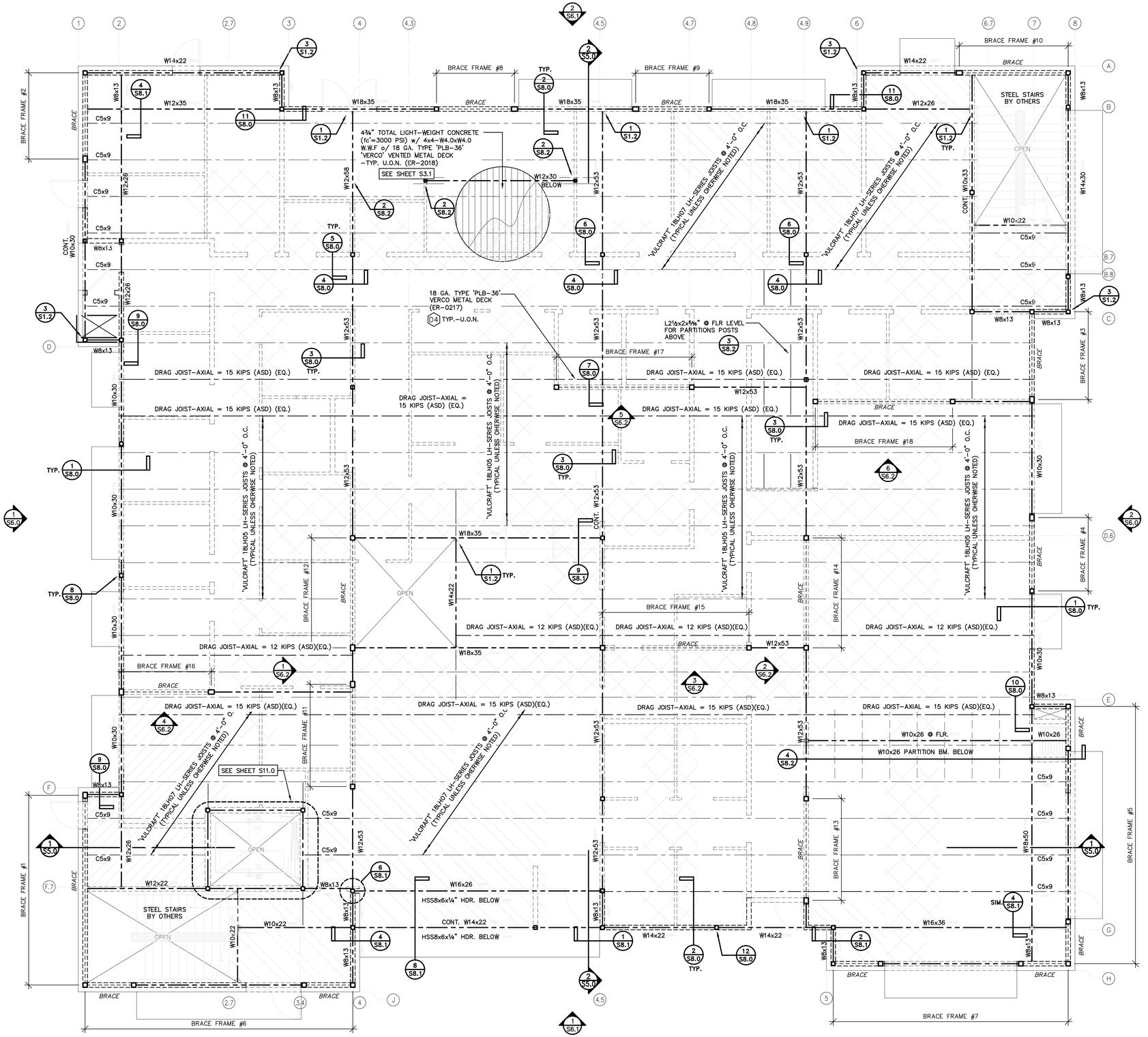
Sheet Title:

Foundation Plan

Sheet Number:

S2.0

FLOOR LOADING LEGEND	
	STORAGE LOADING = 125 PSF (LL)
	CORRIDOR LOADING = 80 PSF (LL)
	LOBBY LOADING = 100 PSF (LL)



2nd Floor Framing Plan

SCALE: 3/16"=1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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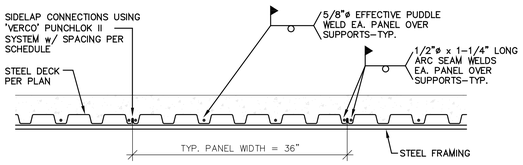
2nd Floor Framing Plan

Sheet Number:

S3.0

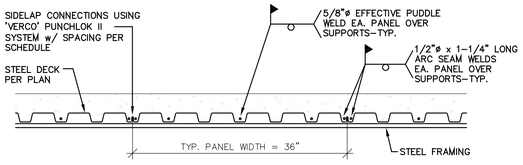
METAL DECK WELDING SCHEDULE

MARK	FASTENER PATTERN	VSCS SIDE LAP ATTACHMENT	FASTENER TYPE	WELDS TO ALL BEAMS PARALLEL TO CORRUGATIONS U.O.N. ON PLANS	ALLOW. SHEAR (PLF)
F1	36/4	@ 36" O.C.	5/8"ø PUDDLE WELDS	@ 16" O.C.–MAX.	1916
F2	36/5	@ 8" O.C.	5/8"ø PUDDLE WELDS	@ 16" O.C.–MAX.	2304
F3	36/4	@ 24" O.C.	5/8"ø PUDDLE WELDS w/ WELDED STUDS	@ 12" O.C.–MAX.	4740



SECTION AT DECK

TYPICAL 36/4 WELD PATTERN

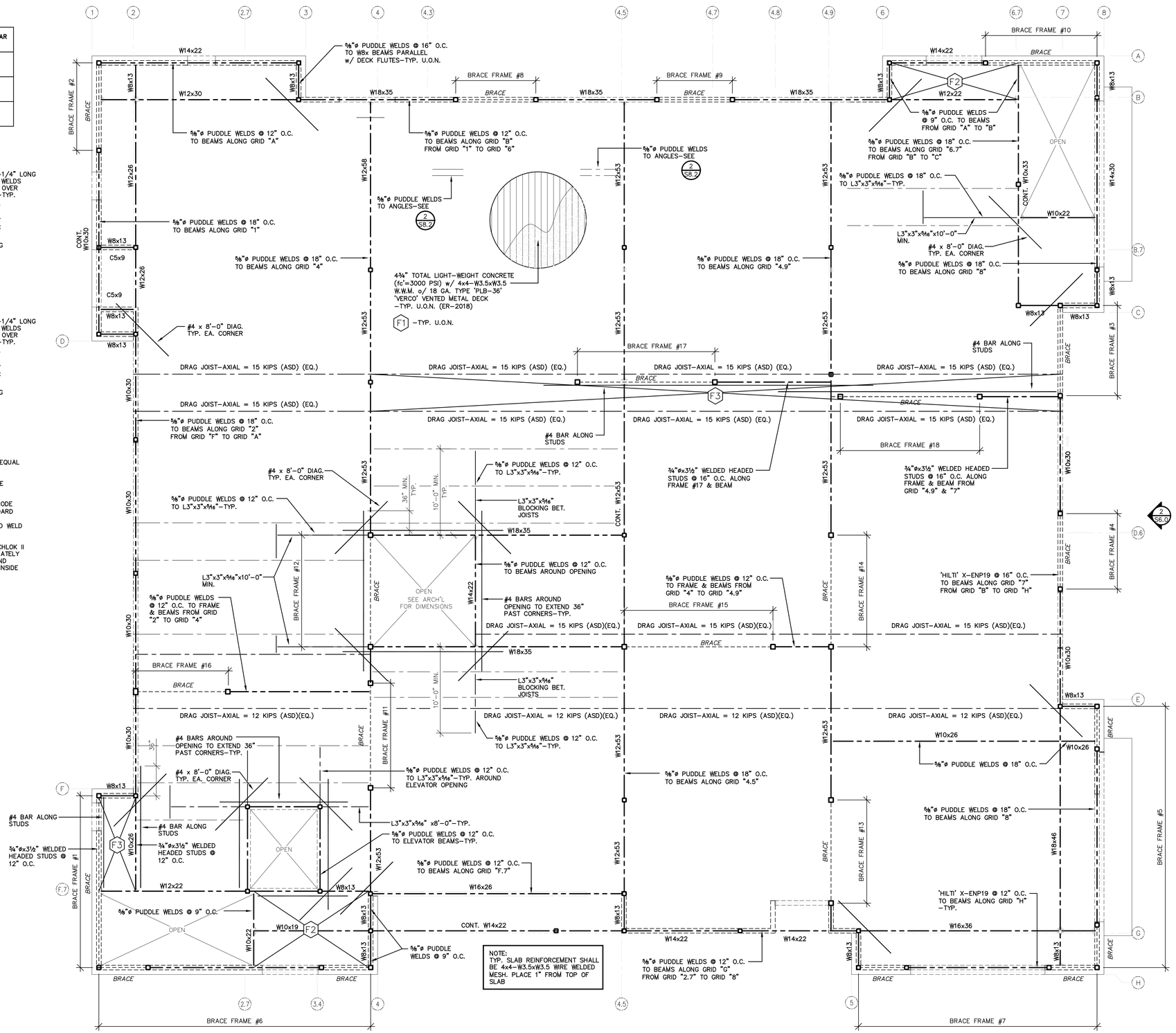


SECTION AT DECK

TYPICAL 36/5 WELD PATTERN

METAL DECKING NOTES

1. METAL DECKING: 18 GA. "VERCO" TYPE 'PLB–36 FORMLOK' GRADE 50 VENTED DECK OR EQUAL WITH 4¾" TOTAL LIGHT–WEIGHT CONCRETE FILL. (ESR–2018)
2. WELDS ARE MADE FROM THE TOP SIDE OF THE DECK WITH THE WELDER FOLLOWING CLOSE BEHIND THE PLACEMENT CREW. CARE SHOULD BE EXERCISED IN THE SELECTION OF ELECTRODES AND AMPERAGE TO PROVIDE SOUND WELDS AND PREVENT HIGH AMPERAGE BLOWHOLES. IT IS SUGGESTED THAT WELDING BE ACCOMPLISHED BY USING E70XX ELECTRODE RODS WITH MINIMUM SIZE OF 1/8". WELDING WASHERS ARE NOT NECESSARY FOR STANDARD STEEL DECK. WELDS SHALL COMPLY WITH AWS D1.3.
   PUDDLE WELDS SHALL BE AT LEAST 5/8 INCH IN EFFECTIVE DIAMETER OR AN ELONGATED WELD HAVING AN EQUAL PERIMETER.
3. SIDE LAP ATTACHMENT SHALL BE VERCO SIDE LAP CONNECTION (VSC2) MADE WITH PUNCHLOK II SYSTEM. AS AN ALTERNATIVE, TOP SEAM WELDS CAN BE USED AND SHALL BE APPROXIMATELY 1½ INCHES LONG. WELD METAL SHALL PENETRATE ALL LAYERS OF DECK MATERIAL AT END LAPS AND SIDE JOINTS AND HAVE GOOD FUSION TO THE SUPPORTING MEMBERS. WHOLE INSIDE & EXTERIOR PERIMETER OF DECKING SHALL BE WELDED.
4. ALL PERIMETER WELDS SHALL BE @ 12" O.C. MAX., U.O.N ON PLANS
5. DECK TO HAVE MINIMUM 2" BEARING AT SUPPORTS
6. DECK SHALL HAVE A 2 SPAN MINIMUM OVER SUPPORTS.



2nd Floor Deck Plan

SCALE: 3/16"=1'–0"

S3.1

Project / Owner:

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HEALTH DEPARTMENT

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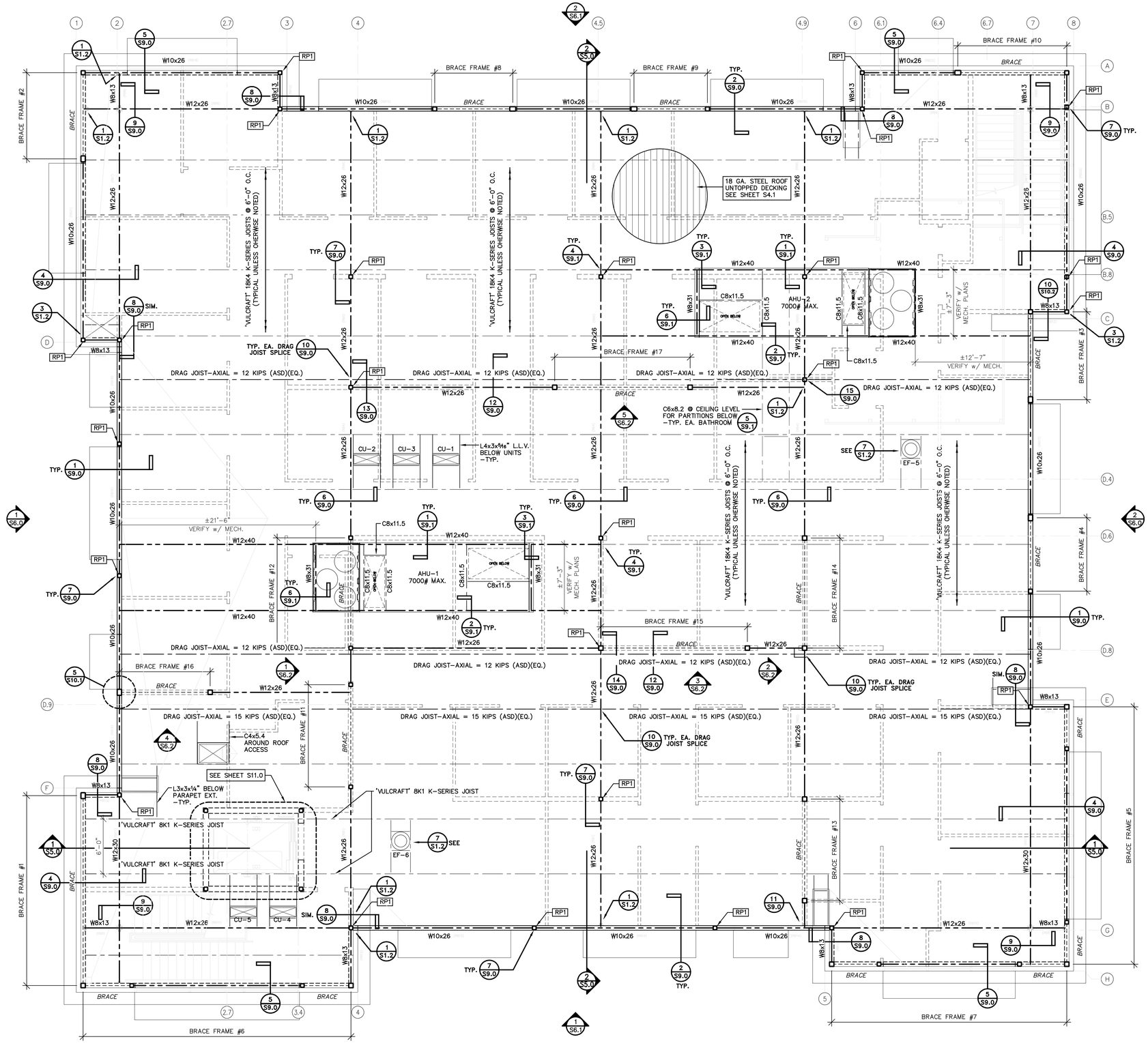
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Sheet Title:

2nd Floor Deck Plan

Sheet Number:

POST SCHEDULE		
MARK	POST SIZE	MEMBER GRADE
RP1	HSS5x5x¼"	A500 (46 KSI)
RP2		
RP3		
RP4		
RP5		



Roof Framing Plan

SCALE: 3/16"=1'-0"

S4.0

Project / Owner:

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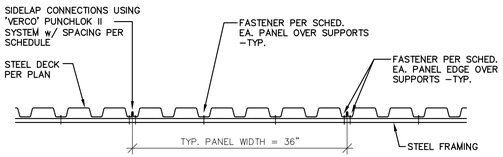
Sheet Title:

Roof Framing Plan

Sheet Number:

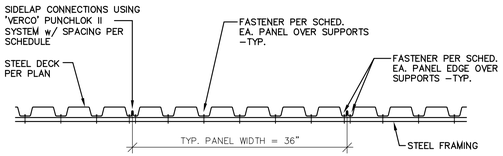
METAL DECK ATTACHMENT SCHEDULE

MARK	FASTENER PATTERN	VSCS SIDE LAP ATTACHMENT	FASTENER TYPE	FASTENERS TO ALL BEAMS PARALLEL TO CORRUGATIONS U.O.N. ON PLANS	ALLOW. SHEAR (PLF)
R1	36/4	@ 18" O.C.	'HILTI' X-ENP19	@ 16" O.C.-MAX.	993
R2	36/7	@ 12" O.C.	'HILTI' X-ENP19	@ 12" O.C.-MAX.	1601
R3	36/7	@ 4" O.C.	'HILTI' X-ENP19	@ 6" O.C.-MAX.	2202



SECTION AT DECK

TYPICAL 36/4 FASTENER PATTERN

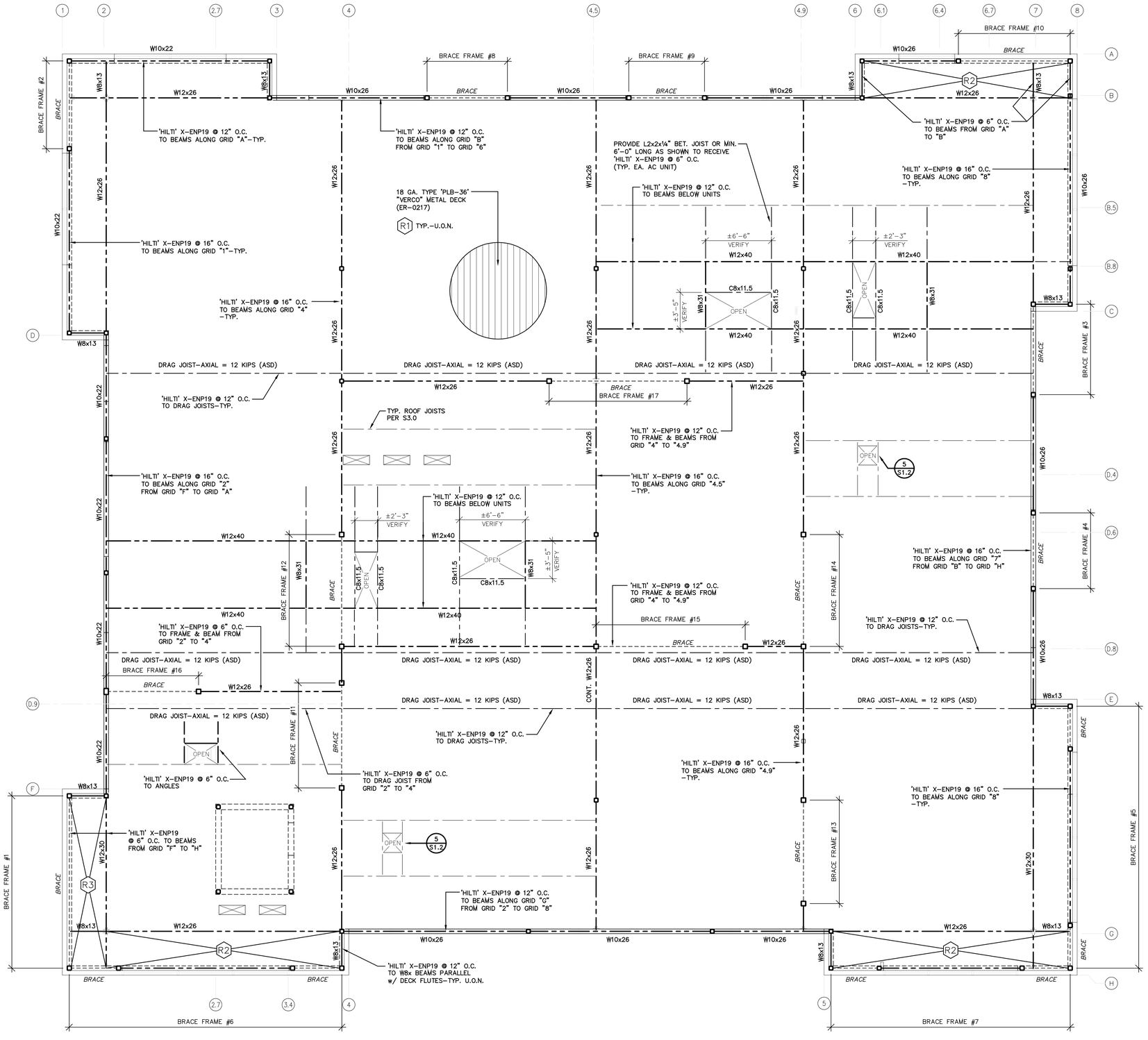


SECTION AT DECK

TYPICAL 36/7 FASTENER PATTERN

METAL DECKING NOTES

1. METAL DECKING: 18 GA. "VERCO" TYPE 'PLB-36' GRADE 50 OR EQUAL DECK WITHOUT FILL. (ER-2018)
2. FASTENERS: SHALL BE MANUFACTURED BY "HILTI, Inc." AND BE X-ENP-19 OR EQUAL. (ESR-2776)
3. SIDE LAP ATTACHMENT SHALL BE VERCO SIDE LAP CONNECTION (VSC2) MADE WITH PUNCHLOK II SYSTEM.
4. DECK TO HAVE MINIMUM 2" BEARING AT SUPPORTS
5. DECK SHALL HAVE A 2 SPAN MINIMUM OVER SUPPORTS.



Roof Deck Diaphragm Plan

SCALE: 3/16"=1'-0"

Project / Owner:

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HEALTH DEPARTMENT

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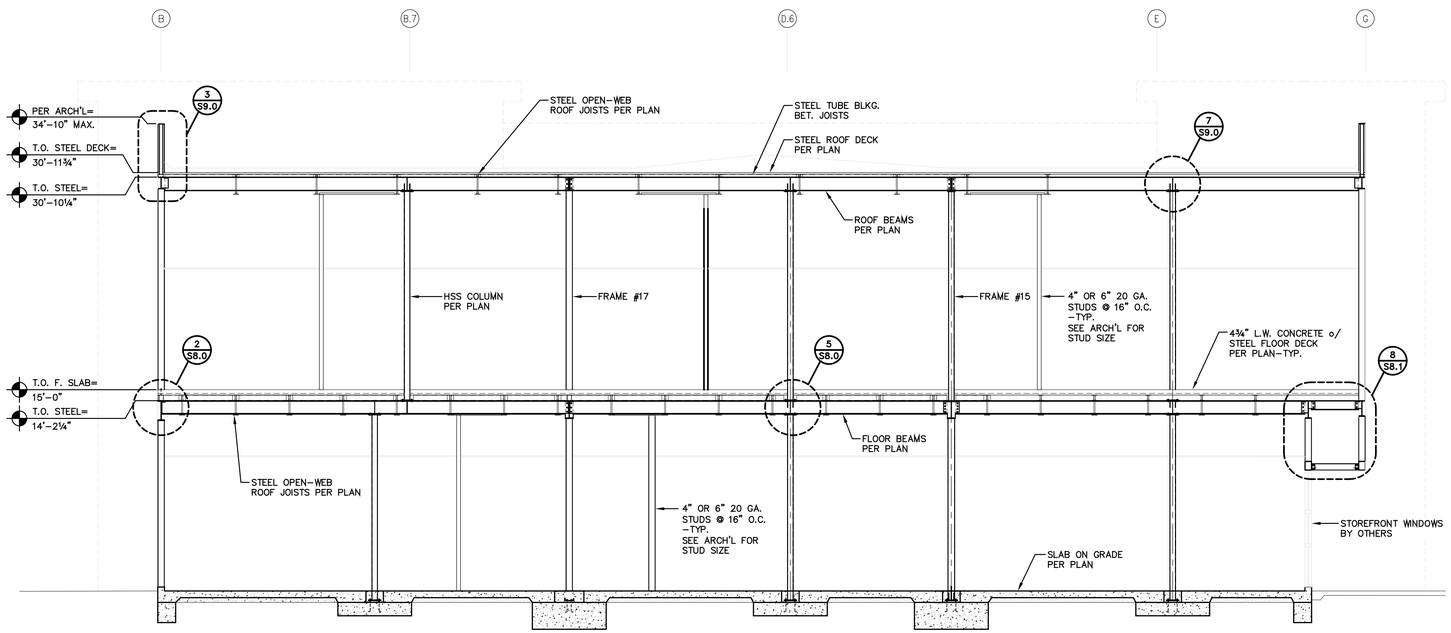
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Sheet Title:

Roof Deck Diaphragm Plan

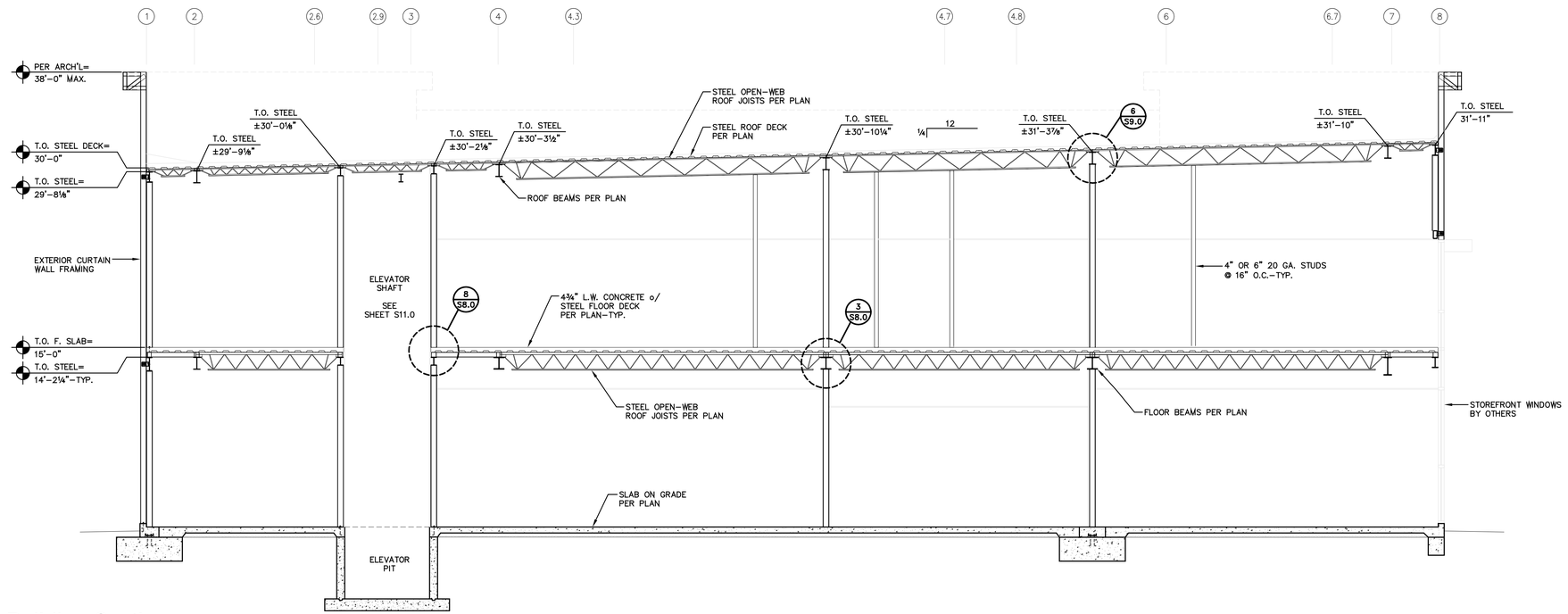
Sheet Number:

S4.1



2 S5.0 **Building Section**

SCALE: 3/16"=1'-0"



1 S5.0 **Building Section**

SCALE: 3/16"=1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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Drawn By: BLN

Drawing Date: 9.13.2021

Project Number: 2018-038

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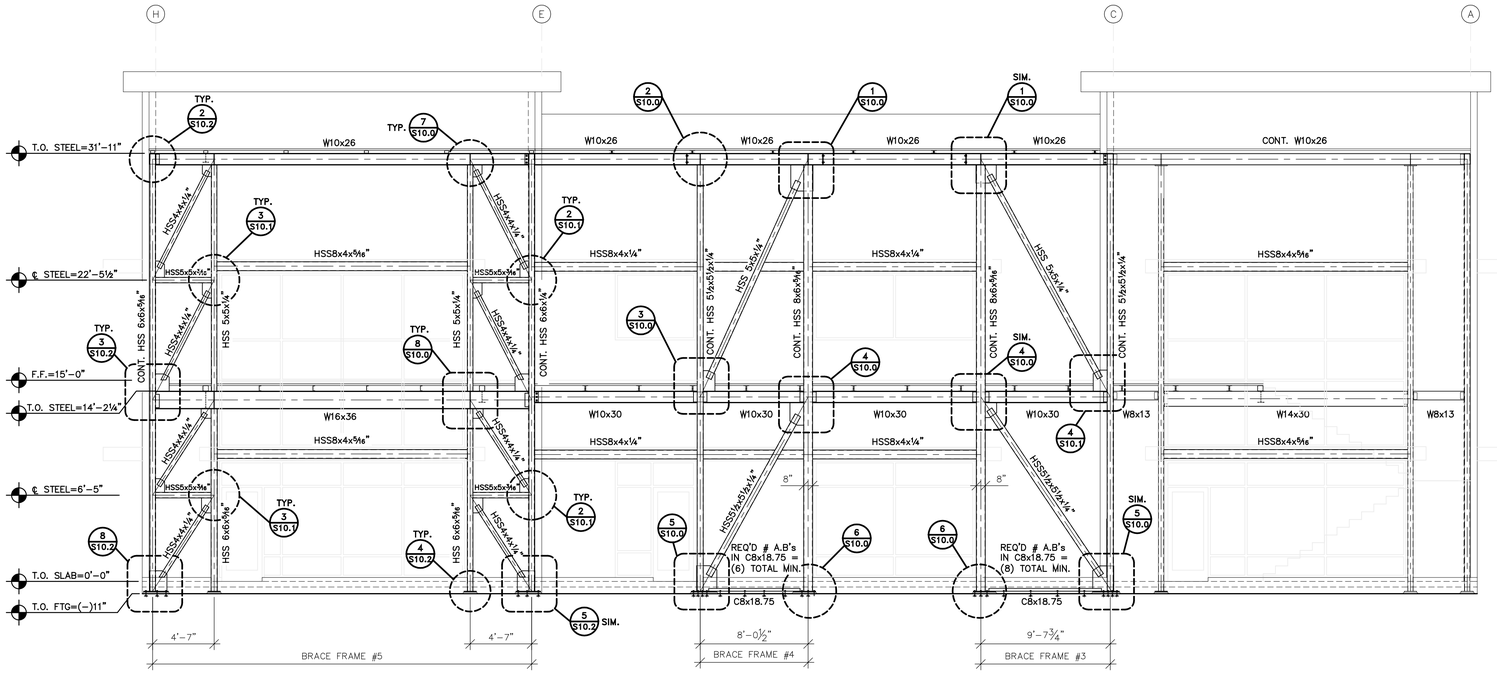
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Sheet Title:

Building Sections

Sheet Number:

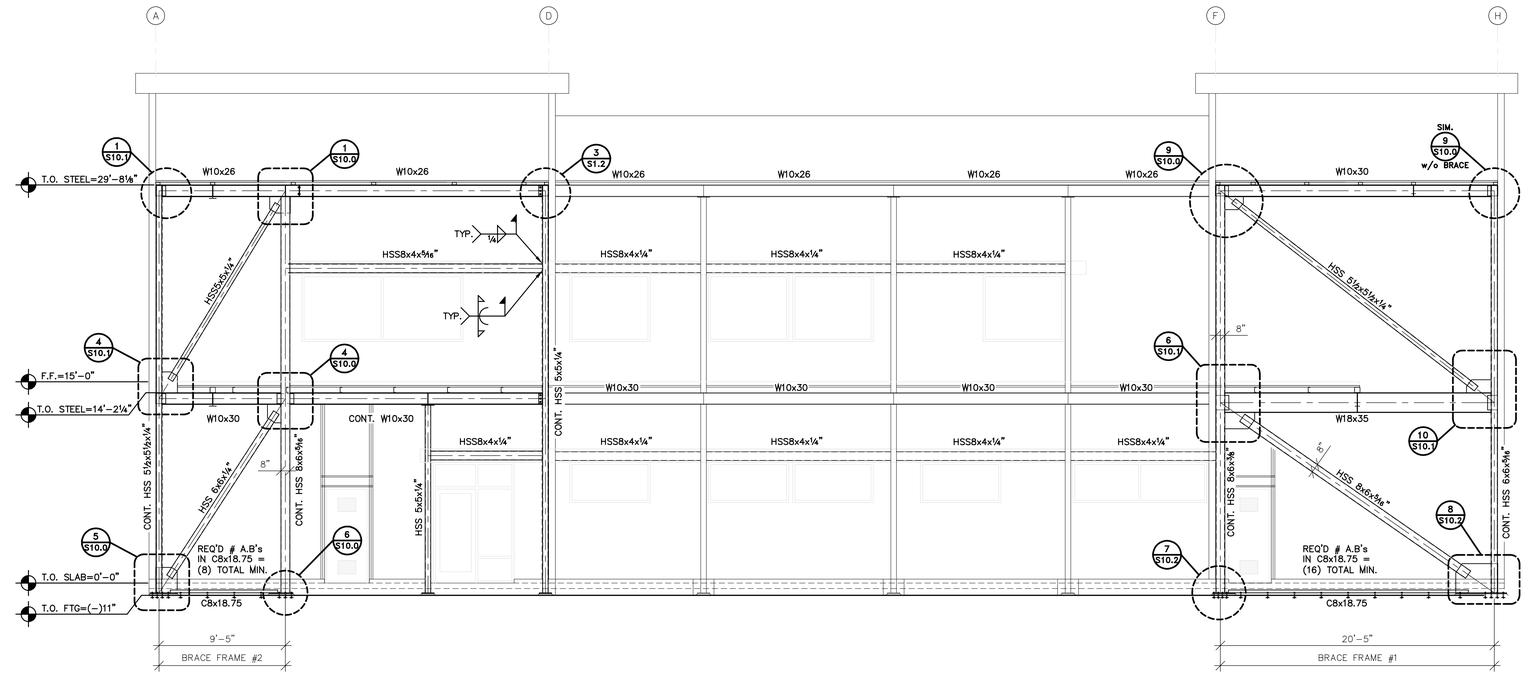
S5.0



2 S6.0

Brace Frame #3 - #4 - #5 Elevations

SCALE: 3/16"=1'-0"



1 S6.0

Brace Frame #1 - #2 Elevations

SCALE: 3/16"=1'-0"

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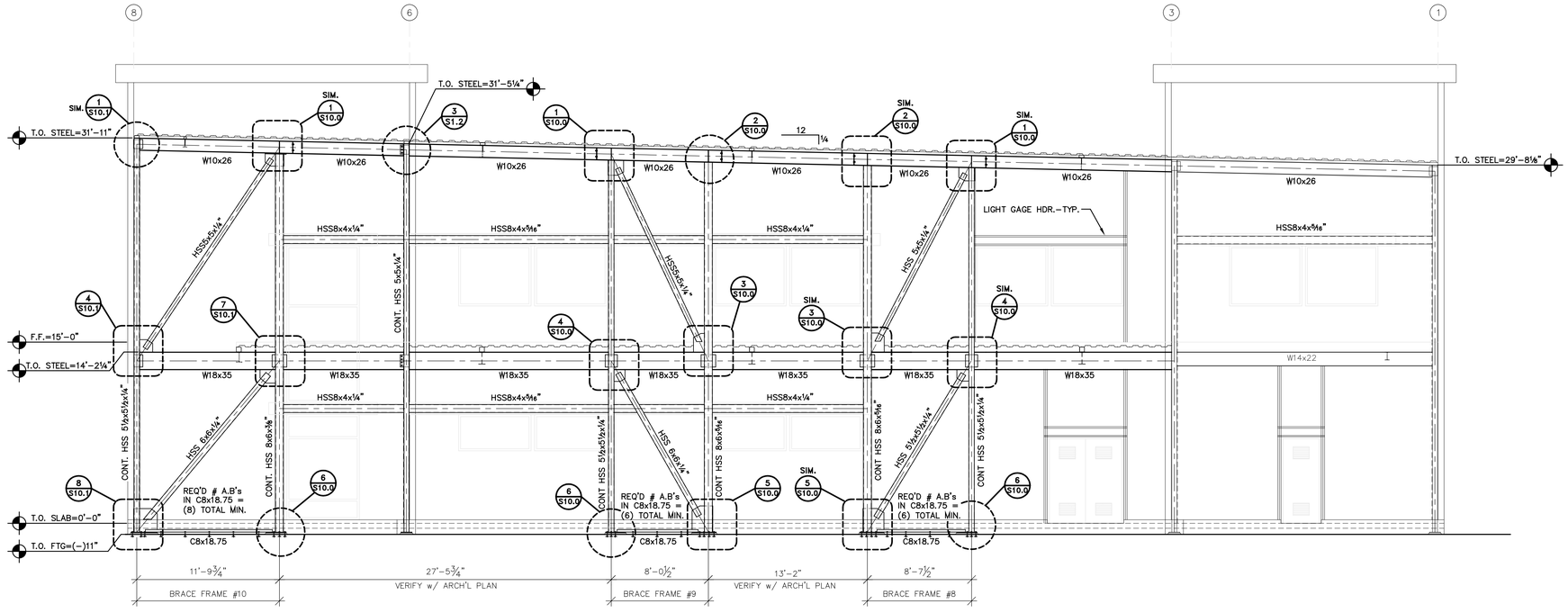
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Sheet Title:

Frame Elevations

Sheet Number:

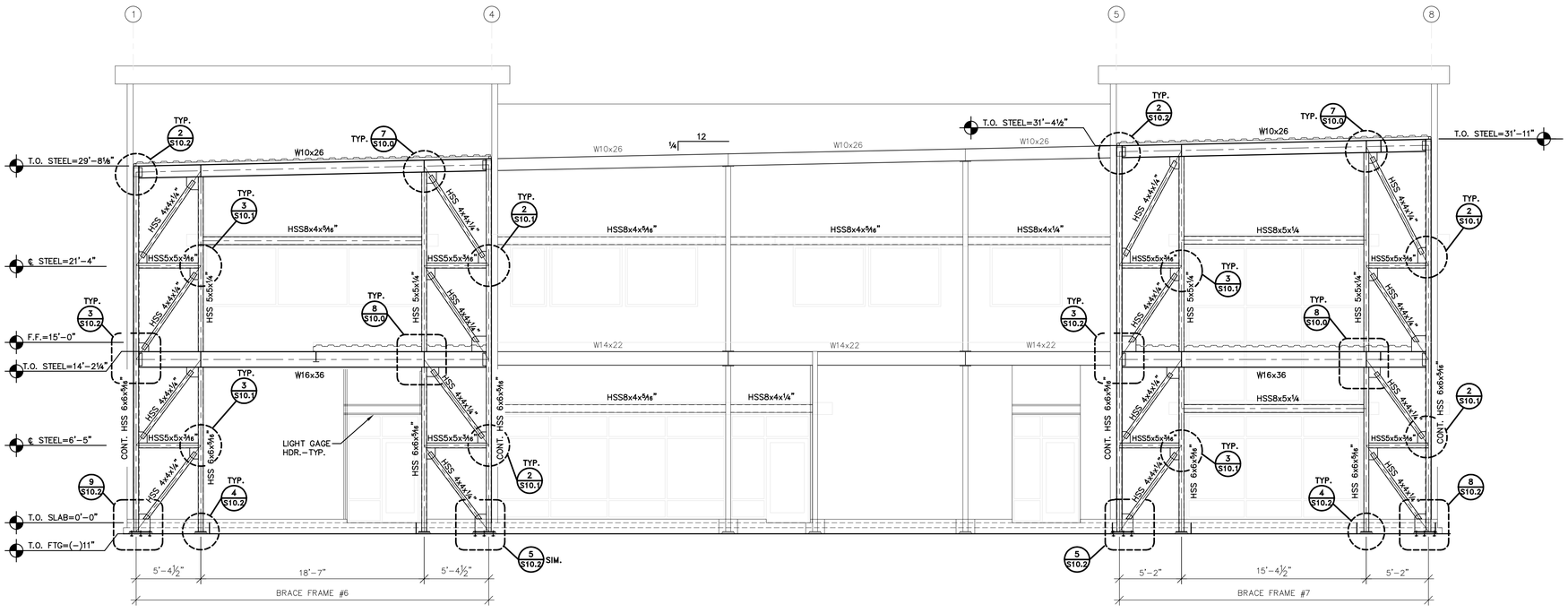
S6.0



2 S6.1

Brace Frame #8 - #9 - #10 Elevations

SCALE: 3/16"=1'-0"



1 S6.1

Brace Frame #6 - #7 Elevations

SCALE: 3/16"=1'-0"

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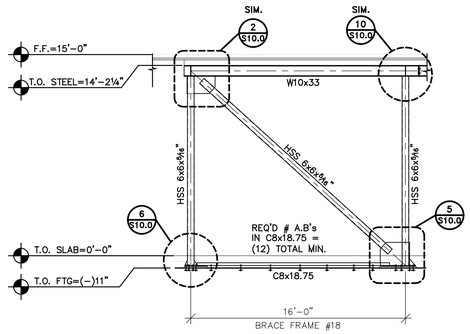
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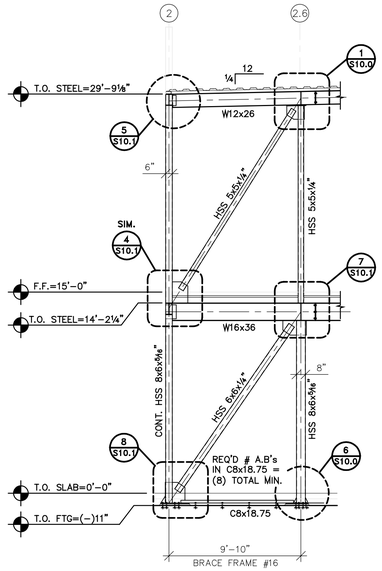
Frame Elevations

Sheet Number:

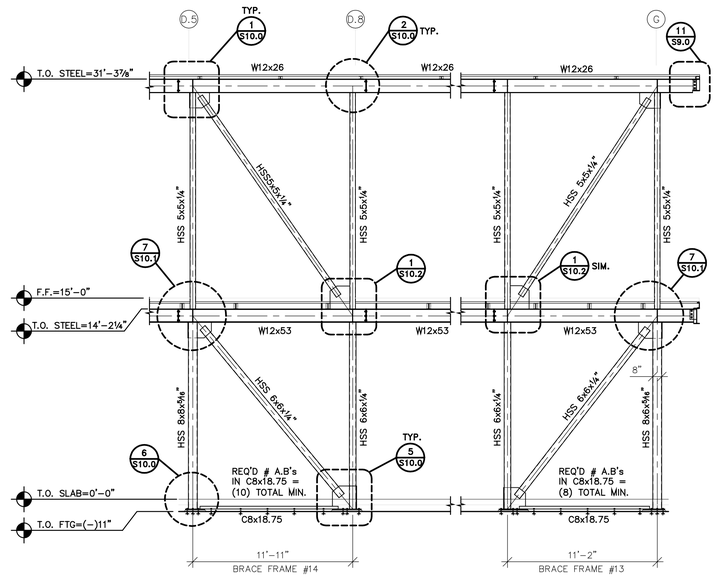
S6.1



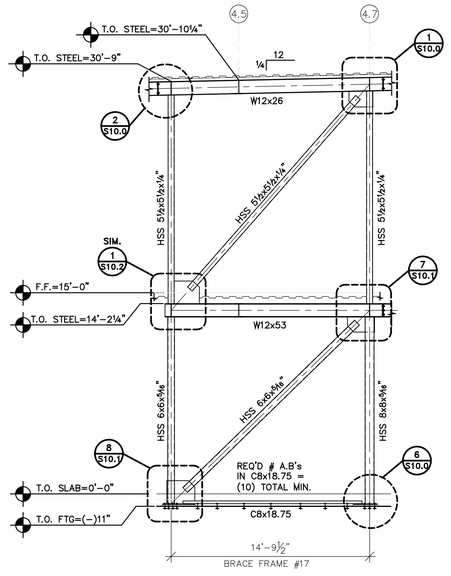
6 S6.2 **Brace Frame #18 Elevation**
SCALE: 3/16"=1'-0"



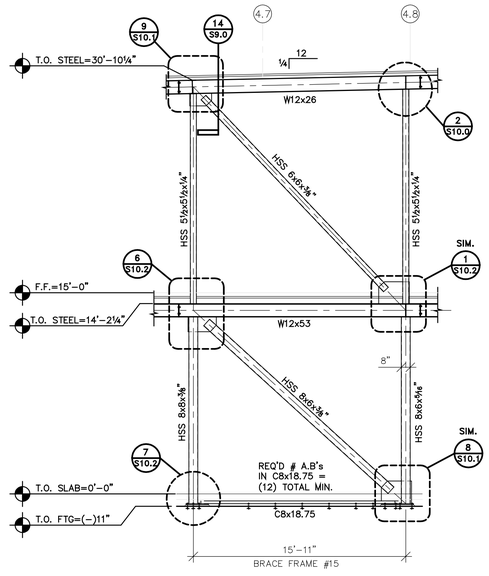
4 S6.2 **Brace Frame #16 Elevation**
SCALE: 3/16"=1'-0"



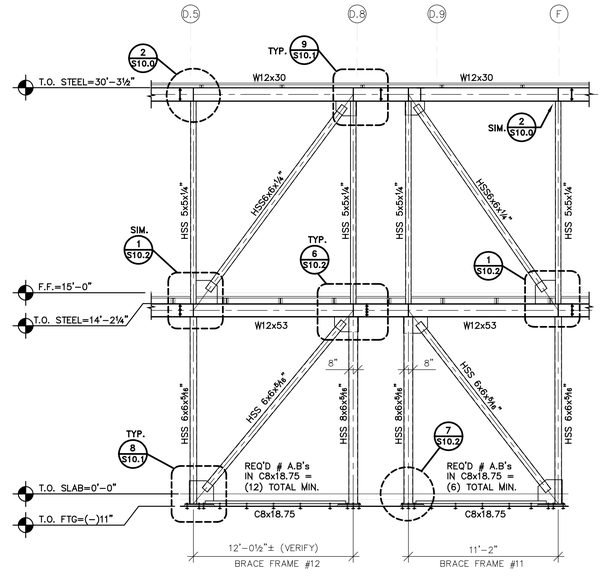
2 S6.2 **Brace Frame #13 - #14 Elevations**
SCALE: 3/16"=1'-0"



5 S6.2 **Brace Frame #17 Elevation**
SCALE: 3/16"=1'-0"



3 S6.2 **Brace Frame #15 Elevation**
SCALE: 3/16"=1'-0"



1 S6.2 **Brace Frame #11 - #12 Elevations**
SCALE: 3/16"=1'-0"

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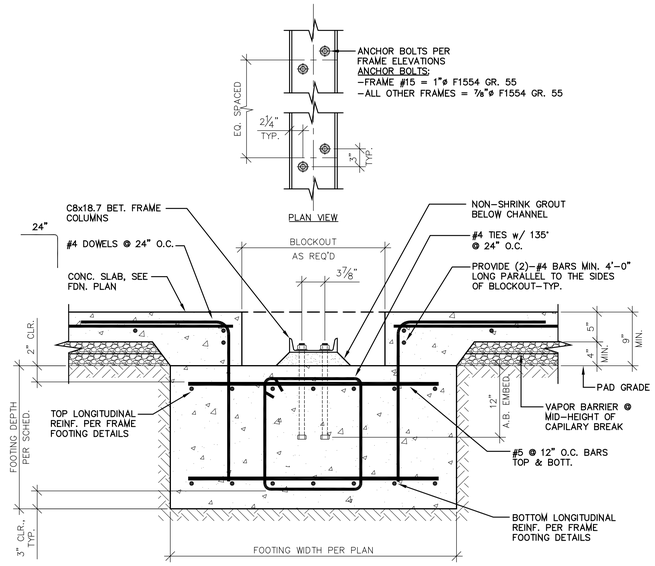
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Sheet Title:

Frame Elevations

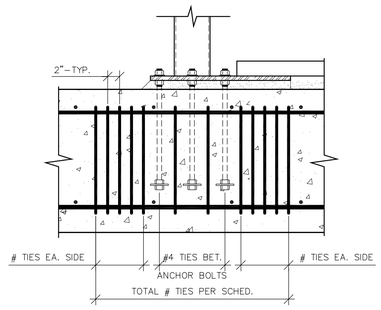
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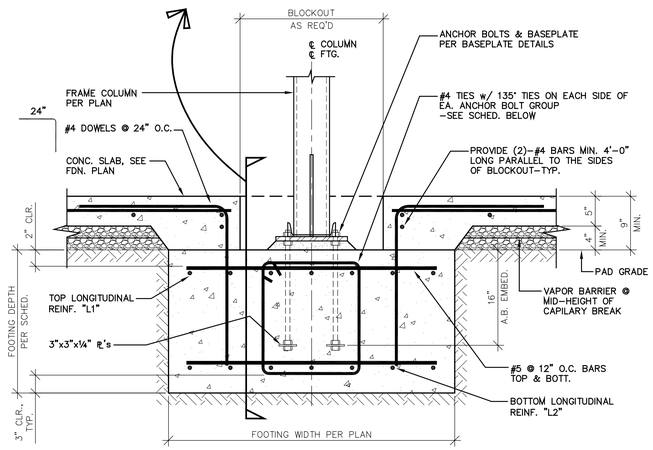
S6.2



7 S7.0 Drag Channel Bet. Frame Detail

SCALE: 1"=1'-0"

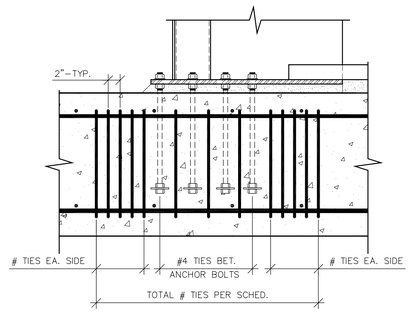


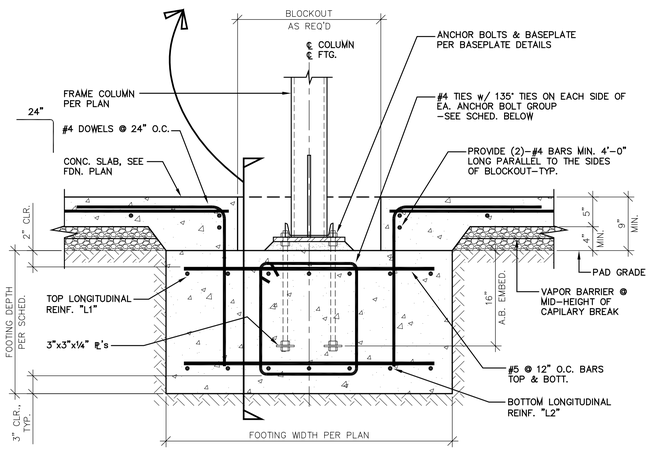


FRAME FOOTING SCHEDULE					
FRAME #	FTG. DEPTH	TOTAL #4 TIES	# TIES EA. SIDE	TOP REINF. "L1"	BOTT. REINF. "L2"
1	24"	12	5	#6 @ 10" O.C.	#6 @ 12" O.C.
11, 12	24"	12	5	#7 @ 12" O.C.	#7 @ 8" O.C.
15	32"	12	5	#7 @ 6" O.C.	#7 @ 6" O.C.
17	28"	12	5	#7 @ 12" O.C.	#7 @ 6" O.C.

6 S7.0 Frame Footing Detail

SCALE: 1"=1'-0"

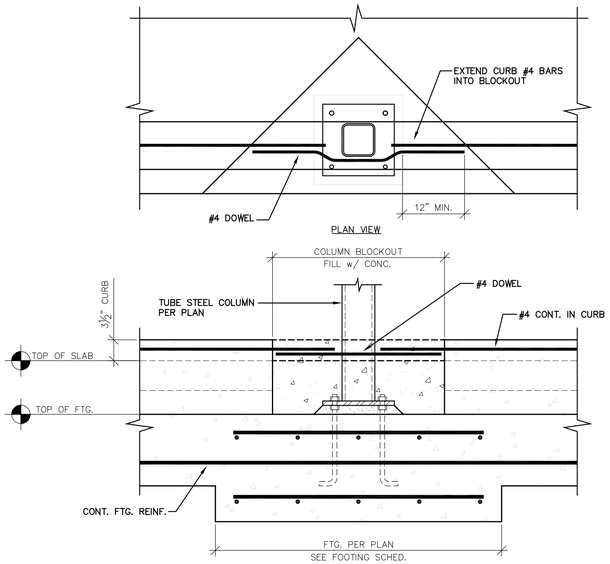




FRAME FOOTING SCHEDULE					
FRAME #	FTG. DEPTH	TOTAL #4 TIES	# TIES EA. SIDE	TOP REINF. "L1"	BOTT. REINF. "L2"
1	24"	12	5	#6 @ 10" O.C.	#6 @ 12" O.C.
11, 12	24"	12	5	#7 @ 12" O.C.	#7 @ 8" O.C.
15	32"	12	5	#7 @ 6" O.C.	#7 @ 6" O.C.
17	28"	12	5	#7 @ 12" O.C.	#7 @ 6" O.C.

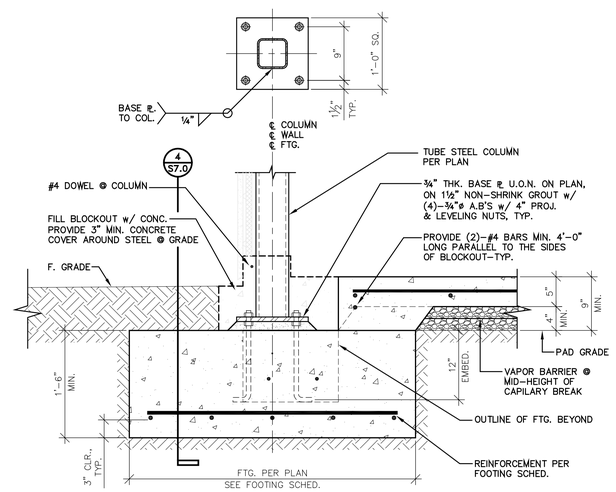
5 S7.0 Frame Footing Detail

SCALE: 1"=1'-0"



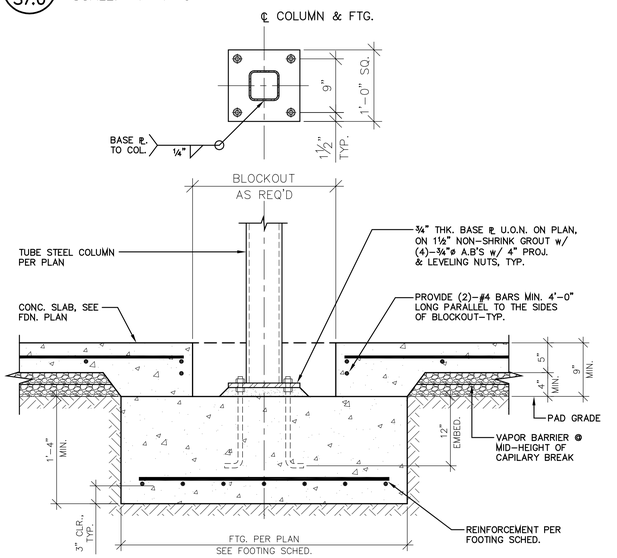
4 S7.0 Typical Curb Blockout Detail

SCALE: 1"=1'-0"



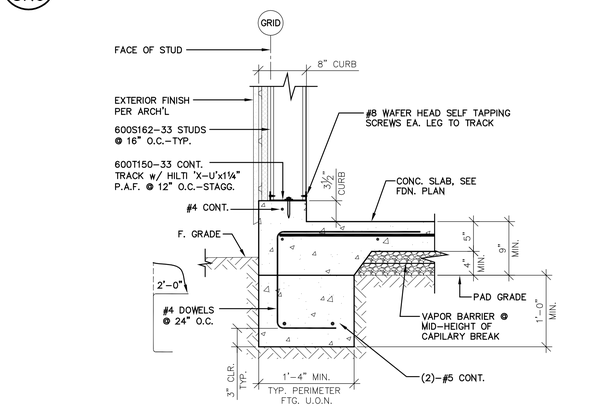
3 S7.0 Typical Exterior Column Footing

SCALE: 1"=1'-0"



2 S7.0 Typical Interior Column Footing

SCALE: 1"=1'-0"



1 S7.0 Typical Perimeter Footing

SCALE: 1"=1'-0"

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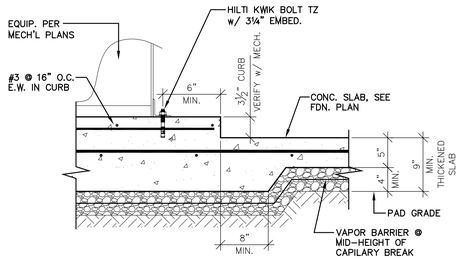
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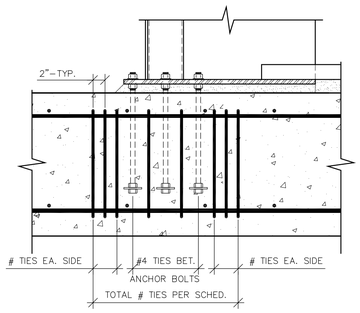
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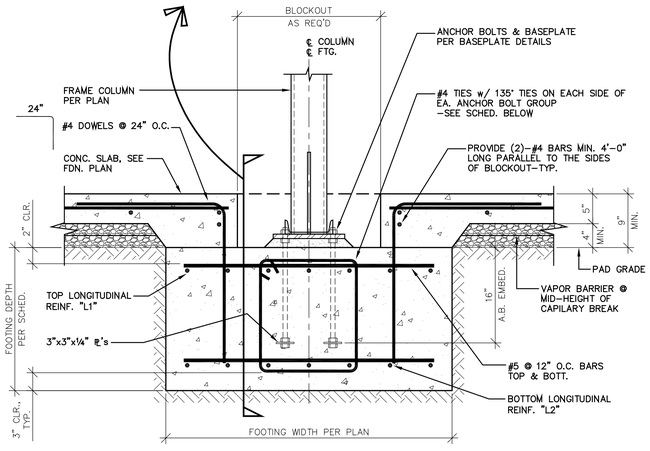
S7.0



4 S7.1 Typical Equipment Pad

SCALE: 1"=1'-0"

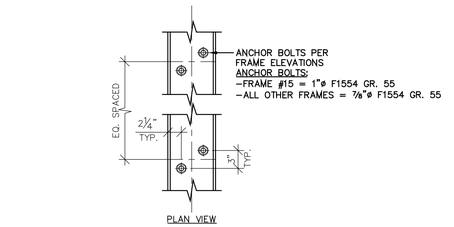




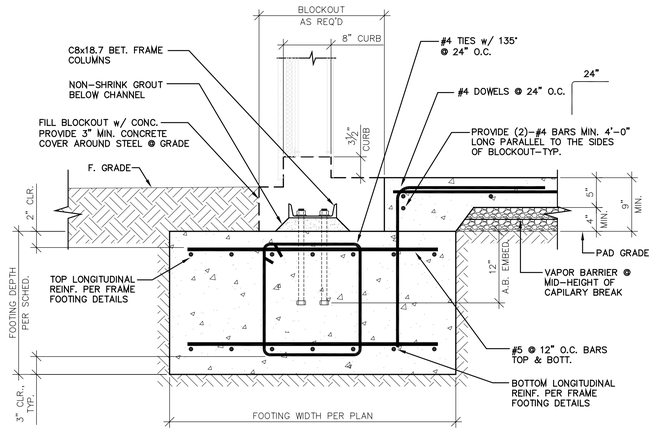
FRAME FOOTING SCHEDULE					
FRAME #	FTG. DEPTH	TOTAL #4 TIES	# TIES EA. SIDE	TOP REINF. "L1"	BOTT. REINF. "L2"
18	28"	8	3	#7 @ 10" O.C.	#7 @ 6" O.C.
13, 14	24"	8	3	#6 @ 12" O.C.	#7 @ 8" O.C.

3 S7.1 Frame Footing Detail

SCALE: 1"=1'-0"

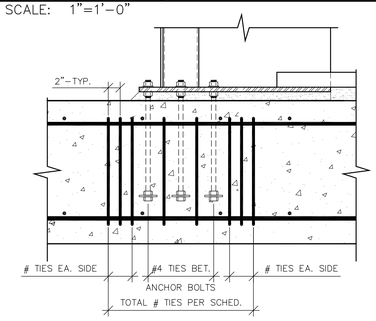


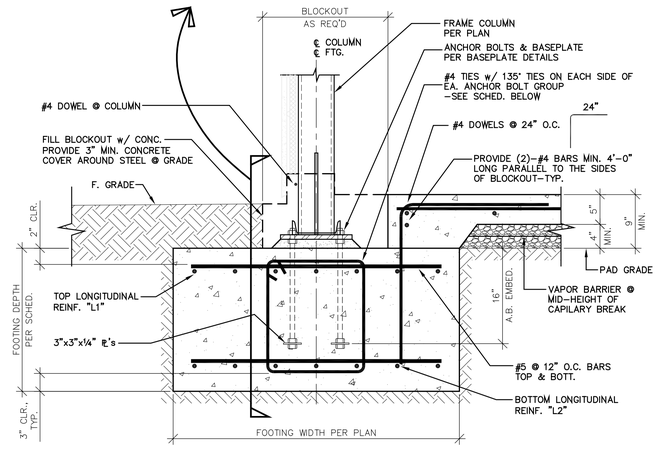
PLAN VIEW



2 S7.1 Frame Footing Detail

SCALE: 1"=1'-0"





FRAME FOOTING SCHEDULE					
FRAME #	FTG. DEPTH	TOTAL #4 TIES	# TIES EA. SIDE	TOP REINF. "L1"	BOTT. REINF. "L2"
2	24"	8	3	#6 @ 10" O.C.	#6 @ 10" O.C.
3, 4	24"	8	3	#6 @ 6" O.C.	#6 @ 6" O.C.
5, 6	24"	8	3	#6 @ 12" O.C.	#6 @ 9" O.C.
7	24"	8	3	#6 @ 12" O.C.	#6 @ 12" O.C.
8, 9	24"	8	3	#6 @ 10" O.C.	#7 @ 8" O.C.
10	24"	8	3	#7 @ 8" O.C.	#7 @ 8" O.C.

1 S7.1 Frame Footing Detail

SCALE: 1"=1'-0"

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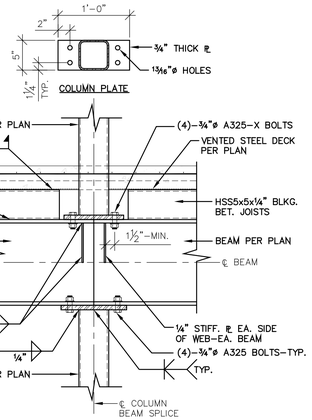
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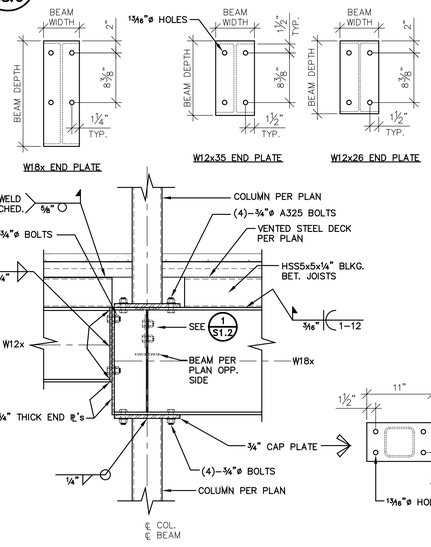
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S7.1



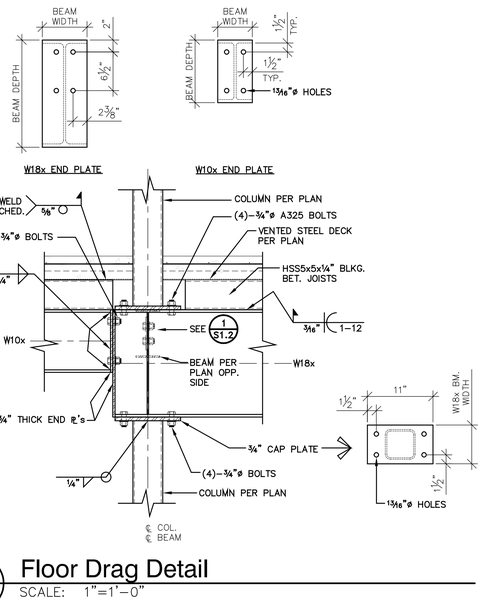
12 S8.0 Floor Drag Detail

SCALE: 1"=1'-0"



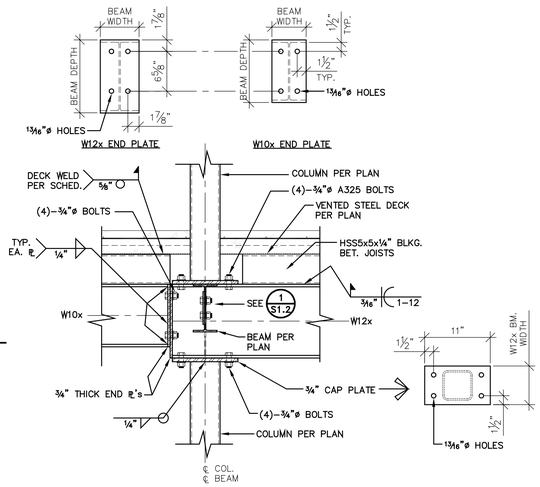
11 S8.0 Floor Drag Detail

SCALE: 1"=1'-0"



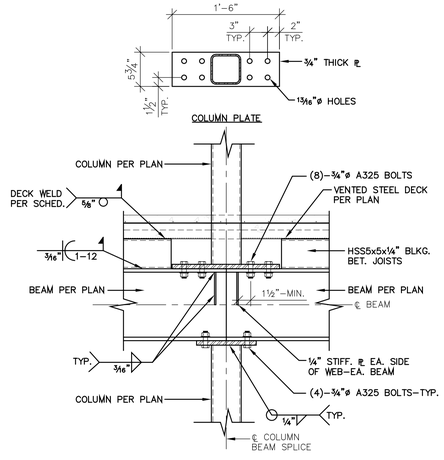
10 S8.0 Floor Drag Detail

SCALE: 1"=1'-0"



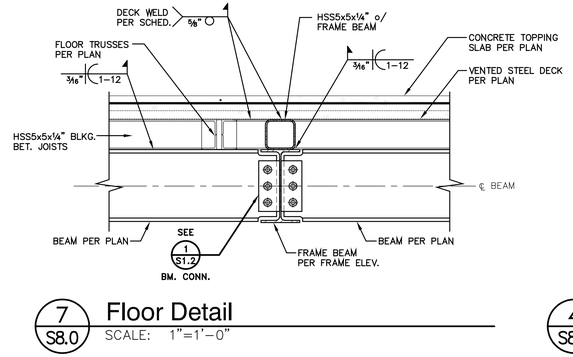
9 S8.0 Floor Drag Detail

SCALE: 1"=1'-0"



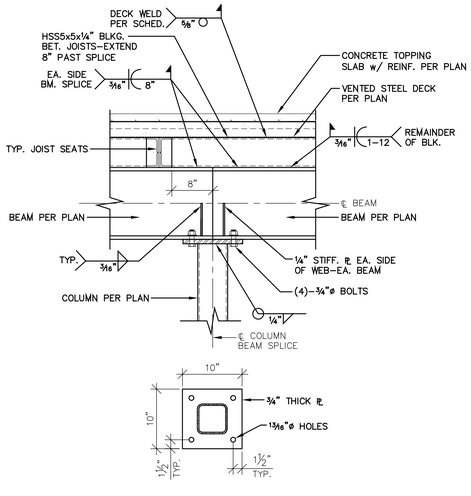
8 S8.0 Baseplate to Beam Detail

SCALE: 1"=1'-0"



7 S8.0 Floor Detail

SCALE: 1"=1'-0"

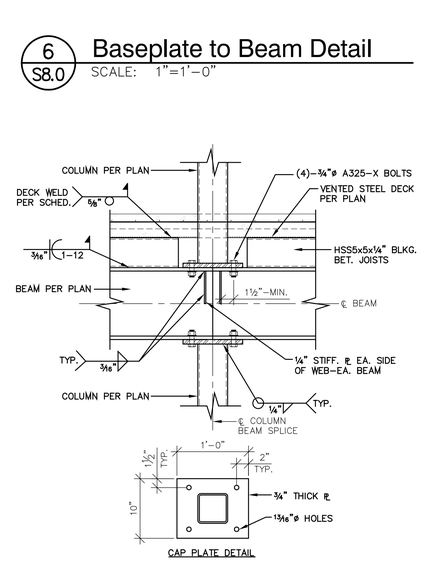


6 S8.0 Baseplate to Beam Detail

SCALE: 1"=1'-0"

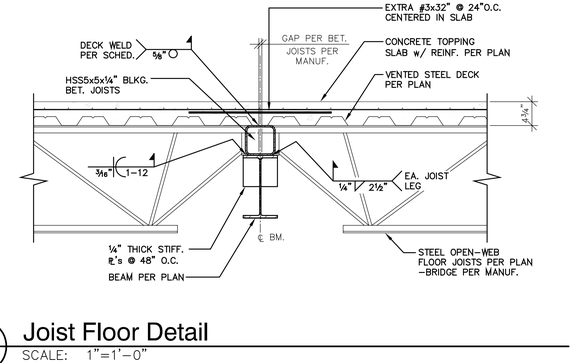
5 S8.0 Baseplate to Beam Detail

SCALE: 1"=1'-0"



4 S8.0 Baseplate to Beam Detail

SCALE: 1"=1'-0"

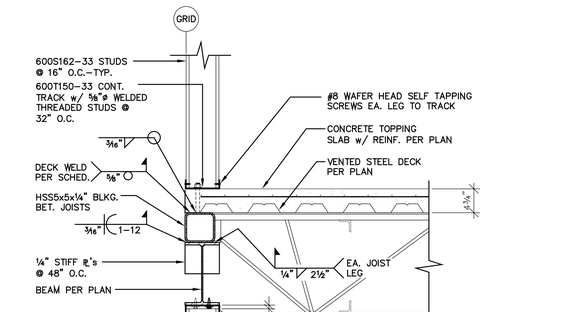


3 S8.0 Joist Floor Detail

SCALE: 1"=1'-0"

2 S8.0 Typical Perimeter Floor Detail

SCALE: 1"=1'-0"



1 S8.0 Typical Perimeter Floor Detail

SCALE: 1"=1'-0"

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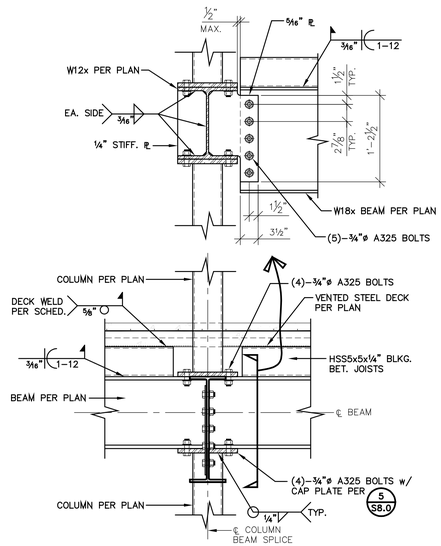
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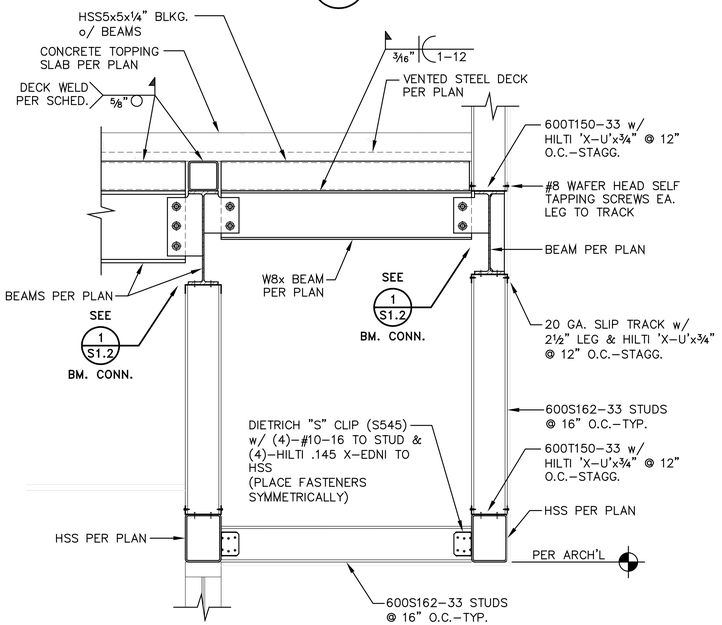
Floor Details

Sheet Number:

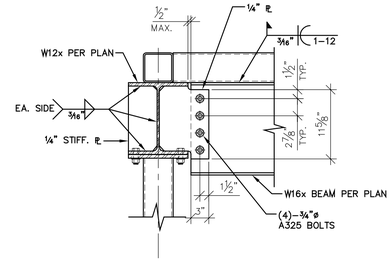
S8.0



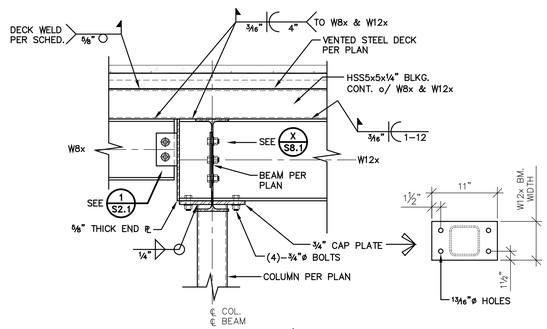
9 S8.1 **Beam Detail**
SCALE: 1"=1'–0"



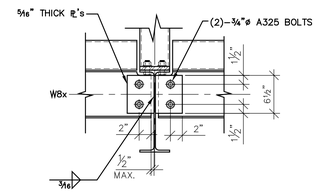
8 S8.1 **Beam Detail**
SCALE: 1"=1'–0"



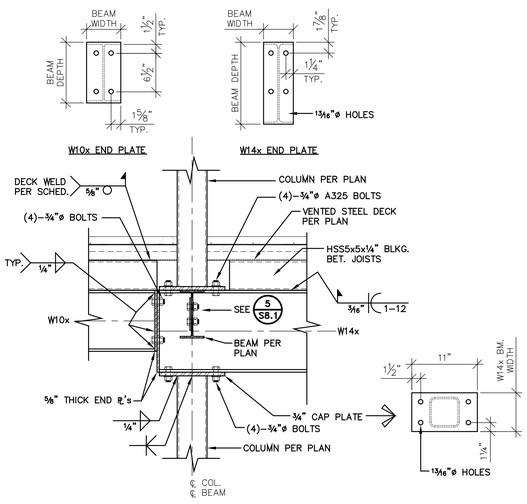
7 S8.1 **Beam Detail**
SCALE: 1"=1'–0"



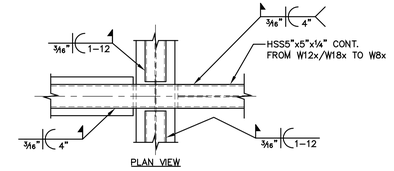
6 S8.1 **Floor Detail**
SCALE: 1"=1'–0"



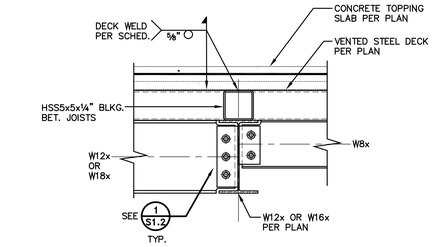
5 S8.1 **Floor Drag Detail**
SCALE: 1"=1'–0"



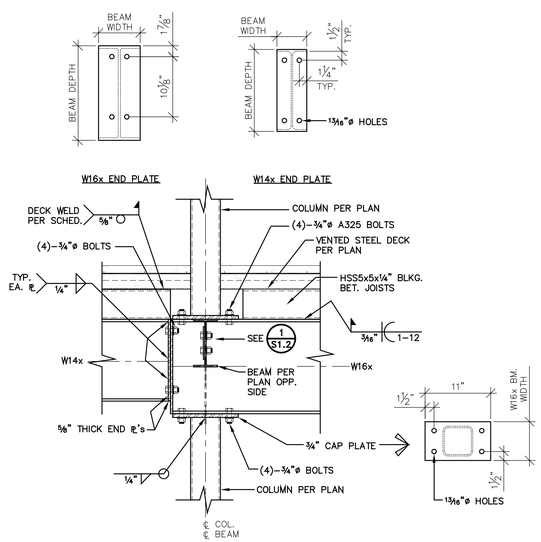
4 S8.1 **Floor Drag Detail**
SCALE: 1"=1'–0"



