

# CATEGORICAL EXEMPTION EVALUATION REPORT

## Sunol Glen School Modernization Project

11601 Main Street, Sunol  
(APN 96-155-4-1)



*Lead Agency:*

**SUNOL GLEN UNIFIED SCHOOL DISTRICT**

11601 Main Street  
Sunol, CA 94586

*February 2025*



## 1. INTRODUCTION

This Categorical Exemption Evaluation Report documents the eligibility of the Sunol Glen Unified School District's (District) proposed Sunol Glen School Modernization Project (project) to be exempt from expanded environmental review, pursuant to the California Environmental Quality Act (CEQA) under California Public Resources Code Section 21084 and California Code of Regulations, Title 14 (CEQA Guidelines) Sections 15061(b)(2) and 15300 et seq.

## 2. LOCATION

The Town of Sunol (Town) is located in the southern portion of Alameda County. The Town is located approximately 17 miles north of the City of San Jose and approximately 32 miles southeast of the City of San Francisco.

The project site encompasses the Sunol Glen School campus located at 11601 Main Street (Assessor's Parcel Number [APN] 96-155-4-1) in the central portion of the Town. The project site is generally bounded by Bond Street to the west, Sinbad Creek to the north, Sinbad Creek and Arroyo de la Laguna Creek to the east, and Main Street and Niles Canyon Road (State Route 84) to the south. Regional access to the site is provided via Interstate 680 (I-680), located approximately 0.7 miles east of the project site. Local access to the site is provided via Main Street. Refer to [Figure 1, Project Site and Regional Location](#).

## 3. EXISTING SETTING

### a. Existing Uses

The Sunol Glen School campus is 6.4 acres, graded, and relatively flat with elevations ranging between 240 feet above mean sea level along the northern, eastern, and southeastern perimeters and 248 feet above mean sea level along the western and southwestern perimeters. The campus's northern and eastern perimeters follow adjacent creeks: Sinbad Creek to the north and Arroyo de la Laguna Creek to the east.

Sunol Glen School serves students in transitional kindergarten, kindergarten, and grades one through eight. Enrollment over the last eight years ranged between a low of 240 students during the 2024-2025 school year and a high of 291 students during the 2019-2020 school year.<sup>1</sup> The District projects a continued decline in school enrollment over the next few years, including the enrollment of 223 students in 2026-2027.<sup>2</sup> The campus also offers Eagle's Nest, which is Sunol Glen's before- and after-school student care program. When not used by the school, school facilities at the campus are available for community use.<sup>3</sup>

The campus currently operates 14 classrooms, along with a music room, art room, computer lab, science lab, preschool room, child-care room, a library, a staff lounge, a multipurpose room, auditorium with a

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<sup>1</sup> California Department of Education, Enrollment Multi-Year Summary by Grade for Sunol Glen Unified, accessed February 2025,

<https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdYears.aspx?cds=0175119&aggllevel=district&year=2023-24>.

<sup>2</sup> Sunol Glen Unified School District, SGUSD School Board Meeting – December 16, 2024,

<https://www.youtube.com/watch?v=0dINw76waJ4>.

<sup>3</sup> California Education Code, Article 2, Use of School Property (Sections 38130-38139); Sunol Glen Unified School District, Board Policy Manual – Policy 1330: Use of School Facilities, last revised February 20, 2024.



stage, and two playgrounds. As shown in [Figure 1](#), school buildings are in the northwest portion of the campus. There are six permanent buildings that surround a grass courtyard. The main building is a single-story, 8,300-square-foot structure built in 1925 and renovated in 1939. It is listed as a historical resource in the Alameda County Register of Historic Resources. The building is recognized for its Spanish Colonial Revival Style. Major additions were completed at the campus in the 1950s and 1990s. The main school building, however, was not updated during those times to meet seismic and accessibility codes. The school also currently has outmoded and inefficient fixtures and infrastructure systems. Mature trees grow along the northern, eastern, and southeastern perimeters of the campus, and around the permanent school buildings.

An asphalt-paved (blacktop) playground is north of the permanent school buildings. Trash collection bins, storage containers, and a portable classroom building, as shown in [Figure 2, Site Photographs](#), are in the northwest corner of the blacktop. A parking lot, student loading/unloading area, and another school playground are south of the permanent buildings in the southwest portion of the campus. Two portable classroom buildings are in the northeast portion of the parking lot, south of the playground. A school garden, grass field, and track are in the eastern portion of the campus.

Most of the campus is located within a flood hazard zone; see [Figure 3, Flood Hazard Map](#).<sup>4</sup> The northern and eastern portions of the campus are mapped within Zone AE Regulatory Floodway with a 1 percent annual chance flood hazard (or 100-year flood hazard zone) associated with Arroyo de la Laguna Creek. West of Zone AE, including the main school building, is mapped within Zone X, or areas with a 0.2 percent annual chance flood hazard (or 500-year flood hazard zone). In December 2022, the Sunol Glen campus experienced flooding caused by overflow of the adjacent creeks; three portable classroom structures previously located adjacent to the creeks were washed southward. The District has since paved this area and removed associated flood debris. Storage containers are currently stored in this area. With the loss of the three classrooms, the District has since installed two portable classroom buildings in the northeast portion of the parking lot. The school's computer lab has also been used as a classroom as needed.

## **b. Surrounding Land Uses**

Sunol Glen School is located at a main entry point into the Town, i.e., the intersection of Main Street and Niles Canyon Road. West of the school is a mix of commercial, residential, and industrial uses that are part of downtown Sunol. The school is surrounded by Arroyo de la Laguna Creek and Sinbad Creek to the east and north, beyond which are agricultural uses and open space; both creeks are tributaries to Alameda Creek. The area immediately south of the school, across Niles Canyon Road, is undeveloped and designated for agricultural use.

## **c. Land Use and Zoning**

The project site falls within the County of Alameda East County Area Plan. The project site has an East County Area Plan land use designation of Rural Density Residential and is zoned as Downtown Sunol (SD).<sup>5</sup>

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<sup>4</sup> Federal Emergency Management Agency, National Flood Hazard Layer (NFHL) Viewer, accessed February 2025, <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-121.89067503116246,37.59144736709889,-121.8802895178568,37.59569790708662>.

<sup>5</sup> Alameda County Community Development Agency, "East County Area Plan Land Use Diagram." In *East County Area Plan – A Portion of the Alameda County General Plan, Volume 1: Goals, Policies and Programs*, October 2016,



The SD zone was established to recognize the existing mixed uses that have coexisted for many years and form a cohesive neighborhood of buildings that may be historically significant.<sup>6</sup>

## 4. PROJECT DESCRIPTION

### a. Project Characteristics

The project involves modernizing the existing Sunol Glen School with funds from the 2022 voter-approved Measure J general obligation bond. The proposed improvements include:

- Rehabilitating the main school building to improve security, accessibility, and seismic safety, as well as upgrading inefficient electrical, plumbing, and sewer systems.
- Replacing three former portable classroom buildings with two permanent buildings.
- Upgrading the 1950s-built cafeteria/multipurpose building for school and community use.
- Developing a new trash and service area.

#### Main Building Rehabilitation

The project proposes to modernize the main school building to improve the functionality of the facility and comply with current building code and accessibility requirements. The project proposes to alter the floor plan of the main building to better suit the school's current programmatic needs and operations. Currently, the west wing of the main building contains the superintendent's office, copy room, unisex restroom, and boys' restroom; the northern portion contains two kindergarten classrooms; the central portion contains an auditorium and platform; and the east wing contains a girls' restroom, a storage and kitchen area, health office, faculty work area, and an administrative assistant's office.

The project proposes the following alterations and renovations:

- **East Wing:** The east wing would include the girls' and boys' restrooms, two staff unisex restrooms, janitor room, staff workroom, and conference room.
- **West Wing:** The west wing would include an administration office, superintendent's office, administrative assistant's office, and a health office with a student restroom.
- **Kindergarten Classrooms:** Renovation of the kindergarten classrooms would include relocating the sinks from the storage area into the classroom space to ensure accessibility compliance and replacing storage closet doors for improved functionality.
- **Auditorium:** Auditorium improvements would include installation of a wheelchair lift; removal of non-original wood paneling; and removal and replacement of the ceiling. The original auditorium light fixtures would be removed and reinstalled following structural upgrades.

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<https://www.acgov.org/cda/planning/generalplans/documents/EastCountyAreaPlancombined.pdf>; Alameda County, Alameda County Unincorporated Public Access Map, accessed February 2025, <https://acpwa.maps.arcgis.com/apps/View/index.html?appid=4a648cb409d744b8a4f645e6e35fe773>.

<sup>6</sup> Alameda County, Alameda County Code of Ordinances, Title 17, Zoning, Section 17.17.010, Sunol Downtown District—Intent, accessed February 2025, [https://library.municode.com/ca/alameda\\_county/codes/code\\_of\\_ordinances?nodeId=TIT17ZO\\_CH17.17SDDI](https://library.municode.com/ca/alameda_county/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.17SDDI).



The interior walls of the building would be demolished to expose structural elements for seismic retrofitting. All interior finishes would be removed and replaced with new wall surfaces, flooring, and ceilings, following the completion of the structural work. The exterior of the building would be retained and preserved. The existing roof tiles would be removed, stored, and reinstalled, after a new underlayment is installed for weatherproofing. The proposed alterations would not affect the square footage of the main building.

The entire building would be brought up to applicable building standards. The proposed project would replace the existing heating, ventilation, and air conditioning with a new system to improve energy efficiency and occupant comfort. Additionally, the existing plumbing, electrical, and fire alarm systems would be upgraded to meet current safety and performance standards. The project also proposes replacing the window glazing within the original window sash and frames to improve energy efficiency.

Both the interior and exterior of the building would be improved to meet accessibility requirements. As shown in [Figure 4, \*Proposed Main Building Frontage Rehabilitation Rendering\*](#), a new accessible approach would be constructed at the main building's primary entrance located in the southwest corner. An existing ramp in the northwest corner of the building (directly opposite of the southwest entry) would be demolished, and a new accessible ramp and stairway would be installed. All uses inside the building would be access-compliant, including in the renovated restroom facilities and stage access within the auditorium.

The project proposes landscape improvements in front of the main building. A new pedestrian pathway would be installed between the two main doors, in the front courtyard, to improve accessibility along the school frontage. Landscaping would be installed between the building and new path, including a mix of trees and shrubs. The existing chain-link fence surrounding the front yard would be removed and a new Spanish Colonial Revival Style metal fence would be installed from the southwest corner of the main building to the sidewalk on Bond Street. Similar fencing would also be installed at the southeast corner of the main building to the school playground east of the main building. All improvements would be consistent with the Secretary of Interior's Standards for the Treatment of Historic Properties.

#### Classroom Replacement

The proposed classroom replacement would be implemented in two phases. Phase 1 proposes a new single-story permanent modular classroom building south of the school's southeasternmost building and east of the two portable classrooms in the parking lot. The new classroom building would be 1,250 square feet and include an attached restroom facility. Development of the classroom building would require realigning an existing fire access driveway from the parking lot to south of the new building; the parking lot and adjacent stalls would be restriped to accommodate fire truck access. Construction would require minor cuts and fills (i.e., less than 2 feet) for development of a new building pad. As the building would be within the 100-year flood zone, its foundation would be raised approximately 1 foot above the existing grade. The new building would be connected to existing utility systems on the campus. Stormwater runoff would be directed to existing underground storm drain systems, away from the adjacent creeks.

Phase 2 of classroom replacement would be implemented when Federal Emergency Management Agency funding becomes available. A modular building with two classrooms would be constructed on the blacktop in the northwest portion of the campus. The building would be installed on a building foundation, raised



1 foot above the existing grade due to its location within the 100-year flood zone. Utility improvements for the proposed classroom building would connect to the existing utility systems on the campus.

#### Kitchen/Cafeteria Multipurpose Building Renovation

The project proposes modernization of the school's multipurpose building. The northern end of the building, which includes the kitchen, storage, and janitor areas, would be modernized. The kitchen would be renovated to comply with current health safety regulations and for code compliance. New countertops and appliances (including a freezer, sinks, and range hood) would be installed. The existing staff restroom and storage area in the kitchen would be renovated with new facilities, and the existing storage and custodial areas in the northeast area of the building would be repurposed into a single-stall unisex student restroom with exterior access. All doors and hardware would be replaced for accessibility purposes. A new fire alarm system would also be installed for the entire building and connected to the rest of the campus. The project includes reroofing the entire building.

#### New Trash Enclosure

The project would improve the existing trash service area. The existing shed, as shown in [Figure 2](#), would be removed and a new trash enclosure facility would be constructed to hide unsightly trash bins, improve curb appeal, and prevent animals from accessing garbage.

### **b. Operation**

The project would not change the school's existing programs and operations or increase the classroom count and enrollment capacity of the campus. No new school-sponsored programs are proposed that would increase enrollment beyond existing conditions. The modernized facilities would continue to be available for community use pursuant to the Civic Center Act, similar to existing conditions.

### **c. Construction**

Construction of the proposed improvements would begin in 2025. To limit interruptions to school programs and operations, the District would conduct the most intensive construction activities when school is not in session and students are not present, to the extent feasible. The proposed construction schedule is as follows:

- **Multipurpose Building Reroofing:** The reroofing of the multipurpose building would begin in the summer of 2025 and is anticipated to be completed in four months.
- **Classroom Replacement (Phase 1):** The new classroom building would be constructed in the fourth quarter of 2025 and be completed prior to renovation of the main building.
- **Kitchen/Cafeteria Renovations:** Interior renovations of the multipurpose building would begin in the summer of 2026 and is anticipated to be completed in four months.
- **Main Building Rehabilitation:** Renovations would begin in the summer of 2026 and are expected to last approximately two years, with renovation completing in 2028.
- **Classroom Replacement (Phase 2):** Construction of the new classroom building in the northwest portion of the campus would occur when funding becomes available, anticipated in 2029.
- **New Trash Enclosure:** The new trash enclosure and service area would be installed in the summer of 2029.



Construction staging would vary by project phase and the construction schedule (e.g., whether school is in session). The larger improvements, including the proposed rehabilitation of the main building, would require the District to lease underutilized parking lots and properties near the project site for equipment and materials staging and construction vehicle parking. Construction staging would not occur on public rights-of-way.

The District would comply with all applicable federal, state, and local laws and regulations regarding the testing for and abatement of hazardous materials to ensure the health and safety of site occupants and construction personnel. During the rehabilitation of the main school building, classes operating in the building would be relocated to the two portable classrooms in the parking lot; once construction is completed, both portable classrooms would be removed. Existing administrative operations in the main building would be temporarily relocated to the new building east of the parking lot. The main entrance into the campus would be relocated to the area of the temporary administrative office.

The active construction sites and staging and laydown areas would be fenced with screening to limit trespassing and vandalism. Fiber rolls would be placed along the interior of the fenced areas that are adjacent to the campus. Storm drain inlets in the construction areas would be protected. If required, driveways providing construction access would be stabilized and installed with a tire wash.

#### **d. Best Management Practices and Regulatory Compliance**

The project would implement the following construction best management practices (BMPs) and adopted regulations:

- **Construction Noise.** The District would adhere to the County of Alameda's quiet hours included in Section 6.60.070 of the Alameda County Code of Ordinances, which prohibits construction noise from 7:00 p.m. to 7:00 a.m. on weekdays and from 5:00 p.m. to 8:00 a.m. on weekends.<sup>7</sup>
- **Nesting Bird Preconstruction Clearance Surveys.** To avoid potential direct and/or indirect impacts to active bird nests and/or nesting birds, the District would comply with the federal Migratory Bird Treaty Act and California Fish and Game Code and conduct preconstruction clearance surveys if construction activities would occur during the nesting bird season (February 15–September 15). Specifically, if construction commences during the bird breeding season (typically February 15–September 15), a qualified biologist must be retained to conduct a nesting bird survey within 72 hours prior to the start of any construction activities, including vegetation clearing/trimming. If an active nest(s) is found, clearing and construction within 300 feet of the nest (500 feet for raptors' nests) would be postponed or halted until the nest is vacated and juveniles have fledged or the nest has failed, as determined by the biologist, and there is no evidence of a second attempt at nesting. If construction activities have been ceased for seven days or more, a new nesting bird survey must be conducted before construction activities can recommence.
- **Clean Air Act.** Under federal and state law, the California Air Resources Board oversees the compliance of the federal Clean Air Act through State Implementation Plans. Local air quality management districts, including the Bay Area Air Quality Management District (BAAQMD), in

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<sup>7</sup> Alameda County, Alameda County Municipal Code, Title 6 – Health and Safety, Section 6.60 – Noise, accessed February 2025,  
[https://library.municode.com/ca/alameda\\_county/codes/code\\_of\\_ordinances?nodeId=TIT6HESA\\_CH6.60NO](https://library.municode.com/ca/alameda_county/codes/code_of_ordinances?nodeId=TIT6HESA_CH6.60NO).



which the project site is located, enforce air pollution regulations. The BAAQMD has adopted basic BMPs to reduce construction-related impacts from fugitive dust emissions. The BAAQMD requires all development projects implement the following measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or farther from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's General Air Pollution Complaints phone number shall also be visible to ensure compliance with applicable regulations.<sup>8</sup>

## 5. APPLICABILITY OF CATEGORICAL EXEMPTION

The CEQA Guidelines include classes of projects that have been determined to not have a significant effect on the environment and that can be categorically exempt from extended environmental review. As discussed below, the proposed project qualifies for a categorical exemption under Classes 1, 3, 4, 14, and 31.

### Class 1, Existing Facilities

Class 1, Existing Facilities, under CEQA Guidelines Section 15301 “consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use.” A key consideration is whether the project involves negligible or no expansion of use. Examples include interior or exterior alterations involving interior partitions, plumbing, and electrical

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<sup>8</sup> Bay Area Air Quality Management District, “Chapter 5, Project-Level Air Quality Impacts,” in *California Environmental Quality Act Air Quality Guidelines*, revised April 20, 2023, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines#:~:text=The%202022%20Guidelines%20include%20updated,practices%20for%20construction%2Drelated%20fugitive.>



conveyances, and restoration or rehabilitation of deteriorated or damaged structures, facilities, or mechanical equipment to meet current standards of public health and safety.

**The project meets this condition.** The proposed project involves repairing, maintaining, and rehabilitating existing Sunol Glen School facilities, including:

- Rehabilitating the main school building to improve security, accessibility, and seismic safety, including repairing/replacing doors and windows. The interior spaces and administrative uses would be altered.
- Rehabilitating the landscaping in front of the main school building to improve accessibility.
- Replacing/upgrading inefficient infrastructure throughout the school including electrical, plumbing, and sewer systems. The existing utilities are outmoded and would be improved to meet current standards of public health and safety.
- Rehabilitating the 1950s-built cafeteria/multipurpose building for school and community use. The interior and exterior improvements would enhance accessibility and public health and safety of the building.
- Replacing the three former portable classroom buildings that were damaged by the 2022 flood with a permanent modular classroom building on the southeastern portion of the campus and a modular building with two classrooms in the northwest portion of the campus.
- Improving the existing trash and service area at its current location in the northwest corner of the campus with an enclosed structure.

The project would not increase the square footage of school buildings, nor would it expand school or community uses or operations of the existing school facilities. Therefore, the proposed project meets the conditions of Class 1, Existing Facilities, and is categorically exempt from further environmental review.

## **Class 2, Replacement or Reconstruction**

Class 2, Replacement or Reconstruction, under CEQA Guidelines Section 15302 “consists of replacement or reconstruction of existing structures and facilities where the new or reconstructed structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.” This class includes the replacement or reconstruction of existing schools to provide earthquake-resistant structures which do not increase capacity more than 50 percent.

**The project meets this condition.** The proposed project would result in the replacement and reconstruction of existing school structure and facilities, as discussed under Class 1, Existing Facilities, above. All proposed replacement and reconstruction would occur at the same location of the structure/facility being replaced or reconstructed, with the exception that, due to flood hazards associated with the adjacent creeks, Phase 1 of the classroom replacement would be constructed south of the school’s southeasternmost building and Phase 2 of the classroom replacement would occur slightly south of the location of the previous buildings on the school blacktop. The replacement/reconstructed buildings would not result in an increase in physical space or school enrollment capacity and would have the same purpose as the structures being replaced/reconstructed. Therefore, the proposed project meets the conditions of Class 2, Replacement or Reconstruction, and is categorically exempt from further environmental review.



### **Class 4, Minor Alterations to Land**

Class 4, Minor Alterations to Land, under CEQA Guidelines Section 15304 “consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Examples include, but are not limited to: (a) grading on land with a slope of less than 10 percent, except that grading shall not be exempt in a waterway, in any wetland, in an officially designated (by federal, state, or local government action) scenic area, or in officially mapped areas of severe geologic hazard such as an Alquist-Priolo Earthquake Fault Zone or within an official Seismic Hazard Zone, as delineated by the State Geologist; and ... (f) minor trenching and backfilling where the surface is restored.”

**The project meets this condition.** Project implementation would require alterations to existing pavement and landscape areas on the school campus. As previously stated, the project site is relatively flat. The project would not include removal of any healthy, mature, scenic trees. The proposed improvements would require minor earthwork; no substantial soil import or export or land recontouring would occur. No grading is proposed within a waterway or wetland; proposed improvements would occur more than 100 feet from the creeks abutting the school property. As demonstrated in the *Geotechnical Engineering and Geohazards Study (Attachment A)* for the project, the campus is not located in an Alquist-Priolo Earthquake Fault Zone or an official Seismic Hazard Zone. Project-related trenching would be minor, and trenches would be backfilled followed by surface restoration. Therefore, the proposed project meets the conditions of Class 4, Minor Alterations to Land, and is categorically exempt from further environmental review.

### **Class 14, Minor Additions to School**

Class 14, Minor Additions to School, under CEQA Guidelines Section 15314 “consists of minor additions to existing schools within existing school grounds where the addition does not increase original student capacity by more than 25% or ten classrooms, whichever is less. The addition of portable classrooms is included in this exemption.”

**The project meets this condition.** The proposed project would modernize existing facilities at Sunol Glen School. All improvements would occur within existing school grounds. The proposed improvements are minor in scope, involving restoration/rehabilitation and reconstruction in-kind. As indicated in Section 2, *Existing Setting*, three portable classrooms were damaged during a flood in December 2022. The District has erected two temporary portable classrooms. The project proposes to replace the classrooms damaged in the flood in two phases: Phase 1 would include a modular classroom on the southern portion of the campus; and Phase 2 would include a modular classroom with two classrooms on the northwest portion of the campus. The two existing temporary classrooms on the campus would then be removed as part of the proposed project. Thus, the project would not increase the number of classrooms and/or enrollment capacity at Sunol Glen School. The other components of the project, including rehabilitation of the main school building and renovations to the multipurpose building, also would not increase student capacity or the number of existing classrooms. Furthermore, as indicated in Section 2, the District anticipates a decline in enrollment over the next years. As such, the project would not increase the original student capacity by more than 25 percent or school size by 10 or more classrooms. Therefore, the proposed project meets the conditions of Class 14, Minor Additions to Schools, and is categorically exempt from further environmental review.



## Class 31, Historical Resource Restoration/Rehabilitation

Class 31, Historical Resource Restoration/Rehabilitation, under CEQA Guidelines Section 15331 “consists of projects limited to maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation, or reconstruction of historical resources in a manner consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.”

**The project meets this condition.** The proposed improvements have been designed to be consistent with the Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. As identified in *Secretary of the Interior’s Standards for Rehabilitation Review – Sunol Glen School, Sunol (Historical Resources Study; Attachment B)*, the project meets the Secretary of the Interior’s Standards for Rehabilitation; the project would not destroy features that characterize the property as a historical resource, as the proposed improvements are compatible with the massing, size, scale, and architectural features of the existing school. Implementation of the project would retain the historic character and integrity of the school and would not change or alter its historic purpose as a school. Specifically, the proposed pedestrian pathway to the main building’s front doors on the south façade would preserve the historic symmetry and rectilinear design in their relationship to the front lawn. Additionally, accessibility improvements, such as ramps, have been designed to blend into the building façades. The proposed new ramp’s massing and profile would cause minimal changes to the appearance of the main building’s front façade. The interior spaces in the east and west wings would be reconfigured for new uses; however, these spaces are not character-defining features, and interior reconfiguration would not affect the historic character or integrity of the school. It is noted that the character-defining Ernest Bachelder-designed fireplace in the west wing would be moved to a new conference room in the east wing that is similar in size, scale, and function. This feature of the project is consistent with the Secretary of the Interior’s Standards for Rehabilitation since it will retain the fireplace in the school in a room similar to the room where it had been historically (see Attachment B). Therefore, the proposed project meets the conditions of Class 31, Historical Resource Restoration/Rehabilitation, and is categorically exempt from further environmental review.

## 6. EXCEPTIONS TO CATEGORICAL EXEMPTIONS

CEQA Guidelines Section 15300.2, Exceptions, lists conditions under which categorical exemptions are inapplicable. The discussion below addresses whether these conditions apply.

### a. Location

Section 15300.2(a) of the CEQA Guidelines states that Classes 3, 4, 5, 6, and 11 are qualified by consideration of whether a project is located in a uniquely sensitive environment of hazardous or critical concern that has been designated, precisely mapped, or officially adopted pursuant to federal, state, or local laws. According to *Berkeley Hills Watershed Coalition v. City of Berkeley*, (2019) 31 Cal.App.5th 880, this exception concerns effects of the project on the environment, not the impact of the existing surrounding environmental conditions on the project or its future users.

The project site is in a rural area and fully developed with existing school facilities. The proposed project consists of replacing, upgrading, and/or repairing existing school facilities within the developed campus. As such, improvements associated with the project would not extend past the boundaries of the campus.



Accordingly, project implementation would not impact the surrounding environment. This exception does not apply to the proposed project.

### **b. Cumulative Impact**

Section 15300.2(b) of the CEQA Guidelines states that exemptions are inapplicable when there is a significant cumulative impact of “successive projects of the same type in the same place, over time.”

Beyond the improvements proposed under Measure J, as described in Section 3, Project Description, above, the District does not propose any other projects at Sunol Glen School. The proposed project would not result in the contribution to cumulatively considerable environmental impacts in the same place over time. No impact would occur in this regard. Therefore, this exception would not apply to the project.

### **c. Significant Effects**

Section 15300.2(c) of the CEQA Guidelines states that a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances. The determination of whether this exception applies involves two distinct questions: (1) whether the project presents unusual circumstances; and (2) whether there is a reasonable possibility that a significant environmental impact will result from the unusual circumstances. The lead agency considers the second prong of this test only if it finds that some circumstance of the project is unusual. (*Berkeley Hillside Preservation v City of Berkeley* [2015] 60 C4th 1086, 1104)

The District is not aware of any unusual aspects or circumstances related to the project site or project construction or operation that would create a reasonable possibility of a significant effect to the environment. Project implementation would comply with all applicable California laws and regulations related to public school construction, including the California Building Code. Construction methods would be typical for public schools in the state and would be plan-checked by the Division of the State Architect. Moreover, the District would implement construction BMPs and comply with existing laws and regulations, including those stated in Section 3.d, to minimize and reduce potential impacts to biological resources, air quality, and community noise. Therefore, the proposed project would not result in significant effects on the environment due to unusual circumstances. As such, this exception would not apply to the project.

### **d. Scenic Highways**

Section 15300.2(d) of the CEQA Guidelines provides that a categorical exemption cannot be used for a project that may damage scenic resources—including but not limited to trees, historic buildings, rock outcroppings, or similar resources—within an officially designated state scenic highway.

The segment of State Route 84 (Niles Canyon Road) adjacent to Sunol Glen School is an officially designated state scenic highway.<sup>9</sup> However, project implementation would not extend past the boundaries of the campus, and thus would have no effect on State Route 84 or any scenic resources along the officially designated state scenic highway. As such, the proposed project would have no impact on any

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<sup>9</sup> California Department of Transportation, [California State Scenic Highway System Map](https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca), accessed February 2025, <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>.



scenic resources within an officially designated state scenic highway. Therefore, this exception would not apply to the project.

#### **e. Hazardous Waste Sites**

Section 15300.2(e) of the CEQA Guidelines states that a categorical exemption shall not be used for a project on a site that is on any list compiled pursuant to Section 65962.5 of the California Government Code, also known as the “Cortese List.” Sites identified on the Cortese List may contain hazardous materials and waste facilities.

A desktop search was conducted of the Cortese List Data Resources, including the EnviroStor database from the California Department of Toxic Substances Control and GeoTracker database from the State Water Resources Control Board. The project site is not listed on a hazardous materials site or waste facility listed on the Cortese List.<sup>10</sup> Therefore, this exception does not apply to the proposed project.

#### **f. Historical Resources**

A categorical exemption cannot be used for a project that may cause a substantial adverse change in the significance of a historical resource, as specified in Public Resources Code Section 21084.1, which defines a historical resource as one listed in or determined to be eligible for listing in the California Register of Historical Resources and local register of historical resources.

As discussed in the *Historical Resources Study* (Attachment B), the main school building was listed on the Alameda County Register of Historic Resources in 2012 and is considered a historical resource under CEQA. Improvements associated with implementation of the project have been evaluated under the Secretary of Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings to determine whether project implementation would cause a substantial adverse change to the significance of a historical resource. The *Historical Resources Study* analysis determined that the proposed improvements would be consistent with the Standards for Rehabilitation, and therefore, the project would not cause a substantial adverse change to the integrity of a historical resource. Project impacts would be less than significant. As such, this exception does not apply to the proposed project.

## **7. CONCLUSION**

As documented herein, the proposed project meets the requirements of Categorical Exemption Class 1, Existing Facilities, Class 2, Replacement or Reconstruction, Class 4, Minor Alterations to Land, Class 14, Minor Additions to Schools, and Class 31, Historical Resource Restoration/Rehabilitation, and none of the conditions listed in CEQA Guidelines Section 15300.2, Exceptions, apply. Accordingly, the project is exempt from extended environmental review in accordance with the provisions of CEQA.

---

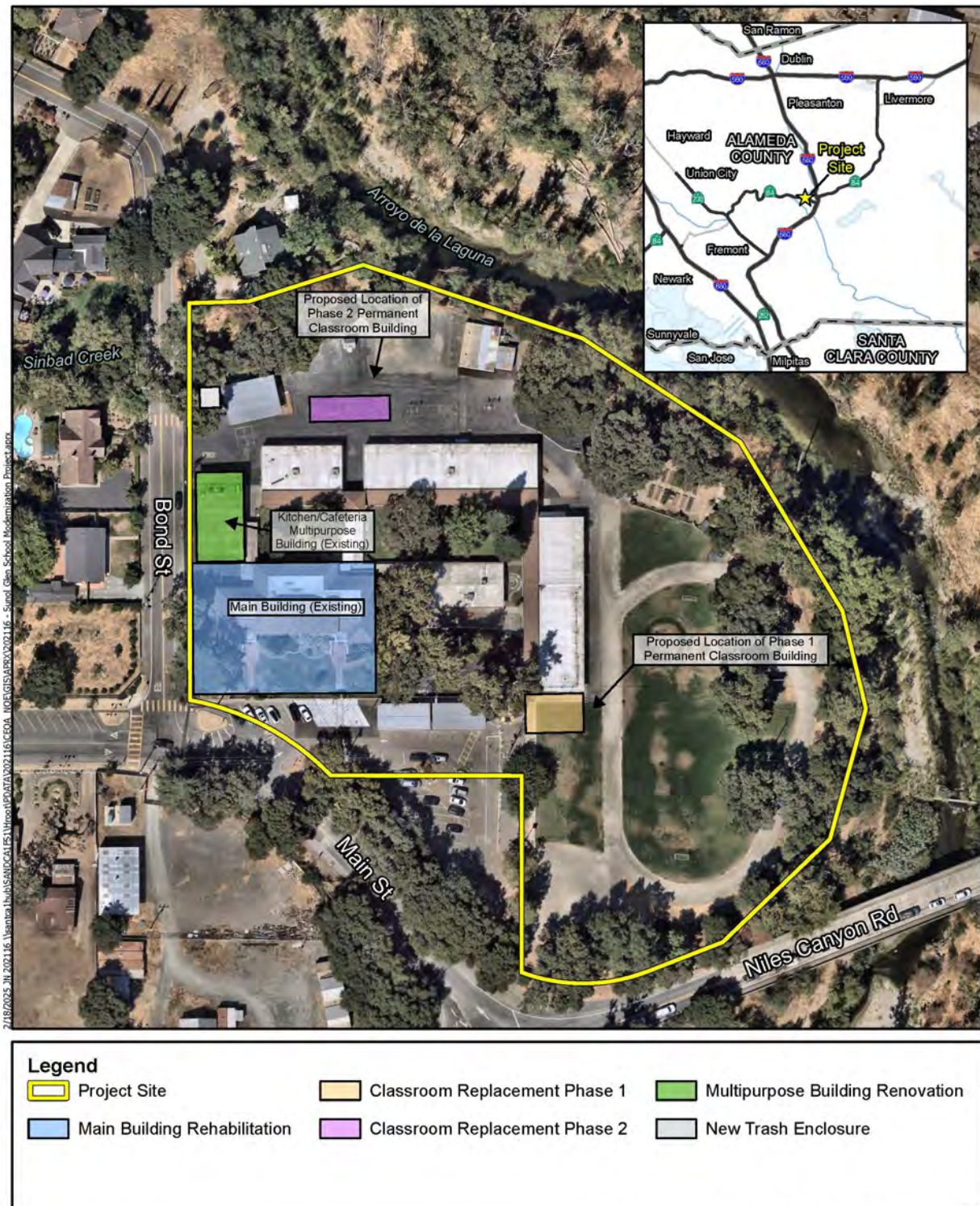
<sup>10</sup> California Environmental Protection Agency, Cortese List Data Resources, accessed October 31, 2024, <https://calepa.ca.gov/sitecleanup/corteselist/>; Department of Toxic Substances Control, EnviroStor, Hazardous Waste and Substances Site List (Cortese), accessed October 29, 2024, [https://www.envirostor.dtsc.ca.gov/public/map/?global\\_id=38330005](https://www.envirostor.dtsc.ca.gov/public/map/?global_id=38330005); California State Water Resources Control Board, GeoTracker, accessed October 29, 2024, <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=1980+allston+way+berkeley+ca+94704>



# Sunol Glen School Modernization Project

## Sunol Glen Unified School District

FIGURE 1. PROJECT SITE AND REGIONAL LOCATION



SUNOL GLEN SCHOOL MODERNIZATION PROJECT  
SUNOL, CA

**Michael Baker**  
INTERNATIONAL

0 50 100  
US Feet

Source: Esri, ArcGIS Online, Alameda County, 2025 Nearmap Imagery



FIGURE 2. SITE PHOTOGRAPHS



**Photograph 1:** Existing main building frontage



**Photograph 2:** Existing trash service area



FIGURE 3. FLOOD HAZARD MAP

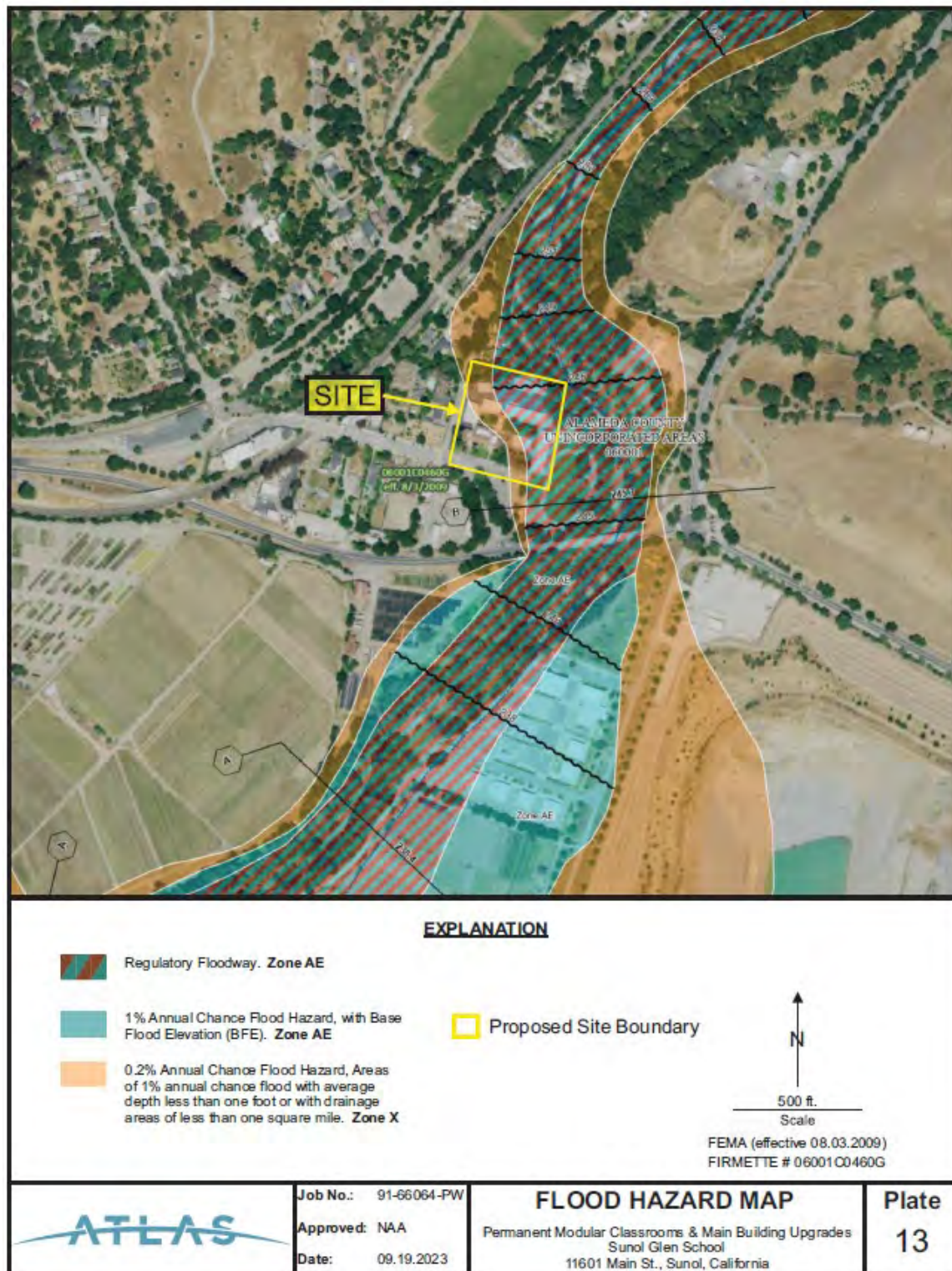




FIGURE 4. PROPOSED MAIN BUILDING FRONTAGE REHABILITATION RENDERING



SUNOL GLEN SCHOOL - MAIN BUILDING MODERNIZATION





## Attachment A

### Geotechnical Engineering and Geohazards Study





# ATLAS

## GEOTECHNICAL ENGINEERING AND GEOHAZARDS STUDY

SUNOL GLEN SCHOOL – PERMANENT MODULAR CLASSROOMS  
AND MAIN BUILDING UPGRADES  
SUNOL, CALIFORNIA

### PREPARED FOR:

Ms. Molleen Barnes, Superintendent  
Sunol Glen Unified School District  
11601 Main Street  
Sunol, California 94586

### PREPARED BY:

Atlas Technical Consultants LLC  
2001 Crow Canyon Road, Suite 210  
San Ramon, California 94583

November 21, 2023





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November 21, 2023

Atlas No. 91-66064-PW

MS. MOLLEEN BARNES | SUPERINTENDENT  
**SUNOL GLEN UNIFIED SCHOOL DISTRICT**  
11601 MAIN STREET  
SUNOL, CALIFORNIA 94586

**Subject:      Geotechnical Engineering and Geohazards Study**  
**Sunol Glen School – Permanent Modular Classrooms &**  
**Main Building Upgrades**  
**11601 Main Street, Sunol, California 94586**

Dear Ms. Barnes:

**Atlas Technical Consultants (Atlas)** has completed a Geotechnical Engineering and Geohazards Study for the proposed project to be located in Sunol, California. This report has been prepared in accordance with prevailing standard of care for evaluation of geotechnical and engineering geologic site characterization, and potential geologic hazards as set forth in California Geological Survey Note 48 (2022) pertaining to potential fault rupture hazard evaluation, and identification of other potential geologic hazards impacting the proposed project. Transmitted herewith are the results of our findings, conclusions, and recommendations for the design and construction of the foundation support systems, site grading, drainage, and utility trench backfilling related to the new classroom building, as well as potential construction of seismic retrofitting of the foundation support systems for the existing main school building. In general, the proposed improvements at the site are considered geotechnically and geologically feasible for construction provided the recommendations of this report are implemented in the design and construction of the project.

The proposed project site was subjected to flooding during the winter of 2023, and consistent with such, a site flooding hazard was identified and discussed in our geohazards study portion of this report. We expect that the development of the proposed Permanent Modular Classroom Building will be contingent on the mitigation of the flooding hazard present at the school site prior to final project approvals.





Should you or members of the design team have questions or need additional information, please contact Mr. Dare at (925) 314-7180, or by e-mail at [corey.dare@oneatlas.com](mailto:corey.dare@oneatlas.com). We greatly appreciate the opportunity to be of service to the Sunol Glen Unified School District (District) and to be involved in the design of this project.

Respectfully submitted,

**Atlas Technical Consultants LLC**

A blue ink signature of Joel E. Baldwin II, consisting of a stylized, flowing script.

Joel E. Baldwin II, PG, CEG  
Principal Engineering Geologist  
(Renewal date 02-28-2025)



A blue ink signature of Corey T. Dare, written in a cursive style.

Corey T. Dare, PE, GE  
Principal Geotechnical Engineer



Distribution: PDF to addressee c/o Mr. William Savidge, Bond Consultant;  
[bsavidge@k12schoolfacilities.org](mailto:bsavidge@k12schoolfacilities.org)

NAA/JEB/CTD:pmf



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- Appendix A    Field Exploration
- Appendix B    Laboratory Test Results
- Appendix C    Seismic Settlement Evaluation Results
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## 1 INTRODUCTION

### 1.1 Purpose and Scope

The purposes of this study were to evaluate the surface and subsurface aspects of the proposed project area for preparation of design-level geotechnical recommendations for use by the Civil and Structural Engineers in design, as well as to conduct a geohazards (geologic hazards) study as required by the California Division of State Architect (DSA) for project approval. This study provides recommendations for design and construction of new foundation support, as well as foundation design criteria for potential seismic retrofitting of the existing foundations, and recommendations for site grading and drainage, as appropriate. This study was performed in accordance with the scope of work outlined in our proposal dated May 31, 2023.

The scope of this study included the review of available previous geotechnical and geologic literature for the site area, geologic reconnaissance and subsurface investigation, laboratory testing of selected samples retrieved from the borings, engineering analysis, and preparation of this report. The conclusions and recommendations presented in this report are based on the data acquired and analyzed during this study, and on prudent engineering judgment, and experience. This study did not include an assessment of potentially toxic or hazardous materials that may be present on or beneath the site.

We understand that this project is under the jurisdiction of the Division of State Architect (DSA) and the report will be reviewed by the California Geological Survey (CGS). Therefore, the report has been prepared in accordance with the requirements of Title 24, Part 1, Section 7-117 of the 2022 California Administrative Code; Title 24, Part 2 (California Building Code); and CGS Note 48 (2022).

### 1.2 Site Description

The site consists of the Sunol Glen School campus located at 11601 Main Street in Sunol, California, as shown on Plate 1, *Vicinity Map*. The school is bound by Main Street and Niles Canyon Road (Highway 84) to the south, Bond Street to the west, the Sinbad Creek channel to the north, and the Arroyo de la Laguna creek channel to the northeast and east.

We understand the existing school campus was constructed in phases. The main school building was constructed circa 1925, consisting of a single-story structure. Since that time, the school campus was expanded with new single-story classroom buildings, some of which have been replaced over the years. The current central school campus configuration, which in addition to the



main school building, consists of two buildings to the east of the main building, one building to the northwest adjacent to Bond Street, and two buildings to the north bordering the south side of a rear, asphalt-paved (blacktop) playground area extending toward the northern property boundary by Sinbad Creek. Google Earth historical photos show this building configuration to have been in place at least since 2002. In 2014, a newer building was added at the northwest corner of the campus property.

The site of the proposed new classroom building is in the northern portion of the paved blacktop area at the top of Arroyo de la Laguna Creek just downstream of the confluence with Sinbad Creek, as indicated on Plate 2, *Site Plan*. Several storage containers present in that vicinity of the campus over at least the last two decades will be relocated.

The project site is situated on a graded, relatively flat alluvial surface that gently descends toward the east. The site has an average elevation of approximately  $244 \pm 3$  feet above mean sea level (msl) based on Google Earth Pro 2023. Project longitude and latitude coordinates used for seismic analysis purposes were 37.5941 degrees north latitude and 121.8848 degrees west longitude.

### **1.3 Proposed Development**

We understand the proposed project will include partial demolition of the existing blacktop playground in order to construction a new classroom building. In addition, we understand a structural analysis of the existing main classroom building is desired to evaluate the need for, feasibility, and extent of possible seismic retrofitting of its foundation system. The project area can therefore be considered to encompass both the existing main school building and the proposed new classroom building. Other possible improvements for the project may include site utilities to connect to the proposed building, but we also understand that neither major sitework nor new vehicular paving will be a part of this project.

The new classroom building is expected to consist of an approximately 2,880 square-foot, single story, permanent classroom building which will house three classrooms, with a total footprint of 40 feet by 72 feet. Other design details such as foundation design and structural loads as well as final grade elevations were not available at the time this study was conducted. We anticipate that cuts and fills will be relatively minor (i.e., less than 2 feet) as required to grade the new building pad and to establish perimeter site drainage. The approximate location of both the proposed new





classroom building as well as the location of the existing main classroom building are shown on Plate 2, *Site Plan*.

## **1.4 Validity of Report**

This report is valid for three years after publication. If construction begins after this time period, Atlas should be contacted to confirm that the site conditions have not changed significantly. If the proposed development differs considerably from that described above, Atlas should be notified to determine if additional recommendations are required. Additionally, if Atlas is not involved during the geotechnical aspects of construction, this report may become wholly or in part invalid; since Atlas' geotechnical personnel need to verify that the subsurface conditions anticipated preparing this report are similar to the subsurface conditions revealed during construction. Atlas' involvement should include foundation and grading plan review; observation of foundation excavations; and grading observation and testing.

## **2 PROCEDURES AND RESULTS**

### **2.1 Literature Review**

Pertinent geologic and geotechnical literature pertaining to the site area was reviewed. These included various publications and maps issued by the United States Geological Survey (USGS), California Geological Survey (CGS), other online resources, and other applicable government and private publications and maps, as listed in the References section.

### **2.2 Field Exploration**

In order to characterize the subsurface conditions beneath the potential improvement areas, a field exploration program was conducted, which consisted of drilling four test borings, designated as B-1 through B-4, on August 13 and August 29, 2023, as observed by a staff engineer under the supervision of a California-registered Geotechnical Engineer. The test borings were sited to satisfy CGS Note 48 requirements and to facilitate development of soil cross section profiles across the area of the subject project. The locations of the borings relative to the existing main classroom building as well as the proposed new classroom building are shown on Plate 3, *Exploration Plan*.

The borings were drilled to total depths ranging from 9 to 49 feet below the existing ground surface using a truck-mounted B-24 drill rig equipped with a 4-inch diameter solid-flight auger (Boring B-4), which was not able to advance deeper than 9 feet due to the presence of significant cobbles,



and a CME-75 drill rig (Borings B-1 through B-3) equipped with an 8-inch diameter hollow-stem auger. Following completion of drilling, the boreholes were backfilled using a cement grout mix.

An Atlas representative visually classified the materials encountered in the borings according to the Unified Soil Classification System as the borings were advanced. Relatively undisturbed soil samples were recovered at selected intervals using a 3-inch outside diameter Modified California split spoon sampler containing 6-inch long brass liners, and a 2-inch outside diameter Standard Penetration Test (SPT) sampler. The samplers were driven by means of a 140-pound automatic trip hammer with an approximate 30-inch fall. Resistance to penetration was recorded as the number of hammer blows required to drive the sampler to the final foot of an 18-inch drive. All of the field blow counts recorded using Modified California (MC) split spoon sampler were converted in the final logs to equivalent SPT blow counts using appropriate modification factors suggested by Burmister (1948), i.e., a factor of 0.65 with inner diameter of 2.5 inches. Therefore, all blow counts shown on the final boring logs are either directly measured (SPT sampler) or equivalent SPT (MC sampler) blow counts.

The boring logs with descriptions of the various materials encountered in each boring, a key to the boring symbols, and select laboratory test results are included in Appendix A. Ground surface elevations indicated on the soil boring logs were estimated to the nearest foot using Google Earth Pro (2023).

### **2.3 Laboratory Testing**

Laboratory tests were performed on select samples to determine some of the physical and engineering properties of the subsurface soils. The results of the laboratory testing are either presented on the boring logs, and/or are included in Appendix B. The following soil tests were performed for this study:

Dry Density and Moisture Content (ASTM D2216 and ASTM 2937) – In-situ dry density and/or moisture tests were conducted on select samples to measure the in-place dry density and moisture content of the subsurface materials. These properties provide useful information for evaluating the physical characteristics of the subsurface soils. Test results are shown on the boring logs.

Atterberg Limits (ASTM D4318 and CT204) - Atterberg Limits tests were performed on select samples of cohesive soils encountered at the site. Liquid Limit, Plastic Limit, and Plasticity Index



are useful in the classification and characterization of the engineering properties of soil and help to evaluate the expansive characteristics of the soil and determine the USCS soil classification. Test results are presented in Appendix B, and on the boring logs.

Particle Size Analysis (Wet and Dry Sieve) (ASTM D422, D1140, and CT202) – Sieve analysis and fines content testing was conducted on select samples to measure the soil particle size distribution and the total percentage of fines (i.e., percent passing the USCS No. 200 sieve). This information is useful for characterizing the soil type according to USCS, and to assist in the evaluation of liquefaction susceptibility of granular soils or soils of relatively low cohesion. Test results are presented in Appendix B.

Unconsolidated-Undrained Triaxial Compression Test (ASTM D2850m) – An Unconsolidated-Undrained triaxial strength test was conducted on a sample of cohesive soil material to measure the undrained shear strength of the tested material which is useful in evaluating the foundation support characteristics of the soil. The samples were loaded under increasing axial load until near failure, with a peak deviator stress defined as the maximum deviator stress or the deviator stress at 15% strain, whichever occurs first. The peak deviator stress is divided in two to obtain the undrained shear strength where the samples are near-saturated to saturated. The test results are presented in Appendix B.

Soil Corrosivity, Redox (ASTM D1498), pH (ASTM D4972), Resistivity (ASTM G57), Chloride (ASTM D4327), and Sulfate (ASTM D4327) - Soil corrosivity testing is performed to determine the effects of constituents in the soil on buried steel and concrete. Water-soluble sulfate testing is required by the California Building Code (CBC) and International Building Code (IBC). Soil corrosivity test results are summarized in Appendix B and are discussed in Section 4.3.

### **3 GEOLOGIC AND SEISMIC OVERVIEW**

#### **3.1 Geologic Setting**

The site is located in a geologically complex region within the west-central part of the 20-mile wide by 180-mile-long Diablo Range between Carquinez Strait in the north and Polonio Pass in the south, coinciding with the California Coast Ranges Geomorphic Province. Like the Coast Ranges, the Diablo Range represents a series of northwest-trending strike ridges and intervening alluvial valleys that reflect the strong, regional structural grain formed by tectonic deformation across the faults comprising the San Andreas Fault System in the past 20 million years in western California.



The range is composed of a variably thick veneer of Cenozoic volcanic and sedimentary deposits overlying Mesozoic basement Franciscan Assemblage sedimentary, metamorphic, and mafic igneous rocks, and marine sedimentary rocks of the Great Valley Sequence (see Plate 4, *Regional Geologic Map*). East-dipping sedimentary rocks in the Coast Ranges are flanked on the east by sedimentary rocks of the Great Valley Geomorphic Province (Page, 1966).

Sunol Glen Elementary School is in the northern terminus of Sunol Valley at the confluence of Arroyo de la Laguna, Sinbad and Vallecito Creeks, all tributary to Alameda Creek, that drain the upper part of Alameda watershed in Niles Canyon to the southern San Francisco Bay, as shown on Plate 1.

Alluvial Sunol Valley is constrained by dissected, steep homoclinal, southwest dipping Upper Cretaceous, clay-shale and claystone basement rock of the Great Valley Panoche Formation underlying Sunol Ridge on the north and west, and on the east by dissected rounded hills south of Livermore underlain by Plio-Pleistocene Livermore Gravels composed of poorly to moderately consolidated, indistinctly bedded pebbles and cobbles, and grey pebble- and cobble-bearing sand and grad coarse-grained sand (Graymer and others, 1996; Dibblee and Minch, 2005); see Plate 5, *Areal Geologic Map* and Plate 6, *Geomorphic Map*.

### **3.2 Geologic Evolution of the Northern Coast Ranges**

The subject site is located within the tectonically active and geologically complex northern Coast Ranges, which have been shaped by continuous deformation resulting from tectonic plate convergence (subduction) beginning in the Jurassic period (about 145 million years ago). Eastward thrusting of the oceanic plate beneath the continental plate resulted in the accretion of materials onto the continental plate. These accreted materials now largely comprise the Coast Ranges. The dominant tectonic structures formed during this time include generally east dipping thrust and reverse faults.

Beginning in the Cenozoic time period (about 25 to 30 million years ago), the tectonics along the California coast changed to a transpressional regime and right-lateral strike-slip displacements as well as thrusting were superimposed on the earlier structures resulting in the formation of northwest-trending, near-vertical faults comprising the San Andreas Fault System. The northern Coast Ranges were segmented into a series of tectonic blocks separated by major faults including the San Andreas, Hayward, and Calaveras. The project site is situated between the active Hayward and Calaveras faults, but no known active faults with Holocene movement (i.e., within



the last 11,000 years) lie within the limits of the site. The site is not mapped within an Alquist-Priolo Earthquake Fault Zone.

### **3.3 Regional Faulting and Tectonics**

Regional transpression has caused uplift and folding of the bedrock units within the Coast Ranges. This structural deformation occurred during periods of tectonic activity that began in the Miocene and continues today. The site is in a seismically active region that has experienced periodic, large magnitude earthquakes during historic times. This seismic activity appears to be largely controlled by displacement between the Pacific and North American crustal plates, separated by the San Andreas Fault zone located approximately 24 miles southwest of the site. This plate displacement produced regional strain that is concentrated along major faults of the San Andreas Fault System including the San Andreas, Hayward, and Calaveras faults in this area.

The site is located in a seismically active region dominated by major faults of the San Andreas Fault System. Major active faults include the aforementioned San Andreas Fault; the Calaveras Fault, located approximately  $\frac{3}{4}$  of a mile east of the site; the Hayward Fault, located approximately 5.4 miles southwest of the site; and the Greenville-North (Clayton-Marsh Creek) Fault, located approximately 13 miles northeast of the site. The site location relative to these and other active and potentially active faults in the southern San Francisco Bay Area is shown on Plate 7, *Regional Fault Map*.

The Working Group on California Earthquake Probabilities (WGCEP, 2015), in conjunction with the United States Geological Survey (USGS), has evaluated the probabilities of significant earthquakes occurring in the Bay Area over the next 30 years. The WGCEP report indicates that there is a 72% probability that at least one magnitude 6.7 or greater earthquake will occur in the San Francisco Bay region before 2044. This probability is an aggregate value that considers seven principal Bay Area fault systems and unknown faults (background values).

A discussion of the aforementioned faults, ordered by increasing distance from the site, follows.

#### **3.3.1 Calaveras Fault**

The Calaveras Fault trends northwesterly about 123 km in length from near Hollister, extending to north of the Danville area. The Calaveras Fault has been divided into three segments, the Northern, Central, and Southern segments. The site is located  $\frac{3}{4}$  of a mile west of the northern



segment of the Calaveras Fault. The slip rate on the north segment of the Calaveras Fault is estimated to be about 6 mm/year and has been assigned a moment magnitude ( $M_{\max}$ ) of 6.8 (CGS, 2003). UCERF3 has estimated that there is an eight percent (8%) probability of at least one magnitude 6.7 or greater earthquake occurring before 2044 along the northern segment of the Calaveras Fault.

### **3.3.2 Hayward Fault**

The Hayward Fault trends northwesterly on the order of 88 km from the Milpitas area to San Pablo Bay. The Hayward Fault has been divided into two main segments, the Northern and Southern segments. The Rodgers Creek Fault, considered as a possible extension of the Hayward Fault, extends northward from beneath San Pablo Bay up to near Healdsburg, where it is aligned with the Healdsburg Fault zone, currently considered to be inactive. The site is located approximately 5.4 miles northeast of the northern segment of the Hayward Fault. The slip rate on this segment of the Hayward Fault is estimated to be about 9 mm/year and has been assigned a moment magnitude ( $M_{\max}$ ) of 6.4 (CGS, 2003). UCERF3, the earthquake forecast model developed by the Working Group on California Earthquake Probabilities (USGS, 2015) has estimated that there is an 18 and 26 percent probability of at least one magnitude 6.7 or greater earthquake occurring before 2044 along the Northern and Southern segments, respectively, of the Hayward Fault.

### **3.3.3 Greenville-Marsh Creek-Clayton Fault**

The northwest-trending Greenville- Marsh Creek-Clayton Fault system lies within the Diablo Range and extends from Arroyo Mocho southeast of Livermore, across the eastern edge of the Livermore Valley and the northeast edge of Mt. Diablo into the Clayton Valley area. On the east side of Mt. Diablo, the fault has been referred to as the Marsh Creek Fault, connecting to the Clayton Fault in the Clayton Valley. The fault zone has been divided (CGS, 2002) into two segments, Greenville-North and Greenville-South. The site is located on the order of 13 miles southwest of the Clayton Fault. The slip rate of the Greenville-North segment is estimated to be about 2 mm/year and has been assigned a moment magnitude ( $M_{\max}$ ) of 6.6 (CGS, 2002).

### **3.3.4 San Andreas Fault**

The northwest-trending San Andreas Fault runs along the western coast of California extending on the order of 625 miles from the north near Point Arena to the Salton Sea area in southern California (Jennings, 1994). The fault zone has been divided into 11 segments. The site is located about 24 miles northeast of the Peninsula segment. The slip rate on the Peninsula segment of



the San Andreas Fault is estimated to be about 17 mm/year and has been assigned a moment magnitude ( $M_{\max}$ ) of 7.1 (CGS, 2003). The Working Group on California Earthquake Probabilities (2015) Uniform California Earthquake Rupture Forecast model UCERF3 has estimated that there is a 9 and 13 percent probability of at least one magnitude 6.7 or greater earthquake occurring before 2044 along the North Coast and Peninsula segments, respectively, of the San Andreas Fault.

### **3.4 Historic Seismicity**

As discussed above, the San Francisco Bay Area is subject to a high level of seismic activity. Within the period of 1800 to 2000 there were an estimated 20 earthquakes exceeding a Richter magnitude of 6.0 within an approximate 100-mile radius of the site, with seven exceeding 6.5, four exceeding 7.0 and one exceeding 7.5. There have been six major Bay Area earthquakes since 1800. Those were in 1836 and 1868 on the Hayward-Rodgers Creek Fault, in 1861 on the Calaveras Fault, and in 1838, 1906, and 1989 on the San Andreas Fault.

The San Francisco Bay Area is reported to have experienced shaking from on the order of 57 earthquakes of magnitude 5.5 or greater during the period of 1800 to 2000, occurring at various distances away from the project site. Of those, 17 were greater than Magnitude 6.0, seven exceeded 6.5, four exceeded 7.0 and one was greater than 7.5. Of the major earthquakes known to have affected the area, the 1868 Hayward earthquake likely caused the most damage in the East Bay with at least 30 deaths in the region and with extensive building collapse in Hayward and San Leandro, including the Alameda County Courthouse in San Leandro. The 1906 San Francisco earthquake also caused property and structural damage in the East Bay. The 1989, Magnitude 6.9 Loma Prieta earthquake, centered near Aptos near the Santa Cruz Mountain Segment of the San Andreas Fault, caused moderately strong ground shaking in the site area.

## **4 SUBSURFACE CONDITIONS**

### **4.1 Subsurface Soil Conditions**

During our subsurface exploration program, we investigated the subsurface soils and evaluated soil conditions to a maximum depth of about 49 feet below the existing ground for this study. Based on our collected data, the campus is generally underlain by alluvial soils consisting of interbedded layers of medium stiff to hard lean to fat clays with varying amounts of silt and sand, and medium dense to very dense sand and gravel with varying amounts of silt and clay. At the new classroom building site, subsurface soils encountered in the borings consisted of about 20



to 24 feet of dense to very dense layers of coarse granular soils, varying from silty to sandy gravels to gravelly sand, underlain by hard, lean to silty clay to the maximum depth explored of about 49 feet. Some cobbles were encountered within the uppermost 7 to 12 feet of the soil profile, consistent with reports of cobbles being encountered within past excavations on campus.

Atterberg Limit test results were conducted on surficial soil samples recovered within the upper 5 feet in Borings B-3 and B-4. Based on this testing, B-3 was determined to be non-plastic, while B-4 had a measured Liquid Limit of 25 and a Plasticity Index of 9. Based on these results, the near-surface soils of the site are considered to be non-plastic to low in plasticity.

Additional details of materials encountered in the exploratory borings, including laboratory test results, are included in the boring logs in Appendix A, and laboratory test summaries are presented in Appendix B. Plate 8, *Geologic Cross Section A-A'-A"* is based on literature review, site observations, and Google Earth Pro elevation data.

## 4.2 Groundwater Conditions

Groundwater was encountered only in Boring B-2 at an initial depth of about 18.5 feet (Elev. 224.50) as measured during drilling operations, and at about 44 feet (Elev. 199.00) at the completion of drilling. As such, seepage encountered around 18.5 feet deep appeared to be perched groundwater within a granular soil layer overlying an impermeable clay layer, as indicated in the boring log. In our opinion, groundwater measured at 44-foot depth may represent perched water which fell to fill the bottom of the borehole after drilling concluded, and may not represent the actual groundwater table depth, which may exceed the maximum depth explored (i.e., 49 feet).

Small-scale historical high groundwater mapping included in the *Seismic Hazard Zone Report for the Niles 7.5-Minute Quadrangle, Alameda County, California (CGS, 2004)* shows historic high groundwater levels to not be well defined within the Alameda Creek and tributary area within which Sunol is located. This map only indicates local historic high groundwater levels as being "greater than 20 to 30 feet" below the ground surface.

We note that the borings may not have been left open for a sufficient period of time to establish equilibrium groundwater conditions. Groundwater levels can also vary in response to time of year, variations in seasonal rainfall, tidal influence, well pumping, irrigation, and alterations to site drainage.



### 4.3 Corrosion Testing

A sample collected from the upper 5 feet of the soil profile at Boring B-2 was tested to measure sulfate content, chloride content, redox potential, pH, resistivity, and presence of sulfides. Test results are included in Appendix B and are summarized on the following table.

**Table 1: Summary of Corrosion Test Results**

Soil Description	Sample Depth (feet)	Sulfate (mg/kg)	Chloride (mg/kg)	Redox (mV)	Resistivity (ohm-cm)	Sulfide	pH
Brown SILTY GRAVEL w/ SAND (B-2)	1 to 5	67	7	523	5,023	Negative	8.4

Water-soluble sulfate can affect the concrete mix design for concrete in contact with the ground, such as shallow foundations, piles, piers, and concrete slabs. Section 4.3.1 in American Concrete Institute (ACI) 318, as referenced by the CBC, provides the following evaluation criteria:

**Table 2: Sulfate Evaluation Criteria**

Sulfate Exposure	Water-Soluble Sulfate in Soil, Percentage by Weight or (mg/kg)	Sulfate in Water, ppm	Cement Type	Max. Water Cementitious Ratio by Weight	Min. Unconfined Compressive Strength, psi
Negligible	0.00-0.10 (0-1,000)	0-150	NA	NA	NA
Moderate	0.10-0.20 (1,000-2,000)	150-1,500	II, IP (MS), IS (MS)	0.50	4,000
Severe	0.20-2.00 (2,000-20,000)	1,500-10,000	V	0.45	4,500
Very Severe	Over 2.00 (20,000)	Over 10,000	V plus pozzolan	0.45	4,500

The water-soluble sulfate content was measured to be 67 mg/kg or 0.0067% by dry weight in surficial soil sample at B-2, suggesting the site soil should have negligible impact on buried concrete structures at the site. However, water-soluble sulfate concentrations can vary due to the addition of fertilizer, irrigation, and other possible development activities.

Table 4.4.1 in ACI 318 suggests use of mitigation measures to protect reinforcing steel from corrosion where chloride ion contents are above 0.06% by dry weight. The chloride content was measured to be 7 mg/kg or 0.0007% by dry weight in the surficial soil sample at B-2. Therefore,



the test results for chloride content do not suggest a corrosion hazard for mortar-coated steel and reinforced concrete structures due to high concentration of chloride.

In addition to sulfate and chloride contents described above, pH, oxidation reduction potential (Redox), and resistivity values were measured in the soil samples. For cast and ductile iron pipes, an evaluation was based on the 10-Point scaling method developed by the Cast Iron Pipe Research Association (CIPRA) and as detailed in Appendix A of the American Water Works Association (AWWA) publication C-105 and shown on Table 4.3.3.

**Table 3: Soil Test Evaluation Criteria (AWWA C-105)**

Soil Characteristics	Points	Soil Characteristics	Points
<b>Resistivity, ohm-cm, based on single probe or water-saturated soil box.</b>		<b>Redox Potential, mV</b>	
<700	10	>+100	0
700-1,000	8	+50 to +100	3.5
1,000-1,200	5	0 to 50	4
1,200-1,500	2	Negative	5
1,500-2,000	1	<b>Sulfides</b>	
>2,000	0	Positive	3.5
<b>PH</b>		Trace	2
0-2	5	Negative	0
2-4	3	<b>Moisture</b>	
4-6.5	0	Poor drainage, continuously	2
6.5-7.5	0	Fair drainage, generally moist	1
7.5-8.5	0	Good drainage, generally dry	0
>8.5	5		

When total points on the AWWA corrosivity scale are at least 10, the soil is classified as corrosive to cast and ductile iron pipe and use of cathodic corrosion protection is often recommended. Assuming fair site drainage, the tested soil sample had a total score of 1 point, indicating a **non-corrosive rating**.

These results are preliminary and provide information only on the specific soil sampled and tested. Other soil at the site may be more or less corrosive. Providing a complete assessment of the corrosion potential of the site soil is not within our scope of work. For specific long-term corrosion control design recommendations, we recommend that a California-registered professional corrosion engineer evaluate the corrosion potential of the soil environment on buried concrete structures, steel pipe coated with cement-mortar, and ferrous metals.



## 5 GEOLOGIC HAZARDS

### 5.1 Seismic Induced Hazards

Seismic hazards resulting from the effects of an earthquake generally include ground shaking, liquefaction, lateral spreading, dynamic settlement, fault ground rupture and creep, landsliding, dam inundation, and tsunamis and seiches. The site is not necessarily impacted by all of these potential seismic hazards. These potential seismic hazards are discussed and evaluated in the following sections in relation to the planned construction.

#### 5.1.1 Ground Shaking

The site will likely experience moderate to severe ground shaking from a major earthquake originating from a number of significant faults in the San Francisco Bay Area, including the Hayward, San Andreas, Calaveras, and Greenville faults. Earthquake intensities vary throughout the Bay Area depending upon the magnitude of the earthquake, the distance of the sites from the causative fault, the type of materials underlying the site and other factors.

In addition to shaking of structures, strong ground shaking can induce other related phenomena that may have an effect on structures, such as liquefaction or dynamic densification settlement; adjacent seismic slope failure, lurching or lateral spreading, and tsunami and seiche inundation.

#### 5.1.2 Liquefaction Induced Phenomena and Dynamic Settlement

The project site is mapped as being outside of a Seismic Hazard Zone (SHZ) for liquefaction based on the State of California, *Earthquake Zones of Required Investigation, Niles Quadrangle* (2004), where proposed projects located within such zones require site-specific evaluation of liquefaction potential for those projects subject to the requirements of the Seismic Hazards Mapping Act (SHMA) of 1990, including those under DSA and CGS review. The closest Liquefaction SHZ is that associated with Arroyo de la Laguna, the boundary of which is just to the east of the school. The site location relative to these zones is shown on Plate 9, *Seismic Hazard Zones Map*.

Research and historical data indicate that soil liquefaction generally occurs in saturated, loose granular soil (primarily fine to medium-grained, clean sand deposits) during or after strong seismic ground shaking and is typified by a loss of shear strength in the affected soil layer, thereby causing the soil to flow as a liquid. However, because of the higher inter-granular pressure of the soil at greater depths, the potential for liquefaction is generally limited to the upper 40 feet of the soil.



Potential hazards associated with soil liquefaction below or near a structure include loss of foundation support, lateral spreading, sand boils, and areal and differential settlement.

The soil encountered in the subsurface investigation below suspected perched water encountered at 18.5 feet depth at Boring B-2 consisted primarily of dense sands and gravel, underlain by hard clays from 23 feet to the depth of exploration (49 feet). No groundwater was encountered at this depth in Boring B-1, located about 175 feet west of B-2. As noted in Section 4.2, a true groundwater table was not interpreted to have been encountered. Therefore, we do not deem the site to be susceptible to significant liquefaction settlement.

Dynamic settlement is a process in which unsaturated, relatively clean sands and silts are densified by the vibratory motion of a strong seismic event or other vibratory loading.

Seismic settlement of silty and clayey sands encountered in Borings B-1 and B-2 (representative of the proposed new classroom building), as well as B-3 (representative of the existing main school building) above an assumed deep groundwater table were included in our quantitative analysis as described as follows. B-4 was not evaluated since the boring was terminated at relatively shallow depth.

For analysis purposes, the 2022 CBC specifies use of a Peak Ground Acceleration ( $PGA_M$  adjusted for Site Class per ASCE 7-16) as defined in the CBC, for liquefaction and other seismic analyses, or a  $PGA_M$  value generated from a site-specific seismic response analysis. This resulted in a PGA for use in our analysis of 1.114 g. A Mean Magnitude of 6.95 based on the return period of 2% in 50 years in the Unified Hazard Tool Deaggregation Report was used in the analysis. Depth to the groundwater table was assumed to be 80 feet for analysis purposes. Per SP117A (2008) guidelines, we also assumed a Factor-of-Safety (FS) of 1.3 would initiate liquefaction and dynamic settlement.

We utilized the software Liquefy Pro, developed by CivilTech Software to perform our dynamic settlement analysis for Borings B-1 through B-3. Liquefy Pro analyzes potential seismic settlement due to both liquefaction and dynamic settlement. Dynamic settlement was calculated for the soil profile above an assumed groundwater table depth of 50 feet, conservatively assuming the granular soils contained minor fines content or less (i.e., less than 12 percent).

The following table presents a summary of our analysis results. The calculation spreadsheet and graphic printout of our analysis are presented in Appendix C of this report.



**Table 4: Seismic Settlement Analysis Results Summary**

Boring No.	Calculated Liquefaction Settlement (inches)	Calculated Dynamic Compaction Settlement (inches)	Calculated Total Seismic Settlement (inches)
B-1	0	1.25	1.25
B-2	0	1.41	1.41
B-3	0	1.51	1.51

The analysis results indicate calculated seismically induced dynamic settlement at the project site ranging between about 1¼ and 1½ inches.

### 5.1.3 Lateral Spreading

Lateral spreading involves both vertical and lateral ground movement, with some vertical component, as a result of liquefaction. In addition to liquefaction, a free face or slope is necessary in most cases for lateral spreading to occur. Lateral spreading can occur on relatively flat sites with slopes less than 2 percent under certain circumstances and manifest itself at the ground surface in the form of cracking and settlement. Lateral spreading can occur in areas located within close proximity to an open face which are supported by underlying liquefiable soil under or close to the open face. Under a lateral spreading condition, soils which liquefy lose strength and the slope moves towards the open face. Any structures or improvements located within close proximity to the slope can also move and possibly be destabilized.

The site of the proposed new construction, which is located within about 30 feet of Sinbad Creek at its closest point to the north, would theoretically be susceptible to lateral spreading in the event liquefaction occurs within a continuous liquefiable layer below the water table and near or below the bottom of the creek channel. However, because the true groundwater table is likely relatively deep, and because the soil is for the most part sufficiently dense, it is our opinion that the potential for lateral spreading of the Sinbad Creek bank to an extent where the proposed project would be affected is likely low, although more intensive subsurface investigation and analysis of the area between the classroom building and the creek bank would be required to better quantify this potential.

### 5.1.4 Fault Ground Rupture and Fault Creep

The State of California adopted the Alquist-Priolo Earthquake Fault Zone Act of 1972 (Chapter 7.5, Division 2, Sections 2621 – 2630, California Public Resources Code), which regulates



development near active faults for the purpose of preventing surface fault rupture hazards to structures for human occupancy. In accordance with the Alquist-Priolo Act, the California Geological Survey established boundary zones or Earthquake Fault Zone surrounding faults or fault segments judged to be sufficiently active, well-defined, and mapped for some distance. Structures for human occupancy within designated Earthquake Fault Zone boundaries are not permitted unless surface fault rupture and fault creep hazards are adequately addressed in a site-specific evaluation of the development site.

The site is not currently within a designated Earthquake Fault Zone as defined by the State (Hart and Bryant, 1997), as shown on Plate 9. The closest mapped Earthquake Fault Zone to the site is associated with the Calaveras Fault, located about 2,000 feet northeast of the site. Since the site itself is not within or near an Earthquake Fault Zone, the potential for fault ground rupture and fault creep hazards are judged to be essentially nil.

#### **5.1.5 Tsunami and Seiche Inundation**

Tsunamis are long-period sea waves generated by seafloor movements from submarine earthquakes or volcanic eruptions that rapidly displace large volumes of water. Coastal communities along the Pacific Ocean are particularly susceptible to such phenomena. CGS and the California Governor's Office of Emergency Services publish tsunami inundation maps for tsunami-susceptible counties across the state, including Alameda County (CGS and OES, 2023), and an interactive map is also available on the CGS website. According to the tsunami inundation map, the closest tsunami inundation area lies about 8.3 miles southwest of the project site, near the Nimitz Freeway in Fremont. The project site is therefore not susceptible to tsunami inundation.

Earthquake-induced waves generated within enclosed bodies of water are called seiches. There are no enclosed bodies of water upstream of the project site. Therefore, the site is not considered to be susceptible to seiches.

#### **5.2 Other Hazards**

Potential geologic hazards other than those caused by a seismic event generally include consolidation settlement, expansive and collapsible soils, corrosive soils, landslides, flooding and dam inundation, and regional subsidence. Corrosive soils are discussed in Section 4.3. The other noted potential hazards are discussed and evaluated in the following sections.



### 5.2.1 Consolidation Settlement

Consolidation is the densification of soil into a denser arrangement from additional loading, such as new fills or foundations. Consolidation of clayey soils is usually a long-term process, whereby the water is squeezed out of the soil matrix with time. Sandy soils consolidate relatively rapidly with an introduction of a load. Consolidation of soft and loose soil layers and lenses can cause settlement of the ground surface or buildings. Since significantly compressible cohesive layers were not encountered at the site, consolidation settlement is not anticipated to be a factor in project design.

### 5.2.2 Expansive and Collapsible Soils

Expansive soil may impact the performance of foundations and site flatwork, as expansive soil pressures may develop that can manifest primarily as seasonal heaving and settlement effects. The subsurface soils encountered at this site during the field exploration program consisted of non-expansive sands and gravels. Therefore, expansive soils do not appear to be an issue at the project site.

Collapsible soils typically consist of loose fine sandy and silty soils that have been laid down by the action of flowing water, usually in alluvial fan deposits. Terrace deposits and fluvial deposits can also contain collapsible soil deposits. The soil particles are usually bound together with a mineral precipitate. The loose structure is maintained in the soil until a load is imposed on the soil and water is introduced. The water breaks down the inter-particle bonds and the newly imposed loading densifies the soil. In our opinion, the primarily medium dense to very dense gravelly soils are not susceptible to collapse.

### 5.2.3 Landsliding, Slope Stability and Creek Bank Retreat

Landslides can occur under a variety of loading conditions, including both static and seismic, but involve sloping ground. The site is sufficiently distant from the dissected highlands that border Sunol Valley and there is an abundance of substantial intervening cultural obstructions that make potential debris flow intrusion low (see Plate 6, *Geomorphic Map*, and Plate 10, *Landslide Map*).

Empirical evidence from the January 2023 flood (<https://www.ktvu.com/news/sunol-glen-school-needs-supplies-after-flooding-damages-campus>), published historical documentation (San Francisco Estuary Institute, 2013; Appendix D), comparative historical Google Imagery (see Plate 11, *Channel Evolution*, and Plate 12, *Aerial Drone Images 1 & 2*) indicate Arroyo de la Laguna is susceptible to recurrent significant erosion and flooding. Erosion of the reach bordering the site



has been associated with channel constriction from sedimentation in the channel and debris accumulation at the bridge crossing, and combined, opposing tributary contribution from Sinbad and Vallecito Creeks at the upstream corner of the site. Effectiveness of the riprap armor at the toe of the channel and the dense riparian vegetation fronting the site is unknown. It appears the shallow debris slide mapped at the top of bank is the result of uncontrolled surface runoff from the paved playground. We understand surface runoff was considerable in terms of contributing to site flooding.

#### 5.2.4 Flooding

According to a published Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) published in 2009 for Alameda County that covers the site, the northeastern half of the site vicinity including the proposed site of the new classroom building is mapped as within a Zone AE Regulatory Floodway with a 1% annual chance flood hazard (i.e., 100-year flood hazard zone) associated with Arroyo de la Laguna north and east of the site, as shown on Plate 13, *Flood Hazard Zones Map*. At the western margin of this regulatory floodway, another approximately 25% of the campus (including a portion of the existing main school building) is mapped as within Zone X, or areas with an 0.2% annual chance flood hazard i.e., 500-year flood hazard zone). These maps are also quoted by the County of Alameda Local Hazard Mitigation Plan as well as used by the Alameda County Flood Control and Water Conservation District.

According to a small-scale map included in the Alameda County Safety Element (2014), the project site is located within the theoretical dam inundation zone for both the James H. Turner Dam (San Antonio Reservoir) as well as the new Calaveras Dam (Calaveras Reservoir). Both of these dams, owned and operated by the City and County of San Francisco, are under regulatory jurisdiction of the California Division of Safety of Dams, and as such, the risk of catastrophic failure of either of these dams in our opinion is exceedingly low.

Ultimately, determination of the actual flood hazard potential for the project site is beyond our area of engineering expertise. However, given the site conditions previously described, in our opinion, the FEMA flood hazard designations do not accurately reflect the current site flood risk. Recent site flooding has shown the 1939-era State Highway 84 bridge crossing of Arroyo de la Laguna located immediately downstream of the school campus to be inappropriate for accommodating existing and future flood flow conditions due to insufficient bridge clearance and is a significant factor in our judgment of a future high future risk for site inundation if creek flow capacity issues are not mitigated at this offsite bridge. A site specific assessment of channel



erosion and flood mitigation, including surface drainage conditions of the campus grounds should be evaluated by a qualified civil engineer.

### **5.2.5 Regional Subsidence**

Withdrawal of groundwater and other fluids (i.e., petroleum and the extraction of natural gas) from beneath the surface has been linked to large-scale land subsidence and associated cracking on the ground surface. Other causes for ground cracking and subsidence include the oxidation and resultant compaction of peat beds, the decline of groundwater levels and consequent compaction of aquifers, hydro-compaction and subsequent settlement of alluvial deposits above the water table from irrigation, or a combination of any of these causes. None of these reasons appear to apply to the project site, so the site is not considered to be susceptible to regional subsidence.

### **5.2.6 Other Geologic Hazards**

Due to the site's location and geology, subsurface soil conditions, and land use factors, the site is not subject to the potential geologic hazards of hazardous gases (e.g., Radon-222 gas), naturally occurring asbestos (NOA), volcanism, cyclic softening of soils or loss of unique geologic features.

## **6 CONCLUSIONS AND RECOMMENDATIONS**

The following conclusions and recommendations are based upon the analysis of the information gathered during the course of this study and our understanding of the proposed improvements.

### **6.1 Conclusions**

The site is considered geotechnically suitable for the proposed improvements provided the recommendations of this report are incorporated into the design and implemented during construction. However, identified geohazards that may affect development of this site include the potential for flooding of the site, as well as a potential for creek bank erosion of adjacent Sinbad Creek that could extend into the area of the new Classroom Building. Project construction would be dependent on satisfactorily mitigating these geohazards as a part of the development.

The predominant geotechnical and geological issues that need to be addressed at this site are summarized below.



Seismic Ground Shaking – The study area is located within a seismically active region and structures should be designed to account for earthquake ground motions using the applicable building codes as described in Section 6.2.

Seismic Settlement – Dynamic compaction induced by design earthquake loading on the project was calculated to occur at the site. Potential maximum seismic settlement on the order of 1¼ to 1½ inches was calculated from analysis of the soils encountered in test borings B-1, B-2 and B-3. Such settlement was calculated to potentially occur cumulatively within the granular soil layers within the upper 24 feet. These potential settlements theoretically may occur across the site regardless of whether or not any proposed improvements are constructed. The calculated seismic settlements should be considered by the structural engineer in addition to estimated static settlements from new construction.

Onsite Cobbles and Gravels – The primarily medium dense to very dense nature of the underlying coarse gravels and cobbles underlying the site may make excavations and shoring for deep utilities more difficult. In addition, the near-surface soils contain an undetermined proportion of coarse cobbles that would need to be screened out for reuse of the onsite soils as engineered fill.

Onsite Flooding Hazard and Creek Bank Erosion – An onsite flooding hazard currently exists at this site, resulting from overtopping of adjacent Sinbad Creek, as evidenced by flooding that occurred during the New Year's Weekend at the beginning of 2023. The flooding was a result of a number of factors, including the exceedance of channel flow capacity in part due to apparent insufficient flow capacity below the Highway 84 bridge crossing of Alameda de la Laguna that needs to be addressed by Alameda County and Caltrans. Future flooding occurrences could also contribute to future creek bank erosion of the channels bordering the school campus. The project design team should account for current flooding hazard in design of the current project, evaluate local hydrology of the adjacent creeks if appropriate, and determine whether as well as what mitigation measures within the school property are warranted as part of this project. We anticipate that the development of the proposed Permanent Modular Classroom Building will be contingent on the mitigation of the flooding hazard present at the school site prior to final project approvals.

Winter Construction – If grading occurs in the winter rainy season, appropriate erosion control measures may be required. Winter rains may also impact foundation excavations and underground utilities.



Other potential geotechnical considerations, including those that should not significantly impact the project are explained below.

Utility Connections – As a general suggestion, where utility damage during a design seismic event may be an issue, the Structural Engineer should consider using utility connections at building perimeters designed for a minimum of 1 inch of potential movement in any direction where any critical utility (e.g., gas line) enters the building. This flexibility would help accommodate potential differential movement during a seismic event.

Groundwater – Groundwater at the site is anticipated to be sufficiently deep so as not be problematic with placement and/or construction of the anticipated structures and most utility trenches, except for occurrence of possible unanticipated perched groundwater in excavations due to local seasonal or surface seepage from irrigation or rainfall collected in trench backfills or other more granular subsurface soil pockets.

Expansive Soils – Near-surface soils at the site were found to be primarily granular, or clays of low expansion potential and as such, no special measures to accommodate construction within expansive soils are required for this project.

## **6.2 Seismic Design Parameters**

The proposed project should be designed to resist the seismic forces generated by earthquake shaking in accordance with the provisions of the 2022 CBC and local design practice.

The proposed project should be designed in accordance with local design practice to resist the lateral forces generated by ground shaking associated with a major earthquake occurring within the SF Bay Area of California. Based on the subsurface conditions encountered in the borings, our evaluation of the geology of the site, and extrapolating the site conditions to 100 feet, we judge Site Class C – Very Dense Soil and/or Soft Rock, is appropriate for the characterizing potential earthquake ground shaking conditions and seismic design considerations for the site, per ASCE/SEI 7-16 (Chapter 20). The geographic coordinates of the site improvements used for analysis were 37.5941 degrees north latitude and 121.8848 degrees west longitude.

The spectral acceleration parameters presented in the table below were obtained from the SEOC/OSHPD seismic hazard mapping web site based on the ASCE/SEI 7-16 Standard, as required by the 2022 CBC. Since the spectral response acceleration parameter at 1 second period



( $S_1$ ) is greater than 0.75 g, the Seismic Design Category for this site should be classified as “E” for Risk Categories I through III.

**Table 5: Seismic Coefficients Based on 2022 CBC (per ASCE 7-16)**

Item	Value	2022 CBC Source <sup>R1</sup>	ASCE 7-16 Table/Figure <sup>R2</sup>
Site Class	C	Table 1613.3.2	Table 20.3-1
<b>Mapped Spectral Response Accelerations</b>			
Short Period, $S_s$	2.228 g		Figure 22-1
1-second Period, $S_1$	0.827 g		Figure 22-2
Site Coefficient, $F_a$	1.2	Table 1613.3.3(1)	Table 11.4-1
Site Coefficient, $F_v$	1.4	Table 1613.3.3(2)	Table 11.4-2
MCE ( $S_{MS}$ )	2.673 g	Equation 16-37	Equation 11.4-1
MCE ( $S_{M1}$ )	1.158 g	Equation 16-38	Equation 11.4-2
<b>Design Spectral Response Acceleration</b>			
Short Period, $S_{DS}$	1.782 g	Equation 16-39	Equation 11.4-3
1-second Period, $S_{D1}$	0.772 g	Equation 16-40	Equation 11.4-4
<b>Peak Ground Acceleration, <math>PGA_M</math></b>	1.114 g		Equation 11.8-1

R1 California Building Standards Commission (CBSC), “California Building Code,” 2022 Edition.

R2 U.S. Seismic “Design Maps” Web Application, <https://geohazards.usgs.gov/secure/designmaps/us/application.php>

R3  $F_v$  value shall be used only for calculation of  $T_s$ .

## 6.3 Site Preparation and Grading

Site grading should be performed in accordance with these recommendations. During the standard pre-construction conference held at the jobsite with representatives from the owner, general contractor, grading contractor, and the geotechnical engineer prior to starting the clearing operations at the site, geotechnical considerations affecting grading operations should be included as part of the standard meeting agenda. Following demolition of the existing pavement section (where needed), site grading for the proposed new classroom building is generally anticipated to consist of minor cuts and fills as needed to construct the new building pad and to establish drainage grades for surrounding pavement, flatwork and other site features, and utility trench excavation and backfills, as applicable.

### 6.3.1 Site Preparation

Where needed, the applicable portions of the site should be cleared of vegetation, organic topsoil, debris, and other deleterious materials within the proposed development area.

Buried objects and debris if encountered should be removed from the site. The resulting excavations should be backfilled with properly compacted fill or other material approved by the



Geotechnical Engineer. Soil from excavation areas can be stockpiled and utilized for general fill at the site if the material meets the requirements of backfill materials.

Existing underground utilities to be abandoned at the site, if any, should be properly grouted closed, or removed as needed. If the utilities are removed, the excavations should be backfilled with properly compacted fill or other material approved by the Geotechnical Engineer.

### 6.3.2 Engineered Fill Materials and Placement

The geotechnical engineer should receive samples of and approve all proposed import fill materials prior to use on site. Proposed import soil for use during mass grading or as engineered fill should be at least of comparable quality as the existing onsite soils (i.e., should be non-expansive soil), and in any case shall be approved by the Geotechnical Engineer prior to use on the project. Soil proposed for use as engineered fill should meet the requirements as established in Table 6 below.

**Table 6: Non-Expansive Engineered Fill Requirements**

Fill Requirement		Test Procedures	
Gradation		ASTM <sup>1</sup>	Caltrans <sup>2</sup>
Sieve Size	Percent Passing		
6 inch <sup>3</sup>	100	C136	202
¾ inch	70-100	C136	202
No. 4	50-100	C136	202
No. 200	5-12	C136	202
Plasticity			
Liquid Limit	Plasticity Index		
<30	<15	D4318	204
Organic Content			
Less than 3%	---	D2974	---
Expansion Index			
Less than 20	---	D4829	---
Corrosion Potential			
Soluble Sulfates	<1000 ppm	---	417
Soluble Chlorides	<200 ppm	---	422
Minimum Resistivity	>1000 ohm-cm	---	643

In general, on-site soils free of debris, having an organic content of less than 3 percent by weight and meeting the size requirements for import fill can be reused as engineered fill material as approved by the Geotechnical Engineer. If locally encountered onsite, reuse of highly expansive (i.e., Plasticity Index of 25 or greater) onsite soils as structural engineered fill may be restricted or not otherwise allowed by the Geotechnical Engineer.



Following any needed excavation to the required grades, subgrades in areas to receive engineered fill, as well as for slabs-on-grade or flatwork should be scarified to a depth of at least 8 inches, moisture conditioned, and compacted to the requirements for engineered fill presented in Section 6.3.3. New engineered fill should be moisture conditioned and thoroughly mixed during placement to provide uniformity in each layer. In order to achieve satisfactory compaction of the subgrade and engineered fill materials, it may be necessary to adjust the water content at the time of construction. This may require that water be added to soils that are too dry, or that scarification and aeration be performed in any soils that are too wet.

The fill material should be evenly spread and compacted in relatively uniform lifts not exceeding 8 inches in pre-compacted (i.e., loose lift) thickness. Smaller lifts may be necessary to achieve the minimum required compaction using lighter weight compaction equipment. Moisture conditioning may be more difficult to achieve during cold, wet periods of the year, or during extreme temperatures and after precipitation events. The final compacted surface should be firm and unyielding and should be protected from damage caused by traffic or weather. Soil subgrades should be kept moist during construction, especially areas where high plasticity clays are present and exposed.

In areas where space limitations preclude performing mechanical compaction, a flowable sand-cement slurry or other approved Controlled Density Fill (CDF; also known as Controlled Low Strength Material, or CLSM) may be used in place of soil. Required compressive strength of CLSM would depend on whether future excavations would be required. In general, excavatable CLSM should have a 28-day unconfined compressive strength on the order of 50 to 150 pounds per square inch (psi). CLSM may also be used as over-excavation backfill below footing excavations as well as for over-excavated winterized footing excavations for bottom protection prior to concrete pour (i.e., rat slabs).

### **6.3.3 Project Compaction Recommendations**

Table 7 provides the recommended compaction and moisture conditioning requirements for this project. Not all soils, aggregates and scenarios listed below may be applicable for this project. Specific grading recommendations are discussed individually within applicable sections of this report.



**Table 7: Project Compaction Requirements**

Description	Min. Percent Relative Compaction (per ASTM D1557)	Recommended Minimum Percent Above (or Below) Optimum Moisture Content
Fill Areas, Engineered Fill, Onsite Soil	90	2
Fill Areas, Engineered Fill, Import Fill	90	2
Concrete Flatwork, Subgrade Soil	90	3
Concrete Flatwork, Baserock	90	± 2
Landscape Areas	85	3
Underground Utility Backfill	90	2
Underground Utility Trench Backfill, Upper 3' Feet below Existing Pavement Sections (where applicable)	95	± 2
Underground Utility Trench Backfill - Landscape Areas (not including areas below flatwork)	85	2

#### 6.3.4 Building Pad Construction

The at-grade building pad should be underlain by a leveling course consisting of a minimum 12-inch-thick layer of engineered fill meeting the size requirements of engineered fill, such as baserock. After any over-excavation required to reach bottom of engineered fill subgrade, the over-excavation surface should be scarified to a depth of at least 8 inches, moisture conditioned as needed, and compacted to the project compaction requirements listed on Table 7 as determined based on ASTM D1557 (Modified Proctor). Cobbles, if encountered to a significant extent to affect the scarification and compaction process, may require removal, as assessed by the geotechnical engineer during construction. If required as part of attaining the specified pad subgrade below the engineered fill layer thickness, onsite soils meeting the fill requirements indicated in Section 6.3.2 may be reused as structural fill within the limits of the building pad.

New fill should be moisture conditioned and thoroughly mixed during placement to provide uniformity in each layer. Fill should be placed in accordance with the recommendations presented in Section 6.3.2. The completed pad surface should be firm and unyielding and should be protected from damage caused by traffic or weather. Soil subgrades should be kept moist during construction.



### **6.3.5 Grading Pavement and Flatwork Areas**

Pavement and flatwork areas at design subgrade elevation after cut, or subgrades to receive engineered fill should be scarified to a depth of 8 inches below existing grade or final subgrade, whichever is lower, moisture conditioned and compacted per Section 6.3.3. Where unsuitable supporting subgrade soils such as described in Section 6.3.1 are encountered, such materials shall be over-excavated to the satisfaction of the geotechnical engineer and backfilled with engineered fill. Where required, engineered fill should be placed and compacted to reach design subgrade elevation per Section 6.3.3.

Rubber-tired heavy equipment, such as a full water truck, should be used to proof load exposed subgrade areas where pumping is suspected. Proof loading will determine if the subgrade soil is capable of supporting construction equipment without excessive pumping or rutting. Additional recommendations for flatwork subgrade preparation are presented in Section 6.8, *Exterior Concrete Flatwork*. Stable subgrades under proof loading are required before placement of pavement section baserock and surface course (i.e., asphalt pavement or Portland cement concrete). Where pavement subgrades are shown to be unstable under proof loading, depending on the construction schedule, potential remedial measures include scarifying, drying and re-compaction of the subgrade soils; excavation and removal of unstable, saturated subgrade soils to firm and unyielding underlying soil, and backfilling with engineered fill; or the remedial measures discussed in Section 6.3.6, *Site Winterization and Unstable Subgrade Conditions*.

### **6.3.6 Site Winterization and Unstable Subgrade Conditions**

If grading occurs during the winter rainy season, unstable and unworkable subgrade conditions may be locally present in portions of the site containing a higher silt content, which tends to separate from the granular soils when disturbed (i.e. via construction traffic), and compaction of onsite soils may not be feasible. In such cases, these conditions may be remedied at this site using soil admixtures, such as cement or lime-cement. A 4 percent mixture of cement or lime-cement based on a dry soil unit weight of 115 pcf is recommended for planning purposes. Treatment may vary between 12 to 18 inches, depending on the severity of the instability and the anticipated construction equipment loads. More detailed and final recommendations can be provided during construction if needed.

Stabilizing subgrade in small, isolated areas can generally be accomplished with the approval of the Geotechnical Engineer by over-excavating 1 foot, placing Tensar TriAx TX-140 or equivalent geogrid on the soil, and then placing 12 inches of Class 2 baserock on the geogrid. Alternatively,



a woven stabilization geotextile such as Mirafi RS580i may be placed on the over-excavated surface, and the over-excavation then backfilled with baserock. The upper 6 inches of the baserock in either case should be compacted to at least 90 percent relative compaction (95 percent in pavement areas).

### **6.3.7 Site Drainage**

Final grading should be designed to provide drainage away from the new building. Exposed soil areas within 10 feet of the proposed structure or as applicable from the site conditions should slope at a minimum of 5% away from the building. Adjacent concrete flatwork, if applicable, should slope a minimum 2% away from the building. Roof leaders and downspouts should generally not discharge into landscape areas adjacent to the building and should discharge onto paved surfaces sloping away from the building or into a closed pipe system channeled away from the building to an approved collector or outfall.

## **6.4 Utility Trench Construction**

### **6.4.1 Trench Backfilling**

Utility trenches may be backfilled with onsite approved soil above the utility bedding and shading materials. If rocks, cobbles, or concrete larger than 4 inches in maximum size are encountered, they should be removed from the fill material prior to placement in the utility trenches. Utility bedding and shading compaction requirements should be in conformance with the requirements of the local agencies having jurisdiction and as recommended by the pipe manufacturers. Jetting of trench backfill is not recommended.