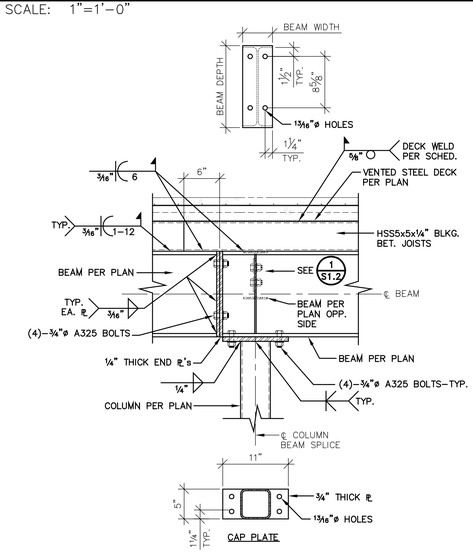
PLAN VIEW



3 S8.1 **Floor Drag Detail**
SCALE: 1"=1'–0"



2 S8.1 **Floor Drag Detail**
SCALE: 1"=1'–0"



1 S8.1 **Floor Drag Detail**
SCALE: 1"=1'–0"

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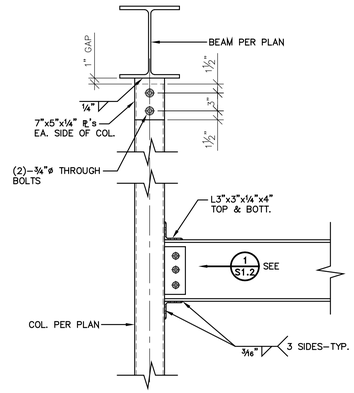
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Floor Details

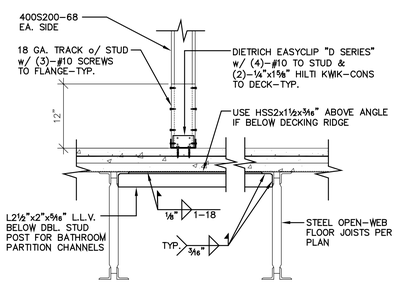
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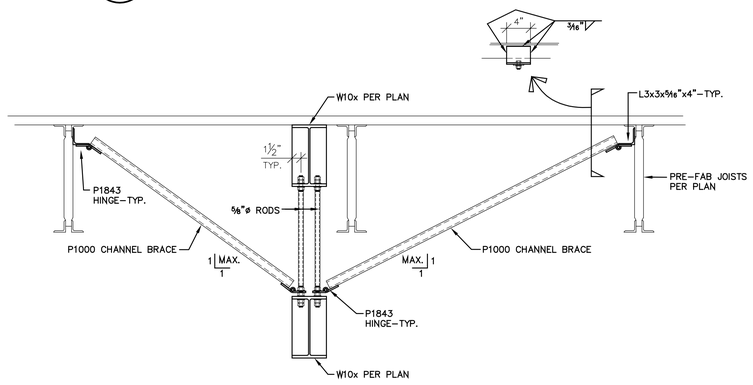
7 S8.2 Beam Detail

SCALE: 1"=1'–0"



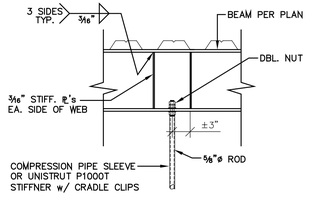
3 S8.2 Floor Support Detail

SCALE: 1"=1'–0"



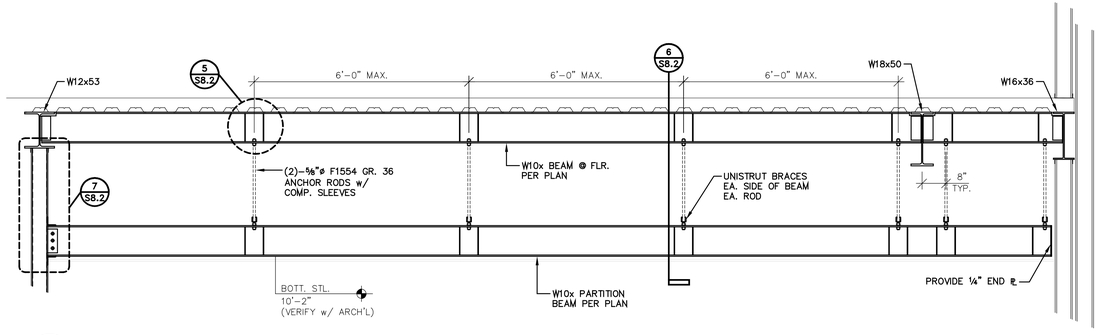
6 S8.2 Beam Detail

SCALE: 1"=1'–0"



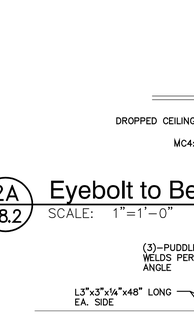
5 S8.2 Beam Detail

SCALE: 1"=1'–0"



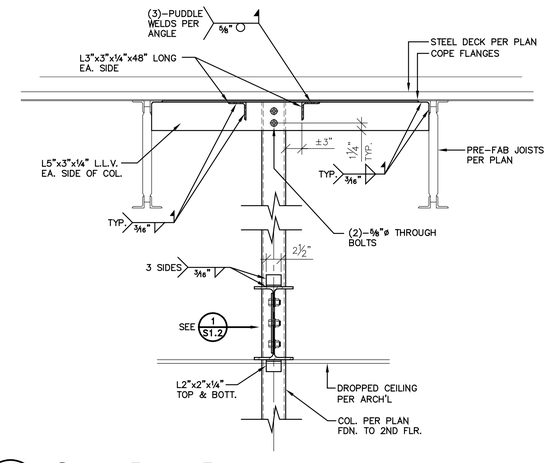
4 S8.2 Partition Beam Detail

SCALE: 1/2"=1'–0"



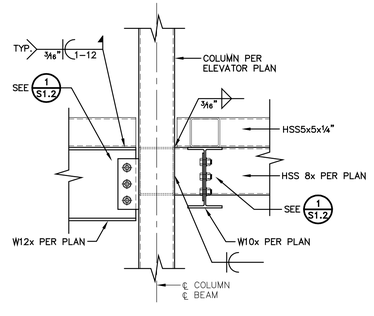
2A S8.2 Eyebolt to Beam

SCALE: 1"=1'–0"



2 S8.2 Swing Beam Detail

SCALE: 1"=1'–0"



1 S8.2 Floor Beam Detail

SCALE: 1"=1'–0"

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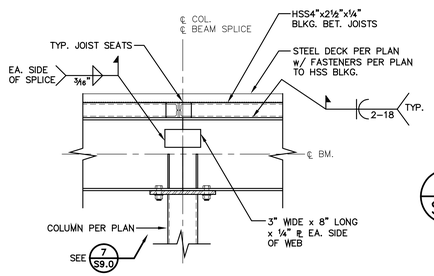
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Floor Details

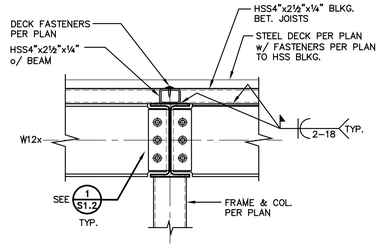
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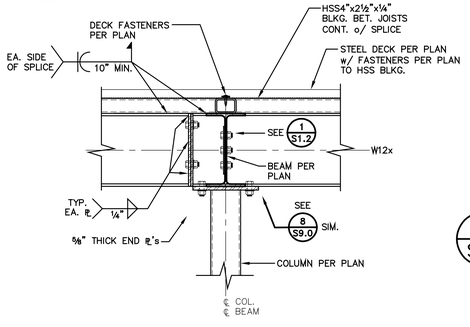
15 S9.0 Roof Beam Drag Detail

SCALE: 1"=1'-0"



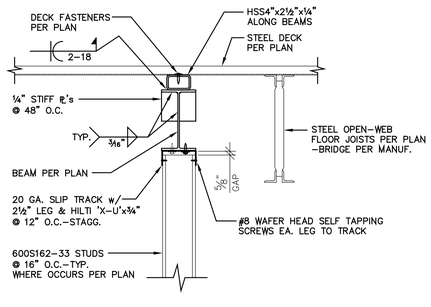
14 S9.0 Roof Beam Detail

SCALE: 1"=1'-0"



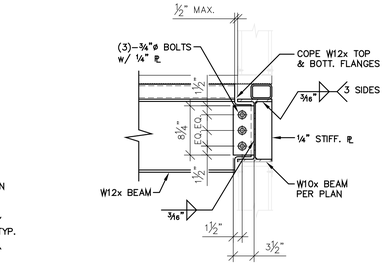
13 S9.0 Roof Beam Detail

SCALE: 1"=1'-0"



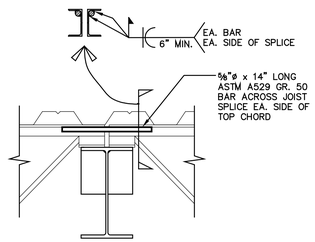
12 S9.0 Roof Beam Detail

SCALE: 1"=1'-0"



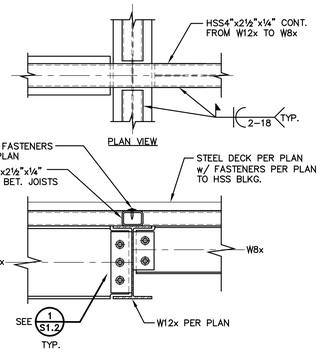
11 S9.0 Roof Beam Detail

SCALE: 1"=1'-0"



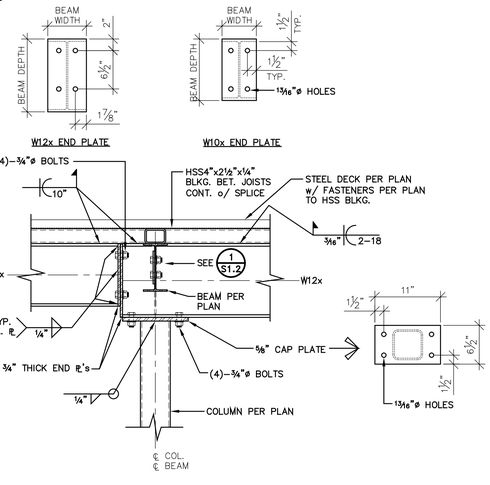
10 S9.0 Joist Drag Detail

SCALE: 1½"=1'-0"



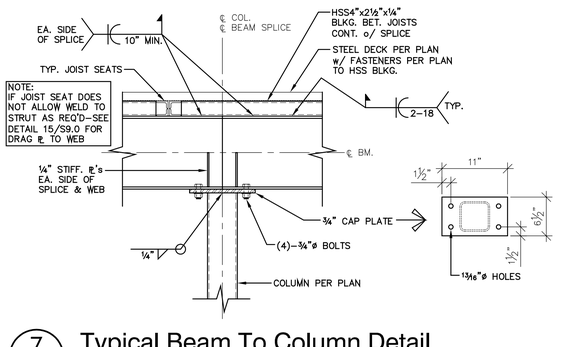
9 S9.0 Roof Beam / Drag Detail

SCALE: 1"=1'-0"



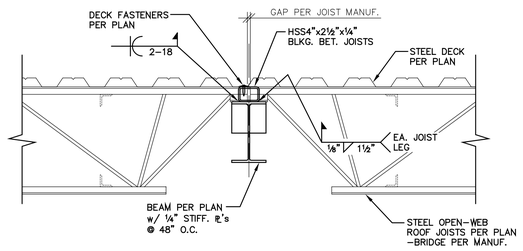
8 S9.0 Roof Beam / Drag Detail

SCALE: 1"=1'-0"



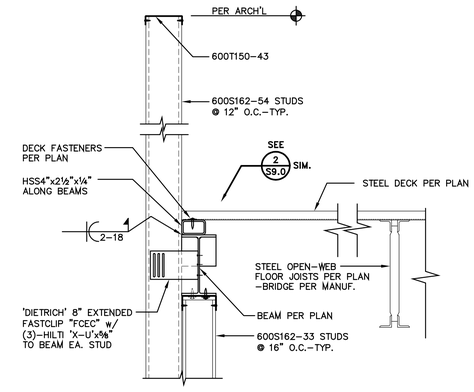
7 S9.0 Typical Beam To Column Detail

SCALE: 1"=1'-0"



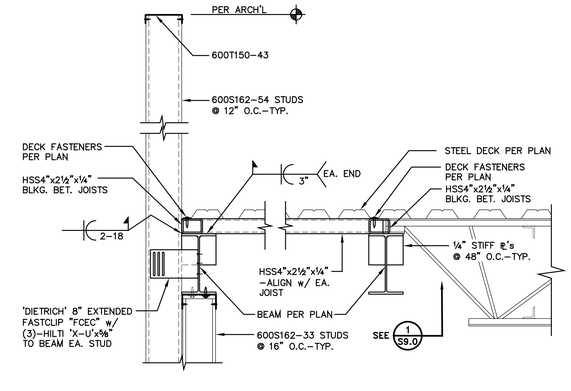
6 S9.0 Typical Joist To Beam Detail

SCALE: 1"=1'-0"



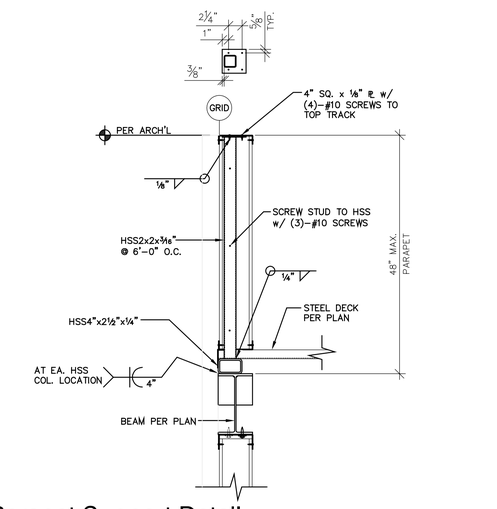
5 S9.0 Typical Perimeter Roof Detail

SCALE: 1"=1'-0"



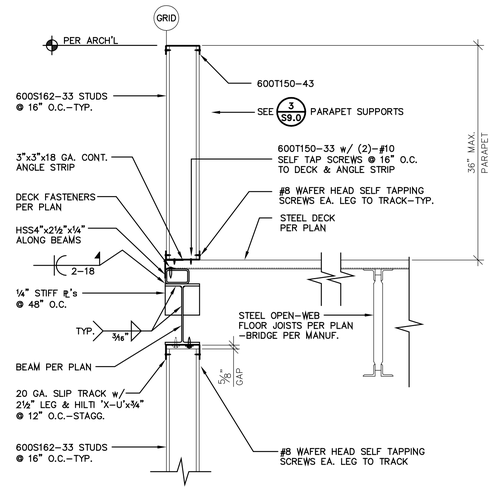
4 S9.0 Typical Perimeter Roof Detail

SCALE: 1"=1'-0"



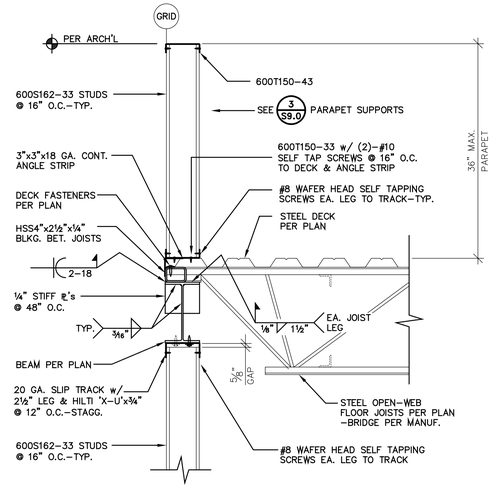
3 S9.0 Parapet Support Detail

SCALE: 1"=1'-0"



2 S9.0 Typical Perimeter Roof Detail

SCALE: 1"=1'-0"



1 S9.0 Typical Perimeter Roof Detail

SCALE: 1"=1'-0"

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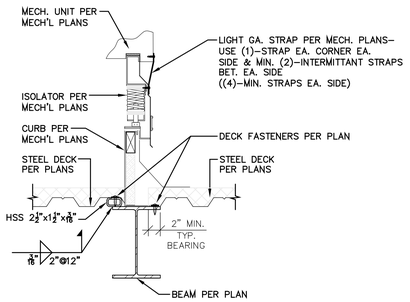
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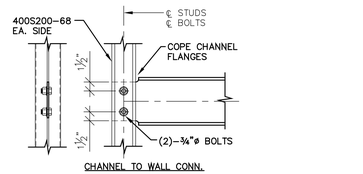
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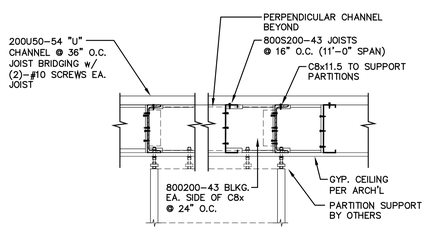
S9.0



6 S9.0 Typical Roof Mech. Detail

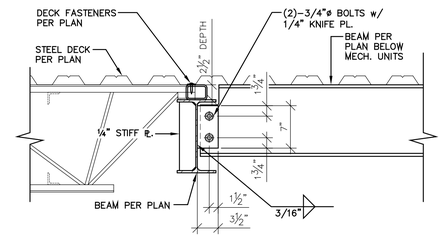
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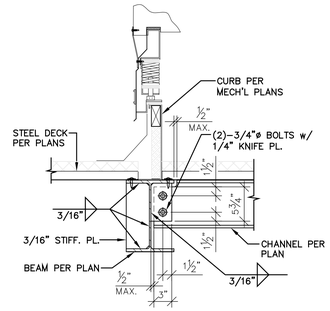
5 S9.0 Typical Bathroom Partition Details

SCALE: 1"=1'–0"



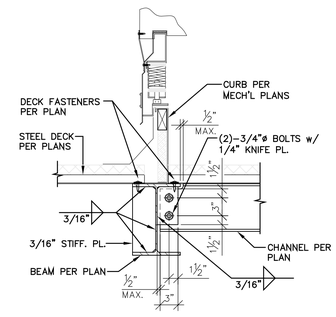
4 S9.1 Typical Roof Mech. Detail

SCALE: 1"=1'–0"



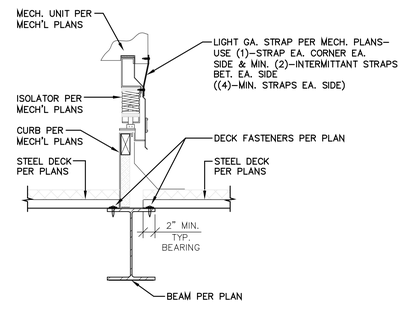
3 S9.1 Typical Roof Mech. Detail

SCALE: 1"=1'–0"



2 S9.1 Typical Roof Mech. Detail

SCALE: 1"=1'–0"



1 S9.1 Typical Roof Mech. Detail

SCALE: 1"=1'–0"

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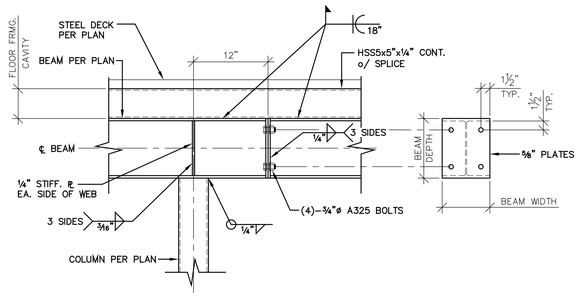
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Sheet Title:

Roof Details

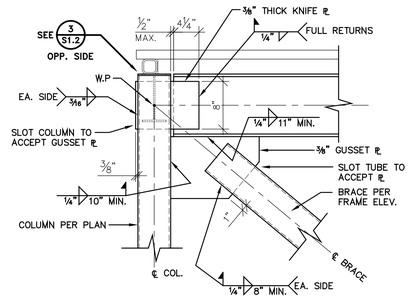
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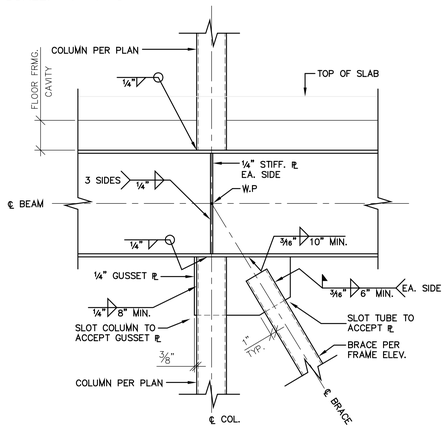
10 S10.0 Brace Conn. Detail

SCALE: 1"=1'–0"



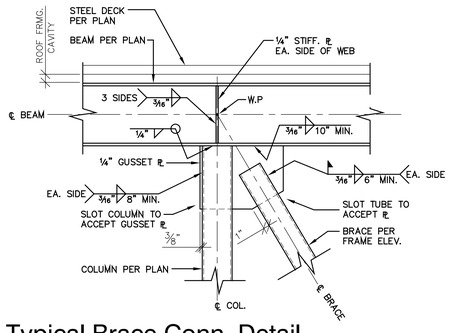
9 S10.0 Brace Conn. Detail

SCALE: 1"=1'–0"



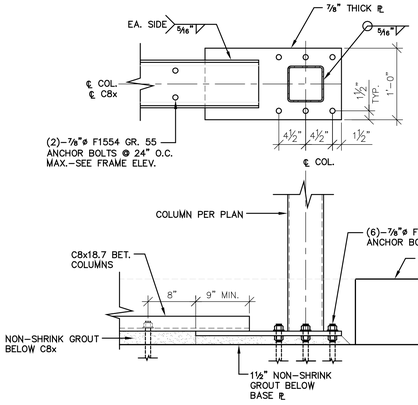
8 S10.0 Typical Brace Conn. Detail

SCALE: 1"=1'–0"



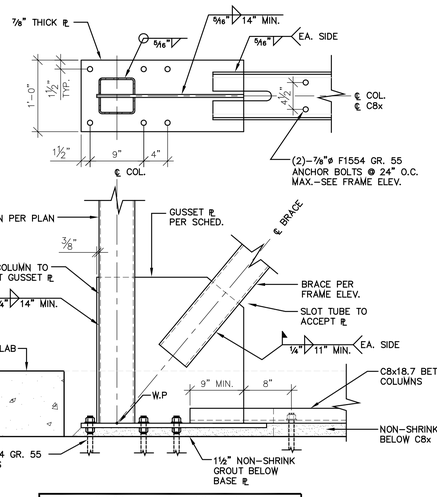
7 S10.0 Typical Brace Conn. Detail

SCALE: 1"=1'–0"



6 S10.0 Typical Plate Conn. Detail

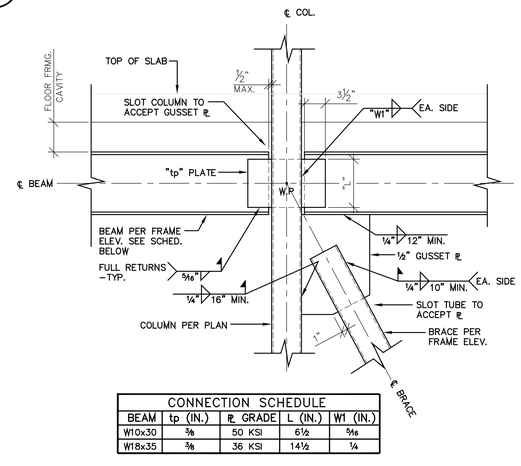
SCALE: 1"=1'–0"



GUSSET PLATE SCHEDULE		
FRAME NUMBER	tp (IN.)	℄ GRADE
#2, #3, #4, #8, #9, #10	½	36 KSI
#1, #13, #14, #17	½	50 KSI

5 S10.0 Typical Brace Conn. Detail

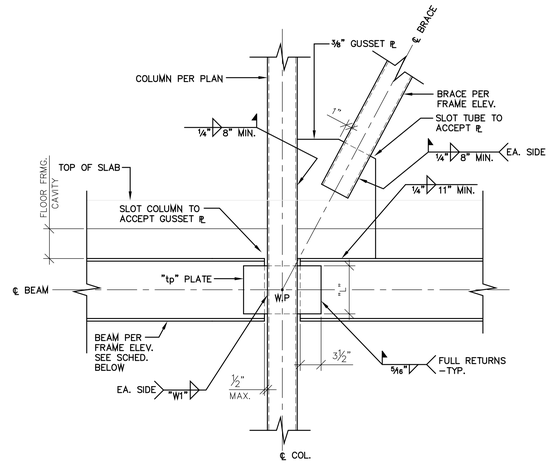
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CONNECTION SCHEDULE				
BEAM	tp (IN.)	℄ GRADE	L (IN.)	W1 (IN.)
W10x30	⅜	50 KSI	6½	5/16
W18x35	⅜	36 KSI	14½	¼

4 S10.0 Typical Floor Lvl. Brace Conn. Detail

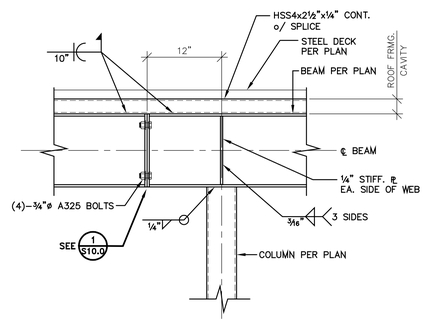
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CONNECTION SCHEDULE				
BEAM	tp (IN.)	℄ GRADE	L (IN.)	W1 (IN.)
W10x30	⅜	50 KSI	6½	5/16
W18x35	⅜	36 KSI	14½	¼

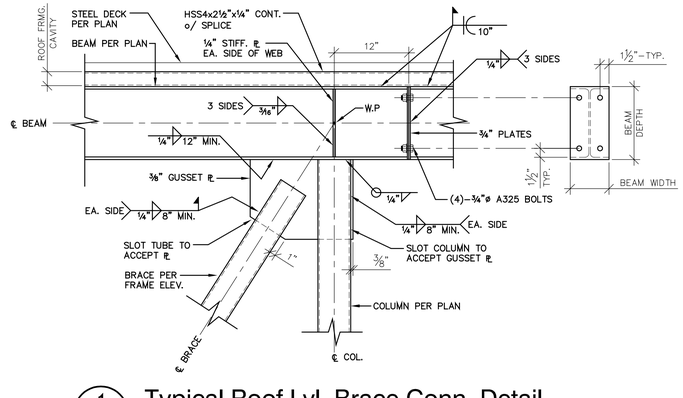
3 S10.0 Typical Floor Lvl. Brace Conn. Detail

SCALE: 1"=1'–0"



2 S10.0 Typical Roof Lvl. Column Conn. Detail

SCALE: 1"=1'–0"



1 S10.0 Typical Roof Lvl. Brace Conn. Detail

SCALE: 1"=1'–0"

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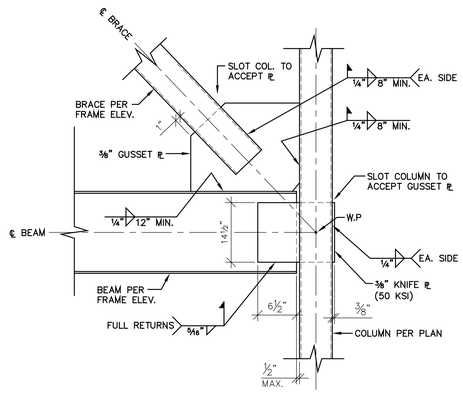
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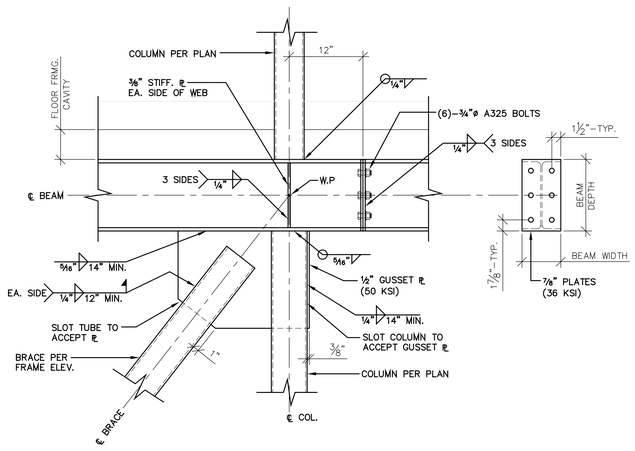
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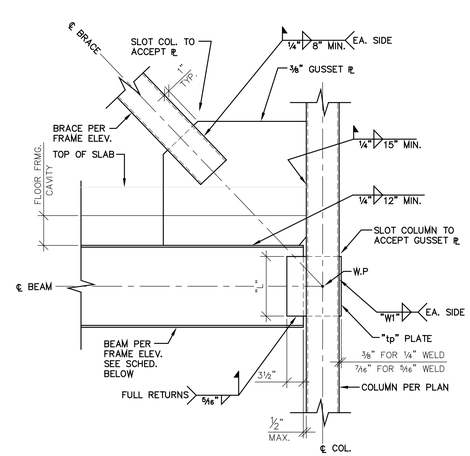
S10.0



10 S10.1 Floor Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"

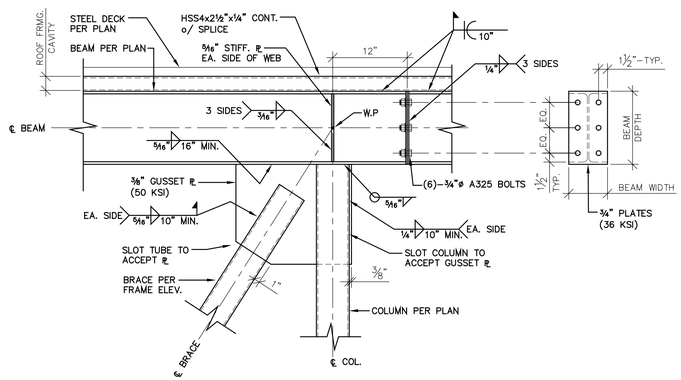


7 S10.1 Floor Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"

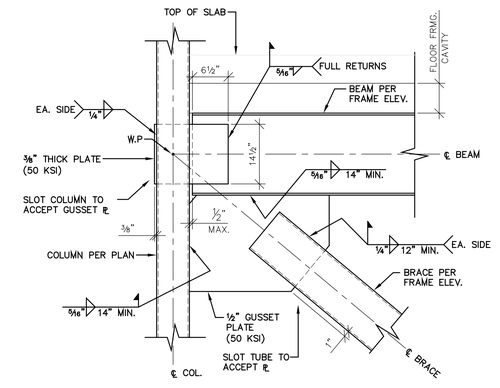


CONNECTION SCHEDULE				
BEAM	tp (IN.)	℄ GRADE	L (IN.)	W1 (IN.)
W10x30	⅜	50 KSI	6½	5/16
W16x36	⅜	36 KSI	12½	¼
W18x35	⅜	36 KSI	14½	¼

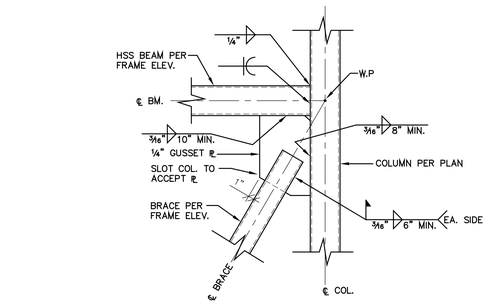
4 S10.1 Floor Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"



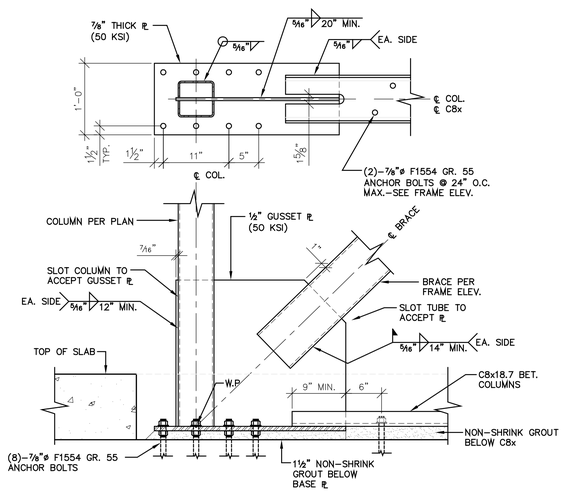
9 S10.1 Roof Lvl. Brace Conn. Detail
SCALE: 1"=1'-0"



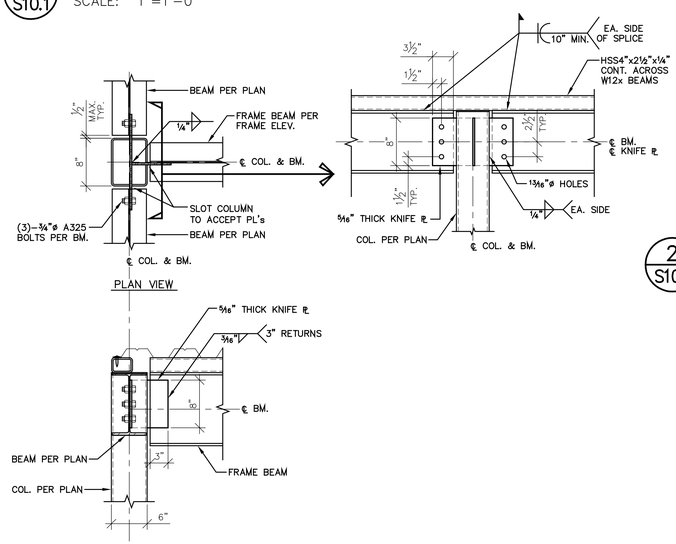
6 S10.1 Floor Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"



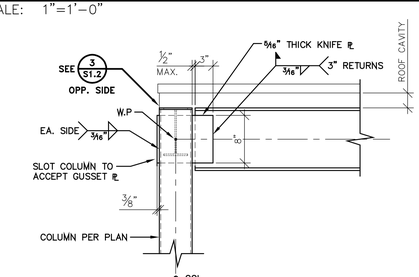
3 S10.1 Roof Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"



8 S10.1 Typical Brace Conn. Detail
SCALE: 1"=1'-0"



5 S10.1 Roof Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"



1 S10.1 Roof Lvl. Frame Conn. Detail
SCALE: 1"=1'-0"

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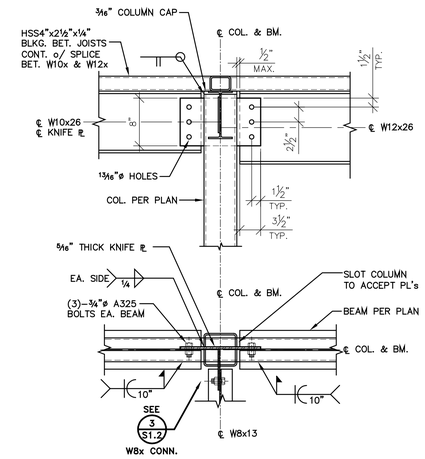
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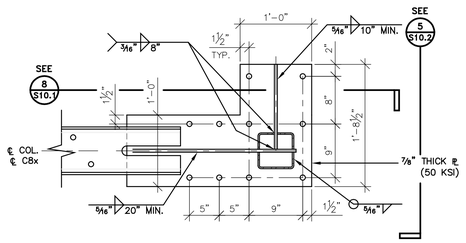
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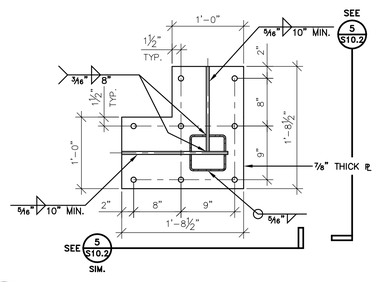
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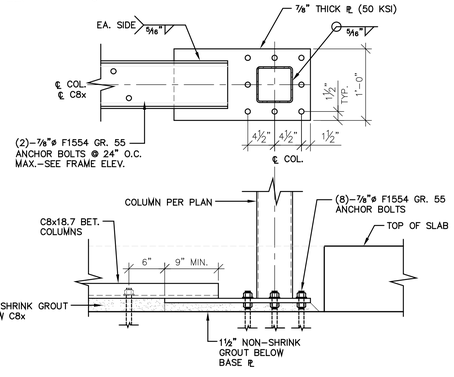
10 S10.2 **Frame Column Conn. Detail**
SCALE: 1"=1'-0"



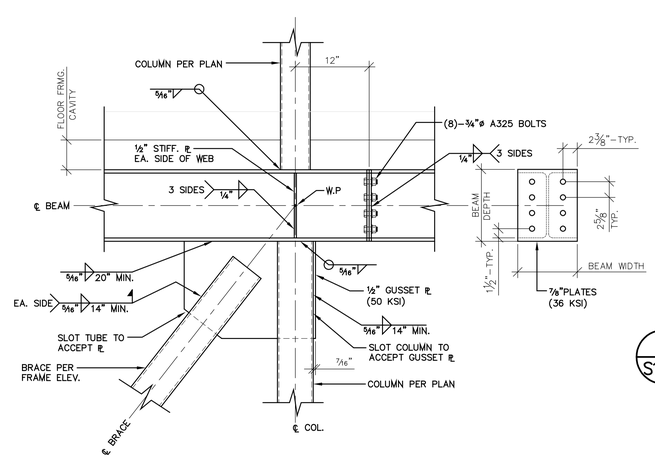
9 S10.2 **Frame Column Conn. Detail**
SCALE: 1"=1'-0"



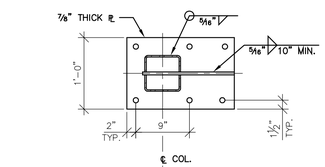
8 S10.2 **Frame Column Conn. Detail**
SCALE: 1"=1'-0"



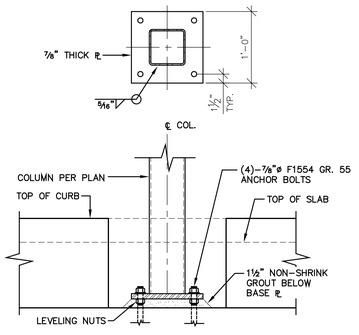
7 S10.2 **Frame Column Conn. Detail**
SCALE: 1"=1'-0"



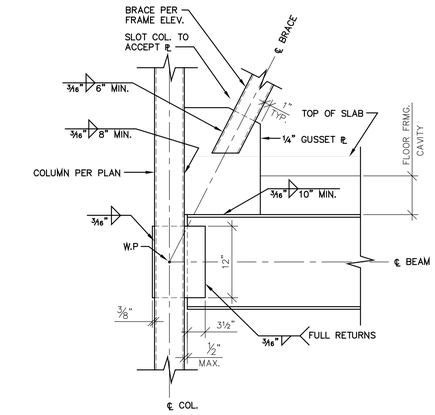
6 S10.2 **Floor Lvl. Frame Conn. Detail**
SCALE: 1"=1'-0"



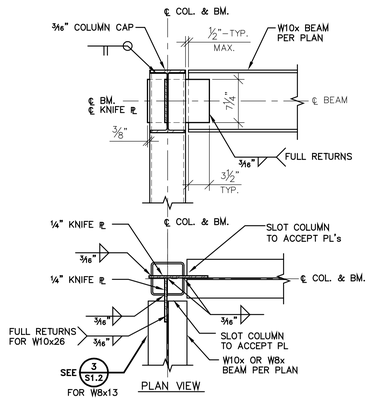
5 S10.2 **Frame Column Conn. Detail**
SCALE: 1"=1'-0"



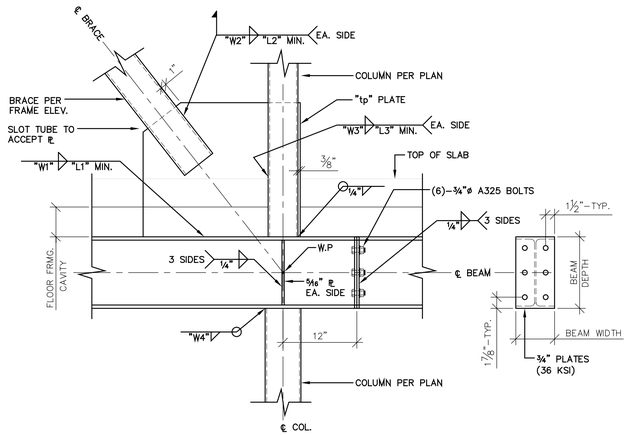
4 S10.2 **Frame Column Conn. Detail**
SCALE: 1"=1'-0"



3 S10.2 **Floor Lvl. Frame Conn. Detail**
SCALE: 1"=1'-0"



2 S10.2 **Roof Lvl. Frame Conn. Detail**
SCALE: 1"=1'-0"



CONNECTION SCHEDULE									
FRAME #	tp (IN.)	℄ GRADE	"W1"	"L1"	"W2"	"L2"	"W3"	"L3"	"W3"
13, 14, 17	3/8	36 KSI	¼"	12"	¼"	8"	¼"	8"	5/16"
11, 12, 15	3/8	50 KSI	5/16"	16"	5/16"	10"	5/16"	10"	5/16"

1 S10.2 **Floor Lvl. Frame Conn. Detail**
SCALE: 1"=1'-0"

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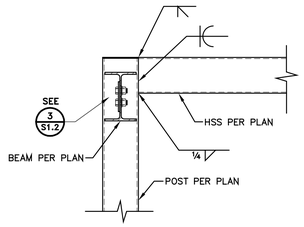
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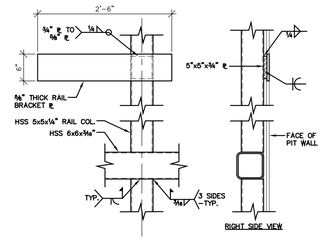
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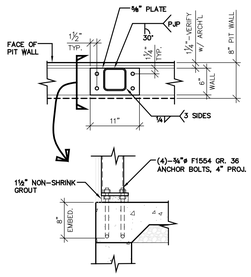
Sheet Number:
S10.2



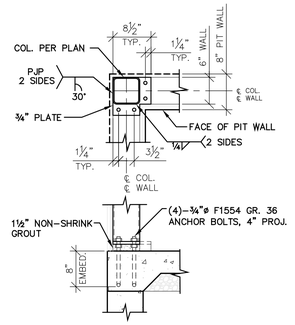
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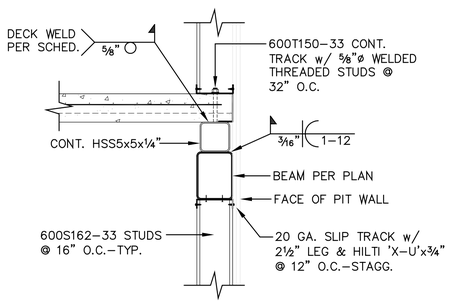
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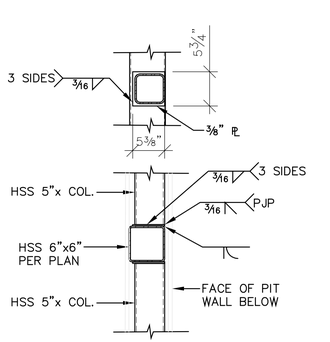
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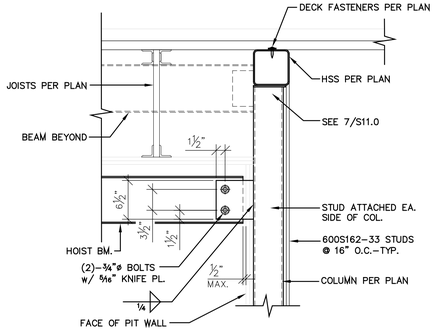
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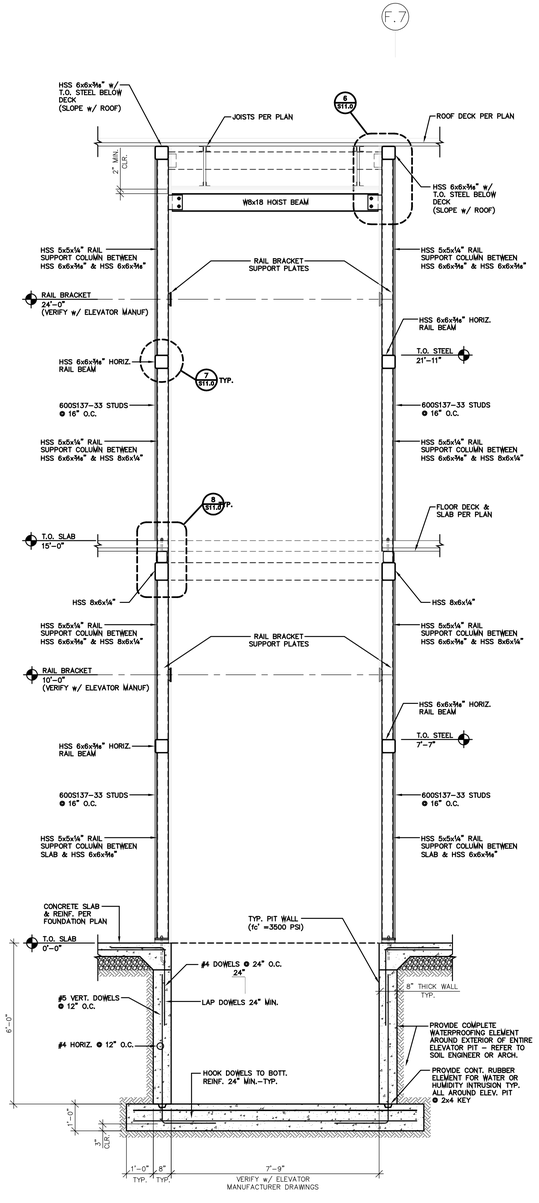
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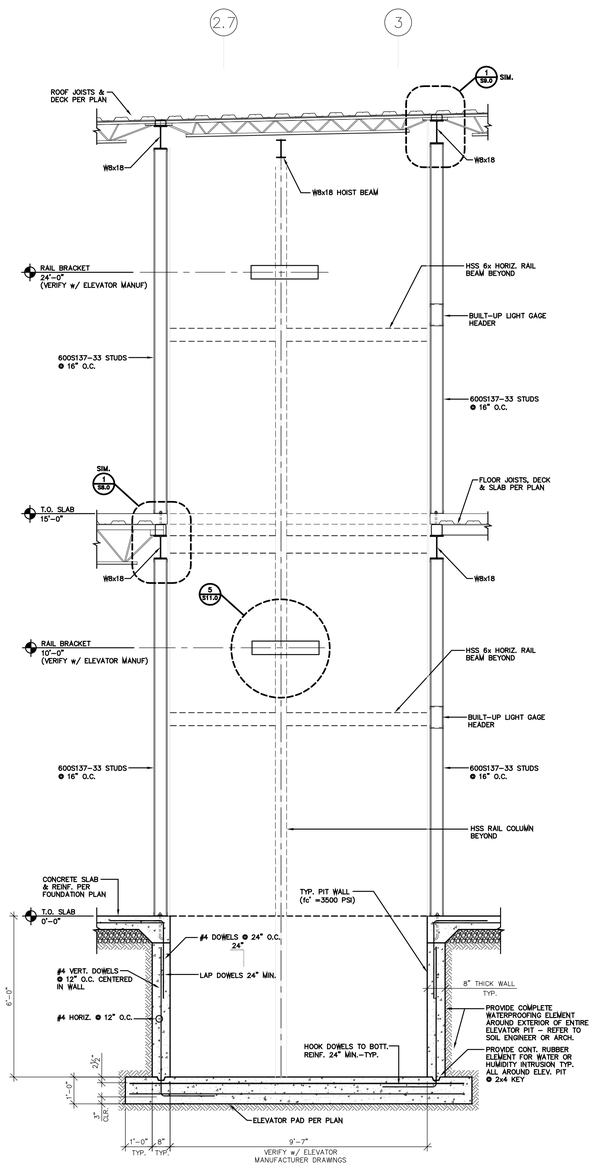
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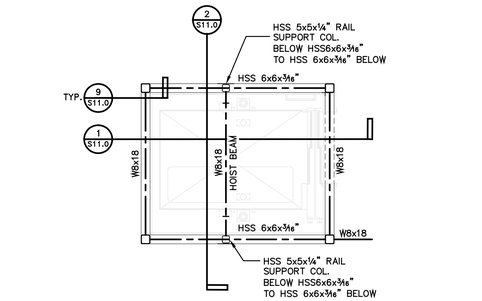
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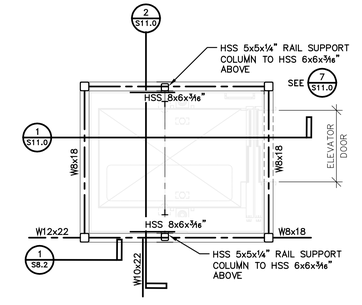
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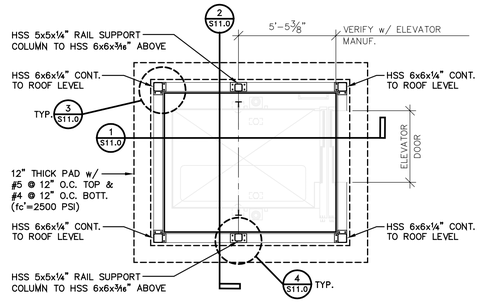
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Roof Level Plan
SCALE: 1/4"=1'-0"



Floor Level Plan
SCALE: 1/4"=1'-0"



Pit Floor Plan
SCALE: 1/4"=1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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Drawn By: BLN

Drawing Date: 9.13.2021

Project Number: 2018-038

Revisions:

09.21.21 ISSUED FOR BID

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Sheet Title:

Elevator & Details

Sheet Number:

S11.0

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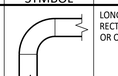
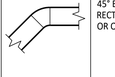
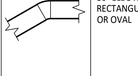
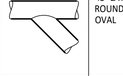
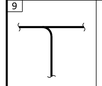
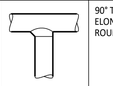
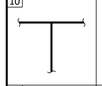
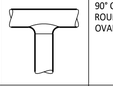
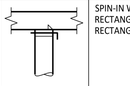
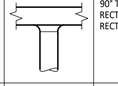
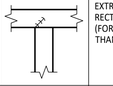
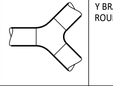
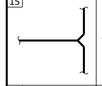
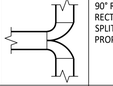
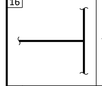
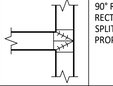
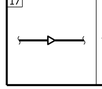
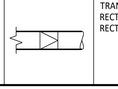
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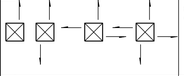
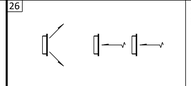
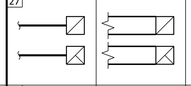
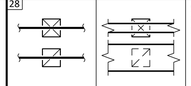
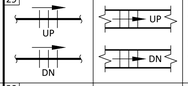
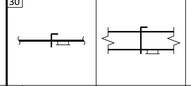
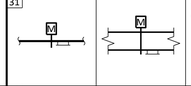
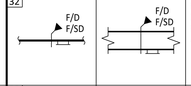
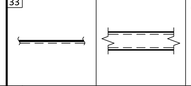
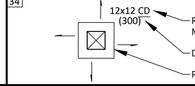
1. CUTTING OR CORING OF STRUCTURAL MEMBERS OR FOOTINGS IS PROHIBITED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER AND THE ARCHITECT.
2. CONTRACTOR SHALL VERIFY THAT THE ELECTRICAL CONNECTIONS TO THE UNITS, INCLUDING CIRCUIT PROTECTION, CONFORM TO UNIT LABELS AND MANUFACTURER'S DIRECTIONS. WHERE WIRE SIZES SHOWN ON DRAWING EXCEED MANUFACTURER'S RECOMMENDATIONS, THE DRAWINGS SHALL GOVERN. ALL WIRING SHALL BE PER THE NATIONAL ELECTRICAL CODE. AS AMENDED AND ENFORCED BY JURISDICTIONAL AUTHORITY.
3. ALL CONTROL WIRING SHALL BE IN CONDUIT. CONDUIT SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. PROVIDE AND INSTALL RIGID CONDUIT IN AREAS EXPOSED TO THE ELEMENTS. CONTROL WIRING INSTALLED ABOVE LAY-IN CEILINGS MAY BE PLENUM RATED CABLE HUNG FROM J-HOOKS WITHOUT CONDUIT.
4. PROVIDE SHOP DRAWINGS OF ALL MECHANICAL LAYOUTS SHOWING EQUIPMENT, DUCTWORK, REGISTERS, PIPING, FILTER RACKS, CONTROL DAMPERS, LIGHTS, ACCESS PANELS AND ACCESS SPACES, ETC.. OBTAIN AND COORDINATE WITH APPROVED FIRE SPRINKLER PLUMBING, ELECTRICAL, CASE WORK AND OTHER TRADES SHOP DRAWINGS PRIOR TO MECHANICAL DRAWING SUBMITTAL.
5. COORDINATE EXACT GRILLE, DIFFUSER AND ACCESS DOOR LAYOUT WITH LIGHTS AND SPRINKLERS.
6. SUPPORT DUCTS TIGHT BELOW STRUCTURE WHEREVER POSSIBLE.
7. COORDINATE WITH OWNER ON SPACE REQUIRED AND TIME SCHEDULE FOR DELIVERY OF ALL ITEMS WHICH ARE TO BE GIVEN TO THE OWNER FOR HIS DISPOSITION.
8. ALL TRANSITIONS IN DUCTWORK SHALL BE MADE AT 15 DEGREES MAXIMUM EACH FACE UNLESS OTHERWISE NOTED OR SPECIFICALLY APPROVED.
9. ALL DUCTWORK IS CONCEALED UNLESS OTHERWISE NOTED.
10. LABEL ALL PIECES OF EQUIPMENT WITH MARK MATCHING SCHEDULE OR EQUIPMENT LIST WITH ENGRAVED PLASTIC LABELS WITH MINIMUM 1/4" HIGH LETTERS. LABELS EXPOSED TO WEATHER SHALL BE ENGRAVED BRASS.
11. ALL DUCTS, REGISTERS, EQUIPMENT, ETC. SHOWN IS NEW UNLESS OTHERWISE NOTED.
12. ALL DUCT MOUNTED SMOKE DETECTORS SHALL BE ADDRESSABLE TYPE AND COMPATIBLE WITH FIRE ALARM SYSTEM. DUCT SMOKE DETECTORS SHALL BE PROVIDED, INSTALLED AND WIRED BY FIRE ALARM CONTRACTOR. ENTIRE SYSTEM SHALL COMPLY WITH THE CALIFORNIA MECHANICAL CODE, THE CALIFORNIA FIRE CODE, AND THE NATIONAL FIRE PROTECTION ASSOCIATION.
13. ADHESIVES, SEALANTS AND CAULKS USED INDOORS SHALL NOT EXCEED THE FOLLOWING VOLATILE ORGANIC COMPOUND LIMITS PER TITLE 24, PART 11, SECTION 5.504.
    - METAL TO METAL < 30 GRAMS PER LITER
    - FIBERGLASS < 80 GRAMS PER LITER
    - CONTACT ADHESIVE < 80 GRAMS PER LITER
    - MASTICS < 100 GRAMS PER LITER
    - ZINC-RICH PRIMERS < 340 GRAMS PER LITER
    - FIRE RESISTANT COATINGS < 350 GRAMS PER LITER
14. HVAC EQUIPMENT SHALL NOT CONTAIN CFC'S OR HALONS PER TITLE 24, PART 11, SECTION 5.508.
15. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENTS OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC OR SHEET METAL TO PROTECT THE AIR DISTRIBUTION SYSTEM FROM CONTAMINATION WITH DUST AND DEBRIS.

LIST OF GOVERNING CODES:

2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2016 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

HVAC DUCT LEGEND

	SINGLE LINE SYMBOL	DOUBLE LINE SYMBOL	DESCRIPTION
1			LONG SWEEP 90° ELBOW - RECTANGULAR, ROUND OR OVAL
2			SHORT SWEEP 90° ELBOW - RECTANGULAR, ROUND OR OVAL
3			45° ELBOW - RECTANGULAR, ROUND OR OVAL
4			30° ELBOW - RECTANGULAR, ROUND OR OVAL
5			90° ELBOW - RECTANGULAR DUCT (NO DUCT TURN)
6			90° ELBOW - RECTANGULAR DUCT WITH TURNING VANES
7			45° LATERAL - ROUND TO ROUND OR OVAL TO OVAL
8			90° TAKEOFF WITH 45° TAPER - RECTANGULAR TO RECTANGULAR (FOR BRANCH TAKEOF LONGER THAN 50'-0", USE 15)
9			90° TAKEOFF WITH 45° ELONGATED TEE - ROUND TO ROUND
10			90° CONICAL TEE - ROUND TO ROUND OR OVAL TO OVAL
11			SPIN-IN WITH BALANCE DAMPER - RECTANGULAR TO ROUND OR RECTANGULAR TO OVAL
12			90° TEE - RECTANGULAR TO ROUND OR RECTANGULAR TO OVAL
13			EXTRACTOR AND BRANCH DUCT - RECTANGULAR TO RECTANGULAR (FOR BRANCH TAKEOFFS LONGER THAN 10'-0", USE 8)
14			Y BRANCH - ROUND OR OVAL DUCT
15			90° RADIUS SPLIT - RECTANGULAR DUCT, PROVIDE SPLITTER DAMPER, X/Y PROPORTIONAL SPLIT
16			90° RECTANGULAR SPLIT - RECTANGULAR DUCT, PROVIDE SPLITTER DAMPER, X/Y PROPORTIONAL SPLIT
17			TRANSITION - RECTANGULAR TO ROUND OR RECTANGULAR TO OVAL

	SINGLE LINE SYMBOL	DOUBLE LINE SYMBOL	DESCRIPTION
18			SECTION AT SUPPLY AIR OR MAKE-UP AIR DUCT UP
19			SECTION AT RETURN AIR OR COMBUSTION AIR DUCT UP
20			SECTION AT EXHAUST AIR OR RELIEF AIR DUCT UP
21			SUPPLY AIR DUCT DOWN RETURN AIR DUCT DOWN EXHAUST AIR DUCT DOWN
22			ROUND DUCT UP - SUPPLY, RETURN OR EXHAUST
23			ROUND DUCT DOWN - SUPPLY, RETURN OR EXHAUST
24			CEILING DIFFUSER - ONE, TWO, THREE AND FOUR WAY THROW
25			CEILING - RETURN AND EXHAUST REGISTERS
26			SIDEWALL - SUPPLY DIFFUSER, RETURN AND EXHAUST REGISTERS
27			RETURN AND EXHAUST REGISTER CONNECTION - ELBOW DOWN OR ROUND TAP OUT OF RECTANGULAR DUCT, TAP SAME SIZE AS NECK
28			SUPPLY DIFFUSER AND RETURN REGISTER CONNECTION - TAP DOWN SAME SIZE AS NECK
29			DUCT RISE IN THE DIRECTION OF AIR FLOW DUCT DROP IN THE DIRECTION OF AIR FLOW
30			MANUAL BALANCE DAMPER WITH DUCT ACCESS DOOR
31			MOTORIZED BALANCE DAMPER WITH DUCT ACCESS DOOR
32			FIRE DAMPER WITH DUCT ACCESS DOOR FIRE/SMOKE DAMPER WITH DUCT ACCESS DOOR
33			ACOUSTICALLY LINED DUCT
34			REGISTER NECK SIZE AND MARK DESIGN CFM PANEL AT T-BAR CEILING

HVAC LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
		AIR DUCT	FPM	FEET PER MINUTE
×		ANCHOR	FT	FEET
		FLEXIBLE AIR DUCT	FT HD	FEET HEAD
		UNDER GROUND AIR DUCT	FTR	FLUE THRU ROOF
	BD	BALANCING DAMPER	GPM	GALLONS PER MINUTE
		AIR FROM DEVICE	GALV	GALVANIZED
		AIR TO DEVICE	GA	GAUGE
		SECTION THROUGH SUPPLY	HP	HORSEPOWER
		SECTION THROUGH RETURN	HR	HOUR
		SECTION THROUGH EXHAUST	HTG	HEATING
T		THERMOSTAT	HZ	HERTZ
TS		TEMPERATURE SENSOR	ID	INSIDE DIAMETER
HWS	HWS	HEATING WATER SUPPLY	IN	INCH
HWR	HWR	HEATING WATER RETURN	INT	INTERIOR
CWS	CWS	COOLING WATER SUPPLY	KW	KILOWATTS
CWR	CWR	COOLING WATER RETURN	LAT	LEAVING AIR TEMPERATURE
CHWS	CHWS	CHILLED WATER SUPPLY	LBS	POUNDS
CHWR	CHWR	CHILLED WATER RETURN	LG	LONG
F/D	F/D	VERTICAL FIRE DAMPER	LRA	LOCKED ROTOR AMPS
F/D	F/D	HORIZONTAL FIRE DAMPER	LVG	LEAVING
F/SD	F/SD	VERTICAL FIRE/SMOKE DAMPER	LWT	LEAVING WATER TEMPERATURE
F/SD	F/SD	HORIZONTAL FIRE/SMOKE DAMPER	LWB	LEAVING WET BULB
BT		BYPASS TIMER	MAX	MAXIMUM
$	SW	SWITCH	MBH	1000 BTU PER HOUR
℄		CENTERLINE	MCA	MINIMUM CIRCUIT AMPS
	POC	POINT OF CONNECTION	MCC	MOTOR CONTROL CENTER
	&	AND	MCP	MECHANICAL CONTROL PANEL
	@	AT	MECH	MECHANICAL
	°F	DEGREES FAHRENHEIT	MFR	MANUFACTURER
	AC	AIR CONDITIONER	MIN	MINIMUM
	AC/H	AIR CHANGES PER HOUR	MOCP	MAXIMUM OVERCURRENT PROTECTION
	AFF	ABOVE FINISH FLOOR	(N)	NEW
	AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	NC	NORMALLY CLOSED
	AGGR	AGGREGATE	NIC	NOT IN CONTRACT
	AL	ACOUSTICALLY LINED	NO	NORMALLY OPEN
	AMB	AMBIENT	NTS	NOT TO SCALE
	AMP	AMPERE	OA	OUTSIDE AIR
	APPROX	APPROXIMATE	OBD	OPPOSED BLADE DAMPER
	ARCH	ARCHITECT/ARCHITECTURAL	OC	ON CENTER
	BDD	BACKDRAFT DAMPER	OD	OUTSIDE DIAMETER
	BHP	BRAKE HORSEPOWER	OV	OUTLET VELOCITY
	BJ	BETWEEN JOISTS	PD	PRESSURE DROP
	BLDG	BUILDING	PH	PHASE
	BTUH	BRITISH THERMAL UNITS PER HOUR	P/N	PART NUMBER
	CA	COMBUSTION AIR	PRESS	PRESSURE
	CFM	CUBIC FEET PER MINUTE	PSI	POUNDS PER SQUARE INCH
	CIRC	CIRCULATING	P/T	PRESSURE/TEMPERATURE
	CLG	CEILING	QTY	QUANTITY
	CONC	CONCRETE	RA	RETURN AIR
	CONN	CONNECTION	REQD	REQUIRED
	CONT	CONTINUED, CONTINUATION	REQS	REQUIREMENTS
	COOL	COOLING	RLA	RATED/RUNNING LOAD AMPS
	COORD	COORDINATE	RM	ROOM
	COP	COEFFICIENT OF PERFORMANCE	RPM	REVOLUTIONS PER MINUTE
	CONST	CONSTRUCTION	SA	SUPPLY AIR
	CV	COEFFICIENT OF FLOW	SC	SENSIBLE COOLING
	DB	DRY BULB	SEER	SEASONAL ENERGY EFFICIENCY RATIO
	DG	DOOR GRILLE	SM	SHEETMETAL
	D/L	DOOR LOUVER	SOV	SHUT-OFF VALVE
	DN	DOWN	SP	STATIC PRESSURE
	DWGS	DRAWINGS	SPEC	SPECIFICATION
	(E)	EXISTING	SQ	SQUARE
	EA	EXHAUST AIR	STD	STANDARD
	EAT	ENTERING AIR TEMPERATURE	STRUCT	STRUCTURAL
	EER	ENERGY EFFICIENCY RATIO	STSL	STAINLESS STEEL
	EF	EXHAUST FAN	TC	TIME CLOCK/TOTAL COOLING
	ELEC	ELECTRICAL	TDH	TOTAL DYNAMIC HEAD
	ELEV	ELEVATION	TEMP	TEMPERATURE
	EMBT	EMBEDMENT	TSP	TOTAL STATIC PRESSURE
	ENT	ENTERING	TV	TURNING VANES
	EQUIP	EQUIPMENT	TYP	TYPICAL
	ESP	EXTERNAL STATIC PRESSURE	UCD	UNDERCUT DOOR
	EWB	ENTERING WET BULB	UL	UNDERWRITER'S LABORATORIES
	EWT	ENTERING WATER TEMPERATURE	UON	UNLESS OTHERWISE NOTED
	EXP	EXPANSION	V	VOLT
	EXT	EXTERIOR	W/	WITH
	FFE	FINISHED FLOOR ELEVATION	WB	WET BULB
	FLA	FULL LOAD AMPS	WC	WATER COLUMN
	FLEX	FLEXIBLE	WM	WASHING MACHINE
	FLR	FLOOR	WT	WEIGHT

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Sheet Title:
LEGENDS AND NOTES - MECHANICAL

Sheet Number:
M0.1

December 03, 2019 8:39:39 a.m.
Drawing: H:\PROJ\2018\20180245\DRAWINGS\AHU-FILTERS-MD1.DWG
Xref: TA-MD-BOILER.DWG

BOILERS

MARK	LOCATION	HEATING MBH INPUT	HEATING MBH OUTPUT	WT LBS	MOCP	V/PH	MAKE & MODEL	REMARKS
B-1	MECH ROOM	28.5/285	27/264	300	20	120/1	LOCHINVAR KNIGHT KBN285N	(1) (2) (3)
B-2	MECH ROOM	28.5/285	24/264	300	20	120/1	LOCHINVAR KNIGHT KBN285N	(1) (2) (3)

(1) PROVIDE BACnet GATEWAY

(2) PROVIDE CONDENSATE NEUTRALIZATION KIT

(3) EWT = 120°F; LWT = 150°F

PUMPS

MARK	GPM	TDH FT	BHP	MOTOR RPM	MOTOR HP	MOTOR V/PH	WT LBS	MAKE & MODEL	REMARKS
P-1	18	20	0.17	3,434	1/4	120/1	20	BELL & GOSSETT ECOCIRC XL 36-45	(1)
P-2	18	20	0.17	3,434	1/4	120/1	20	BELL & GOSSETT ECOCIRC XL 36-45	(1)
P-3	40	60	1.42	3,028	2	208/3	40	BELL & GOSSETT ECOCIRC XL 95-160	(2) LEAD
P-4	40	60	1.42	3,028	2	208/3	40	BELL & GOSSETT ECOCIRC XL 95-160	(2) STAND-BY

(1) OPERATING IN CONSTANT PRESSURE MODE

(2) OPERATING IN PROPORTIONAL PRESSURE MODE

VAV CONTROL BOXES

MARK	AREA SERVED	HTG MAX	CFM MIN	CLG MAX	SIZE INLET	SIZE OUTLET	PD AT MIN CFM	NC LEVELS RAD	NC LEVELS DISCH	HOT WATER COIL EAT °F	LAT °F	MBH	GPM	EWT °F	LWT °F	PD FT	ROWS	RUNOUT	CONTROL VALVE SIZE	CONTROL VALVE TYPE	CONTROL VALVE Cv	WT LBS	MAKE & MODEL	REMARKS
VAV1-1	MULTI-PURPOSE 145	600	360	1,200	10"Ø	14"x12.5"	0.17	28	33	55	101	29.8	2.0	150	120	0.5	2	3/4"	1/2"	3 WAY	1.2	45	TITUS DESV	(1) (3) (4)
VAV1-2	MULTI-PURPOSE 145	400	240	800	10"Ø	14"x12.5"	0.09	27	30	55	111	24.5	2.0	150	125	0.5	2	3/4"	1/2"	2 WAY	1.2	40	TITUS DESV	(1) (2) (4)
VAV1-3	CHILDREN'S RM 142	250	150	500	7"Ø	12"x10"	0.12	24	29	55	110	14.9	1.0	150	120	0.12	2	1/2"	1/2"	2 WAY	0.8	40	TITUS DESV	(1) (2) (4)
VAV1-4	OBSERVATION	100	60	200	5"Ø	12"x8"	0.01	21	31	55	106	8.1	1.0	150	138	0.5	2	1/2"	1/2"	2 WAY	0.8	35	TITUS DESV	(1) (2) (5)
VAV1-5	OCCUPATIONAL THERAPY 137	100	60	200	5"Ø	12"x8"	0.01	21	31	55	106	8.1	1.0	150	138	0.5	2	1/2"	1/2"	3 WAY	0.8	35	TITUS DESV	(1) (3) (5)
VAV1-6	TREATMENT 135	75	45	150	4"Ø	12"x8"	0.01	23	34	55	103	8.1	1.0	150	133	0.5	2	1/2"	1/2"	2 WAY	0.8	35	TITUS DESV	(1) (2) (5)
VAV1-7	TREATMENT 133	75	45	150	4"Ø	12"x8"	0.01	23	34	55	103	8.1	1.0	150	133	0.5	2	1/2"	1/2"	2 WAY	0.8	35	TITUS DESV	(1) (2) (5)
VAV1-8	TREATMENT 131	75	45	150	4"Ø	12"x8"	0.01	23	34	55	103	8.1	1.0	150	133	0.5	2	1/2"	1/2"	2 WAY	0.8	35	TITUS DESV	(1) (2) (5)
VAV1-9	TREATMENT 129	100	60	200	5"Ø	12"x8"	0.01	21	31	55	106	8.1	1.0	150	138	0.5	2	1/2"	1/2"	2 WAY	0.8	35	TITUS DESV	(1) (2) (5)
VAV1-10	RECEPTION/ CORRIDOR	500	300	1,000	10"Ø	14"x12.5"	0.12	28	31	55	106	27.4	2.0	150	123	0.5	2	3/4"	1/2"	2 WAY	1.2	45	TITUS DESV	(1) (2) (5)
VAV1-11	KITCHENETTE/ RESTROOMS	250	150	500	7"Ø	12"x10"	0.12	24	29	55	110	14.9	1.0	150	120	0.12	2	1/2"	1/2"	2 WAY	0.8	40	TITUS DESV	(1) (2) (4)
VAV1-12	WAITING 101	375	225	750	8"Ø	12"x10"	0.16	27	31	55	99	18.0	1.0	150	114	0.17	2	1/2"	1/2"	2 WAY	0.8	40	TITUS DESV	(1) (2) (4)
VAV1-13	WAITING 101	475	285	950	10"Ø	14"x12.5"	0.12	28	31	55	107	26.7	2.0	150	123	0.5	2	3/4"	1/2"	3 WAY	1.2	45	TITUS DESV	(1) (3) (5)
VAV1-14	CLEAN/DIRTY/ CORRIDOR	275	165	525	7"Ø	12"x10"	0.10	25	30	55	108	15.8	1.0	150	118	0.17	2	1/2"	1/2"	3 WAY	0.8	40	TITUS DESV	(1) (3) (5)
VAV1-15	EXAM ROOMS	250	150	500	7"Ø	12"x10"	0.12	24	29	55	110	14.9	1.0	150	120	0.12	2	1/2"	1/2"	2 WAY	0.8	40	TITUS DESV	(1) (2) (5)
VAV1-16	MA/MD WORK AREA	150	90	400	6"Ø	12"x8"	0.02	27	30	55	100	9.0	2.0	150	143	1.82	2	3/4"	1/2"	3 WAY	1.2	35	TITUS DESV	(1) (3) (5)
VAV2-1	NORTHWEST MANAGER/OFFICE	250	150	500	7"Ø	12"x10"	0.12	24	29	55	110	14.9	1.0	150	120	0.12	2	1/2"	1/2"	3 WAY	0.8	40	TITUS DESV	(1) (3) (5)
VAV2-2	WEST OFFICES	300	180	600	8"Ø	12"x10"	0.10	24	31	55	105	16.3	1.0	150	117	0.17	2	1/2"	1/2"	2 WAY	0.8	40	TITUS DESV	(1) (2) (5)
VAV2-3	WAITING / STORAGE	450	270	900	10"Ø	14"x12.5"	0.07	27	30	55	88	26.0	2.0	150	134	0.5	2	3/4"	1/2"	2 WAY	1.2	45	TITUS DESV	(1) (2) (4)
VAV2-4	NORTH OFFICES	250	150	500	7"Ø	12"x10"	0.12	24	29	55	110	14.9	1.0	150	120	0.12	2	1/2"	1/2"	3 WAY	0.8	40	TITUS DESV	(1) (3) (5)
VAV2-5	INTERIOR OFFICES	425	255	850	10"Ø	14"x12.5"	0.09	27	30	55	109	24.8	2.0	150	125	0.5	2	3/4"	1/2"	2 WAY	1.2	40	TITUS DESV	(1) (2) (5)
VAV2-6	INTERIOR OFFICES	415	250	825	10"Ø	14"x12.5"	0.09	27	30	55	110	24.8	2.0	150	125	0.5	2	3/4"	1/2"	2 WAY	1.2	40	TITUS DESV	(1) (2) (5)
VAV2-7	SOUTH MANAGERS	325	190	650	8"Ø	12"x10"	0.12	28	32	55	102	16.6	2.0	150	131	0.5	2	3/4"	1/2"	3 WAY	1.2	40	TITUS DESV	(1) (3) (5)
VAV2-8	STAFF ROOM	540	325	1,075	10"Ø	14"x12.5"	0.17	28	33	55	103	28.4	2.0	150	122	0.5	2	3/4"	1/2"	2 WAY	1.2	45	TITUS DESV	(1) (2) (5)
VAV2-9	INTERIOR OFFICES	525	315	1,050	10"Ø	14"x12.5"	0.17	28	33	55	104	28.0	2.0	150	122	0.5	2	3/4"	1/2"	3 WAY	1.2	45	TITUS DESV	(1) (3) (5)
VAV2-10	WORK AREA	275	165	550	7"Ø	12"x10"	0.10	25	30	55	108	15.8	1.0	150	118	0.17	2	1/2"	1/2"	2 WAY	0.8	40	TITUS DESV	(1) (2) (5)
VAV2-11	SOUTHEAST MANAGERS	425	255	900	10"Ø	14"x12.5"	0.09	27	30	55	109	24.8	2.0	150	125	0.5	2	3/4"	1/2"	2 WAY	1.2	40	TITUS DESV	(1) (2) (5)

(1) SEE 7/M6.2 FOR VAV CONTROL BOX MOUNTING.

(2) SEE 8/M6.2 FOR COIL PIPING.

(3) SEE 9/M6.2 FOR COIL PIPING.

(4) SEE 2/M5.2 FOR CONTROL SEQUENCE.

(5) SEE 3/M5.2 FOR CONTROL SEQUENCE.

AIR CONDITIONERS

MARK	COOLING SENSIBLE	COOLING TOTAL	OUTSIDE AIR CFM	OUTSIDE AIR DB	OUTSIDE AIR WB	RETURN AIR OA MIX DB	RETURN AIR OA MIX WB	SUPPLY AIR DB	SUPPLY AIR WB	SUPPLY FAN ACFM	SUPPLY FAN ESP	SUPPLY FAN TSP	SUPPLY FAN RPM	SUPPLY FAN FLA	SUPPLY FAN HP	HEATING BTUH INPUT	COMPRESSOR NUM	COMPRESSOR RLA	CONDENSER FANS NUM	CONDENSER FANS HP	CONDENSER FANS FLA	ELECTRICAL SERVICE	WEIGHT (lbs)	MAKE & MODEL	REMARKS
AHU-1	146,500	249,000	2,500	83	62	77	62	55	54	8,100	1.4"	3.3"	1,800	29.5	7.5	-	1	41.4	2	1 EA	8.2 EA	208/3	7,000	TRANE INTELLIPAK SLHL2043E7NGHE9000A-WUFGO	(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)
																	1	41.4							
AHU-2	155,000	252,500	2,500	83	62	77	62	55	54	8,350	1.4"	3.3"	1,800	29.5	7.5	-	1	41.4	2	1 EA	8.2 EA	208/3	7,000	TRANE INTELLIPAK SLHL2043E7NGHE9000A-WUFGO	(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)
																	1	41.4							

(1) PROVIDE 100% EXHAUST, 3 HP EXHAUST FAN WITH STATICTRAC. EF-1 IS A COMPONENT OF AHU-1. EF-2 IS A COMPONENT OF AHU-2.

(2) PROVIDE CATALYTIC AIR CLEANING SYSTEM INCORPORATING UVGI, PHOTOCATALYTIC OXIDATION AND HIGH EFFICIENCY FILTERS. PROVIDE 2" THROW-AWAY PRE-FILTERS (MERV 8) AND HIGH EFFICIENCY CARTRIDGE FINAL FILTERS (MERV 14.) PROVIDE DIFFERENTIAL PRESSURE GAUGE ACROSS FINAL FILTER BANK.

(3) PROVIDE DIRECT DRIVE PLENUM SUPPLY FAN WITH EC MOTOR.

(4) PROVIDE 0-100% ECONOMIZER WITH ULTRA LOW LEAK DAMPERS, AND FAULT DETECTION AND DIAGNOSTICS MEETING THE REQUIREMENTS OF CEnC 120.2(I)

(5) PROVIDE UNIT MOUNTED AND WIRED DISCONNECT SWITCH AND GFCI CONVENIENCE RECEPTACLE.

(6) PROVIDE HINGED ACCESS DOORS. UNIT SHALL HAVE DOUBLE WALL CONSTRUCTION.

(7) PROVIDE BACnet COMMUNICATIONS INTERFACE MODULE. SEE 1/M5.2 FOR CONTROL SEQUENCE.

(8) MOUNT ON MASON INDUSTRIES SPRING ISOLATION CURB WITH 1" DEFLECTION. SEE 10/M6.1.

(9) ELECTRICAL SERVICE REQUIREMENTS: MCA = 135.8 AMPS; MOCP = 150 AMPS.

(10) PROVIDE VFD ON SUPPLY FAN AND EXHAUST FAN.

(11) PROVIDE DIGITAL SCROLL COMPRESSOR FOR FIRST STAGE COOLING.

TANKS

MARK	VOLUME TOT/ACCEP.	DIAMETER	HEIGHT	WEIGHT	MAKE & MODEL	REMARKS
ET-1	53.0 GAL/ 53.0 GAL	24"Ø	36"	630	BELL & GOSSETT B-200	(1)

(1) FURNISH WITH OPTIONAL SEISMIC RESTRAINTS.

FANS

MARK	LOCATION	CFM	ESP	SONES / TIP SPEED	MOTOR HP	MOTOR V/PH	FAN RPM	WT LBS	MAKE & MODEL	REMARKS
EF-1	AHU-1	7,425	0.75"	-	3	208/3	674	(1)	COMPONENT OF AHU-1	
EF-2	AHU-2	7,700	0.75"	-	3	208/3	674	(1)	COMPONENT OF AHU-2	
EF-3	MECH RM	500	0.2"	62 dBA/ 8,325	74 W	120/1	2,650	25	CONTINENTAL FANS DXP250-2AC-11	
EF-4	ELEC RM	500	0.2"	62 dBA/ 8,325	74 W	120/1	2,650	25	CONTINENTAL FANS DXP250-2AC-11	
EF-5	ROOF	575	1.0"	12.3/5,015	1/2	120/1	2,260	75	COOK ACE-D VF 101C28D	(2) (3)
EF-6	ROOF	825	1.0"	13.8/5,275	1/2	120/1	2,190	75	COOK ACE-D VF 101C28D	(2) (3)

(1) WEIGHT INCLUDED IN TOTAL WEIGHT OF AIR HANDLING UNIT.

(2) FURNISH WITH FAN MOUNTED SPEED CONTROLLER

(3) FURNISH WITH MANUFACTURER'S ROOF CURB AND GRAVITY BACK DRAFT DAMPER.

SPLIT SYSTEM AIR CONDITIONERS

MARK	COOL MBH TC	COOL MBH SC	CFM	ESP	HP	V/PH	UNIT FLA	WT LBS	EER SEER	LINE SIZE GAS	LINE SIZE LIQ	MAKE & MODEL	REMARKS
CU-1	21.2	15.8	-	-	2	208/1	8.5	110	12.5/18	-	-	DAIKIN RK24NMVJU	(1) (2)
EV-1			700	0"	46 W	208/1	0.5	35	-	5/8"	1/4"	DAIKIN FTK24NMVJU	
CU-2	21.2	15.8	-	-	2	208/1	8.5	110	12.5/18	-	-	DAIKIN RK24NMVJU	(1) (2)
EV-2			700	0"	46 W	208/1	0.5	35	-	5/8"	1/4"	DAIKIN FTK24NMVJU	
CU-3	21.2	15.8	-	-	2	208/1	8.5	110	12.5/18	-	-	DAIKIN RK24NMVJU	(1) (2)
EV-3			700	0"	46 W	208/1	0.5	35	-	5/8"	1/4"	DAIKIN FTK24NMVJU	
CU-4	21.2	15.8	-	-	2	208/1	8.5	110	12.5/18	-	-	DAIKIN RK24NMVJU	(1) (2)
EV-4			700	0"	46 W	208/1	0.5	35	-	5/8"	1/4"	DAIKIN FTK24NMVJU	
CU-5	21.2	15.8	-	-	2	208/1	8.5	110	12.5/18	-	-	DAIKIN RK24NMVJU	(1) (2)
EV-5			700	0"	46 W	208/1	0.5	35	-	5/8"	1/4"	DAIKIN FTK24NMVJU	

(1) PROVIDE WIRED REMOTE CONTROLLER

(2) SEE 4/M5.1 FOR CONTROL SEQUENCE

AIR DISTRIBUTION

MARK	TYPE	MAKE & MODEL	REMARKS
SD-1	MODULAR CORE	TITUS MCD	(1) (2)
RG-1/ EG-1	EGG CRATE	TITUS 50F	(1) (2)

(1) FURNISH IN MANUFACTURER'S STANDARD OFF-WHITE

(2) COORDINATE BORDER TYPES WITH ARCHITECT'S REFLECTED CEILING PLAN

LOUVERS

MARK	SIZE	TYPE	MATERIAL	MAKE & MODEL	REMARKS
L-1	18" x 18"	EXHAUST OUTLET	16 GA GALV. STL BAKED ENAMEL FINISH	WONDERMETALS L430	(1) (2)
L-2	18" x 18"	EXHAUST OUTLET	16 GA GALV. STL BAKED ENAMEL FINISH	WONDERMETALS L430	(1) (2)
GH-1	18"x18"	GRAVITY HOOD	16 GA GALV. STL BAKED ENAMEL FINISH	COOK 18x18GR	(2) (3)

(1) FURNISH IN COLOR SELECTED BY ARCHITECT.

(2) WITH 1/2" BIRD MESH

(3) FURNISH WITH 12" TALL ROOF CURB.

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CONSULTING ENGINEERS
AE Project #: 20180245
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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Drawing Date: 08.25.2021

Project Number: 1838

Revisions:
09.21.21 BID SET

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Sheet Title:
SCHEDULES - MECHANICAL

Sheet Number:

M0.2

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Xref: %.%.%.%

December 03, 2019 8:31:26 a.m.
Drawing: H:\PROJ\2019\20180245\DRAWINGS\LNA-TITLSHT-A-M04.DWG
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NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS				Confirmed	
1.	2.	3.	4.		
Surface Name	Surface Type	Description of Assembly Layers	Notes	Pass	Fail
Ext 2x6 Wall Metal Stud w7	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Expanded Polystyrene - EPS - 1 in. R4.2 Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.		☐	☐
6 Slab On Grade13	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0		☐	☐
R-0 Wall24	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Gypsum Board - 1/2 in.		☐	☐
Ext 2x6 Wall Metal Stud w71	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Expanded Polystyrene - EPS - 1 in. R4.2 Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.		☐	☐
4 Raised Slab Floor214	InteriorFloor	Concrete - 140 lb/ft3 - 4 in. Carpet - 3/4 in.		☐	☐
Metal 2x12 @ 24 O.C. w/R217	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Ceiling - 3/4 in. Metal framed roof, 24in. OC, 11.25in., R-30 Gypsum Board - 1/2 in.		☐	☐
Special Int 2x6 Wall Meta257	InteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Expanded Polystyrene - EPS - 1 1/2 in. R6.3 Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 1/2 in.		☐	☐

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)
This Section Does Not Apply

C. OPAQUE DOOR SUMMARY							Confirmed	
1.	2.	3.	4.	5.	6.	7.		
Opaque Door Assembly Name / Tag or I.D.	Door Type	Certification Method	Operation	Area	Overall U-factor	Status[1]	Pass	Fail
Metal Door18	MetalUninsulatedDoubleLayerDoor	DefaultPerformance	Swinging	63	0.700	N	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

NRCC-PRF-MCH-DETAILS -SECTION START-

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*																		Confirmed	
1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)											
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW FRACTION	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIR FLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(h) (Y/N)	Pass	Fail
1-Zone 1-1 (145L)	1st Floor AHU-1	1,200	360	0.30	600	1	N	1st Floor AHU-1	665	0.38	16.62	15.00	249	249	NA	Y	NA	☐	☐
2-Zone 1-2 (145H)	1st Floor AHU-1	800	240	0.30	400	1	N	1st Floor AHU-1	533	0.38	13.32	15.00	200	200	NA	Y	NA	☐	☐
3-Zone 1-3 (142)	1st Floor AHU-1	500	150	0.30	250	1	N	1st Floor AHU-1	375	0.21	5.36	15.00	80	80	NA	Y	NA	☐	☐
4-Zone 1-4 (136 &138)	1st Floor AHU-1	200	70	0.35	100	1	N	1st Floor AHU-1	221	0.15	1.10	30.00	33	33	NA	N	NA	☐	☐
5-Zone 1-5 (137)	1st Floor AHU-1	200	80	0.40	100	1	N	1st Floor AHU-1	263	0.15	1.31	30.00	39	39	NA	N	NA	☐	☐

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*																		Confirmed	
1. DESIGN AIR FLOWS								2. VENTILATION (§ 120.1)											
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM FLOW FRACTION	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIR FLOW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(h) (Y/N)	Pass	Fail
6-Zone 1-6 (135)	1st Floor AHU-1	150	53	0.35	75	1	N	1st Floor AHU-1	160	0.15	0.80	30.00	24	24	NA	N	NA	☐	☐
7-Zone 1-7 (133)	1st Floor AHU-1	150	60	0.40	75	1	N	1st Floor AHU-1	160	0.15	0.80	30.00	24	24	NA	N	NA	☐	☐
8-Zone 1-8 (131)	1st Floor AHU-1	150	53	0.35	75	1	N	1st Floor AHU-1	160	0.15	0.80	30.00	24	24	NA	N	NA	☐	☐
9-Zone 1-9 (129)	1st Floor AHU-1	200	60	0.30	100	1	N	1st Floor AHU-1	250	0.15	1.25	30.00	38	38	NA	N	NA	☐	☐
10-Zone 1-10 (102/103/104/10	1st Floor AHU-1	1,000	300	0.30	500	1	N	1st Floor AHU-1	1,571	0.15	7.86	30.00	236	236	NA	N	NA	☐	☐
11-Zone 1-11 (143/144/148/14	1st Floor AHU-1	500	150	0.30	250	1	N	1st Floor AHU-1	674	0.15	3.37	30.00	101	101	NA	N	NA	☐	☐
12-Zone 1-12 (101H)	1st Floor AHU-1	750	225	0.30	375	1	N	1st Floor AHU-1	642	0.15	3.21	30.00	96	96	NA	Y	NA	☐	☐
13-Zone 1-13 (101L)	1st Floor AHU-1	950	285	0.30	475	1	N	1st Floor AHU-1	412	0.15	2.06	30.00	62	62	NA	Y	NA	☐	☐
14-Zone 1-14 (111/114-120/12	1st Floor AHU-1	525	158	0.30	275	1	N	1st Floor AHU-1	1,047	0.15	5.24	30.00	157	157	NA	N	NA	☐	☐
15-Zone 1-15 (112/114/116/11	1st Floor AHU-1	500	150	0.30	250	1	N	1st Floor AHU-1	420	0.15	2.10	30.00	63	63	NA	N	NA	☐	☐
16-Zone 1-16 (109)	1st Floor AHU-1	400	120	0.30	150		N	1st Floor AHU-1	287	0.15	1.44	30.00	43	43	NA	N	NA	☐	☐
19-Zone 2-1 (213-215)	2nd Floor AHU-2	500	150	0.30	250	1	N	2nd Floor AHU-2	437	0.15	2.19	30.00	66	66	NA	N	NA	☐	☐

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS	§ 140.9
This Section Does Not Apply	

T. UNMET LOAD HOURS				
Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
1-Zone 1-1 (145L)	150	0	150	691.75
2-Zone 1-2 (145H)	150	0	150	382
5-Zone 1-5 (137)	150	0	150	757.25
6-Zone 1-6 (135)	150	0	150	1860.5
7-Zone 1-7 (133)	150	0	150	1294.5
8-Zone 1-8 (131)	150	0	150	1108.75
9-Zone 1-9 (129)	150	0	150	977.75
13-Zone 1-13 (101L)	150	0	150	1401.75
15-Zone 1-15 (112/114/116/11	150	0	150	2848.5
16-Zone 1-16 (109)	150	0	150	1667
19-Zone 2-1 (213-215)	150	0	150	2230
20-Zone 2-2 (209-212)	150	0	150	1657
21-Zone 2-3 (204-205)	150	0	150	1525.5
22-Zone 2-4 (217/219/221/223	150	0	150	1300.75
23-Zone 2-5 (208/216/218/220	150	0	150	529
24-Zone 2-6 (202/203/231/234	150	0	150	291
25-Zone 2-7 (201/252/254/258	150	369	150	851.25
26-Zone 2-8 (225-228/241/245	150	0	150	818.25
27-Zone 2-9 (240-244/253/251	150	0	150	405
28-Zone 2-10 (246/247)	150	0	150	1055.5
29-Zone 2-11 (244L/248/249/2	150	42.5	150	1258.25

U. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.0	0.0	--	127.7	52.0	75.7
Space Cooling	11.3	10.2	1.1	--	--	--
Indoor Fans	21.2	25.2	-4.0	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	1.1	1.2	-0.1	--	--	--
Domestic Hot Water	--	--	--	36.8	30.5	6.3
Indoor Lighting	39.0	39.0	0.0	--	--	--
COMPLIANCE TOTAL	**72.6**	**75.6**	**-3.0**	**164.5**	**82.5**	**82.0**
Receptacle	60.6	60.6	0.0	18.7	18.7	0.0
Process	34.2	34.2	0.0	--	--	--
Other Ltg	--	--	--	--	--	--
Process Motors	--	--	--	--	--	--
TOTAL	**167.4**	**170.4**	**-3.0**	**183.2**	**101.2**	**82.0**

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	§ 10-103
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Robert Stroshane	Signature:
Company: AXIOM ENGINEERS	
Address: 22 Lower Ragsdale Drive, Suite A	Signature Date:
City/State/Zip: Monterey CA 93940	CEA Identification (if applicable): M33439
Phone: 831.649.8000	

RESPONSIBLE PERSON'S DECLARATION STATEMENT		
I certify the following under penalty of perjury, under the laws of the State of California:		
1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.	
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.	
3	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.	
Responsible Envelope Designer Name: Paul W. Davis	Signature:	
Company: The Paul Davis Partneership		
Address: 286 Eldorado Street	Date Signed:	
City/State/Zip: Monterey CA 93940	Declaration Statement Type:	
Phone: 831-373-2784	Title:	License #: C-15182
Responsible Lighting Designer Name:	Signature: NOT IN SCOPE	
Company:		
Address:	Date Signed:	
City/State/Zip:	Declaration Statement Type:	
Phone:	Title:	License #:
Responsible Mechanical Designer Name: R. Scott Stroshane	Signature:	
Company: Axiom Engineers		
Address: 22 Lower Ragsdale Dr, Suite A	Date Signed:	
City/State/Zip: Monterey CA 93940	Declaration Statement Type:	
Phone: 831-649-8000	Title:	License #: M33439

[4] *A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS*
[5] *Status: N - New, A – Altered, E – Existing*

	Wet System Equipment [1]							Pumps					Confirmed	
	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	
	Equip Name	Equip Type	Qty	Vol (gal)	Rated Capacity (kBtu/h)	Efficiency	Standby Loss	Tank Ext. R Value	Qty	GPM	HP	VSD (Y/N)	Status[2]	Pass / Fail
	Lochinvar KBN4002-0	HotWater	NA	NA	375	Thrml. Eff: 0.94	NA	NA	1	65.0	1.000	Yes	N	☐ ☐
	Lochinvar KBN4002-1	HotWater	NA	NA	375	Thrml. Eff: 0.94	NA	NA	1	65.0	1.000	Yes	N	☐ ☐
	State Industries SUF 60 13	Storage	1	60.00	120	Thrml. Eff.: 0.76	SBLF: 0.010	NA		NA		No	N	☐ ☐

[1] *Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.*
[2] *Status: N - New, A – Altered, E – Existing*

Discrepancy between modeled and designed equipment sizing? (if "Yes", see Table F. "Additional Remarks" for an explanation)	No

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1]												§ 140.4	Confirmed	
1.	2.	3.					4.					5.		
Equip Name	Outside Air	Supply Fan					Return Fan					Economizer Type (if present)	Pass	Fail
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
1st Floor AHU-1	1470	8100	4.700	4.700	2.21	VariableSpeedDrive	7425	1.670	1.670	0.86	VariableSpeedDrive	DifferentialDryBulb	☐	☐
2nd Floor AHU-2	1232	8350	4.900	4.900	2.23	VariableSpeedDrive	7700	1.800	1.800	0.89	VariableSpeedDrive	DifferentialDryBulb	☐	☐
EV-1/CU-1	0	700	0.036	0.036	0.16	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐
EV-3/CU-3	0	700	0.036	0.036	0.16	ConstantVolume	NA	NA	NA	NA	NA	NA	☐	☐

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

O. EQUIPMENT CONTROLS		§ 120.2	Confirmed	
1.	2.	3.		
Equip Name	Equip Type	Controls	Pass	Fail
1st Floor AHU-1	PVAV	5 Zones With CO2Sensor Vent. Control, No DDC and Single Maximum Reheat Controls Differential Drybulb Economizer Supply Air Temp. Reset on Outside Air Temp. No Optimum Start No Evaporative Cooler No Heat Recovery	☐	☐
Zone 1-10 (102/103/104/1058	Exhaust	NA	☐	☐
Zone 1-11 (143/144/148/1492	Exhaust	NA	☐	☐
Zone 1-14 (111/114-120/12132	Exhaust	NA	☐	☐
2nd Floor AHU-2	PVAV	1 Zones With CO2Sensor Vent. Control, No DDC and Single Maximum Reheat Controls Differential Drybulb Economizer Supply Air Temp. Reset on Outside Air Temp. No Optimum Start No Evaporative Cooler No Heat Recovery	☐	☐
Zone 2-6 (202/203/231/234309	Exhaust	NA	☐	☐
Zone 2-8 (225-228/241/245365	Exhaust	NA	☐	☐
DHW1 - HotWater	Heating Hot Water, Primary Only	Outside Air Reset Temperature Control, DDC No Heat Recovery	☐	☐
DHW1 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC No Heat Recovery	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY							§ 120.4/ § 140.4(l)	
		Dry System Distribution					Confirmed	
1.	2.	3.	4.	5.		6.		
Equip Name	Equip Type	Duct Leakage and Sealing Required per 140.4(l)	Duct Leakage will be verified per NA1 and NA2	Ducts		Status[1]	Pass	Fail
				Insulation R-Value	Location			
1st Floor AHU-1	PVAV	No	No	8.0	Unconditioned	N	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY							§ 120.4/ § 140.4(l)	
		Dry System Distribution					Confirmed	
1.	2.	3.	4.	5.		6.		
Equip Name	Equip Type	Duct Leakage and Sealing Required per 140.4(l)	Duct Leakage will be verified per NA1 and NA2	Ducts		Status[1]	Pass	Fail
				Insulation R-Value	Location			
2nd Floor AHU-2	PVAV	No	No	8.0	Unconditioned	N	☐	☐
EV-1/CU-1	MiniSplitHP	No	No	NA	Ductless	N	☐	☐
EV-3/CU-3	MiniSplitHP	No	No	NA	Ductless	N	☐	☐

[1] *Status: N - New, E – Existing*

Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	Yes
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	No

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)
This Section Does Not Apply

R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E)[1]	§ 130.0
This Section Does Not Apply	

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES	§ 140.9
This Section Does Not Apply	

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS	§ 140.9
This Section Does Not Apply	

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS	§ 140.9
This Section Does Not Apply	



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Sheet Title:
TITLE 24
DOCUMENTATION
- MECHANICAL

Sheet Number:

M0.4

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Project Name:	Behavioral Health Center	NRCC-PRF-01-E	Page 25 of 26
Project Address:	331 N. Sanborn Rd. Salinas 93905	Calculation Date/Time:	10:44, Wed, Jun 26, 2019
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	20180245 Behavioral Health Center.cibd16x

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECM45	Pass	Fail
EV-3/CU-3	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

H. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

NRCC-PRF-LTI-DETAILS -SECTION START-

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E) **§ 140.6**

This Section Does Not Apply

B. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS (Adapted from NRCC-LTI-02-E) **§ 130.1**

This Section Does Not Apply

C. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E) **§ 140.6**

This Section Does Not Apply

D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E) **§ 140.6-D**

This Section Does Not Apply

Project Name:	Behavioral Health Center	NRCC-PRF-01-E	Page 22 of 26
Project Address:	331 N. Sanborn Rd. Salinas 93905	Calculation Date/Time:	10:44, Wed, Jun 26, 2019
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B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY **§ 140.4**

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
24-Zone 2-6 (202/203/231/234-Trm	VAVReheatBox	1	NA	NA	NA	24-Zone 2-6 (202/203/231/234	825	248	0.30	NA	NA	☐	☐	☐
23-Zone 2-5 (208/216/218/220-Trm	VAVReheatBox	1	NA	NA	NA	23-Zone 2-5 (208/216/218/220	850	255	0.30	NA	NA	☐	☐	☐
22-Zone 2-4 (217/219/221/223-Trm	VAVReheatBox	1	NA	NA	NA	22-Zone 2-4 (217/219/221/223	500	150	0.30	NA	NA	☐	☐	☐
21-Zone 2-3 (204-205)-Trm	VAVReheatBox	1	NA	NA	NA	21-Zone 2-3 (204-205)	900	315	0.35	NA	NA	☐	☐	☐
20-Zone 2-2 (209-212)-Trm	VAVReheatBox	1	NA	NA	NA	20-Zone 2-2 (209-212)	600	180	0.30	NA	NA	☐	☐	☐
19-Zone 2-1 (213-215)-Trm	VAVReheatBox	1	NA	NA	NA	19-Zone 2-1 (213-215)	500	150	0.30	NA	NA	☐	☐	☐

C. EXHAUST FAN SUMMARY **Confirmed**

1.	2.	3.	4.	5.	6.	Confirmed	
System ID	Zone Name	Qty	CFM	Motor BHP	Total Static Pressure (in H20)	Pass	Fail
Zone 1-10 (102/103/104/1058	10-Zone 1-10 (102/103/104/10	1	150	0.330	8.38	☐	☐
Zone 1-11 (143/144/148/1492	11-Zone 1-11 (143/144/148/14	1	300	0.330	4.19	☐	☐
Zone 1-14 (111/114-120/12132	14-Zone 1-14 (111/114-120/12	1	225	0.330	5.58	☐	☐
Zone 2-6 (202/203/231/234309	24-Zone 2-6 (202/203/231/234	1	75	0.330	16.75	☐	☐
Zone 2-8 (225-228/241/245365	26-Zone 2-8 (225-228/241/245	1	575	0.330	2.19	☐	☐

Project Name:	Behavioral Health Center	NRCC-PRF-01-E	Page 19 of 26
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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* **Confirmed**

		1. DESIGN AIR FLOWS						2. VENTILATION (§ 120.1)											
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL? (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT RATE AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT RATE PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIR/ROW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
20-Zone 2-2 (209-212)	2nd Floor AHU-2	600	180	0.30	300	1	N	2nd Floor AHU-2	464	0.15	2.32	30.00	70	70	NA	N	NA	☐	☐
21-Zone 2-3 (204-205)	2nd Floor AHU-2	900	315	0.35	450	1	N	2nd Floor AHU-2	557	0.15	2.79	30.00	84	84	NA	Y	NA	☐	☐
22-Zone 2-4 (217/219/221/223	2nd Floor AHU-2	500	150	0.30	250	1	N	2nd Floor AHU-2	481	0.15	2.40	30.00	72	72	NA	N	NA	☐	☐
23-Zone 2-5 (208/216/218/220	2nd Floor AHU-2	850	255	0.30	425	1	N	2nd Floor AHU-2	1,034	0.15	5.17	30.00	155	155	NA	N	NA	☐	☐
24-Zone 2-6 (202/203/231/234	2nd Floor AHU-2	825	248	0.30	415	1	N	2nd Floor AHU-2	1,117	0.15	5.58	30.00	168	168	NA	N	NA	☐	☐
25-Zone 2-7 (201/252/254/258	2nd Floor AHU-2	650	195	0.30	325	1	N	2nd Floor AHU-2	769	0.15	3.85	30.00	115	115	NA	N	NA	☐	☐
26-Zone 2-8 (225-228/241/245	2nd Floor AHU-2	1,075	323	0.30	540	1	N	2nd Floor AHU-2	1,230	0.15	3.08	60.00	185	185	NA	N	NA	☐	☐
27-Zone 2-9 (240-244/253/251	2nd Floor AHU-2	1,050	315	0.30	525	1	N	2nd Floor AHU-2	1,148	0.15	5.74	30.00	172	172	NA	N	NA	☐	☐
28-Zone 2-10 (246/247)	2nd Floor AHU-2	550	165	0.30	275	1	N	2nd Floor AHU-2	341	0.15	1.71	30.00	51	51	NA	N	NA	☐	☐
29-Zone 2-11 (244L/248/249/2	2nd Floor AHU-2	850	255	0.30	425	1	N	2nd Floor AHU-2	638	0.15	3.19	30.00	96	96	NA	N	NA	☐	☐
31-Server Room	EV-1/CU-1	NA	NA	0.00	NA	NA	N		157	0.15	0.24	100.00	24	NA	24	N	NA	☐	☐
32-Electronic Equipment Rm	EV-3/CU-3	NA	NA	0.00	NA	NA	N		109	0.15	0.16	100.00	16	NA	16	N	NA	☐	☐

Project Name:	Behavioral Health Center	NRCC-PRF-01-E	Page 26 of 26
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E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E) **§ 140.6(c) 3H**

This Section Does Not Apply

F. ROOM CAVITY RATIO (Adapted from NRCC-LTI-04-E)

This Section Does Not Apply

G. ADDITIONAL "USE IT OR LOSE IT" (Adapted from NRCC-LTI-04-E)

This Section Does Not Apply

H. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS (Adapted from NRCC-LTI-01-E and NRCC-LTO-01-E) **§ 130.4**

This Section Does Not Apply

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D. DHW EQUIPMENT SUMMARY – *(Adapted from NRCC-PLB-01)* **§ 110.3** **Confirmed**

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Confirmed	
DHW Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input (kBtu/h)	Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	Heat Pump Type	Tank Location or Ambient Condition	Pass	Fail
State Industries SUF 60 13	Gas	Storage	1	60.00	120	Thrml. Eff.: 0.76	NA	SBLF: 0.010	NA	NA	☐	☐

E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)

This Section Does Not Apply

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECM45	Pass	Fail
DHW1 - HotWater	1	--	--	--	--	--	--	X	X	X	--	--	--	--	--	--	--	--	☐	☐
DHW1 - SHW	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

Project Name:	Behavioral Health Center	NRCC-PRF-01-E	Page 20 of 26
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A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)* **Confirmed**

		1. DESIGN AIR FLOWS						2. VENTILATION (§ 120.1)											
CONDITIONED ZONE NAME	HEATING/COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL? (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT RATE AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT RATE PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIR/ROW (CFM)	DCV (Y/N)	Operable Window Interlock § 140.4(n) (Y/N)	Pass	Fail
								TOTAL	16,322		105.06		2,743	2,703	40			☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY **§ 140.4**

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
EV-1/CU-1	MiniSplitHP	1	NA	20.00	No	31-Server Room	700	NA	NA	0.036	☐	☐	☐	☐
EV-3/CU-3	MiniSplitHP	1	NA	20.00	No	32-Electronic Equipment Rm	700	NA	NA	0.036	☐	☐	☐	☐
16-Zone 1-16 (109)-Trm	VAVReheatBox	1	NA	NA	NA	16-Zone 1-16 (109)	400	120	0.30	NA	NA	☐	☐	☐
15-Zone 1-15 (112/114/116/11-Trm	VAVReheatBox	1	NA	NA	NA	15-Zone 1-15 (112/114/116/11	500	150	0.30	NA	NA	☐	☐	☐
14-Zone 1-14 (111/114-120/12-Trm	VAVReheatBox	1	NA	NA	NA	14-Zone 1-14 (111/114-120/12	525	158	0.30	NA	NA	☐	☐	☐
13-Zone 1-13 (101L)-Trm	VAVReheatBox	1	NA	NA	NA	13-Zone 1-13 (101L)	950	285	0.30	NA	NA	☐	☐	☐
12-Zone 1-12 (101H)-Trm	VAVReheatBox	1	NA	NA	NA	12-Zone 1-12 (101H)	750	225	0.30	NA	NA	☐	☐	☐

ENVELOPE MANDATORY MEASURES: NONRESIDENTIAL **ENV-MM**

Project Name: *Behavioral Health Center* Date: *6/26/2019*

DESCRIPTION

Building Envelope Measures:	
§110.8(a):	Installed insulating material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20 Chapter 4, Article 3.
§110.8(c):	All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.
§110.8(g):	Heated slab floors shall be insulated according to the requirements in Table 110.8-A.
§110.7(a):	All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.
§110.6(a):	Manufactured fenestration products and exterior doors shall have air infiltration rates not exceeding 0.3 cfm/ft.² of window area, 0.3 cfm/ft.² of door area for residential doors, 0.3 cfm/ft.² of door area for nonresidential single doors (swinging and sliding), and 1.0 cfm/ft.² for nonresidential double doors (swinging).
§110.6(a):	Fenestration U-factor shall be rated in accordance with NFRC 100, or the applicable default U-factor.
§110.6(a) :	Fenestration SHGC shall be rated in accordance with NFRC 200, or NFRC 100 for site-built fenestration, or the applicable default SHGC.
§110.6(b):	Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).
§120.7(a):	The opaque portions of the roof/ceiling that separates conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows: **Metal Building-** The weighted average U-factor of the roof assembly shall not exceed 0.098. **Wood Framed and Others-** The weighted average U-factor of the roof assembly shall not exceed 0.075.
§120.7(b):	The opaque portions of walls that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-factor as follows: **Metal Building-** The weighted average U-factor of the wall assembly shall not exceed 0.113. **Metal Framed-** The weighted average U-factor of the wall assembly shall not exceed 0.151. **Light Mass Walls-** A 6 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.440. **Heavy Mass Walls-** An 8 inch or greater Hollow Core Concrete Masonry Unit shall have a U-factor not to exceed 0.690. **Wood Framed and Others-** The weighted average U-factor of the wall assembly shall not exceed 0.110. **Spandrel Panels and Opaque Curtain Wall-** The weighted average U-factor of the spandrel panels and opaque curtain wall assembly shall not exceed 0.280. **Demising Walls-**. The opaque portions of framed demising walls shall meet the requirements of Item A or B below: A. Wood framed walls shall be insulated to meet a U-factor not greater than 0.099. B. Metal Framed walls shall be insulated to meet a U-factor not greater than 0.151.
§120.7(c):	The opaque portions of floors and soffits that separate conditioned spaces from unconditioned spaces or ambient air shall meet the applicable U-Factor requirements as follows: **Raised Mass Floors-** Shall have a minimum of 3 inches of lightweight concrete over a metal deck or the weighted average U-factor of the floor assembly shall not exceed 0.269. **Other Floors-**The weighted average U-factor of the floor assembly shall not exceed 0.071.

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G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from NRCC-MCH-01-E)* **§ RA4**

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECM45	Pass	Fail
1st Floor AHU-1	1	X	--	--	X	X	X	--	--	--	X	X	--	--	--	X	--	--	☐	☐
Zone 1-10 (102/103/104/1058	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Zone 1-11 (143/144/148/1492	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Zone 1-14 (111/114-120/12132	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
2nd Floor AHU-2	1	X	--	--	X	X	X	--	--	--	X	X	--	--	--	X	--	--	☐	☐
Zone 2-6 (202/203/231/234309	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
Zone 2-8 (225-228/241/245365	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐
EV-1/CU-1	1	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

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B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY **§ 140.4**

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
11-Zone 1-11 (143/144/148/14-Trm	VAVReheatBox	1	NA	NA	NA	11-Zone 1-11 (143/144/148/14	500	150	0.30	NA	NA	☐	☐	☐
10-Zone 1-10 (102/103/104/10-Trm	VAVReheatBox	1	NA	NA	NA	10-Zone 1-10 (102/103/104/10	1000	300	0.30	NA	NA	☐	☐	☐
9-Zone 1-9 (129)-Trm	VAVReheatBox	1	NA	NA	NA	9-Zone 1-9 (129)	200	60	0.30	NA	NA	☐	☐	☐
8-Zone 1-8 (131)-Trm	VAVReheatBox	1	NA	NA	NA	8-Zone 1-8 (131)	150	53	0.35	NA	NA	☐	☐	☐
7-Zone 1-7 (133)-Trm	VAVReheatBox	1	NA	NA	NA	7-Zone 1-7 (133)	150	60	0.40	NA	NA	☐	☐	☐
6-Zone 1-6 (135)-Trm	VAVReheatBox	1	NA	NA	NA	6-Zone 1-6 (135)	150	53	0.35	NA	NA	☐	☐	☐
5-Zone 1-5 (137)-Trm	VAVReheatBox	1	NA	NA	NA	5-Zone 1-5 (137)	200	80	0.40	NA	NA	☐	☐	☐
4-Zone 1-4 (136 &138)-Trm	VAVReheatBox	1	NA	NA	NA	4-Zone 1-4 (136 &138)	200	70	0.35	NA	NA	☐	☐	☐
3-Zone 1-3 (142)-Trm	VAVReheatBox	1	NA	NA	NA	3-Zone 1-3 (142)	500	150	0.30	NA	NA	☐	☐	☐
2-Zone 1-2 (145H)-Trm	VAVReheatBox	1	NA	NA	NA	2-Zone 1-2 (145H)	800	240	0.30	NA	NA	☐	☐	☐
1-Zone 1-1 (145L)-Trm	VAVReheatBox	1	NA	NA	NA	1-Zone 1-1 (145L)	1200	360	0.30	NA	NA	☐	☐	☐
29-Zone 2-11 (244L/248/249/2-Trm	VAVReheatBox	1	NA	NA	NA	29-Zone 2-11 (244L/248/249/2	850	255	0.30	NA	NA	☐	☐	☐
28-Zone 2-10 (246/247)-Trm	VAVReheatBox	1	NA	NA	NA	28-Zone 2-10 (246/247)	550	165	0.30	NA	NA	☐	☐	☐
27-Zone 2-9 (240-244/253/251-Trm	VAVReheatBox	1	NA	NA	NA	27-Zone 2-9 (240-244/253/251	1050	315	0.30	NA	NA	☐	☐	☐
26-Zone 2-8 (225-228/241/245-Trm	VAVReheatBox	1	NA	NA	NA	26-Zone 2-8 (225-228/241/245	1075	323	0.30	NA	NA	☐	☐	☐
25-Zone 2-7 (201/252/254/258-Trm	VAVReheatBox	1	NA	NA	NA	25-Zone 2-7 (201/252/254/258	650	195	0.30	NA	NA	☐	☐	☐

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE
PAUL DAVIS
PARTNERSHIP
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Drawn By: CADD

Drawing Date: 08.25.2021

Project Number: 1838

Revisions:

09.21.21 BID SET

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Sheet Title:

TITLE 24 DOCUMENTATION - MECHANICAL

Sheet Number:

M0.5

REGISTERED PROFESSIONAL ENGINEER
ROBERT S. STROSHANE
No. M33439
EXP. JUNE 30, 2022
MECHANICAL
STATE OF CALIFORNIA

ph. (831) 649-8000
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Monterey, California 93940-5788

AE Project # :20180245

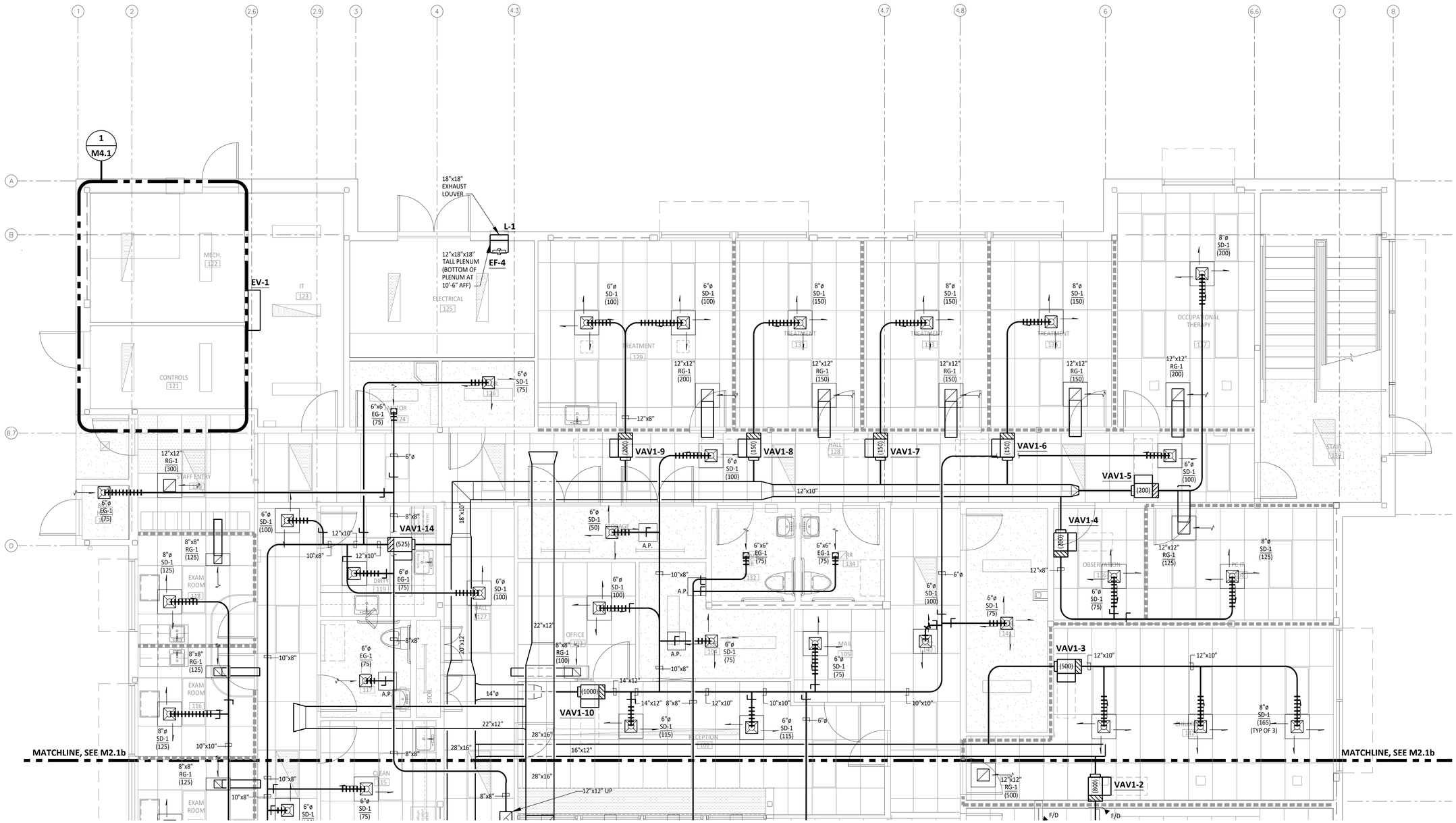
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Drawing: H:\PROJECTS\2018\1838\CAD\ARCHITECT\ALISAL ARCHITECTURAL 1838.DWG
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL FIRST FLOOR PLAN - MECHANICAL

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

NORTH

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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Drawn By: CADD

Drawing Date: 08.25.2021

Project Number: 1838

Revisions:
09.21.21 BID SET

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Sheet Title:
ENLARGED PARTIAL FIRST FLOOR PLAN - MECHANICAL

Sheet Number:
M2.1a

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AE Project #: 20180245
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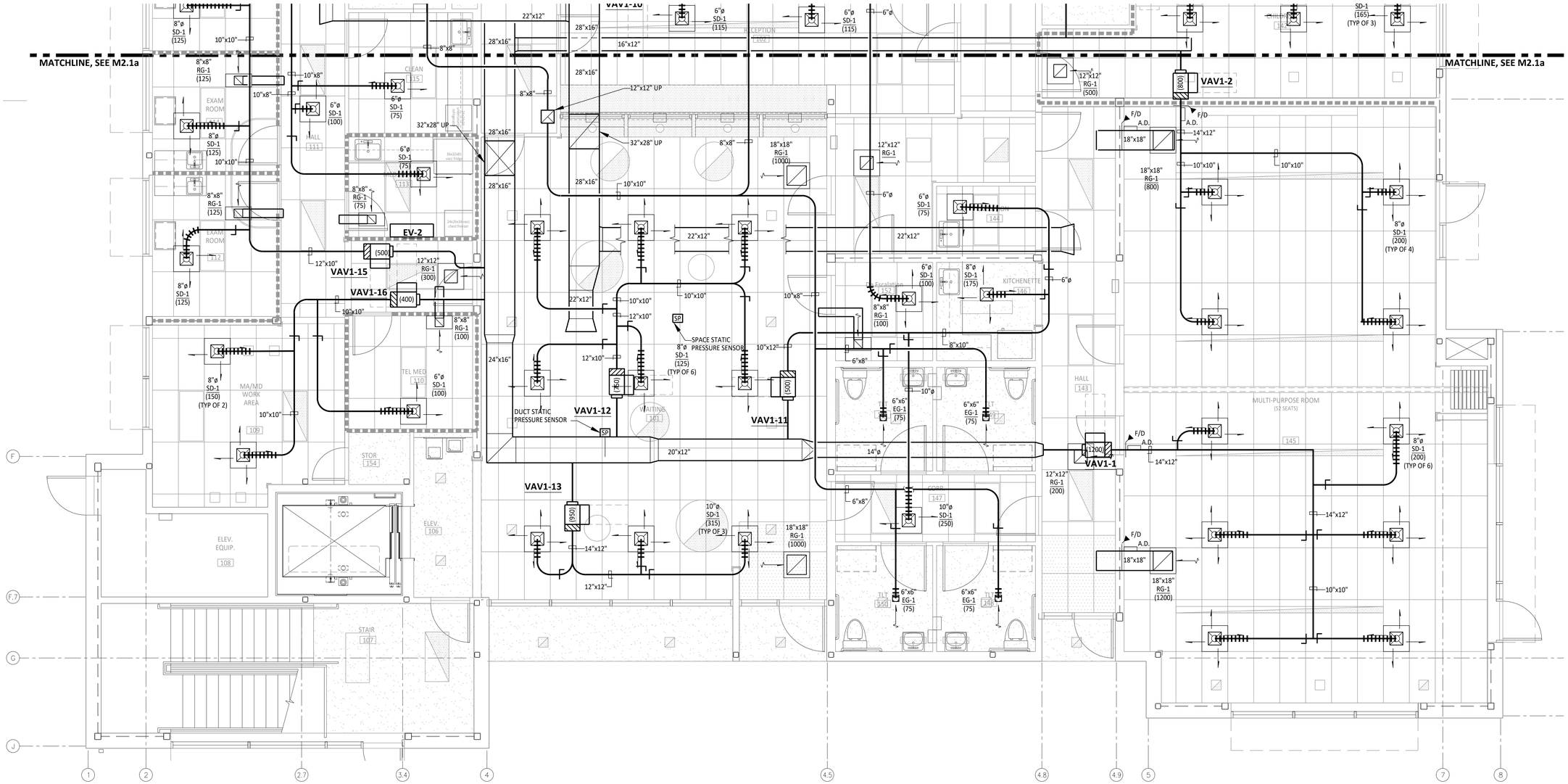
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL FIRST FLOOR PLAN - MECHANICAL

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

NORTH

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Drawn By: CADD

Drawing Date: 08.25.2021

Project Number: 1838

Revisions:
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Sheet Title:
ENLARGED PARTIAL FIRST FLOOR PLAN - MECHANICAL

Sheet Number:

M2.1b

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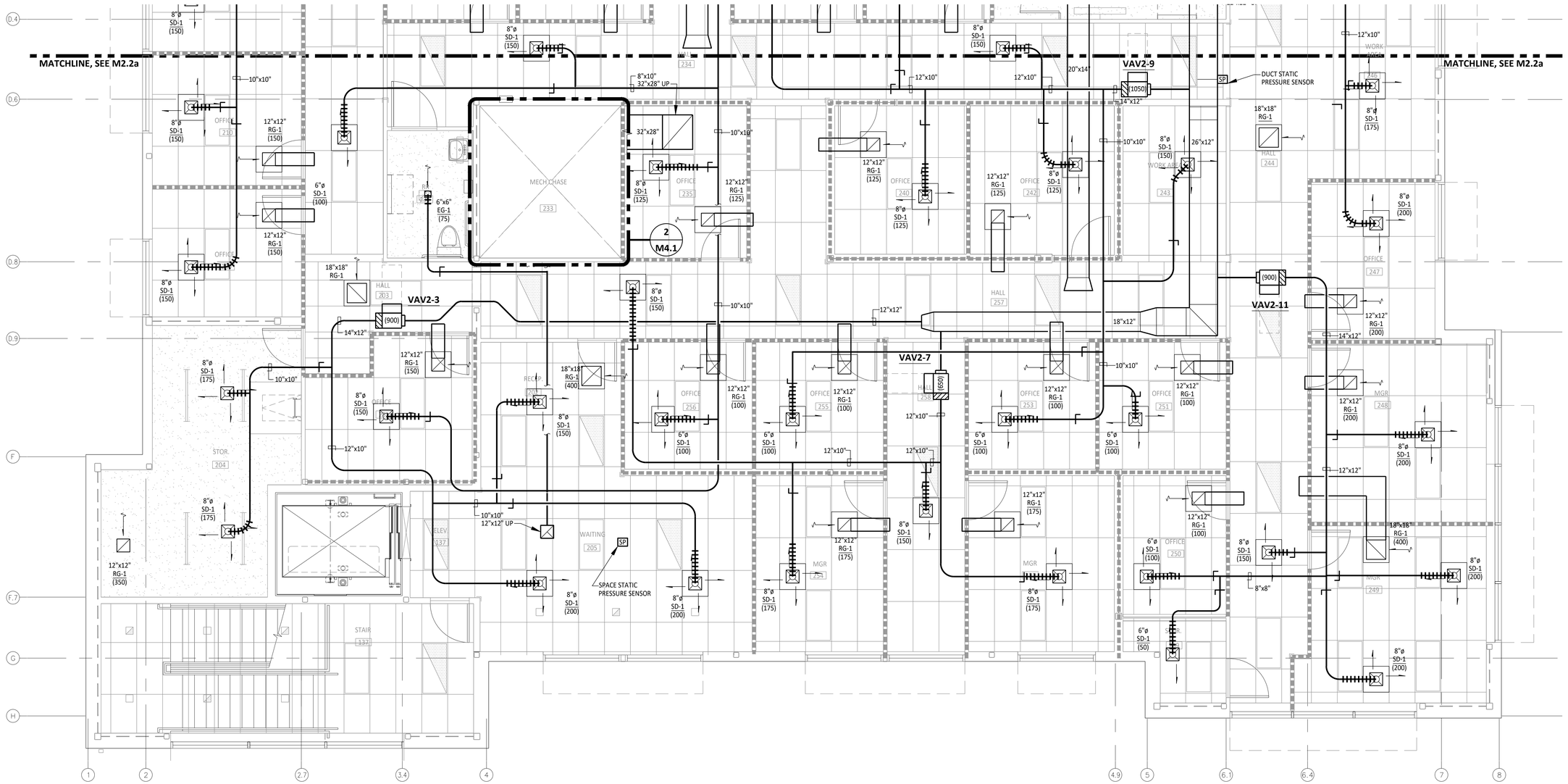
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL SECOND FLOOR PLAN - MECHANICAL

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

NORTH

Project / Owner:

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Drawing Date: 08.25.2021

Project Number: 1838

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Sheet Title:
ENLARGED PARTIAL SECOND FLOOR PLAN - MECHANICAL

Sheet Number:
M2.2b

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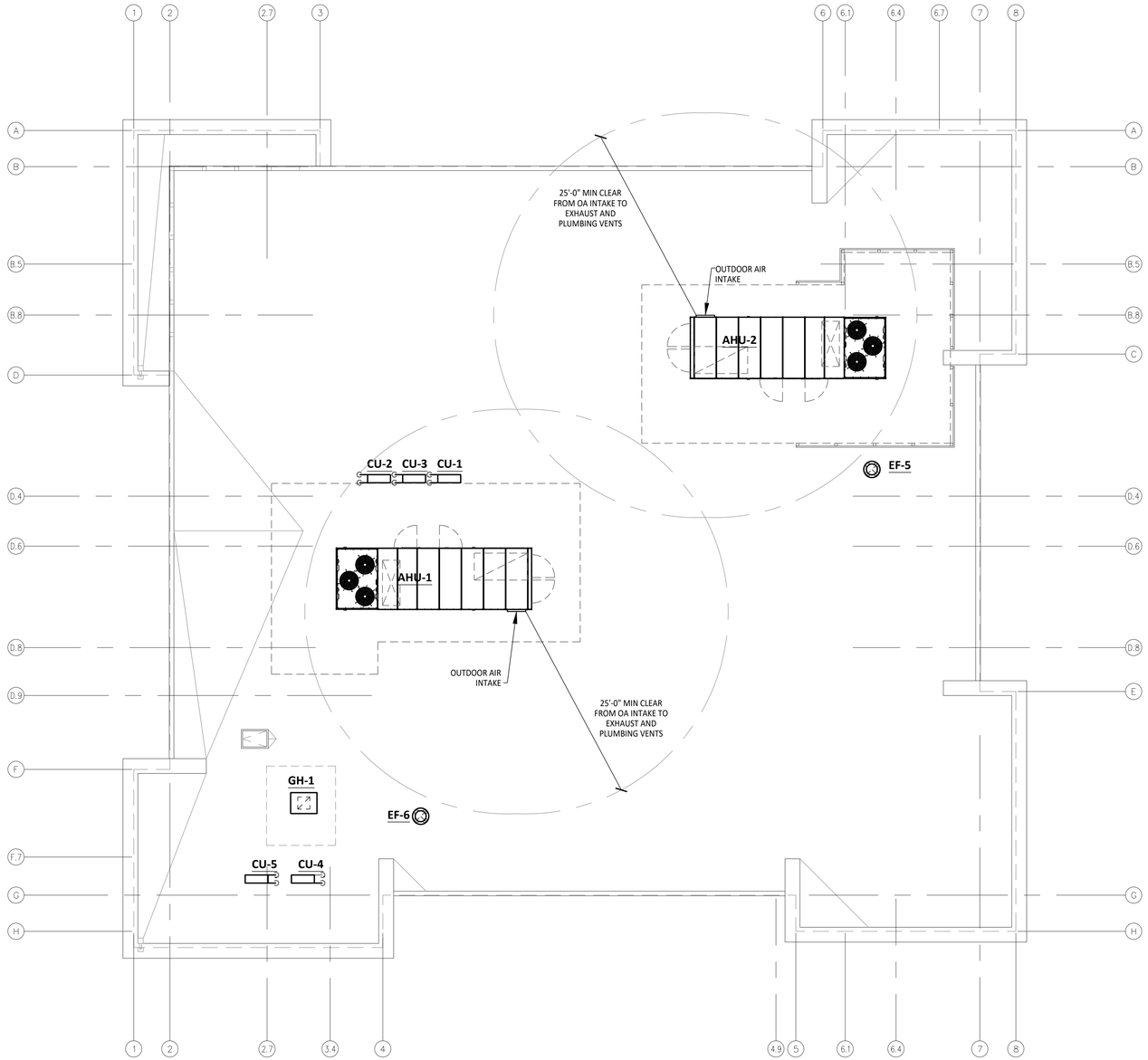
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AE Project # :20180245

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ROOF PLAN - MECHANICAL

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

NORTH

Project / Owner:

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Sheet Title:
ROOF PLAN - MECHANICAL

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Sheet Number:

M2.3

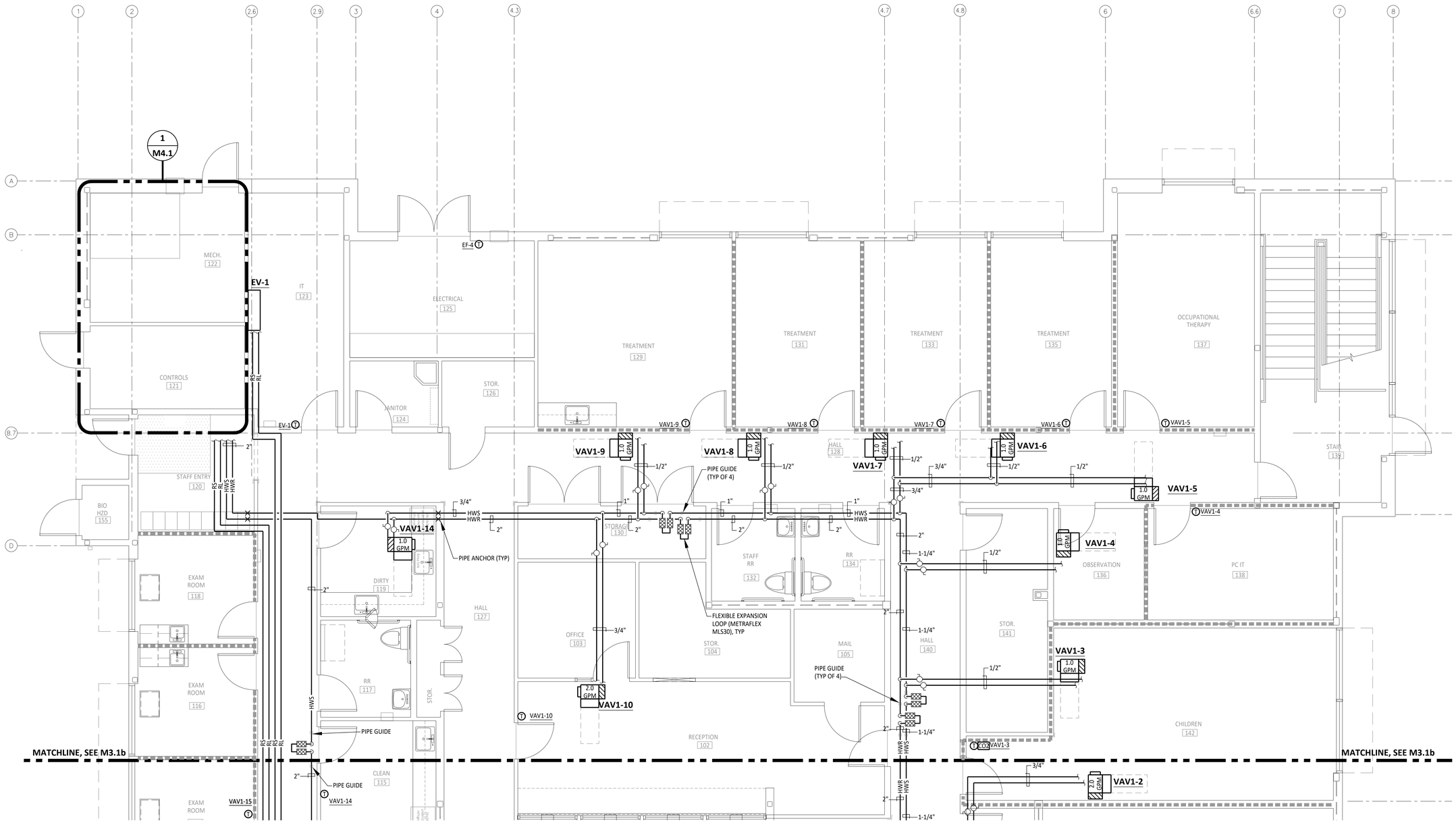
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL FIRST FLOOR PLAN - PIPING

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

NORTH

Project / Owner:

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Drawing Date: 08.25.2021

Project Number: 1838

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Sheet Title:
ENLARGED PARTIAL FIRST FLOOR PLAN - PIPING

Sheet Number:

M3.1a

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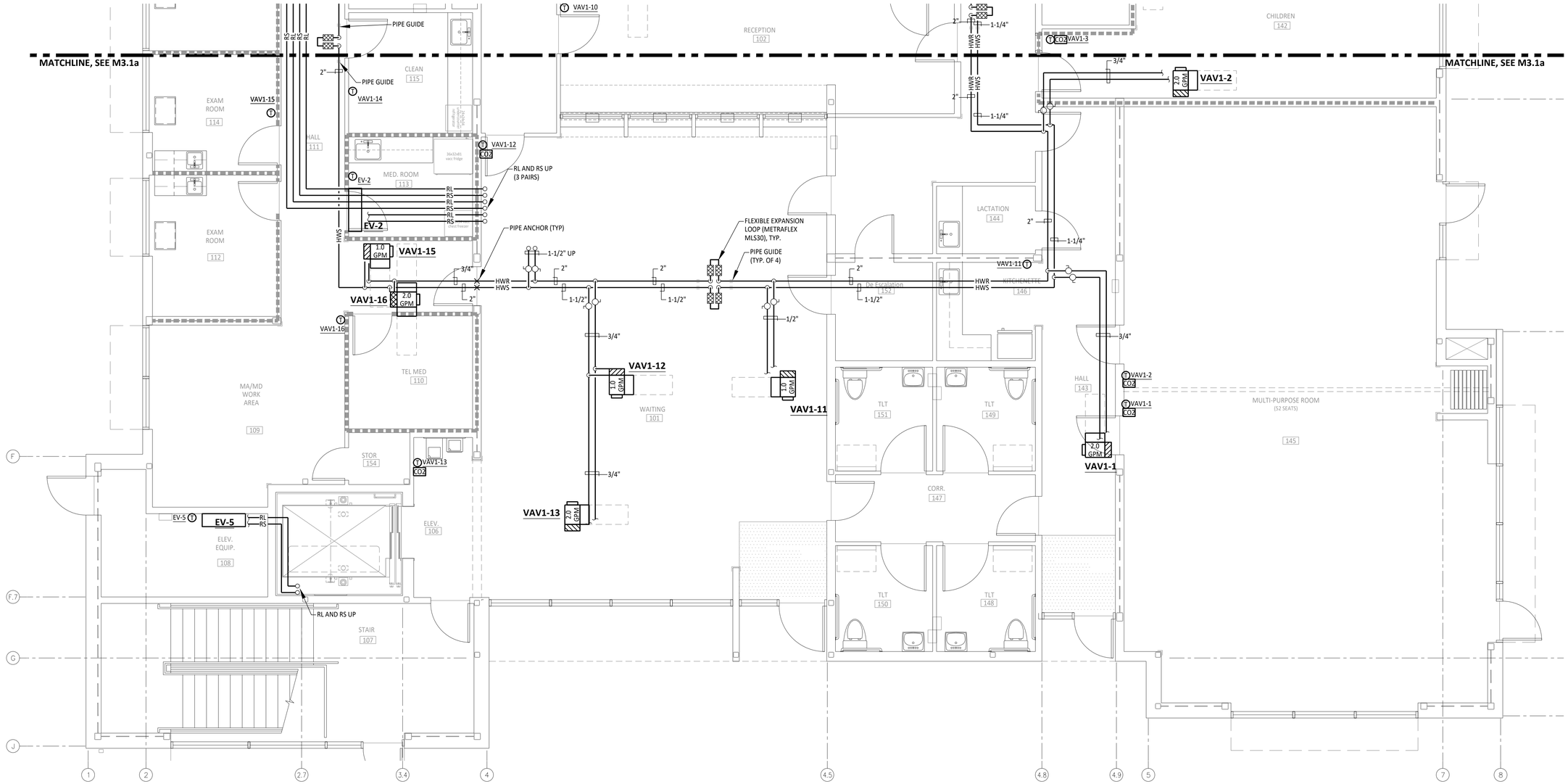
22 Lower Ragsdale Dr., Suite A
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Xrefs: PAUL DAVIS, AXIOM, PAUL DAVIS, AXIOM, PAUL DAVIS, AXIOM

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WALL TYPE LEGEND

- 1-HR FIRE RATED FULL HEIGHT WALL
- NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL FIRST FLOOR PLAN - PIPING

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

NORTH

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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Drawing Date: 08.25.2021

Project Number: 1838

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Sheet Title:
ENLARGED PARTIAL FIRST FLOOR PLAN - PIPING

Sheet Number:

M3.1b

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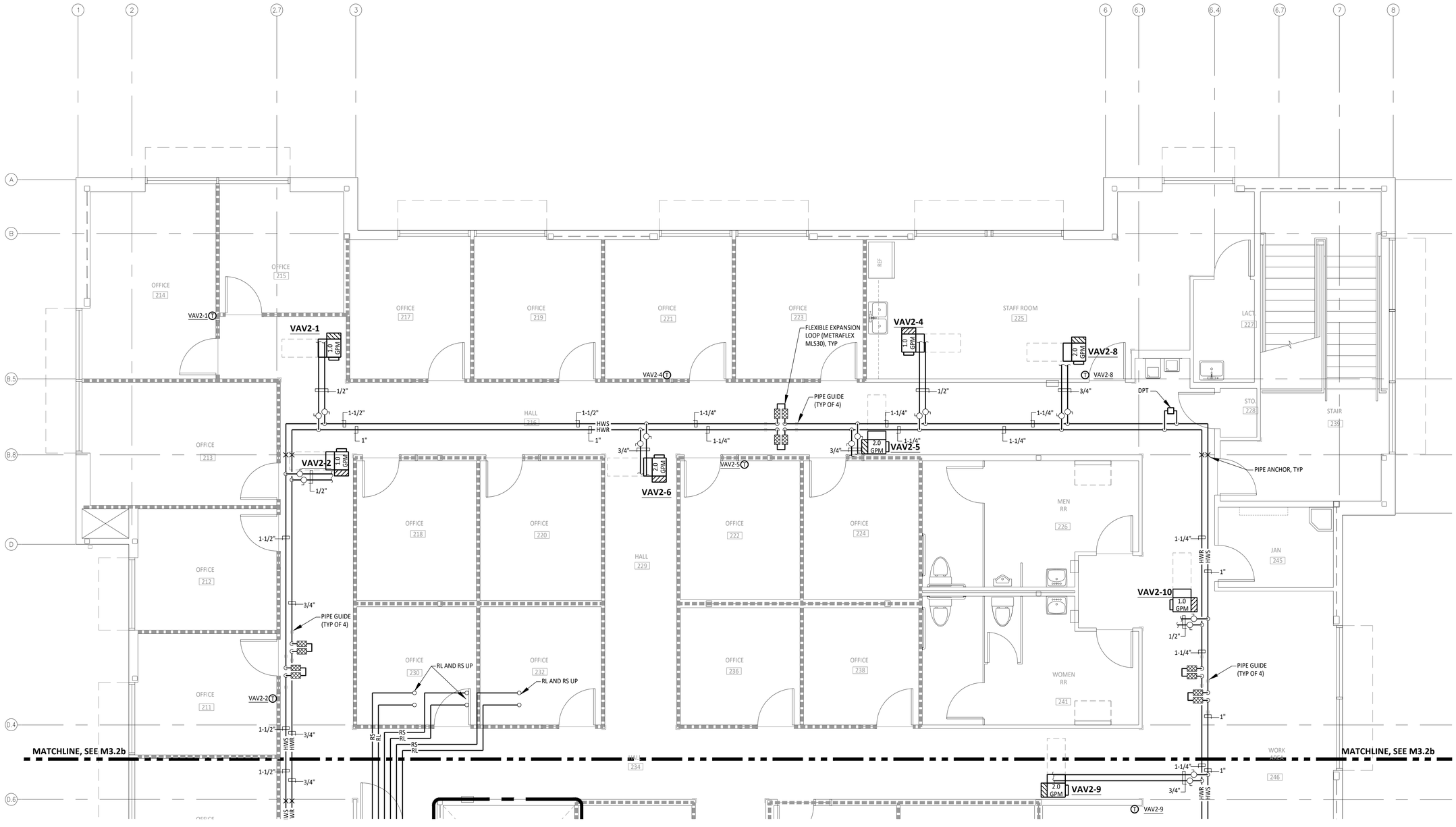
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL SECOND FLOOR PLAN - PIPING

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

NORTH

Project / Owner:

COUNTY OF MONTEREY
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Sheet Title:
ENLARGED PARTIAL SECOND FLOOR PLAN - PIPING

Sheet Number:
M3.2a

ROBERT S. STROPPA
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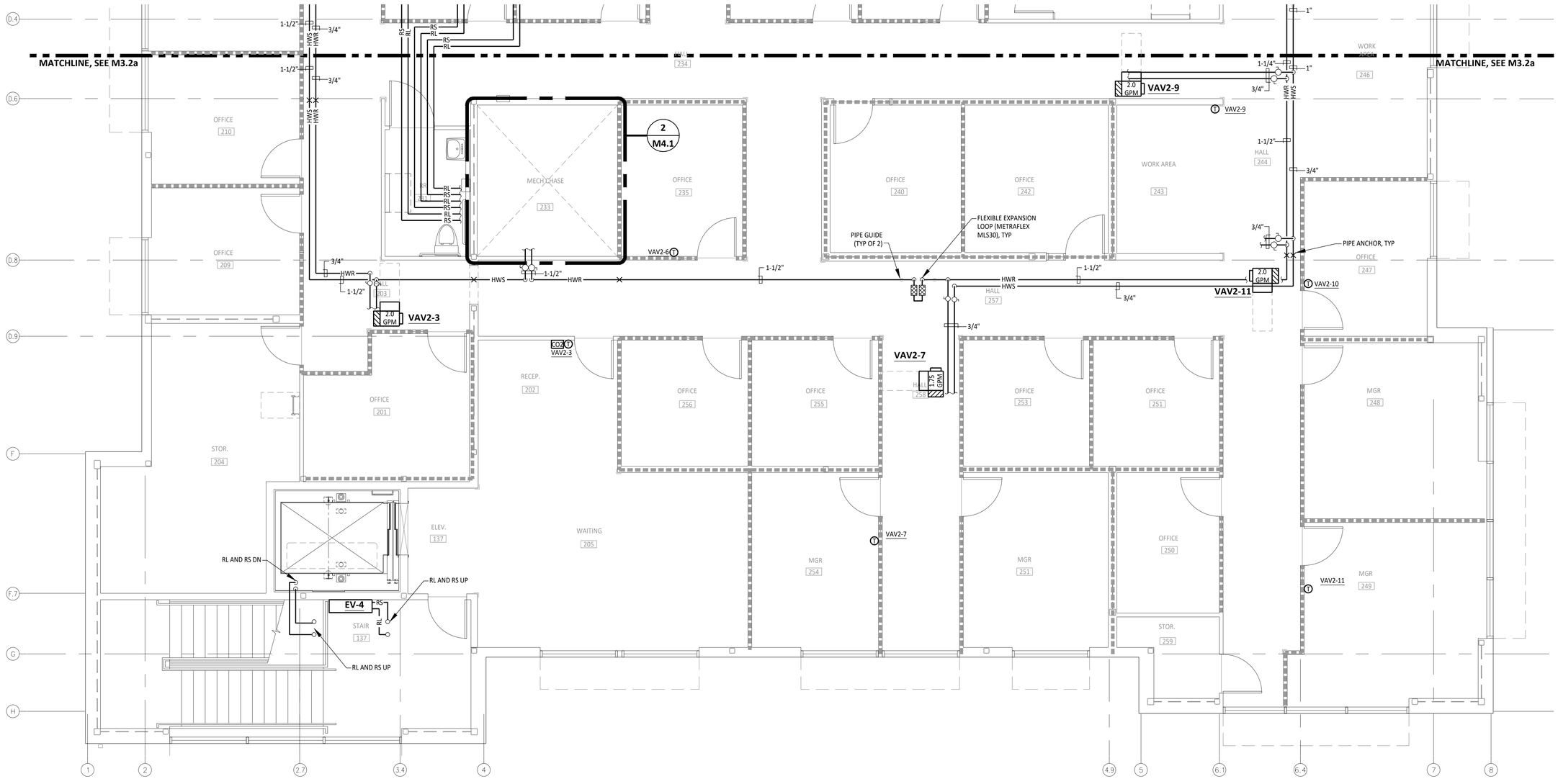
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



ENLARGED PARTIAL SECOND FLOOR PLAN - PIPING

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

NORTH

Project / Owner:

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HEALTH DEPARTMENT

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Drawn By: CADD

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Project Number: 1838

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Sheet Title:
ENLARGED PARTIAL SECOND FLOOR PLAN - PIPING

Sheet Number:

M3.2b

REGISTERED PROFESSIONAL ENGINEER
ROBERT S. STROSPHER
No. M33439
EXP. JUNE 30, 2022
MECHANICAL
STATE OF CALIFORNIA

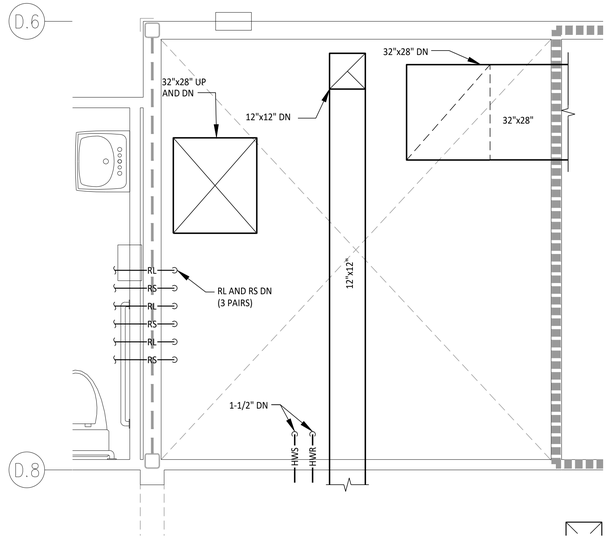
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August 10, 2021 7:15:58 a.m.
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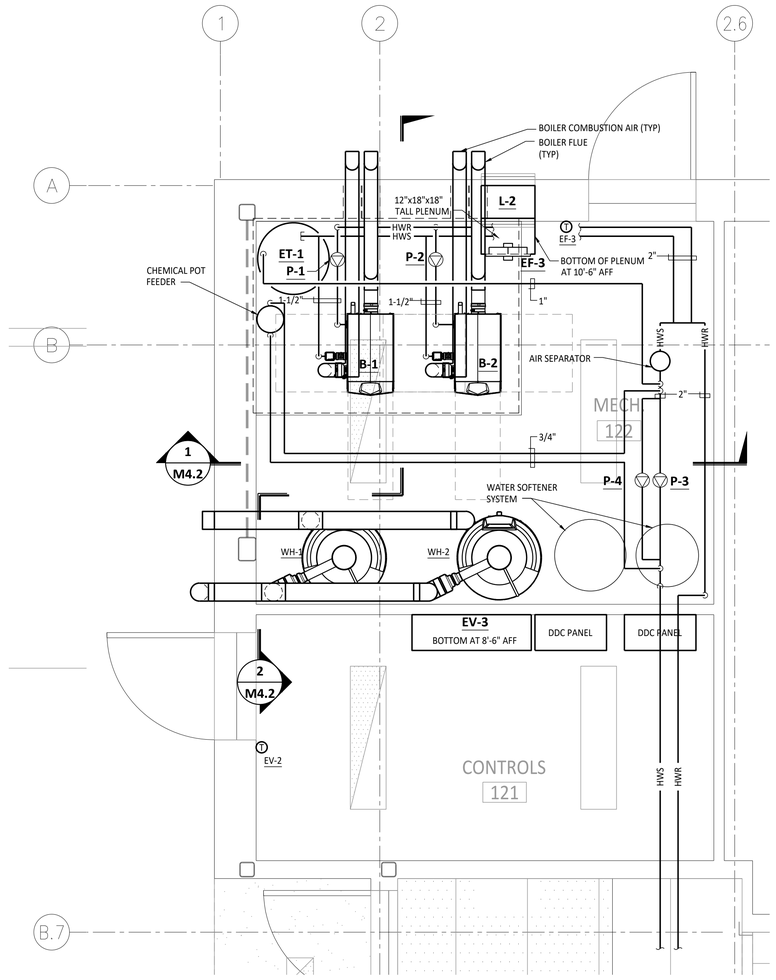


2 M4.2

PARTIAL SECOND FLOOR PLAN - MECHANICAL

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

NORTH



1 M4.1

PARTIAL FIRST FLOOR PLAN - MECHANICAL

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

NORTH

Project / Owner:

COUNTY OF MONTEREY
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ROBERT S. STEPANIAN
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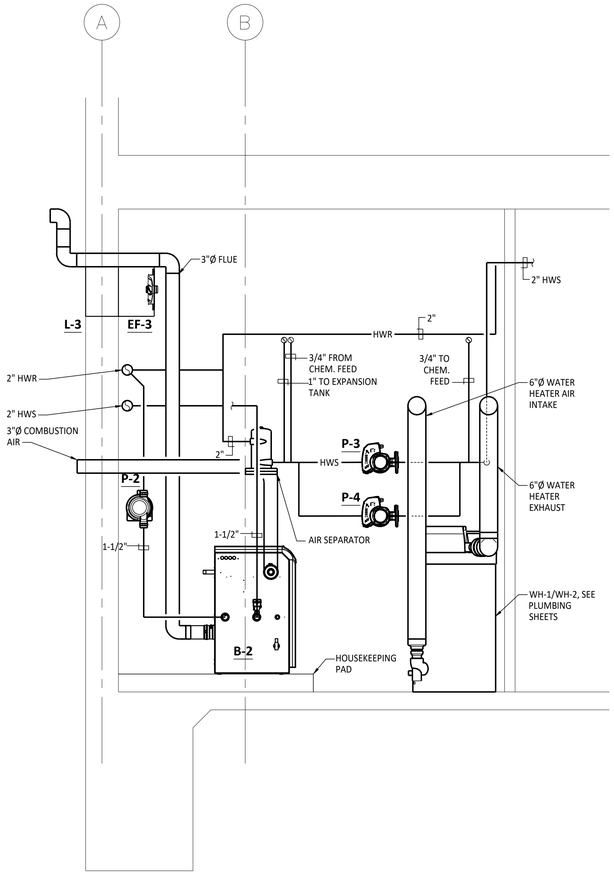
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

Sheet Number:

M4.1

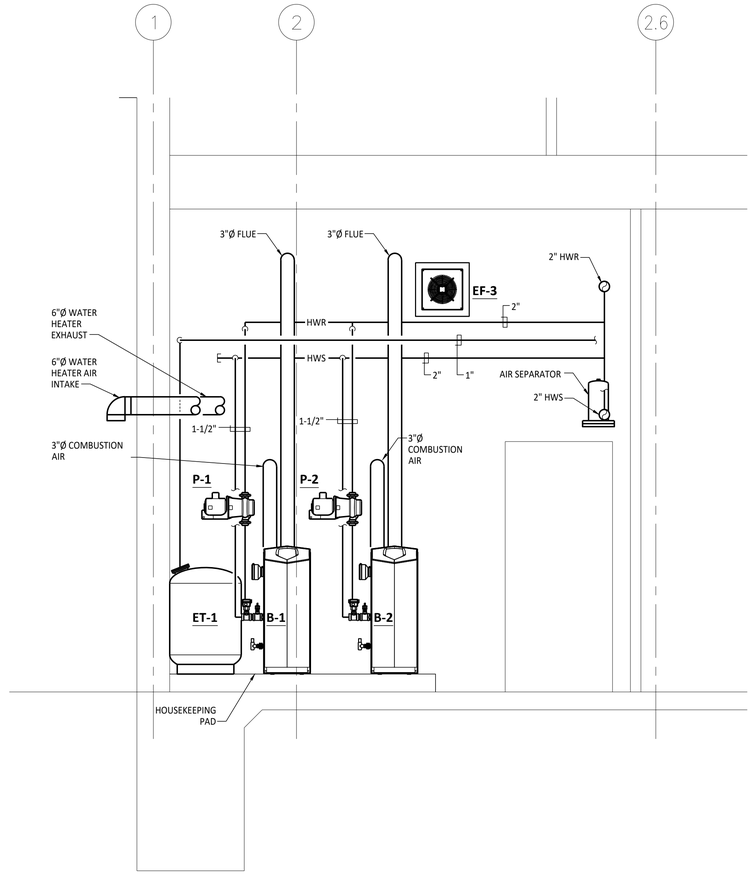
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2 M4.2 MECHANICAL ROOM SECTION - MECHANICAL