If rain is expected and the trench will remain open, the bottom of the trench may be lined with 1 to 2 inches of gravel. This would provide a working surface in the trench bottom. The trench bottom may have to be sloped to a low point to pump the water out of the trench.

### **6.4.2 Utility Penetrations at Building Perimeter**

As a general suggestion, flexible connections at building perimeters may be desired for critical utility lines passing through perimeter foundations. This would provide flexibility during a seismic event. This could be provided by special flexible connections, pipe sleeving with appropriate waterproofing, or other methods.



### 6.4.3 Pipe Bedding and Shading

Pipe bedding material is placed in the utility trench bottom to provide a uniform surface, a cushion, and protection for the utility pipe. Shading material is placed around the utility pipe after installation and testing to protect the pipe. Bedding and shading material and placement are typically specified by the pipe manufacturer, agency, or project designer. Agency and pipe manufacturer recommendations may supersede our suggestions. These suggestions are intended as guidelines and our opinions based on our experience to provide the most cost-effective method for protecting the utility pipe and surrounding structures. Other geotechnical engineers, agency personnel, contractors, and civil engineers may have different opinions regarding this matter.

**Bedding and Shading Material** - The bedding and shading material should be the same material to simplify construction. The material should be clean, uniformly graded, fine to medium grained sand. It is suggested that bedding and shading material contain less than 3 percent fines with 100 percent passing the No. 8 sieve. Coarse sand, angular gravel or baserock should be avoided since this type of shading material may bridge when backfilling around the pipe, possibly creating voids, and may be too stiff as bedding material. Open graded gravel should be avoided for shading since this material contains voids, and the surrounding soil could wash into the voids, potentially causing future ground settlement. However, open graded gravel may be required for bedding material when water is entering the trench. This would provide a stable working surface and a drainage path to a sump pit in the trench for water in the trench. The maximum size for bedding material should be limited to about  $\frac{3}{4}$  inch.

**Bedding Material Placement** - The thickness of the bedding material should be minimized to reduce the amount of trench excavation, soil export, and imported bedding material. Two to 3 inches for pipes less than 8 inches in diameter and about 4 to 6 inches for larger pipes are suggested. Bedding for very large diameter pipes is typically controlled by the pipe manufacturer. Compaction is not required for thin layers of bedding material. The pipe needs to be able to set into the bedding and walking on a thin layer of bedding material should sufficiently compact the sand. Rounded gravel may be unstable during construction, but once the pipe and shading material is in place, the rounded gravel will be confined and stable.

**Shading Material Placement** – Jetting is not recommended since the type of shading material is unknown when preparing the geotechnical report and agencies typically do not permit jetting. If the sand contains fines or if the sand is well graded, jetting will not work. Additionally, if too much water is used during jetting, this could create a wet and unstable condition. The shading material



should be able to flow around and under the utility pipe during placement. Some compaction effort along the sides of the pipe should be made by the contractor to consolidate the shading material around the pipe. A minimum thickness of about 6 inches of shading material should be placed over the pipe to protect the pipe from compaction of the soil above the shading material. The contractor should provide some compaction effort to densify the shading material above the pipe. Relative compaction testing is not usually performed on the shading material. However, the contractor is ultimately responsible for the integrity of the utility pipe.

## **6.5 Temporary Excavation Slopes and Shoring**

Should any temporary excavation slopes be required during construction, the Contractor should incorporate all appropriate requirements of OSHA/ Cal OSHA into the design of any temporary construction slopes used during construction. Excavation safety regulations are provided in the OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926, Subpart P, and apply to excavations greater than 5 feet in depth.

The Contractor, or his specialty subcontractor, should design temporary construction slopes to conform to the OSHA regulations and should determine actual temporary slope inclinations based on the subsurface conditions exposed at the time of construction. For pre-construction planning purposes, the subsurface materials in the areas of the site where excavation may take place may be assumed to consist of a granular sand and gravel mix categorized as OSHA Type C with temporary slope inclination of no steeper than 1.5:1 (horizontal to vertical). This maximum slope ratio is assumed to be uniform from top to toe of the slope. The type of slope material and actual temporary construction slopes should be confirmed or adjusted during construction by a person who is trained as a “competent person” as designated by OSHA and directly responsible to the grading contractor.

If temporary slopes are left open for extended periods of time, exposure to weather and rain could have detrimental effects such as sloughing and erosion on surficial soils exposed in the excavations. We recommend that all vehicles and other surcharge loads be kept at least 10 feet away from the top of temporary slopes, and that such temporary slopes are protected from excessive drying or saturation during construction. In addition, adequate provisions should be made to prevent water from ponding on top of the slope and from flowing over the slope face. Desiccation or excessive moisture in the excavation could reduce stability and require shoring or laying back side slopes.



## 6.6 Foundation Recommendations

### 6.6.1 Shallow Foundations

The proposed new classroom building can be supported on conventional continuous and isolated spread footings bearing on undisturbed native material and/or properly placed and compacted fill. New seismic retrofit footings for the existing main school building should meet the minimum requirements described below.

All footings should extend a minimum of 18 inches below lowest adjacent finished grade subgrade elevation (i.e., interior pad subgrade or exterior grade below loose landscape fills if any, whichever is lower). Continuous footings should have a minimum width of at least 18 inches, and isolated column footings should have a minimum width of at least 24 inches. In addition, footings located adjacent to other footings or utility trenches should bear below an imaginary 1.5:1 (horizontal to vertical) plane projected upward from the bottom edge of the adjacent footings or utility trenches. Footing reinforcement should be determined by the project Structural Engineer.

Footings may be designed for the following allowable bearing pressures, assuming design Factors-of-Safety of 3.0, 2.0 and 1.5 for dead loads, dead plus live loads and total loads, respectively, from the calculated ultimate bearing pressure. Table 8 should be used for design of the footing system for the proposed new classroom building, while Table 9 should be used for design of new footings for the existing main school building.

**Table 8: Allowable Bearing Pressures for Spread Footings (New Classroom Building)**

Load Condition	Allowable Net Bearing Pressure (psf)
Dead Load	3,000
Dead plus Live Loads	4,500
Total Loads (including wind or seismic)	6,000

**Table 9: Allowable Bearing Pressures for New Footings (Existing Main School Building)**

Load Condition	Allowable Net Bearing Pressure (psf)
Dead Load	2,000
Dead plus Live Loads	3,000
Total Loads (including wind or seismic)	4,000

If Allowable Stress Design (ASD) is used by the structural engineer, the allowable bearing pressure for all loads (including seismic) shall be limited to the recommended ultimate bearing



capacity (i.e., 9,000 psf for the new classroom building, and 6,000 psf for the existing main school building) divided by the applicable overstrength factor.

If site preparation and foundation observation services are conducted as outlined in the Geotechnical Study report, static vertical settlement is expected to be less than ½ inch for footings bearing within the materials described in the report and designed to the allowable bearing pressures. Static settlements should be expected to occur relatively rapidly as the loads are applied. Additional seismic site settlement estimated to be as high as on the order of 1½ inches could also occur due to a design seismic event, as discussed in Section 6.1. Differential settlement across the structure resulting from a design seismic event is not expected to exceed about 1 inch across a 70-foot span.

Atlas personnel should be retained to observe and confirm that footing excavations prior to formwork and reinforcing steel placement bear in engineered fill soils suitable for the recommended maximum design bearing pressure. If unsuitable bottom soil such as undocumented fill is present, the excavation should be deepened until suitable supporting material is encountered. The over excavation should be backfilled using engineered soil or lean concrete (or a sand-cement slurry mix acceptable to the Geotechnical Engineer) up to the bottom of the footing concrete.

Footing excavations should have firm bottoms and be free from excessive slough prior to concrete or reinforcing steel placement. Care should also be taken to prevent excessive wetting or drying of the bearing materials during construction. Extremely wet or dry or any loose or disturbed material in the bottom of the footing excavations should be removed prior to placing concrete. If construction occurs during the winter months, a thin layer of concrete (sometimes referred to as a rat slab) could be placed at the bottom of the footing excavations. This will protect the bearing soil and facilitate removal of water and slough if rainwater fills the excavations.

### **6.6.2 Lateral Resistance**

Shallow footing foundations can resist lateral loads with a combination of bottom friction and passive resistance. An allowable coefficient of friction of 0.40 between the base of the foundation elements and underlying material is recommended. In addition, an *ultimate* passive resistance equal to an equivalent fluid weighing 500 pounds per cubic foot (pcf) acting against the foundation may be used for lateral load resistance against the sides of footings perpendicular to the direction



of loading where the footing is poured neat against undisturbed material. The top foot of passive resistance at foundations not adjacent to pavement or flatwork should be neglected.

In order to fully mobilize this passive resistance, a lateral footing deflection on the order of 1 to 2 percent of the embedment of the footing is required. If it is desired to limit the amount of lateral deflection to mobilize the passive resistance, a proportional safety factor should be applied. Alternatively, ultimate passive resistance may be reduced by one-third for an allowable value ( $SF = 1.5$ ) or in accordance with pertinent code. The two modes of resistance should not be added unless the frictional component is reduced by 50 percent, since full mobilization of the passive resistance requires some horizontal movement, which significantly diminishes the frictional resistance. The friction between the bottom of a slab-on-grade floor and the underlying soil should not be utilized to resist lateral forces.

### **6.6.3 Foundation Underpinning**

If any of the existing foundations for the main school building are determined to require replacement, or if below-grade excavations are anticipated adjacent to the existing foundations, underpinning of such foundations may be required. In general, underpinning should extend at least to a depth below the bottom of the adjacent excavation. Other types of underpinning foundations such as micropiles may be feasible if desired, and such systems are usually designed by specialty contractors. Specific geotechnical design parameters not included herein may be provided where desired by the specialty underpinning designer.

We recommend that the geotechnical and structural engineers review any underpinning plans to confirm compliance with the anticipated soil conditions encountered at the site. In addition, we recommend that the geotechnical engineer's representative observe the installation of the underpinning.

## **6.7 Concrete Slabs-on-Grade**

### **6.7.1 Concrete Floor Slabs**

In the event an at-grade interior floor slab is used instead of a structurally supported floor above a crawl space, the slab should generally be a minimum of 5 inches thick and should be reinforced in accordance with the structural engineer's design requirements, but as a minimum should consist of at least No. 4 steel reinforcement spaced at 18-inch centers both ways. In addition, concrete floor slabs should be underlain by a minimum 8-inch thickness of aggregate base in order to provide a uniform, level base for slab construction.



Slab-on-grade concrete floors with moisture sensitive floor coverings may require protection from moisture transmission through the slab from the underlying subgrade soils. Geotechnical engineers are not experts in the protection of floor coverings from underslab moisture, and if of significant importance, an expert in concrete slab construction familiar with moisture transmission issues through concrete slabs should be consulted for specific slab moisture protection design. However, we provide the following general discussion on typical types of moisture protection used in local construction.

Primary protection from moisture transmission through floor concrete is typically provided by a moisture retarder consisting of a relatively impermeable vapor retarder placed between the subgrade soil and the bottom of the concrete slab. A capillary break consisting of at least 4 inches of free-draining gravel, such as  $\frac{3}{4}$ -inch, clean, crushed, uniformly graded gravel with less than 3 percent passing No. 200 sieve, or equivalent, has also been used by designers below the vapor retarder. The vapor retarder should be at least 10-mil thick and should conform to the requirements for ASTM E 1745 Class C Underslab Vapor Retarders (e.g., Griffolyn Type 65, Griffolyn Vapor Guard, Moistop Ultra C, or equivalent). If additional protection is desired by the owner, a higher quality vapor barrier conforming to the requirements of ASTM E 1745 Class A, and with a water vapor transmission rate less than or equal to 0.006 gr/ft<sup>2</sup>/hr (i.e., 0.012 perms) per ASTM E 96 (e.g., 15-mil thick "Stego Wrap Class A"), or to Class B (Griffolyn Type 85, Moistop Ultra B, or equivalent) may be used in place of a Class C retarder.

The vapor retarder or barrier should be placed directly under the slab. A sand layer is not required over the vapor retarder from a geotechnical standpoint. If sand on top of the vapor retarder is required by the design structural engineer, we suggest the thickness be minimized to less than 1 inch. If construction occurs in the winter months, water may pond within the sand layer since the vapor retarder may prevent the vertical percolation of rainwater.

ASTM E1643 should be utilized as a guideline for the installation of the vapor retarder. During construction, all penetrations (e.g., pipes and conduits,) overlap seams, and punctures should be completely sealed using a waterproof tape or mastic applied in accordance with the vapor retarder manufacturer's specifications. The vapor retarder or barrier should extend to the perimeter cutoff grade beam or footing.



## **6.8 Exterior Concrete Flatwork (Non-Vehicular)**

Any new exterior concrete flatwork intended for pedestrian traffic should be at least 4-inches-thick and supported on either compacted native subgrade or a baserock layer constructed in accordance with the applicable recommendations presented in Sections 6.3.2, 6.3.3, and 6.3.5.

Control joints should be constructed in accordance with ACI 224 "Control of Cracking in Concrete Structures". In general, for typical flatwork, joints would be required every 24 to 36 times the concrete thickness.

## **6.9 Plan Review**

We recommend that Atlas be provided the opportunity to review the final project plans prior to construction. The purpose of this review is to assess the general compliance of the plans with the recommendations provided in this report and confirm the incorporation of these recommendations into the project plans and specifications.

## **6.10 Observation and Testing During Construction**

We recommend that Atlas be retained to provide observation and testing services during site preparation, mass and finish grading, underground utility construction, foundation excavation, and to observe final site drainage. This is to observe compliance with the design concepts, specifications and recommendations, and to allow for possible changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

## **6.11 Validity of Report**

This report is valid for three years after publication. If construction begins after this time period, Atlas should be contacted to confirm that the site conditions have not changed significantly. If the proposed development differs considerably from that described above, Atlas should be notified to determine if additional recommendations are required. Additionally, if Atlas is not involved during the geotechnical aspects of construction, this report may become wholly or in part invalid since Atlas' geotechnical personnel need to verify that the subsurface conditions anticipated preparing this report are similar to the subsurface conditions revealed during construction. Atlas' involvement should include foundation and grading plan review; observation of foundation excavations; grading observation and testing; testing of utility trench backfills as applicable to the project; and subgrade preparation in flatwork areas.





## 7 LIMITATIONS AND UNIFORMITY OF CONDITIONS

The recommendations of this report are based upon the soil and conditions encountered in the borings. If variations or undesirable conditions are encountered during construction, Atlas should be contacted so that supplemental recommendations may be provided.

This report is issued with the understanding that it is the responsibility of the owner or his representatives to see that the information and recommendations contained herein are called to the attention of the other members of the design team and incorporated into the plans and specifications, and that the necessary steps are taken to see that the recommendations are implemented during construction.

The findings and recommendations presented in this report are valid as of the present time for the development as currently proposed. However, changes in the conditions of the property or adjacent properties may occur with the passage of time, whether by natural processes or the acts of other persons. In addition, changes in applicable or appropriate standards may occur through legislation or the broadening of knowledge. Accordingly, the findings and recommendations presented in this report may be invalidated, wholly or in part, by changes outside our control. Therefore, this report is subject to review by Atlas after a period of three (3) years has elapsed from the date of issuance of this report. In addition, if the currently proposed design scheme as noted in this report is altered Atlas should be provided the opportunity to review the changed design and provide supplemental recommendations as needed.

Recommendations are presented in this report which specifically request that Atlas be provided the opportunity to review the project plans prior to construction and that we be retained to provide observation and testing services during construction. The validity of the recommendations of this report assumes that Atlas will be retained to provide these services.

This report was prepared upon your request for our services, and in accordance with currently accepted geotechnical engineering practice. No warranty based on the contents of this report is intended, and none shall be inferred from the statements or opinions expressed herein.

The scope of our services for this report did not include an environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater or air, on, below or around this site. Any statements within this report





or on the attached Plates, logs or records regarding odors noted or other items or conditions observed are for the information of our client only.



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Youd, T.L., and Hoose, S.N., 1978, Historic ground failures in northern California triggered by earthquakes: U.S. Geological Survey Professional Paper 993, 177 p., 5 pls. in pocket.

Youd, T.L., Idriss, I.M., Andrus, R.D., Arango, I., Castro, G., Christian, J.T., Dobry, R., Finn, W.D.L., Harder, L.F. Jr., Hynes, M.E., Ishihara, K., Koester, J.P., Liao, S.S.C., Marcuson, W.F. III, Martin, G.R., Mitchell, J.K., Moriwaki, Y., Power, M.S., Robertson, P.K., Seed, R.B., and Stokoe, K.H. II, 2001, Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils: ASCE Journal of Geotechnical and Environmental Engineering, Vol. 127, No. 10, October 2001, p. 817-833.

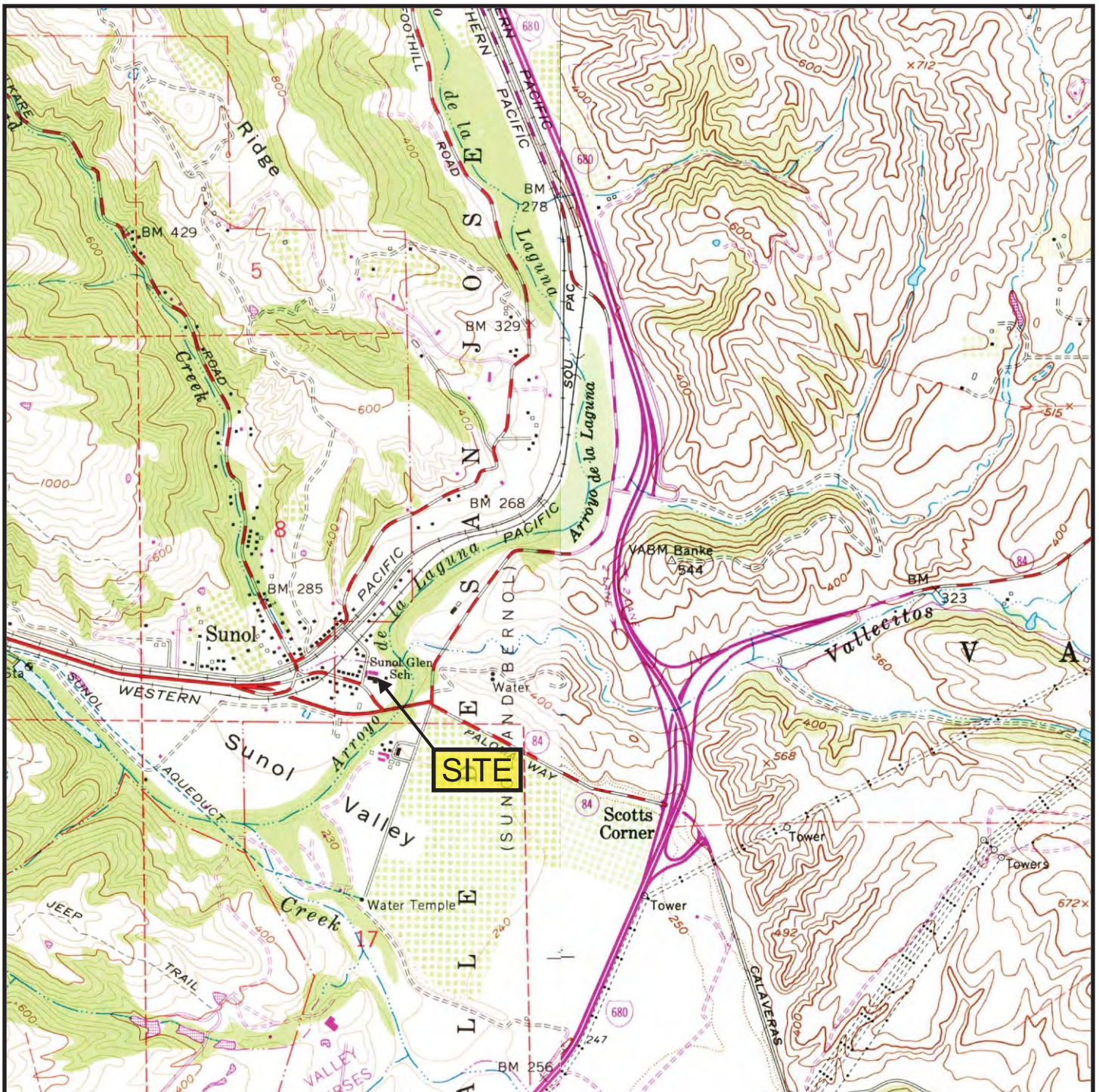
*Publications may have been used as general reference and not specifically cited in the report text.*



## **PLATES**

- Plate 1 – Vicinity Map
- Plate 2 – Site Plan
- Plate 3 – Exploration Plan
- Plate 4 – Regional Geologic Map
- Plate 5 – Areal Geologic Map
- Plate 6 – Geomorphic Map
- Plate 7 – Regional Fault Map
- Plate 8 - Cross Section A-A'-A"
- Plate 9 - Seismic Hazard Zones Map
- Plate 10 - Landslide Map
- Plate 11 - Channel Evolution
- Plate 12 - Aerial Drone Images 1 & 2
- Plate 13 - Flood Hazard Zones Map





Niles Quadrangle (1961)

La Costa Valley Quadrangle (1960)



2000 ft.

Scale

Contour interval = 40'



Job No.: 91-66064-PW

Approved: NAA

Date: 9.19.2023

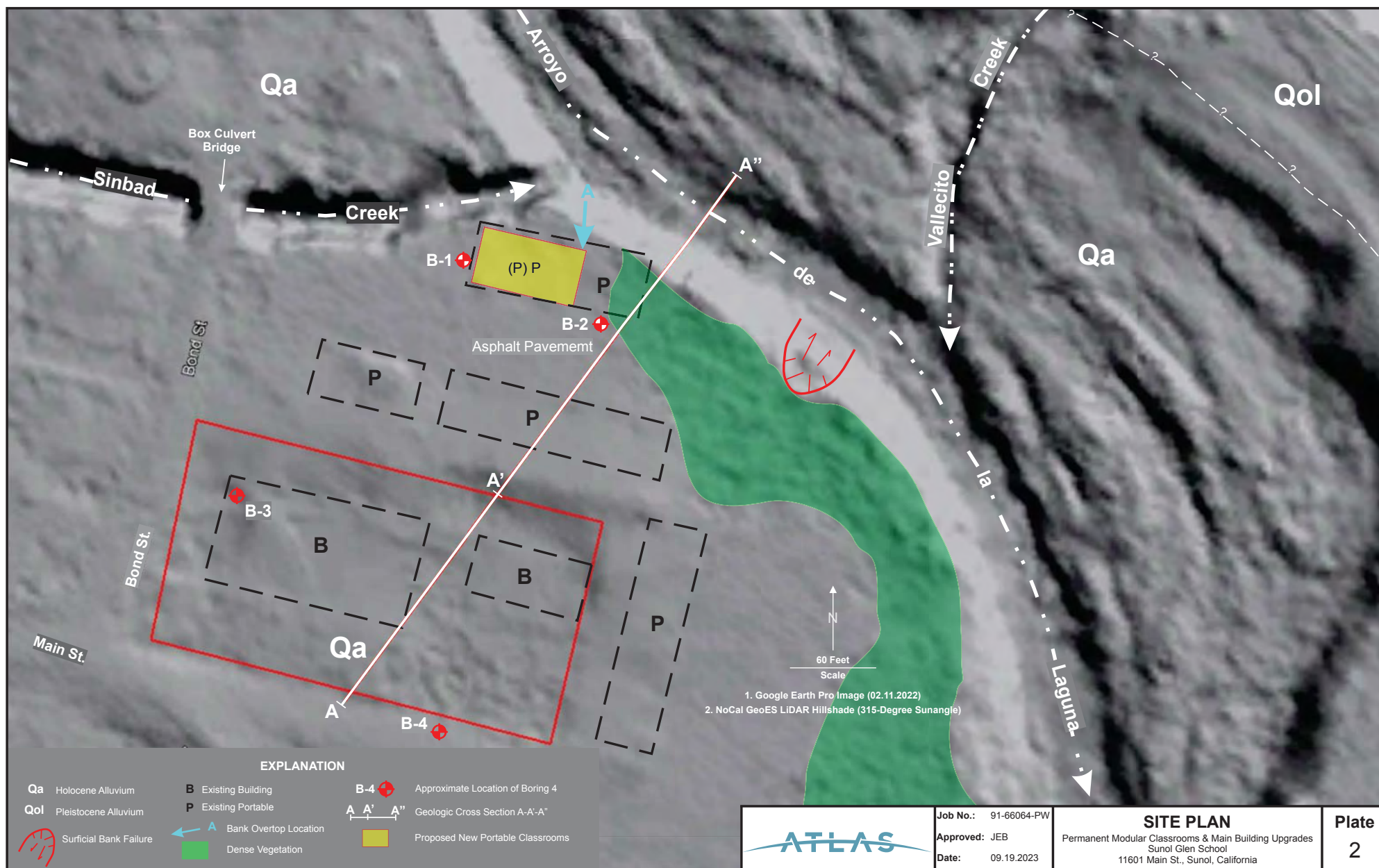
## VICINITY MAP

Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

Plate


1

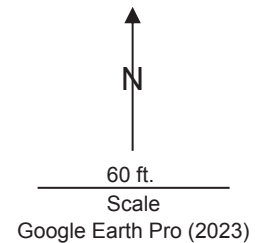








 - Approximate Boring Location



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 Date: 09.19.2023

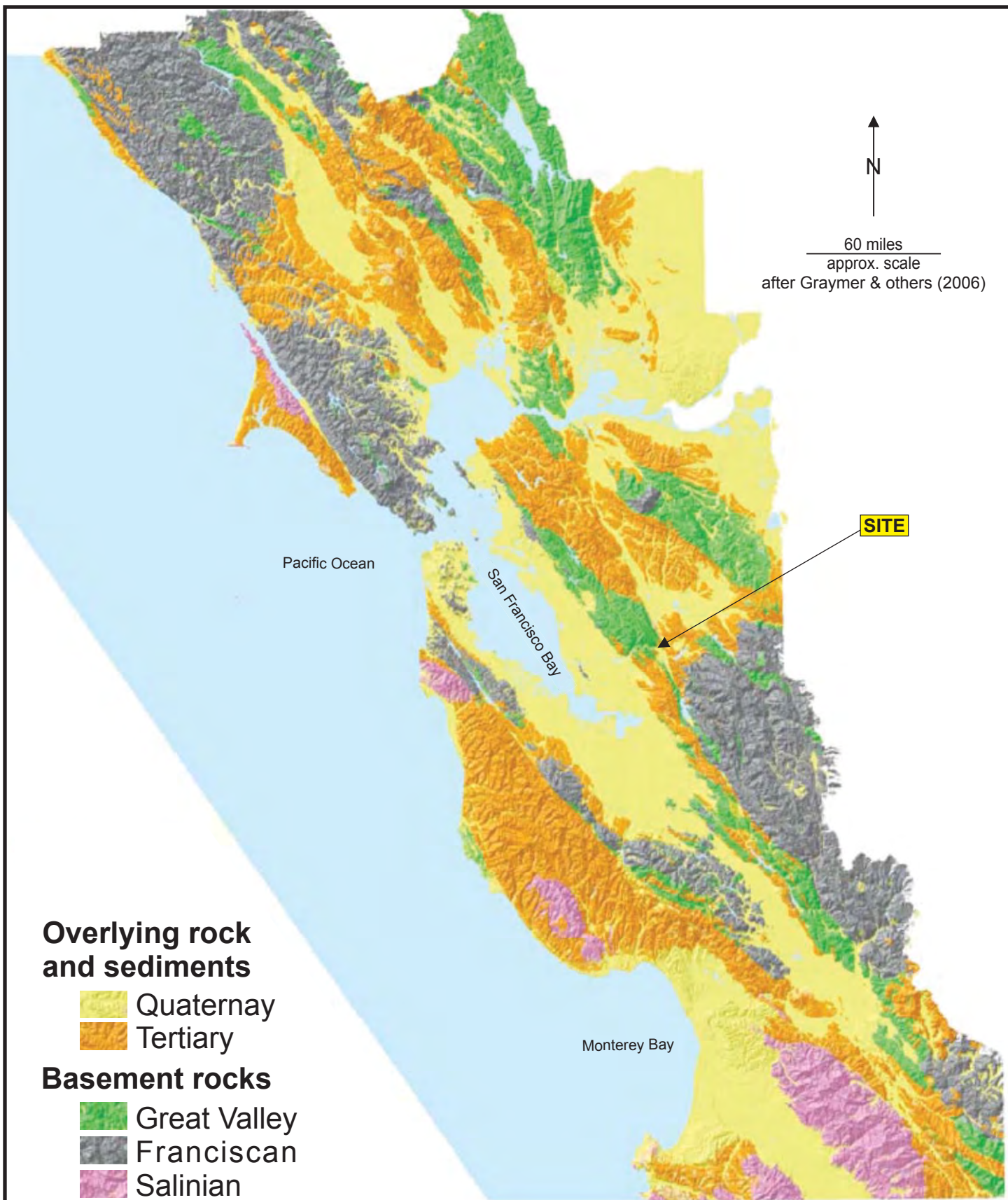
## EXPLORATION PLAN


Permanent Modular Classrooms & Main Building Upgrades  
 Sunol Glen School  
 11601 Main St., Sunol, California

Plate

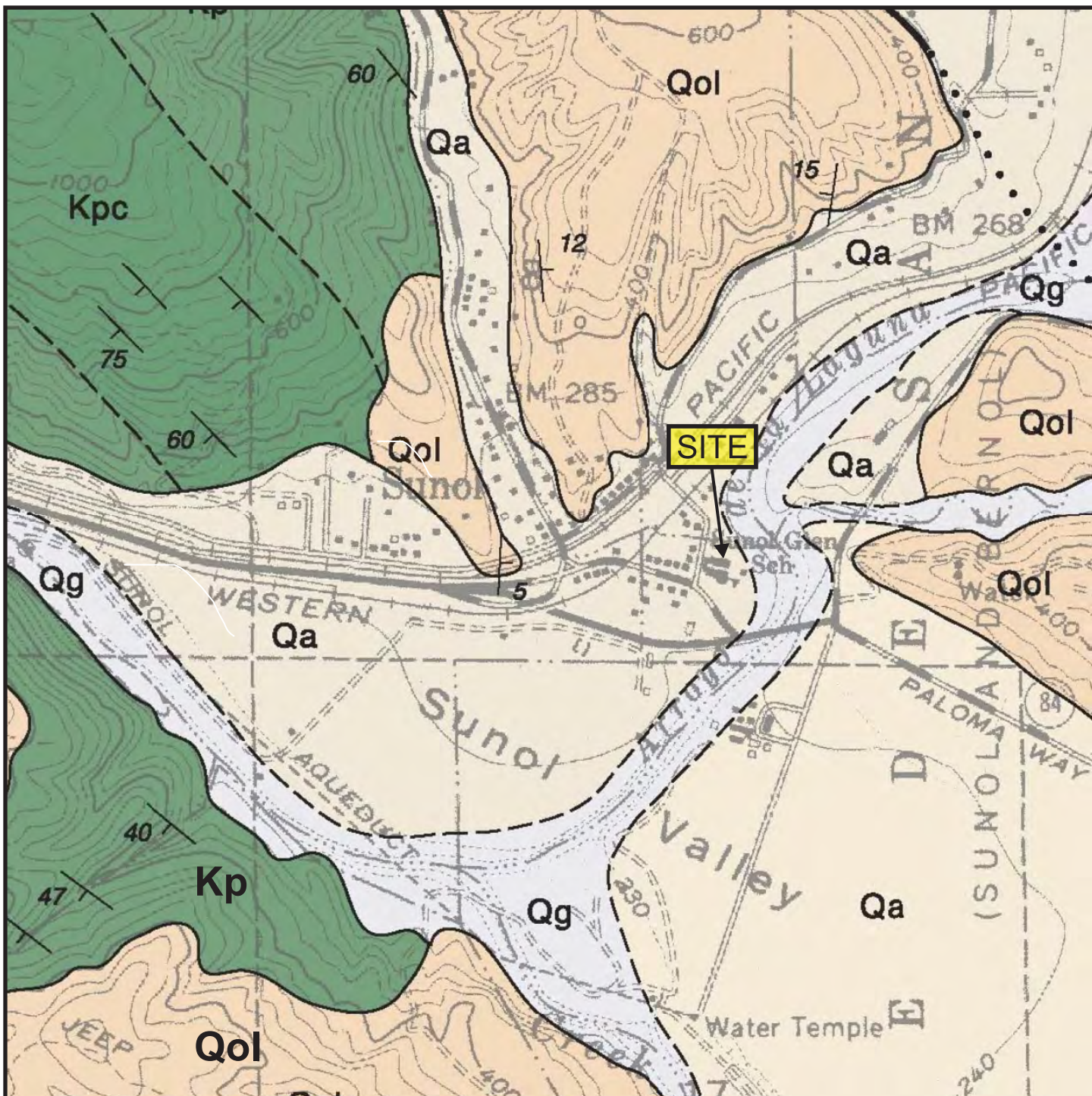
3





	<p>Job No.: 91-66064-PW</p> <p>Approved: JEB</p> <p>Date: 11.07.2023</p>	<p><b>REGIONAL GEOLOGIC MAP</b></p> <p>Permanent Modular Classrooms &amp; Main Building Upgrades Sunol Glen School 11601 Main St., Sunol, California</p>	<p><b>Plate</b></p> <p><b>4</b></p>
---	--	--	-------------------------------------





#### Units

- Qg** Sand and gravel of major stream channels (Holocene)  
**Qa** Alluvial gravel, sand and clay of valley areas (Holocene)  
**Qol** Older alluvial gravel and sand (Pleistocene)  
**Kp** Panoche Formation - Clay Shale/Claystone (Upper Cretaceous)  
**Kpc** Panoche Formation - Conglomerate (Upper Cretaceous)

#### EXPLANATION



1000 ft.

Scale

Contour interval = 40'

Dibblee and Minch (2005)

#### Symbols

Geologic contact - dotted where concealed  
queried where existence or position is uncertain

Fault - dashed where inferred; dotted where  
concealed; queried where existence or  
extension is uncertain

Bedding attitude

Overturned bedding



Job No.: 91-66064-PW

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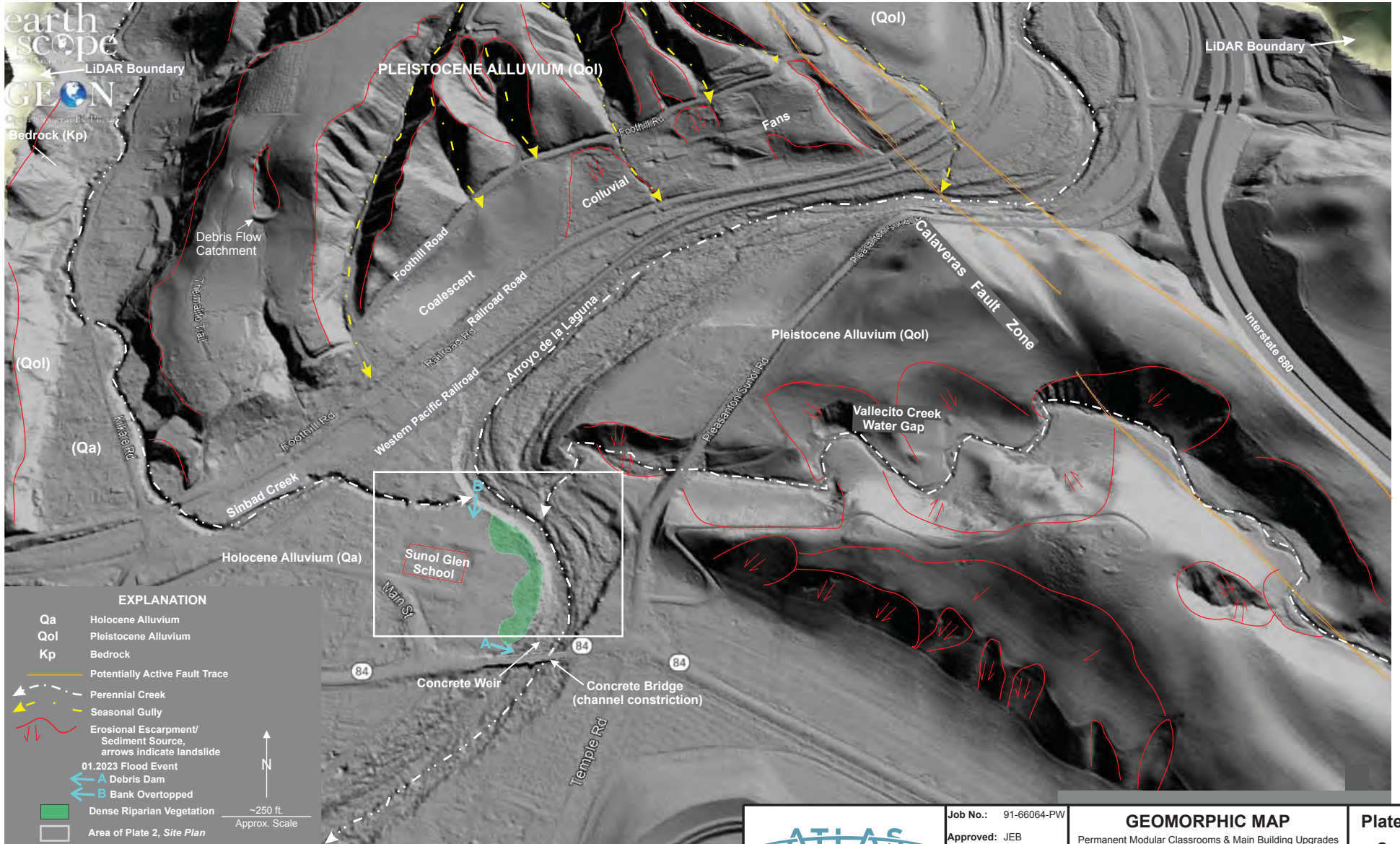
#### AREAL GEOLOGIC MAP

Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

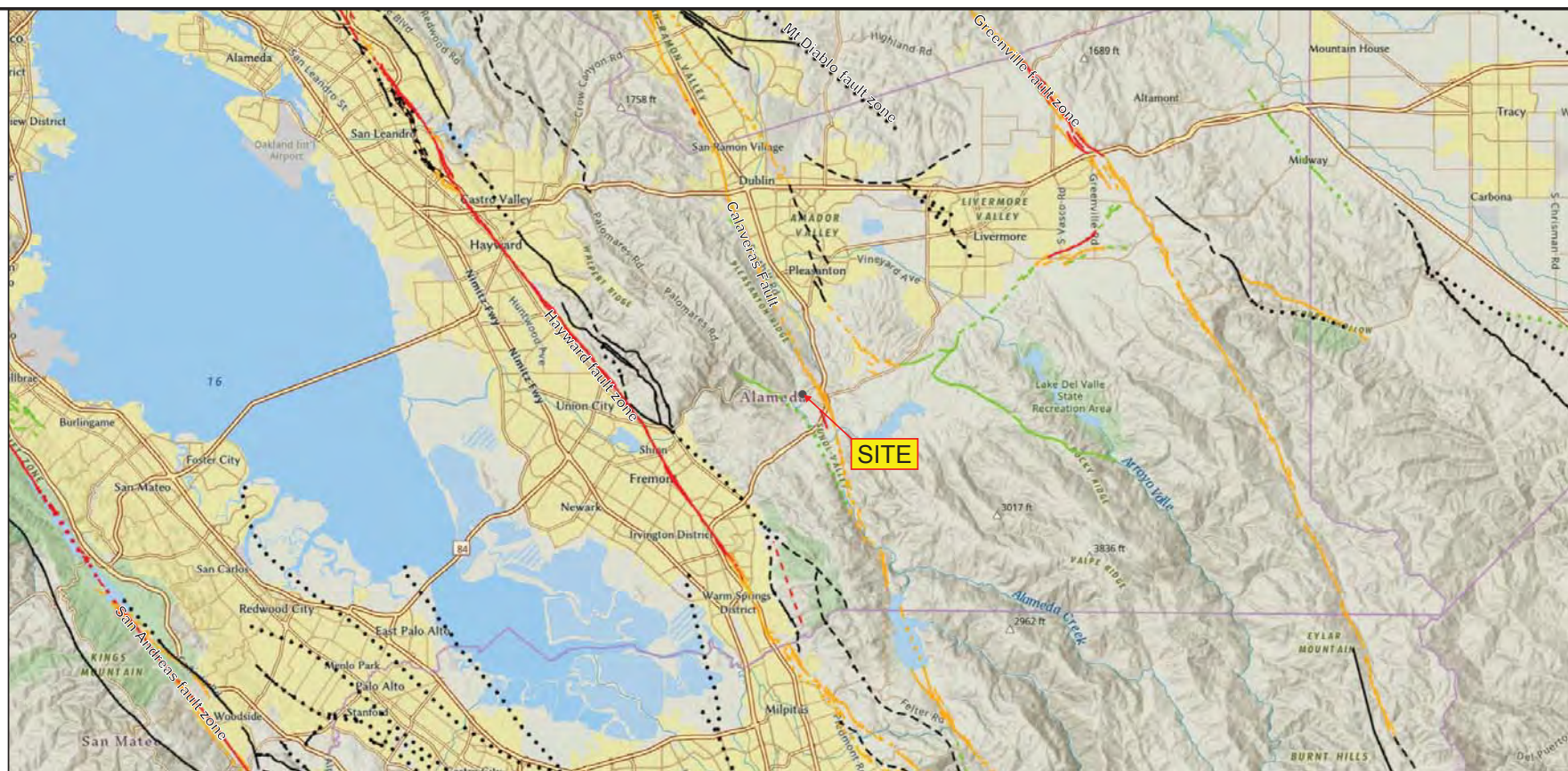
Plate

5









# EXPLANATION

## Fault Areas

- Class B
- historic
- late Quaternary
- latest Quaternary
- middle and late Quaternary

## National Database

- Historic (< 150 years), well constrained location

- Historic (< 150 years), moderately constrained location

- Historic (< 150 years), inferred location

- Latest Quaternary (<15,000 years), well constrained location

- Latest Quaternary (<15,000 years), moderately constrained location

- Latest Quaternary (<15,000 years), inferred location

- Late Quaternary (< 130,000 years), well constrained location

- Late Quaternary (< 130,000 years), moderately constrained location

- Late Quaternary (< 130,000 years), inferred location

- Middle and late Quaternary (< 750,000 years), well constrained location

- Middle and late Quaternary (< 750,000 years), moderately constrained location

- Middle and late Quaternary (< 750,000 years), inferred location

- Undifferentiated Quaternary (< 1.6 million years), well constrained location

- Undifferentiated Quaternary (< 1.6 million years), moderately constrained location

- Undifferentiated Quaternary (< 1.6 million years), inferred location



4 miles  
Scale

National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, MRCAN, BEBCO, NOAA, increment P Corp.



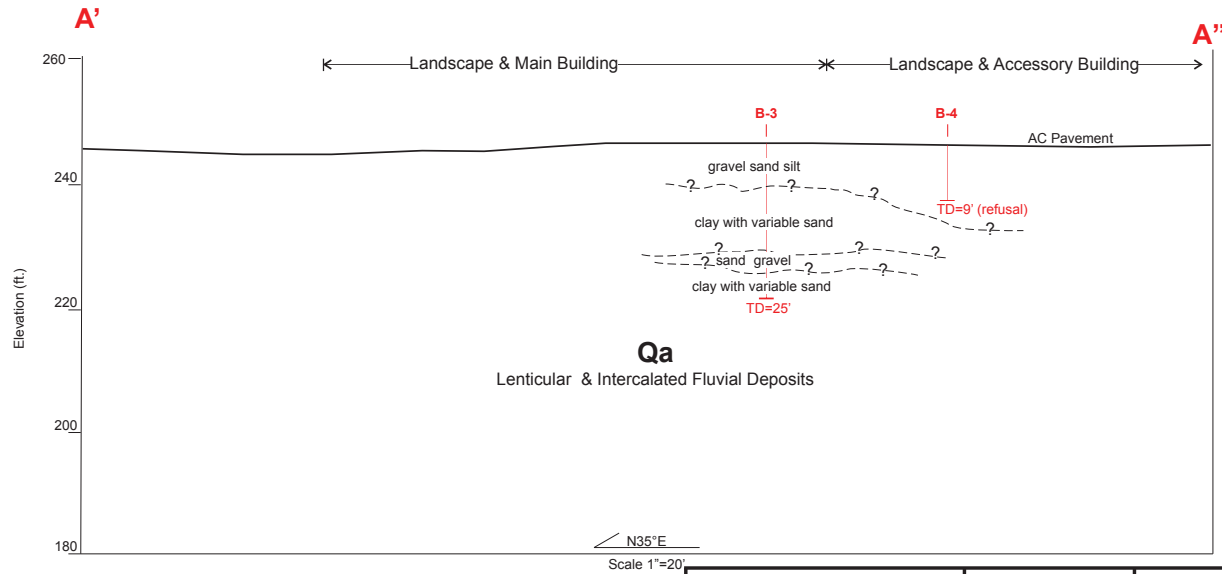
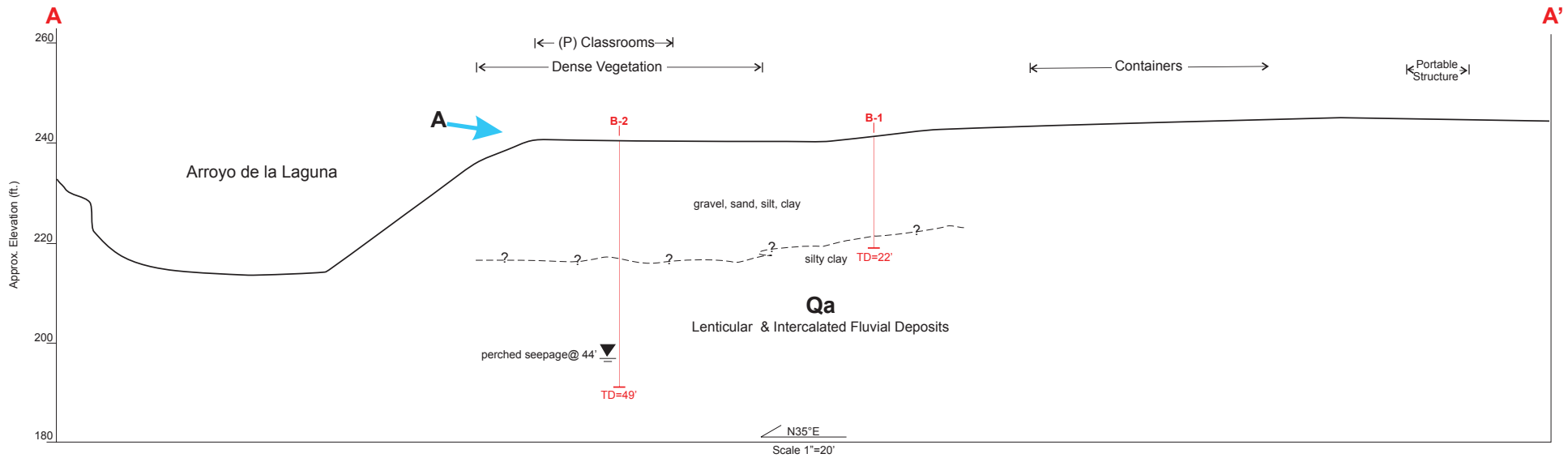
Job No.: 91-66064-PW  
Approved: NAA  
Date: 09.19.2023

## REGIONAL FAULT MAP

Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

Plate  
7





Job No.: 91-66064-PW  
 Approved: JEB  
 Date: 11.17.2023

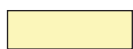
**CROSS SECTION A-A'-A''**  
 Permanent Modular Classrooms & Main Building Upgrades  
 Sunol Glen School  
 11601 Main St., Sunol, California

**Plate**  
**8**





### EXPLANATION



#### EARTHQUAKE FAULT ZONES

Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.



#### LIQUEFACTION

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation would be required.



#### EARTHQUAKE-INDUCED LANDSLIDES

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



1000 ft.  
Scale

Contour interval = 40'

Niles Quadrangle (CGS 2004)



Job No.: 91-66064-PW

Approved: NAA

Date: 09.19.2023

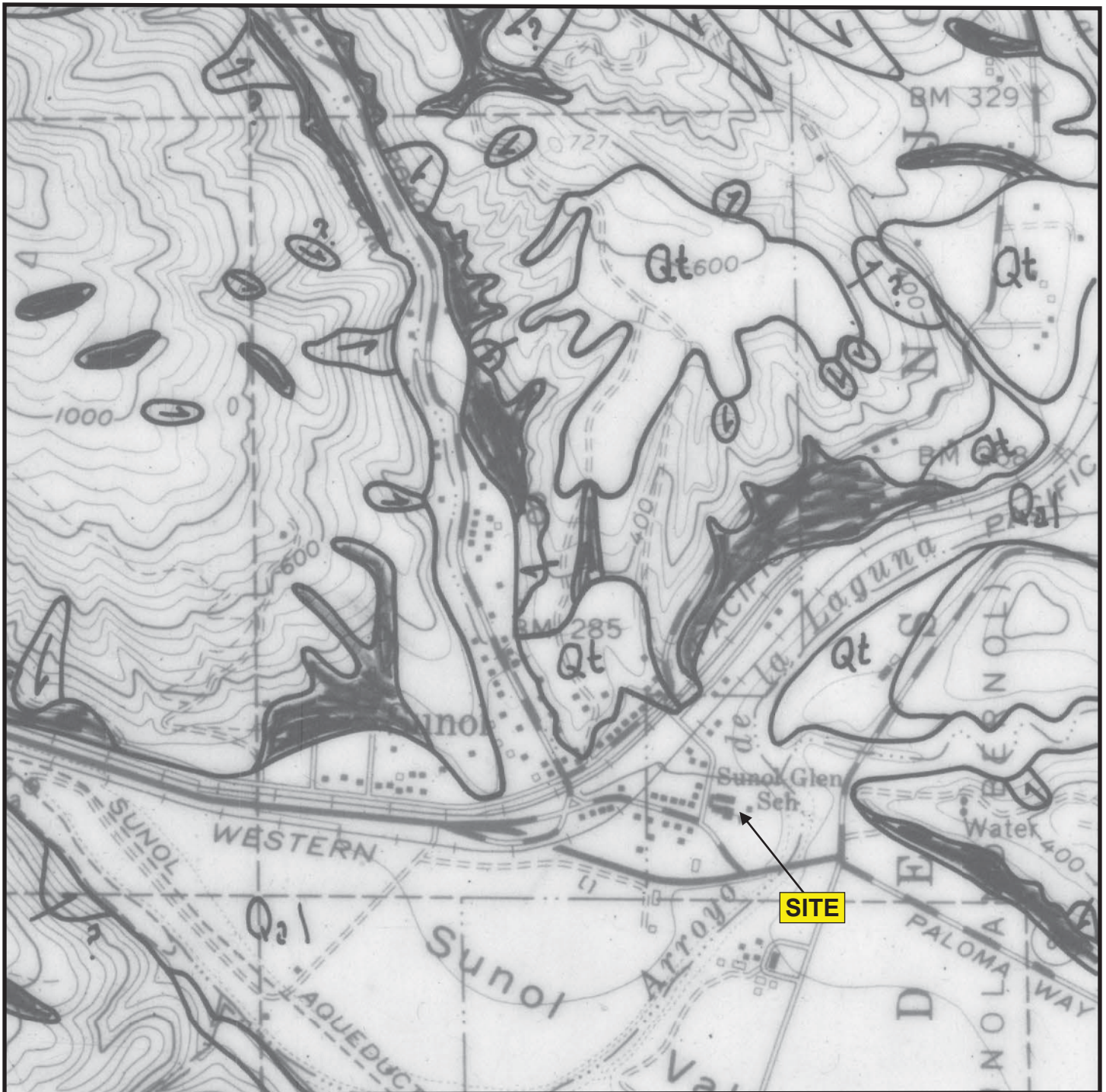
## SEISMIC HAZARD ZONES MAP

Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

Plate

9





Job No.: 91-66064-PW  
Approved: JEB  
Date: 11.07.2023

**LANDSLIDE MAP**  
Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

**Plate**  
**10**





#### EXPLANATION

(A) Meandering stream of Arroyo de la Laguna at confluence with tributary Sinbad Creek. The cut bank formed by impingement on the outer edge of the narrow channel reach armored by riprap (B) that extends across the reach bordering the campus playground. Note the point bar deposits constricting the channel in 2003 (C) and evidently accreted to the flood plain denuded in 2023 storm (D). Metal storage containers were in the northeast corner of the campus for at least 20 years until they were displaced by the 2023 flood event. The apparent barren earth and orientation of the 40' long shipping containers at top of bank in 2003 suggests possible less severe prior bank overtopping. Note the remnant of sediment deposited by the January 1, 2023 flood. (E) Blue arrow indicates the reported approximate flood water encroachment location.



Job No.: 91-66064-PW  
Approved: JEB  
Date: 11.17.2023

**CHANNEL EVOLUTION**  
Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

**Plate**  
**11**





Aerial Drone Image 1. Northerly view across Sunol Glen School. Blue arrow is reported approximate location of Arroyo de la Laguna Creek bank overtopping by flood water on January 1, 2023, due to channel blockage at the bridge crossing downstream. Black arrow points to re-located storage containers.



Aerial Drone Image 2. Southerly view of 1939 Highway 84 bridge across Arroyo de la Laguna near southeast corner of campus approximately 1000 feet downstream from overtopped bank location. Note concrete weir to moderate flow. Flow was reportedly blocked by vegetal debris causing flood water to nearly overtop the deck.





### EXPLANATION



Regulatory Floodway. **Zone AE**



1% Annual Chance Flood Hazard, with Base Flood Elevation (BFE). **Zone AE**



0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile. **Zone X**



Proposed Site Boundary



N

500 ft.

Scale

FEMA (effective 08.03.2009)

FIRMETTE # 06001C0460G



Job No.: 91-66064-PW

Approved: NAA

Date: 09.19.2023

## FLOOD HAZARD MAP

Permanent Modular Classrooms & Main Building Upgrades  
Sunol Glen School  
11601 Main St., Sunol, California

Plate

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








## **APPENDIX A**

### **FIELD EXPLORATION**

Key to Boring Log Symbols  
Boring Logs



# UNIFIED SOIL CLASSIFICATION (ASTM D-2487)

UNIFIED SOIL CLASSIFICATION (ASTM D-2487)						
Material Types	Criteria for Assigning Soil Group Names			Group Symbol	Soil Group Names	Legend
Coarse Grained Soils  >50% Retained on No. 200 Sieve	Gravels >50% of Coarse Fraction Retained on No. 4 Sieve	Clean Gravels <5% Fines	$Cu \geq 4$ and $1 \leq Cc \leq 3$	GW	Well-Graded Gravel	
			$Cu < 4$ and/or $[Cc < 1 \text{ or } Cc > 3]$	GP	Poorly-Graded Gravel	
		Gravels with Fines >12% Fines	Fines Classify as ML or MH	GM	Silty Gravel	
			Fines Classify as CL or CH	GC	Clayey Gravel	
	Sands $\geq 50\%$ of Coarse Fraction Passes on No. 4 Sieve	Clean Sands <5% Fines	$Cu \geq 6$ and $1 \leq Cc \leq 3$	SW	Well-Graded Sand	
			$Cu < 6$ and/or $[Cc < 1 \text{ or } Cc > 3]$	SP	Poorly-Graded Sand	
		Sands and Fines >12% Fines	Fines Classify as ML or MH	SM	Silty Sand	
			Fines Classify as CL or CH	SC	Clayey Sand	
Fine Grained Soils  $\geq 50\%$ Passes No. 200 Sieve	Sils and Clays Liquid Limits<50	Inorganic	$PI > 7$ and Plots $\geq$ "A" Line	CL	Lean Clay	
			$PI > 4$ and Plots<"A" Line	ML	Silt	
	Sils and Clays Liquid Limits $\geq 50$	Organic	LL (Oven Dried)/LL(not Dried <0.75)	OL	Organic Silt	
			PI Plots $\geq$ "A" Line	CH	Fat Clay	
		Inorganic	PI Plots<"A" Line	MH	Elastic Silt	
			Organic	LL (Oven Dried)/LL(Not Dried <0.75)	OH	Organic Clay
Highly Organic Soils		Primarily Organic Matter, Dark in Color and Organic Odor		PT	Peat	

## PENETRATION RESISTANCE (RECORDED AS BLOWS/0.5 FEET)

SAND AND GRAVEL		SILT AND CLAY		
RELATIVE DENSITY	N-VALUE (BLOWS/FOOT)*	CONSISTENCY	N-VALUE (BLOWS/FOOT)*	COMPRESSIVE STRENGTH
Very Loose	0 - 3	Very Soft	0 - 1	0 - 0.25
Loose	4 - 10	Soft	2 - 4	0.25 - 0.50
Medium Dense	11 - 29	Medium Stiff	5 - 7	0.50 - 1.0
Dense	30 - 49	Stiff	8 - 14	1.0 - 2.0
Very Dense	50+	Very Stiff	15 - 29	2.0 - 4.0
		Hard	30+	Over 4.0



Grab Bulk Sample



Standard Penetration Test



2.5 Inch Modified California



Rock Core



Shelby Tube



Initial Water Level Reading



Final Water Level Reading

### Blow Count

The number of blows of the sampling hammer required to drive the sampler through each of three 6-inch increments. Less than three increments may be reported if more than 50 blows are counted for any increment. The notation 50/5" indicates 50 blows recorded for 5 inches of penetration.

### N-Value

Number of blows 140 LB hammer falling 30 inches to drive a 2 inch outside diameter (1-3/8 inch I.D) split barrel sampler the last 12 inches of an 18 inch drive (ASTM-1586 Standard Penetration Test)

CU - Consolidated Undrained triaxial test completed. Refer to laboratory results  
DS - Results of Direct Shear test in terms of total cohesion (C, KSF) or effective cohesion and friction angles (C', KSF and degrees)

LL - Liquid Limit

PI - Plasticity Index

PP - Pocket Penetrometer test

TV - Torvane Shear Test results in terms of undrained shear strength (KSF)

UC - Unconfined Compression test results in terms of undrained shear strength (KSF)

#200 - Percent passing number 200 sieve

Cu - Coefficient of Uniformity

Cc - Coefficient of Concavity

## General Notes

- The boring locations were determined by pacing, sighting and/or measuring from site features. Locations are approximate. Elevations of borings (if included) were determined by interpolation between plan contours or from another source that will be identified in the report or on the project site plan. The location and elevation of borings should be considered accurate only to the degree implied by the method used.
- The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
- Water level readings in the drill holes were recorded at time and under conditions stated on the boring logs. This data has been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, tides, temperature and other factors at the time measurements were made.
- The boring logs and attached data should only be used in accordance with the report.

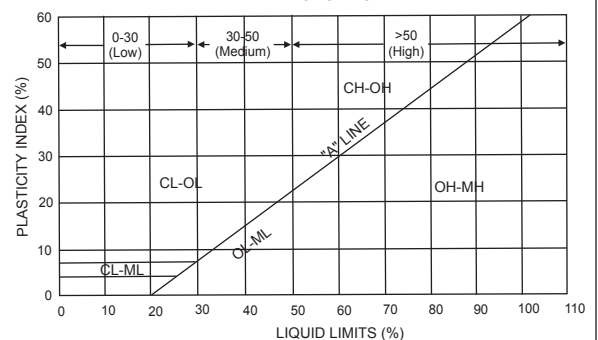
## SOIL MOISTURE

DESCRIPTOR	DESCRIPTION
Dry	Dry of Standard Proctor Optimum
Damp	Sand Dry
Moist	Near Standard Proctor Optimum
Wet	Wet of Standard Proctor Optimum
Saturated	Free Water in Sample

## PARTICLES SIZES

COMPONENTS	SIZE OR SIEVE NUMBER
Boulders	Over 12 Inches
Cobbles	3 to 12 inches
Gravels -Coarse	3/4 to 3 Inches
-Fine	Number 4 to 3/4 Inch
Sand -Coarse	Number 10 to Number 4
-Medium	Number 40 to Number 10
-Fine	Number 200 to Number 40
Fines (Silt and Clay)	Below Number 200

## PLASTICITY CHART



## KEY TO EXPLORATORY BORING LOGS



**BORING NUMBER B-1**

PAGE 1 OF 1

CLIENT Sunol Glen Unified School DistrictPROJECT NAME Sunol Glen SchoolPROJECT NUMBER 91-66064-PWPROJECT LOCATION 11601 Main Street, Sunol CA 94586DATE STARTED 8/29/23COMPLETED 8/29/23GROUND ELEVATION 245 ftHOLE SIZE 8"DRILLING CONTRACTOR Exploration Geoservices Inc.

GROUND WATER LEVELS:

DRILLING METHOD Hollow Stem Auger 8"AT TIME OF DRILLING ---LOGGED BY BBCHECKED BY NAAAT END OF DRILLING ---NOTES Elevations based on Google EarthAFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Penetration Rate (sec./ft.)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		<b>Asphalt Concrete :</b> <b>Aggregate Base :</b>										
		N = 50/4" @ 1.5' (GP-GM) <b>SANDY GRAVEL with SILT</b> : Dark brown, very dense, moist, w/ cobbles. Becomes dense.	MC 1-1		20-49/4"		115	5				
5		(GP-GC) <b>SANDY GRAVEL with CLAY</b> : Dark brown, very dense, moist. Coarse gravel.  Becomes dark yellowish-brown, medium dense.	MC 1-2		13-20-19 (39)	4.5	116	6				
			MC 1-3		26-25-29 (54)	4.0		7				11
10			MC 1-4		8-9-8 (17)	4.5						
		(GP-GM) <b>SANDY GRAVEL with SILT</b> : Dark yellowish-brown, dense, moist.										
15			SPT 1-5		18-20-23 (43)			7				10
		(SP-SM) <b>GRAVELLY SAND with SILT</b> : Grey, Dark grey, and brown, very dense, moist.  Becomes dense.	MC 1-6		20-24-27 (51)	>4.5						
20			MC 1-7		17-16-19 (35)	>4.5	122	9				9
		(CL) <b>SILTY CLAY</b> : Brown, hard, very moist.  N = 50/5" (Mod Cal) @ 21.0' Becomes greyish, moisture decreases to 'moist'.	MC 1-8		12-21- 39/5"	>4.5						
		N = 50/6" (Mod Cal) @ 21.5'  Bottom of borehole at 22.0 feet.	MC 1-9		33	>4.5						



**BORING NUMBER B-2**

PAGE 1 OF 2

CLIENT Sunol Glen Unified School DistrictPROJECT NAME Sunol Glen SchoolPROJECT NUMBER 91-66064-PWPROJECT LOCATION 11601 Main Street, Sunol CA 94586DATE STARTED 8/29/23COMPLETED 8/29/23GROUND ELEVATION 243 ftHOLE SIZE 8"DRILLING CONTRACTOR Exploration Geoservices Inc.

## GROUND WATER LEVELS:

DRILLING METHOD Hollow Stem Auger 8"▽ AT TIME OF DRILLING 18.50 ft / Elev 224.50 ft Perched groundwaterLOGGED BY BBCHECKED BY NAA▼ AT END OF DRILLING 44.00 ft / Elev 199.00 ft Likely the same perched groundwaterNOTES Elevations based on Google EarthAFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Penetration Rate (sec./ft.)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		<b>Asphalt Concrete :</b>										
		<b>Aggregate Base :</b>										
		(GM) <b>SILTY GRAVEL with SAND :</b> Brown, dense, moist, w/ cobbles.	SPT 2-1		30-20-19 (39)							
5		Becomes very dense.	SPT 2-2		26-33-22 (55)			4				18
		N = 50/6" (Mod Cal) @ 6.0'	MC 2-3		33	>4.5						
10		Becomes dark brown, dense.	MC 2-4		24-16-14 (30)	>4.5	119	8				16
		(GC) <b>CLAYEY GRAVEL with SAND :</b> Dark yellowish-brown, very dense, moist, with organic material.										
15		N = 50/6" (Mod Cal) @ 14.5'	MC 2-5		21-24-33 (57)	4.5	128	7				
		(SP) <b>SAND with GRAVEL :</b> Grey, dense, very moist, w/ trace silt.										
20		Becomes greyish, moisture decreases to 'moist'.	MC 2-6		8-18-21 (39)		112	14				3
		(CL) <b>SILTY CLAY :</b> Grey, hard, moist, with sand.	SPT 2-7		30-50							
25		N = 50/6" at 24.0'										
30		No sand present.	SPT 2-8		30-37-42 (79)							

(Continued Next Page)



**CLIENT** Sunol Glen Unified School District

**PROJECT NAME** Sunol Glen School

PROJECT NUMBER 91-66064-PW

**PROJECT LOCATION** 11601 Main Street, Sunol CA 94586

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Penetration Rate (sec./ft.)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
30		(CL) <b>SILTY CLAY</b> : Grey, hard, moist.										
35		(CH) <b>LOW TO HIGH PLASTICITY CLAY</b> : Grey and brown, hard, moist.  N = 50/4" at 34.5'	X SPT 2-9		33-37-75/4"							
40		Becomes grey, with silt.	X SPT 2-10		28-40-40 (80)							
45		▼ With silt and trace sand.  N = 50/6" @ 43.5'	X SPT 2-11		50							
		Silt content increases, possibly "SILTY"  N = 50/6" @ 48.5'  Bottom of borehole at 49.0 feet.	MC 2-12		33							



**BORING NUMBER B-3**

PAGE 1 OF 1

CLIENT Sunol Glen Unified School DistrictPROJECT NAME Sunol Glen SchoolPROJECT NUMBER 91-66064-PWPROJECT LOCATION 11601 Main Street, Sunol CA 94586DATE STARTED 8/29/23COMPLETED 8/29/23GROUND ELEVATION 246 ftHOLE SIZE 8"DRILLING CONTRACTOR Exploration Geoservices Inc.

GROUND WATER LEVELS:

DRILLING METHOD Hollow Stem Auger 8"AT TIME OF DRILLING ---LOGGED BY BBCHECKED BY NAAAT END OF DRILLING ---NOTES Elevations based on Google EarthAFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Penetration Rate (sec./ft.)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		<b>Asphalt Concrete :</b>										
		<b>Aggregate Base :</b>										
		(SM) <b>SILTY SAND with GRAVEL</b> : Dark yellow-brown, medium dense, moist.	MC 3-1		4-7-7 (14)	<0.5	110	6	NP	NP	NP	
5		Gravel content increases.	MC 3-2		19-18-8 (26)	4.5	90	6				
			MC 3-3		5-4-3 (7)		115	15				
10		(CL) <b>SANDY CLAY</b> : Dark brown, medium stiff, very moist, with Gravel.  Becomes stiff.	MC 3-4		3-6-7 (13)	3.0	113	17				
15			SPT 3-5		12-7-7 (14)	2.0						
20		(SP) <b>SAND with GRAVEL</b> : Grey, dense, moist.	SPT 3-6		15-19-22 (41)	2.0						
25		(SC) <b>CLAYEY SAND</b> : Grey, very dense, moist.	SPT 3-7		60/5"							

Bottom of borehole at 25.0 feet.



**BORING NUMBER B-4**

PAGE 1 OF 1

CLIENT Sunol Glen Unified School DistrictPROJECT NAME Sunol Glen SchoolPROJECT NUMBER 91-66064-PWPROJECT LOCATION 11601 Main Street, Sunol CA 94586DATE STARTED 8/13/23COMPLETED 8/13/23GROUND ELEVATION 244 ftHOLE SIZE 4"DRILLING CONTRACTOR West Coast

GROUND WATER LEVELS:

DRILLING METHOD Solid FlightAT TIME OF DRILLING ---LOGGED BY AKCHECKED BY NAAAT END OF DRILLING ---NOTES Elevations based on Google EarthAFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	Penetration Rate (sec./ft.)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
		<b>Asphalt Concrete :</b>										
		<b>Aggregate Base :</b>										
		(CL) <b>SANDY CLAY</b> : Gray-brown, stiff, moist, with gravel.	MC 4-1		10-8-10 (18)	>4.5	116	11	25	16	9	
		(GM) <b>SILTY GRAVEL with SAND</b> : Brown, dense, moist, w/ cobbles.	MC 4-2		18-16-16 (32)		108	6				
5		(SM) <b>SILTY SAND with GRAVEL</b> : Dark yellow-brown, medium dense, moist, w/ cobbles.										
		N= 50/6" @ 8.5' Refusal at 9', N= 50/0" with no sample recovered.	SPT 4-3		26-23-50 (73)							
		Bottom of borehole at 9.0 feet.	SPT 4-4		50/0"							



## **APPENDIX B**

### **LABORATORY TEST RESULTS**

Atterberg Limits Test Report  
Grain Size Distribution Test Report (2)  
Unconsolidated-Undrained Triaxial Test Report  
Corrosivity Tests Summary



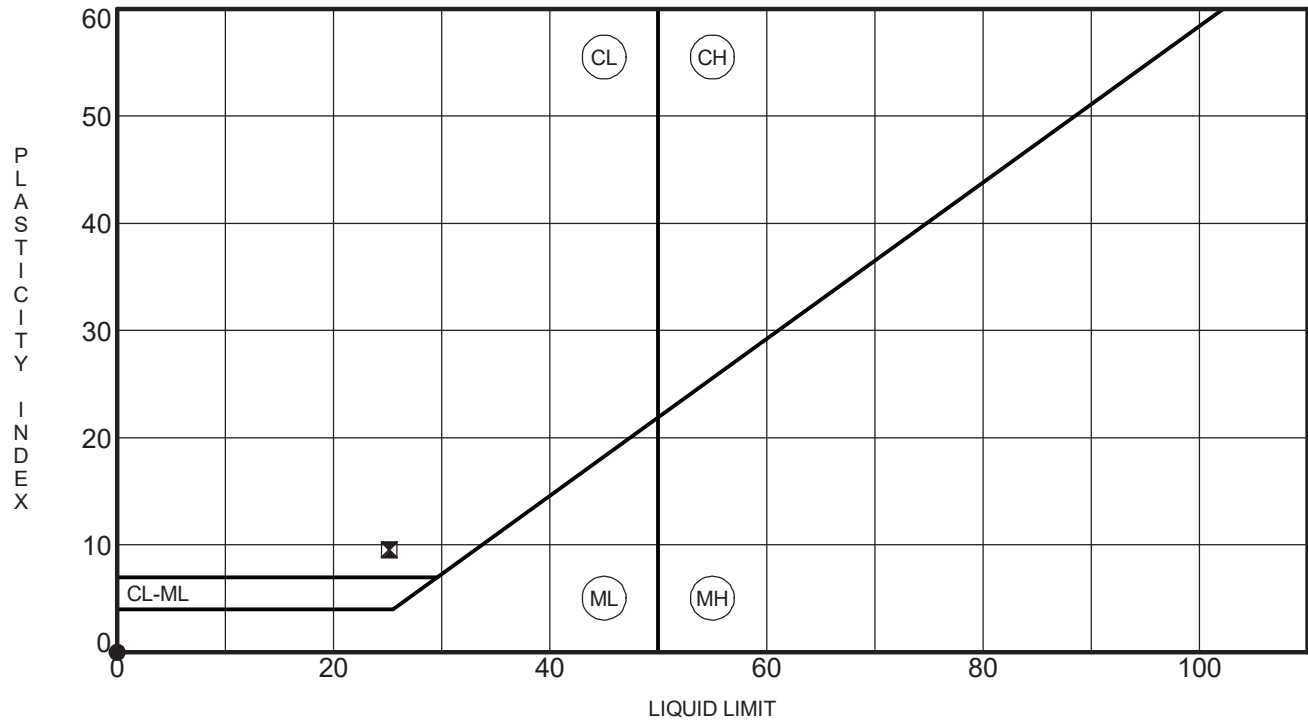
## ATTERBERG LIMITS RESULTS

**CLIENT** Sunol Glen Unified School District

**PROJECT NAME** Sunol Glen School

**PROJECT NUMBER** 91-66064-PW

**PROJECT LOCATION** 11601 Main Street, Sunol CA 94586

[illegible]





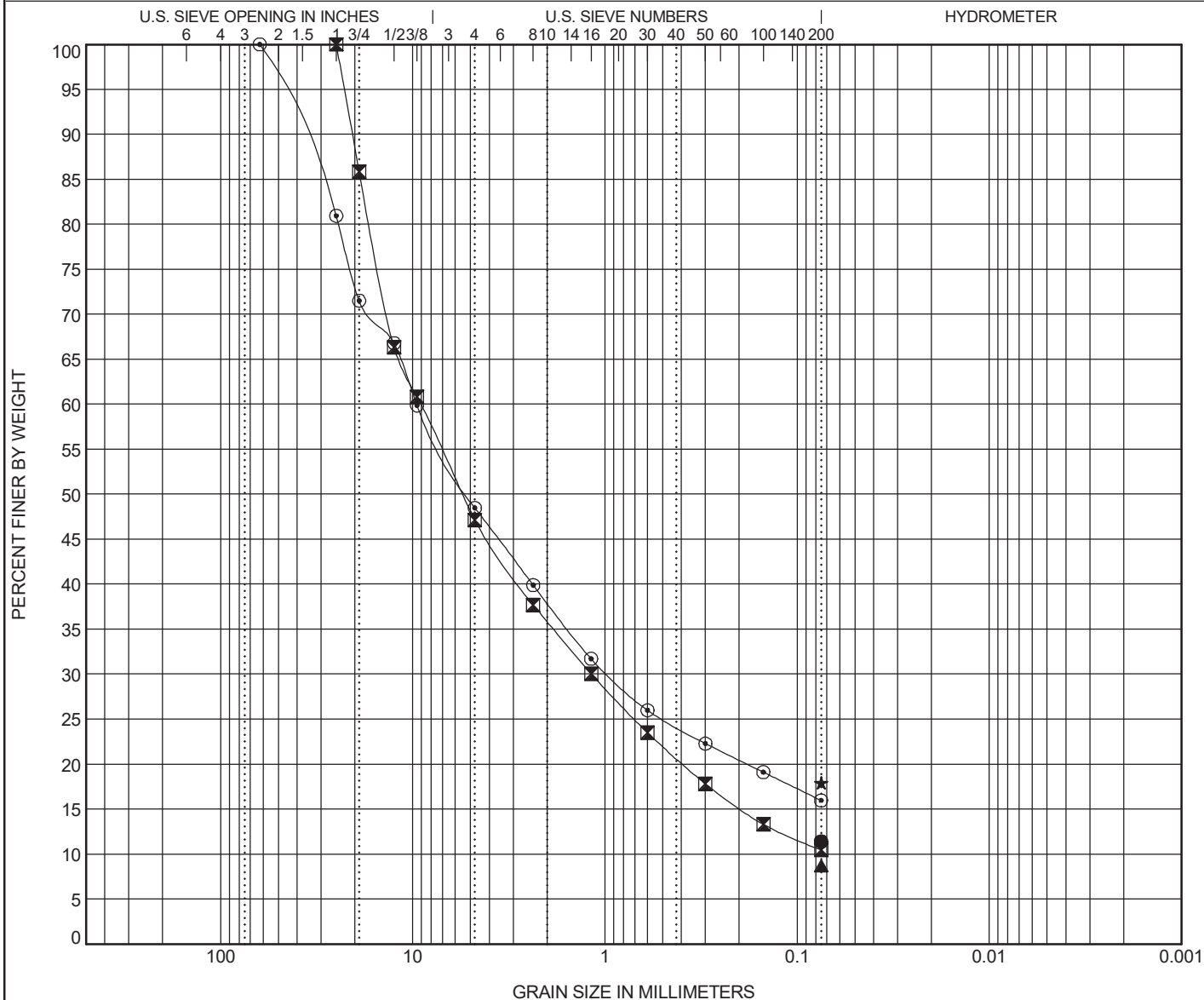
# GRAIN SIZE DISTRIBUTION

CLIENT Sunol Glen Unified School District

PROJECT NAME Sunol Glen School

PROJECT NUMBER 91-66064-PW

PROJECT LOCATION 11601 Main Street, Sunol CA 94586







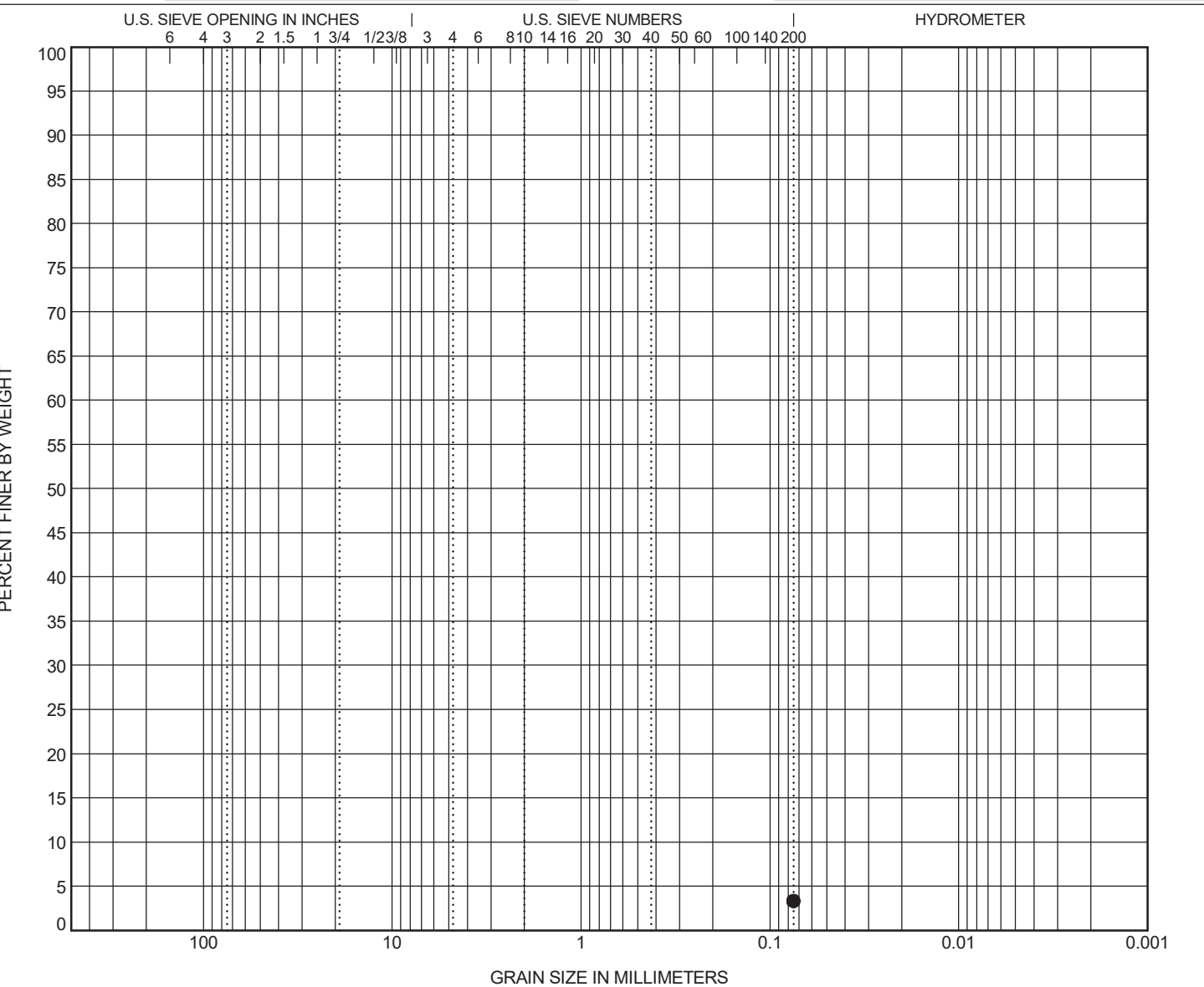
GRAIN SIZE DISTRIBUTION

CLIENT Sunol Glen Unified School District

PROJECT NAME Sunol Glen School

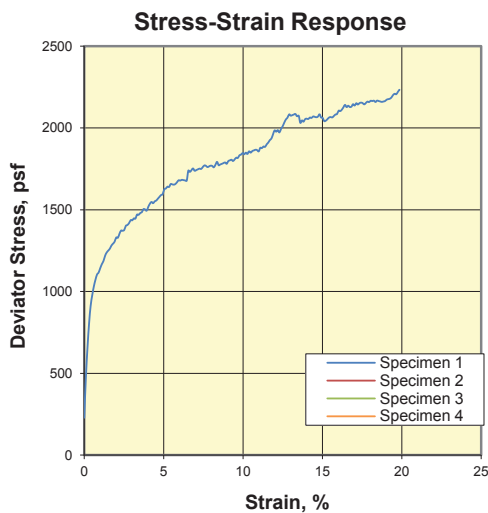
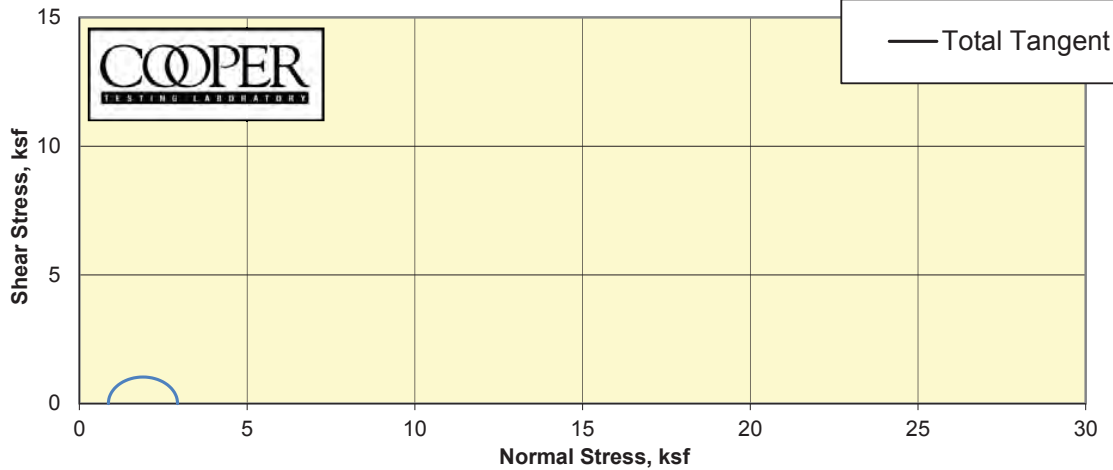
PROJECT NUMBER 91-66064-PW

PROJECT LOCATION 11601 Main Street, Sunol CA 94586





Unconsolidated Undrained Triaxial Compression  
ASTM D2850



CTL Number:	1108-113
Client Name:	Atlas Technical Consultants
Project Name:	Sunol Glen School
Project Number:	91-66064-PW
Date:	9/15/2023
By:	MD/DC
Total C	#DIV/0! ksf
Total phi	#DIV/0! degrees
Eff. C	N/A ksf
Eff. Phi	N/A degrees ©

Remarks: Sample was back-pressure saturated to a B parameter of 0.95 or greater prior to shear. +1" Gravel noted after shear.

Specimen	1	2	3	4
Boring	B3			
Sample	B3-4			
Depth	9.5			
Visual Description	Dark Brown Clayey SAND w/ Gravel/ Clayey GRAVEL w/ Sand			
MC (%)	17.2			
Dry Density (pcf)	112.8			
Saturation (%)	90.8			
Void Ratio	0.521			
Diameter (in)	2.36			
Height (in)	5.05			
	Final			
MC (%)	18.8			
Dry Density (pcf)	113.2			
Saturation (%)	100.0			
Void Ratio	0.517			
Diameter (in)	2.36			
Height (in)	5.04			
Cell Pressure (psi)	44.5			
Back Pressure (psi)	38.5			
	Total Stresses At:			
Strain (%)	15.0			
Deviator (ksf)	2.064			
Excess PP (psi)				
Sigma 1 (ksf)	2.928			
Sigma 3 (ksf)	0.864			
P (ksf)	1.896			
Q (ksf)	1.032			
Stress Ratio	3.389			
Rate (in/min)	0.0493			



[illegible]



**APPENDIX C**  
**SEISMIC SETTLEMENT EVALUATION RESULTS**

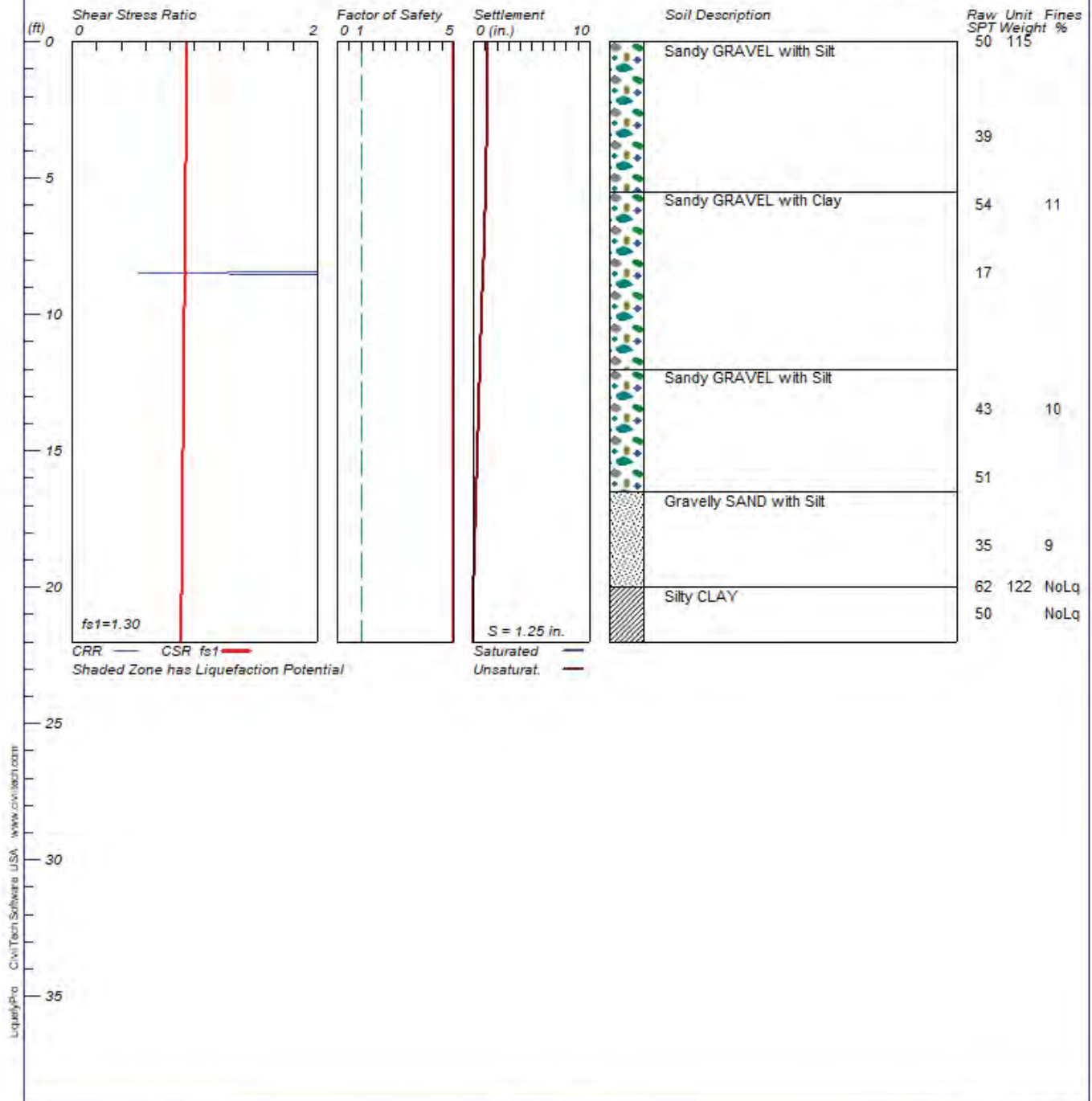


# LIQUEFACTION ANALYSIS

Sunol Glen School

Hole No.=B-1 Surface Elev.=245

Magnitude=6.95  
Acceleration=1.114g





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## LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: C:\Users\manuel.zea\Box\Geosphere-R Drive Folder\Geotech  
Projects by Number\66000\91-66064-PW Sunol Glen School\5 - Liquefaction  
Analysis\B-1.liq

Title: Sunol Glen School  
Subtitle: 91-66064-PW

Surface Elev.=245  
Hole No.=B-1  
Depth of Hole= 22.0 ft  
Water Table during Earthquake= 999.0 ft  
Water Table during In-Situ Testing= 999.0 ft  
Max. Acceleration= 1.11 g  
Earthquake Magnitude= 6.9

### Input Data:

Surface Elev.=245  
Hole No.=B-1  
Depth of Hole=22.0 ft  
Water Table during Earthquake= 999.0 ft  
Water Table during In-Situ Testing= 999.0 ft  
Max. Acceleration=1.11 g  
Earthquake Magnitude=6.9

1. SPT or BPT Calculation.
  2. Settlement Analysis Method: Ishihara / Yoshimine\*
  3. Fines Correction for Liquefaction: Stark/Olson et al.\*
  4. Fine Correction for Settlement: During Liquefaction\*
  5. Settlement Calculation in: All zones\*
  6. Hammer Energy Ratio, Ce = 1
  7. Borehole Diameter, Cb= 1.15
  8. Sampling Method, Cs= 1.2
  9. User request factor of safety (apply to CSR) , User= 1.3  
Plot one CSR curve (fs1=User)
  10. Use Curve Smoothing: Yes\*
- \* Recommended Options



In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	50.0	115.0	0.0
3.5	39.0	115.0	0.0
6.0	54.0	115.0	11.0
8.5	17.0	115.0	11.0
13.5	43.0	115.0	10.0
16.0	51.0	115.0	10.0
18.5	35.0	115.0	9.0
20.0	62.0	122.0	NoLiq
21.0	50.0	122.0	NoLiq

Output Results:

Settlement of Saturated Sands=0.00 in.

Settlement of Unsaturated Sands=1.25 in.

Total Settlement of Saturated and Unsaturated Sands=1.25 in.

Differential Settlement=0.624 to 0.823 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.43	0.94	5.00	0.00	1.25	1.25
1.00	2.43	0.94	5.00	0.00	1.25	1.25
2.00	2.43	0.94	5.00	0.00	1.24	1.24
3.00	2.43	0.93	5.00	0.00	1.20	1.20
4.00	2.43	0.93	5.00	0.00	1.13	1.13
5.00	2.43	0.93	5.00	0.00	1.09	1.09
6.00	2.43	0.93	5.00	0.00	1.03	1.03
7.00	2.43	0.93	5.00	0.00	0.96	0.96
8.00	2.43	0.92	5.00	0.00	0.89	0.89
9.00	2.43	0.92	5.00	0.00	0.79	0.79
10.00	2.43	0.92	5.00	0.00	0.70	0.70
11.00	2.43	0.92	5.00	0.00	0.63	0.63
12.00	2.43	0.91	5.00	0.00	0.56	0.56
13.00	2.43	0.91	5.00	0.00	0.49	0.49
14.00	2.43	0.91	5.00	0.00	0.42	0.42
15.00	2.43	0.91	5.00	0.00	0.35	0.35
16.00	2.43	0.91	5.00	0.00	0.28	0.28
17.00	2.43	0.90	5.00	0.00	0.21	0.21
18.00	2.43	0.90	5.00	0.00	0.14	0.14
19.00	2.43	0.90	5.00	0.00	0.07	0.07
20.00	2.43	0.90	5.00	0.00	0.00	0.00
21.00	2.00	0.90	5.00	0.00	0.00	0.00
22.00	2.00	0.89	5.00	0.00	0.00	0.00

\* F.S.<1, Liquefaction Potential Zone

(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)



Units                      Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =  
pcf, Settlement = in.

---

CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, $F.S. = CRRm / CSRsf$
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

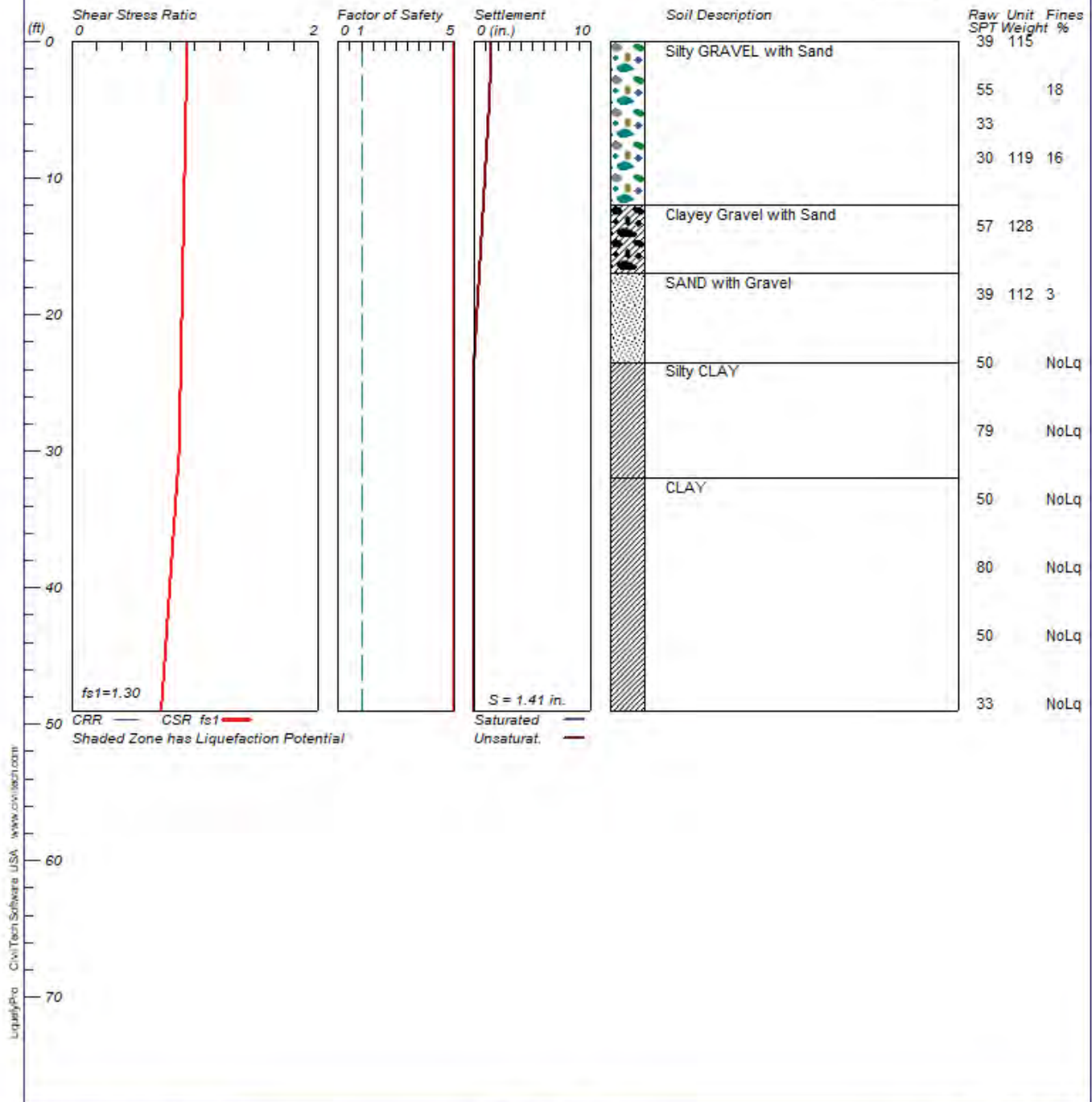


# LIQUEFACTION ANALYSIS

## Sunol Glen School

Hole No.=B-2 Surface Elev.=245

Magnitude=6.95  
Acceleration=1.114g





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## LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: C:\Users\manuel.zea\Box\Geosphere-R Drive Folder\Geotech  
Projects by Number\66000\91-66064-PW Sunol Glen School\5 - Liquefaction  
Analysis\B-2.liq

Title: Sunol Glen School  
Subtitle: 91-66064-PW

Surface Elev.=245  
Hole No.=B-2  
Depth of Hole= 49.0 ft  
Water Table during Earthquake= 999.0 ft  
Water Table during In-Situ Testing= 999.0 ft  
Max. Acceleration= 1.11 g  
Earthquake Magnitude= 6.9

### Input Data:

Surface Elev.=245  
Hole No.=B-2  
Depth of Hole=49.0 ft  
Water Table during Earthquake= 999.0 ft  
Water Table during In-Situ Testing= 999.0 ft  
Max. Acceleration=1.11 g  
Earthquake Magnitude=6.9

1. SPT or BPT Calculation.
  2. Settlement Analysis Method: Ishihara / Yoshimine\*
  3. Fines Correction for Liquefaction: Stark/Olson et al.\*
  4. Fine Correction for Settlement: During Liquefaction\*
  5. Settlement Calculation in: All zones\*
  6. Hammer Energy Ratio,
  7. Borehole Diameter,
  8. Sampling Method,
  9. User request factor of safety (apply to CSR) , User= 1.3  
Plot one CSR curve (fs1=User)
  10. Use Curve Smoothing: Yes\*
- \* Recommended Options

Ce = 1  
Cb= 1.15  
Cs= 1.2



In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	39.0	115.0	0.0
3.5	55.0	115.0	18.0
6.0	33.0	115.0	18.0
8.5	30.0	119.0	16.0
13.5	57.0	128.0	16.0
18.5	39.0	112.0	3.0
23.5	50.0	112.0	NoLiq
28.5	79.0	112.0	NoLiq
33.5	50.0	112.0	NoLiq
38.5	80.0	112.0	NoLiq
43.5	50.0	112.0	NoLiq
48.5	33.0	112.0	NoLiq

Output Results:

Settlement of Saturated Sands=0.00 in.