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



1 M4.2 MECHANICAL ROOM SECTION - MECHANICAL

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

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Drawn By: CADD

Drawing Date: 08.25.2021

Project Number: 1838

Revisions:
09.21.21 BID SET

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Sheet Title:
PARTIAL SECTIONS - MECHANICAL

Sheet Number:
M4.2

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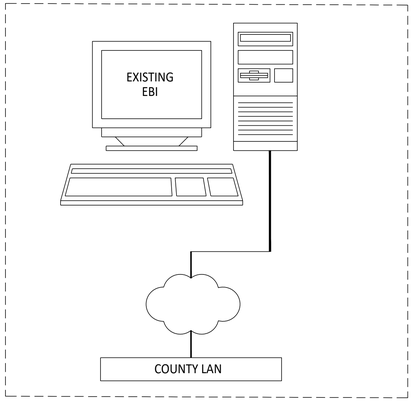
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AE Project # :20180245

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April 09, 2021 3:38:38 p.m.
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Plotted: 01.08.2021 by: CHRISTOPHER, TOM ASHTON, Paul Davis Partnership

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EXISTING HONEYWELL ENTERPRISE

BUILDING INTEGRATE R430 COUNTYWIDE EMS

HONEYWELL PLANT CONTROLLER

CONTROLLER ID	B430CPU01
	102000
APPLICATION	AHU1
	-
LOCATION	RM105

DEVICE ID
APPLICATION
CONT'D
(IF NEEDED)

HONEYWELL UNITARY CONTROLLER

DEVICE NAME	VAV1-1
	101101
APPLICATION	VAV
	AHU-1
LOCATION	RM102

DEVICE ID
(IF AVAILABLE)
ASSOCIATED UNIT

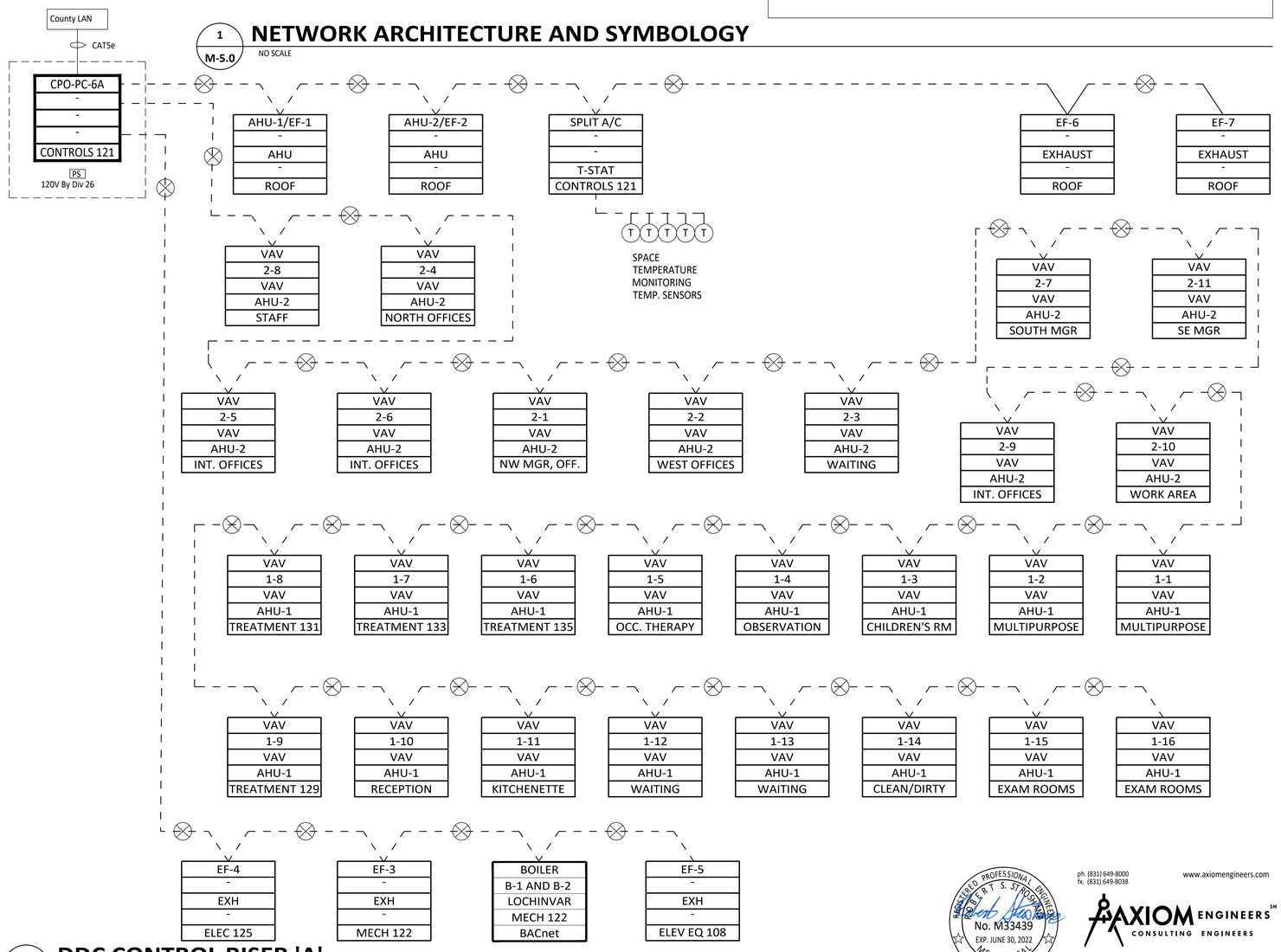
THIRD PARTY DEVICES

APPLICATION	CHILLER 1
THIRD PARTY MANUFACTURER	TRANE
INTERFACE TYPE	BACNET

APPLICATION
CONT'D
(IF NEEDED)
PART NUMBER
(IF AVAILABLE)

1 M-5.0 NETWORK ARCHITECTURE AND SYMBOLOGY

NO SCALE



2 M-5.0 DDC CONTROL RISER 'A'

NO SCALE

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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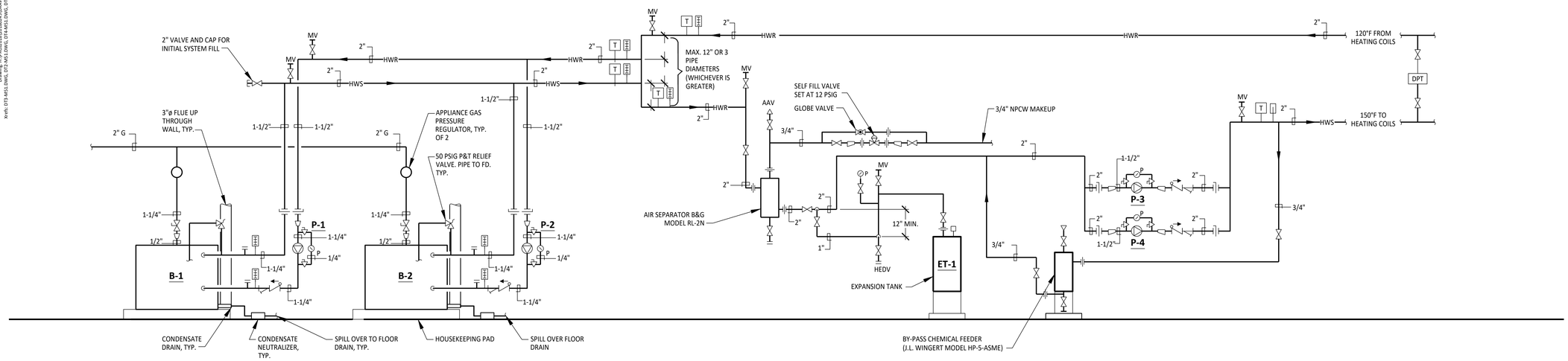
Sheet Number:
M5.0

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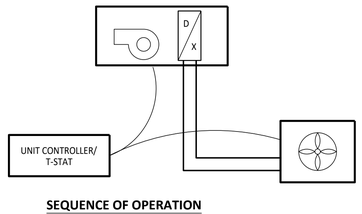
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BOILER PIPING DIAGRAM

SCALE: NONE



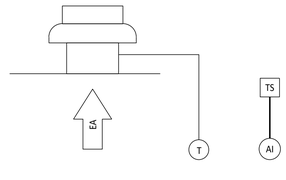
SEQUENCE OF OPERATION

1. SUPPLY FAN AND CONDENSING UNIT CYCLE ON AND OFF UNDER CONTROL OF THE UNIT CONTROLLER/THERMOSTAT TO MAINTAIN SPACE TEMPERATURE SET POINT.
2. SPACE TEMPERATURE SENSOR INITIATES ALARM AT BMS COMPUTER IF SPACE TEMPERATURE RISES ABOVE 85 DEG. F (ADJUSTABLE)

SPLIT SYSTEM AIR CONDITIONER CONTROL SCHEMATIC

4 / M5.1

EV-1/CU-1, EV-2/CU-2, EV-3/CU-3, EV-4/CU-4



SEQUENCE OF OPERATION

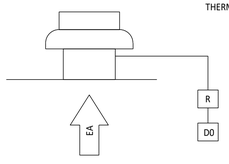
1. CLOSE ON TEMPERATURE RISE LINE-VOLTAGE THERMOSTAT STARTS FAN WHEN SPACE TEMPERATURE RISES ABOVE 80 DEG F. FAN STOPS WHEN TEMPERATURE FALLS BELOW 75 DEG F.
2. SPACE TEMPERATURE SENSOR INITIATES ALARM AT BMS COMPUTER IF SPACE TEMPERATURE RISES ABOVE 95 DEG. F (ADJUSTABLE)

EXHAUST FAN CONTROL SCHEMATIC

2 / M5.1

EF-3, EF-4, EF-5

DIRECT DRIVE, THERMOSTATICALLY CONTROLLED



SEQUENCE OF OPERATION

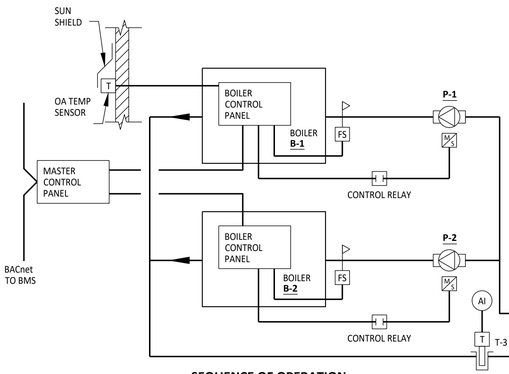
1. EXHAUST FAN IS STARTED / STOPPED BY A SIGNAL FROM THE BMS.
2. INITIAL SCHEDULE: FANS ON AT 6:00 AM; FANS OFF AT 6:00 PM

EXHAUST FAN CONTROL SCHEMATIC

3 / M5.1

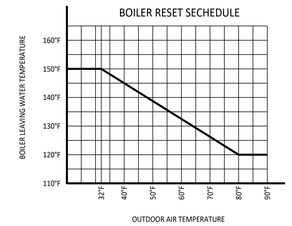
EF-6, EF-7

DIRECT DRIVE FAN, CONTINUOUS OPERATION



SEQUENCE OF OPERATION

1. ON A CALL FOR HEAT (T-3 BELOW SETPOINT AND CALL FOR HEAT FROM AT LEAST ONE SPACE THERMOSTAT), PRIMARY HEATING WATER PUMP ASSOCIATED WITH LEAD BOILER STARTS. ONCE FLOW THROUGH THE BOILER IS PROVEN BY THE FLOW SWITCH AND THE SAFETY INTERLOCKS (LOW WATER, BLOCKED FLUE, HIGH LIMIT, GAS PRESSURE) IGNITION MODULE ENERGIZES BLOWER FOR A PRE-PURGE. CYCLE, THEN PRESSURIZES THE AIRBOX.
ONCE AIRFLOW IS PROVEN, THE IGNITION MODULE WILL LIGHT THE BURNER. IF FLAME IS NOT SENSED, THE GAS VALVE WILL CLOSE AND THE IGNITION MODULE WILL ATTEMPT IGNITION (UP TO 3 TIMES). MASTER CONTROL PANEL AUTOMATICALLY ALTERNATES LEAD AND LAG BOILER AND PRIMARY HEATING WATER PUMP EVERY 24 HOURS.
2. IF FLAME IS SENSED, THE GAS VALVE WILL REMAIN OPEN AS LONG AS THERE IS A CALL FOR HEAT.
3. ONCE THE CALL FOR HEAT IS SATISFIED (T-3 AT OR ABOVE SETPOINT AND T-4 WITHIN 30°F OF T-3), THE GAS VALVE CLOSES AND THE BLOWER CONTINUES TO RUN FOR 30 SECONDS. THE BOILER PRIMARY PUMP WILL CONTINUE TO RUN FOR A MINIMUM OF 20 SECONDS AND UP TO A MAXIMUM OF 10 MINUTES.
4. BOILER SHALL AUTOMATICALLY FIRE AS MANY STAGES OF HEATING AS NECESSARY TO MEET HEATING DEMAND.
5. ADDITIONAL BOILERS AND PRIMARY HEATING WATER PUMPS ARE STAGED ON BY THE BOILER CONTROL PANEL AS NEEDED TO SATISFY THE HEATING DEMAND.
6. BOILER SUPPLY WATER TEMPERATURE SHALL BE RESET BASED ON OUTDOOR AIR TEMPERATURE AS SHOWN IN THE RESET SCHEDULE.
7. ON A CALL FOR HEAT FROM SPACE THERMOSATS, SECONDARY HEATING WATER LEAD PUMP (P-3 OR P-4) IS AUTOMATICALLY STARTED. PUMP'S INTEGRAL SPEED CONTROLLER SHALL MODULATE LEAD PUMP SPEED BASED ON A CONSTANT PRESSURE CURVE TO MEET HEATING WATER DEMAND. IF LEAD PUMP IS UNABLE TO MEET HEATING DEMAND AT 80% SPEED, LAG PUMP IS AUTOMATICALLY STARTED. LAG PUMP MATCHES SPEED OF LEAD PUMP. PUMP INTEGRAL CONTROLLERS MODULATE LEAD PUMP AND LAG PUMP AT SAME SPEED TO MATCH DEMAND. IF LEAD AND LAG PUMP AREA ABLE TO MEET HEATING DEMAND AT LESS THAN 40% SPEED, LAG PUMP IS STOPPED AND LEAD PUMP MODULATES TO MEET HEATING DEMAND.
MASTER CONTROL PANEL AUTOMATICALLY ALTERNATE LEAD AND LAG PUMP EVERY 24 HOURS.
8. BACnet CONTROL SYSTEM SHALL PROVIDE START/STOP (DI) SIGNAL, SYSTEM DIFFERENTIAL PRESSURE (AI) AND OUTDOOR AIR TEMPERATURE (AI) TO THE BOILER CONTROL PANEL.
9. BOILER CONTROL PANEL SHALL PROVIDE BOILER ENTERING WATER TEMPERATURE (AO), BOILER LEAVING WATER TEMPERATURE (AO), MASTER BOILER ALARM (DO), PRIMARY PUMP (P-1, P-2) STATUS (DO), AND SECONDARY PUMP (P-3, P-4) SPEED (AO) TO BACnet CONTROL SYSTEM.



BOILER CONTROL SCHEMATIC

1 / M5.1

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Sheet Title:
CONTROLS - MECHANICAL

Sheet Number:
M5.1

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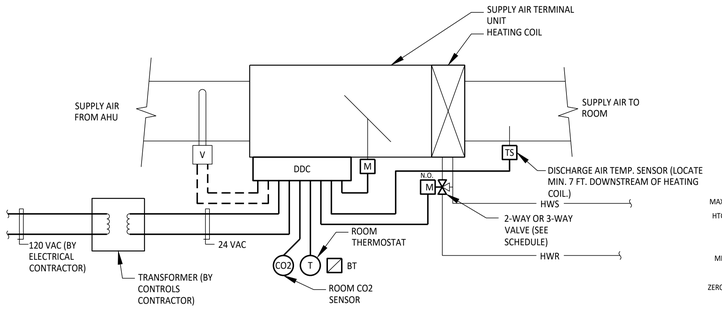
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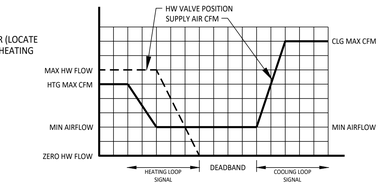
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SEQUENCE OF OPERATION

1. WHEN ZONE IS IN COOLING MODE, THE COOLING LOOP OUTPUT IS MAPPED TO THE AIRFLOW SETPOINT FROM THE COOLING MAXIMUM TO THE MINIMUM AIRFLOW SETPOINTS. THE HOT WATER VALVE IS CLOSED (2-WAY VA)/BY-PASSES FLOW AROUND COIL (3-WAY VALVE.)
2. WHEN ZONE IS IN DEADBAND MODE, THE AIRFLOW SETPOINT SHALL BE THE MINIMUM AIRFLOW SETPOINT. THE HOT WATER VALVE IS CLOSED (2-WAY VALVE)/BY-PASSES FLOW AROUND COIL (3-WAY VALVE.)
3. WHEN ZONE IS IN HEATING MODE, THE HEATING LOOP SHALL MAINTAIN SPACE TEMPERATURE AT THE HEATING SETPOINT AS FOLLOWS:
   a. FROM 0% TO 50% LOOP SIGNAL, THE HEATING LOOP OUTPUT SHALL RESET THE DISCHARGE TEMPERATURE FROM SUPPLY AIR TEMPERATURE SET POINT (55 DEG F., ADJ.) TO 90 DEG F. THE AIRFLOW SETPOINT SHALL BE THE MINIMUM AIRFLOW SETPOINT.
   b. FROM 50% TO 100% LOOP SIGNAL, THE HEATING LOOP OUTPUT SHALL RESET THE ZONE AIRFLOW SETPOINT FROM MINIMUM AIRFLOW SETPOINT TO THE MAXIMUM HEATING AIRFLOW SETPOINT. THE SUPPLY AIR DISCHARGE TEMPERATURE REMAINS AT 90 DEG F.
4. THE HOT WATER VALVE SHALL BE MODULATED USING PI CONTROL LOOP TO MAINTAIN DISCHARGE TEMPERATURE SETPOINT.
5. THE VAV DAMPER SHALL BE MODULATED TO MAINTAIN THE MEASURED AIRFLOW AT SETPOINT.
6. DURING BUILDING WARM UP, VAV TERMINAL UNIT DAMPER IS FULLY OPENED, HEATING COIL CONTROL VALVE IS OPENED TO ALLOW FULL FLOW THROUGH THE COIL. ONCE SPACE TEMPERATURE SET POINT IS REACHED VAV TERMINAL UNIT DAMPER AND HEATING COIL CONTROL VALVE CONTROL IS RETURNED TO LOCAL THERMOSTAT.
7. WHEN CO2 LEVEL IS RISING, AND EXCEEDS 600 PPM FOR 5 MINUTES, VAV TERMINAL UNIT DAMPER IS OPENED TO 100%. IF AFTER FIVE MINUTES THE CO2 LEVEL CONTINUES TO RISE, AIR HANDLING UNIT OUTDOOR AIR DAMPER IS OPENED 5% BEYOND ITS CURRENT POSITION. CO2 SENSOR IS POLLED EVERY 5 MINUTES, AND AHU OUTDOOR AIR DAMPER CONTINUES TO OPEN IN 5% INCREMENTS UNTIL SPACE CO2 LEVEL BEGINS TO FALL. ONCE ROOM CO2 LEVEL FALLS BELOW 600 PPM, AND REMAINS BELOW 600 PPM FOR 5 MINUTES, AHU OUTDOOR AIR DAMPER IS RETURNED TO ITS POSITION PRIOR TO CO2 ADJUSTMENT, AND VAV TERMINAL UNIT DAMPER POSITION CONTROL IS RETURNED TO THE SPACE THERMOSTAT.
8. BY-PASS TIMER AT SPACE THERMOSTAT WILL OPERATE UNIT IN OCCUPIED MODE FOR 60 MINUTES.

SET POINTS:

ROOM COOLING: 72° F
(± 2° F ADJUSTABLE AT SPACE THERMOSTAT)

ROOM HEATING: 68°F
(± 2° F ADJUSTABLE AT SPACE THERMOSTAT)

UNOCCUPIED COOLING: 82°F
UNOCCUPIED HEATING: 63°F

BY CONTROLS CONRACTOR:

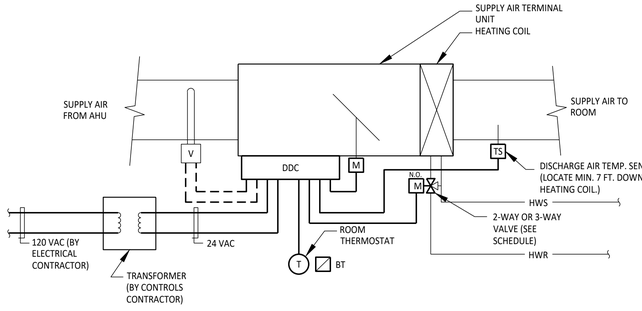
DDC CONTROLLER
DAMPER ACTUATOR
CONTROL VALVE
CONTROL VALVE ACTUATOR
DISCHARGE AIR TEMPERATURE SENSOR
THERMOSTAT, BY-PASS TIMER
CO2 SENSOR
LOW VOLTAGE WIRING

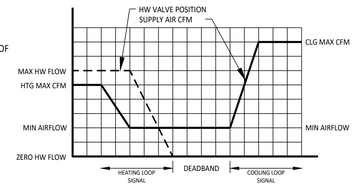
2 / M5.2

VAV TERMINAL UNIT CONTROL SCHEMATIC

AHU-1, AHU-2: VAV 1-1, VAV 1-2, VAV 1-3, VAV 1-12, VAV 1-13, VAV 2-3

VAV HOT WATER REHEAT, DUAL MAXIMUM WITH CO2 BASED SUPPLY AIR RESET





SEQUENCE OF OPERATION

1. WHEN ZONE IS IN COOLING MODE, THE COOLING LOOP OUTPUT IS MAPPED TO THE AIRFLOW SETPOINT FROM THE COOLING MAXIMUM TO THE MINIMUM AIRFLOW SETPOINTS. THE HOT WATER VALVE IS CLOSED (2-WAY VA)/BY-PASSES FLOW AROUND COIL (3-WAY VALVE.)
2. WHEN ZONE IS IN DEADBAND MODE, THE AIRFLOW SETPOINT SHALL BE THE MINIMUM AIRFLOW SETPOINT. THE HOT WATER VALVE IS CLOSED (2-WAY VALVE)/BY-PASSES FLOW AROUND COIL (3-WAY VALVE.)
3. WHEN ZONE IS IN HEATING MODE, THE HEATING LOOP SHALL MAINTAIN SPACE TEMPERATURE AT THE HEATING SETPOINT AS FOLLOWS:
   a. FROM 0% TO 50% LOOP SIGNAL, THE HEATING LOOP OUTPUT SHALL RESET THE DISCHARGE TEMPERATURE FROM SUPPLY AIR TEMPERATURE SET POINT (55 DEG F., ADJ.) TO 90 DEG F. THE AIRFLOW SETPOINT SHALL BE THE MINIMUM AIRFLOW SETPOINT.
   b. FROM 50% TO 100% LOOP SIGNAL, THE HEATING LOOP OUTPUT SHALL RESET THE ZONE AIRFLOW SETPOINT FROM MINIMUM AIRFLOW SETPOINT TO THE MAXIMUM HEATING AIRFLOW SETPOINT. THE SUPPLY AIR DISCHARGE TEMPERATURE REMAINS AT 90 DEG F.
4. THE HOT WATER VALVE SHALL BE MODULATED USING PI CONTROL LOOP TO MAINTAIN DISCHARGE TEMPERATURE SETPOINT.
5. THE VAV DAMPER SHALL BE MODULATED TO MAINTAIN THE MEASURED AIRFLOW AT SETPOINT.
6. DURING BUILDING WARM UP, VAV TERMINAL UNIT DAMPER IS FULLY OPENED, HEATING COIL CONTROL VALVE IS OPENED TO ALLOW FULL FLOW THROUGH THE COIL. ONCE SPACE TEMPERATURE SET POINT IS REACHED VAV TERMINAL UNIT DAMPER AND HEATING COIL CONTROL VALVE CONTROL IS RETURNED TO LOCAL THERMOSTAT.
7. BY-PASS TIMER AT SPACE THERMOSTAT WILL OPERATE UNIT IN OCCUPIED MODE FOR 60 MINUTES.

SET POINTS:

ROOM COOLING: 72° F
(± 2° F ADJUSTABLE AT SPACE THERMOSTAT)

ROOM HEATING: 68°F
(± 2° F ADJUSTABLE AT SPACE THERMOSTAT)

UNOCCUPIED COOLING: 82°F
UNOCCUPIED HEATING: 63°F

BY CONTROLS CONRACTOR:

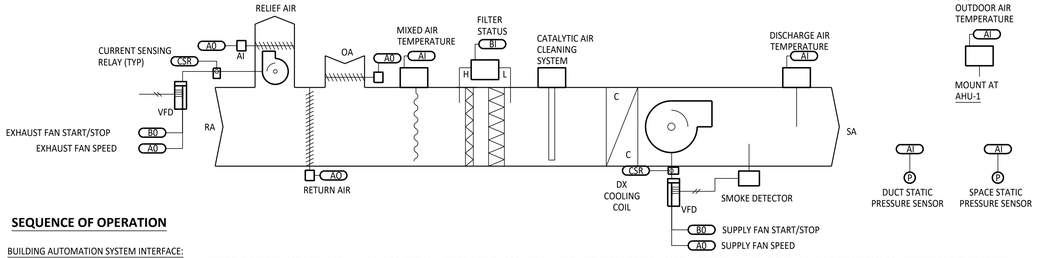
DDC CONTROLLER
DAMPER ACTUATOR
CONTROL VALVE
CONTROL VALVE ACTUATOR
DISCHARGE AIR TEMPERATURE SENSOR
THERMOSTAT, BY-PASS TIMER
LOW VOLTAGE WIRING

3 / M5.2

VAV TERMINAL UNIT CONTROL SCHEMATIC

AHU-1, AHU-2: VAV 1-4 THROUGH VAV 1-11, VAV 1-14, VAV 1-15, VAV 1-16, VAV 2-1, VAV 2-2, VAV 2-4 THROUGH VAV 2-11

VAV HOT WATER REHEAT, DUAL MAXIMUM



SEQUENCE OF OPERATION

BUILDING AUTOMATION SYSTEM INTERFACE:
1. THE BUILDING AUTOMATION SYSTEM (BAS) WILL SEND THE CONTROLLER OCCUPIED, UNOCCUPIED, OPTIMAL START, NIGHT HEAT / COOL AND TIMED OVERRIDE COMMANDS. THE BAS WILL SEND DISCHARGE AIR TEMPERATURE SETPOINT AND DUCT STATIC PRESSURE SETPOINT AND SPACE STATIC PRESSURE. IF COMMUNICATIONS IS LOST WITH THE BAS, THE CONTROLLER WILL OPERATE IN THE OCCUPIED HEATING MODE USING ITS DEFAULT SETPOINTS.

2. OCCUPIED:
   DURING OCCUPIED PERIODS THE SUPPLY FAN WILL RUN CONTINUOUSLY AND THE OUTSIDE AIR AND RELIEF AIR DAMPERS WILL OPEN TO THEIR MINIMUM POSITIONS AND THE RETURN AIR DAMPER WILL OPEN TO ITS MAXIMUM POSITION TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. SUPPLY FAN VFD MODULATES FAN SPEED TO MAINTAIN DUCT STATIC PRESSURE AT 0.75" (ADJUSTABLE) BASED ON FEEDBACK FROM DUCT STATIC PRESSURE SENSOR. OUTSIDE AIR DAMPER SHALL MODULATE OPPOSITE SUPPLY FAN SPEED TO MAINTAIN MINIMUM OUTDOOR AIR REGARDLESS OF FAN SPEED. EXHAUST FAN IS STARTED WHEN ECONOMIZER CYCLE IS ACTIVE AND MODULATES BASED ON SPACE STATIC PRESSURE.

   a. WHEN THE UNIT IS IN OCCUPIED MODE, DX REFRIGERATION IS STAGED TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT BASED ON RESET SCHEDULE.

   b. ECONOMIZER:
      1. IF OUTDOOR AIR TEMPERATURE IS 45° F OR HIGHER AND OUTDOOR AIR TEMPERATURE IS LESS THAN RETURN AIR TEMPERATURE, OUTDOOR AIR DAMPER IS MODULATED UP TO 100% TO REDUCE MIXED AIR TEMPERATURE TO 55° F MINIMUM OR EQUAL TO DISCHARGE AIR TEMPERATURE SETPOINT AS POSSIBLE. IF MIXED AIR TEMPERATURE IS GREATER THAN DISCHARGE AIR TEMPERATURE SETPOINT, MECHANICAL COOLING PROVIDES SECOND STAGE COOLING TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.

      2. IF MIXED AIR TEMPERATURE IS LESS THAN OR EQUAL TO DISCHARGE AIR TEMPERATURE SET POINT MECHANICAL COOLING IS LOCKED OUT.

      3. IF OUTDOOR AIR TEMPERATURE IS GREATER THAN RETURN AIR TEMPERATURE OUTDOOR AIR DAMPER IS RETURNED TO MINIMUM POSITION.

   c. IF OUTDOOR AIR TEMPERATURE IS BELOW 45°F, MECHANICAL COOLING IS LOCKED OUT.

   d. DEMAND CONTROLLED VENTILATION:
      1. IF SPACE CO2 SENSOR INDICATE A RISING CO2 LEVEL AND DAMPER FOR VAV TERMINAL UNIT SERVING THAT ZONE IS 100% OPEN, OUTSIDE AIR DAMPER IS MODULATED PER PART 7 OF THE SEQUENCE INDICATED IN 2/M5.2.

3. UNOCCUPIED (NIGHT SETBACK):
   WHEN THE AVERAGE SPACE TEMPERATURE, BASED ON FEEDBACK FROM THE SPACE TEMPERATURE SENSORS, IS ABOVE THE UNOCCUPIED COOLING SETPOINT (85°F ADJ) AND THE OUTDOOR AIR TEMPERATURE IS BELOW THE SPACE TEMPERATURE, THE SUPPLY FAN AND POWER EXHAUST FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL OPEN TO ALLOW FREE COOLING. WHEN THE AVERAGE SPACE TEMPERATURE AND OUTDOOR AIR TEMPERATURE ARE ABOVE THE UNOCCUPIED COOLING SETPOINT (85°F ADJ) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE DX REFRIGERATION SHALL RUN. WHEN THE AVERAGE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT (85°F ADJ) MINUS THE UNOCCUPIED DIFFERENTIAL (4°F ADJ) THE SUPPLY FAN AND DX REFRIGERATION SHALL STOP.
   WHEN THE AVERAGE SPACE TEMPERATURE FALLS BELOW UNOCCUPIED HEATING SETPOINT (60°F ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED , AND THE VAV TERMINAL UNIT HEATING COIL CONTROL VALVES SHALL OPEN. WHEN THE AVERAGE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT PLUS THE UNOCCUPIED DIFFERENTIAL (4°F ADJ.) THE VAV TERMINAL UNIT HEATING COIL CONTROL VALVES SHALL CLOSE AND THE SUPPLY FAN SHALL STOP.

4. MORNING WARM-UP:
   DURING OPTIMAL START, IF THE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, A MORNING WARM UP SEQUENCE SHALL BE ACTIVATED. THE SUPPLY FAN SHALL START. THE MECHANICAL COOLING SHALL BE LOCKED OUT. THE HEATING WATER VALVES ON THE VAV TERMINAL UNIT COILS AND THE VAV TERMINAL UNITS SHALL OPEN, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE THERMOSTAT SETPOINTS ARE REACHED, THE ZONES SHALL RETURN TO OCCUPIED MODE OF OPERATION. WHEN THE RETURN AIR TEMPERATURE (AS SENSED BY THE MIXED AIR TEMPERATURE SENSOR) REACHES 75°F (ADJ), THE AHU SHALL RETURN TO OCCUPIED MODE OF OPERATION.

5. SAFETY SHUTDOWN:
   WHEN OCCUPIED, AHU SUPPLY AND POWER EXHAUST FANS SHALL SHUT DOWN WHENEVER THE RELATED DUCT SMOKE DETECTOR ALARMS (CMC 608), AND WHEN ANY OTHER SMOKE DETECTOR (TOTAL COVERAGE SMOKE DETECTION SYSTEM) IN THE AREA SERVED BY THE AIR HANDLING UNIT ALARMS.

6. FILTER STATUS:
   A DIFFERENTIAL PRESSURE SWITCH WILL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES (DIFFERENTIAL PRESSURE EXCEEDS 1.25 IN. W.G. (ADJ)) DURING NORMAL OPERATION A DIRTY FILTER ALARM WILL BE ANNUNCIATED.

7. FAN FAILURE:
   FAILURE OF SUPPLY FAN OR POWER EXHAUST FAN, AS DETERMINED BY VFDs AND BY CURRENT SENSING RELAY SHALL INITIATE ALARM AT BUILDING MANAGEMENT SYSTEM.

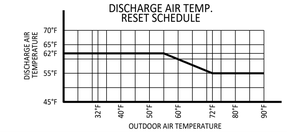
8. FAULT DETECTION AND DIAGNOSITCS (2016 CEnC 120.2(i))
   THE FOLLOWING TEMPERATURE SENSORS SHALL BE PERMANENTLY INSTALLED TO MONITOR SYSTEM OPERATION: OUTSIDE AIR, SUPPLY AIR AND RETURN AIR. TEMPERATURE SENSORS SHALL HAVE AN ACCURACY OF ±2°F OVER THE RANGE OF 40°F TO 80°F. REFRIGERANT PRESSURE SENSORS SHALL HAVE AN ACCURACY OF ±3% OF FULL SCALE. THE CONTROLLER SHALL HAVE THE CAPABILITY OF DISPLAYING THE VALUE OF EACH SENSOR.

   THE CONTROLLER SHALL PROVIDE SYSTEM STATUS BY INDICATING THE FOLLOWING CONDITIONS:
   A. FREE COOLING AVAILABLE
   B. ECONOMIZER ENABLED
   C. COMPRESSOR ENABLED
   D. HEATING ENABLED
   E. MIXED AIR LOW LIMIT CYCLE ACTIVE

   UNIT CONTROLLER SHALL MANUALLY INITIATE EACH OPERATING MODE SO THAT THE OPERATION OF COMPRESSORS, ECONOMIZERS, FANS AND HEATING SYSTEM CAN BE INDEPENDENTLY TESTED AND VERIFIED. THE FAULTS SHALL BE REPORTED TO A FAULT MANAGEMENT APPLICATION ACCESSIBLE BY DAY-TO-DAY OPERATING OR SERVICE PERSONNEL. THE FDD SYSTEM SHALL DETECT THE FOLLOWING FAULTS:
   A. AIR TEMPERATURE SENSOR FAILURE/FAULT.
   B. NOT ECONOMIZING WHEN IT SHOULD
   C. ECONOMIZING WHEN IT SHOULD NOT
   D. DAMPER NOT MODULATING
   E. EXCESS OUTDOOR AIR.

DUCT STATIC PRESSURE SENSOR LOCATIONS:
AHU-1 - UPSTREAM OF VAV 1-12, OVER WAITING 101 (SEE M2.1b)
AHU-2 - UPSTREAM OF VAV 2-9, OVER HALL 244 (SEE M2.2b)

SPACE STATIC PRESSURE SENSOR LOCATIONS:
AHU-1 - OVER WAITING 101 (SEE M2.1b)
AHU-2 - OVER WAITING 205 (SEE M2.2a)



1 / M5.2

AIR HANDLING UNIT CONTROL SCHEMATIC

AHU-1, AHU-2

Project / Owner:

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HEALTH DEPARTMENT

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Drawing Date: 08.25.2021

Project Number: 1838

Revisions:
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Sheet Title:
CONTROLS - MECHANICAL

Sheet Number:
M5.2

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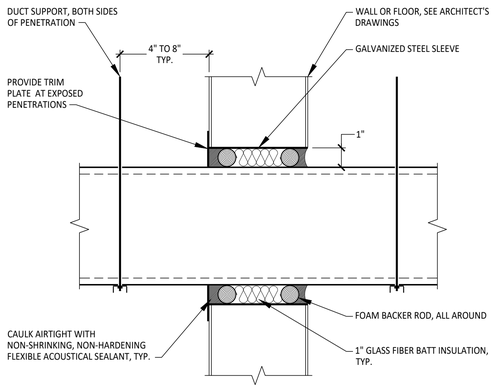
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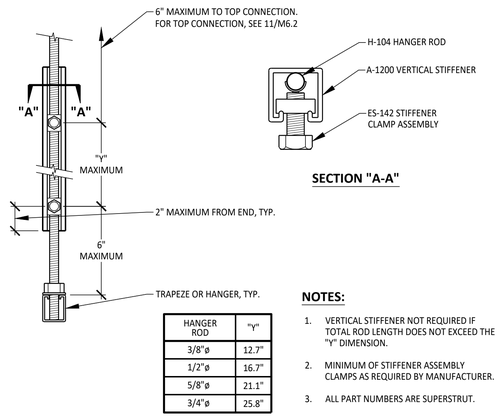
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DUCT PENETRATION THROUGH SOUND RATED CONSTRUCTION

8 / M6.3 — NO SCALE



SECTION "A-A"

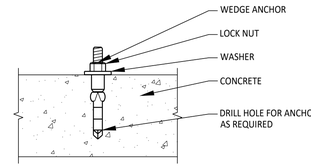
HANGER ROD	"Y"
3/8"ø	12.7"
1/2"ø	16.7"
5/8"ø	21.1"
3/4"ø	25.8"

NOTES:

1. VERTICAL STIFFENER NOT REQUIRED IF TOTAL ROD LENGTH DOES NOT EXCEED THE "Y" DIMENSION.
2. MINIMUM OF STIFFENER ASSEMBLY CLAMPS AS REQUIRED BY MANUFACTURER.
3. ALL PART NUMBERS ARE SUPERSTRUT.

ROD STIFFENER

5 / M6.3 — NO SCALE



LATERAL BRACES, ETC. ATTACHING DIRECTLY TO STRUCTURE SHALL BE LOCATED BETWEEN DECK AND NUT IN LIEU OF WASHER. LOCATE ANCHORS AT MINIMUM 12 DIAMETERS ON CENTER AND MINIMUM 6 DIAMETERS FROM EDGE OF CONCRETE.

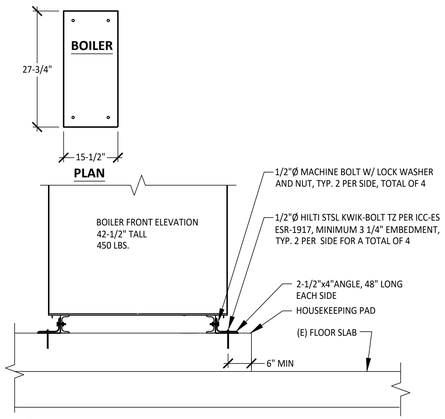
ALLOWABLE DESIGN LOADS, TEST LOADS AND MINIMUM EMBEDMENT OF HILTI KWIK BOLT-KB-TZI WEDGE ANCHORS FOR 3000 PSI CONCRETE.

DIA.	MINIMUM EMBEDMENT	ALLOWABLE LOAD TENSION W/O SP. INS.	ALLOWABLE LOAD SHEAR	TEST LOAD TORQUE WRENCH METHOD
3/8"	1 5/8"	300 LBS	975 LBS	25 FT-LBS
1/2"	2 1/4"	480 LBS	1840 LBS	40 FT-LBS
5/8"	2 3/4"	845 LBS	2875 LBS	60 FT-LBS
3/4"	3 1/4"	1090 LBS	3875 LBS	110 FT-LBS

ABOVE TABLE PER ICC ES REPORT NO. ESR-1917, REISSUED JANUARY 2020.

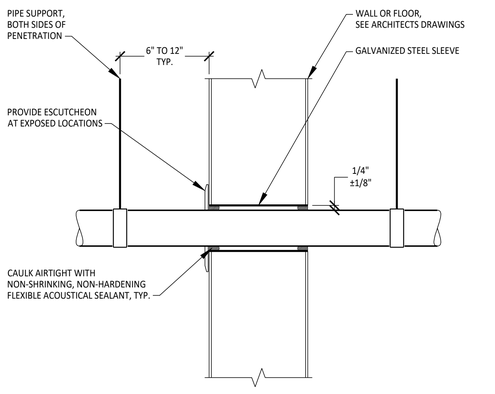
TEST REQUIREMENTS:

1. 50% OF ALL ANCHORS SHALL BE FIELD TESTED TO SCHEDULED LOAD IN TENSION OR TORQUE PER ESR-1917.
2. IF AN ANCHOR FAILS THE TEST, ALL ANCHORS SHALL BE TESTED.
3. LOAD TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR. TEST METHODS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING OF TESTING.
4. ANCHORS SHALL BE TESTED A MINIMUM OF 24-HOURS AFTER INSTALLATION.
5. APPLY PROOF TEST LOADS TO ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT AND INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS OF THE ORIGINAL NUT USING A TORQUE WRENCH, AND APPLY LOAD.
6. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S).
7. TEST EQUIPMENT IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
8. THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
   TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS:
   ONE-HALF (1/2) TURN OF THE NUT
   ONE-QUARTER (1/4) TURN OF THE NUT FOR THE 3/8" SLEEVE ANCHOR ONLY.



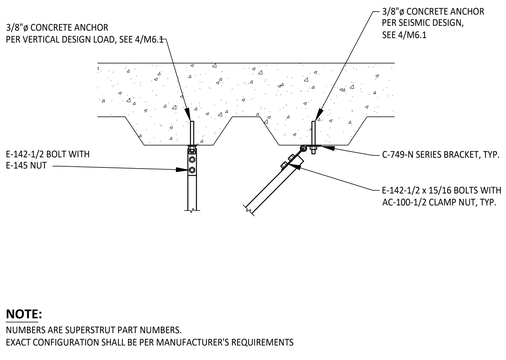
BOILER ANCHORAGE

1 / M6.3 — NO SCALE — B-1, B-2



PIPE PENETRATION THROUGH SOUND RATED CONSTRUCTION

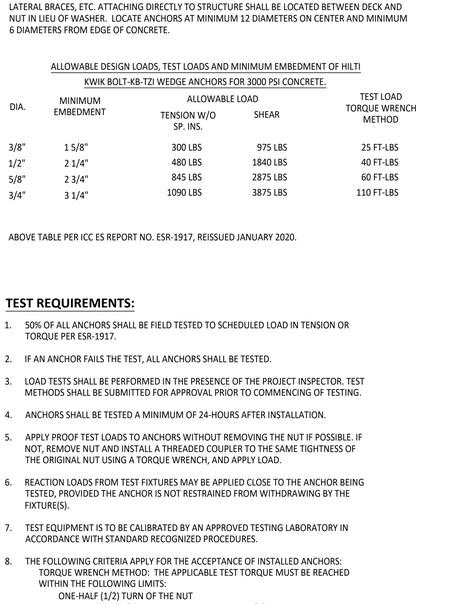
9 / M6.3 — NO SCALE — 2 1/2" DIAMETER OR LESS



NOTE:
NUMBERS ARE SUPERSTRUT PART NUMBERS.
EXACT CONFIGURATION SHALL BE PER MANUFACTURER'S REQUIREMENTS

LONGITUDINAL OR TRANSVERSE BRACE CONNECTION TO CONCRETE

6 / M6.3 — NO SCALE

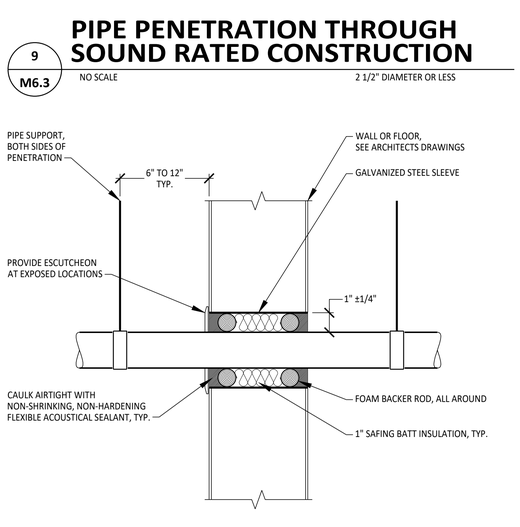


NOTES:

1. NUMBERS REFER TO SUPERSTRUT PARTS.
2. PROVIDE MINIMUM (1) LONGITUDINAL ANCHOR PER EACH HORIZONTAL DIRECTION, SEE SPECIFICATION
3. SECTIONS 15050 & 15400. BRACING MAY VARY IN SLOPE BY 45° ABOVE AND BELOW HORIZONTAL

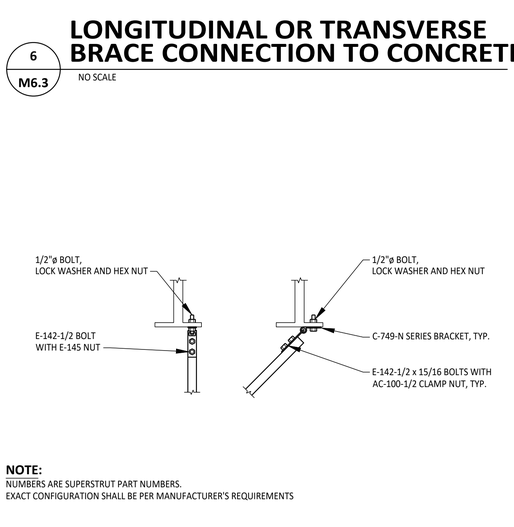
LONGITUDINAL AND TRANSVERSE PIPE BRACE

4 / M6.3 — NO SCALE



PIPE PENETRATION THROUGH SOUND RATED CONSTRUCTION

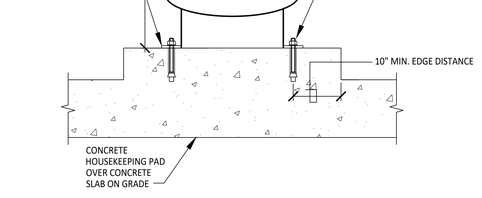
10 / M6.3 — NO SCALE — 3" DIAMETER OR GREATER



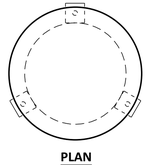
NOTE:
NUMBERS ARE SUPERSTRUT PART NUMBERS.
EXACT CONFIGURATION SHALL BE PER MANUFACTURER'S REQUIREMENTS

TRANSVERSE BRACE CONNECTION TO STEEL

7 / M6.3 — NO SCALE



ELEVATION



PLAN

EXPANSION TANK ANCHORAGE

2 / M6.3 — NO SCALE — ET-1

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Revisions:
09.21.21 BID SET

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Sheet Title:
DETAILS - MECHANICAL

Sheet Number:
M6.3

REGISTERED PROFESSIONAL ENGINEER
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AE Project # :20180245

December 17, 2019 4:21:36 p.m.
Drawing: H:\PROJECTS\2018\2018024\05\DRAWINGS\ALISAL F&SP-M-P01.DWG
Xrefs: None Attached

PLUMBING FIXTURE CONNECTIONS

MARK	DESCRIPTION	MIN BRANCH SIZE W	V	CW	HW	TRAP	REMARKS
WC-1	FLOOR MOUNTED WATER CLOSET	3"	2"	1"	-	INTEGRAL	(5) (6)
WC-2	FLOOR MOUNTED WATER CLOSET	3"	2"	1"	-	INTEGRAL	(6)
WC-3	FLOOR MOUNTED WATER CLOSET	3"	2"	1"	-	INTEGRAL	
U-1	WATERLESS URINAL	3"	2"	-	-	INTEGRAL	(6)
L-1	WALL MOUNTED LAVATORY	2"	1 1/2"	1/2"	1/2"	1 1/2"	(6)
ES-1	COUNTER MOUNTED SINK	2"	1 1/2"	1/2"	1/2"	1 1/2"	
S-1	COUNTER MOUNTED SINK	2"	1 1/2"	1/2"	1/2"	1 1/2"	
S-2	COUNTER MOUNTED SINK	2"	1 1/2"	1/2"	1/2"	1 1/2"	
S-3	COUNTER MOUNTED SINK	2"	1 1/2"	1/2"	1/2"	1 1/2"	(6)
S-4	COUNTER MOUNTED SINK	2"	1 1/2"	1/2"	1/2"	1 1/2"	(6)
DF-1	DRINKING FOUNTAIN	2"	1 1/2"	1/2"	-	2"	(6)
JS-1	JANITOR SINK	2"	1 1/2"	1/2"	1/2"	2"	
HB-1	HOSE BIBB	-	-	3/4"	-	-	(4)
HB-2	HOSE BIBB	-	-	3/4"	-	-	(3)
FD-1	FLOOR DRAIN	2"	1 1/2"	1/2" TP	-	2"	(1)
FS-1	FLOOR SINK	4"	2"	1/2" TP	-	4"	(2)
TP-1	TRAP PRIMER	-	-	1/2"	-	-	(7)

(1) ZURN Z415B, TYPE "B" STRAINER, 5" DIAMETER STRAINER. 2" PIPE SIZE.
(2) ZURN MODEL Z-1901. 12x12 A.R.E. SANI-FLOR RECEPTOR, 8" SUMP DEPTH.
(3) JAY R. SMITH FIGURE NUMBER 567 5-H WITH VACUUM BREAKER.
(4) JAY R. SMITH FIGURE NUMBER 5518 BOX TYPE, CONCEALED HOSE CONNECTION
(5) BARIATRIC
(6) ADA COMPLIANT
(7) PPP SMART-PRIME ELECTRONIC TRAP PRIMING MANIFOLD, MODEL SMP-500-115V, 1/2" NPT MALE INLET, 1/2" NPT FEMALE OUTLET. THREE PRONG CONNECTION PROVIDED. PROVIDE ACCESS DOOR, PPP MODEL D-814PC AND A DISTRIBUTION UNIT, PPP MODEL DU-4.

PLUMBING FIXTURE SPECIFICATION

FIXTURES SHALL BE COMPLETE WITH ALL FITTINGS, SUPPORTS, FASTENING DEVICES, FAUCETS, VALVES, 17 GAUGE TRAPS, STOPS, CAULKING AND APPURTANCES REQUIRED. FIXTURE COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.

1. WATER CLOSET WC-1: AMERICAN STANDARD MODEL 3641.001, TOP SPUD, FLOOR MOUNTED, 1.1 GPF, TESTED TO SUPPORT STATIC LOAD OF 2,000 LBS., ELONGATED BOWL, 12" ROUGH IN. 17 1/8" HIGH, 17" WIDE SEAT.
   MUST MEET ALL STATE OF CALIFORNIA REQUIREMENTS FOR ACCESSIBILITY.
   SEAT: ELONGATED, OPEN FRONT, RIGHT WIDTH TOILET SEAT, INCLUDED.
   FLUSHOMETER: AMERICAN STANDARD, SENSOR OPERATED, SELECTRONIC DC POWER, MODEL 6065.121.002, TOP SPUD.
2. WATER CLOSET WC-2: AMERICAN STANDARD "MADERA FLOWISE" MODEL 3043.511, 1.1 GPF, ELONGATED BOWL, 12" ROUGH IN. 16 1/2" HIGH.
   MUST MEET ALL STATE OF CALIFORNIA REQUIREMENTS FOR ACCESSIBILITY.
   SEAT: CENTOCO MODEL 1500STSCC, EXTRA HEAVY DUTY, OPEN FRONT, LESS COVER.
   FLUSHOMETER: AMERICAN STANDARD MODEL 6065.111, INCLUDED WITH SYSTEM.
3. WATER CLOSET WC-3: AMERICAN STANDARD "MADERA FLOWISE" MODEL 2234.511, 1.1 GPF, ELONGATED BOWL, 12" ROUGH IN. 15" HIGH.
   SEAT: CENTOCO MODEL 1500STSCC, EXTRA HEAVY DUTY, OPEN FRONT, LESS COVER.
   FLUSHOMETER: AMERICAN STANDARD MODEL 6065.111, INCLUDED WITH SYSTEM.
4. URINAL U-1: AMERICAN STANDARD "FLOWWISE FLUSH-FREE" MODEL 6150100.020, MUST MEET ALL STATE OF CALIFORNIA REQUIREMENTS FOR ACCESSIBILITY.
   CARRIER: WATTS MODEL CA-311, FLOOR MOUNTED URINAL CARRIER
5. LAVATORY L-1: AMERICAN STANDARD "LUCERNE", MODEL 0356.421, SINGLE FAUCET HOLE, 20 1/2" x 18 1/4.
   MUST MEET ALL STATE OF CALIFORNIA REQUIREMENTS FOR ACCESSIBILITY.
   FAUCET: CHICAGO FAUCETS MODEL 116.203.AB.1, GOOSENECK, BATTERY POWERED, ELECTRONIC FAUCET, TOUCH FREE
   OPERATION, 0.35 GPM LAMINAR FLOW. PROVIDE ADJUSTABLE TEMPERATURE THERMOSTATIC MIXING VALVE, ZURN MODEL ZW3870XLT.
   DRAIN: AMERICAN STANDARD MODEL 2411.015, GRID DRAIN
   SUPPLIES WITH STOPS: MCGUIRE MODEL LFH2165LK
   P-TRAP: McGUIRE MODEL 8912 CNC, 1 1/2" x 1 1/2"
   P-TRAP INSULATION KIT:TRUEBRO MODEL #102 E-Z
   CARRIER: WATTS MODEL CA-462
6. EXAM SINK ES-1: ELKAY "LUSTERTONE" MODEL LRAD151755, SINGLE BOWL SINK, ONE (1) HOLE, CENTERED, 5 1/2" DEEP
   FAUCET: CHICAGO FAUCETS MODEL 116.203.AB.1, GOOSENECK, BATTERY POWERED, ELECTRONIC FAUCET, TOUCH FREE
   OPERATION, 0.35 GPM LAMINAR FLOW. PROVIDE ADJUSTABLE TEMPERATURE THERMOSTATIC MIXING VALVE, ZURN MODEL ZW3870XLT.
   DRAIN: ELKAY MODEL LKAD35
   SUPPLIES WITH STOPS: MCGUIRE MODEL LFH2165LK
7. SINK S-1: ELKAY "LUSTERTONE" MODEL LRAD172255 SINGLE BOWL SINK, ONE (1) HOLE CENTERED, 5 1/2" DEEP
   FAUCET: MOEN COMMERCIAL, MODEL 8711, 12" SPOUT, 1.5 GPM MAX
   DRAIN: ELKAY MODEL LKAD35
   SUPPLIES WITH STOPS: MCGUIRE MODE LFH2165LK
8. SINK S-2: ELKAY "LUSTERTONE" MODEL LRAD172260, SINGLE BOWL SINK, THREE HOLES, 4" CENTERS, 6" DEEP.
   FAUCET: MOEN COMMERCIAL, MODEL 8225SMF15, GOOSENECK, 4" WRISTBLADE FAUCET, 1.5 GPM LAMINAR FLOW.
   DRAIN: ELKAY MODEL LKAD35
   SUPPLIES WITH STOPS: MCGUIRE MODE LFH2165LK
9. SINK S-3: ELKAY "GOURMET", MODEL LRAD332160, 6" DEEP, 33"L x 21 1/4"w, THREE (3) HOLES, 4" CENTERS, MUST MEET ALL STATE OF CALIFORNIA REQUIREMENTS FOR ACCESSIBILITY.
   FAUCET: MOEN COMMERCIAL, MODEL 8711, 12" SPOUT, 1.5 GPM LAMINAR FLOW, LEVER STYLE HANDLE.
   GARBAGE DISPOSER: BADGER 1 (IN-SINK ERATOR), 1/3 HP, 120 VOLTS, 1725 RPM
   DRAIN: ELKAY MODEL LKAD35
10. SINK S-4: ELKAY "LUSTERTONE" MODEL LRAD221955 SINGLE BOWL SINK, ONE (1) HOLE CENTERED, 5 1/2" DEEP
    FAUCET: MOEN COMMERCIAL, MODEL 8711, 12" SPOUT, 1.5 GPM MAX
    DRAIN: ELKAY MODEL LKAD35
    SUPPLIES WITH STOPS: MCGUIRE MODE LFH2165LK
11. DRINKING FOUNTAIN DF-1: ELKAY MODEL LZWS-EDFP217K, EZH2O BOTTLE FILLING STATION WITH INTEGRAL SOFT SIDES FOUNTAIN FILTERED NON-REFRIGERATED STAINLESS, 115V/60HZ. MUST MEET ALL STATE OF CALIFORNIA REQUIREMENTS FOR ACCESSIBILITY. PROVIDE OPTIONAL FRONT ACCESS PANEL TO ALLOW SERVICING THE FILTER.
12. JANITORS SINK JS-1: FLORESTONE MODEL 30RH, PROVIDE MR-370, MR-371, MR-372, R-373, 24", MR-374, MR-375, MR-377, TWO (2) 24" PANELS

WATER HEATERS

MARK	LOCATION	GAL CAP	MBH IN	ELECT KW	ELECT V/PH	RECOVERY @ 60°F RISE	FULL WT	MAKE & MODEL	REMARKS
WH-1	MECHANICAL	60	120	-	-	230 GPH	900 LBS	STATE SUF60 120NE	(1) (2)
WH-2	MECHANICAL	60	120	-	-	230 GPH	900 LBS	STATE SUF60 120NE	(1) (2)

(1) PROVIDE CONDENSATE NEUTRA-SAFE, MODEL CN2-220.
(2) PROVIDE STATE WATER HEATERS MODULATING ULTRA FORCE COMMON VENTING KIT, PART NUMBER 100227396, PVC COMMON VENT KIT FOR 120 MODELS.

PUMPS

MARK	GPM	TDH FT	BHP	MOTOR RPM	MOTOR HP	MOTOR V/PH	WT LBS	MAKE & MODEL	REMARKS
CP-1	2	12	-	-	1/25	115/1	7	GRUNDFOS UP 15-18 B7	(1) (2) (3)

(1) INSTALL PER MANUFACTURER'S INSTRUCTIONS.
(2) PROVIDE GRUNDFOS MODEL 599388 TIME CLOCK
(3) PROVIDE GRUNDFOS MODEL 595657 AQUASTAT

PIPE MATERIAL SCHEDULE

TYPE	MATERIAL
SEWER AND VENT	HUBLESS, CAST IRON
WATER	TYPE 'L' COPPER (ABOVE GROUND) PVC PIPE, SCHEDULE 40 (OUTSIDE BUILDING)
GAS	SCHEDULE 40 BLACK STEEL

GENERAL NOTES:

1. CUTTING OR CORING OF STRUCTURAL MEMBERS OR FOOTINGS IS PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF THE STRUCTURAL ENGINEER AND THE ARCHITECT.
2. CONTRACTOR SHALL VERIFY THAT THE ELECTRICAL CONNECTIONS TO THE UNITS, INCLUDING CIRCUIT PROTECTION, CONFORM TO UNIT LABELS AND MANUFACTURER'S DIRECTIONS. WHERE WIRE SIZES SHOWN ON DRAWING EXCEED MANUFACTURER'S RECOMMENDATIONS, THE DRAWINGS SHALL GOVERN. ALL WIRING SHALL BE PER THE NATIONAL ELECTRICAL CODE.
3. ALL CONTROL WIRING SHALL BE IN CONDUIT. CONDUIT SHALL BE PROVIDED AND INSTALLED BY THE PLUMBING CONTRACTOR.
4. FLASHING AND WEATHERPROOFING AT EXTERIOR PENETRATIONS ARE SHOWN ON THE ARCHITECTURAL DRAWINGS.
5. COORDINATE WITH OWNER ON SPACE REQUIRED AND TIME SCHEDULE FOR DELIVERY OF ALL ITEMS WHICH ARE TO BE GIVEN TO THE OWNER FOR HIS DISPOSITION.
6. FOR ROOF PENETRATIONS WITHOUT CURBS, PROVIDE WEATHERPROOF FLASHING PER SMACNA ARCHITECTURAL SHEET METAL MANUAL AND DRAWING NOTES.
7. LABEL ALL PIECES OF EQUIPMENT WITH MARK MATCHING SCHEDULE OR EQUIPMENT LIST WITH ENGRAVED PLASTIC LABELS WITH MINIMUM 1/4" HIGH LETTERS. LABELS EXPOSED TO WEATHER SHALL BE ENGRAVED BRASS.
8. PRIME AND PAINT ALL EXPOSED PIPING PER ARCHITECTURAL SPECIFICATIONS. PAINT SHALL NOT EXCEED THE FOLLOWING VOLATILE ORGANIC COMPOUND CONTENT LIMITS: FLATS < 50 GRAMS PER LITER, NON-FLATS < 100 GRAMS PER LITER.
9. COORDINATE WITH ELECTRICAL ON REQUIRED POWER OUTLETS AND LIGHT SWITCHES NEAR PLUMBING EQUIPMENT.
10. BRACE ALL GAS PIPING THAT IS 1" NOMINAL OR LARGER. BRACE ALL PIPING IN MECHANICAL ROOMS THAT IS 1 1/4" NOMINAL OR LARGER. BRACE ALL PIPING 2 1/2" NOMINAL OR LARGER. PIPING SUSPENDED BY INDIVIDUAL HANGERS 12" OR LESS IN LENGTH, AS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT WHERE THE HANGER IS ATTACHED, NEED NOT BE BRACED.
11. ALL PIPING, VALVES, EQUIPMENT, ETC. SHOWN IS NEW UNLESS OTHERWISE NOTED.

FIRE PROTECTION SPECIFICATIONS

1. SPRINKLER SYSTEM: ALL REQUIREMENTS IN ANY OTHER SECTIONS OF SPECIFICATIONS SHALL APPLY.
2. COORDINATION: AS REQUIRED TO OBTAIN APPROVAL OF THE RATING AGENCY, FIRE MARSHAL AND OTHER AUTHORITIES HAVING JURISDICTION FOR OBTAINING THEIR WRITTEN APPROVAL OF THE SYSTEM.
3. CODE REQUIREMENTS: NFPA 13, TITLE 24, LOCAL FIRE MARSHAL AND INSURANCE UNDERWRITERS' CODES SHALL CONFORMED TO.
4. DESIGN OF SYSTEM:
   A. CONTRACTOR SHALL DESIGN SPRINKLER SYSTEM TO NFPA 13, CITY OF AND INSURANCE UNDERWRITERS' REQUIREMENTS FOR HYDRAULIC CALCULATED SYSTEM.
   B. INDICATE HAZARD REQUIREMENTS FOR EACH DIFFERENT AREA PLUS WATER DEMAND REQUIREMENTS.
   C. SPECIFY AREAS TO BE SPRINKLED AND TEMPERATURES REQUIRED.
   D. LAYOUT OF HEADS TO BE SUBMITTED TO ARCHITECT FOR APPROVAL PRIOR TO SUBMITTING TO FIRE MARSHAL.
   E. SPRINKLER HEADS SHALL BE CENTRAL MODEL "H" FOR PENDANT, RECESS AND SIDEWALL.
   F. FURNISH AND INSTALL PADDLE TYPE FLOW INDICATOR ON RISER DOWNSTREAM OF RISER OS&Y GATE VALVE WITH TAMPER SWITCH. ELECTRICAL SHALL CONNECT FROM FLOW SWITCH AND TAMPER SWITCH 8" ELECTRIC GONG (COORDINATE GONG LOCATION WITH ARCHITECT AND FIRE MARSHAL).
   G. PROVIDE SIAMESE FIRE DEPARTMENT CONNECTION WITH CHECK VALVE AT STREET DOWNSTREAM OF PIV.
   H. DETECTOR CHECK VALVE SHALL BE AMES 1000 DCV OR APPROVED EQUAL.
5. TESTING:
   A. ALL SPRINKLER SYSTEM PIPING MUST BE HYDROSTATICALLY TESTED FOR A PERIOD OF 2-HOURS IN THE PRESENCE OF THE OWNER OR HIS DESIGNEE.
   B. TEST PRESSURE SHALL BE 50 PSI IN EXCESS OF MAXIMUM WATER PRESSURE OR 200 PSI, WHICHEVER IS GREATER.
   C. LEAKAGE FROM ANY FITTING MAY BE CORRECTED BY TIGHTENING OR REPLACEMENT OF DEFECTIVE MATERIALS ONLY.
   D. USE OF SEALANT MATERIALS IS EXPRESSLY PROHIBITED AND UNACCEPTABLE TO THE OWNER AS A CORRECTIVE MEASURE.
   E. GAUGES USED IN TESTING SHALL BE IDENTIFIED AS TO ACCURACY OR PROVIDED BY OWNER AT HIS OPTION.

PLUMBING LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
	CW	COLD WATER (DOMESTIC)	COORD	COORDINATE
	HW	HOT WATER	DN	DOWN
	HWR	HOT WATER RETURN	DWGS	DRAWINGS
	V	VENT	(E)	EXISTING
G	G	GAS (7"WC)	MIN	MINIMUM
W	S OR W	SOIL OR WASTE ABOVE GRADE	(N)	NEW
W	S OR W	SOIL OR WASTE BELOW GRADE	VTR	VENT THROUGH ROOF
		RISE UP	W/	WITH
	ELL	ELBOW DOWN		
	TEE	TEE DOWN		
		CAP		
	CONT	CONTINUATION		
		BALL VALVE		
		UNION		
WT	WHA	WATER HAMMER ARRESTOR		
	HB	HOSE BIBB		
	GCO/FCO	GRADE CLEAN-OUT/FLOOR CLEAN-OUT		
	WCO	WALL CLEAN-OUT		
		THERMOMETER		
	POC	POINT OF CONNECTION		

FIRE PROTECTION LEGEND

SYMBOL	ABBRV.	IDENTIFICATION	ABBRV.	IDENTIFICATION
F	F	FIRE WATER	FLR	FLOOR
SPKR	SPKR	SPRINKLER	FS	FLOOR SINK
	CHVA	CHECK VALVE	FPM	FEET PER MINUTE
		GATE VALVE	FT	FEET
	T&PRV	TEMP & PRESS RELIEF VALVE	FT HD	FEET HEAD
	DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	GPM	GALLONS PER MINUTE
		UNION	HP	HORSEPOWER
P		PRESSURE GAUGE	HR	HOUR
	FC	FLEXIBLE CONNECTION	HZ	HERTZ
	RPBP	REDUCE PRESS BACKFLOW PREVENTER	IE	INVERT ELEVATION
			IN	INCH
	FH	FIRE HYDRANT	INV	INVERT
	PIV	POST INDICATING VALVE	KW	KILOWATTS
AD	AD	ACCESS DOOR	LBS	POUNDS
Ø	DIA	DIAMETER	MAX	MAXIMUM
	P.O.C.	POINT OF CONNECTION	MBH	1000 BTU PER HOUR
		CENTERLINE	MFR	MANUFACTURER
	&	AND	MIN	MINIMUM
	@	AT	(N)	NEW
	°F	DEGREES FAHRENHEIT	NC	NORMALLY CLOSED
	AD	AREA DRAIN	NIC	NOT IN CONTRACT
	AFF	ABOVE FINISH FLOOR	NO	NORMALLY OPEN
	AMP	AMPERE	OC	ON CENTER
	APPROX	APPROXIMATE	PD	PRESSURE DROP
	BHP	BRAKE HORSEPOWER	PH	PHASE
	BLDG	BUILDING	PRV	PRESSURE REDUCING VALVE
	CFH	CUBIC FEET PER HOUR	PSI	POUNDS PER SQUARE INCH
	CI	CAST IRON	P/T	PRESSURE/TEMPERATURE
	CIRC	CIRCULATING	QTY	QUANTITY
	CLG	CEILING	REQD	REQUIRED
	CONC	CONCRETE	RLA	RATED/RUNNING LOAD AMPS
	CONN	CONNECTION	RPM	REVOLUTIONS PER MINUTE
	CONT	CONTINUED	SOV	SHUT-OFF VALVE
	COORD	COORDINATE	STD	STANDARD
	CONST	CONSTRUCTION	STRUCT	STRUCTURAL
	DN	DOWN	TEMP	TEMPERATURE
	DWGS	DRAWINGS	TYP	TYPICAL
	(E)	EXISTING	UL	UNDERWRITER'S LABORATORIES
	ELEC	ELECTRICAL	UON	UNLESS OTHERWISE NOTED
	ELEV	ELEVATION	V	VOLT
	EQUIP	EQUIPMENT	VTR	VENT THROUGH ROOF
	FFE	FINISHED FLOOR ELEVATION	W/	WITH
	FLA	FULL LOAD AMPS	WC	WATER COLUMN
	FLEX	FLEXIBLE	WT	WEIGHT

2016 CALGREEN NON-RESIDENTIAL MANDATORY MEASURES:

PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH THE FOLLOWING:
5.303.3.1 WATER CLOSETS: ≤1.28 GAL/FLUSH
5.303.3.2 URINALS: ≤0.125 GAL/FLUSH
5.303.3.4.1 NON-RESIDENTIAL LAVATORY FAUCETS: ≤0.5 GPM AT 60 PSI
5.303.3.4.2 KITCHEN FAUCETS: ≤1.8 GPM AT 60 PSI; TEMPORARY INCREASE TO 2.2 GPM ALLOWED BUT SHALL DEFAULT TO 1.8 GPM
5.303.3.4.4 METERING FAUCETS: ≤0.20 GALLONS PER CYCLE
5.303.3.4.5 METERING FAUCETS FOR WASH FOUNTAINS: ≤0.20 GALLONS PER CYCLE 20 [RIM SPACE (INCHES) AT 60 PSI]

NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

LIST OF GOVERNING CODES:

2016 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R.
2016 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R.
2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R.
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R.
2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R.
2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

REGISTERED PROFESSIONAL ENGINEER ROBERT S. STROSPHER No. M33439 EXP. JUNE 30, 2022 MECHANICAL STATE OF CALIFORNIA

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Drawn By: CADD
Drawing Date: 08.25.2021
Project Number: 1838

Revisions:
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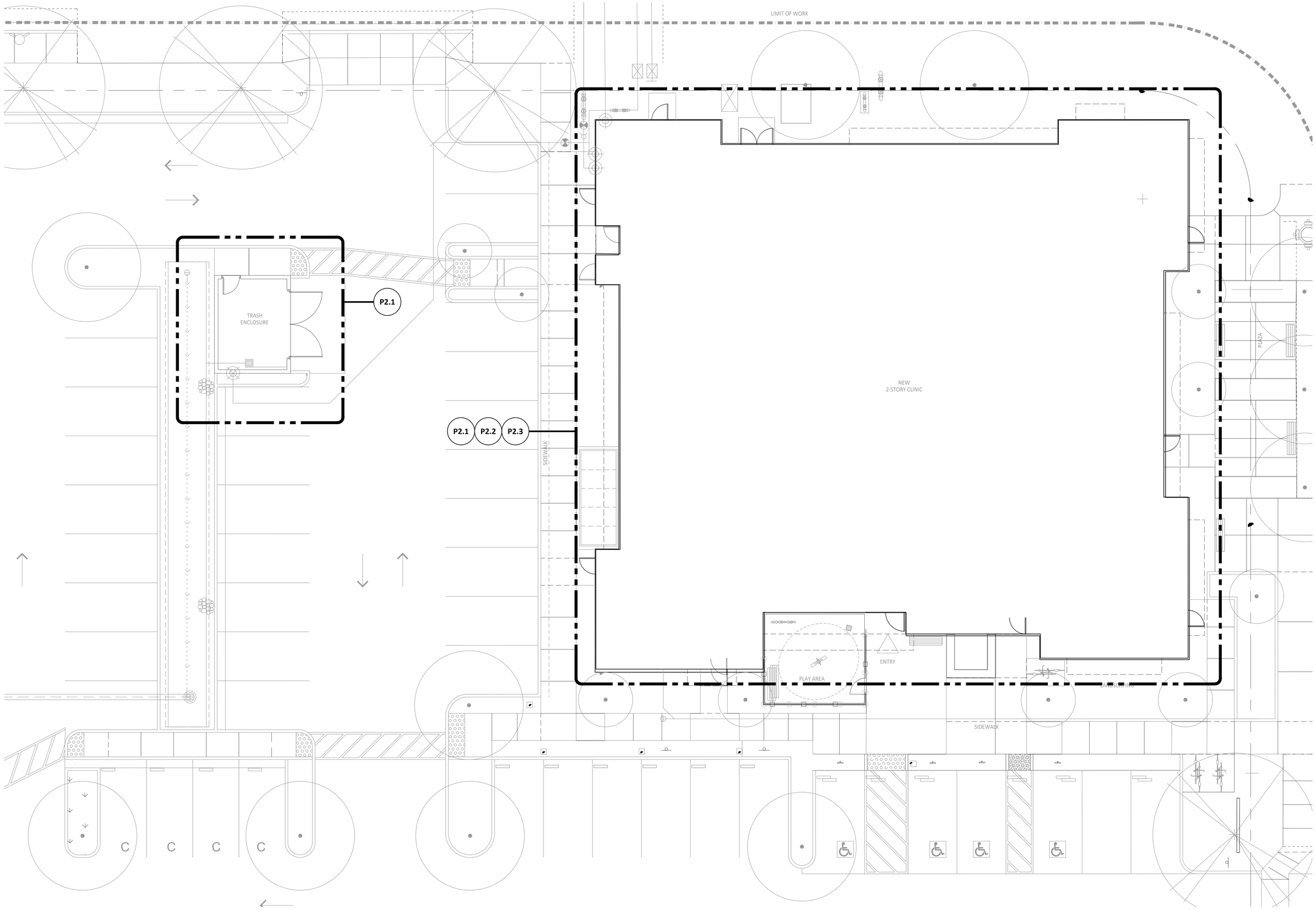
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LEGENDS, NOTES AND SCHEDULES - PLUMBING

Sheet Number:
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Xrefs: A1-SITE-DWG, A1-ELEVATION, A1-ELEVATION, NAD-BORDER-ARCH

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SITE PLAN - PLUMBING

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

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SITE PLAN - PLUMBING

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P1.1

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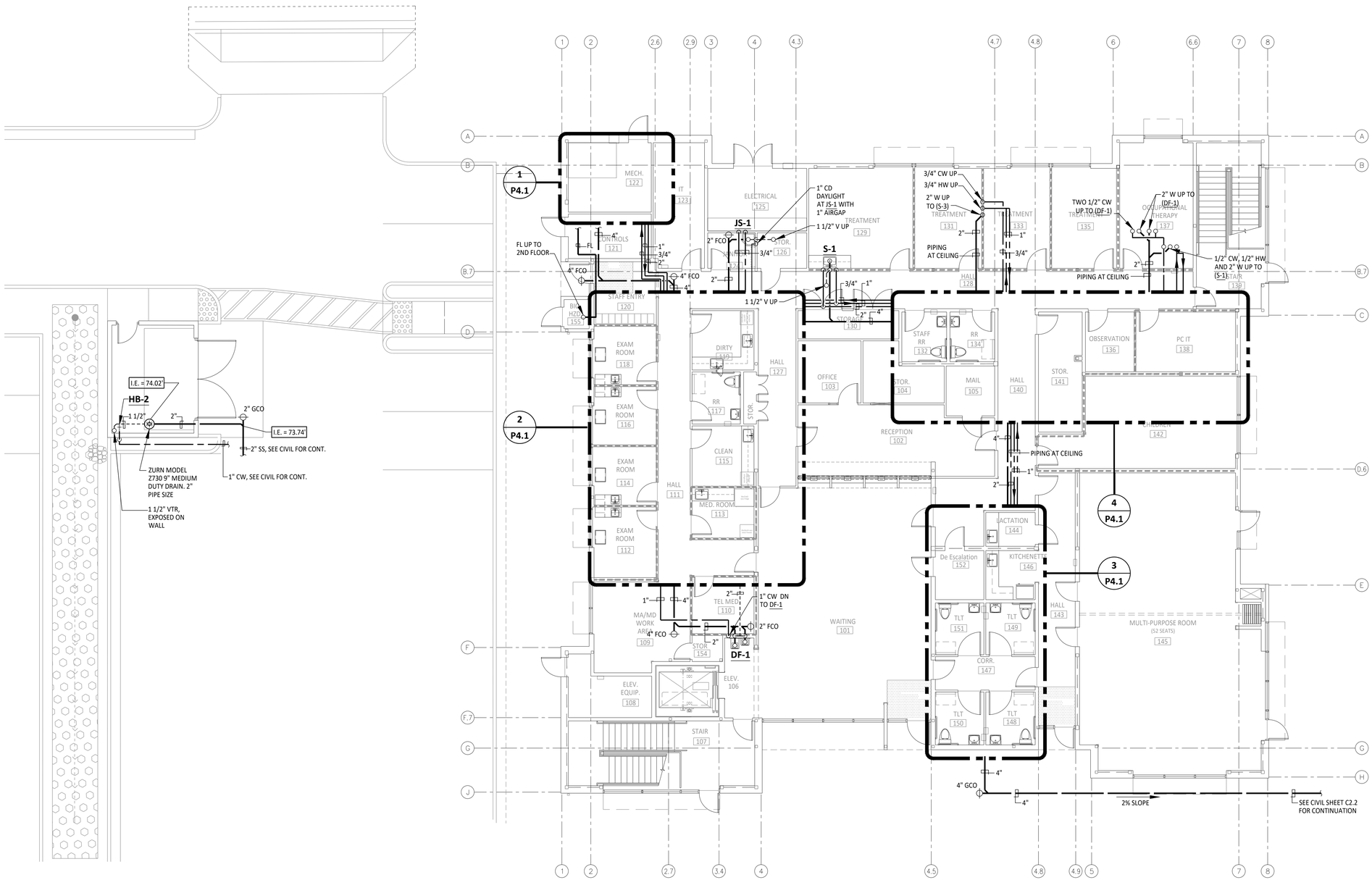
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WALL TYPE LEGEND

- 1-HR FIRE RATED FULL HEIGHT WALL
- NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.