Settlement of Unsaturated Sands=1.41 in.

Total Settlement of Saturated and Unsaturated Sands=1.41 in.

Differential Settlement=0.704 to 0.930 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.43	0.94	5.00	0.00	1.41	1.41
1.00	2.43	0.94	5.00	0.00	1.41	1.41
2.00	2.43	0.94	5.00	0.00	1.40	1.40
3.00	2.43	0.93	5.00	0.00	1.38	1.38
4.00	2.43	0.93	5.00	0.00	1.31	1.31
5.00	2.43	0.93	5.00	0.00	1.28	1.28
6.00	2.43	0.93	5.00	0.00	1.21	1.21
7.00	2.43	0.93	5.00	0.00	1.14	1.14
8.00	2.43	0.92	5.00	0.00	1.07	1.07
9.00	2.43	0.92	5.00	0.00	1.00	1.00
10.00	2.43	0.92	5.00	0.00	0.94	0.94
11.00	2.43	0.92	5.00	0.00	0.87	0.87
12.00	2.43	0.91	5.00	0.00	0.80	0.80
13.00	2.43	0.91	5.00	0.00	0.73	0.73
14.00	2.43	0.91	5.00	0.00	0.66	0.66
15.00	2.43	0.91	5.00	0.00	0.59	0.59
16.00	2.43	0.91	5.00	0.00	0.52	0.52
17.00	2.43	0.90	5.00	0.00	0.45	0.45
18.00	2.43	0.90	5.00	0.00	0.39	0.39
19.00	2.43	0.90	5.00	0.00	0.32	0.32
20.00	2.43	0.90	5.00	0.00	0.25	0.25
21.00	2.43	0.90	5.00	0.00	0.18	0.18
22.00	2.43	0.89	5.00	0.00	0.11	0.11



23.00	2.43	0.89	5.00	0.00	0.04	0.04
24.00	2.00	0.89	5.00	0.00	0.00	0.00
25.00	2.00	0.89	5.00	0.00	0.00	0.00
26.00	2.00	0.88	5.00	0.00	0.00	0.00
27.00	2.00	0.88	5.00	0.00	0.00	0.00
28.00	2.00	0.88	5.00	0.00	0.00	0.00
29.00	2.00	0.88	5.00	0.00	0.00	0.00
30.00	2.00	0.88	5.00	0.00	0.00	0.00
31.00	2.00	0.87	5.00	0.00	0.00	0.00
32.00	2.00	0.86	5.00	0.00	0.00	0.00
33.00	2.00	0.85	5.00	0.00	0.00	0.00
34.00	2.00	0.84	5.00	0.00	0.00	0.00
35.00	2.00	0.84	5.00	0.00	0.00	0.00
36.00	2.00	0.83	5.00	0.00	0.00	0.00
37.00	2.00	0.82	5.00	0.00	0.00	0.00
38.00	2.00	0.81	5.00	0.00	0.00	0.00
39.00	2.00	0.81	5.00	0.00	0.00	0.00
40.00	2.00	0.80	5.00	0.00	0.00	0.00
41.00	2.00	0.79	5.00	0.00	0.00	0.00
42.00	2.00	0.78	5.00	0.00	0.00	0.00
43.00	2.00	0.78	5.00	0.00	0.00	0.00
44.00	2.00	0.77	5.00	0.00	0.00	0.00
45.00	2.00	0.76	5.00	0.00	0.00	0.00
46.00	2.00	0.75	5.00	0.00	0.00	0.00
47.00	2.00	0.75	5.00	0.00	0.00	0.00
48.00	2.00	0.74	5.00	0.00	0.00	0.00
49.00	2.00	0.73	5.00	0.00	0.00	0.00

---

\* F.S.<1, Liquefaction Potential Zone

(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units                      Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =  
pcf, Settlement = in.

---

CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils

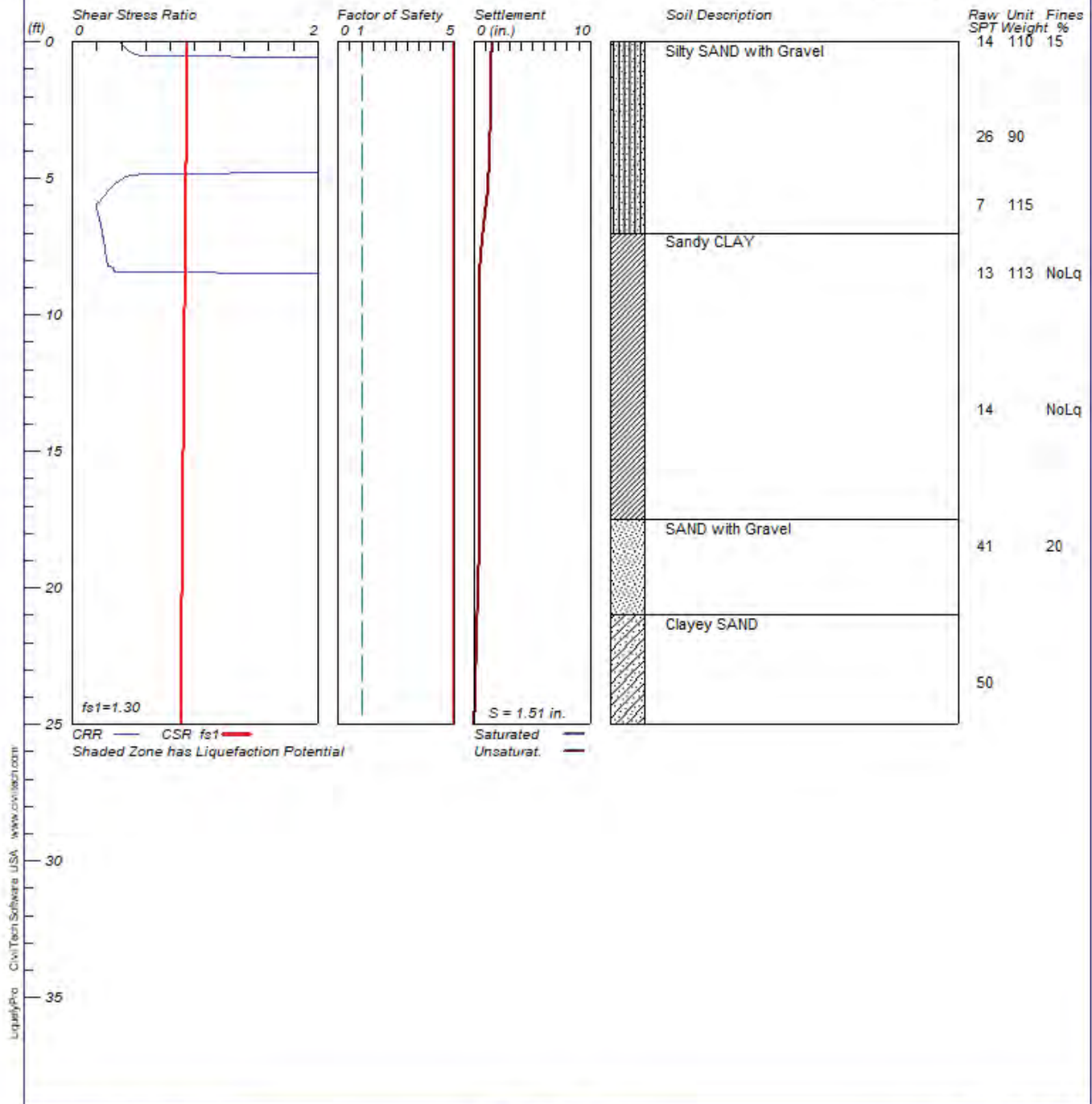


# LIQUEFACTION ANALYSIS

## Sunol Glen School

Hole No.=B-3 Surface Elev.=246

Magnitude=6.95  
Acceleration=1.114g





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## LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: C:\Users\manuel.zea\Box\Geosphere-R Drive Folder\Geotech  
Projects by Number\66000\91-66064-PW Sunol Glen School\5 - Liquefaction  
Analysis\B-3.liq

Title: Sunol Glen School  
Subtitle: 91-66064-PW

Surface Elev.=246  
Hole No.=B-3  
Depth of Hole= 25.0 ft  
Water Table during Earthquake= 999.0 ft  
Water Table during In-Situ Testing= 999.0 ft  
Max. Acceleration= 1.11 g  
Earthquake Magnitude= 6.9

### Input Data:

Surface Elev.=246  
Hole No.=B-3  
Depth of Hole=25.0 ft  
Water Table during Earthquake= 999.0 ft  
Water Table during In-Situ Testing= 999.0 ft  
Max. Acceleration=1.11 g  
Earthquake Magnitude=6.9

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Ishihara / Yoshimine\*
3. Fines Correction for Liquefaction: Stark/Olson et al.\*
4. Fine Correction for Settlement: During Liquefaction\*
5. Settlement Calculation in: All zones\*
6. Hammer Energy Ratio,
7. Borehole Diameter,
8. Sampling Method,
9. User request factor of safety (apply to CSR) , User= 1.3  
Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes\*
- \* Recommended Options

Ce = 1  
Cb= 1.15  
Cs= 1.2



In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	14.0	110.0	15.0
3.5	26.0	90.0	15.0
6.0	7.0	115.0	15.0
8.5	13.0	113.0	NoLiq
13.5	14.0	113.0	NoLiq
18.5	41.0	113.0	20.0
23.5	50.0	113.0	20.0

Output Results:

Settlement of Saturated Sands=0.00 in.

Settlement of Unsaturated Sands=1.51 in.

Total Settlement of Saturated and Unsaturated Sands=1.51 in.

Differential Settlement=0.754 to 0.995 in.

Depth ft	CRRm	CSRsf	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	0.39	0.94	5.00	0.00	1.51	1.51
1.00	2.43	0.94	5.00	0.00	1.50	1.50
2.00	2.43	0.94	5.00	0.00	1.47	1.47
3.00	2.43	0.93	5.00	0.00	1.40	1.40
4.00	2.43	0.93	5.00	0.00	1.33	1.33
5.00	0.42	0.93	5.00	0.00	1.23	1.23
6.00	0.19	0.93	5.00	0.00	1.03	1.03
7.00	0.24	0.93	5.00	0.00	0.76	0.76
8.00	0.28	0.92	5.00	0.00	0.54	0.54
9.00	2.00	0.92	5.00	0.00	0.45	0.45
10.00	2.00	0.92	5.00	0.00	0.45	0.45
11.00	2.00	0.92	5.00	0.00	0.45	0.45
12.00	2.00	0.91	5.00	0.00	0.45	0.45
13.00	2.00	0.91	5.00	0.00	0.45	0.45
14.00	2.00	0.91	5.00	0.00	0.45	0.45
15.00	2.00	0.91	5.00	0.00	0.45	0.45
16.00	2.00	0.91	5.00	0.00	0.45	0.45
17.00	2.00	0.90	5.00	0.00	0.45	0.45
18.00	2.00	0.90	5.00	0.00	0.45	0.45
19.00	2.43	0.90	5.00	0.00	0.41	0.41
20.00	2.43	0.90	5.00	0.00	0.34	0.34
21.00	2.43	0.90	5.00	0.00	0.27	0.27
22.00	2.43	0.89	5.00	0.00	0.21	0.21
23.00	2.43	0.89	5.00	0.00	0.14	0.14
24.00	2.43	0.89	5.00	0.00	0.07	0.07
25.00	2.43	0.89	5.00	0.00	0.00	0.00

\* F.S.<1, Liquefaction Potential Zone



(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units                      Depth = ft, Stress or Pressure = tsf (atm), Unit Weight =  
pcf, Settlement = in.

---

CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user
request factor of safety)	
F.S.	Factor of Safety against liquefaction, $F.S. = CRRm / CSRsf$
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils



**APPENDIX D**

**ALAMEDA CREEK WATERSHED MANAGEMENT SHEET**



# A Sediment Budget for Two Reaches of Alameda Creek: support for flood control channel management

WATERSHEDS SCIENCE PROGRAM

Sarah Pearce<sup>1</sup>, Paul Bigelow<sup>1</sup>, Lester McKee<sup>1</sup>, Alicia Gilbreath<sup>1</sup>  
<sup>1</sup> San Francisco Estuary Institute, Oakland, CA

## 1 Alameda Creek Flood Control Channel: a sediment sink near the Bay margin



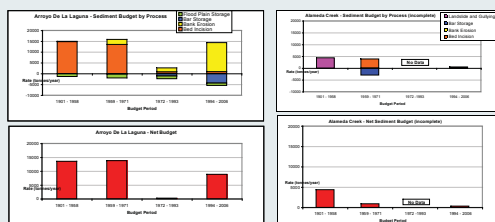
Sediment deposition in flood control channels is a chronic problem for managers tasked with dual objectives to maintain both flood protection and aquatic or riparian habitat. Since construction of the Flood Control Channel on lower Alameda Creek, the Alameda County Flood Control and Water Conservation District (the District) has periodically dredged sediment from the creek to maintain channel flood capacity. Because dredging is costly and disrupts habitat, and because obtaining permits is becoming more difficult, the District is seeking to minimize dredging frequency. Conceptually this can be achieved by reducing sediment supply from upstream, or modifying the channel for more efficient sediment transport. A sediment budget was constructed to provide data to support District decisions about future channel and watershed management.

## 4 Sediment Budget

**Take home message:** During the most recent period (1994-2006), roughly 6% of the sediment mass passing through the Niles gage was derived from net channel erosion of the study reaches, mostly from the Arroyo De La Laguna reach. While not the major source hypothesized by others, it remains substantial given the reach only comprises 0.25% of the watershed stream network length.

### Net Budget for the Study Reaches - Patterns of Erosion over Time

Combining the various estimates of sediment supply and storage over the four time periods reveals patterns of erosion and storage by process. In **Arroyo De La Laguna**, we see that 1901-1958 was dominated by channel incision triggered by the ditching of Tulare Lake, 1959-1971 saw another phase of incision in response to the aggradation caused by the extreme flood events in the 1950s, and 1994-2006 was dominated by bank erosion as the channel adjusted through widening. In Alameda Creek we see much lower rates of erosion, primarily because the channel is well connected to its floodplain, and because 70% of its drainage area is upstream of reservoirs, impounding both flow and sediment. Based upon the partial budget, we see that landslides and gullies dominate the sediment supply.



(upper) Arroyo De La Laguna study reach sediment budget by process (lower) Alameda Creek study reach sediment budget by process over the four time frames. (lower) Net sediment budget over the four periods. Y axis is same scale as Arroyo De La Laguna plots for visual comparison.

## 2 Alameda Creek Watershed

The Alameda Creek Watershed (1,662 km<sup>2</sup> or 642 mi<sup>2</sup>) is the largest local watershed draining to the San Francisco Bay. It has a history of extensive land management and use, water use, and channel modification, all of which affect present-day water and sediment transport through the channel network. Notably, the early connection of tributaries in the Livermore-Amador Valley, the draining of Tulare Lake in 1900 (which provided a dampening effect upon flow and sediment transport), the construction of three large reservoirs (trapping sediment from 44% of the total watershed area), extensive urbanization, and construction and maintenance of the Flood Control Channel all contribute to the current sediment regime of the watershed and the chronic sediment deposition within Lower Alameda Creek.



Dramatic example of channel modification that occurred on Arroyo De La Laguna at Bernia Avenue in 1953. The photo on the left shows the reach before riparian vegetation clearing, while the photo on the right shows the same reach after clearing by the Army Corps of Engineers (Source: Alameda County Resource Conservation District).

### Relative Sediment Supply- Comparison of Yields within the Watershed

To evaluate the significance of net sediment supplied from the study reaches, the field-based estimates were compared to sediment supply from upstream, as measured at USGS gage stations at Verona and Welch Creek, and sediment supply transported from the study reach, as measured on Alameda Creek at Niles. Based upon rating curves developed for each gage, we estimate that an average of 156,000 metric t/yr of sediment (suspended plus bed sediment) passed through the Niles gage. Comparing USGS measured yields with the yields derived from the interpretation of our field measurements along with comparisons to yields in other Bay Area watersheds provided us with confidence in our results. In the budget, the estimate for sediment supply from the ungaged area (116 km<sup>2</sup>) has the most associated uncertainty; the sediment budget would benefit from additional study in these areas.

### Comparison of the total sediment budget for the most recent budget period 1994 - 2006.

Area	Sediment Yield (metric t/yr)	Percent of Total measured at Niles
Arroyo De La Laguna at Verona Gage	304,000	63
Alameda Creek at Welch Creek Gage	3,400	2
Arroyo De La Laguna Study Reach	8,400	5
Alameda Creek Study Reach	320	0.2
Ungaged areas	47,000	29
All Areas upstream from Niles Gage	354,000	
Alameda Creek at Niles Gage (estimated from rating curves)	156,000	

### Sediment Supply to the Flood Control Channel Through Time

To better understand how sediment supply has varied through time, we compared the estimated sediment yield at the Niles gage to that from the study reaches for three budget periods. The higher contribution from the study reaches during 1959-1971 reflects a period of rapid incision migrating through the reach after the major disturbance of the 1950s floods. As channel incision migrated upstream, and channel adjustment in Arroyo De La Laguna transitioned to bank erosion and sediment storage increased, sediment contributions decreased.

Time Period	Niles Gage (metric t/yr)	Study Reaches Combined (metric t/yr)	% of Niles
1959-1971	74,000	19,300	26
1972-1993	90,000	320	0.4
1994-2006	156,000	8,700	6

## 3 Sediment Budget Methods

To address upstream sediment supply, we evaluated two reaches identified by others as probable sources of sediment to the flood control channel: a highly incised reach of Arroyo De La Laguna and upper Alameda Creek in Sunol Valley. The budget was constructed from field and air photo bank erosion surveys, current and historical bed elevation surveys, cross section analysis, tree coring to estimate floodplain age, and interpretation of USGS suspended sediment and bed load data. Only a subset of these methods were used in the Alameda Creek reach because its morphology suggested that it was not a major source of sediment. By interpreting this data, we identified the dominant processes and quantified rates of sediment supply and storage over time (1901 to 2006 over four decadal time periods).

### The sediment budget followed the equation:

Sediment input at Verona gage + sediment input at Welch gage + sediment derived from study reaches + sediment input from ungaged tributaries = sediment passing through Niles gage + balance



Arroyo De La Laguna study reach



Alameda Creek study reach

## 5 Recommendations and Next Steps

Our findings indicate that although the sediment supply from the study reaches is high relative to the channel length, other much larger sources of sediment to the Flood Control Channel exist in the watershed. To work towards the goal of reducing or eliminating downstream dredging requirements, we recommend:

- quantifying sediment sources and rates from ungaged watersheds and areas upstream of the Verona gage, to improve understanding of the primary processes supplying the majority of sediment to the Flood Control Channel, and to allow identification of potentially controllable sources of sediment.
- enacting restoration approaches that encourage upstream sediment storage
- studying solutions to increase sediment transmission through the flood control channel

### Towards this goal, our current and future work includes:

- providing science support for the Alameda County Resource Conservation District restoration projects within the Arroyo De La Laguna reach
- a reconnaissance level sediment source assessment for the Dry Creek tributary, which inputs coarse sediment directly to the Flood Control Channel
- analysis of reconfiguration of the Flood Control Channel to increase sediment transport, possibly via construction of a bankfull channel and inset floodplain



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 For More Information: Download the full report at <http://www.sfei.org/data-reports.htm>  
 Contact Info: Sarah Pearce email: [hp@sfei.org](mailto:hp@sfei.org) phone: (510) 746-7354



## Attachment B

Secretary of the Interior's Standards for  
Rehabilitation Review  
Sunol Glen School, Sunol





## SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION REVIEW

### SUNOL GLEN SCHOOL, SUNOL

#### Introduction

The Sunol Glen Unified School District has requested a historic resources effects analysis for the modernization and seismic upgrade of Sunol Glen Elementary School at 11601 Main Street in Sunol, unincorporated Alameda County. The school is a one-story, 8,300-square-foot concrete and wood frame building originally constructed in 1925, with a renovation in 1939. The building was listed on the Alameda County Register of Historic Resources in 2012 and is therefore a historical resource for the purposes of CEQA (see Alameda County Ordinance 17.62.050 and 14 California Code of Regulations [CCR] §15064.5).

This memorandum presents an overview of the proposed project, a history of the building, a list of character-defining features, and an effects analysis following the Secretary of the Interior's Standards for Rehabilitation (SOIS). The CEQA Guidelines state that a project consistent with the SOIS for Rehabilitation can be "considered as mitigated to a level of less than a significant impact" (14 CCR §15064.5(b)[3]).

We find that the proposed design is consistent with the SOIS, and therefore would not cause a substantial adverse change to the integrity of a historical resource (Public Resources Code [PRC] §5024.1).

#### Proposed Project

##### *Overview of Physical Changes*

The scope of work includes accessibility upgrades, seismic rehabilitation, re-roofing, security enhancements, and general modernization improvements. Key project components are described below. Renderings can be found in Appendix 1, and project plan sheets can be found in Appendix 2.

##### *Site Design and Accessibility Improvements*

Accessibility and Path of Travel Upgrades: The site design includes a new ADA-compliant ramp leading to the west entrance of the building, which connects to the sidewalk on Main Street, west of the building, via an accessible path. The ramp and path will be constructed of concrete. An accessible concrete path will connect the west and east entrances. Reconfiguration of existing walkways will mirror the formal and rectilinear design of the existing landscape layout.

West Stairs: The existing west stairs will be rebuilt in its original shape, size, and finishes, with concrete scoring replicated to match the historic design. An accessible ramp will be introduced at this location, utilizing the site's natural grade to ensure it blends with the façade and building



massing proportions.

Existing Planter Bed: The existing planter bed along the front façade (a later addition to the building) will be replaced with a bed that enhances the symmetry of the front façade.

### ***Main Building Modernization - General***

Seismic upgrades: Interior demolition will be required to expose structural elements for seismic retrofitting. Steel columns will be added at exterior walls requiring seismic support, increasing the overall wall thickness by 8 inches. These columns will be strategically placed around existing openings to preserve the building's historic features while optimizing functionality. As a result, windowsills will be deeper, and the interior side of the retrofitted walls will be refinished to match the existing finishes.

Interior Finishes: The interior layout will be reconfigured to accommodate the District's current programmatic needs. All interior finishes and moldings will be removed and replaced with new wall surfaces, flooring, and ceilings following the completion of structural work. The existing chair rail, baseboard, and crown moldings will be replicated at the existing height and style to maintain the historic character.

Exterior Façade: Changes to the exterior façades will be limited to restoration or replacement in kind.

Exterior Entry Doors: The four existing entry and rear doors will be replaced with new ADA-compliant doors with divided lights, side lights, and transoms that echo the original design.

Exterior Light Fixtures: Historic exterior light fixtures will be restored and replaced only where necessary to preserve their original appearance and function.

### ***West Wing***

The reconfigured west wing will house an administration office, superintendent's office, administrative assistant's office, and a health office with a student restroom.

Fireplace: The existing fireplace will be relocated to the interior north wall of the new conference room on the east wing to allow for necessary structural modifications.

Boys' Restroom: The boys' restroom will be removed and relocated to the east wing adjacent to the girls' restroom. The restroom will be accessible and compliant to current code.

### ***Classrooms***

Kindergarten Classrooms: Sinks will be relocated from the storage area into the classroom space to ensure accessibility compliance. Storage closets will receive new doors for improved functionality.

### ***Auditorium***

Stage Access: A wheelchair lift will be installed on the hallway side of the auditorium, providing access from the hallway to the stage with no impact to auditorium's interior space.



Wood Paneling: The existing wood panel wainscoting, a non-original addition from the 1970s, will be removed.

Coved Ceiling: Structural upgrades will require removing and replacing the auditorium ceiling. The ceiling cove molding will be reconstructed in plaster. The new ceiling will match the original dimensions as closely as feasible.

Light Fixtures: The original auditorium light fixtures will be removed prior to structural upgrades and reinstalled after upgrades are complete.

### ***East Wing***

The reconfigured east wing will include girls' and boys' restrooms, two staff unisex restrooms and a janitor's room. This wing will also house the staff workroom and a conference room.

Interior Layout: Interior walls will be demolished as part of the modernization effort. The girls' restroom will be renovated for accessibility compliance while maintaining its existing footprint. The storage-kitchen area will be converted into a boys' restroom.

### ***Building Envelope and Roof Restoration***

Roof Replacement: The existing historic roof tiles will be removed, stored, and reinstalled with a new underlayment to improve durability and weatherproofing while preserving the original aesthetic. It is anticipated that approximately 25% of the tiles will be damaged during removal; new clay tiles will be intermixed with the old ones at the back of the building to maintain the historic integrity of the building front façade.

Window Replacement: All windows will be replaced with new that replicate the existing design, featuring divided lights and contoured frames.

### ***Mechanical/Plumbing/Electrical Upgrades***

HVAC Upgrades: The HVAC system will be replaced to improve energy efficiency and occupant comfort.

Electrical & Fire Alarm: Lighting, electrical power, data infrastructure, and fire alarm systems will be upgraded to meet current safety and performance standards. Original historical lighting will be carefully removed and reinstalled.

Building Performance: The project will comply with current building codes, including energy efficiency standards (Title 24), ensuring the building meets all California Building Code requirements.



## Historic Context

### *Introduction*

The first Sunol Glen School was established in 1885 at the corner of Main and Bond Streets, across the street from the current school site. After the small Vallecitos and Sheridan school districts were consolidated with the Sunol Glen district in 1919, a new, larger school was needed (Christian 2007:37-38). In mid-1925, a \$45,000 bond issue was secured by the Alameda County Supervisors for construction of the new Sunol Glen School, and C.A. Bruce and Sons of Pleasanton was selected as the contractor to construct the school to the designs of William Weeks (*Daily Review* 1925a, 1925b). Concrete for the new building was poured that August, and the new Sunol Glen Grammar School was dedicated on March 27, 1926 (*Tribune* 1925, 1926a). In Spring 1926, the 1885 school building was demolished.

Sunol Glen School is typical of 1920s rural California grammar schools, which usually included a one to two story building on a rectangular plan, embellished with details from the Greek Revival, Neo-Gothic, Colonial Revival, or Beaux Arts traditions. Classrooms were arranged on both sides of a central hallway, sometimes with a separate central administrative space. Inside, classrooms consisted of rows of desks facing the teacher, emphasizing order and authority (Ogata 2008:563; Burke and Governor 2008:34).

### *Architect William Weeks*

Architect William Weeks (1864-1936) was a native of Prince Edward Island (Canada) who was raised in Denver, Colorado where he studied engineering. Married in 1891 in Indiana to Maggie Haymaker, Weeks moved to California shortly thereafter and opened an architectural office in Watsonville in 1894. He quickly developed a large practice in Monterey and Santa Cruz Counties, opening a branch in San Francisco in 1905 that received many commissions after the earthquake of 1906. Weeks took his son Foster as a partner in 1924, after which the firm was known as Weeks and Weeks. He moved to Piedmont in the 1920s, where he died in 1936 (Lewis 1985).

Weeks' works blended formal Classicism with the Mission Revival style that became popular in California the 1890s. His work was primarily institutional and commercial, designing 22 Carnegie libraries along with numerous banks, office buildings, and dozens of schools throughout the state (Lewis 1985). Weeks and Weeks' school practice was especially prominent, receiving commissions for dozens of schools throughout California. Weeks' 1911 article in *The Architect and Engineer* gives examples of 11 schools built by his firm, about half in Spanish Colonial Revival and half in Neoclassical styles (Weeks 1911). The firm's school practice continued to be strong between 1920 and 1930, and included:

- Santa Rosa High (1920s)
- Soquel Grammar (1921)
- Piedmont High (1921)
- Campbell Union Grammar (1922)
- Burlingame High (1923)



- Pomona High #2 (1923)
- Woodland Grammar (1923)
- Fremont High, Sunnyvale (1925)
- Los Gatos High (1925)
- Woodrow Wilson Junior High, San Jose (1925)
- Sunol Glen (1926)
- Jean Harvey, Walnut Grove (1926)
- San Mateo Union High (1926)
- M.R. Trace School, San Jose (1927)
- Old Berryessa Elementary, San Jose (1927)
- Laurel School, Santa Cruz (1930)

Almost all of Weeks' school designs exhibit bilateral symmetry, with a central entrance flanked by classroom wings on a rectangular plan. Most are one or two story, with a few examples three or four stories. Decorative elements are restrained, and use either Classical motifs (such as columns and pilasters) or Mission Revival details (such as tile roofs, ornamental plasterwork, and metal grilles). His schools typically are set back from the street 20-50 feet and feature a formal lawn with open space on the front elevations.

### ***History of Sunol Glen School***

Leroy Johnson was the first principal of the new Sunol Glen School when it opened in 1925. Johnson was formerly head of the grammar school at Nevada City (*Tribune* 1926 b, 1926c). Enrollment remained steady, between 60 and 80 students, from the 1920s until after World War II. After the passage of the Field Act in 1933, the building was retrofitted for seismic safety in 1939 by architects Weeks and Weeks.

As in most schools in California, enrollment at Sunol Glen grew sharply after World War II, from 80 in 1947 to 100 in 1948 (*Tribune* 1925; *Post-Enquirer* 1948). In 1949, Sunol Glen School District was annexed to the Amador Valley Joint Union High School District, where 37 students from the Sunol Area were already in attendance (*Tribune* 1949a). Principals during this period of postwar growth included David Moeller (1949) and James T. Howden (appointed 1950). (*Tribune* 1949b, 1950). In 1962, a \$46,000, two-classroom addition to Sunol Glen School was constructed under the leadership of Principal Peter Corona (*Tribune* 1962b).

In the 1960s and 1970s, increasing costs and declining enrollment led to efforts to consolidate Sunol Glen School District with other nearby districts. In 1965, voters in the Amador Valley High School District rejected a proposal to consolidate three elementary school districts, including Sunol Glen, with the high school district, despite support from the State Department of Education and local school boards, due to concerns over increased costs and impersonal education (*Tribune* 1965).



In 1975, voters in the Sunol Glen School District approved a tax increase to fund school operations, preventing teacher layoffs and program cuts (*Tribune* 1975). However, declining enrollment at Sunol Glen School threatened its future as enrollment dropped from 151 in 1976 to 142 in 1977. Principal George Bury warned of potential staff reductions, program cuts, or even closure if the trend continued (*Tribune* 1977; *The Argus* 1977). Bury resigned in 1978, feeling that declining enrollment limited his professional opportunities (*Tribune* 1978).

### ***Changes Over Time***

After passage of the Field Act in 1935, Sunol Glen School was seismically retrofitted to a design by Harold Weeks (William Weeks' son). Work was designed in 1939, and included reinforcement of the foundation and roof system (Weeks 1939). In 1961, a cafeteria and classroom building were added, followed by a library and two classroom buildings in 2000. These buildings replaced three older classroom buildings constructed in 1951 and 1971. (Hoxie 2024; tBP 2000). Additional portable classrooms and storage were constructed at the rear of the school in the 2000s; some of these facilities were destroyed by floods in 2021-2022.

### **Historic Integrity**

Overall, the building retains excellent integrity on all of its exterior façades. The only major change since construction is the addition of an accessibility ramp on the north (rear) side.

Inside, the auditorium, classrooms, and west administrative room retain very good integrity, with minor alterations to the historic interiors. However, the east administrative room, bathrooms, and storage room have been extensively modified and lack historic integrity.





Site Plan

Sunol Glen School

Figure 1: Site Plan



## Character-Defining Features

### *Building Description*

#### *Setting*

The Sunol Glen School at 11601 Main Street, Sunol, California is located at the northeast corner of Bond Street and Main Street. Adjacent to and north of the 1925 historic school building, the flat site includes five additional non-historic classroom/cafeteria buildings constructed in 1958-2000 and several modern portable classroom buildings. A large grass covered playing field and a playground are east of the main school complex.

Landscaping adjacent to the historic school's front (south) façade includes a large lawn; at the center of the façade between the two entry doors is a planter with shrubs and a small tree. Concrete walkways leading to the two main entrances frame the central lawn area. Several large trees are adjacent to the east and west façades of the school.

#### *Exterior*

The overall massing of the single-story historic school building is a square central block with offset rectangular wings on the east and west sides. The building is constructed of reinforced concrete with a wood-frame roof structure. The exterior walls are covered with smooth stucco. The school has primarily wood-sash, triple hung windows, each with four or six lights. The roof is covered with red Spanish tiles; the front façade has a gable roof while the side wings and rear façade have hipped roofs.

The center of the front (south) façade has three pairs of vertical triple-hung windows topped by decorative cast concrete panels. The windows are flanked by pilasters topped with scrolled vertical modillions. The front façade side wings each have central, vertical, three triple-hung windows in a round arch opening. The building is entered by matching stairs on the east and west sides, which ascend to curved arch openings leading to a covered entry porch.

The building's unadorned east, west and north facades are characterized by their groups of double-hung or triple-hung windows. The east façade has eight triple-hung windows and two double-hung windows while the west façade has five triple-hung windows and two double-hung windows. The north façade has fourteen triple-hung windows. The covered walkways and the handicapped ramp on the north are later, modern additions.

#### *Interior*

The building plan includes a central (square) block that includes the auditorium toward the front and two classrooms at the rear. The rectangular side wings on the east and west include restrooms, administrative offices and storage; the administrative offices were formerly classrooms. A U-shaped hallway provides access between the rooms in the central block and the side wings. The overall building dimensions are 144 feet by 72 feet, and it has 8,300 square feet of interior space.





*Figure 2: South Façade*



*Figure 3: South Façade, Detail*





*Figure 4: South Façade, West Entry Details*



*Figure 5: North (Rear) Façade*





*Figure 6: East Façade*



*Figure 7: West Façade*





*Figure 8: Portable Classrooms at Rear of School Campus*



*Figure 9: Classroom Buildings Circa 2000 (at Right)*





Figure 10: East Entry Hall (left), West Entry Hall (right)



Figure 11: Hallway Overview





Figure 12: West Wing Administrative Room



Figure 13: Batchelder Fireplace, West Wing





Figure 14: Auditorium, looking east



Figure 15: Auditorium, Looking West





Figure 16: Classroom



Figure 17: Interior Window Detail



## ***Character-Defining Features, Exterior***

### *General*

Character-defining features of the building as a whole include the overall massing of a central block with side wings, the concrete exterior walls covered in smooth stucco, the central gable roof and hipped roofs over the side wings, and the red Spanish tile on the hips and gables.

### *South Elevation (Main Street)*

The front (south) façade has not been altered since the school was constructed in 1925, so all the design features (windows, doors, ornamental details, massing) on this façade are character-defining features. The character-defining features of this façade include the front entrance walkways leading to brick stairs and the adjacent lawns; the east and west side wings with the segmental arch openings leading into an entrance porch and the glazed entry doors; the symmetrically arranged three vertical windows in round arch openings in the side wings; ornamental inset panels above the grills with geometric patterned covers; the three central pairs of vertical windows framed by pilasters and ornamental inset panels.

### *West and East Elevations*

A significant character-defining feature of these façades is the placement and design of windows, including eight triple-hung windows and two double-hung windows on the east façade, and five triple-hung windows and two double-hung windows on the west façade. The pattern of vertically arranged lights in each wood-sash window forms part of this character-defining feature.

### *North Elevation*

All the windows on this façade are character-defining features. The central area of the north façade has fourteen triple-hung windows while the side wings have double-hung windows. The pattern of vertically arranged lights in each wood-sash window forms part of this character-defining feature.

The covered walkways and the handicapped ramp on the north side are later, modern additions and not character-defining features.

## ***Character-Defining Features, Interior***

The main character-defining interior spaces are the auditorium, the two classrooms on the north and the interior hallway.

### *Hallway*

The main character-defining features of the hallway are the size and scale of the spaces, its U-shaped plan and the window/door molding and wainscot moldings on the interior walls.

### *Auditorium*

The character-defining features of the auditorium and stage include:

- the size, rectangular shape, and scale of the space
- the size and shape of the large windows on the south wall



- the size of the stage opening, the molding framing the stage and the inset panels below the stage opening; and side stairs up to the stage.
- the original light fixtures: wall light fixtures and the six symmetrically arranged, wrought iron ornamental chandeliers.
- The oak floor and the ceiling cove moldings.

The wood wall paneling is a later alteration and is not a character-defining feature.

#### *Classrooms*

The character-defining features of the two classrooms are the size and scale of the spaces; their rectangular plan including the separate student coat rooms; the triple-hung windows and the window/door moldings and wainscot moldings.

The classrooms have modern carpet on the floors and modern fluorescent lighting that are not character-defining features.

#### *Administrative Rooms*

The administrative rooms in the east wing have been substantially remodeled into modern office space and do not possess any character-defining features except for the size, shape, and light pattern of the triple-hung windows.

The character-defining features of the administrative room in the west wing include the size, shape, and light pattern of the triple-hung windows; the window/door moldings and wainscot moldings; and the significant fireplace mantel designed by the famed Pasadena tile designer Ernest Batchelder. The fireplace mantel dates from when the school was originally built in 1925.

#### *Restrooms*

The restrooms have been modified over the years and are not character-defining features.



## Secretary of Interior Standards for Rehabilitation Analysis

### Introduction

Under CEQA, lead agencies must consider whether their actions may cause a substantial adverse change to the significance of a historical resource. The criteria of effect for determining whether this project will cause such a change are the *Secretary of Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (National Park Service 2017, hereinafter referred to as the Standards). The Standards are part of the Secretary of the Interior's Standards for Historic Preservation projects which were developed to guide the work by Federal Agencies on historic buildings. "Rehabilitation" is defined by the Standards "as the process of returning a property to a state of utility, through repair and alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values." The *Guidelines for Rehabilitating Historic Buildings* were developed to help developers, property owners and others apply the *Standards for Rehabilitation* by providing general design and technical recommendations.

The intent of the Standards and Guidelines is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. The Standards encompass the exterior and interior of buildings, related landscape features, and the building's site and environment, as well as attached, adjacent, or related new construction.

The Standards have been widely used over the years – particularly for determining if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes. Review for the certification of a rehabilitation project is conducted by the State Office of Historic Preservation (SHPO) and the National Park Service. The SHPO uses the Standards for determining the effect of any project on the historic integrity of a National Register property.

The Standards have also been adopted by historic districts and planning commissions throughout the country for the review of rehabilitation proposals of historic buildings. The *Guidelines for the California Environmental Quality Act* (CEQA) indicate that a project consistent with the Standards will mitigate effects to a less-than-significant level (14 CCR §15064.5[b][3]).

### SOIS Analysis

The potential significant effects of the proposed project on the historic character of Sunol Glen School are discussed below in the context of the ten Standards outlined in the *Secretary of Interior's Standards for Rehabilitation*.

**1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.**

The project will not change or alter the use of the building as an elementary school. The project is consistent with Standard 1.

**2. The historic character of the property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.**



The project will alter features and spaces and involve removing some historic materials. The project overall, however, is consistent with Standard 2.

The project will remove the building's roof tiles to upgrade and repair the roof. Approximately 25% of the damaged or deteriorated roof tiles may need to be replaced with matching new tiles. The project specifies that the old tiles will be used at the front façade to maintain its historic integrity, making this intervention consistent with Standard 2.

The new entrance walkways to the main entrances on the south façade will preserve the historic symmetry and rectilinear design in their relationship to the front lawn. The design will retain the historic character of this landscape feature. The feature of the project is therefore consistent with Standard 2.

The project will involve adding an accessible ramp that blends into the front façade in addition to rebuilding the west stairs to match the historic design. The ramp's massing and profile will cause minimal changes to the appearance of the front façade, so that the historic integrity of this character-defining feature will not be diminished. This feature of the project is therefore consistent with Standard 2.

The proposed ADA-compliant enlarged exterior entry doors will be based on the multi-light designs of the existing doors, with sidelights and transoms. This feature of the project is consistent with Standard 2 since the new door will be similar to the historic designs.

The interior spaces in the east and west wings will be reconfigured for new uses. These spaces are not character-defining features. The character-defining Ernest Bachelder designed fireplace in the west wing will be moved to a new conference room in the east wing that is similar in size, scale, and function. This feature of the project is consistent with Standard 2 since it will retain the historic fireplace in the school in a room similar to the room where it had been historically.

**3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.**

The project does not attempt to use architectural elements from other buildings, add conjectural features not consistent with the historic character of the building, nor add designs that create a false sense of historical development. The ADA compliant doors and stairs at the west entrance will be similar to the design of the existing historic features. Consequently, the project is consistent with Standard 3.

**4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.**

None of the minor later alterations at the Sunol Glen School – including the remodeled office space, bathrooms, and the auditorium wall paneling – have acquired historic significance in their own right since the building was constructed. The removal of these



later modern alterations will not adversely change the historic character of the building. Consequently, the project is consistent with Standard 4.

**5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize an historic property shall be preserved.**

See Standard 2 for additional project analysis related to Standard 5.

Because of code-mandated seismic upgrades, the project proposes to add steel columns to the exterior concrete walls. The thickness of the south wall of the auditorium will be increased by 8 inches to accommodate the steel columns added for the seismic upgrade. The auditorium is a character-defining space in the school's interior. The auditorium space will be narrower after the width of south wall is increased. The six ceiling chandeliers will be relocated so they are equidistant from the side walls, thus preserving the historic balance and symmetry of the room. The structural upgrades will also require removing and replacing the auditorium ceiling. The coved ceiling molding will be reconstructed to match the existing coved ceiling molding. Consequently, the project is consistent with this Standard 5. The wood paneling in the auditorium will be removed; it is not a character-defining feature.

**6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical and pictorial evidence.**

The project will replace existing exterior windows that are not code-complaint and to accommodate a new updated HVAC system. The new operable, energy efficient and code-complaint windows will match the visual qualities (size, design, color, texture) of the old windows.

The interior finishes and moldings will be removed in the hallways, classrooms and the auditorium to accommodate the seismic upgrade. After the upgrade is complete, they will be replaced with new, similar moldings and finishes consistent with the historic character of the building. The project is therefore consistent with Standard 6.

**7. Chemical and physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.**

The project does not involve cleaning historic interior and exterior materials with chemical or physical treatments. Consequently, the project is consistent with Standard 7.

**8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.**

The project does not include subsurface excavation, and therefore does not have the potential to disturb any significant archeological resources. If subsurface excavation is necessary, an archeologist meeting the Secretary of the Interior's Standards for



Archaeology should be consulted to assess whether mitigation measures to protect archaeological resources are necessary for the project.

**9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.**

The *Guidelines for Standard 9* state that “new additions should be designed and constructed so that character-defining features of the historic building, its site, and setting are not negatively impacted. Generally, a new addition should be subordinate to the historic building” (page 79). The project proposes an ADA compliant handicapped ramp at the west entrance. The construction the handicapped ramp will involve adding an accessible ramp that blends into the front façade, and rebuilding the west stairs to match the historic design. These changes will not destroy historic features that characterize the property, because they are compatible with the massing, size, scale, and architectural features of the existing building. Consequently, the project is consistent with Standard 9.

**10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.**

The project does not involve any adjacent new construction except for the handicapped ramp added to the west entrance of the front façade. If the front façade handicapped ramp is removed in the future, the essential form and integrity of the school building would not be impaired. Therefore, the project is consistent with Standard 10.



## Conclusion and Recommendations

We find that the proposed project meets the Secretary of the Interior's Standards for Rehabilitation (SOIS). The impacts of the project can therefore be considered mitigated to a less than significant impact per 14 CCR §15064.5(b)[3]. The project would thus not cause a substantial adverse change to the integrity of a historical resource as defined in Public Resources Code §5024.1.

## Preparers' Qualifications

**Daniel Shoup**, RPA, is Principal of Archaeological/Historical Consultants and has authored over 200 reports for CEQA and NEPA/Section 106 projects in California. He specializes in California land use history research, the history of industry and technology, and international cultural heritage management. He holds a PhD in Archaeology and an Master of Urban Planning from the University of Michigan, and is the author of 10 peer-reviewed journal articles.

**Ward Hill** has been active in architectural history and historic building restoration in Northern California for over 40 years, and holds a MA in Architectural History from the University of Virginia. He has completed over two hundred Section 106 and CEQA reports in private practice. Mr. Hill's notable past projects include the environmental assessments for the San Francisco Ferry Building rehabilitation, the Route 84 Realignment Project, the BART extension to San Francisco Airport; and the e-Bart project in Eastern Contra Costa County. Mr. Hill is a former president of the Northern California Chapter of the Society of Architectural Historians.



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tBP Architecture

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## Appendix 1: Renderings





SUNOL GLEN SCHOOL - MAIN BUILDING MODERNIZATION







# SUNOL GLEN SCHOOL - MAIN BUILDING MODERNIZATION





SUNOL GLEN SCHOOL - MAIN BUILDING MODERNIZATION





# SUNOL GLEN SCHOOL - MAIN BUILDING MODERNIZATION

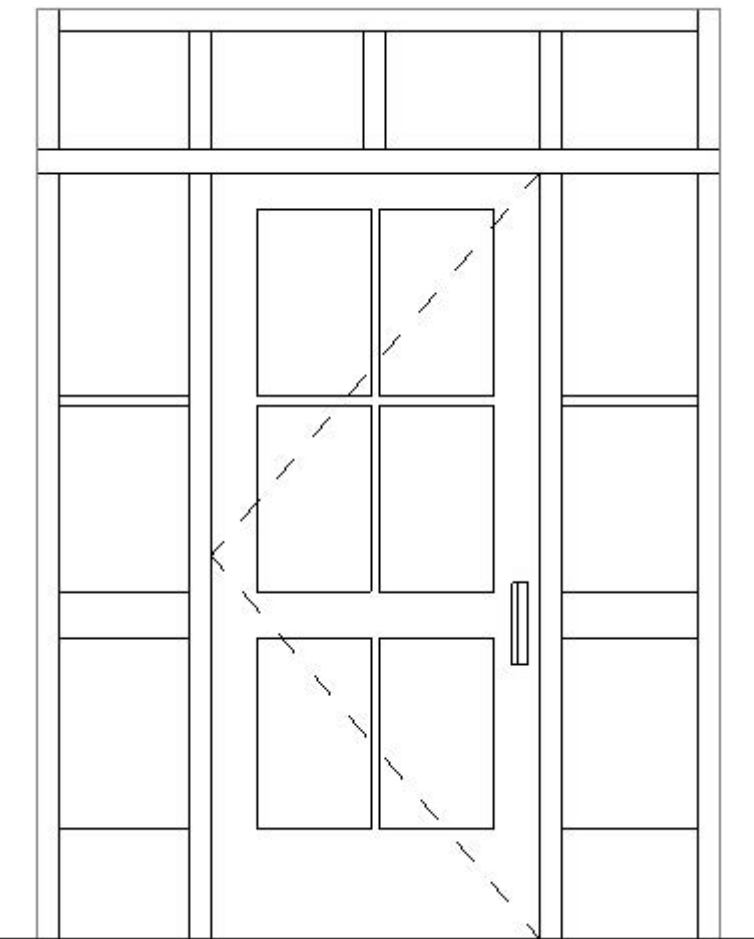






SUNOL GLEN SCHOOL - MAIN BUILDING MODERNIZATION







## Appendix 2: Modernization Plans



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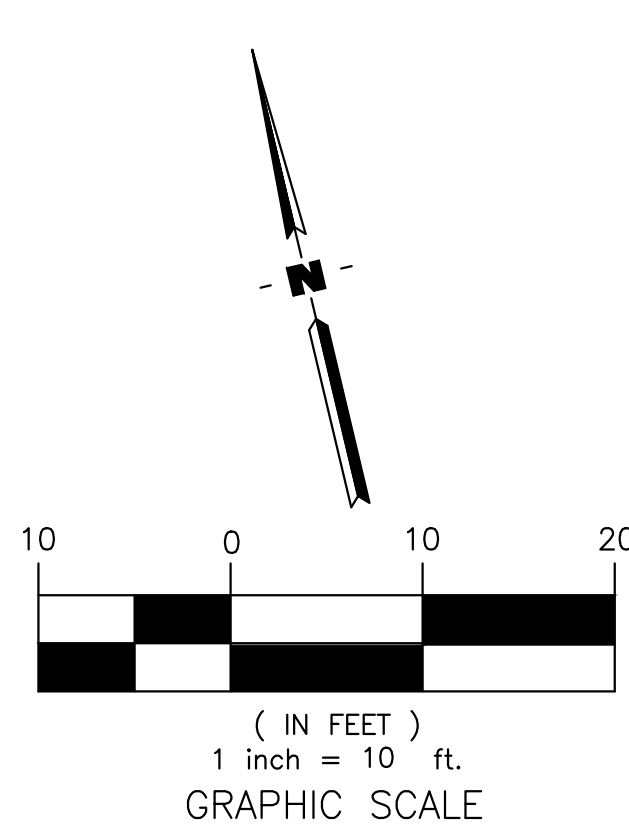
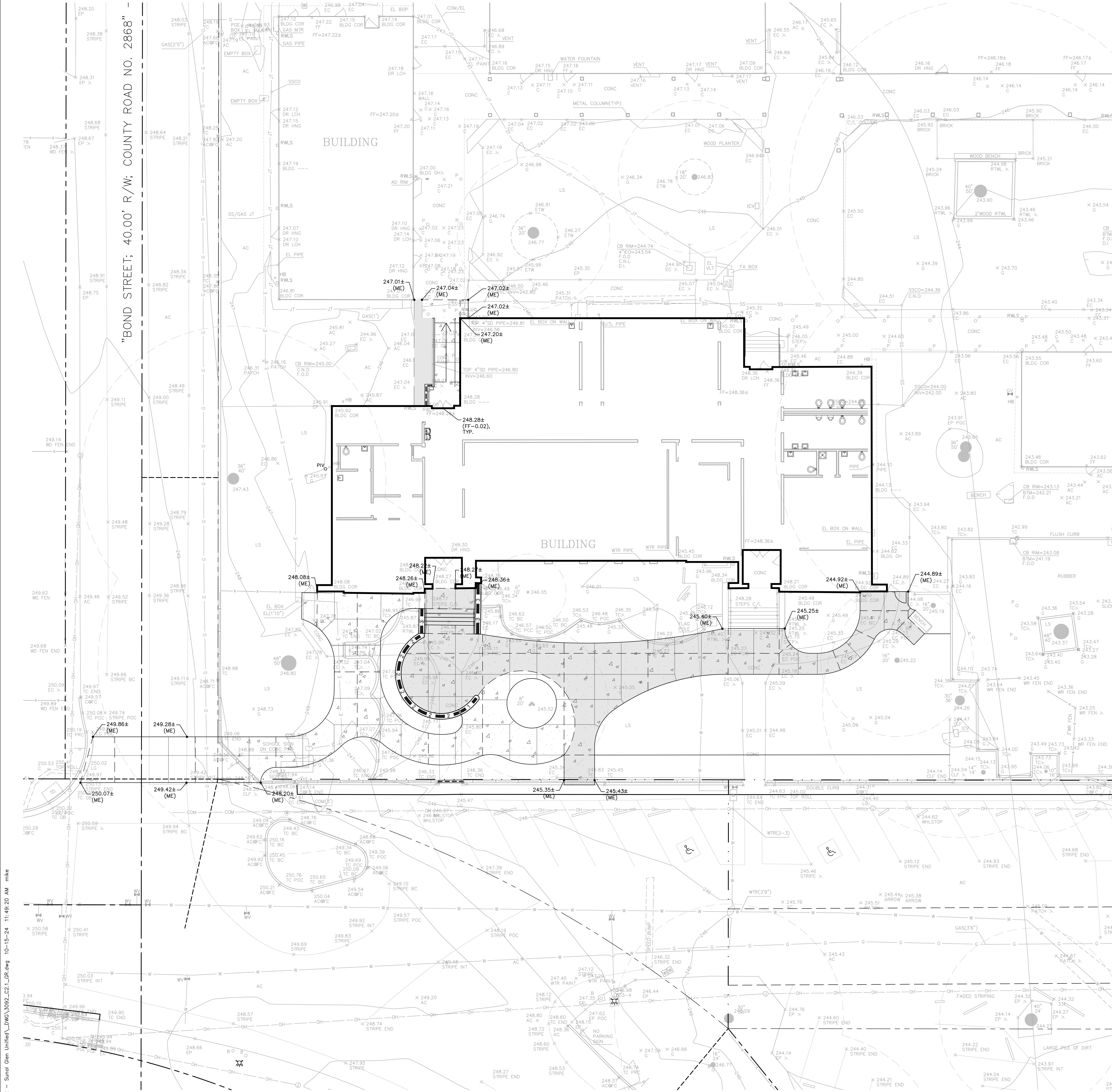
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PROJECT

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GRADING &  
DRAINAGE PLAN

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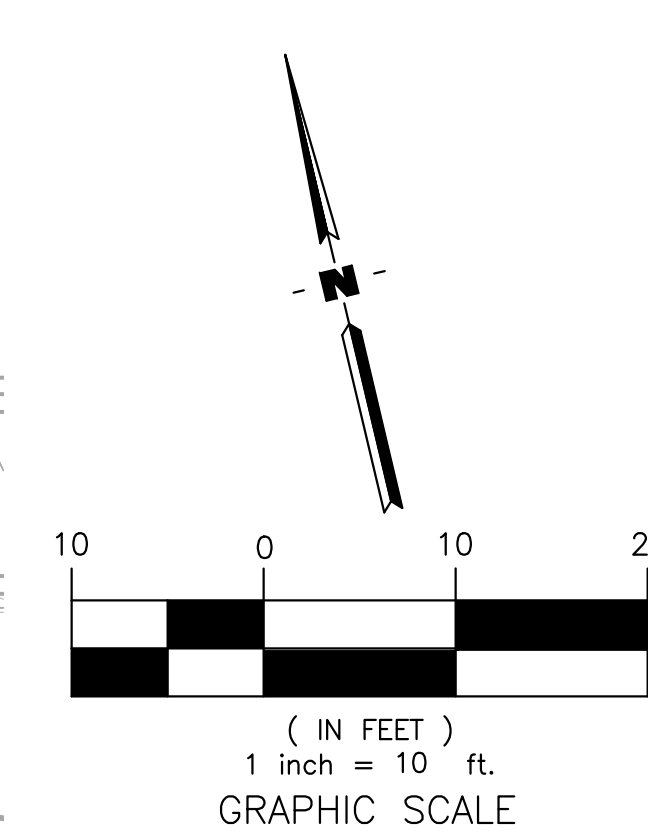
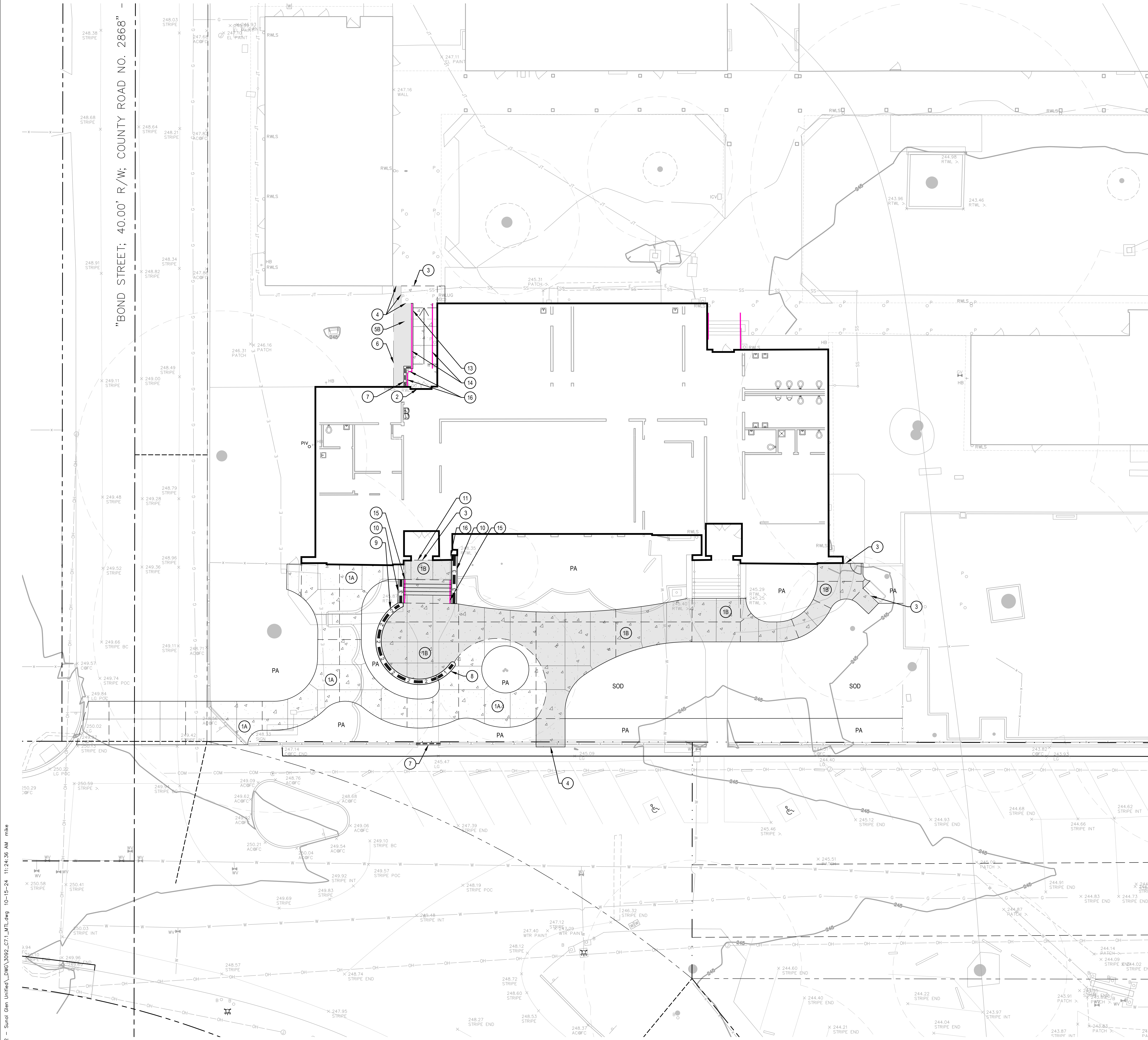
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#### MATERIAL & DETAIL REFERENCE NOTES

- THESE NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH AND AS A SUPPLEMENT TO THE WRITTEN SPECIFICATIONS, DETAILS, ADDENDA AND CHANGE ORDERS ASSOCIATED WITH THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL BECOME FAMILIAR WITH THE LOCATION OF EXISTING AND PROPOSED UNDERGROUND SERVICES. CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800) 642-2444 PRIOR TO BEGINNING WORK. CONTACT DISTRICT REPRESENTATIVE SHOULD ANY CONFLICTS ARISE.
- SCORE AND EXPANSION JOINTS SHALL BE LOCATED AS INDICATED ON THIS PLAN. CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS WHEN NECESSARY TO ALIGN SCORE AND EXPANSION JOINTS WITH RELATIVE ELEMENTS AS SHOWN ON THE PLAN.
- DETAIL CALLOUTS ON PLAN ARE PROVIDED FOR CONVENIENCE AND GENERAL REFERENCE ONLY. CONTRACTOR SHALL PROVIDE QUANTITY OF PRODUCTS, ELEMENTS AND MATERIALS AS SYMBOLIZED ON PLANS, ASSOCIATED DETAILS AND SPECIFICATIONS.
- FOR EACH CONCRETE FINISH SPECIFIED, CONTRACTOR SHALL POUR A 2x2' SAMPLE FOR APPROVAL BY DISTRICT REPRESENTATIVE PRIOR TO INSTALLING CONCRETE PAVING.
- CIVIL ENGINEER IS NOT RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION. IF WORK WITHIN THIS SCOPE REQUIRES REMOVAL, RENOVATION, OR DEMOLITION OF EXISTING TO REMAIN ELEMENTS, BOTH SURFACE AND KNOWN SUBSURFACE CONDITIONS, CONTRACTOR SHALL INCLUDE IN THE BID SUFFICIENT LABOR AND MATERIALS TO RESTORE EXISTING TO REMAIN IMPROVEMENTS IN-KIND AND AS ACCEPTABLE TO DISTRICT REPRESENTATIVE.
- CONTRACTOR SHALL COORDINATE ROUGH GRADING AND FINE GRADING TO ENSURE EXISTING SUITABLE TOPSOIL IS REMOVED, STOCKPILED AND REINSTALLED INTO ALL PROPOSED LANDSCAPE AREAS PER LANDSCAPE SPECIFICATION SECTION 32 90 00. IN THE EVENT THERE IS NOT ENOUGH EXISTING TOPSOIL, OR NO PLACE TO STOCKPILE TOPSOIL, CONTRACTOR SHALL IMPORT AND INSTALL TOPSOIL PER LANDSCAPE SPECIFICATION SECTION 32 90 00.
- THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT FOR REPAIRING OR REPLACING, AT THEIR OWN EXPENSE, SURFACE AND SUBSURFACE SITE FEATURES TO REMAIN, INCLUDING BUT NOT LIMITED TO ANY STRUCTURES, FENCES, WALLS, PAVING SURFACES, PLANT MATERIAL AND/OR TREES DAMAGED OR DESTROYED, BOTH ON THIS PROPERTY OR THOSE PROPERTIES ADJACENT TO THIS SITE. THE DAMAGED ITEM(S) WILL BE RESTORED TO THEIR ORIGINAL CONDITION OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL ADJUST EXISTING UTILITY BOXES TO BE FLUSH WITH PROPOSED GRADES.
- REFER TO CONSTRUCTION DETAILS ON SHEETS 1-C6.1 - 1-C6.2
- REFER TO THE FOLLOWING SPECIFICATION SECTIONS:

01 56 39	TEMPORARY TREE AND PLANT PROTECTION
05 52 00	METAL RAILINGS
32 12 16	ASPHALT PAVING
32 12 36	SLURRY SEAL EXISTING ASPHALT PLAYGROUND
32 13 13	CONCRETE WORK
32 14 00	UNIT PAVING
32 14 40	STONE PAVING
32 31 13	CHAIN LINK FENCING AND GATES

#### MATERIAL & DETAIL REFERENCE LEGEND

KEYNOTE	DETAIL NAME	SYMBOL	DETAIL REFERENCE
1A	CONCRETE PAVING - PEDESTRIAN "LAMP BLACK"		1/C6.1
1B	CONCRETE PAVING - PEDESTRIAN "COLORBED"		1/C6.1
1C	CONCRETE PAVING - VEHICULAR "LAMP BLACK"		1/C6.1
2	CONCRETE THRESHOLD @ (E) BLDG		2/C6.1
3	(N) CONCRETE TO (E) CONCRETE		3/C6.1
4	CONCRETE TO ASPHALT		4/C6.1
5A	ASPHALT PAVING - VEHICULAR		4/C6.1
5B	ASPHALT PAVING - PEDESTRIAN		4/C6.1
6	(N) ASPHALT TO (E) ASPHALT		5/C6.1
7	CONCRETE CURB		6/C6.1
8	CONCRETE WALL - TYPE I		7/C6.1
9	CONCRETE WALL - TYPE II		8/C6.1
10	CONCRETE WALL - TYPE III		9/C6.1
11	CONCRETE STEPS		1/C6.2
12	EDGE OF STEPS		2/C6.2
13	EDGE OF RAMP		3/C6.2
14	HANDRAIL @ RAMP		S.A.D.
15	HANDRAIL IN STEPS		S.A.D.
16	RAIL PANEL		S.A.D.
17	PLANTING AREA		C6.1
18	TURF AREA		C6.1

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**ENGINEERING**  
*engineers and surveyors*

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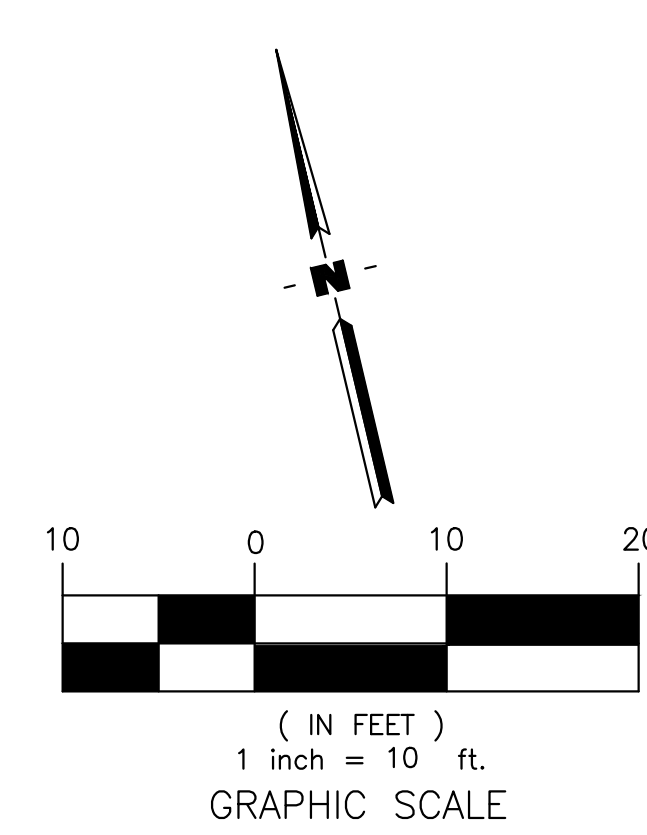
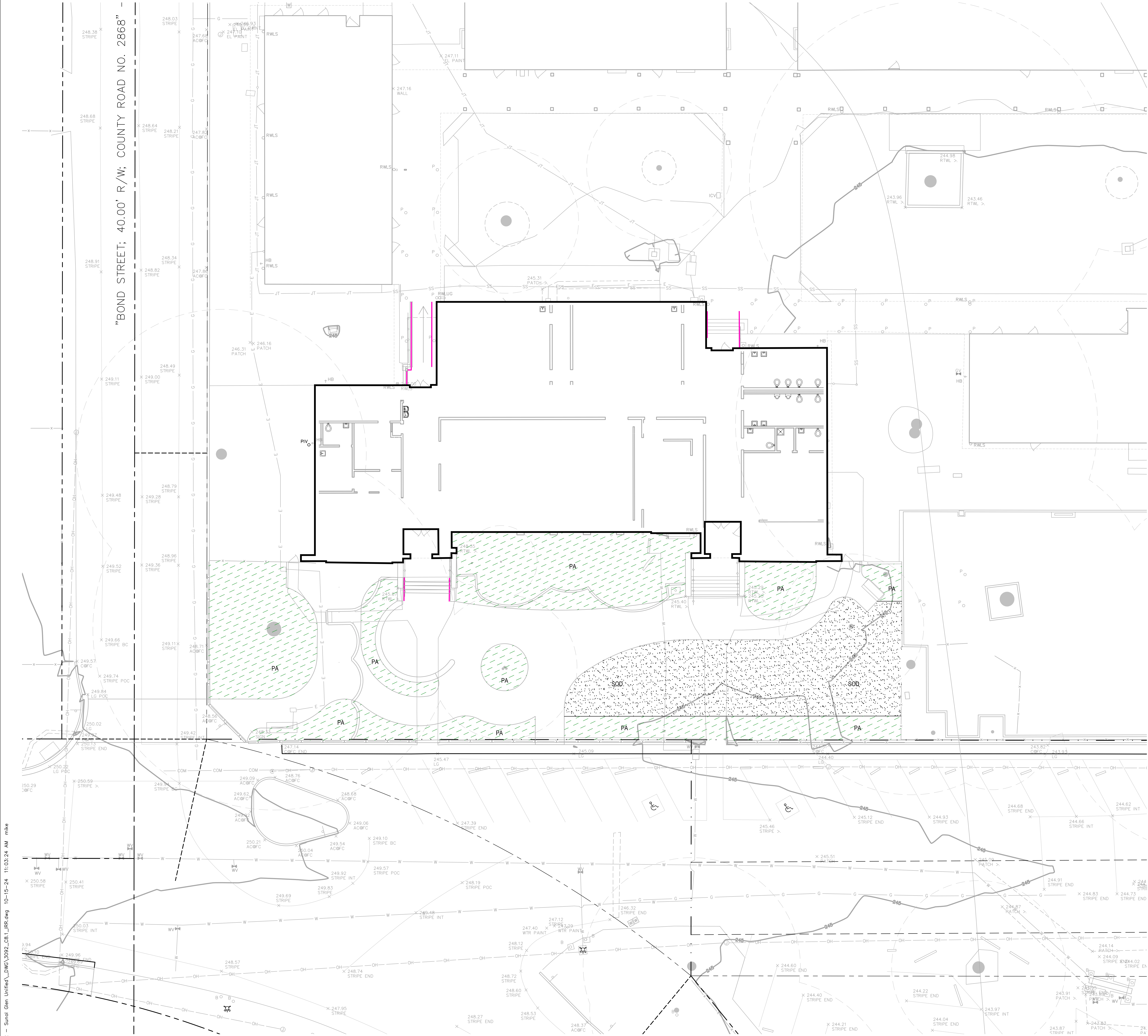
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#### IRRIGATION NOTES

- CARROLL ENGINEERING, INC. HAS COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.
- MATTHEW PAUL MARTUS, CALIFORNIA PE #68770
- THESE NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH AND AS A SUPPLEMENT TO THE WRITTEN SPECIFICATIONS, DETAILS, ADDENDA AND CHANGE ORDERS ASSOCIATED WITH THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL BECOME FAMILIAR WITH THE LOCATION OF EXISTING AND PROPOSED UNDERGROUND SERVICES. CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800) 642-2444 PRIOR TO BEGINNING WORK. CONTACT DISTRICT REPRESENTATIVE SHOULD ANY CONFLICTS ARISE.
- THE IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS. SCHOOL IRRIGATION SYSTEM IS DESIGNED TO OPERATE AT 75 PSI AND 100 GPM FROM THE POINT OF CONNECTION. CONTRACTOR SHALL VERIFY PRESSURE AND FLOW PRIOR TO BEGINNING OF WORK. CONTACT DISTRICT REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE.
- THE IRRIGATION SYSTEM DESIGN IS DIAGRAMMATIC. WHERE PIPING, VALVES, ETC. ARE SHOWN OUTSIDE OF PLANTING AREAS, THE INTENT IS FOR PIPING, VALVES, ETC. TO BE INSTALLED WITHIN PLANTING AREAS UNLESS OTHERWISE NOTED AND DETAILED.
- CONTRACTOR SHALL COORDINATE IRRIGATION INSTALLATION WITH OTHER TRADES. CONTRACTOR TO COORDINATE AND VERIFY ALL SLEEVING, PIPING, ELECTRICAL SUPPLY, POINT OF CONNECTION, ETC.
- CONTRACTOR IS RESPONSIBLE FOR COMPLETE AND UNIFORM COVERAGE OF ALL PLANTING AND TURF AREAS. CONTRACTOR TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN OPTIMUM OPERATING PRESSURE FOR EACH CIRCUIT. ADJUST SPRAY HEADS AND NOZZLES FOR OPTIMUM COVERAGE WHILE PREVENTING OVERSPRAY ONTO WALKWAYS AND STRUCTURES BY USE OF PRESSURE COMPENSATING DEVICES.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN TRENCHING AROUND EXISTING TREES AND SHRUBS. CONTRACTOR SHALL HAND TRENCH WHEN TRENCHING ACROSS ROOTS 2" AND LARGER TO PRESERVE ROOT SYSTEM. ROOTS SMALLER THAN 2" MAY BE TRIMMED. DO NOT TEAR ANY ROOTS.
- REMOTE CONTROL VALVES FOR TURF FIELD ARE BURIED BELOW FINISH GRADE. CONTRACTOR SHALL ENSURE (E) VALVES ARE OPERATION BEFORE, DURING AND AFTER CONSTRUCTION.
- REFER TO SPECIFICATIONS SECTION 32 04 00 AND IRRIGATIONS DETAILS ON SHEET L10.1 AND L10.2

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**CARROLL ENGINEERING**  
Matthew Paul Martus  
REGISTERED PROFESSIONAL ENGINEER  
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REGISTERED PROFESSIONAL ENGINEER  
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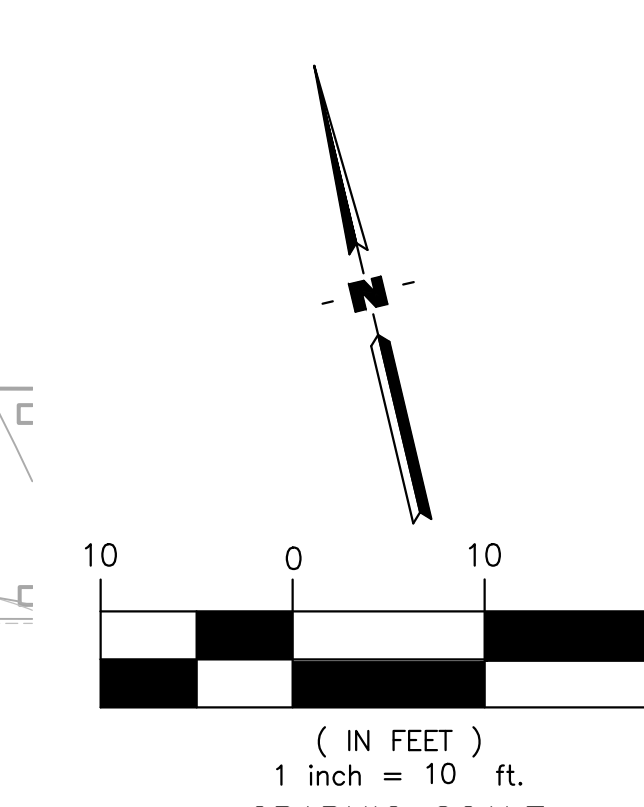
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1. THESE NOTES ARE FOR GENERAL REFERENCE IN CONJUNCTION WITH, AND AS A SUPPLEMENT TO THE WRITTEN SPECIFICATIONS, DETAILS, ADDENDA AND CHANGE ORDERS ASSOCIATED WITH THE CONTRACT DOCUMENTS.
2. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION.
3. CONTRACTOR SHALL BECOME FAMILIAR WITH THE LOCATION OF ALL EXISTING AND PROPOSED UNDERGROUND SERVICES AND IMPROVEMENTS WHICH MAY CONFLICT WITH WORK TO BE DONE. CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800) 642-2444 PRIOR TO DIGGING. NOTIFY DISTRICT REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE.
4. FINE GRADING, HEADERS AND IRRIGATION COVERAGE SHALL BE APPROVED BY DISTRICT REPRESENTATIVE PRIOR TO PLANTING OPERATIONS.
5. CONTRACTOR SHALL LAY OUT PLANT MATERIAL PER PLAN AND FACE TO GIVE BEST APPEARANCE OR RELATION TO ADJACENT PLANTS, STRUCTURES OR VIEWS. CONTRACTOR TO OBTAIN APPROVAL FROM DISTRICT REPRESENTATIVE PRIOR TO INSTALLATION.
6. PLANT MATERIAL SHALL NOT BE INSTALLED IN AN AREA WHICH WILL CAUSE HARM TO ADJACENT STRUCTURES OR OBSTRUCT IRRIGATION SPRAY PATTERN. NOTIFY THE DISTRICT REPRESENTATIVE SHOULD CONFLICTS ARISE.
7. PRIOR TO PLANTING INSTALLATION, OBTAIN APPROVAL OF PLANT LAYOUT FROM DISTRICT REPRESENTATIVE. PLANT LOCATIONS ARE DIAGRAMMATIC AND MAY BE ADJUSTED IN THE FIELD AT THE DISTRICT REPRESENTATIVE'S REQUEST.
8. AT THE DISTRICT REPRESENTATIVE'S REQUEST, UNLESS OTHERWISE NOTED, FINISH GRADE OF PLANTING AREAS SHALL BE 2" BELOW ADJACENT PAVING. TAPER 3" DEPTH BARK MULCH TOP DRESSING TO 1/2" BELOW ADJACENT PAVING (1-1/2" DEPTH) WITHIN 2' OF PAVING.
9. GROUND COVERS SHALL BE PLANTED EVENLY AND CONTINUOUSLY UNDER TREE AND SHRUB MASSES.
10. PLANTING AREAS SHALL RECEIVE A 3" MIN. DEPTH BARK MULCH TOP DRESSING.
11. ALL NEWLY PLANTED MATERIAL SHALL BE THOROUGHLY SOAKED WITH WATER WITHIN 3 HOURS OF PLANTING.
12. ALL (E) TREES, SHRUBS AND GROUND COVERS TO REMAIN SHALL BE PROTECTED, AN DAMAGE CAUSED BY CONTRACTOR'S WORK OR NEGLIGENCE SHALL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE DISTRICT REPRESENTATIVE.
13. CONTRACTOR SHALL RE-STAKE AND STRAIGHTEN TREES AS NECESSARY (30) THIRTY DAYS AFTER PLANTING.
14. ALL NEWLY PLANTED TREES SHALL MAINTAIN VERTICAL DISTANCE 80" AT FINISH ELEVATION ALONG CIRCULATION PATHS, TYP. \$11B-307.4.
15. REFER TO PLANTING DETAILS ON SHEET 1-C11

PLANTING PALETTE		TURF PLANTING		
SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	WUCOLS
TREES:				
CER DES	36" BOX	CERCIDIMUM 'DESERT MUSEUM'	PALO VERDE	LOW
LAG MUS	36" BOX	LAGERSTROEMIA INDICA X FAURIEI 'MUSKOGEE'	LAVENDER GRAPE MYRTLE	LOW
LAG NAT	36" BOX	LAGERSTROEMIA INDICA X FAURIEI 'NATCHEZ'	WHITE GRAPE MYRTLE	MEDIUM
LAU NOB	36" BOX	LAURUS NOBILIS GRECIAN LAUREL	SWEET BAY	LOW
PIS CHI	36" BOX	PISTACHIO CHINENSIS 'KEITH DAVEY'	FRUITLESS CHINESE PISTACHE	LOW
RHA MA	36" BOX	RHAPHIOLEPUS INDICA 'MAJESTIC BEAUTY'	WATER GUM	MEDIUM
ZEL WIR	36" BOX	ZELKOVA SERRATA 'WIRELESS'	BROAD SAWLEAF ZELKOVA	MEDIUM
CIT AUR	24" BOX	CITRUS X AURANTIIFOLIA	LIME	MEDIUM
CIT MEU	24" BOX	CITRUS X MEUERI	MEYER LEMON	MEDIUM
MAL DOM	24" BOX	MALUS DOMESTICA	APPLE FUJI + GALA	MEDIUM
SHRUBS:				
ARI GRA	5 GAL	ANIGOZANTHOS 'BUSH TANGU'	ORANGE KANGAROO PAW	LOW
ARI RED	5 GAL	ANIGOZANTHOS FLAVIDUS 'BIG RED'	RED KANGAROO PAW	LOW
ARI YEL	5 GAL	ANIGOZANTHOS FLAVIDUS 'BIG ROO YELLOW'	YELLOW KANGAROO PAW	LOW
BOU GRA	1 GAL	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLUE GRAMA	LOW
CAL FOL	1 GAL	CALAMAGROSTIS FOLIOSA	MENDOCINO REED GRASS	LOW
CHO TEC	1 GAL	CHONDROPETALUM TECTORUM	SMALL CANE RUSSH	LOW
JUN PAT	5 GAL	JUNCUS PATENS 'ELK BLUE'	ELK BLUE CALIFORNIA GRAY RUSSH	LOW
MUH CAP	5 GAL	MULHENBERGIA CAPITILLARIS 'REGAL MIST'	PINK MUHLY	LOW
MUH WHI	5 GAL	MULHENBERGIA CAPITILLARIS 'WHITE CLOUD'	WHITE CLOUD MUHLY	LOW
PHO MAO	5 GAL	PHORMIUM 'MAORI QUEEN'	MAORI QUEEN NEW ZEALAND FLAX	LOW
BIO-RETENTION SHRUBS:				
██████████	1 GAL	CAREX PANSA - PLANT @ 8" O.C.	CALIFORNIA MEADOW SEDGE	LOW

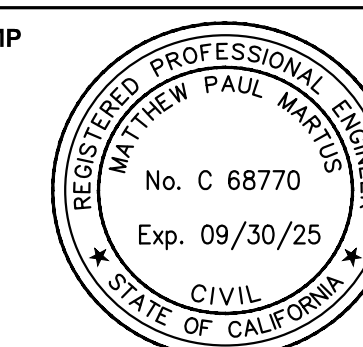
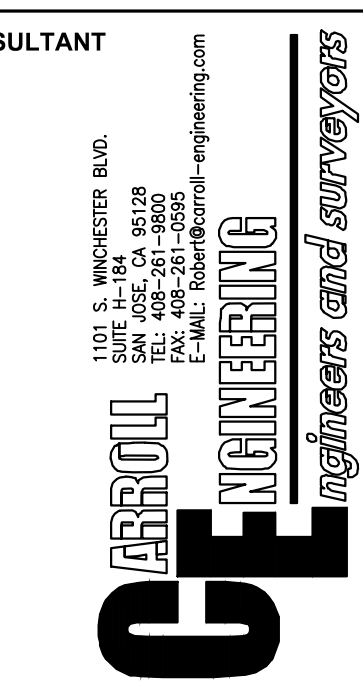
KEYNOTE	DETAIL NAME	SYMBOL	DETAIL REFERENCE
	PLANTING AREA		C
	TURF AREA		C
	HEADERBOARD @ TURF		C

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PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

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APPL #	XX-XXXXX

REVISIONS		
No.	Description	Date
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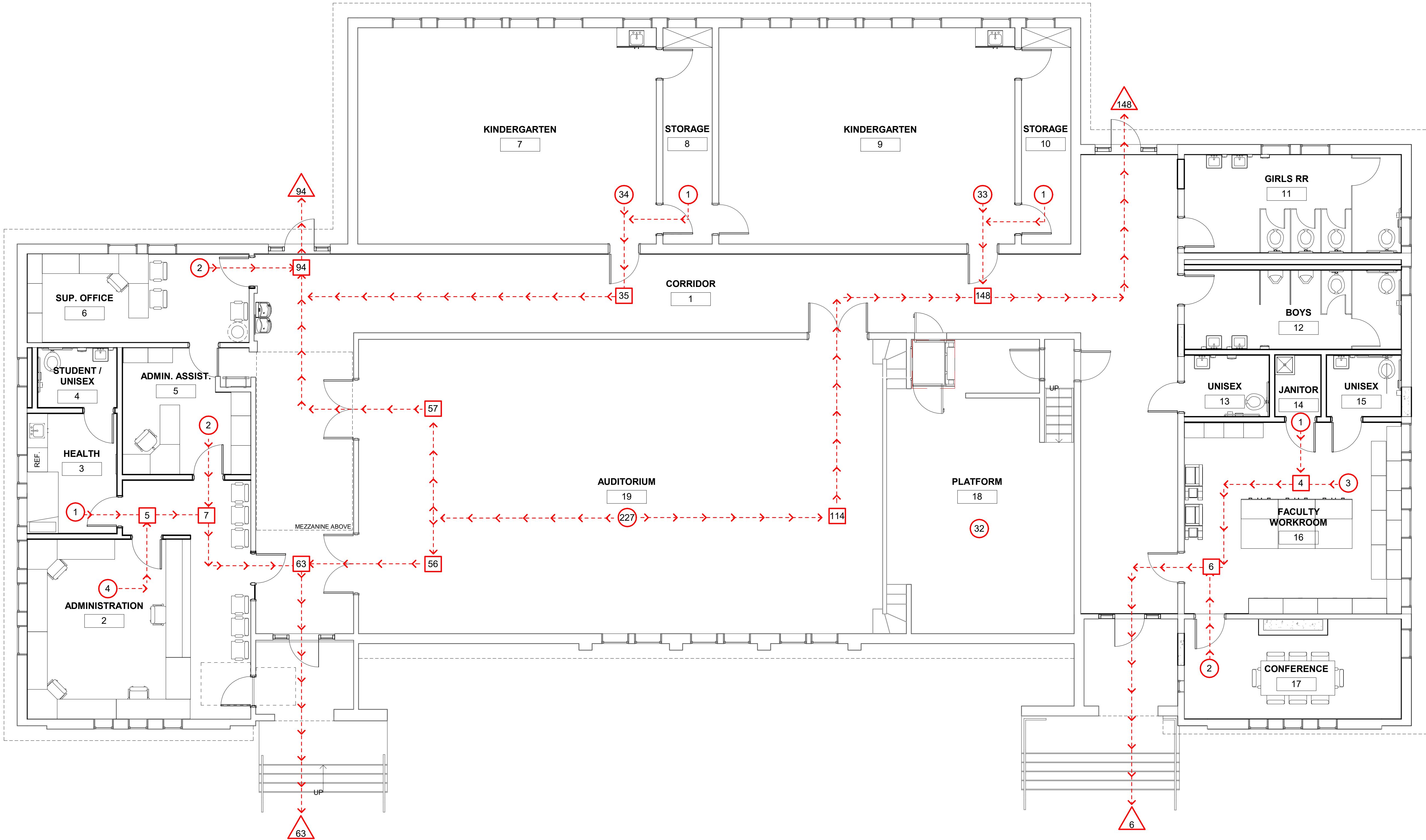
**PLANTING  
PLAN**

JOB #	2023054	CEI #	3092
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\\3092 - Sunol Glen Unified\\\_DWG\\3092\_C9.1\_PLTG.dwg 10-15-24 10:52:37 AM mike





1 NEW FLOOR PLAN  
SCALE: 3/16" = 1'-0"

#### EXITING ANALYSIS

NUMBER	NAME	AREA	OCCUPANCY GROUP	OCCUPANCY LOAD FACTOR, SF/OCC.	OCCUPANT LOAD	EXIT WIDTH REQUIRED, (INCHES)	REQ. # OF EXITS	EXIT WIDTH PROVIDED, (INCHES)
<strong>FIRST FLOOR</strong>								
1	CORRIDOR	1429 SF	-					
2	ADMINISTRATION	489 SF	BUSINESS	150	4	0.2	1	36
3	HEALTH	111 SF	BUSINESS	150	1	0.2	1	36
4	STUDENT / UNISEX	49 SF	-					
5	ADMIN. ASSIST.	167 SF	BUSINESS	150	2	0.2	1	36
6	SUP. OFFICE	203 SF	BUSINESS	150	2	0.2	1	36
7	KINDERGARTEN	663 SF	EDUCATION	20	34	6.8	1	36
8	STORAGE	110 SF	STORAGE	300	1	0.2	1	36
9	KINDERGARTEN	658 SF	EDUCATION	20	33	6.6	1	36
10	STORAGE	110 SF	STORAGE	300	1	0.2	1	36
11	GIRLS RR	221 SF	-					
12	BOYS	195 SF	-					
13	UNISEX	47 SF	-					
14	JANITOR	25 SF	STORAGE	300	1	0.2	1	36
15	UNISEX	41 SF	-					
16	FACULTY WORKROOM	428 SF	BUSINESS	150	3	0.2	1	36
17	CONFERENCE	224 SF	BUSINESS	150	2	0.2	1	36
18	PLATFORM	480 SF	ASSEMBLY	15	32	6.4	1	36
19	AUDITORIUM	1586 SF	ASSEMBLY	7	227	45.4	2	216

NOTE:  
\*EGRESS WIDTH CALCULATED AS OCCUPANT LOAD x 0.2" FOR ALL ROOMS EXCEPT STAIRS, WHICH ARE CALCULATED AS OCCUPANT LOAD x 0.3", PER C.B.C. 1005.3.1, OR 48" CLEAR BETWEEN HANDRAILS PER C.B.C. 1007.3, WHICHEVER IS MORE STRINGENT.

#### GRAPHIC KEY

##### WALL TYPES:

EXISTING WALL TO REMAIN

NEW STUD WALL

1 HR CORRIDOR WALL, SEE TYPICAL FIRE BARRIER PROTECTION STENCIL DETAIL

1HR OCCUPANCY SEPARATION WALL, SEE TYPICAL FIRE BARRIER PROTECTION STENCIL DETAIL

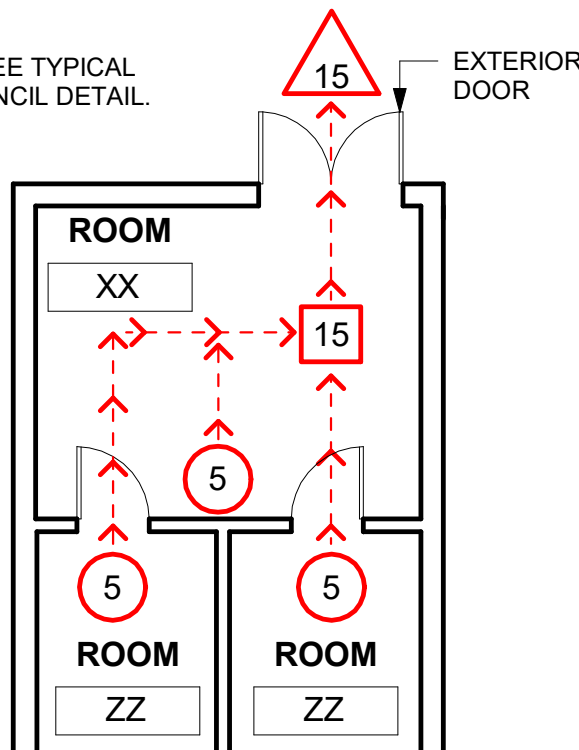
2HR AREA SEPARATION WALL, SEE TYPICAL FIRE BARRIER PROTECTION STENCIL DETAIL

EXIT ANALYSIS PATH OF TRAVEL

ROOM OCCUPANT LOAD

COMBINED OCCUPANT LOAD

TOTAL FLOOR OCCUPANT LOAD



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San Jose, CA 95113  
tel: (408)-300-5160  
fax: (408)-300-5121

#### PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

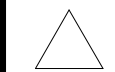
SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

STAMP

#### REVISIONS

No.	Description	Date
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#### EXIT ANALYSIS

DATE 10.16.2024

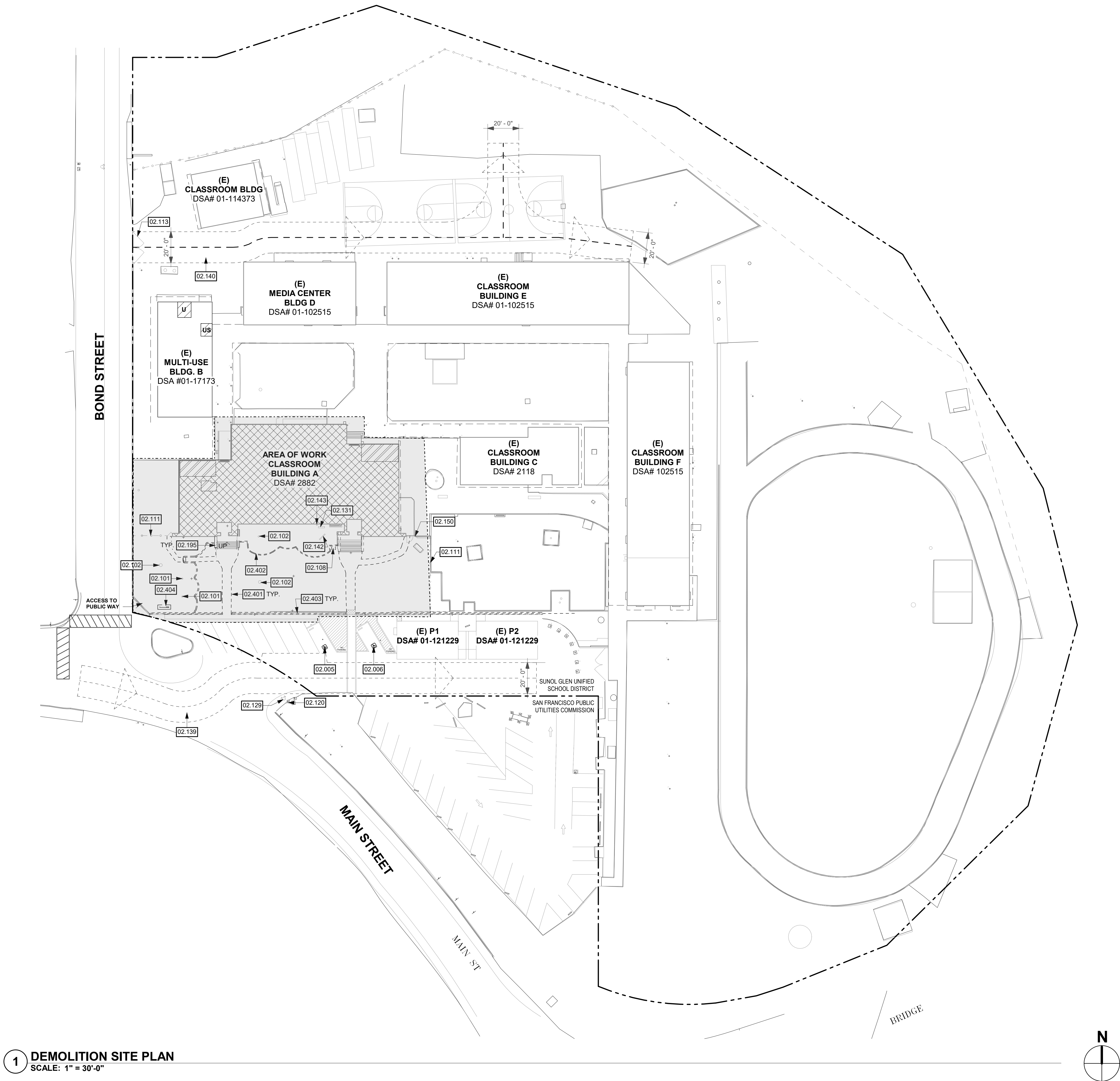
JOB # 2023054

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1 DEMOLITION SITE PLAN  
SCALE: 1" = 30'-0"

CAMPUS CODE ANALYSIS

OCCUPANCY TYPE	OCCUPANCY TYPE	CONSTRUCTION TYPE	SPRINKLER	BASIC ALLOWABLE AREA	ACTUAL AREA	ALLOWABLE STORIES	ACTUAL STORIES
(E) BLDG A - MAIN	B, E	V-B	Y	36,000	8,233	2	1
(E) BLDG B - MPR	A-2	V-B	N	6,000	2,606	1	1
(E) BLDG C - K-1	E	V-B	Y	38,000	2,468	2	1
(E) BLDG D - MEDIA CTR.	E	V-B	N	9,500	2,895	1	1
(E) BLDG E - CLASSROOM	E	V-B	N	9,500	6,772	1	1
(E) BLDG F - CLASSROOM	E	V-B	N	9,500	6,286	1	1
(E) BLDG G - CLASSROOM	E	V-B	N	9,500	1,440	1	1
(E) BLDG P1 & P2	E	V-B	N	9,500	1,440	1	1

PARKING SCHEDULE

NO.	DESCRIPTION	TOTAL PARKING SPACES	TOTAL ACCESSIBLE PARKING SPACES REQUIRED	ACCESSIBLE PARKING SPACES PROVIDED	VAN ACCESSIBLE SPACES REQUIRED	VAN ACCESSIBLE SPACES PROVIDED
LOT 1	VISITORS AND STAFF	9	1	2	1	1

NOTE: THE TRIANGULAR PARKING LOT IS A PUBLIC LOT OWNED BY SAN FRANCISCO PUBLIC UTILITIES COMMISSION - NOT PART OF DISTRICT PROPERTY.

GENERAL SHEET NOTES

- A CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED UNDER THIS PROJECT AND PATH OF TRAVEL COMPLIES WITH CBC 11B.205.
- B CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.
- C CONTRACTOR TO COORDINATE WITH LOCAL FIRE MARSHALL, CITY, AND DISTRICT FOR THE INSTALLATION OF FIRE HYDRANTS AND FIRE SPRINKLER SYSTEMS. NEW FIRE HYDRANTS ARE TO BE INSTALLED AND OPERATIONAL PRIOR TO STORING COMBUSTIBLE MATERIAL ON SITE PER CFC SECTION 1412. AN APPROVED TEMPORARY WATER SUPPLY FOR FIRE PROTECTION SHALL BE PROVIDED IF PERMANENT SOURCE IS NOT AVAILABLE.
- D DO NOT INTERRUPT EXISTING UTILITY SERVICES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AND COORDINATED WITH THE OWNER.
- E PROTECT EXISTING & NEW STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION.
- F REFER TO CIVIL, STRUCTURAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR EXTENT OF CIVIL, STRUCTURAL, PLUMBING, AND ELECTRICAL WORK.
- G THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THE PROJECTS WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLDS OR LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS. DURING CONSTRUCTION IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE.
- H ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

DEMOLITION SITE PLAN KEYNOTES

- 02.000 (E) VAN ACCESSIBLE PARKING STALL AND SIGNAGE, DSA #01-121229
- 02.006 (E) STANDARD ACCESSIBLE PARKING STALL AND SIGNAGE, DSA #01-121229
- 02.101 (E) TREE TO BE REMOVED, S.C.D.
- 02.102 (E) TREE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION, S.C.D.
- 02.108 (E) FLAG POLE TO BE REMOVED AND REINSTALLED
- 02.111 (E) CHAIN-LINK FENCE TO REMAIN
- 02.113 (E) 20' WIDE VEHICULAR GATE TO REMAIN
- 02.120 (E) TOW AWAY SIGN TO REMAIN
- 02.129 (E) FIRE HYDRANT
- 02.131 (E) WATER METER / VALVE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION
- 02.139 (E) EMERGENCY VEHICLE ACCESS DSA #2882
- 02.140 (E) EMERGENCY VEHICLE ACCESS DSA #01-102515
- 02.142 (E) TILE PONY WALL TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION
- 02.143 (E) FIRE DEPARTMENT CONNECTION TO REMAIN AND BE PROTECTED DURING CONSTRUCTION
- 02.150 (E) CHAIN LINK FENCE TO BE DEMOLISHED
- 02.195 (E) RETAINING WALL TO BE DEMOLISHED
- 02.401 (E) CONCRETE PAVING TO BE DEMOLISHED, S.C.D.
- 02.402 (E) CONCRETE CURB TO BE DEMOLISHED, S.C.D.
- 02.403 (E) CHAIN LINK FENCING AND CURB TO BE DEMOLISHED, S.C.D.
- 02.404 (E) MARQUEE SIGN TO BE REMOVED AND SALVAGED FOR RELOCATION, S.C.D.



810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

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

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply. Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

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

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

PROJECT INFORMATION			
School District/Owner:	SUNOL GLEN UNIFIED SCHOOL DISTRICT		
Project Name/School:	SUNOL GLEN SCHOOL		
Project Address:	11601 MAIN STREET, SUNOL, CA 94586		
FIRE & LIFE SAFETY INFORMATION			
1. Has a fire hydrant flow test been performed within the past 12 months? (If yes, provide a copy of the test data.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
2. Was the fire hydrant water flow test performed as part of this LFA review?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
3. Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? (If yes, indicate FHSZ classification below.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Refer to the following website for FHSZ locations: Fire Hazard Severity Zones in State Responsibility Areas	Moderate <input checked="" type="checkbox"/>	High <input type="checkbox"/>	Very High <input type="checkbox"/>
Wildland Interface Area (WIFA) (If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)	WIFA <input checked="" type="checkbox"/>		

GRAPHIC KEY

- EXISTING TO BE MODERNIZED
- EXISTING TOILET ROOMS. REFER TO NOTES FOR ADDITIONAL INFORMATION
- EXISTING CONSTRUCTION TO REMAIN
- AREA OF WORK UNDER THIS PROJECT
- PROPERTY LINE
- EXISTING CHAIN LINK FENCE
- EXISTING FIRE HYDRANT
- (E) F.H.

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fax: (408) 300-5121

PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

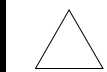
SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

STAMP

REVISIONS

No.	Description	Date
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SHEET

DEMOLITION SITE  
PLAN AND CAMPUS  
CODE ANALYSIS

DATE 10.16.2024

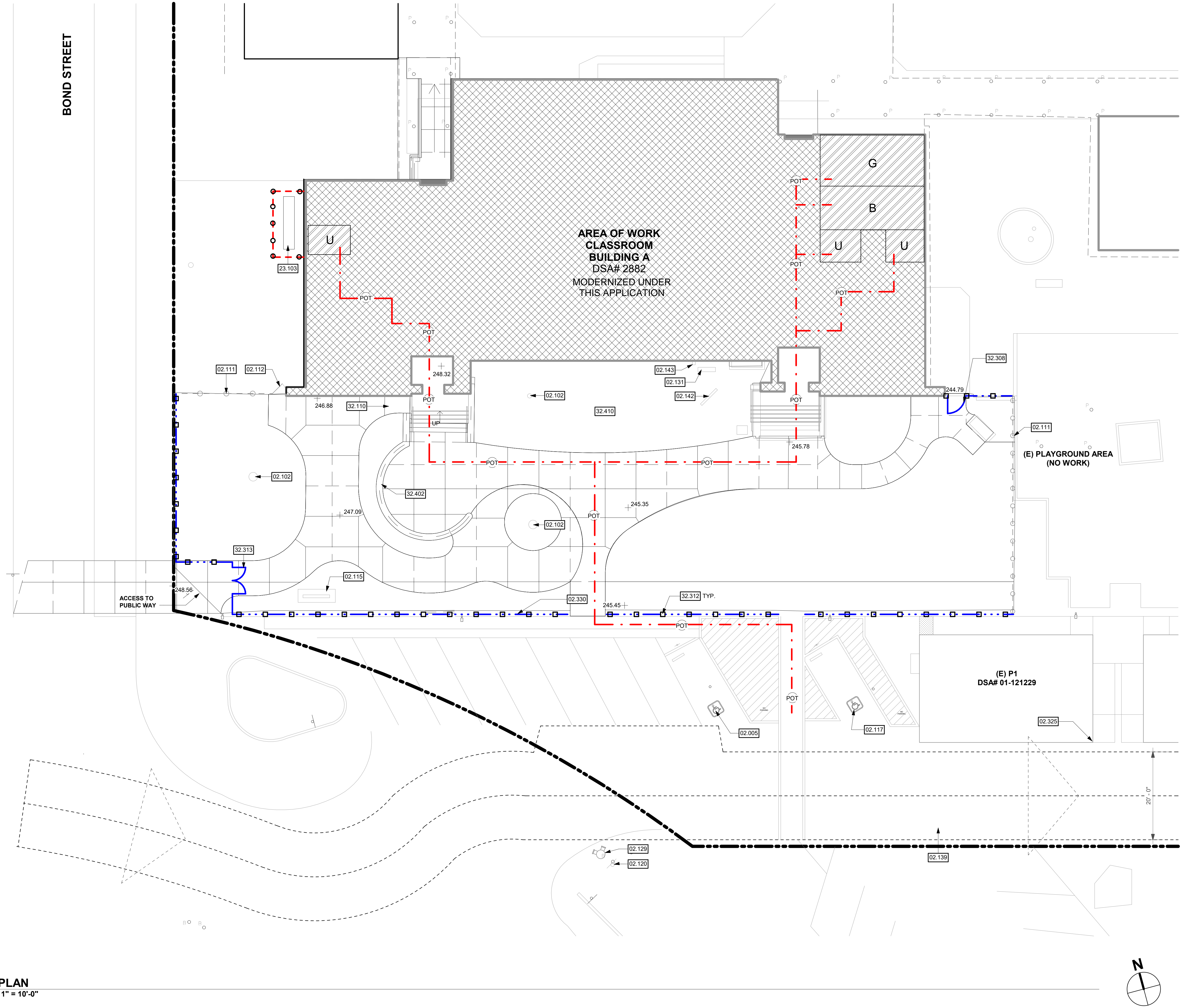
JOB # 2023054

SHEET #

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1 SITE PLAN  
SCALE: 1" = 10'-0"



GENERAL SHEET NOTES

- A CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED UNDER THIS PROJECT AND PATH OF TRAVEL COMPLIES WITH CBC 11B-206.
- B CONTRACTOR SHALL MAINTAIN FIRE LANE ACCESS THROUGHOUT PROJECT.
- C CONTRACTOR TO COORDINATE WITH LOCAL FIRE MARSHALL, CITY, AND DISTRICT FOR THE INSTALLATION OF FIRE HYDRANTS AND FIRE SPRINKLER SYSTEMS. NEW FIRE HYDRANTS ARE TO BE INSTALLED AND OPERATIONAL PRIOR TO STORING COMBUSTIBLE MATERIAL ON SITE PER CFC SECTION 1412. AN APPROVED TEMPORARY WATER SUPPLY FOR FIRE PROTECTION SHALL BE PROVIDED IF PERMANENT SOURCE IS NOT AVAILABLE.
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- H ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

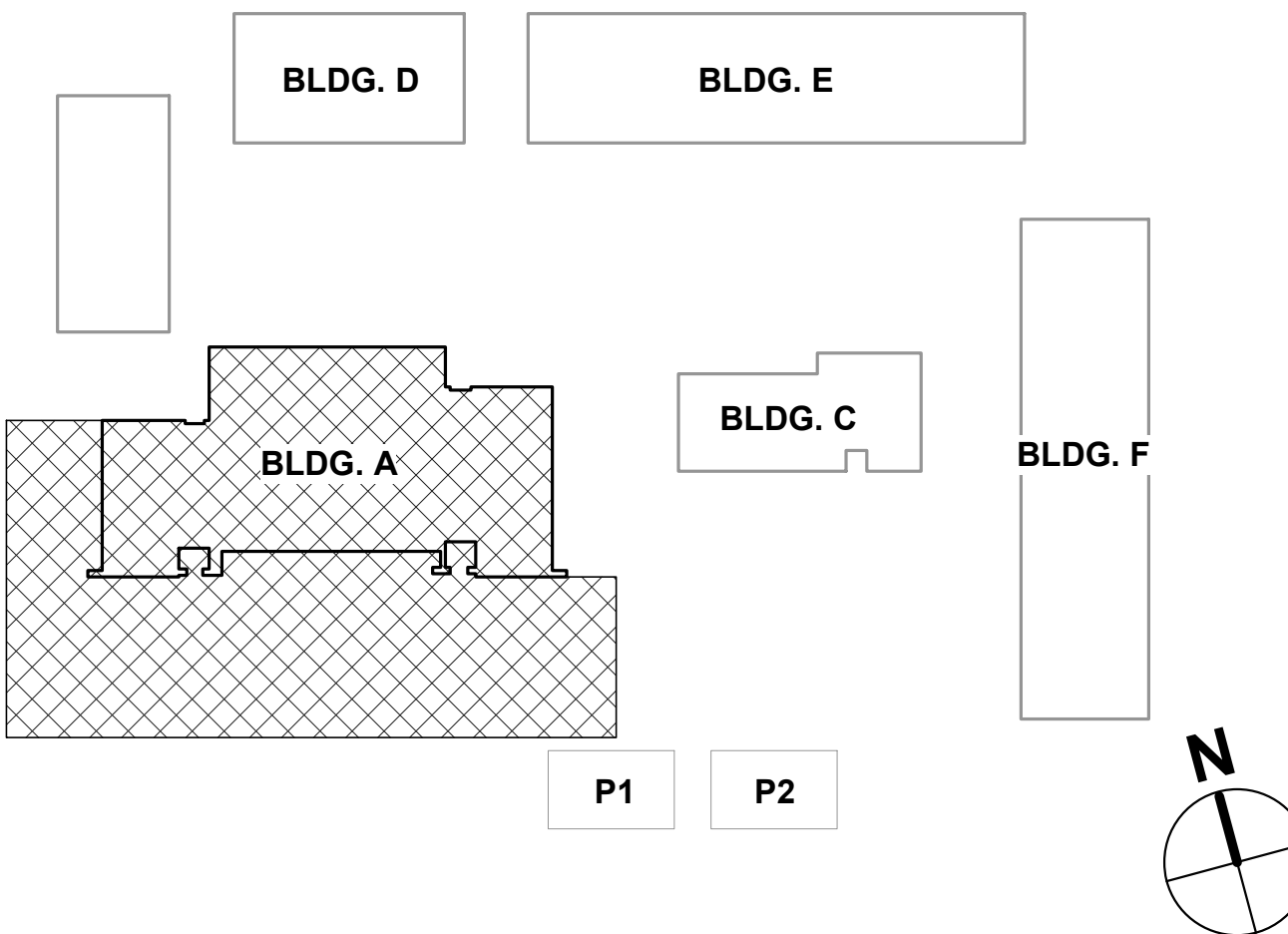
NEW SITE PLAN KEYNOTES

- 02.005 (E) VAN ACCESSIBLE PARKING STALL AND SIGNAGE, DSA #01-121229
- 02.102 (E) TREE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION, S.C.D.
- 02.111 (E) CHAINLINK FENCE TO REMAIN
- 02.112 (E) 3' WIDE ACCESSIBLE PEDESTRIAN GATES
- 02.115 (E) MARQUEE SIGN TO BE RELOCATED
- 02.117 (E) ACCESSIBLE PARKING STALL AND SIGNAGE
- 02.120 (E) TOW AWAY SIGN TO REMAIN
- 02.129 (E) FIRE HYDRANT
- 02.131 (E) WATER METER / VALVE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION
- 02.139 (E) EMERGENCY VEHICLE ACCESS DSA #2882
- 02.142 (E) TILE PONY WALL TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION
- 02.143 (E) FIRE DEPARTMENT CONNECTION TO REMAIN AND BE PROTECTED DURING CONSTRUCTION
- 02.325 (E) FIRE DEPARTMENT CONNECTION
- 02.330 (E) LIGHT POLE, S.E.D.
- 23.103 OUTDOOR MECHANICAL UNIT WITH PROTECTIVE SCREEN AROUND, S.M.D.
- 32.110 ACCESSIBLE PEDESTRIAN ENTRANCE TO BUILDING
- 32.308 3' WIDE DECORATIVE METAL PEDESTRIAN SWING GATE.
- 32.312 4' HIGH DECORATIVE ORNAMENTAL METAL FENCE, S.C.D.
- 32.313 6' WIDE DECORATIVE METAL PEDESTRIAN DOUBLE GATE.
- 32.402 SEAT WALL, S.C.D.
- 32.410 PLANTER, S.C.D.

GRAPHIC KEY

- NEW CONSTRUCTION
- NEW TOILET ROOMS. REFER TO NOTES FOR ADDITIONAL INFORMATION.
- EXISTING TOILET ROOMS. REFER TO NOTES FOR ADDITIONAL INFORMATION.
- EXISTING CONSTRUCTION TO REMAIN
- PROPERTY LINE
- (E) P1 DSA# 01-121229
- (N) ORNAMENTAL FENCE
- (E) CHAIN LINK FENCE
- EXISTING FIRE HYDRANT (E) F.H.
- FIRE DEPARTMENT ACCESS  
FIRE DEPARTMENT ACCESS IS 20'-0" WIDE AND RATED FOR 96,000 LBS.
- PATH OF TRAVEL  
PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" WIDE SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 6% UNLESS OTHERWISE INDICATED. PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM HEIGHT AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND BELOW 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

BUILDING KEY



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architects

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San Jose, CA 95113  
tel: (408) 300-5160  
fax: (408) 300-5123

PROJECT  
MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT  
CONSULTANT

STAMP

REVISIONS

No.	Description	Date
1		

SHEET  
NEW SITE PLAN

DATE 10.16.2024

JOB # 2023054

SHEET #

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## PROJECT

# MAIN BUILDING MODERNIZATION AT SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

**PULL SIDE**

**STAMP**

## REVISIONS

No.	Description	Date
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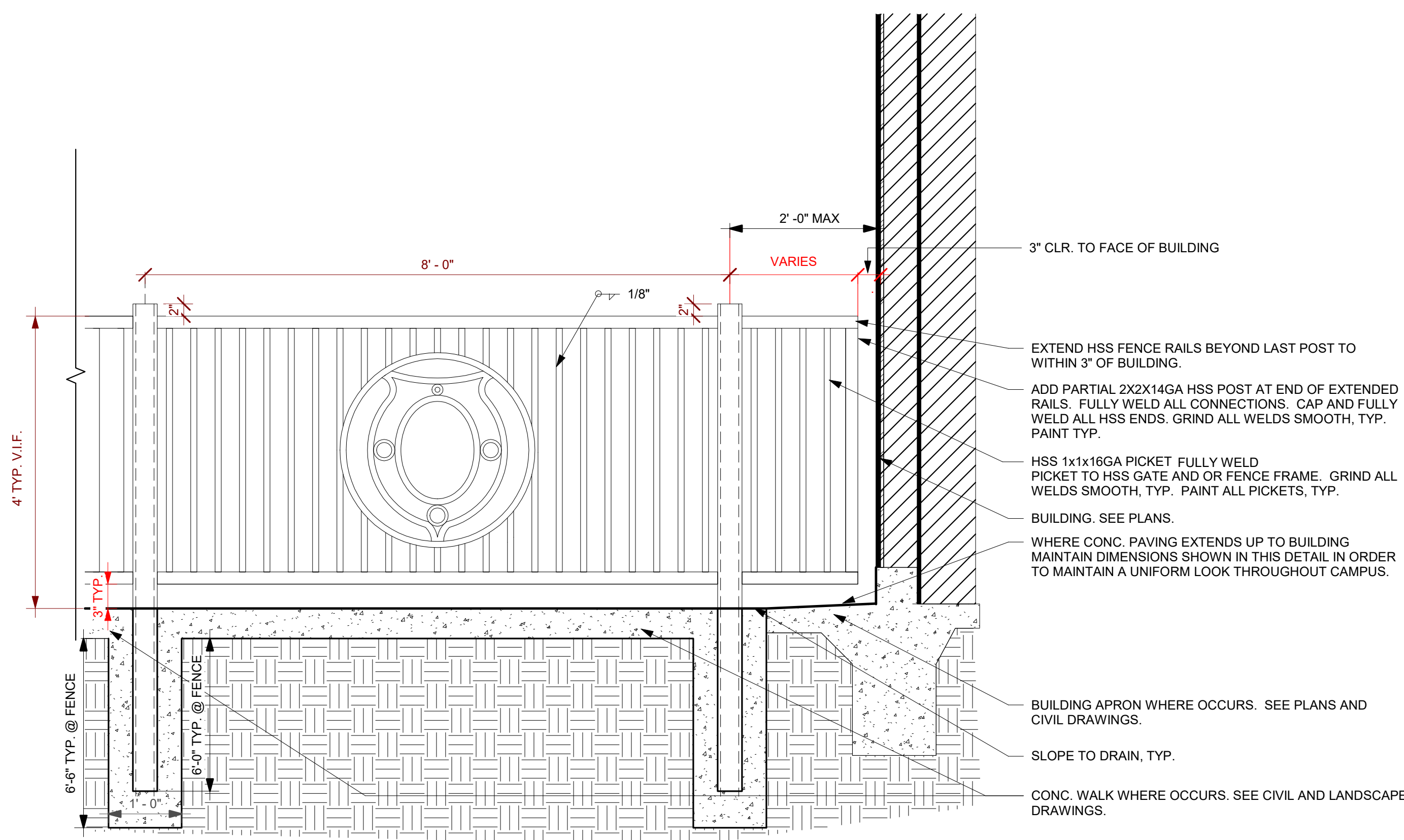
## SITE DETAILS

DATE 10 16 2024

JOB # 2023054

SHEET #

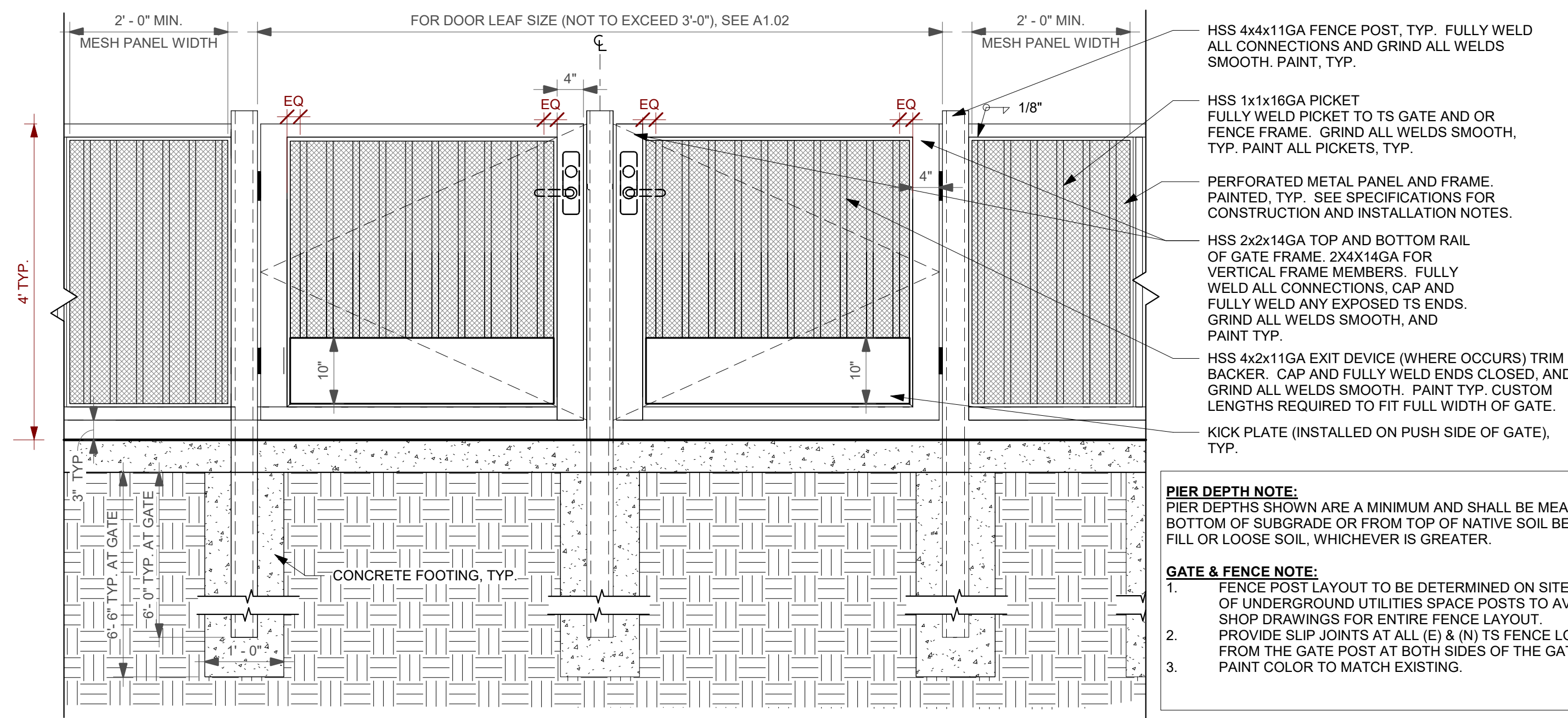
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① ELEVATION @ EXT. BLDG. WALL

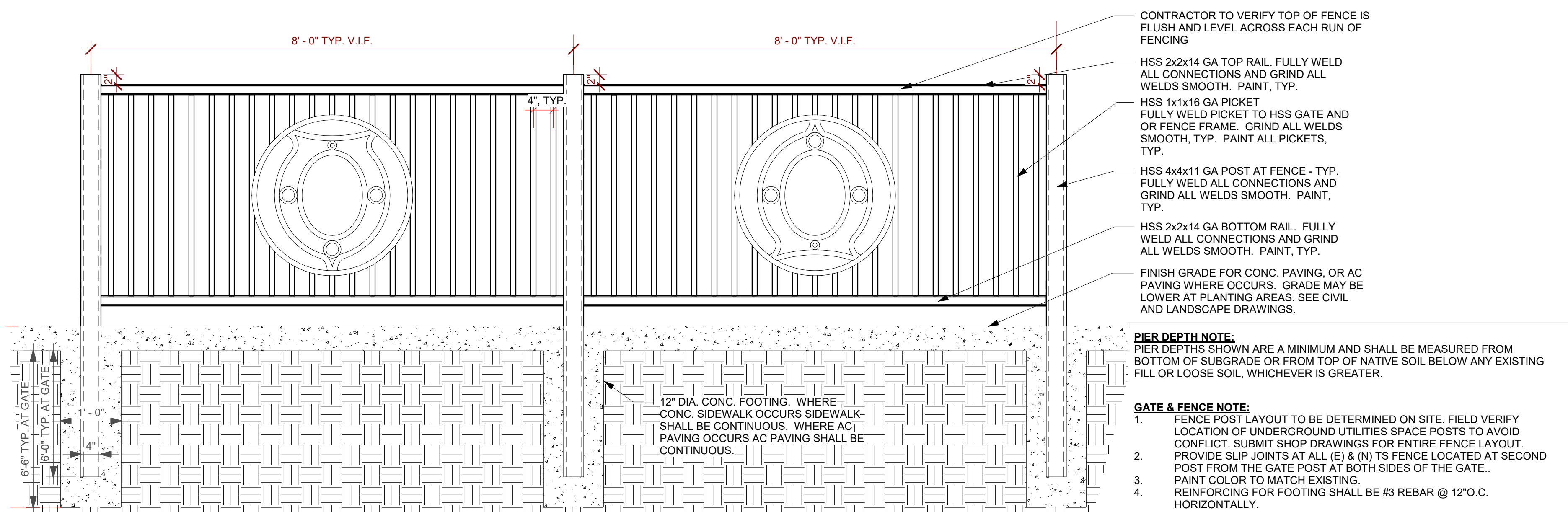
SCALE: 3/4" = 1'-0"

CONTRACTOR TO VERIFY BAY DIMENSIONS  
AS NEEDED TO FIT SITE LAYOUT.



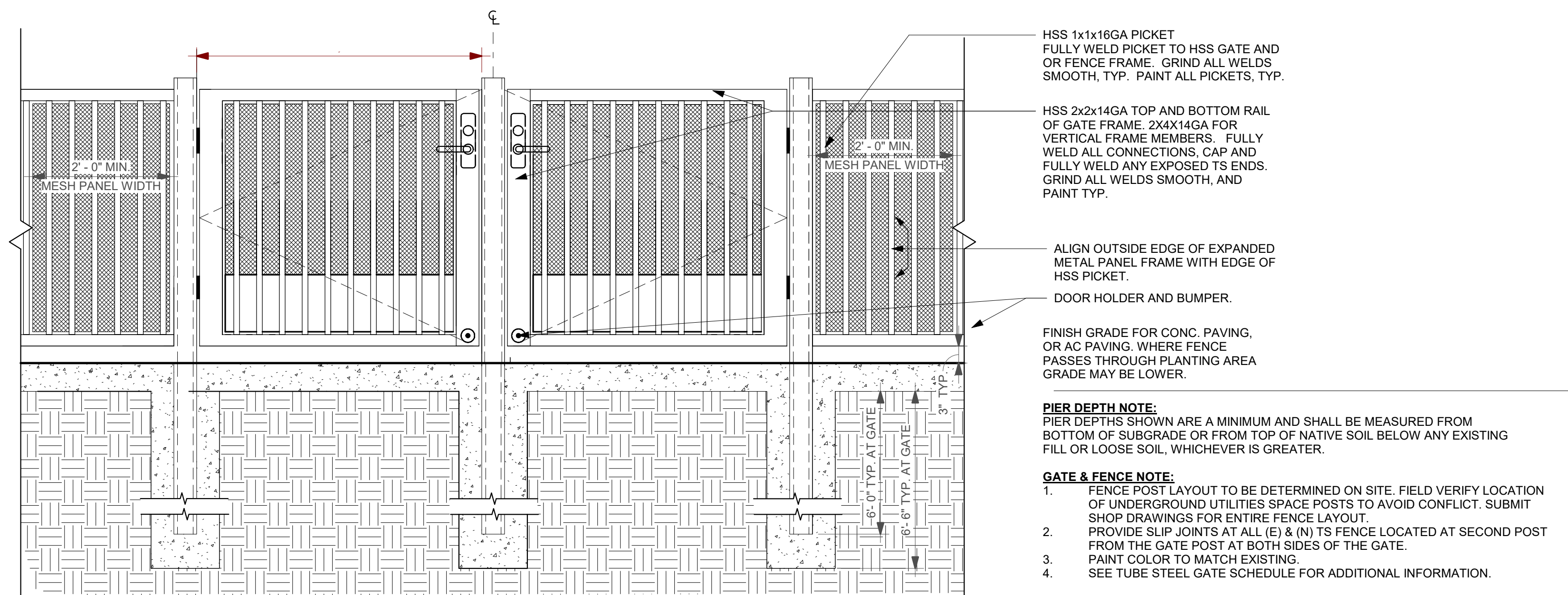
### 2 INSIDE ELEVATION @ DOUBLE-GATE ENTRY

**SCALE: 3/4" = 1'-0"**



③ OUTSIDE ELEVATION @ TYP. FENCE BAY

**SCALE: 3/4" = 1'-0"**



④ OUTSIDE ELEVATION @ DOUBLE-GATE ENTRY

**SCALE: 3/4" = 1'-0"**



(E) EXTERIOR LIGHTING FIXTURES TO BE PROTECTED DURING CONSTRUCTION

DEMOLISHED AND REPLACED IN  
KIND

(E) EXTERIOR FACADE ELEMENTS  
TO BE PROTECTED DURING  
CONSTRUCTION

(E) EXTERIOR SITE ELEMENTS TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION

(E) EXTERIOR FACADE ELEMENTS  
TO BE PROTECTED DURING  
CONSTRUCTION







(E) DOORS TO BE REMOVED AND REPLACED WITH NEW DOOR. SALVAGE DOOR HARDWARE AND RETURN TO DISTRICT.

(E) STAIRS TO BE DEMOLISHED AND REPLACED WITH NEW STAIRS AND RAILING. SALVAGE RAILING AND RETURN TO DISTRICT. NEW RAILING TO INCLUDE ORNAMENTAL MOTIF THAT MATCHES THE DECORATIVE FENCING TO MAINTAIN HISTORIC INTENT

(E) CANOPIES TO BE DEMOLISHED AND REPLACED WITH NEW CANOPY



(E) STAIR AND RAMP TO BE DEMOLISHED AND REPLACED WITH ACCESS COMPLIANT STAIR AND RAMP. SALVAGE RAILING AND RETURN TO DISTRICT. NEW RAILING TO INCLUDE ORNAMENTAL MOTIF THAT MATCHES THE DECORATIVE FENCING TO MAINTAIN HISTORIC INTENT



(E) FIRE SPRINKLER HEADS TO BE REPLACED IN KIND PER THE RECOMMENDATION BY DISTRICT'S FIRE SPRINKLER VENDOR.



(E) COLD-FORMED STEEL WALL FINISH TO BE REMOVED AND REPLACED WITH COMPLIANT FIRE-RESISTANT SYSTEM. (E) AESTHETICS TO BE CARRIED OVER/MAINTAINED IN THE REPLACED SYSTEM

STRUCTURAL REINFORCEMENT AND MECHANICAL EQUIPMENT TO BE INSTALLED IN ATTIC, S.S.D. AND S.M.D.



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PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

STAMP

REVISIONS

No.	Description	Date
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SHEET

SITE DETAILS

DATE 10.16.2024

JOB # 2023054

SHEET #

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(E) WINDOWS TO BE REPLACED. MULLION PATTERN, WINDOW LOOK, TRIM AND OVERALL HISTORIC CHARACTER TO BE MAINTAINED

(E) CROWN MOULDING/ TRIM TO BE DEMOLISHED AND REPLACED IN KIND

(E) FIREPLACE TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION

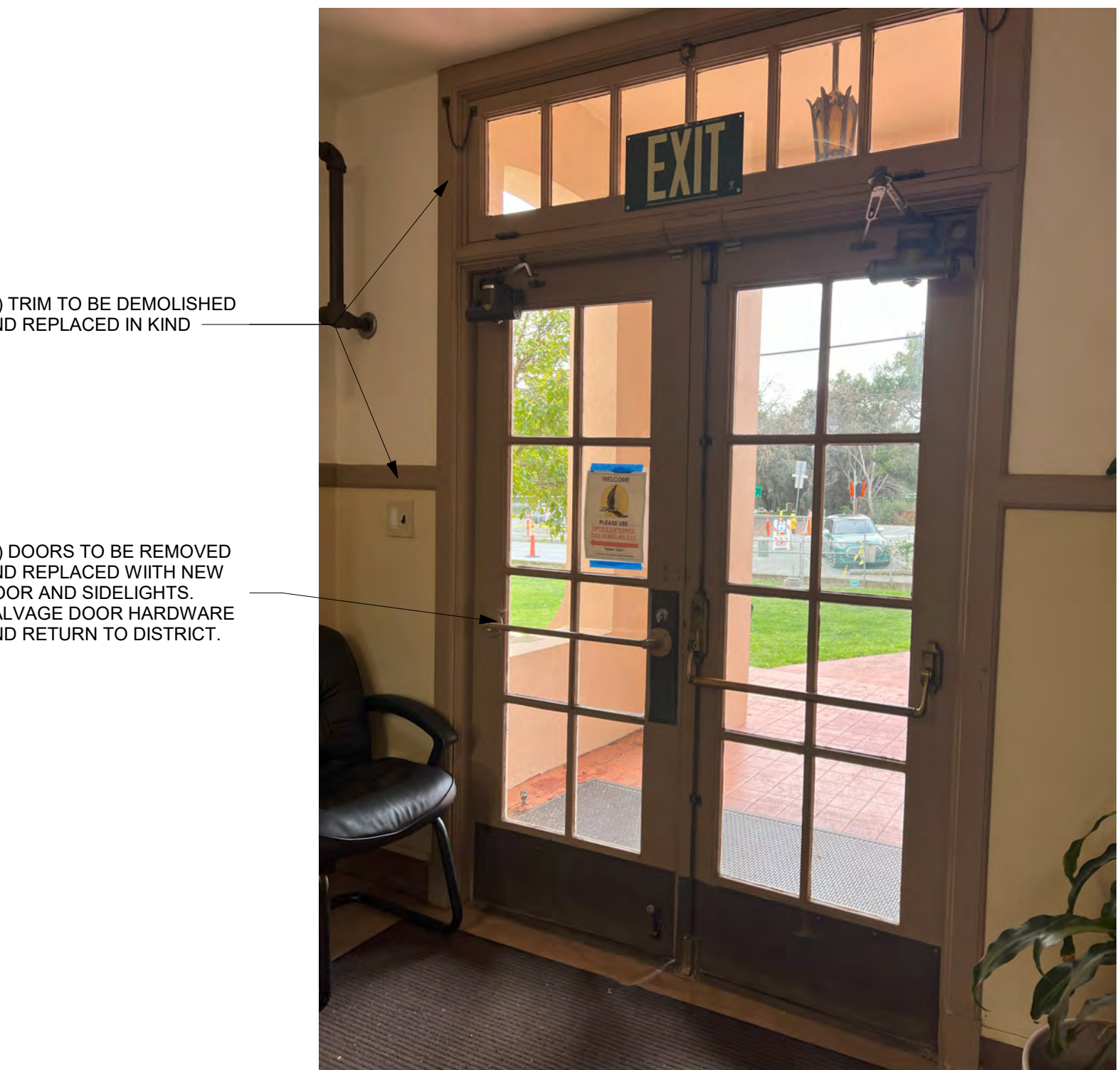
ALL (E) CASEWORK AD WALL PANELING TO BE REMOVED FOR SEISMIC UPGRADE



(E) TRIM TO BE DEMOLISHED AND REPLACED IN KIND



(E) TRIM TO BE DEMOLISHED AND REPLACED IN KIND



(E) TRIM TO BE DEMOLISHED AND REPLACED IN KIND

(E) DOORS TO BE REMOVED AND REPLACED WITH NEW DOOR AND SIDELIGHTS. SALVAGE DOOR HARDWARE AND RETURN TO DISTRICT.

(E) INTERIOR LIGHTING FIXTURES TO BE PROTECTED DURING CONSTRUCTION

(E) THEATRICAL LIGHTING TO BE REMOVED AND REPLACED

(E) CROWN MOULDING AND WOOD ACCENT TO BE DEMOLISHED AND REPLACED IN KIND



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fax: (408)-300-5121

PROJECT  
MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT  
CONSULTANT

STAMP

REVISIONS	No.	Description	Date
	1		

SHEET  
SITE DETAILS

DATE 10.16.2024  
JOB # 2023054  
SHEET # A1.12

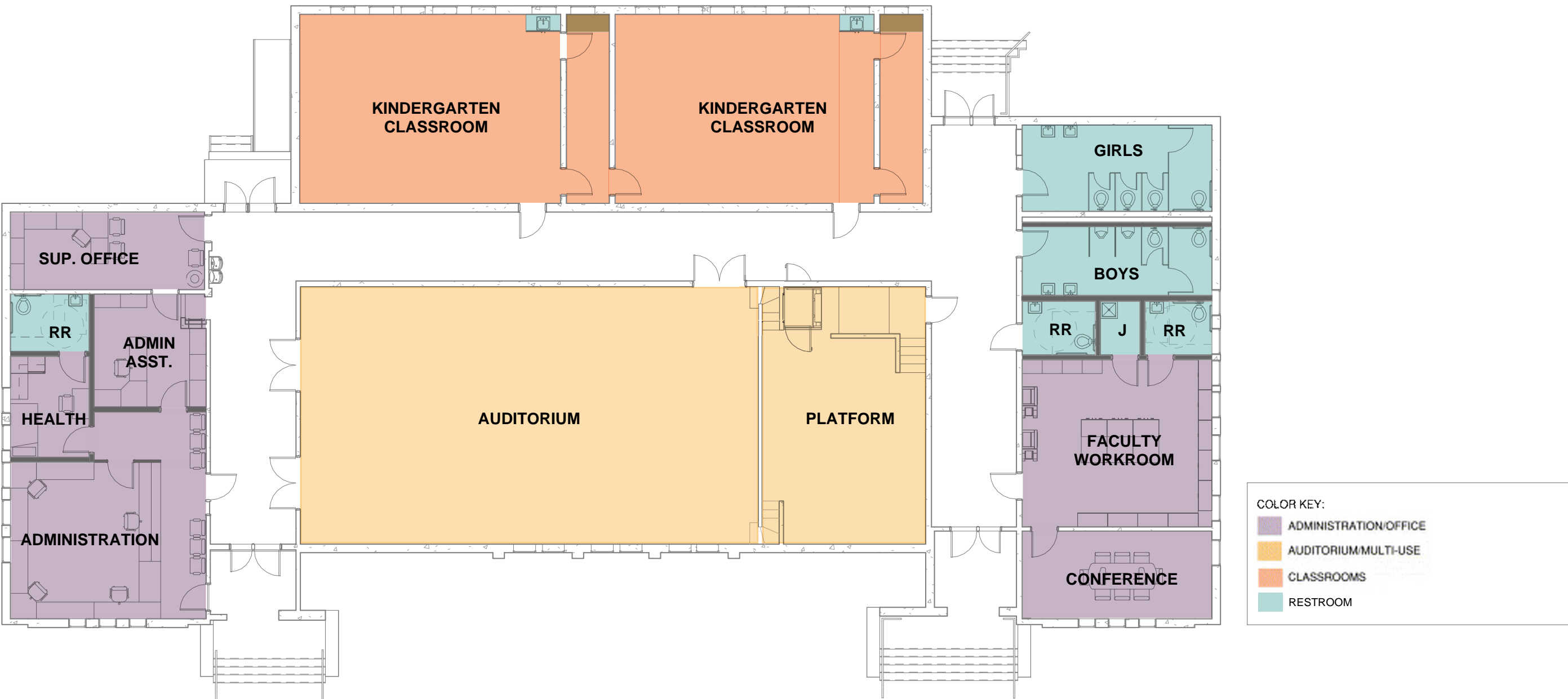
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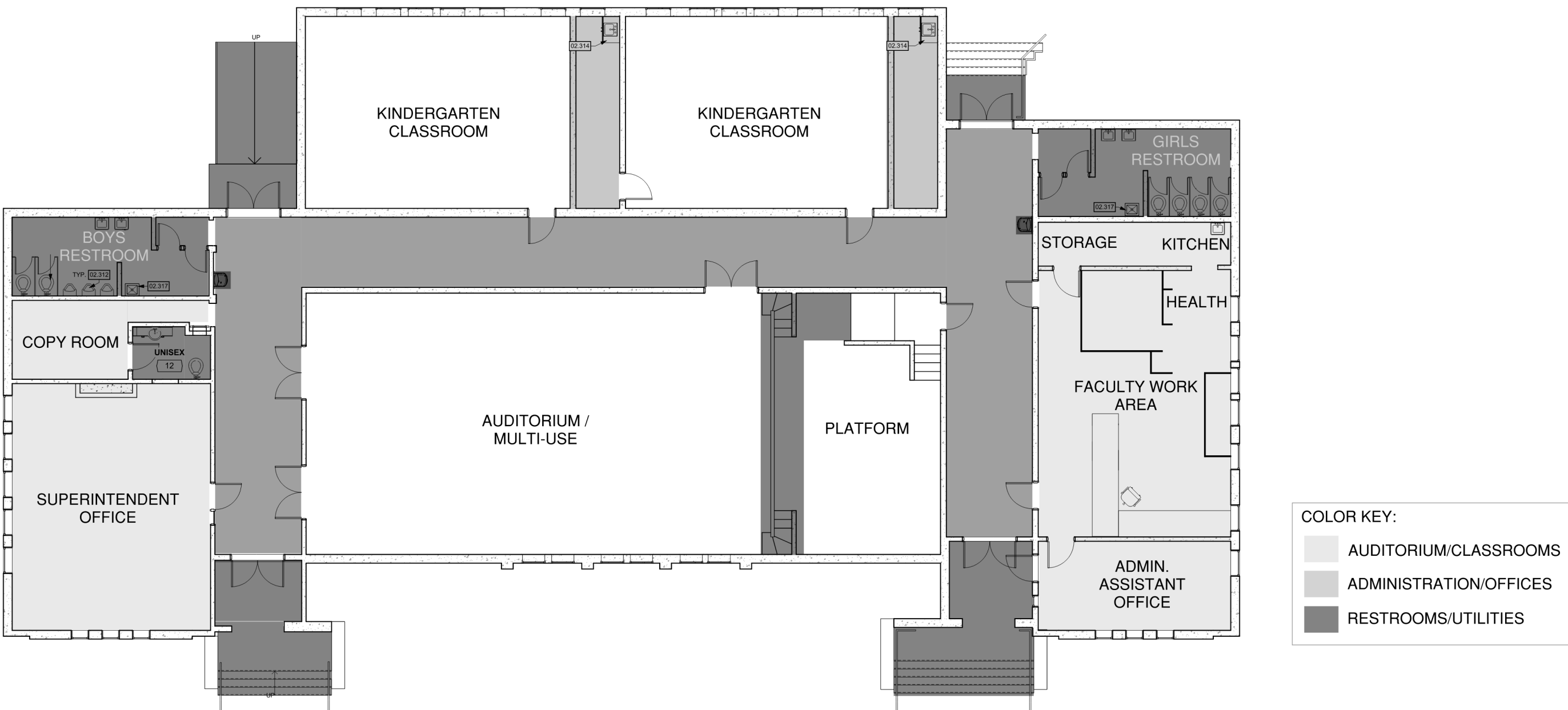
PROGRAM

SUNOL GLEN MAIN BUILDING MODERNIZATION		PROGRAM						
SPACE NAME		EXISTING SF	PROPOSED PROG. SF	QTY	PROVIDED/REQUIRED		NOTES	
Administration								
	Admin Office	867	533	1	533		(E) Administration - Only 2 staff members utilizing the space currently. Proposed Program requires 2 Full Time and occassional 2 additional counselors/staff.	
	Conference Room	-	170	1	170		Small conference space for 6-8 required. Currently there is no conference room.	
	Nurse	-	147	1	147		Currently within administration workspace. Isolation booths no longer in use. No dedicated restroom. Required for OPSC.	
	All Gender Restroom (Student)	-	83	1	83			
	Superintendents Office	703	274	1	274		(E) Superintendent office is over-sized. A Small table/gathering space is required. HVAC upgrades and meeting space is required. District requests to keep fireplace to maintain historic character.	
	Admin Assistant	274	265	1	265		Assistant to the Superintendent. Current Office is far away from Superintendent office	
	Work room	163	424	1	424		2 copiers, work table, sink and kitchenette required. Currently too small with a kitchenette nook as part of the storage area.	
Classrooms								
	Kindergarten	2 @ 745	745	2	1,490		HVAC updates required. SMALL **less than 1350 sqft	
							*per CDE requirement, Typical CR=960 sqft	
							**per CDE requirement, Kinder CR = 1350 sqft	
	Storage	288	144	2	288		New HVAC units in storage areas. Move sinks out to classrooms. Sink currently non-compliant.	
Miscellaneous								
	Auditorium	1,692	1,692	1	1,692		Historic keep lighting and other historic features. HVAC upgrades required, currently graduation cannot be held here in the summer.	
	Platform/Stage	633	633	1	633		New ADA access/lift required	
	Basement (MPOE & Electric)	415	415	1	415			
	Hallway	1,462	1,311	1	1,311		Access upgrades to doors and fountains. Currently have Non-compliant doors and drinking fountains.	
	Vestibule	-	151	1	151		New secure vestibule.	
Restrooms								
	Boys	252	252	1	252		Complete reconstruction required. Currently non-compliant.	
	Girls	260	260	1	260		Complete reconstruction required. Currently non-compliant.	
	Custodian	-	51	1	51		With mop sink and hot water	
	Single User Staff	-	58	1	58		Compliant with code	
	Single User Staff	67	69	1	69		Additional all gender restroom	
TOTAL		8566		TOTAL	8,566			
TOTAL MAIN BUILDING			TOTAL GSF		8,566			
Exterior Areas and Site Improvements								
	Entry Stairs		460	1	460		Accessible main entry and preservation of existing eastern stairs. Currently No ADA access to front of the building at school entry.	
	Site Paving		3,473	1	3,473		Accessible path from public way/ drop-off to proposed main entry. Lessens costs by limiting amount of sitework necessary for project. No ADA access to front of the building at school entry.	
	Landscaping		4,744	1	4,744			
	Reconfigured rear stair and ramp		218		0		Ramp compliance. Head height compliance. Required structural upgrades.	
				TOTAL	8,677			

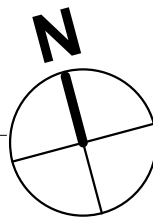
	TOTAL		17,243 sf
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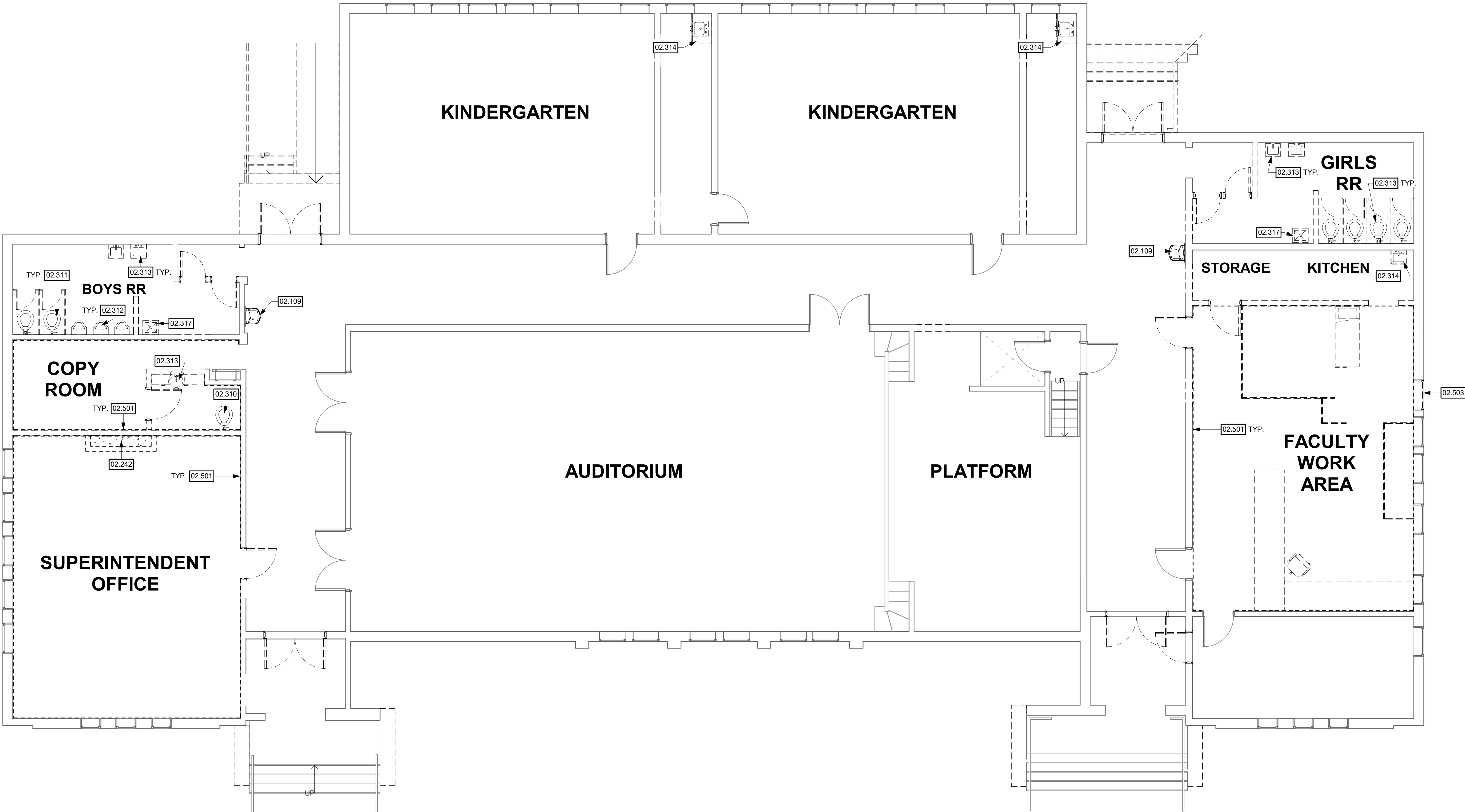
NEW FLOOR PLAN - PRELIMINARY LAYOUT



(E) FLOOR PLAN







**1 DEMOLITION PLAN**  
SCALE: 3/16" = 1'-0"

**GENERAL SHEET NOTES**

- A ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND NEW FLOOR PLANS.
- B REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DEMOLITION WORK.
- C VERIFY LIMITS OF DEMOLITION WITH SCOPE OF NEW WORK PRIOR TO COMMENCING WORK.
- D ALL ITEMS SHOWN DASHED ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED ON PLANS.
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- F AT CEILINGS TO BE REMOVED, REMOVE ALL CEILINGS, SOFFITS, RELATED SUPPORT SYSTEMS AND ACCESSORIES, AND CEILING MOUNTED ITEMS. COORDINATE WITH MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS.
- G \*\* EDIT / KEYNOTE? \*\* REMOVE WALL FINISHES AND GYP. BOARD DOWN TO STUDS. PREPARE FOR NEW SUBSTRATE AND WALL FINISHES PER NEW WALL TYPES.
- H ALL FLOORING MATERIALS ARE TO BE REMOVED TO TOP OF EXISTING SLAB BY MECHANICAL MEANS U.O.N. REVIEW SECTION 024113 AS APPLICABLE. TOP OF EXISTING SLAB TO BE LEFT SMOOTH, CLEAN, AND FREE OF ALL ADHESIVE AND READY FOR INSTALLATION OF NEW FLOORING.
- I EXISTING EQUIPMENT INDICATED TO BE RELOCATED PER NEW PLAN IS TO BE STORED AND PROTECTED DURING CONSTRUCTION.

**DEMOLITION FLOOR PLAN KEYNOTES**

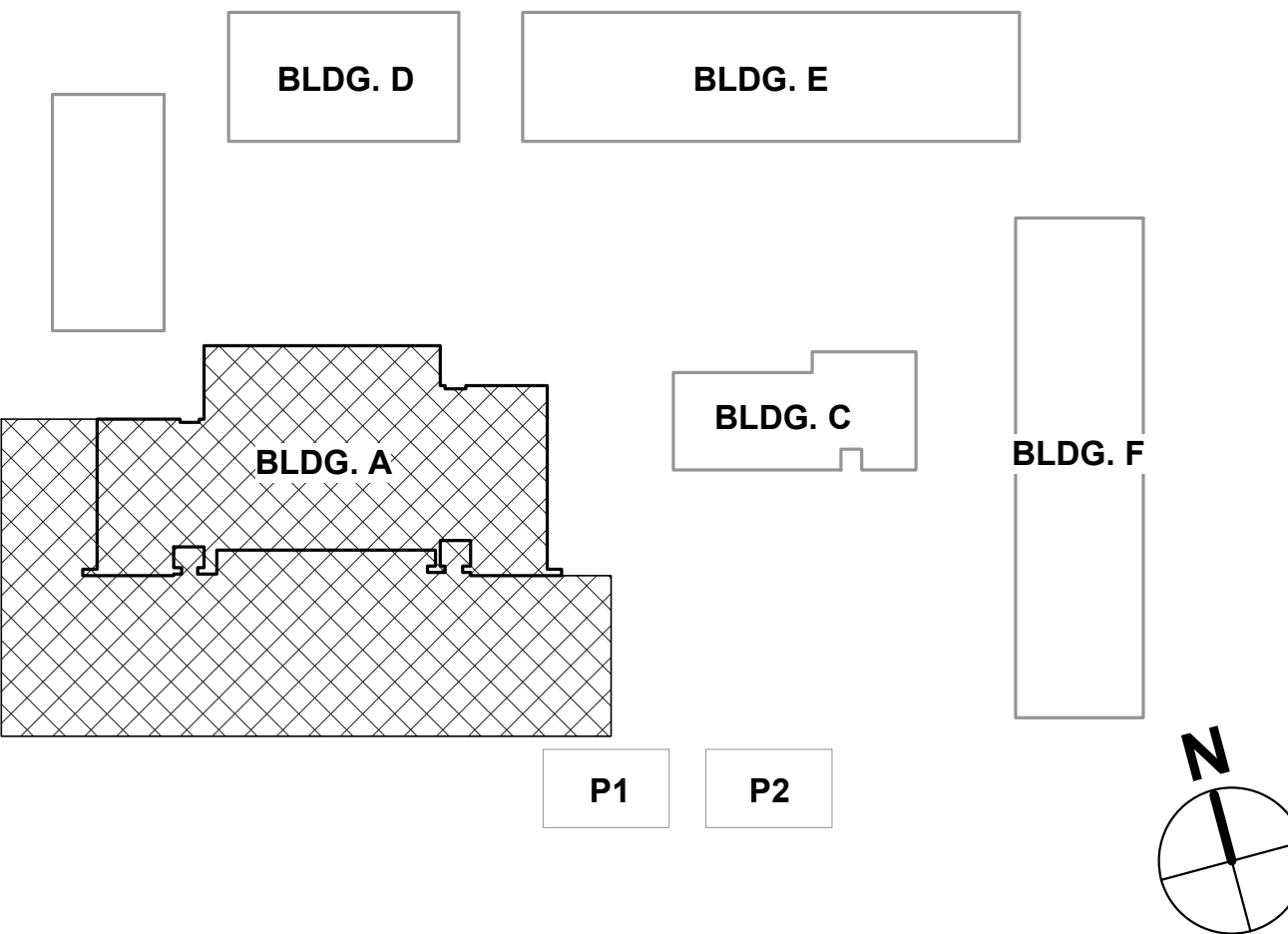
- 02.109 (E) DRINKING FOUNTAIN TO BE DEMOLISHED AND PREPARE FOR NEW WORK
- 02.242 (E) FIREPLACE TO BE CAREFULLY REMOVED AND SALVAGED FOR RELOCATION AND REINSTALLATION
- 02.310 (E) PLUMBING FIXTURE TO BE DEMOLISHED
- 02.311 (E) WATER CLOSET TO BE DEMOLISHED
- 02.312 (E) URINAL TO BE DEMOLISHED
- 02.313 (E) LAVATORY TO BE DEMOLISHED
- 02.314 (E) SINK TO BE DEMOLISHED
- 02.317 (E) MOP SINK TO BE DEMOLISHED
- 02.501 REMOVE (E) WALL FINISH AND TRIM AND PREPARE FOR NEW WORK
- 02.503 (E) WINDOW TO BE DEMOLISHED AND PREPARE FOR NEW WORK

**GRAPHIC KEY**

**WALL TYPES:**

- EXISTING WALL TO BE DEMOLISHED
- EXISTING WALL TO REMAIN
- - - - - EXISTING WALL FINISH TO BE DEMOLISHED

**BUILDING KEY**



**aedis**  
architects

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**PROJECT**

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CONSULTANT

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**SHEET**

**DEMOLITION FLOOR  
PLAN**

DATE 10.16.2024

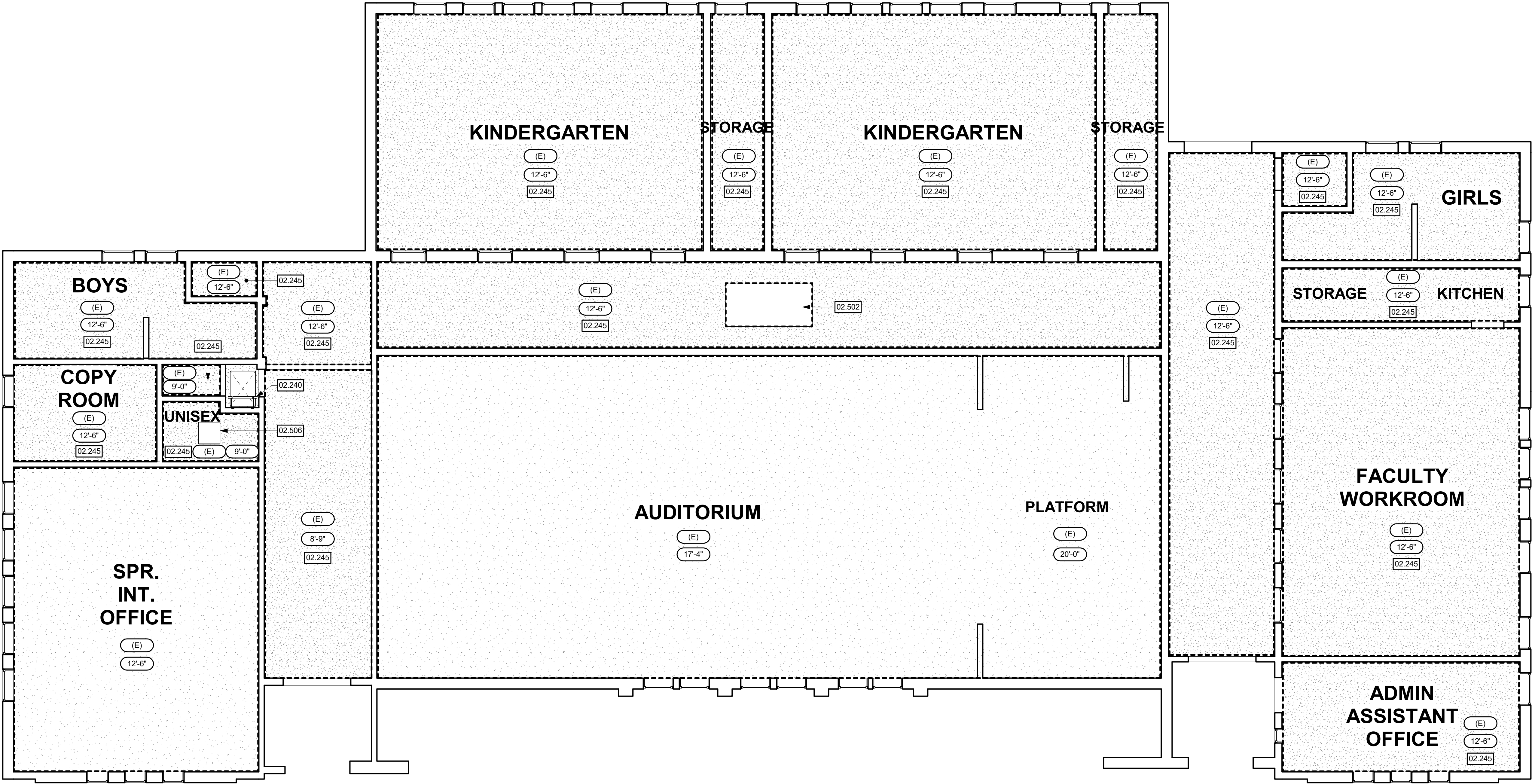
JOB # 2023054

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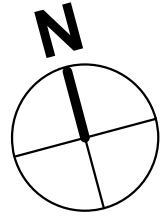
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1 DEMOLITION CEILING PLAN  
SCALE: 3/16" = 1'-0"



GENERAL SHEET NOTES

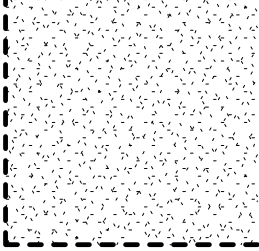
- A ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND NEW PLANS.
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- C REFER TO FINISH SCHEDULE ON SHEET A11.01 FOR CEILING FINISHES NOT SHOWN.
- D SPRINKLER HEADS, WHERE APPLY, SHALL BE PLACED IN THE CENTER OF SUSPENDED ACOUSTICAL CEILING TILES OR EVENLY SPACED AND CENTERED ON INDIVIDUAL SECTION OF EXPOSED ROOF STRUCTURE.
- E PROVIDE NEW CEILING TILE MATCHING ADJACENT TILES WHERE EXISTING LIGHTS, SPEAKERS OR OTHER EQUIPMENT WERE REMOVED.
- F ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

DEMOLITION REFLECTED CEILING PLAN KEYNOTES

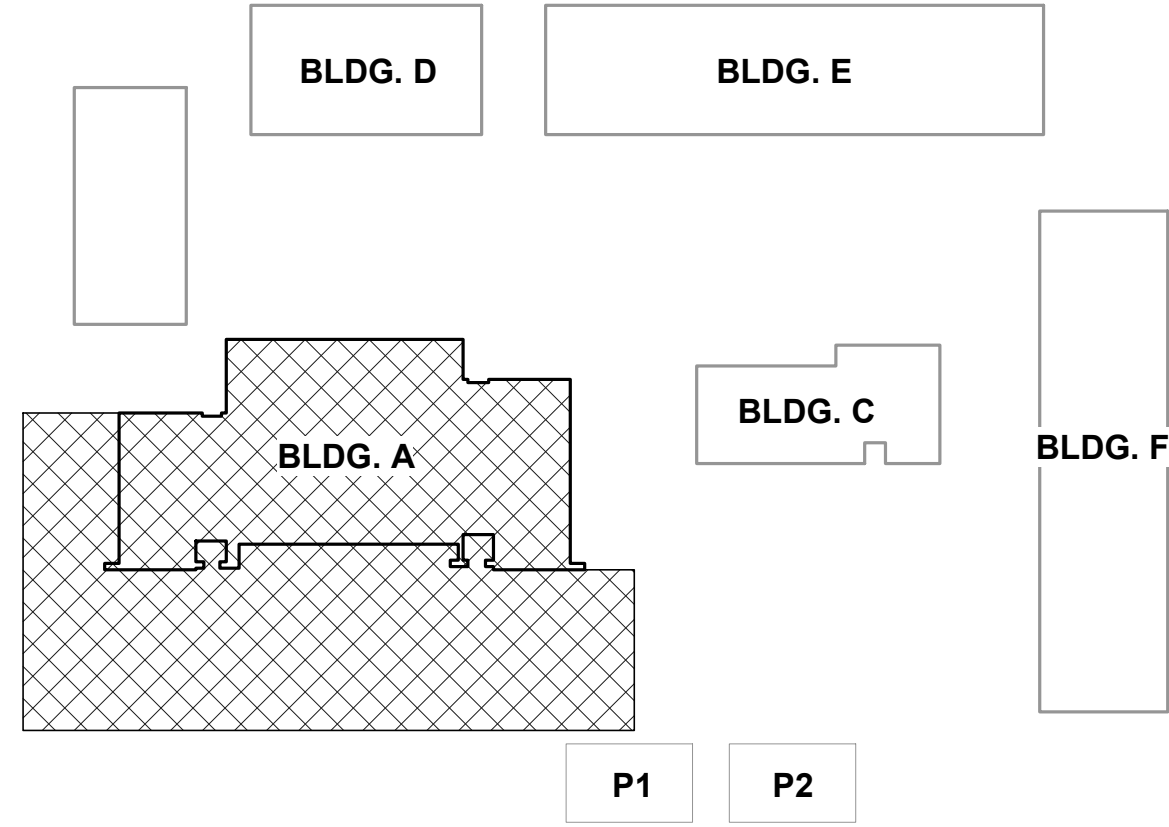
- 02.241 (E) METAL LADDER TO REMAIN
- 02.245 (E) CEMENT PLASTER CEILING TO BE DEMOLISHED
- 02.502 (E) SKYLIGHT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
- 02.506 (E) SKYLIGHT TO BE REMOVED AND PREPARE FOR NEW WORK

GRAPHIC KEY

CEMENT PLASTER CEILING OR SOFFIT TO BE REMOVED



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DEMOLITION  
REFLECTED  
CEILING PLAN

DATE 10.16.2024

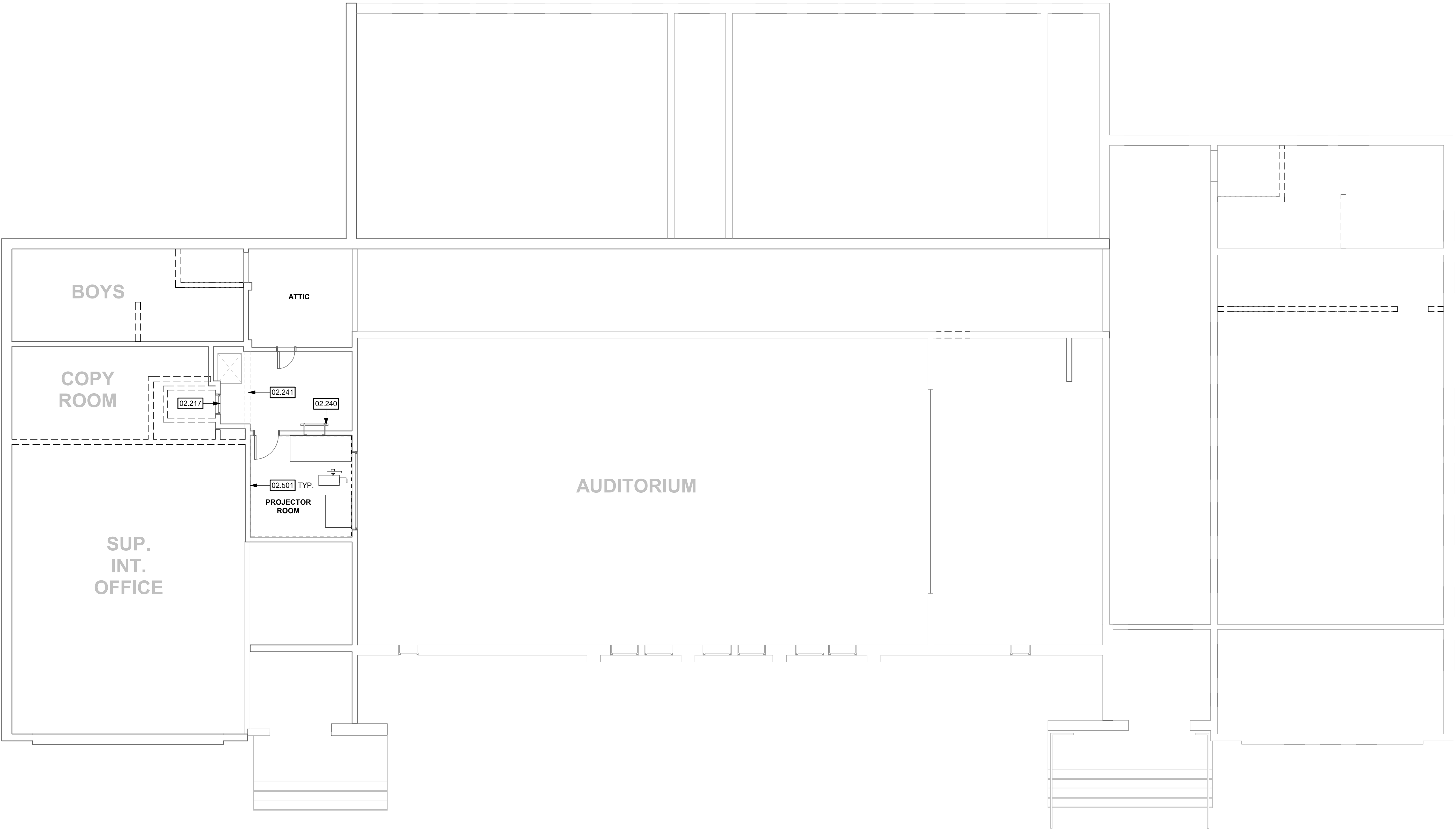
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1 DEMOLITION MEZZANINE PLAN  
SCALE: 3/16" = 1'-0"

GENERAL SHEET NOTES

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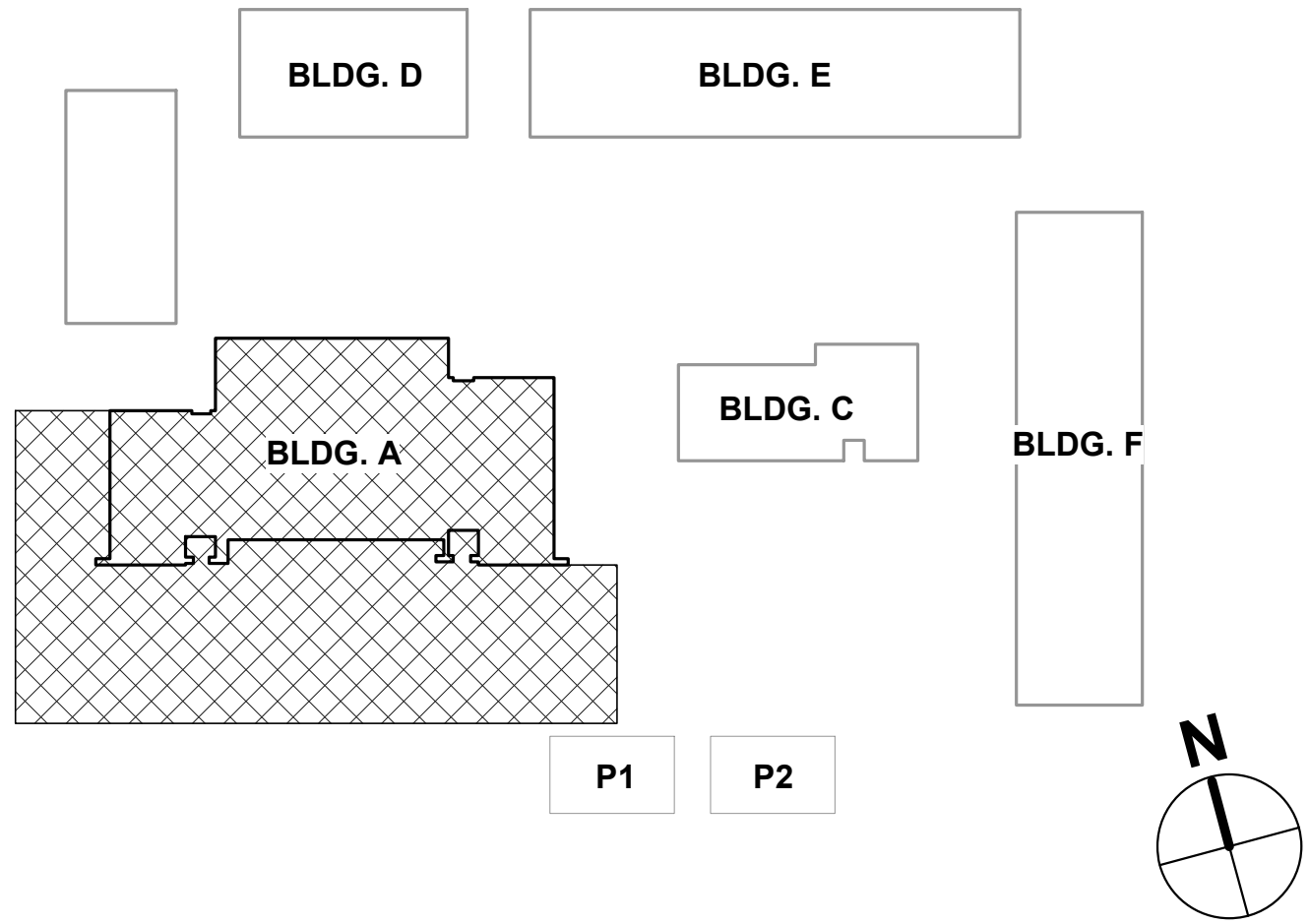
DEMOLITION FLOOR PLAN KEYNOTES

- 02.217 (E) WINDOW TO REMAIN
- 02.240 (E) METAL LADDER TO REMAIN
- 02.241 (E) WOOD BEAM
- 02.501 REMOVE (E) WALL FINISH AND TRIM AND PREPARE FOR NEW WORK

GRAPHIC KEY

- WALL TYPES:
- == == == EXISTING WALL TO BE DEMOLISHED
  - ===== EXISTING WALL TO REMAIN
  - - - - - EXISTING WALL FINISH TO BE DEMOLISHED

BUILDING KEY



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SHEET

DEMOLITION  
MEZZANINE FLOOR  
PLAN

DATE 10.16.2024

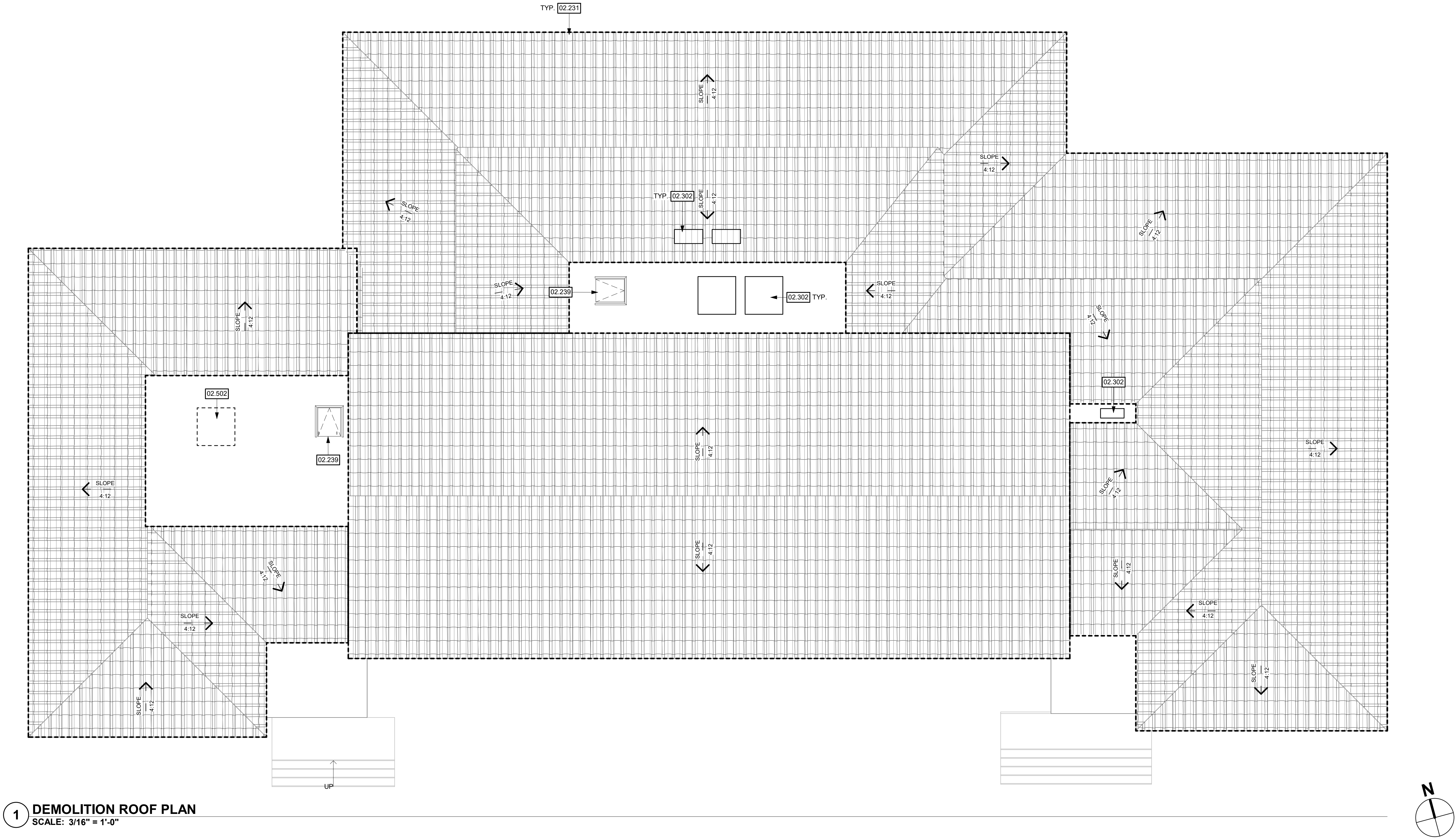
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GENERAL SHEET NOTES

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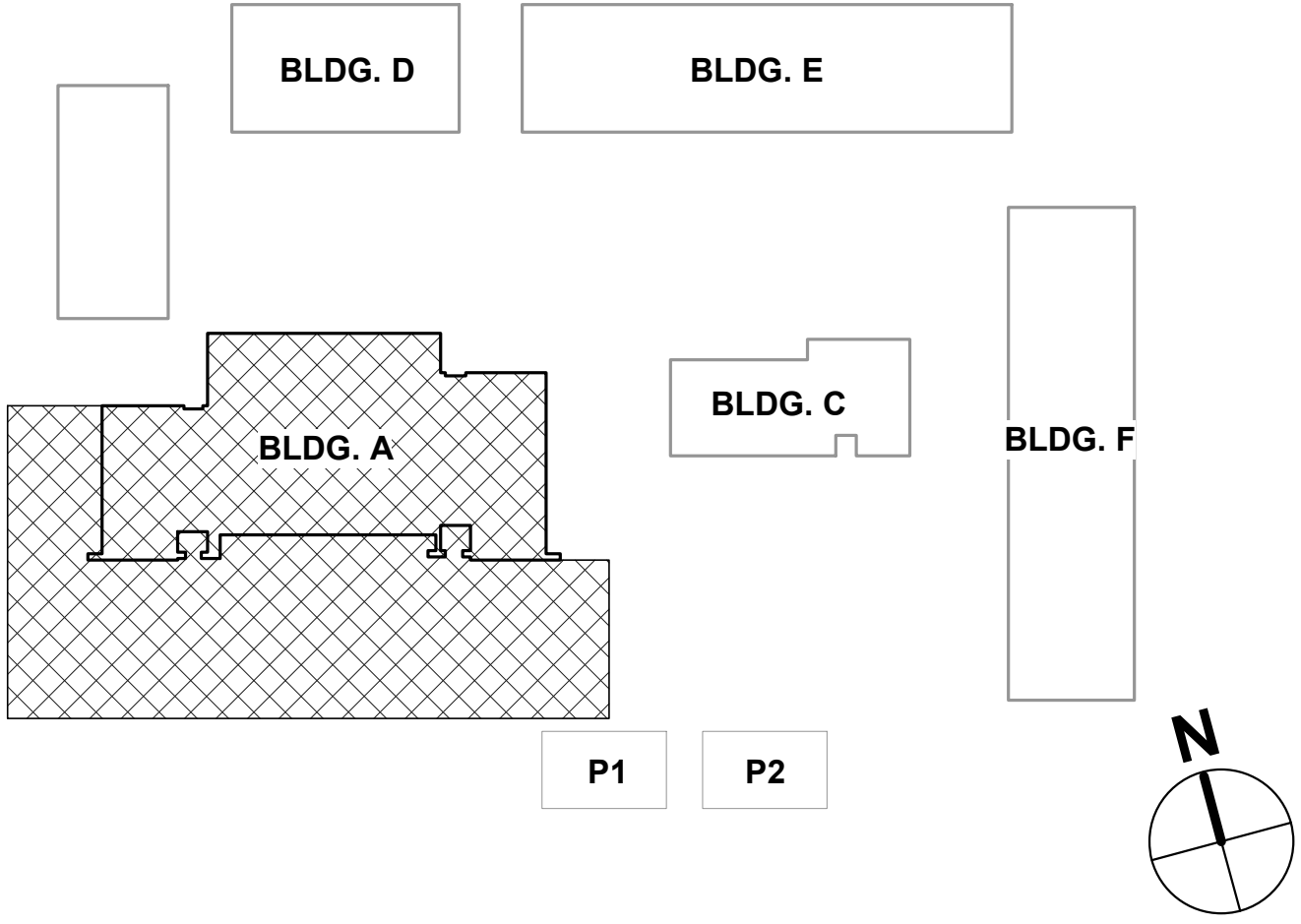
DEMOLITION FLOOR PLAN KEYNOTES

- 02.231 (E) CLAY ROOF TILES TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION AFTER SEISMIC RETROFIT AND ROOF REPLACEMENT
- 02.239 (E) ROOF HATCH TO BE REMOVED AND SALVAGE FOR REINSTALLATION
- 02.302 (E) MECHANICAL EQUIPMENT TO BE REMOVED, SALVAGED AND RETURNED TO DISTRICT
- 02.502 (E) SKYLIGHT TO BE REMOVED AND SALVAGED FOR REINSTALLATION

GRAPHIC KEY

- WALL TYPES:
- EXISTING WALL TO BE DEMOLISHED
- EXISTING WALL TO REMAIN
- EXISTING WALL FINISH TO BE DEMOLISHED

BUILDING KEY



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1		

SHEET

DEMOLITION ROOF  
PLAN

DATE 10.16.2024

JOB # 2023054

SHEET #

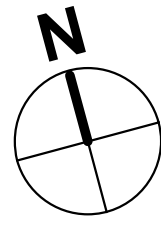
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A	ROOM NAMES OR NUMBERS MAY NOT BE CONSISTENT BETWEEN DEMOLITION AND NEW FLOOR PLANS.
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C	REFER TO STRUCTURAL DRAWINGS FOR ALL FRAMING AND STRUCTURAL MEMBER SIZES.
D	PROVIDE 6" CONCRETE CURB AT ALL EXTERIOR WALLS AND TOILET ROOM WALLS.
E	ALL EXTERIOR STUD WALLS SHALL HAVE MIN. R-21 FOIL BACKED INSULATION.
F	ALL TOILET ROOM STUD WALLS SHALL HAVE NEW SOUND ATTENUATION INSULATION.
G	PROVIDE WALL BLOCKING AT ALL TOILET FIXTURE AND ACCESSORY MOUNTING LOCATIONS. SEE TYPICAL BACKING AND BLOCKING DETAILS.
H	FOR TOILET ROOM FIXTURE MOUNTING HEIGHTS, SEE TYPICAL FIXTURE MOUNTING HEIGHTS DETAIL.
I	FOR SHOWER STALL FIXTURE MOUNTING HEIGHTS, SEE FIXTURE MOUNTING HEIGHTS @ ACCESSIBLE SHOWER STALL DETAIL.
J	WATER SUPPLY AND DRAIN PIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE OBJECTS OR SURFACES UNDER LAVATORIES. TYP.
K	REFER TO WALL TYPE PLANS AND WALL TYPE DETAILS FOR IDENTIFICATION OF ALL WALL TYPES.
L	REFER TO FINISH PLAN AND SCHEDULE FOR IDENTIFICATION OF ALL FINISHES.
M	DIMENSIONS FOR EXISTING BUILDING ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO START OF CONSTRUCTION.
N	ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

02.240	(E) METAL LADDER TO REMAIN
02.242	(E) FIREPLACE TO BE CAREFULLY REMOVED AND SALVAGED FOR RELOCATION AND REINSTALLATION
02.243	(E) EDGE OF ROOF
06.121	ADD WALL SHEATHING FROM FLOOR UP TO BOTTOM OF MEZZANINE, S.S.D.
09.224	INFILL WALL TO MATCH EXISTING
12.334	COUNTER TOP
14.401	VERTICAL PLATFORM LIFTS FOR STAGE ACCESS
22.405	ACCESSIBLE SINK, S.P.D.
22.414	ACCESSIBLE HI-LO DRINKING FOUNTAIN, S.P.D.



PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

## PROJECT

SUNOL GLEN SCHOOL  
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**SHEET**

## NEW FLOOR PLAN

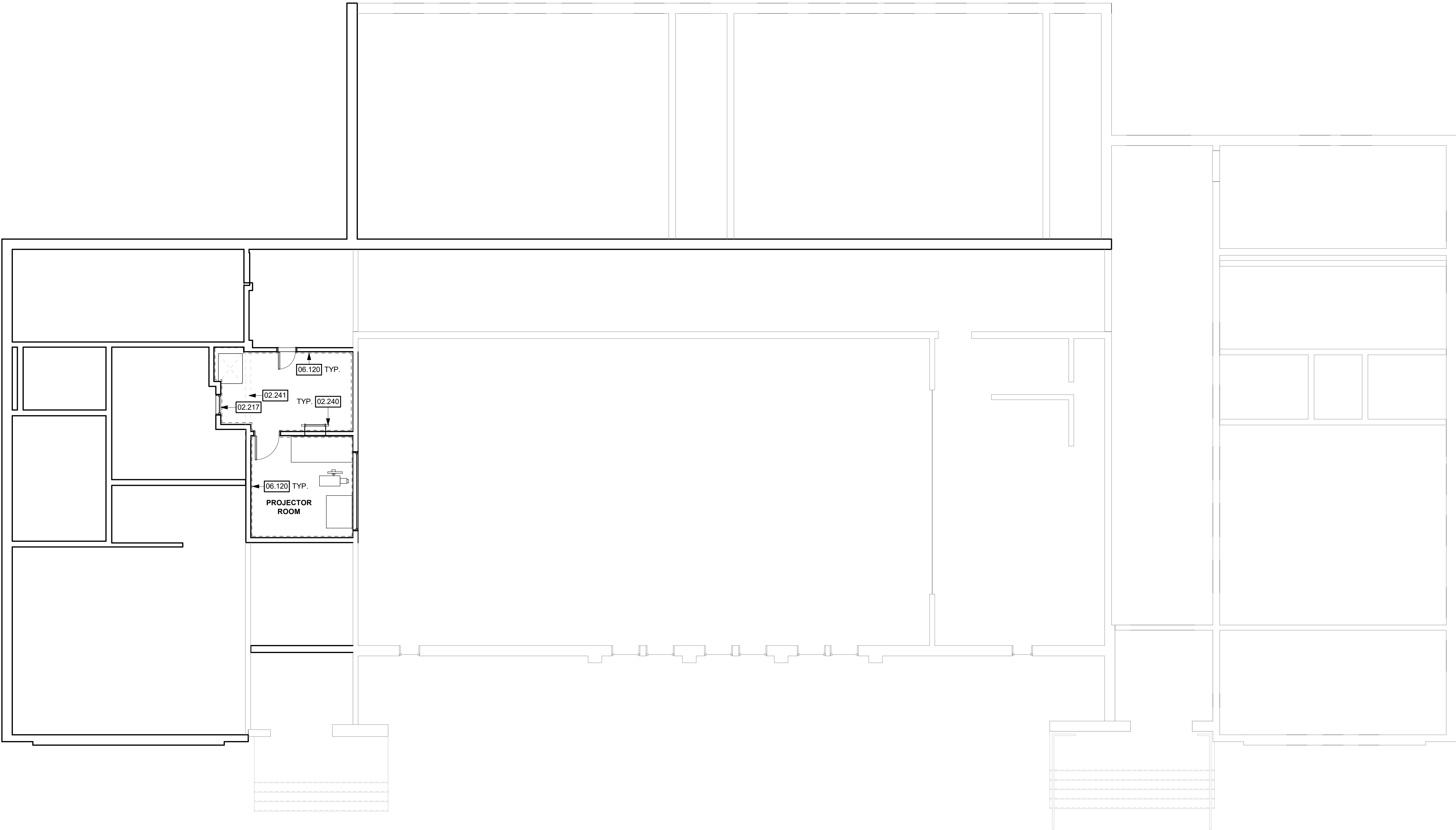
DATE 10.16.2024

JOB # 2023054

SHEET #

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1 NEW MEZZANINE FLOOR PLAN  
SCALE: 3/16" = 1'-0"

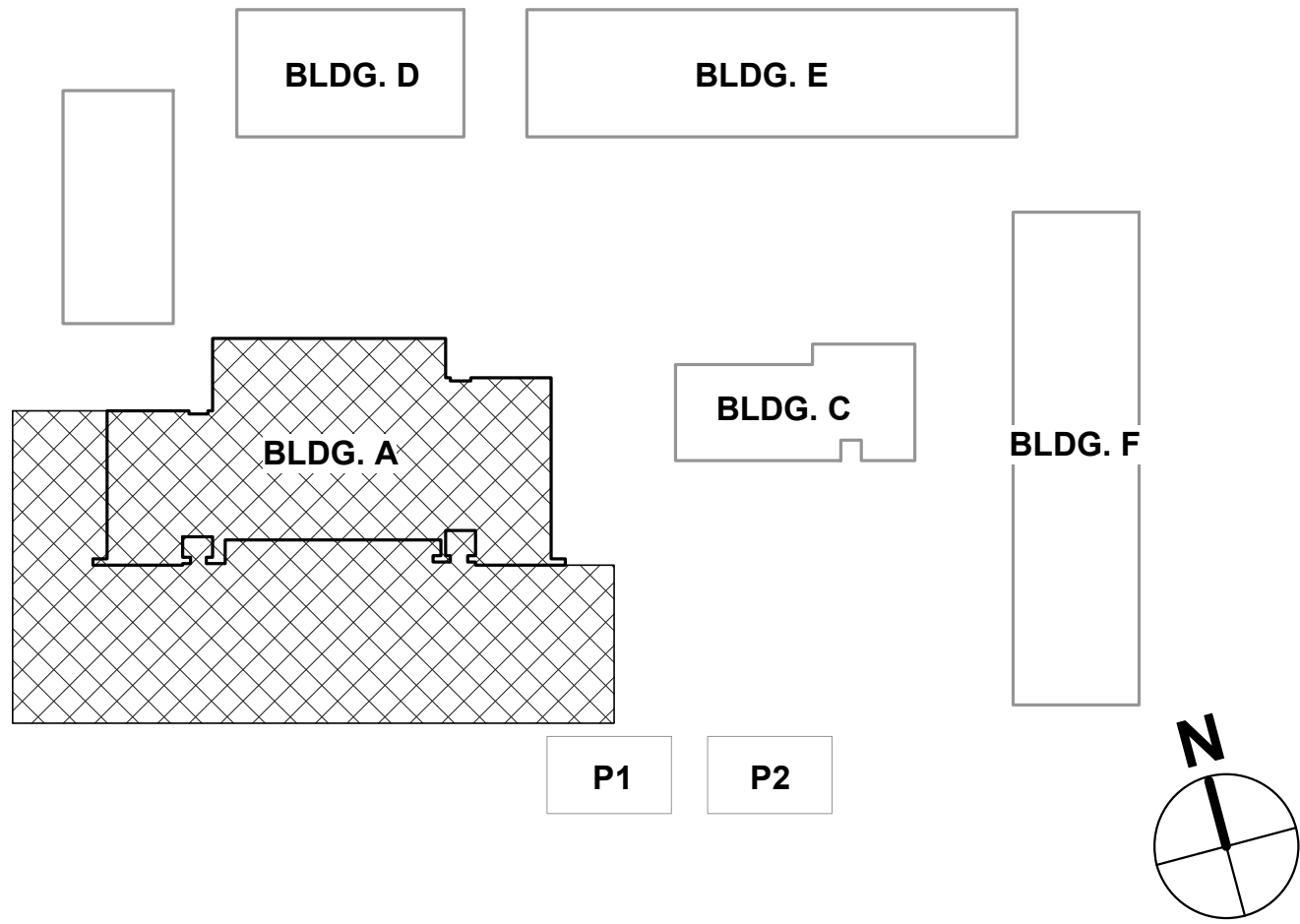
### GENERAL SHEET NOTES

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### NEW MEZZANINE FLOOR PLAN KEYNOTES

- [02.217] (E) WINDOW TO REMAIN  
[02.240] (E) METAL LADDER TO REMAIN  
[02.241] (E) WOOD BEAM  
[06.120] ADD WALL SHEATHING FROM CEILING UP TO ROOF, S.S.D.