FIRST FLOOR PLAN - PLUMBING

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

F.F.E. = 77.00' - BUILDING
F.F.E. = 75.52' -TRASH ENCLOSURE

NORTH

WALL TYPE LEGEND

- 1-HR FIRE RATED FULL HEIGHT WALL

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Sheet Title:
FIRST FLOOR PLAN - PLUMBING

Sheet Number:
P2.1

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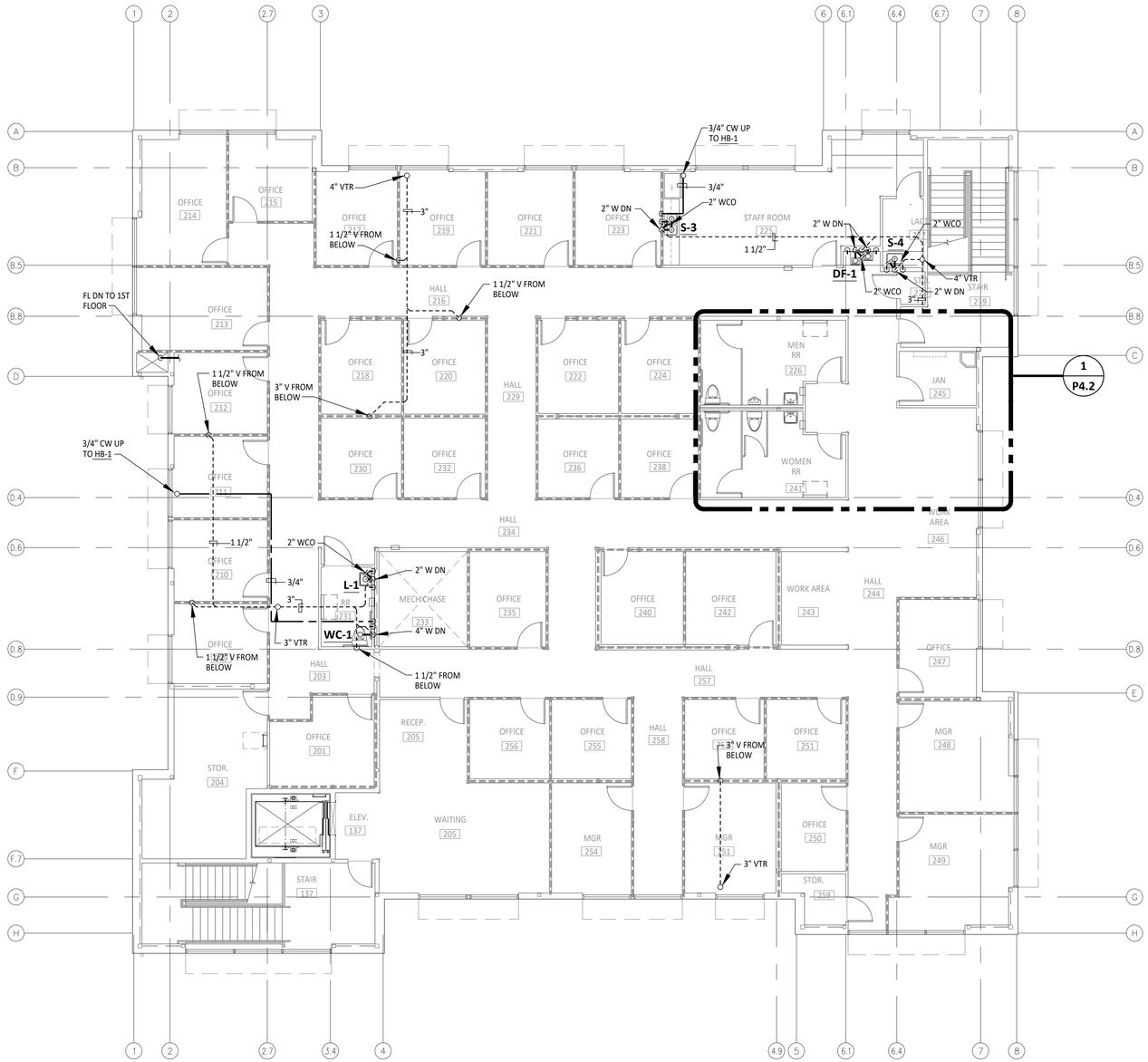
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



SECOND FLOOR PLAN - PLUMBING

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

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Sheet Title:
SECOND FLOOR
PLAN - PLUMBING

REGISTERED PROFESSIONAL ENGINEER
ROBERT S. STROPPINI
No. M33439
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AE Project #: 20180245

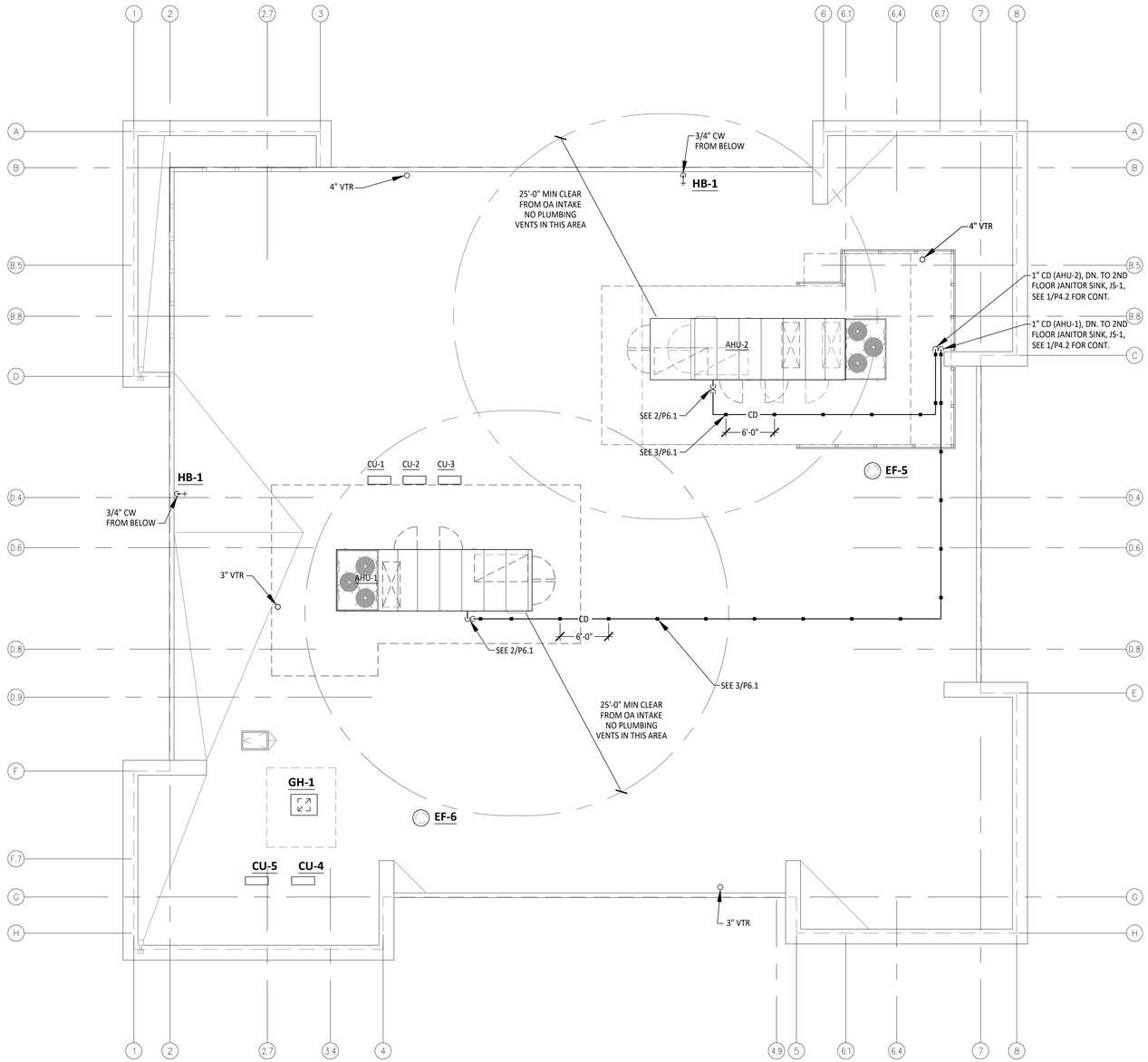
22 Lower Ragsdale Dr., Suite A
Monterey, California 93940-5788

Sheet Number:

P2.2

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ROOF PLAN - PLUMBING

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

NORTH

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
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Drawn By: CADD

Drawing Date: 08.25.2021

Project Number: 1838

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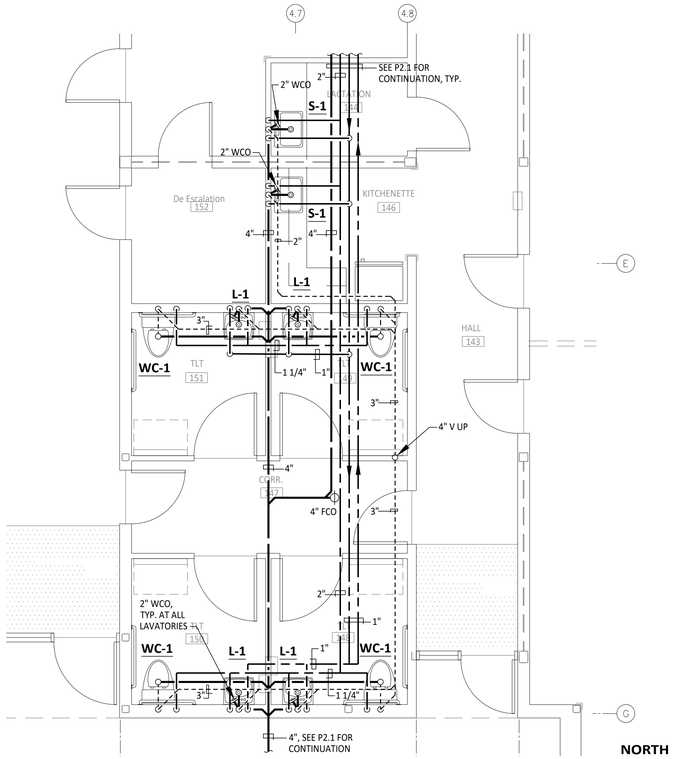
Sheet Number:
P2.3

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August 02, 2021 10:54:34 a.m.
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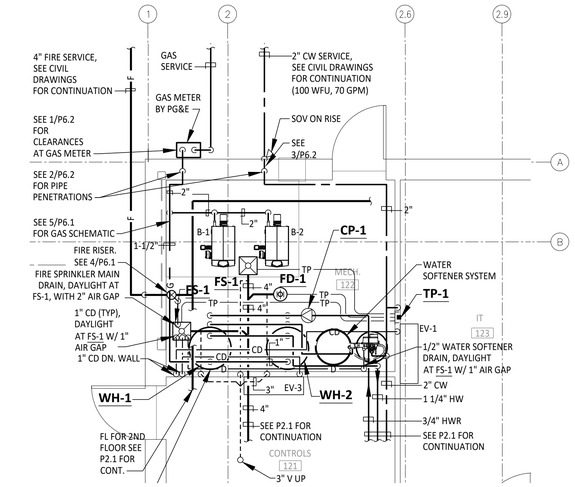
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3 P4.1 **PARTIAL FIRST FLOOR PLAN - PLUMBING**

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

NORTH



1 P4.1 **PARTIAL FIRST FLOOR PLAN - PLUMBING**

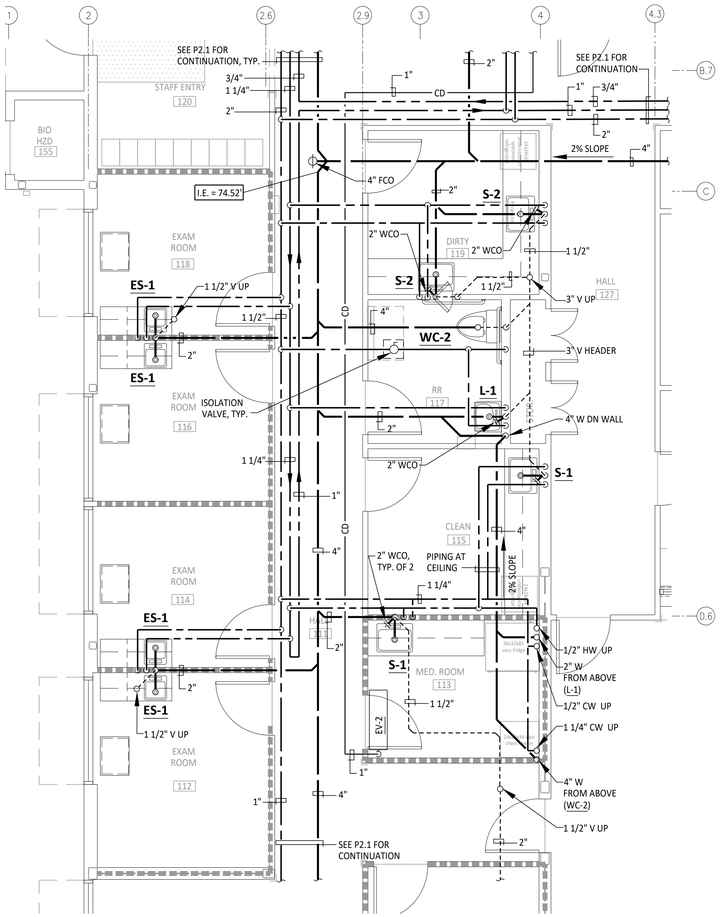
SCALE: 1/4" = 1'-0"

NORTH

WALL TYPE LEGEND

1-HR FIRE RATED FULL HEIGHT WALL

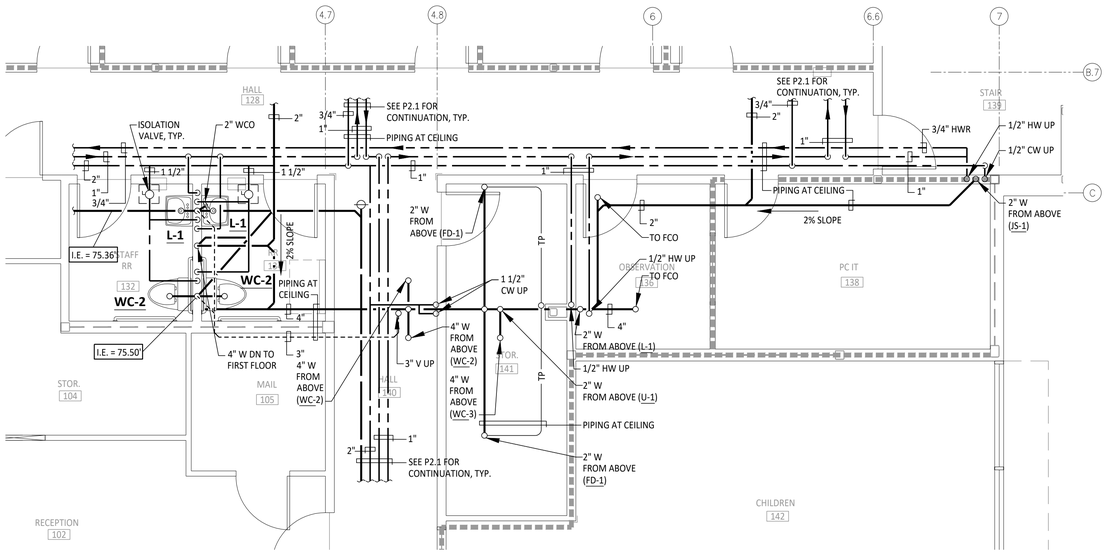
NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



2 P4.1 **PARTIAL FIRST FLOOR PLAN - PLUMBING**

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

NORTH



4 P4.1 **PARTIAL FIRST FLOOR PLAN - PLUMBING**

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

NORTH

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Drawn By: CADD

Drawing Date: 08.25.2021

Project Number: 1838

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Sheet Title:
PARTIAL FLOOR PLANS - PLUMBING

Sheet Number:
P4.1

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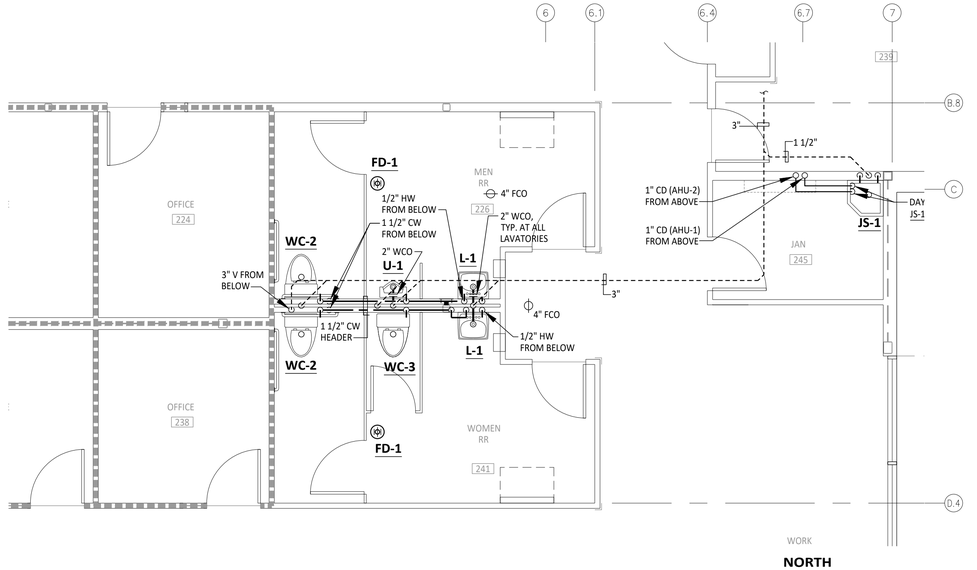
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WALL TYPE LEGEND

1-HR FIRE RATED
FULL HEIGHT WALL

NON-RATED FULL HEIGHT ACOUSTICAL WALL. ALL PENETRATIONS REQUIRE ACOUSTICAL CAULKING.



WORK

NORTH

1
P4.2

PARTIAL SECOND FLOOR PLAN - PLUMBING

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

Project / Owner:

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Drawn By: CADD

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Sheet Title:
PARTIAL FLOOR
PLANS - PLUMBING

Sheet Number:

P4.2

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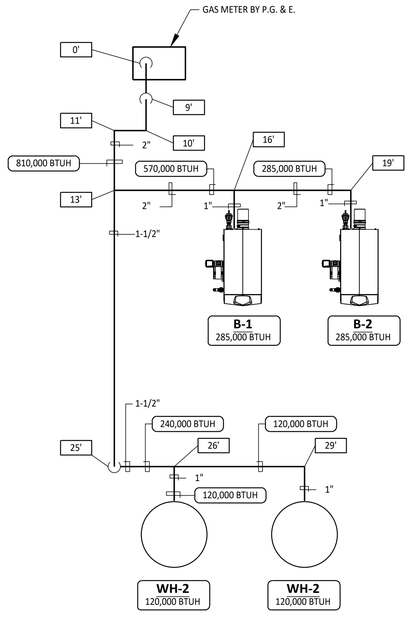
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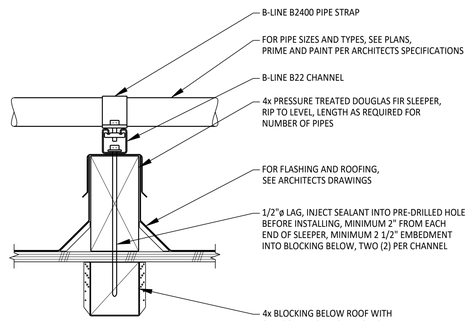
GAS PIPING SIZED PER 2019 CALIFORNIA PLUMBING CODE
- TABLE 1216.2(1) ABOVE GROUND METALLIC PIPE
- TABLE 1216.2(20) BELOW GROUND PLASTIC PIPE

PRESSURE DROP: 0.5 IN W.C.
SPECIFIC GRAVITY: 0.60

LEGEND	
SYMBOL	DESCRIPTION
123'	PIPE DISTANCE
X-1 300,000 BTUH	EQUIPMENT NUMBER/ TOTAL BTUH FOR EQUIPMENT
300,000 BTUH	BRANCH TOTAL BTUH

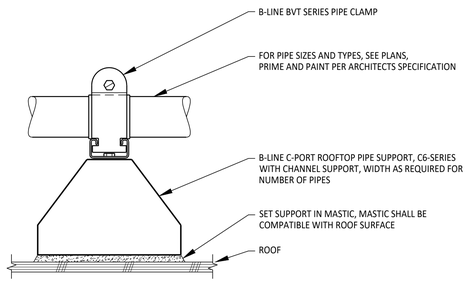


5 GAS SCHEMATIC
P6.1 — NO SCALE



PIPE ANCHOR

ANCHORS SHALL BE INSTALLED AT BEGINNING AND END OF PIPE RUNS, AT WALL OR ROOF PENETRATIONS, AND AT EQUIPMENT CONNECTIONS

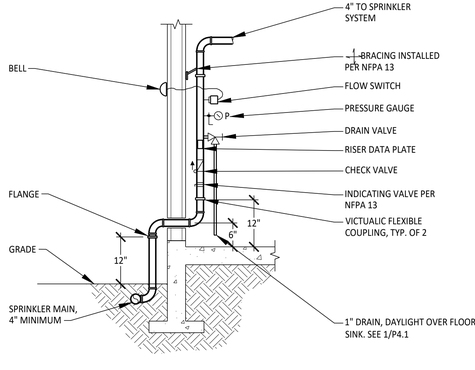


PIPE SUPPORT

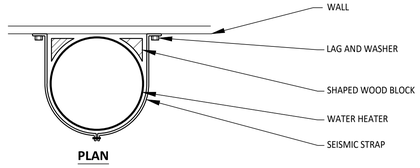
SUPPORTS SHALL BE INSTALLED ONLY AT RUNS BETWEEN ANCHORS

3 PIPE ANCHORS AND SUPPORTS ON ROOF
P6.1 — NO SCALE

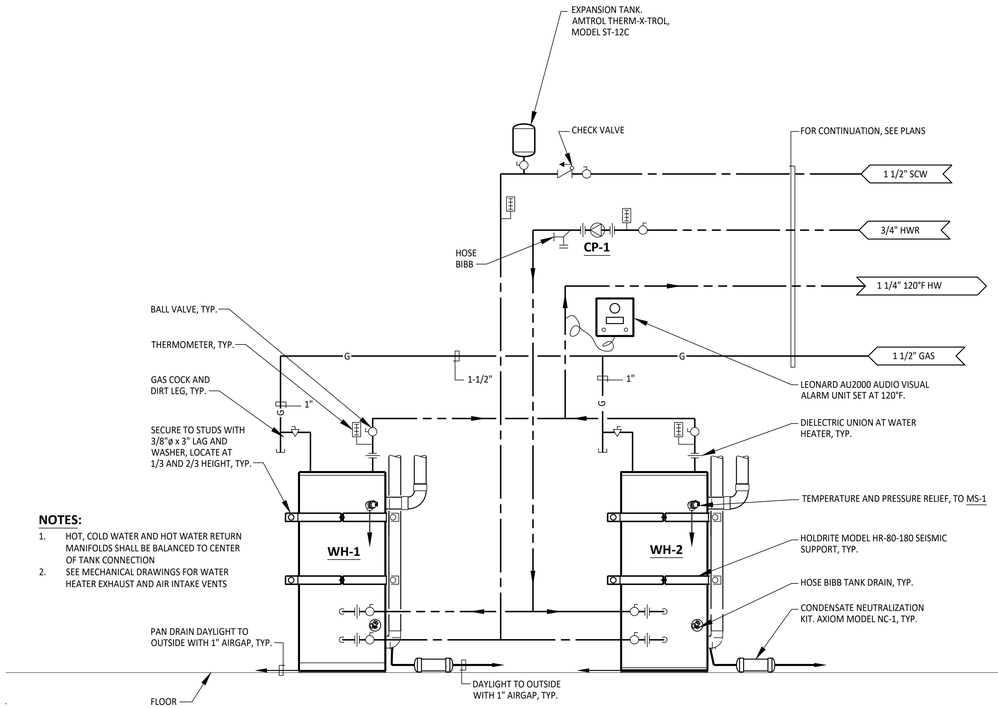
NOTE:
FOR ANCHOR AND SUPPORT SPACING, SEE SPECIFICATIONS



4 SPRINKLER RISER
P6.1 — NO SCALE

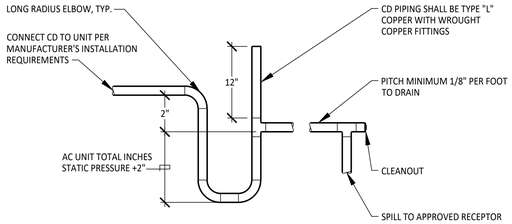


PLAN



NOTES:
1. HOT, COLD WATER AND HOT WATER RETURN MANIFOLDS SHALL BE BALANCED TO CENTER OF TANK CONNECTION
2. SEE MECHANICAL DRAWINGS FOR WATER HEATER EXHAUST AND AIR INTAKE VENTS

1 DUPLEX GAS WATER HEATER
P6.1 — NO SCALE



NOTES:
1. CD PIPE SIZE SHALL NOT BE SMALLER THAN UNIT DRAIN CONNECTION SIZE.
2. FOR PIPE SIZES AND LOCATIONS, SEE PLANS.

2 CONDENSATE TRAP
P6.1 — NO SCALE

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DETAILS - PLUMBING

Sheet Number:
P6.1

REGISTERED PROFESSIONAL ENGINEER ROBERT S. STROSPHER No. M33439 EXP. JUNE 30, 2022 MECHANICAL STATE OF CALIFORNIA

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Xref's: DTS-P63.DWG, DTB-P63.DWG, DTS-P63.DWG, DTS-P63.DWG, DTS

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. MATERIALS AND EQUIPMENT SHALL BE U.L. LISTED AND LABELED FOR THE APPLICATION.
2. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTION FEES REQUIRED BY THIS CONTRACT WORK.
3. CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING AND ALLOW FOR ALL FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL WORK NOTED AND CALLED OUT ON ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN INFORMATION AND BE FAMILIAR WITH ALL OTHER TRADES WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN OTHER TRADES ON PROJECT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY AND PERSONAL, PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.
5. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL AT THE CONCLUSION OF THE PROJECT PROVIDE ACCURATE "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.
6. ALL MATERIALS PROVIDED TO THE PROJECT SHALL BE NEW. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL INCIDENTAL MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.
7. CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PAINTING ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
9. ALL ELECTRICAL EQUIPMENT INSTALLED OUTDOORS SHALL BE WEATHERPROOF. EXTERIOR CONDUITS RUN INTO BUILDINGS SHALL BE INSTALLED WITH FLASHING, CAULKED AND SEALED. CONDUITS FOR EXTERIOR ELECTRICAL DEVICES SHALL BE RUN INSIDE BUILDING UNLESS OTHERWISE NOTED ON DRAWINGS.
10. ALL CONDUITS UNLESS OTHERWISE NOTED ON DRAWINGS SHALL HAVE AS A MINIMUM: TWO (2) #12s WITH ONE (1) #12 GROUND. "TICK" MARKS SHOWN ON CIRCUITRY ARE FOR ROUGH ESTIMATING ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRES AND WIRE SIZES REQUIRED BY LATEST CODE.
11. ALL BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS. SHARED NEUTRALS ON MULTIWIRE CIRCUITS IS NOT ALLOWED.
12. COORDINATE ALL CONDUIT RUNS, ELECTRICAL EQUIPMENT AND PANELS WITH ALL OTHER WORK TO AVOID CONFLICTS.
13. SEE ARCHITECTURAL DOCUMENTS FOR EXACT PLACEMENT OF LIGHTING FIXTURES AND DEVICES. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF CEILING TYPES FROM ARCHITECTURAL DOCUMENTS AND PROVIDE AND INSTALL ALL REQUIRED FIXTURE MOUNTING HARDWARE. PROVIDE AND INSTALL U.L. LISTED FIRE STOP ENCLOSURES FOR ALL RECESSED FIXTURES IN FIRE RATED CEILINGS.
14. CONTRACTOR SHALL, PRIOR TO BID, FIELD VERIFY ALL REQUIREMENTS FOR MODIFYING THE EXISTING CLOCK, DATA, AND INTERCOM SYSTEMS TO ACCOMMODATE ADDITIONS NOTED. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS NEEDED TO MAKE A FULLY OPERATIONAL SYSTEM AT THE CONCLUSION OF PROJECT WORK.
15. CONTRACTOR SHALL PROVIDE IN EVERY NEW EMPTY CONDUIT A DRAW STRING FOR USE IN FUTURE CONSTRUCTION.
16. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. CUT AND PATCH EXISTING WALLS WHERE NECESSARY. WHERE IT IS NECESSARY TO CUT OR BORE EXISTING STRUCTURAL WALLS FOR NEW ELECTRICAL WORK OBTAIN PERMISSION FROM THE ARCHITECT PRIOR TO STARTING WORK. REUSE (E) CONDUIT WHERE POSSIBLE.
17. EXTENSION RINGS OR RESET BOXES TO BE FLUSH WITH NEW WALL THICKNESS.
18. ALL INSTALLATION OF EXPOSED SURFACE MOUNTED RACEWAY IN PUBLIC AREAS SHALL BE REVIEWED BY ELECTRICAL ENGINEER BEFORE ROUGH-IN. CONTRACTOR IS TO DETERMINE THE ACCESSIBILITY OF ATTIC, FURRED SPACE, HOLLOW MULLIONS, ETC. IN EACH AREA AND REVIEW WITH ENGINEER. IF SYSTEM CAN BE ROUTED CONCEALED EITHER BY FISHING OR ACCESSIBILITY, CONTRACTOR IS TO DO SO. IF INACCESSIBILITY IS DETERMINED, CONTRACTOR SHALL INSTALL SURFACE MOUNTED RACEWAY IN THE MOST AESTHETICALLY PLEASING MEANS AS DETERMINED BY THE THE ENGINEER. NO ALLOWANCE FOR ADDITIONAL COMPENSATION DUE TO ROUTING AS DIRECTED BY THE ENGINEER WILL BE MADE.
19. CONTRACTOR SHALL COORDINATE WITH PG&E, AT&T & PAY ALL CHARGES FOR TEMPORARY CONSTRUCTION POWER & TELEPHONE.
20. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND OBTAIN UTILITY COMPANY CONSTRUCTION DOCUMENTS. UTILITY COMPANY CHARGES SHALL BE PAID BY OWNER.

LIGHT FIXTURE SCHEDULE

FIXTURE NOTES:

1. ALL LED LIGHT FIXTURE DRIVERS SHALL BE ELECTRONIC TYPE, 10% TOTAL HARMONIC DISTORTION MAXIMUM.
2. ALL LED LIGHT MODULES SHALL BE ENERGY SAVING 3500° K, 80 CRI MINIMUM, U.O.N. (SEE SPECIFICATIONS FOR MORE INFORMATION).
3. ALL LED DRIVERS (AND ASSOC. FIXTS.) SHALL HAVE MANUFACTURER'S CERTIFICATION OF COMPLIANCE WITH CALIFORNIA ENERGY COMMISSION STANDARDS AND REQUIREMENTS, WHERE SUCH ARE USED IN CONDITIONED SPACES.
4. EXIT SIGNS , EMERGENCY LIGHTS AND LIGHT FIXTURES WITH EMERGENCY BATTERY BACK-UP SHALL SUPPLY A MINIMUM DURATION OF 90 MINUTES OF POWER IN THE EVENT OF A POWER OUTAGE/FAILURE.

TYPE	DESCRIPTION	LAMPS	MANUFACTURER
A	2' x 4' RECESSED T-BAR LED FIXTURE. VERY HIGH LUMEN OUTPUT, STEEL HOUSING. ANGLED DOOR STYLE, ROUND CENTER OPTICS, FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	55.1W LED 6979 LUMENS	FINELITE HPR LED
A1	SAME AS FIXTURE TYPE 'A' EXCEPT HIGH LUMEN OUTPUT.	40.6W LED 5416 LUMENS	FINELITE HPR LED
A1E	SAME AS FIXTURE TYPE 'A1' EXCEPT WITH INTEGRAL BATTERY BACKUP.	40.6W LED 5416 LUMENS	FINELITE HPR LED
A2	SAME AS FIXTURE TYPE 'A' EXCEPT BOOSTED LUMEN OUTPUT.	35.2W LED 4742 LUMENS	FINELITE HPR LED
A2E	SAME AS FIXTURE TYPE 'A2' EXCEPT WITH INTEGRAL BATTERY BACKUP.	35.2W LED 4742 LUMENS	FINELITE HPR LED
A3	SAME AS FIXTURE TYPE 'A' EXCEPT 2' x 2' AND MEDIUM LUMEN OUTPUT.	42.8W LED 4942 LUMENS	FINELITE HPR LED
A3E	SAME AS FIXTURE TYPE 'A3' EXCEPT WITH INTEGRAL BATTERY BACKUP.	42.8W LED 4942 LUMENS	FINELITE HPR LED
B	16'-0"L x 4"W SUSPENDED LED FIXTURE, ALUMINUM HOUSING. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	7.1W/FT LED 725 LUM/FT	FINELITE HP-4 R LED
BE	SAME AS FIXTURE TYPE 'B' EXCEPT WITH INTEGRAL BATTERY BACKUP.	7.1W/FT LED 725 LUM/FT	FINELITE HP-4 R LED
C	4'-0"L x 1'-0"W SURFACE MOUNTED LED FIXTURE, 22-GAUGE DIE-FORMED C.R.S., FROSTED RIBBED ACRYLIC SHIELDING. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	51W LED 5200 LUMENS	H.E. WILLIAMS 39 SERIES
CE	SAME AS FIXTURE TYPE 'C' EXCEPT WITH INTEGRAL BATTERY BACKUP.	51W LED 5200 LUMENS	H.E. WILLIAMS 39 SERIES
D	4" DIA. RECESSED LED DOWNLIGHT FIXTURE. WIDE BEAM. 0-10V DIMMING, 120V. FINISH PER ARCHITECT	14.2W LED 1517 LUMENS	LIGHTOLIER C4RDL SERIES
DE	SAME AS FIXTURE TYPE 'D' EXCEPT WITH INTEGRAL BATTERY BACKUP.	14.2W LED 1517 LUMENS	LIGHTOLIER C4RDL SERIES
E	EXIT LIGHT, GREEN LETTERS, LED EDGE LIT WITH EMERGENCY BATTERY BACK-UP, SEE PLANS FOR NUMBER OF FACES, ARROWS AND MOUNTING REQUIRED, CLEAR BACKGROUND, SATIN ALUMINUM HOUSING FINISH, 120V.	FURN. W/ FIXT.	PRESTIGE X40 SERIES

ELECTRICAL SYMBOLS & ABBREVIATIONS

SYMBOLS & ABBREVIATIONS SHOWN ARE FOR GENERAL USE. DISREGARD THOSE WHICH DO NOT APPEAR ON THE PLANS.

- FLUORESCENT OR LED LUMINAIRE - SEE SCHEDULE
- EMERGENCY OR NIGHT LIGHT
- STRIP FLUORESCENT OR LED LUMINAIRE - SEE SCHEDULE
- LUMINAIRE - RECESSED - SEE SCHEDULE
- RECESSED WALL WASHER
- LUMINAIRE - SURFACE MOUNTED - SEE SCHEDULE
- LUMINAIRE - POLE OR POST MOUNTED - SEE SCHEDULE
- LUMINAIRE - WALL MOUNTED SEE SCHEDULE
- BOLLARD OR PATH LIGHT - SEE SCHEDULE
- EXIT LIGHT - DIRECTIONAL ARROWS AS INDICATED - SEE SCHEDULE
- TRACK LIGHTING - SEE SCHEDULE
- EMERGENCY LIGHT
- DIGITAL DUAL TECHNOLOGY OCC. SENSOR
- LIGHTING CONTROL OCCUPANCY SENSOR CORNER MOUNTED
- DRC — DIMMER ROOM CONTROLLER
- PC — PLUG LOAD CONTROLLER
- RC — ROOM LIGHTING CONTROLLER
- LCP — LIGHTING CONTROL PANEL
- DL — DIGITAL DAYLIGHT SENSOR
- $ — SINGLE POLE SWITCH **
- $a — SINGLE POLE SWITCH, ** a = CIRCUIT CONTROLLED
- $3 — THREE WAY SWITCH**
- $4 — FOUR WAY SWITCH**
- $M — MANUAL MOTOR STARTER
- $K — KEY OPERATED SWITCH **
- $ — LIGHTING DIMMER**
- $ — DIGITAL ON/OFF SWITCH **
- $D — DIGITAL DIMMER SWITCH **
- $M# — DIGITAL MULTI SCENE LIGHTING SWITCH **
- $S — DIGITAL DUAL TECHNOLOGY WALL OCC. SENSOR **
- WALL OCCUPANCY SENSOR **
- 2 — DOUBLE SWITCHED WALL OCCUPANCY SENSOR **
- DIMMING DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR **
- 2 — 2-BUTTON DIMMING DUAL TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR **

- NC — NURSE CALL DOME LIGHT - CEILING OR WALL MOUNTED; SEE DETAIL 5/E6.3
- NURSE CALL STATION SEE DETAIL 5/E6.3
- SECURITY DOOR CONTACTS
- MD — SECURITY MOTION DETECTOR
- SC — CCTV CAMERA
- KP — SECURITY SYSTEM KEYPAD
- DOOR BELL PUSHBUTTON
- CH — DOOR CHIME WITH LED
- RECEPTACLE - DUPLEX *
- DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- GFCI CONVENIENCE RECEPTACLE - DUPLEX*
- GFCI CONVENIENCE DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- RECEPTACLE DOUBLE DUPLEX*
- HALF SWITCHED DUPLEX RECEPTACLE *
- SINGLE RECEPTACLE*
- DUPLEX RECEPTACLE - CEILING MOUNTED
- HC — LETTER INDICATES DUPLEX HALF CONTROLLED RECEPTACLE *
- C — LETTER INDICATES DUPLEX FULLY CONTROLLED RECEPTACLE *
- T — RECEPTACLE - TAMPER RESISTANT *
- FLOOR MOUNTED DUPLEX RECEPTACLE *
- FLOOR MOUNTED BOX
- POWER OUTLET - SEE PLANS FOR NEMA TYPE
- RACK MOUNTED RECEPTACLE
- POWER POLE
- WALL TELEPHONE OUTLET **
- [#] — VOICE/DATA WALL OUTLET *
- [#] — VOICE/DATA OUTLET MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT *
- [#] — SURFACE MOUNTED VOICE/DATA WALL OUTLET
- [#] — SURFACE MOUNTED VOICE/DATA OUTLET MOUNTED ABOVE COUNTER - FIELD VERIFY HEIGHT
- WIRELESS ACCESS POINT (WAP) - CEILING MOUNTED
- WIRELESS ACCESS POINT (WAP) - WALL MOUNTED - FIELD VERIFY HEIGHT
- [#] — VOICE/DATA OUTLET - FLOOR MOUNTED
- TV OUTLET *
- [#] — VOICE/DATA OUTLET - CEILING MOUNTED
- HS — INTERIOR SPEAKERS WALL MOUNTED
- HC — CLOCK +8'-0" AFF U.O.N. VERIFY BEFORE INSTALLATION

- PANELBOARD - FLUSH MOUNTED
- EQUIPMENT PANEL - FLUSH MOUNTED
- PANELBOARD - SURFACE MOUNTED
- EQUIPMENT PANEL - SURFACE MOUNTED
- M — METER W/ CURRENT TRANSFORMER
- J — JUNCTION BOX - CEILING OR WALL MOUNTED, SIZE PER CODE, TAPE AND TAG WIRES
- MOTOR CONNECTION
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH; FUSED WITH DUAL-ELEMENT FUSES SIZED PER EQUIPMENT MFGR'S NAMEPLATE DATA
- COMBINATION STARTER/FUSED DISCONNECT SWITCH; FUSED DISCONNECT SWITCH ELEMENT FUSES SIZED PER EQUIPMENT MFGRS NAMEPLATE DATA
- MAGNETIC STARTER - NEMA SIZE INDICATED NEMA 3R ENCLOSURE UNLESS OTHERWISE SPECIFIED
- CIRCUIT BREAKER
- GROUND ROD WITH GROUNDWELL BOX
- GROUND ELECTRODE
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- TRANSFORMER - SEE SINGLE LINE FOR SIZE
- PULLBOX
- FLEX CONDUIT WITH CONNECTION
- CONDUIT - UP
- CONDUIT - DOWN
- E — CONDUIT EMERGENCY SYSTEM
- LV — LOW VOLTAGE WIRING
- SURFACE METAL OR NON-METALLIC RACEWAY
- CONDUIT - CONCEALED IN WALLS OR CEILING
- CONDUIT - EXISTING
- CONDUIT - BELOW SLAB OR UNDERGROUND: 3/4"MIN.
- CAPPED OR STUB-OUT CONDUIT
- CONDUIT CONTINUATION
- #10 — CONDUIT - HOME RUN TO PANEL, TERMINAL CABINET, ETC. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF #12 AWG WIRES WHEN MORE THAN TWO. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE. CROSS HATCHES WITH NUMBER ADJACENT INDICATES WIRE SIZE OTHER THAN #12 AWG.
- 2 — SHEET NOTE REFERENCE SYMBOL; SEE ASSOCIATED NOTE ON SAME SHEET
- 3 — SCHEDULE SYMBOL; SEE ASSOCIATED NOTE ON SAME SHEET

- 2 — DETAIL NOTE REFERENCE SYMBOL SEE ASSOCIATED NOTE ON SAME DETAIL
- F301 — FEEDER DESIGNATION; SEE ASSOCIATED NOTE ON SAME DETAIL
- 1 / E3.0 — DETAIL NUMBER; DETAIL OR SECTION REFERENCE; SHEET NUMBER
- 1 / 2 — INDICATES QUANTITY OF TELEPHONE OUTLETS; INDICATES QUANTITY OF DATA OUTLETS

ABBREVIATIONS

A	AMPERE	GFCI	GROUND FAULT	NTS	NOT TO SCALE
AFF	ABOVE FINISHED FLOOR	GFI	INTERRUPTING	OAH	OVERALL HEIGHT
ALUM/AL	ALUMINUM	GND, G	GROUND	OC	ON CENTER
ARCH	ARCHITECT	GRS	GALVANIZED RIGID STEEL	OH	OVERHEAD
AWG	AMERICAN WIRE GAUGE	HT	HEIGHT	PA	PUBLIC ADDRESS
BKR	BREAKER	IC	INTERCOM	PB	PULL BOX
C	CONDUIT	IDF	INTERMEDIATE DISTRIBUTION FRAME	PF	POWER FACTOR
CATV	CABLE TV			PH	PHASE
CB	CIRCUIT BREAKER	INCAND	INCANDESCENT	PIR	PASSIVE INFRARED
CCTV	CLOSED CIRCUIT TV	JB	JUNCTION BOX	PNL	PANEL
CKT	CIRCUIT	KV	KILOVOLT	PV	PHOTOVOLTAIC
CL	CENTER LINE	KVA	KILOVOLT AMPERES	PVC	POLYVINYL CHLORIDE
CLG	CEILING	KW	KILOWATT	PWR	POWER
C.O.	CONDUIT ONLY	LCP	LIGHTING CONTROL PANEL	(R)	EXISTING TO BE REMOVED
CTR	CENTER	LTG	LIGHTING	(RP)	REMOVABLE POLE
D	DIMMER	LV	LOW VOLTAGE	RECPT'S	RECEPTACLES
DIM	DIMENSION	KCM	THOUSAND CIRCULAR MILS	REQD	REQUIRED
DIST	DISTRIBUTION			REQMT'S	REQUIREMENT(S)
(E)	EXISTING	M.B.	MAIN CIRCUIT BREAKER	SHT	SHEET
EC	ELECTRICAL CONTRACTOR	MCA	MINIMUM CIRCUIT AMPS	SLD	SINGLE LINE DIAGRAM
(EL)	EVENING LIGHT	MDF	MAIN DISTRIBUTION FRAME	STC	SYSTEMS TERMINATION CABINET
EM	EMERGENCY	MECH	MECHANICAL	SW	SWITCH
EMT	ELECTRICAL METALLIC TUBING	MH	METAL HALIDE	SWBD	SWITCHBOARD
EQUIP	EQUIPMENT	MLO	MAIN LUGS ONLY	TTB	TELEPHONE TERMINAL BACKBOARD
EV	ELECTRICAL VEHICLE	MPOE	MAIN POINT OF ENTRANCE	TYP	TYPICAL
FA	FIRE ALARM	MTD	MOUNTED	UON	UNLESS OTHERWISE NOTED
FACP	FIRE ALARM CONTROL PANEL	MTG	MOUNTING	UG	UNDERGROUND
FC	FOOT CANDLE	MOCP	MAXIMUM OVER CURRENT PROTECTION	V	VOLT
FIN	FINISH	(N)	NEW	VD	VOLTAGE DROP
FL	FLOOR	NIC	NOT IN CONTRACT	W	WATT
FLA	FULL LOAD AMPS	NIEC	NOT IN ELECTRICAL CONTRACT	W/	WITH
FLUOR	FLUORESCENT	(NL)	NIGHT LIGHT	WP	WEATHERPROOF
(F)	FUTURE	NO.	NUMBER	XFMR	TRANSFORMER
GC	GENERAL CONTRACTOR	NOM	NOMINAL		

FIRE ALARM

NOTE: SEE FIRE ALARM DRAWINGS FOR QUANTITIES AND MOUNTING HEIGHTS.

- P — MANUAL PULL STATION
- STROBE ONLY
- HORN ONLY
- M — MINI HORN
- HORN/STROBE
- CHIME/STROBE
- HEAT DETECTOR
- SMOKE DETECTOR
- DUCT SMOKE DETECTOR
- TAMPER SWITCH
- FLOW SWITCH
- POST INDICATING VALVE
- FIRE SMOKE DAMPER
- BELL (GONG)
- FCP — FIRE ALARM CONTROL PANEL
- APS — AUXILIARY POWER SUPPLY
- FSA — FIRE SYSTEM ANNUNCIATOR
- FTR — FIRE ALARM TRANSPONDER OR TRANSMITTER
- ESR — ELEVATOR STATUS/RECALL
- FAC — FIRE ALARM COMMUNICATOR
- ANN — REMOTE ANNUNCIATORS
- EOL — END OF LINE

* +15" A.F.F. TO BOTTOM OF BOX, U.O.N.
** +48" A.F.F. TO TOP OF BOX, U.O.N.
[#] NUMBER IN BRACKETS DENOTES NUMBER OF CABLE DROPS WHEN MORE THAN (2).

LIGHT FIXTURE SCHEDULE CONTD.

TYPE	DESCRIPTION	LAMPS	MANUFACTURER
F	5" DIA. x 25" LONG DECORATIVE PENDANT LED FIXTURE. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	6W LED 500 LUMENS	AFX LIGHTING GEO LED GEPL SERIES
G	4'-0" DIA. PENDANT LED FIXTURE. ALUMINUM OUTER HOUSING. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	95.4W LED 13649 LUMENS	H.E. WILLIAMS RNDP SERIES
G1	3'-0" DIA. SUSPENDED WITH FULLY ADJUSTABLE AIR CRAFT CABLE LED FIXTURE. ALUMINUM OUTER HOUSING, FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	57.9W LED 6717 LUMENS	H.E. WILLIAMS RNDP SERIES
G2	2'-0" DIA. PENDANT LED FIXTURE. ALUMINUM OUTER HOUSING, FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	45.7W LED 4530 LUMENS	H.E. WILLIAMS RNDP SERIES
J	4'-0" LONG WALL OR CEILING MOUNTED ROUND LENS LED STRIP FIXTURE. 22-GAUGE DIE-FORMED C.R.S. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	49W LED 6600 LUMENS	H.E. WILLIAMS 75 SERIES
J1	2'-0" LONG WALL MOUNTED ROUND LENS LED STRIP FIXTURE. 22-GAUGE DIE-FORMED C.R.S. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	24W LED 2900 LUMENS	H.E. WILLIAMS 75 SERIES
K	4'-0" WIDE WALL MOUNTED DIRECT/ INDIRECT FIXTURE. DIE-FORMED 20-GAUGE COLD-ROLLED STEEL. FINISH PER ARCHITECT 0-10V DIMMING, 120V.	14.2W/FT LED 1533 LUM/FT	FINELITE HP-4WM LED
K1	2'-0" WIDE WALL MOUNTED DIRECT/ INDIRECT VANITY FIXTURE. DIE-FORMED 24-GAUGE COLD-ROLLED STEEL. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	14.2W/FT LED 1533 LUM/FT	FINELITE HP-2WM LED
L	SAME AS LIGHT FIXTURE TYPE "XB' EXCEPT 2' LENGTH.	25W LED	H.E. WILLIAMS 96 SERIES
XA	26" L x 20" W POLE MOUNTED LED LIGHT FIXTURE WITH SHORT ARM MOUNT (AR), TYPE 3 DISTRIBUTION, DIMMING AT 50% WITH MOTION RESPONSE, ROUND POLE ADAPTER FINISH PER ARCHITECT, 120V.	89W LED 12574 LUMENS	PHILIPS GARDCO PUREFORM P26 SERIES POLE: PRA4-CB-20' SERIES
XA2	SAME AS LIGHT FIXTURE TYPE "XA" EXCEPT TWO FIXTURE HEADS @ 180°.	(2) 89W LED	PHILIPS GARDCO PUREFORM P26 SERIES POLE: PRA4-CB-20' SERIES
XB	4' WALL MOUNTED LED FIXTURE, ALUMINUM HOUSING. FINISH PER ARCHITECT, 0-10V DIMMING, 120V.	48W LED 6400 LUMENS	H.E. WILLIAMS 96 SERIES
XC	6.16"H x 16.58" WIDE WALL MOUNTED LED FIXTURE. TYPE 2 DISTRIBUTION, 4000°K, ALUMINUM HOUSING. 0-10V DIMMING, 120V. FINISH PER ARCHITECT.	22W LED 2448 LUMENS	PHILIPS GARDCO PUREFORM WALL SCONCE (PWS)
XD	6½" DIAMETER LED EXTERIOR DOWNLIGHT LIGHT FIXTURE, CLEAR SAFETY GLASS, FINISH PER ARCHITECT, 0-10V DIMMING ELECTRONIC DRIVER, 120V.	18.1W LED	BEGA 55 928 SERIES
XF	4 ⅜" DIA. RECESSED LED DOWNLIGHT, DIE-CAST MARINE GRADE ALUMINUM HOUSING. FINISH PER ARCHITECT. 0-10V DIMMING, 120V.	8.7W LED 921 LUMENS	BEGA LIGHTING 55 923 SERIES
XG	5 ½" W x 4" L x 3" DEEP MICRO FLOOD LED FIXTURE. DIE CAST ALUMINUM ALLOY WITH SILICONE GASKETS, FINISH PER ARCHITECT, BRASS NPT SWIVEL KNUCKLE WITH STANCHION MOUNT, WIDE FLOOD OPTICS, ELECTRONIC DRIVER, 120V.	16W LED 3000°K	KIM LIGHTING EL218 SERIES

APPLICABLE CODES & STANDARDS

CODES:

1. 2016 CALIFORNIA ADMINISTRATIVE CODE C.C.R., TITLE 24, PART 1.
2. 2016 CALIFORNIA BUILDING CODE (CBC) C.C.R., TITLE 24, VOL. 1 & 2 BASED ON THE 2015 INTERNATIONAL BUILDING CODE (IBC) WITH CALIFORNIA AMENDMENTS.
3. 2016 CALIFORNIA ELECTRICAL CODE (CEC) C.C.R., TITLE 24, PART 3 BASED ON THE 2014 NATIONAL ELECTRICAL CODE (NEC) WITH CALIFORNIA AMENDMENTS.
4. 2016 CALIFORNIA MECHANICAL CODE (CMC) C.C.R., TITLE 24, PART 4 BASED ON THE 2015 UNIFORM MECHANICAL CODE (UMC) WITH CALIFORNIA AMENDMENTS.
5. 2016 CALIFORNIA PLUMBING CODE (CPC) C.C.R., TITLE 24, PART 5 BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC) WITH CALIFORNIA AMENDMENTS.
6. 2016 CALIFORNIA ENERGY CODE C.C.R., TITLE 24, PART 6.
7. 2016 CALIFORNIA FIRE CODE (CFC) C.C.R., TITLE 24, PART 9 BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC) WITH CALIFORNIA AMENDMENTS.
8. 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE C.C.R., TITLE 24, PART 11.
9. 2016 CALIFORNIA REFERENCED STANDARDS CODE C.C.R., TITLE 24, PART 12.
10. TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
11. NATIONAL FIRE ALARM CODE (NFPA 72) 2016.
12. CITY OF SALINAS ORDINANCES, CODES, AND REGULATIONS.

STANDARDS:

1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
2. ELECTRONICS INDUSTRIES ASSOCIATION (EIA)
3. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
4. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
5. NATIONAL ELECTRICAL TESTING ASSOCIATION (NETA)
6. UNDERWRITER LABORATORIES (UL)
7. CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT STANDARDS (CAL/OSHA)

SHEET INDEX

E0.1 SYMBOLS, ABBREVIATIONS, LIGHT FIXTURE SCHEDULE, CODES, STANDARDS, NOTES & SHEET INDEX.
E0.2 CALIFORNIA ENERGY COMPLIANCE TITLE 24 (BUILDING INTERIOR).
E0.3 CALIFORNIA ENERGY COMPLIANCE TITLE 24 (BUILDING EXTERIOR).
E0.4 CALIFORNIA ENERGY COMPLIANCE TITLE 24 (POWER DISTRIBUTION).
E1.1 ELECTRICAL SINGLE LINE DIAGRAM.
E1.2 PANELBOARD SCHEDULES.
E2.1 ELECTRICAL SITE PLAN.
E3.1 PARTIAL POWER PLAN - 1ST FLOOR.
E3.2 PARTIAL POWER PLAN - 1ST FLOOR.
E3.3 PARTIAL POWER PLAN - 2ND FLOOR.
E3.4 PARTIAL POWER PLAN - 2ND FLOOR.
E5.1 PARTIAL LIGHTING PLAN - 1ST FLOOR.
E5.2 PARTIAL LIGHTING PLAN - 1ST FLOOR.
E5.3 PARTIAL LIGHTING PLAN - 2ND FLOOR.
E5.4 PARTIAL LIGHTING PLAN - 2ND FLOOR.
E6.1 ELECTRICAL DETAILS.
E6.2 ELECTRICAL DETAILS.
E6.3 ELECTRICAL DETAILS.
E6.4 ELECTRICAL DETAILS.
E6.5 ELECTRICAL DETAILS.

REGISTERED PROFESSIONAL ENGINEER — ELDRIDGE O. BELL — No. E17769 — Exp. 6/30/22 — ELECTRICAL — STATE OF CALIFORNIA

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Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

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Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.10.21 BID SET

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Sheet Title:
SYMBOLS, ABBREVIATIONS, LIGHT FIXTURE SCHEDULE, CODES, STANDARDS, NOTES & SHEET INDEX

Sheet Number:
E0.1

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STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 3/18) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E
This document is used to demonstrate compliance with requirements in §110.9, §130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.
Project Name: Monterey County Integrated Health Center Report Page: Page 1 of 9
Project Address: 331 N. SANBORN RD., SALINAS CA 93905 Date Prepared: 07/03/2019

A. GENERAL INFORMATION

01	Project Location (city)	Salinas	04	Total Conditioned Floor Area (ft²)	19,480
02	Climate Zone	3	05	Total Unconditioned Floor Area (ft²)	
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	

☐ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☐ School ☐ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☑ Other (write in): Behavioral Health Center - Medical/Clinical Building

B. PROJECT SCOPE
Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☑ New Lighting System	Complete Building	19,480		
☐ Altered Lighting System				
Total Area of Work (ft²):	**19,480**			

C. COMPLIANCE RESULTS
Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1.	Allowed Lighting Power per §140.6(b) (Watts)						Actual Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04		05	06	07	08	09	10
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Footnotes §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	=	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments: Portable Lighting §140.6(a) (-)	Adjustments: PAF Control Credits §140.6(a)2 (-)	= **Total Actual** (Watts) *Includes Adjustments	**05 Must be ≥ 09** §140.6
	(See Table I)	(See Table I)	(See Table K)	(See Table L)			(See Table F)	(See Table J)	(See Table R)		
Conditioned:	19,480				=	**19,480**	≥ 10,989.8			= **10,989.8**	**COMPLIES**
Unconditioned:					=		≥			=	
Controls Compliance (See Table H for Details)											**COMPLIES with Exceptional Conditions**
Rated Power Reduction Compliance (See Table S for Details)											**Not Applicable**

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Table H. Indoor Lighting Controls Permit Applicant Notes:
ELECTRICAL: Exempt Because Electrical equipment room.
OCC. THERAPY: Exempt because less than 120 watts of general lighting.
TREATMENT: Exempt because less than 120 watts of general lighting.
JANITOR: Exempt because area is less than 100 square feet.
RESTROOM CORRIDOR: Exempt because area is less than 100 sq.are feet.
EXAM ROOM: Exempt because less than 120 watts of general lighting.
RECEPTION: Exempt because is emergency lighting.
CHILDREN: Exempt because less than 120 watts of general lighting.
MA/MD WORK AREA: Exempt because less than 120 watts of gereral lighting.
ELEV. EQUIP.: Exempt Because Electrical equipment room.
STAIR: 130.1(b) Exempt due load below 0.5 W/sqft. 130.1(c) Exempt because is emergency lighting. 130.1(d) Exempt because less than 120 watts of general lighting.
LACT. 2ND FLOOR: Exempt because area is less than 100 square feet.
OFFICE W/WINDOW: Exempt because less than 120 watts of gereral lighting.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE
Table Instructions: Include all permanent designed lighting and all portable lighting in offices.
Designed Wattage: Conditioned Spaces

01	02	03		04	05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Specialized Luminaire Types: Track	Specialized Luminaire Types: Portable	Watts per luminaire[1]	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector: Pass	Field Inspector: Fail
A	2'x4' T-BAR LED VERY HIGH LUMEN	☐	☐	55.1	Mfr. Spec[1]	75	☐	4,132.5	☐	☐
A1	2'x4' T-BAR LED HIGH LUMEN	☐	☐	40.6	Mfr. Spec[1]	16	☐	649.6	☐	☐
A1E	SAME AS 'A1' W/BATTERY	☐	☐	40.6	Mfr. Spec[1]	1	☐	40.6	☐	☐
A2	SAME AS 'A' W/ BOOSTED LUMEN	☐	☐	35.2	Mfr. Spec[1]	25	☐	880	☐	☐
A2E	SAME AS 'A2' W/ BATTERY	☐	☐	35.2	Mfr. Spec[1]	38	☐	1,337.6	☐	☐

Table Continued

01	02	03		04	05	06	07	08	09	
Name or Item Tag	Complete Luminaire Description	Specialized Luminaire Types: Track	Specialized Luminaire Types: Portable	Watts per luminaire[1]	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector: Pass	Field Inspector: Fail
A3	2'x2' T-BAR LED MEDIUM LUMEN	☐	☐	42.8	Mfr. Spec[1]	2	☐	85.6	☐	☐
B	16'x4' LED	☐	☐	113.6	Mfr. Spec[1]	2	☐	227.2	☐	☐
BE	SAME AS 'B' W/BATTERY	☐	☐	113.6	Mfr. Spec[1]	3	☐	340.8	☐	☐
C	4'x1' LED	☐	☐	51	Mfr. Spec[1]	15	☐	765	☐	☐
CE	SAME AS 'C' W/BATTERY	☐	☐	51	Mfr. Spec[1]	6	☐	306	☐	☐
D	4' DIA LED	☐	☐	14.2	Mfr. Spec[1]	33	☐	468.6	☐	☐
DE	SAME AS 'D' W/BATTERY	☐	☐	14.2	Mfr. Spec[1]	25	☐	355	☐	☐
F	6"x25" LED	☐	☐	31	Mfr. Spec[1]	4	☐	124	☐	☐
G	4' DIA LED	☐	☐	95.4	Mfr. Spec[1]	2	☐	190.8	☐	☐
G1	3' DIA LED	☐	☐	57.9	Mfr. Spec[1]	3	☐	173.7	☐	☐
G2	2' DIA LED	☐	☐	45.7	Mfr. Spec[1]	2	☐	91.4	☐	☐
J	4' LONG LED	☐	☐	49	Mfr. Spec[1]	7	☐	343	☐	☐
J1	2' LONG LED	☐	☐	24	Mfr. Spec[1]	1	☐	24	☐	☐
K	6' WIDE LED	☐	☐	85.2	Mfr. Spec[1]	2	☐	170.4	☐	☐
K1	2' WIDE LED	☐	☐	28.4	Mfr. Spec[1]	10	☐	284	☐	☐
						Total Designed Watts CONDITIONED SPACES:		**10,989.8**		

[1]*NOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. TRACK LIGHTING
This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)
Table Instructions:
*Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls			
01	02	03	
Mandatory Demand Response §130.1(e)	Shut-off Controls §130.1(c)	Field Inspector: Pass	Field Inspector: Fail
Required > 10,000 SF	See Area Level Controls	☐	☐
Area Level Controls			

Table Continued

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector: Pass	Field Inspector: Fail
MECHANICAL	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
CONTROLS	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
IT	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
ELECTRICAL	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Exempt *	N/A	N/A	☐	☐	☐
OCC. THERAPY	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
TREATMENT	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
STAIR	Medical Building/Clinic Building	Manual ON/OFF	Exempt *	Exempt *	Exempt *	Exempt *	☐	☐	☐
JANITOR	Medical Building/Clinic Building	Manual ON/OFF	Exempt *	Occ Sensor	N/A	N/A	☐	☐	☐
STORAGE	Medical Building/Clinic Building	Manual ON/OFF	Exempt *	Occ Sensor	N/A	N/A	☐	☐	☐
CORRIDOR	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
RESTROOM	Medical Building/Clinic Building	Manual ON/OFF	Exempt *	Occ Sensor	N/A	N/A	☐	☐	☐
PC IT	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
OBSERVATION	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
EXAM ROOM	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
DIRTY	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
OFFICE	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
MAIL	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
CLEAN	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
RECEPTION	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Exempt *	N/A	N/A	☐	☐	☐
CHILDREN	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
MED. ROOM	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
WAITING	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Included	Included	☐	☐	☐
LACTATION	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
MULTI-PURPOSE RM	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Included	Included	☐	☐	☐
MA/MD WORK AREA	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
TEL MED	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
DE ESCALATION	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
KITCHENETTE	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
ELEV. EQUIP.	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Exempt *	N/A	N/A	☐	☐	☐

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector: Pass	Field Inspector: Fail
STORAGE	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
STAIR	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
OFFICE W/WINDOW	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Exempt *	Exempt *	☐	☐	☐
STAFF ROOM	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Included	Included	☐	☐	☐
LACT. 2ND FLOOR	Medical Building/Clinic Building	Manual ON/OFF	Exempt *	Occ Sensor	N/A	N/A	☐	☐	☐
BIG RESTROOM	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	N/A	N/A	☐	☐	☐
WORK AREA	Medical Building/Clinic Building	Manual ON/OFF	Dimmer	Occ Sensor	Included	Included	☐	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.

EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting;
EXCEPTION 1 to §130.1(d)2

ELECTRICAL	Exempt Because Electrical equipment room.
OCC. THERAPY	Exempt because less than 120 watts of general lighting.
TREATMENT	Exempt because less than 120 watts of general lighting.
JANITOR	Exempt because area is less than 100 square feet.
RESTROOM CORRIDOR	Exempt because area is less than 100 square feet.
EXAM ROOM	Exempt because less than 120 watts of general lighting.
RECEPTION	Exempt because is emergency lighting.
CHILDREN	Exempt because less than 120 watts of general lighting.
MA/MD WORK AREA	Exempt because less than 120 watts of general lighting.
ELEV. EQUIP.	Exempt Because Electrical equipment room.
STAIR	130.1(b) Exempt due load below 0.5 W/sqft. 130.1(c) Exempt because is emergency lighting. 130.1(d) Exempt because less than 120 watts of general lighting.
LACT. 2ND FLOOR	Exempt because area is less than 100 square feet.
OFFICE W/WINDOW	Exempt because less than 120 watts of general lighting.

13
Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS
Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.
Conditioned Spaces

01	02	03	04	05	06		
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustments: Footnotes	PAF	Portable Ltg
Behavioral Health Center - Medica	Medical Building/Clinic Building	1	19,480	19,480	☐	☐	☐
		TOTAL:	**19,480**	**19,480**	See Tables J, K, R for detail		

J. POWER ADJUSTMENT: PORTABLE LIGHTING IN OFFICES
This Section Does Not Apply

K. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD FOOTNOTES
This Section Does Not Apply

L. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED SPECIAL FUNCTION AREAS
This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This Section Does Not Apply

P. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This Section Does Not Apply

Q. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This Section Does Not Apply

R. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (PAF)
This Section Does Not Apply

S. RATED POWER REDUCTION COMPLIANCE BY SPACE
This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at http://www.energy.ca.gov/2015publications/CEC-400-2015-033/appendices/forms/NRCI

YES	NO	Form/Title	Field Inspector: Pass	Field Inspector: Fail
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
◉	○	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector: Pass	Field Inspector: Fail
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
◉	○	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
◉	○	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	◉	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).	☐	☐

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Eldridge O. Bell	Documentation Author Signature:	
Company:	Aurum Consulting Engineers	Signature Date:	7/3/19
Address:	60 Garden Ct., Suite 210	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Monterey, CA 93940	Phone:	831-646-3330

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Eldridge O. Bell	Responsible Designer Signature:	
Company :	Aurum Consulting Engineers	Date Signed:	7/3/19
Address:	60 Garden Ct., Suite 210	License:	E17789
City/State/Zip:	Monterey, CA 93940	Phone:	831-646-3330

Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

The Paul Davis Partnership, LLP
286 Eldorado Street
Monterey, CA 93940
(831) 373-2784 FAX (831) 373-7459
EMAIL: info@pauldavispartnership.com

Drawn By: CADD
Drawing Date: 12.18.19
Project Number: 1838

Revisions:
09.10.21 BID SET

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REGISTERED PROFESSIONAL ENGINEER
ELDRIDGE O. BELL
No. E17789
EXP. 6/30/22
ELECTRICAL
STATE OF CALIFORNIA

AURUM CONSULTING ENGINEERS MONTEREY BAY, INC.
Project No. 18222.00
60 Garden Court • Suite 210 • Monterey, CA 93940
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Sheet Title:
CALIFORNIA ENERGY COMPLIANCE
TITLE 24 BUILDING INTERIOR

Sheet Number:
E0.2

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STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 9/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
This document is used to demonstrate compliance with requirements in §110.9, §130.0, §130.2, §140.7, and §141.0(b)2L for outdoor lighting scopes using the prescriptive path.		
Project Name: Behavioral Health Center	Report Page:	Page 1 of 6
Project Address: 331 N. Sanborn Rd	Date Prepared:	07.03.19

A. GENERAL INFORMATION

01	Project Location (city)	Salinas	04 Total Illuminated Hardscape Area (ft²)	42,188
02	Climate Zone	3		
03	Outdoor Lighting Zone per Title 24, Part 1 §10-114 or as designated by Authority Having Jurisdiction (AHJ):			

☐ LZ-0: Very Low - Undeveloped Parkland ☐ LZ-2: Moderate - Rural Areas ☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval
☐ LZ-1: Low - Developed Parkland ☑ LZ-3: Moderately High - Urban Areas

B. PROJECT SCOPE

Table Instructions: Include any outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My project consists of:

01	02
☑ New Lighting System	Must Comply with Allowances from §140.7.
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ◯ Yes ◯ No

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100*

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Calculation of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L										Compliance Results		
01		02		03		04		05	06	07	08	09
General Hardscape Allowance §140.7(d)1	+	Per Application §140.7(d)2	+	Sales Frontage §140.7(d)2	+	Ornamental §140.7(d)2	+	Per Specific Area §140.7(d)2 OR	Existing Power §141.0(b)2L	= Total Allowed (Watts)	≥ Total Actual (Watts)	07 Must be ≥ 08
(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	(See Table N)		(See Table F)	
2,666.92	+	162	+		+		+	OR	=	2,828.92	≥ 2,168.8	COMPLIES
Cutoff Compliance (See Table G for Details)											Not Applicable	
Controls Compliance (See Table H for Details)											COMPLIES	

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 9/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Behavioral Health Center	Report Page:	Page 2 of 6
Project Address: 331 N. Sanborn Rd	Date Prepared:	07.03.19

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Total Hardscape Area in Table A does not match the areas entered in Table I. Please review for compliance.
A luminaire in Table F may be required to comply with Cutoff Requirements, but nothing has been selected in Table F. Column 09.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: For new or altered lighting systems demonstrating compliance with §140.7 (ie Table I has expanded for input), include all luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L (ie Table N has expanded for input), include only new luminaires being installed and replacement luminaires being installed as part of the project scope (ie, do not include existing luminaires remaining or existing luminaires being moved).

Designed Wattage:

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Watts per luminaire[1]	How Wattage is determined	Total number luminaires	Luminaire Status[2]	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 150W §130.2(b)[3]	Field Inspector Pass	Field Inspector Fail
XA	Pole Mount LED	89	Mfr. Spec[1]	16	New	☐	1,424		☐	☐
XA2	(2) Pole Mount LED	178	Mfr. Spec[1]	3	New	☐	534		☐	☐
XC	Wall Mount LED	22	Mfr. Spec[1]	4	New	☐	88		☐	☐
XCE	Wall Mount LED	22	Mfr. Spec[1]	4	New	☐	88		☐	☐
XFE	Recessed Downlight LED	8.7	Mfr. Spec[1]	4	New	☐	34.8		☐	☐
						Total Designed Watts:	2,168.8			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b).

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 9/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Behavioral Health Center	Report Page:	Page 3 of 6
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[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c)*
[2] *Select "New" for new luminaires in a new outdoor lighting project or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope*
[3] *Compliance with mandatory cutoff requirements is required for luminaires with wattage > 150 Watts unless exempted by §130.2(b).*

G. CUTOFF REQUIREMENTS (BUG)

This Section Does Not Apply

H. OUTDOOR LIGHTING CONTROLS

Table Instructions: Complete this table demonstrating compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank. For each requirement in columns 02 through 07, do not leave the field blank, instead select NA or Exempt* from the dropdown list to indicate not applicable or an exemption.*

Mandatory Controls

01	02	03	04	05	06	07	08	
Area Description	Motion Sensor: Incandescent>100W §130.2(a)	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Sales Frontage §130.2(c)4	Façade, Ornament, Outdoor Dining §130.2(c)5	Field Inspector Pass	Field Inspector Fail
Pedestrian Walkway	NA: No Incand>100W	Astronomical Timer	Yes	NA: Mounted>24ft	NA: No Sales Front Ltg	No Applicable Ltg	☐	☐
Parking Lot	NA: No Incand>100W	Astronomical Timer	Yes	NA: Mounted>24ft	NA: No Sales Front Ltg	No Applicable Ltg	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c).

I. LIGHTING POWER ALLOWANCE (per §140.7)

Table Instructions: Please complete this table for areas using the allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lost it" Allowances are per Table 140.7-B. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

01					
	"Use it or lose it" Allowance (Watts)				
☑ General Hardscape Allowance	☑ Per Application	☐ Sales Frontage	☐ Ornamental	☐ Per Specific Area	
Table I (below)	Table J	Table K	Table L	Table M	

Table Continued

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 9/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Behavioral Health Center	Report Page:	Page 4 of 6
Project Address: 331 N. Sanborn Rd	Date Prepared:	07.03.19

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Parking Lot	42,188	0.04	1,687.52	1,108	0.35	387.8	2,075.32
Pedestrian Hardscape	670	0.04	26.8	128	0.35	44.8	71.6
						Initial Wattage Allowance for Entire Site (Watts):	520
						Total General Hardscape Allowance (Watts):	2,666.92

J. LIGHTING ALLOWANCE: PER APPLICATION

Table Instructions: Please complete this table for areas using the wattage allowance per application from Table-140.7-B.

01	02	03	04	05	06	07	08	09	10
Area Description	Application per Table 140.7-B[1]	CALCULATED ALLOWANCE (Watts) # of Locations	Allowance per Location[2] (Watts)	Extra Allowance (Watts)	DESIGN WATTS Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	Additional Allowance (Watts)
3' Bldg. Entrances	Bldg Entrance/ Exit	4	35	140	XC	22	2	44	
					XCE	22	5	110	
					XFE	8.7	2	17.4	
							Total Design Watts for this Area:	171.4	140
6' Bldg. Entrance	Primary Entrance (Special)	1	120	120	XC	22	1	22	
							Total Design Watts for this Area:	22	22
								Total Allowance (Watts) All Areas:	162

[1] *FOOTNOTES: Primary entrance applications are only avaiable for senior care facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.*
[2] *The Allowance per Location for ATMs is 250W for the firs: ATM and 70W for each additional per Table 140.7-B.*

STATE OF CALIFORNIA
Outdoor Lighting
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CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
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Project Address: 331 N. Sanborn Rd	Date Prepared:	07.03.19

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This Section Does Not Apply

L. LIGHTING ALLOWANCE: ORNAMENTAL

This Section Does Not Apply

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This Section Does Not Apply

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This Section Does Not Apply

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at http://www.energy.ca.gov/2015publications/CEC-400-2015-033/appendices/forms/NRCI

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	◯	NRCI-LTO-01-E - Must be submitted for all buildings.	☐	☐
◉	◯	NRCI-LTO-02-E - Must be submitted for a lighting control system; or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	◯	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls area added to ≤ 20 luminaires.	☐	☐

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 9/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: Behavioral Health Center	Report Page:	Page 6 of 6
Project Address: 331 N. Sanborn Rd	Date Prepared:	07.03.19

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Eldridge O. Bell	Documentation Author Signature:	
Company:	Aurum Consulting Engineers	Signature Date:	
Address:	60 Garden Ct., Suite 210	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Monterey, CA 93940	Phone:	831-646-3330

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Eldridge O. Bell	Responsible Designer Signature:	
Company :	Aurum Consulting Engineers	Date Signed:	07.03.19
Address:	60 Garden Ct., Suite 210	License:	E17789
City/State/Zip:	Monterey, CA 93940	Phone:	831-646-3330

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
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286 Eldorado Street
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EMAIL: info@pauldavispartnership.com

Drawn By: CADD

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.10.21 BID SET

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REGISTERED PROFESSIONAL ENGINEER
ELDRIDGE O. BELL
No. E17789
6/30/22
ELECTRICAL
STATE OF CALIFORNIA

AURUM CONSULTING ENGINEERS
MONTEREY BAY, INC.

Project No. 18222.00

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Sheet Title:
CALIFORNIA ENERGY COMPLIANCE
TITLE 24 BUILDING EXTERIOR

Sheet Number:
E0.3

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STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

This document is used to demonstrate compliance with mandatory requirements in §130.5 for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2F for alterations.

Project Name: Behavioral Health Center	Report Page: Page 1 of 3
Project Address: 331 N. Sanborn Rd	Date Prepared: 07.03.19

A. GENERAL INFORMATION

01 Project Location (city)	Salinas	02 Occupancy Types Within Project:	
☐ Office	☐ Retail	☐ Warehouse	☐ Hotel/ Motel
☐ School	☐ Support Areas	☐ Parking Garage	☐ High-Rise Residential
☐ Relocatable	☑ Other (Write In):	Health Center - Medical/Clinical Care	

B. PROJECT SCOPE

Table Instructions: Include any electrical service systems that are within the scope of the permit application.