### BUILDING KEY



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architects

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### SHEET

NEW MEZZANINE  
FLOOR PLAN

DATE 10.16.2024

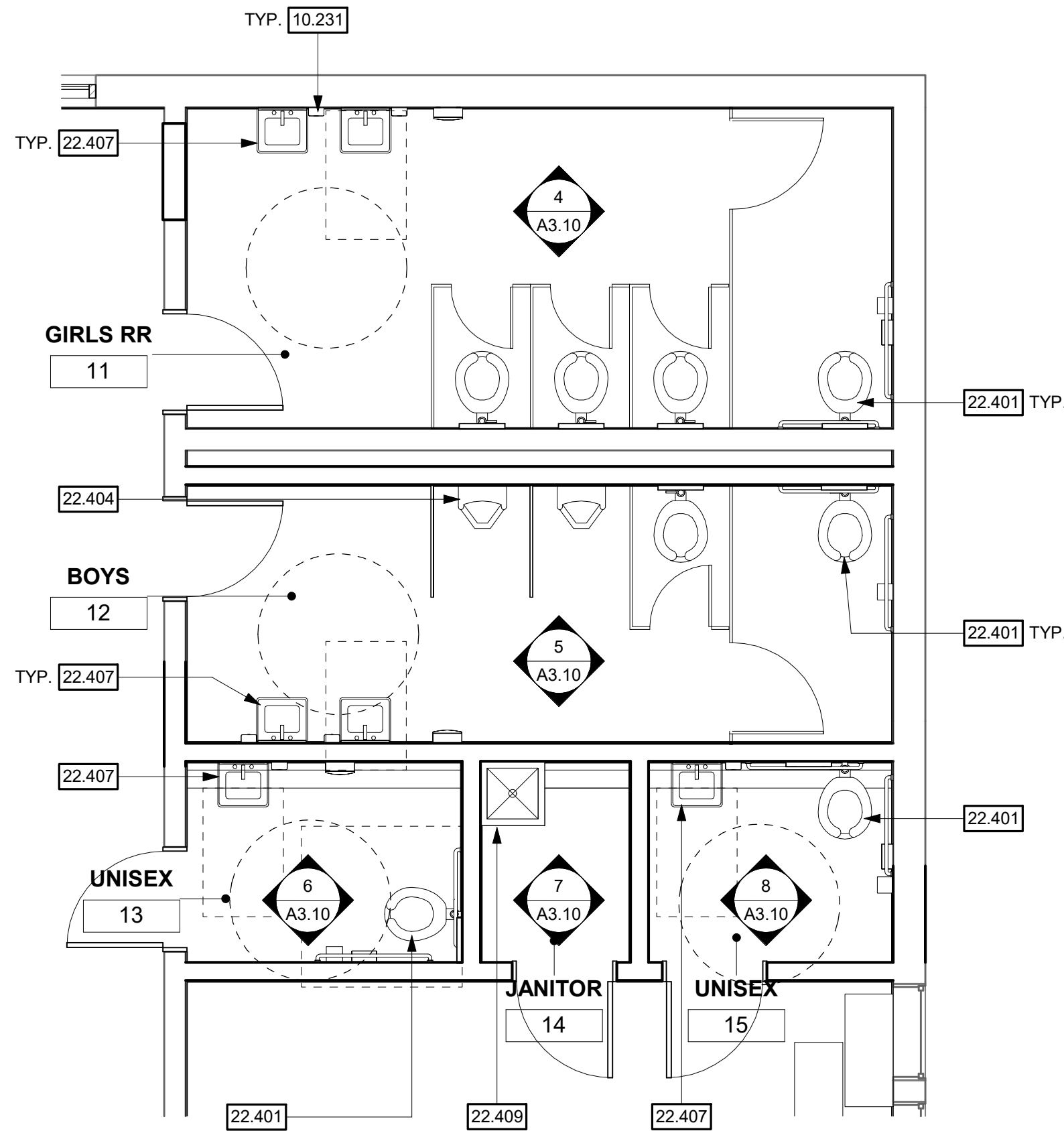
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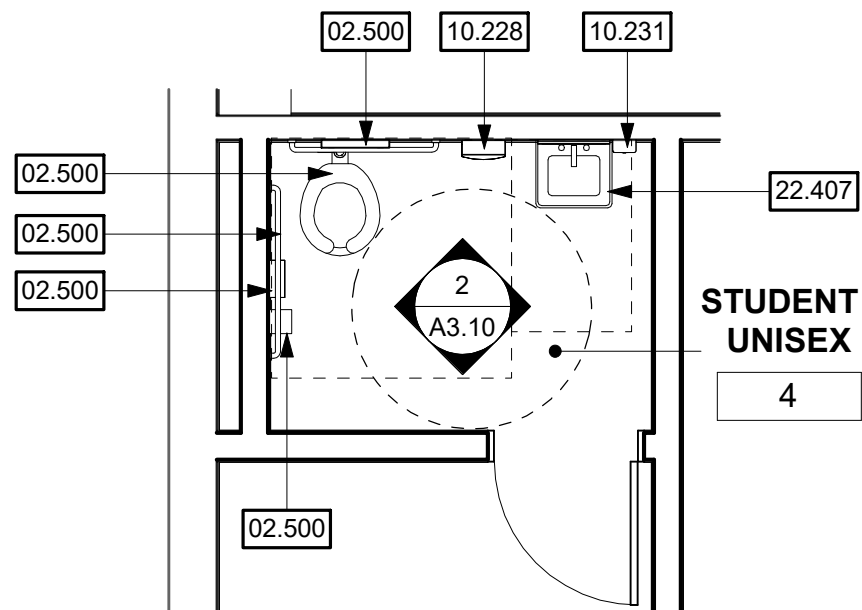
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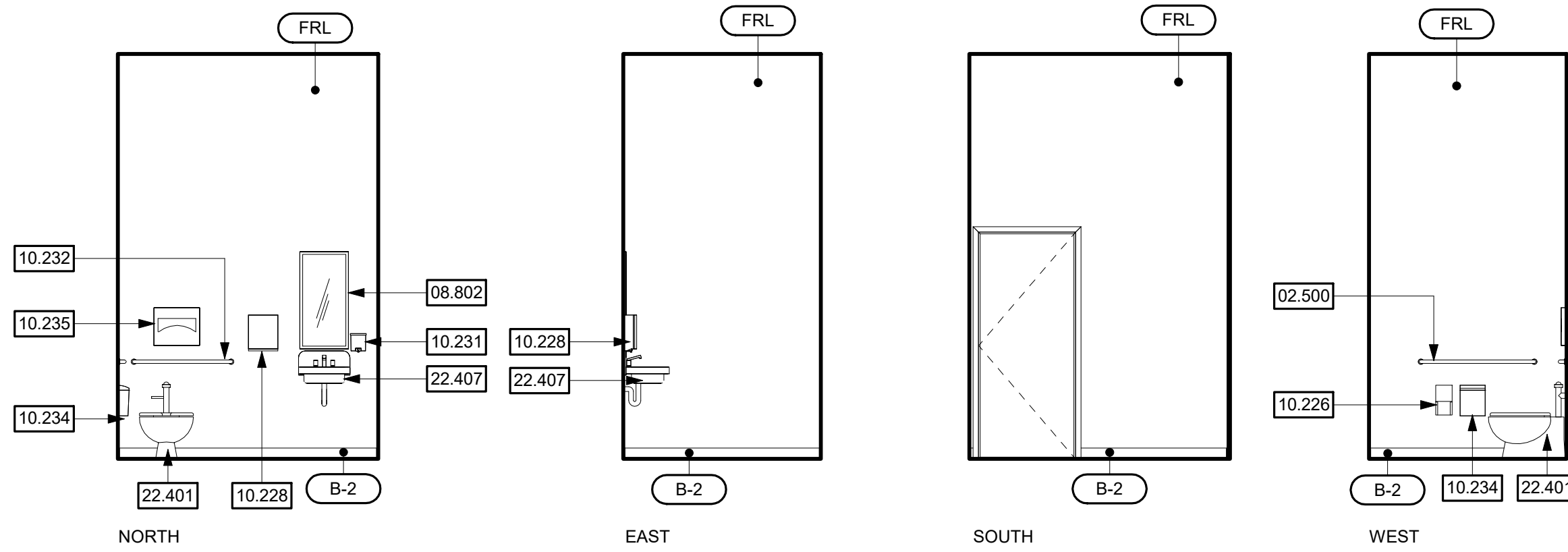




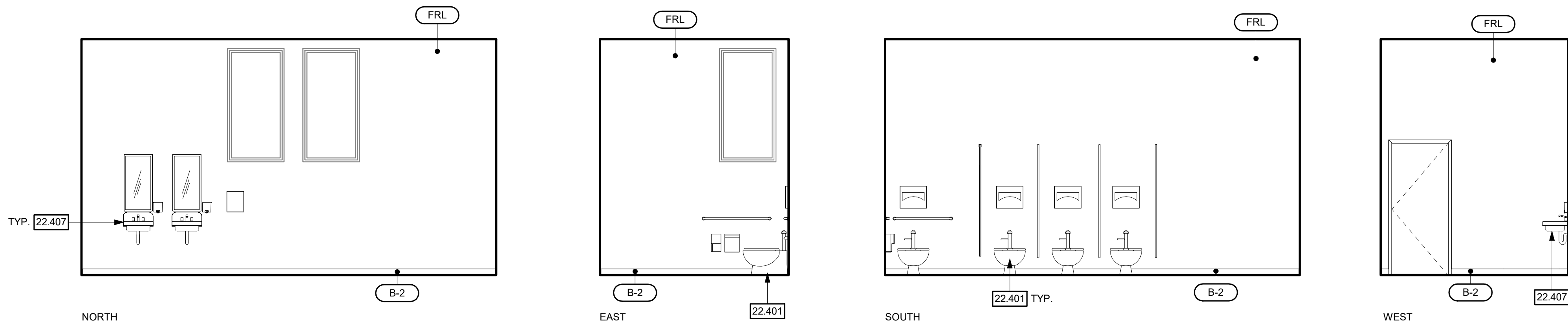
3 ENLARGED FLOOR PLAN - RESTROOMS / JANITOR ROOM  
SCALE: 1/4" = 1'-0"



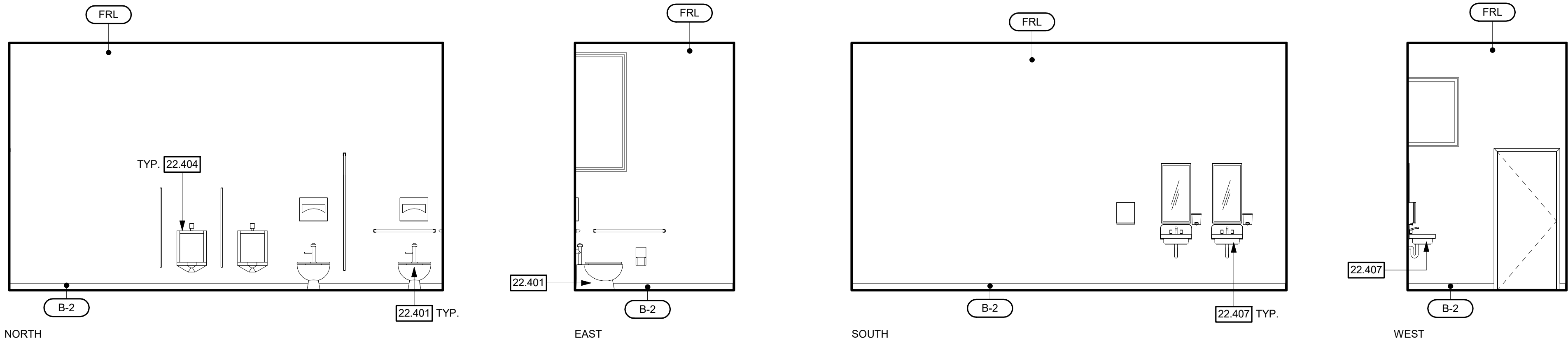
1 4 - ENLARGED FLOOR PLAN - HEALTH OFFICE  
SCALE: 1/4" = 1'-0"



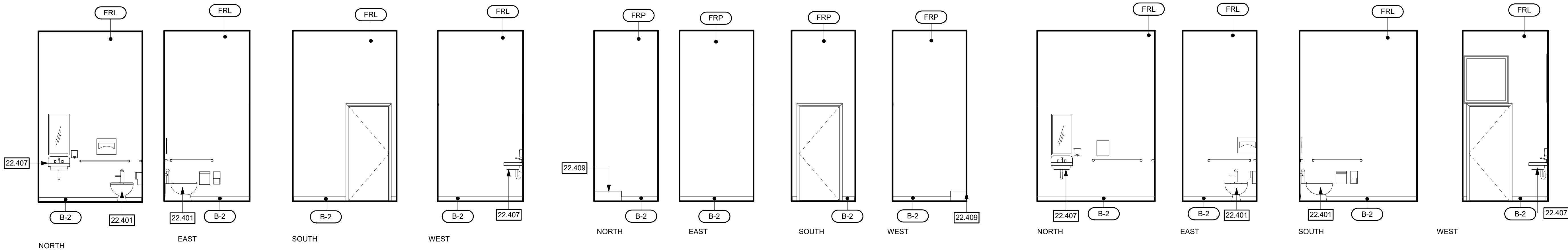
2 4 - HEALTH ROOM RESTROOM  
SCALE: 1/4" = 1'-0"



4 11 - GIRLS RESTROOM  
SCALE: 1/4" = 1'-0"



5 12 - BOYS RESTROOM  
SCALE: 1/4" = 1'-0"



8 15 - STAFF GENDER NEUTRAL RESTROOM  
SCALE: 1/4" = 1'-0"

7 14 - JANITOR ROOM  
SCALE: 1/4" = 1'-0"

6 13 - STUDENT GENDER NEUTRAL RESTROOM  
SCALE: 1/4" = 1'-0"

## GENERAL SHEET NOTES

- A REFER TO FINISH SCHEDULE FOR INTERIOR FINISHES NOT SHOWN ON ELEVATIONS.
- B PROVIDE 6" CONCRETE CURB AT ALL EXTERIOR WALLS AND TOILET ROOM WALLS.
- C ALL TOILET ROOM STUD WALLS SHALL HAVE NEW SOUND ATTENUATION INSULATION.
- D PROVIDE WALL BLOCKING AT ALL TOILET FIXTURE AND ACCESSORY MOUNTING LOCATIONS. SEE TYPICAL BACKING AND BLOCKING DETAILS.
- E FOR TOILET ROOM FIXTURE MOUNTING HEIGHTS, SEE TYPICAL FIXTURE MOUNTING HEIGHTS DETAIL.
- F WATER SUPPLY AND DRAIN PIPES ACCESSIBLE UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE OBJECTS OR SURFACES UNDER LAVATORIES, TYP.
- G ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.

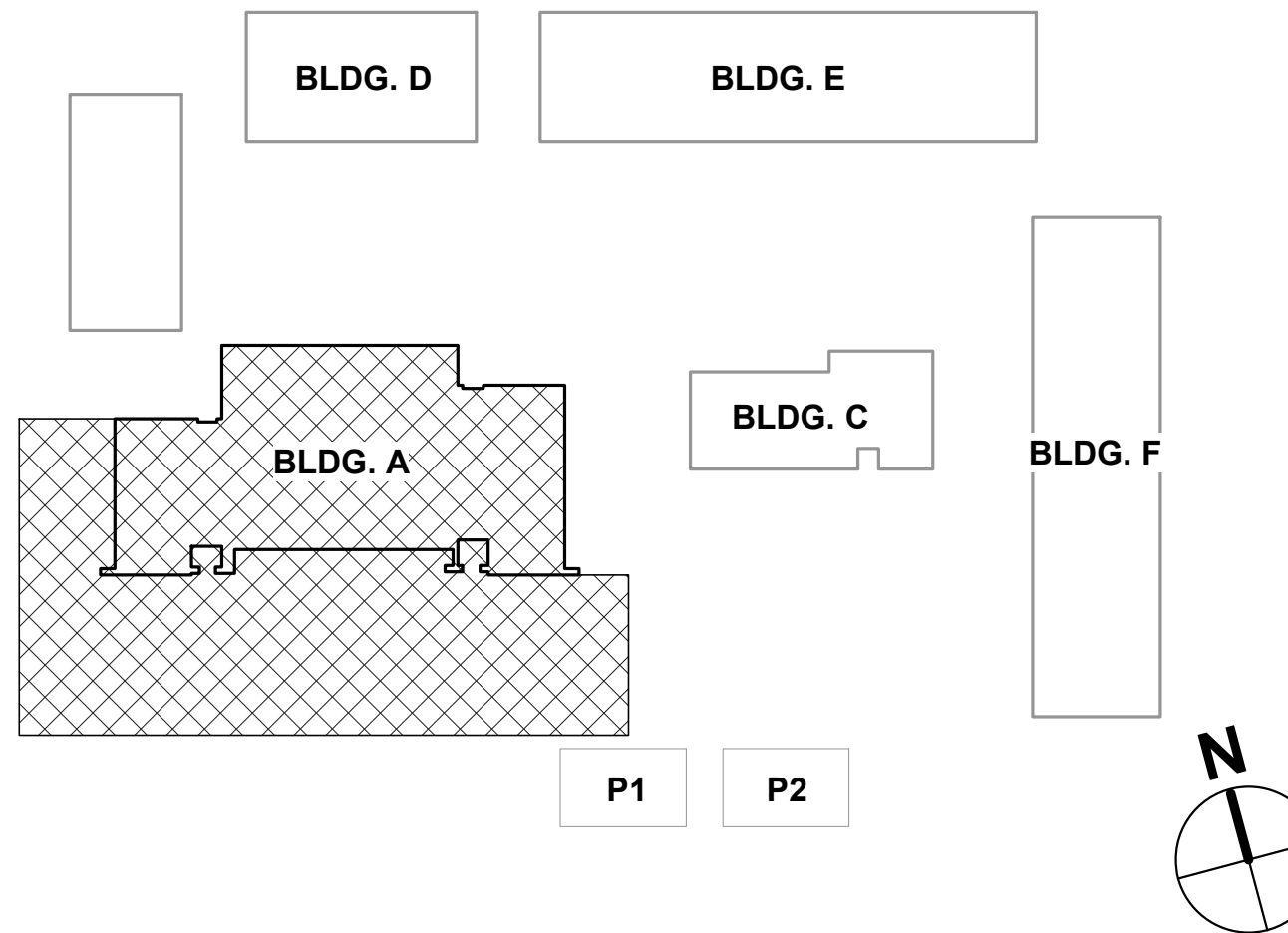
## ENLARGED PLAN KEYNOTES

- 02.500 REMOVE (E) BUILDING ELEMENTS
- 08.802 GLASS MIRROR
- 10.226 STAINLESS STEEL DOUBLE-ROLL TOILET TISSUE ROLL DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 9 / A9.10
- 10.228 STAINLESS STEEL SEMIRECESSED PAPER TOWEL FOLDED DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 9 / A9.10
- 10.231 STAINLESS STEEL SOAP DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 9 / A9.10
- 10.232 STAINLESS STEEL 1 1/2" DIAMETER GRAB BAR. FOR MOUNTING HEIGHTS SEE DETAIL 9 / A9.10
- 10.234 STAINLESS STEEL SURFACE MOUNTED SANITARY NAPKIN DISPOSAL UNIT. FOR MOUNTING HEIGHTS SEE DETAIL 9 / A9.10
- 10.235 STAINLESS STEEL SURFACE MOUNTED SEAT-COVER DISPENSER. FOR MOUNTING HEIGHTS SEE DETAIL 9 / A9.10
- 22.401 ACCESSIBLE WATER CLOSET, S.P.D.
- 22.404 URINAL, S.P.D.
- 22.407 ACCESSIBLE WALL-MOUNTED LAVATORY, S.P.D. AND SEE TYPICAL FIXTURE MOUNTING HEIGHTS DETAIL 6 / A9.10
- 22.409 MOP SINK, S.P.D.

## FINISH LEGEND

- FRP FIBER REINFORCED PLASTIC PANELS
- FRL FIBER REINFORCED LAMINATE
- B-2 BASE COLOR 2

## BUILDING KEY



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MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

## STAMP

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## SHEET

ENLARGED  
RESTROOM PLANS  
& ELEVATIONS

DATE 10.16.2024

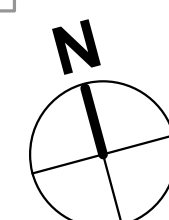
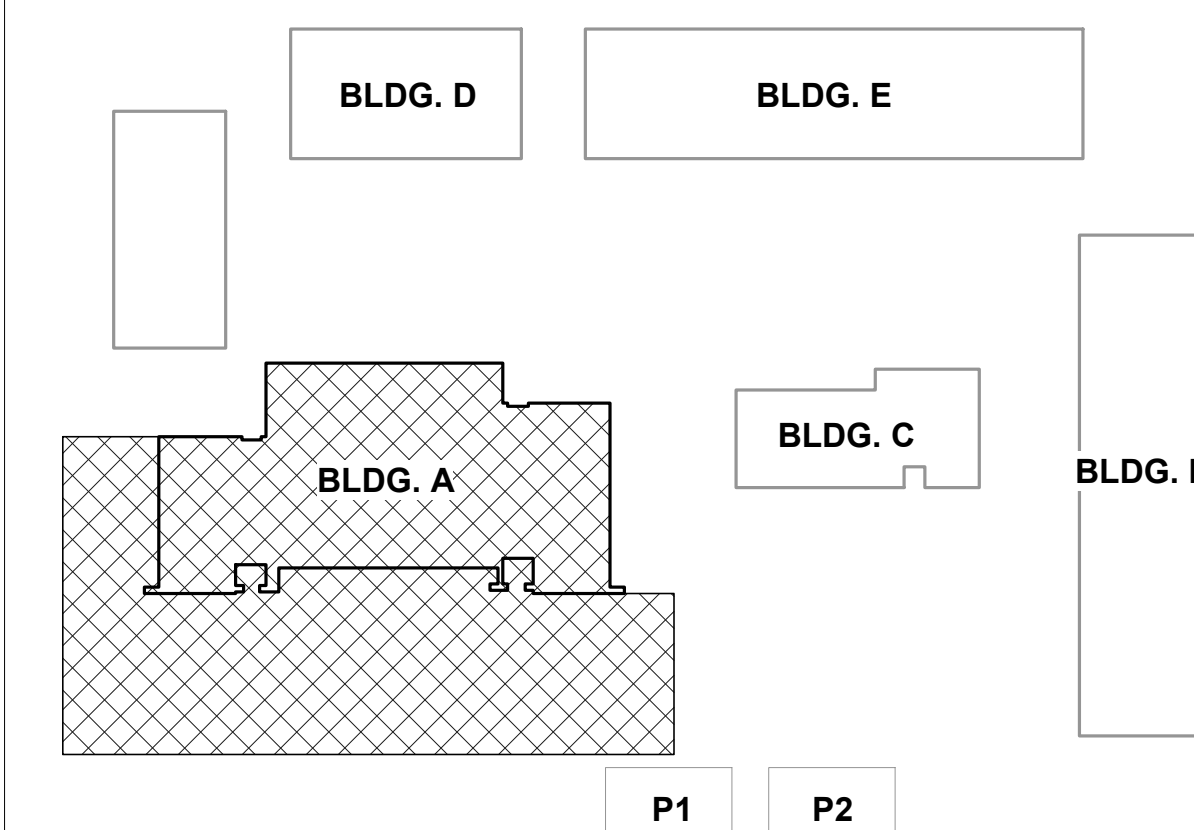
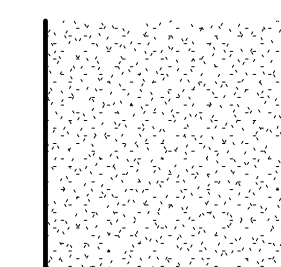
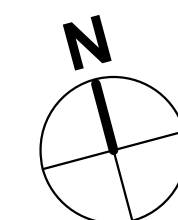
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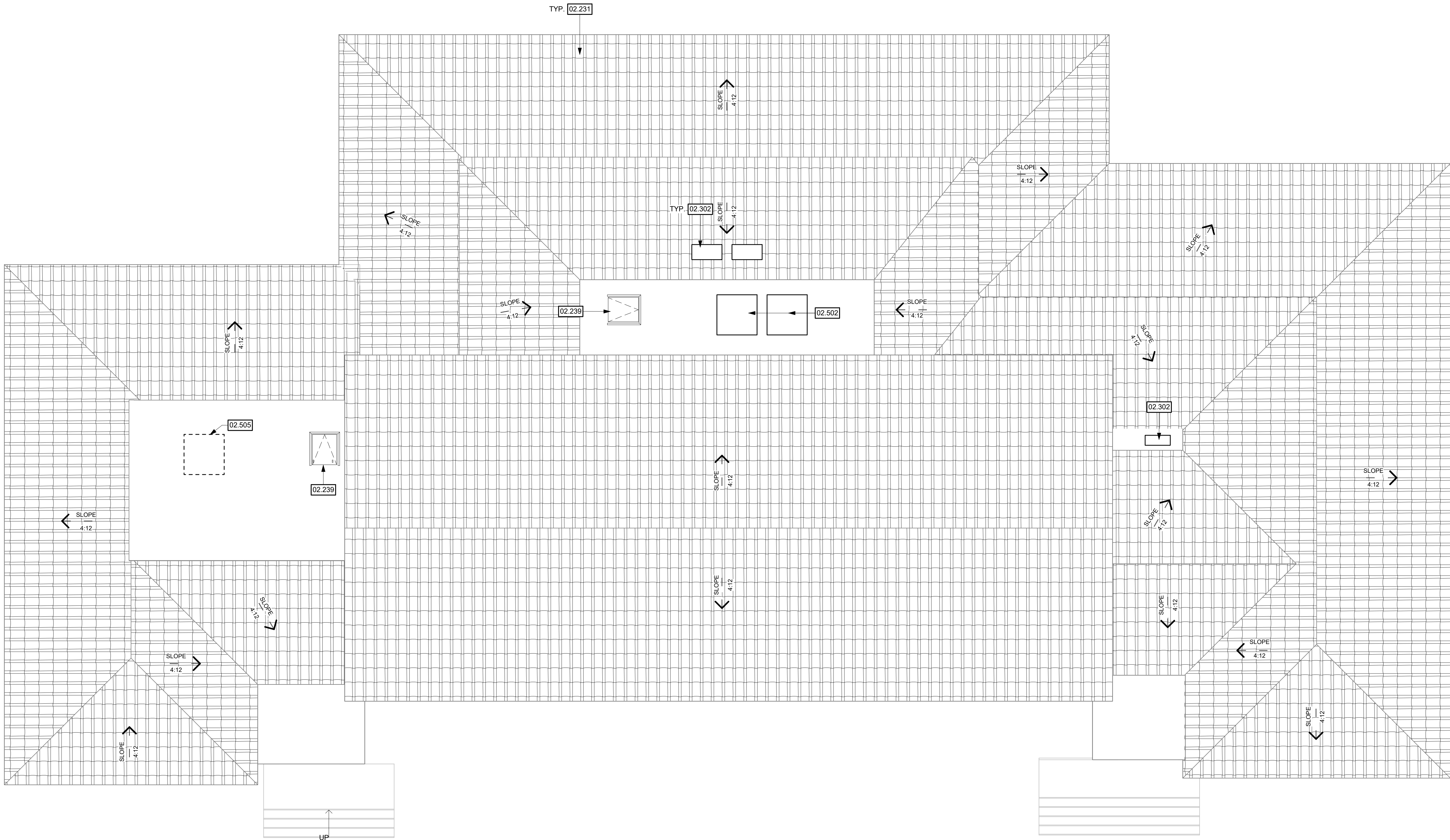
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## A4.01





1 ROOF PLAN  
SCALE: 3/16" = 1'-0"



(E) CLAY ROOF TILES TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION IN KIND. INSTALL TILES IN GOOD CONDITION TO BE PLACED ALONG THE FRONT EDGE WHERE VISIBLE. REPLACE DAMAGED TILE WITH NEW AND MATCH COLOR/TEXTURE OF ADJACENT ORIGINAL CLAY TILE.

GENERAL SHEET NOTES

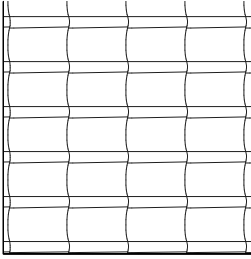
- A REFER TO STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR EXTENT OF STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL WORK.
- B ALL EXPOSED SHEET METAL SHALL BE KYNAR COATED ALUMINUM OR STAINLESS STEEL.
- C ALL TAPERED CRICKETS TO BE NEW.
- D PROVIDE TAPERED INSULATION (TO COMPLY W/ FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF CBC 707.3) TO SLOPE TO DRAIN.
- E SIZE OF MECHANICAL EQUIPMENT PADS ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY REQUIRED PAD DIMENSION WITH EQUIPMENT MANUFACTURER.
- F ROOF CRICKETS, WHERE INDICATED, SHALL BE PROVIDED AS REQUIRED TO ENSURE A MINIMUM 1/4" PER FOOT VALLEY SLOPE. COORDINATE LOCATIONS OF CRICKETS WITH ROOFTOP EQUIPMENT.
- G REFER TO TYPICAL SADDLE FLASHING DETAILS WHERE 2 EXTERIOR WALLS OF DIFFERENT HEIGHTS INTERSECT.
- H DRAFT STOPS SHALL BE INSTALLED IN THE ATTICS, OVERHANGS AND OTHER CONCEALED SPACES PER CBC 717.4.3.
- I ALL ITEMS REFERENCED IN KEYNOTES ARE TO BE PROVIDED NEW, U.O.N.
- J AT ALL SINGLE PLY ROOFING, WALKWAY ROLL SHALL BE PROVIDED FROM ACCESS HATCHES TO AREAS REQUIRING MAINTENANCE (HVAC EQUIPMENT, VENTS, PIPES, ETC.) VERIFY WITH ARCHITECT

ROOF PLAN KEYNOTES

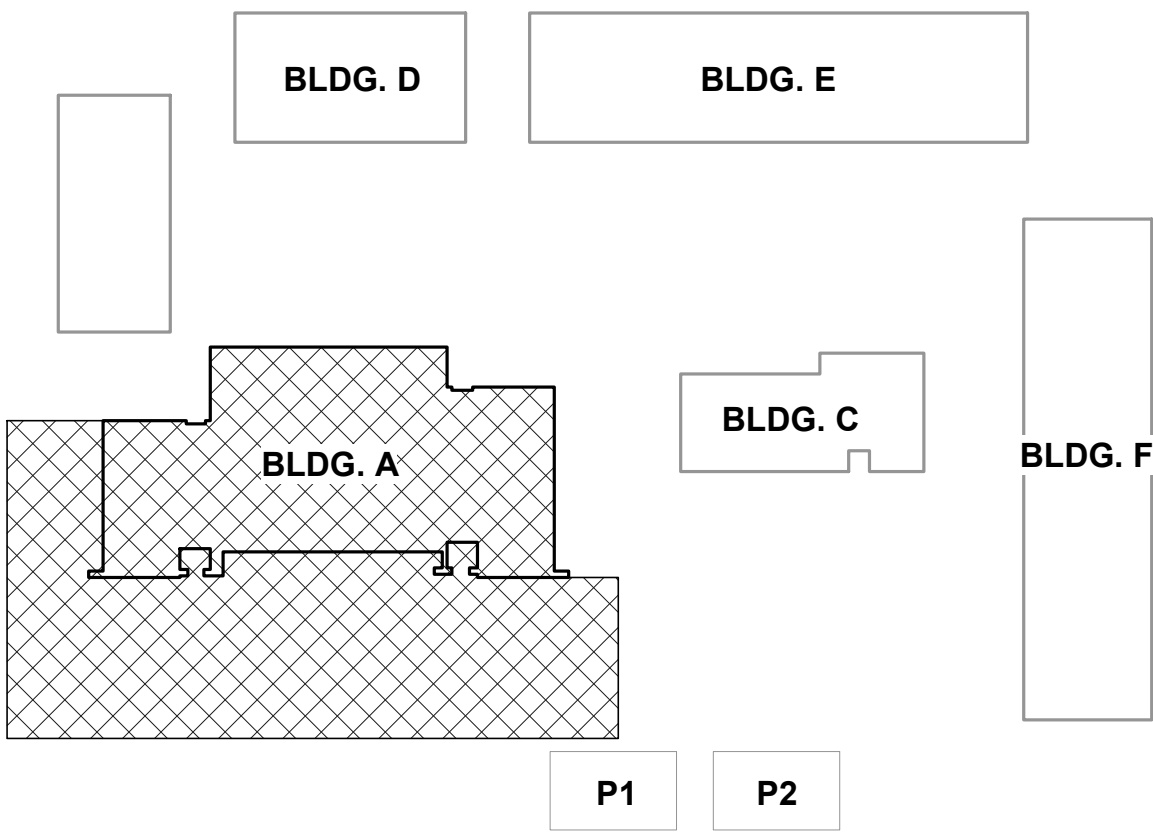
- 02.231 (E) CLAY ROOF TILES TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION AFTER SEISMIC RETROFIT AND ROOF REPLACEMENT
- 02.239 (E) ROOF HATCH TO BE REMOVED AND SALVAGE FOR REINSTALLATION
- 02.302 (E) MECHANICAL EQUIPMENT TO BE REMOVED, SALVAGED AND RETURNED TO DISTRICT
- 02.502 (E) SKYLIGHT TO BE REMOVED AND SALVAGED FOR REINSTALLATION
- 02.505 PATCH TO MATCH EXISTING

GRAPHIC KEY

(E) CLAY ROOF TILES



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SHEET

ROOF PLAN

DATE 10.16.2024

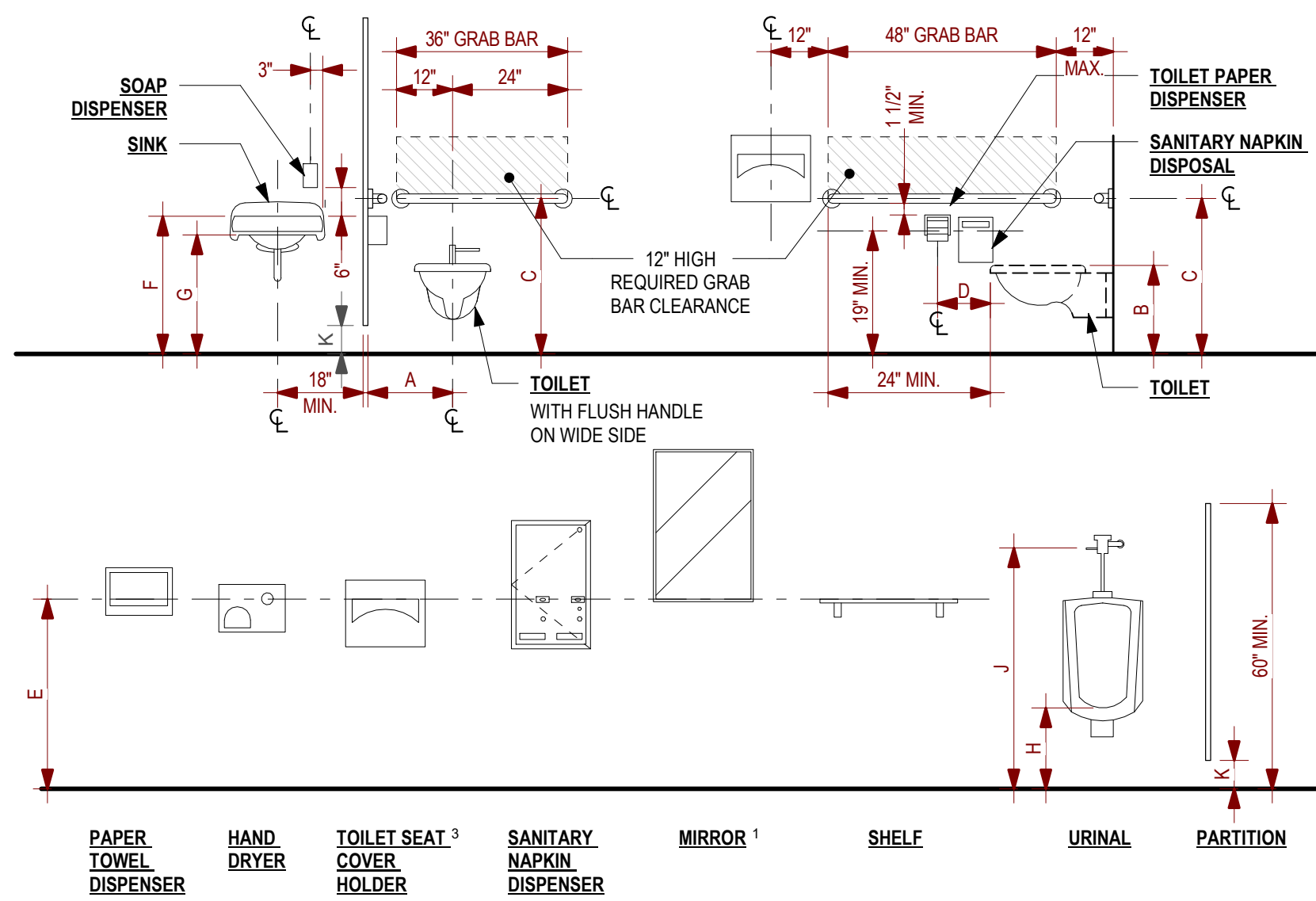
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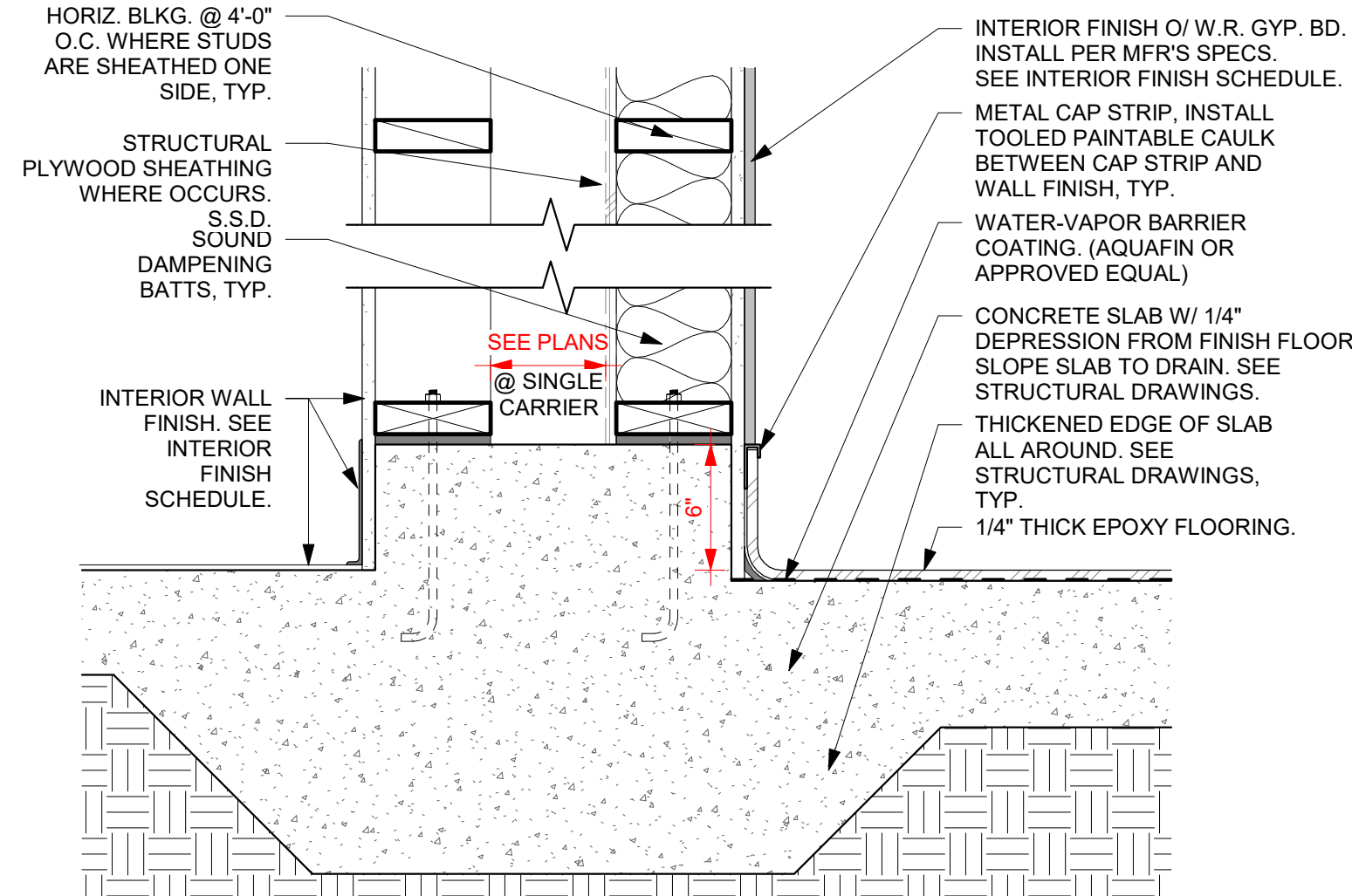
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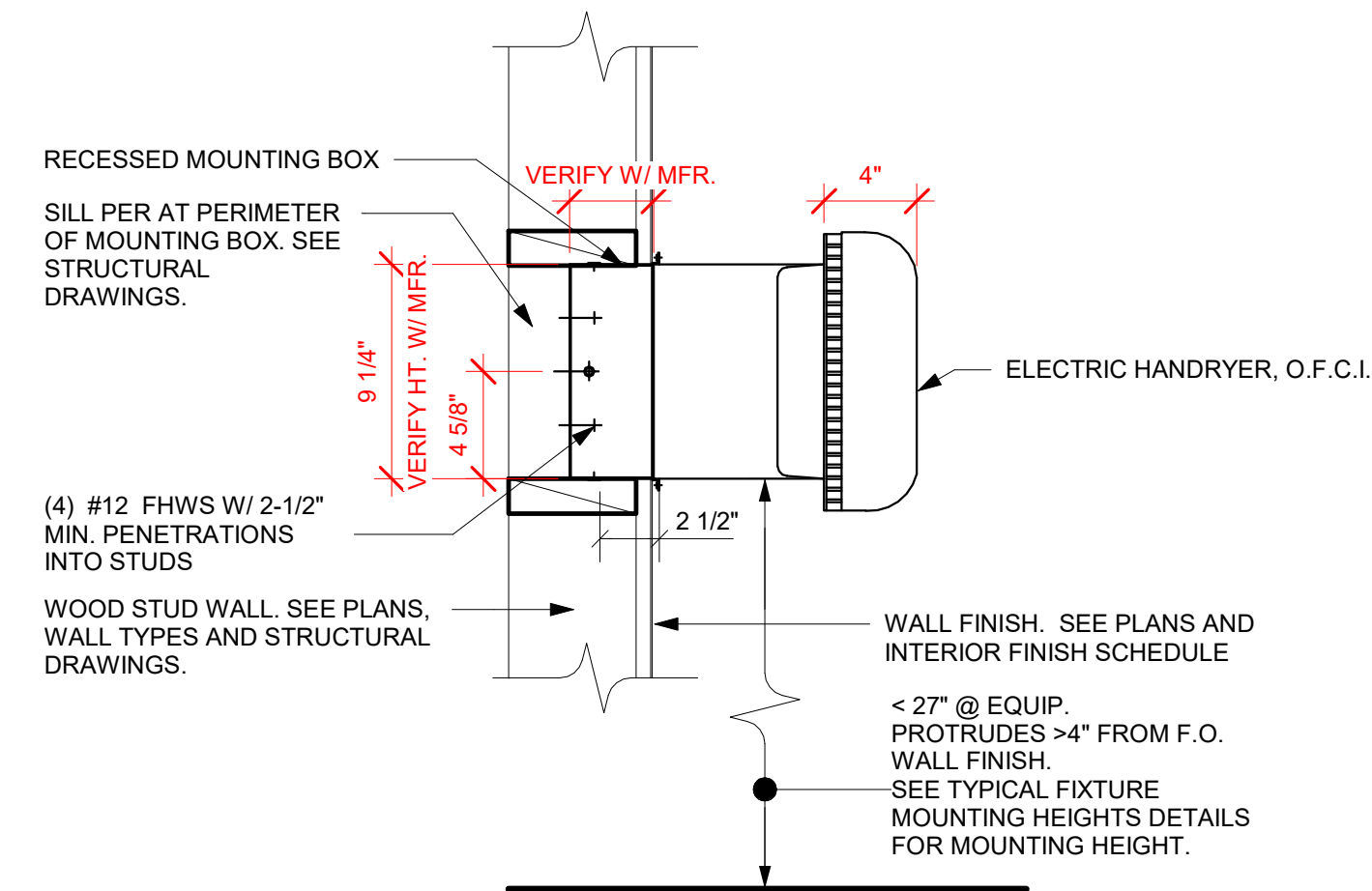
DIM.	DESCRIPTION	ADULT <sup>2</sup> (INCHES)	ELEM. (INCHES)	D.A. ADULT <sup>2</sup> (INCHES)	D.A. AGE 5-8 (INCHES)
A	TOILET CENTERING FROM WALL	17-18	15	17-18	12-15
B	TOILET SEAT HEIGHT	15	15	17-19	12-15
C	GRAB BAR HEIGHT	-	-	33-35	28-29
D	TOILET PAPER OUTLET HEIGHT AFF	19	19	19	14-17
E	TOILET PAPER IN FRONT OF TOILET	7-9	7-9	7-9	7-9
F	DISPENSER/ MIRROR HEIGHT/ SHELF	44	36	40 MAX.	40 MAX.
G	LAVATORY/SINK TOP HEIGHT	34	29	34 MAX.	31 MAX.
H	LAVATORY/SINK KNEE CLEARANCE	27	24	27 MIN.	24 MIN.
I	URINAL LIP HEIGHT	24	17	17 MAX.	17 MAX.
J	URINAL FLUSH HANDLE HEIGHT	44	44	44 MAX.	44 MAX.
K	TOILET PARTITION FLOOR CLEARANCE	9" MIN.	12" MIN.	9" MIN.	12" MIN.
L	DRINKING FOUNTAIN BUBBLER HEIGHT	42	38	38 MAX.	30 MAX.
M	DRINKING FOUNTAIN KNEE CLEARANCE	-	-	27 MIN.	24 MIN.

- NOTES:
- FOR MIRRORS NOT MOUNTED ABOVE A LAVATORY, AT LEAST ONE MIRROR IS TO BE MOUNTED @ 35" MAX., PER 2022 CBC SEC 11B-603.3.
  - ADULT DIMENSIONS ARE FOR THOSE ABOVE AGE 12.
  - TOILET SEAT COVER HOLDER AT ACCESSIBLE STALL SHALL BE MOUNTED ON SIDE WALL.



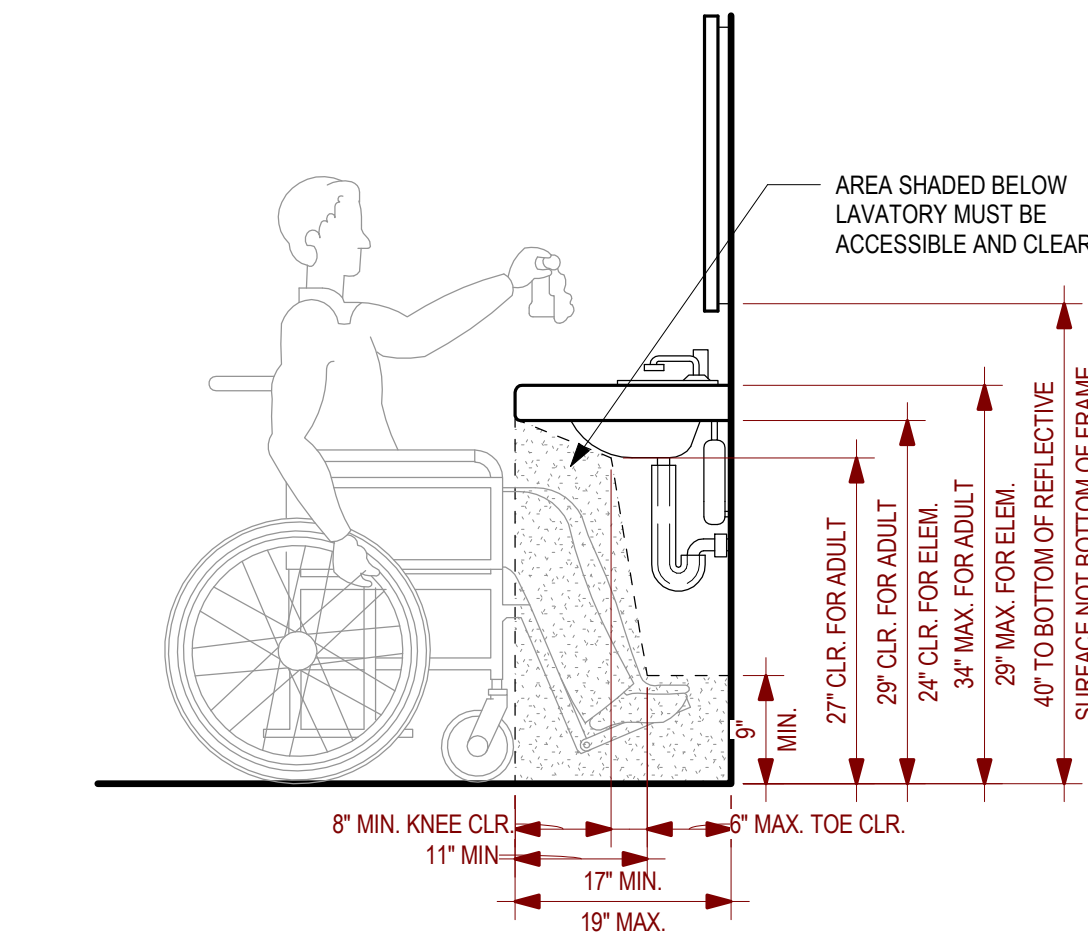
### 9 TYPICAL FIXTURE MOUNTING HEIGHTS

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



### 10 SEMI-RECESSED HAND DRYER ANCHORAGE

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

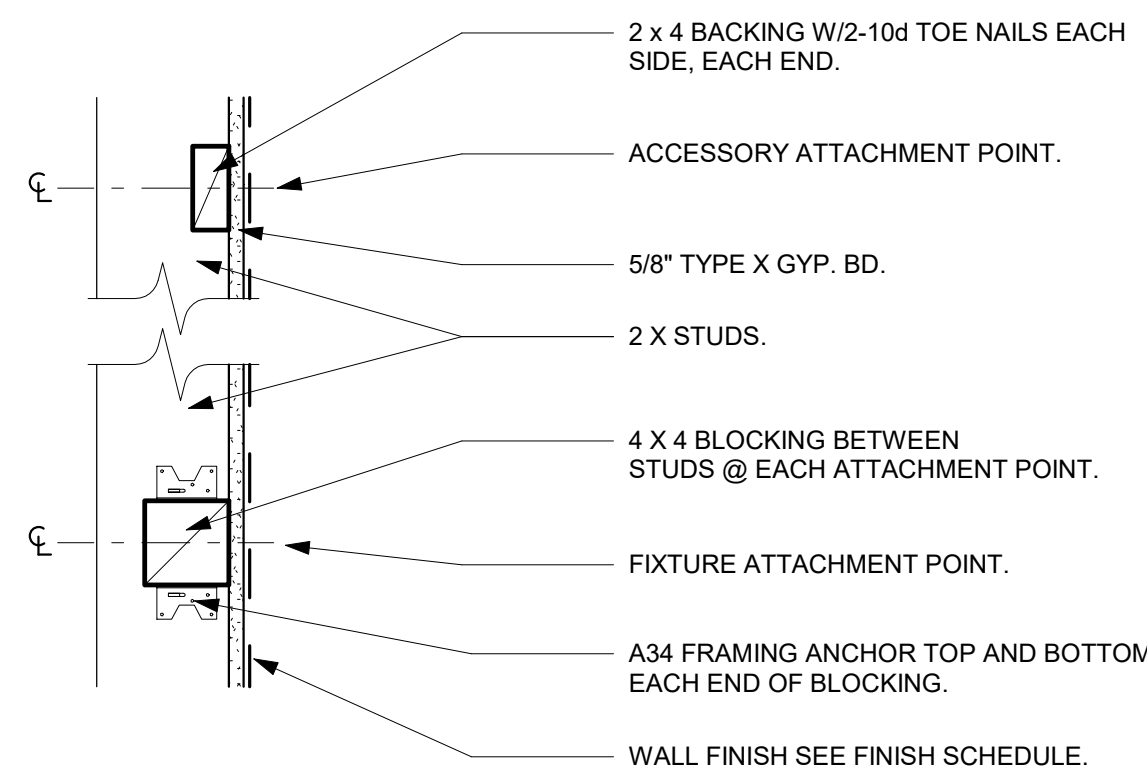


### 6 KNEE CLEARANCE AT LAVATORY

SCALE: 3/4" = 1'-0"

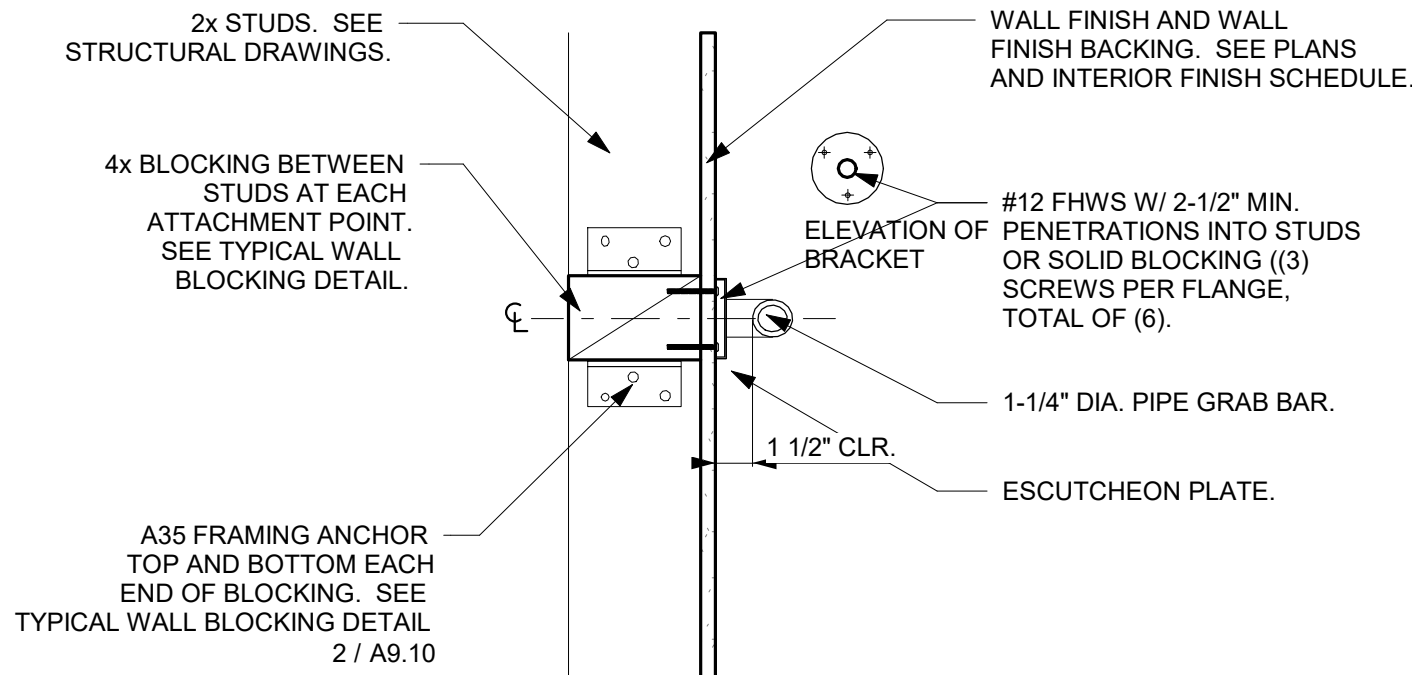
### 1 PLUMBING CHASE @ SINGLE CARRIER (1/4" DEPRESSION)

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



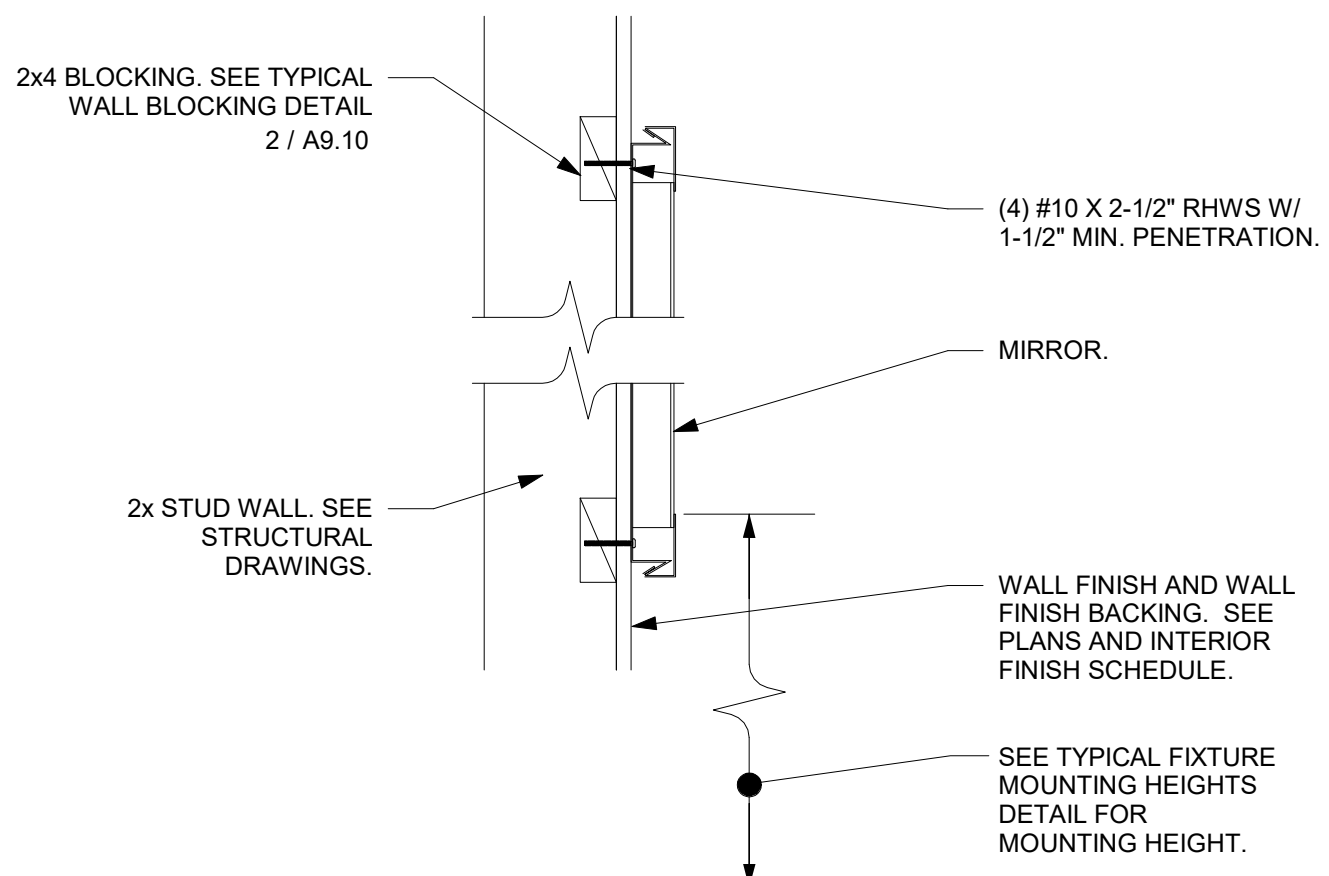
### 2 TYP. WALL BACKING / BLOCKING

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



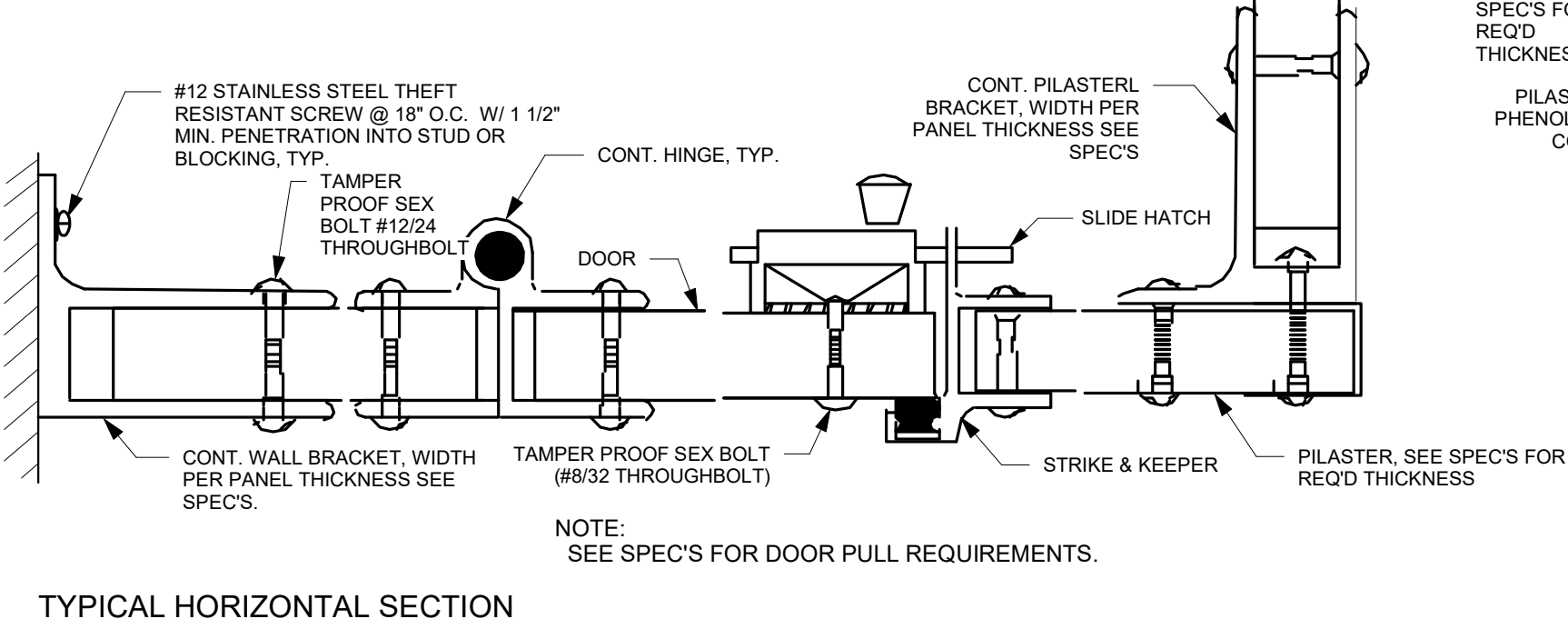
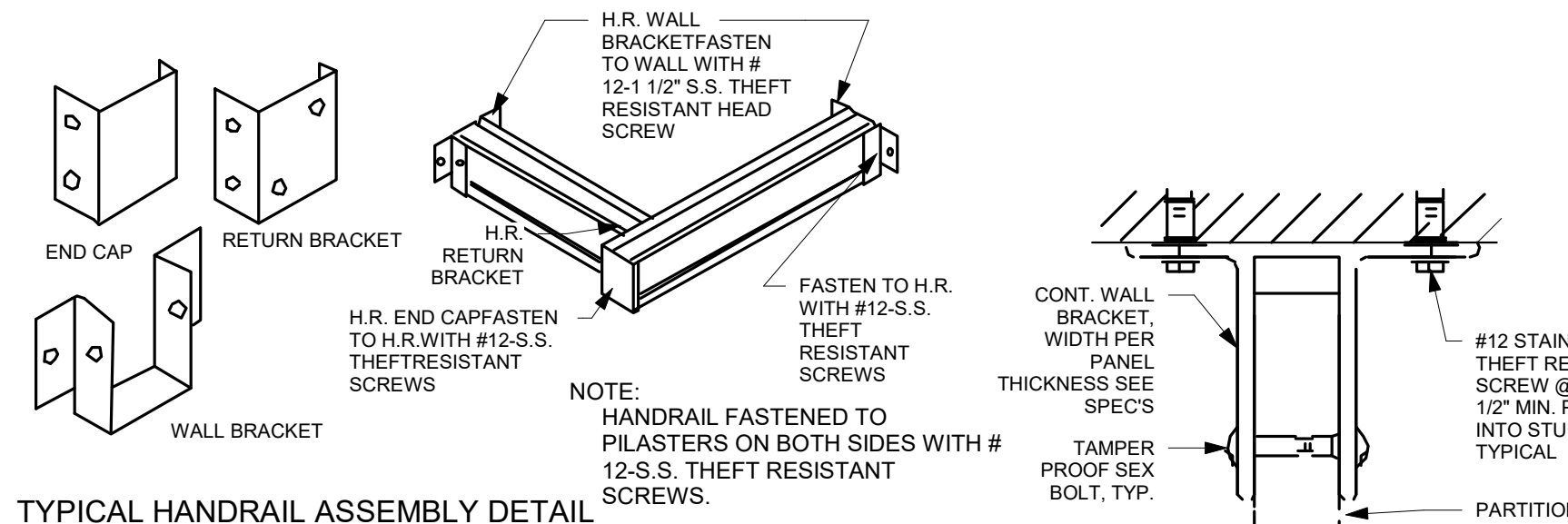
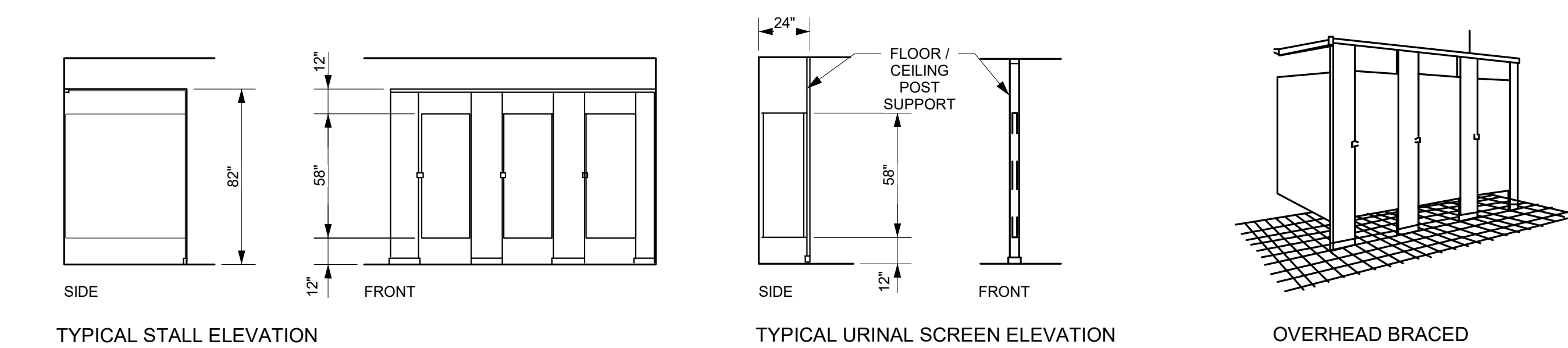
### 7 GRAB BAR ANCHORAGE

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



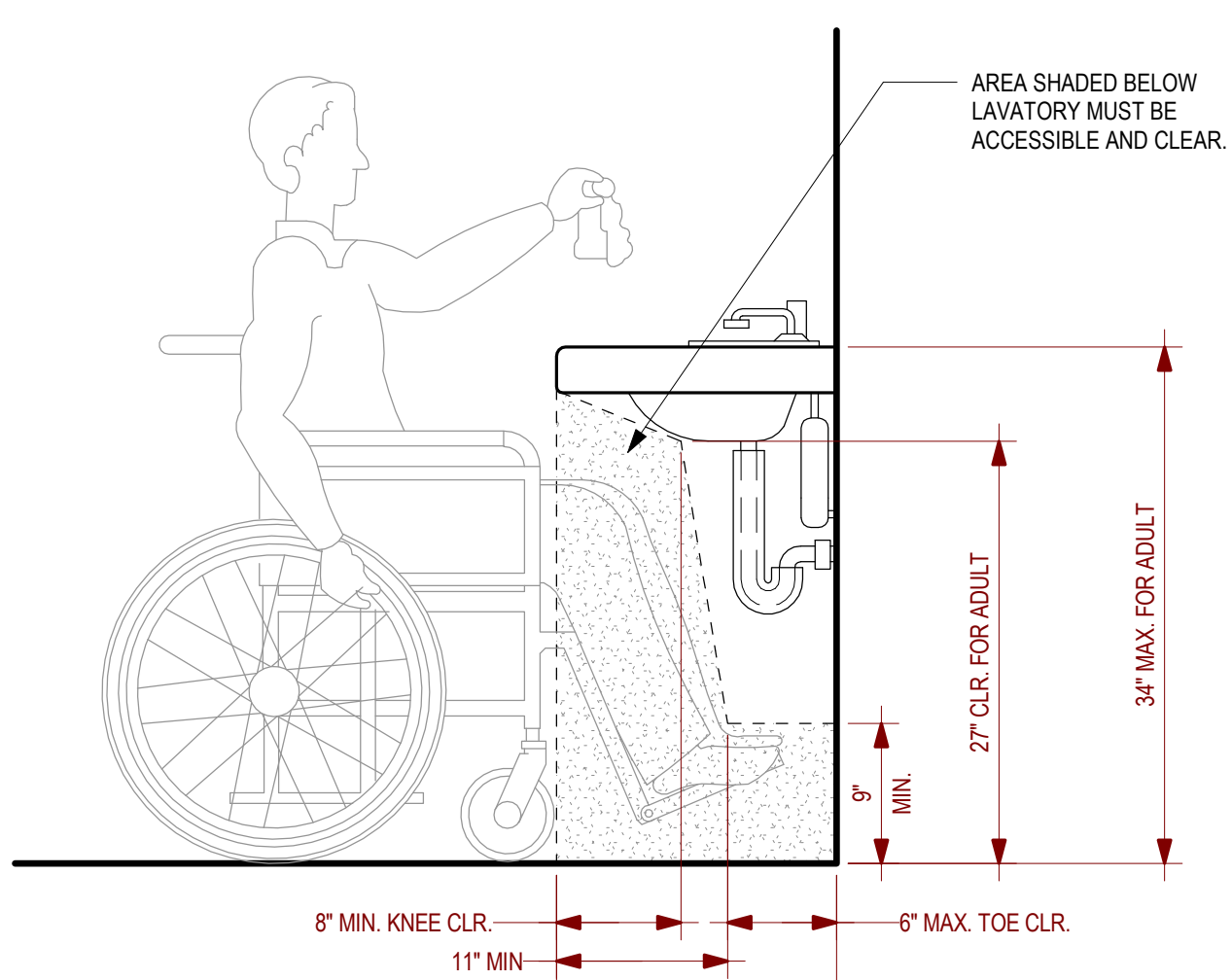
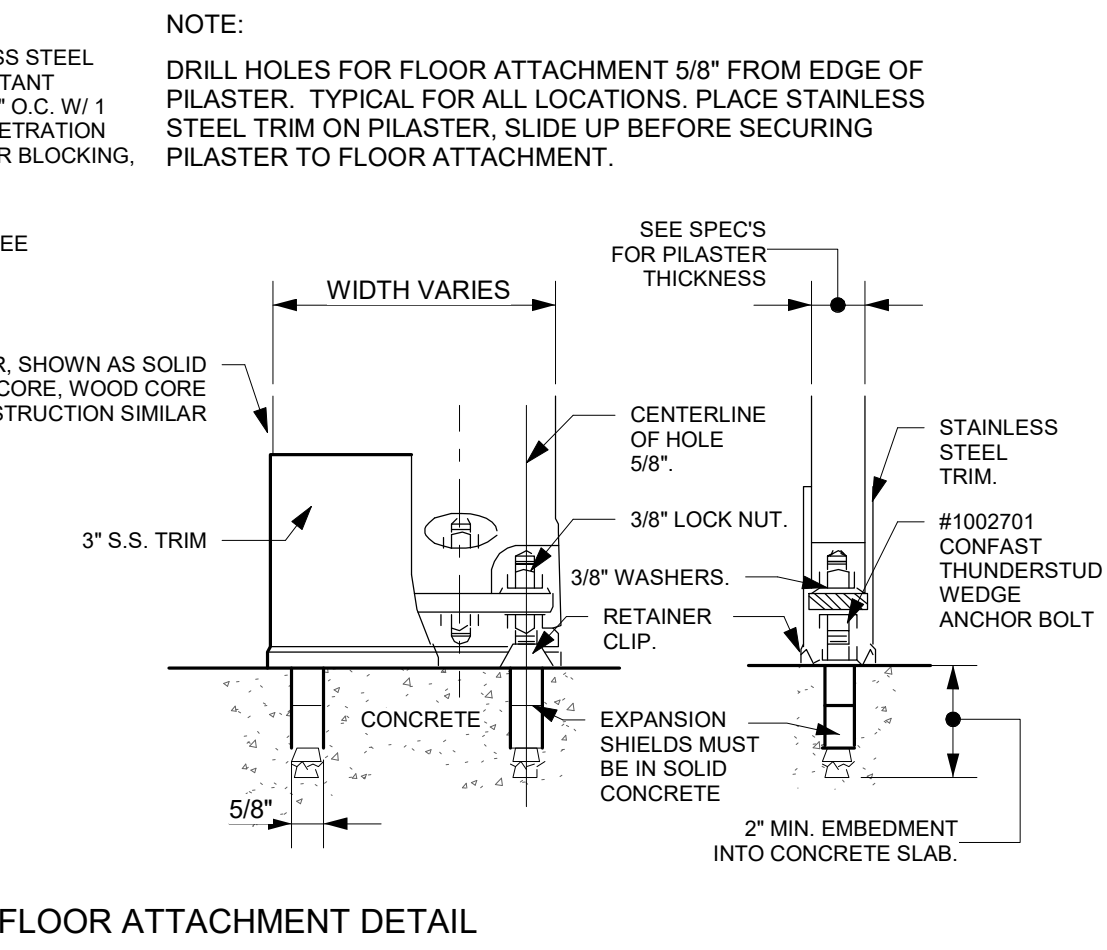
### 3 MIRROR ANCHORAGE

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



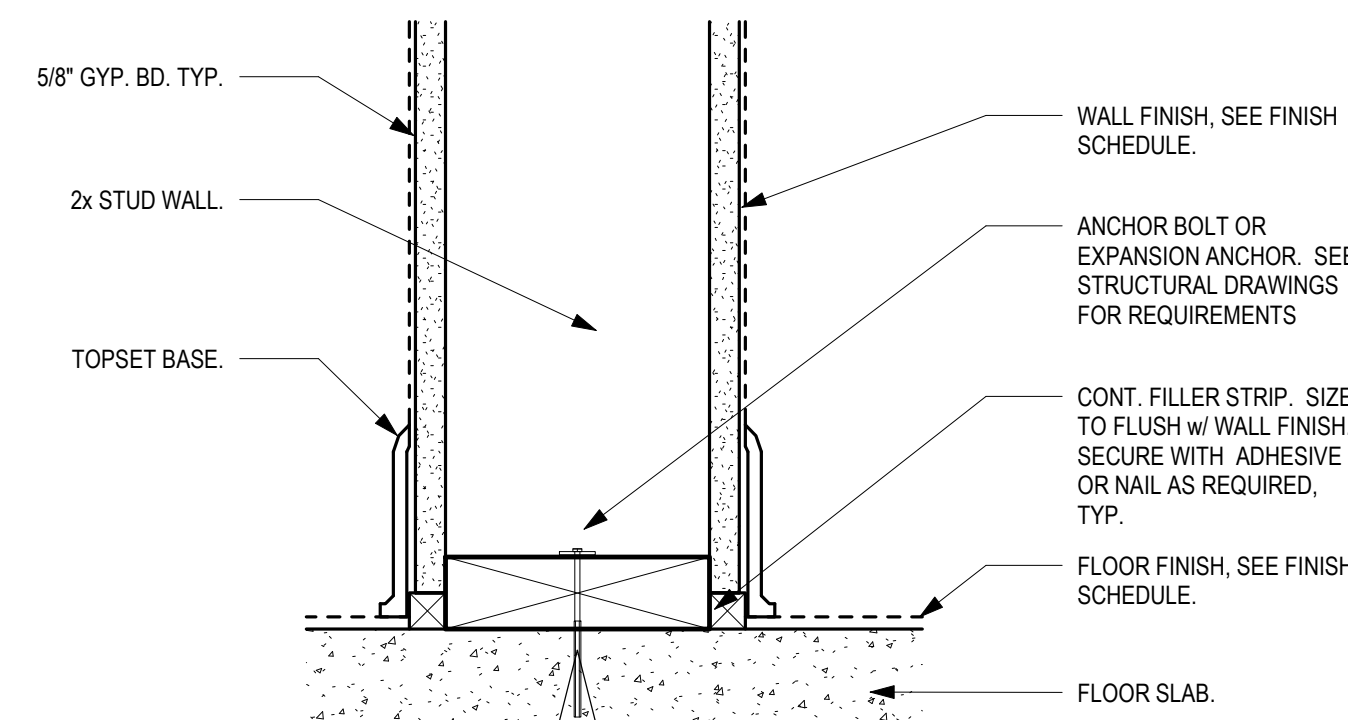
### 16 TOILET PARTITION ANCHORAGE DETAILS

SCALE: 12" = 1'-0"



### 8 KNEE CLEARANCE AT SINK

SCALE: 1" = 1'-0"



### 4 TYPICAL INTERIOR WALL BASE (2x STUDS)

SCALE: 3" = 1'-0"

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SHEET

INTERIOR DETAILS

DATE 10.16.2024

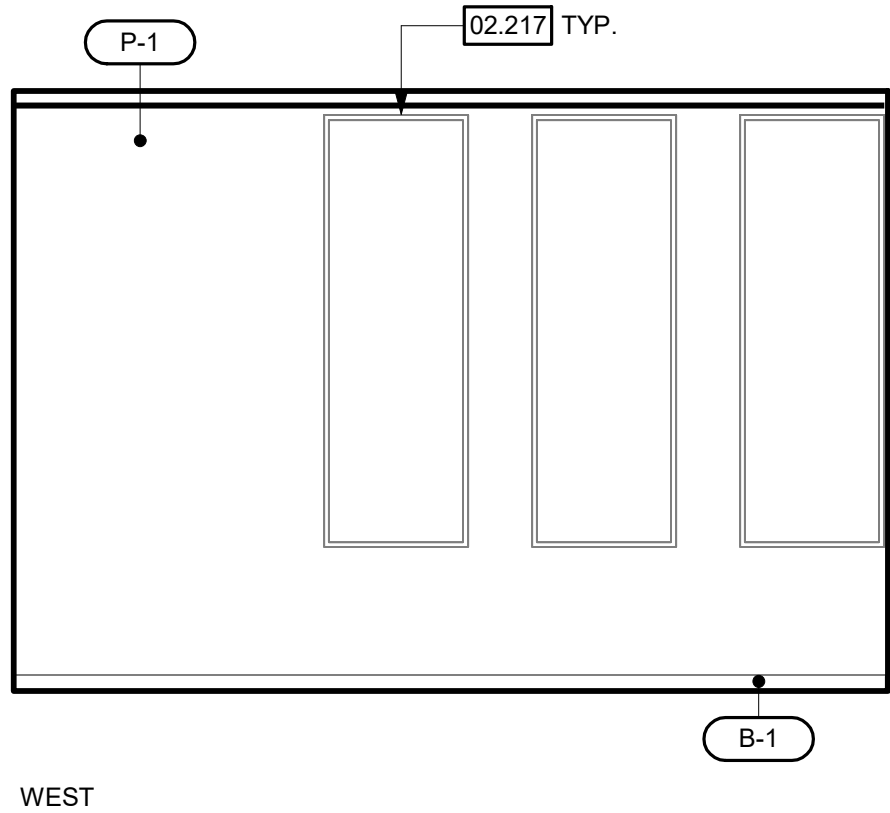
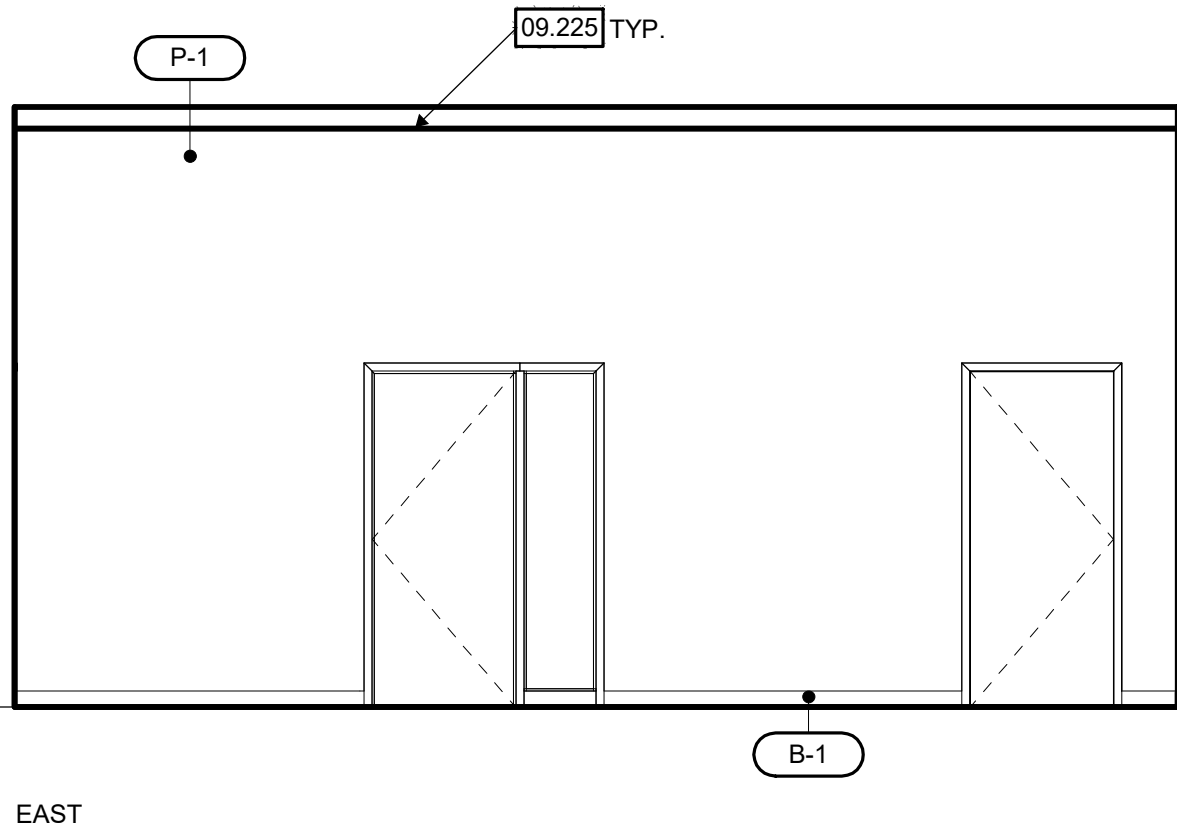
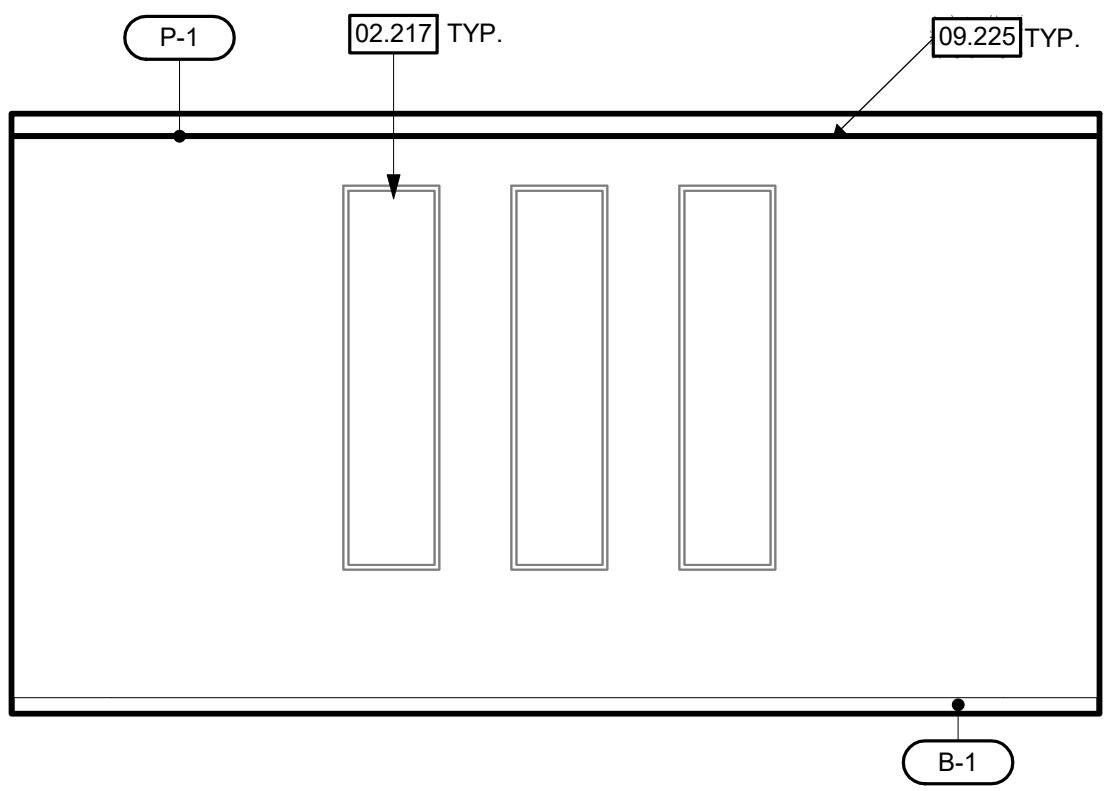
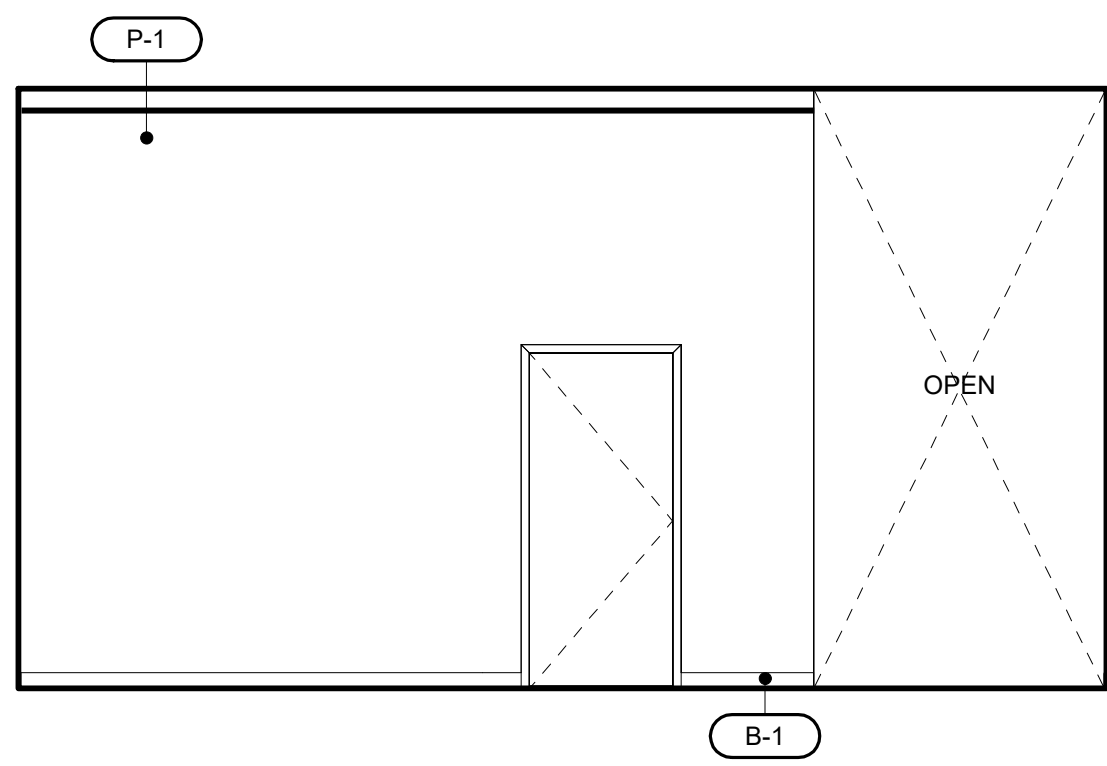
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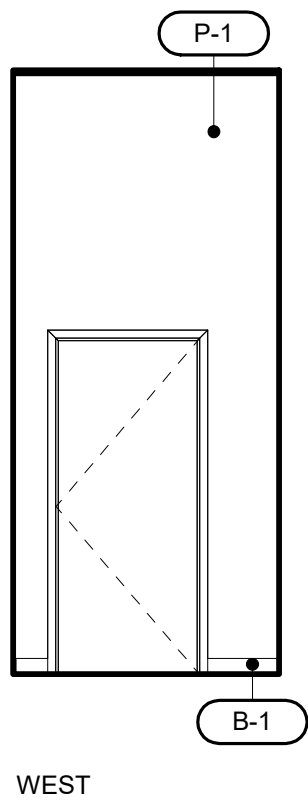
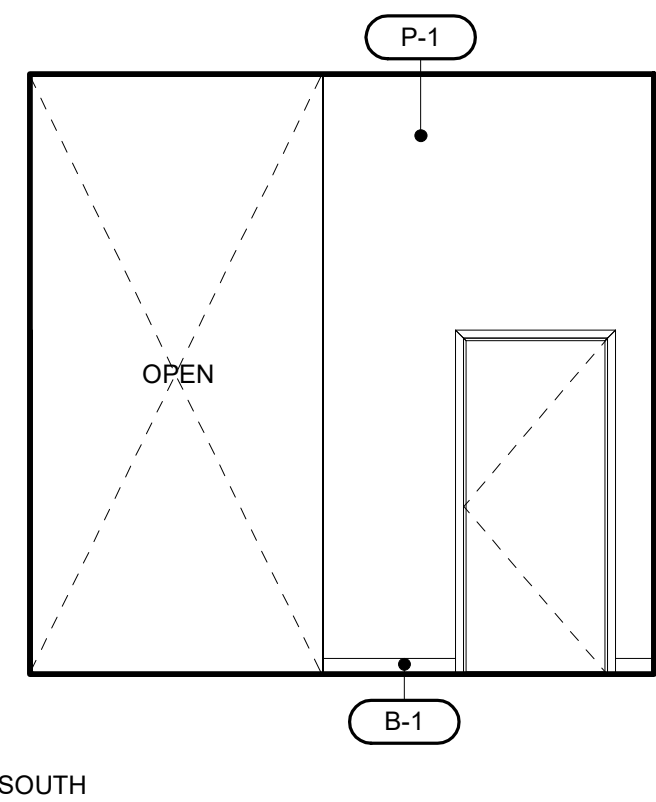
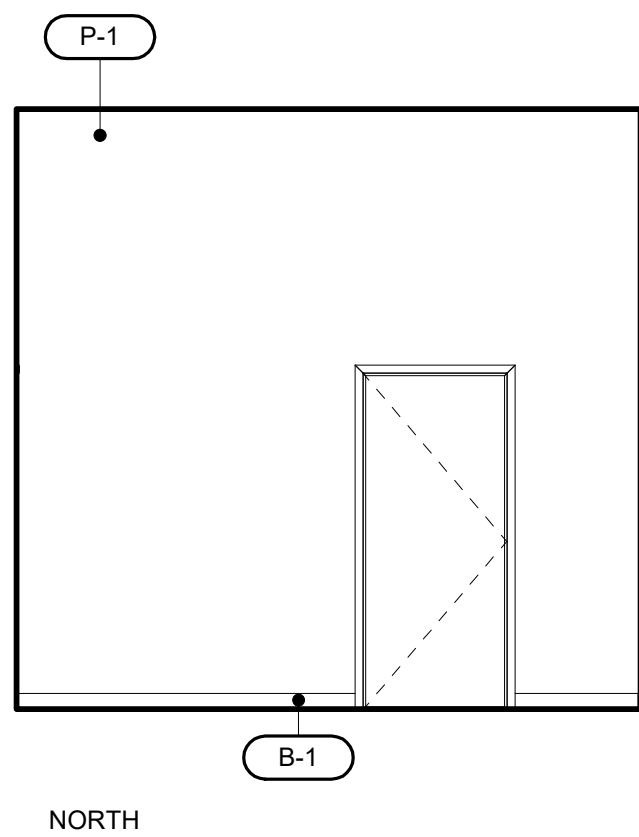
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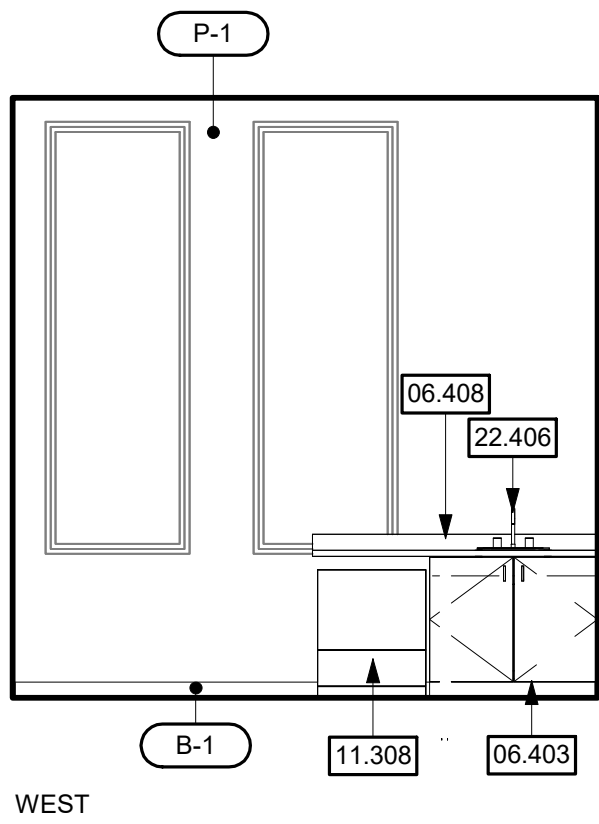
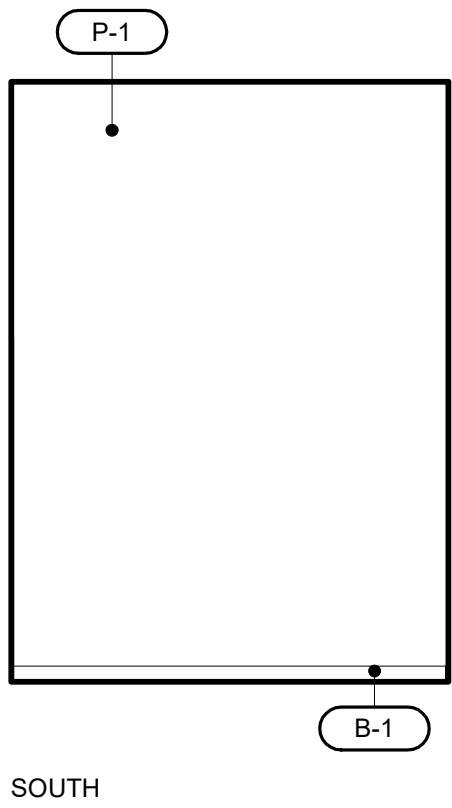
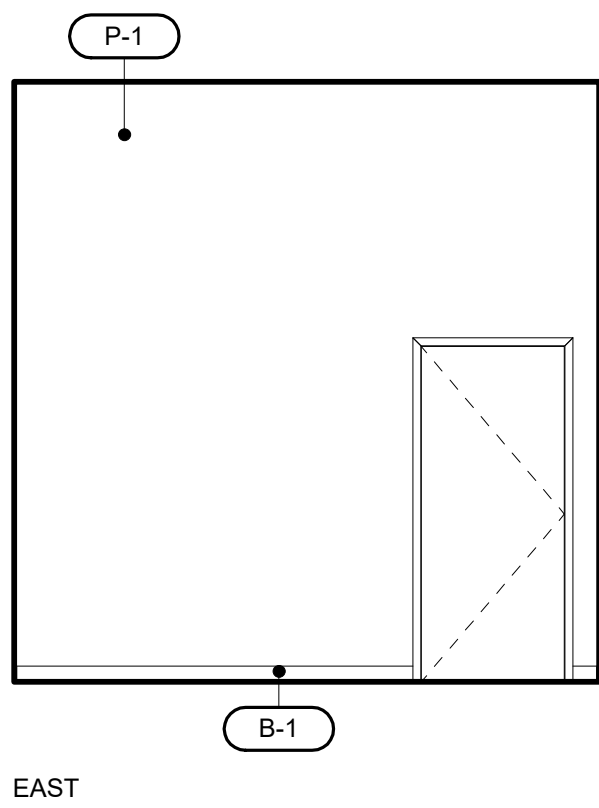
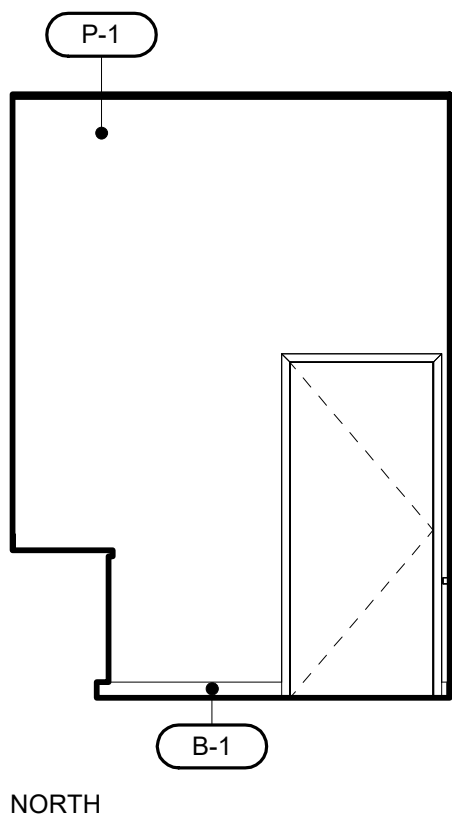