01	02	03	04	05
				Demand Response Controls
Electrical Service Designation/ Description	Scope of Work	Rating (kVA)	Utility Provided Metering System Exception to §130.5(a)[1]	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.
			☐	

[1] *FOOTNOTES: Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.*

C. COMPLIANCE RESULTS

Table Instructions: If this table says "DOES NOT COMPLY" refer to Table D. for guidance and review the Table that indicates "No".

01		02		03		04	05
Service Electrical Metering §130.5(a)	AND	Separation for Monitoring §130.5(b)	AND	Voltage Drop §130.5(c)	AND	Controlled Receptacles §130.5(d)	**Compliance Results**
(See Table F)		(See Table G)		(See Table H)		(See Table I)	
	AND		AND		AND		

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 12/17) CA.IFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name: Behavioral Health Center	Report Page: Page 2 of 3
Project Address: 331 N. Sanborn Rd	Date Prepared: 07.03.19

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. SERVICE ELECTRICAL METERING

This Section Does Not Apply

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This Section Does Not Apply

H. VOLTAGE DROP

This Section Does Not Apply

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This Section Does Not Apply

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCI-ELC-01-E - Must be submitted for all buildings.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to electrical power distribution requirements.

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards December 2017

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name: Behavioral Health Center	Report Page: Page 3 of 3
Project Address: 331 N. Sanborn Rd	Date Prepared: 07.03.19

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Eldridge O. Bell	Documentation Author Signature:	
Company:	Aurum Consulting Engineers	Signature Date:	
Address:	60 Garden Ct., suite 210	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Monterey, CA 93940	Phone:	831-646-3330

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
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Responsible Designer Name:	Eldridge O. Bell	Responsible Designer Signature:	
Company :	Aurum Consulting Engineers	Date Signed:	07.03.19
Address:	60 Garden Ct., suite 210	License:	E17789
City/State/Zip:	Monterey, CA 93940	Phone:	831-646-3330

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards December 2017

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
A.P.N. 004-601-015-000

THE PAUL DAVIS PARTNERSHIP
ARCHITECTS & PLANNERS

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09.10.21 BID SET

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REGISTERED PROFESSIONAL ENGINEER
ELDRIDGE O. BELL
No. E17789
EXP. 6/30/22
ELECTRICAL
STATE OF CALIFORNIA

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Project No. 18222.00

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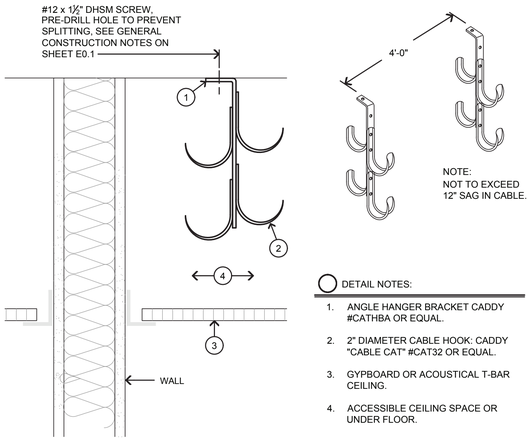
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Sheet Title:
CALIFORNIA ENERGY COMPLIANCE
TITLE 24 BUILDING POWER DISTRIBUTION

Sheet Number:

E0.4

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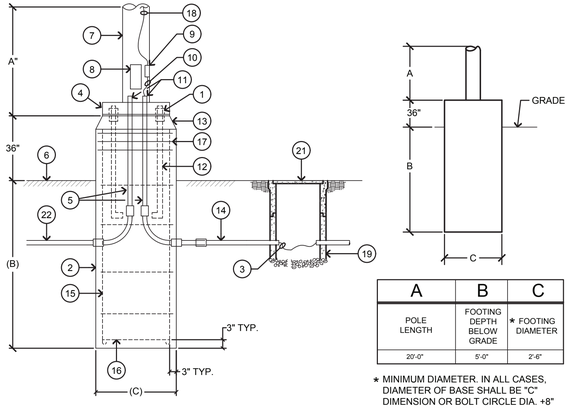


DETAIL NOTES:

1. ANGLE HANGER BRACKET CADDY #CATHBA OR EQUAL.
2. 2" DIAMETER CABLE HOOK: CADDY "CABLE CAT" #CAT32 OR EQUAL.
3. GYPBOARD OR ACOUSTICAL T-BAR CEILING.
4. ACCESSIBLE CEILING SPACE OR UNDER FLOOR.

7 J-HOOK MOUNTING DETAIL

NO SCALE



A	B	C
POLE LENGTH	FOOTING DEPTH BELOW GRADE	⋆ FOOTING DIAMETER
20'-0"	5'-0"	2'-6"

⋆ MINIMUM DIAMETER. IN ALL CASES, DIAMETER OF BASE SHALL BE "C" DIMENSION OR BOLT CIRCLE DIA. +8" WHICHEVER IS GREATER.

DETAIL NOTES:

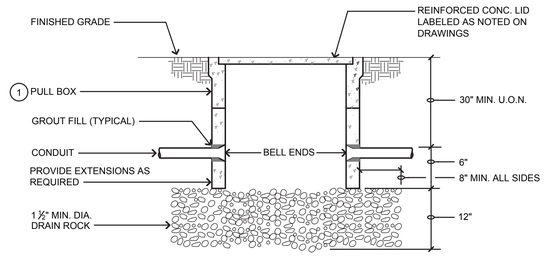
1. LEVELING NUTS.
2. CONCRETE BASE, MINIMUM 3000 PSI (COMPRESSIVE STRENGTH - 28 DAYS MIN).
3. SITE LIGHTING BRANCH CIRCUIT
4. BASE COVER.
5. RIGID STEEL ELBOWS AND CONDUIT, WRAP WITH PVC TAPE OVERLAPPED 50%.
6. FINISHED GRADE.
7. LUMINAIRE POLE.
8. HAND HOLE.
9. GROUNDING LUG.
10. GROUND CONDUCTOR.
11. BUSHING, ON CONDUIT(S), CAP BEFORE POURING CONCRETE.
12. ANCHOR BOLT; QUANTITY & SIZE PER POLE MFGR. FURNISHED WITH POLE. ANCHOR BOLTS SHALL BE WITHIN VERTICAL REBAR CAGE.
13. GROUT FILL WITH 45 DEGREE BEVEL.
14. PVC SCH 40 FROM RIGID STEEL ELBOW TO PULLBOX.
15. SIX VERTICAL REBAR (#4 GRADE 40 MINIMUM), EQUAL SPACING & HOOK ENDS.
16. HORIZONTAL TIES REBAR (#4 GRADE 40 MINIMUM), 9" O.C.
17. 3#3 TIES IN UPPER 5" OF BASE.
18. #10 EQUIPMENT GROUNDING CONDUCTOR FROM POLE GROUND LUG TO LUMINAIRE.
19. TYPICAL PULLBOX INSTALLATION, SEE 5/E1.1.
20. NOTE NOT USED.
21. SEE SHEET E2.1 FOR PULLBOX SCHEDULE.
22. PVC SCH 40 FROM RIGID STEEL ELBOW TO CCTV PULLBOX.

6 FIXTURE TYPES "XA" POLE BASE WITH CCTV DETAIL

NO SCALE

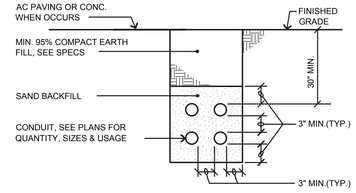
DETAIL NOTES:

1. SIZE(S) & MFGR. AS NOTED ON DRAWINGS.



5 TYPICAL PULLBOX DETAIL

NO SCALE



NOTES:

1. SAW CUT, TRENCH & BACKFILL FOR (N) CONDUITS. PATCH WALKWAY TO MATCH (E) SURROUNDING SURFACES. CARE SHALL BE TAKEN TO PROTECT EXISTING TREES. RESEED OR RESOD (E) DISTURBED PLANTED AREAS TO ARCHITECT'S SATISFACTION.
2. EXISTING A.C. SHALL BE CUT AND REMOVED IN SUCH A MANNER SO AS NOT TO TEAR BULGE OR DISPLACE ADJACENT PAVEMENT. EDGES SHALL BE CLEAN AND VERTICAL. ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO STREET CENTERLINE, WHEN PRACTICAL.
3. BASE MATERIAL TO BE REPLACED TO THE DEPTH OF EXISTING BASE AND COMPACTED TO A MIN. 95% RELATIVE COMPACTION. A.C. MAY BE SUBSTITUTED FOR BASE MATERIAL. WHEN USED AS BACKFILL, CLASS 100-E-100 P.C.C. MAY BE SUBSTITUTED FOR BASE MATERIAL.
4. A TACK COAT OF ASPHALTIC EMULSION OR PAVING ASPHALT SHALL BE APPLIED TO EXISTING A.C. AT ALL CONTACT SURFACES, PRIOR TO RESURFACING.
5. ASPHALTIC CONCRETE RESURFACING;
   A) MINIMUM TOTAL THICKNESS SHALL BE ONE INCH GREATER THAN EXISTING A.C.
   B) A.C. SHALL BE HOT PLANT MIX.
6. ALL A.C. RESURFACING SHALL BE SEAL COATED WITH AN EMULSIFIED ASPHALT AND COVERED WITH CLEAN SAND.

4 TYPICAL TRENCH SECTION

NO SCALE

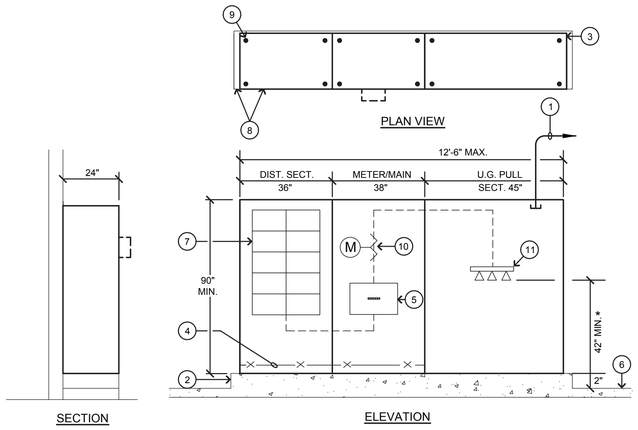
DETAIL NOTES:

1. MAIN ELECTRICAL SERVICE SWITCHBOARD.
2. INCOMING NEUTRAL.
3. SERVICE NEUTRAL LANDING LUG/NEUTRAL BUS.
4. GROUND BUS.
5. REMOVABLE MAIN SERVICE BONDING JUMPER FURNISHED WITH SWITCHBOARD CONNECTED BY CONTRACTOR.
6. 1" PVC #3/0 WITH BARE COPPER GROUNDING ELECTRODE CONDUCTOR.
7. COLD WATER PIPE IN THE BUILDING WITHIN 5' OF ENTRANCE OF BUILDING THAT MEETS REQUIREMENTS OF CEC 250.52 (A)(1).
8. BOLTED-TYPE CONNECTION OR EXOTHERMIC WELD.
9. NON-METALLIC PROTECTIVE SLEEVE.
10. MIN. 20 LINEAR FEET OF #3/0 AWG BARE COPPER CONDUCTOR NO LESS THAN 2" FROM BOTTOM OF CONCRETE FOOTING IN DIRECT CONTACT WITH EARTH. IF NOT IN DIRECT CONTACT WITH EARTH INSTALL GROUND ROD PER 250.52(5). INSTALL ROD IN GROUND WELL BOX.

GENERAL NOTE:
IF AVAILABLE ON THE PREMISES AT EACH BUILDING OR STRUCTURE SERVED EACH OF THE FOLLOWING SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM (PER CEC 250-50):
a. METAL WATER PIPE
b. METAL FRAME OF BUILDING
c. GROUND RING
d. OTHER ELECTRODES PER CEC 250-50

3 ELECTRICAL SERVICE (UFER) GROUND

NO SCALE



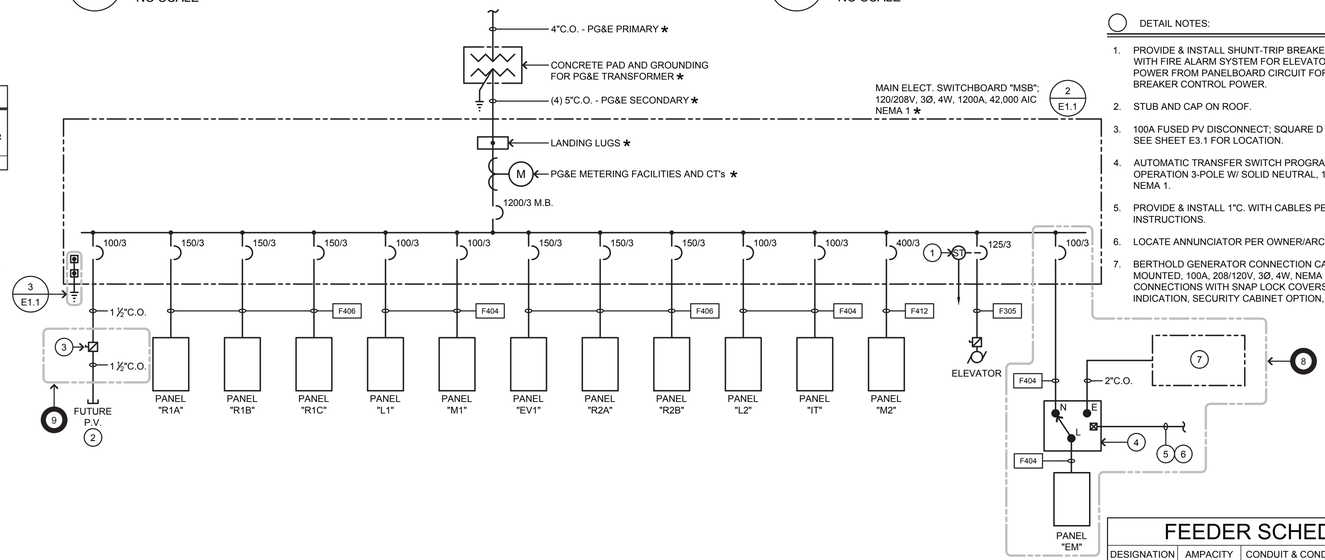
DETAIL NOTES:

1. ¾"C.O. TO TELEPHONE TERMINAL BOARD.⋆
2. HOUSEKEEPING PAD 2" HIGHER THAN TOP OF SLAB.⋆
3. MIN. 1" CLEAR BETWEEN WALL & SWITCHBOARD.
4. FULL LENGTH CU. GND. BUS.
5. MAIN BREAKER.
6. TOP OF SLAB.
7. FEEDER BREAKER (TYP.) (SEE SINGLE LINE FOR SIZES AND QUANTITIES.
8. 3" SIDES & 1" BACK, PAD SHALL BE FLUSH WITH FRONT OF SWITCHBOARD.
9. ½" DIA. x 4" LONG CONC. EXPANSION ANCHOR. "HILTI" OR EQUAL AT EACH CORNER OF EACH SECTION. MIN. 3½" EMBEDMENT.
10. METERING FACILITIES & C.T.S.⋆
11. LANDING LUGS.⋆

2 MAIN SWITCHBOARD "MSB" ELEVATION

NO SCALE

⋆ PER PG&E RULES, REGULATIONS & STANDARDS.



DETAIL NOTES:

1. PROVIDE & INSTALL SHUNT-TRIP BREAKER AND INTERLOCK WITH FIRE ALARM SYSTEM FOR ELEVATOR RE-CALL. RUN POWER FROM PANELBOARD CIRCUIT FOR SHUNT TRIP BREAKER CONTROL POWER.
2. STUB AND CAP ON ROOF.
3. 100A FUSED PV DISCONNECT; SQUARE D MODEL # H323NRB. SEE SHEET E3.1 FOR LOCATION.
4. AUTOMATIC TRANSFER SWITCH PROGRAMMED FOR MANUAL OPERATION 3-POLE W/ SOLID NEUTRAL, 100A, 120/208V, 3Ø, NEMA 1.
5. PROVIDE & INSTALL 1"C. WITH CABLES PER MFR INSTALLATION INSTRUCTIONS.
6. LOCATE ANNUNCIATOR PER OWNER/ARCHITECT DIRECTION.
7. BERTHOLD GENERATOR CONNECTION CABINET. PAD MOUNTED, 100A, 208/120V, 3Ø, 4W, NEMA 3R, CAM-LOCK CONNECTIONS WITH SNAP LOCK COVERS, PHASE SEQUENCE INDICATION, SECURITY CABINET OPTION, POWDER COAT FINISH
8. **BID ALTERNATIVE #1 - AUTOMATIC TRANSFER SWITCH AND CONNECTION CABINET.**
9. **BID ALTERNATIVE #3 - PV SOLAR. SEE PHOTOVOLTAIC PERFORMANCE SPECIFICATIONS FOR REQUIREMENTS. BASE BID SHALL INCLUDE CONDUIT ONLY FROM SERVICE TO RESERVED PV EQUIPMENT SPACE AND CONDUIT ONLY TO RESERVED PV EQUPMENT SPACE ON ROOF.**

SINGLE LINE DIAGRAM LEGEND

(NEW)
(N) FLOOR/PAD MOUNTED EQUIPMENT

FEEDER SCHEDULE		
DESIGNATION	AMPACITY	CONDUIT & CONDUCTORS SIZES
F305	125	1 1/2" C., 3 #1 & 1 #6 GND.
F404	100	1 1/2" C., 4 #2 & 1 #8 GND.
F406	150	2" C., 4 #1/0 & 1 #6 GND.
F412	400	4" C., 4 #500kcm & 1 #2 GND.

1 SINGLE LINE DIAGRAM

NO SCALE

⋆ PER PG&E RULES, REGULATIONS AND STANDARDS.

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Drawn By: CADD

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.10.21 BID SET

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Sheet Title:
ELECTRICAL SINGLE LINE DIAGRAM

Sheet Number:
E1.1



AURUM CONSULTING ENGINEERS MONTEREY BAY, INC.
Project No. 18222.00
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PANEL R1C

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	225A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	10,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
RECEPT - LACTATION	540			20/1	1		2	20/1	360			RECEPT - MULTI-PURPOSE
RECEPT - KITCHENETTE		180		20/1	3		4	20/1		360		RECEPT - MULTI-PURPOSE
RECEPT - KITCHENETTE			180	20/1	5		6	20/1			360	RECEPT - MULTI-PURPOSE
RECEPT - KITCHENETTE	180			20/1	7		8	20/1	360			RECEPT - MULTI-PURPOSE
RECEPT - KITCHENETTE		180		20/1	9		10	20/1		360		RECEPT - MULTI-PURPOSE
RECEPT - KITCHENETTE			180	20/1	11		12	20/1			360	RECEPT - MULTI-PURPOSE
4 RECEPT - KITCHENETTE	1200			20/1	13		14	20/1	360			RECEPT - MULTI-PURPOSE
RECEPT - MULTI-PURPOSE		1080		20/1	15		16	20/1		360		RECEPT - MULTI-PURPOSE
RECEPT - MULTI-PURPOSE			1260	20/1	17		18	20/1			360	RECEPT - MULTI-PURPOSE
RECEPT - MULTI-PURPOSE	900			20/1	19		20	20/1	180			RECEPT - MULTI-PURPOSE
4 RECEPT - LACTATION FRDGE		1200		20/1	21		22	20/1		360		RECEPT - MULTI-PURPOSE
GFCI RECEPTS - EXTERIOR			540	20/1	23		24	20/1				SPARE
GFCI RECEPTS - EXTERIOR	900			20/1	25		26	20/1				SPARE
SPARE				20/1	27		28	20/1				SPARE
SPARE				20/1	29		30	20/1				SPARE
SPARE				20/1	31		32	20/1				SPARE
SPARE				20/1	33		34	20/1				SPARE
SPARE				20/1	35		36	20/1				SPARE
SPARE				20/1	37		38	20/1				SPARE
SPARE				20/1	39		40	20/1				SPARE
SPARE				20/1	41		42	20/1				SPARE
	3720	2640	2160						1260	1440	1080	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 PROVIDE 4 INSTALL LOCK-ON DEVICE.
3 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.
4 BECOMES SPARE CIRCUIT IN BID ALTERNATIVE #1; SEE PANEL 'EM' FOR CIRCUIT DESIGNATION.

KVA Phase A	5.0
KVA Phase B	4.1
KVA Phase C	3.2

Total Connected Load KVA	12.3
Total Load Amperes	34

PANEL R2A

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	225A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	10,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
RECEPT - OFFICE	1080			20/1	1		2	20/1	1080			RECEPT - OFFICE
RECEPT - MANAGER		900		20/1	3		4	20/1		1080		RECEPT - OFFICE
RECEPT - OFFICE			900	20/1	5		6	20/1			1080	RECEPT - OFFICE
RECEPT - OFFICE	1080			20/1	7		8	20/1	900			RECEPT - WORK
RECEPT - OFFICE		1080		20/1	9		10	20/1		720		RECEPT - WORK
RECEPT - OFFICE			1080	20/1	11		12	20/1			180	RECEPT - JANITOR
RECEPT - HALL	540			20/1	13		14	20/1	360			RECEPT - RESTROOM
RECEPT - OFFICE		1080		20/1	15		16	20/1		1080		RECEPT - OFFICE
RECEPT - OFFICE			1080	20/1	17		18	20/1			1080	RECEPT - OFFICE
RECEPT - OFFICE	1080			20/1	19		20	20/1	240			RECEPT - WORK
4 RECEPT - REFRIGERATOR		1200		20/1	21		22	20/1		1200		RECEPT - VENDING
RECEPT - STAFF ROOM			1800	20/1	23		24	20/1			1200	RECEPT - VENDING
RECEPT - STAFF ROOM	1056			20/1	25		26	20/1	400			RECEPT - DRINK DISPENSOR
RECEPT - STAFF ROOM		1000		20/1	27		28	20/1		180		RECEPT - ELECTRICAL ROOM
4 UNDERCOUNTER FRIDGE - LACTATION			600	20/1	29		30	15/1			200	FIRE ALARM REMOTE POWER SUPPLY 2
GFCI COUNTER RECEPT - LACTATION	180			20/1	31		32	20/1				SPARE
SPARE				20/1	33		34	20/1				SPARE
SPARE				20/1	35		36	20/1				SPARE
SPARE				20/1	37		38	20/1				SPARE
SPARE				20/1	39		40	20/1				SPARE
SPARE				20/1	41		42	20/1				SPARE
	5016	5260	5460						2980	4260	3740	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 PROVIDE 4 INSTALL LOCK-ON DEVICE.
3 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.
4 BECOMES SPARE CIRCUIT IN BID ALTERNATIVE #1; SEE PANEL 'EM' FOR CIRCUIT DESIGNATION.

KVA Phase A	8.0
KVA Phase B	9.5
KVA Phase C	9.2

Total Connected Load KVA	26.7
Total Load Amperes	74

PANEL R2B

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	225A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	10,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
RECEPT - RESTROOM	360			20/1	1		2	20/1	1080			RECEPT - OFFICE
RECEPT - OFFICE		1080		20/1	3		4	20/1		1260		RECEPT - OFFICE
RECEPT - OFFICE			1080	20/1	5		6	20/1	1080		1260	RECEPT - OFFICE
RECEPT - OFFICE	540			20/1	7		8	20/1				RECEPT - OFFICE
RECEPT - OFFICE		1080		20/1	9		10	20/1		1080		RECEPT - OFFICE
RECEPT - HALL/STPORAGE			1080	20/1	11		12	20/1			1260	RECEPT - MANAGER
RECEPT - OFFICE	1260			20/1	13		14	20/1	1080			RECEPT - OFFICE
RECEPT - OFFICE		1080		20/1	15		16	20/1		1260		RECEPT - OFFICE
RECEPT - OFFICE			1080	20/1	17		18	20/1			1260	RECEPT - MANAGER
RECEPT - WAITING	1080			20/1	19		20	20/1	720			RECEPT - WORK AREA
RECEPT - OFFICES		1260		20/1	21		22	20/1		180		RECEPT - ROOF MAINTENANCE
RECEPT - MANAGER				20/1	23		24	20/1			180	RECEPT - ROOF MAINTENANCE
RECEPT - MANAGER				20/1	25		26	20/1	180			RECEPT - ROOF MAINTENANCE
RECEPT - MANAGER				20/1	27		28	15/1		200		RECEPT - DUCT SMOKE POWER 2
SPARE				20/1	29		30	20/1				SPARE
SPARE				20/1	31		32	20/1				SPARE
SPARE				20/1	33		34	20/1				SPARE
SPARE				20/1	35		36	20/1				SPARE
SPARE				20/1	37		38	20/1				SPARE
SPARE				20/1	39		40	15/1		800		VAV
SPARE				20/1	41		42	15/1			800	VAV
	3240	4500	3240						4140	4780	4760	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 PROVIDE 4 INSTALL LOCK-ON DEVICE.
3 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.

KVA Phase A	7.4
KVA Phase B	9.3
KVA Phase C	8.0

Total Connected Load KVA	24.7
Total Load Amperes	69

SWBD MSB

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	200 A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
PANEL R1A	7100				1		2		13312			PANEL EV1
PANEL R1A		7640		150/3	3		4	150/3		9984		PANEL EV1
PANEL R1A			5980		5		6				9984	PANEL EV1
PANEL R1B	6870				7		8		7996			PANEL R2A
PANEL R1B		4050		150/3	9		10	150/3		9520		PANEL R2A
PANEL R1B			6820		11		12				9200	PANEL R2A
PANEL R1C	4980				13		14		7380			PANEL R2B
PANEL R1C		4080		150/3	15		16	150/3		9280		PANEL R2B
PANEL R1C			3240		17		18				8000	PANEL R2B
PANEL L1	3565				19		20		1576			PANEL L2
PANEL L1		2891		100/3	21		22	100/3		1647		PANEL L2
PANEL L1			1332		23		24				1240	PANEL L2
PANEL M1					25		26		4500			PANEL IT
PANEL M1				150/3	27		28	100/3		4500		PANEL IT
PANEL M1					29		30				4500	PANEL IT
4 ATS - PANEL EM					31		32		29904			PANEL M2
4 ATS - PANEL EM				100/3	33		34	400/3		28728		PANEL M2
4 ATS - PANEL EM					35		36				14832	PANEL M2
FUTURE PV PROVISIONS					37		38		9400			ELEVATOR 3
FUTURE PV PROVISIONS				200/3	39		40	125/3		9400		ELEVATOR 3
FUTURE PV PROVISIONS					41		42				9400	ELEVATOR 3
	22515	18661	17372						74068	73059	57156	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.
3 SHUNT-TRIP BREAKER.
4 BID ALTERNATIVE #1 - AUTOMATIC TRANSFER SWITCH. OTHERWISE, 225A SPACE ONLY.

KVA Phase A	96.6
KVA Phase B	91.7
KVA Phase C	74.5

Total Connected Load KVA	262.8
Total Load Amperes	730

PANEL IT

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	100/3 3

Bussing:	100A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
RECEPT - I.T.	1500			20/1	1		2	20/1				SPARE
RECEPT - I.T.		1500		20/1	3		4	20/1				SPARE
RECEPT - I.T.			1500	20/1	5		6	20/1				SPARE
RECEPT - I.T.	1500			20/1	7		8	20/1				SPARE
RECEPT - I.T.		1500		20/1	9		10	20/1				SPARE
RECEPT - I.T.			1500	20/1	11		12	20/1				SPARE
RECEPT - I.T.	1500			20/1	13		14	20/1				SPARE
RECEPT - I.T.		1500		20/1	15		16	20/1				SPARE
SPARE			1500	20/1	17		18	20/1				SPARE
	4500	4500	4500						0	0	0	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.
3 SHUNT TRIP MAIN BREAKER.

KVA Phase A	4.5
KVA Phase B	4.5
KVA Phase C	4.5

Total Connected Load KVA	13.5
Total Load Amperes	36

PANEL M1

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	100A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
P-1	864			15/1	1		2	15/1	74			EF-4
P-2		864		15/1	3		4	15/1		800		VAV
SPARE				20/1	5		6	15/1			800	VAV
SPARE				20/1	7		8	15/1	155			EF-5
B-1		180		15/1	9		10	15/1		800		VAV
B-2			180	15/1	11		12	15/1			800	VAV
EF-3	74			15/1	13		14	15/1				SPARE
WATER HEATER		180		15/1	15		16	15/1				SPARE
WATER HEATER			180	15/1	17		18	-				SPACE ONLY
CIRCULATION PUMP	200			15/1	19		20	-				SPACE ONLY
SPARE				15/1	21		22	-				SPACE ONLY
SPARE				15/1	23		24	-				SPACE ONLY
P-3	934				25		26		934			P-4
P-3		934		15/3	27		28	15/3		934		P-4
P-3			934		29		30				934	P-4
	2072	2158	1294						1163	2534	2534	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.

KVA Phase A	3.2
KVA Phase B	4.7
KVA Phase C	3.6

Total Connected Load KVA	11.8
Total Load Amperes	33

PANEL M2

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	400A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
CU-1	936			20/2	1		2	20/2	936			CU-2
CU-1		936			3		4			936		CU-2
CU-3			936	20/2	5		6	20/1			1176	EF-6
CU-3	936				7		8	20/1	1176			EF-7
CU-4		936		20/2	9		10	20/1				SPARE
CU-4			936		11		12	20/1				SPARE
SPACE ONLY				-	13		14	20/1				SPARE
SPACE ONLY				-	15		16	20/1				SPARE
SPACE ONLY				-	17		18	15/1				SPARE
SPACE ONLY				-	19		20	15/1				SPARE
SPACE ONLY				-	21		22	15/1				SPARE
SPACE ONLY				-	23		24	15/1				SPARE
AHU-1	12960				25		26		12960			AHU-2
AHU-1		12960		150/3	27		28	150/3		12960		AHU-2
AHU-1			12960		29		30				12960	AHU-2
	14832	14832	14832						15072	13896	14136	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.

KVA Phase A	29.9
KVA Phase B	28.7
KVA Phase C	29.0

Total Connected Load KVA	87.6
Total Load Amperes	243

PANEL R1A

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	225A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
RECEPT - OCC. THERAPY	1080			20/1	1		2	20/1	600			RECEPT - U.C. REFRIG. 4
RECEPT - TREATMENT		1080		20/1	3		4	20/1		720		RECEPT - DIRTY
RECEPT - TREATMENT			1080	20/1	5		6	20/1			180	RECEPT - RESTROOM
RECEPT - TREATMENT	1080			20/1	7		8	20/1	900			RECEPT - CLEAN
RECEPT - TREATMENT		1080		20/1	9		10	20/1		900		RECEPT - OFFICE
RECEPT - SEGMENT MGR.			180	15/1	11		12	20/1			720	RECEPT - STOR./MAIL
RECEPT - CONTROLS ROOM	360			20/1	13		14	20/1	540			RECEPT - RESTROOM
RECEPT - MECH. ROOM		360		20/1	15		16	20/1		900		RECEPT - RECEPTION
LTG. - CTR. PNL.			180	15/1	17		18	20/1			1080	RECEPT - RECEPTION
FIRE ALARM CONTROL PNL	360			15/1	19		20	20/1	540			RECEPT - RECEPTION
F.A. REMOTE POWER SUPPLY		360		15/1	21		22	20/1		600		RECEPT - CLEAN 4
RECEPT - JAN.			360	20/1	23		24	20/1			720	RECEPT - RECEPTION COPIER
RECEPT - STORAGE	360			20/1	25		26	20/1	360			RECEPT - EXAM
RECEPT - EXAM		720		20/1	27		28	20/1		360		RECEPT - EXAM
RECEPT - EXAM			720	20/1	29		30	20/1			360	RECEPT - EXAM
RECEPT - EXAM	720			20/1	31		32	20/1				SPARE
RECPT - BIO HZN / STAFF ENTRY		360		20/1	33		34	20/1				SPARE
SPARE				20/1	35		36	20/1			200	INTRUSION ALARM PANEL
SPARE				20/1	37		38	20/1	200			ACCESS CONTROL PANEL
SPARE				20/1	39		40	15/1		200		FA BELL 2
SPARE				20/1	41		42	15/1			200	IRRIGATION CONTROLLER
	3960	3960	2520						3140	3680	3460	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 PROVIDE 4 INSTALL LOCK-ON DEVICE.
3 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.
4 BECOMES SPARE CIRCUIT IN BID ALTERNATIVE #1; SEE PANEL 'EM' FOR CIRCUIT DESIGNATION.

KVA Phase A	7.1
KVA Phase B	7.6
KVA Phase C	6.0

Total Connected Load KVA	20.7
Total Load Amperes	58

PANEL R1B

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	225A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
RECEPT - STOR./MAIL	540			20/1	1		2	20/1	540			RECEPT - WAITING
RECEPT - PC IT		720		20/1	3		4	20/1		540		RECEPT - WAITING
RECEPT - CHILDREN			720	20/1	5		6	20/1			720	RECEPT - WAITING
RECEPT - CHILDREN	540			20/1	7		8	20/1	900			RECEPT - TEL./MED.
RECEPT - OBSERVATION		360		20/1	9		10	20/1		360		RECEPT - WATER DISP.
RECEPT - ELECT. ROOM			360	20/1	11		12	20/1			540	RECEPT - WATER DISP.
RECEPT - EXAM	900			20/1	13		14	20/1	360			RECEPT - RESTROOM
RECEPT - MAMD WORK.		720		20/1	15		16	20/1		360		RECEPT - HALL
RECEPT - MAMD WORK.			1080	20/1	17		18	20/1			360	RECEPT - RESTROOM
RECEPT - MAMD WORK.	1080			20/1	19		20	20/1	360			ELEVATOR CONTROLLER
RECEPT - MED. RM.		180		20/1	21		22	20/1		360		ELEVATOR SUMP PUMP
RECEPT - MED. RM.			1000	20/1	23		24	20/1			180	GFCI RECEPT - ELEVATOR EQUIP. ROOM
RECEPT - MED. RM.	1500			20/1	25		26	20/1	150			LIGHTING - ELEVATOR EQUIP. ROOM
DOOR OPERATOR - WAITING 101		200		20/1	27		28	20/1		250		LIGHTING / GFCI RECEPT - ELEVATOR PIT
RECEPT - MED. RM.			1500	20/1	29		30	20/1			360	RECEPT - EXAM
SPARE				20/1	31		32	20/1				SPARE
SPARE				20/1	33		34	20/1				SPARE
SPARE				20/1	35		36	20/1				SPARE
SPARE				20/1	37		38	20/1				SPARE
SPARE				20/1	39		40	20/1				SPARE
SPARE				20/1	41		42	20/1				SPARE
	4560	2180	4660						2310	1870	2160	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 PROVIDE 4 INSTALL LOCK-ON DEVICE.
3 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.

KVA Phase A	6.9
KVA Phase B	4.1
KVA Phase C	6.8

Total Connected Load KVA	17.7
Total Load Amperes	49

PANEL EM

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	100A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
U.C. REFRIGERATOR - DIRTY RM.	600			20/1	1		2	20/1	1200			REFRIGERATOR - STAFF RM.
U.C. REFRIGERATOR - CLEAN RM.		600		20/1	3		4	20/1		600		U.C. REFRIGERATOR - LACTATION
U.C. REFRIGERATOR - LACTATION			600	20/1	5		6	20/1				SPARE
REFRIGERATOR - KITCHENETTE	1200			20/1	7		8	20/1				SPARE
SPARE				20/1	9		10	20/1				SPARE
SPARE				20/1	11		12	20/1				SPARE
SPARE				20/1	13		14	20/1				SPARE
SPARE				20/1	15		16	20/1				SPARE
SPARE				20/1	17		18	20/1				SPARE
SPARE				20/1	19		20	20/1				SPARE
SPARE				20/1	21		22	20/1				SPARE
SPARE				20/1	23		24	20/1				SPARE
	1800	600	600						1200	600	0	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.
3 PROVIDED AND INSTALLED ONLY FOR BID ALTERNATIVE #1.

KVA Phase A	3.0
KVA Phase B	1.2
KVA Phase C	0.6

Total Connected Load KVA	4.8
Total Load Amperes	13

PANEL EV1

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	225A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
EVCS PROVISIONS	3328			40/2	1		2	40/2	3328			EVCS PROVISIONS
EVCS PROVISIONS		3328			3		4			3328		EVCS PROVISIONS
EVCS PROVISIONS			3328	40/2	5		6	40/2			3328	EVCS PROVISIONS
EVCS PROVISIONS	3328				7		8		3328			EVCS PROVISIONS
EVCS PROVISIONS		3328		40/2	9		10	40/2				EVCS PROVISIONS
EVCS PROVISIONS			3328		11		12					EVCS PROVISIONS
EVCS PROVISIONS				40/2	13		14	40/2				EVCS PROVISIONS
EVCS PROVISIONS					15		16					EVCS PROVISIONS
EVCS PROVISIONS				40/2	17		18	40/2				EVCS PROVISIONS
EVCS PROVISIONS					19		20					EVCS PROVISIONS
EVCS PROVISIONS				40/2	21		22	40/2				EVCS PROVISIONS
EVCS PROVISIONS					23		24					EVCS PROVISIONS
	6656	6656	6656						6656	3328	3328	

1 SUBMITTAL SHALL MATCH EXACT BREAKER LOCATIONS SHOWN.
2 LABEL PANEL FOR SHORT CIRCUIT AMPS AVAILABLE PER CEC 110-24.

KVA Phase A	13.3
KVA Phase B	10.0
KVA Phase C	10.0

Total Connected Load KVA	33.3
Total Load Amperes	92

PANEL L1

Voltage:	120/208V,3ø
Wire:	4W
Type:	NEMA 1
Mains:	M.L.O.

Bussing:	100A
Feed:	BOTTOM
Mounting:	SURFACE
A.I.C.	42,000

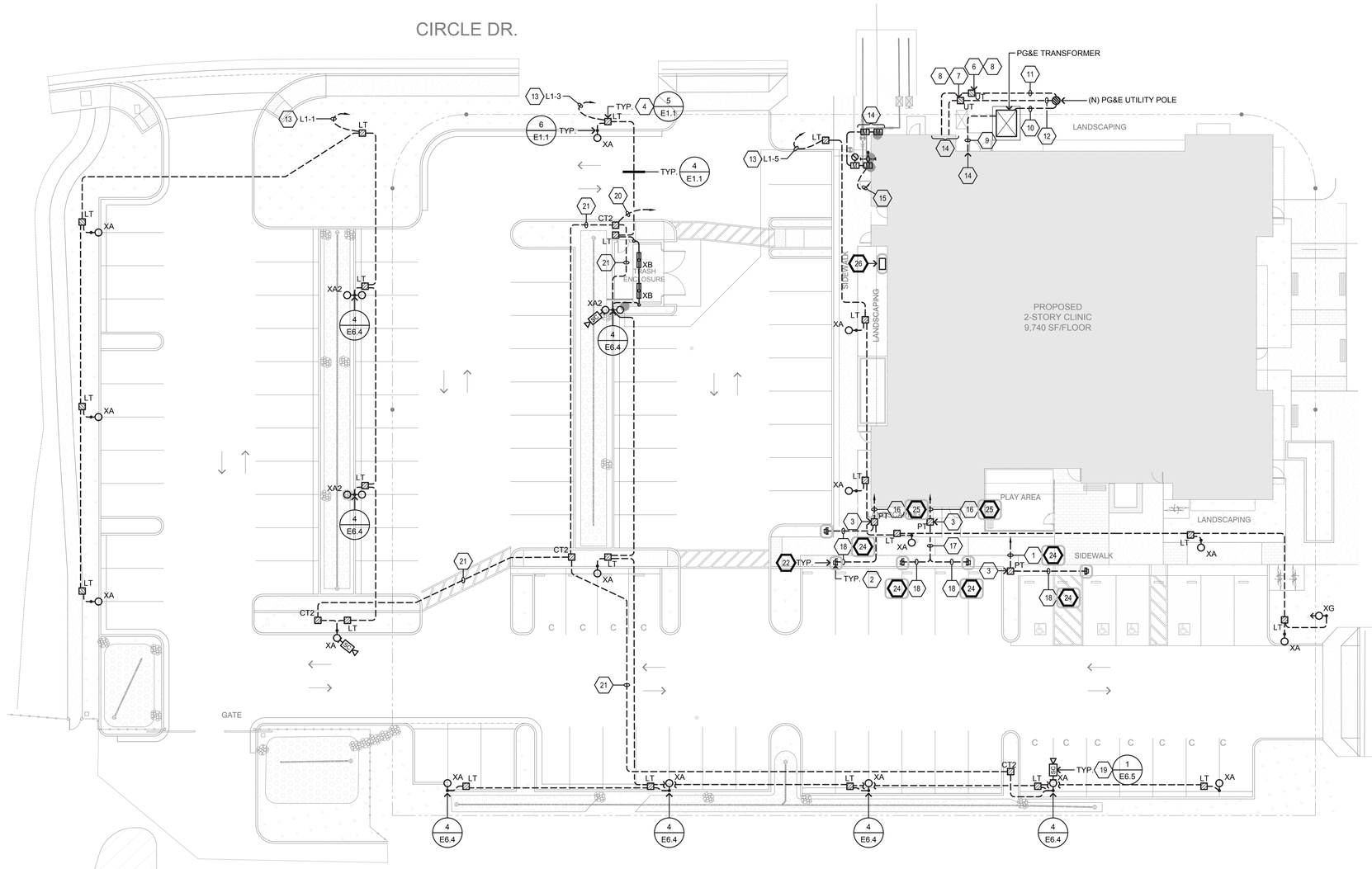
Load	A	B	C	Bkr	Ck	abc	Ck	Bkr	A	B	C	Load
LTG. - PARKING LOT	712			20/1	1		2	20/1	1352			LIGHTING - N.W. FIRST FLOOR
LTG. - PARKING LOT		801		20/1	3		4	20/1		1180		LIGHTING - N.E. FIRST FLOOR
LTG. - PARKING LOT			541	20/1	5		6	20/1			638	LIGHTING - CORRIDOR FIRST FLOOR
LIGHTING - BUILDING EXTERIOR	266			20/1	7		8	20/1	1235			LIGHTING -S.E. FIRST FLOOR
SPARE				20/1	9		10	20/1		910		LIGHTING -S.E. FIRST FLOOR
SPARE				20/1	11		12	20/1			153	ELEVATOR EQUIPMENT
SPARE				20/1	13		14	20/1				SPARE
SPARE				20/1	15		16	20/1				SPARE
SPARE				20/1	17		18	20/1				SPARE
SPARE				20/1	19		20	20/1				SPARE
SPARE				20/1	21		22	20/1				SPARE
SPARE				20/1	23		24

NOTES:

A. CONTRACTOR SHALL LOCATE ALL (E) UNDERGROUND UTILITIES PRIOR TO TRENCHING AND TAKE CAUTION TO AVOID DAMAGE DURING TRENCHING. HAND TRENCH IF NECESSARY. CONTRACTOR SHALL MAKE ALL REPAIRS TO DAMAGED UTILITIES AT NO CHARGE TO OWNER.

B. ALL WIRING FOR SITE LIGHTING SHALL BE #10 AWG MINIMUM, U.O.N.

C. ALL UTILITIES (PG&E, AT&T AND CATV) ARE SHOWN IN SCHEMATIC FORM ONLY. CONTRACTOR SHALL VERIFY EXACT REQUIREMENTS WITH UTILITY COMPANY ENGINEERED DRAWINGS PRIOR TO START OF CONSTRUCTION AND PROVIDE FACILITIES ACCORDINGLY.



SHEET NOTES

1. 1 ¼"C.O. TO PANEL "EV1".
2. CONDUIT STUB FOR FUTURE ELECTRIC VEHICLE CHARGING STATION.
3. CHRISTY #N16 CONCRETE PULLBOX WITH LID LABELED "ELECTRICAL".
4. CHRISTY #N16 CONCRETE IN-GRADE PULLBOX WITH CONCRETE LID LABELED "LIGHTING".
5. NOTE NOT USED.
6. AT&T VAULT.
7. COMCAST VAULT.
8. PROVIDE AND INSTALL PER UTILITY COMPANY'S REQUIREMENTS.
9. PG&E SECONDARY; SEE 1/E1.1 FOR REQUIREMENTS.
10. PG&E PRIMARY; SEE 1/E1.1 FOR REQUIREMENTS.
11. 4"C.O. - AT&T.
12. 4"C.O. - COMCAST.
13. CONNECT VIA LIGHTING CONTROL PANEL "LCP", SEE 1/E6.4.
14. CONTINUE TO HEAD-END EQUIPMENT, SEE E3.1 FOR HEAD-END EQUIPMENT LOCATION.
15. 1"C., TO FIRE ALARM CONTROL PANEL, SEE E3.1 FOR LOCATION. FIELD VERIFY EXACT LOCATION OF RISER TAMPER AND FLOW SWITCHES.
16. (2) 1¼" C.O. TO PANEL 'EV1'.
17. (2) 1¼" C.O. FOR FUTURE ELECTRONIC VEHICLE CHARGING STATION.
18. 1¼" C.O. FOR FUTURE ELECTRONIC VEHICLE CHARGING STATION.
19. 360° MOTION SECURITY CAMERA.
20. 1¼" C.O. FOR DATA BACK TO IT ROOM; SEE SHEET E3.1 FOR LOCATION.
21. 1¼" C.O. FOR DATA TO POLE MOUNTED SECURITY CAMERA.
22. **BID ALTERNATIVE #4 - ELECTRICAL VEHICLE CHARGING STATIONS. PROVIDE AND INSTALL (2) CT4011-GW1 AND (3) CT4021-GW1 CHARGEPOINT EV CHARGING STATIONS. OPTIONS TO INCLUDE STATION ACTIVATION AND CONFIGURATION, STATION INSTALLATION AND VALIDATION, 3 YEAR SERVICE PLAN SUBSCRIPTION, AND 3 YEARS ASSURED COVERAGE.**
23. LOCATE FOR DUALCHECK VALVE AND BACKFLOW; FIELD VERIFY EXACT LOCATION.
24. **BID ALTERNATIVE #4 - ELECTRICAL VEHICLE CHARGING STATIONS. PROVIDE AND INSTALL 2 #8 & 1 #10 GND.**
25. **BID ALTERNATIVE #4 - ELECTRICAL VEHICLE CHARGING STATIONS. PROVIDE AND INSTALL (2) 2 #8 & 1 #10 GND.**
26. **BID ALTERNATIVE #1 - AUTOMATIC TRANSFER SWITCH. GENERATOR CABINET LOCATION; SEE SHEET E1.1 FOR REQUIREMENTS.**

PULLBOX SCHEDULE

TYPE	DESCRIPTION	MFGR	LABEL
CT	18"x29" REINFORCED CONCRETE IN-GRADE PULLBOX W/ GALVANIZED TRAFFIC RATED BOLT-DOWN LID.	CHRISTY B1324	COMMUNICATIONS
CT2	15"x22" REINFORCED CONCRETE IN-GRADE PULLBOX W/ GALVANIZED TRAFFIC RATED BOLT-DOWN LID.	CHRISTY B1017	COMMUNICATIONS
LT	15"x22" REINFORCED CONCRETE IN-GRADE PULLBOX W/ GALVANIZED TRAFFIC RATED BOLT-DOWN LID.	CHRISTY B1017	LIGHTING
PT	15"x22" REINFORCED CONCRETE IN-GRADE PULLBOX W/ GALVANIZED TRAFFIC RATED BOLT-DOWN LID.	CHRISTY B1017	POWER
UT	UTILITY VAULT AS REQUIRED BY UTILITY COMPANY.	8	8

16' 0' 4' 8' 12' 16'
SCALE: 1/16"=1'-0"

NORTH

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

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Project Number: 1838

Revisions:
09.10.21 BID SET

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Sheet Title:
ELECTRICAL SITE PLAN

Sheet Number:
E2.1

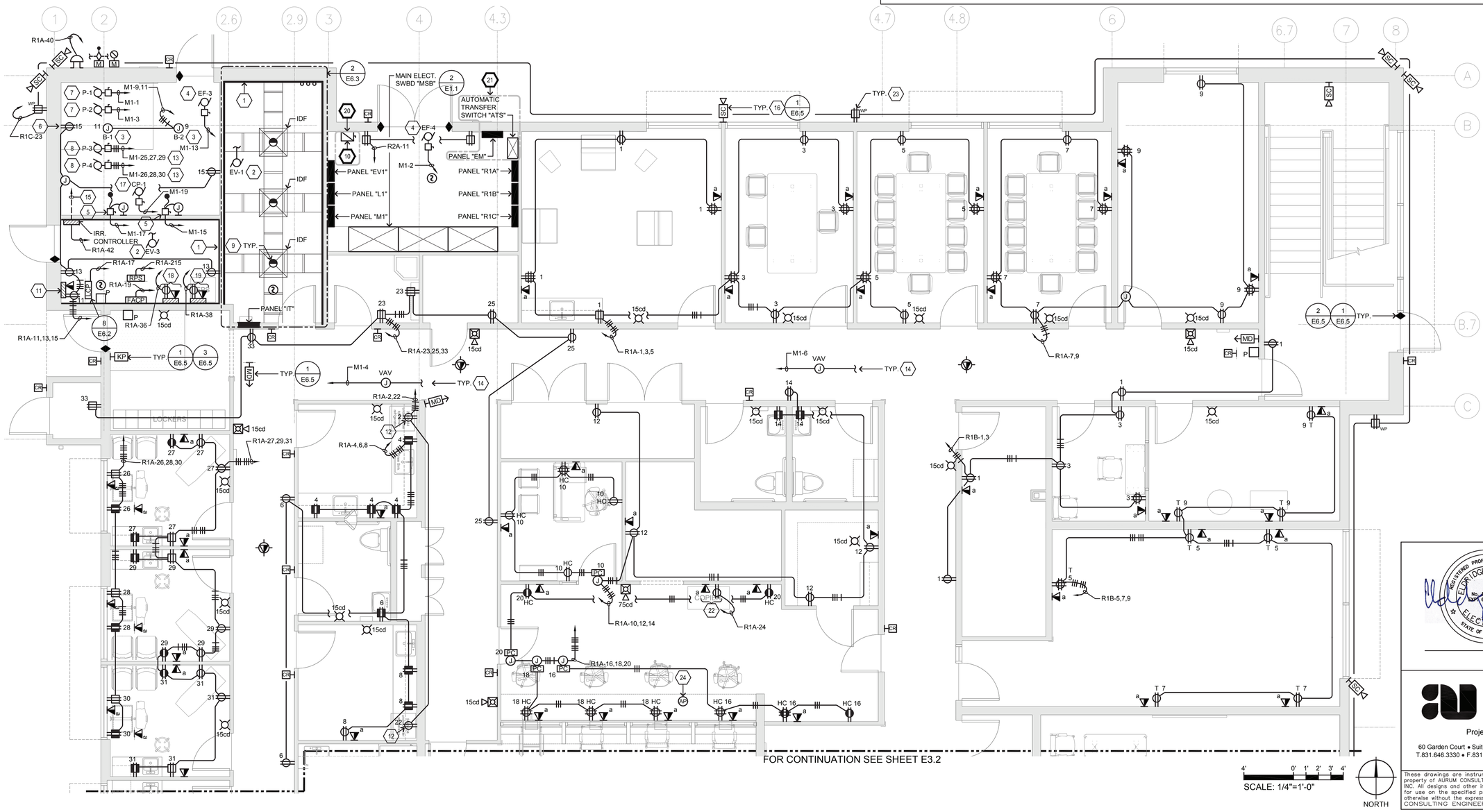
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BRANCH CIRCUIT CONDUCTOR SIZING TABLE		
CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	REQUIREMENT
20/120	56'-90'	½" C., 2 #10 & 1 #10 GND.
20/120	91'-140'	½" C., 2 #8 & 1 #10 GND.

NOTE:
CONTRACTOR SHALL SIZE BRANCH CIRCUIT CONDUCTORS PER THE TABLE ABOVE AS DETERMINED BY THE CIRCUIT CONDUCTOR LENGTH, U.O.N. CONTRACTOR SHALL SPLICE TO #12 AWG WITHIN TERMINATION BOX FOR DEVICE CONNECTION IF NECESSARY.

SHEET NOTES

1. ¾" THICK x 8' HIGH EXTERIOR GRADE 1-HOUR RATED PLYWOOD. PAINT WITH (2) COATS OF FIRE RETARDANT PAINT; DO NOT PAINT OVER PLYWOOD RATING LABEL.
2. 46W INDOOR EVAPORATOR FOR SPLIT- SYSTEM; CONNECT TO OUTDOOR CONDENSING UNIT.
3. BOILER CONTROLS; 120V.
4. 74W; 120V. SEE MECHANICAL PLANS FOR LOCATION IN ROOM.
5. LOCATE FOR GAS WATER HEATER, 120V.
6. LOCATE FOR WATER SOFTENER.
7. 1/3HP; 120V.
8. 2HP; 120V.
9. RACK MOUNTED RECEPTACLE. COORDINATE RECEPTACLE TYPE PRIOR TO INSTALLATION.
10. **BID ALTERNATIVE #1 - PV SOLAR. LOCATE FOR 100A FUSED PV DISCONNECT; SEE SINGLE LINE DIAGRAM FOR REQUIREMENTS.**
11. SEGMENT MANAGER, 120V.
12. LOCATE FOR U.C. REFRIGERATOR, 600W, 120V.
13. ¾"C., 2 #10 & 1 #10 GND.
14. CONNECT ALL VAV BOXES VIA 120V CIRCUIT (MAX OF 10 CIRCUITS). SEE MECHANICAL PLANS FOR VAV LOCATIONS.
15. SUTB 4" C.O. TO IRRIGATION BOX, SEE LANDSCAPE ARCHITECT'S PLANS FOR LOCATION.
16. SECURITY CAMERA; COORDINATE ORIENTATION WITH ARCHITECT/OWNER.
17. LOCATE FOR CIRCULATION PUMP; 1/25HP, 120V.
18. LOCATE FOR INTRUSION ALARM PANEL.
19. LOCATE FOR ACCESS CONTROL PANEL.
20. **BID ALTERNATIVE #1 - PV SOLAR. SEE SINGLE LINE DIAGRAM FOR REQUIREMENTS.**
21. **BID ALTERNATIVE #3 - AUTOMATIC TRANSFER SWITCH AND CONNECTION CABINET. SEE SINGLE LINE DIAGRAM FOR REQUIREMENTS.**
22. LOCATE FOR COPIER/PRINTER; 120V.
23. PROVIDE GFCI RECEPTACLE MOUNTED IN LOCKABLE 'FS' BOX WITH IN-USE COVER, TAYMAR OR EQUAL.
24. ALARM PANIC BUTTON; COORDINATE LOCATION WITH FURNITURE. PROVIDE AND INSTALL A SINGLE-GANG BOX WITH 1" C.O. STUBBED TO ACCESSIBLE CEILING.



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

NORTH

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Sheet Title:
PARTIAL POWER & SYSTEMS PLAN - FIRST FLOOR

Sheet Number:

E3.1

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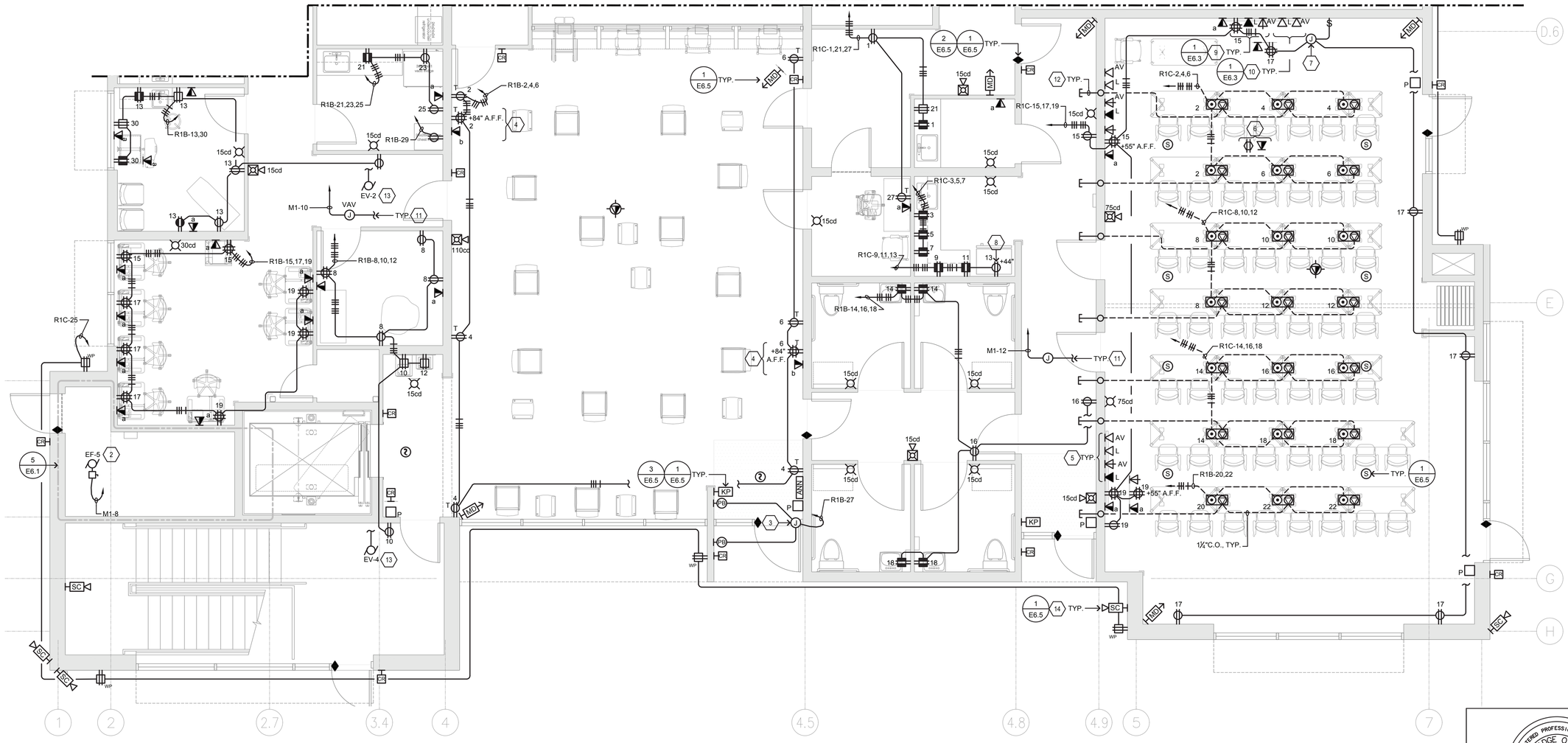
BRANCH CIRCUIT CONDUCTOR SIZING TABLE		
CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	REQUIREMENT
20/120	56'-90'	½" C., 2 #10 & 1 #10 GND.
20/120	91'-140'	½" C., 2 #8 & 1 #10 GND.

NOTE:
CONTRACTOR SHALL SIZE BRANCH CIRCUIT CONDUCTORS PER THE TABLE ABOVE AS DETERMINED BY THE CIRCUIT CONDUCTOR LENGTH, U.O.N. CONTRACTOR SHALL SPLICE TO #12 AWG WITHIN TERMINATION BOX FOR DEVICE CONNECTION IF NECESSARY.

SHEET NOTES

1. ¾" THICK x 8' HIGH EXTERIOR GRADE 1-HOUR RATED PLYWOOD. PAINT WITH (2) COATS OF FIRE RETARDANT PAINT; DO NOT PAINT OVER PLYWOOD RATING LABEL.
2. 155W;120V.
3. AUTOMATIC DOOR OPERATOR; 10A, 120V.
4. LOCATE FOR TELEVISION; COORDINATE LOCATION WITH TELEVISION MOUNTING BRACKET.
5. COIL CABLES AT BOX LOCATION.
6. LOCATE FOR PROJECTOR.
7. PROJECTOR SCREEN AND CONTROL.
8. REFRIGERATOR; 10A, 120V.
9. FLAT SCREEN TELEVISION. CONTRACTOR SHALL MOUNT DEVICES AND HARDWARE SHOWN ON PLANS IN WALL MOUNTED THREE GANG RECESSED JUNCTION BOX, PASS & SEYMOUR MODEL #TV3W-LA. COORDINATE MOUNTING HEIGHT WITH OWNER.
10. LOCAL/MEETING ROOM TELEVISION CONTROL. CONTRACTOR SHALL COORDINATE MOUNTING HEIGHT OF DEVICES WITH OWNER.
11. CONNECT ALL VAV BOXES VIA120V CIRCUIT (MAX OF 10 CIRCUITS). SEE MECHANICAL PLANS FOR VAV LOCATIONS.
12. STUB ABOVE ACCESSIBLE CEILING.
13. 46W INDOOR EVAPORATOR FOR SPLIT- SYSTEM; CONNECT TO OUTDOOR CONDENSING UNIT.
14. SECURITY CAMERA; COORDINATE ORIENTATION WITH ARCHITECT/OWNER.
15. CEILING MOUNTED SPEAKER.

FOR CONTINUATION SEE SHEET E3.1



Project / Owner:

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

NORTH

Sheet Title:
PARTIAL POWER & SYSTEMS PLAN - FIRST FLOOR

Sheet Number:
E3.2

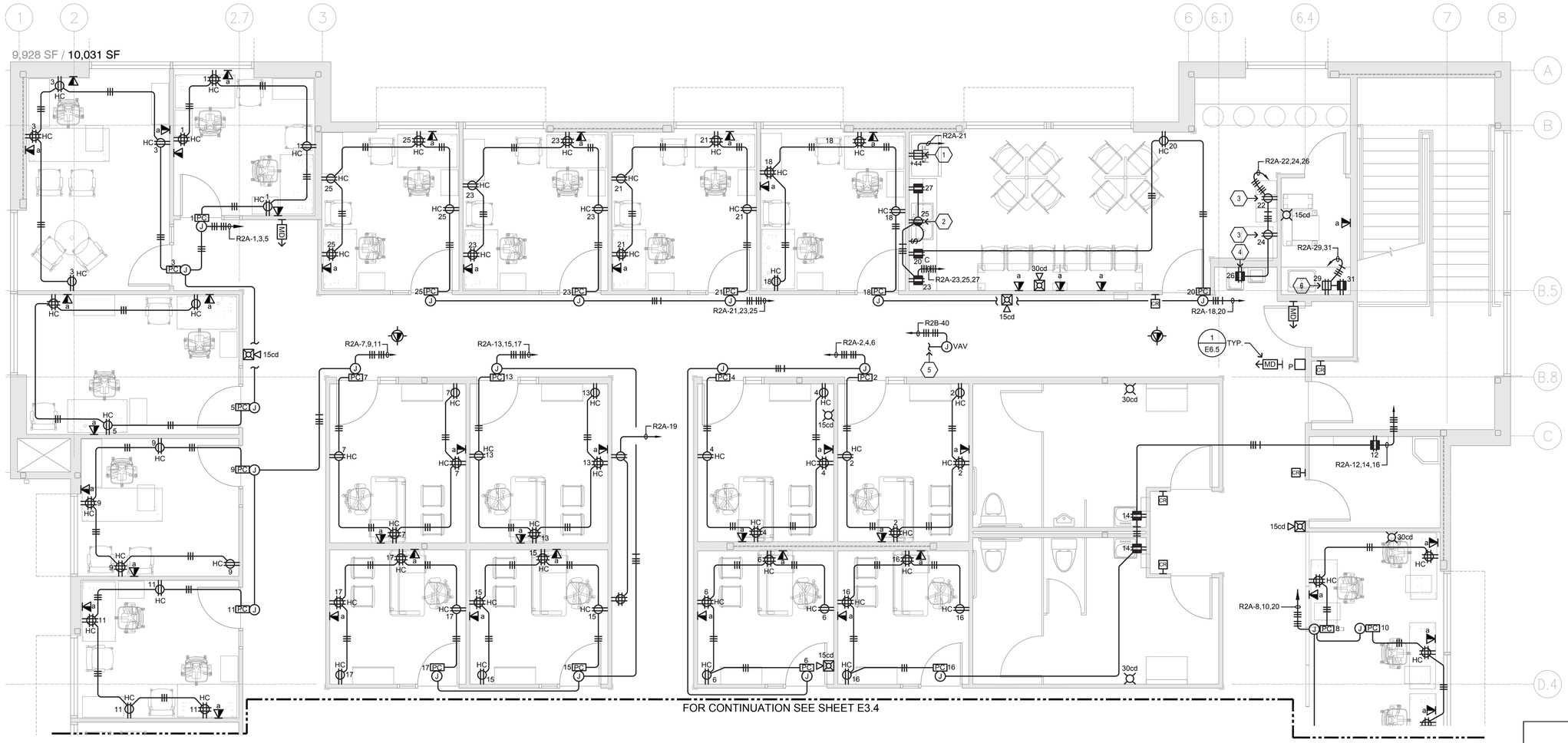
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BRANCH CIRCUIT CONDUCTOR SIZING TABLE		
CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	REQUIREMENT
20/120	56'-90'	½" C., 2 #10 & 1 #10 GND.
20/120	91'-140'	½" C., 2 #8 & 1 #10 GND.

NOTE:
CONTRACTOR SHALL SIZE BRANCH CIRCUIT CONDUCTORS PER THE TABLE ABOVE AS DETERMINED BY THE CIRCUIT CONDUCTOR LENGTH, U.O.N. CONTRACTOR SHALL SPLICE TO #12 AWG WITHIN TERMINATION BOX FOR DEVICE CONNECTION IF NECESSARY.

SHEET NOTES

1. REFRIGERATOR, 10A, 120V.
2. LOCATE FOR GARBAGE DISPOSAL. PROVIDE AND INSTALL CORD AND PLUG.
3. LOCATE FOR VENDING MACHINE, 10A, 120V.
4. LOCATE FOR DRINKING DISPENSOR.
5. CONNECT ALL VAV BOXES VIA 120V CIRCUIT (MAX OF 10/CIRCUIT). SEE MECHANICAL PLANS FOR VAV LOCATIONS.
6. LOCATE FOR FUTURE UNDERCOUNTER REFRIGERATOR; 120V.



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

NORTH

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AURUM CONSULTING ENGINEERS MONTEREY BAY, INC.

Project No. 18222.00

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Sheet Title:
PARTIAL POWER & SYSTEMS PLAN - SECOND FLOOR

Sheet Number:

E3.3

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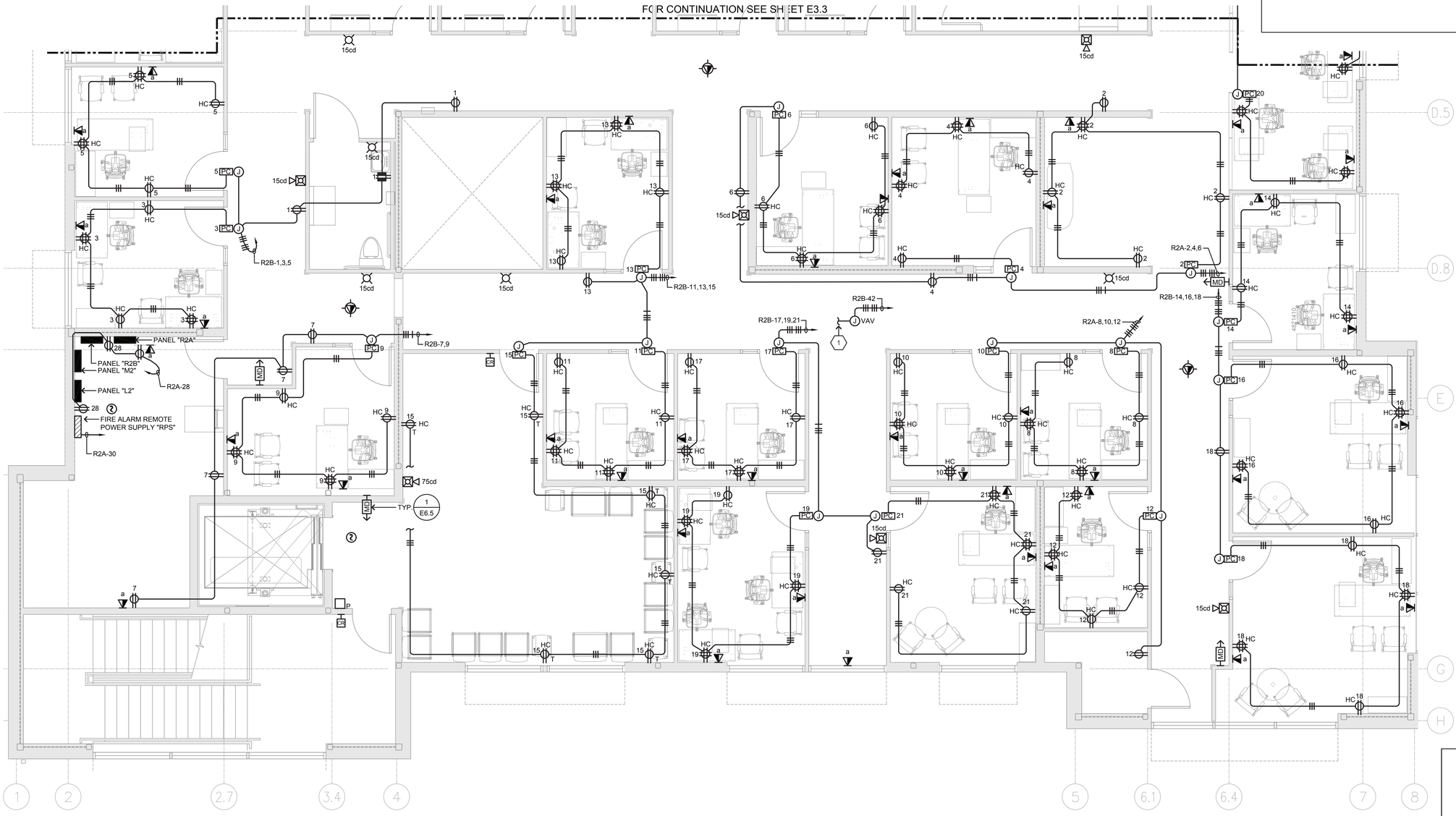
BRANCH CIRCUIT CONDUCTOR SIZING TABLE		
CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	REQUIREMENT
20/120	56'-90'	½" C., 2 #10 & 1 #10 GND.
20/120	91'-140'	½" C., 2 #8 & 1 #10 GND.

NOTE:
CONTRACTOR SHALL SIZE BRANCH CIRCUIT CONDUCTORS PER THE TABLE ABOVE AS DETERMINED BY THE CIRCUIT CONDUCTOR LENGTH, U.O.N. CONTRACTOR SHALL SPLICE TO #12 AWG WITHIN TERMINATION BOX FOR DEVICE CONNECTION IF NECESSARY.

SHEET NOTES

1. CONNECT ALL VAV BOXES VIA 120V CIRCUIT (MAX OF 10 CIRCUITS). SEE MECHANICAL PLANS FOR VAV LOCATIONS.

FOR CONTINUATION SEE SHEET E3.3



Project / Owner:
COUNTY OF MONTEREY
HEALTH DEPARTMENT

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Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.10.21 BID SET

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

NORTH

Sheet Title:
PARTIAL POWER & SYSTEMS PLAN - SECOND FLOOR

Sheet Number:

E3.4

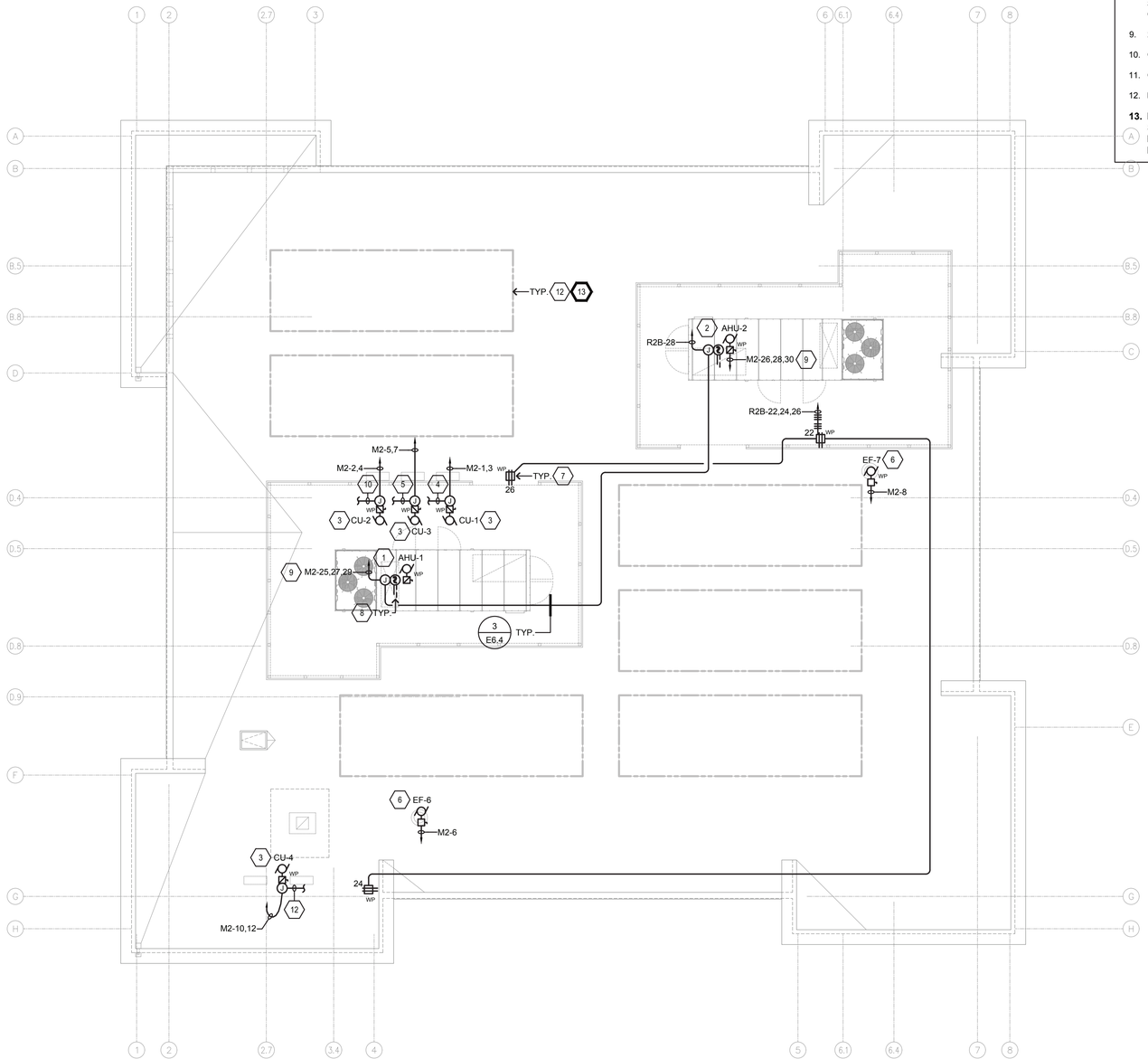
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BRANCH CIRCUIT CONDUCTOR SIZING TABLE		
CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	REQUIREMENT
20/120	56'-90'	½" C., 2 #10 & 1 #10 GND.
20/120	91'-140'	½" C., 2 #8 & 1 #10 GND.

NOTE:
CONTRACTOR SHALL SIZE BRANCH CIRCUIT CONDUCTORS PER THE TABLE ABOVE AS DETERMINED BY THE CIRCUIT CONDUCTOR LENGTH, U.O.N. CONTRACTOR SHALL SPLICE TO #12 AWG WITHIN TERMINATION BOX FOR DEVICE CONNECTION IF NECESSARY.