1 2 - ADMINISTRATION OFFICE  
SCALE: 1/4" = 1'-0"



2 2 -ADMINISTRATION OFFICE CORRIDOR  
SCALE: 1/4" = 1'-0"



3 3 - HEALTH ROOM  
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

- A FOR INTERIOR FINISHES NOT SHOWN ON ELEVATIONS REFER TO INTERIOR FINISH SCHEDULE.
- B CABINET ELEVATIONS AS SHOWN IN THE INTERIOR ELEVATIONS ARE FOR REFERENCE ONLY. ACTUAL CABINET DESIGN CRITERIA AND SIZES ARE DESIGNATED IN THE CASEWORK SCHEDULE USING THE WOODWORK INSTITUTES' CABINET DESIGN SERIES (CDS) NUMBERING SYSTEM. WHERE INDIVIDUAL CASEWORK DESIGN REQUIREMENTS DO NOT FIT WITHIN THE CDS NUMBERING SYSTEM CABINETS ARE DETAILED SEPARATELY AS REFERENCED IN THE CASEWORK SCHEDULE.
- C SEE TYPICAL FIXTURE MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHT OF ACCESSORIES.
- D ALL EXPOSED CONDUITS AND PIPES SHALL BE PAINTED U.O.N.
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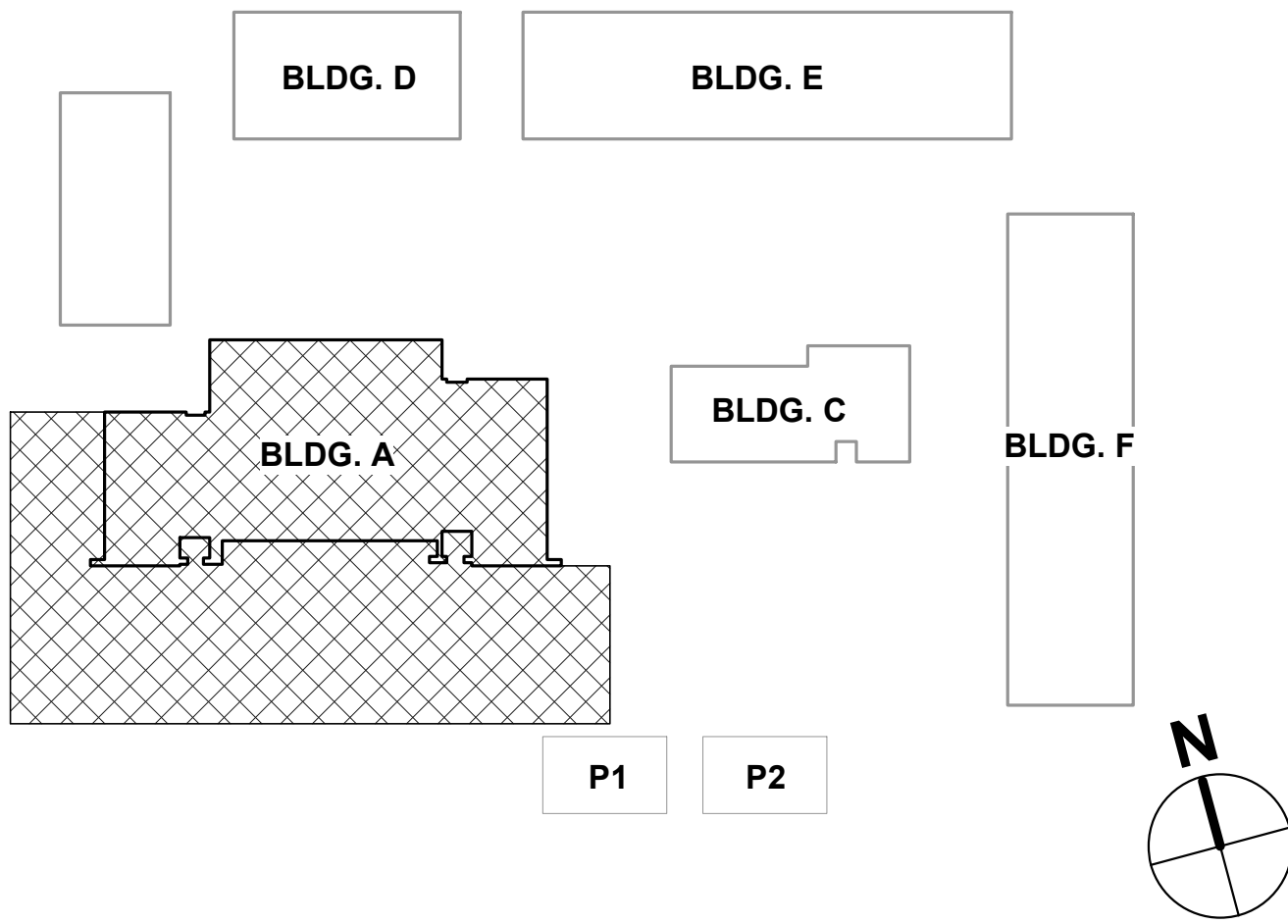
INTERIOR ELEVATION KEYNOTES

- 02.217 (E) WINDOW TO REMAIN
- 06.403 PLASTIC LAMINATE CLAD ARCHITECTURAL BASE CABINETS WITH ADJUSTABLE SHELVES. FOR MOUNTING DETAIL SEE
- 06.408 PLASTIC LAMINATE COUNTERTOP
- 11.308 REFRIGERATOR/FREEZER
- 22.406 SINK, S.P.D.
- 09.225 INSTALL CROWN MOLDING TO MATCH ORIGINAL TO MAINTAIN HISTORIC CHARACTER

FINISH LEGEND

- P-1 PAINT - INTERIOR COLOR 1
- B-1 BASE COLOR 1

BUILDING KEY



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SHEET

INTERIOR  
ELEVATIONS

DATE 10.16.2024

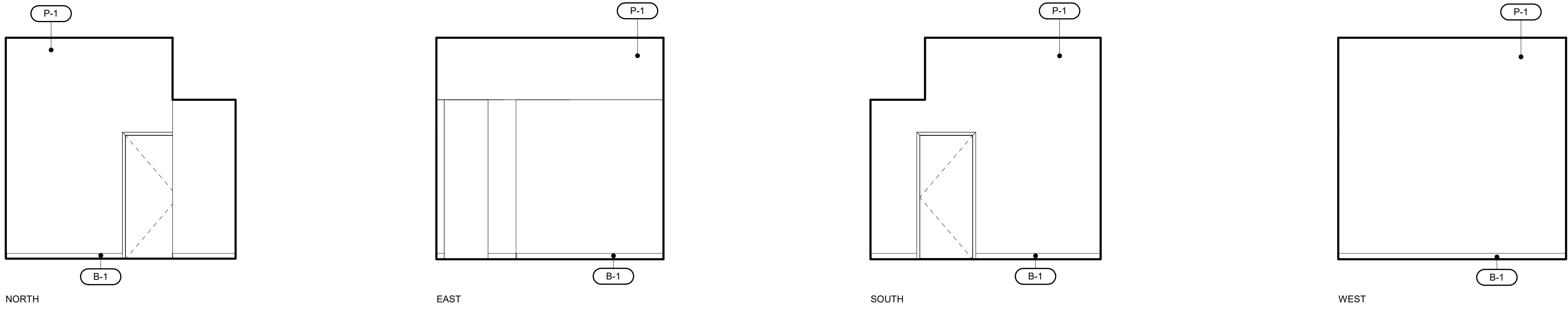
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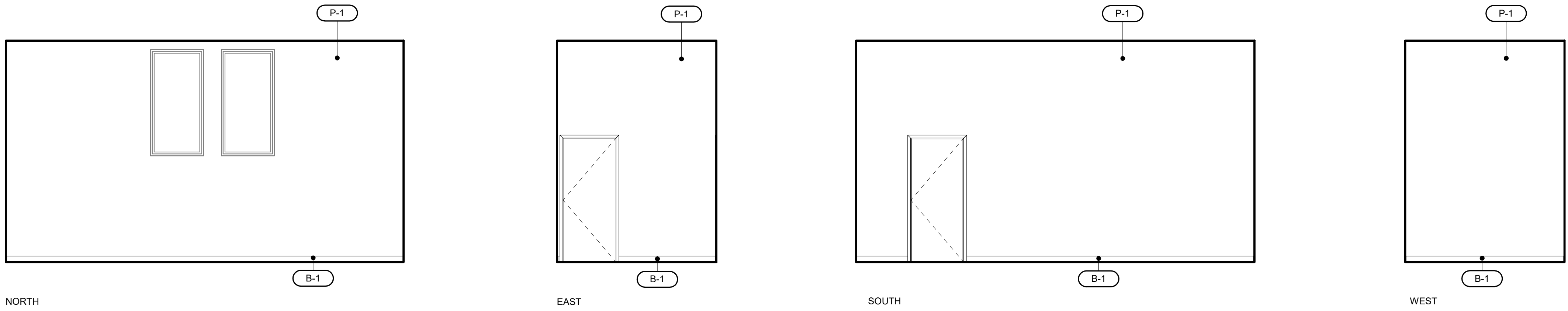
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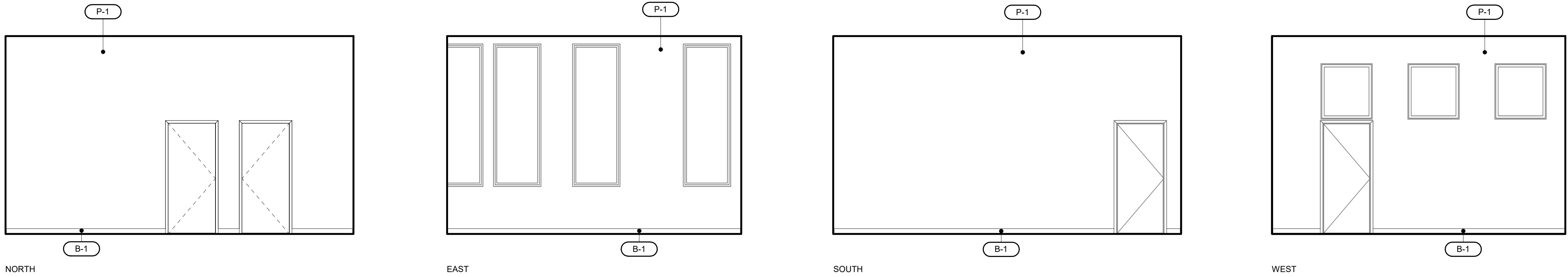




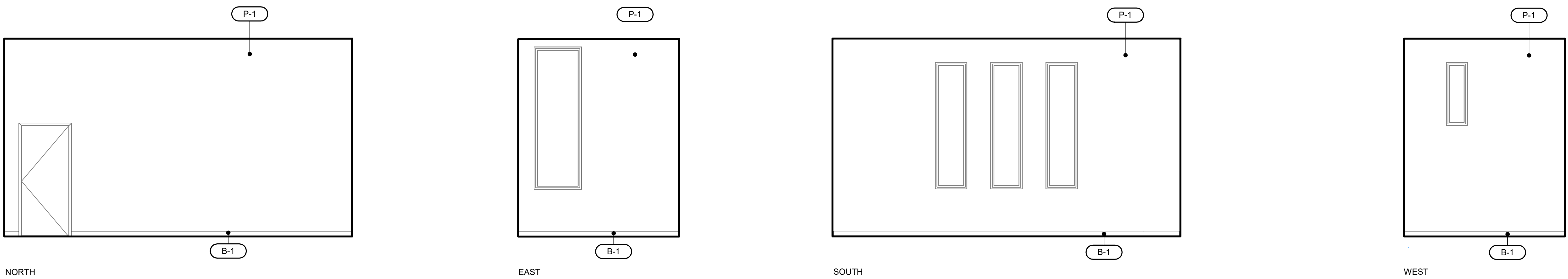
1 5 - ADMINISTRATION ASSISTANT OFFICE  
SCALE: 1/4" = 1'-0"



2 6 - SUPERINTENDENT OFFICE  
SCALE: 1/4" = 1'-0"



3 16 - FACULTY WORKROOM  
SCALE: 1/4" = 1'-0"



4 17 - CONFERENCE ROOM  
SCALE: 1/4" = 1'-0"

### GENERAL SHEET NOTES

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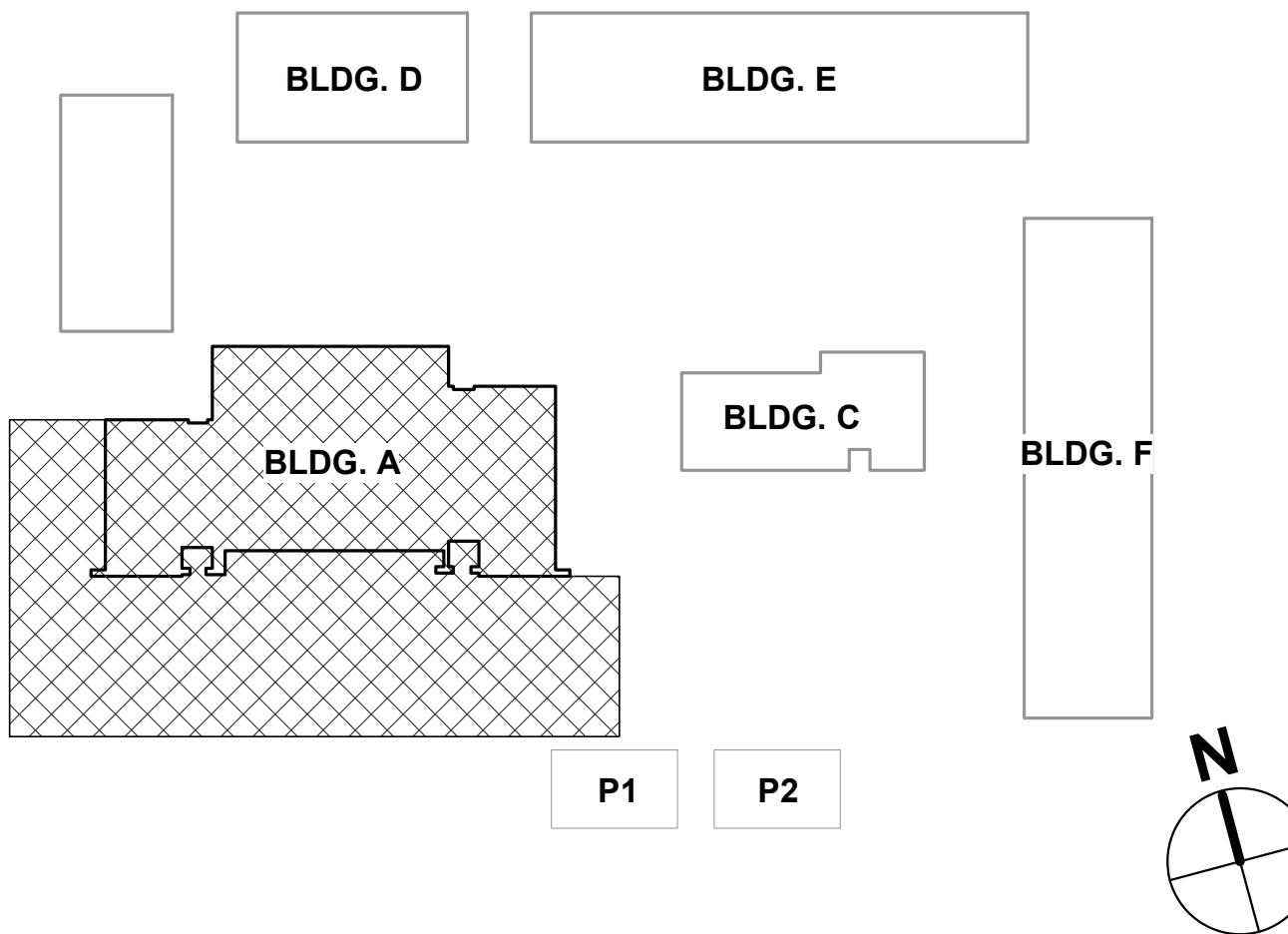
### INTERIOR ELEVATION KEYNOTES



### FINISH LEGEND

- P-1 PAINT - INTERIOR COLOR 1
- B-1 BASE COLOR 1

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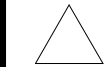
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INTERIOR  
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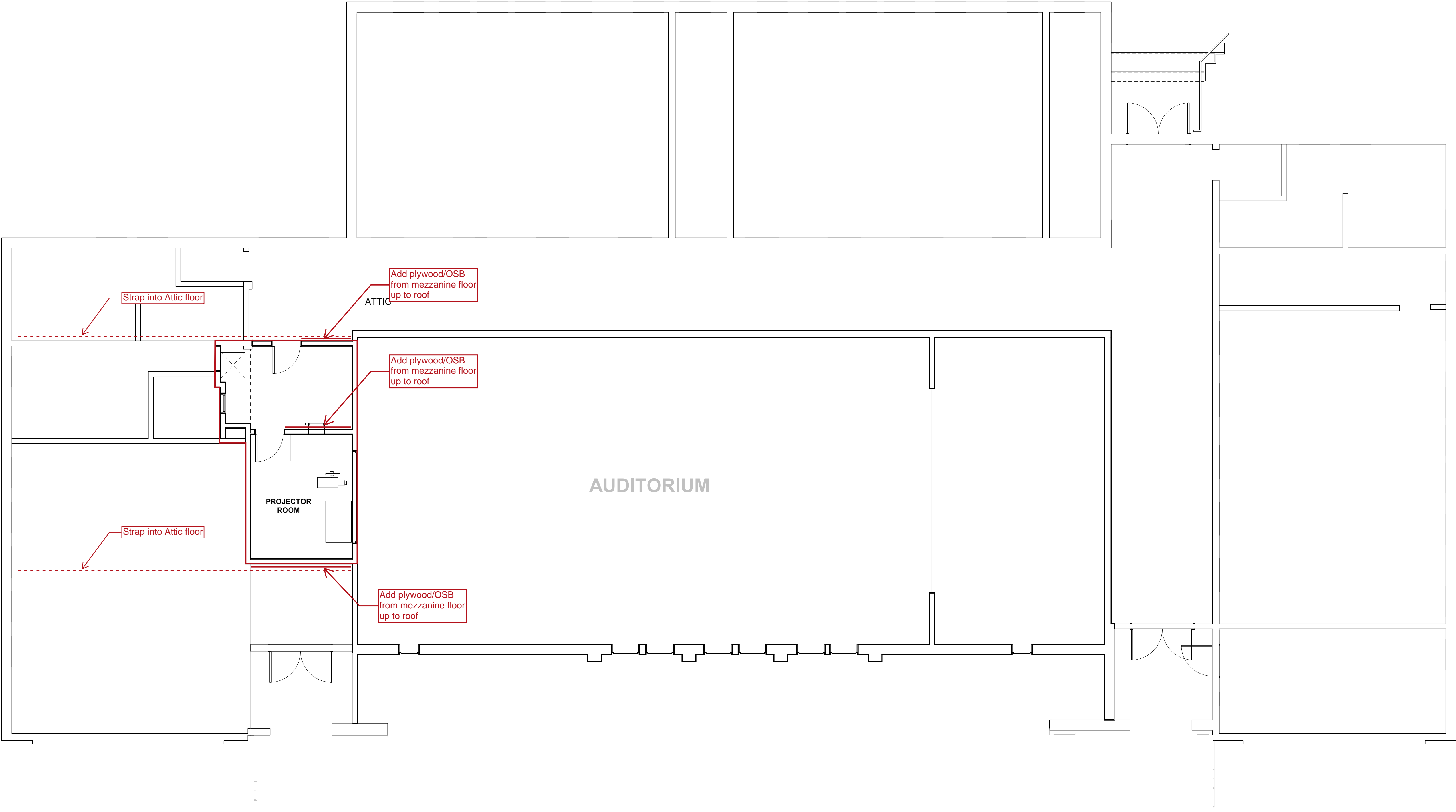
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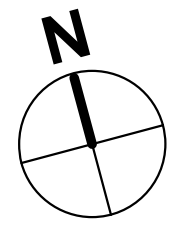


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1 MEZZANINE FRAMING PLAN  
SCALE: 3/16" = 1'-0"



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REVISIONS  
No. Description Date  
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SHEET  
**MEZZANINE  
FRAMING PLAN**

SCHEMATIC DESIGN

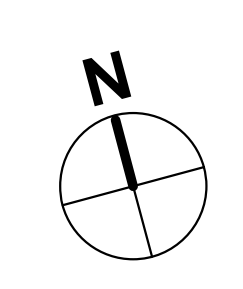
DATE 10.16.2024

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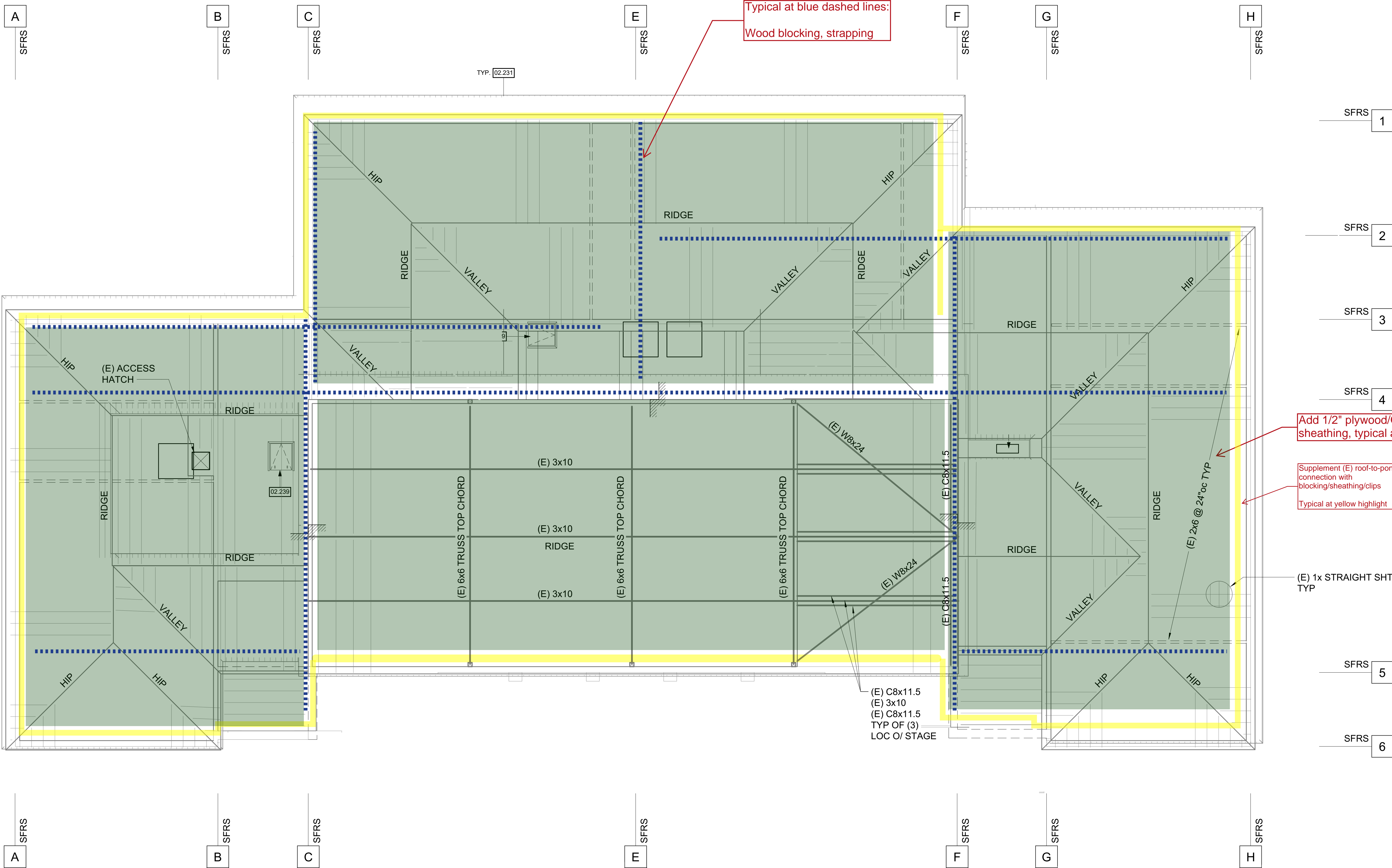
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1 ROOF FRAMING PLAN  
SCALE: 3/16" = 1'-0"

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architects

www.aedisarchitects.com  
333 W. Santa Clara Street, Suite 900  
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PROJECT  
MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT  
CONSULTANT

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SHEET  
ROOF FRAMING  
PLAN

SCHEMATIC DESIGN

DATE 10.16.2024

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S2.4

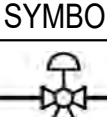
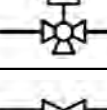
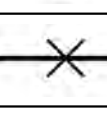
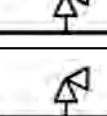
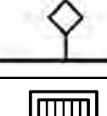
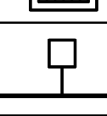
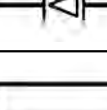
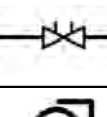
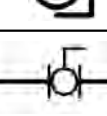
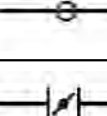


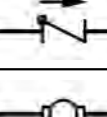
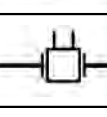
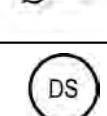
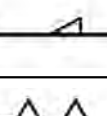
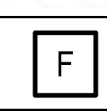
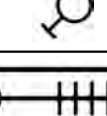
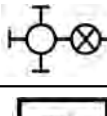
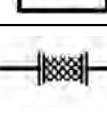



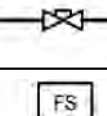
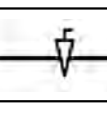

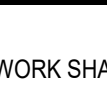
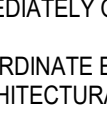
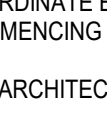
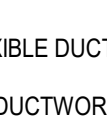

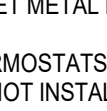
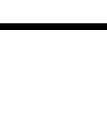




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## HVAC ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
ABC	ABOVE CEILING	KEF	KITCHEN EXHAUST FAN
ABV	ABOVE	KW	KILOWATTS
ACC DR	ACCESS DOOR		
ACC P	ACCESS PANEL	LAV	LAVATORY
ACU	AIR CONDITIONING UNIT	LAT	LEAVING AIR TEMPERATURE
AFB	ABOVE FINISHED FLOOR	LBS	POUNDS
AFU	AIR HANDLING UNIT	LD	LOUVERED DOOR
APD	AIR PRESSURE DROP, INCHES WATER COLUMN	LDB	LEAVING DRY BULB
APPROX	APPROXIMATE	LPS	LOW PRESSURE STEAM
ARCH	ARCHITECTURAL	LRA	LOCKED ROTOR AMPS
ATTEN	ATTENUATORS	LTCP	LOCAL TEMPERATURE CONTROL PANEL
ATV	ACOUSTIC TURNING VANE	LTV	LOUVER
		LWB	LEAVING WET BULB
		LWT	LEAVING WATER TEMPERATURE
BD	BALANCE DAMPER		
BDD	BACK DRAFT DAMPER	MAT	MIXED AIR TEMPERATURE
BHP	BRAKE HORSE POWER	MAU	MAKE-UP AIR UNIT
BLDG	BUILDING	MAV	MANUAL AIR VENT
BOD	BOTTOM OF DUCT	MAX	MAXIMUM
BOR	BOTTOM OF REGISTER	MBH	THOUSAND BTU PER HOUR
BTUH	BRITISH THERMAL UNITS PER HOUR	MCA	MINIMUM CIRCUIT AMPACITY
		MCC	MOTOR CONTROL CENTER
		MD	MOTORIZED
CAP	CAPACITY	MECH	MECHANICAL
CD	CONDENSATE DRAIN	MFR	MANUFACTURER
CEF	CEILING EXHAUST FAN	MIN	MINIMUM
CFH	CUBIC FEET OF GAS PER HOUR	MOCP	MAXIMUM OVERCURRENT PROTECTION
CFM	CUBIC FEET OF AIR FLOW PER MINUTE		
CHV	CHECK VALVE		
CLG	CEILING	OA	OUTSIDE AIR
CLR	CLEAR	OAD	OUTSIDE AIR DAMPER
CONC	CONCRETE	OC	ON CENTER
COND	CONDENSER	OD	OUTSIDE DIAMETER
CONN	CONNECT/CONNECTION	OH	OVERHEAD
CONT	CONTINUATION	OV	OUTLET VELOCITY
CONTR	CONTRACTOR		
		PCR	PUMPED CONDENSATE RETURN
D	DAMPER	PRV	PRESSURE DROP
DGP	DATA GATHERING PANEL	PRV	PRESSURE REDUCING VALVE/
DIA	DIAMETER	PSI (G) (A)	PRESSURE REGULATING VALVE/
DL	DOOR LOUVER		POUNDS PER SQUARE INCH (GAUGE) (ABSOLUTE)
DN	DOWN		
DSP	DRY STAND PIPE	RA	RETURN AIR
DB	DRY BULB	RAD	RETURN AIR DAMPER
DTR	DOWN THROUGH ROOF	REF	ROOF EXHAUST FAN
DWG	DRAWING	RF	RETURN FAN
		RPM	REVOLUTIONS PER MINUTE
		RLA	RATED LOAD AMPS
EA	EXHAUST AIR	RV	RELIEF VENTILATOR
EAD	EXHAUST AIR DAMPER		
EC	EVAPORATIVE COOLER	S & R	SUPPLY AND RETURN
EDB	ENTERING DRY BULB	SA	SUPPLY AIR
EER	ENERGY EFFICIENCY RATING	SAD	SEE ARCHITECTURAL DRAWINGS
EF	EXHAUST FAN	SB	SECURITY BARS
EFF	EFFICIENCY	SD	SPLITTER DAMPER
EH	EXHAUST HOOD	SEER	SEASONAL ENERGY EFFICIENCY RATING
EL	ELEVATION	SF	SUPPLY FAN
ELEC	ELECTRIC/ELECTRICAL	SG	STEAM GENERATOR
ENT	ENTERING	SK	SINK
EQUIP	EQUIPMENT	SM	SHEET METAL
ESP	EXTERNAL STATIC PRESSURE	SOV	SHUT OFF VALVE
EVAP	EVAPORATOR	SP	STATIC PRESSURE
EW	ENTERING WATER	SPD	STATIC PRESSURE DROP
EWB	ENTERING WET BULB	SQ FT	SQUARE FEET
EWG	ELECTRIC WATER COOLER	SQ IN	SQUARE INCHES
EWT	ENTERING WATER TEMPERATURE	SS	STAINLESS STEEL
EXH	EXHAUST	STR	STRAINER
EXT	EXPANSION TANK	STRUC	STRUCTURAL
I	CUBIC FEET OF AIR FLOW PER MINUTE		
F	DEGREES FAHRENHEIT		
FA	FROM ABOVE	T	THERMOSTAT
FB	FROM BELOW	TA	TO ABOVE
FC	FLEXIBLE CONNECTION	TB	TO BELOW
FCV	FLOW CONTROL VALVE	T.C.C.	TEMPERATURE CONTROL CONTRACTOR
FD	FIRE DAMPER	TCP	TEMPERATURE CONTROL PANEL
FF	FYI FAN	TCV	TEMPERATURE CONTROL VALVE
FIN	FINISH	TEMP	TEMPERATURE
FLA	FULL LOAD AMPS	TFH	THERMAL FLUID HEATER
FLR	FLOOR	THK	THICK
FPM	FEET PER MINUTE	TP	TOTAL PRESSURE
FSD	FIRE AND SMOKE DAMPER	TS	TEMPERATURE SENSOR
FT (1)	FOOT OR FEET	TSP	TOTAL STATIC PRESSURE
FT (2)	SQUARE FEET	TYP	TYPICAL
FV	FACE VELOCITY		
		UCD	UNDERCUT DOOR
GA	GAUGE	UF	UNDERFLOOR
GALV	GALVANIZED	UG	UNDERGROUND
GI	GALVANIZED IRON	UON	UNLESS OTHERWISE NOTED
GPH	GALLONS PER HOUR	UTR	UP THROUGH ROOF
GPM	GALLONS PER MINUTE	V (VTR)	VENT (VENT THROUGH ROOF)
		VAC	VACUUM
HC	HEATING COIL	VD	VOLUME DAMPER
HGG	HEAVY DUTY GRILLE	VF	VENTILATION FAN
HP	HORSE POWER	VFC	VARIABLE FREQUENCY CONTROLLER
HPS	HIGH PRESSURE STEAM	VLV	VALVE
HGS	HEATING	VRF	VARIABLE REFRIGERANT FLOW
HV	HAND VALVE	VSD	VARIABLE SPEED DRIVE
HW	HOT WATER	VV	VARIABLE AIR VOLUME CONTROLLER
HWR	HOT WATER RETURN	VVRH	VARIABLE AIR VOLUME CONTROLLER WITH REHEAT COIL
HWS	HOT WATER SUPPLY		
		W	WATTS
ICF	INSTANTANEOUS CURRENT FLOW	WALL MTD (R)	WALL MOUNTED (RECESSED)
IE	INVERT ELEVATION	WB	WET BULB
IN (1)	INCH	WC	WATER CLOSET
IN (2)	SQUARE INCHES	WMS	WIRE MESH SCREEN
		WP	WORKING PRESSURE
		WPD	WATER PRESSURE DROP FEET OF WATER COLUMN
		WT	WEIGHT

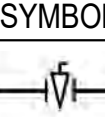
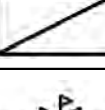
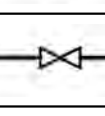
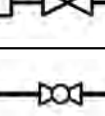
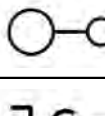
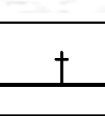
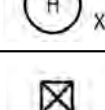
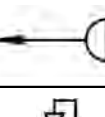
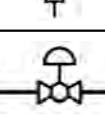
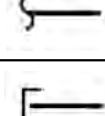
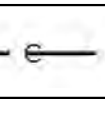
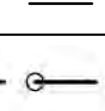
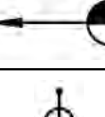
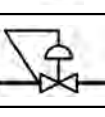
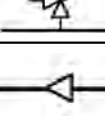
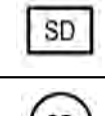
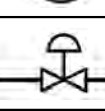
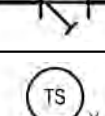
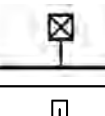
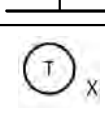
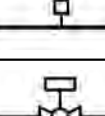
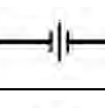
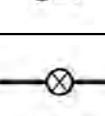
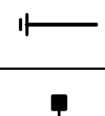
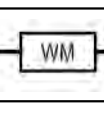


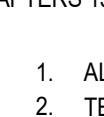
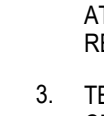
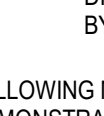
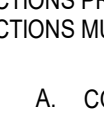
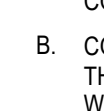
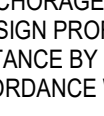




## HVAC - SYMBOLS LEGENDS

SYMBOL	SYMBOL DESCRIPTION	SYMBOL CLASSIFICATION	SYMBOL VISIBILITY
	3 WAY MODULATING CONTROL VALVE	PG, PH,	No
	3 WAY TWO POSITION CONTROL VALVE	PG, PH,	No
	3 WAY VALVE	PH,	No
	ANCHOR	PG, PH,	No
	ANGE GLOBE VALVE	PG,	No
	ANGLE VALVE	PG,	No
	AQUASTAT	PG, PH,	No
	AREA DRAIN	PG, PH,	No
	AUTOMATIC AIR VENT		Yes
	AUTOMATIC FLOW CONTROL		Yes
	BACKFLOW PREVENTER, REDUCE PRESSURE, DOUBLE CHECK VALVE		No
	BALANCING VALVE		Yes
	BALL JOINT		No
	BALL VALVE		Yes
	BOTTOM CONNECTION		Yes
	BUTTERFLY VALVE		Yes
	BYPASS TIMER		No
	CALIBRATED BALANCE VALVE		Yes
	CATCH BASIN, ROOF DRAIN		No
	CHECK VALVE		No
	CIRCULATING PUMP		No
	CIRCUIT SETTER VALVE		No
	CLEANOUT		No
	DYNAMIC SENSOR		Yes
	ECCENTRIC REDUCER		Yes
	EXPANSION JOINT		Yes
	FIRE DAMPER		Yes
	FIRE DEPARTMENT CONNECTION		No
	FIRE HOSE RACK AND CABINET		No
	FIRE HYDRANT		No
	FIRE/SMOKE DAMPER		Yes
	FLEXIBLE CONNECTOR		Yes
	FLOAT & THERMOSTATIC TRAP		No
	FLOOR DRAIN		No
	FLOOR SINK	PG, PH,	No
	FLOW ARROW	PG, PH,	Yes
	FLOW ELEMENT		No
	FLOW LIMITING VALVE		No
	FLOW SWITCH		No
	GAGE COCK	PG, PH,	Yes

## MECHANICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, AND INDUSTRY STANDARDS.
2. VERIFY EXACT LOCATION OF ALL (E) EQUIPMENT, DUCTWORK, DIFFUSERS, REGISTERS, AND GRILLES. NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN (E) SYSTEMS AND DRAWINGS.
3. COORDINATE EXACT LOCATION OF EQUIPMENT AND ALL PENETRATIONS THROUGH ROOF, FLOORS, AND WALLS WITH ARCHITECTURAL STRUCTURAL SYSTEMS PRIOR TO COMMENCING WORK.
4. COORDINATE EXACT SIZE AND ROUTING OF DUCTWORK WITH ARCHITECTURAL PLANS, STRUCTURE, AND EQUIPMENT PRIOR TO COMMENCING WORK.
5. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES.
6. FURNISH AND INSTALL MANUAL AIR DAMPERS AT ALL DUCT BRANCH TAKEOFFS TO A SINGLE DIFFUSER, GRILLE, OR REGISTER.
7. FLEXIBLE DUCTWORK CONNECTIONS TO CEILING DIFFUSERS ARE LIMITED TO 5' MAXIMUM LENGTH.
8. ALL DUCTWORK, CEILING DIFFUSERS/REGISTERS/GRILLES, EQUIPMENT, PIPING, ETC. ARE NEW U.O.N. (SHOWN HEAVY). (E) DUCTWORK, PIPING, ETC. IS SHOWN LIGHT. SEE LEGEND.
9. (E) DUCTWORK AND ITEMS TO BE REMOVED ARE SHOWN CROSSED (X) OUT. SEE LEGEND. COORDINATE CLOSELY WITH (N) DUCTWORK AND P.C.'S SHOWN. ALL OTHER (E) DUCTWORK, ETC. TO REMAIN.
10. WHERE INLET DUCT DIAMETER AND DIFFUSER NECK SIZE ARE THE SAME (I.E. 9"ø and 9øø) CONTRACTOR SHALL OVERSIZE THE STEEL METAL FLUENT TO AMPLIFY THE ROUND DUCT CONNECTION.
11. THERMOSTATS AND ROOM TEMPERATURE SENSORS SHALL BE INSTALLED AT +4øø ABOVE FINISHED FLOOR (TO TOP OF DEVICES). DO NOT INSTALL THERMOSTATS AND ROOM TEMPERATURE SENSORS ABOVE CASEWORK, SHELVING OR OTHER OBSTRUCTIONS OVER 24" IN DEPTH AND 36" IN HEIGHT.

## HVAC - SYMBOLS LEGENDS

SYMBOL	SYMBOL DESCRIPTION	SYMBOL CLASSIFICATION	SYMBOL VISIBILITY
	GAS COCK, PLUG COCK	PG, PH,	Yes
	GAS METER	PG, PH,	No
	GAS PRESSURE REGULATOR	PG, PH,	No
	GATE VALVE	PG, PH,	No
	GATE VALVE WITH HOSE ADAPTER	PG, PH,	No
	GLOBE VALVE	PG, PH,	No
	HOPPER DRAIN	PG, PH,	No
	HOSE BIBB	PG, PH,	No
	HOSE BIBB	PG, PH,	No
	HUMIDISTAT		No
	INVERTED BUCKET TRAP		No
	LIMIT OF DEMOLITION	PG, PH,	Yes
	MANUAL AIR VENT		Yes
	MODULATING CONTROL VALVE		Yes
	PIPE BREAK	PG, PH,	Yes
	PIPE CAP	PG, PH,	Yes
	PIPE DOWN	PG, PH,	Yes
	PIPE GUIDE	PG, PH,	Yes
	PIPE UP	PG, PH,	Yes
	POINT OF CONNECTION	PG, PH,	Yes
	POST INDICATOR VALVE	PPG,	No
	PRESSURE REGULATING VALVE	PG, PH,	Yes
	PRESSURE RELIEF VALVE	PG, PH,	Yes
	REDUCER	PG, PH,	Yes
	SMOKE DAMPER		Yes
	SMOKE DETECTOR		Yes
	SOLENOID VALVE	PG, PH,	Yes
	STRAINER	PG, PH,	Yes
	TEMPERATURE SENSOR	PG, PH,	Yes
	TEST PLUG	PG, PH,	Yes
	THERMOMETER	PG, PH,	Yes
	THERMOSTAT		Yes
	TRAP PRIMER	PG, PH,	Yes
	TWO POSITION CONTROL VALVE	PG,	Yes
	UNION	PG, PH,	Yes
	VALVE IN RISE/DROP	PG, PH,	No
	VALVE IN VALVE BOX	PG, PH,	No
	WALL CLEANOUT	PG, PH,	No
	WATER HAMMER ARRESTOR	PG, PH,	No
	WATER METER	PG, PH,	No

## MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE EQUIPMENT IS REQUIRED TO BE RESTRAINED IN A MANNER PROVIDED BY OSHA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

## DUCT LEGEND

SINGLE LINE SYMBOL	DOUBLE LINE SYMBOL	DESCRIPTION
		RECTANGULAR DUCT: WIDTH x DEPTH (PLAN VIEW) DEPTH x WIDTH (SECTION VIEW)
		ACOUSTICALLY LINED RECTANGULAR DUCT - DIMENSIONS ARE OUTSIDE
		MANUAL AIR DAMPER
		RISE OR DROP DUCT IN DIRECTION OF AIR FLOW
		RECTANGULAR TO RECTANGULAR TRANSITION OR ROUND TO ROUND TRANSITION, MAX. SLOPE OF 1:3
		RECTANGULAR TO ROUND TRANSITION, MAX. SLOPE OF 1:3
		ELBOW, RECTANGULAR, SMOOTH RADIUS, WITHOUT TURNING VANES
		SQUARE/RECTANGULAR DUCT ELBOW WITH TURNING VANES
		CONVERGING OR DIVERGING TEE, 45° ENTRY, RECTANGULAR MAIN AND BRANCH; WHEN REDUCING MAIN, SIDE OF TAKE OFF OR ENTRY BRANCH TO BE FLAT, OTHER SIDES MAX. SLOPE OF 1:3
		ROUND DUCT TAKE OFF FROM RECTANGULAR VIA SMOOTH CONVERGING BELL MOUTH
		RECTANGULAR DUCT TEE, MA'D'S ON THE 2 BRANCHES, THROAT SIZED FOR EQUAL PRESSURE DROP
		RECTANGULAR DUCT SPLIT MA'D'S, THROAT SIZED FOR EQUAL PRESSURE DROP
		3-WAY RECTANGULAR SPLIT WITH TWO TRANSITIONAL ELBOWS AND TRANSITIONING MAIN, DOWNSTREAM MA'D'S OF THE TREE BRANCHES, THROATS SIZED FOR EQUAL PRESSURE DROP
		FOR CONCEALED DUCT: DROP TO DIFFUSER SHALL BE FULL SIZE OF DIFFUSER NECK, FOR EXPOSED DUCT: DROP SHALL BE FULL SIZE OF 00 DIFFUSER FRAME, FLANGE FOR MOUNTING DIFFUSER TURNED IN, AIR EXTRACTOR AND EQUALIZER GRID AT CONNECTION TO MAIN.
		SUPPLY AIR, SUPPLY DROP/RISE
		RETURN AIR, RETURN AIR DROP/RISE
		EXHAUST AIR, EXHAUST AIR DROP/RISE
		NEW - FLEXIBLE DUCT (ROUND)
		EXISTING - FLEXIBLE DUCT (ROUND)
		45° REDUCING LATERAL FITTING
		90° REDUCING TEE FITTING

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## PROJECT

# MAIN BUILDING MODERNIZATION AT SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

## CONSULTANT



**STAMP**



DATE SIGNED: \_\_\_\_\_

## REVISIONS

No.	Description	Date
△		

**SHEET**

## HVAC ABBREVIATIONS AND NOTES

DATE 10/15/2024

JOB # 2023054

SHEET #

# M0-01



FANS - EXHAUST SCHEDULE																
EQUIPMENT TAG	MFR	MODEL NO	LOCATION	AREA SERVED	AIR FLOW (CFM)		FAN			MOTOR ELECTRICAL					OPER WT (LBS)	REMARKS
					SELECTION	TSP (IN)	TYPE	CLASS	DRIVE	NOMINAL POWER		VOLT	PHASE	RPM		
										BHP	HP					
EF-1	GREENHECK	G-130-VG	ROOF	BOYS & GIRLS RR	1460	0.250	CENTRIFUGAL ROOF	EXHAUST	DIRECT	0.17	0.5	115	1	1150	50	CONTROL WITH LIGHTS
EF-2	GREENHECK	SP-LP0511	CEILING	NURSE RR	100	0.250	CEILING	EXHAUST	DIRECT	0	0	115	1	939	10	CONTROL WITH LIGHTS
EF-3	GREENHECK	SP-LP0511	CEILING	STAFF RR	100	0.250	CEILING	EXHAUST	DIRECT	0	0	115	1	939	10	CONTROL WITH LIGHTS
EF-4	GREENHECK	SP-LP0511	CEILING	JANITOR	100	0.250	CEILING	EXHAUST	DIRECT	0	0	115	1	939	10	CONTROL WITH SWITCH
EF-5	GREENHECK	SP-LP0511	CEILING	STAFF RR	100	0.250	CEILING	EXHAUST	DIRECT	0	0	115	1	939	10	CONTROL WITH LIGHTS

AIR TERMINALS SCHEDULE					
SYMBOL	DESCRIPTION	TITUS	METALAIRE	KRUEGER	NAILOR
CE	CEILING RETURN WITH 1/2" EGG CRATE CORE SURFACE MOUNT	MODEL 30 F BORDER TYPE 1	CCSD	EGC-S	61 EC-S
R	RETURN GRILLE WITH 35" OR 45" HORIZONTAL BARS	350 RL	SRH	S 80 H	7145 H
S	DOUBLE DEFLECTION SUPPLY GRILLE WITH VERTICAL FRONT BARS, 3/4" SPACING	300 FL	V 4004 S	880 V	61 DV
T	TRANSFER GRILLE WITH 35" OR 45" HORIZONTAL BARS	300 FL	V 4004 S	880 V	61 DV

VRF SYSTEM INDOOR UNIT SCHEDULE												
EQUIPMENT TAG	MFR	MODEL NO	LOCATION	AREA SERVED	NOMINAL TONS	AIR FLOW (CFM)	ELECTRICAL				OPER WT (LBS)	REMARKS
							VOLT	PHASE	MCA	MOP		
FC-1	DAIKIN	FXTQ54	KINDERGARDEN 9	KINDERGARDEN 9	4.5	1800	208	1	8.6	15	170	
FC-2	DAIKIN	FXTQ54	KINDERGARDEN 8	KINDERGARDEN 8	4.5	1800	208	1	8.6	15	170	
FC-3	DAIKIN	FXTQ54	HALLWAY	AUDITORIUM 1	4.5	1800	208	1	8.6	15	170	
FC-4	DAIKIN	FXTQ54	HALLWAY	AUDITORIUM 1	4.5	1800	208	1	8.6	15	170	
FC-5	DAIKIN	FXTQ54	HALLWAY	PLATFORM 2	4.5	1800	208	1	8.6	15	170	
FC-6	DAIKIN	FXFQ12	SUP. OFFICE	SUP. OFFICE	1	441	208	1	0.3	15	45	
FC-7	DAIKIN	FXFQ07	HEALTH 45	HEALTH 45	0.6	420	208	1	0.3	15	45	
FC-8	DAIKIN	FXFQ12	ADMIN ASST.	ADMIN ASST.	1	441	208	1	0.3	15	45	
FC-9	DAIKIN	FXFQ12	ADMINISTRATION 47	ADMINISTRATION 47	1	441	208	1	0.3	15	45	
FC-10	DAIKIN	FXFQ12	FACULTY WORKROOM	FACULTY WORKROOM 37	1	441	208	1	0.3	15	45	
FC-11	DAIKIN	FXFQ12	CONFERENCE 42	CONFERENCE 42	1	441	208	1	0.3	15	45	

VRF SYSTEM OUTDOOR UNIT SCHEDULE														
EQUIPMENT TAG	MFR	MODEL NO	LOCATION	AREA SERVED	AIR FLOW (CFM)	ELECTRICAL DATA					IEER	COP	OPER WT (LBS)	REMARKS
						VOLT	PHASE	MCA (x2)	MOCP (x2)	FAN FLA				
CU-1	DAIKIN	REYQ336XBTJA	GRADE	BUILDING	18960	208	3	61.9	70	0	16	3.2	1590	

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PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

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SHEET

HVAC SHEDULES

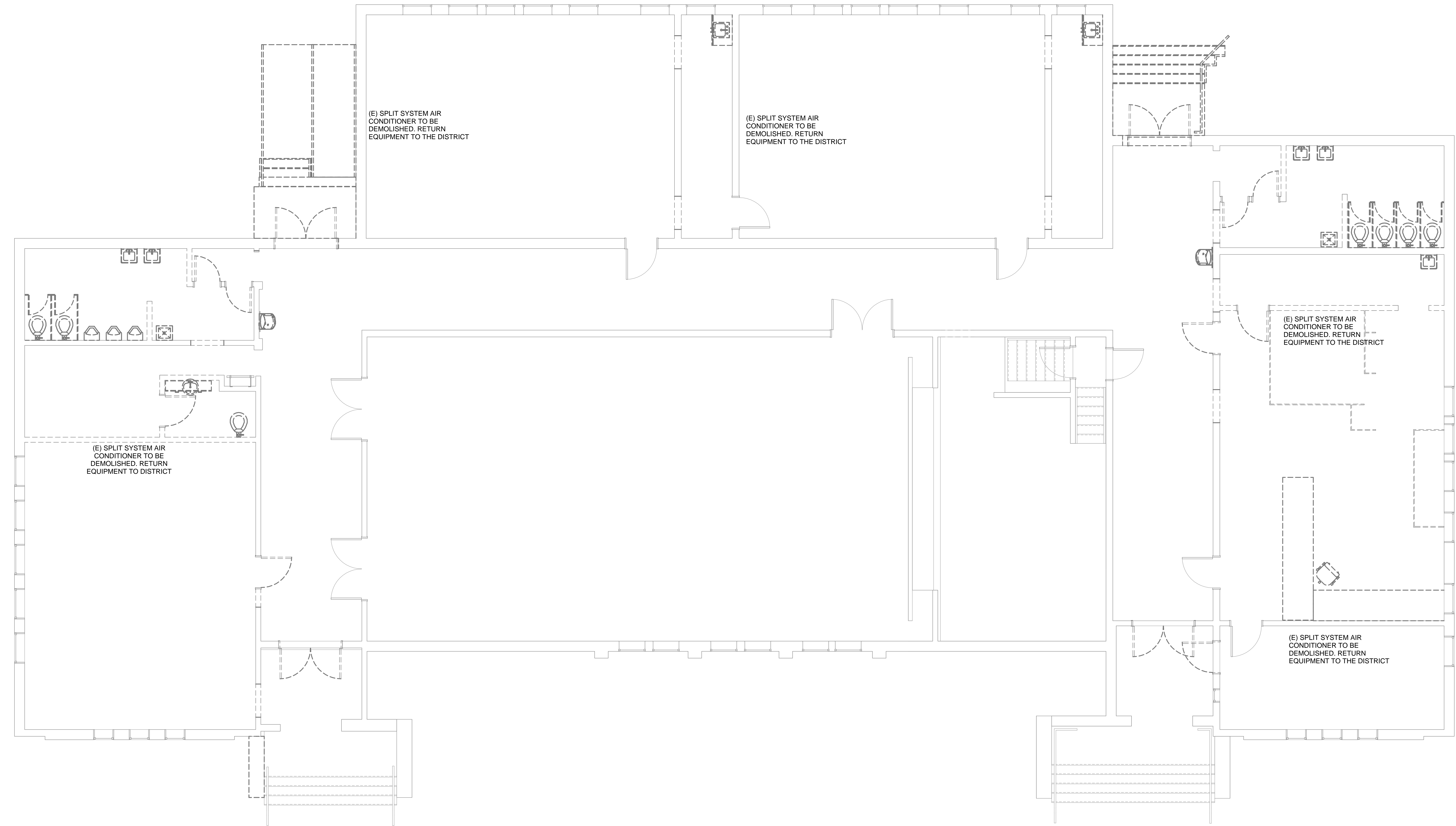
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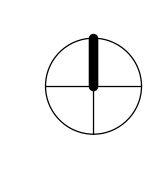
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M0-02





1 HVAC DEMOLITION PLAN  
M1-01 SCALE: 1/4" = 1'-0"

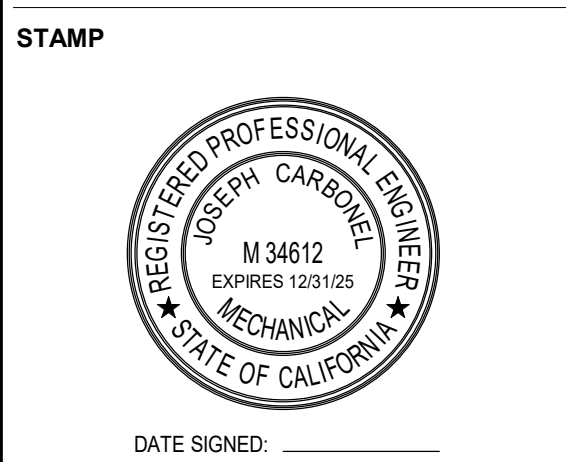
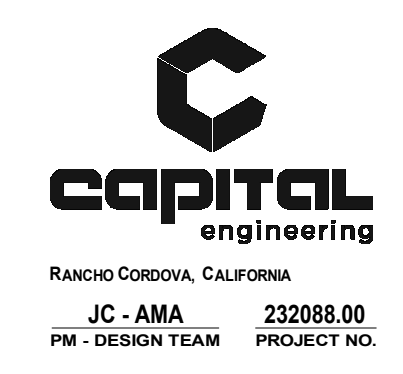


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SUNOL GLEN SCHOOL

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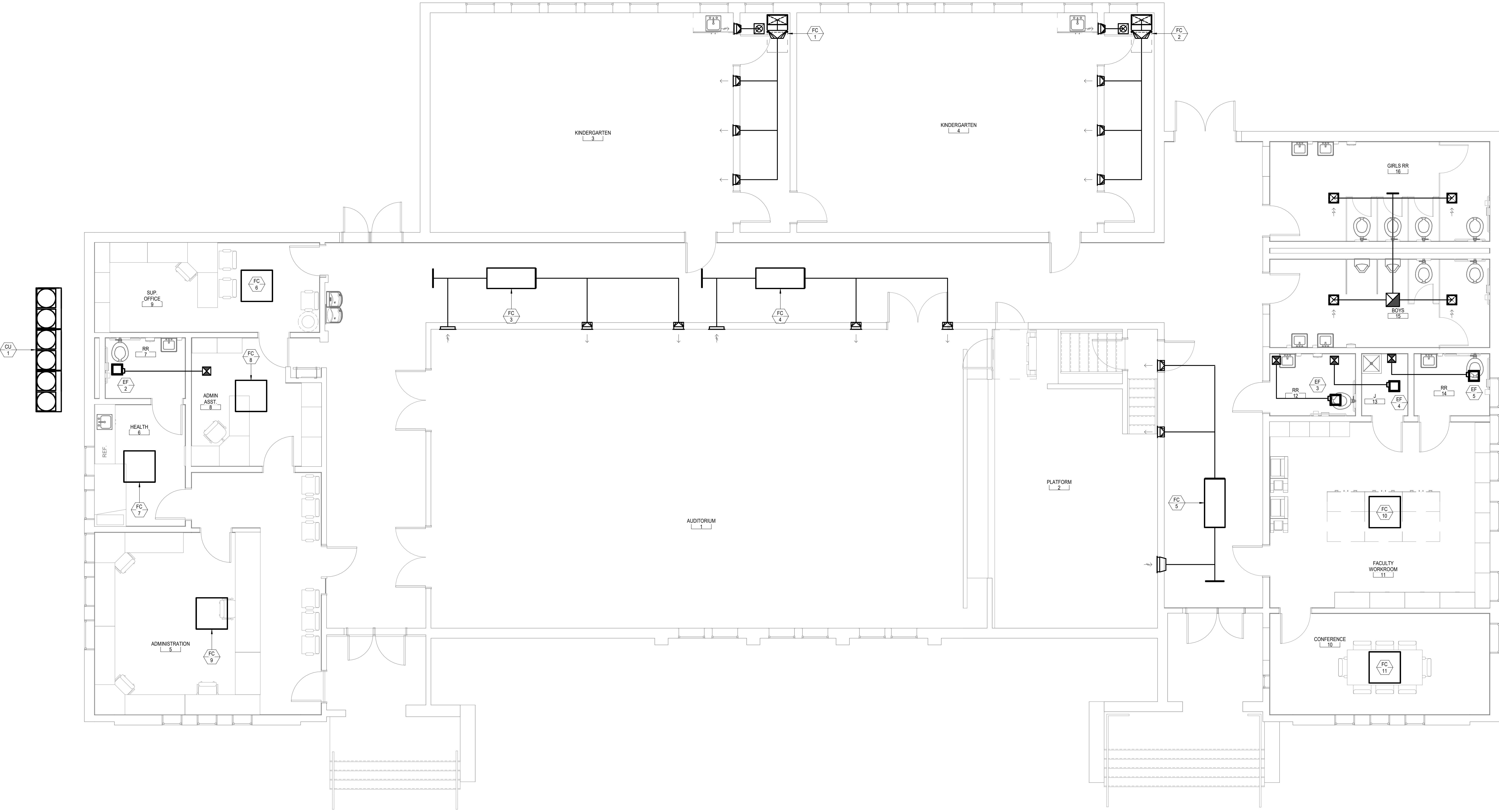
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SHEET  
HVAC DEMOLITION  
PLAN

DATE 10/15/2024  
JOB # 2023054  
SHEET #  
**M1-01**





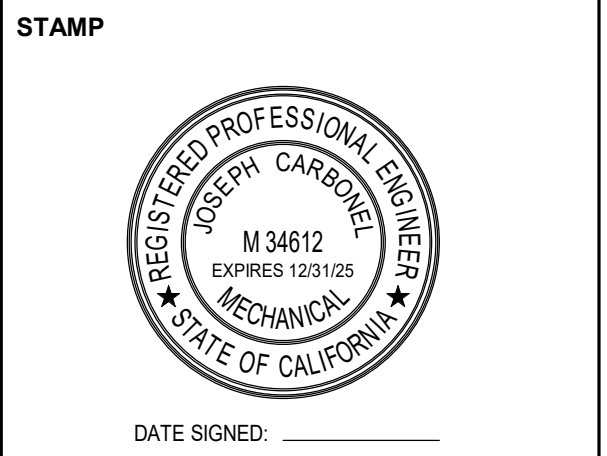
1 HVAC FLOOR PLAN  
M2-01 SCALE: 1/4" = 1'-0"

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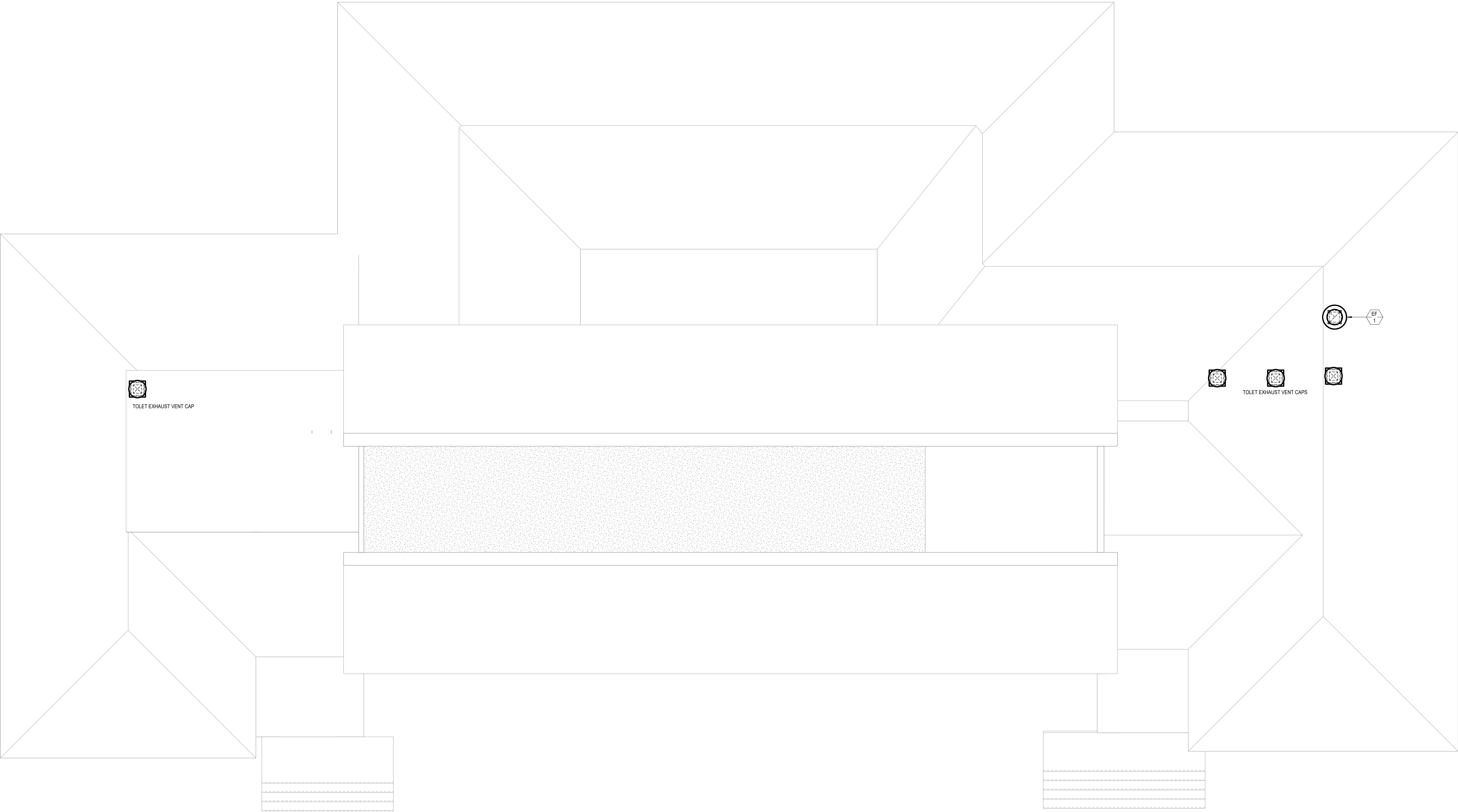
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SHEET  
HVAC FLOOR PLAN

DATE 10/15/2024  
JOB # 2023054  
SHEET #  
M2-01

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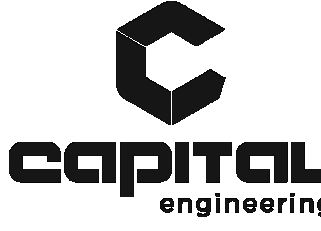
1 HVAC ROOF PLAN  
M2-02 SCALE: 1/4" = 1'-0"

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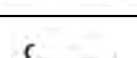
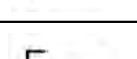

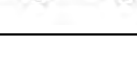
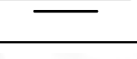
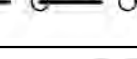



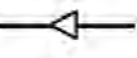


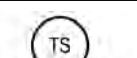
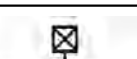



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SHEET  
HVAC ROOF PLAN

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JOB # 2023054  
SHEET #  
M2-02

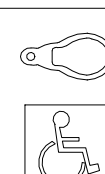
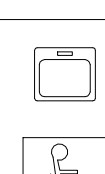
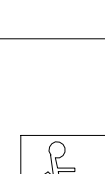





PLUMBING ABBREVIATIONS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
ABC	ABOVE CEILING	LV	LAVATORY
ACC DR	ACCESS DOOR	MC	MOTOR CONTROLLER
ACC P	ACCESS PANEL	MECH	MECHANICAL
AFF	ABOVE FINISHED FLOOR	MTD	MOUNTED
AFG	ABOVE FINISHED GRADE		
AFP	ABOVE FINISHED PAVEMENT	(N)	NEW
AHV	AIR HOSE VALVE	NC	NORMALLY CLOSED
ASH	AUTOMATIC SPRINKLER HEAD	NO	NORMALLY OPEN
BEL	BELOW	NTS	NOT TO SCALE
BFF	BELOW FINISHED FLOOR	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
BFG	BELOW FINISHED GRADE	OFOI	OWNER FURNISHED, OWNER INSTALLED
BFP	BACKFLOW PREVENTER	OH	OVERHEAD
BLDG	BUILDING	OS & Y	OUTSIDE SCREW AND YOKE
CDC	CALIFORNIA DEPARTMENT OF CORRECTIONS	PH	PHASE
CFF	CAPPED FOR FUTURE	PLBG	PLUMBING
CLG	CEILING	PLD	PLANTER DRAIN
CMP	CORRUGATED METAL PIPE	PO	PLUGGED OUTLET
COL	COLUMN	PRS	PRE-RINSE SINK
CONN	CONNECT/CONNECTION	PS	POT SINK
CONT	CONTINUATION	PT	PLASTER TRAP
CWH	COLD WATER HEADER	(R)	RISER
(D)	DROP	REC	RECESSED
DF	DRINKING FOUNTAIN	REOD	REQUIRED
DIA	DIAMETER	REV	REVISION
DN	DOWN	RM	ROOM
DW	DRY WELL	RBPB	REDUCED PRESSURE BACKFLOW PREVENTER
DW	DISHWASHER	RWL	RAIN WATER LEADER
DWG	DRAWING		
(E)	EXISTING	SD	STORM DRAIN
EL	ELEVATION	SH	SHOWER
ELEC	ELECTRICAL	SPEC	SPECIFICATION
EQUIP	EQUIPMENT	SS	STAINLESS STEELSERVICE SINK
ES	EMERGENCY SHOWER	STD	STANDARD
EW	EYE WASH	STRUC	STRUCTURAL
EW	EYE WASH	(TA)	TO ABOVE
EW	ELECTRIC WATER COOLER	(TB)	TO BELOW
FA	FROM ABOVE	T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
FB	FROM BELOW	TD	TRENCH DRAIN
FD	FLOOR DRAIN	TEMP	TEMPERATURE
FFE	FINISHED FLOOR ELEVATION	TOC	TOP OF CONCRETE
FF	FINISHED FLOOR	TS	TAMPER SWITCH
FLR	FLOOR	TYP	TYPICAL
FSR	FIRE SPRINKLER RISER		
FT	FLOOR TOILET		
/FT	PER FOOT	UF	UNDER FLOOR
FTK	FLUSH TANK	UG	UNDERGROUND
FU	FIXTURE UNIT	UL	UNDERWRITERS' LABORATORIES
FV	FLUSH VALVE	UR	URINAL
		US	UNDER SLAB
		V	VENT
GAL	GALLONS	VTR	VENT THRU ROOF
HC	HANDICAPPED	VO	VALVED OUTLET
HR	HOUR	VW	VACUUM WASTE
HS	HAND SINK		
HT	HEIGHT	W/	WITH
HTR	HEATER	W/O	WITHOUT
HWH	HOT WATER HEATER	W	WASTE
		WC	WATER CLOSET
IE	INVERT ELEVATION	WCL	WATER CLOSET AND LAVATORY
KEC	KITCHEN EQUIPMENT CONTRACTOR	WF	WASH FOUNTAIN
KS	KITCHEN SINK	ZCV	ZONE CONTROL VALVE

PLUMBING SYMBOLS - General	
SYMBOL	SYMBOL DESCRIPTION
	FLOW ARROW
	GAGE COCK
	GAS COCK, PLUG COCK
	LIMIT OF DEMOLITION
	PIPE BREAK
	PIPE CAP
	PIPE DOWN
	PIPE GUIDE
	PIPE UP
	POINT OF CONNECTION
	PRESSURE REGULATING VALVE
	PRESSURE RELIEF VALVE
	REDUCER
	SOLENOID VALVE
	STRAINER
	TEMPERATURE SENSOR
	TEST PLUG
	THERMOMETER
	TRAP PRIMER
	TWO POSITION CONTROL VALVE
	UNION

PLUMBING GENERAL NOTES
1. ACCESS PANELS SHALL BE PROVIDED AS NECESSARY TO PROPERLY ACCESS THE PLUMBING SYSTEM INCLUDING VALVES. REFER TO SPECIFICATION SECTION 08310.
2. OFFSET VENT THROUGH ROOFS 10'-0" MINIMUM FROM AIR INTAKES AND 4'-0" FROM OUTSIDE WALLS.
3. HVAC EQUIPMENT IS SHOWN FOR THE COORDINATION OF UTILITIES ONLY. REFER TO "M" SHEETS FOR MORE INFORMATION.
4. THE CONNECTION OF NATURAL GAS LINES TO EQUIPMENT SHALL INCLUDE A LINE SIZE SHUT-OFF VALVE, UNION AND A MINIMUM 6" LONG DIRT LEG WITH ACCESSIBLE END CAP.
5. THE CONNECTION OF CONDENSATE DRAIN LINES TO HVAC EQUIPMENT SHALL INCLUDE A MINIMUM 4" DEEP "P"-TRAP AND PLUGGED TEE AT ALL OFFSETS.
6. PROVIDE WATER HAMMER ARRESTORS (WHA) AS INDICATED ON PLUMBING PLANS AND/OR AS DESCRIBED WITHIN DIVISION 22 SPECIFICATIONS. SIZING SHALL BE IN ACCORDANCE WITH PDI STANDARD WH-201.
7. FOR PIPES PASSING THROUGH, UNDER OR PARALLEL TO BUILDING FOOTINGS, RETAINING WALLS ETC. REFER TO STRUCTURAL DETAILS, "S" SHEETS, FOR TYPICAL ARRANGEMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL POINTS OF CONNECTION TO SITE PIPING (LOCATIONS AND INVERT) PRIOR TO EXCAVATION, FABRICATION AND INSTALLATION OF ASSOCIATED PIPING RUNS. NOTIFY ARCHITECT AND OR ENGINEER IMMEDIATELY IF POINTS OF CONNECTION OR INVERTS ARE DIFFERENT THAN REPRESENTED ON THE DRAWINGS.
9. OFFSET ALL RISERS AND DROPS TO AVOID PENETRATIONS AT TOP PLATES.
10. PENETRATION OF PIPES, CONDUIT, ETC., IN WALLS AND/OR FLOORS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE STATE FIRE MARSHAL.
11. SEAL ALL PIPE PENETRATIONS THRU FLOORS WATERTIGHT.
12. DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC ONLY. CONTRACTOR SHALL FIELD VERIFY WHERE POSSIBLE, EXACT LOCATIONS, SIZES, AND ELEVATIONS OF ALL ITEMS SHOWN PRIOR TO THE INSTALLATION OF ANY NEW WORK.
13. THE DRAWINGS ARE NOT INTENDED TO SHOW EVERY OFFSET OR FITTING OR EVERY STRUCTURAL DIFFICULTY THAT MAY BE ENCOUNTERED DURING INSTALLATION OF THE WORK. LOCATION OF ALL ITEMS NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. EXACT LOCATIONS NECESSARY TO SECURE BEST CONDITIONS AND RESULTS MUST BE DETERMINED AT THE JOB SITE AND SHALL HAVE THE APPROVAL OF THE ARCHITECT BEFORE BEING INSTALLED.
14. ALL VALVES SHOWN SHALL BE FULL LINE SIZE UNLESS OTHERWISE NOTED.
15. CLOSELY COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO TRENCHING OR INSTALLATION OF NEW. IDENTIFY SIZE AND LOCATIONS OF ALL PENETRATIONS THROUGH FOUNDATIONS, WALLS OR ROOFS PRIOR TO FABRICATION OF ANY SYSTEMS OR ORDERING MATERIALS AFFECTED BY POSSIBLE COORDINATION CONFLICTS.
16. CONCRETE ANCHORS SHALL BE HILTI KWIK BOLT T22 3/8" WITH EMBEDMENT AS PER STRUCTURAL PLANS. ANCHORS SHALL BE TESTED PER IFI 19-1. INTERPRETIVE REGULATION FOR EXPANSION ANCHORS IN HARDENED CONCRETE. ANCHOR TEST SHALL BE 968 LBS. TENSION.
17. PIPING SHALL BE SUPPORTED AND BRACED IN STRICT COMPLIANCE WITH DIVISION 22 SPECIFICATIONS.
18. PENETRATION OF PIPES, CONDUITS, ETC., IN WALLS AND/OR FLOORS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE STATE FIRE MARSHAL.
19. ALL NEW SANITARY WASTE PIPING SHOWN SHALL BE SLOPED AT 1/4" PER FOOT MINIMUM UNLESS OTHERWISE NOTED ON PLANS. WHERE SLOPES LESS THAN 1/4" PER FOOT ARE INDICATED, CONTRACTOR SHALL SLOPE NEW PIPING UNIFORMLY BETWEEN UPPER TERMINAL OF PIPE AND THE POINT OF CONNECTION TO THE SITE PIPING (AS INDICATED ON THE CIVIL PLANS) TO ACHIEVE MAXIMUM SLOPE POSSIBLE AND IN NO CASE SHALL THE PIPING BE SLOPED LESS THAN THE MINIMUM INDICATED.
20. CONCEAL ALL PIPING IN WALL FURRING, PARTITIONS, ETC., EXCEPT AT MECHANICAL ROOMS.
21. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND EXACT LOCATIONS OF PLUMBING FIXTURES.

PLUMBING PIPE SYSTEMS SCHEDULE	
Type Image	Type Comments

PLUMBING FIXTURE SPECIFICATION AND CONNECTION SCHEDULE													
ADA	SYMBOL	FIXTURE	FIXTURE MANUFACTURER AND MODEL No.	FAUCET OR VALVE MANUFACTURER AND MODEL No.	TRIM MANUFACTURER AND MODEL No.	REMARKS	VENT	WASTE		COLD WATER		HOT WATER	
								BRANCH	OUTLET	BRANCH	OUTLET	BRANCH	OUTLET
	WC-1	WATER CLOSET FLOOR MOUNTED FLUSH VALVE ACCESSIBLE	"KOHLER" HIGHCLIFF NO. K-96057-SS, FLOOR MOUNTED, ELONGATED, SIPHON JET ACTION 1-1/2" TOP SPUD, 16-7/8" RIM HEIGHT, 1.28 GPF ANTIMICROBIAL SURFACE	"SLOAN" ROYAL 111-1.28SG, ADA COMPLIANT, 1.28 GPF (MANUAL)	SEAT: "CHURCH" MODEL 295SSCT OR "BEMIS" MODEL 195SSSCT. PROVIDE WITH SELF- SUSTAINING CONCEALED CHECK HINGES, ONE PIECE STAINLESS STEEL POST HINGES, WHITE COLOR.	WHERE USED FOR CBC ACCESSIBLE WATER CLOSETS, THE FLUSH VALVE HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE WATER CLOSET ENCLOSURE.	2"	4"	4"	1-1/4"	1"	--	--
	L-1	LAVATORY WALL MOUNTED COLD WATER ONLY STD/ACCESSIBLE	"KOHLER" KINGSTON NO. K-2005 WALL HUNG, VITREOUS CHINA WITH CONTOURED BACK AND SIDE SPLASH SHIELDS, FRONT OVERFLOW, CONCEALED ARM RECESS, 4" CENTERS, 21-1/4" x 18-1/8" D SHAPED BOWL.	"CHICAGO" 857-E2805-665PSHAB TAPERED HANDLE FAUCET, PUSH-BUTTON TYPE, MODEL E2805 VANDAL RESISTANT ECONO-FLO SPRAY OUTLET, 0.5 GPM FLOW RESTRICTOR, ADA COMPLIANT	ADA COMPLIANT. LAVATORY GRID DRAIN WITH 1-1/4" OFFSET TAILPIECE, INTEGRAL PERFORATED GRID NO. 7723.018, CHROME FINISH. MOUNT P-TRAP FLUSH TO WALL. CARRIER: "JAY R. SMITH" 0700 OR ZURN Z1231	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONCEALED ARMS AND FLOOR SUPPORT, WITH FEET OF SUPPORT SECURELY ANCHORED TO FLOOR. IN ADDITION ANCHOR TOP OF SUPPORT TO WALL CONSTRUCTION.	1-1/2"	2"	1-1/2"	3/4"	1/2"	-	-
	DF-1	DRINKING FOUNTAIN WALL MOUNTED STD/ACCESSIBLE DUAL HEIGHT W/BOTTLE FILLER	"ELKAY" MODEL LZWS-EDFP217C, STAINLESS STEEL DUAL HEIGHT, WALL MOUNTED STAINLESS STEEL BACK PANEL, WITH BOTTLE FILLER, 120V/1PH.	INTEGRAL	WITH P-TRAP	SUPPORT SYSTEM. WHERE INSTALLED ON CONCRETE OR CMU WALL, PROVIDE TWO MOUNTING PLATES AND INSTALL WITH ONE PLATE ON EACH SIDE OF WALL. SET AT HEIGHT INDICATED ON ARCH DRAWINGS.	1-1/2"	2"	1-1/2"	3/4"	1/2"	-	-
	S-1	SINK COUNTER MOUNTED HOT AND COLD WATER ADMIN/CONF./NURSE	"ELKAY" MODEL LRADQ221965 19-1/2" FRONT TO BACK, 22" WIDE x 6-1/2" DEPTH OVERALL, 18 GAUGE STAINLESS STEEL, LEDGE BACK WITH SELF-RIM, PROVIDE SINGLE FAUCET HOLE. PROVIDE REAR DRAIN LOCATION. PROVIDE FACTORY ADHERED VANDAL RESISTANT BACKING PLATE AT FAUCET, AND SLOT AT FAUCET FOR VANDAL RESISTANT PINS.	"CHICAGO" ECASST MODEL 50-E35VPABCP GOOSENECK FAUCET, 1.5 GPM VANDAL RESISTANT LAMINAR FLOW AERATOR AND RIGID/SWING FAUCET, PROVIDE VANDAL RESISTANT PIN IN FAUCET, ARRANGED TO MATE WITH SLOT IN SINK.	"ELKAY" MODEL LKAD35, OFFSET CRUMB CUP STRAINER WITH REMOVABLE BASKET AND P-TRAP. INSTALL P-TRAP FLUSH TO WALL.		2"	2"	1-1/2"	3/4"	1/2"	3/4"	1/2"
	SS-1	SERVICE SINK FLOOR MOUNTED HOT AND COLD WATER JANITORS	"ACORN" TSH-24-SSC, TERRAZZO-WARE, 24"x24"x12" DEEP FLOOR MOUNTED, TERRAZZO, WITH STAINLESS STEEL CAP ON ALL FOUR TOP SURFACES. UNIT SHALL INCLUDE MODEL KH36 HOSE WITH WALL HANGER, KMH MOP HANGER WITH 3 SPRING LOADED GRIPS ON A STAINLESS STEEL BRACKET.	"CHICAGO" MODEL 897-CCP WALL MOUNTED POLISHED CHROME FAUCET WITH VACUUM BREAKER, ADJUSTABLE TOP BRACE AND 3/4" MALE THREADED HOSE OUTLET.		AS PART OF ROUGH-IN FOR FAUCET, PROVIDE SUITABLE BLOCKING FOR TOP BRACE. PROVIDE WITH INTEGRAL STAINLESS STEEL CAP ON ALL SIDES TO PROTECT AGAINST IMPACT.	2"	3"	3"	3/4"	3/4"	3/4"	3/4"
	UR-1	URINAL WALL MOUNTED FLUSH VALVE ACCESSIBLE	"KOHLER" BARDON 1/8 GPF NO. K-4991-ET WALL HUNG, VITREOUS CHINA, SIPHON JET ACTION, 3/4" TOP SPUD, 2" THREADED OUTLET, .125 GPF WEIGHT = 51 LBS.	"SLOAN" ROYAL 186-0.125-SG, 0.125 GPF (MANUAL)	CARRIER: "JAY R. SMITH" 637 SERIES OR "ZURN" Z1222	MOUNT AT HEIGHT INDICATED ON ARCHITECTURAL DRAWINGS.	2"	2"	2"	1"	3/4"	--	--

PIPING, DUCTWORK & ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.28.
THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPO PRE-APPROVALS (OPM #)
COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING THE BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.
THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.
MEP COMPONENT ANCHORAGE NOTE
ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE APPROVED CONSTRUCTION DOCUMENTS, WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.16 THROUGH 1617A.1.20 AND ASCE 7-16 CHAPTERS 13, 26, AND 30.
1. ALL PERMANENT EQUIPMENT AND COMPONENTS. 2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. 3. MOVABLE EQUIPMENT THAT IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF THAT DIRECTLY SUPPORT THE EQUIPMENT ARE TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.
THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT. B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTION SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.
FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.
FIRESTOPPING
1. PACK THE ANNULAR SPACE BETWEEN THE PIPE SLEEVES AND THE PIPE THROUGH ALL FLOORS AND WALLS WITH UL LISTED FIRE STOP, AND SEALED AT THE ENDS. ALL PIPE PENETRATIONS SHALL BE UL LISTED, HILTI, 3M PRO-SET, OR EQUAL. A. INSTALL FIRE CAULKING BEHIND MECHANICAL SERVICES INSTALLED WITHIN FIRE RATED WALLS, TO MAINTAIN CONTINUOUS RATING OF WALL CONSTRUCTION. 2. PROVIDE SPECSEAL SYSTEMS UL FIRE RATED SLEEVE/COUPLING PENETRATORS FOR EACH PIPE PENETRATION OR FIXTURE OPENING PASSING THROUGH FLOORS, WALLS, PARTITIONS OR FLOOR/CEILING ASSEMBLIES. ALL PENETRATORS SHALL COMPLY WITH UL FIRE RESISTANCE DIRECTORY (LATEST EDITION), AND IN ACCORDANCE WITH CHAPTER 7, CBC REQUIREMENTS. 3. SLEEVE PENETRATORS SHALL HAVE A BUILT IN ANCHOR RING FOR WATERPROOFING AND ANCHORING INTO CONCRETE POURS OR USE THE SPECIAL FIT CORED HOLE PENETRATOR FOR CORED HOLES. 4. COPPER AND STEEL PIPING SHALL HAVE SPECSEAL PLUGS ON BOTH SIDES OF THE PENETRATOR TO REDUCE NOISE AND TO PROVIDE WATERPROOFING. 5. ALL ABOVE SYSTEMS TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 6. ALTERNATE FIRESTOPPING SYSTEMS ARE ACCEPTABLE IF APPROVED EQUAL. HOWEVER, ANY DEVIATION FROM THE ABOVE SPECIFICATION REQUIRES THE CONTRACTOR TO BE RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE PROPOSED PRODUCTS AND THEIR INTENDED USE, AND THE CONTRACTOR SHALL ASSUME ALL RISKS AND LIABILITIES WHATSOEVER IN CONNECTION THEREWITH.

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PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

capital

engineering

RANCHO CORDOVA, CALIFORNIA

JC - AMA 232088.00

PM - DESIGN TEAM PROJECT NO.

STAMP

REGISTERED PROFESSIONAL ENGINEER

JOSEPH CARABELLO

M 34612

EXPIRES 12/31/25

MECHANICAL

STATE OF CALIFORNIA

DATE SIGNED: \_\_\_\_\_

REVISIONS

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No.

Description

Date

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PLUMBING  
ABBREVIATIONS  
AND NOTES

DATE

10/15/2024

JOB #

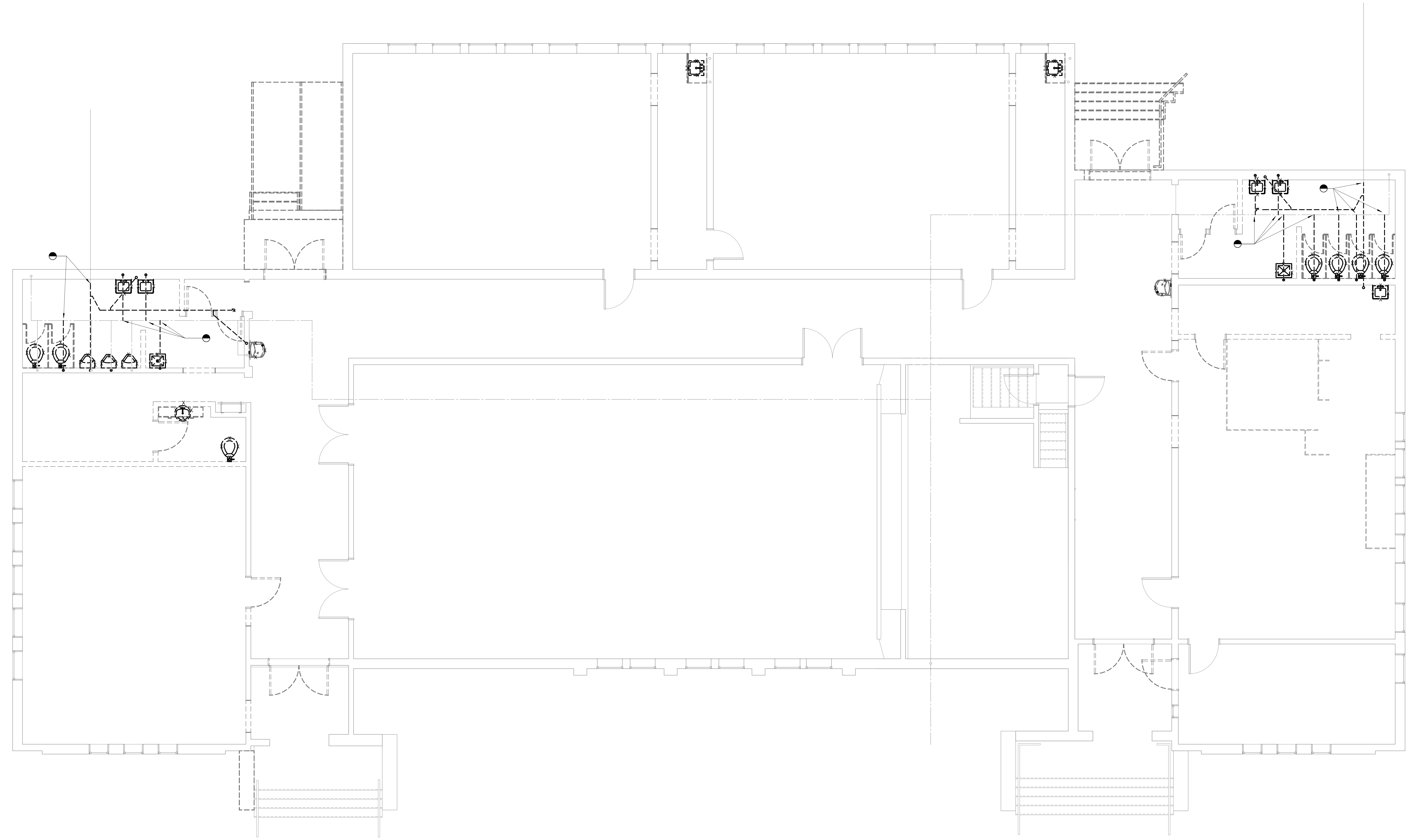
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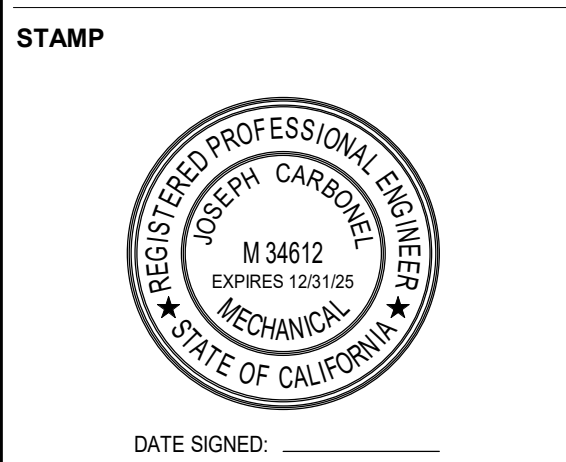
1 PLUMBING DEMOLITION PLAN  
P1-01 SCALE: 1/4" = 1'-0"

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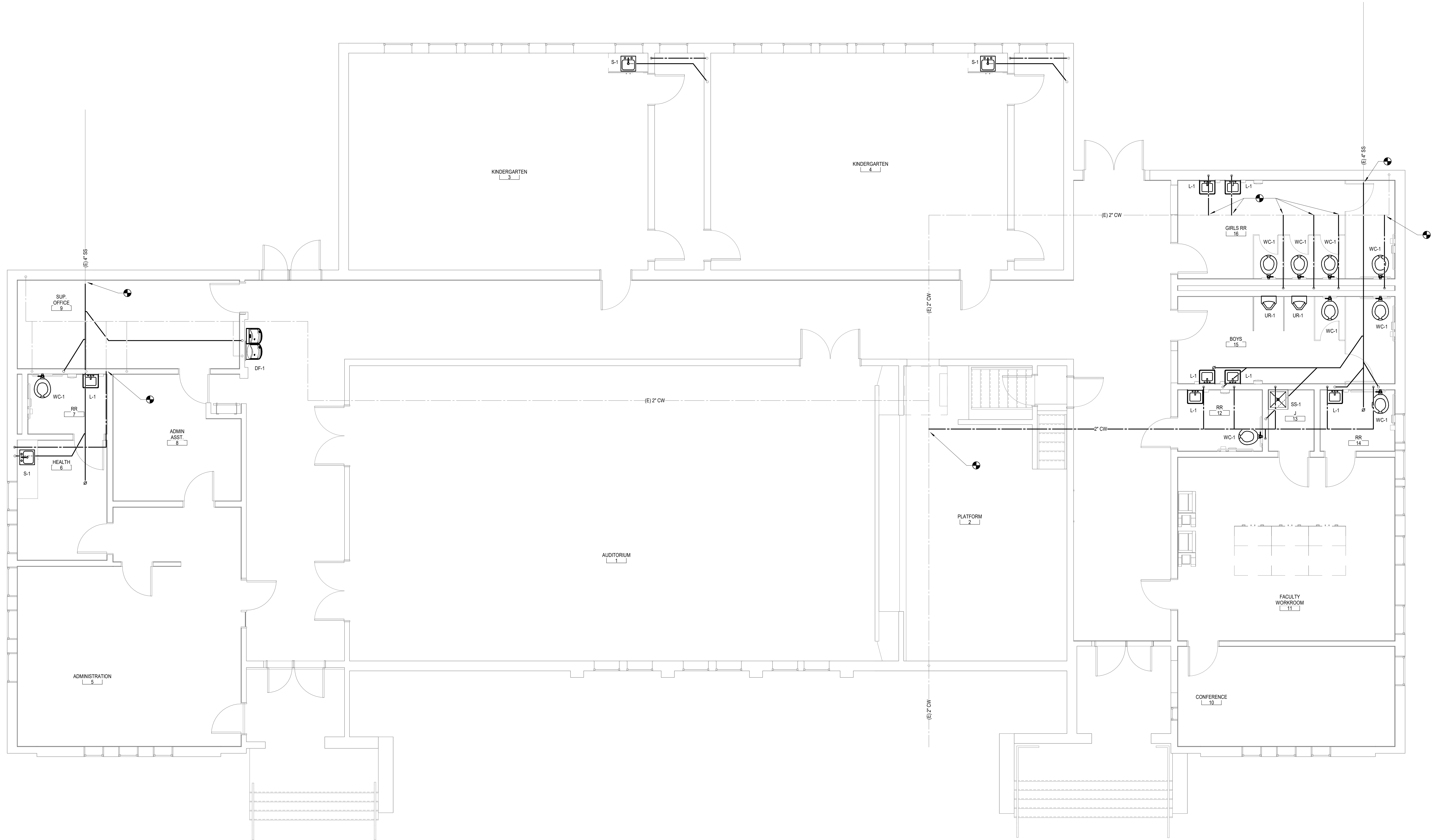


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SHEET  
PLUMBING  
DEMOLITION PLAN

DATE 10/15/2024  
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SHEET #  
P1-01





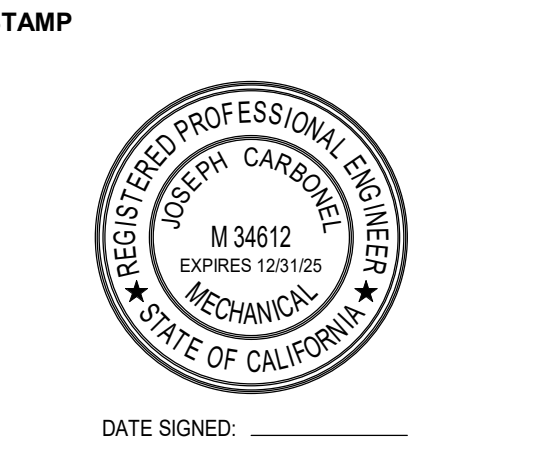
1 PLUMBING FLOOR PLAN  
P2-01 SCALE: 1/4" = 1'-0"

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	1		

SHEET  
PLUMBING FLOOR  
PLAN

DATE 10/15/2024  
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P2-01

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LUMINAIRE SYMBOLS	
	LUMINAIRE - RECESSED.
	LUMINAIRE - SURFACE MOUNT STRIP.
	LUMINAIRE - SURFACE MOUNT.
	LUMINAIRE - PENDANT MOUNT LINEAR FIXTURE.
	LUMINAIRE - WALL MOUNT LINEAR FIXTURE.
	LUMINAIRE - RECESSED DOWNLIGHT.
	LUMINAIRE - SINGLE WALL WASHER.
	LUMINAIRE - DOUBLE WALL WASHER.
	LUMINAIRE - CORNER WALL WASHER.
	LUMINAIRE - PENDANT MOUNT ROUND FIXTURE.
	LUMINAIRE - WALL MOUNT CAN.
	LUMINAIRE - WALL MOUNT BOX.
	LUMINAIRE - POLE MOUNT SINGLE HEAD.
	LUMINAIRE - POLE MOUNT DOUBLE HEAD.
	EXIT LIGHT - WALL MOUNT SINGLE FACE.
	EXIT LIGHT - CEILING MOUNT DOUBLE FACED.
	EXIT LIGHT - WALL MOUNT SINGLE FACE WITH ARROW.
	EXIT LIGHT - CEILING MOUNT DOUBLE FACED WITH DOUBLE ARROWS.
	EXIT LIGHT - EMERGENCY BATTERY PACK.