SHEET NOTES

1. 124.1 MCA, 208V, 3Ø; EF-1 IS A COMPONENT OF UNIT.
2. 124.1 MCA, 208V, 3Ø; EF-2 IS A COMPONENT OF UNIT.
3. OUTDOOR CONDENSER FOR SPLIT SYSTEM UNIT. 208V, 1Ø; 8.5FLA.
4. CONNECT TO INDOOR UNIT IN IT ROOM.
5. CONNECT TO INDOOR UNIT IN FIRST FLOOR CONTROLS ROOM.
6. 1/2HP;120V.
7. PROVIDE GFCI MAINTENANCE RECEPTACLE MOUNTED IN 'FS' BOX WITH IN-USE COVER, TAYMAR OR EQUAL.
8. DUCT SMOKE DETECTOR PROVIDED BY FIRE ALARM CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR; DUCT SMOKE DETECTOR SHALL BE COMPATIBLE WITH BUILDINGS FIRE ALARM SYSTEM LOCATED WITHIN 3' OF CONTROL RELAY MODULE. FIRE ALARM CONTRACTOR SHALL CONNECT DUCT SMOKE DETECTOR AND PROGRAM FIRE ALARM PANEL TO SHUT DOWN UNIT UPON DETECTION OF SMOKE AND SHALL ACTIVATE FIRE ALARM SYSTEM. HVAC UNIT SHUTOFF CONTROL WIRING SHALL BE SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. 120V WIRING SHALL BE SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. CONTRACTOR SHALL VERIFY EXACT QUANTITY REQUIRED WITH MECHANICAL DRAWINGS AND COORDINATE CONNECTION WITH MECHANICAL CONTRACTOR.
9. 2"C., 3 #3/0 & 1 #6 GND.
10. CONNECT TO INDOOR UNIT IN FIRST FLOOR MED. ROOM.
11. CONNECT TO INDOOR UNIT IN SOUTH WEST STAIRS 107.
12. DEDICATED SPACE FOR FUTURE SOLAR PANELS AND INVERTERS.
13. **BID ALTERNATIVE #3 - PV SOLAR. SEE PHOTOVOLTAIC PERFORMANCE SPECIFICATIONS FOR REQUIREMENTS. BASE BID SHALL INCLUDE CONDUIT ONLY FROM SERVICE TO RESERVED PV EQUIPMENT SPACE AND CONDUIT ONLY TO RESERVED PV EQUPMENT SPACE ON ROOF.**



8' 0' 2' 4' 6' 8'
SCALE: 1/8"=1'-0"

NORTH

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Sheet Title:
POWER & SYSTEMS PLAN - ROOF

Sheet Number:

E3.5

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DAYLIT ZONES LEGEND

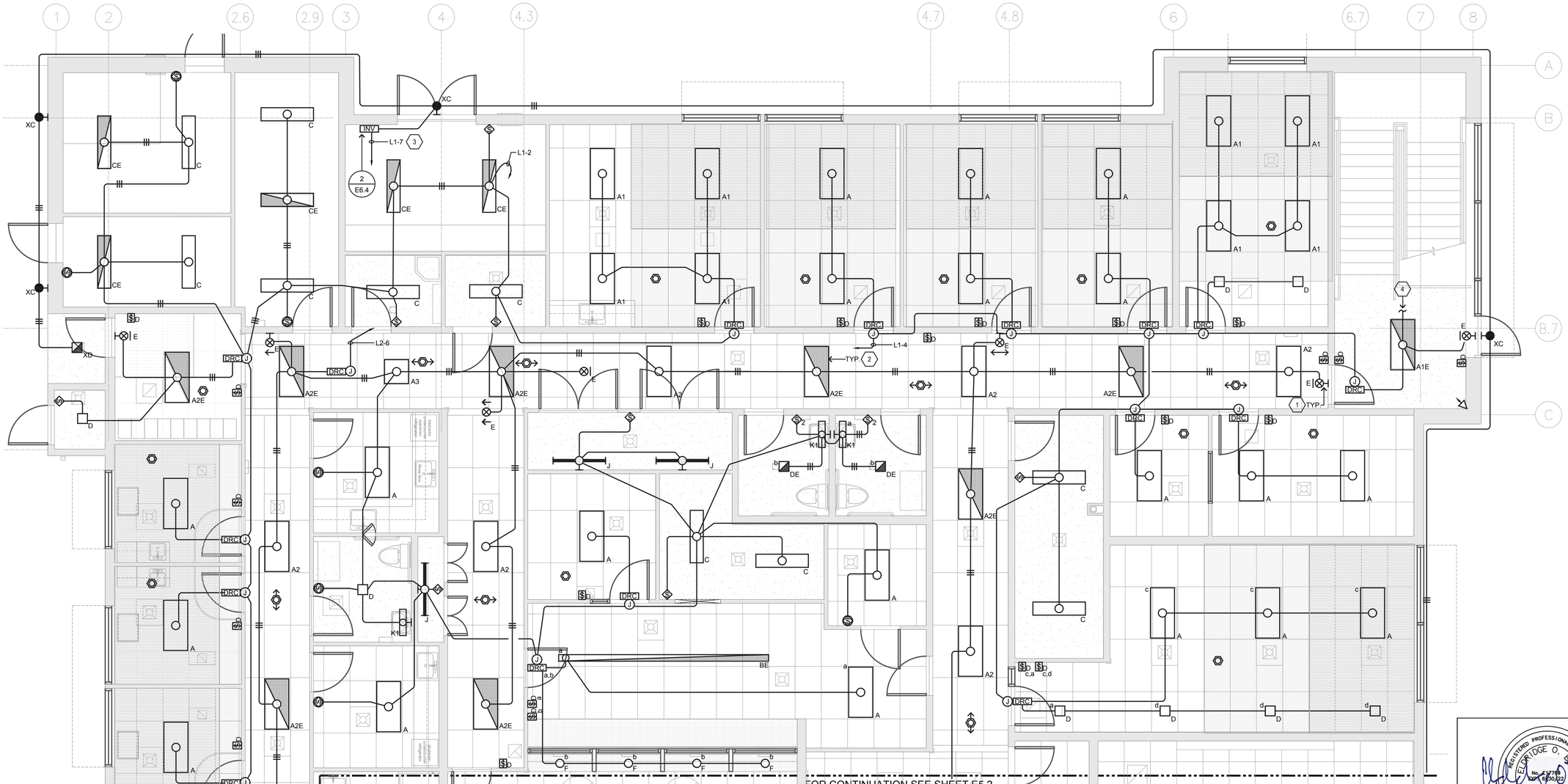
- PRIMARY DAYLIT ZONE
- SECONDARY DAYLIT ZONE

GENERAL NOTE:

SEE SHEET E6.2 FOR LIGHTING CONTROLS AND SEQUENCE OF OPERATION.

SHEET NOTES

1. CONNECT TO AN UNSWITCHED HOT.
2. CONNECT EM DRIVER TO AN UNSWITCHED HOT & ALLOW FOR NORMAL SWITCHING DURING NORMAL OPERATION.
3. CONNECT VIA LIGHTING CONTROL PANEL "LCP", SEE SHEET E6.4
4. CONNECT LIGHTING ON SECOND FLOOR, SEE SHEET E5.3.



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

NORTH

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Sheet Title:
PARTIAL LIGHTING PLAN - FIRST FLOOR

Sheet Number:

E5.1

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DAYLIT ZONES LEGEND

- PRIMARY DAYLIT ZONE
- SECONDARY DAYLIT ZONE

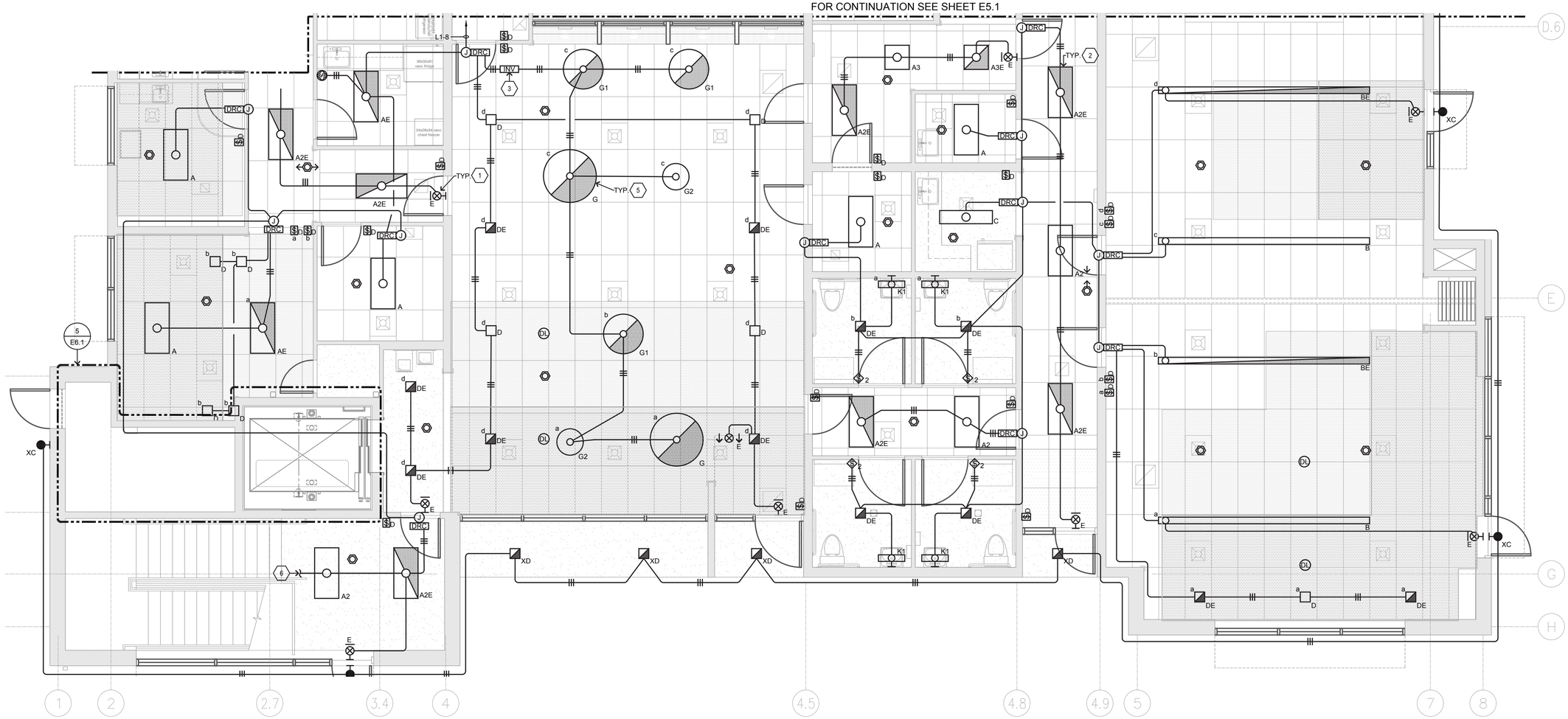
GENERAL NOTE:

SEE SHEET E6.2 FOR LIGHTING CONTROLS AND SEQUENCE OF OPERATION.

SHEET NOTES

1. CONNECT TO AN UNSWITCHED HOT.
2. CONNECT EM DRIVER TO AN UNSWITCHED HOT & ALLOW FOR NORMAL SWITCHING DURING NORMAL OPERATION.
3. AUTOMATICALLY DIMMING LIGHTING INVERTER, SEE 2/E6.4.
4. LOCATE ABOVE ACCESSIBLE CEILING.
5. HALF SHADED FIXTURES 'G' & 'G1' ARE CONNECTED TO LIGHTING INVERTER.
6. CONNECT TO SECOND FLOOR LIGHT FIXTURES, SEE E5.4.

FOR CONTINUATION SEE SHEET E5.1



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

NORTH

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Sheet Title:
PARTIAL LIGHTING PLAN - FIRST FLOOR

Sheet Number:

E5.2

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DAYLIT ZONES LEGEND

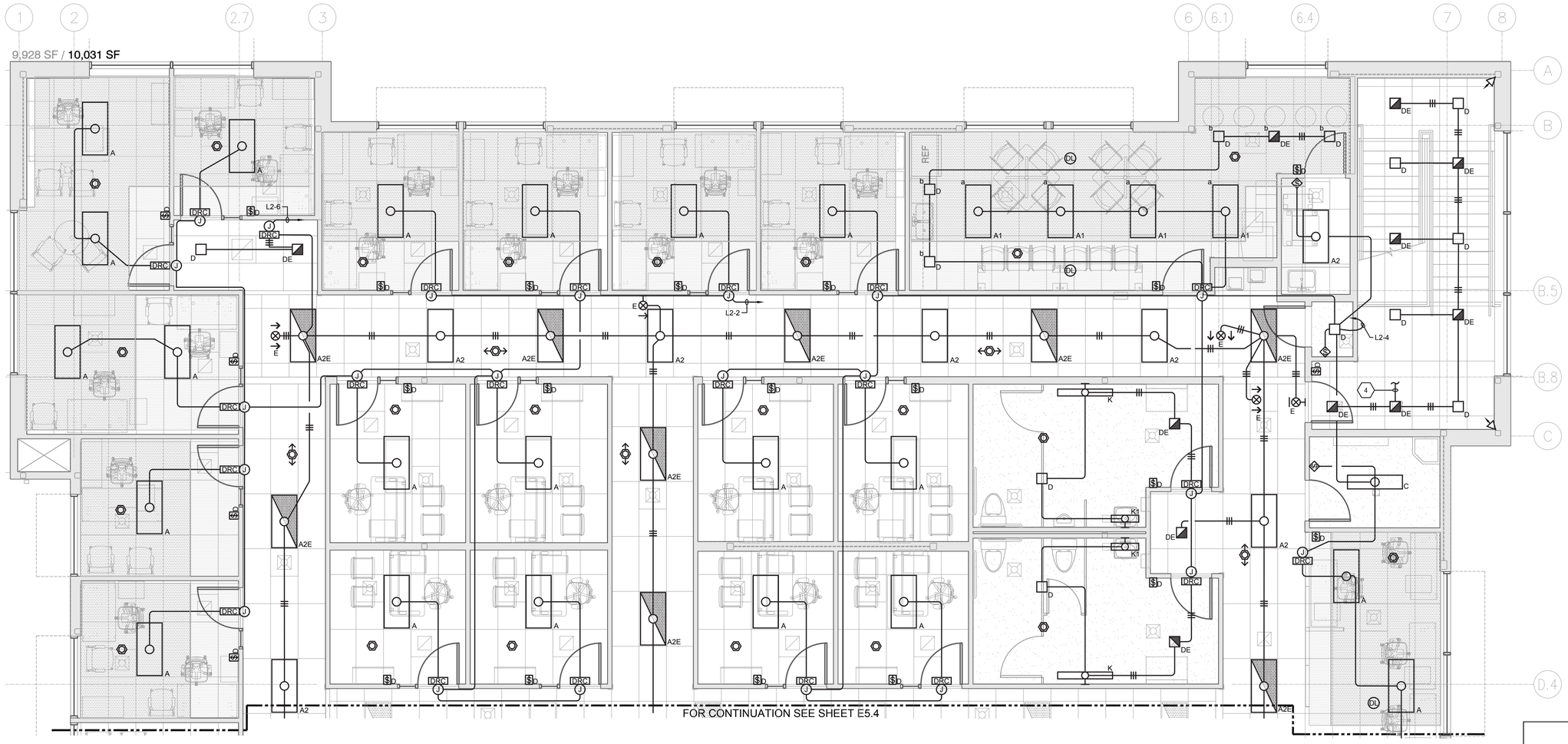
- PRIMARY DAYLIT ZONE
- SECONDARY DAYLIT ZONE

GENERAL NOTE:

SEE SHEET E6.2 FOR LIGHTING CONTROLS AND SEQUENCE OF OPERATION.

SHEET NOTES

1. CONNECT TO AN UNSWITCHED HOT.
2. CONNECT EM DRIVER TO AN UNSWITCHED HOT & ALLOW FOR NORMAL SWITCHING DURING NORMAL OPERATION.
3. AUTOMATICALLY DIMMING LIGHTING INVERTER, SEE 2/E6.4.
4. CONNECT TO FIRST FLOOR LIGHTING CIRCUIT, SEE E5.1.



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

NORTH

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Sheet Title:

PARTIAL LIGHTING PLAN - SECOND FLOOR

Sheet Number:

E5.3

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DAYLIT ZONES LEGEND

- PRIMARY DAYLIT ZONE
- SECONDARY DAYLIT ZONE

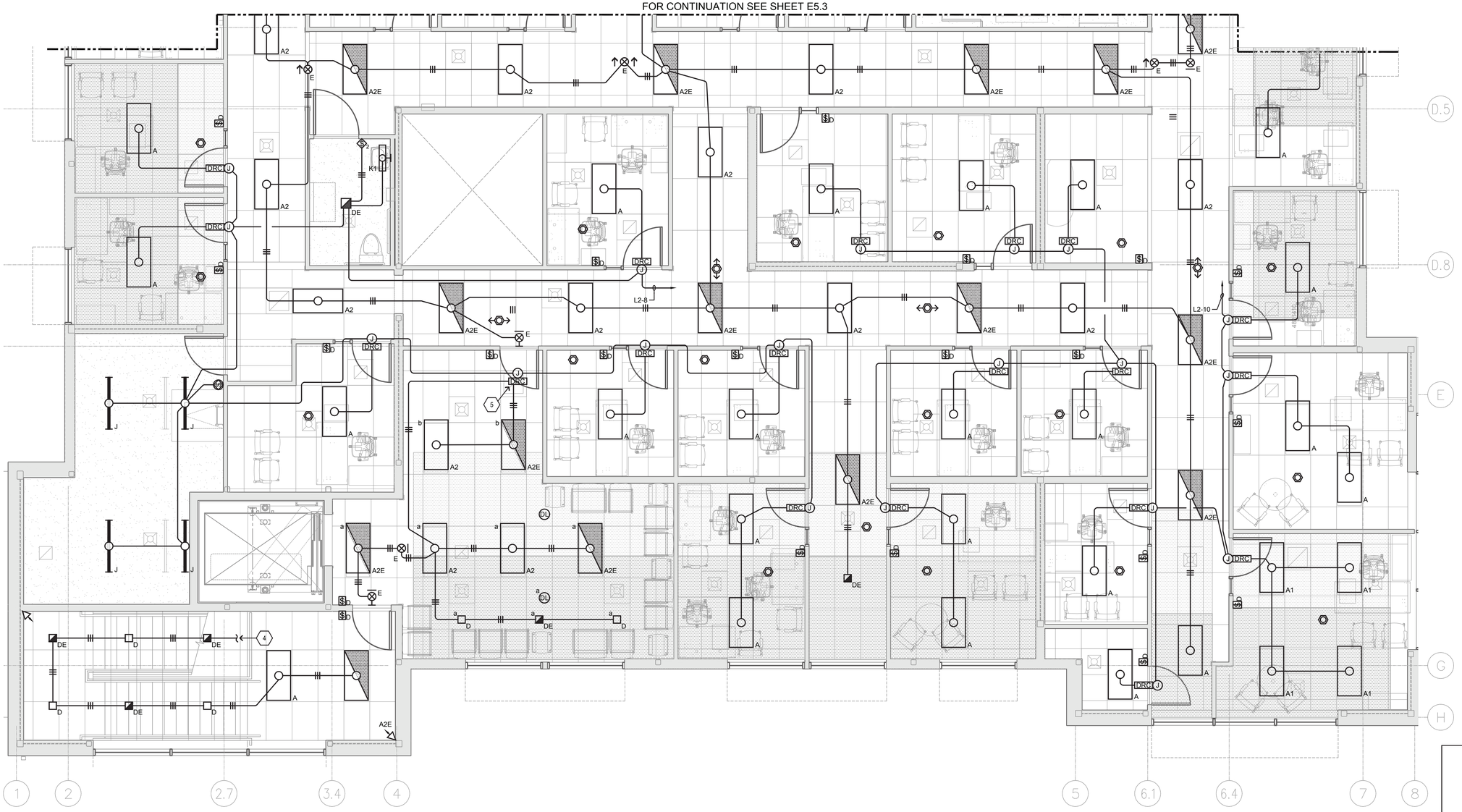
GENERAL NOTE:

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SHEET NOTES

1. CONNECT TO AN UNSWITCHED HOT.
2. CONNECT EM DRIVER TO AN UNSWITCHED HOT & ALLOW FOR NORMAL SWITCHING DURING NORMAL OPERATION.
3. AUTOMATICALLY DIMMING LIGHTING INVERTER, SEE 2/E6.4.
4. CONNECT TO FIRST FLOOR LIGHTING CIRCUIT, SEE SHEET E5.2
5. PROGRAM "ON" AND "OFF" TIMES VIA TIME CLOCK.

FOR CONTINUATION SEE SHEET E5.3



4' 0' 1' 2' 3' 4'

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

NORTH

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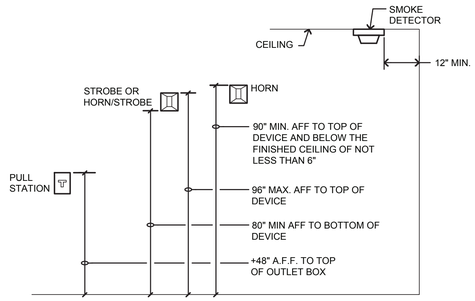
Sheet Title:
PARTIAL LIGHTING PLAN - SECOND FLOOR

Sheet Number:

E5.4

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FIRE RATED PENETRATIONS SHOWN ARE FOR USE WHERE THE PROJECT WALL OR/AND FLOOR CONSTRUCTION CORRESPONDS TO ANY SHOWN IN DETAILS 1 THROUGH 4 BELOW



NOTE:
WHERE LOW CEILING HEIGHTS DO NOT PERMIT WALL MOUNTING AT MIN 80", WALL MOUNTED VISUAL APPLIANCES SHALL BE MOUNTED WITHIN 6" OF THE CEILING.

7 F.A. DEVICE MOUNTING ELEVATION

NO SCALE

SCOPE OF WORK:

NEW COMPLETE MANUAL ADDRESSABLE FIRE ALARM SYSTEM INCLUDING ALL REQUIRED EQUIPMENT, PANELS, RACEWAYS, CONDUCTORS, CONNECTIONS, PROGRAMMING, TESTING AND APPROVAL BY THE LOCAL AUTHORITY HAVING JURISDICTION.

SEQUENCE OF OPERATION OF THE FIRE ALARM SYSTEM.

A. ACTIVATION OF ANY INITIATING DEVICE SHALL CAUSE ALL SIGNALS IN BUILDING TO ACTIVATE AND SOUND AND SIMULTANEOUSLY CAUSE AN ALARM TO BE SENT TO THE REMOTE MONITORING AGENCY.

B. THE ADDRESS CORRESPONDING TO THE INITIATION DEVICE IN ALARM SHALL APPEAR ON FIRE ALARM CONTROL PANEL LCD SCREEN.

C. CLOSING THE FIRE ALARM SPRINKLER OS & Y VALVE SHALL INITIATE A TROUBLE INDICATION AT FIRE ALARM CONTROL PANEL AND MONITORING STATION.

D. SHOULD AN OPEN, GROUND OR SHORT OCCUR IN THE WIRING SYSTEM, FIRE ALARM CONTROL PANEL WILL DETECT MALFUNCTION AND INITIATE A TROUBLE ALARM INDICATOR AT PANEL AND MONITORING STATION.

E. ACTIVATION OF SMOKE DETECTOR ON TOP OF ELEV. SHAFT OR IN ELEV. MACHINE ROOM WILL CAUSE ELEV. RECALL TO ASSIGNED FLOOR.

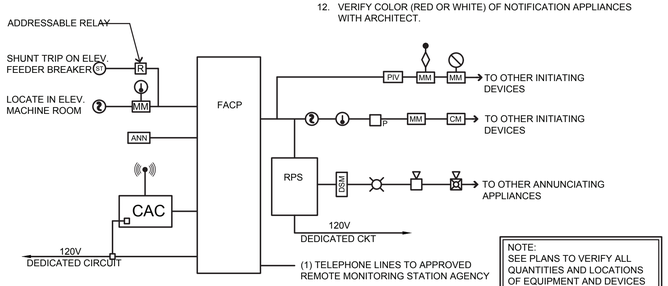
F. ACTIVATION OF THE HEAT DETECTOR IN ELEVATOR EQUIPMENT ROOM WILL CAUSE CIRCUIT BREAKER FOR ELEVATOR POWER TO SHUNT TRIP. HEAT DETECTOR SHALL HAVE A LOWER RESPONSE TIME INDEX THAN SPRINKLER HEAD.

F. FIRE ALARM CONTRACTOR SHALL PROVIDE ALL ADDRESSABLE CONTROL RELAYS AND/OR CONTROL MODULES REQUIRED FOR ELEVATOR RECALL, ELEVATOR POWER SHUNT, FIREMAN'S HAT, ETC. CONTRACTOR SHALL VERIFY REQUIREMENTS WITH ELEVATOR CONTRACTOR.

G. ONCE THE SYSTEM IS BACK TO NORMAL. THE PANEL WILL RESOUND FOR PROPER RESETTING.

FIRE ALARM NOTES:

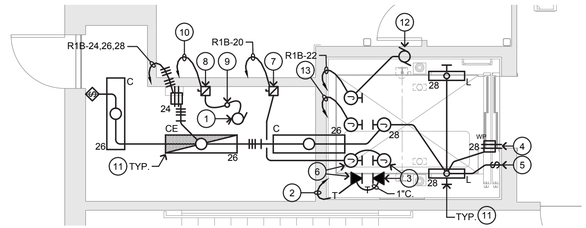
1. NEW ADDRESSABLE FIRE ALARM CONTROL PANEL, NOTIFIER #NFS-320 WITH COMMUNICATOR, INITIATING AND ANNUNCIATING DEVICES, CHARGER & BATTERIES.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MATERIALS, EQUIPMENT AND PROVIDE ALL LABOR REQUIRED AND NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS.
3. THE FIRE ALARM SYSTEM SHALL BE INSTALLED AS SPECIFIED IN ALL SECTIONS OF DIVISION 16 AND DIVISION 15, INCLUDING ALL OTHER WORK AND MISCELLANEOUS ITEMS NOT SPECIFICALLY MENTIONED BUT REASONABLY INFERRED FOR COMPLETE INSTALLATION.
4. ALL WIRE SHALL BE MINIMUM #12AWG FOR ANNUNCIATION CIRCUITS AND MINIMUM #16AWG TWISTED SHIELDED PAIR CABLE FOR INITIATING CIRCUITS. ALL WIRING SHALL BE ROUTED CONCEALED [INSTALLED IN CONDUIT].
5. SUBMIT COMPLETE FIRE ALARM SYSTEM PLANS INCLUDING RISER DIAGRAMS, BATTERY CALCS, VOLT DROP CALCS, WIRING DIAGRAMS, ETC. TO LOCAL FIRE AUTHORITY REVIEW AND APPROVAL PRIOR TO START OF INSTALLATION.
6. FINAL CONNECTIONS OF DEVICES AND EQUIPMENT SHALL BE BY A FIRE ALARM CONTRACTOR WHO PERFORMS SUCH WORK ON A REGULAR BASIS.
7. FINAL TESTING SHALL BE WITNESSED BY THE LOCAL FIRE AGENCY.
8. PROVIDE MANUALS AND MINIMUM 2-HOURS OPERATING INSTRUCTION TO OWNER.
9. PROVIDE BATTERY BACKUP FOR 24 HOURS OF STANDBY & 5 MINUTES OF ALARM.
10. RELAY SHALL BE PROVIDED FOR ELEVATOR RECALL, SMOKE DETECTORS IN LOBBIES SHALL BE PROGRAMMED FOR DESIGNATED AND ALTERNATE LEVEL PER LOCAL JURISDICTION.
11. RELAY SHALL BE PROVIDED FOR VISUAL WARNING IN ELEVATOR (FIREMAN'S HAT) ON ACTIVATION OF ELEVATOR MACHINE ROOM INITIATION DEVICES.
12. VERIFY COLOR (RED OR WHITE) OF NOTIFICATION APPLIANCES WITH ARCHITECT.



NOTE:
SEE PLANS TO VERIFY ALL QUANTITIES AND LOCATIONS OF EQUIPMENT AND DEVICES REQUIRED FOR THE PROJECT.

6 TYPICAL FIRE ALARM RISER DIAGRAM

NO SCALE



DETAIL NOTES:

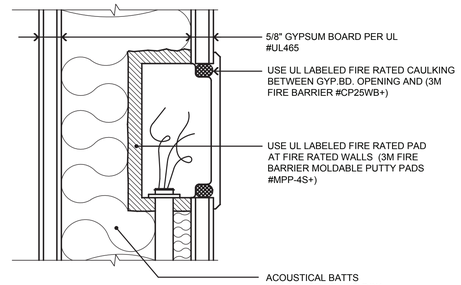
1. ELEVATOR MOTOR; SEE SINGLE LINE DIAGRAM.
2. 1"C. & CAT 5 CABLE TO BACKBOARD. COORDINATE WITH OWNER FOR TELEPHONE LINE ACTIVATION.
3. LOCATE AT MID-SHAFT OR AS DIRECTED BY THE ELEVATOR CONTRACTOR FOR CARPOWER AND TELEPHONE.
4. +24" ABOVE ELEVATOR PIT FLOOR.
5. +24" ABOVE FIRST FLOOR LANDING WITHIN 18" OF THE ACCESS DOOR JAMB.
6. LOCATE AT ELEVATOR CONTROLLER LOCATION.
7. DISCONNECT SWITCH WITH FUSES. DISCONNECT SWITCH SHALL BE LOCKABLE IN 'OPEN' POSITION FOR ELEVATOR CONTROLS. VERIFY WITH MANUFACTURER RECOMMENDATIONS.
8. DISCONNECT SWITCH WITH FUSES PER MANUFACTURER RECOMMENDATIONS FOR ELEVATOR MOTOR. DISCONNECT SWITCH SHALL BE LOCKABLE IN 'OPEN' POSITION. SEE SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
9. STUB-UP FOR ELEVATOR MOTOR AS DIRECTED BY ELEVATOR CONTRACTOR.
10. SEE SINGLE LINE DIAGRAM FOR FEEDER SIZE AND REQUIREMENTS.
11. LIGHT FIXTURE SHALL NOT BE CONNECTED TO GFCI.
12. ELEVATOR SUMP PUMP, VERIFY EXACT REQUIREMENTS.
13. ¾"C. TO FIRE ALARM CONTROL PANEL FOR FIRE ALARM INTERLOCKS. COORDINATE WITH F.A. CONTRACTOR.

GENERAL DETAIL NOTES:

1. VERIFY EXACT LOCATION OF ALL OUTLETS, FIXTURES, DEVICES, ETC. WITH THE ELEVATOR MANUFACTURER PRIOR TO COMMENCEMENT OF WORK.
2. ALL DEVICES, OUTLETS, FIXTURES, BOXES, ETC. IN THE ELEVATOR SHAFT & PIT SHALL BE WEATHER PROOF.
3. ALL 125V DUPLEX RECEPTACLES INSTALLED IN PITS, MACHINE ROOMS OR MACHINERY SPACES SHALL BE GROUND-FAULT CIRCUIT INTERRUPTER.
4. ALL WIRING RELATED TO ELEVATOR EQUIPMENT SHALL BE IN CONDUIT.
5. CIRCUIT BREAKER SERVING ELEVATOR MOTOR/PUMP SHALL HAVE 120V SHUNT TRIP ACTIVATED BY SMOKE DETECTORS IN TOP OF SHAFT MACHINE ROOM OR MACHINE SPACES, U.O.N.
6. LIGHTING FIXTURES SHALL NOT BE CONNECTED TO THE LOAD SIDE OF A GROUND-FAULT CIRCUIT INTERRUPTER.

5 ELEVATOR SHAFT & EQUIPMENT ROOM DETAIL

NO SCALE



NOTE:
BACK TO BACK BOXES NOT ALLOWED.

4 1-HR FIRE RATED WALL PENETRATION ELECTRICAL RECEPTACLE CAULKING (TYP.)

NO SCALE

3 DETAIL NOT USED

NO SCALE

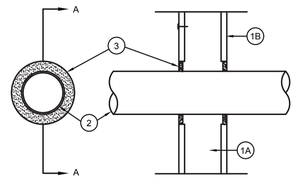
2 DETAIL NOT USED

NO SCALE

SEE FLOOR PLAN DRAWINGS FOR RATED WALL LOCATIONS

U.L. System No. W-L-1062

F Rating-1 HR
T Rating-0 HR
L Rating At Ambient-Less Than 1 CFM/sq ft
L Rating At 400F-Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly-The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs-Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in OC. Steel studs to be min 3|Q5|W|A8|S in. wide and spaced max 24 in. OC.

B. Wallboard Gypsum*-One Layer of nom |Q5|W|A8|S in. thick gypsum wallboard as specified in the individual Wall and Partition Design. Max diam of opening is 4|Q3|W|A4|S in.

2. Through Penetrants-One metallic conduit to be installed within the firestop system. The space between the conduit and periphery of opening shall be a min |Q1|W|A4|S in. to a max |Q3|W|A8|S in. Conduit to be rigidly supported on both sides of wall assembly. A nominal 4 in. diameter (or smaller) electrical metallic tubing or steel conduit may be used.

3. Fill, Void or Cavity Material*-Caulk-Min 1|Q1|W|A2|S in. thickness of fill material applied within the annulus, flush with both surfaces of wall.

General Electric Co.-Pensil 100 Caulk.

Specified Technologies Inc.-Pensil 100 Sealant and Pensit 300 Sealant.

*Bearing the UL Classification Marking

1 1-HR FIRE-RATED WALL PENETRATION

NO SCALE

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HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Drawn By: CADD

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.10.21 BID SET

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Sheet Title:
ELECTRICAL DETAILS

Sheet Number:

E6.1

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INTERIOR LIGHTING & RECEPTACLE CONTROLS SEQUENCE OF OPERATION

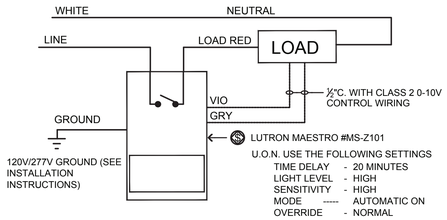
ROOM TYPE	OCCUPANCY SENSOR - MANUAL ON	OCCUPANCY SENSOR - AUTO OFF	OCCUPANCY SENSOR - PARTIAL OFF	OCCUPANCY SENSOR - AUTO TO OFF	CONTINUOUS DIMMING	ON/OFF SWITCH	MULTI ZONE DIMMING	AUTO TIME CLOCK ON	AUTO TIME CLOCK OFF	OVERRIDE SWITCH - INTO DIMMING (WHERE SHOWN ON PLANS)	SET LIGHT LEVEL - TO LESS RECOMMENDATIONS	SET LIGHT LEVEL - TO 100% ON	ACCEPTANCE TESTING OF CONTROLS BY CLCATT	REMARKS
OPEN OFFICE				•	•	•	•	•	•	•		•		'ON' AND 'OFF' TIME SET PER OWNER.
PRIVATE OFFICE < 250 FT²	•			•						•		•		
PRIVATE OFFICE > 250 FT²		•		•	•			•		•		•		
MEETING ROOMS		•	•		•		•		•		•	•		
BREAK ROOMS	•		•		•		•		•		•	•		
CORRIDORS/HALLWAYS/LIBRARY STACKS/WAREHOUSE AISLE		•		•		•		•		•		•		DIM TO 50% WHEN UNOCCUPIED/'ON' AND 'OFF' TIME SET PER OWNER.
SMALL RESTROOMS < 100 FT²	•		•			•						•		
LARGE RESTROOMS		•	•		•							•		
RECEPTION/LOBBY							•	•	•	•	•	•		'ON' AND 'OFF' TIME SET PER OWNER.
ELECTRICAL/MECHANICAL/UTILITY ROOMS					•	•	•	•	•	•		•		'ON' AND 'OFF' TIME SET PER OWNER.
EXAM ROOMS		•	•		•		•		•			•		
PROCEDURE ROOMS		•	•		•		•		•			•		
MULTI PURPOSE ROOM < 1000 FT²		•	•		•							•		
CONFERENCE ROOM		•	•		•		•					•		
PRIVATE OFFICE WITHOUT DAY LIGHTING	•		•		•						•	•		
ANY SPACE < 100 FT²	•		•			•						•		
CONTROLLED RECEPTACLES		•	•									•		

GENERAL NOTE:

LIGHTING CONTROL SYSTEMS SHALL BE CAPABLE OF MEETING DEMAND RESPONSE REQUIREMENTS OF CALIFORNIA TITLE 24.

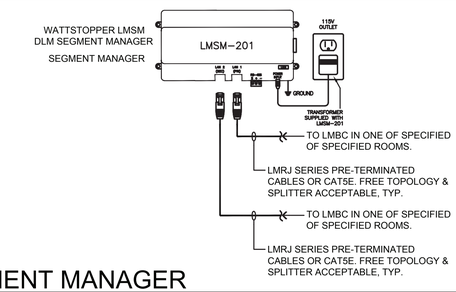
SHEET NOTES

1. FOR DEVICE QUANTITY AND LOCATION; SEE LIGHTING PLANS.
2. ONE ZONE DAY LIGHT PHOTOCELL; SEE PLANS FOR QUANTITIES & LOCATIONS. PROGRAM ZONE 1 (PRIMARY DAY LIT ZONE) AT 40FC AND ZONE 2 (SECONDARY DAY LIT ZONE) DIMMED TO 25% LESS THAN ZONE 1.
3. LMRC-211 IS A (1) LOAD ROOM CONTROLLER THAT WILL CONTROL A SINGLE (1) 20A CIRCUIT 0-10V CONTROL.
4. LMRC-212 IS A (2) LOAD CONTROLLER THAT WILL CONTROL A SINGLE (1) 20A CIRCUIT 0-10V CONTROL.
5. LMRC-213 IS A (3) LOAD CONTROLLER THAT WILL CONTROL A SINGLE (1) 20A CIRCUIT 0-10V CONTROL.
6. WALL OR CORNER MOUNTED OCCUPANCY SENSOR SHALL BE INSTALLED IN ROOMS/AREAS WHERE SHOWN ON PLANS.



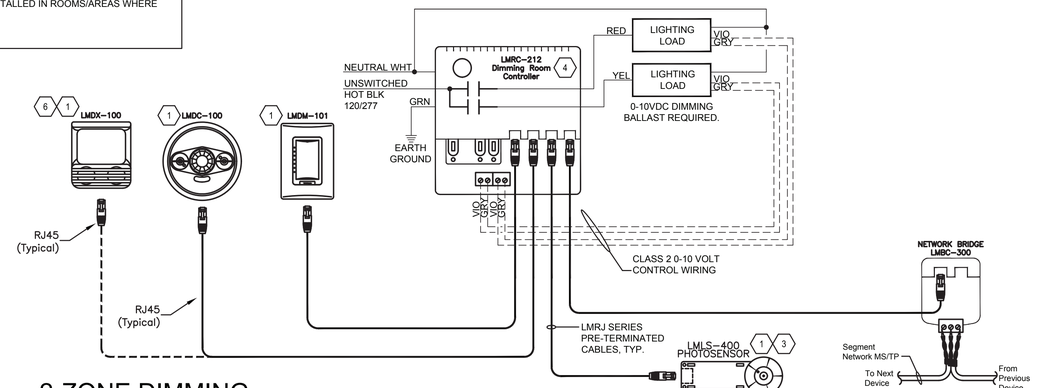
6 WALL OCCUPANCY SENSOR WIRING

NO SCALE



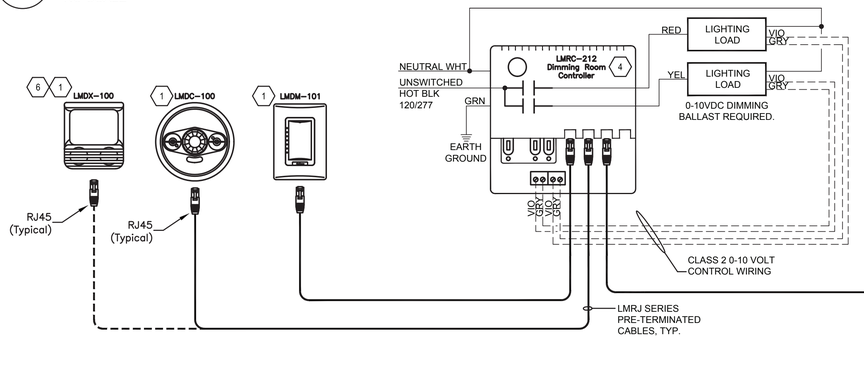
5 SEGMENT MANAGER

NO SCALE



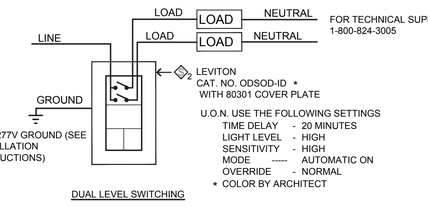
3 2-ZONE DIMMING LIGHTING CONTROL WITH DAYLIGHTING

NO SCALE

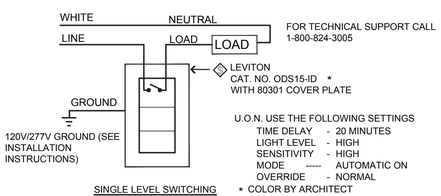


2 2-ZONE DIMMING LIGHTING CONTROL

NO SCALE



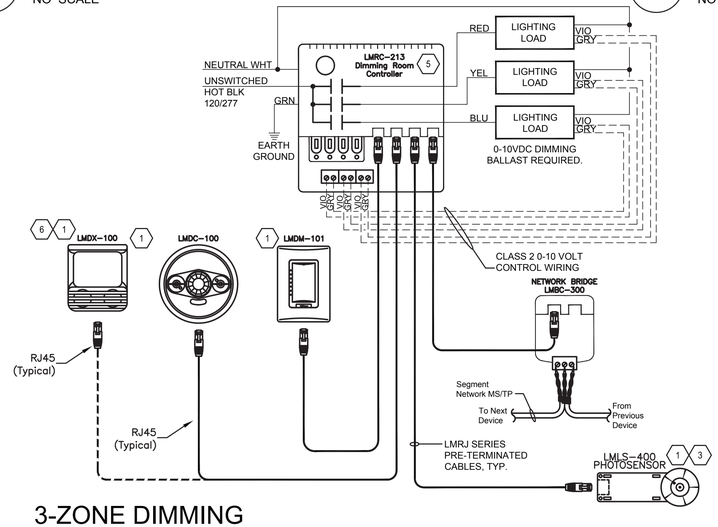
DUAL LEVEL SWITCHING



SINGLE LEVEL SWITCHING

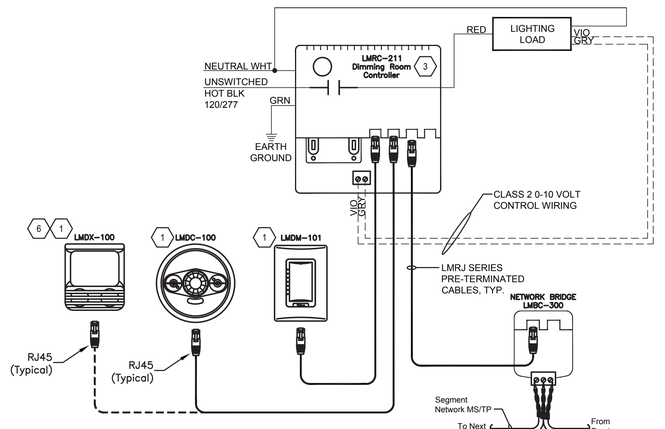
7 WALL OCCUPANCY SENSOR WIRING

NO SCALE



4 3-ZONE DIMMING LIGHTING CONTROL WITH DAYLIGHTING

NO SCALE



1 1-ZONE DIMMING LIGHTING CONTROL

NO SCALE

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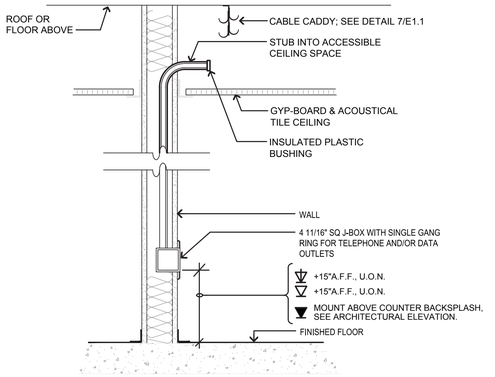
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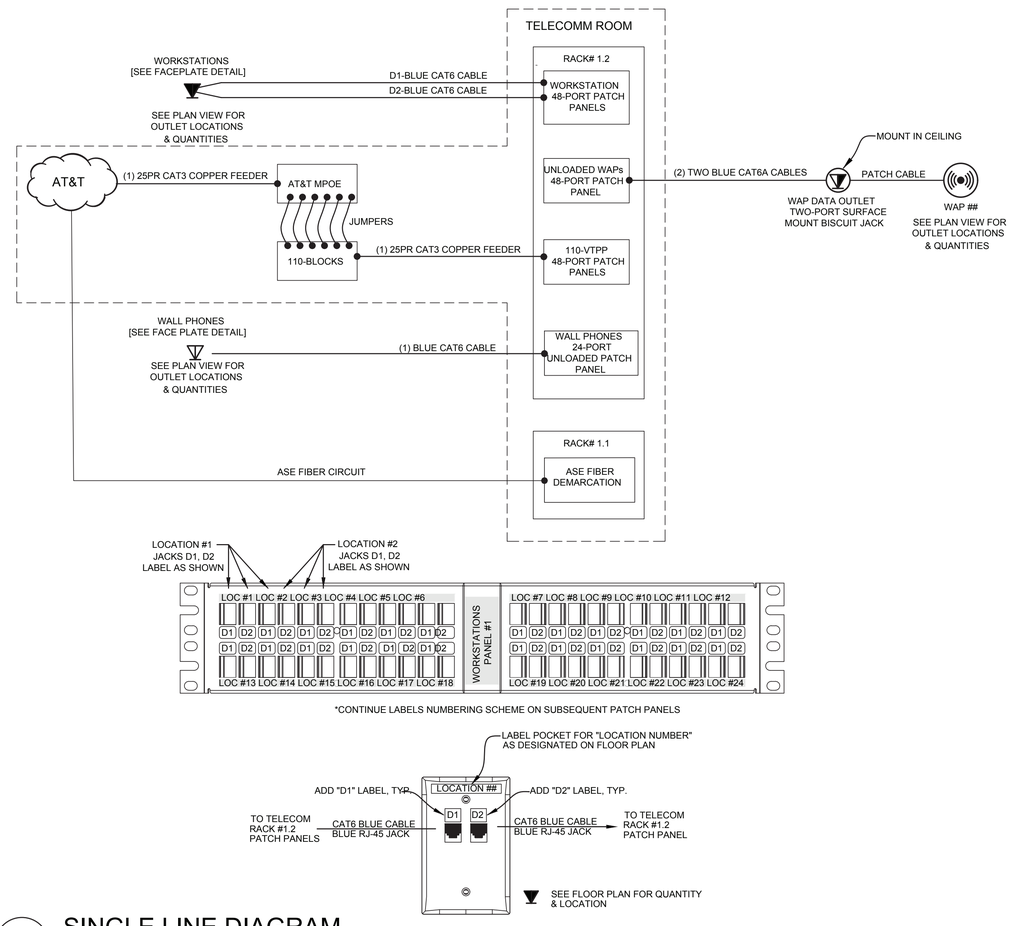
E6.2

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4 TELE/DATA OUTLET

NO SCALE

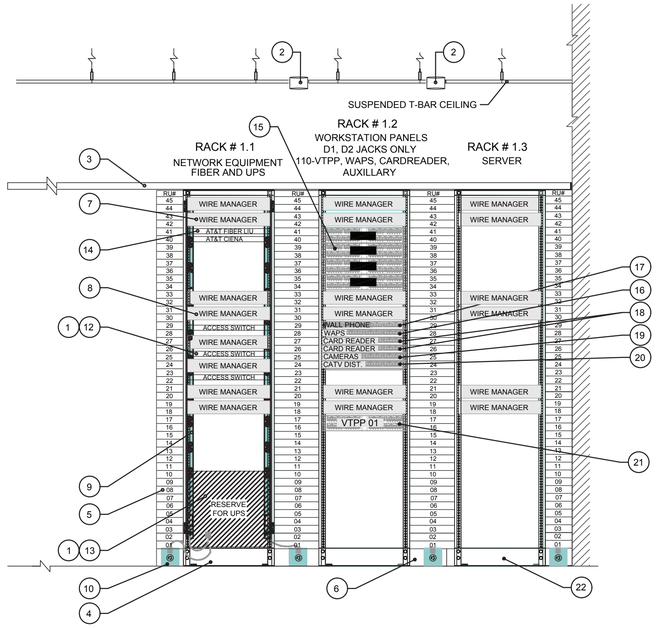


3 SINGLE LINE DIAGRAM

NO SCALE

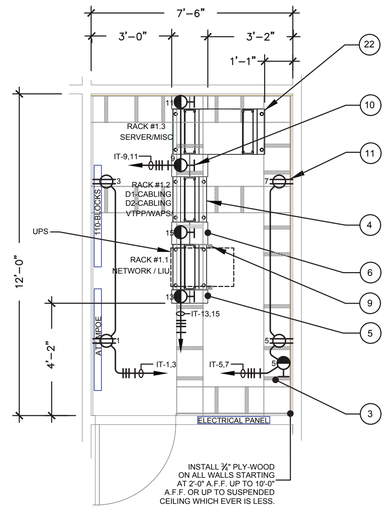
DETAIL NOTES:

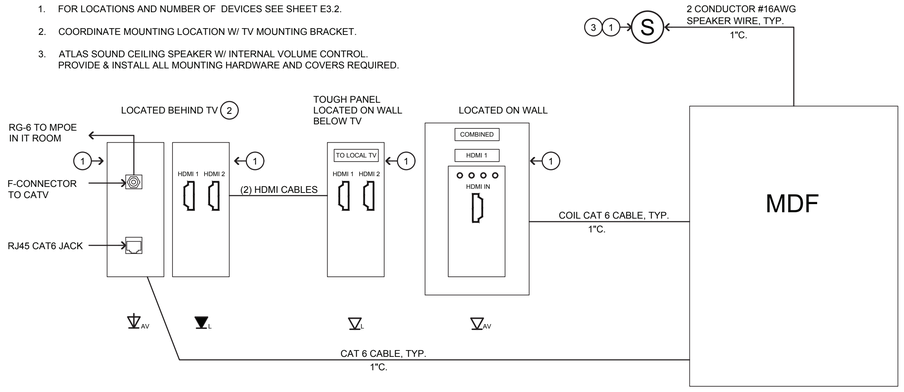
1. COUNTY SUPPLIED AND INSTALLED EQUIPMENT.
2. 4" DIAMETER CABLING ENTRY CONDUIT(S) SECURED TO BUILDING FRAMING. PROVIDE GROMMET FOR PERIMETER(S) OF WALL, FLOOR, OR CEILING PENETRATIONS. CABLE(S) SHALL NOT TO EXCEED THE MINIMUM BENDING RADIUS SPECIFIED. THE CAPACITY OF EACH ENTRY SHALL NOT EXCEED NEC CODE REQUIREMENT FOR CONDUIT FILL.
3. 12" WIDE CABLE TRAY SECURED TO RACKS AND WALLS THE NECESSARY J-HOOKS, PLATES, AND MISCELLANEOUS HARDWARE MOUNTED AT +/-7' A.F.F. [TYPICAL]
4. STANDARD 2-POST EQUIPMENT RACK 7' TALL WITH 19" WIDTH MOUNTING RAILS. PROVIDE SEISMIC BRACING/ANCHORAGE. [TYPICAL]
5. 6" DOUBLE-SIDED VERTICAL WIRE MANAGERS INSTALLED AT THE ENDS OF EQUIPMENT RACK ROW(S). [TYPICAL]
6. 10" DOUBLE-SIDED VERTICAL WIRE MANAGERS INSTALLED BETWEEN EACH RACK. [TYPICAL]
7. DOUBLE-SIDED HORIZONTAL (2 RMU) WIRE MANAGER. [TYPICAL]
8. SINGLE-SIDE HORIZONTAL (2 RMU) WIRE MANAGER. [TYPICAL]
9. VERTICAL POWER STRIP MOUNTED AT RACK REAR GEIST PDU PART NO. TBD & SUBMITTED FOR REVIEW/APPROVAL BY COUNTY ITD. WITH CUSTOMIZED RACK MOUNT STANDOFF BRACKETS. ENSURE POWER STRIP DOES NOT PROHIBIT ACCESS TO WIRE MANAGERS AND EQUIPMENT. [TYPICAL]
10. DEDICATED STANDARD RECEPTACLE NEMA 5-20R (IF APPLICABLE) ON GENERATOR CONCEALED INSIDE WIRE MANAGER. VERIFY LOCATION AND ORIENTATION WITH ITD PRIOR TO INSTALLATION. [TYPICAL]
11. DEDICATED STANDARD RECEPTACLE NEMA 5-20R MOUNTED AT 18" A.F.F. [TYPICAL]
12. COUNTY NETWORK DEVICE, [TYPICAL]
13. COUNTY UNINTERRUPTIBLE POWER SUPPLY (UPS), [TYPICAL]
14. AT&T PROVIDED FIBER HANDOFF AND CIENA DEVICE.
15. WORKSTATION CABLING TERMINATION POINT: 48-PORT ANGLED PATCH PANEL(S) FOR CAT6 CABLES. QUANTITY DEPENDANT ON THE NUMBER OF FACEPLATE LOCATIONS.THE THREE (3) RACK IDF CONFIGURATION SHALL NOT EXCEED NINE (9) PATCH PANELS OR 144 FACEPLATES WITH TWO (2) DATA JACKS (D1, D2) PER LOCATION.
16. WIRELESS ACCESS POINT (WAP) TERMINATION POINT: 24-PORT ANGLED PATCH PANEL(S) UNLOADED FOR CAT6 CABLES. QUANTITY DEPENDANT ON THE NUMBER OF LOCATIONS. EACH WAP LOCATION REQUIRES TWO (2) CAT 6 CONNECTIONS.
17. WALL PHONE TERMINATION POINT: 24-PORT ANGLED PATCH PANEL(S) UNLOADED FOR CAT6 CABLES. QUANTITY DEPENDANT ON THE NUMBER OF LOCATIONS.
18. CARD READER TERMINATION POINT: 24-PORT ANGLED PATCH PANEL(S) UNLOADED FOR CAT6 CABLES. QUANTITY DEPENDANT ON THE NUMBER OF LOCATIONS.
19. SECURITY CAMERA TERMINATION POINT: 24-PORT ANGLED PATCH PANEL(S) UNLOADED FOR CAT6 CABLES. QUANTITY DEPENDANT ON THE NUMBER OF LOCATIONS.
20. CABLE TELEVISION TERMINATION POINT: 24-PORT STANDARD PATCH PANEL(S) UNLOADED FOR RG-6 COAXIAL CATV CABLING. QUANTITY DEPENDANT ON THE NUMBER OF LOCATIONS.
21. VOICE TRANSITION (VTPP) FEEDER TERMINATION POINT: 48-PORT ANGLED PATCH PANEL(S) UNLOADED WITH CAT3 UTP CONNECTORS FOR FEEDER TERMINATION.
22. STANDARD 4-POST EQUIPMENT RACK 7-FOOT TALL WITH 19-INCH WIDTH MOUNTING RAILS PROVIDE SEISMIC BRACING/ANCHORAGE (TYP). GENERAL NOTES: · ALL CABLING SHALL HAVE AT A MINIMUM 10 FEET OF SERVICE LOOP CONCEALED ABOVE DROPPED CEILING OR UNDER RAISED FLOOR. · ALL CABLES, PATCH PANELS, TERMINATION POINTS, HARDWARE, ETC.. SHALL BE LABELED AND TESTED. · INTERIOR GROUNDING SYSTEM SHALL BE COMPLIANT WITH THE COUNTY CABLING SPECIFICATION



2 THREE RACK IDF CONFIGURATION - FLOOR PLAN

NO SCALE





DETAIL NOTES:

1. FOR LOCATIONS AND NUMBER OF DEVICES SEE SHEET E3.2.
2. COORDINATE MOUNTING LOCATION W/ TV MOUNTING BRACKET.
3. ATLAS SOUND CEILING SPEAKER W/ INTERNAL VOLUME CONTROL. PROVIDE & INSTALL ALL MOUNTING HARDWARE AND COVERS REQUIRED.

1 MULTI-PURPOSE ROOM A/V CONFIGURATION

NO SCALE

Project / Owner:

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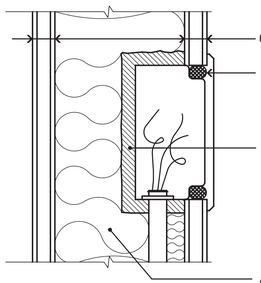
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Sheet Title:
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Sheet Number:
E6.3

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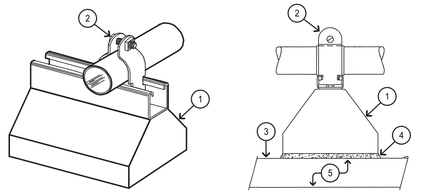
SEE SHEET AC-1.0 FOR EXACT ACOUSTICAL WALL LOCATIONS CORRESPONDING TO ACOUSTICAL OUTLET PENETRATION SHOWN IN DETAIL 5 BELOW



NOTE:
BACK TO BACK BOXES NOT ALLOWED.

BID ALTERNATIVE #2

NOTE:
CONTRACTOR SHALL PROVIDE ADDITIONAL COST FOR ADDITIONAL EXTENSION RINGS FOR WALLS TO BE USED WITH RESILIENT CLIP SYSTEM.
ACOUSTICAL WALLS WITH RESILIENT CLIPS SHALL ALSO INCLUDE ACOUSTICAL PADS AT BOXES AND EXTENSION RINGS. RESILIENT CLIPS ARE ONLY ON ONE SIDE OF WALL.

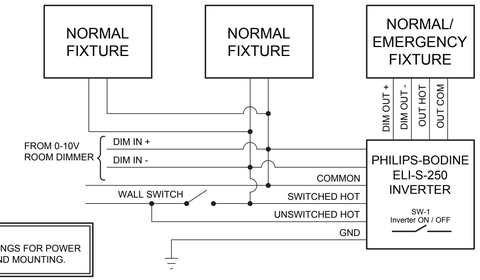


DETAIL NOTES:

1. ROOF TOP CONDUIT SUPPORT; 5" x 6" x 9.5" WITH 1" HIGH 14 GA. GALVANIZED CHANNEL STRUT. COOPER B-LINE "DB" SERIES.
2. 14 GA. RIGID CONDUIT CLAMP WITH RECESS HEX HEAD MACHINE SCREW AND SQUARE NUT COMBINATION. COOPER B-LINE B2000 SERIES.
3. CLEAN (E) ROOF AREA AS REQUIRED.
4. SET SUPPORT IN MASTIC.
5. ROOF STRUCTURE.

3 ROOF MOUNTED CONDUIT SUPPORT DETAIL

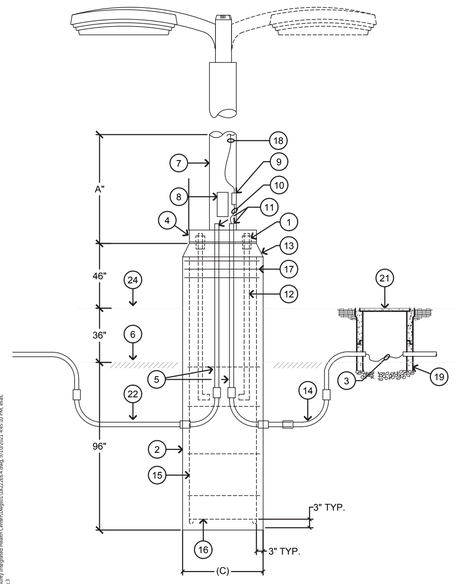
NO SCALE



NOTE:
SEE LIGHTING DRAWINGS FOR POWER SUPPLY CAPACITY AND MOUNTING.

2 REMOTE MOUNTED UN-INTERRUPTIBLE POWER SUPPLY FOR EMERGENCY EGRESS LIGHTING

NO SCALE

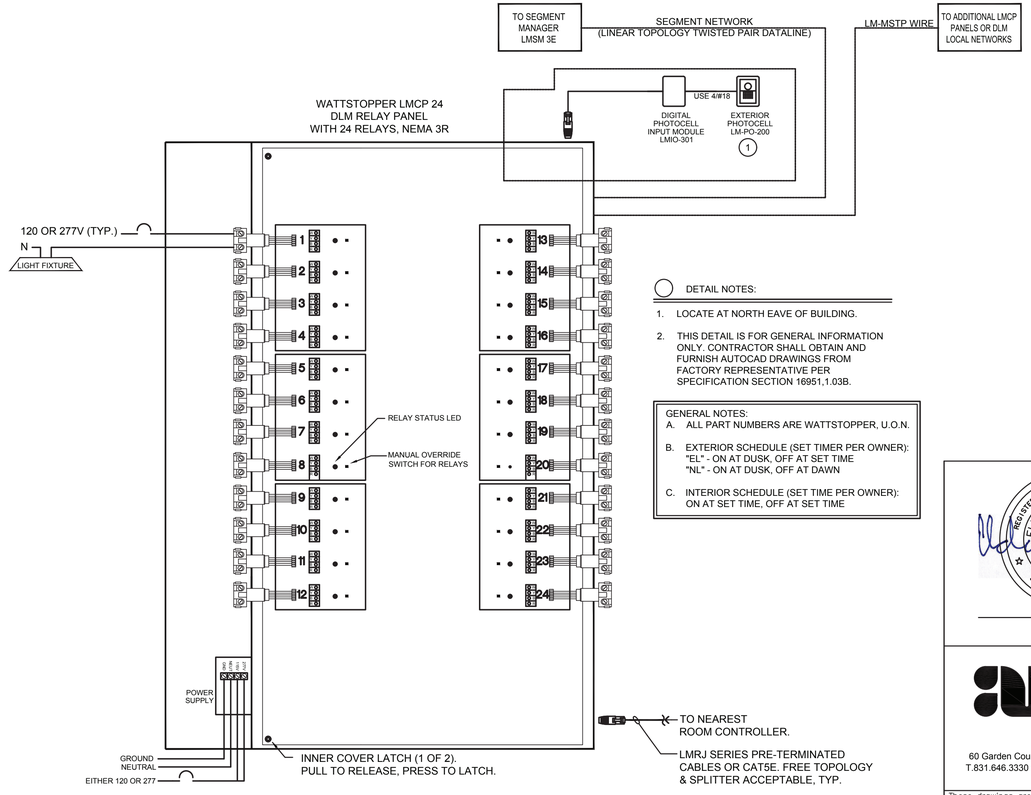


DETAIL NOTES:

1. LEVELING NUTS.
2. CONCRETE BASE, MINIMUM 3000 PSI (COMPRESSIVE STRENGTH - 28 DAYS MIN).
3. SITE LIGHTING BRANCH CIRCUIT.
4. BASE COVER.
5. RIGID STEEL ELBOWS AND CONDUIT, WRAP WITH PVC TAPE OVERLAPPED 50%.
6. FINISHED GRADE OR NATIVE SOIL.
7. LUMINAIRE POLE.
8. HAND HOLE.
9. GROUNDING LUG.
10. GROUND CONDUCTOR.
11. BUSHING, ON CONDUIT(S), CAP BEFORE POURING CONCRETE.
12. ANCHOR BOLT; QUANTITY & SIZE PER POLE MFGR. FURNISHED WITH POLE. ANCHOR BOLTS SHALL BE WITHIN VERTICAL REBAR CAGE.
13. GROUT FILL WITH 45 DEGREE BEVEL.
14. PVC SCH 40 FROM RIGID STEEL ELBOW TO PULLBOX.
15. SIX VERTICAL REBAR (#4 GRADE 60 MINIMUM), EQUAL SPACING & HOOK ENDS.
16. HORIZONTAL TIES REBAR (#4 GRADE 60 MINIMUM), 9" O.C.
17. 3#3 TIES IN UPPER 5" OF BASE.
18. #10 EQUIPMENT GROUNDING CONDUCTOR FROM POLE GROUND LUG TO LUMINAIRE.
19. TYPICAL PULLBOX INSTALLATION, SEE 5/E1.1.
20. NOTE NOT USED.
21. SEE SHEET E2.1 FOR PULLBOX SCHEDULE.
22. PVC SCH 40 FROM RIGID STEEL ELBOW TO CCTV PULLBOX.
23. MOUNTING DETAIL FOR FIXTURES IN BIO SWALE AREAS. FIELD VERIFY EXACT LOCATION.
24. BIO SWALE.

4 FIXTURE TYPES "XA" & "XA2" POLE BASE WITH CCTV DETAIL (23)

NO SCALE



DETAIL NOTES:

1. LOCATE AT NORTH EAVE OF BUILDING.
2. THIS DETAIL IS FOR GENERAL INFORMATION ONLY. CONTRACTOR SHALL OBTAIN AND FURNISH AUTOCAD DRAWINGS FROM FACTORY REPRESENTATIVE PER SPECIFICATION SECTION 16951,1.03B.

GENERAL NOTES:
A. ALL PART NUMBERS ARE WATTSTOPPER, U.O.N.
B. EXTERIOR SCHEDULE (SET TIMER PER OWNER):
"EL" - ON AT DUSK, OFF AT SET TIME
"NL" - ON AT DUSK, OFF AT DAWN
C. INTERIOR SCHEDULE (SET TIME PER OWNER):
ON AT SET TIME, OFF AT SET TIME

1 INTERIOR/EXTERIOR LIGHTING CONTROL

NO SCALE

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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Drawn By: CADD

Drawing Date: 12.18.19

Project Number: 1838

Revisions:
09.10.21 BID SET

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ELDRIDGE O. BELL
No. E 9789
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STATE OF CALIFORNIA

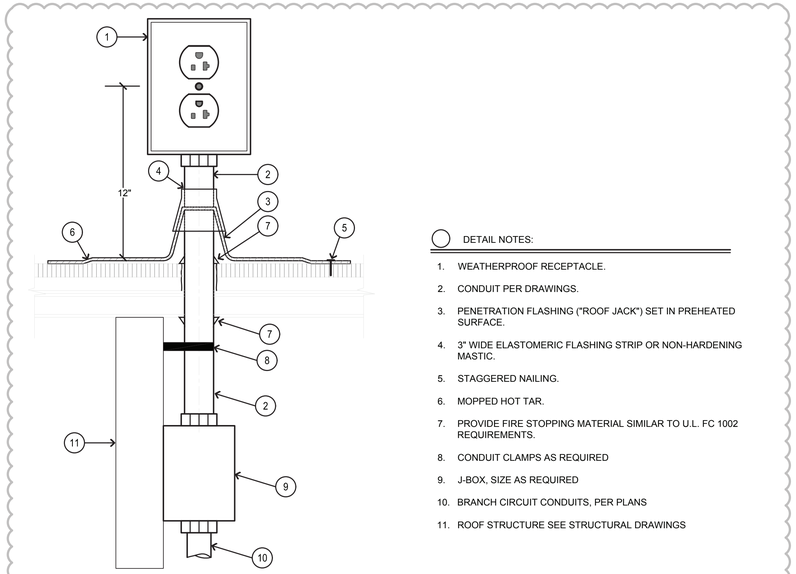
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Project No. 18222.00
60 Garden Court • Suite 210 • Monterey, CA 93940
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Sheet Title:
ELECTRICAL DETAILS

Sheet Number:
E6.4

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DETAIL NOTES:

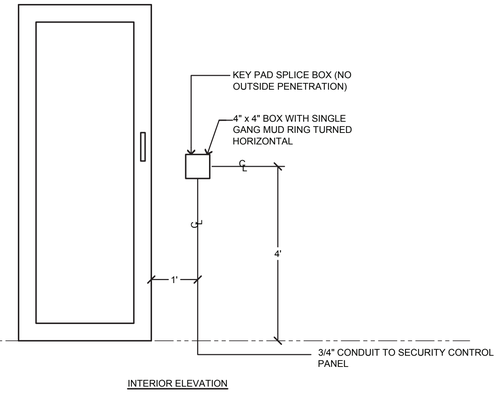
1. WEATHERPROOF RECEPTACLE.
2. CONDUIT PER DRAWINGS.
3. PENETRATION FLASHING ("ROOF JACK") SET IN PREHEATED SURFACE.
4. 3" WIDE ELASTOMERIC FLASHING STRIP OR NON-HARDENING MASTIC.
5. STAGGERED NAILING.
6. MOPPED HOT TAR.
7. PROVIDE FIRE STOPPING MATERIAL SIMILAR TO U.L. FC 1002 REQUIREMENTS.
8. CONDUIT CLAMPS AS REQUIRED
9. J-BOX, SIZE AS REQUIRED
10. BRANCH CIRCUIT CONDUITS, PER PLANS
11. ROOF STRUCTURE SEE STRUCTURAL DRAWINGS

4 RECP. MOUNT DETAIL

NO SCALE

1

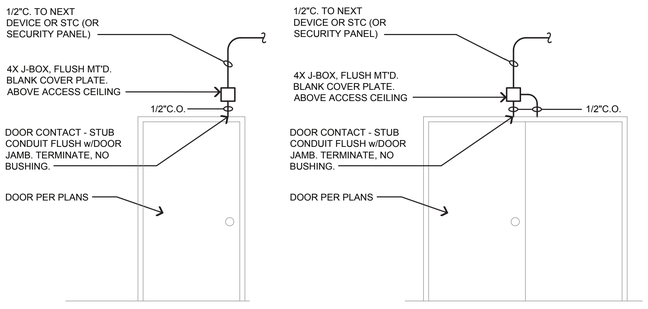
CEILING



INTERIOR ELEVATION

3 INTRUSION ALARM KEYPAD MOUNTING DETAIL

NO SCALE



SINGLE DOOR DOUBLE DOOR

2 DOOR CONTACT MOUNTING DETAIL

NO SCALE

MDF

NOTE:
SEE PLANS FOR QUANTITIES & LOCATIONS AND ADDRESSES, TYP.

EQUIPMENT LIST

I.D.	DESCRIPTION	MANUFACTURER
IAP	INTRUSION ALARM PANEL	GENETEC
KP	INTRUSION ALARM KEYPAD	GENETEC
MD	INTRUSION ALARM MOTION SENSOR	GENETEC
PS	INTRUSION ALARM POWER SUPPLY	GENETEC
SC	FIXED IP SECURITY CAMERA	GENETEC
PS	SURVEILLANCE CAMERA POWER SUPPLY	GENETEC
CR	INTRUSION ALARM KEYPAD	GENETEC

LOW VOLTAGE SYSTEM CABLE SCHEDULE

I.D.	DESCRIPTION	MANUFACTURER	USE	NOTES
A	(4) CAT 6+ CMP CABLES	SUPERIOR ESSEX P.N. 66-240-2B	TYPE "A" DATA WORK STATIONS	BLUE COLOR
B	(2) CAT 6+ CMP CABLES	SUPERIOR ESSEX P.N. 66-240-2B	TYPE "B" DATA WORK STATIONS	BLUE COLOR
C	(1) CAT 6+ CMP CABLE	SUPERIOR ESSEX P.N. 66-240-3B	TYPE "C" DATA WORK STATIONS	GREY COLOR
D	(2) CAT 6+ CMP CABLES	SUPERIOR ESSEX P.N. 66-240-5B	TYPE "D" WIRELESS ACCESS POINT	GREEN COLOR
E	(2) CAT 6+ CMP CABLES	SUPERIOR ESSEX P.N. 66-272-3B	INTRUSION ALARM PANEL TO IDF	GREY COLOR
F	4 CONDUCTOR, 22 AWG COPPER	WEST PENN P.N. 25241	INTRUSION ALARM KEYPAD & SENSORS	
G	(1) CAT 6+ CMP CABLE	SUPERIOR ESSEX P.N. 66-272-6B	SURVEILLANCE CAMERAS	YELLOW COLOR
H	2 CONDUCTOR, 14 AWG COPPER	WEST PENN P.N. 224	SURVEILLANCE CAMERA POWER	STRANDED CABLE
I	(1) CAT 6+ CMP CABLE	SUPERIOR ESSEX P.N. 66-272-6B	CARD READERS	YELLOW COLOR

1 TYPICAL LOW VOLTAGE SYSTEM RISER DIAGRAM

NO SCALE

Project / Owner:

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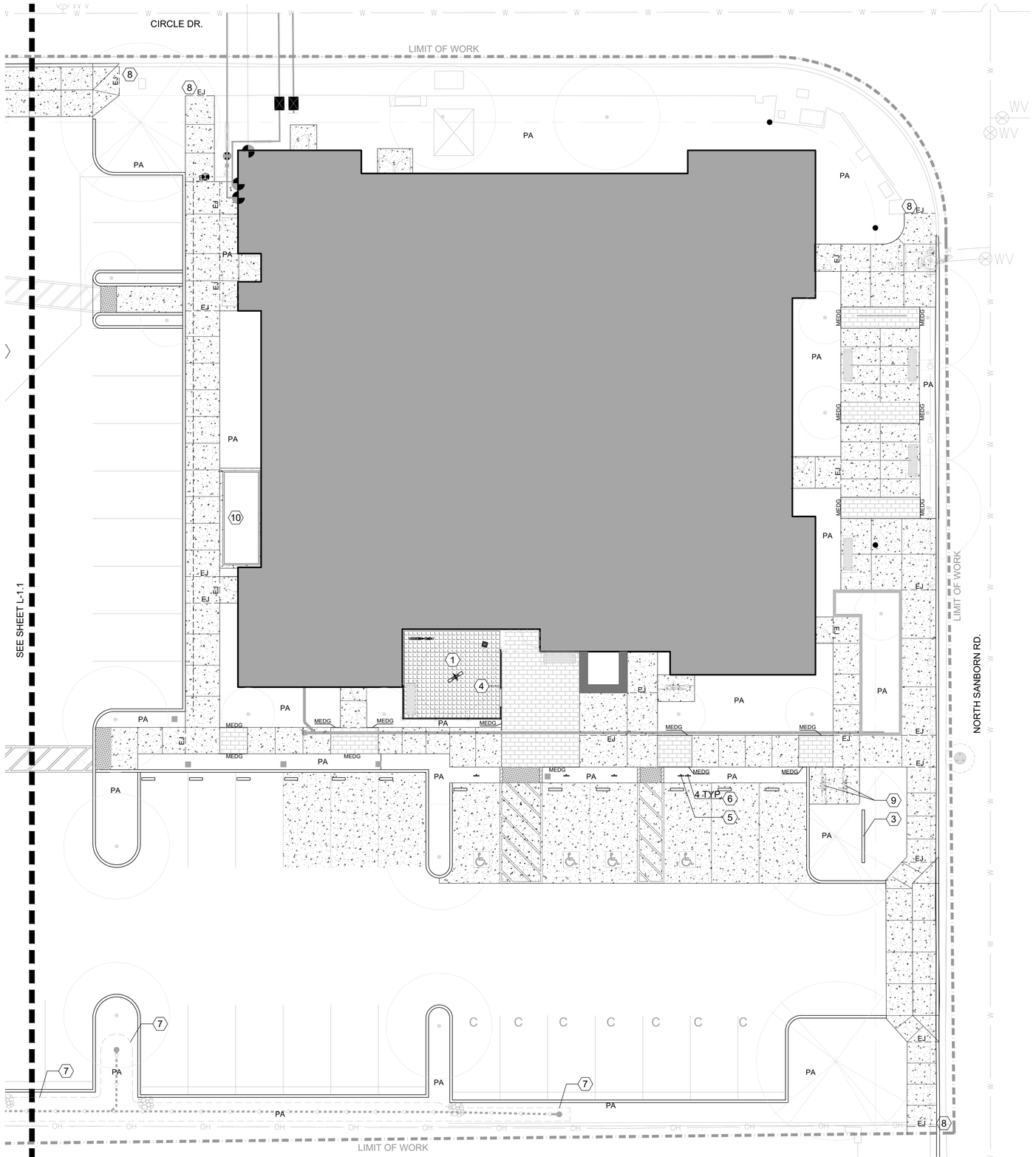
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Sheet Number:
E6.5

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LEGEND

- LOW — Limit of Work Line
- EJ — Pedestrian Concrete Paving: Natural color, medium broom finish. EJ = Expansion Joint. Other joints are Weakened Plane Joints UON. See Civil Plans.
- Concrete Pavers: 4"x8"x2 3/8" Holland Stone Pavers in Country Blend, runningbond pattern from Belgard. Edge restraint varies, see plan when not concrete band/curb adjacent, use vinyl edging. See Specs. See 3/L-2.0
- MEDG — Metal Paver Edging: Steel, See Specs.
- Poured In Place Resilient Play Surface: Tot Turf from Robertson Recreational Services. Color Beige. See Specs. See 2/L-2.0
- The Double Seater from Goric. Model number - 500-00-108. Install per manufacturers recommendations. Contact Recreation Republic 760-690-4030. See Specs. See 1/L-2.1
- Stone Abacus with stainless steel posts from Goric. Model Number: SEN07010490. Install per manufacturers recommendations. Contact Recreation Republic 760-690-4030. See Specs. See 1/L-2.1
- Babel Drum Large from Goric. Model Number: PPBDL-L. Install per manufacturers recommendations. Contact Recreation Republic 760-690-4030. See Specs. See 1/L-2.1
- Raised Curb: Concrete, Natural color, See Civil Plans.
- Flush Curb: Concrete, See Civil Plans.
- Fence at Activity Area: Galvenized Steel, See Specs. See 7/L-2.0 & 1/L-2.1
- Seat Wall: Concrete, Natural color, finish, See Specs. See 4/L-2.0
- Detectable Walking Surface: See Civil Plans.
- Bench: DuMor model #191, 6', color Bronze, See Specs. See 5/L-2.0
- PA — Planting Area: See Planting Plan
- ADA Parking Signage: See Architectural Plans.