TYPICAL LUMINAIRE NOMENCLATURE	
	UNSHADED SYMBOL DENOTES STANDARD LUMINAIRE.
	SHADED SYMBOL DENOTES EMERGENCY LUMINAIRE.
	"A" DENOTES LUMINAIRE TYPE
	"L1" DENOTES PANEL NAME "30" DENOTES CIRCUIT NUMBER "3" DENOTES SWITCH LEG

- NOTES
1.

CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING FIXTURE TYPE AND MOUNTING CONDITIONS, REGARDLESS OF SYMBOL SHOWN ON PLANS. COORDINATE WITH EXACT CEILING CONDITIONS TO PROVIDE ALL MOUNTING HARDWARE AND MISC. APPURTENANCES AS REQUIRED FOR A COMPLETE INSTALLATION.
2.

REFER TO LUMINAIRE/FIXTURE SCHEDULE FOR FIXTURE DESCRIPTION, MOUNTING, AND LAMPING INFORMATION.
3.

SHADED FIXTURES SHALL INDICATE THAT FIXTURE IS CONNECTED TO AN EMERGENCY POWER SOURCE, PROVIDE ALL MISC. APPURTENANCES AS REQUIRED TO ALLOW FIXTURE TO TRANSFER FROM NORMAL TO EMERGENCY POWER. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, TRANSFER MODULES AND/OR UL 204 RELAYS AS REQUIRED TO ALLOW ALL EMERGENCY FIXTURES TO BE CONTROLLED WITH ROOM LIGHTING DURING NORMAL CONDITIONS AND THEN TRANSFER TO EMERGENCY POWER SOURCE UPON LOSS OF NORMAL POWER.
4.

PROVIDE ADDITIONAL EXIT SIGNS IN LOCATIONS AS REQUIRED BY INSPECTOR DURING FIELD INSPECTIONS. CONTRACTOR SHALL PROVIDE IN THEIR BID MATERIALS AND INSTALLATION LABOR FOR 5% ADDITIONAL SPARE EXIT SIGNS (MINIMUM OF 1 SIGN) BEYOND THOSE SHOWN ON THE DRAWINGS TO ALLOW FOR FINAL REVIEW, SIGN-OFF, AND APPROVAL BY THE AHJ.

LIGHTING CONTROLS SYMBOLS	
	OCCUPANCY SENSOR - CEILING MOUNT WITH BI-DIRECTIONAL VIEW. ARROWS INDICATE AIMING DIRECTION.
	OCCUPANCY SENSOR - CEILING MOUNT WITH 360° VIEW.
	OCCUPANCY SENSOR - WALL MOUNT WITH DIRECTIONAL VIEW. ARROW INDICATES AIMING DIRECTION.
	PHOTOSENSOR - CEILING MOUNT WITH DIRECTIONAL VIEW. ARROW INDICATES AIMING DIRECTION.
	PHOTOSENSOR - CEILING MOUNT WITH 360° VIEW.
	PHOTOSENSOR - WALL MOUNT WITH DIRECTIONAL VIEW. ARROW INDICATES AIMING DIRECTION.
	SINGLE POLE SWITCH - WALL MTD AT + 48" AFF TO TOP OF BOX UON.
	TIME SWITCH
	LIGHTING CONTROL PANEL
	SWITCHING ROOM CONTROLLER
	DIMMING ROOM CONTROLLER

TYPICAL SWITCH NOMENCLATURE	
	"Y" DENOTES SWITCH LEG "X" DENOTES SWITCH TYPE
	D = DIMMER SWITCH
	K = KEY OPERATED SWITCH
	L = LOW VOLTAGE MULTI-BUTTON SWITCH
	M = MOMENTARY CONTACT SWITCH
	T = DIGITAL WALL TIMER
	S = OCCUPANCY SENSOR SWITCH
	BLANK = SINGLE POLE SWITCH
	3 = 3 WAY SWITCH
	4 = 4 WAY SWITCH
	"X" DENOTES SENSOR TYPE BLANK = DUAL TECHNOLOGY D = DUAL TECHNOLOGY P = PASSIVE INFRARED U = ULTRASONIC
	LOW VOLTAGE MULTI-BUTTON SWITCH "x" DENOTES SWITCH UNIQUE SWITCH IDENTIFIER (SEE SCHEDULE FOR SWITCH LEGS/RELAYS CONTROLLED)
	DIMMING MULTI-BUTTON SWITCH "x" "y" "z" (ETC) DENOTE SWITCH LEGS CONTROLLED
	MULTIPLE SWITCHES LOCATED WITHIN A SINGLE WALL PLATE "x" "y" "z" (ETC) DENOTE SWITCH LEGS CONTROLLED

- NOTES
1.

INSTALL SWITCHING AND DIMMING ROOM CONTROLLERS ABOVE ACCESSIBLE CEILING. FOR ROOMS WITH GYP BD OR OTHER INACCESSIBLE CEILINGS, PROVIDE 2'x2' ACCESS PANEL WITHIN ARMS LENGTH OF WHERE DEVICES ARE MOUNTED. WHERE INSTALLATION OF AN ACCESS PANEL IS NOT POSSIBLE, INSTALL DEVICES IN CONCEALED IN ADJACENT ACCESSIBLE SPACE AND PROVIDE TYPED, SELF ADHESIVE LABEL NOTING WHICH ROOM THE DEVICES CONTROL.
2.

PROVIDE SINGLE WALL PLATE FOR MULTIPLE SWITCHES LOCATED TOGETHER. PROVIDE APPROPRIATE QUANTITY, SIZE, AND SHAPE OF CUT OUTS TO ACCOMMODATE ALL DEVICES AT THAT LOCATION (E.G. REGULAR TOGGLE SWITCH VS. DECORATOR STYLE DEVICE). ALL WALL PLATES SHALL BE FACTORY CUT, NO FIELD CUT OPENINGS SHALL BE ALLOWED.
3.

DEVICE LOCATIONS ON PLANS ARE APPROXIMATE AND DIAGRAMMATIC. CONTRACTOR SHALL INSTALL DEVICES PER CODE REQUIREMENTS AND MANUFACTURER RECOMMENDATIONS.
4.

LIGHT SWITCHES SHALL NOT BE LOCATED BEHIND ROOM DOORS WHEN DOORS ARE FULLY OPENED. LOCATE ALL SWITCHES SUCH THAT THEY ARE VISIBLE AND ACCESSIBLE WHEN THE DOOR IS FULLY OPEN.

ABBREVIATIONS			
A	AMPERE	EMT	ELECTRICAL METALLIC TUBING
ABV	ABOVE	EOL	END OF LINE RESISTOR
AF	AMPERE FRAME, AMPERE FUSE	EQP	EQUIPMENT
AFF	ABOVE FINISHED FLOOR	FA	FIRE ALARM
AIC	AMPERE INTERRUPTING CAPACITY	FACP	FIRE ALARM CONTROL PANEL
ARCH	ARCHITECTURAL	(F)	FUTURE
AS	AMPERE SWITCH	FIN	FINISH
AT	AMPERE TRIP	FLR	FLOOR
ATS	AUTOMATIC TRANSFER SWITCH	G, GND	GROUND
BKR	BREAKER	GRC	GALVANIZED RIGID CONDUIT
BLDG	BUILDING	HGT	HEIGHT
C	CONDUIT	HP	HORSEPOWER
CATV	CABLE TELEVISION	IC	INTERCOM
CB	CIRCUIT BREAKER	IDF	INTERMEDIATE DISTRIBUTION FRAME
CBG	CALIFORNIA BUILDING CODE	IMC	INTERMEDIATE METAL CONDUIT
CD	CANDELA	INFO	INFORMATION
CEC	CALIFORNIA ELECTRICAL CODE	JB	JUNCTION BOX
CFC	CALIFORNIA FIRE CODE	KAIC	KILOAMPERE INTERRUPTING CAPACITY
CKT	CIRCUIT	KV	KILOVOLT
CL	CENTER LINE	KVA	KILOVOLT AMPERE
CLG	CEILING	KW	KILOWATT
CO	CONDUIT ONLY	LTG	LIGHTING
COMM	COMMUNICATIONS	LV	LOW VOLTAGE
CSFM	CALIFORNIA STATE FIRE MARSHALL	MAX	MAXIMUM
CTR	CENTER	CMIL	THOUSAND CIRCULAR MILS
(D)	DEMOLISH	MDF	MAIN DISTRIBUTION FRAME
DET	DETAIL	MECH	MECHANICAL
DIM	DIMENSION	MH	MANHOLE
DIST	DISTRIBUTION	MIN	MINIMUM
DP	DISTRIBUTION PANEL	MTD	MOUNTED
DWG	DRAWING	MTG	MOUNTING
EXIST	EXISTING	NC	NORMALLY CLOSED
ELEC	ELECTRICAL	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
EM	EMERGENCY		
		NIC	NOT IN CONTRACT
		NIEC	NOT IN ELECTRICAL CONTRACT
		NO	NORMALLY OPEN
		NTS	NOT TO SCALE
		NUM #	NUMBER
		OC	ON CENTER
		P	POLE
		PA	PUBLIC ADDRESS
		PB	PULL BOX
		PF	POWER FACTOR
		PH	PHASE
		PNL	PANEL
		PVC	POLYVINYL CHLORIDE
		(R)	EXISTING TO BE RELOCATED
		REQD	REQUIRED
		REQ(S)	REQUIREMENT(S)
		RSC	RIGID STEEL CONDUIT
		SAD	SEE ARCHITECTURAL DOCUMENTS
		SHT	SHEET
		SPD	SURGE PROTECTIVE DEVICE
		STC	SIGNAL TERMINAL CABINET
		SW	SWITCH
		SWBD	SWITCHBOARD
		T24	CALIFORNIA ENERGY CODE
		TC	TERMINAL CABINET
		TEL	TELEPHONE
		TYP	TYPICAL
		UN	UNLESS OTHERWISE NOTED
		V	VOLT
		W	WATT, WIRE
		WP	WEATHERPROOF
		XFMR	TRANSFORMER

NEW VS. EXISTING	
	(N) CONDUIT - CONCEALED IN WALLS OR CEILING.
	(E) CONDUIT - CONCEALED IN WALLS OR CEILING.
	(E) CONDUIT - TO BE REMOVED.
	(N) DEVICE OR EQUIP (EXAMPLE)
	(E) DEVICE OR EQUIP (EXAMPLE)
	(E) DEVICE OR EQUIP TO BE REMOVED (EXAMPLE)

WIRING, CONDUIT, AND RACEWAY SYMBOLS	
	CONDUIT - CONCEALED IN WALLS OR CEILING.
	CONDUIT - EXPOSED.
	CONDUIT - UNDERGROUND / DIRECT BURIAL.
	CONDUIT HOME RUN TO PANEL, TERMINAL CABINET, ETC.
	SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODES. ALL 20A/1P BRANC CIRCUITS SHALL BE #12 AWG WIRES WITH #12 AWG NEUTRALS AND GROUNDS RUN A MAXIMUM OF 3 BRANCH CIRCUITS PER CONDUIT.
	CONDUIT - FLEX WITH CONNECTION.
	CONDUIT - STUB UP.
	CONDUIT - STUB DOWN.
	CONDUIT - EMERGENCY POWER SYSTEM.
	CONDUIT - CAPPED.
	CONDUIT - CONTINUATION.
	SURFACE MOUNTED WIRE RACEWAY - INSTALL AT + 36" AFF UON.
	SURFACE MOUNTED WIRE RACEWAY UP/DOWN
	IN-GRADE PULL BOX, SINGLE LINE = NON-TRAFFIC RATED. DOUBLE LINE = TRAFFIC RATED. "Y" = UNIQUE BOX IDENTIFIER. "X" = SYSTEM:
	C = POWER
	G = COMMUNICATIONS
	F = FIRE ALARM
	L = LIGHTING
	E = EV CHARGER

ELECTRICAL COMPONENT ANCHORAGE NOTES	
ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30.	
1. ALL PERMANENT EQUIPMENT AND COMPONENTS	
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICAL AND TELECOM UTILITIES. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.	
3. TEMPORARY, MOVABLE, OR MOBILE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4'-0" OR GREATER ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT, IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.	

THE ATTACHMENTS OF THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

1. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR HUNG FROM A WALL.

THE ANCHORAGE OF ALL ELECTRICAL COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEMS BRACING NOTES	
ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.65, 13.66, 13.67, AND 13.68; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.	
THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW AND SHALL BE IN ACCORDANCE WITH DSA IR 16-13. EACH SYSTEM SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND COORDINATED WITH THE STRUCTURAL BUILDING DESIGN	
ELECTRICAL DISTRIBUTIONS SYSTEMS (E):	
<input checked="" type="checkbox"/> IR 16-13 SECTION 2.1: PROJECT SPECIFIC DESIGN. SHEET NUMBERS:	
<input type="checkbox"/> IR 16-13 SECTION 2.2: DESIGN BASED ON OSHPD OPM, PART OF PROJECT SUBMITTAL. OPM NUMBERS:	
SHEET NUMBERS:	
<input type="checkbox"/> IR 16-13 SECTION 2.2.6: DESIGN BASED ON OSHPD OPM, DEFERRED APPROVAL.	

- OWNERSHIP OF INSTRUMENTS OF SERVICE
1.

ALL REPORTS, DRAWINGS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY THE CONSULTANT AS INSTRUMENTS OF SERVICE SHALL REMAIN THE PROPERTY OF THE CONSULTANT. THE CONSULTANT SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERETO.
2.

THE CLIENT ACKNOWLEDGES THE CONSULTANT'S CONSTRUCTION DOCUMENTS, INCLUDING ELECTRONIC FILES, AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE FINAL CONSTRUCTION DOCUMENTS PREPARED UNDER THIS AGREEMENT SHALL BECOME THE PROPERTY OF THE CLIENT UPON COMPLETION OF THE SERVICES AND PAYMENT IN FULL OF ALL MONIES DUE TO THE CONSULTANT. THE CLIENT SHALL NOT REUSE OR MAKE ANY MODIFICATION TO THE CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE CONSULTANT. THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS THE CONSULTANT, ITS OFFICERS, DIRECTORS, EMPLOYEES AND SUBCONSULTANTS (COLLECTIVELY, CONSULTANT) AGAINST ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING FROM OR ALLEGEDLY ARISING FROM OR IN ANY WAY CONNECTED WITH THE UNAUTHORIZED REUSE OR MODIFICATION OF THE CONSTRUCTION DOCUMENTS BY THE CLIENT OR ANY PERSON OR ENTITY THAT ACQUIRES OR OBTAINS THE CONSTRUCTION DOCUMENTS FROM OR THROUGH THE CLIENT WITHOUT THE WRITTEN AUTHORIZATION OF THE CONSULTANT.

- CODES AND STANDARDS
1.

2022 CALIFORNIA BUILDING CODE (CBC), VOLUMES #1 AND #2 (PART 2, TITLE 24, CCR).
2.

2022 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR).
3.

2022 CALIFORNIA MECHANICAL CODE (CMC) (PART 4, TITLE 24, CCR).
4.

2022 CALIFORNIA PLUMBING CODE (GPC) (PART 5, TITLE 24, CCR).
5.

2022 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR).
6.

2022 CALIFORNIA FIRE CODE (CFC) (PART 9, TITLE 24, CCR).
7.

2022 CALIFORNIA GREEN CODE (PART 11, TITLE 24, CCR).
8.

2022 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR).
9.

2022 NFPA 72 NATIONAL FIRE ALARM CODE.
10.

2015 NFPA 720 STANDARDS FOR CARBON MONOXIDE DETECTION AND WARNING.
11.

2022 NFPA 13 STANDARDS FOR FIRE SPRINKLER SYSTEMS.
12.

ADA STANDARDS FOR ACCESSIBLE DESIGN: ADA ACCESSIBILITY GUIDELINES (ADAA) 28, PART 36 APPENDIX A.
13.

ADA STANDARDS FOR ACCESSIBLE DESIGN - CODE OF REGULATIONS (INCLUDING AMENDMENTS).

POWER DISTRIBUTION SYMBOLS (SINGLE LINE)	
	TRANSFORMER (SINGLE LINE)
	TRANSFORMER (RISER)
	STANDARD / EMERGENCY PANEL BOARD
	STANDARD / EMERGENCY DISTRIBUTION PANELBOARD
	SWITCHBOARD
	EMERGENCY GENERATOR
	CIRCUIT BREAKER, DRAW-OUT, 3-POLE UON.
	CIRCUIT BREAKER, 3-POLE UON.
	FUSED SWITCH, 3-POLE UON.

	AUXILIARY CONTACT - NORMALLY OPENED.
	AUXILIARY CONTACT - NORMALLY CLOSED.
	AUTOMATIC TRANSFER SWITCH WITH GENERATOR STARTING AND TRANSFER SWITCH STATUS CONTACTS.
	GROUND ROD
	METER WITH CURRENT TRANSFORMERS. "X" INDICATES METER IDENTIFIER, SEE SCHEDULE. U = UTILITY METER M# = OWNER METER, SEE SPECIFICATIONS
	METER INSTALLED WITHIN EQUIPMENT
	METER IN STANDALONE ENCLOSURE
	CURRENT TRANSFORMERS

POWER DISTRIBUTION SYMBOLS (PLANS)	
	PANELBOARD - FLUSH MOUNTED.
	PANELBOARD - SURFACE MOUNTED.
	DISTRIBUTION PANEL
	SWITCHBOARD
	SWITCHBOARD SECTION - PULL SECTION
	SWITCHBOARD SECTION - METER SECTION
	SWITCHBOARD SECTION - MAIN BREAKER SECTION
	SWITCHBOARD SECTION - METER AND MAIN BREAKER SECTION
	SWITCHBOARD SECTION - DISTRIBUTION SECTION
	MOTOR
	EQUIPMENT WITHOUT MOTOR
	EQUIPMENT WITH MOTOR
	UNFUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC STARTER/FUSED DISCONNECT SWITCH
	MAGNETIC STARTER - NEMA SIZE INDICATED.
	VARIABLE FREQUENCY DRIVE
	MOTOR RATED SWITCH
	TRANSFORMER
	GROUND ROD
	GENERATOR
	EQUIPMENT TAG - SEE EQUIPMENT SCHEDULE "CH" = EQUIPMENT TYPE "2" = UNIQUE IDENTIFIER

RECEPTACLE AND POWER SYMBOLS					
POKE THRU	FLR	WALL	CLG	AT	HGT






TYPICAL RECEPTACLE NOMENCLATURE	
R1-3	"R1" DENOTES PANEL NAME
R1-3	"3" DENOTES CIRCUIT NUMBER
R1-3	"X" DENOTES SPECIAL RECEPTACLE TYPE (IF APPLICABLE)
R1-3	"Y" DENOTES MOUNTING HEIGHT (IF APPLICABLE)































SPECIAL RECEPTACLE DESIGNATIONS			
LTR	RATING	NEMA	PLUG TYPE PROVIDED WITH EQUIP
A	125V, 10, 30A, 2P, 3W	5-30R	WITH 5-30P PLUG
B	125V, 10, 50A, 2P, 3W	5-50R	WITH 5-50P PLUG
C	125/250V, 10, 20A, 3P, 4W	14-20R	WITH 14-20P PLUG
D	125/250V, 10, 30A, 3P, 4W	14-30R	WITH 14-30P PLUG
F	125/250V, 10, 50A, 3P, 4W	14-50R	WITH 14-50P PLUG
G	125/250V, 10, 60A, 3P, 4W	14-60R	WITH 14-60P PLUG
H	250V, 10, 20A, 2P, 3W	6-20R	WITH 6-20P PLUG
J	250V, 30, 30A, 2P, 3W	6-30R	WITH 6-30P PLUG
K	250V, 10, 50A, 2P, 3W	6-50R	WITH 6-50P PLUG
L	-	-	"L" INDICATES ASSOCIATED RECEPTACLE IS LOCKING TYPE, PROVIDE MATCHING PLUG FOR EACH RECEPTACLE
M	250V, 10, 20A, 2P, 3W	6-20R	WITH 6-20P PLUG
N	250V, 10, 30A, 2P, 3W	6-30R	WITH 6-30P PLUG
O	250V, 10, 50A, 2P, 3W	6-50R	WITH 6-50P PLUG
P	250V, 30, 30A, 2P, 3W	15-20R	WITH 15-20P PLUG
S	250V, 30, 30A, 3P, 4W	15-30R	WITH 15-30P PLUG
T	250V, 30, 30A, 3P, 4W	15-50R	WITH 15-50P PLUG
U	125V, 10, 20A, 2P, 3W	5-20R	(2) INTEGRAL USB PORTS, SEE SPECS
V	480V, 30, 30A, 3P, 4W	L16-30R	WITH L16-30P PLUG
X	125V, 10, 20A, 2P, 3W	ISO-20R	ISOLATED GROUND WITH INTEGRAL TRANSIENT SUPPRESSOR AND DEDICATED GREEN/WHITE CONDUCTOR BACK TO GROUND BUS AT PANEL
Y	125V, 10, 20A, 2P, 3W	5-20R	DEDICATED CIRCUIT

- NOTES
-



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COMMUNICATIONS HEADEND EQUIPMENT SYMBOLS	
	SIGNAL TERMINAL CABINET - FLUSH MOUNTED.
	SIGNAL TERMINAL CABINET - SURFACE MOUNTED.
	COMMUNICATION BACKBOARD - 4' X 8' PLYWOOD BACKING.
	DISTRIBUTION FRAME - FLOOR MOUNTED RACKS AND WIRE MANAGEMENT
	DISTRIBUTION FRAME - WALL MOUNTED RACK










COMMUNICATIONS DEVICE SYMBOLS					
POKE THRU	FLR	WALL	CLG	AT HGT	
					PHONE OUTLET
					DATA OUTLET
					COMBINATION PHONE/DATA OUTLETS
					WIRELESS ACCESS POINT DATA OUTLET
					FURNITURE FEED - TELECOM CONNECTIONS
					JUNCTION BOX





















TYPICAL COMMUNICATIONS DEVICE NOMENCLATURE







X  
+Y" } "X" DENOTES DEVICE ID# (IF APPLICABLE)  
"Y" DENOTES MOUNTING HEIGHT (IF APPLICABLE)

NOTES

1. WALL MOUNTED DEVICES SHALL BE MOUNTED AT 18" AFF TO BOTTOM OF DEVICE. UON.
2. WALL MOUNTED DEVICES SHOWN AT A DEFINED HEIGHT SHALL BE MOUNTED WITH THE BOTTOM AT 1" ABOVE COUNTER BACKSPLASH, UON.
3. WHERE POWER AND LOW VOLTAGE FLOOR BOXES OR POKE THURUS ARE SHOWN IN THE SAME LOCATION, THOSE DEVICES SHALL BE LOCATED WITHIN THE SAME ENCLOSURE, UON.
4. SIZE JUNCTION BOXES AS REQ'D PER CODE. TAPE AND TAG WIRES. COORDINATE WITH EQUIPMENT AND PROVIDE FLEX CONDUIT AND/OR RECEPTACLES AS REQUIRED TO CONNECT EQUIPMENT.
5. REFER TO COMMUNICATIONS DEVICE SCHEDULE FOR ADDITIONAL INFORMATION.
6. COORDINATE REQUIREMENTS AND INSTALLATION OF FURNITURE FEED CONNECTIONS WITH FURNITURE MANUFACTURER.

AUDIO / VISUAL DEVICE SYMBOLS			
RECESSED	WALL	CLG	
			CLOCK
			SPEAKER
			COMBINATION CLOCK/SPEAKER

POKE THRU	FLR	WALL	CLG	AT HGT	
					MICROPHONE OUTLET
					CABLE TV / "F" TYPE CONNECTOR OUTLET
					AUDIO VISUAL CONNECTOR OUTLET(S)
					JUNCTION BOX
















FLOOR, FIXED	WALL	FLOOR, MOBILE	
			AUDIO VISUAL TOUCH PANEL LOCATION
			AUDIO VISUAL BUTTON CONTROL PANEL LOCATION

TYPICAL AUDIO / VISUAL DEVICE NOMENCLATURE

X  
+Y" } "X" DENOTES DEVICE ID# (IF APPLICABLE)  
"Y" DENOTES MOUNTING HEIGHT (IF APPLICABLE)





















NOTES













1. WALL MOUNTED DEVICES SHALL BE MOUNTED AT 18" AFF TO BOTTOM OF DEVICE. UON.
2. WALL MOUNTED DEVICES SHOWN AT A DEFINED HEIGHT SHALL BE MOUNTED WITH THE BOTTOM AT 1" ABOVE COUNTER BACKSPLASH, UON.
3. WHERE POWER AND LOW VOLTAGE FLOOR BOXES OR POKE THURUS ARE SHOWN IN THE SAME LOCATION, THOSE DEVICES SHALL BE LOCATED WITHIN THE SAME ENCLOSURE, UON.
4. SIZE JUNCTION BOXES AS REQ'D PER CODE. TAPE AND TAG WIRES. COORDINATE WITH EQUIPMENT AND PROVIDE FLEX CONDUIT AND/OR RECEPTACLES AS REQUIRED TO CONNECT EQUIPMENT.
5. REFER TO AUDIO / VISUAL DEVICE SCHEDULE FOR ADDITIONAL INFORMATION.
6. WHERE RECESSED AV WALL BOXES ARE PROVIDED FOR FLAT PANEL DISPLAYS, LOCATE AV, COMMUNICATIONS, AND POWER DEVICES WITHIN THE SAME RECESSED BOX.








SECURITY DEVICE SYMBOLS	
	DOOR OR WINDOW ALARM CONTACT
	CARD READER, +48" AFF
	ELECTRIC DOOR STRIKE
	REQUEST TO EXIT
	DOOR HARDWARE POWER SUPPLY
	DOOR INTERCOM ENTRY SYSTEM, +48" AFF
	DURESS PUSH BUTTON, WALL MOUNTED, +48" AFF
	DURESS PUSH BUTTON, UNDER COUNTER
	GLASSBREAK DETECTOR, WALL MOUNTED, +96" AFF
	MOTION DETECTOR, WALL MOUNTED, +96" AFF
	MOTION DETECTOR, CEILING MOUNTED
	INTRUSION ALARM KEYPAD, +48" AFF
	SECURITY ALARM PANEL
	FIXED POSITION VIDEO CAMERA, +120" AFF
	PAN, TILT, ZOOM (PTZ) VIDEO CAMERA, +120" AFF

NOTES

1. PROVIDE 3/4" C. FROM DEVICE LOCATION BACK TO HEADEND EQUIPMENT.

AUDIOVISUAL DEVICE SCHEDULE													
SYMBOL WALL	AT HGT	ID#	CABLE TYPE AND QTY						FACEPLATE	CONDUIT	RING TYPE	BOX TYPE	NOTES
			1	2	3	4	5	6					
		N/A	m	-	-	-	-	-	1-PORT	1"	SINGLE-GANG	4-11/16" x 4-11/16" x 2-1/8"	1, 2
		A	m	m	-	-	-	-	2-PORT	1"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2
		B	m	m	m	m	-	-	4-PORT	1"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2
		N/A	h	v	d	-	-	-	2-PORT	1-1/4"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		D	d	-	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 2-1/8"	1, 2, 3
		H	h	-	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		H2	h	h	-	-	-	-	2-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		H4	h	h	h	h	-	-	4-PORT	1-1/2"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		U	u	-	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		U2	u	u	-	-	-	-	2-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		U4	u	u	u	u	-	-	4-PORT	1-1/2"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3
		V	v	d	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 2-1/8"	1, 2, 3
		N/A	o	-	-	-	-	-	N/A	1"	PER MANUFACTURER	PER MANUFACTURER	1, 2, 4
		N/A	o	-	-	-	-	-	N/A	1"	PER MANUFACTURER	PER MANUFACTURER	1, 2, 4
		N/A	k	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2
		N/A	r	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2
		N/A	q	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2
		N/A	r	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2

FLR	POKE											
		N/A	m	-	-	-	-	1-PORT	1"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		A	m	m	-	-	-	2-PORT	1"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		B	m	m	m	m	-	4-PORT	1"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		N/A	h	v	d	-	-	2-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		D	d	-	-	-	-	1-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		H	h	-	-	-	-	1-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		H2	h	h	-	-	-	2-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		H4	h	h	h	h	-	4-PORT	1-1/2"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		U	u	-	-	-	-	1-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		U2	u	u	-	-	-	2-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		U4	u	u	u	u	-	4-PORT	1-1/2"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
		V	v	d	-	-	-	1-PORT	1-1/4"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 7, 8
FIXED	MOBILE											
		N/A	o	-	-	-	-	N/A	1"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 4, 5, 6
		N/A	o	-	-	-	-	N/A	1"	MANUF. BRACKET	SEE SPECIFICATIONS	1, 2, 4, 5, 6

CLG												
	N/A	m	-	-	-	-	-	1-PORT	1"	SINGLE-GANG	4-11/16" x 4-11/16" x 2-1/8"	1, 2, 9
	A	m	m	-	-	-	-	2-PORT	1"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 9
	B	m	m	m	m	-	-	4-PORT	1"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 9
	N/A	h	v	d	-	-	-	2-PORT	1-1/4"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	D	d	-	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 2-1/8"	1, 2, 3, 9
	H	h	-	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	H2	h	h	-	-	-	-	2-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	H4	h	h	h	h	-	-	4-PORT	1-1/2"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	U	u	-	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	U2	u	u	-	-	-	-	2-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	U4	u	u	u	u	-	-	4-PORT	1-1/2"	TWO-GANG	4-11/16" x 4-11/16" x 3"	1, 2, 3, 9
	V	v	d	-	-	-	-	1-PORT	1-1/4"	SINGLE-GANG	4-11/16" x 4-11/16" x 2-1/8"	1, 2, 3, 9
	N/A	k	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2, 9
	N/A	r	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2, 9
	N/A	q	-	-	-	-	-	N/A	3/4"	PER MANUFACTURER	PER MANUFACTURER	1, 2, 9

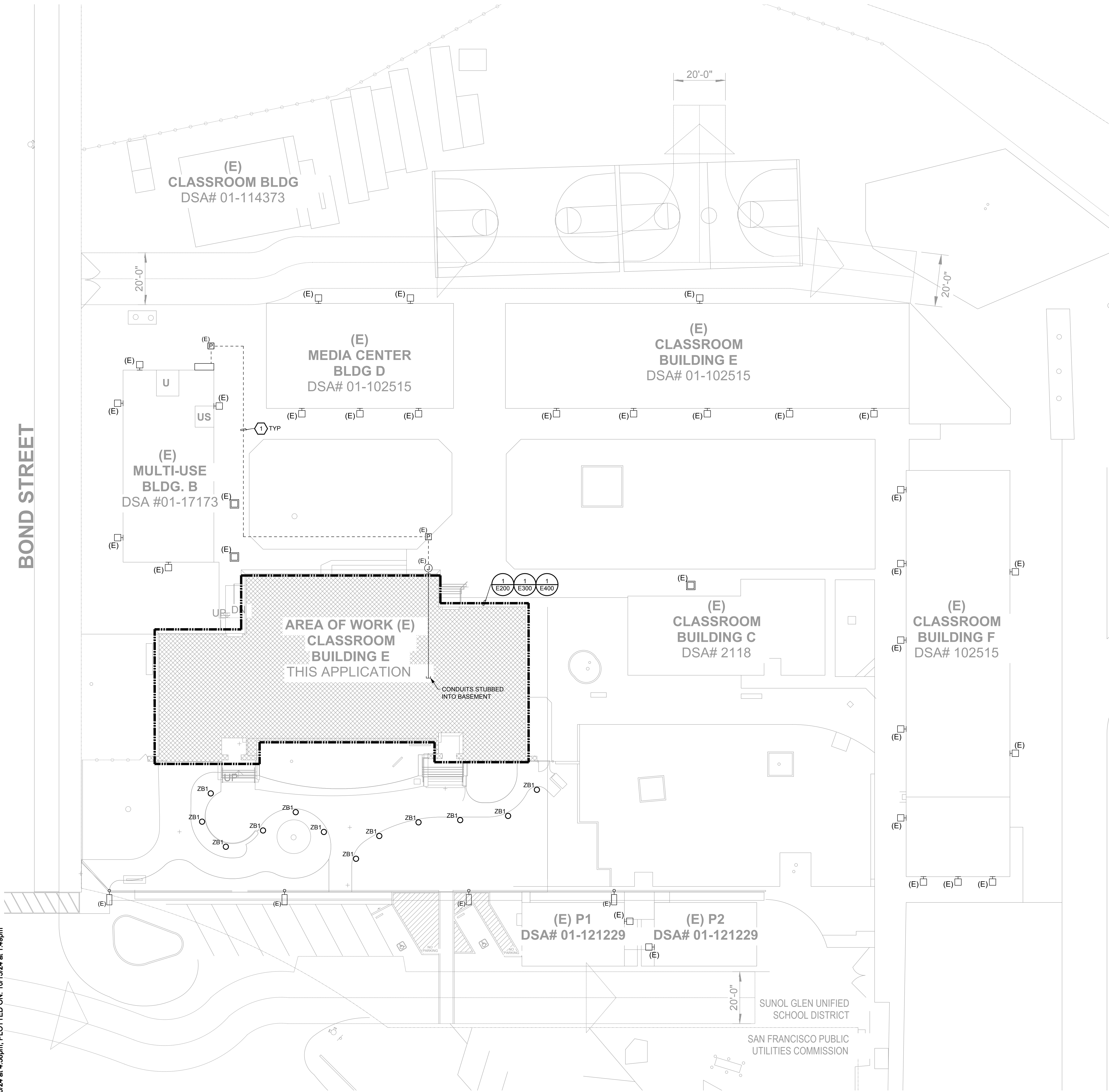
CABLE TYPE AND TERMINATION

ID	CABLE TYPE	TERMINATION AT TELECOM RM	TERMINATION AT AV EQUIP	TERMINATION AT OUTLET	NOTES
c	USB CABLE	N/A	USB CONNECTOR	USB CONNECTOR	1, 2
d	AUDIO CABLE	N/A	3.5mm STEREO JACK	3.5mm STEREO JACK	1, 2
h	HD HDMI CABLE	N/A	HDMI 1.4	HDMI 1.4	1, 2
k	CLOCK CABLE	66-BLOCK	N/A	HARDWIRED	1, 2
m	MICROPHONE CABLE	N/A	3-PIN XLR JACK	3-PIN XLR JACK	1, 2
o	CONTROL CABLE	N/A	HARDWIRED	HARDWIRED	1, 2
q	AV SPEAKER CABLE	N/A	HARDWIRED	HARDWIRED	1, 2
r	PA SPEAKER CABLE	66-BLOCK	N/A	HARDWIRED	1, 2
u	UHD HDMI CABLE	N/A	HDMI 2.0	HDMI 2.0	1, 2
v	VGA CABLE	N/A	DE-15 RGB VGA	DE-15 RGB VGA	1, 2



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BOND STREET



1 SITE PLAN  
1/16" = 1'-0"

### GENERAL NOTES

- PROVISIONS SHALL BE MADE TO DISCONNECT EXISTING SERVICE EQUIPMENT AND RECONNECT NEW SERVICE EQUIPMENT WITH MINIMAL POWER DISRUPTION.
- CONCEAL ALL CONDUIT, UNLESS OTHERWISE NOTED.
- AREA MAY CONTAIN UNDERGROUND RACEWAY. SITE LOCATE ALL EXISTING UNDERGROUND RACEWAY IN THIS AREA BEFORE TRENCHING. MAINTAIN EXTREME CARE WHEN TRENCHING.
- CERTAIN FEEDER AND BRANCH CIRCUIT WIRE SIZES HAVE BEEN OVERSIZED TO COMPENSATE FOR VOLTAGE DROP. SPLICE WIRES TO COMPATIBLE SIZES FOR TERMINATION, ADJACENT TO EQUIPMENT CONNECT AS REQUIRED.
- CONTRACTOR SHALL SIZE ALL IN GRADE PULL BOXES PER CODE OR FOR THEIR CONVENIENCE FOR PULLING WIRE, WHICHEVER IS LARGER.
- (E) EXTERIOR LIGHTING IS SHOWN FOR REFERENCE ONLY TO DEMONSTRATE LIGHTING ALONG THE PATH OF EGRESS TO THE PUBLIC WAY.

### SHEET NOTES

- (E) 21' 4" C. FROM SWITCHBOARD STUBBED INTO BASEMENT OF ADMIN BUILDING. UTILIZE (E) CONDUITS TO PULL NEW FEEDER WIRING FROM SWITCHBOARD TO NEW PANELBOARD LOCATION. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION. ROUTING SHOWN IS ASSUMED. CONTRACTOR SHALL VERIFY EXACT ROUTING AND LENGTH IN FIELD.

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#### PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

#### CONSULTANT

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email: info@atiumeng.com

#### STAMP



#### REVISIONS

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#### SHEET

SITE PLAN

DATE 10.16.2024

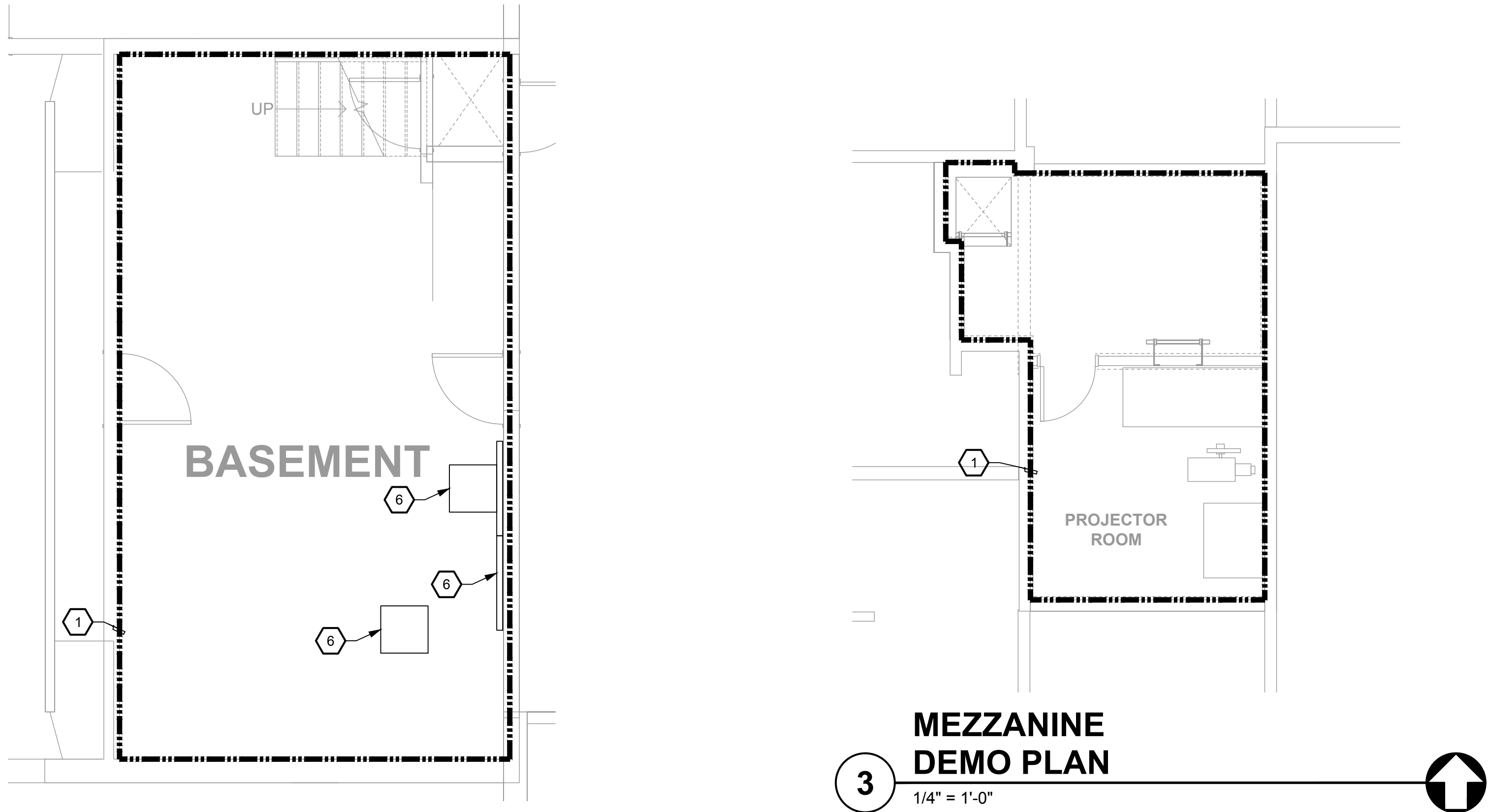
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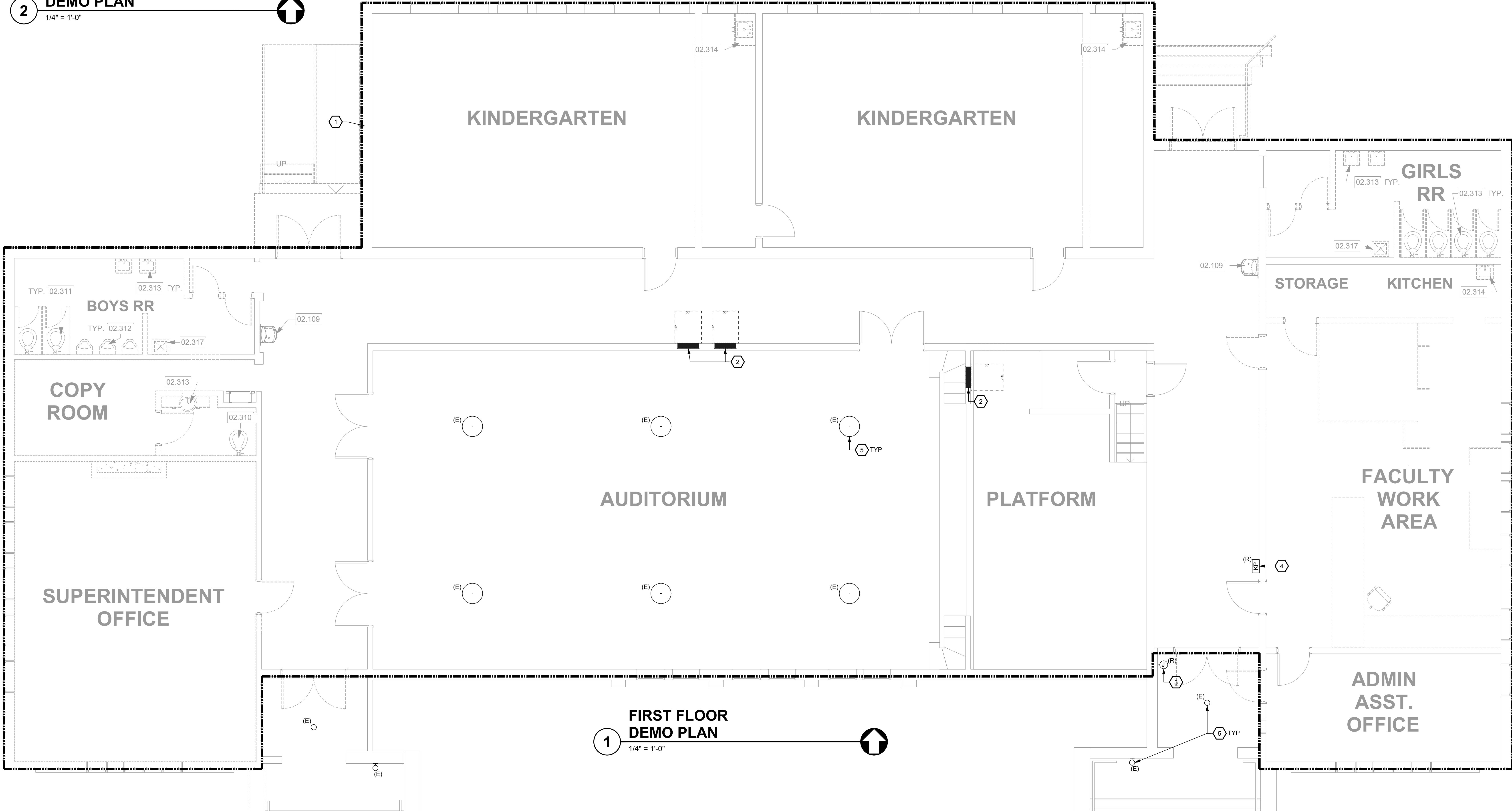


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**2** **BASEMENT DEMO PLAN**  
1/4" = 1'-0"

**3** **MEZZANINE DEMO PLAN**  
1/4" = 1'-0"



**1** **FIRST FLOOR DEMO PLAN**  
1/4" = 1'-0"

## # SHEET NOTES

1. DEMOLITION AREA. REMOVE ALL POWER AND LIGHTING DEVICES IN THIS AREA. REFER TO GENERAL NOTES, UON.
2. (D) ELECTRICAL PANELS. MAINTAIN FEEDER WIRING FOR RECONNECTION TO NEW PANEL.
3. (R) EXISTING "CYBER LOCK" KEY-CONTROL SYSTEM. DISCONNECT AND RELOCATE TO NEW LOCATION SHOWN ON FLOOR PLAN.
4. (R) EXISTING DSC INTRUSION DETECTION KEYPAD. DISCONNECT AND RELOCATE TO NEW LOCATION SHOWN ON FLOOR PLAN.
5. (E) HISTORIC LIGHTING TO REMAIN. MAINTAIN FIXTURE AND PROTECT IN PLACE DURING CONSTRUCTION.
6. (E) IDF, TELECOM BACKBOARD, INTRUSION, CLOCK/PA, AND OTHER LOW VOLTAGE EQUIPMENT TO REMAIN. PROTECT EQUIPMENT IN PLACE DURING CONSTRUCTION.

## GENERAL NOTES

- A. IN AREAS INDICATED TO BE RENOVATED, REMOVE THAT PORTION OF THE EXISTING ELECTRICAL INSTALLATION INCLUDING, BUT NOT LIMITED TO, ALL LIGHT FIXTURES, RECEPTACLES, MOTOR/EQUIPMENT CONNECTIONS, WIRING, CONDUITS AND APPURTENANCES. ALL UNUSED WIRING AND EXPOSED CONDUIT SHALL BE REMOVED BACK TO POINT OF CONCEALMENT, UNLESS OTHERWISE NOTED.
- B. WHERE CONDUIT TO BE REMOVED ENTERS CONCRETE (OR SIMILAR) FLOORS AND WALLS, THE CONDUIT MAY BE ABANDONED IN THE CONCRETE. REMOVE CONDUIT FAR ENOUGH INTO THE CONCRETE TO ALLOW FOR THE INSTALLATION OF NORMAL THICKNESS OF FINISH MATERIAL.
- C. WHEN THE WORK NECESSITATES RELOCATION OF EXISTING CONDUIT, WIRING, OR ELECTRICAL EQUIPMENT, THE CONTRACTOR SHALL PERFORM ALL WORK AND MAKE ALL NECESSARY CHANGES TO EXISTING WORK AS MAY BE REQUIRED TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION TO THE ENTIRE SATISFACTION OF THE ENGINEER.
- D. WHERE ELECTRICAL SYSTEMS PASS THROUGH THE RENOVATED AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. WHERE DURATION OF PROPOSED OUTAGES CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTION AS REQUIRED TO MAINTAIN SERVICE WITH THE MINIMUM DISRUPTION POSSIBLE.
- E. WHERE REMOVAL WORK IS PERFORMED, THE CONTRACTOR SHALL REPAIR ALL BUILDING SURFACES DAMAGED BY SUCH WORK. PROVIDE FINISHES TO MATCH EXISTING ADJACENT SURFACES.
- F. WHILE PERFORMING CONNECTIONS AND/OR ALTERATIONS TO EXISTING ELECTRICAL WORK, TAKE EXTREME CARE TO PROTECT ALL EXISTING EQUIPMENT FROM DIRT, DEBRIS, AND DAMAGE. ALL DAMAGE TO SUCH EQUIPMENT SHALL BE REPAIRED AND/OR EQUIPMENT REPLACED AT THE CONTRACTOR'S EXPENSE.
- G. ALL REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE EXECUTED WITH THE LEAST POSSIBLE DISTURBANCE TO THE BUILDING.
- H. ALL EXISTING ELECTRICAL MATERIALS NOT REUSED AND NOT SALVAGED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A PROPER MANNER OFF OF THE PROJECT SITE. CARE SHOULD BE TAKEN TO DISPOSE OF HAZARDOUS MATERIALS PER REQUIRED GUIDELINES.
- I. ANY ELECTRICAL WORK, WHICH WILL INTERFERE WITH THE NORMAL USE OF THE BUILDING IN ANY MANNER, SHALL BE DONE AT SUCH TIME OR TIMES AS SHALL BE MUTUALLY AGREED UPON BETWEEN THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE.

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### PROJECT

**MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL**

SUNOL GLEN SCHOOL  
DISTRICT

### CONSULTANT

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### STAMP



### REVISIONS

No.	Description	Date
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### SHEET

**DEMO PLAN**

DATE 10.16.2024

JOB # 2023054

### SHEET #

**E200**

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1. PROVIDE DIMMING ROOM CONTROLLER FOR SWITCH LEGS INDICATED. WHERE NO SWITCH LEG IS SHOWN, CONTROLLER SHALL CONTROL ALL SWITCH LEGS WITHIN THE ROOM. COUNT AT LEAST ACCESSIBLE CEILING, IN STRUCT WITHIN ROOM. PROVIDE 2"X2" ACCESS PANEL BENEATH CONTROLLER FOR ACCESS AND MAINTENANCE.
2. PRIMARY DAYLIGHT ZONE, LIGHTING IN THIS ZONE SHALL DIM DOWN FIRST. REFER TO SEQUENCE OF OPERATIONS SCHEDULE FOR MORE INFORMATION.
3. SECONDARY DAYLIGHT ZONE, LIGHTING IN THIS ZONE SHALL DIM DOWN SECOND. REFER TO SEQUENCE OF OPERATIONS SCHEDULE FOR MORE INFORMATION.
4. (E) HISTORIC LIGHTING TO REMAIN, MAINTAIN FIXTURE AND PROTECT IN PLACE DURING CONSTRUCTION, RECONNECT FIXTURE TO NEW LIGHTING CONTROLS AND CIRCUITRY SHOWN.

- A. SEE ARCHITECTURAL DOCUMENTS FOR EXACT PLACEMENT OF ALL LIGHT FIXTURES, ESPECIALLY CONTROL DEVICES AND LIGHT SWITCHES. VERIFY CEILING TYPE WITH ARCHITECTURAL ELEMENTS AND COORDINATE TRIMS. PROVIDE ALL REQUIRED FIXTURE MOUNTING HARDWARE. COORDINATE FIXTURE TYPES WITH MOUNTING SURFACE PRIOR TO ORDERING.
- B. PENDANT FIXTURES SHALL BE FREE TO SWING A MINIMUM OF 45 DEGREES FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT CONTACTING OBSTRUCTIONS, OTHERWISE PROVIDE SEISMIC RESTRAINT.
- C. RUN ALL INTERIOR CONDUIT IN FINISHED INTERIOR AREAS CONCEALED UNLESS OTHERWISE NOTED.
- D. PROVIDE U.L. LISTED FIRE STOP ENCLOSURES FOR ALL RECESSED FIXTURES IN FIRE RATED CEILINGS.
- E. PROVIDE SINGLE PLATE WALL COVER FOR MULTIPLE SWITCHES. SEE DRAWINGS FOR NUMBER OF SWITCHES IN SPECIFIC LOCATIONS.
- F. MOUNT WALL MOUNTED OCCUPANCY SENSORS AT 8'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.
- G. CIRCUIT ALL LIGHT FIXTURES ON THIS SHEET TO PANELBOARD \_\_\_\_, UNLESS OTHERWISE NOTED.
- H. SEE DRAWING J-\_\_ FOR LIGHT FIXTURE MOUNTING DETAILS.
- I. CIRCUIT EXTERIOR LIGHT FIXTURES VIA \_\_\_\_. SEE DETAIL J-\_\_.

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# MAIN BUILDING MODERNIZATION AT SUNOL GLEN SCHOOL

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tel: 913.961.1658  
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REVISIONS		
No.	Description	Date
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DATE 10.16.2024

JOB # 2023054

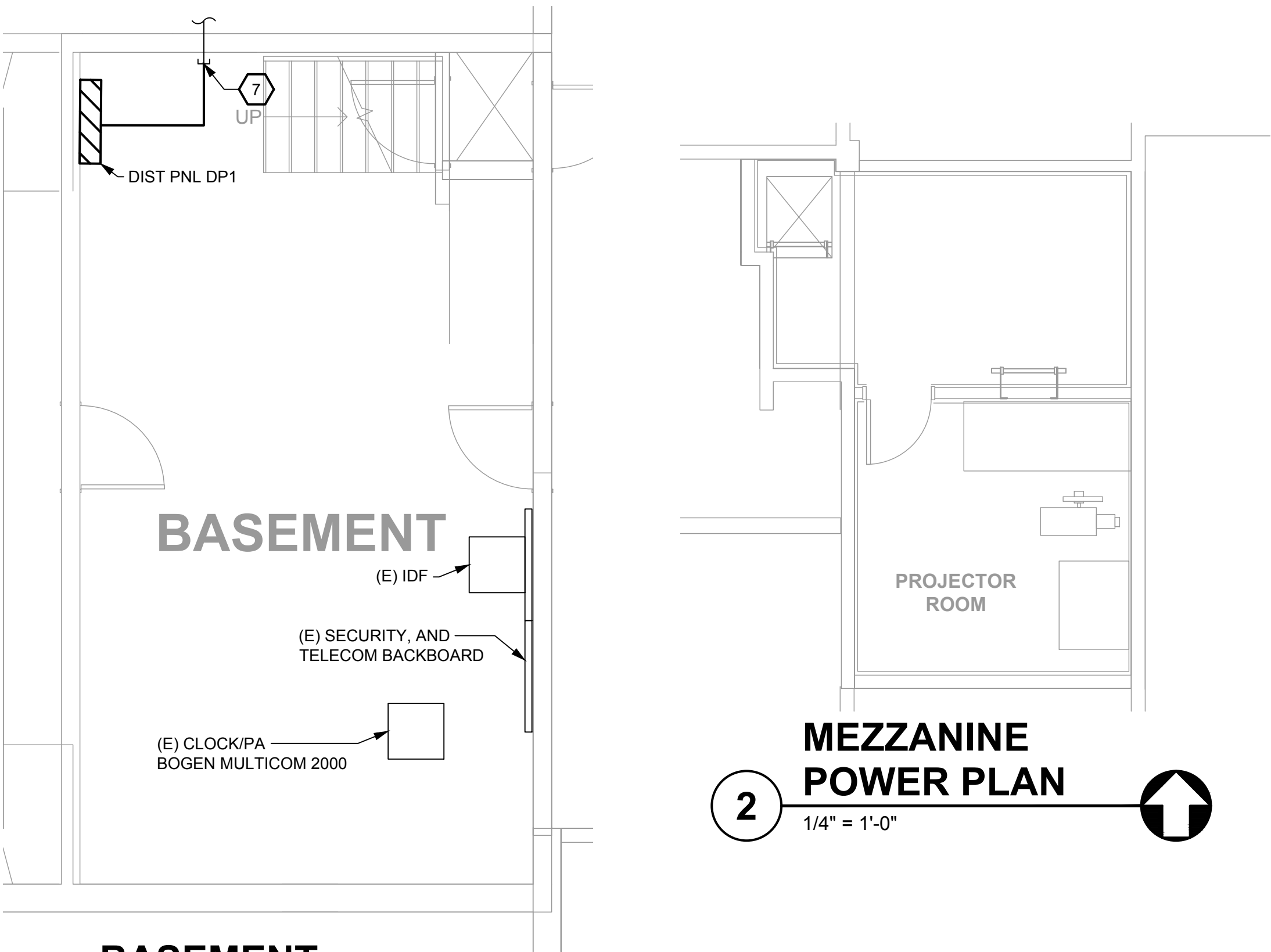
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**E300**

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LAST SAVED ON: 10/10/24 at 4:30pm; PLOTTED ON: 10/15/24 at 1:49pm



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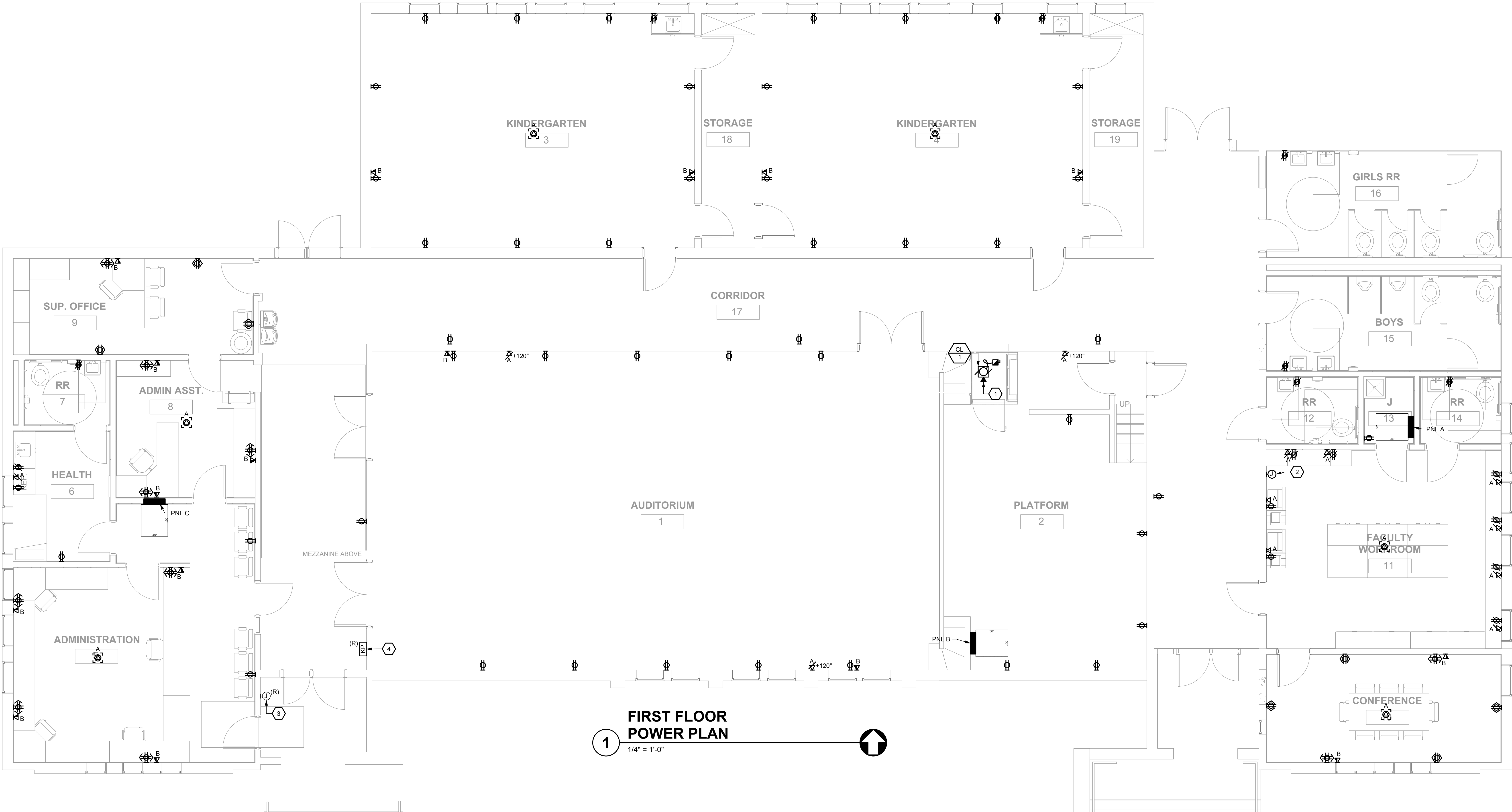


**BASEMENT  
POWER PLAN**

1/4" = 1'-0"

**MEZZANINE  
POWER PLAN**

1/4" = 1'-0"



**FIRST FLOOR  
POWER PLAN**

1/4" = 1'-0"

## SHEET NOTES

1. PROVIDE POTS/ANALOG PHONE LINE FOR CHAIR LIFT. CONNECT TO CHAIR LIFT CONTROLLER PER MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE 120V/1 DEDICATED CIRCUIT FOR FIRE ALARM PANEL. REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION.
3. (R) EXISTING "CYBER LOCK" KEY-CONTROL SYSTEM TO THIS LOCATION. PROVIDE DATA CABLE FROM (E) IDF IN BASEMENT TO NEW LOCATION. RECONNECT AND REPROGRAM AS REQUIRED TO RESTORE TO A FULLY FUNCTIONAL STATE.
4. (R) EXISTING DSC INTRUSION DETECTION KEYPAD TO THIS LOCATION. PROVIDE NEW WIRING FROM HEADEND EQUIPMENT TO THIS LOCATION. RECONNECT, AND REPROGRAM PER MANUFACTURER'S INSTRUCTIONS.
5. PROVIDE GROUNDING BUSBAR EQUIVALENT TO CHATTSWORTH PRODUCTS 10622-010 FOR COMMUNICATIONS AND DATA EQUIPMENT. GROUND WITH ONE (1) #6 AWG CABLE. GROUND BUSBAR TO NEAREST ELECTRICAL PANELBOARD WITH ONE (1) #6 AWG CABLE.
6. PROVIDE ONE (1) 4"x8"x3/4" FIRE RATED PLYWOOD BACKBOARD FOR COMMUNICATIONS DEVICE MOUNTING.
7. INTERCEPT (E) (2) 4" C. AND PROVIDE NEW CONDUITS, SIZE AND QTY TO MATCH (E), TO EXTEND CONNECTIVITY TO NEW DISTRIBUTION PANEL.

## GENERAL NOTES

- A. COORDINATE EXACT LOCATIONS OF ALL ARCHITECTURAL, MECHANICAL AND PLUMBING EQUIPMENT WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS.
- B. CIRCUIT ALL DEVICES ON THIS SHEET TO PANELBOARD \_\_\_\_ UNLESS OTHERWISE NOTED.
- C. SIZE FUSES FOR ALL MECHANICAL AND PLUMBING EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- D. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECT'S PAINTING SECTION FOR REQUIREMENTS.
- E. STUB A MINIMUM OF 4 SPARE 3/4" CONDUITS FROM ALL NEW RECESSED PANELBOARDS TO ACCESSIBLE CEILING LOCATION.
- F. SEE EQUIPMENT SCHEDULE ELECTRICAL REQUIREMENTS FOR CIRCUITING OF EQUIPMENT AND REFER TO RISER DIAGRAMS AND DETAILS FOR ADDITIONAL INFORMATION ON WIRING, LAYOUT AND CONNECTIONS. SEE MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- G. PROVIDE POWER 120V/24V TRANSFORMER AS REQUIRED TO POWER VAV/BY-PASS DAMPERS, RESTROOM PLUMBING CONTROLS, DUCT SMOKE DETECTORS, MAGNETIC DOOR HOLDERS AND FIRE SMOKE DAMPERS FOR MECHANICAL EQUIPMENT. SEE DIAGRAMS ON MECHANICAL AND PLUMBING DRAWINGS FOR CONNECTION TO MECHANICAL AND PLUMBING EQUIPMENT. PROVIDE CIRCUIT FORM NEAREST AVAILABLE PANEL, UNLESS OTHERWISE NOTED.
- H. PROVIDE TAMPER RESISTANT RECEPTACLES IN ALL AREAS WITHIN EACH RESIDENTIAL UNIT AS REQUIRED BY CEC ARTICLE 406.12(A) AND 210.52.
- I. SMOKE ALARMS AND CARBON MONOXIDE DETECTORS IN UNITS SHALL BE HARD WIRED TO A SPARE 20A/1P CIRCUIT IN THE LOCAL PANELBOARD WITHIN EACH UNIT AND SHALL BE PROVIDED WITH BATTERY BACKUP. SMOKE ALARMS SHALL BE UL 217 LISTED AND CO ALARMS SHALL BE UL 2034 LISTED. ACTIVATION OF ONE ALARM WITHIN THE UNIT SHALL ACTIVATE SOUNDERS FOR ALL THE DEVICES WITHIN THAT UNIT. ALARM DEVICES SHALL BE PROVIDED WITH LOW FREQUENCY SOUNDER BASES.
- J. FOR DEVICES MOUNTED IN WALLS SHARED BETWEEN RESIDENTIAL AREAS AND COMMERCIAL AREAS, PROVIDE ACOUSTICAL CAULKING AS SHOWN ON DETAIL 5/E800.
- K. FOR DEVICES AND CONDUIT PENETRATIONS THROUGH FIRE WALLS PROVIDE FIRE STOPPING PER DETAILS 3, 4, 6, AND 7 E800.

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## PROJECT

**MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL**

SUNOL GLEN SCHOOL  
DISTRICT

## CONSULTANT

**atium**  
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## STAMP



## REVISIONS

No.	Description	Date
1		

## SHEET

**POWER PLAN**

DATE 10.16.2024

JOB # 2023054

SHEET #

**E400**

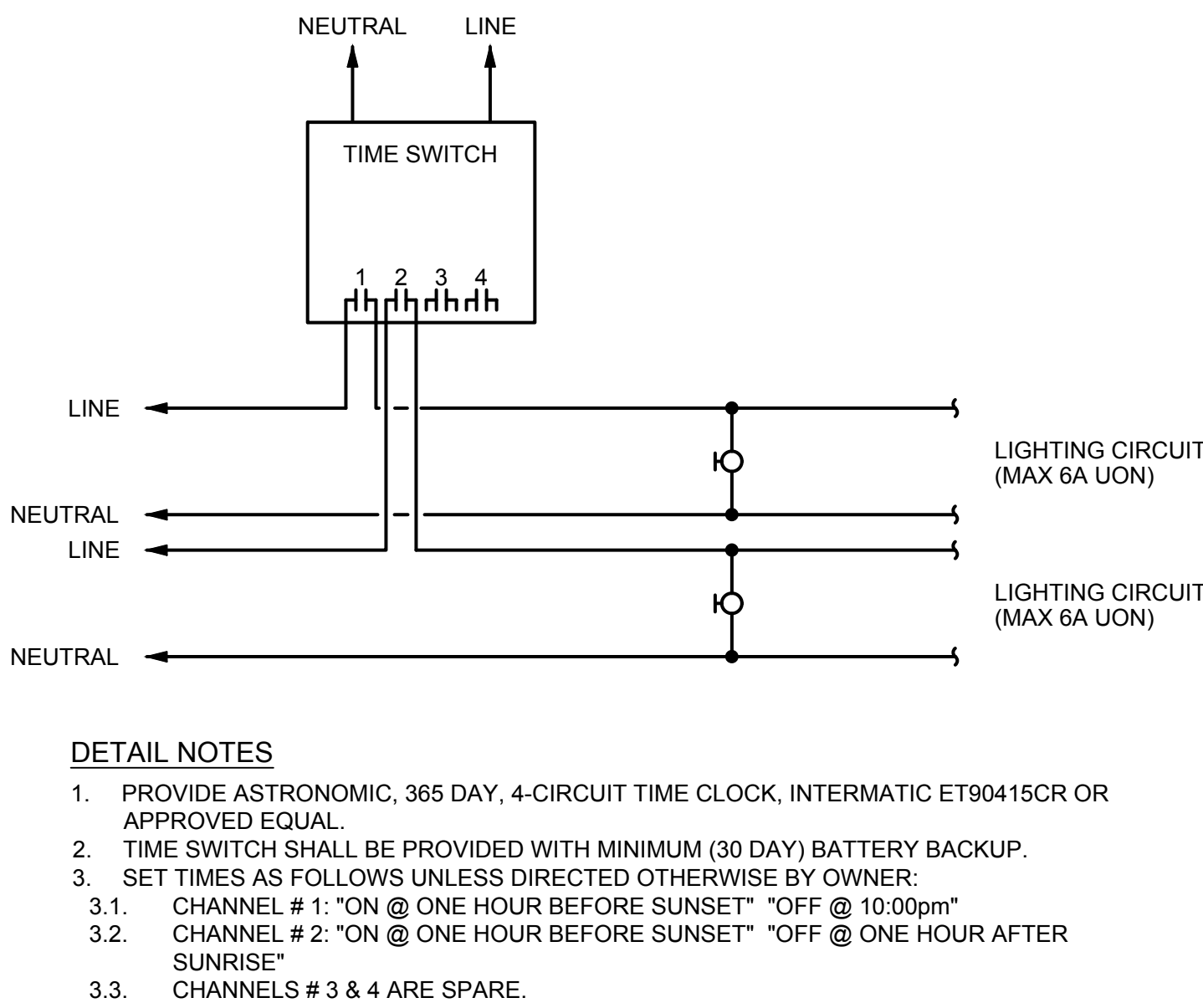
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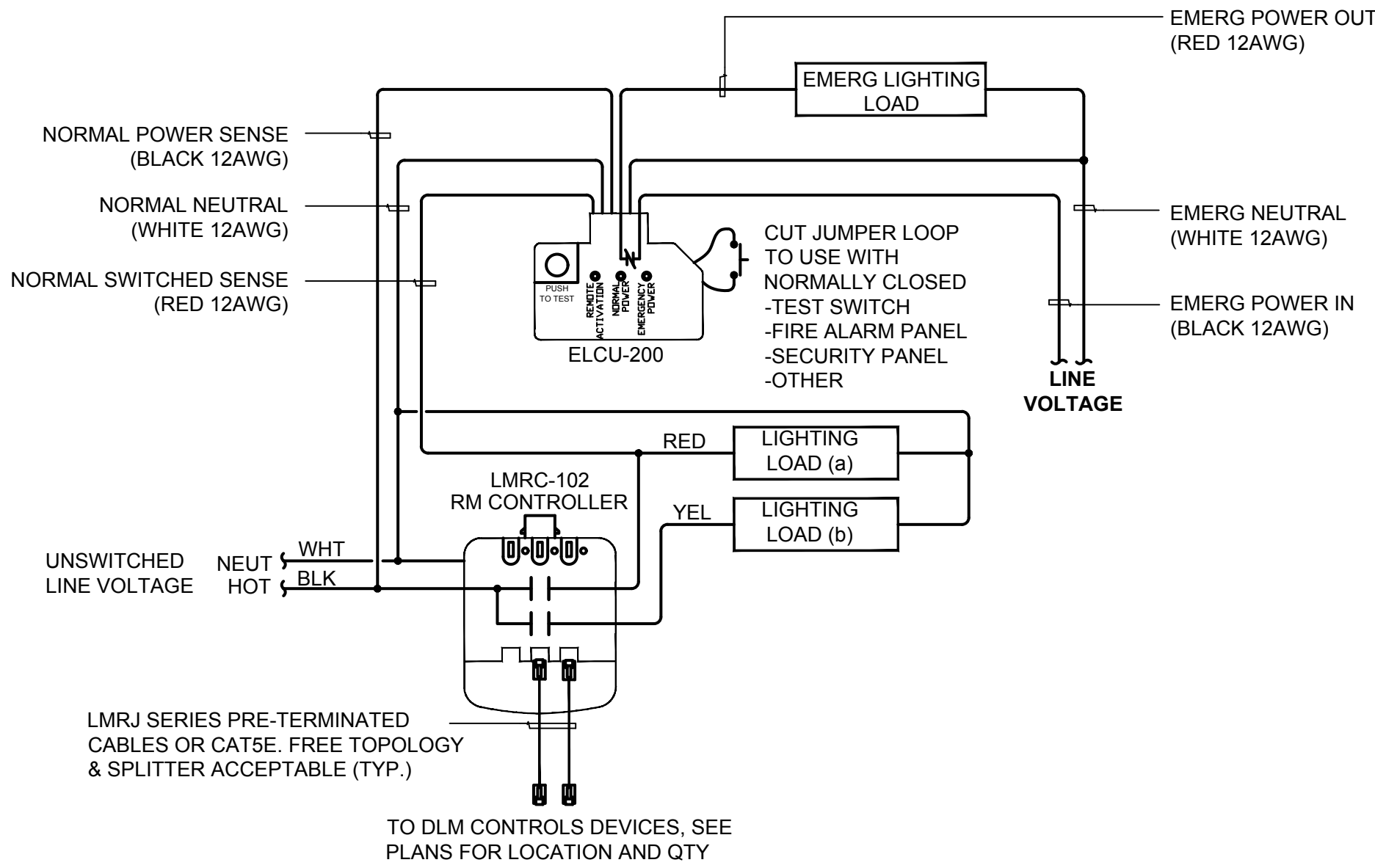
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GENERAL NOTES

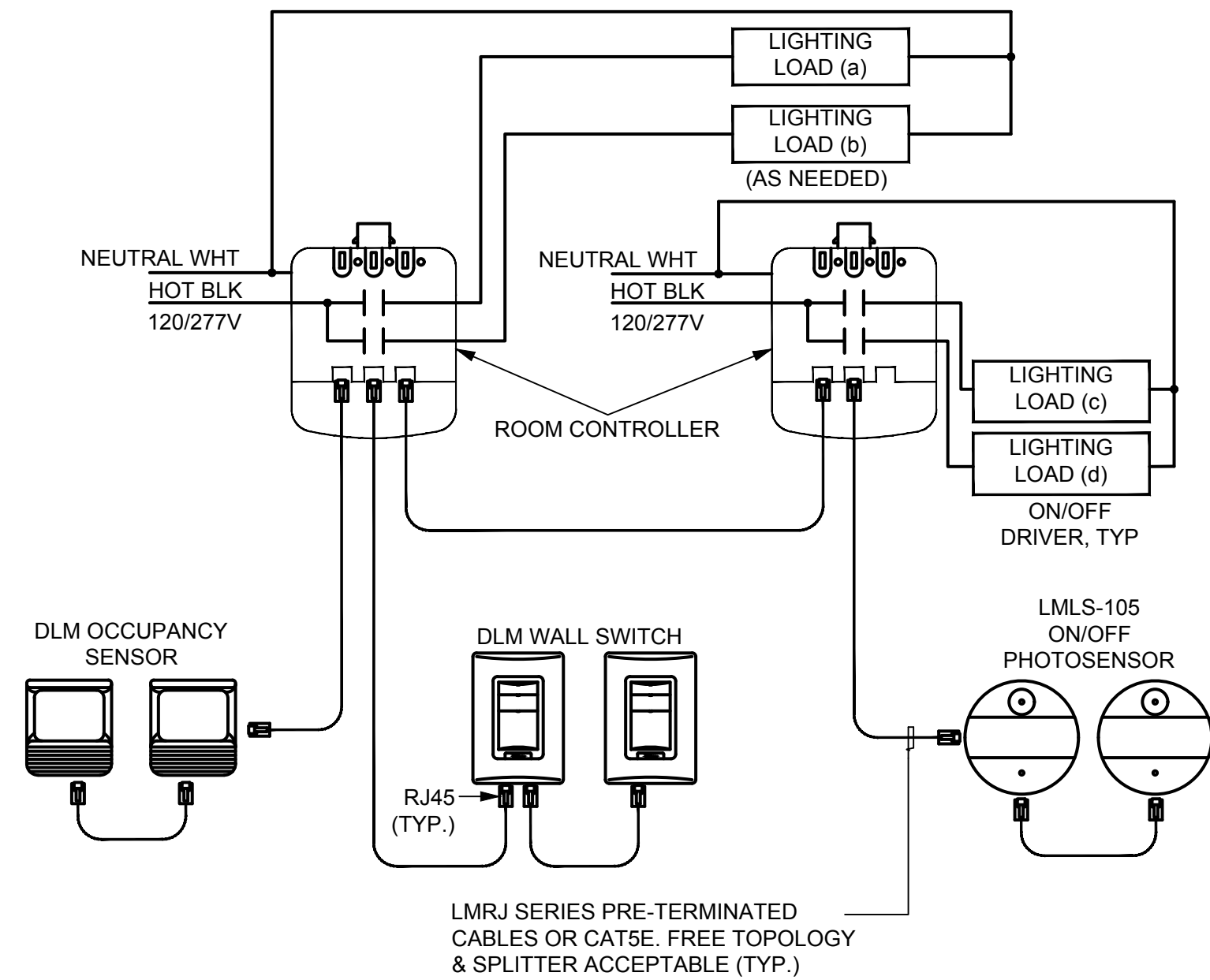
- A. ALL SENSOR LOCATIONS ARE APPROXIMATE. LOCATE SENSORS PER WATTSTOPPER GUIDELINES AND INSTALLATION MANUAL.
- B. LOCATE SENSOR A MINIMUM OF 5' FROM ANY AIR SUPPLY AND/OR RETURN REGISTERS.
- C. THE CONTRACTOR SHALL COMMISSION SENSITIVITY AND TIME DELAY SETTINGS AND PROVIDE TITLE 24 COMMISSIONING DOCUMENTS.
- D. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED OCCUPANCY SENSOR POWER PACKS. FOR GYP BOARD CEILINGS, PROVIDE J-BOXES WITH BLANK FACEPLATES.
- E. ROOM CONTROLLERS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION ABOVE T-BAR, INSIDE A MULTI-GANG J-BOX WITH BLANK FACEPLATE OR NEARBY REMOTE LOCATION.
- F. ROOM CONTROLLERS ARE NOT SHOWN ON PLANS. ONE ROOM CONTROLLER IS REQUIRED FOR EACH LIGHTING CIRCUIT AND ONE PER (2) SWITCHLEGS.
- G. VERIFY MAXIMUM NUMBER OF OCCUPANCY SENSORS PERMISSIBLE PER EACH LOW VOLTAGE CIRCUIT.
- H. ALL PART NUMBERS SHOWN ARE WATTSTOPPER. SEE WATTSTOPPER.COM FOR SUPPORT DOCUMENTATION AND TECHNICAL SUPPORT.



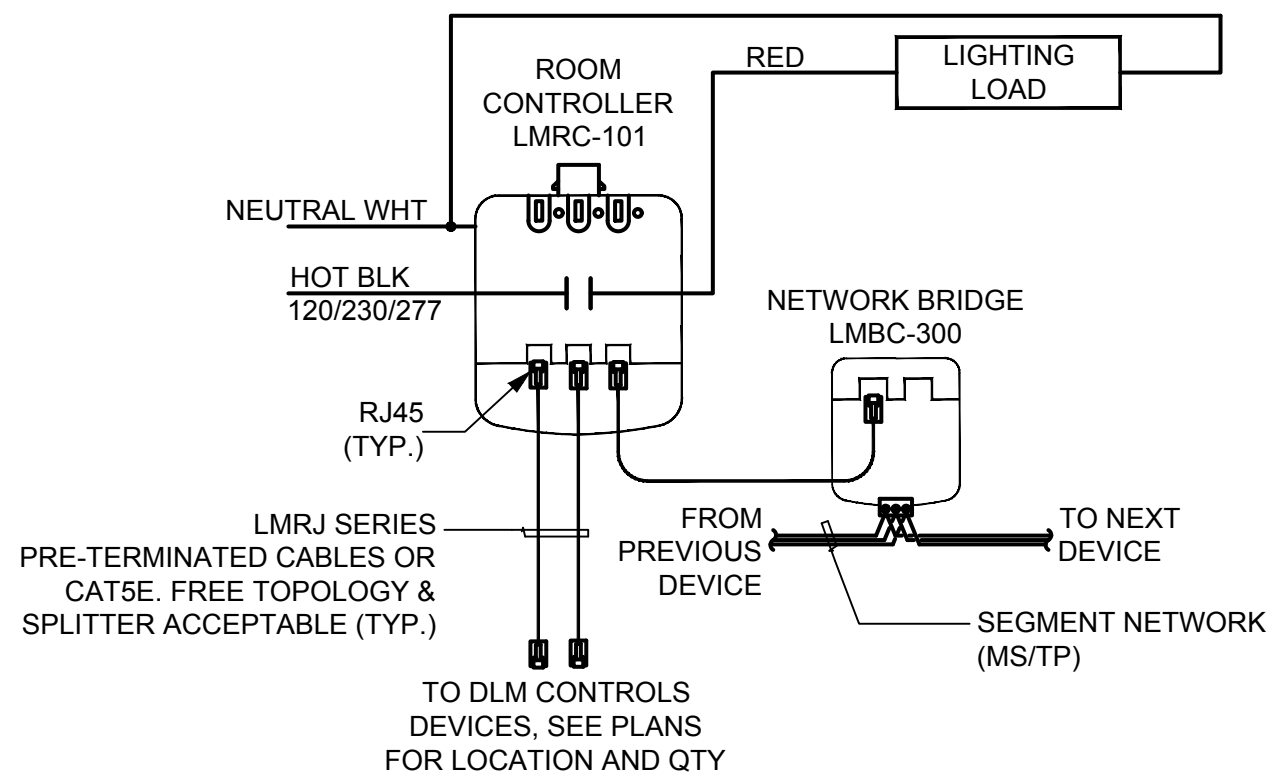
TIME SWITCH  
FOR 4 LINE VOLTAGE CIRCUITS  
DLM09  
NOT TO SCALE



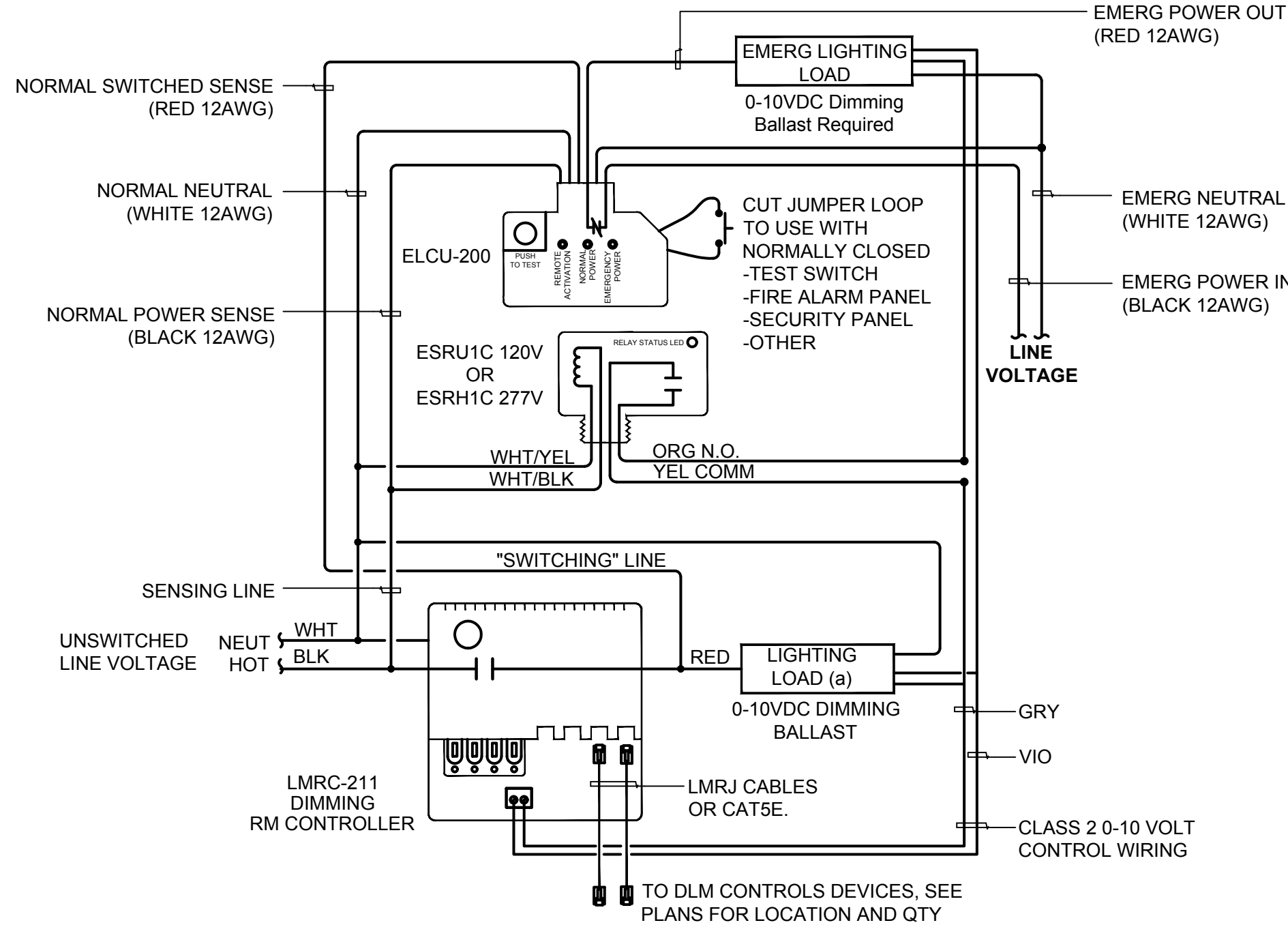
DIGITAL LIGHTING CONTROL  
SWITCHED EMERGENCY LIGHTING  
DLM18  
NOT TO SCALE



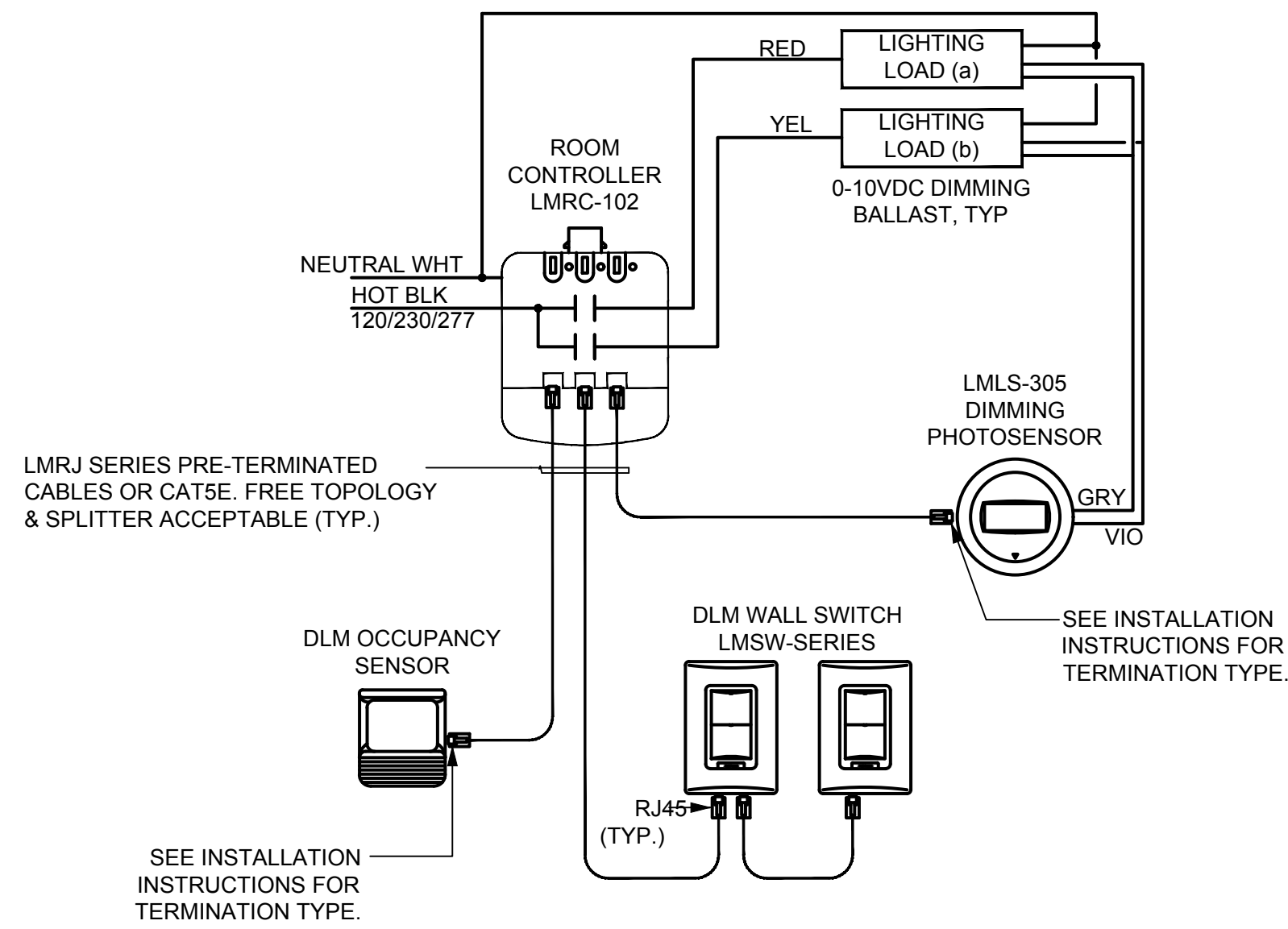
DIGITAL LIGHTING CONTROL  
ON / OFF WIRING DIAGRAM  
DLM04  
NOT TO SCALE



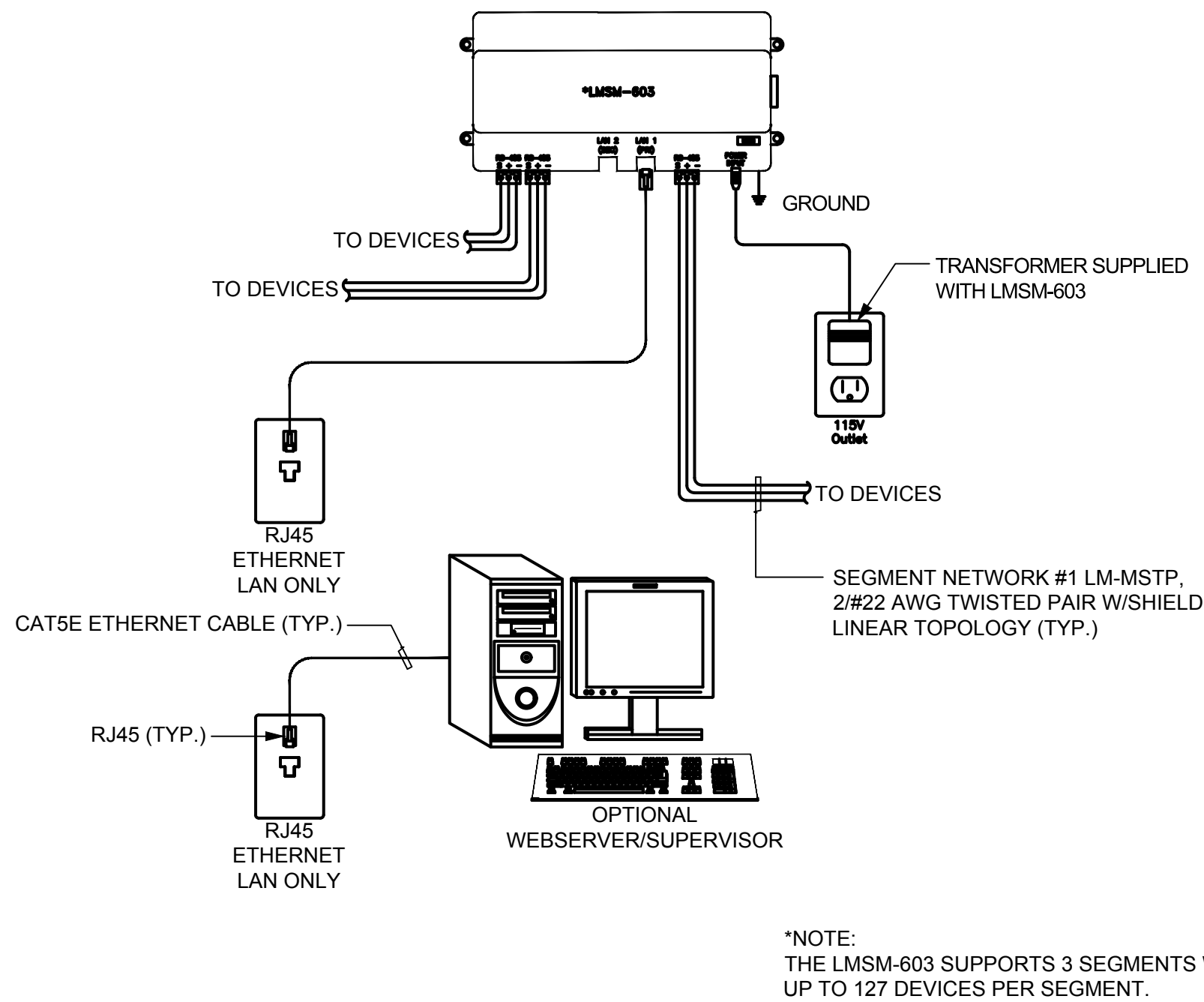
ROOM CONTROLLER WITH BRIDGE  
WIRING DIAGRAM  
DLM02  
NOT TO SCALE



DIGITAL LIGHTING CONTROL  
DIMMED EMERGENCY LIGHTING  
DLM14  
NOT TO SCALE



DIGITAL LIGHTING CONTROL  
ON/OFF WITH AUTO DIM  
DLM06  
NOT TO SCALE



SEGMENT MANAGER  
WIRING DIAGRAM  
DLM07  
NOT TO SCALE

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DIAGRAMS  
LIGHTING

DATE 10.16.2024

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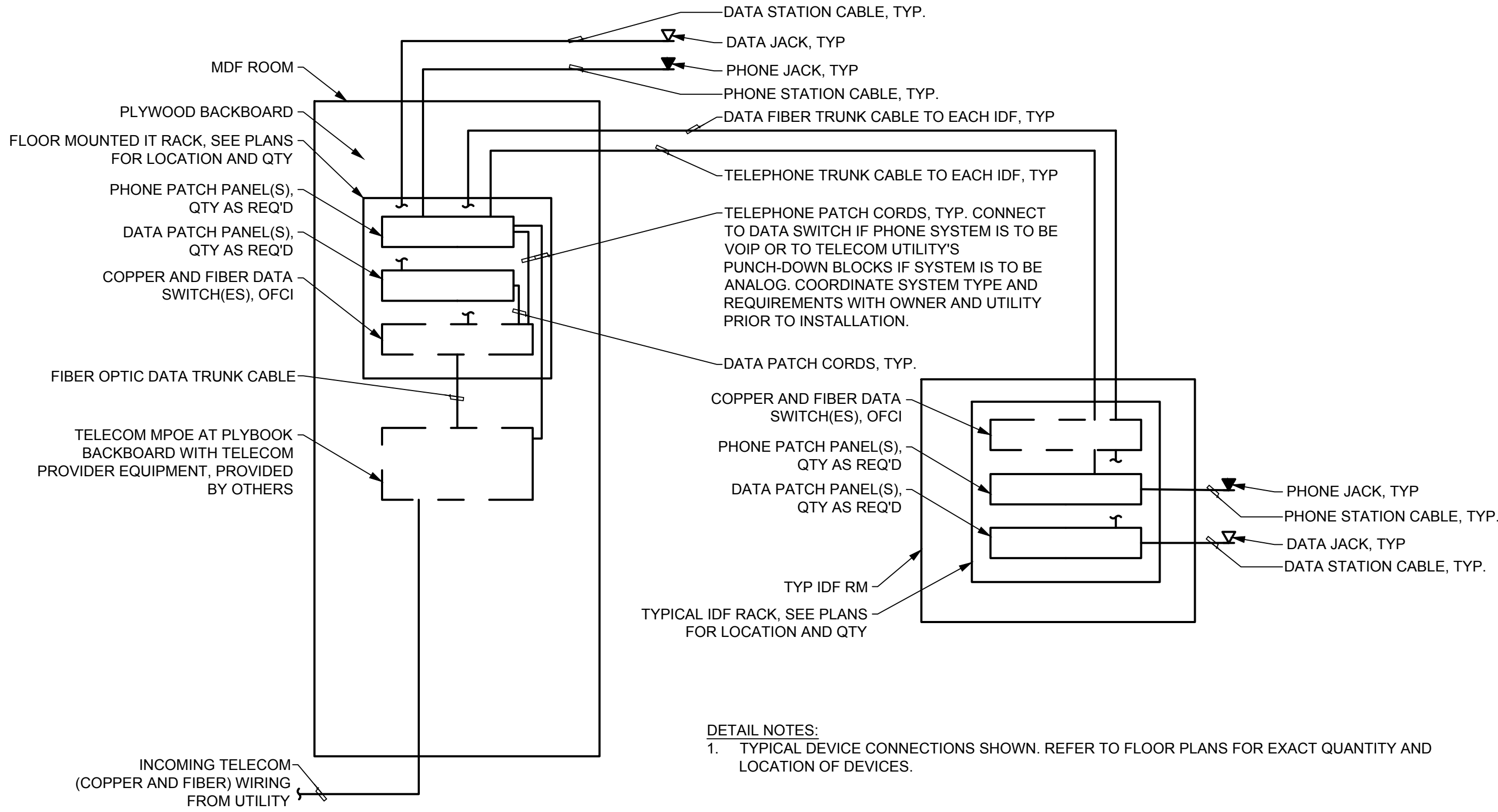
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**TELE/DATA  
WIRING DIAGRAM**

X NTS

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**DIAGRAMS  
LOW VOLTAGE**

DATE 10.16.2024

JOB # 2023054

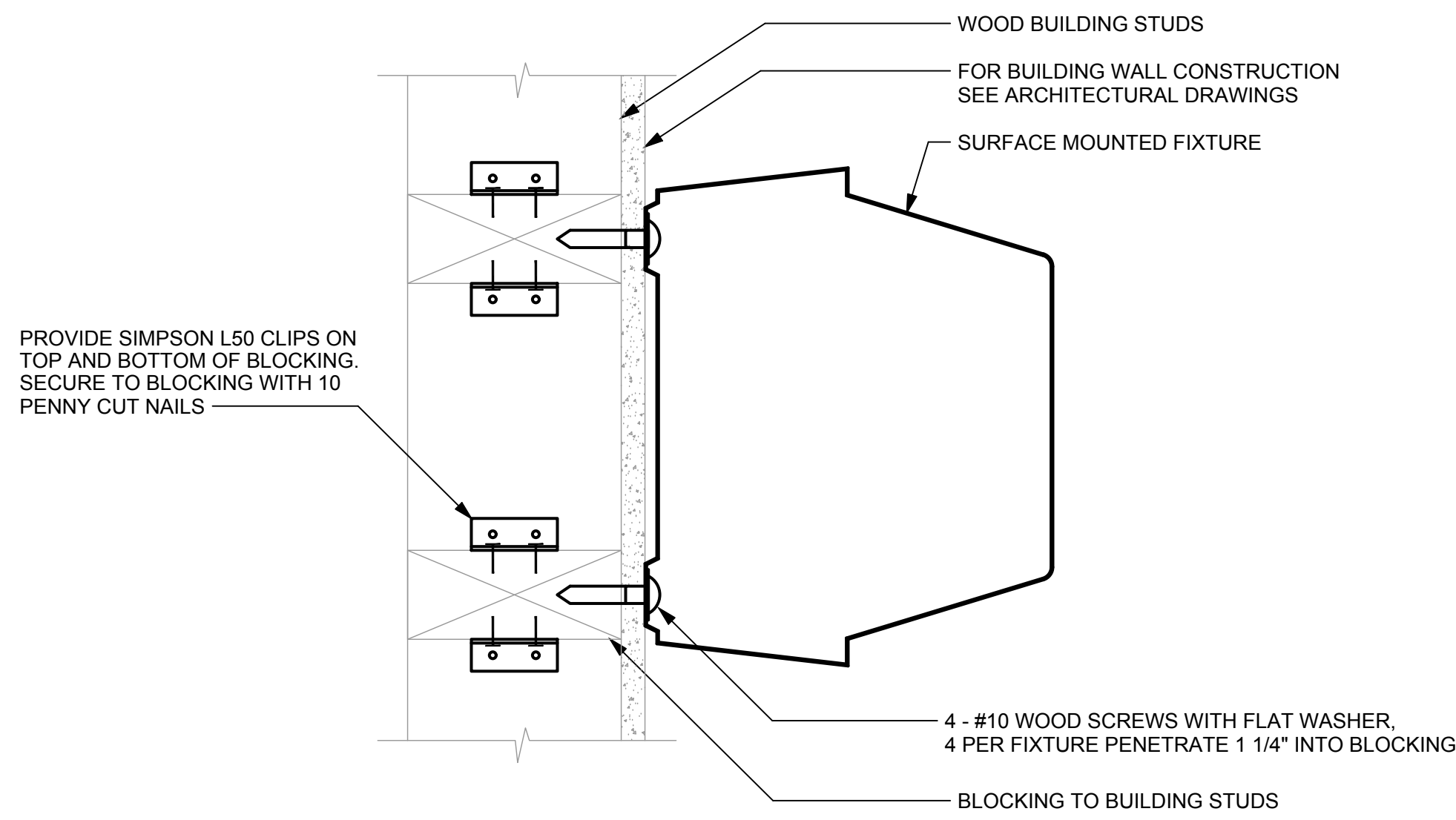
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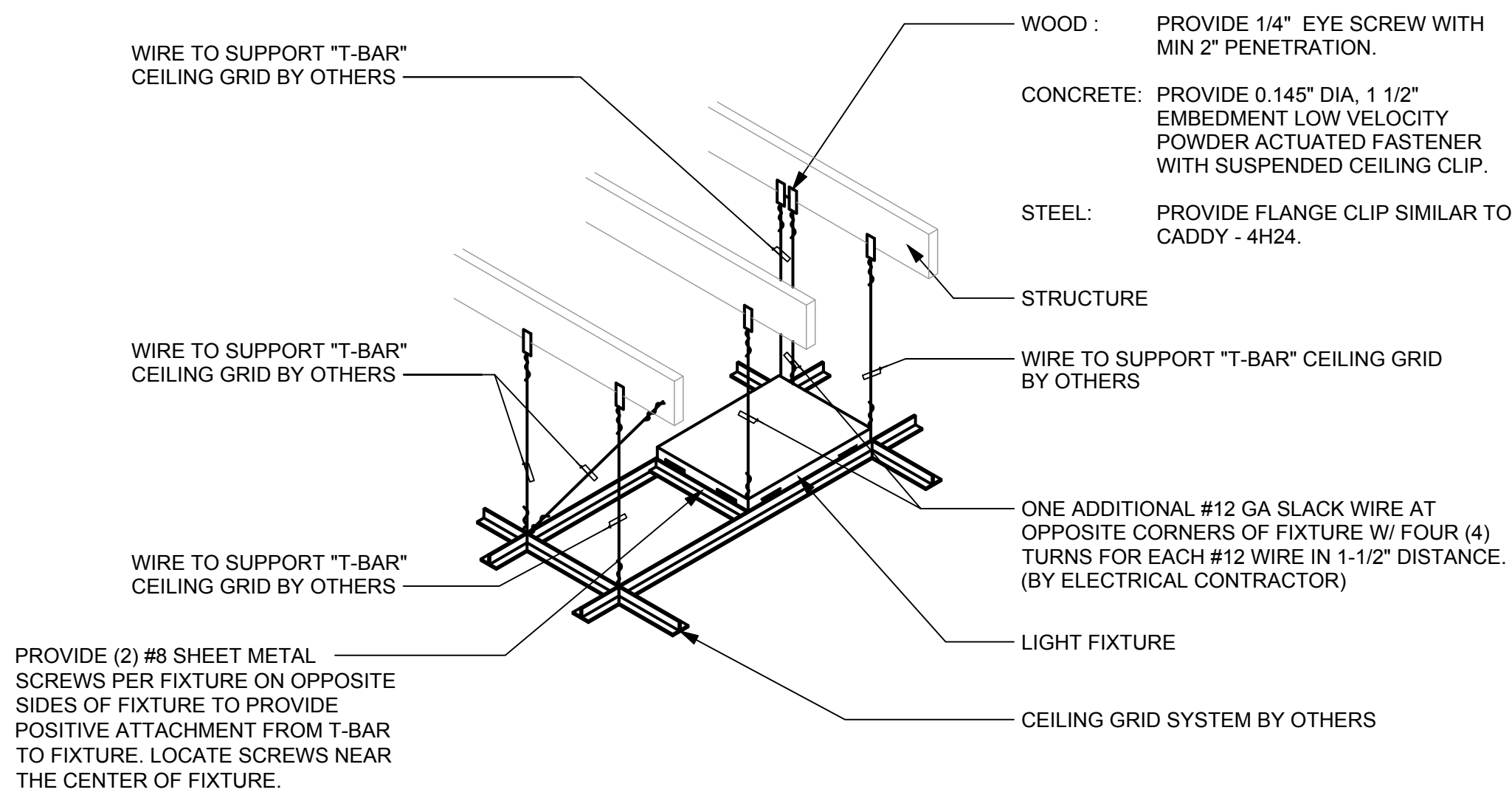
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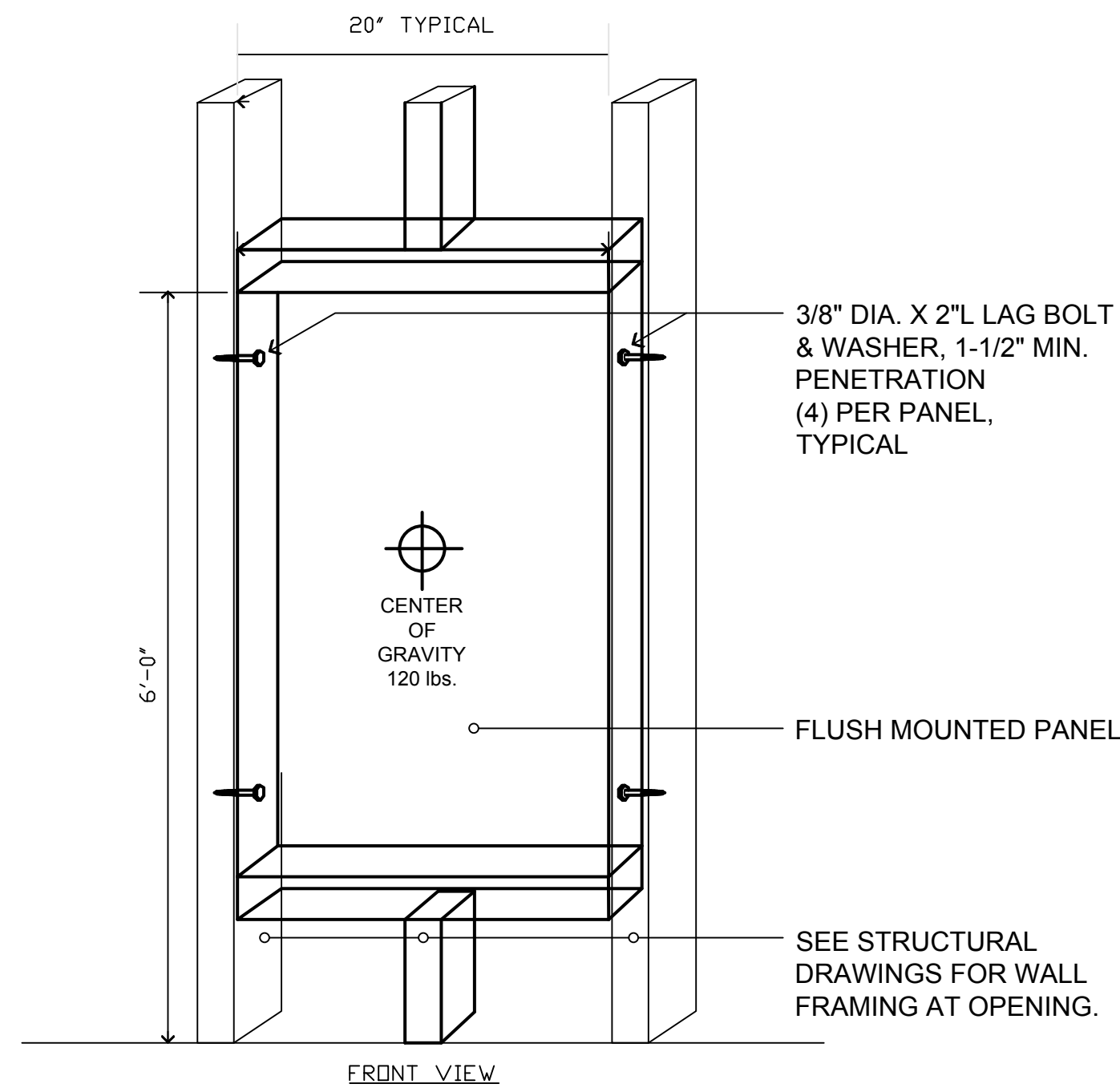
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5 WALL FIXTURE MOUNTING ON WOOD STUDS  
NOT TO SCALE

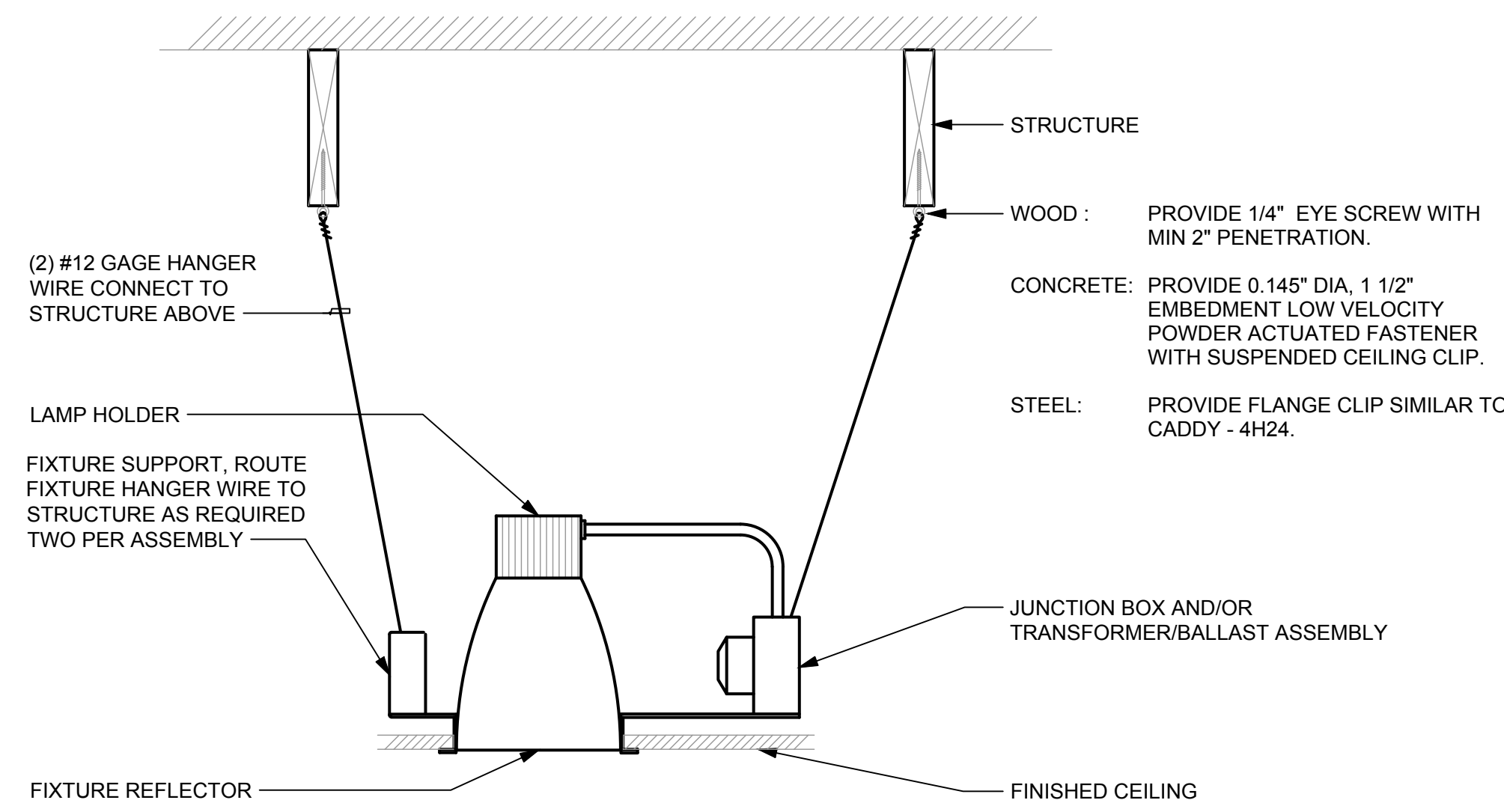


2 2' X 2' GRID FIXTURE MOUNTING  
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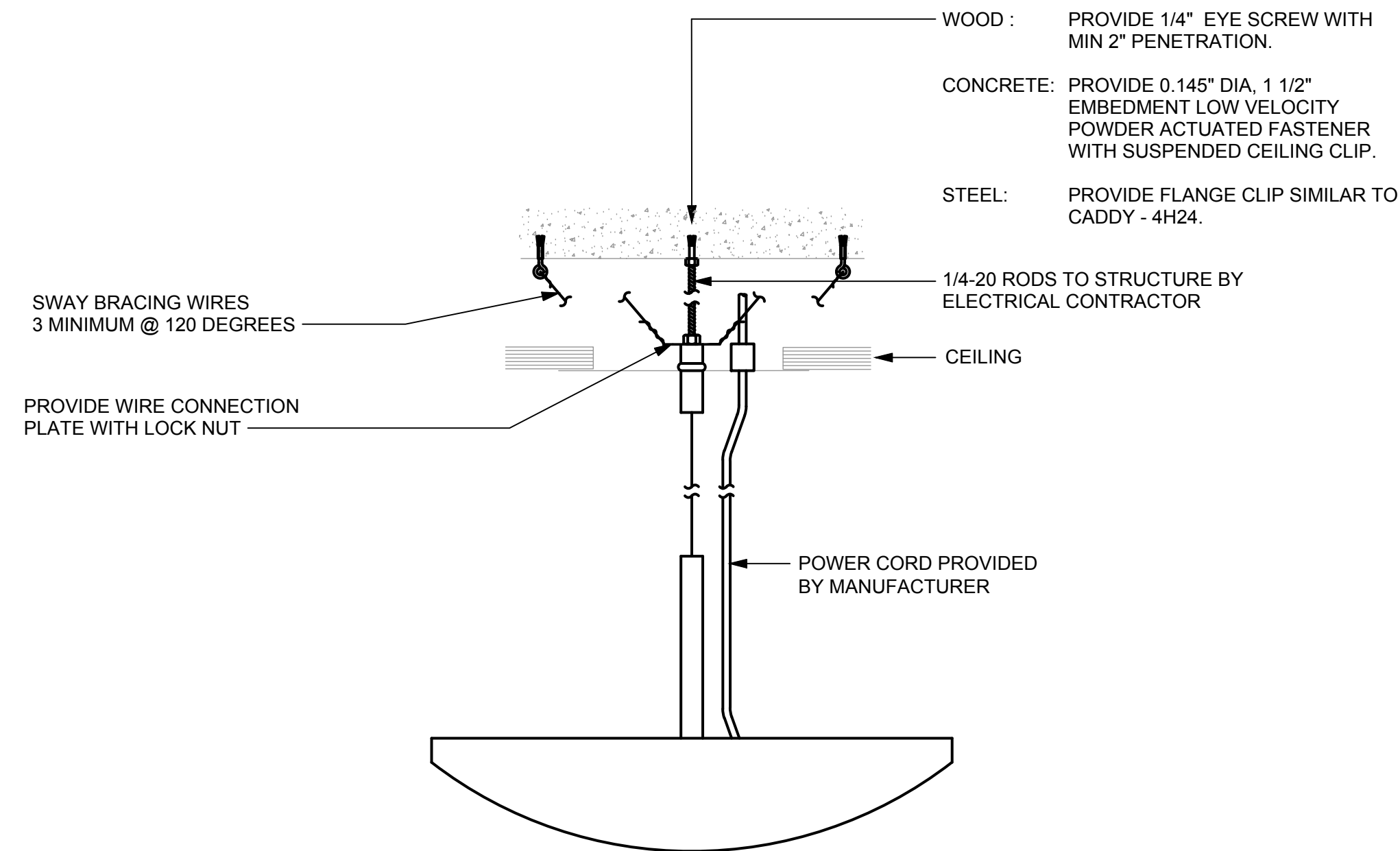


DETAIL NOTES:  
A. ALL BLOCKING SHALL BE PREDRILLED TO PREVENT SPLITTING.

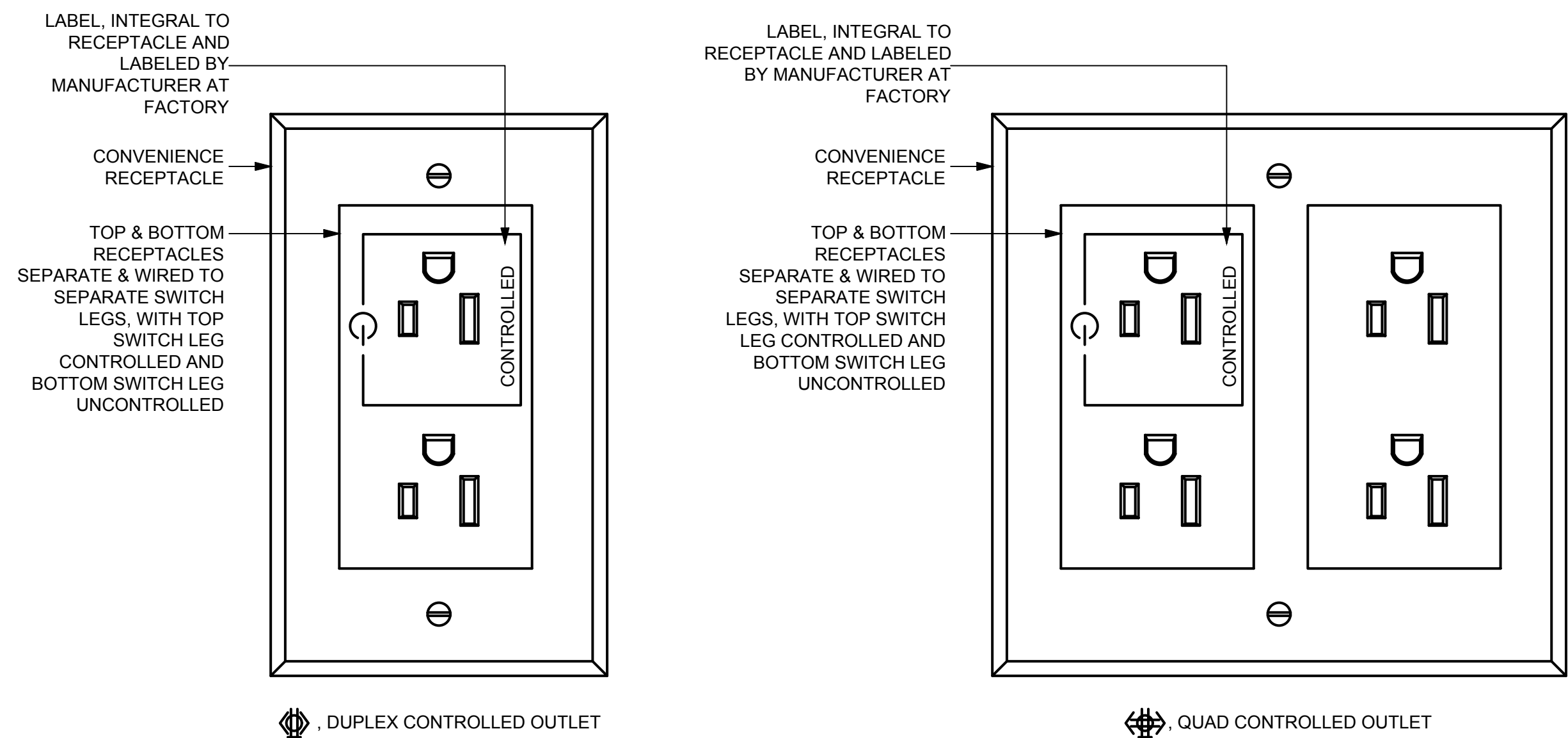
1 FLUSH PANEL MOUNTING DETAIL  
NOT TO SCALE



6 DOWNLIGHT FIXTURE MOUNTING  
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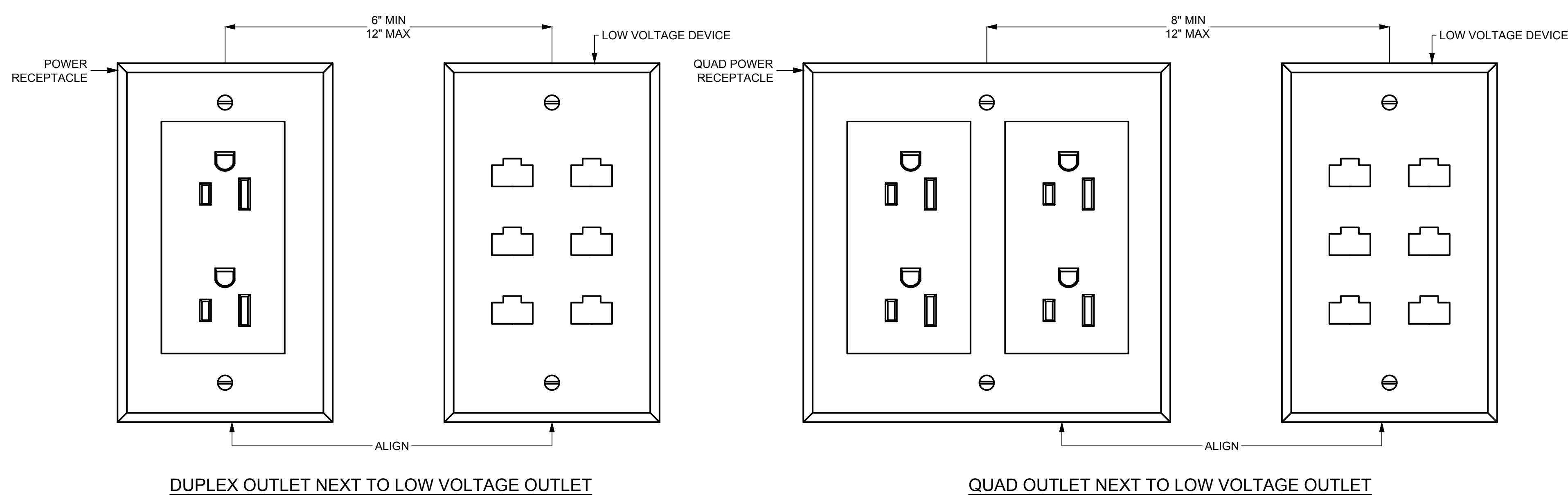


3 CABLE SUSPENDED FIXTURE MOUNTING  
NOT TO SCALE



- DETAIL NOTES:
1. SYSTEM DIAGRAM, CONNECTIONS, AND COMPONENTS BASED ON LIGHT CONTROLS SYSTEM. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER SELECTED.
  2. TYPICAL DEVICES SHOWN ONLY. REFER TO PLANS FOR EXACT LOCATIONS AND QUANTITIES OF ALL RECEPTACLES, POWER PACKS, SENSORS, CONTROLS, AND COMPONENTS.
  3. CONNECTIONS BETWEEN DEVICES ARE NOT SHOWN ON PLANS. PROVIDE ALL WIRING, CONDUIT, AND MISCELLANEOUS APPURTENANCES AS REQUIRED TO CONNECT ALL DEVICES SHOWN ON PLANS.

7 CONTROLLED OUTLET CONFIGURATIONS  
NTS



- DETAIL NOTES:
1. TYPICAL DEVICES SHOWN ONLY. REFER TO PLANS FOR EXACT LOCATIONS AND QUANTITIES OF ALL RECEPTACLES, LOW VOLTAGE DEVICES, AND COMPONENTS.
  2. CONNECTIONS BETWEEN DEVICES ARE NOT SHOWN ON PLANS. PROVIDE ALL WIRING, CONDUIT, AND MISCELLANEOUS APPURTENANCES AS REQUIRED TO CONNECT ALL DEVICES SHOWN ON PLANS.
  3. GENERIC CONVENIENCE POWER OUTLETS SHOWN ONLY. WHERE CONTROLLED OUTLETS ARE INDICATED ON PLANS, PROVIDE THEM AS SHOWN IN LIEU OF REGULAR OUTLET.

4 POWER AND DATA OUTLET CONFIGURATIONS  
NTS

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SCHEDULES  
PANELBOARDS

DATE 10.16.2024































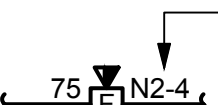
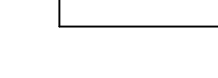
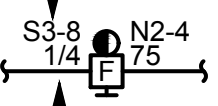

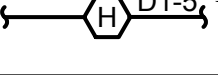
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FIRE ALARM SYMBOLS	
	MANUAL PULL STATION MODEL: --- CSFM: ---
	STROBE MODEL: --- CSFM: ---
	HORN/STROBE MODEL: --- CSFM: ---
	HORN MODEL: --- CSFM: ---
WP 	HORN - WEATHER PROOF, VANDAL RESISTANT MODEL: --- CSFM: ---
	SPEAKER MODEL: --- CSFM: ---
	SPEAKER/STROBE MODEL: --- CSFM: ---
	HEAT DETECTOR MODEL: --- CSFM: ---
	HEAT DETECTOR - ABOVE CEILING MODEL: --- CSFM: ---
	HEAT DETECTOR - BELOW FLOOR MODEL: --- CSFM: ---
	SMOKE DETECTOR MODEL: --- CSFM: ---
	SMOKE DETECTOR - ABOVE CEILING MODEL: --- CSFM: ---
	SMOKE DETECTOR - BELOW FLOOR MODEL: --- CSFM: ---
	SMOKE DETECTOR - DUCT MODEL: --- CSFM: ---
	BEAM DETECTOR - RECEIVER MODEL: --- CSFM: ---
	BEAM DETECTOR - TRANSMITTER MODEL: --- CSFM: ---
	FIRE ALARM CONTROL PANEL MODEL: --- CSFM: ---
	REMOTE NOTIFICATION POWER SUPPLY MODEL: --- CSFM: ---
	SPEAKER AMPLIFIER/POWER SUPPLY MODEL: --- CSFM: ---
	REMOTE ANNUNCIATOR MODEL: --- CSFM: ---
	ADDRESSABLE MONITOR MODULE MODEL: --- CSFM: ---
	ADDRESSABLE RELAY MODULE MODEL: --- CSFM: ---
	FIRE ALARM TERMINAL CABINET, SIZE AS REQ'D
	END OF LINE RESISTOR
	FIRE SMOKE DAMPER - SEE MECHANICAL DOCUMENTS
	MAGNETIC DOOR HOLDER - SEE ARCHITECTURAL DOCUMENTS
	POST INDICATOR VALVE - SEE CIVIL DOCUMENTS
	WATER FLOW SWITCH - SEE FIRE PROTECTION DOCUMENTS
	VALVE TAMPER SWITCH - SEE FIRE PROTECTION DOCUMENTS
	FIRE SPRINKLER BELL - SEE FIRE PROTECTION DOCUMENTS
TYPICAL ZONE NOMENCLATURE	
	"N2" DENOTES NOTIFICATION CIRCUIT "4" DENOTES DEVICE NUMBER
	"75" DENOTES CANDELA RATING OF STROBE
	"S3" DENOTES SPEAKER CIRCUIT "8" DENOTES DEVICE NUMBER
	"1/4" DENOTES WATTAGE TAP SETTING OF SPEAKER, IF BLANK, SET TO MANUFACTURER RECOMMENDED LEVEL FOR PROPER INTELLIGIBILITY AND COVERAGE.
	"D1" DENOTES DETECTION ZONE "5" DENOTES DEVICE NUMBER

FIRE ALARM SEQUENCE OF OPERATIONS
1. ACTIVATION OF ANY SYSTEM PULL STATION, SMOKE DETECTOR, HEAT DETECTOR, WATER FLOW SWITCH OR ANSUL UNIT SHALL CAUSE ALL SIGNAL DEVICES CONNECTED TO THE SYSTEM TO ACTIVATE AND SOUND. FACP(S) AND REMOTE ANNUNCIATOR(S) SHALL INDICATE THE SOURCE OF THE ALARM AND ALARM LIGHT(S) ON THE FIRE ALARM PANEL WILL ILLUMINATE. ACTIVATION OF ALARM SHALL CAUSE THE DIGITAL ALARM COMMUNICATIONS TRANSMITTER TO TRANSMIT THE ALARM TO A U.L. LISTED CENTRAL STATION.
2. ACTIVATION OF A VALVE SUPERVISORY SWITCH OR SHOULD AN OPEN GROUND OR FAULT OCCUR IN THE WIRING, THE FACP(S) AND REMOTE ANNUNCIATOR(S) SHALL INITIATE A TROUBLE SIGNAL AND SHALL INDICATE THE SOURCE OF THE TROUBLE.
3. ONCE THE SYSTEM IS BACK TO NORMAL, THE PANEL WILL RESOUND FOR PROPER RESETTNG.
4. THE FIRE ALARM PANEL SHALL BE BACKED UP BY STANDY BATTERIES FOR 24 HOURS AND 15 MINUTES OF ALARM.
5. ALARM SILENCE CAN ONLY BE PERFORMED AFTER 15 MIN. OF ALARM IN ANY CONDITION.

FIRE ALARM GENERAL NOTES
A. PLANS SHALL BE APPROVED BY THE "DIVISION OF THE STATE ARCHITECT" (DSA) PRIOR TO BEGINNING WORK. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO PURCHASE AND INSTALLATION OF THE SYSTEM.
B. ALL FIRE ALARM DEVICES SHALL BE CALIFORNIA STATE FIRE MARSHAL (CSFM) LISTED.
C. FIRE ALARM WIRING AND MATERIALS SHALL BE LISTED FOR USE AS REQUIRED BY TITLE 24/CEC, ARTICLE 760. MINIMUM WIRE SHALL BE TWO (2) #14 AWG FOR INITIATING CIRCUITS AND TWO (2) #14 AWG FOR INDICATING CIRCUITS.
D. FIRE ALARM WIRE USED IN WET LOCATIONS SHALL BE OF AN APPROVED TYPE IN ACCORDANCE WITH 3-310-8, T24/CEC (i.e. THHW OR EQUAL).
E. PER CEC STANDARDS ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE WIRE. THERE MUST BE AT LEAST 6" OF LEAD WIRE FROM BOX TO THE DEVICE. ALL BOXES SIZED PER CEC.
F. PENETRATIONS OF FIRE RATED WALLS SHALL BE PROTECTED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE, CHAPTER 7, TITLE 24. PROVIDE DETAILS OF FIRE-STOP SYSTEMS FOR ALL PIPE/CABLE/CONDUIT PASSING THROUGH FIRE RATED WALLS/FLOORS REQUIRING PROTECTED OPENINGS.
G. VISUAL FIRE ALARM DEVICES SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELAS. NO PLACE IN ANY ROOM SHALL BE MORE THAN 50 FEET FROM A DEVICE. DEVICES WITHIN 55' OF EACH OTHER SHALL BE SYNCHRONIZED.
H. ALL FIRE ALARM DEVICE CONNECTIONS TO THE LIGHT AND POWER SERVICE SHALL BE ON A DEDICATED BRANCH CIRCUIT(S). THE CIRCUIT(S) AND CONNECTIONS SHALL BE MECHANICALLY PROTECTED. CIRCUIT DISCONNECTING MEANS SHALL HAVE A PERMANENT RED MARKING, SHALL BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT. (2019 NFPA 72 SECTION 10.6.5.2.1)
I. THE CONTRACTOR SHALL ADJUST ALL DEVICES TO MAXIMUM PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
J. FIRE ALARM EVACUATION SIGNAL SHALL SOUND A THREE-PULSE TEMPORAL PATTERN (2022 CBC 907.5.2.1.3 AND 2019 NFPA 72 18.4.2.1). CARBON MONOXIDE SIGNAL SHALL SOUND A FOUR-PULSE TEMPORAL PATTERN (2019 NFPA 72, 5.8.6.5.1).
K. AUDIBLE FIRE ALARM SOUND LEVEL SHALL BE AT LEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPABLE AREAS. (2019 NFPA 72 SECTION 18.4.3.1) (I.E. CLASSROOM AVERAGE AMBIENT ROOM NOISE IS 45 dBA PLUS 15 dBA EQUALS 60 dBA MINIMUM ALARM TONE REQUIRED). SOUND TO BE MAINTAINED FOR A MINIMUM DURATION OF 60 SECONDS.
L. STROBES SHALL FLASH AT A RATE OF NOT EXCEEDING TWO FLASHES PER SECOND NOR BE LESS THAN ONE FLASH EVERY SECOND. (2019 NFPA 72 SECTION 18.5.3.1)
M. AUDIBLE SIGNALS INTENDED FOR OPERATION IN THE PUBLIC MODE SHOULD HAVE A SOUND LEVEL OF NOT LESS THAN 75 dBA AT 10 FEET OR MORE THAN 110 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE. (2019 NFPA 72 SECTION 18.4)
N. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1" FROM FIRE SPRINKLERS OR 3" FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
O. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
P. DSA, ARCHITECT AND ENGINEER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
Q. FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL FIRE ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING AT THEIR DISCRETION.
R. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
S. FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" TO THE OWNER, ARCHITECT AND INSPECTOR OF RECORD (IOR)/DSA AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TESTS. (2019 NFPA 72 SECTION 7.8.2 AND 14.6 AND FIGURE 7.8.2(a) - 7.8.2(1)).
T. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE ALARM MONITORING CONTRACT OR PROVISIONS. AUTOMATIC FIRE ALARM SYSTEMS SHALL BE MONITORED AND SHALL TRANSMIT THE ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72, AS AMENDED BY CFC CHAPTER 80. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UJFX (CENTRAL STATION) OR UJUS (REMOTE & PROPRIETARY) BY UNDERWRITERS LABORATORY INC. (UL) OR OTHER APPROVED LISTING AND TESTING LABORATORY OR SHALL COMPLY WITH THE REQUIREMENTS OF STANDARD, FACTORY MUTUAL (FM) 3011. TERMINATION OF MONITORING SERVICES SHALL BE IN ACCORDANCE WITH CBC/CFC SECTION 907.6.6.2.
U. PROVIDE A STANDALONE DOCUMENTATION CABINET ADJACENT TO THE FIRE ALARM CONTROL PANEL. ALL RECORDED DOCUMENTATION PERTAINING TO THE FIRE ALARM SYSTEM INSTALLED SHALL BE STORED IN THE DOCUMENTATION CABINET (2019 NFPA 72 7.7.2). THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED, "SYSTEM RECORD DOCUMENTS" (2019 NFPA 72 7.7.2.5).

PROJECT DESCRIPTION
1. OCCUPANCY TYPE: E (EDUCATIONAL), A (ASSEMBLY), B (BUSINESS)
2. SYSTEM TYPE: CLASS B, ADDRESSABLE, MANUAL & AUTOMATIC
3. METHOD OF COMMUNICATION: TELEPHONE
4. SCOPE OF WORK: NEW AUTOMATIC EXTENSION OF AN EXISTING AUTOMATIC FIRE ALARM SYSTEM TO A RENOVATED ADMINISTRATION BUILDING AT AN EXISTING SCHOOL CAMPUS.
5. FIRE ALARM SYSTEM MEETS REQUIREMENTS OF CA SB575 GREEN OAKS FAMILY ACADEMY ELEMENTARY SCHOOL FIRE PROTECTION ACT.

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PROJECT

MAIN BUILDING  
MODERNIZATION AT  
SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

CONSULTANT

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GENERAL  
INFORMATION

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10.16.2024

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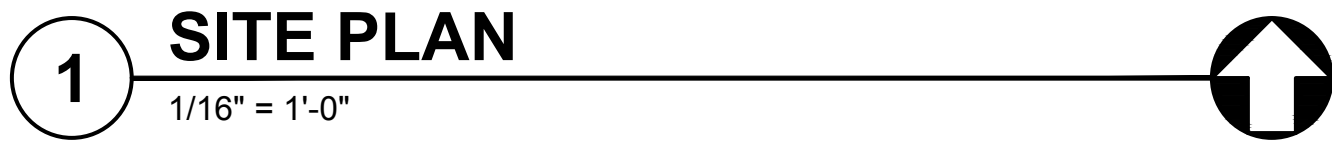
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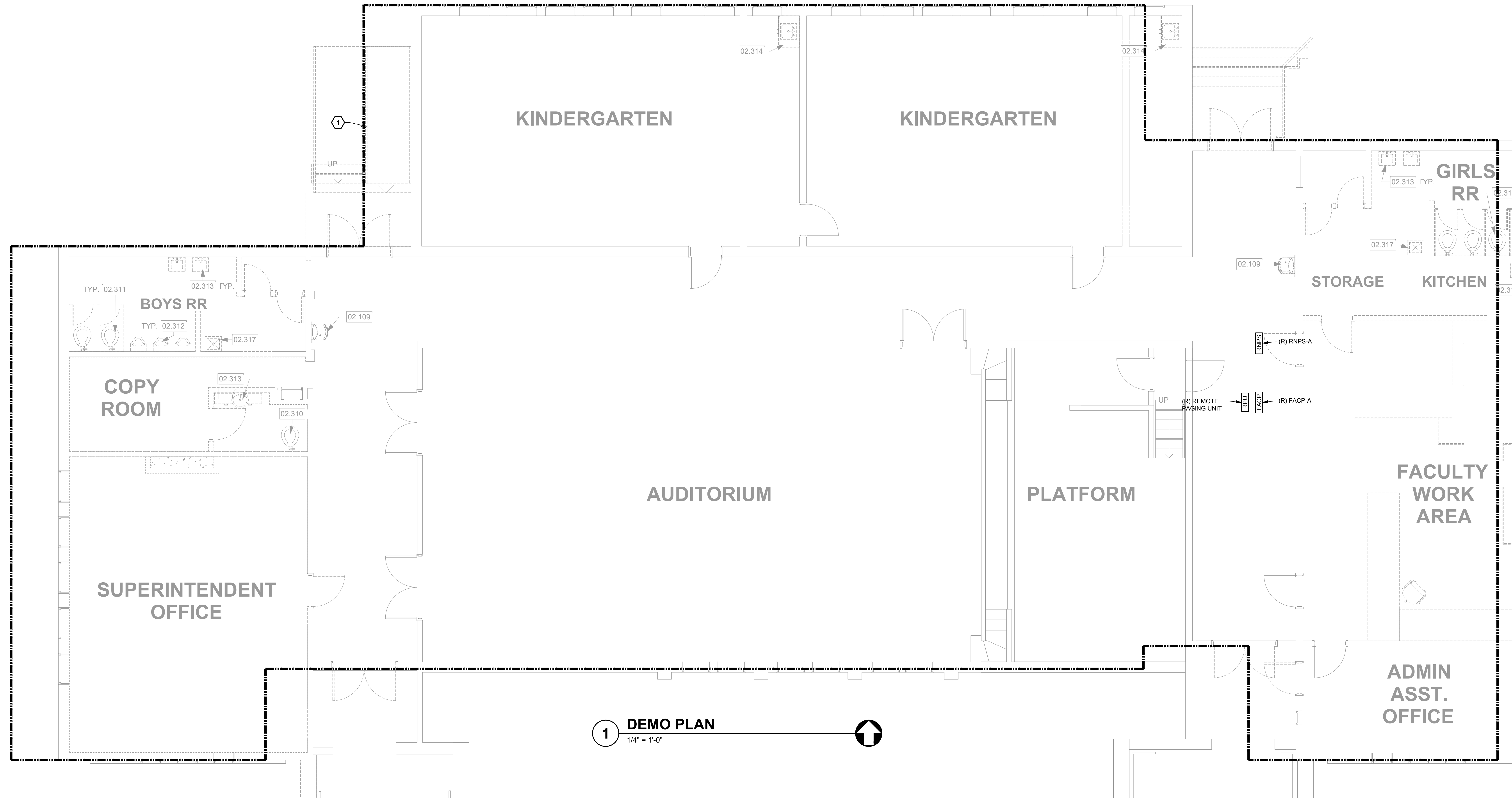


**SHEET NOTES**

1. DEMOLITION AREA. REFER TO GENERAL NOTES, UON.
2. (R) FIRE ALARM DEVICE TO NEW LOCATION SHOWN ON FIRE ALARM RCP. MAINTAIN ALL (E) WIRING FOR RECONNECTION.

## GENERAL NOTES

- A. IN AREAS INDICATED TO BE RENOVATED, REMOVE THAT PORTION OF THE EXISTING FIRE ALARM INSTALLATION INCLUDING, BUT NOT LIMITED TO, ALL DETECTION DEVICES, NOTIFICATION DEVICES, MODULES, WIRING, CONDUITS AND APPURTENANCES. ALL EXISTING WIRING AND EXPOSED CONDUIT SHALL BE REMOVED BACK TO POINT OF CONCEALMENT, UNLESS OTHERWISE NOTED.
- B. WHERE CONDUIT TO BE REMOVED ENTERS CONCRETE (OR SIMILAR) FLOORS AND WALLS, THE CONDUIT MAY BE ABANDONED IN THE CONCRETE. REMOVE CONDUIT FAR ENOUGH INTO THE CONCRETE TO ALLOW FOR THE INSTALLATION OF NORMAL THICKNESS OF FINISH MATERIAL.
- C. WHEN THE WORK NECESSitates RELOCATION OF EXISTING CONDUIT, WIRING, OR FIRE ALARM EQUIPMENT, THE CONTRACTOR SHALL REPAIR ALL WORK AND MAKE ALL NECESSARY CHANGES TO EXISTING WORK AS MAY BE REQUIRED TO LEAVE THE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION TO THE ENTIRE SATISFACTION OF THE OWNER.
- D. WHERE ELECTRICAL SYSTEMS PASS THROUGH THE RENOVATED AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. WHERE DURATION OF PROPOSED OUTAGES CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTION AS REQUIRED TO MAINTAIN SERVICE WITH THE MINIMUM DISRUPTION POSSIBLE.
- E. WHERE REMOVAL WORK IS PERFORMED, THE CONTRACTOR SHALL REPAIR ALL BUILDING SURFACES DAMAGED BY SUCH WORK. PROVIDE FINISHES TO MATCH EXISTING ADJACENT SURFACES.
- F. WHILE PERFORMING CONNECTIONS AND/OR ALTERATIONS TO EXISTING FIRE ALARM WORK, TAKE EXTREME CARE TO PROTECT ALL EXISTING EQUIPMENT FROM DIRT, DEBRIS, AND DAMAGE. ALL DAMAGE TO SUCH EQUIPMENT SHALL BE REPAIRED AND/OR EQUIPMENT REPLACED AT THE CONTRACTOR'S EXPENSE.
- G. ALL REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE EXECUTED WITH THE LEAST POSSIBLE DISTURBANCE TO THE BUILDING.
- H. ALL EXISTING FIRE ALARM MATERIALS NOT REUSED AND NOT SALVAGED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A PROPER MANNER OFF OF THE PROJECT SITE. CARE SHOULD BE TAKEN TO DISPOSE OF HAZARDOUS MATERIALS PER REQUIRED GUIDELINES.
- I. ANY FIRE ALARM WORK, WHICH WILL INTERFERE WITH THE NORMAL USE OF THE BUILDING OR CAMPUS IN ANY MANNER, SHALL BE DONE AT SUCH TIME OR TIMES AS SHALL BE MUTUALLY AGREED UPON BETWEEN THE CONTRACTOR AND THE OWNER'S REPRESENTATIVE. ANY DOWNTIME OF THE FIRE ALARM SYSTEM SHALL BE AT A TIME WHEN THE SCHOOL CAMPUS IS UNOCCUPIED UNLESS A FIRE WATCH IS PROVIDED IN ACCORDANCE WITH DSA REQUIREMENTS.



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## PROJECT

## MAIN BUILDING MODERNIZATION AT SUNOL GLEN SCHOOL

SUNOL GLEN SCHOOL  
DISTRICT

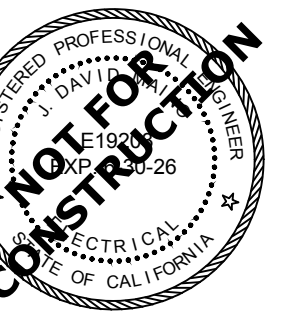
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## DEMO PLAN

DATE 10.16.2024

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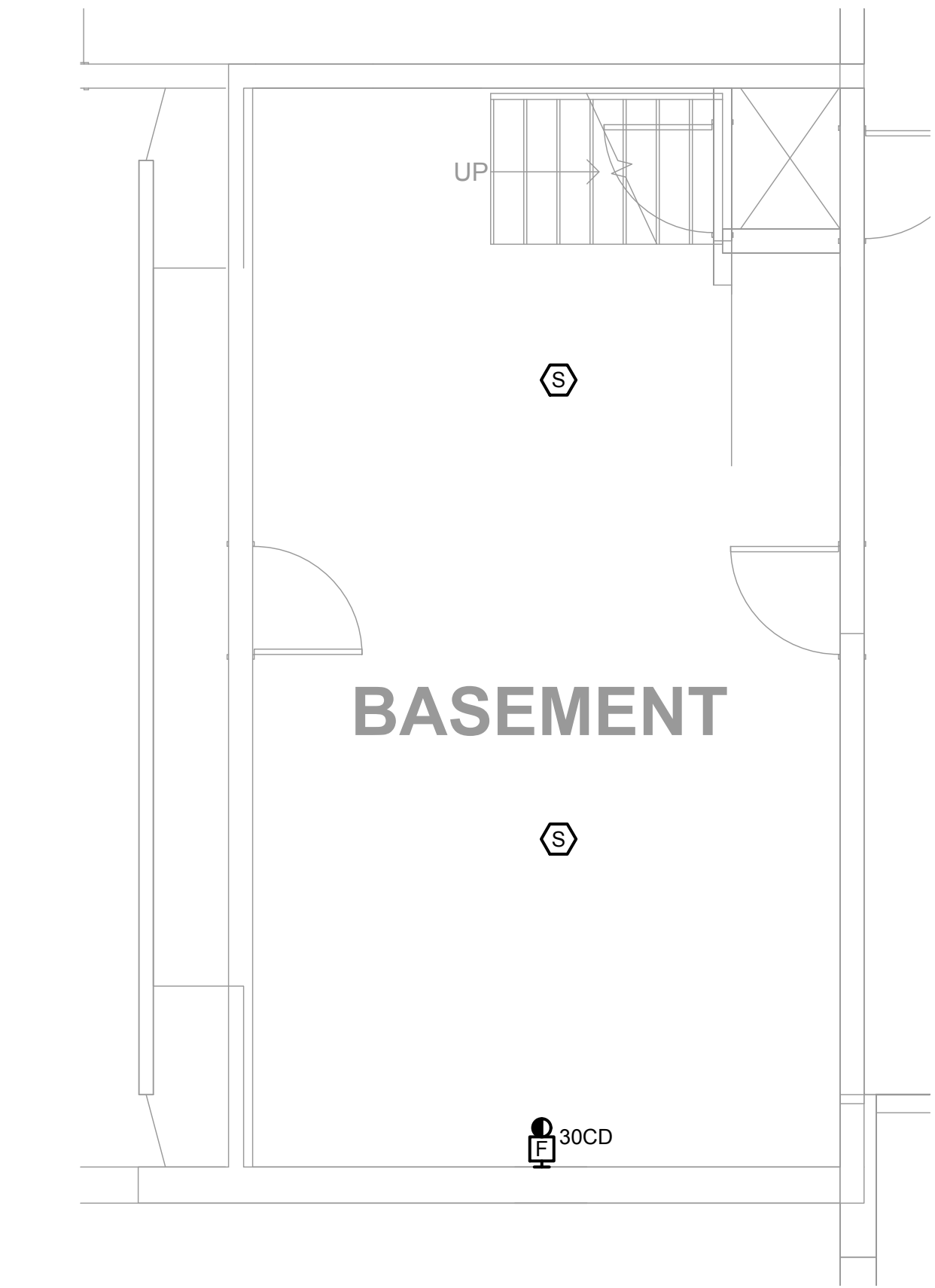
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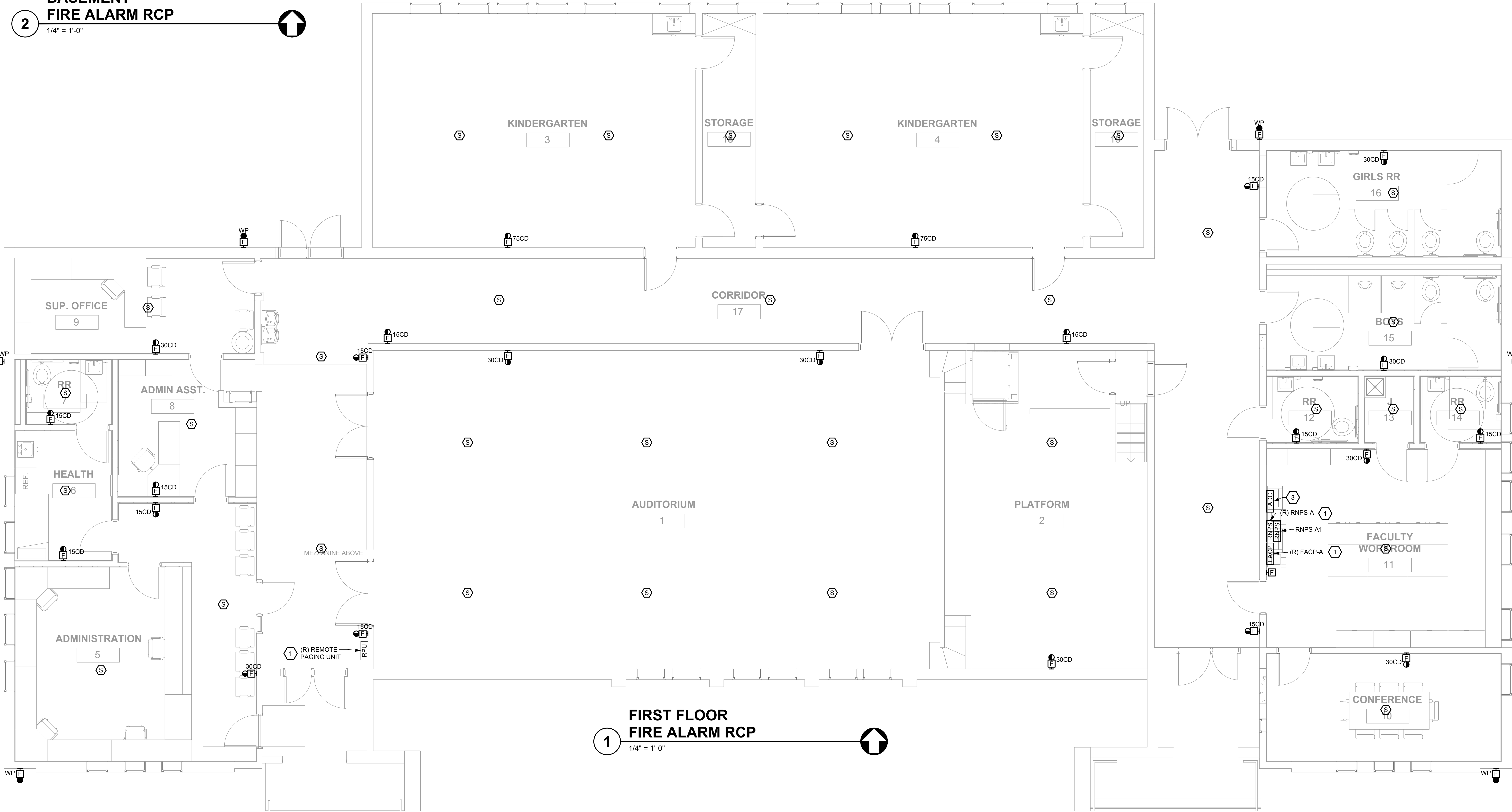
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**BASEMENT  
FIRE ALARM RCP**  
1/4" = 1'-0"



**FIRST FLOOR  
FIRE ALARM RCP**  
1/4" = 1'-0"

**SHEET NOTES**

1. NEW LOCATION FOR EQUIPMENT. PROVIDE NEW CONDUIT AND WIRING, SIZE AND TYPE TO MATCH (E), AS REQUIRED TO EXTEND CONNECTIVITY TO NEW EQUIPMENT LOCATION. REPROGRAM DEVICES ONCE RELOCATION IS COMPLETE TO ALLOW FOR CAMPUS TO CONTINUE FUNCTIONING DURING CONSTRUCTION. REPROGRAM DEVICES AGAIN AT COMPLETION OF CONSTRUCTION ONCE ALL NEW FIRE ALARM DEVICES HAVE BEEN INSTALLED.
2. PROVIDE DUCT SMOKE DETECTOR IN SUPPLY SIDE DUCT OF MECHANICAL EQUIPMENT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ACCESS DOORS WHERE REQUIRED TO ALLOW ACCESS TO DUCT SMOKE DETECTOR FOR MAINTENANCE. SEE MECHANICAL DRAWINGS FOR CONNECTIONS TO MECHANICAL EQUIPMENT.
3. PROVIDE FIRE ALARM DOCUMENT CABINET ADJACENT TO FACP. PROVIDE (1) FULL SIZE PRINTED SET OF AS-BUILT DOCUMENTS, (1) PRINTED SET OF FIRE ALARM CUTSHEETS AND CSFM LISTINGS, AND (1) USB STICK WITH DIGITAL COPIES OF THE PLANS AND CUTSHEETS/CSFMS WITHIN CABINET.

**GENERAL NOTES**

- A. CONNECT REMOTE NOTIFICATION POWER SUPPLIES TO FIRE ALARM CONTROL PANEL WITH TWO (2) #14 AWG, UNLESS OTHERWISE NOTED.
- B. ALL DETECTION CIRCUITS SHALL USE TWO (2) #16AWG, UNLESS OTHERWISE NOTED.
- C. SEE VOLTAGE DROP CALCULATIONS FOR NOTIFICATION CIRCUIT CABLE QUANTITY AND SIZE.
- D. IN FINISHED INTERIOR AREAS, RUN ALL CONDUITS CONCEALED, UNLESS OTHERWISE NOTED. PAINT ALL EXPOSED CONDUITS AND ELECTRICAL EQUIPMENT. REFER TO ARCHITECTS PAINTING SECTION FOR REQUIREMENTS.
- E. FOR RACEWAY IN NON-ACCESSIBLE LOCATIONS, USE EXPOSED WIREMOLD V700 SERIES SURFACED MOUNTED RACEWAYS.
- F. ALL INTERIOR FIRE ALARM CONDUIT SHALL BE 3/4", UNLESS OTHERWISE NOTED.
- G. SEE DETAILS FOR MOUNTING REQUIREMENTS OF FIRE ALARM DEVICES.
- H. THERE SHALL BE NO ROOF PENETRATIONS WITHIN 5'-0" OF FIRE RATED OR AREA SEPARATION WALLS. VERIFY EXACT LOCATIONS OF THESE WALLS WITH ARCHITECTURAL DRAWINGS.
- I. MAINTAIN ALL SPACING AND PENETRATION REQUIREMENTS THROUGH FIRE RATED OR AREA SEPARATION WALLS. VERIFY EXACT LOCATIONS OF THESE WALLS WITH ARCHITECTURAL DRAWINGS.
- J. CONNECT ALL DUCT SMOKE DETECTORS, MAGNETIC DOOR HOLDERS, ROLLING SMOKE DOORS AND FIRE SMOKE DAMPERS TO FACP. PROVIDE POWER SUPPLY AND 120V/24V TRANSFORMERS AS REQUIRED. SEE WIRING DIAGRAM.
- K. PROVIDE ACCESS PANELS WHERE REQUIRED TO ALLOW ACCESS TO ABOVE CEILING HEAT DETECTORS FOR MAINTENANCE.
- L. HEAT DETECTORS MOUNTED BELOW CEILING SHALL BE 135°F COMBINATION FIXED TEMPERATURE RATE OF RISE, UNLESS OTHERWISE NOTED. HEAT DETECTORS MOUNTED ABOVE CEILING SHALL BE HIGH FIXED TEMPURATURE, UNLESS OTHERWISE NOTED.
- M. CONNECT ALL WATER FLOW SWITCHES AND, TAMPER SWITCHES VIA ADDRESSABLE MODULE.

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**PROJECT**  
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SUNOL GLEN SCHOOL**

**SUNOL GLEN SCHOOL  
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**FIRE ALARM RCP**

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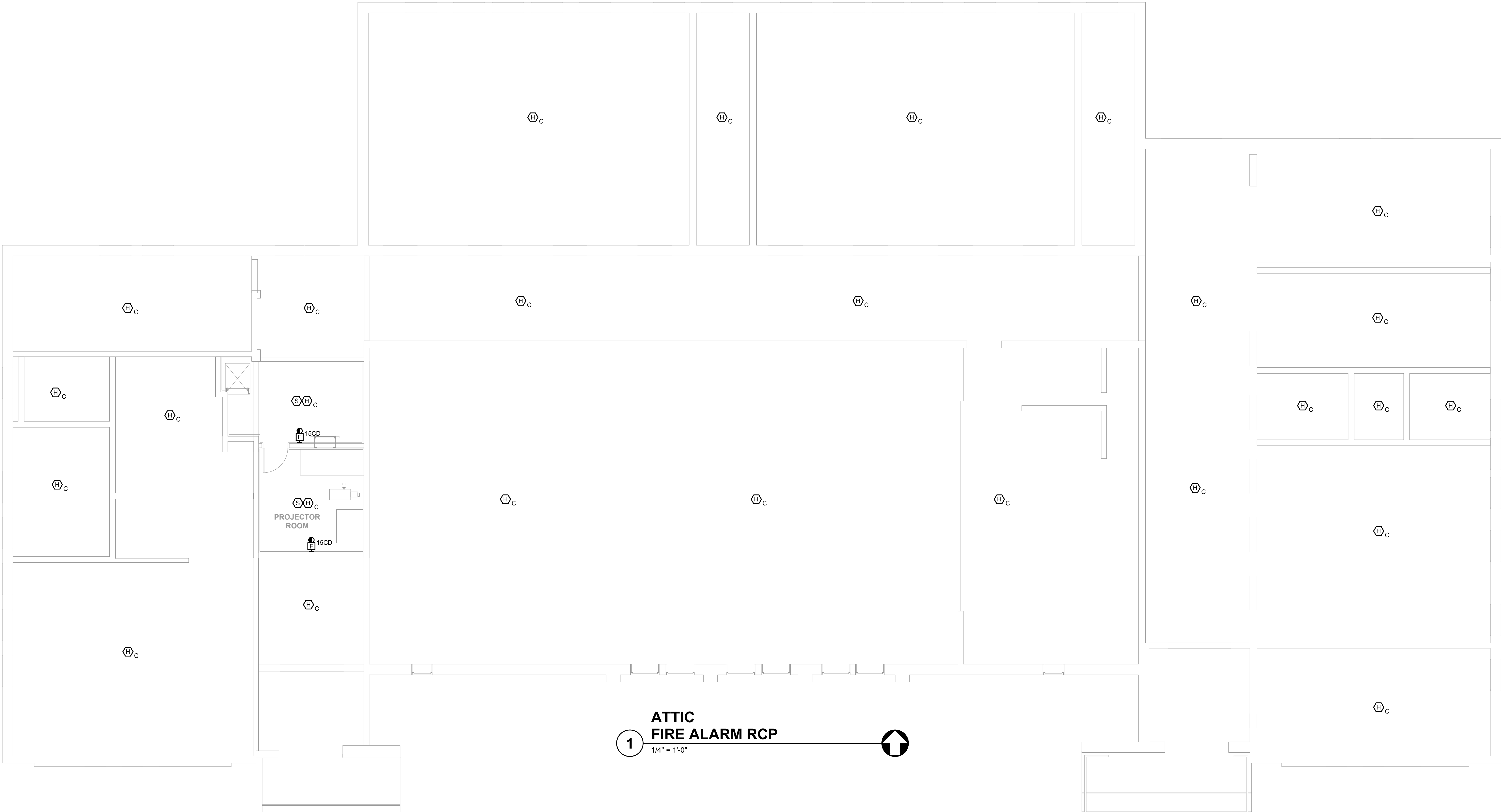
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1 ATTIC FIRE ALARM RCP  
1/4" = 1'-0"

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FIRE ALARM RCP  
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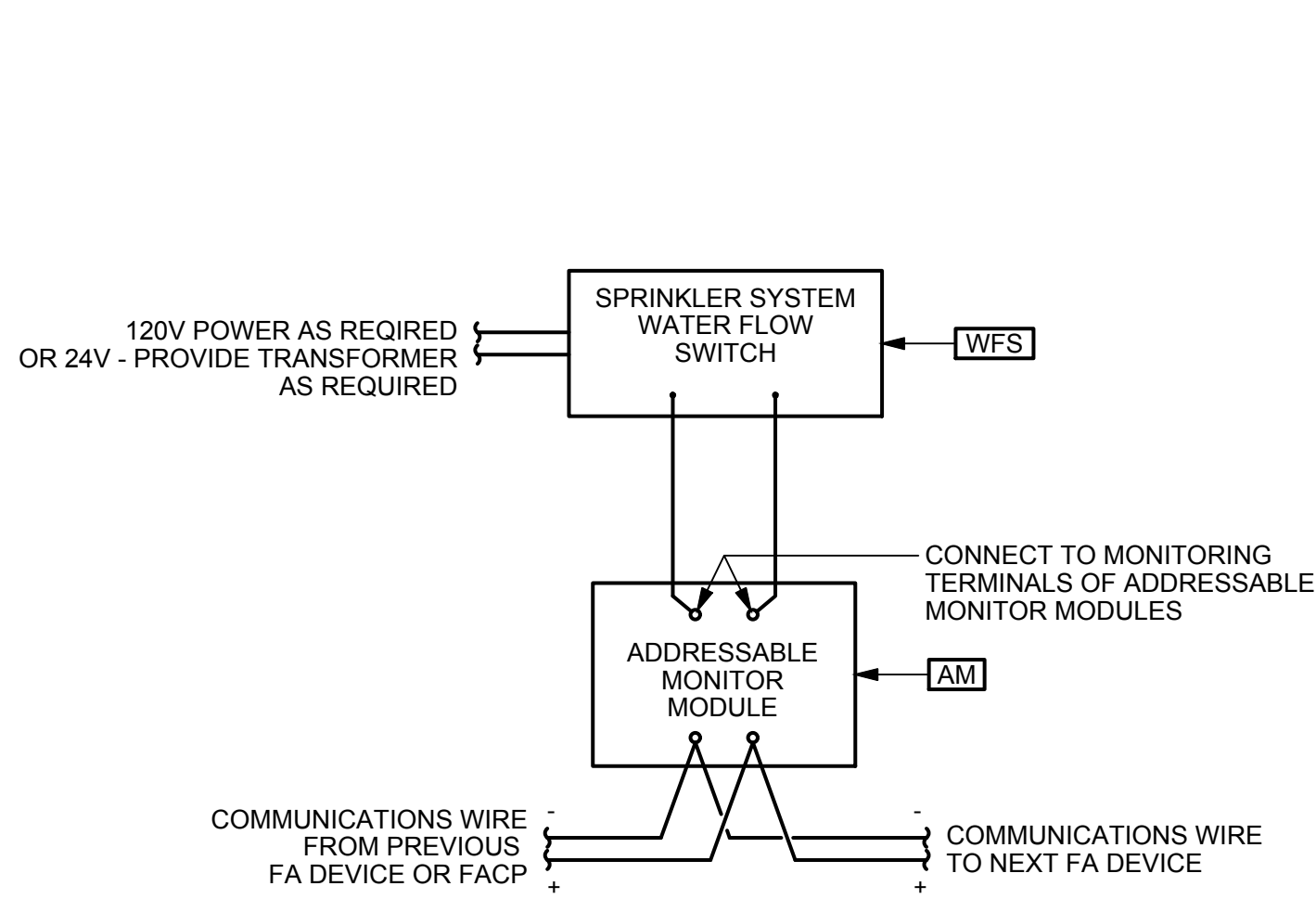
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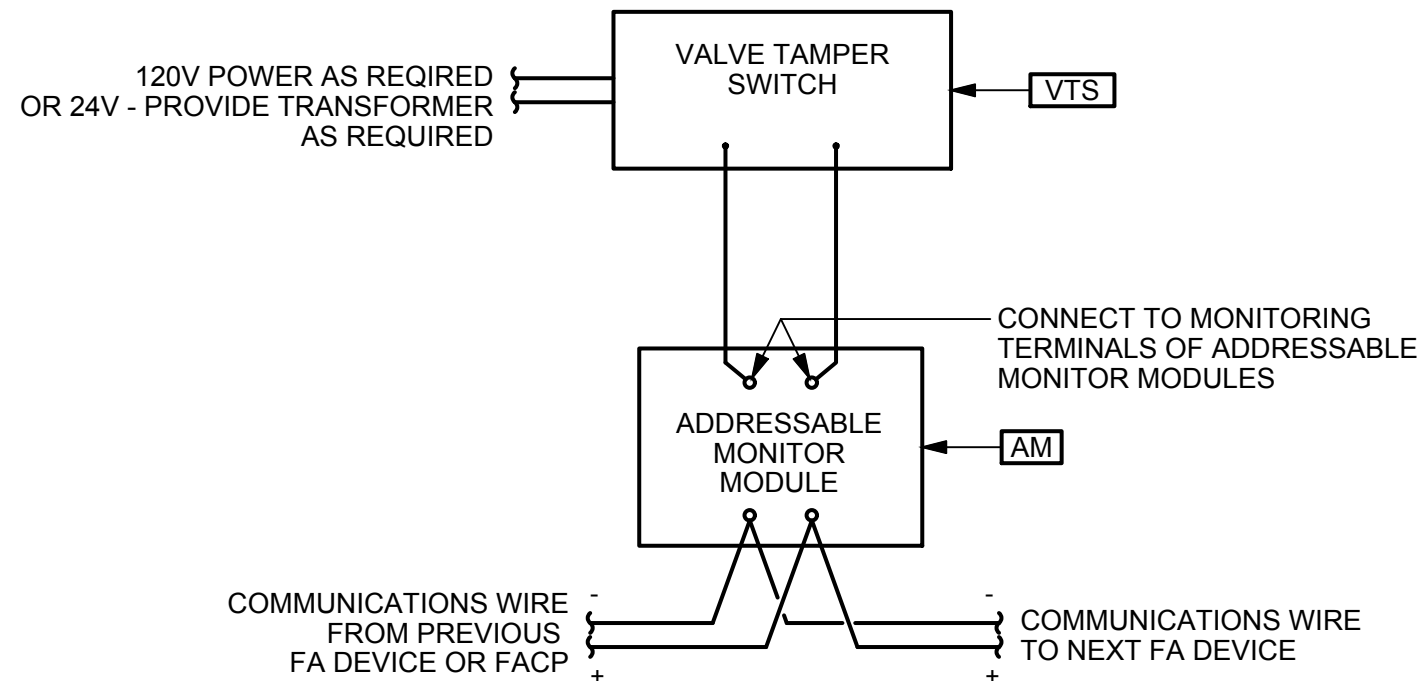
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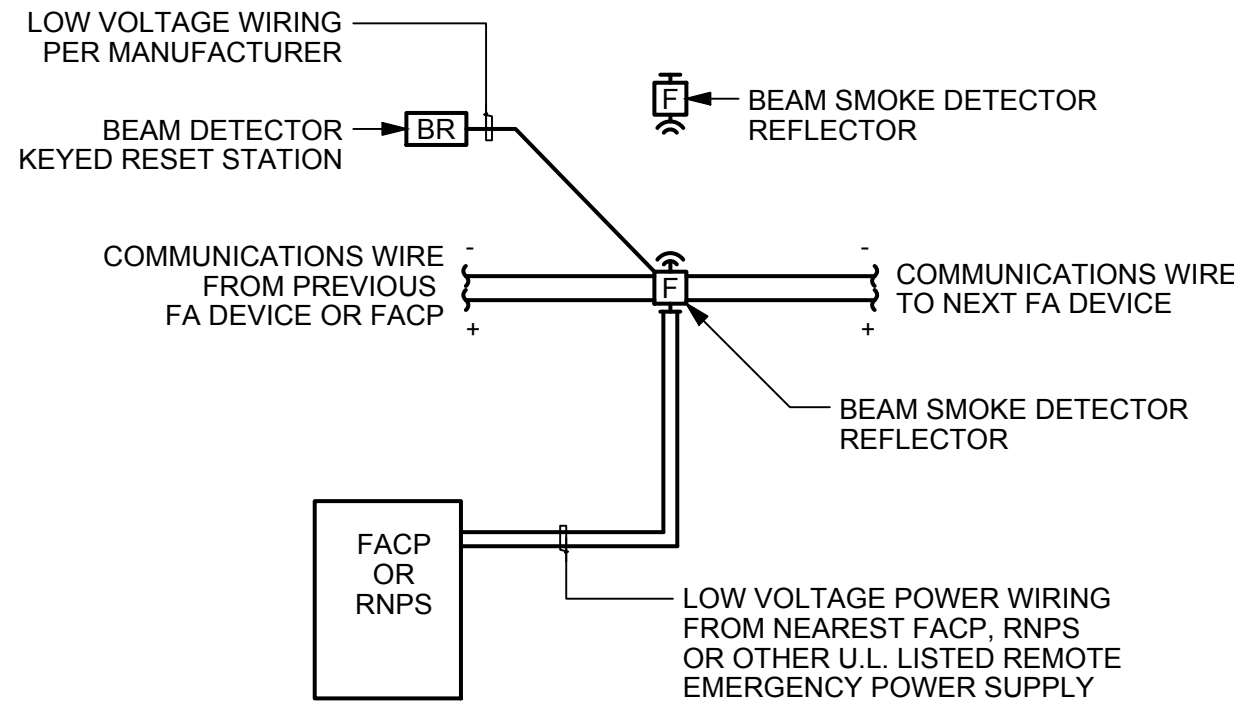
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7 WATER FLOW SWITCH WIRING DIAGRAM  
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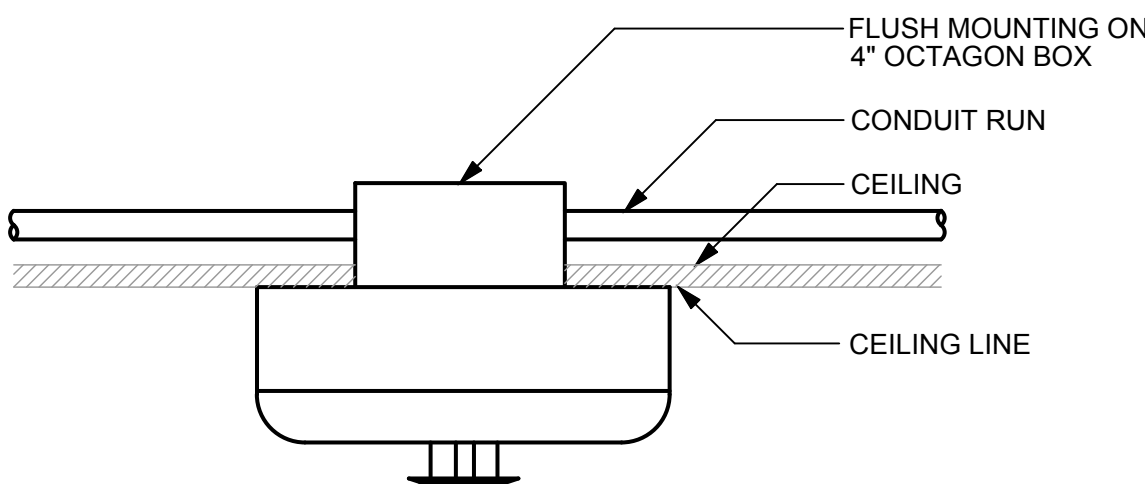
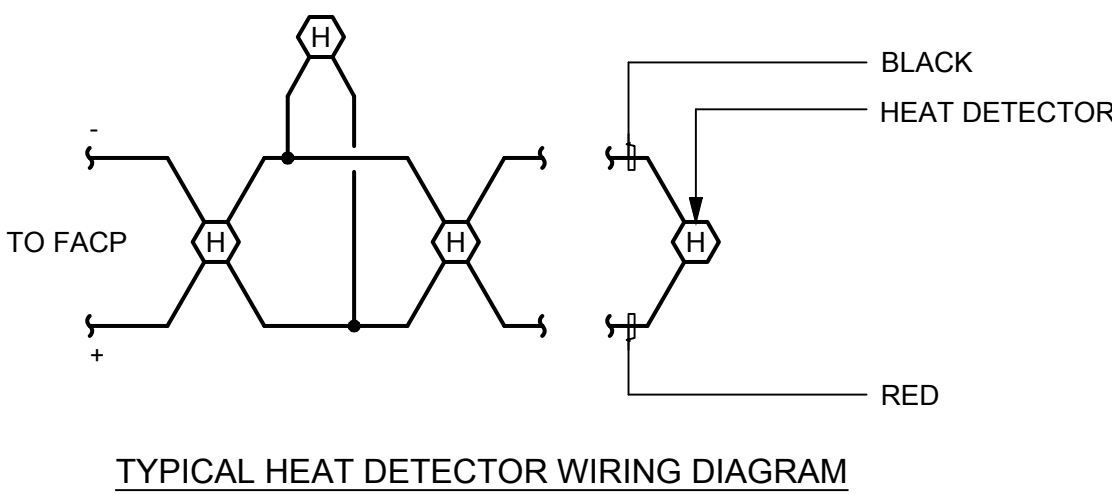


8 VALVE TAMPER SWITCH WIRING DIAGRAM  
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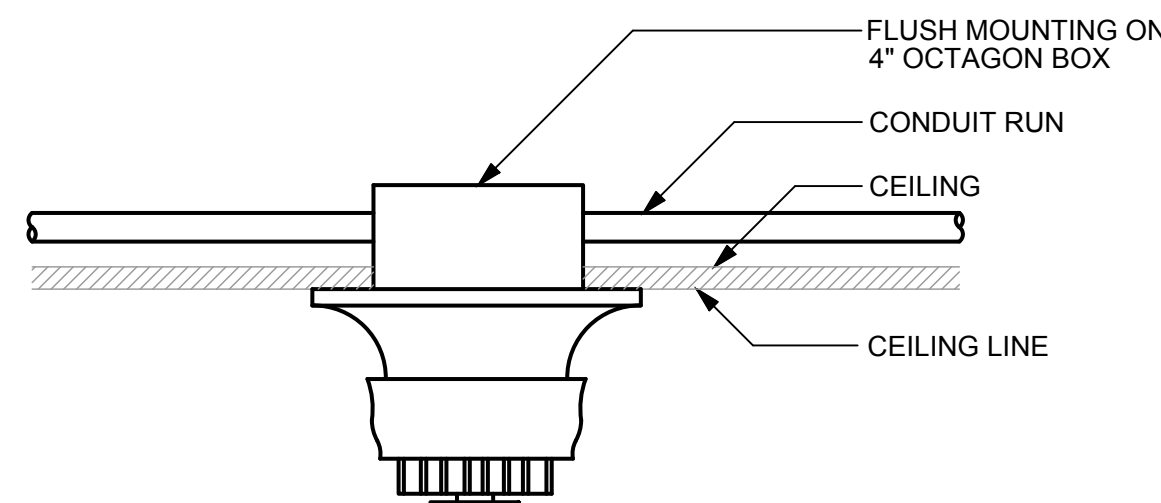
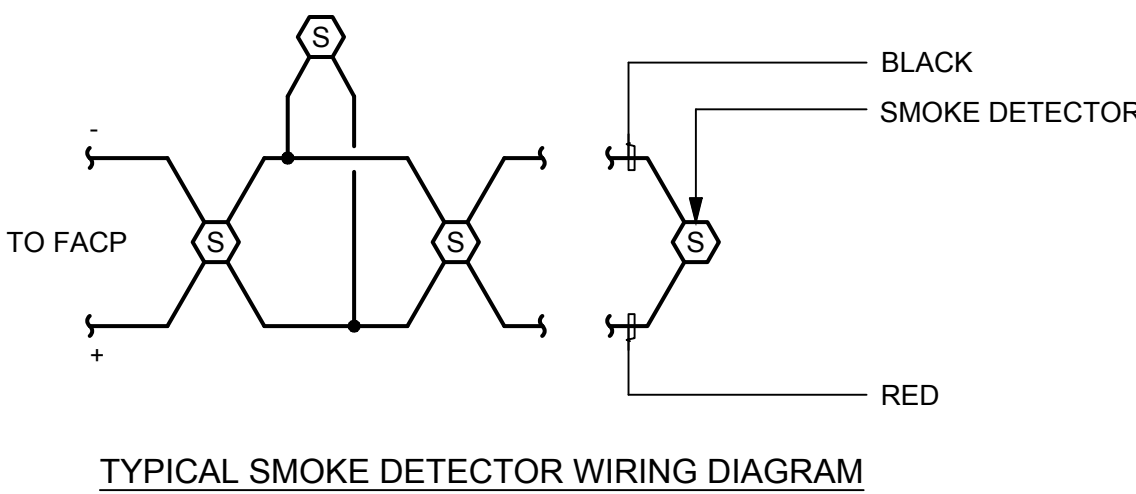


- DETAIL NOTES
- 1 REFER TO PLANS FOR EXACT LOCATIONS AND QUANTITIES OF DEVICES
  - 2 IN LOCATIONS WITH SLOPED OR CURVED CEILINGS PROVIDE MULTI-MOUNT KIT FOR DETECTOR AND REFLECTOR.
  - 3 CONFIRM FINAL LOCATION WITH MANUFACTURER PRIOR TO ROUGH-IN.

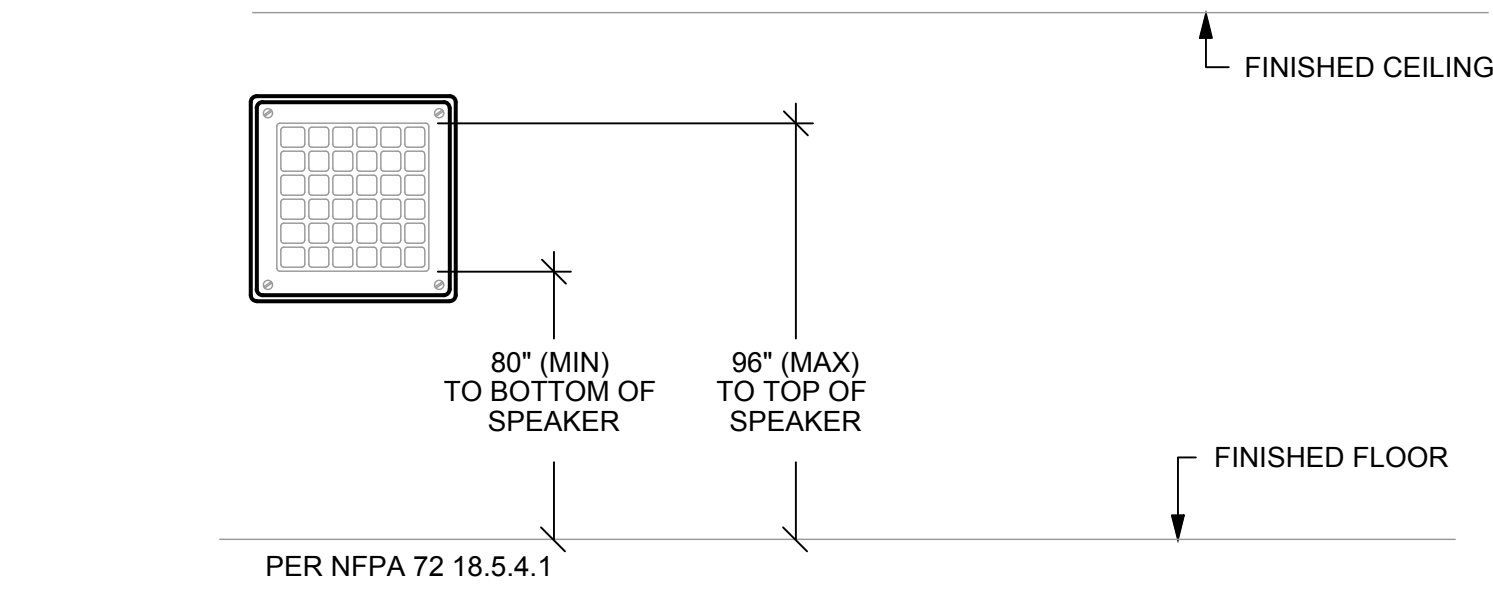
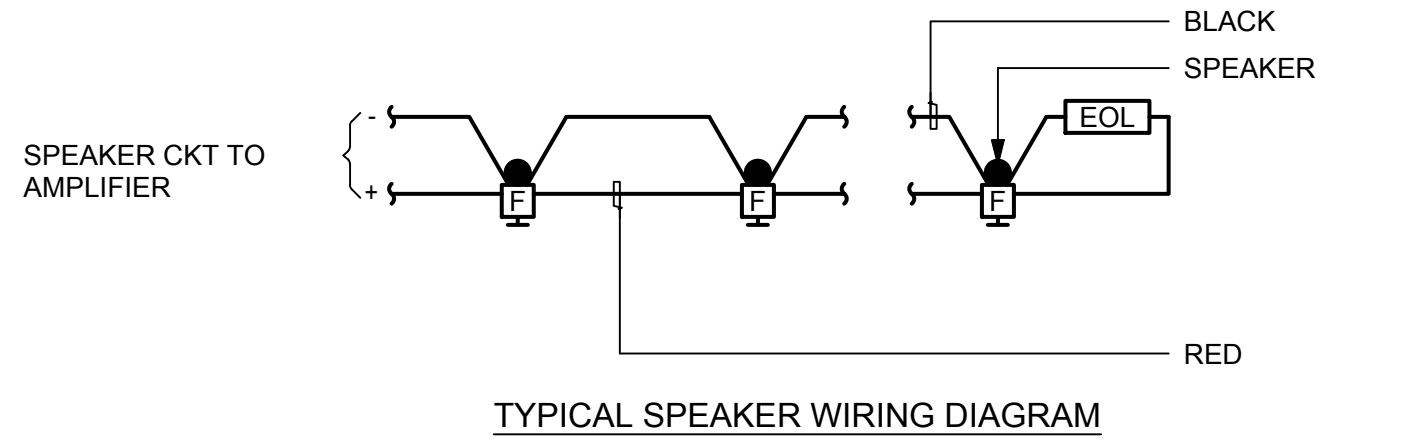
4 ADDRESSABLE BEAM DETECTOR INSTALLATION  
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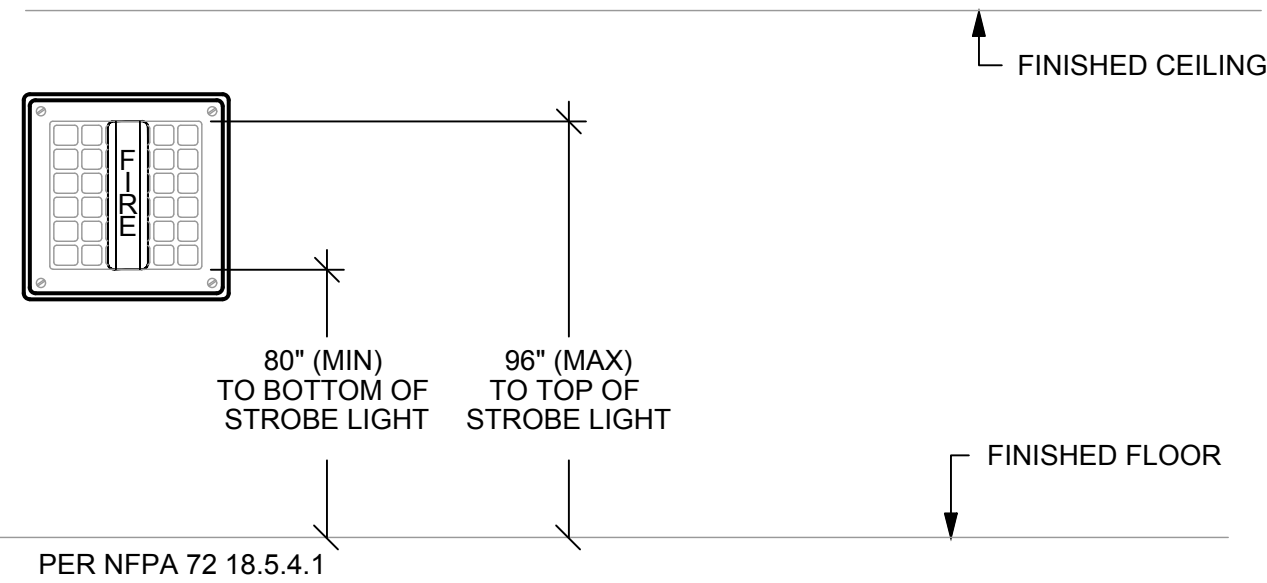
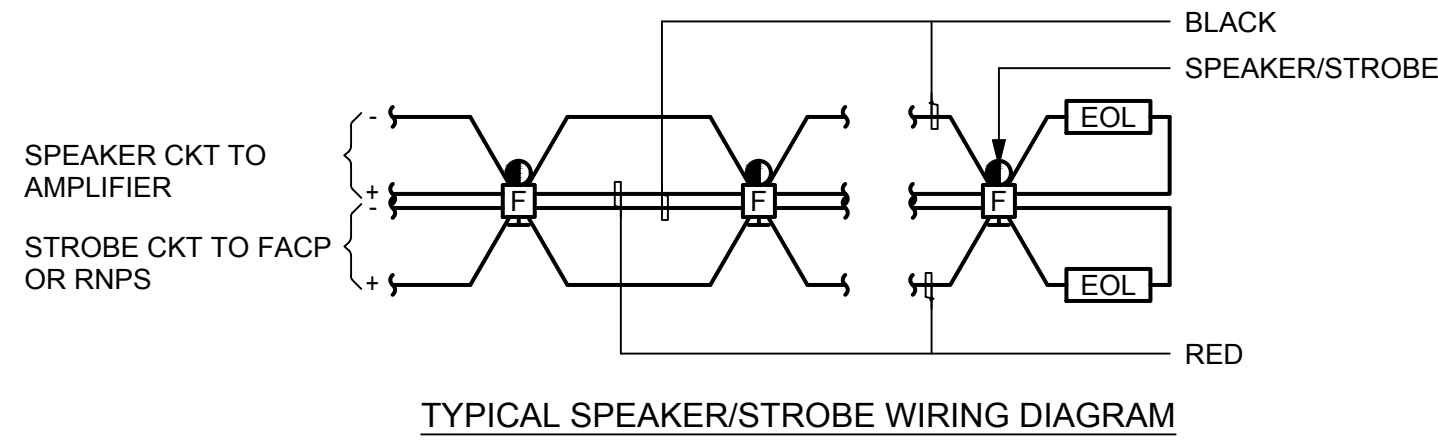
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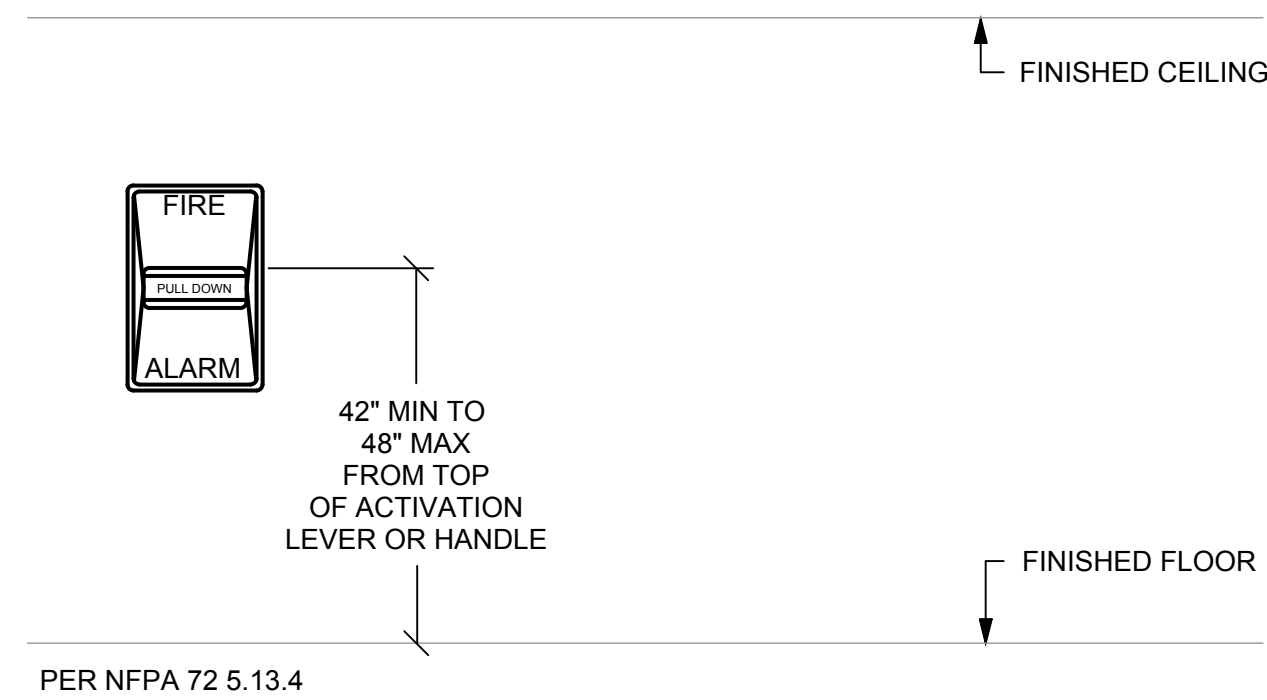
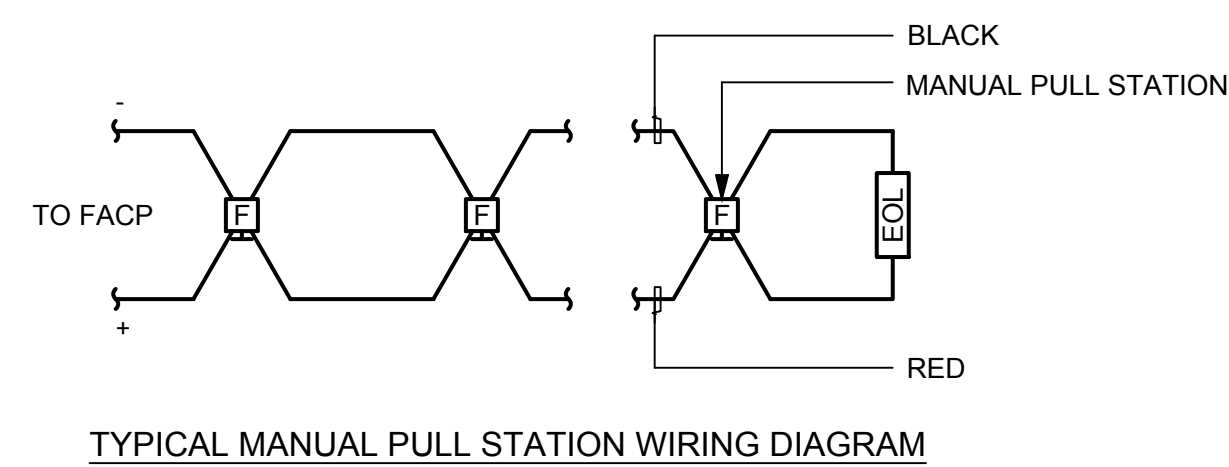
6 ADDRESSABLE SMOKE DETECTOR INSTALLATION  
NOT TO SCALE



1 2 WIRE SPEAKER INSTALLATION  
NOT TO SCALE



2 4 WIRE SPEAKER/STROBE INSTALLATION  
NOT TO SCALE



3 MANUAL PULL STATION INSTALLATION  
NOT TO SCALE

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