REFERENCE NOTES

1. Activity Area
2. Trash Enclosure: See Architectural Plans.
3. Building Signage: See Architectural Plans.
4. Resilient Surfacing Flush Curb: Concrete, See 2/L-2.0
5. Accessible parking rules and regulations signage: quantity (1). See Architectural Plans
6. Accessible parking identification signage: quantity (4). See Architectural Plans.
7. Bioswale: See Civil Plans.
8. Conform concrete to existing walkway. See Civil Plans.
9. Bike Rack: Qty. 3, Ring Bike Rack from Landscape Forms, 800-430-6209. See 6/L-2.0
10. Bike Lockers: Qty. 5 Pro Park SM Model # 10017 from Cycle Safe. www.cyclesafe.com
11.

GENERAL NOTES

1. CODES
   1. Walking surfaces shall comply with CBC 11B-403 Walking Surfaces. All finishes shall be slip resistant.
   2. Curb ramps shall be in compliance with CBC 11B-406 Curb Ramps, Blended Transitions and Islands
   3. Accessible parking stalls shall be in compliance with CBC 11B-502 Parking spaces
   4. Detectable walking surfaces shall be in compliance with CBC 11B-705 Detectable Warnings and Detectable Directional Texture
2. CONTROL JOINTS: PEDESTRIAN CONCRETE PAVING
   1. Expansion Joints: locate as shown on the Plans; if not shown then at maximum 60' O.C. in any direction. Locate at all building faces, walls, steps, ramps, and other site structures. See typical joint detail. See Civil Details.
   2. Weakened Plane Joints: locate as shown on the Plans; if not shown then at maximum 20' O.C. in any direction. Joints shall be saw-cut. See typical joint detail. See Civil Details.
4. CONTROL JOINTS: CURBS
   1. Expansion Joints: align with expansion joints in monolithic paving; at maximum 60' O.C. when adjacent to modular paving, and at all corners, start/end of radiuses, and connections to flush curbing. Full depth.
   2. Weakened Plane Joints: align with weakened plane joints in monolithic paving; at a maximum of 20' O.C. when adjacent to modular paving. Construct across the top and visible face.
5. UTILITIES
   1. Install utility boxes parallel to curbs / edges of sidewalks. Install utility boxes in plaza paving areas parallel to jointing patterns. Review locations in the field with the Owner's Representative prior to installation.

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12-31-21
Renewal Date
9-10-21
Date
STATE OF CALIFORNIA

Drawn By: JB

Drowing Date: 09.10.21

Project Number: 18.099

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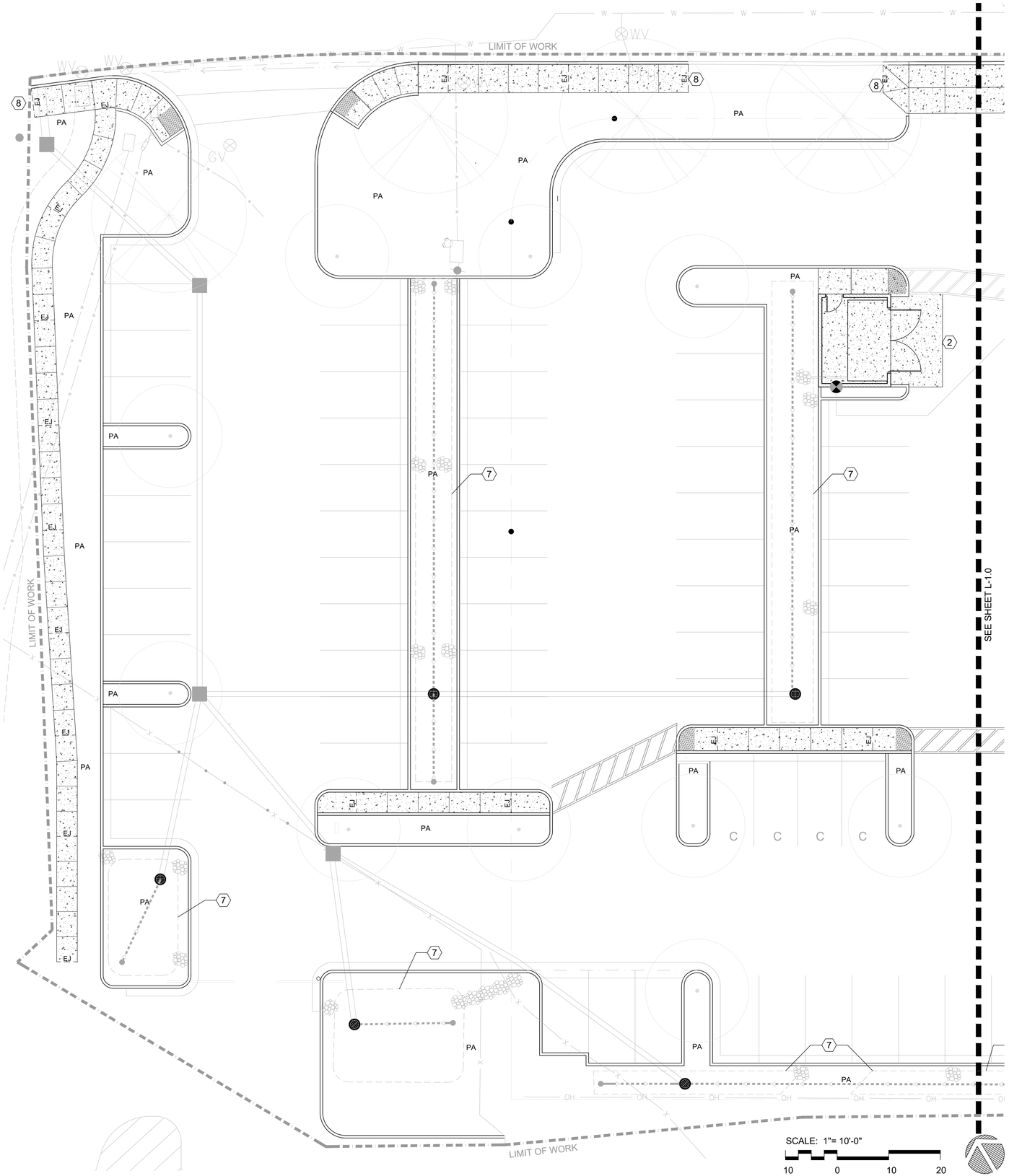
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Construction Plan

Sheet Number:

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4. CONTROL JOINTS: CURBS
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Drawn By: JB

Drawing Date: 09.10.21

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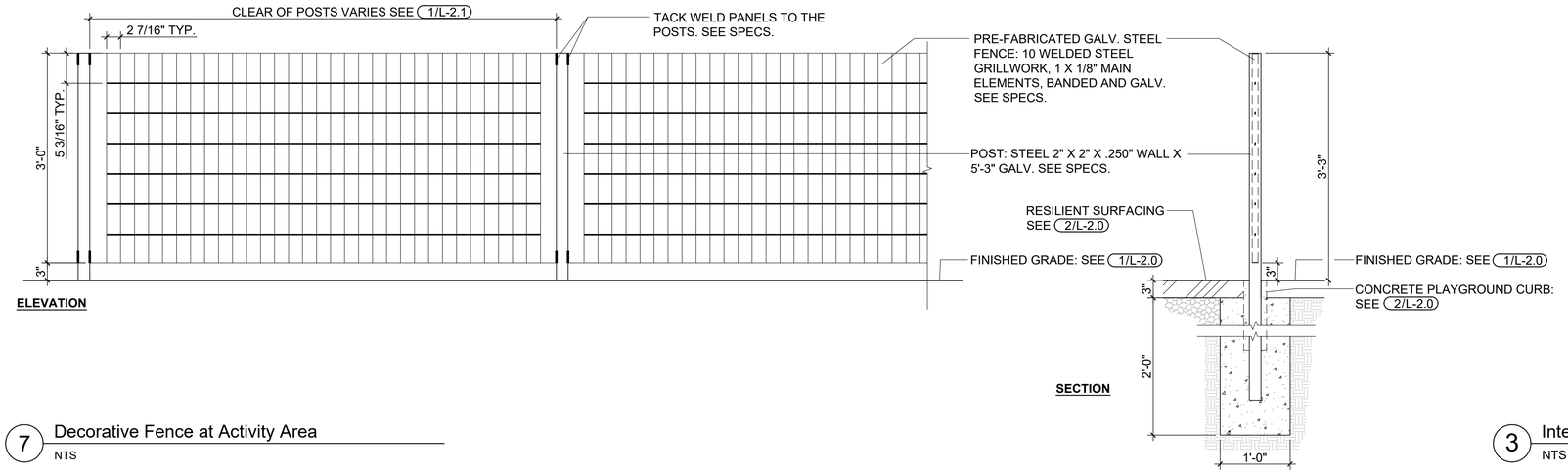
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Construction Plan

Sheet Number:

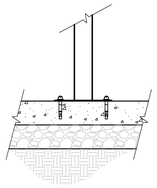
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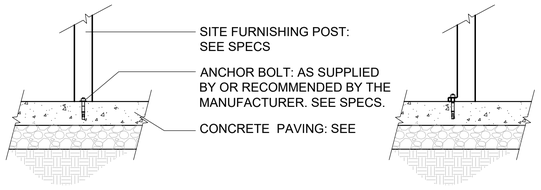


7 Decorative Fence at Activity Area

NTS



BASE PLATE MOUNT

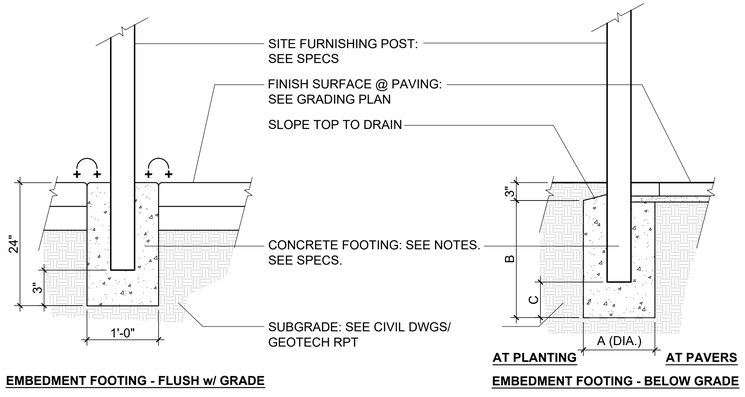


IN-LINE MOUNT **OFFSET MOUNT**

5 Bench Footing - Surface Mount, Typ.

1" = 1'-0"

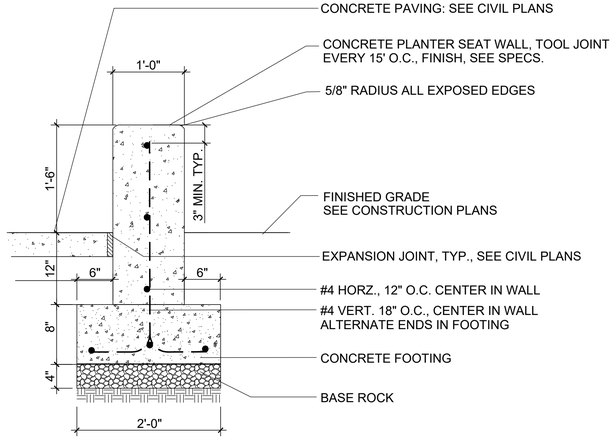
SITE FURNISHING FOOTING NOTES:
1. ALL FOOTING TO BE FORMED. SEE SPECS
2. PROVIDE NEATLY FINISHED 3/8" EDGE ON ALL FOOTINGS AND ADJACENT PAVING.
3. MATCH FINISH OF TOP OF FOOTINGS TO SURROUNDING FINISH.



EMBEDMENT FOOTING - FLUSH w/ GRADE **EMBEDMENT FOOTING - BELOW GRADE**

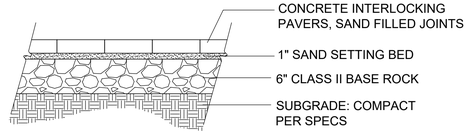
6 Bike Rack Footing - Embed Mount, Typ.

1" = 1'-0"



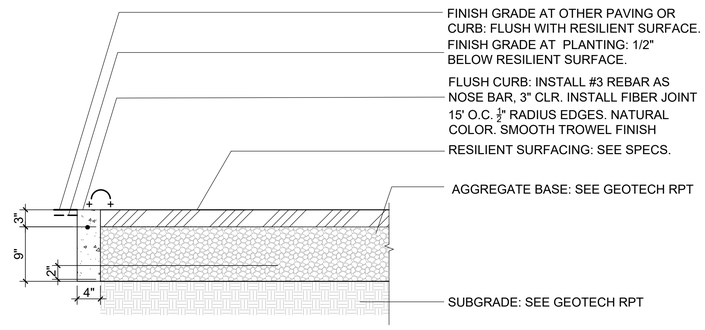
4 Concrete Seat Wall

1" = 1'-0"



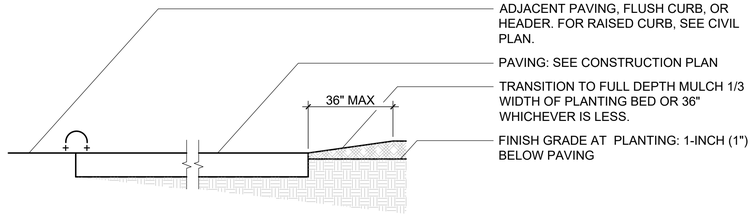
3 Interlocking Pavers

NTS



2 Resilient Surfacing

1" = 1'-0"



1 Finish Grade

1"=1'-0"

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

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EMAIL: info@pauldavispartnership.com

LICENSED LANDSCAPE ARCHITECT
JAMES E. BELLINGER NO. 5117
Signature
12-31-21
Renewal Date
9-10-21
Date
STATE OF CALIFORNIA

Drawn By: JB

Drawing Date: 09.10.21

Project Number: 18.099

Revisions:

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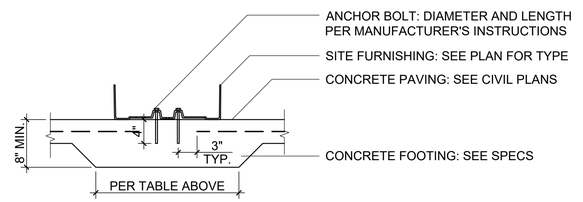
Construction Details

Sheet Number:

L-2.0

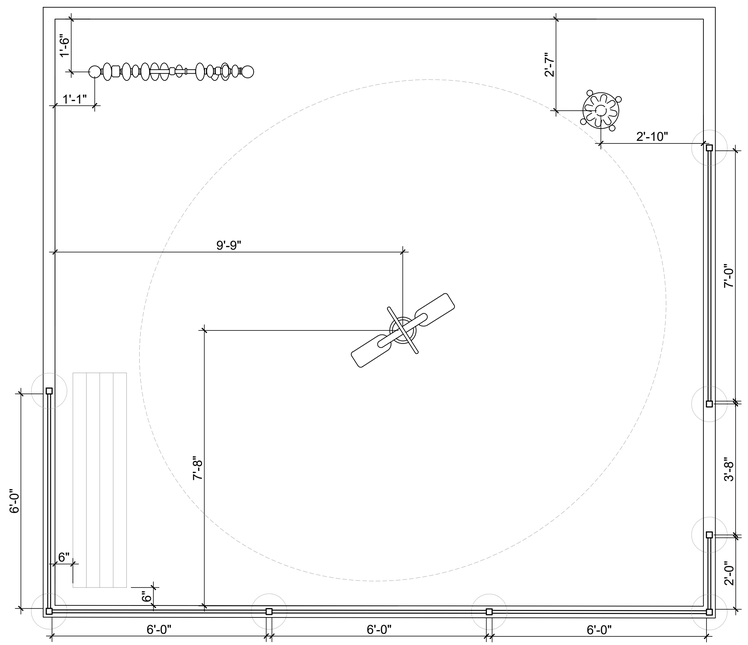
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SITE AMENITY SLAB SIZES		
AMENITY	SLAB SIZE	NOTES
Bench at Concrete	12"x33"x8"	(2) Slabs per bench, centered under bench legs. Color and finish of pad to be similar to surrounding paving. Where in Stabilized D.G. or Planting, slab to be natural gray color with broom finish
Bench at Resilient Surfacing	12"x33"x8"	(2) Slabs per bench, centered under bench legs. Slabs to be placed beneath resilient surface wear course. See 5/L-3.4.



2 Site Furnishing-Anchor Bolt at Concrete Thickened Slab

1" = 1'-0"



1 Activity Area Layout

1/2" = 1'-0"

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WATER EFFICIENT LANDSCAPE WORKSHEET

Project Name: Monterey County BHC | Status: 100% CD | Calc By: JB
Project Number: 18.099 | Date: 08/03/2021

Reference Evapotranspiration (ETo) 39.10

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b] s or d	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq ft)		ETAF x Area		Estimated Total Water Use (ETWU)[e]
Regular Landscape Areas									
1 Shrubs&Grndcvr	0.3	d	0.81	0.37	11,815		4375.93		106081.20
2 Trees	0.3	d	0.81	0.37	360		133.33		3232.27
				Totals		(A) 12175		(B) 4509.26	109313.46
Special Landscape Areas									
NONE				1.00	0		0.00		0.00
				Totals		(C) 0		(D) 0.00	0.00
							ETWU Total (Gallons)		109313.46
							Maximum Allowed Water Allowance (MAWA)[e] (Gallons)		132815.86
							ETWU (Acre Feet)		0.34
							MAWA (Acre Feet)		0.41

[a]Hydrozone #/Planting Description E.g 1.) front lawn 2.) low water use plantings 3.) medium water use planting

[b]Irrigation Method overhead spray or drip

[c]Irrigation Efficiency 0.75 for spray head 0.81 for drip

[e]ETWU (Annual Gallons Required) = Eto x 0.62 x ETAF x Area where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e]MAWA (Annual Gallons Allowed) = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)] where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

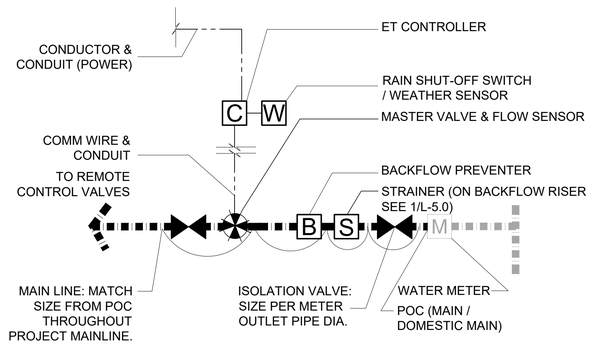
Regular Landscape Areas

Total ETAF x Area	(B)	4509.26
Total Area	(A)	12175.00
Average ETAF	**B ÷ A**	0.37

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)	4509.26
Total Area	(A+C)	12175.00
Sitewide ETAF	**(B+D) ÷ (A+C)**	0.37



1 POINT OF CONNECTION SCHEMATIC PLAN
NTS

GENERAL NOTES

1. GUARANTEE:
Guarantee the irrigation system for one year from date of acceptance.

2. VERIFICATION:
For new systems, design is based on 60 P.S.I. and 20 G.P.M. required at discharge outlet of point of connection. Verify same and notify Owner's Representative if such data adversely affects the operation of the system. Such notice shall be made in writing and prior to commencing any irrigation work.

3. UTILITIES:
Verify location of all on-site utilities. Preserve and protect all such utilities unless otherwise noted. Restore damaged utilities to the satisfaction of the Owner's Representative, and at no additional cost to the Owner.

4. SCHEMATIC:
System features are shown schematically for graphic clarity. Install all piping and valves in common trenches where feasible and inside planting areas adjacent to walkways and inside medians whenever possible.

5. SPECIFICATIONS:
See irrigation specifications for additional information.

6. CODES:
Irrigation system shall be installed in accordance with all local codes and manufacturer's specifications. Notify Owner's Representative by telephone and in writing of any conflicts prior to installation.

7. MASTER VALVE / FLOW SENSOR:
a. Connect master valve, and flow sensor if included, to controller with communication cable. See Irrigation Details. Install in dedicated 1" diameter PVC conduit.
b. Normally closed Master Valves: dedicated one station to quick coupler use.
c. Flow sensors: See Specifications for instructions on how to program irrigation controller to allow flow sensor to accommodate quick coupler use.

8. VALVES:
a. For tree bubbler zones, include the MFR's adjustable pressure regulating dial.
b. For battery operated controllers, include the MFR's DC latching solenoid.

9. QUICK COUPLING VALVES:
Install on double swing joint. Locate 12" away from edge of walks, walls, curbs, and headerboards within planting areas. Provide one swivel, hose ell.

10. CHECK VALVES:
Install in-head check valves for sprinklers, and in-line check valves in drip irrigation supply lines, as required to minimize line drainage. Allow in bid price an amount sufficient to provide and install additional check valves to accommodate any necessary field changes.

11. BORING
Jet bore or directional bore under existing rigid paving areas. Do not trench across unless specifically shown on the Drawings and/or approved in writing by the Owner's Representative.

12. SLEEVING:
Sch. 40 PVC pipe for all wiring and irrigation lines installed under paving areas and that pass through drainage trenches with drain rock. 4-inch dia. or twice the aggregate diameter of all pipes contained within the sleeve, whichever is greater. Install (with ends clearly marked above grade) at the necessary depth prior to the construction of paving areas or field bases. Sleeving to extend 12" from edge of paving or drainage trench into adjacent subgrade. No unsleeved piping, angle-bends, 90-degree bends, or joints shall be allowed under paving.

13. FIELD VERIFICATION:
Field verify dimensions of all planting areas to receive sprinkler irrigation. Determine nozzle pattern (1/2 head, 1/4 head, Adjustable Arc, etc.) based on field conditions. Adjust all nozzles in field for optimal coverage and to prevent overspray onto walks, paved areas, buildings, etc.

14. DRIP VALVES
Group drip valve run times together to ensure a minimum flow of 2 GPM as required by the flow sensor. Suggested grouping chart will be provided prior to Final Completion.

15. CONTROLLER:
Install controller as shown on the Drawings. All above-grade conduit shall be rigid steel securely fastened to structure and to controller.

16. PROGRAMMING / SCHEDULING:
a. Non-ET Controllers: Prior to the end of the maintenance period, schedule the controller for repeat cycle irrigation and multiple programs.
b. ET Controllers: Prior to the end of the maintenance period, program the controller per manufacturer's directions.
c. Adjust irrigation times for bio-retention soil areas to account for higher percolation rates

23. FLUSH (E) MAIN:
Upon completion of connection to (E) main, allowing for solvent setup, flush main line and existing main by flushing nearest quick coupler downstream of P.O.C. on existing main.

MWELO COMPLIANCE STATEMENT

I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan.

Signed	Name	CLA#	Date
Michael Bellinger	Michael E. Bellinger	3099	09/10/2021

MONTEREY COUNTY DESIGN STATEMENT

I, Michael Bellinger, certify that this landscaping plan complies with all Monterey County landscaping requirements including use of native drought tolerant, non-invasive species, limited turf and low flow, water conserving irrigation fixtures.

Signed	Name	CLA#	Date
Michael Bellinger	Michael E. Bellinger	3099	09/10/2021

PIPE SIZING CHART - SCHEDULE 40 SPRAY HEAD / BUBBLER LATERALS POINT-SOURCE DRIP SUPPLY LINES SUB-SURFACE DRIP SUPPLY / EXHAUST HEADERS	
Zone / Partial Zone Flow	Pipe Size
0-8 GPM	PVC 3/4"
8.1-13 GPM	PVC 1"
13.1-22 GPM	PVC 1-1/4"
22.1-30 GPM	PVC 1-1/2"
30.1-50 GPM	PVC 2"
50.1-75 GPM	PVC 2-1/2"
3/4" is minimum pipe size. For rotor pipe sizing, see Plans - do not use this chart.	

VALVE LEGEND

Valve Station Number	Bubbler Drip Rotor Spray	GPM	Size	Irrigation Zone (Z) & Notes
1	D	4.2	1"	Z1 (Shrubs)
2	B	4.0	1"	Z2 (Trees)
3	D	1.5	1"	Z3 (Shrubs)
4	D	11.0	1.5"	Z4 (Shrubs)
5	D	5.8	1.5"	Z5(Shrubs)
6	D	4.4	1"	Z6 (Shrubs)
7	D	4.9	1"	Z7 (Shrubs)
8	B	9.0	1.5"	Z8 (Trees)
9	D	6.4	1.5"	Z9 (Shrubs)
10	B	6.0	1.5"	Z10 (Trees)
11	D	1.5	1"	Z11 (Shrubs)
12	D	4.6	1"	Z12 (Shrubs)
13	D	6.0	1"	Z13 (Shrubs)
14	B	5.0	1.5"	Z14 (Trees)

LEGEND

SYMBOL	MANUFACTURER	DESCRIPTION
		Main Line: 24" minimum cover. Sch/Class for pipe / fittings per Specs. See Plan for sizes.
		Lateral Line / Drip Irrigation Supply Line: 18" min. cover, 24" under AC paving Sch/Class per Specs. See chart for size.
		Stub Out: See Irrigation Details
01	Rainbird	PEB Remote Control Valve: Size as shown on plan.
	Rainbird	3/4" Quick Coupler. Single lug, 2-pc body, locking cover.
	King Brothers (kbi)	Full Port, True Union, PVC Ball Valve: Line Size
M		Water Meter, see Civil Plans. See General Note 2 for PSI / GPM.
S	Zurn Wilkins	SXL Cast Bronze 'Y' Type Strainer. Line Size. 40-mesh
B	Febco	(Size) Lead-free Backflow Preventer LF825YA w/ Bronze Wye Strainer. Dark Green cage: See Details

Note: Where applicable, all equipment specified shall comply with NSF/ANSI Standard 61: Drinking Water System Components - low lead requirements.

C	Hunter	ACC2 Controller with 12 stations and 6 station module and MV & FS terminals, gray steel wall mount cabinet. Model #A2C-1200-M-A2M-600 and A2C-WIFI
W	Hunter	ET Sensor: WR-CLIK
	Superior	1-1/2" - 3300 Normally Open Master Valve
	Rainbird	1" Brass Flow Sensor, # FS100B. Connect to Controller.
		1" Conduit: 24" Depth minimum. For MV & FS wire and dedicated common. For ET Sensor Wire.
LOW		Limit of Work Line
POC		Point of Connection

LEGEND - TREE BUBBLERS / EMITTERS

SYMBOL	MANUFACTURER / DESCRIPTION	MODEL/DESCRIPTION	PSI	GPM / GPH	NOTES
▲	Rainbird (24" Box Trees)	RWS-S-B-C-1401	30	0.25 GPM	(3) per 24" Box**

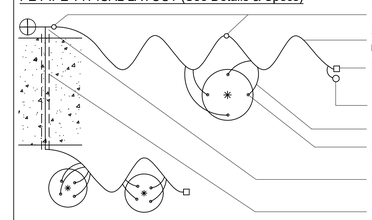
**(1) bubbler/emitter at top / center of rootball, other bubblers/emitters at the edges of the rootball. See Details. Only one symbol shown at each tree for graphic clarity.

LEGEND - DRIP IRRIGATION

SYMBOL	MANUFACTURER	DESCRIPTION
Zone designation (ZONE 00)		POINT-SOURCE: 1" dia. PE supply pipe & 1/4" I.D. PE distribution tubes. See Specs. See Irrigation Details. Emitters: 2.0 GPH pressure compensating w/ bug/dust cap. Rainbird Xeri-Bug / Toro NGE / Netafim WPC. See Emitter Schedule. Manual flush valve at end of each branch of supply pipe. Toro T-DL-MP9 Indicator at furthest end of each zone. See Schematic Irrigation Diagram.
	Rainbird	PEB Remote Control Valve: Size as shown on plan.
01	Netafim	Disc Filter, 120-140 mesh 3/4" @ 1" valves or 17 GPM max at manifold 1" @ 1-1/2" valves up to 26 GPM max 1-1/2" @ 1-1/2" valves or 35 GPM max at manifold
	Netafim	1" In-line Wide Range Pressure Regulator (0.5 - 35 GPM) 40 PSI preset up to 4.4 GPM. 50 PSI preset over 4.5 GPM

DRIP IRRIGATION POINT SOURCE TYP. SCHEMATIC DIAGRAM	EMITTER SCHEDULE	
See planting plan for plant sizes and locations. PE supply pipe and PE distribution tube alignments per requirements of planting. Install emitters per Emitter Schedule, and allow for additional ports to each plant for future needs. Locate emitters towards the uphill side of plants on slopes. See irrigation details.	1 gal.	1
	5 gal.	2
	15 gal.	3
	24" box	4

PE PIPE TYPICAL LAYOUT (See Details & Specs)



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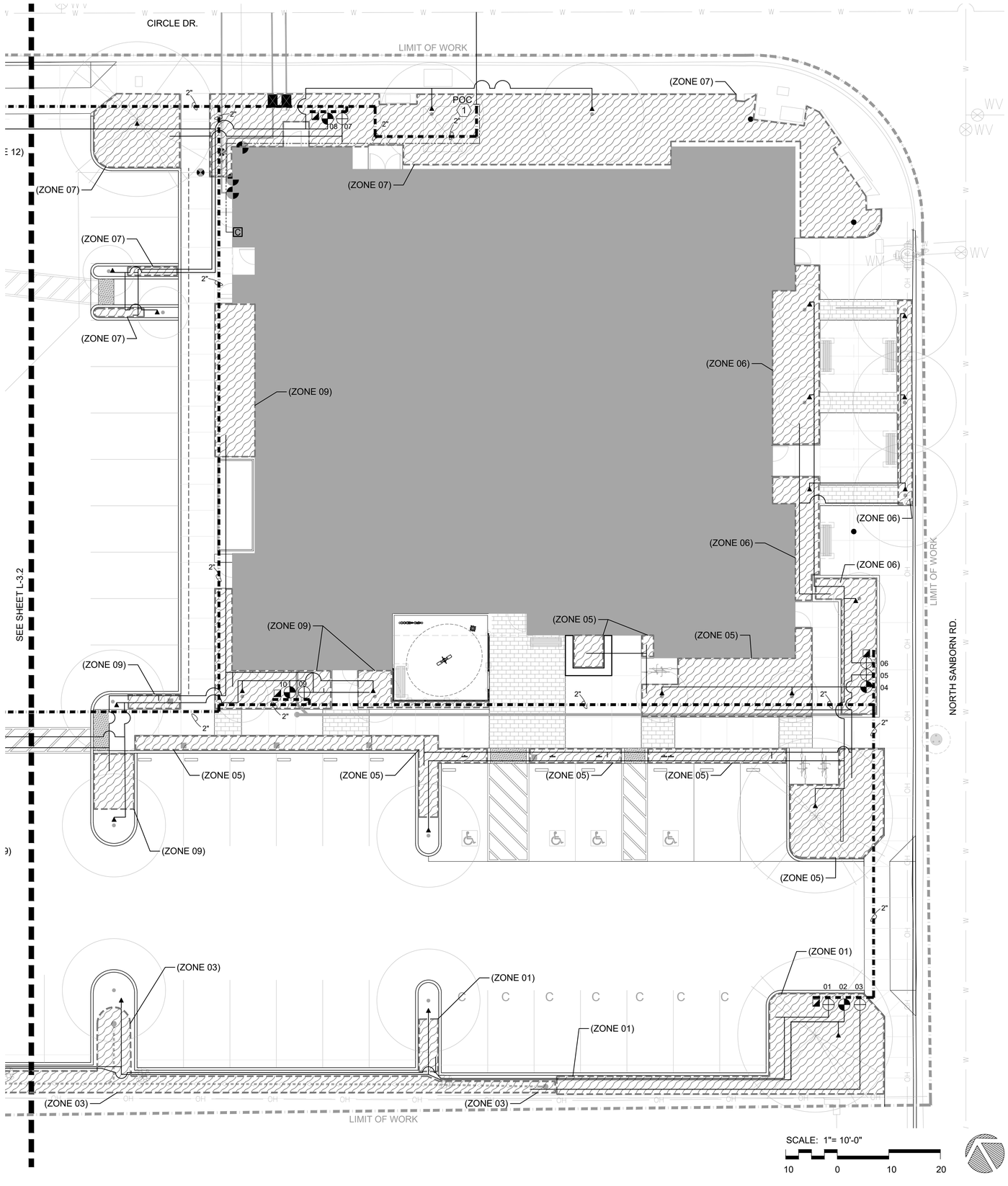
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Sheet Title:
Irrigation Plan

Sheet Number:
L-3.0

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LEGEND

SYMBOL	MANUFACTURER	DESCRIPTION
X"		Main Line: 24" minimum cover. Sch/Class for pipe / fittings per Specs. See Plan for sizes.
		Lateral Line / Drip Irrigation Supply Line: 18" min. cover, 24" under AC paving Sch/Class per Specs. See chart for size.
E		Stub Out: See Irrigation Details
01	Rainbird	PEB Remote Control Valve: Size as shown on plan.
	Rainbird	3/4" Quick Coupler. Single lug, 2-pc body, locking cover.
	King Brothers (kbi)	Full Port, True Union, PVC Ball Valve: Line Size
M		Water Meter, see Civil Plans. See General Note 2 for PSI / GPM.
S	Zurn Wilkins	SXL Cast Bronze 'Y' Type Strainer. Line Size. 40-mesh
B	Febco	(Size) Lead-free Backflow Preventer LF825YA w/ Bronze Wye Strainer. Dark Green cage: See Details

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W	Hunter	ET Sensor: WR-CLIK
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	Rainbird	1" Brass Flow Sensor, # FS100B. Connect to Controller.
		1" Conduit: 24" Depth minimum. For MV & FS wire and dedicated common. For ET Sensor Wire.
LOW		Limit of Work Line
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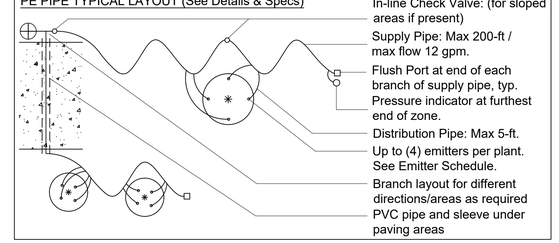
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01	Rainbird	PEB Remote Control Valve: Size as shown on plan.
	Netafim	Disc Filter, 120-140 mesh 3/4" @ 1" valves or 17 GPM max at manifold 1" @ 1-1/2" valves up to 26 GPM max 1-1/2" @ 1-1/2" valves or 35 GPM max at manifold
	Netafim	1" In-line Wide Range Pressure Regulator (0.5 - 35 GPM) 40 PSI preset up to 4.4 GPM. 50 PSI preset over 4.5 GPM

DRIP IRRIGATION POINT SOURCE TYP. SCHEMATIC DIAGRAM	EMITTER SCHEDULE	
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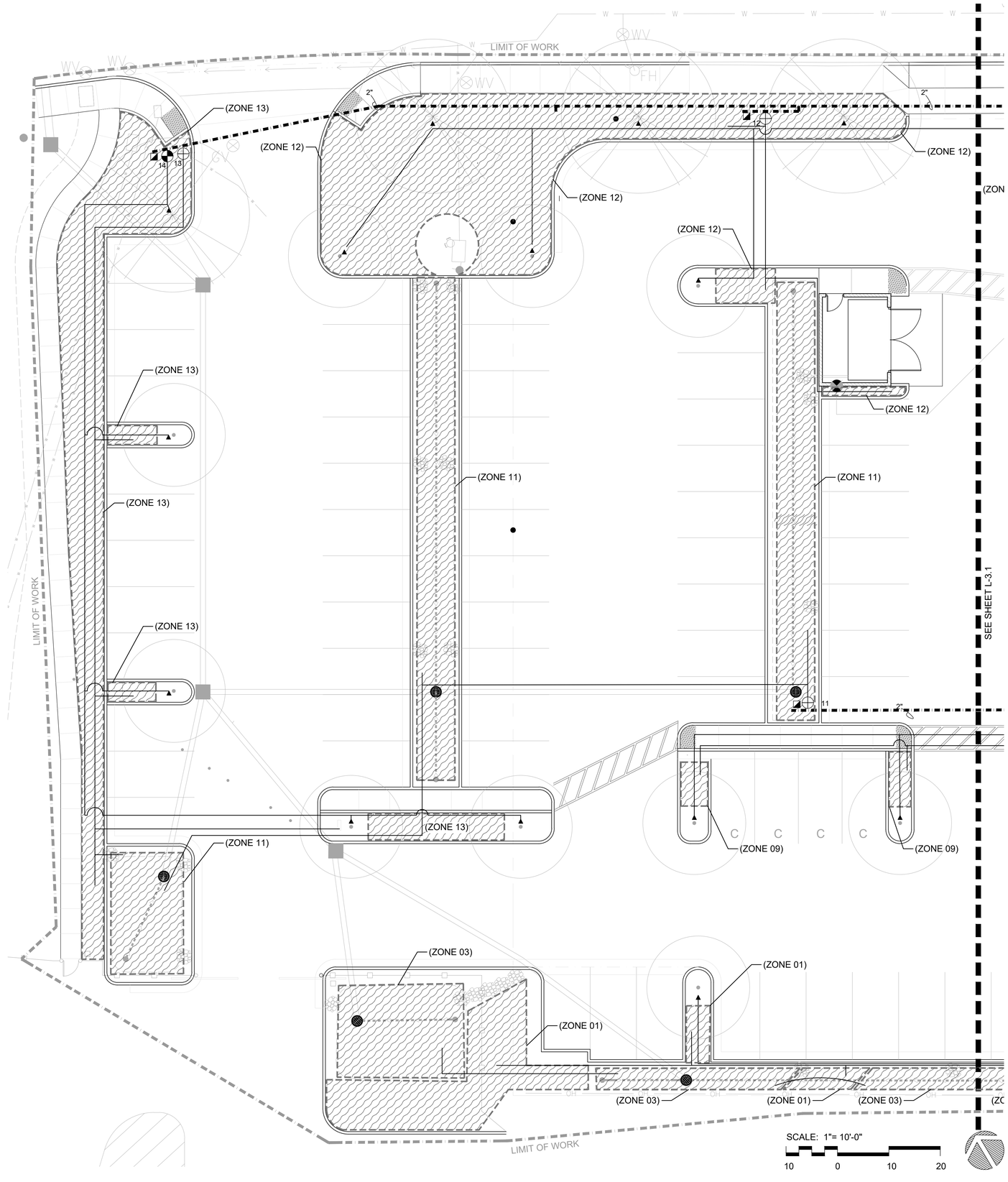
Sheet Title:

Irrigation Plan

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L-3.1

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LEGEND

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		Main Line: 24" minimum cover. Sch/Class for pipe / fittings per Specs. See Plan for sizes.
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M		Water Meter, see Civil Plans. See General Note 2 for PSI / GPM.
S	Zurn Wilkins	SXL Cast Bronze 'Y' Type Strainer. Line Size. 40-mesh
B	Febco	(Size) Lead-free Backflow Preventer LF825YA w/ Bronze Wye Strainer. Dark Green cage: See Details

Note: Where applicable, all equipment specified shall comply with NSF/ANSI Standard 61: Drinking Water System Components - low lead requirements.

C	Hunter	ACC2 Controller with 12 stations and 6 station module and MV & FS terminals, gray steel wall mount cabinet. Model #A2C-1200-M-A2M-600 and A2C-WIFI
M	Hunter	ET Sensor: WR-CLIK
	Superior	1-1/2" - 3300 Normally Open Master Valve
	Rainbird	1" Brass Flow Sensor, # FS100B. Connect to Controller.
		1" Conduit: 24" Depth minimum. For MV & FS wire and dedicated common. For ET Sensor Wire.
LOW		Limit of Work Line
POC		Point of Connection

LEGEND - TREE BUBBLERS / EMITTERS

SYMBOL	MANUFACTURER / DESCRIPTION	MODEL/DESCRIPTION	PSI	GPM / GPH	NOTES
▲	Rainbird (24" Box Trees)	RWS-S-B-C-1401	30	0.25 GPM	(3) per 24" Box**

**(1) bubbler/emitter at top / center of rootball, other bubblers/emitters at the edges of the rootball. See Details. Only one symbol shown at each tree for graphic clarity.

LEGEND - DRIP IRRIGATION

SYMBOL	MANUFACTURER	DESCRIPTION
Zone designation (ZONE 00)		POINT-SOURCE: 1" dia. PE supply pipe & 1/4" I.D. PE distribution tubes. See Specs. See Irrigation Details. Emitters: 2.0 GPH pressure compensating w/ bug/dust cap. Rainbird Xeri-Bug / Toro NGE / Netafim WPC. See Emitter Schedule. Manual flush valve at end of each branch of supply pipe. Toro T-DL-MP9 Indicator at furthest end of each zone. See Schematic Irrigation Diagram.
	Rainbird	PEB Remote Control Valve: Size as shown on plan.
01	Netafim	Disc Filter, 120-140 mesh 3/4" @ 1" valves or 17 GPM max at manifold 1" @ 1-1/2" valves up to 26 GPM max 1-1/2" @ 1-1/2" valves or 35 GPM max at manifold
	Netafim	1" In-line Wide Range Pressure Regulator (0.5 - 35 GPM) 40 PSI preset up to 4.4 GPM. 50 PSI preset over 4.5 GPM

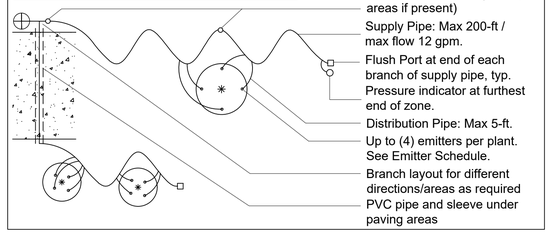
DRIP IRRIGATION POINT SOURCE TYP. SCHEMATIC DIAGRAM

See planting plan for plant sizes and locations. PE supply pipe and PE distribution tube alignments per requirements of planting. Install emitters per Emitter Schedule, and allow for additional ports to each plant for future needs. Locate emitters towards the uphill side of plants on slopes. See irrigation details.

EMITTER SCHEDULE

1 gal.	1
5 gal.	2
15 gal.	3
24" box	4

PE PIPE TYPICAL LAYOUT (See Details & Specs)



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LICENSED LANDSCAPE ARCHITECT
JAMES E. BELLINGER NO. 5117
Signature
12-31-21
Renewal Date
8-10-21
Date
STATE OF CALIFORNIA

Drawn By: JB

Drawing Date: 09.10.21

Project Number: 18.099

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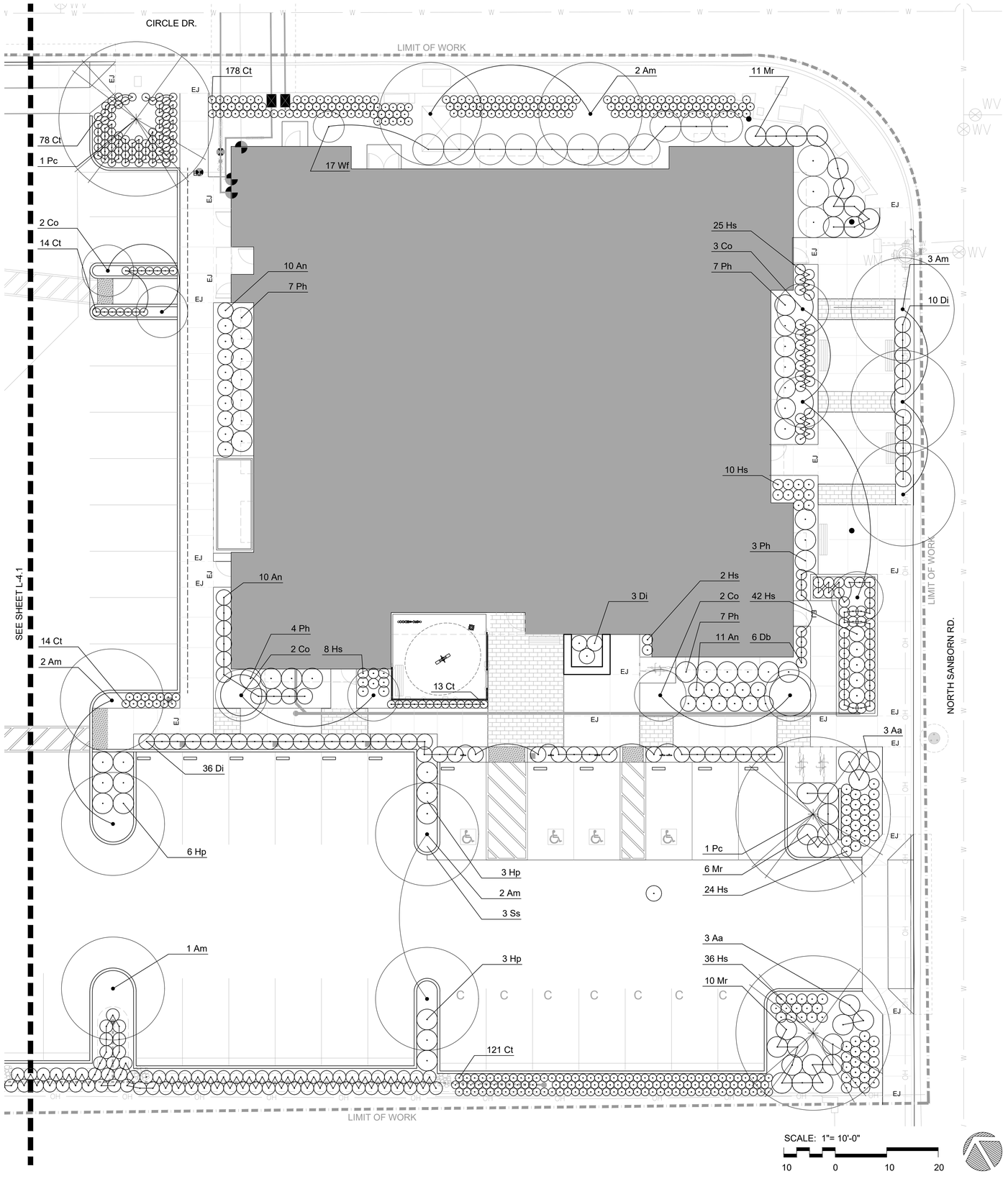
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Irrigation Plan

Sheet Number:

L-3.2

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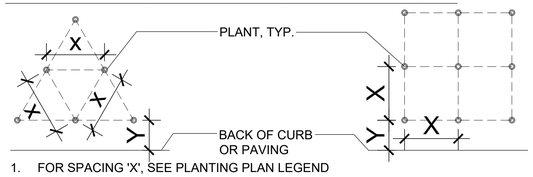


PLANT LEGEND

LOW — Limit of Work Line

*WUC	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CHARACTER
		Trees			
L	Am	Arbutus 'Marina'	Marina Strawberry Tree	24" Box	Standard
VL	Co	Cercis occidentalis	Western Redbud	24" Box	Standard
L	Pc	Pistacia chinensis	Chinese Pistacio	24" Box	Standard
		Shrubs and Grasses			
L	Aa	Agave attenuata	Fox Tail Agave	5 Gal.	@ 4' O.C.
L	An	Anigozanthus 'Big Red'	'Big Red' Kangaroo Paw	1 Gal.	@ 3' O.C.
L	Ct	Carex tumulicola	Foothill Sedge	1 Gal.	@ 18" O.C.
L	Hs	Helictotrichon sempervirens	Blue Oat Grass	1 Gal.	@ 2' O.C.
L	Hp	Hesperaloe parviflora	Red Yucca	5Gal.	@ 4' O.C.
L	Mr	Muhlenbergia rigens	Deer Grass	1 Gal.	@ 4' O.C.
L	Ph	Phormium 'Rainbow Queen'	Rainbow Queen New Zealand Flax	5 Gal.	@ 4' O.C.
L	Ro	Rosmarinus officinalis 'Ken Taylor'	'Ken Taylor' Rosemary	5 Gal.	@ 4' O.C.
L	Wf	Westringia fruticosa	Blue Gem Westringia	5 Gal.	@ 6' O.C.
		Groundcovers			
L		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal.	@ 4' O.C.
		Bioretention Planting			
L	Ch	Chondropetalum tectorum	Cape Rush	1 Gal.	@ 4' O.C.
L	Jp	Juncus patens	California Grey Rush	1 Gal.	@ 3' O.C.

PLANT SPACING AND PLANTING SETBACK DIAGRAM



1. FOR SPACING 'X', SEE PLANTING PLAN LEGEND
2. Y= 1/2X + 12" UON

* WATER USE CATEGORY (WUC) KEY

WUCOLS Region Applicable to this Project: REGION 1
H = High; M = Moderate; L = Low; VL = Very Low; NL = Species Not Listed
* from: Water Use Classification of Landscape Species,
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Revised 2014, University of California Cooperative Extension, L.R. Costello, K.S. Jones

GENERAL NOTES

1. See Specifications for materials and procedures including, but not limited to, soil preparation, amendments, fertilizers, and herbicides.
2. See Specifications for materials and procedures including plant pit size, staking, and aeration tubes / bubblers. See (1/L-5.2) (2/L-5.2)
3. See Specifications for materials and procedures relating to weed mat. See (2/L-5.2)
4. Install root barrier panels around trees planted within 5' of foundations, walls, and curbs, and in all planters in paved areas. See (3/L-5.2)
5. Install mulch to all planting areas. See Specifications for materials, thickness, and procedures.

MWELO COMPLIANCE STATEMENT

I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the landscape design plan.

Signed	Name	CLA#	Date
	Michael E. Bellinger	3099	09-09-2021

MONTEREY COUNTY DESIGN STATEMENT

I, Michael Bellinger, certify that this landscaping plan complies with all Monterey County landscaping requirements including use of native drought tolerant, non-invasive species, limited turf and low flow, water conserving irrigation fixtures.

Signed	Name	CLA#	Date
	Michael E. Bellinger	3099	09/10/2021

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LICENSED LANDSCAPE ARCHITECT
MICHAEL E. BELLINGER NO. 3099
Signature 12-31-21 Renewal Date
8-10-21 Date
STATE OF CALIFORNIA

Drawn By: JB

Drowing Date: 09.10.21

Project Number: 18.099

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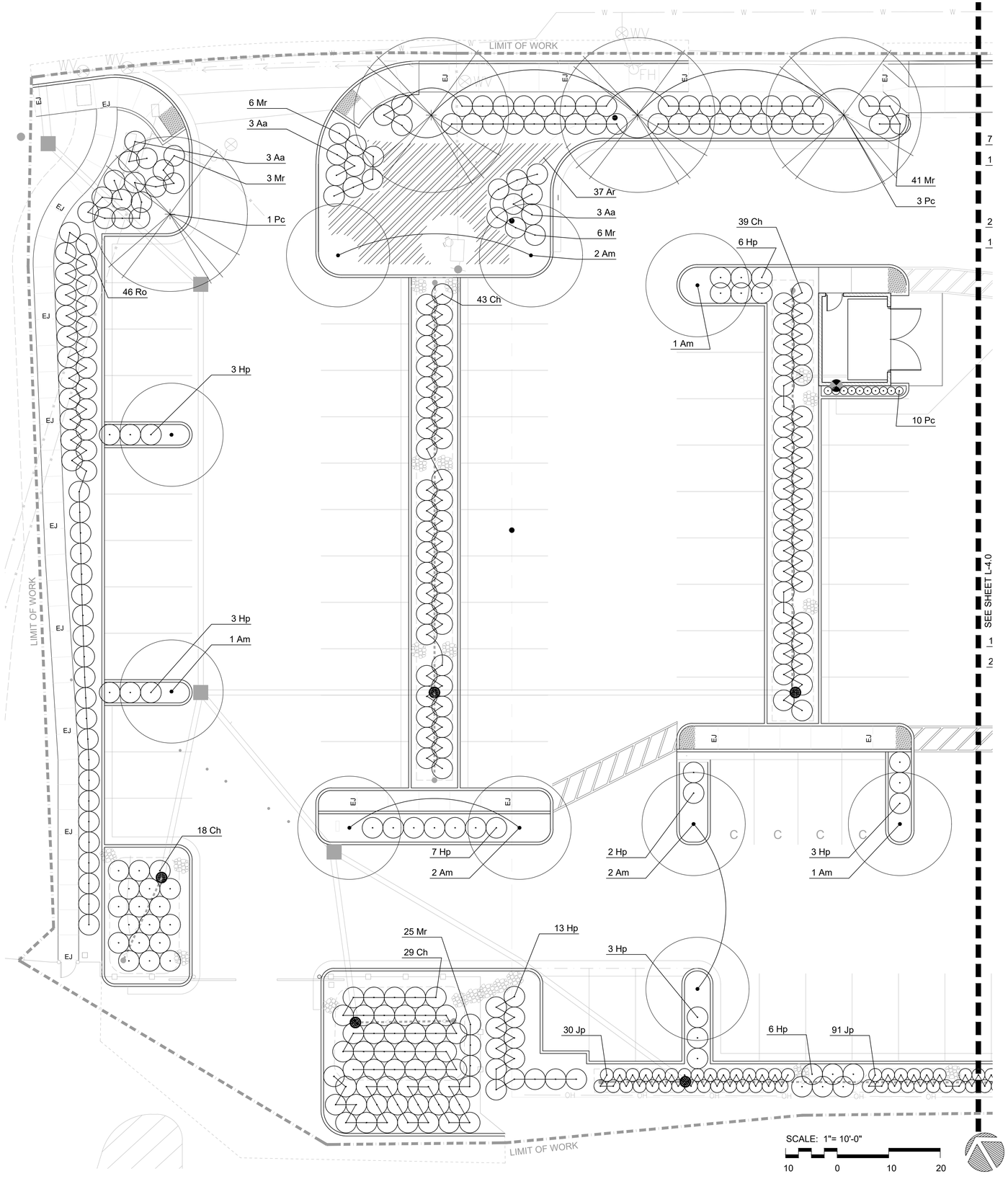
Sheet Title:

Planting Plan

Sheet Number:

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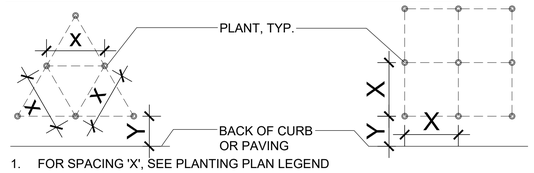


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8-10-21 Date
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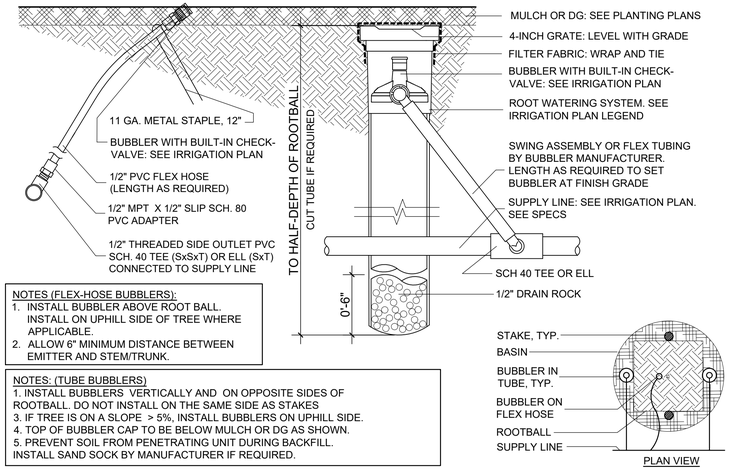
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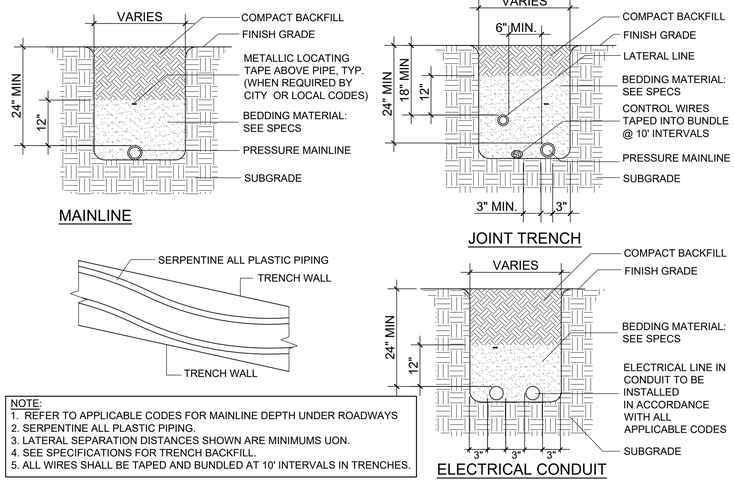


NOTES (FLEX-HOSE BUBBLERS):
1. INSTALL BUBBLER ABOVE ROOT BALL. INSTALL ON UPHILL SIDE OF TREE WHERE APPLICABLE.
2. ALLOW 6" MINIMUM DISTANCE BETWEEN EMITTER AND STEM/TRUNK.

NOTES: (TUBE BUBBLERS)
1. INSTALL BUBBLERS VERTICALLY AND ON OPPOSITE SIDES OF ROOTBALL. DO NOT INSTALL ON THE SAME SIDE AS STAKES
3. IF TREE IS ON A SLOPE > 5%, INSTALL BUBBLERS ON UPHILL SIDE.
4. TOP OF BUBBLER CAP TO BE BELOW MULCH OR DG AS SHOWN.
5. PREVENT SOIL FROM PENETRATING UNIT DURING BACKFILL. INSTALL SAND SOCK BY MANUFACTURER IF REQUIRED.

9 Tree Bubbler (Box Specimens)

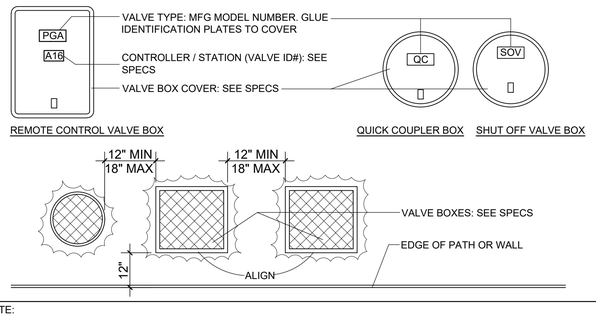
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NOTE:
1. REFER TO APPLICABLE CODES FOR MAINLINE DEPTH UNDER ROADWAYS
2. SERPENTINE ALL PLASTIC PIPING.
3. LATERAL SEPARATION DISTANCES SHOWN ARE MINIMUMS UON.
4. SEE SPECIFICATIONS FOR TRENCH BACKFILL.
5. ALL WIRES SHALL BE TAPED AND BUNDLED AT 10' INTERVALS IN TRENCHES.

8 Trench & Pipe Installation

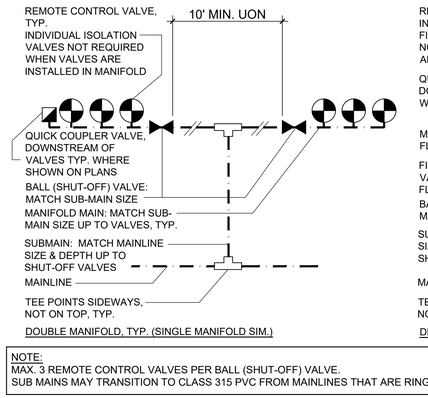
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NOTE:
1. ALL VALVE BOXES MUST BE IDENTIFIED WITH A VALVE ID # ON BOX: SEE SPECIFICATIONS FOR ACCEPTABLE METHODS.
2. VALVE BOXES SHALL HAVE 12" CLEARANCE FROM STRUCTURES AND ANY CONCRETE AREAS. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO CONCRETE, SOUND WALL, HEADERBOARD, ETC.
3. SET BOXES 1-1 /2" ABOVE FINISHED GRADE IN MULCH-COVERED AREAS. SET BOXES 1/2" ABOVE GRADE IN TURF AREAS. BOXES TO BE PERPENDICULAR TO FINISH GRADE.
4. SET VALVE BOX ASSEMBLY IN GROUND COVER / SHRUB AND NOT IN SIDEWALK OR ROADWAY. INSTALL IN LAWN ONLY IF GROUNDCOVER DOES NOT EXIST ADJACENT TO LAWN.
4. INSTALL EXTENSION BY VALVE BOX MANUFACTURER AS REQUIRED TO COMPLETELY ENCLOSE ASSEMBLY FOR EASY ACCESS.
5. RECTANGULAR VALVE BOXES SHALL HAVE 4 BRICKS INSTALLED, ONE UNDER EACH CORNER. ROUND VALVE BOXES SHALL HAVE 2 COMMON BRICKS INSTALLED, AT OPPOSITE SIDES. BRICKS SHALL NOT BE PLACED OVER ANY PIPE OR ITEM THAT COULD FAIL DUE TO BRICK PLACEMENT.
6. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOXES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.

7 Valve Box Installation

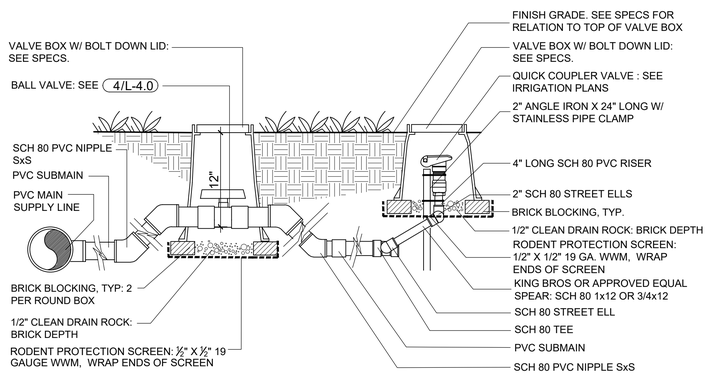
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NOTE:
MAX. 3 REMOTE CONTROL VALVES PER BALL (SHUT-OFF) VALVE.
SUB MAINS MAY TRANSITION TO CLASS 315 PVC FROM MAINLINES THAT ARE RING-TITE PVC PIPE.

6 Typ.Valve Manifold

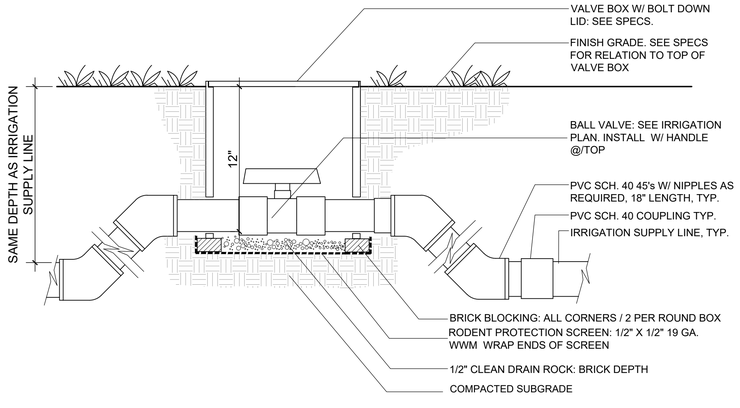
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NOTES:
1. GROUP QUICK COUPLER WITH REMOTE CONTROL VALVES FOR USE OF COMMON ISOLATION VALVE. SEE TYPICAL MANIFOLD DETAIL.
2. SCHEDULE 80 PRE-ASSEMBLED SWING MAY BE USED .
3. DO NOT INSTALL DIRECTLY ON TOP OF LIVE WATER MAINS.

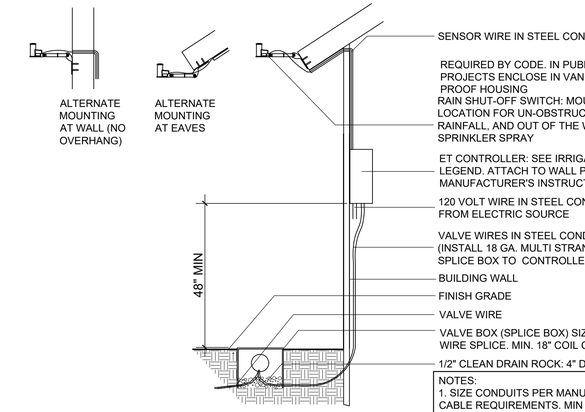
5 Quick Coupler

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4 Isolation (Ball) Valve

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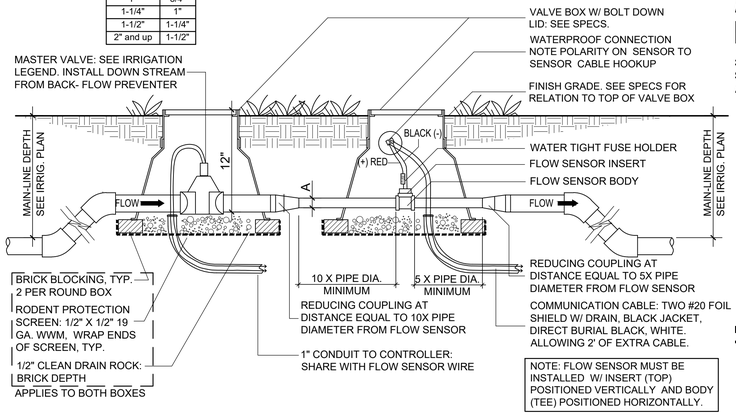


NOTES:
1. SIZE CONDUITS PER MANUFACTURER / CABLE REQUIREMENTS. MIN 1" DIA.
2. CONTROLLER TO BE GROUNDED THROUGH BUILDING ELECTRICAL GROUNDING

3 Master Valve / Flow Sensor

NTS

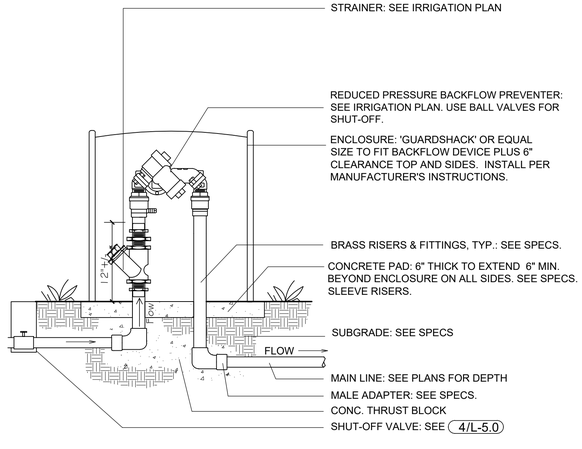
FLOW SENSOR SIZE	PIPE I.D. (A)
1"	3/4"
1-1/4"	1"
1-1/2"	1-1/4"
2" and up	1-1/2"



NOTE: FLOW SENSOR MUST BE INSTALLED W/ INSERT (TOP) POSITIONED VERTICALLY AND BODY (TEE) POSITIONED HORIZONTALLY.

2 Controller Wall Mount Interior

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1 Backflow Device: 2-1/2" Pipe or Less

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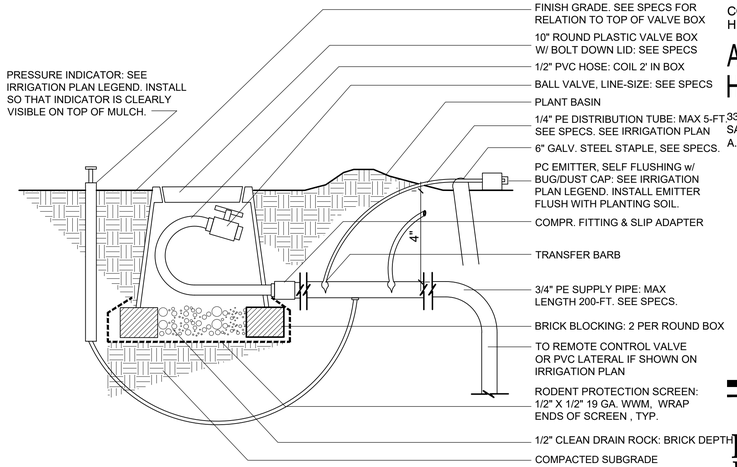
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Irrigation & Planting Details

Sheet Number:

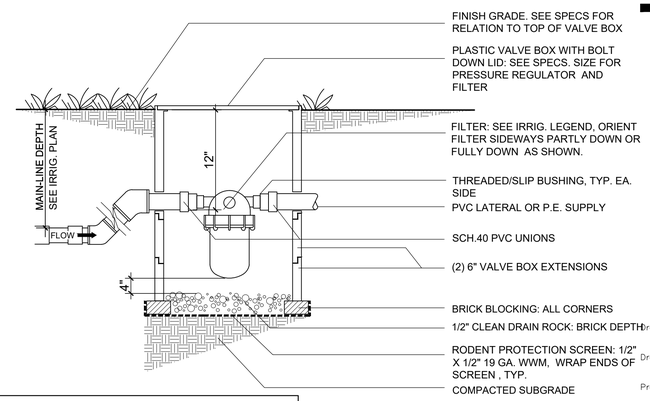
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3 Drip Irrigation: PE Tube / Emitter / Flush Port

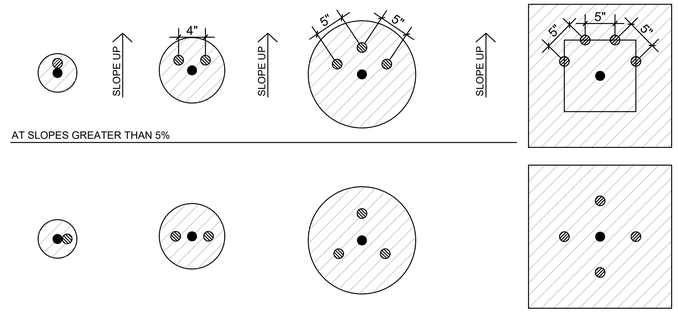
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NOTE:
1. BOX SHALL NOT REST UPON OR TOUCH THE EQUIPMENT OR PIPE AT ANY POINT. PROVIDE ENOUGH CLEARANCE FOR REMOVAL OF FILTER.
2. 'TEFLON' TAPE REQUIRED ON ALL THREADED JOINTS.

2 Drip Irrigation: Filter 1" & 1-1/2" (Valve / Manifold)

NTS



1-GALLON PLANT
LOCATE 1 EMITTER AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

5-GALLON PLANT
LOCATE 2 EMITTERS AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

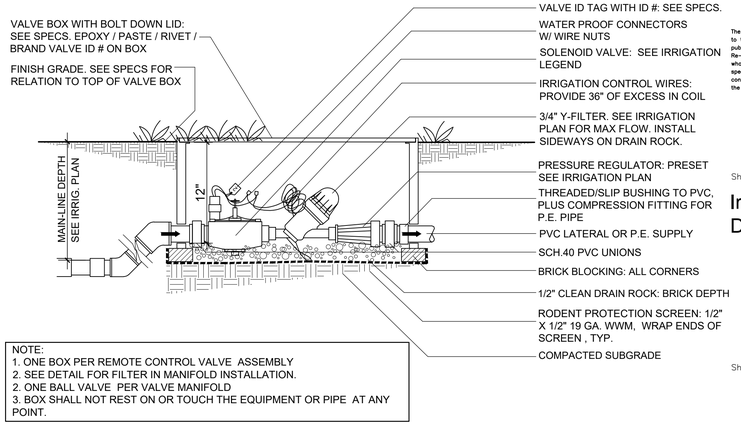
15-GALLON PLANT
LOCATE 3 EMITTERS AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

24-IN BOX PLANT
LOCATE 4 EMITTERS AT MIDPOINT BETWEEN THE EDGE OF THE ROOTBALL AND TRUNK AS SHOWN

NOTES:
1. SEE IRRIGATION LEGEND FOR EMITTER GPH AND CONNECTION METHODS TO SUPPLY LINE
2. SEE SPECS FOR SUPPLY & DISTRIBUTION PIPE
3. FOR PLANTS LARGER THAN 24" BOX, USE SOAKER HOSE OR SUB-SURFACE IRRIGATION AS SHOWN ON THE PLANS.

4 Drip Irrigation: Emitter Layout

NTS



NOTE:
1. ONE BOX PER REMOTE CONTROL VALVE ASSEMBLY
2. SEE DETAIL FOR FILTER IN MANIFOLD INSTALLATION.
2. ONE BALL VALVE PER VALVE MANIFOLD
3. BOX SHALL NOT REST ON OR TOUCH THE EQUIPMENT OR PIPE AT ANY POINT.

1 Drip Irrigation: Remote Control Valve (Custom Assembly)

NTS

Project / Owner:

COUNTY OF MONTEREY
HEALTH DEPARTMENT

ALISAL INTEGRATED HEALTH CENTER

331 N. SANBORN RD.
SALINAS, CA 93905
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LICENSED LANDSCAPE ARCHITECT
JAMES E. BELLINGER NO. 5178
Signature 12-31-21
Renewal Date 8-10-21
Date
STATE OF CALIFORNIA

Drawn By: JB
Drawing Date: 09.10.21
Project Number: 18.099

Revisions:

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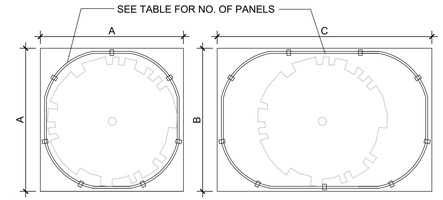
Sheet Title:

Irrigation & Planting Details

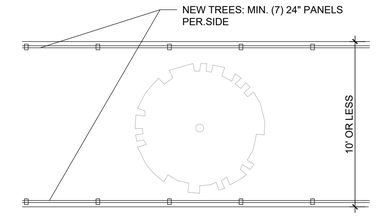
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SQUARE IN-GROUND PLANTER **RECTANGULAR IN-GROUND PLANTER**



PARKWAY STRIP OR LINEAR IN-GROUND PLANTER

PLANTERS IN PAVING	
SIZE (A x A)	24" PANELS
4' x 4'	7
5' x 5'	9
6' x 6'	11
RECTANGULAR PLANTERS: NO. OF PANELS = ((B x 2 + C x 2)-2)) / 2	

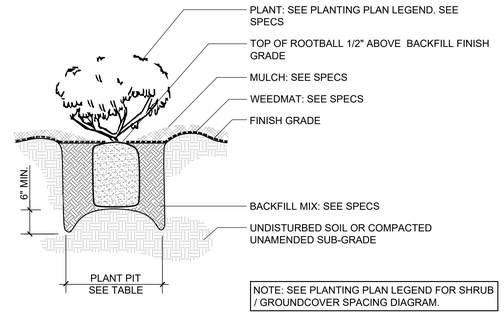
OPEN PLANTING BEDS	
BOX SIZE	24" PANELS
24"	7
36"	9
48"	11
60"	13

EXISTING TREES IN PARKWAY STRIPS	
CANOPY DIA	24" PANELS / SIDE
12'	7
18'	10
24'	13

3 Root Barrier

NTS

PLANT PIT SIZE TABLE	
PLANT SIZE	PIT SIZE - ROOTBALL PLUS
4"POT	3" ALL AROUND
1 GAL	6" ALL AROUND
5 GAL	8" ALL AROUND
15 GAL	10" ALL AROUND

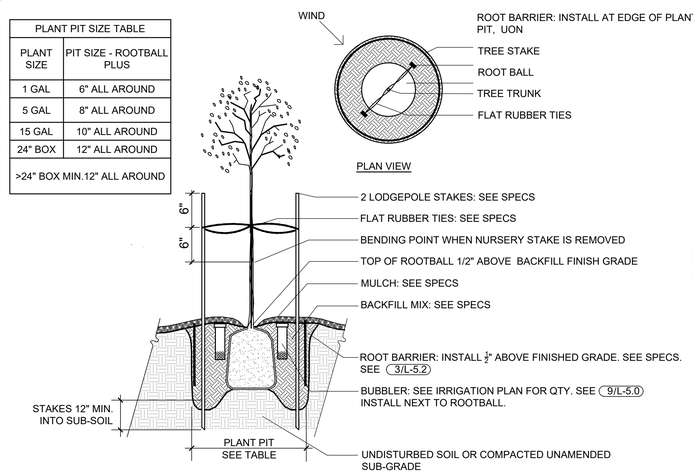


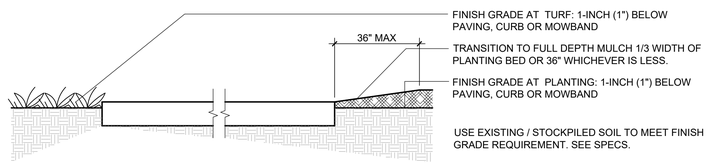
NOTE: SEE PLANTING PLAN LEGEND FOR SHRUB / GROUNDCOVER SPACING DIAGRAM.

2 Shrub / Groundcover Planting

NTS

PLANT PIT SIZE TABLE	
PLANT SIZE	PIT SIZE - ROOTBALL PLUS
1 GAL	6" ALL AROUND
5 GAL	8" ALL AROUND
15 GAL	10" ALL AROUND
24" BOX	12" ALL AROUND
>24" BOX MIN.	12" ALL AROUND





4 Finish Grade

NTS

1 Tree Planting & Staking

NTS

USE STEEL "J" STAKE AT EACH JOINT. ALL OTHER STAKES SEE SPECS.

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LICENSED LANDSCAPE ARCHITECT
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Sheet Title:

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Sheet Number:

L-5.2

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